



Illustration by Simon Downs

North and South

THERE'S MORE THAN ONE DIRECTION YOU CAN GO IN WHEN BUYING A PC.

WE GAVE FIVE OF OUR FINEST **£1200 EACH** AND TOLD THEM TO TAKE THE DIRECT, ONLINE, BUILD-YOUR-OWN, RETAIL AND UPGRADE ROUTES.



Who wants to be a millionaire?

Well, most people. But until our numbers come up on the Lottery, most of us will have to stick to a budget. To see how easy it is to get a good PC without spending a fortune, five *PCW* writers were each handed £1200 to go out and buy a computer, printer and software, suitable for a small business. As well as a PC that would be good for running 2D office apps, we were looking for some kind of backup device and a printer capable of turning out a respectable business letter.

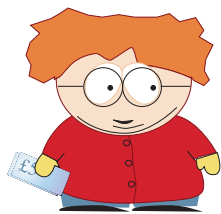
Everyone chose a different way of getting hold of their new PC, everything from buying direct to building their own, and all came up

with very different PCs in the end. David Fearon bought direct, picking his PC from the ads in *PCW*, while Nik Rawlinson went online to find his system. Ian Robson whipped out his screwdriver and built his own machine, and Adele Dyer went out on the high street for a bit of retail therapy. Gordon Laing, always one for taking a novel approach, didn't get a new PC at all, but instead networked and upgraded a few older PCs and added a network printer for an interesting office setup.

To see how they all got on, and whether anyone killed Kenny, read on...

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Retail

Retail used to be a dirty word when it came to buying a PC, with many machines overpriced and underspecified, and with set configurations you had to buy what was on offer or lump it. But times are changing, and in addition to the likes of PC World, Currys, Dixons and Tempco on the high street, you can now find retail outlets for Gateway, Time and Tiny.

These vendors all sell direct as well as having stores, so bring a very different approach to retail. If you walk into any of the Gateway, Time and Tiny stores, you won't walk away with a PC under your arm, but you can look at what they have and order in the store. Your PC will then be delivered to your home a few days later.

The first stop on this search for a good retail PC was at the Gateway store in Covent Garden. They had a number of PCs set up that I could play with, including a few Celeron 466s, together with bundled and optional hardware such as printers, scanners, joysticks and speakers.

The assistant specced up a PC built around a PIII 450. He suggested this as a better processor for business than a Celeron, as the larger L2 cache would cope better with large Excel spreadsheets and accounting packages. He upped the case to a tower for more expansion room, added a larger hard disk and a Zip drive for backup, and suggested an Epson Stylus Color 640 printer and MS Office SBE to complete the deal.

He also recommended going for a DVD drive for another £50 if the budget could be stretched, simply because Microsoft would soon be shipping its software on DVD, and a laser printer instead of an inkjet, but said it would be cheaper to buy this off the page — all excellent advice.

Tiny offers a standard set of machines, detailed in a brochure, so although there's a good choice, you can't choose every component yourself. The assistant again suggested a PIII 450 with a 17in monitor, for a base price of £1123 inc VAT (£955.74 ex VAT), with Office SBE for £149 ex VAT, and an external Zip or LS-120 for £99 ex VAT. This would have taken me just over my budget and left me with an Epson Stylus 300 printer — not ideal for business use.

Dixons had a limited range, just Packard Bell and Compaq as well as Advent, the Dixons

Group own PC range. The manager spent some time explaining the technology to me, although he was less clear on what a small business would need. Ultimately, the limited choice of PCs and their obvious home slant put me off.

In the Time store the assistant pointed me in the direction of a PIII450. It had an impressive spec — 128Mb of RAM, 13Gb hard disk, 17in monitor, DVD drive, PC-TV card, Epson Stylus 640 printer and a scanner. You get Lotus



SmartSuite thrown in, but no form of backup, not even a Zip drive. There's a one-year warranty, but for a business machine I would need a longer warranty and the security of on-site maintenance for at least the first year.

