

up front

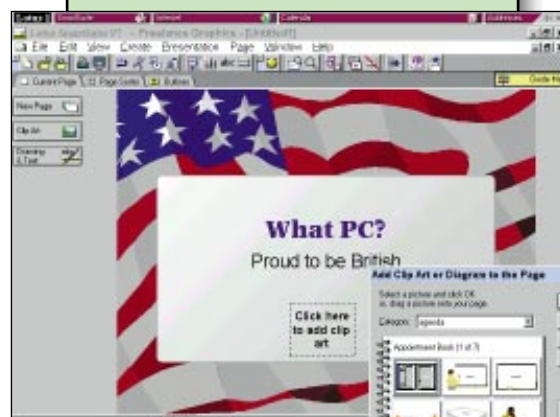
Among the new products under review this month are: Lotus SmartSuite 97, two home PCs manufactured by Compaq and IBM, a mobile communicator from Nokia, Web publishing programs from Microsoft and Claris and a low-cost colour laser printer



Lotus SmartSuite 97

Scott Colvey

Office software suite with word processor, spreadsheet, database, presentation graphics and time management applications.



Only two companies are still vehemently contesting Microsoft's dominance of the office software market – Corel and Lotus. We had a look at the beta version of Corel Office 7.0 in our June issue, and last month we put Microsoft's Office 97 beta release through its paces. To complete the trio, this month we've taken a look at the beta of the forthcoming office software suite from Lotus, SmartSuite 97.

The content of SmartSuite has not changed since the 96 incarnation – you still get 1-2-3 (spreadsheet), Word Pro (word processor), Approach (database), Freelance (presentation graphics), Organizer (personal time management system) and ScreenCam (VCR-like screen action recorder) – but Lotus has now really gone to town with its 'Team Computing' ideology.

In a nutshell, Lotus's vision is of a collaborative working environment (the 'team'), but one that isn't restricted by the availability of each team member or their locations. To facilitate this, Lotus has added tools which allow documents and data to be opened from, and saved directly to, the Internet.

Undoubtedly, the two applications that have benefited most from these additions are 1-2-3 and

Word Pro. With the latter, for example, you can open a document directly from the Internet by typing in its URL (Universal Resource Locator). If this sounds like a long-winded method, you can embed hyperlinks into documents and a double-click will connect you to the URL and open the document. You can perform similar operations with 1-2-3, but the Internet opening/publishing functions are limited to data ranges rather than, say, an entire workbook.

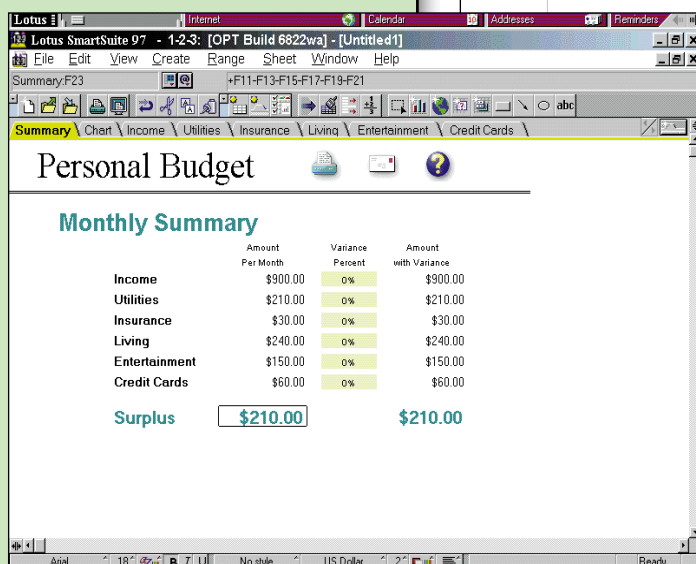
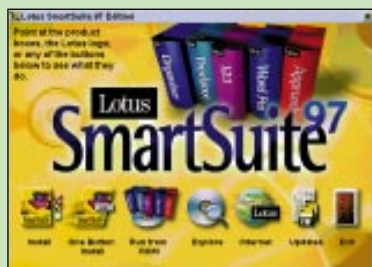
TeamReview, Lotus's shared document technology, is now augmented by TeamConsolidate, an automated tool that compiles multiple edited versions of a document into a single file. Once TeamConsolidate has received all versions of the document, a nominated user can review it, accepting or rejecting each change as it's presented.

1-2-3 has been spruced up with the introduction of the InfoBox. This is not new to SmartSuite but it is the first time it's appeared in the spreadsheet package. With this pop-up toolbox it is possible to alter almost any attribute of a highlighted cell, with the exception (somewhat irritatingly) of formulae. The InfoBox of 1-2-3 also adds another long-overdue feature – the ability to attach comments to cells. As in Microsoft's Excel 97, each com-

- All-new 32-bit applications
- Long filename support throughout
- Publish Word Pro documents and 1-2-3 data ranges to the Internet
- 1-2-3 now includes InfoBox editing tool
- Add comments to cells in 1-2-3
- Auto-totalling within 1-2-3
- TeamConsolidate tool automatically compiles multiple document versions into a single file
- Create hyperlinked table of contents from within Freelance
- ScreenCam movies can be created in segments
- Enlarged SmartMaster libraries

Lotus SmartSuite 97

(continued)



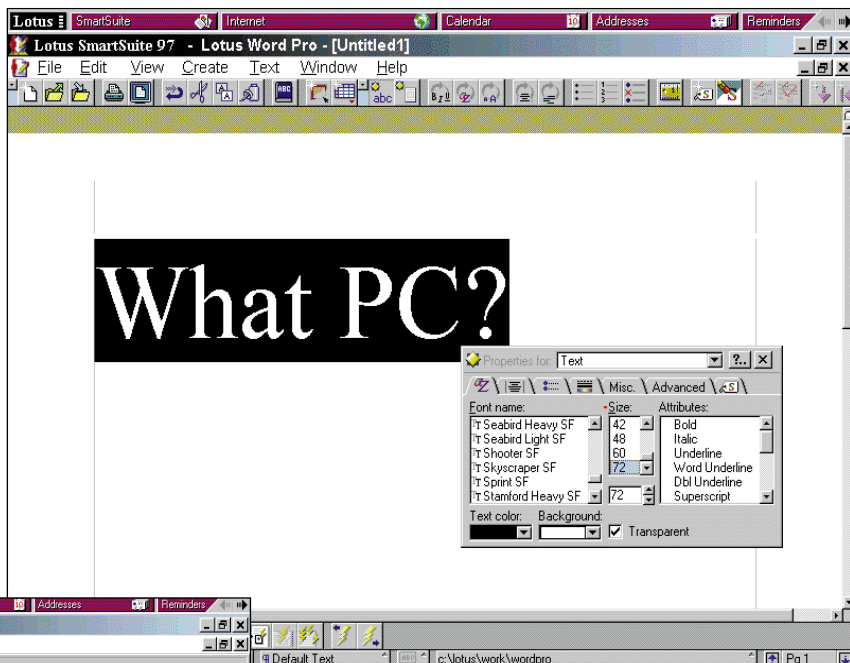
From the evidence of this beta release, SmartSuite 97 should present some serious competition for Microsoft's Office 97. The interface is at last consistent throughout - although it still doesn't feel as 'comfortable' as the Microsoft's - and the Internet connectivity features work very well.

- £TBA
- Lotus: 01784 455445

Lotus SmartSuite 97

Features	★★★★★
Ease of use	★★★★☆
Performance	n/a
Value for money	n/a
Overall	★★★★☆

Minimum requirements: 486SX2/50, 12Mb of RAM (16Mb recommended for Windows 95, and required for Windows NT), 64Mb of free hard disk space (but will also run from the CD-ROM with a 5Mb hard disk requirement), CD-ROM drive.



ment can be stamped with the name of the person who made the entry, as well as the date and time when they did so. Other new 1-2-3 arrivals include AutoTotal (typing 'total' at the end of a row or column of figures automatically inserts the total), as well as Dynamic Print Preview. The latter feature gives users

a 'live' print preview while they are editing a spreadsheet and it's a very useful addition.

For a good while now, Approach has sat in the shadows of the bigger database names like Access and Paradox, which is a little surprising as it is very much a 'heavy-weight' product. Most of the improvements to the 97 edition are surface polish rather than major changes - keystroke sequences can now be embedded in macros and more SmartMasters (pre-prepared templates) have been added, for example. Like the other applications, however, Approach can now translate its reports and forms into HTML (hypertext markup language) and publish them on the Internet.

The previous version of Freelance, the presentation graphics part of SmartSuite, was given a Best Buy award in the September issue of *What PC?* Again, in the new version, most of the additions are minor but nonetheless welcome. Lotus has added a further 14 SmartMasters (giving 134 in total) and it is now possible to edit speaker notes while a screen show is in

progress. Being able to export a presentation to HTML format is not a new capability either, but Freelance can now compile a table of contents and automatically create the hyperlinks to each page (or slide).

Organizer hasn't really changed much, either. You can now send e-mail (via Lotus Notes or another compatible mail system) without leaving the program, and rich text formatting (such as coloured fonts) can now be applied to the contents of the notepad. There are also a couple of new icons on the toolbar which connect you directly to Lotus support pages on the Internet.

