part 1

Setting up a home office

If working on a corner of the kitchen table is beginning to cramp your style, you need a proper office. James Taylor considers the factors involved in setting one up at home

Computer desks needn't look like a cross between a play-frame and a hospital trolley, as this traditional hide-it-all design from 21st Century Antiques shows.

Working at home is not a new idea. A couple of centuries ago nearly everybody did it, principally because there were no offices or factories to go to. Some have never given up working at or from home – sales reps, vicars, writers – and people involved in other activities are now joining them. But, however you earn your living at home, there'll be paperwork and that means an office.

Many successful offices are no more than a writing table in a corner, although for more protracted use, for meeting clients or just for leaving work lying about uncompleted without attracting adverse criticism from the rest of the family, a separate room is better. You'll also accumulate 'office' impedimenta as you go along – wall calendars and charts, filing baskets, great piles of papers yellowing on the windowsill. And, of course, your computer and associated equipment.

Once limited to word processing, and still, in small businesses mostly used for that purpose, a computer is capable of looking after almost all aspects of your business. Apart from helping you produce letters, it will keep a copy of every one of them on its hard disk, often being able to find

them quicker than you can find the paper copies (which, with a computer, you may not need to keep at all). It will produce leaflets and flyers, and a list of everyone you need to send them to. It will send out 'direct mail' promotions to selected clients (you too can rival *Readers Digest*). It will keep your accounts, send invoices, pay bills, count your stock, and look after the VAT calculations. It can answer the phone, take messages, send faxes, and connect you to the Internet. It will keep all your contacts' details, including records of telephone conversations and visits. It will look after your schedule, reminding you of things you must do. It won't make the tea, although I daresay someone's already working on that too.

Before you even begin to think about choosing a computer, there are some more basic things to consider. The first is what size office you'll need. A small computer desk, a filing cabinet, a chair, and you will need a space about 2m square – although in practice you might want to move your elbows from time to time, your boxroom should fill the bill for occasional use. Turning that, or any other room in the house into an office should be straightforward.

Converting your loft, cellar, garage or outhouse is a different matter, not only because of the practical difficulties which may exist but because you will almost certainly come up against the planning regulations for habitable rooms in terms of light, ventilation, insulation and ceiling height. It could also affect your council tax.

Speaking of councils, many frown on you working at home, especially if you'll have clients and suppliers visiting with their increased traffic and parking. Neighbours might also object and many homeworkers reckon it's best to keep your head down and not tell *anyone* within a three-mile radius, that you do work at home.

As you'll probably put your desk against the wall (because of all the cables exploding from the back of it), your centre ceiling light will be inadequate. Get at least one desk lamp, preferably on an adjustable arm, to illuminate your working surface without shining directly into the computer screen. You'll need several power points – plan for one each for your computer, monitor, printer, modem, multimedia speakers, answering machine, fax machine, desk lamp, heater for the winter, fan for the summer, assorted portable devices – up to a dozen sockets wouldn't be too many in the long term. You'll also need a telephone point, of course, and two would be better.

You may be limited in what you can do about the rest of your office environment, especially if the room has to double as a family room for some of the time. At least during the hours that you're in there, it should be as quiet and free of distraction as possible. Background noise should preferably be kept below 55 dBA – that's about the same as a quiet restaurant or a gentleman's outfitters. Room temperature, for sedentary work, should be between 16 and 23°C. The office should be well ventilated (you don't want to fall asleep after lunch, do you) with humidity between 40 percent and 60 percent. You'll need good lighting, whether natural or artificial. If you have a choice, put your monitor at right angles to a north-facing window, where you'll get even natural light without glare or direct sunlight to affect visibility.

Hard advice – shopping for a computer

By any reckoning, the IBM-compatible personal computer – the PC – is the mainstream machine to choose for business use. The PC is a modular design, assembled from fairly standard parts and buying one is no more difficult than deciding the specification of your next car. It will need enough speed not to hamper either data entry or retrieval and enough capacity to hold all the data you need. Everything else is down to comfort, convenience and kudos. ▶

Are you sitting comfortably?

