Designer dozen

One way of adding graphics to your word processor or DTP documents is to use a drawing package. We review 12 of these products, ranging from budget programs to heavyweights of the kind used in commercial design

In the world of computer graphics, there are two types of picture. Bitmaps – as seen in paint packages like Windows Paintbrush – define a picture as a matrix of coloured dots or pixels. Vector drawings define a picture as a collection of mathematically defined objects.

Although most drawing packages can incorporate bitmaps and vice versa, the fundamental difference remains. Objects stay independent of each other – you can move each one around, resize, reshape and recolour it. With bitmaps, you can use a 'scissors and paste' approach to cutting out areas, but they remain that – smaller bitmap areas which fuse with the main picture when they are pasted down.

Bitmaps are eminently suited to photographic work, where the random complexity of the subject would make mathematical analysis impractical. Vectors are perfectly suited to diagrams – straight lines and geometrical shapes, but in practice are capable of displaying far more subtlety, such as complex curves or shaded fills.

The other big difference between the two picture types is that if you take a bitmapped shape and enlarge it, it becomes 'blocky' – if you zoom into a Windows Paintbrush image you see each

*Below: Wake up and draw the coffee – Illustrator's uncluttered screen. Opposite: Colour me long-winded – Illustrator's old-style dialog box.*

pixel as a square. Vectors don't; no matter how much you zoom in to – or enlarge – a circle, it stays perfectly round and will be output at the best resolution the screen or printer can manage, which is ideal for high-quality artwork.

We present a dozen drawing packages, ranging from under £50 to over £500. Dig in, and find the one that suits you best.

Adobe Illustrator 4.1

Illustrator is a well-established Apple Mac application. The Windows version is the least demanding of the heavyweights, needing just 9Mb of disk and 4Mb of RAM under Windows 3.1 or 8Mb for Windows 95. Extras include a colour separation module, Adobe Type Manager and 30 Postscript fonts, with another 220 available free from the Type
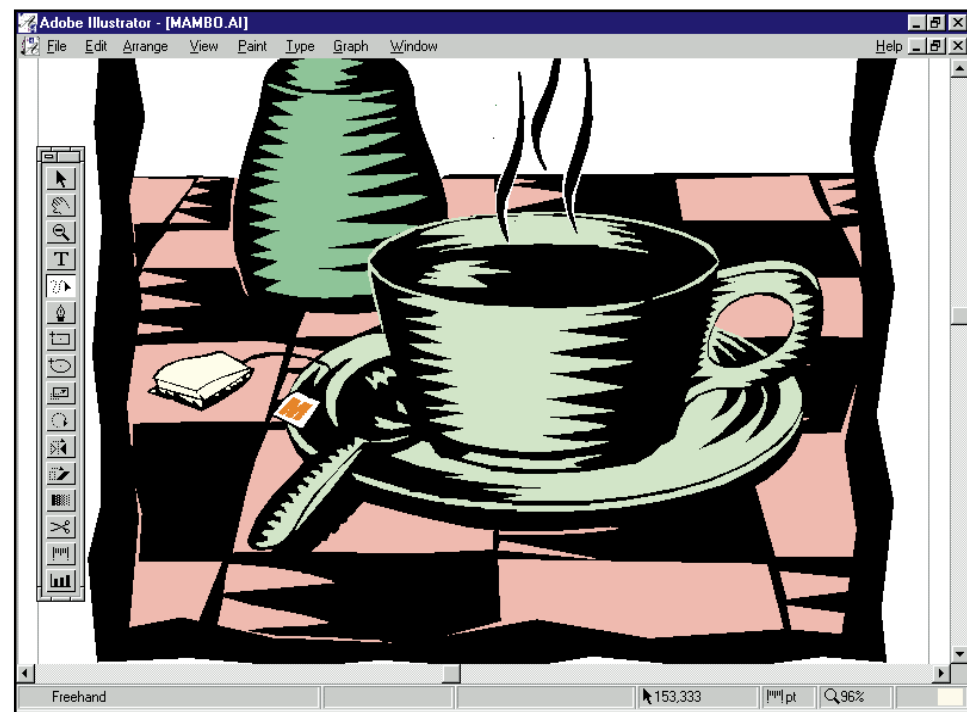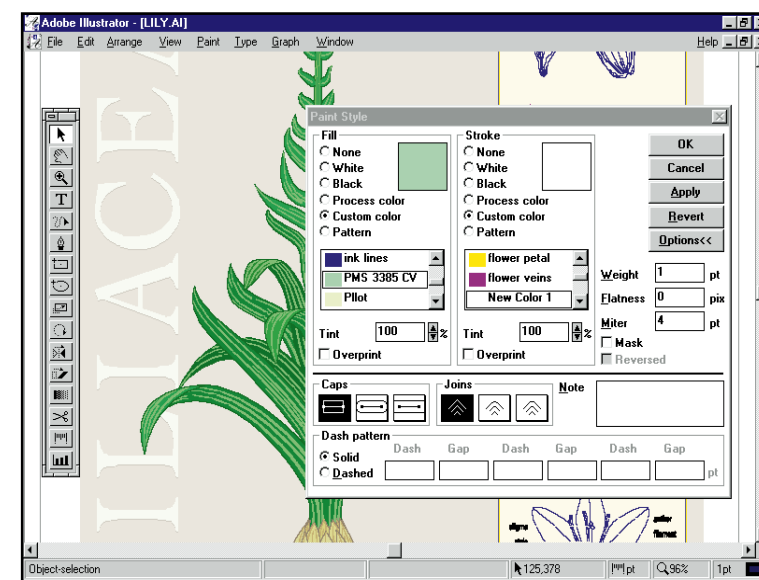

on Call CD when you register. Others can be unlocked from the CD for a fee. Type Align is a text-tweaker that only works on Postscript, not TrueType fonts, and Streamline is a bitmap tracing program.