ScreenCam completes the SmartSuite application line-up. This is a tool which acts very much like a VCR (video cassette recorder) to capture on-screen actions, from a single mouse click to a series of brush strokes in a paint package. These actions can then be saved as a Windows movie file which can subsequently be played back, independently of ScreenCam.

Tying the whole suite together is SmartCenter, a row of elongated icons which can be anchored to either the top or bottom of the screen. At its most basic, SmartCenter is used simply to launch the various SmartSuite applications but it can be tailored to do a lot more than this. Fully customisable, a click of each icon reveals a number of 'folders,' each of which can contain whatever SmartSuite 97 element you wish to place in it - links to your favourite Internet sites, calendars, address books, grouped documents and so on. Unfortunately though, it doesn't work half as well as it might. The use of colours is too liberal and with just a couple of drawers open the screen begins to look messy.

Compaq Presario 4704

Paul Wardley

Another big computer company's stab at producing the ideal home PC – eye-catching design, full multimedia and a clutch of pre-installed software titles.

- Pentium 133MHz processor
- 16Mb of RAM
- 1.6Gb hard disk
- 1Mb of video memory
- 8-speed CD-ROM drive
- 33.6Kbps modem
- 15in monitor with clip-on speakers
- Software MPEG player for Video CDs
- Sound card
- Push-button controls on tower case
- On-line help and support

Although slightly marred by injudicious cost-cutting, probably to keep the target price under £2,000, the Presario 4704 is a more than competent multimedia PC. The extra external controls are handy and the SmartQ home base is an added bonus that helps make it easy for the whole family to use the same computer.

- £1,999 (typical price incl VAT)
- Compaq: 0181 332 3000

Compaq Presario 4704

Features	★ ★ ★ ★ ★
Ease of use	★ ★ ★ ★ ★
Performance	★ ★ ★ ★ ★
Value for money	★ ★ ★ ★ ★
Overall	★ ★ ★ ★ ★



For the majority of PCs, the case they come in is simply something to keep the insides together and free from dust. Few concessions are made to style and even less to colour. Not so the Compaq Presario 4704. The bulbous plastic mouldings that adorn its tower case may not actually serve any purpose, but at least they draw a buyer's attention to it, rather than the one on the shelf next to it.

In fact, there are some buttons on the top-most bulge and these provide quick access to various functions. There are conventional CD player buttons for audio CD playback: two to invoke Compaq's phone centre, which can be used as an answering machine, and a green one in the middle to put the computer into sleep mode. If you're just taking a break this is much better than switching off completely because the computer can restore itself in a matter of seconds, rather than waste a couple of minutes going through a cold start.

The Presario is a 'home' PC and, as such, it has a number of features such as these buttons to help it fill this role. Another feature, SmartQ, is also started by a button. This has two functions: to provide an easy way for a family (or any group of people) to share a computer, and to act as a help centre where each user can get information and assistance relating to the use of the PC.

Through SmartQ, up to eight individuals can use the same computer, each having what Compaq calls a 'personalised workspace' that is only accessible with the right password. In this way, children sharing a computer with their parents can be kept away from sensitive material and Dad can be kept off the kids' games! SmartQ also provides a searchable database of

answers to problems and technical queries. If the answer isn't there, you can run a diagnostic utility that will try to find out what's wrong with your PC.

Any computer with a Pentium 133MHz processor is fast – it's like buying a car with a big engine – but under the bonnet, Compaq has cut a couple of corners. Although 16Mb of EDO main memory is fitted there's no secondary cache to help it along, but the worst bottleneck is graphics performance. The video controller is supplied with only 1Mb of memory instead of the two for which it was designed, but fitting the missing megabyte is something you should get a supplier to do before buying the machine.

The Presario's keyboard, unfortunately, is a bit of a dud. The keys are lifeless and the half-length space bar shares its space with an extra delete key that is oh so easy to hit by mistake. Fortunately, this design gaff is balanced by the inclusion of a fast modem working at the 33.6Kb limit of ordinary telephone lines.

Compaq supplied our review machine with a 14in monitor, though a 15in model is included in the retail version. Monitors are styled to match the system unit and fitted with clip-on speakers and large volume controls. Being able to control volume in this way is much better than fiddling about with software or using inaccessible controls on the speakers themselves, but the recessed rotary knobs used to adjust the screen image are very fiddly.

A mix of software comes with the machine: Windows 95, Works, Quicken 4, an America Online trial; two games are pre-installed and two further programs – Encarta 96 plus a cut-down version of Corel 5 – are supplied on CD to install yourself.

HP LaserJet 6P and 6MP

Paul Wardley

Two variations of a compact laser printer aimed at budget-conscious office or network users, offering high-resolution printing at eight pages per minute and built-in Postscript on the MP model.

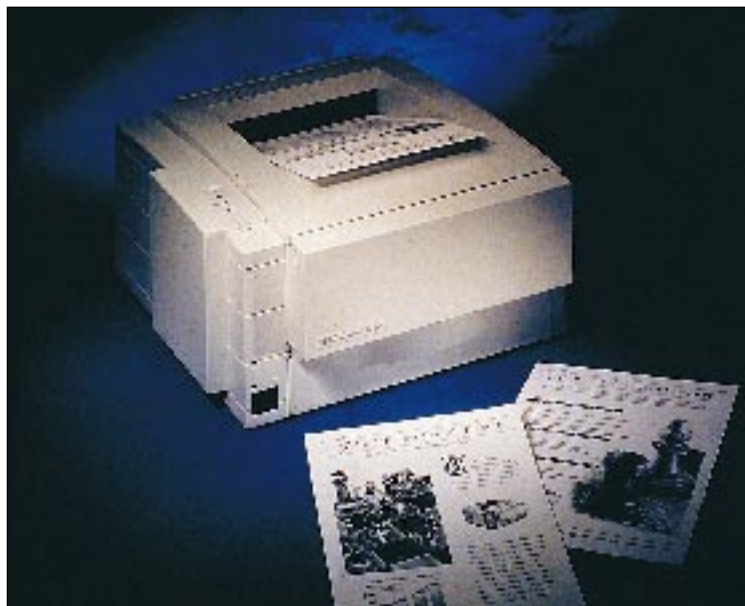
- Prints at 600x600 dots per inch
- 8 pages per minute output
- Resolution Enhancement technology (REt)
- Energy-saving mode
- Toner-saving mode
- 250-sheet paper tray
- 100-sheet supplementary paper tray
- Straight-through paper path
- MP model can be used with PC or Mac machines
- Built-in TrueType fonts
- 2Mb memory in LaserJet M, 3Mb in MP version
- Size: 400(w)x445(d)x200(h)mm

The LaserJet 6P and 6MP printers are built to meet the needs of a specific group of users requiring network connectivity, sophisticated paper handling, relatively high throughput and the option of Postscript. They serve this niche market admirably.

- £804.88 incl VAT (MP version, £992.88 incl VAT)
- Hewlett-Packard: 0990 474747

HP LaserJet 6P & 6MP

Features	★ ★ ★ ★ ★
Build quality	★ ★ ★ ★ ★
Performance	★ ★ ★ ★ ★
Value for money	★ ★ ★ ★ ★
Overall	★ ★ ★ ★ ★



From the outside, Hewlett-Packard's new LaserJet 6P and 6MP printers look exactly like the 5P and 5MP models they replace. Start printing, however, and the changes become readily apparent because the new models churn out eight pages per minute instead of 5P and 5MP's six. This is pretty good when you consider that the new, faster printers also cost a few pounds less than the old ones.

The 6P and 6MP models look alike, as indeed they should, as the MP model is just a P model with Postscript added. While the advantages of Postscript printing have virtually disappeared since Windows added TrueType fonts to its repertoire, there are still two occasions when it comes into its own. One is when your work is destined for a commercial printing house using Postscript equipment – Postscript allows you to print accurate proofs of the pages before they are professionally printed. The other is if you want to connect the same printer to both PC and Mac computers, but more of that later.

Both new LaserJets print at 600dpi (dots per inch), which produces very high quality text and pictures. They also feature HP's Resolution Enhancement technology (REt) which can be turned on when required to boost the quality still further by smoothing out any jagged edges, though this is at the expense of a slight increase in processing times.

Running print tests on pages of plain text, graphics and a mixture of the two, we found the LaserJet consistently achieved its claimed speed of eight pages per minute. Of course, there is always a delay while the first page is processed and sent from the computer to the printer, but as the time taken to print the first page averaged less than 20

seconds, we were quite impressed.

Our test machine was not supplied in its final packaging so we didn't receive the CD-ROM that shows retail customers how to set up the printer. However, installing the printer drivers into Windows was straightforward and the physical connections between computer and printer are obvious once you've located the removable panels on each side of the machine. The one on the left side hides the connectors for data cables and one on the right conceals the power socket.

You don't need to worry about connections at all if you've got a notebook computer or palmtop equipped with an infra-red port. A receiver on the front of the LaserJet will allow you to transfer data from computer to printer at speeds approaching that of a conventional parallel cable, which is about 10 times the speed of the one fitted to old LaserJet 5P and MP machines.

Printed sheets are deposited in a well on top of the printer and the 250-sheet paper tray mounted underneath the printer means that even though it is quite bulky, at least it doesn't have any bits sticking out of it. A fold-out multi-purpose paper tray on the front of the printer is designed to take another 100 sheets of paper or special materials such as envelopes, cards and transparencies.