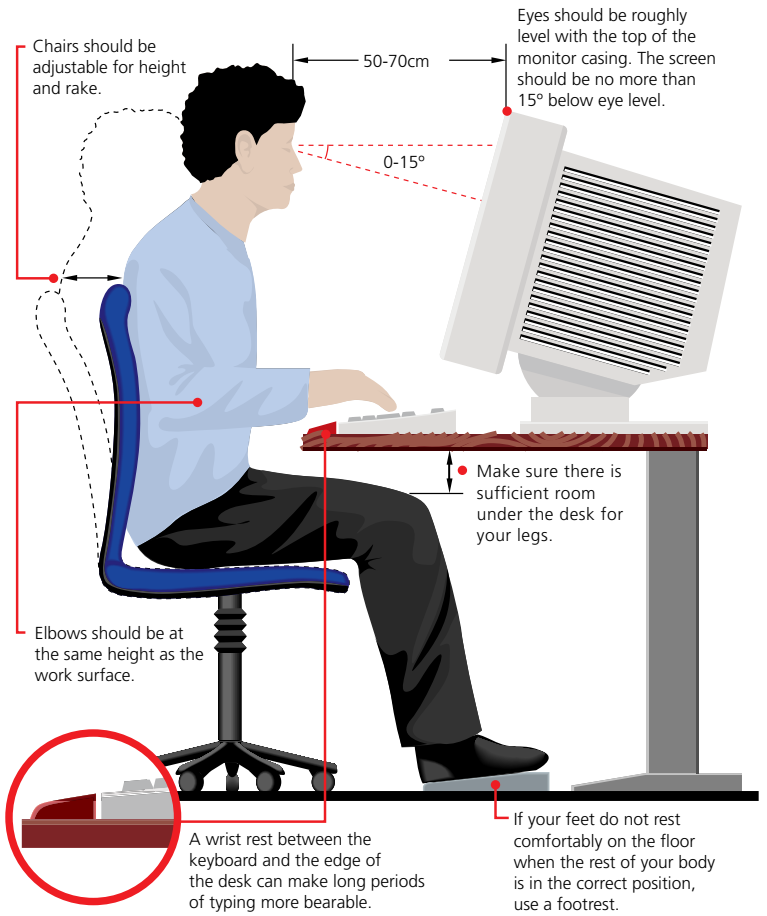
The average female knee is 47cm from the floor. A man's is 52. The average man's forearm is 47cm long. A woman's is about 44. You see why chairs and workstations need to be fully adjustable. Despite this, it is possible to come to some general conclusions for comfortable and ergonomic working at your computer.

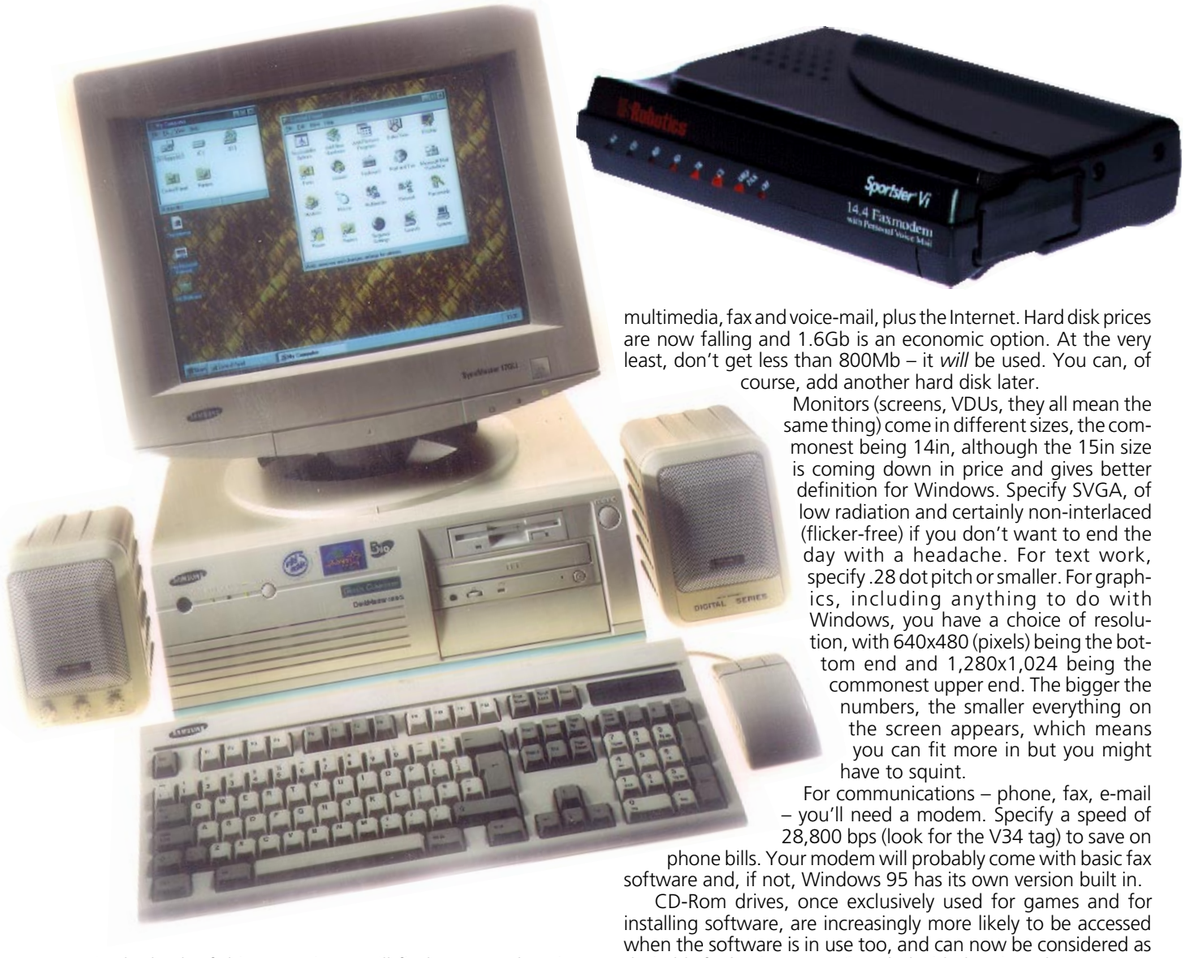
❍ Make sure your desk is big enough for optimal equipment positioning. In particular, you need about 90cm from front to back. The average desk height is between 72 and 75cm but, if you can, get one that's adjustable. Between 66 to 77cm should do.