The spartan interface has just one toolbar, a status line and the menus. This leaves the screen uncluttered, but it makes it very long-winded to have to go through the menu to colour an object, for instance. The dialog box covers most of the screen, making it hard to see what you're applying a fill or an outline to.

The feature list is far from impressive. Tools for creating and editing Bezier curves are precise and delicate, but there are no polygons or other predefined shapes apart from lines, ellipses and rectangles. You can type text straight onto a curved path, which is handy, but if you want to distort it you have to resort to the TypeAlign program and import the file. Another glaring omission is gradient fills. To apply a shaded look to an object you have to blend two different coloured objects together. There's a tool for producing graphs, though you'll probably find better facilities in the average spreadsheet.

Illustrator (at least in its PC version) is a dismal underachiever compared with other high-end products.
○ £376 incl VAT (street price)
○ Adobe: 0181 606 4000

Adobe Illustrator 4.1

Functionality	★★ ☆☆☆
Ease of use	★ ☆☆☆☆
Value for money	★ ☆☆☆☆
Overall	★ ☆☆☆☆

Corel Draw! 6

Now in its sixth version, the Corel philosophy has always been to pile it high. We could easily fill the entire review with a description of the contents of the box, but – in short – the four CD-ROMs contain a bitmap editor, a media manager, a scripting tool, 3D modelling, 3D animated text effects, screen capture, font management, business presentations, bitmap tracing and OCR (optical character recognition). Then there are 1,000-plus fonts in both TrueType and Postscript formats, 25,000 clip-art symbols, 1,000 photos and sundry other samples.

Confining the discussion to Draw! itself, the interface is, at first, deceptively simple. The top button bar contains the usual file and clipboard buttons, various viewing and management tools, and buttons for context-sensitive help and 'tutor panels'. Down on the left are the tools, grouped in 'flyouts', and down the bottom is a colour palette and the status area, which provides information, hints and a prompt line. Then it gets complicated, as the rest of Corel's mighty feature list is accessed through 'roll-ups'. These are like ever-open dialog boxes, and range from controlling text properties to blends, fills and envelope editing. There are, by our count, 29 of these, but to save space, they can be 'rolled-up' into their own title bar without having to hide them completely. Better still, you can group roll-ups so that each can perform several functions, selected from an on-board list.

So, what can you do with all that? The answer is just about anything; again, we really need several pages, but let's look at a few key areas. With text, you can make it follow a curved path, shape its 'envelope', extrude it into a solid, or use it as a mask to fill with pictures. With objects you can 'blend' one to another in steps, either to 'morph' shapes or create more subtle effects such as natural-looking shadows. Fills can range from simple flat colour, through patterns, shading from one colour to another or through a rainbow of colours to 'fractal fills'. These are mathematically generated patterns that can either be totally abstract, or

What does it all mean?

Bezier curve
Free-form curves whose shape is governed by 'nodes' – the points passed through, and 'control points' that define the direction and curvature between nodes.

Blending
Selecting two objects, then creating a number of intermediate ones that gradually change from the colours and shape of the first to the second.

Control points
Non-printing markers around an object that serve as 'handles' to resize, reshape and rotate.

Envelope editing
Shaping a piece of text to squeeze, inflate or create a perspective effect.

Extrude
Create a 3D effect by stretching, say, a circle into a cylinder.

Flyouts
Buttons that expand to show a subset of buttons.

Gradient fill
Gradual shading from one colour to another.

Layers
Layers can be locked or hidden to protect the objects on them from change or hide them while you work.

Snap
Attaching a line precisely to a point on a non-printing grid, or to another object.
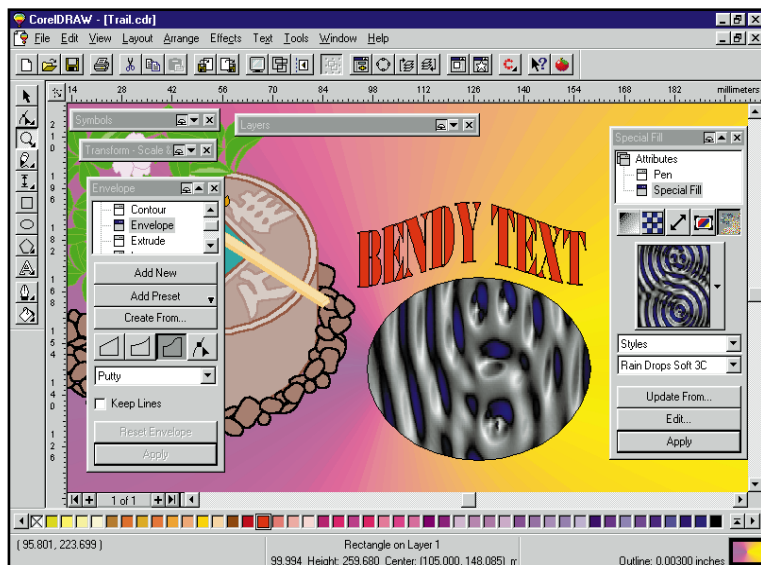
Tracing
Converting a bitmap to vectors by 'tracing' the outline of different coloured areas.

Wire frame
Seeing and manipulating objects as outlines, without fill or thickness: this speeds up the display.

Wizards
Interactive guides that automate complex procedures through a series of multiple-choice questions.

mimic natural materials such as marble or rippled water.