The fact that this printer is aimed at groups working on a network is reflected not only in the features already mentioned but also in its high duty cycle (up to 12,000 pages per month) and the dual ports for both AppleTalk (Mac) and parallel (PC) cables. The MP version of the printer can even automatically detect and switch between Mac and PC, adjusting the printer emulation between the LaserJet's own PCL6 language and Postscript as necessary.

Nokia 9000 Communicator

Gordon Laing

A self-contained and fully integrated mobile communicator, with built-in phone, fax, Internet access and personal organiser.

- Size: 174(l)x65(w)x36(h) mm
- Weight: 397g (with battery)
- Memory: 2Mb for user storage; 2Mb for program execution; 4Mb ROM for operating system and applications
- Screen: 640x200 pixels, 8 greyscales
- Built-in mobile comms: GSM digital cellular phone with optional hands-free operation, fax/data, World Wide Web browser, terminal emulator, Telnet
- Built-in applications: ASCII-compatible note taker, address book, calendar, calculator, world clock, music composer
- Context-sensitive help
- Battery: rechargeable lithium ion
- Battery life when communicating: two hours
- Battery life with phone in standby: 30 hours
- Infra-red (IrDA-compliant) port
- Optional RS232 cable

High purchase and running costs mean the Nokia 9000 Communicator is only likely to interest people who really need to use all forms of electronic communication on the move. But it is the only all-in-one compact mobile communicator available and, at the moment, is unique.

- £999.99 incl VAT (street price: includes connection to Cellnet or Vodafone GSM)
- Nokia: 0990 002110

Nokia 9000 Communicator

Features	★ ★ ★ ★ ★
Ease of use	★ ★ ★ ★ ★
Performance	★ ★ ★ ★ ★
Value for money	★ ★ ★ ★ ★
Overall	★ ★ ★ ★ ★



All-in-one mobile communications systems are nothing new. Any notebook computer can, with the necessary hardware, be used to send and receive faxes, browse the Internet and handle voice calls. The setup to do this, however, would need a briefcase to carry it around. The Nokia 9000 Communicator, on the other hand, does exactly the same thing but fits into a jacket pocket.

The Nokia 9000 looks just like an oversized mobile phone and since it is based on the hugely successful Nokia 2110, it can be used just like one. For now at least, the 9000 will only operate on the digital GSM mobile networks, operated in the UK by Cellnet and Vodafone.

But what about all those other features? Well, anyone mocking you for owning an unfashionably large and somewhat ugly mobile phone will bite their tongue when you flip a catch that opens it up, clamshell style, to reveal an LCD screen and Qwerty keyboard.

Like many PDAs (Personal Digital Assistants), the 9000's keyboard is small but still usable for knocking out short notes or messages. Similarly, the 640x200 pixel, eight greyscale display lacks a backlight but what you lose in the dark, you gain in battery life.

Nine application buttons sit Psion-like by the hinge. Familiar to all personal organiser users are the address book, calendar, note editor, world clock and calculator. Where the 9000 scores, however, is with the buttons labelled 'Tel', 'Fax' and 'Internet'. The 9000 can be held as a normal mobile phone, but can also be opened up, sat down, and used hands-free with the built-in speakerphone.

Particularly neat is the way the address book and note taker serve other applications. You can search for a telephone number, for example, automatically dial it, and then

knock out a quick note as you take the call. Also nice are the 'in' and 'out' boxes. These are common to every 9000 application and they're where all documents patiently wait until they can be transmitted or picked up.

Most exciting of all is the Internet button, offering a genuine World Wide Web browser. It's not Netscape but you can access Web pages from anywhere you get a signal for the phone, and even fax them if you like. Unfortunately, mobile data using GSM phone networks operates at a mere 9,600bps, which is mind-numbingly slow compared to desktop modems running at 28,800bps. Consequently, you're best to avoid Web sites with pictures or alternatively, switch image downloading off.

The Internet button also offers Internet mail, Telnet and a terminal emulator, the latter pair offering remote access to other systems. We logged into CIX using the terminal emulator, checked conferences and sent mail, but the 9000 does not support file uploading or downloading. The 9000 has an IrDA-compliant infra-red port for close range wireless links to printers or PCs and an optional RS232 serial cable for a physical PC connection. Documents can only be exported in basic text format.

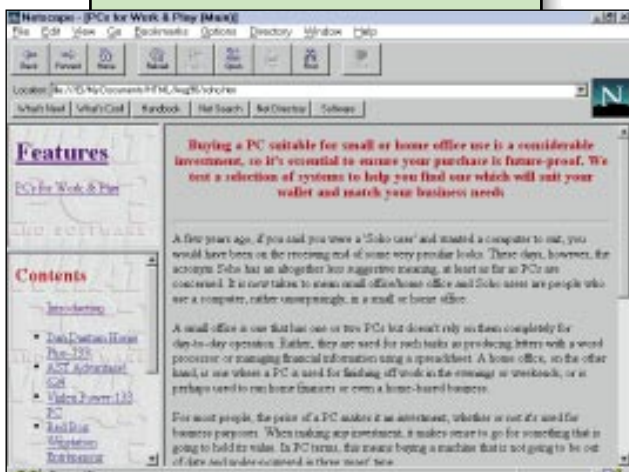
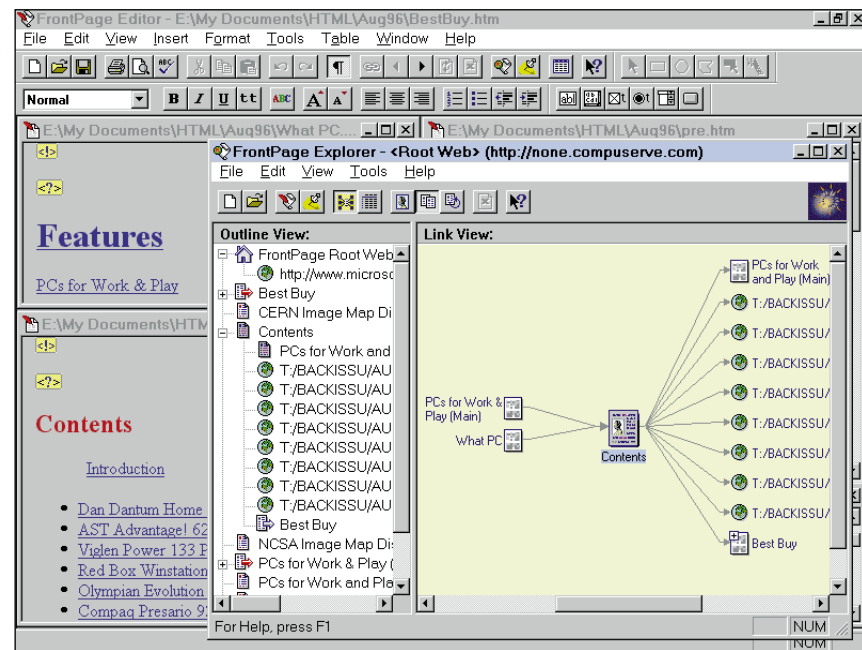
Interestingly, Nokia isn't targeting the 9000 as a competitor to other PDAs. This is a wise move as at a penny under a grand (inclusive of VAT and connection), it costs around three times the price of most PDAs and offers much less in terms of built-in applications.

The 9000 is, however, totally unique in its all-in-one communication facilities. Assembling the same features separately previously required a mobile phone, data card and PDA – the cost of which approaches that of the 9000 and is considerably less convenient.

Microsoft FrontPage 1.1 versus Claris HomePage 1.0 (beta)

Jane Dorner

Two Web publishing programs for the creation and maintenance of Web pages.



Microsoft FrontPage 1.1

- Web-server utilities
- HomePage creation tutorials
- Help wizards
- Plain English and HTML editing
- Mapping utility
- Frame building
- Table creation
- Cross-platform compatibility

Claris HomePage 1.0

- HomePage creation tutorials
- Plain English and HTML editing
- Frame building
- Table creation
- Mac/Windows cross-platform compatibility
- Java-compatible
- Clip-art collection

The Internet may have made it theoretically possible for anyone to advertise themselves on a global scale, but that doesn't mean they can in practice. Until recently, a presence on the World Wide Web required a working knowledge of a cryptic code called 'hypertext markup language', or 'HTML'. HTML is just plain text and it describes the appearance of a Web page. This means that a Web page full of colourful text and graphics has to be designed using text in a text editor, which is difficult, to say the least. There are some packages that simplify the process by putting all the HTML codes onto toolbars so that they're just a button-click away, but it's HTML just the same.

Fortunately, programs for Web page design are fast catching up with the rest of the software world and now applications are available that allow entire Web sites to be designed without the user even having to know what HTML stands for, let alone how to use it. This month, we look at two of them - Microsoft FrontPage and Claris HomePage.

Microsoft's latest incarnation of FrontPage is version 1.1 and although it's a more-than-capable Web page designer, it's also very much more than that. In fact, it's a complete Internet publishing application for non-programmers. Once the software is up and running, Web pages stored on a desktop PC's hard drive can be published as a Web site and made available to the whole Internet.