❍ Get a swivel chair with a five-star base, preferably with castors. Its seat height should be adjustable so that you can sit with your thighs horizontal and your feet flat on the floor. Get one with an adjustable back and preferably with lumbar support and armrests. When you type, your elbows should be level with the desktop. The front of the seat should curve downwards slightly.

❍ It can be tricky juggling the heights of chair seat and desktop, but aim for 6cm between the top of your thighs and the underside of the desk (or keyboard drawer if you fit one). You might, of course, have to diet.

Hewlett-Packard's Vectra range comes with documentation giving advice on ergonomic working to reduce stress and strain.





At the back of this magazine you'll find a comprehensive guide to buying a computer system, together with hardware listings describing the various configurations available. There is, of course, an almost infinite number of ways of varying the specification of a computer merely by ringing the changes on hardware combinations. Most of them will be perfectly adequate for general home use and, like other consumer products, there's almost no limit to the amount of money you can spend chasing sometimes infinitesimal improvements in performance.

The most-quoted item in a computer's specification is its processor – the bit that carries out all the calculations to interpret your keyboard fumbling, putting the results on the screen and the hard disk. Processors evolve with obscene frequency as suppliers seek to outdo each other in speed and capacity (only to be slowed and overloaded again as software takes advantage). For the moment, all you need to know is that the 486 processor is old hat and the Pentium is the cat's pyjamas. The Pentium comes with several quoted speeds: a machine equipped with a Pentium 75 is certainly fast enough for most business tasks. Use the money you save by getting more memory which will have a far greater effect on your productivity, especially if you'll have your Pim (personal information manager) or contact manager software running all the time. Aim for 16Mb of Ram, especially if you'll be running Windows 95 (and that's almost a foregone conclusion).

Don't stint on hard disk space either. Even if you use integrated software, which is supposed to avoid duplicated disk space by using shared facilities, you'll find a decent set of general-purpose programs can take over 200Mb of disk space, and that's before you add your data. Then there's your accounts, multimedia, fax and voice-mail, plus the Internet. Hard disk prices are now falling and 1.6Gb is an economic option. At the very least, don't get less than 800Mb – it *will* be used. You can, of course, add another hard disk later.

Monitors (screens, VDUs, they all mean the same thing) come in different sizes, the commonest being 14in, although the 15in size is coming down in price and gives better definition for Windows. Specify SVGA, of low radiation and certainly non-interlaced (flicker-free) if you don't want to end the day with a headache. For text work, specify .28 dot pitch or smaller. For graphics, including anything to do with Windows, you have a choice of resolution, with 640x480 (pixels) being the bottom end and 1,280x1,024 being the commonest upper end. The bigger the numbers, the smaller everything on the screen appears, which means you can fit more in but you might have to squint.