As befits a top-end application, Draw! is packed with professional features such as colour separations and industry-standard libraries but, despite an almost overwhelming feature list, there's plenty of help for the newcomer in terms of tutor panels and an on-line tutorial. **A huge, state-of-the-art bundle bristling with complexity.**

○ £581.62 incl VAT (RRP)
○ Corel: 0800 581028

Corel Draw! 6

Functionality	★ ★ ★ ★ ★
Ease of use	★ ★ ★ ☆ ☆
Value for money	★ ★ ★ ☆ ☆
Overall	★ ★ ★ ★ ☆

Corel Xara!

Xara Studio, launched last year, was an all-British effort, pitched in direct competition to the transatlantic giants Adobe, Corel and Macromedia. Corel, to misquote a phrase, liked it so much it bought the distribution rights. It's still unclear whether this was out of admiration or fear, but Corel Xara! is a formidable and brilliant product. Somewhat restrained for Corel, it comes on just one CD, with little in the way of extras, but a respectable 500 fonts and 10,000-piece clip-art collection. Also on the CD is an extremely comprehensive video-based guided tour – not just of the basics, but also the finer points.

It contains all the usual drawing tools you'd expect to find, though it's not quite as luxuriously equipped as sister Draw!, but let's concentrate on its unique selling points, to use a bit of marketspeak. The first secret weapon is anti-aliasing, which smooths out the transition between pixels to reduce jagginess, resulting in a far more realistic display. A slider at the top of the screen offers four levels of quality – wireframe, flat shading, normal and anti-aliased. The second is transparency. Notice how the sky and ground behind the car in the screenshot below fade towards the horizon. The sky was created from a fractal fill, stretched horizontally to resemble clouds, then faded to

transparent vertically. Similarly, the highlights on the car body are sky-coloured transparent patches, and the windscreen is another transparent object – the interior of the car is actually behind this, rather than drawn on top.

Another truly brilliant feature is the ability to group colours by basing them on others. For example, all the numerous shades used on the car bodywork are linked to the 'base body colour'. Select this from the 'Edit colour' box, slide the selector around, and your red car changes to a blue one with every shade faithfully translated. As with Corel Draw!, objects can be placed on 'layers' so you can turn off parts of a drawing to speed up redraws and protect them from accidental change, while you work on the details that the 25,000:1 zoom level allows.

In spite of such high-quality imaging, it's spectacularly fast, even with anti-aliasing turned on. Though there's no bundled bitmap editor, there's a range of special effects you can apply to imported bitmaps, such as envelope editing, image enhancing and tracing. **Fast and brilliant, especially for near-photorealistic artwork.**

○ £233.82 incl VAT (RRP)
○ Corel: 0800 581028

Corel Xara!

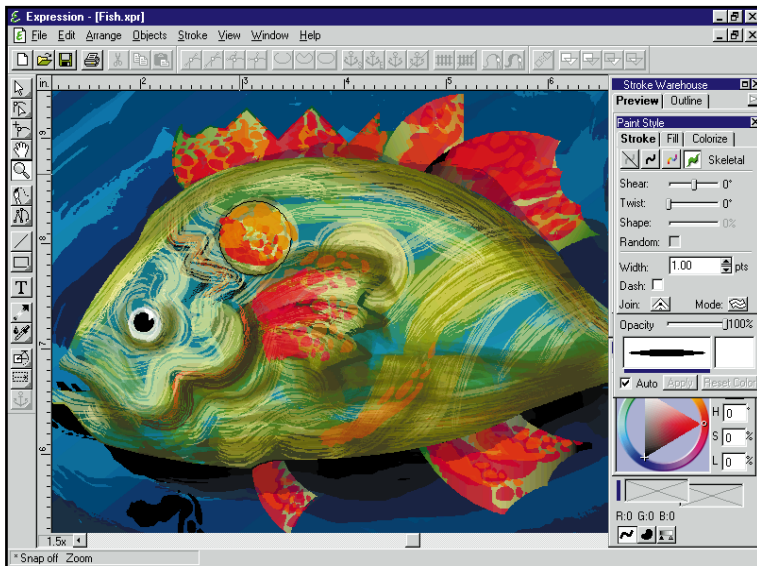|		
Functionality	★ ★ ★ ★ ★
Ease of use	★ ★ ★ ★ ☆
Value for money	★ ★ ★ ★ ★
Overall	★ ★ ★ ★ ★

Fractal Design Expression

Fractal Design changed the face of bitmap-based painting programs with Painter, bringing 'natural' media to the screen such as paints that flowed together and chalks that showed the texture of the virtual paper. Expression is the company's shot at doing a similar act on vector drawing. The review copy was a beta version, with no bundled goodies, no helpfile and an incomplete on-line manual.

The interface has the usual, if somewhat more expansive, toolbar for doing regular things such as drawing lines and shapes and editing their nodes. Up the top are further options – you can draw regular ellipses and circles or pie segments, for example. There's a nice line in transparent graded fills, but things really start to get interesting when you dig into the rather mysterious floating palettes. At the 'Stroke' tab of the 'Paint Style' palette are four buttons: 'None' for objects with fill but no outline, 'Basic' for regular lines, 'Gradient' ▶

No, it's not a bitmap – it's a Fractal Design Expression vector drawing.

for multicoloured lines, and 'Skeletal' – well, this is where things get very, very different.

Switch to the 'Stroke Warehouse' palette, and you'll see a preview of various strokes, from airbrush effects to a broad dragged brush stroke. Use the drawing tools in the normal way, and you'll see a skeleton outline, with the normal control points, shown in red. Once you complete the shape, this vanishes (though the select tool brings it back for reshaping) and the stroke appears as if done with the chosen brush. And there's not just brushes. You can draw borders from a repeated pattern, draw with fish, film strip, foot prints, pooches, piano keys or drawings you have created yourself. You can choose either to stretch elements as you draw – a long brush stroke – or repeat them – the piano keys.