Tempo and PC World had an impressive array of machines, but once again they were mainly aimed at the home user and very few had any form of backup. But the most annoying feature in most of these retail outlets, including Tiny, was the eagerness of the assistants to sell me extended warranties. Tiny's offering was impressively comprehensive, but at £449 ex VAT for five years, it was a tad pricey. Dixons had a similarly priced extended warranty, and PC World had special rates for businesses. However, Gateway included a three-year warranty in the price, with the first year on-site. This, together with the excellent advice they offered, finally persuaded me to give them my business.

PCW PRICE TAG

Gateway G7-450 upgraded to tower, larger hard disk, Zip drive, Epson Stylus Color 640 printer and MS Office SBE

Price £1394.73 (£1187 ex VAT)

Contact Gateway 0800 172000
www.gateway.com/uk

ADELE DYER



Buying Direct

We all know that the pages of *PCW* contain expert opinion, reviews of the latest technology and news straight from the mouths of those in the know. But hey, we're realists, and we also know that when you're in the market for a new PC, the adverts can be quite fascinating too. I hadn't sat down with a copy of the mag and gone through all those ads for a good long while, and doing so brought back fond memories of sitting poring over each and every page, trying to work out the most cost-effective way of squandering my student loan.

Times have changed, though, and now that I'm a sensible grown-up looking for a business system, I need to be reassured that my investment is backed up by decent support. If I were looking for a home system, my prime concern would be bangs per buck; but these days, that's not too much of an issue.

For quite some time now, Intel processors have been the match of any business package you care to mention, and in the last six months clock speeds have gone interstellar. As far as I'm concerned there's no need for a 550MHz Pentium III to run office apps. My prime concern is the reassurance of decent support and a company that will still be around when I need it.

I'm a bit of a stickler for ergonomics too, which means a high-quality monitor. Upgrading a system to a good-quality 17in display is a far better investment for yourself or your staff than a bit of extra RAM or a cheap scanner, and it's something that's easily achieved when you're buying direct.

To return to the beginning, the firm that I ended up spending my student loan on all those years ago was Dan Technology. The company gave me excellent phone support and has done well in reliability surveys since then, so settling down with the June edition of *PCW*, I turned to the Dan ad first. Unfortunately, all the systems were home-orientated with multimedia extras that I didn't want.

Next up was Gateway, which along with Tiny and Dell has massively increased its profile of late with its TV adverts. Tempting, but the ad was again mainly geared towards home systems. Resuming my perusal, NEC Direct's card-insert

ad flopped open. NEC is a massive company, but its direct-selling business is relatively young: I'd rather go with a bit more experience.

Then I happened upon another Dan ad, this time orientated towards business. The Dantum WS high-end workstation looked lovely, but with the 19in monitor in the spec, I'd be over budget.

Then I flipped back to the front of the mag and Dell's inside front cover spread. It's certainly a big company, and aimed squarely at business use, as evidenced by those posh telly adverts with French architects and American airline bosses. The spec of the Dimension XPS T450 system stated that I could upgrade to a 17in Dell Ultrascan monitor, which I happen to know are excellent rebadged Sony units.

But that wouldn't leave me with enough for a printer. So I picked up the phone and spoke to a stunningly efficient salesperson who proffered

her name and direct phone number for future reference: this sold me on the



company. She told me I could upgrade the Dimension V400c to 128Mb RAM, the Ultrascan monitor and Office 97 SBE for a total of £918. This would leave me with enough for the HP LaserJet 1100 mono laser printer upgrade for £259, a much better choice than an inkjet for business use. The V400c has an integrated network adaptor, essential for all but the smallest business. And the 400MHz Celeron is more than fast enough for Office 97 or Office 2000 when it arrives. Plus, with my £23 spare change I can splash out on a wrist rest to stave off that nasty RSI.

DAVID FEARON

PCW PRICE TAG

Dell Dimension V400c
Upgrades 128Mb RAM, Dell Ultrascan 17in monitor, MS Office 97 SBE, HP LaserJet 1100 printer
Total Price £1382.96 (£1177 ex VAT)
Contact Dell 0870 152 4642
www.dell.co.uk



Upgrading

As a new freelancer I welcomed this commission not just as an opportunity to pay the bills, but to share my experience of setting up a small business by upgrading existing equipment. What follows is not theoretical musing but my genuine shopping list. Rather than mindlessly spec up a PC, my choices this year are centered around services and connectivity.