For communications – phone, fax, e-mail – you'll need a modem. Specify a speed of 28,800 bps (look for the V34 tag) to save on phone bills. Your modem will probably come with basic fax software and, if not, Windows 95 has its own version built in.

CD-Rom drives, once exclusively used for games and for installing software, are increasingly more likely to be accessed when the software is in use too, and can now be considered as desirable for business use. Coupled with that, it's advantageous, though not yet strictly necessary for basic business use, to specify a sound card for your computer, with headphones or speakers (very good for games, of course, and if you need to justify it for business use, tell the holder of the purse strings that it's vital for software tutorials). If you intend to use your computer for phone communications, see the next class for alternatives to the standard sound card and modem.

If your computer system is to be used for business, you'll want reliability. This is one time, then, to eschew the latest and possibly too, the cheapest, and go for mainstream manufacturers. It may be boring not being at the cutting edge of technology but you'll be safer with established suppliers.

Health and safety

You may be surprised to learn that your home office is subject to the same health and safety regulations as any other office and that you are as liable under *criminal* law as they are. This can extend to being prosecuted by the HSE should you injure or put at risk yourself, let alone anyone else (who, incidentally, include employees, visitors, neighbours, the general public, and users of your goods or services).

The regulations which will affect you include Management of Health and Safety at Work, Electricity at Work, Control of Substances Hazardous to Health (COSHH), Manual Handling and Display Screen Equipment. You must register if you employ anyone, and report all accidents. Enforcement of the regulations is a matter for your local Environmental Health Department, backed by advise and expertise from the HSE. The following booklets give more information, all from the HSE, telephone 01787 881165:

- *Officewise*
- *VDUs, An Easy Guide to the Regulations*
- *Working with VDUs*
- *Workplace Health, Safety & Welfare*

Prints charming

You'll need to buy a printer separately. There are three main types – dot-matrix, inkjet, and laser. Dot-matrix printers are fast and economical (and the only way to print carbon copies or multi-part sets). They can be rather noisy, which may be important if you work late at night at home! Look for a 24-pin machine, preferably choosing one for which you can get ribbons locally.

An inkjet printer is quieter and gives better definition than a dot-matrix but costs more to buy and run. Offering a good range of sizable fonts, it's a useful compromise between cost and quality if your print requirements are not too heavy. There is often, though, no convenient provision for printing labels or envelopes. Some manufacturers are now offering multi-function machines; we'll look at those in the next class (also, see the article on fax/printer/copiers inlcuded in this issue).

Laser printers are the ultimate in print quality. Now much cheaper, they are still a significant investment which is why you often see them shared in offices. Laser printers have the advantages of more flexible font control, balanced by their higher running costs and demands for extra memory in the printer itself.

Software

The essential software you'll need is the operating system (realistically, that'll be Windows 95) and whatever application programs you need to perform the jobs you want done. What you'll actually get will depend on whatever your supplier bundles with his machines. You may be lucky and it may be what you want. But the odds are against it.

'Standard' categories of software are word processing, desktop publishing, accounts, spreadsheet, and database.

Word processors are designed to help with the production of correspondence of all kinds. As well as straightforward letters, they can produce leaflets, notices, flyers and other 'publications'. They can count your words, check and correct their spelling and even check your grammar and suggest alternative words and phrases. Some have specialist facilities like tables, mathematical symbols, and foreign languages. They nearly all handle fancy fonts and variable character sizes, many of the latest ones going a long way to eliminating the other text-handling software, the desktop publishing packages.

Accounts software is designed, unsurprisingly, to look after your accounts. You can get packages dedicated to your personal accounts, your business accounts, or both, and they can vary from relatively simple software costing under a hundred pounds to extremely sophisticated software costing many thousands of pounds.

Spreadsheets may be useful for carrying out long, boring and complicated calculations, and most come with a wide range of built-in mathematical, engineering, financial and statistical formulae built into them, but they are also an incredibly versatile way of keeping lists and numbers in a manageable format. It has been said that the most popular database for most people is, in fact, their spreadsheet.