Things get even stranger with multiview strokes. These appear animated in the 'Stroke Warehouse', and each instance of the stroke will appear slightly different; hence you can achieve a more natural look with, say, a school of fish that are similar but not identical. You can create your own multiview strokes and save them as standalone animations. Expression is a distinctively quirky application, but is brimming with thoughtful ideas, such as being able to rotate the page in order to work more comfortably. We look forward to seeing the finished version – and the finished documentation.

Oddball and artistic – more of an 'and' than an 'or'.
○ £351.32 incl VAT
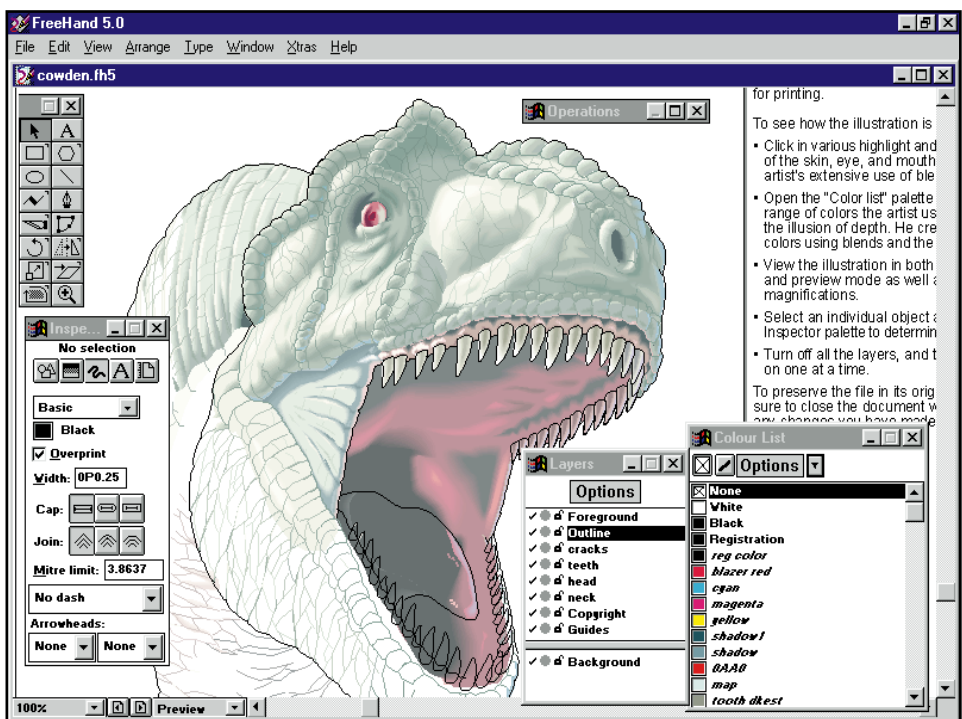○ Fractal Design Europe: 0033 1 69419722

Fractal Design Expression

Functionality	★ ★ ★ ☆ ☆
Ease of use	★ ★ ☆ ☆ ☆
Value for money	★ ★ ★ ☆ ☆
Overall	★ ★ ★ ☆ ☆

Macromedia Freehand 5.0

Like Illustrator, Freehand was developed for the Apple Mac. It doesn't inspire confidence in Windows 95 users by copying the Win32s files to your hard disk (you only need these with 3.1) and attempting to add its path to AUTOEXEC.BAT (a definite 95 no-no). You get 493 fonts in both TrueType and Postscript forms, 10,000 pieces of clip-art, and a Developer's Kit for programming add-ons. Though there's little hand holding on screen, there's an excellent tutorial manual.

There's great emphasis on floating palettes and, like Corel Draw!'s, these can be 'rolled-up' into their own title bar. The most important of these is the Inspector, which provides 'one-stop shopping' for object properties. Five buttons work rather like Windows 95

An Inspector calls – and an example of Freehand's subtle capabilities.

tabbed dialogs, switching between object size and position, outline, fill, text and page setup.

There's a lamentable lack of attention to interface detail at times – no 'recent file' list, nothing for the right mouse button to do but zoom; and the title bar of the main toolbox is so crowded with buttons that you can't drag it round the screen by normal means; you have to use the window 'Move' command.

On the bright side, Freehand takes an intensely professional approach to colour. Although you can drag colours straight out of the mixer onto objects, it makes far more sense to add them to the drawing's colour list, where they display in terms of the way you've mixed them, such as the three values for red, blue and green. You can also add colours individually or en masse from predefined palettes, including 10 industry-standard colour libraries. Having established a palette, you can then drag and drop colours from there to any object or the Inspector. You can also create shades of a named colour, and change all related shades at once, in a similar way to Xara's 'instant respray' trick.

Though it lacks the advanced text-tweaking and fancy fills of Corel Draw, there are some very delicate precision drawing aids, and a number of 'Xtras' – third-party add-ons that can be created with the Developer's Kit. Those supplied include tools for joining and cutting objects with other objects, a 'fractaliser' for giving smooth objects a jagged outline and a load of professional tools such as 'traps' – slight overlaps between colours that stop white

cracks appearing due to printing misalignment.

A professional product with excellent colour management and a clunky Windows interface.

○ £528.75 incl VAT
○ Computers Unlimited: 0181 358 5857

Macromedia Freehand 5.0

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Functionality	★ ★ ★ ★ ☆
Ease of use	★ ★ ☆ ☆ ☆
Value for money	★ ★ ★ ☆ ☆
Overall	★ ★ ★ ☆ ☆

Micrografx Designer 6.0

As with Corel Draw!, you can't buy this on its own. The ABC Graphics Suite contains Designer, Picture Publisher – a top-end image processor, ABC Flowcharter, Instant 3D, Media Manager, 387 fonts and 30,000 pieces of clip-art and sample images. Depending on the options, you'll need 35-85Mb of disk, and Windows 95 or NT.