Wizards guide the user through all the stages of installation of FrontPage. These are followed by easy-to-follow tutorials and if you get lost, an agreeable help system steers you back on course. One slightly silly

bit of security is that the setup routine asks for the system administrator's name and password (that's you) but they cannot be saved on the same PC as the software. This might be sensible for a PC whose hard drive may be accessed by the whole world, but it's unforgiving and can easily lock a legitimate user out of their computer.

There are two parts to FrontPage - the Explorer and the Editor. These combine to show the overall structure of a 'Web' (the home or index page plus any other linked pages) in a visual form and it gives a good 'at a glance' overview of a Web site's structure. Despite its name, however, Explorer isn't anything like Windows 95's Explorer or Internet Explorer. With such a confusing nomenclature, it's difficult to see Microsoft taking over the Internet market just yet.

Formatting a page with text and graphics in FrontPage is straightforward and even inserting complicated structures like tables and time stamps is made easy by the use of 'Web-bots'. These are little bits of programming that automate the whole task and are just dropped onto a page, making advanced HTML coding extremely easy.

Creating framed pages, however, isn't so easy. Actually, this isn't a particular fault of FrontPage, it's the nature of frames themselves that makes it tricky. A frame is essentially a series of .htm files (individual Web pages) plus a description of how they look when they are arranged on a separate page in their respective frames.

Assembling a full set of Web pages still requires some knowledge of the basic principles of good Web design (how to anchor, what a link is, etc) and although HTML codes are hidden away

under an almost-WYSIWYG exterior, FrontPage still requires some knowledge of HTML and how it operates if you are to get the best results. Fortunately, there is an option to display a page in HTML form, which means that once a page is created the easy way, you can see what it looks like in HTML and gain at least some insight into the language.

Once Web pages have been created, they are very simple to publish on the Internet and FrontPage offers two ways of doing it. If you use an ISP (Internet Service Provider) like CompuServe, for example, you can download a Publishing Wizard from Microsoft's Web site which takes care of the whole publishing process for you. This uses your modem to dial your ISP's access number and then sends the pages to your private area on its computer system. Alternatively, if you want to use your own PC as a Web server, you'll need to get hold of the FrontPage server extensions, together with several hundred pounds worth of other computer hardware, but this isn't recommended for beginners.

Claris HomePage, unlike FrontPage, isn't a fully-fledged Web publisher, it's intended just for designing Web pages. At the time of writing, HomePage was only available in beta form (free from Claris' Web site) but the full version should be on sale by now. The beta version still had some rough edges and lacked any help system or tutorials, but this should have been added by the time of its release.

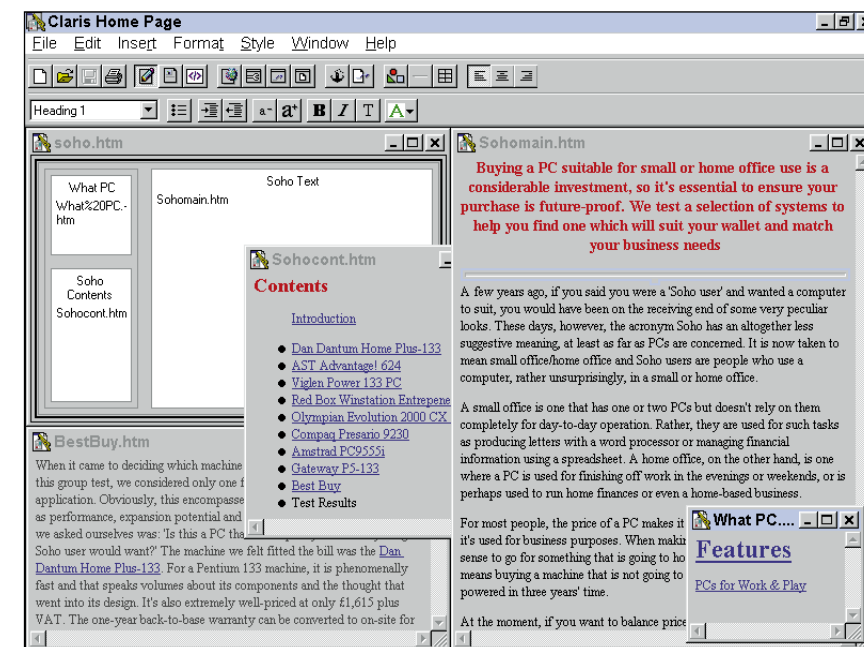
HomePage is very straightforward to use, thanks largely to its uncluttered interface. Like FrontPage, pages are designed by pointing-and-clicking and any HTML coding is hidden away behind the

scenes. Unfortunately, like FrontPage, HomePage lacks an integrated Web browser. Although HomePage has a semi-WYSIWYG interface that lets you see what finished pages will more or less look like, this doesn't go as far as showing such things as frames in all their glory, and firing up an external Web browser each time you want to do this is more than a little irritating. Most HTML editors opt for this solution as a page can look different in two different browsers but, even so, having to save each page before viewing in the browser is a real pain.

While page creation in HomePage isn't difficult, framed pages are a little more complicated than usual. The reason? According to Claris, splitting a page into two vertical columns is dividing it 'horizontally', and vice versa. Once a page is divided, the frames cannot be re-sized by simply dragging their borders (which is how FrontPage does it), but rather by retyping values into an Object Editor box. This works, but it's a cumbersome way of doing things and this lack of elegance is mirrored in some other areas of the program.

Table creation, on the other hand, is very well thought out and this alone puts the product way ahead of many of its competitors and it's certainly better than FrontPage in this respect. Once defined, a table and its cells can be re-sized simply by clicking and dragging and tables can be inserted within a cell at any time. This allows complex tables to be created, something that is extremely difficult in HTML.

HomePage comes with a library of clip-art, which consists mostly of balls, arrows and buttons but they're certainly more interesting than the dozen or so icons that come with FrontPage.



Microsoft FrontPage 1.1 versus Claris HomePage 1.0 (beta)

(continued)

Although both FrontPage and HomePage are a great advance over previous HTML-based Web creators in terms of ease of use, neither is immediately intuitive. Both do, however, integrate well with their respective office suites (MS Office and Claris Works) and this helps the learning process. Of the two, FrontPage has the edge. Its terminology is a little idiosyncratic but it's versatile and ideal for anyone who wants to create and even privately publish their own Web pages.

- £99
- Microsoft: 0345 002000

FrontPage 1.1

Features	★★★★★
Ease of use	★★★★★
Performance	★★★★★
Value for money	★★★★★
Overall	★★★★★

- £105.74
- Claris: 0800 422 322

Claris HomePage 1.0

Features	★★★★★
Ease of use	★★★★★
Performance	★★★★★
Value for money	★★★★★
Overall	★★★★★

JASC Media Center 2.03 for Windows

Terry Pinnell

An exceptionally easy-to-use but functionally rich media file management system based on albums of thumbnail images.

- Works with video, photos, images, sound and music files
- Conversion between 30 different formats
- Raster types include BMP, GIF, PCX and JPG
- OLE (Object Linking and Embedding) server
- Sorting and finding facilities
- Slide show options include transitions and continuous operation

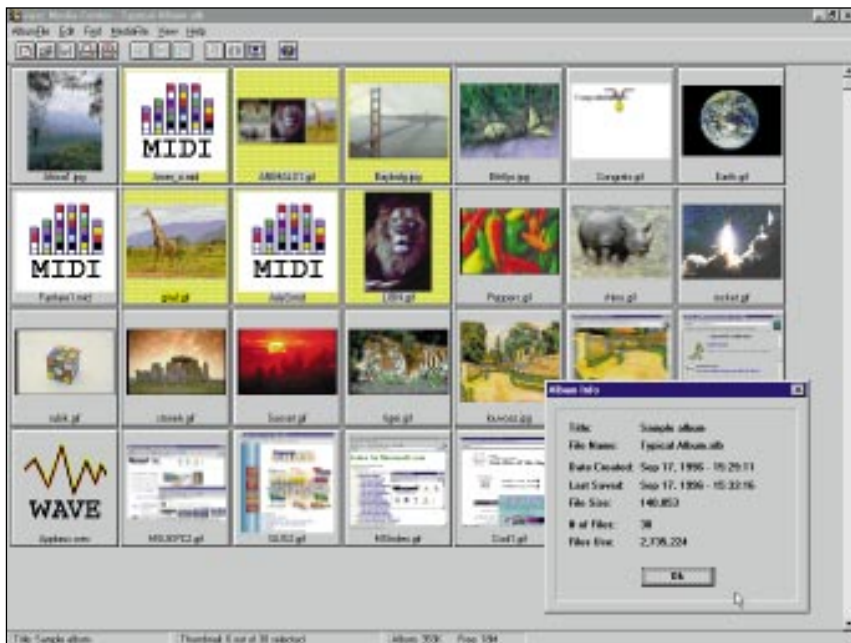
JASC's Media Center 2.03 is delightfully simple to use, yet offers versatility and performance that's hard to find even in more expensive packages.

- £41.06 (incl VAT); shareware version available
- Digital Workshop: 01295 258335
www.digitalworkshop.co.uk

JASC Media Center 2.03

Features	★ ★ ★ ★ ★
Ease of use	★ ★ ★ ★ ★
Performance	★ ★ ★ ★ ★
Value for money	★ ★ ★ ★ ★
Overall	★ ★ ★ ★ ★

System requirements: Windows 3.1 (or Windows 95): 386 (486), 4Mb (8Mb) of RAM, 4Mb of hard disk space (including clip-art).