Formal databases are for keeping records, sometimes in considerable detail. This might include your stock in trade, client's purchases, suppliers' stock items, or the times of the trains to Tipton. Database software usually comes as a DIY package where you have to decide the form as well as the content: this makes them extremely versatile but also extremely time-consuming to set up. Some database software does come with preplanned templates, however, which helps somewhat.

Standard applications are versatile at the expense of specialisation: buying a standard database is a little like going to buy a bed and coming out with some planks and a set of tools – there's a lot of work to make it usable. More recently, dedicated software has emerged, as in contact management software where a database is preconfigured to do one specific job only.

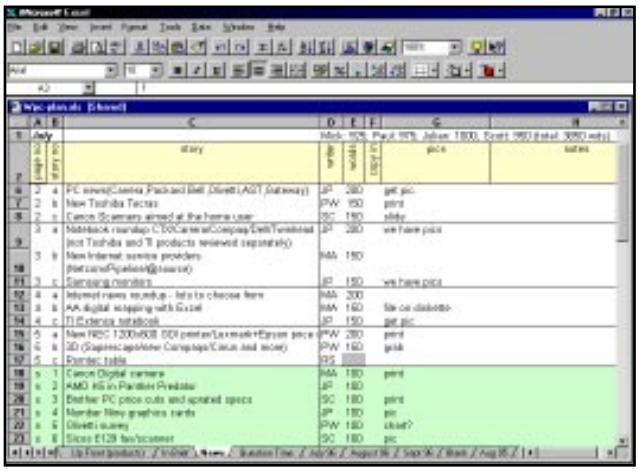
Read all about it

With working at home becoming more popular, there's a flurry of new books now available on the subject. You might care to look at:

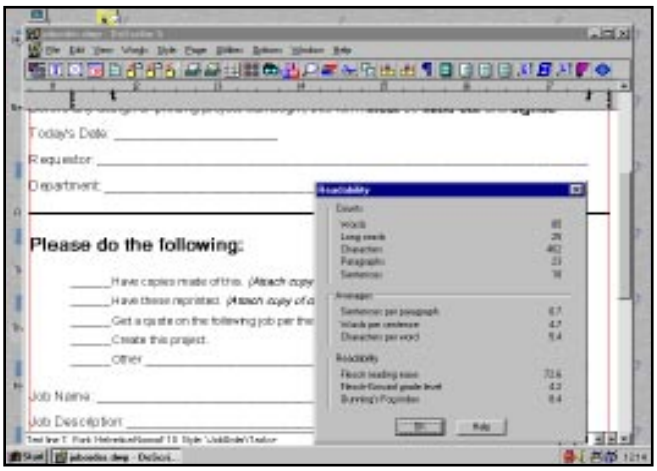
Your home office by Peter Chatterton, ISBN 0-7494-1642-4 published in 1995 by Kogan Page in its *Daily Express* series at £7.99. Covering the whole range of considerations from space to stationery, it includes chapters on choosing a computer and other equipment as well as dispensing advice on personal work practices.

From the same publisher comes *Technology tools for your home office*, also by Peter Chatterton, at £8.99, ISBN 0-7494-0726-3. As its title indicates, this is more focused in viewpoint, but not much slimmer a volume for that. Published in 1992, its specific examples are out of date, although its general advice still holds.

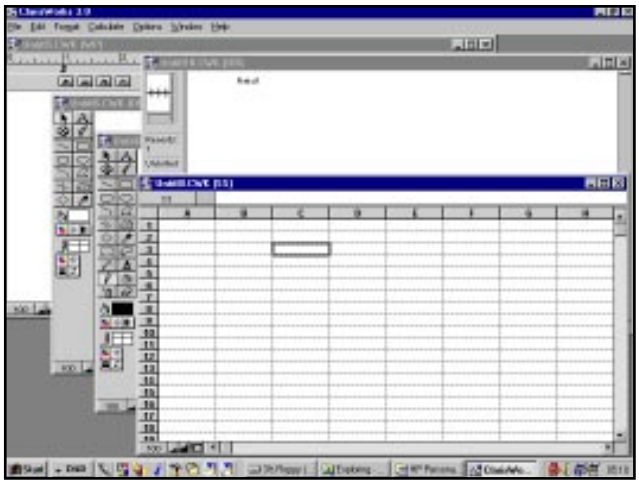
Cheaper still, but with more pages, *Making serious money from home*, ISBN 0-330-34371-8, by Sharon Maxwell Magnus, is newly published by Pan Books at £6.99 and adds some specific ideas for home employment. The chapters on law, tax, and home office organisation provide a useful reference, although the technology is covered in a more general fashion than in the others.