Sticking with Designer itself, the interface is Microsoft Office-compatible. The top row of buttons do the usual file, clipboard and undo duties, with further controls to turn other palettes on and off, snap to the guides, set the zoom level and summon help. The drawing tools are to the left. Instead of the usual 'fly-outs', another, context-sensitive ribbon appears below the main buttons, offering various options. This is split into two parts. Choose the pencil tool, and you'll see five buttons, for lines, compound lines, circles, rectangles and polygons. Choose polygons and you'll get further options – drawing centre to corner, centre to side and by the length of a side – plus a box for the number of sides and a 'star' option. Similarly, the text tool displays all the usual font options, but you also get the tools for fitting the text to a curve. Down the right of the screen (though like all the toolbars, you can move this around) are the controls for line styles, colours and fills. Once you get used to it, it has a wonderful, uncluttered logic, and a context-sensitive help panel tracks every move, telling you what to do next. If you find the interface too simple, you can open further toolbars. All the line and fill styles, drawing and ordering tools can be parked at the edge of the screen or float free.

Designer doesn't have quite the capabilities of Corel Draw!. You don't get the wonderful fractal fills and, for 'extruded' text, you have to go through the procedure of inserting an Instant 3D image as an OLE object. But it has some special features for the technical draftsperson, such as dimension lines.

Micrografx Designer – helpful hints and a wealth of clip-art.
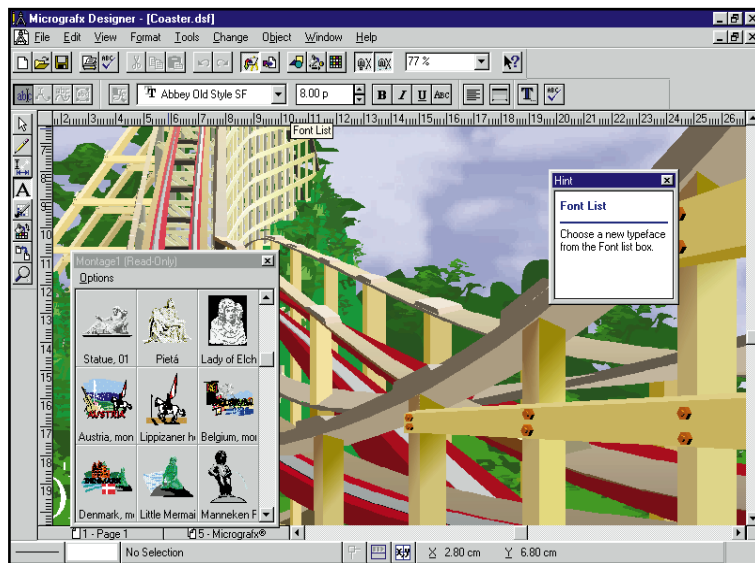
Not as power-packed as Corel Draw! but simpler to use.

○ £351.32 incl VAT
○ Micrografx: 0800 626009

Micrografx Designer 6.0

Functionality	★ ★ ★ ★ ☆
Ease of use	★ ★ ★ ★ ☆
Value for money	★ ★ ★ ★ ☆
Overall	★ ★ ★ ★ ☆

Budget packages

Arts & Letters Express

This comes in two versions, both of which run under Windows 3.1 or later. Version 6.0 comes with a bitmap package, Picture Perfect, and over 130Mb of clip-art. Version 5.0 has no Picture Perfect, less clip-art, and lacks a 'Save' button on the

Special cases

Whereas most of the products reviewed here are general all-rounders, there are two specialist drawing areas where it might be more suitable to choose specialist products. **Flowcharting** needs little in the way of artistic embellishment, but it does need easy drag-and-drop access to basic shapes, and 'smart' connecting lines that stay attached when objects are moved and route themselves around other objects. We look at **Smartdraw later** in this review. **ABC Flowcharter**, part of the Micrografx

Tooling up with TurboCAD.

Suite, is a huge package offering practically everything the business user could need, with flowcharts, graphs, organisational tools and data analysis.

Corel Flow! (not part of the Draw! package and priced at £175) looks much like a cut-down Draw! and offers all-round business graphics, without the data analysis features.

Visio offers not just flowcharting but all kinds of drag-and-drop diagrams from electrical circuits to maps. It's all specifically aimed at the artistically challenged, with templates and libraries of drag-and-drop 'smart' shapes. Visio costs £169 from Visio International: 01372 227900.

Computer-aided design (CAD), is the kind of scale drawing done by architects and technical draftspeople. Here the 'arty' side of drawing is sacrificed for precision and speed, with specific aids such as automatic dimensioning, fast coordinate input, precise object snaps and editing tools that will trim, extend and chamfer lines with exactitude.

Prices range up to the stratospheric for professional 3D work, but there are good budget 2D packages, including **Drafix QuickCAD** (Roderick Manhattan: 0181 875 4444 – £81 incl VAT), which offers beginners three levels of interface. Though entry-level, it has serious features such as database reporting, with which you can store and retrieve 'invisible' object attributes such as part number and price.

TurboCAD 2D/3D (IMSI: 0181 581 2000 – £82 incl VAT), is another excellent 2D starter, with the added bonus of a separate, and rather older, 3D modelling program.