A typical hard drive is littered with images, .WAV files and possibly even video clips and unless you're tidy, the chances of knowing exactly what and where each one is are slim. JASC Media Center is designed to solve this problem. It collects and organises media (images, sound and video) files scattered over your hard, floppy and CD-ROM drives, and displays them as a set of thumbnail images in an album.

The product started life a few years ago as Image Commander and following the addition of support for sound and other types of file, was renamed Media Center. Although a fully-fledged commercial product, it's also one of the shareware standard-setters and won last year's Shareware Industry Award in the Graphics/Multimedia category. Try out the 16-bit version on a shareware basis if you prefer, but we can warmly recommend the registered version from the outset. This is Media Center 2.03 and it comes with both 16- and 32-bit programs, plus full support and an excellent little 110-page manual.

Not surprisingly for a product that comes from the same stable as Paintshop Pro, Media Center is very straightforward to use and it makes impressively fast work of cataloguing the contents of your PC. After choosing an optional title, individual media files from a single directory can be selected or the program can automatically scan a directory. There's also an option to scan sub-directories, so you could catalogue your entire hard disk into one album if you wish. With the automated approach, you can either specify certain file formats or just leave Media Center to get all media files – cheerfully ignoring everything else like text and executables.

Once they're in an album as thumbnails, files can be viewed full-size, moved, deleted, copied, printed as a collection, and so on. A user-friendly interface makes all these operations relatively intuitive and almost every aspect of the program can be tailored to your needs.

To operate on the thumbnails or the associated media files, you select them by clicking – holding down the control or shift key if necessary in the usual Windows manner for multiple selections. Thumbnails can also be deleted and moved to new locations in the album by dragging and dropping with the mouse. Media Center also lets you sort the thumbnails into ascending or descending order according to 10 characteristics, such as filename, disk ID, or file size. You can also add text comments or keywords to help locate files quickly.

Media Center makes it particularly simple to edit a file: double-clicking the thumbnail with the right mouse button loads the file into the editor associated with that extension. Alternatively, you can specify a secondary editor that doesn't have to be permanently associated with that file type. If, for instance, PaintShop Pro doesn't allow a particularly graphic enhancement, perhaps Image Pals or Photoshop could do it. The slide show facility lets you select thumbnails, then play the associated media files, including sound elements, complete with various fade-in effects or an audio CD in the background.

There really isn't much to gripe about with Media Center. A few features are absent, like complete right mouse button support and being able to drag and drop a folder to create an album, but that doesn't detract from the fact that it's a useful and flexible program. ►

Panasonic CF-62

Dominic Bucknall

A high-end, Pentium notebook with integrated audio, high-resolution graphics and a dual-function drive capable of handling both CD-ROMs and removable, rewritable 650Mb PD optical data disks.

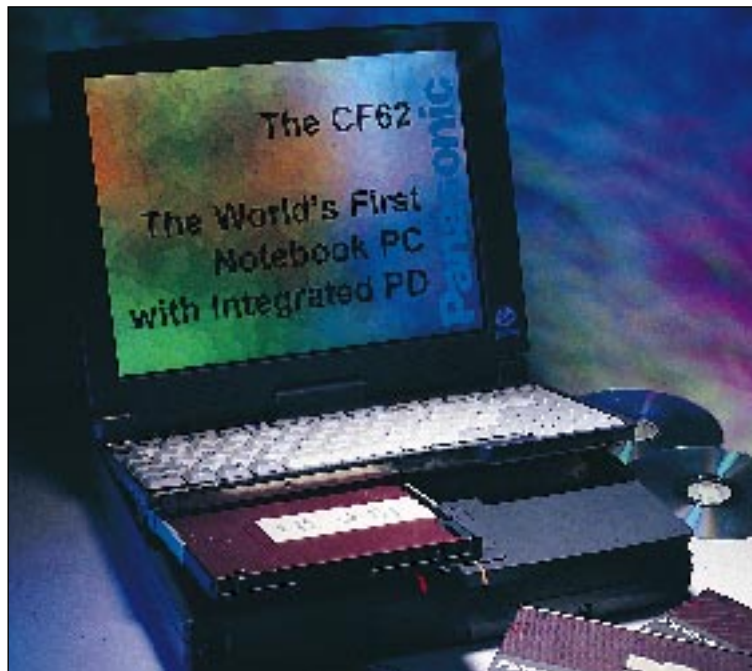
- 133MHz Pentium processor
- 256Kb pipeline burst cache
- 16Mb of EDO RAM
- 1.2Gb removable hard disk
- Quad-speed CD-ROM/650Mb rewritable PD disk drive
- Integrated 16-bit audio with microphone and stereo speakers
- Chips & Technologies graphics with 2Mb of EDO video memory
- 12.1in active-matrix 1,024x768 resolution screen
- IrDA 1.1 infra-red serial port with 4Mbps transfer speed
- Lithium ion battery
- Removable floppy drive for access to option module slot

A hefty but tough notebook with a good keyboard and excellent high-resolution screen. The screen and the flexibility offered by the PD drive make this a potentially ideal presentation platform, and will probably appeal to anyone needing to work with really big graphics or motion video files.

- £5,756 incl VAT
- Panasonic: 0500 404041

Panasonic CF-62

Features	★ ★ ★ ★ ★
Build quality	★ ★ ★ ★ ★
Performance	★ ★ ★ ★ ★
Value for money	★ ★ ★ ★ ★
Overall	★ ★ ★ ★ ★



The more features notebook manufacturers are able to cram into their products, the more scope there is for diversity and specialisation. Not everybody needs a really powerful notebook with gigabytes of storage and unusually sophisticated graphics capabilities, but there are those who do and they're the ones likely to be interested in Panasonic's CF-62.

The CF-62 is based on a 133MHz Pentium processor backed up by 256Kb of go-faster synchronous cache and 16Mb of EDO RAM. This is a solid basis for a portable and it's fleshed out with a big 1.2Gb hard disk and a currently unique dual-function drive that can either run CD-ROMs at quad-speed, or be used with Panasonic's 650Mb rewritable optical PD disks.

PD disks can be used as a convenient internal back-up mechanism but their potential for any program that generates large files – engineering CAD, architectural drawings and sales presentations, to name but a few – is, to say the least, considerable.

Given the preponderance of graphically-oriented applications for the drive, it was encouraging to see that the machine had the hardware to match. The Chips & Technologies 65550 video controller has 2Mb of dedicated memory rather than the usual 1Mb, so that it can operate at 1,024x768 resolution in 16-bit colour, not just 8-bit.

The system's PC Card slots support the new Zoom Video (ZV) standard which bypasses the central processor to feed motion video from an external source directly to the video controller. This means cards for video capture, video conferencing and MPEG decompression will work more efficiently.

The big 12.1in active-matrix screen supports an impressive 1,024x768 resolution image, rather than the more common 800x600. This gives a roomy Windows desktop which remains easily readable, thanks to the screen's extreme clarity. To protect this relatively expensive and fragile component from damage, the machine's lid is made from magnesium alloy, not plastic.

Although the keyboard is hinged to provide access to the CD/PD drive, there isn't an excessive amount of flex in the baseplate and its action is reasonably well-sprung. The extra Windows 95 keys are present and the designers have managed to avoid any drastically non-standard alterations to the layout.

The pointer is controlled with a touchpad, which translates fingertip motion to the screen and interprets taps as 'mouse' clicks. Unlike some, this one worked very well and recognised when it was being clicked without any problems, making it pleasantly efficient to use.

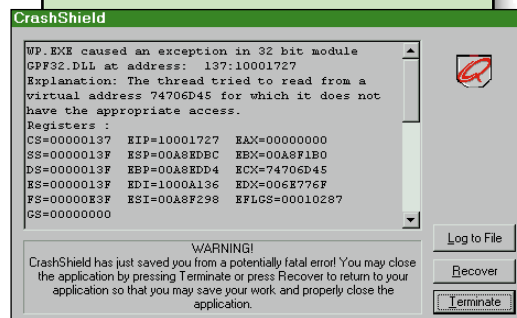
It's taken a long time, but the infra-red serial port has just about come of age with the new (V1.1) Infra-red Data Association (IrDA) standard for transfer speeds, increasing the pace from 115Kbps to a considerably snappier 4Mbps. Consequently, the Panasonic can communicate with other IrDA-compliant devices at a reasonable rate of knots, but only if they too incorporate the new specification.

Power management settings can be changed without a reboot using a Windows-based control utility. This will turn off the CD/PD drive motor, screen and hard disk and you can set it to operate only when the machine is battery powered so it doesn't keep shutting you down when there's no need for it. ►

WinProbe 95

Paul Wardley

A set of diagnostic and recovery programs to help make Windows 95 a safer place to keep your programs and documents.