My main system is homemade, consisting of a PII 350, 160Mb RAM and an Adaptec SCSI bus, hosting Pioneer DVD ROM, Iomega Jaz and Zip drives along with 13Gb in hard disks. Complete with an Adaptec 1394 card and a Matrox Marvel G200 AGP, it's great for AV editing, although my first purchase was a PIII 450 — a worthwhile processor upgrade at £145 ex VAT. Inherited companionship included an ageing Apple PowerMac 8100/80 and an even older 16Mb P90 PC. The Mac keeps me abreast of Apple, but could I find a use for the ancient P90?

Meanwhile, in the mere weeks I had been away from *PCW*'s leased line, my 56K modem had really begun to annoy me, rarely achieving rates above 32K. Since ADSL and cable modems were unlikely to arrive in my area for ages, I reluctantly faced an 'upgrade' to BT HomeHighway.

At the time of ordering, £49 got me two 64K digital lines, each boasting double the performance of my lowly modem, thereby effectively halving my data charges. Crucially it allowed me to buy an ISDN router with a built-in hub — 128K bandwidth on demand and small network connectivity in one fell swoop. I opted for D-Link's DI-106 ISDN router [see *this issue*, page 199] which boasted six 10Mbit ethernet ports for a bargain £189. The Mac already had built-in ethernet, so I equipped my two PCs with Dabs 10/100 cards for £17 each.

I haven't had a printer at home for ages, and quickly discovered that I couldn't get away without a fax for much longer either. I didn't want two boxes, so once again through gritted teeth faced the prospect of buying a multi-function device. I hate the inkjet text of most budget MFDs, but fortunately found one decent laser-based model with vital standalone fax capabilities: Hewlett-Packard's LaserJet 3100 at £459.

I'd also blissfully forgotten that while I had extra storage in the Jaz and Zip drives, I had no serious backup. With spare SCSI IDs available, I invested in a Hewlett-Packard Colorado T20i

internal tape backup drive, with a whopping 10/20Gb capacity, for only £243.

I've been happily using Demon Internet as a provider but felt that as a new business I could do with a snappier web and email address. Time to register my own domain name, and agreeing with Ivor Bugbear in the June issue of *PCW*, a dot-com was essential. I discovered that glnow.com was available, and EasySpace was willing to host it along with POP3 mailbox and 100Mb disk space for a mere £61. InterNic required an additional £37 to register it for two years.

My best investment, however, cost only a tanner: an infra-red



module which connects internally

to a jumper on my Asus P2B motherboard and pokes out the front of my case. Now I have 4Mbit wireless data transfer between my PC and my beloved portables.

But what about my P90? With no money remaining, I was forced to install Linux and use it as a basic server. RedHat 5.2 was free, but I was way out of my depth. For future upgrades I suspect I'll be building a new PC with my 'spare' PII 350 and installing Windows 2000 Server. This system would additionally host my tape backup and printer/fax for the network.

So there it is: a small business network with relatively fast internet access, infra-red connectivity, laser printer with standalone fax, ample backup, and a unique identity on the internet — not bad for just over £1200. I checked the latest prices and earned free delivery by ordering online — most relaxing while sipping a rather tasty Bordeaux.

GORDON LAING

PCW PRICE TAG

£145	Pentium III 450 processor
£49	Conversion to BT HomeHighway
£189	D-Link DI 106 ISDN router
£34	Two Dabs 10/100 ethernet cards
£459	Hewlett-Packard LaserJet 3100
£243	Hewlett-Packard Colorado T20i
£61	Domain hosting at EasySpace
£37	Two years' registration at InterNic
£10	IrDA port for Asus motherboard
Free	RedHat Linux
Free	UK delivery from online orders

Total Price £1441.73 (£1227 ex VAT)

Contacts

DABs Direct: 0800 138 5114

www.dabs.com

SMC: 0800 597 5333

www.smcdirect.co.uk

Technomatic: 0800 338000

www.technomatic.co.uk

EasySpace: www.easyspace.com



Buying Online

It's not so long ago that if you wanted to buy a PC on the net, you would almost inevitably find yourself knocking on the door of Dell's home page. This pioneering site paid off in two ways: first, the company made a tidy profit, thank you very much; and second, it proved to other vendors that this is a viable way of shifting kit.