AutoSketch (Autodesk: 01483 303322, around £79) from the makers of the £3,000+ industry leader AutoCad, hasn't seen an update for some years, but still remains a brilliantly easy-to-use introduction to CAD, with a proliferation of button bars, a macro recorder and the facility to produce isometric drawings.

All your objects are listed in Arts & Letters' Express's drop-down list.
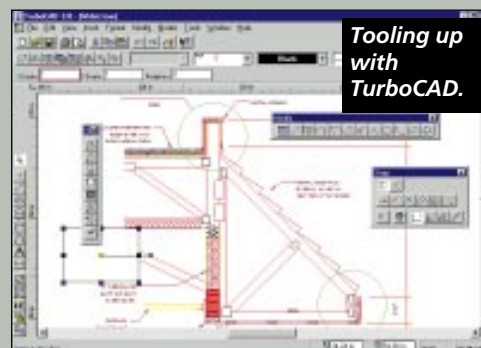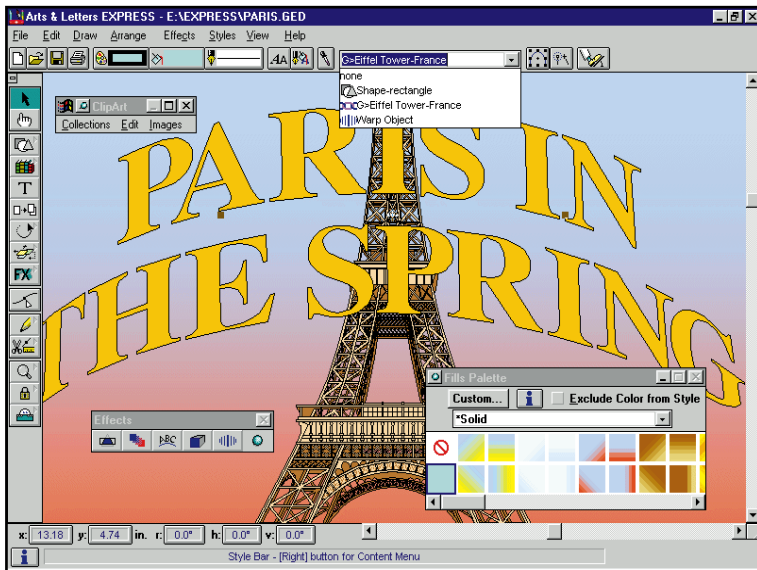
toolbar. A slim manual is complemented by a 220-page disk-based user guide, plus the usual help file.

At the top of the screen are the file and print buttons, and controls for line, fill, and typeface. There's also a drop-down list of all the objects in a drawing, toggles for snap options and a strange button that looks like a foot on a pedal. At the left of the screen are the drawing and transformation tools. Nearly everything 'flies out' into a subsidiary toolbar.

Although you have a well-equipped set of drawing tools, the emphasis is on helping the less gifted, with a huge range of high-quality clip-art, and an 'Activity Manager' that provides everything from chart templates to pre-designed 'warp' shapes for distorting text and other objects.

Slightly odd interface, but plenty of help, ideas and ready-made effects.

◯ £159.15 incl VAT
  (version 5.0: £82.84)
◯ Deverill Business Systems: 01202 722554

Arts and Letters Express

Functionality	★ ★ ★ ☆ ☆
Ease of use	★ ★ ★ ☆ ☆
Value for money	★ ★ ★ ★ ☆
Overall	★ ★ ★ ★ ☆

Corel Draw! 3

You might well be wondering why the Corel Corporation is getting a third bite at the cherry, having already covered Draw! 6 and Xara!. Three reasons: Draw! 3 is still on sale, it is the best-selling drawing package of all time, and it has weathered the last four years extremely well. Just one CD, but it manages to pack in 250 fonts, 9,000 clip-art symbols and extras that include

Photopaint (bitmap editing), Mosaic (predecessor of Media Manager), Chart, Show (presentations) and Trace (bitmap to vector conversion).

Corel 3 may be old, but it can produce work like this from professional hands.
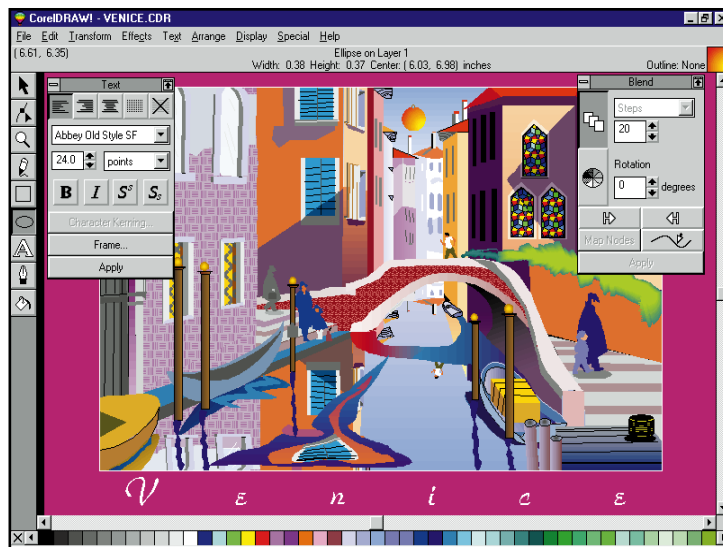
Far less demanding than version 6, the full whack takes 12-38Mb, and runs on any PC capable of running Windows 3.1. The interface is simpler, with just nine buttons and four roll-ups, and a similar colour palette at the bottom of the screen. Though it may be more long-winded to go to the menus and dialog boxes, it makes the screen far less cluttered. For a change, the status bar is at the top.