- Descriptive information about the computer system
- Diagnostic tests to check that hardware is working properly
- The making of recovery disks containing essential Windows files
- Editing of the Windows registry
- Automatic removal of redundant registry entries
- Customisation of the way Windows looks and works
- An on-line reference guide to Windows 95
- System monitor to graphically display current Windows performance

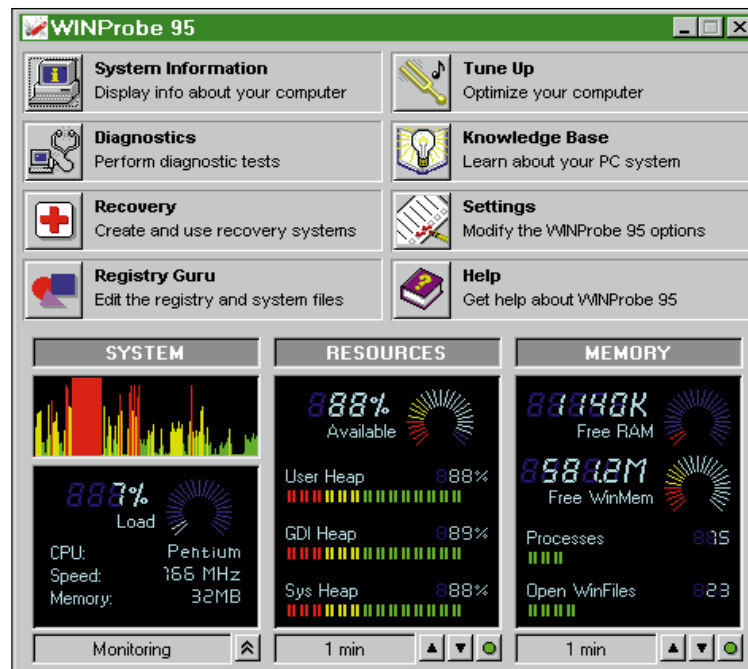
The really useful recovery system is neat and easy to use but doesn't justify the expense of the complete program. Some of WinProbe's other features leave us with the uneasy feeling that many modern PCs are too complex for WinProbe's superficial analysis to work properly.

- £49.99 incl VAT
- Quarterdeck: 01245 496699

WinProbe 95

Features	★ ★ ★ ★ ★
Ease of use	★ ★ ★ ★ ★
Performance	★ ★ ★ ★ ★
Value for money	★ ★ ★ ★ ★
Overall	★ ★ ★ ★ ★

Minimum requirements: 386DX or better PC, Windows 95, 8Mb of RAM, 14Mb of hard disk space.



Given that on its release Windows 95 was touted as a reliable, easy-to-use operating system for the masses, there's a surprising amount of software aimed at overcoming its supposed deficiencies. One of these programs is Quarterdeck's WinProbe 95 and it takes a three-pronged approach to some of the perceived problems.

The first stage is to provide software tools that diagnose your computer to see if everything is working properly. The second is to monitor what's happening while Windows is running and try to intercept potential problems before they bring down the system. Failing this, stage three is a recovery system to restore Windows 95 to working order if it crashes disastrously. If Quarterdeck had faith in WinProbe's ability to intercept potentially destructive errors, surely the recovery stage would be redundant, so we gave WinProbe a thorough going over to see just what it has to offer.

Everything in WinProbe is controlled from a master menu screen with eight options, although two of these are concerned solely with setting up WinProbe. Underneath the options is a set of graphical indicators giving information about the current state of Windows – how much memory it's using, how busy it is and how much it is leaning on the processor. These indicators provide a colourful touch to an otherwise static screen but they really only duplicate the System Monitor and Resource Meter programs supplied with Windows 95.

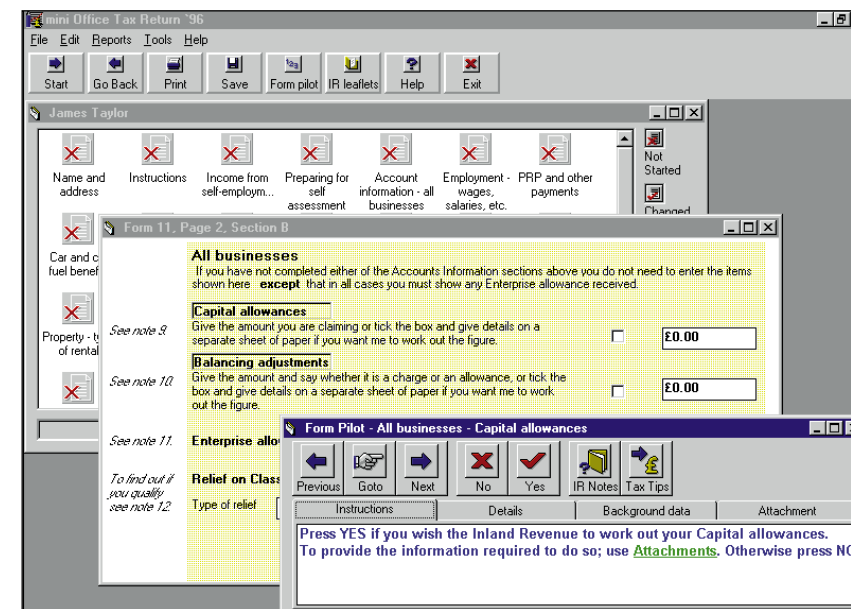
In fact, many of WinProbe's other features simply present information already available elsewhere in Windows, albeit in a less accessible format. For example, the button marked 'System Infor-

mation' duplicates the functions of several of the Windows Control Panel icons and 'Registry Guru' is essentially a rehash of the Windows Regedit program. 'Knowledge Base' duplicates much of the information in the Windows help files plus a few extra tips and tricks.

The best feature of WinProbe is the recovery option. This copies most of the essential Windows files onto floppy disks so you can restore a corrupted system after a crash. You can boot from these if your computer can't even recognise the hard disk and it only takes six or seven floppies to back up most systems. It's not foolproof – it doesn't necessarily save a copy of the essential MSCDEX.EXE file needed to activate CD-ROM drives in DOS, for example, but you can add to the list of files WinProbe selects.

Another useful aid is CrashProof, designed to intercept crashes before they occur. In our tests it seldom managed to recover from fatal errors we deliberately introduced, but it at least gives you the opportunity to discover which program caused the problem and then save any work in progress. On one occasion CrashProof itself caused a system failure, so although the WinProbe installation program offers to load CrashProof automatically every time you start Windows, it might be better to keep it in reserve for occasions when you really need it.

CrashProof is designed to reveal software and configuration errors, but another part of WinProbe checks out your hardware. The diagnostic tests it performs are pretty basic: each part of the system passes or fails and you're not given any reasons, so the tests only identify the source of an error, leaving you to fix it yourself.



The basis of Mini Office Tax Return '96 is to help you with your tax returns. Since most people consider their tax affairs to be confidential, and especially since it can accommodate more than one person's details, the program has a cumbersome registration and password generation procedure involving application to Europress within 14 days of running the software for the first time. You can, though, use the software in the meantime.

Mini Office Tax Return '96 requires you to enter information using a number of on-screen forms. The ones on offer are the standard tax form P1; the self-employed's tax form 11; and that for directors and high-PAYE employees, form 11P. Each form is split into sections based on the real form as supplied by the Inland Revenue. If you know what you're doing, you can complete this by entering your details directly, but if you'd prefer some hand-holding – and who wouldn't? – you can call up the Form Pilot. Similar to Microsoft's Wizards, the Form Pilot offers detailed information on how to fill in each section. The Pilot follows your movements around the section, cunningly moving up or down on the screen depending on the position of the item you are entering so that you can still see what you're doing.

The Section Selection window shows the sections for the form you have chosen, each represented by an icon which changes as you proceed. If you have started work on the form but not completed it, you see a partially complete form with a red tick. Once that section is complete, you see a fully complete form with a green tick. Everything is covered – income, benefits, pensions, property, dividends, stocks and allowances. Vehicle benefits pro-

vided by your employer – usually taxable – are entered as part of your personal details.

There are additional facilities provided to check through each section of the form to ensure that you have not made any obvious errors, like failing to enter details to back up an entry, for example. It's also possible to add supplementary information to particular items in the form of background data and attachments. Details of all assets disposed of can be stored and capital gains tax liability calculated, and you can also check your tax code as supplied by the Inland Revenue. And it wouldn't be much use without the provision to analyse your data and estimate your overall tax liability.

On-line help comes in a variety of formats – context-sensitive help is available from the Form Pilot, based on the Inland Revenue notes that accompany tax return forms and you can refer to these by clicking on the reference to the note on the left of the form's margin. There's also what appears to be the full text of the relevant Inland Revenue leaflets and a selection of tax-saving tips appropriate for the section of the form which you are currently completing. There are also tips designed to help your tax avoidance (which is legal and not to be confused with tax evasion).

Once completed, you can preview and print your tax return, including all the attachment notes you made along the way, in a format suitable for posting off to the Inland Revenue. Alternatively, the Suitcase button allows you to print the report to a file in a number of formats, while the Mail button allows you export the report to electronic mail (if installed). Background data can be printed separately, as can details of your assets.

Mini Office Tax '96

James Taylor

Covering tax year 1995/96 and offering advance information on self-assessment for 1996/97, this new Windows-95-only personal tax calculator promises many happier returns.