With this in mind, I turned to Dell first. Its well designed presentation makes it easy to configure a machine through a series of dropdown menus. All start with a standard setup already in place, which the user can then model to meet any particular requirements. The price of the system is automatically recalculated and displayed at the bottom of the screen.

For £1201 ex VAT I customised a standard multimedia system built around the 433MHz Celeron, which included a Hewlett-Packard DeskJet 420C printer.

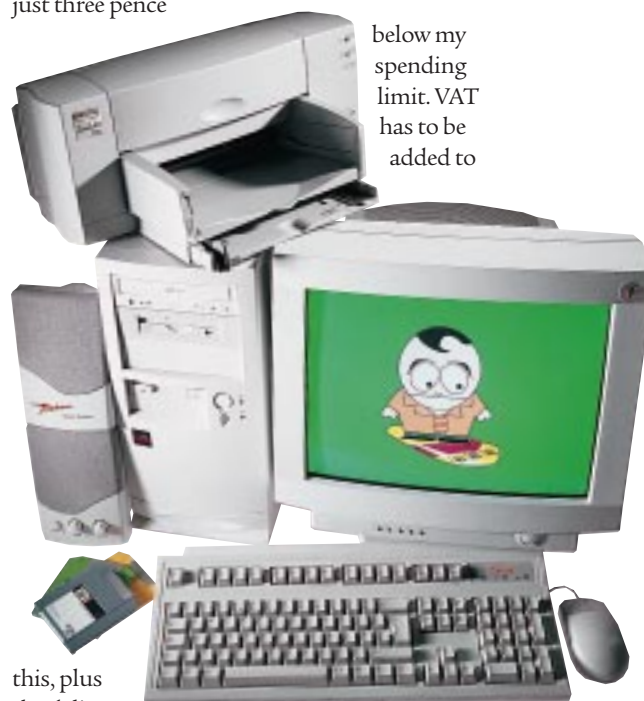
Next stop was Evesham. Here, I was able to select a price range as the starting point for my search. Through this, I found a competitively priced PIII 400MHz system, and even adding a printer, modem and Zip drive didn't take the total price over my £1200 budget.

I would have liked a PIII, ideally, so adding this to the list of possibles, moved on to Carrera. Here I found some real bargains, like a 450MHz PIII, 64Mb RAM and an 8.4Gb hard drive. Lotus SmartSuite Millennium was bundled, and although I would have preferred to upgrade to Microsoft Office 97, I decided to stick with the default option and spend the savings on a better printer. Although I could have added a printer to my list there and then, I decided to look elsewhere to maximise my choice.

But first, let's break for some basic economics: net sales cut overheads. There's no need for telephonists and freephone lines, or office space to house them. Dabs has done the decent thing and passed these savings on to the customer by waiving all delivery charges on kit purchased online, and so it was to them that I turned in search of a printer. Even a cheap laser would still have broken the budget, so instead I settled for an HP DeskJet 710C — a little slower than the laser, but it allowed me to print in colour and cost only £111.

I had yet to completely solve my backup problem. Although my spec for the PC included a Zip drive, there was no media. Time to visit

Insight, who were already in mind as they send me a regular newsletter highlighting their products. As well as selling whole systems at very good prices, they have a large stock of components and media. Their site also gives visitors confidence that they will receive what they order, as it shows how many units of each item are in stock before the order is placed. They were selling single 100Mb PC formatted Zip disks at £6.99 each; so far I had spent £1179, giving me just enough left over to buy three, taking my grand total up to a very respectable £1199.97 — just three pence



below my spending limit. VAT has to be added to

this, plus the delivery charge on the PC, knocking this up to £1,444.04 all in. A fair bargain, considering all of this took place at the beginning of May.

When it arrived, I was pleased with what I'd got. The Carrera's monitor, from LG, had a clear, sharp image. Expansion prospects were good, with two free external drive bays, one of each size, and one PCI, two ISA and one shared slot free on the motherboard. The interior was very tidy with all cables tied out of the way to give easy access to all components, and with the 64Mb RAM supplied on just one module, two further DIMM slots remained free.

Although a similar machine could have been bought at the same price over the phone, it's unlikely that such a bargain could be found on the average high street. I also made savings by buying my printer and Zip disks online and avoiding the cost of postage. Had I ordered from Dabs by phone, this would not have been so.