Even though you don't get the advanced features of Draw! 6, such as fractal fills, dimensioning, or lenses, it's an immensely capable package. You can do amazing things with pieces of text, as the screen-

shot shows, including 'extruding' it to get that Hollywood epic movie title effect. There are excellent blending and envelope-editing, layers, colour separation for commercial printing, and even a spelling checker.

Although it was launched before the days of Tooltips, Wizards and on-screen hint panels, there's an excellent hands-on tutorial and it's easier to use than version 6. **Though four years old, this classic gives the competition a healthy run.**

◯ £92.82 incl VAT
◯ Corel: 0800 581028

Corel Draw! 3

Functionality	★ ★ ★ ☆ ☆
Ease of use	★ ★ ★ ★ ☆
Value for money	★ ★ ★ ★ ★
Overall	★ ★ ★ ★ ☆

## GSP Designworks 3

This comes on both CD-ROM and floppy from the UK-based creator of the budget DTP application, Pressworks, formerly know as GST.

Ever helpful, you can start with a Page Pilot to guide you through creating a drawing, and continue with first-time hint panels and Cue Cards for on-screen, context-sensitive guidance. Although this is a 16-bit program, designed to run on Windows 3.1, it does support Windows 95's long filenames. The interface can be as simple or complex as you want it – the main toolbar can be set to show just six buttons (select, text, lines, shapes, change and trace) with the sub-tools showing as flyouts, or you can expand it to show all 20. Additional toolboxes can be opened to show even more options, such as rotating 90 or 180

GSP Designworks' Page Pilots take the strain out of creating a logo.
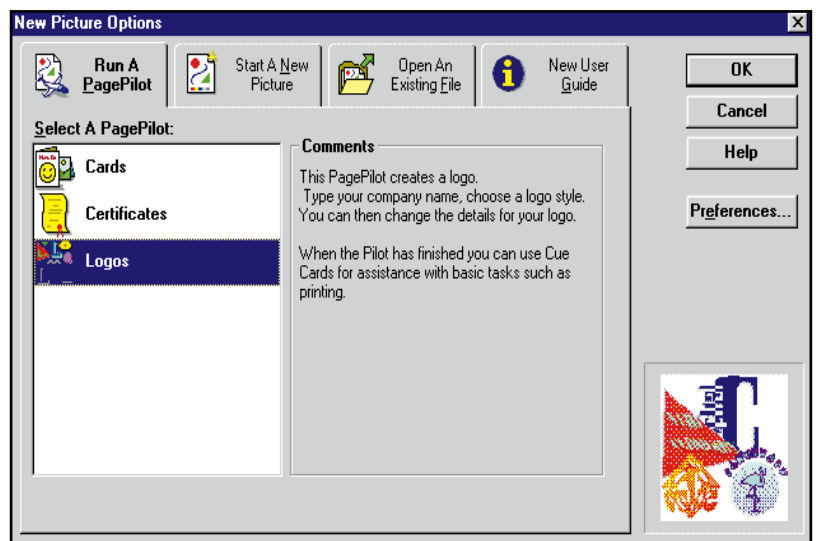
degrees, or all the possibilities of aligning objects. Four little arrow buttons let you 'nudge' objects by a small, user-defined amount – a little redundant as the keyboard arrow keys do the same.

There's an excellent range of shape tools in the main box, and by double-clicking on each you can alter the properties, such as the number of points and spikiness of a star. You can fit text to a curve, but you can't apply special effects such as warping or extruding for 3D effects. Power users aren't neglected, however. Designworks comes with 1,000 Pantone industry-standard colours defined and will produce colour-separated output to Postscript printers.

Lots of help, all the basics, but few design frills – an excellent and inexpensive package for the newcomer.
◯ £39.95 incl VAT
◯ GSP: 01480 496575

GSP Designworks 3

Functionality	★ ★ ★ ☆ ☆
Ease of use	★ ★ ★ ★ ☆
Value for money	★ ★ ★ ★ ★
Overall	★ ★ ★ ★ ☆

Micrografx Draw 5

Micrografx Draw was one of the first budget illustration packages, with version one launched in early 1992 costing £99 plus VAT. Four versions and nearly five years on, the price has halved, and the content increased thirty-fold.

The copy supplied for review was still in beta, but included PhotoMagic (bitmap editing), Media Manager, Instant 3D, 250 fonts, with 240Mb of clip-art and bitmap images. To get you started there is an introductory guide, linked to 'hands-on' tutorials, and 150 project wizards arranged in 18 categories ranging from Awards to Internet graphics.
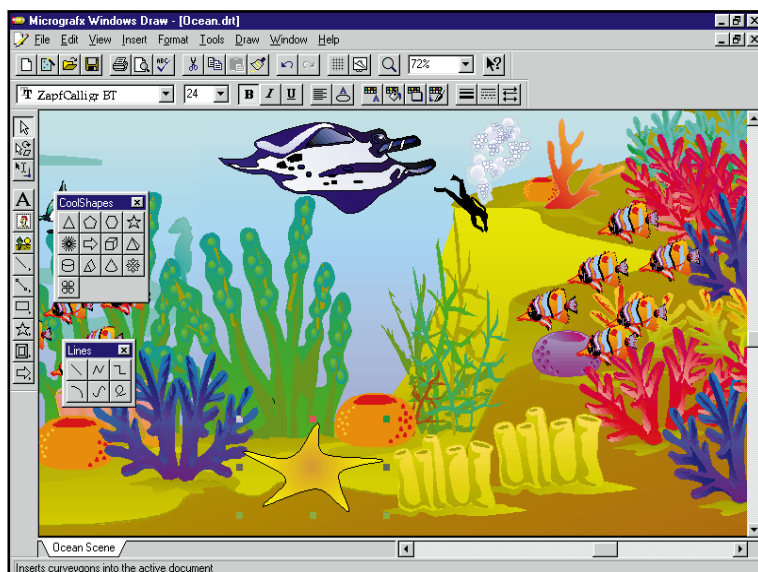
The interface follows the Microsoft 'Office Compatible' guidelines, but still manages to retain its own identity and ease of use. The top row of buttons offer the usual file, clipboard and undo commands, plus layer, grid and zooming controls. Below that are the formatting tools for text, line and fill styles. The left-hand box contains the drawing tools, and each one flies out for further choices – you can 'tear off' the flyouts and park them on screen for immediate access.