- Covers tax year 1995/96
- Advises on self-assessment for 1996/97
- Offers a variety of tax return formats, including P1, form 11, form 11P
- Calculates capital gains using Inland Revenue guidelines
- Generates Inland Revenue forms

Mini Office Tax '96 is not the only tax software on the market and, no doubt, the withdrawal of QuickTax earlier this year and the introduction of self-assessment next year will see a few more competitors. It is, though, relatively easy to use, performs a genuinely useful function, and will not tax your resources too much.

- £19.99
- Europress: 01625 859333

Mini Office Tax '96

Features	★ ★ ★ ★ ★
Ease of use	★ ★ ★ ★ ★
Performance	★ ★ ★ ★ ★
Value for money	★ ★ ★ ★ ★
Overall	★ ★ ★ ★ ★

Pace Message Desk 34

Paul Wardley

An external modem with high-speed data and fax facilities and the ability to serve as an answering/messaging system without the need for a sound card.

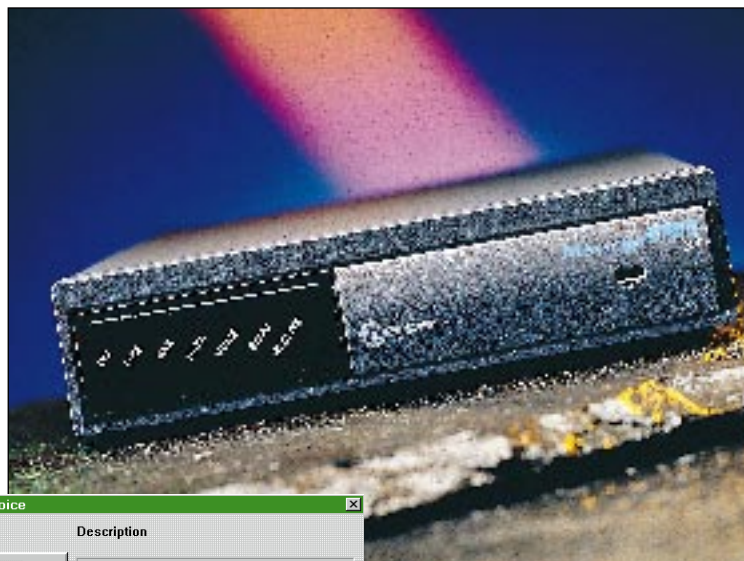
- External V.34 data modem (28,800bps)
- Fax receive and send
- Can be used as an answering machine
- Automatically detects data, voice and fax calls
- Works with or without a sound card
- Built-in microphone and speaker
- SuperVoice 2.2c messaging software
- CompuServe Internet trial (10 hours free)
- Cityscape Internet sampler (80 consecutive hours free)
- AOL Internet trial (10 hours free)

This modem works well and is easy to set up. It's a shame no manual is included for the SuperVoice software (though the comprehensive help system contains all the information you need) and no serial cable is provided. However, the lifetime guarantee and free telephone support is very valuable.

- £210.33 (street price incl VAT)
- PCL: 0990 561001

Pace Message Desk 34

Features	★ ★ ★ ★ ★
Ease of use	★ ★ ★ ★ ★
Performance	★ ★ ★ ★ ★
Value for money	★ ★ ★ ★ ★
Overall	★ ★ ★ ★ ★



The Pace Message Desk 34 is bulkier than most desktop modems – about the size of a hardback novel. However, it plugs straight into the mains with an external mains adaptor and the rigid plastic case is strong enough to take other items on top of it.

The front panel features seven indicator lights to show you what the modem is doing. Thankfully, Pace has dispensed with the usual hieroglyphics showing dtr, rxd and so on, and has labelled the lights more usefully ('fax', 'send' and 'receive'). Unusually, there's also a microphone on the front panel which works in conjunction with the speaker (hidden under the modem) to provide answering machine facilities without having to connect external microphones and speakers or rely on a sound card.

On the modem's back panel there's a mains input socket, reset button, sockets for telephone line, telephone handset, microphone and speakers and finally, a 25-pin serial connector. Unfortunately, the cable that plugs into this connector to link the modem to the PC doesn't come in the box, though there's an order form if you need one. Considering that Pace charges £14.63 incl VAT and P&P and that almost every first-time buyer needs such a cable, Pace would do better to put one in every box and add a couple of pounds to the price.

The SuperVoice software is supplied on two floppy disks. This has almost become standard equipment with voice modems and enables you to send and receive faxes, and use your modem as an answering machine with either a single message setup or a multiple mailbox system for several users. SuperVoice can also handle sending or receiving files when connected directly to other computers.

Fax handling is equally sophisticated. You can send and receive single faxes or organise a fax-on-demand system that will despatch faxes automatically to callers. When you leave your computer unattended with the SuperVoice software running, it will work out whether incoming calls are voice, fax or data and answer them appropriately. One thing it can't cope with is the user manually answering a fax call. Occasionally, you can get away with it, but usually you get a couple of scrambled lines of information and then SuperVoice logs off.

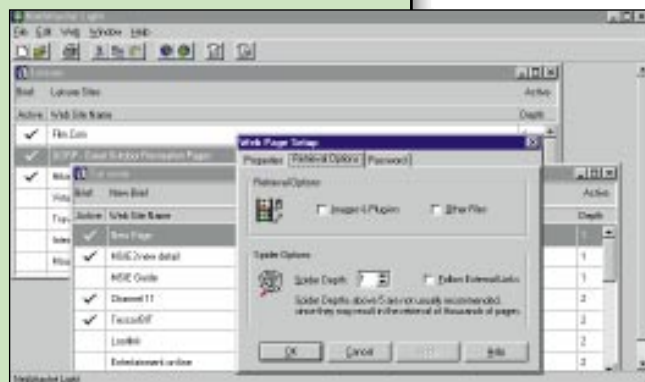
The Message Desk modem is one of the few we've seen that is up to acting as an answering machine without a separate microphone and speakers. Normally, the sound output from a modem is not good enough for listening to messages, but the speaker in Message Desk sounds about as good as a transistor radio. It's a bit inconvenient recording using the built-in microphone because you need to get your lips to within about 6in of it to make a decent recording.

To use a V.34 modem, which send and receives 28,800bps (bits per second), you need high-speed serial ports, or you won't be able to work any faster than V.32bis (14,400bps). A program bundled with the modem analyses your PC and tells you whether your serial ports are fast enough and if not, you could buy the internal version of Message Desk at the same price. ►

NetAttaché Light

Terry Pinnell

NetAttaché Light is a fast and easy-to-use Web agent that automatically retrieves Web pages for later off-line browsing and archiving.



- Brief Organisers for defining session and managing bookmarks
- View archived Briefs
- Control spider depth and access to external links
- Customisable Briefs for individual pages
- Optionally works with proxy server on LAN

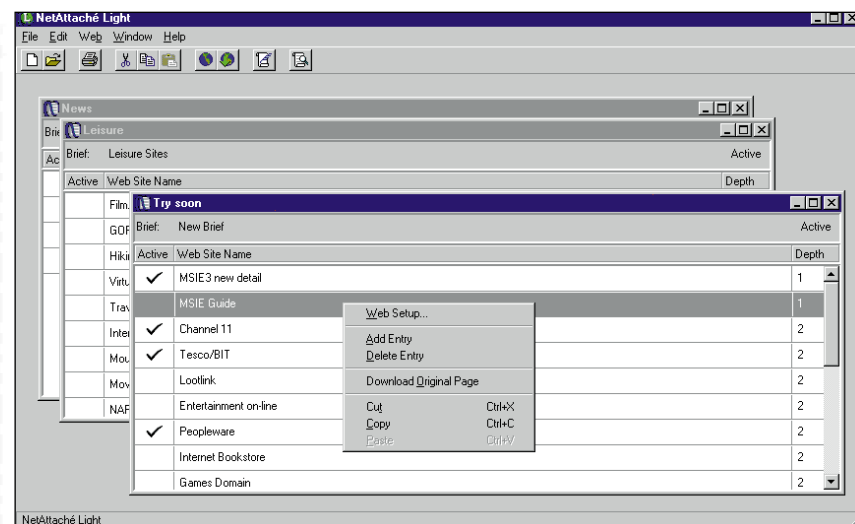
It's a pity that mainstream browsers don't themselves offer reliable functionality of this sort, but until they do, a program like NetAttaché Light is an indispensable tool for any serious surfer.

- Free download, encouraging \$50 upgrade to NetAttaché Pro
- Tympani Development: <http://www.tympani.com/ftp/download/NetAttaché/>

NetAttaché Light

Features	★ ★ ★ ★ ★
Ease of use	★ ★ ★ ★ ★
Performance	★ ★ ★ ★ ★
Value for money	★ ★ ★ ★ ★
Overall	★ ★ ★ ★ ★

Minimum requirements: 486, 8Mb of RAM, Windows 95, 10Mb of hard disk space.



One of the growing number of programs that aim to make surfing the Internet more efficient, NetAttaché Light is basically a Web spider, which automatically loads Web pages, following hyperlinks as it goes. It quickly grabs the site's pages and stores the results on your hard disk so you can view them later

with your usual browser, off-line. You can therefore use NetAttaché as a sort of VCR for the Web, to retrieve data while you do something else.