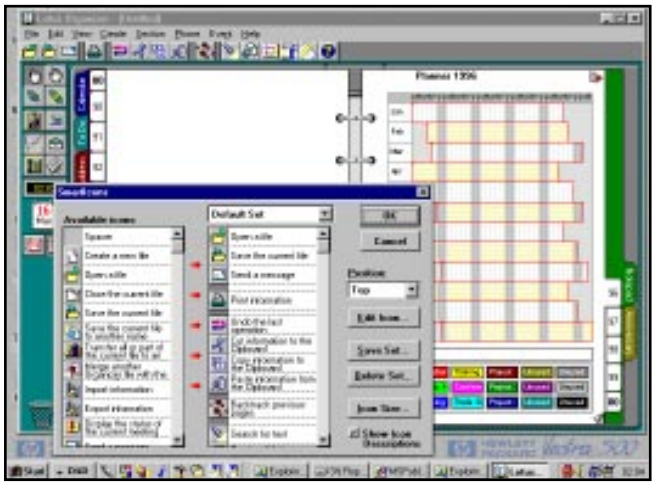
Microsoft's Excel spreadsheet being used not as a sophisticated calculating engine but as an easy way of storing and manipulating lists of words and numbers.



Word processing is the most popular business application. This is DeScribe.



ClarisWorks is an example of an integrated package you might find bundled with your new computer. It has word processing, spreadsheet, database, and drawing software and can produce documents using all four.



Lotus's Organizer is an example of a personal information manager (Pim) that keeps a note of your contacts and schedule. You can also link it to other data on your hard drive.

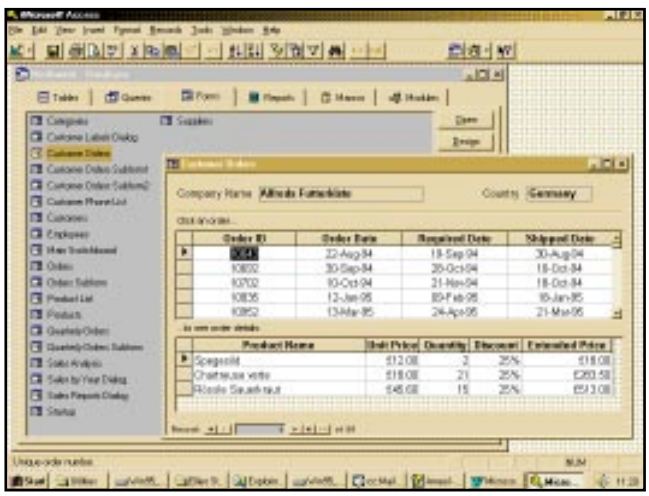
Integrated software packages are designed to combine two or more of the standard applications in such a way that they can share information – although Windows can do this with any Windows software – so that you can 'paste' your spreadsheet calculations into a quotation, for example. But you should beware; some 'bundled' software isn't properly integrated. If the dealer says it can exchange data, then make him actually prove it.

Software won't solve all your problems – in some cases, it can be quicker to do things manually than by computer – and you'll need to learn new skills. Whatever software you choose, you will have to tailor it to your preferences.

Most software suppliers have discreetly abandoned fixed pricing, driving prices of popular packages down to 'street level'. One effect is that technical support is now priced separately and not always available from cut-price vendors. Pre-loaded software, including Dos and Windows, is often supplied without the original disks and hence gets no support from the software publisher. If you need support, you're supposed to go back to your dealer.

There are ways of evaluating software without actually buying it. Many publishers offer free trial disks of restricted versions – limited entries or no printing – which you can play with at your leisure. Or you can get a demonstration from a dealer. Or you can buy a manual only – usually £10-£20 –and read about the program's features (telephone mail-order specialists Computer Manuals, 0121 706 6000, for a catalogue).

One caveat – make sure you get UK versions of all your software. The majority of software is still produced for the USA, which has a number of sometimes none-too-subtle differences to the UK, among them different spellings, address format and, in particular, way of writing dates, that can make US versions of software a positive liability here. ●



A database, such as Microsoft's Access shown here, is great for setting up formal systems in a large organisation, but many users can get by with a spreadsheet or Pim.