NIK RAWLINSON

PCW PRICE TAG

Carrera Cygnus M450 Multimedia System, £1,254.90 (£1,068 ex VAT); Hewlett-Packard DeskJet 710C, £130.43 (£111 ex VAT); Zip disks, three @ £8.21 (£6.99 ex VAT) each

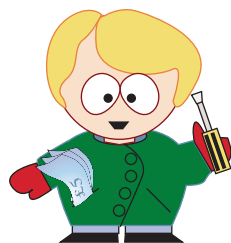
Carrera www.carrera.co.uk

Dabs www.dabs.com

Dell www.dell.co.uk

Evesham www.evesham.com

Insight www.insight.com



Build Your Own

At the back of this magazine you will find vendors providing all the parts you could possibly want to piece together a personalised, complete, small business setup. If you're prepared to spend time researching, you can find some real bargains.

Some of PCW's advertisers have very good relationships with component manufacturers, resulting not just in heavily discounted bulk purchases, but even preferential dealerships for further discounts. There's also the added advantage of deciding on all your purchases from the comfort of your armchair. But you won't be able to check out the goods personally before they're despatched, and as with any home-built system, there's no warranty on the complete system: if a vital component fails, your system will be down for the

time it takes a replacement to be sent.

Armed with a good selection of back issues of PCW, or with PCW on CD-ROM [see page 268], you can find recommendations for most of the products you'll need for your PC.

A good place to start is with all the itty-bitty essential pieces that hardly fluctuate in price between vendors — case, floppy drive, keyboard — so that you can subtract this amount from your budget before proceeding. More obvious price differences between vendors come to light when you have to decide on the core components in your system. At the time of writing, the price of a Pentium III was prohibitive, so we chose an AMD K6-III 450MHz from Evesham Micros, at a full £100 cheaper than most of the competition. Dabs Direct has very reasonably priced printers, with an Epson Stylus 740 USB chosen for its high quality and cheap running costs.

Remember, you'll have to pay for delivery, so plumping for the cheapest components from lots of different vendors will invoke extra costs. As the printer and processor are the most expensive components, I stuck to Evesham and Dabs when selecting the rest of my kit. Another vendor may have perhaps been able to offer better deals on a monitor, but I preferred

to stick with just the two main deliveries rather than be held up in building the system while waiting for the final delivery.

The eventual system was quite respectable as a no-nonsense business machine, with even an internal Zip drive for backing up the essentials. You can see the components I went for in the PCW Price Tag alongside. Software was a real problem though, as you can't take advantage of cheap bundled office suites with a build-your-own system.

Future improvements

to the system would probably revolve around a SCSI bus, with the SCSI adapter connecting to a hard disk, and a CD writer for preparing some professional distribution of final work. Networking would become essential if the business it was bought for was to expand, and this would be addressed at that time. With a little foresight I would have opted to spend a few extra pounds on a larger case with room for future upgrading. As it was, I received a case with only one forward-facing 3.5in bay, leaving my internal Zip drive, an OEM version without a 5.25in bay converter, dangling in a forlorn and redundant fashion.

IAN ROBSON

PCW PRICE TAG

AMD K6-III 450MHz £169,
Evesham Micros
128Mb PC100 SDRAM £84,
Dabs Direct

Maxtor DiamondMax 10.8Gb hard disk £93, *Dabs Direct*
Iomega Zip100 Internal £59,
Evesham Micros

TMC TI5VGF (v1.0)/VIA MVP3 motherboard £78, *Dabs Direct*
Creative Labs CD-ROM drive £27, *Dabs Direct*

Creative Labs SoundBlaster 64V £15, *Evesham Micros*

Creative Labs CSW-20 £12,
Dabs Direct

Creative Labs Blaster TNT £72,
Dabs Direct

Mag 177EV monitor £169,
Evesham Micros

Modular PCI V.90 modem £39,
Dabs Direct

Epson Stylus Color 740 USB printer £147, *Dabs Direct*

Mitsumi floppy drive £12,
Dabs Direct

Mitsumi PS/2 keyboard £9,
Dabs Direct

Evesham Midi Tower ATX case £45, *Evesham Micros*

Vale Wheel Mouse £10,
Evesham Micros

Windows 98 £69, *Evesham Micros*

MS WorksSuite99 £50,
Evesham Micros

Delivery charges £10, *Dabs Direct*;
£25, *Evesham Micros*

Contacts

Evesham Micros 0800 496 0800
www.evesham.com

Dabs Direct 0800 138 5124
www.dabs.com



Happy shoppers?