The big advantage of off-line browsing is, of course, money and as a Web page takes much less time to download than it does to read, looking at it when you're not on line makes sound economic sense. True off-line browsing also allows you to experience pages in their original state, complete with sound and animation. By contrast, if you just surf with your normal browser and then return to the pages automatically saved in your history folder or cache, this will rarely be possible. Browsers do vary in this respect, but at best you'll have varying degrees of difficulty in finding what you want; at worst, you'll be able to view only the raw text, not even the original graphics and you'll be unable to follow links properly.

NetAttaché Light is centred around 'Brief Organisers'. These are primarily windows for entering the Web pages you want to view, but they also serve as full-featured bookmark holders and browser launchers. A couple of clicks set up a new entry in a Brief Organiser and it can then be individually configured. For example, if you just want to check out the flavour of a site you could download just its home page or, for greater coverage, you could

download several levels and allow external links. There are also options for including images, audio clips and executables, which can then be accessed through your browser in the usual way. NetAttaché Light also processes Netscape plug-ins, but not Java applets.

Right-clicking a Web entry in a Brief Organiser brings up its properties, including an 'active box' for specifying its inclusion in the next Brief generated. Then you just ensure you're connected to the Web, select the Brief Organiser, and start the retrieval by clicking on the toolbar. When the Brief has been generated, NetAttaché Light will prompt you to view it, and you'll then see pages for each active Web entry, together with a site map to help you navigate.

However, you have to ensure NetAttaché doesn't take liberties with either your connection time or your hard disk. Downloaded Web pages can occupy a lot of space, so a limit of five levels is recommended but even that could generate hundreds of pages. Fortunately, as an added precaution, the program lets you set a minimum space to be left empty on your hard drive.

NetAttaché Light opens up with a few Brief Organisers offered as examples for first-time use, but you'll probably soon delete their USA-oriented sites. NetAttaché Light doesn't need your browser in order to work, only to view your Briefs once they've been downloaded. Unlike some rival products, password-protected Web sites can also be accessed, either globally or individually for each Web entry in your Brief Organisers.

Perhaps the best feature of NetAttaché Light is its price – there isn't one. Its suppliers are confident that you'll like the free 'Light' version so much that you'll soon want their second generation spider, NetAttaché Pro, which is just as robust but does a lot more.



QMS Magicolor WX

Wendy Grossman

A comparatively low-cost, 600x600 dpi resolution colour laser printer which can print onto plain paper, transparencies, label stock, and envelopes.

It's always news when a company manages to significantly reduce the price of expensive technology. QMS is the latest to do it in the world of printing – the Magicolor WX is the first sub-£3,000 (excluding VAT) colour laser printer on the market.

There are four types of colour printer – inkjet, dye-sublimation, thermal wax and laser. For most purposes, inkjet printers work just fine. Pages with large colour areas take a while to dry and may pucker a bit, but they are adequate for business graphs and charts and the consumables are cheap. You do need something more, however, if you need to produce overhead slides or professional glossy, colour brochures but dye-sublimation printers are expensive and thermal wax printers are slow.

Colour laser printers offer an alternative. Like their monochrome counterparts, they work by electrically charging a piece of paper so that it attracts fine particles of powdered toner. The paper is then heated to fuse the toner in place, given a crisp printout that won't smudge or flake off.

The most obvious feature of the Magicolor WX is its size – it's as big as a filing cabinet and weighs 106lb with all the pieces installed. Talking of pieces, the Magicolor WX has plenty – four toner cartridges (one for each of the printing colours, cyan, magenta, yellow and black), a waste toner pack, a belt cartridge, a cleaning pad and a full bottle of oil all have to be fitted before the printer is ready for use.

Assembling all this is more than a little involved but that's largely because colour laser printing is complicated. QMS advises that you get your dealer to send someone

round to install the printer for you and make sure it's working, but this isn't much help when a warning message pops up on the printer's LCD panel telling you to replace something and you've got an urgent print job waiting. Cleaning is also a chore and the wires inside the AC charger unit, paper rollers and manual feed belts need to be attended regularly. Finally, the belt cartridge needs to be protected from light.

The cost and life of replaceable components vary and though there are more of them, they don't significantly differ from those of a mono laser printer. The cleaning pad and oil bottle last for around 3,000 pages and cost £30 a pair, the black toner cartridge (£45) lasts 5,000 pages and the colour ones (£110) for 4,000 pages. QMS estimates the cost per printed page at between 3p (mono) and 70p (colour).

Despite the printer's complexity, we were impressed with the quality of the printouts and these looked good even on cheap copier paper. Blacks look especially dark and rich and other colours were generally vibrant. However, there are some caveats. This printer is a binary colour laser, which means it makes a separate pass for each colour applied to the page. Since the colours don't actually mix, all that sharpness and crispness means you can see the patterns of dots used to create different shades, even at the finest dithering setting. Against light-coloured areas these patterns are particularly noticeable, and there are distinct stripes as the shades gradually change. This isn't QMS' fault but it does mean that this type of colour laser is no substitute for a professional colour print job.

- Full-colour laser printing using four toner cartridges (cyan, magenta, yellow and black)
- Works only with Windows 95
- 4Mb of on-board memory, expandable to 32Mb
- Recommended usage 5,000 colour or 20,000 monochrome prints per month
- 12ppm monochrome; 3-6ppm colour
- Energy Star compliant
- One-year return-to-base warranty included
- Upgradable to QMS Crown to add Postscript, Ethernet connectivity, and internal hard disk support

Large, noisy, and complicated to manage – just like all colour lasers – the Magicolor WX produces very sharp, crisp pages which are slightly marred by stripes on areas with varying shade. Unless you really need this facility and are prepared to pay for it, it's advisable to wait until the technology improves before splashing out.

- £3,519.13 (incl VAT)
- QMS: 01784 442255

QMS Magicolor WX

Features	★ ★ ★ ★ ★
Ease of use	★ ★ ★ ★ ★
Build quality	★ ★ ★ ★ ★
Value for money	★ ★ ★ ★ ★
Overall	★ ★ ★ ★ ★

IBM PC 330

Paul Wardley

A neat-looking desktop PC for business users, powered by a 166MHz Pentium processor.



With its slimline good looks, IBM's new PC 330 wouldn't look out of place in any home. It wouldn't do too good a job there, though, for the PC 330 is IBM's 'high-performance' model in its new range of business PCs, and it's been designed with the business user very much in mind. There's no sound card, for example, and no CD-ROM drive. For a business machine, the lack of a sound card is understandable but given that most major programs come exclusively on CD-ROM these days, the lack of a CD-ROM drive makes the PC 330 poorly suited for use as a standalone PC.

The front panel of the PC 330's case has been designed with a sliding cover taking up half the available area. In one position it reveals the floppy disk drive and free drive bays, but slide it to the right and it covers everything apart from the power switch. In this position it can be locked with a key to prevent people starting the computer from a floppy boot disk or copying anything from the hard disk – useful if the machine is to be used in a sensitive environment.

The processor is a Pentium 166, which is a powerful chip and suitable for just about any task you might reasonably want to perform on a PC. There's also 16Mb of memory – ample to run Windows 95 well – in the form of a single DIMM memory module. Four conventional SIMM sockets are also provided, so there's plenty of scope to expand the memory right up to 192Mb.

The video controller is integrated onto the motherboard and this has 1Mb of VRAM, upgradable to 2Mb. The hard drive is a generous 1.6Gb but this space will soon diminish once your own applica-

tions are installed and install your own you must, as the only software IBM provides is Windows 95 and some utilities.

The processor, memory, hard drive and graphics controller of the PC 330 are more than capable of handling almost anything Windows 95 can throw at it and if a sound card and CD-ROM drive were added, it would be well-equipped for multimedia applications too. Unfortunately, the monitor – IBM's own G41 – isn't quite up to scratch. The picture isn't too bad, it's just that it's too small and the screen too convex. Although it could hardly be described as 'goldfish bowl-like', neither is it comparable with the flat screens of the superior-size 15in models supplied with some PCs.

The IBM keyboard and mouse are fine – the keyboard has keys that respond well to the hammerings of a two-fingered typist, having a long travel and a nice click to let you know they're working. The mouse is one of IBM's woodlouse-shaped affairs, which works a lot better than it looks, but is still not as good as a 'real' Microsoft mouse.

As a business machine, the PC 330's real strengths are under the skin and it's a cinch to set up on a network, for example. IBM's Wake-on-Lan and NetFinity software are supplied to switch on the machine remotely and update software stored on it. There's also an infrared port that accepts a plug-in transceiver and two of the new USB (Universal Serial Bus) ports that can be used for high-speed communications. Coupled with a bundle of other reporting and monitoring tools, these features add a lot of value to the machine when it is used in a corporate environment but they would go unnoticed by most home users.

- Pentium 166MHz processor
- Integrated S3 Trio64V+ graphics (1Mb)
- 16Mb of RAM
- 256Kb cache
- 1.6Gb IBM hard disk
- Three dual-expansion slots
- One free drive bay
- Two USB ports
- Locking front security panel
- IBM 14in monitor

If you want a no-frills business machine for connection to a network (from which you'll install all your applications), then the PC 330 might be just what you need.

- £1,895.45 incl VAT
- IBM: 0345 727272

IBM PC 330

Features	★ ★ ★ ★ ★
Ease of use	★ ★ ★ ★ ★
Performance	★ ★ ★ ★ ★
Build quality	★ ★ ★ ★ ★
Overall	★ ★ ★ ★ ★