Personal choice is everything when buying a computer. Everyone has their own opinion of what makes the perfect PC, influenced mainly by what they themselves would like to have. But ultimately there are bargains out there to be had, and part of this exercise involved sniffing them out.

Building your own system is never going to be the most cost-effective way of getting a PC, as you can't take advantage of the huge discounts vendors get on their components. However, you can always use parts out of an old machine, such as the sound card, modem, CD-ROM drive, floppy drive, keyboard, mouse and monitor, thereby keeping costs down. It's also a chance to build a one-off machine where you can choose every component, from the motherboard to the removable storage drive. And, of course, you have the satisfaction of saying you built it yourself.

All in all, Ian put in a pretty good effort, building a fast system and getting some good-quality components into the bargain.

Buying direct, whether online or over the phone, has always been good value for money. Nik and David chose two



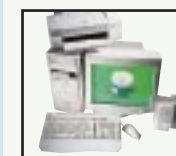
very different machines. Nik went for raw processing power, while David kept the office user in mind and went for some sensible options for any business, such as the on-board network chip and the laser printer. However, both managed to buy very creditable systems that would grace any office or home.

But, buying from retail is a dismal experience. While there's quite a lot of choice in some stores, most seem to be aiming exclusively at the undiscerning home user. Packard Bell, and the Compaq and IBM home-user models, are still overpriced compared to the direct dealers, something the Dixons group recognises when it says it will refund the difference if you find the same PC anywhere (except from a direct vendor). In the end, Adele's decision to buy from Gateway is a cop-out: Gateway is a direct vendor which just happens to have a store.

Which just leaves us with Gordon's offering. This is not what we would call upgrading a system, but it is taking what would otherwise be a load of useless machines and turning them into a useful network. What else could you do with an old P90 except turn it into a Linux machine? And putting a Mac on a network certainly makes a lot more sense than having it as a standalone system.

So, who gets the best seat on the school bus, and who ends up like Kenny? Well, David gets the prize for the best business system, while Nik and Adele picked the best all-round systems, and they all took the sensible step of ordering from reliable and reputable companies. Ian made a good stab at building his own, while Gordon picks up the mad-as-a-hatter medal but also the prize for the most innovative use of old machines we have seen for a while.

Table of features



	ADELE	DAVID	GORDON	NIK	IAN
MANUFACTURER	GATEWAY	DELL	GLNow!	CARRERA	EVESHAM/DABBS
Model	G7-450	Dimension V400c	Gingermicro	Cygnus M450	Build your own
Processor	Intel PIII 450MHz	Intel Celeron 400MHz	Pentium III 450	Intel PIII 450MHz	AMD K6-III 450MHz
RAM	64Mb 100MHz	128Mb PC100 SDRAM	160Mb SDRAM	64Mb 100MHz	128Mb PC100 SDRAM
Hard disk size	8.4Gb EIDE	4.3Gb	9Gb (plus 4Gb AV drive)	8.4Gb EIDE (UDMA66)	10.8Gb EIDE (UDMA33)
CD/DVD	32X IDE CD	32X IDE CD	Pioneer DVD-303 SCSI	40x IDE CD	Creative Labs 48x EIDE
Storage device	Internal Zip 100	x	Iomega Zip, Jaz,	Internal Zip 100	Internal Zip 100
Backup device	x	x	HP Colorado T20i SCSI	x	x
Monitor model	Gateway EV700	Dell Ultrascan	Mitsubishi LXA520W	LG CS788C	Mag 177EV
Monitor size	17in	17in	15in TFT	17in	17in
Printer model	Epson Stylus Colour 640	HP LaserJet 1100	HP LaserJet 3100	HP DeskJet 710C	Epson Stylus Color 740
USB					
Software	MS Office SBE	MS Office 97 SBE	MS Office 2000	SmartSuite Millennium	MS WorksSuite99