An object's properties, fill pattern, outline colour and thickness, text attributes (if applicable) and size, can all be reached, via the right mouse button, in a tabbed dialog box.

The 'Coolshapes' really are. You get things such as perspective boxes and pyramids, and a wonderful thing called the 'Curveygon' which is something of a cross between a star and an amoeba. There are all sorts of original touches you wouldn't expect in a budget drawing program, such as a spelling checker and a mail-merge facility for party invitations.

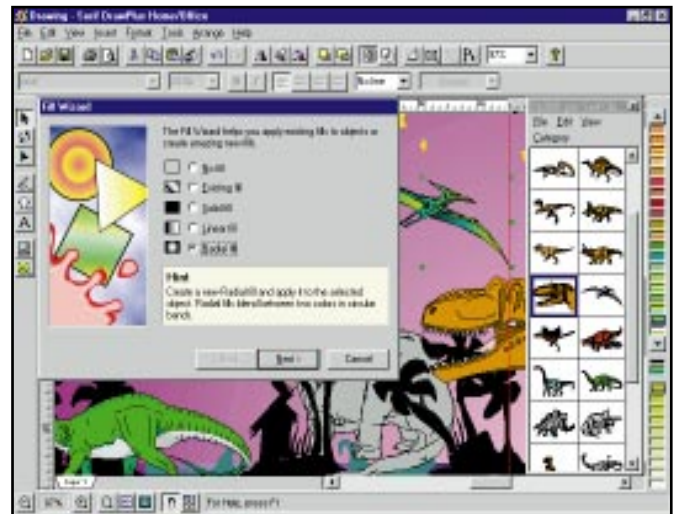**A fun-packed and original package with some seriously powerful touches.**
◯ £52.82 incl VAT
◯ Micrografx: 0800 626009

Micrografx Draw 5

Functionality	★ ★ ★ ☆ ☆
Ease of use	★ ★ ★ ★ ★
Value for money	★ ★ ★ ★ ☆
Overall	★ ★ ★ ★ ☆

Serif DrawPlus 3

Again, this was in beta at the time of writing, but the final product is scheduled to appear by the time you read this. It will come on two CDs with 400 fonts, 15,000 clip-art

Serif DrawPlus has plenty of help for first-timers.

images and 500 photos. This is another Windows 95 application with an 'Office Compatible' interface. Two button bars at the top of the screen take care of file and clipboard operations, line and text styles, and a bunch of commands for mirroring, rotating and shadowing objects.

The main tools are ranged to the left, in a very simple fly-out button bar, and to the right are two scrolling colour palettes. These are especially well thought out as the top one contains not just plain colours, but all kinds of shaded and rainbow fills – you can edit these and add your own. The bottom palette sets the shade for any colour or fill.

Turning to the toolbar, the Quick Shapes are especially clever. Each one has special 'handles' which you can use to adjust not just its size, but other parameters. For instance, if you resize the 'thermometer' symbol, as used by fundraisers, the bulb stays round and only the stem stretches. In addition, by dragging one of the special handles you can change the 'temperature'.

Help is everywhere, through tool tips, first-time help panels and more Wizards than a game of Dungeons and Dragons. As you grow more proficient, you can turn all these off and use the 'grown-up' dialog for some very professional effects such as envelope editing and multicolour fills. Fun stuff includes the Monster and Cartoon Wizards, a sort of interactive heads, bodies and legs.

The best budget mix of features, ease of use and sheer fun.
◯ £59.95 incl VAT
◯ Serif: 0115 942 1502

Micrografx Draw: plenty of help – and a 'Curveygon' tool to make the starfish.

Serif DrawPlus 3

Functionality	★ ★ ★ ★ ☆
Ease of use	★ ★ ★ ★ ☆
Value for money	★ ★ ★ ★ ★
Overall	★ ★ ★ ★ ☆ ▶

Drawing software

Drawing software packages compared

	Windows version*	Min/Max disk space	Min RAM	Max drawing size (square)	Layers	Multiple files open	Bitmap tracing	Image processing	Colour separation	Fonts	Clip-art	Tutorials	Extra s/w & utilities	CGM	Illustrator	Corel	EPS
Adobe Illustrator 4.1	3.1	9-12	4-8	45cm	○	●	●	○	Bundled	250	○	Book	3	●	●	○	●
Corel Draw! 6	95	32-180	8-16	4,570cm	●	●	●	Bundled	●	1,000	25,000	On-line	10	●	●	●	●
Corel Xara!	95/3.1	13-40	8	275cm	●	●	○	Built-in	○	500	10,000	On-line	○	○	●	●	●
Fractal Design Expression	3.1/95	31	8-16	Information not available	●	●	○	○	○	○	○	Information not available	○	●	●	●	●
Macromedia Freehand 5	95/3.1	15-41	8-12	564cm	●	●	●	○	●	493	10,000	Book	1	●	●	●	●
Micrografx Designer	95	35-85	8-16	No limit	●	●	●	Bundled	○	250	15,000	○	4	●	●	●	●
Arts & Letters Express	3.1	13-166	4-8	450cm	○	○	●	(V6)	●	91 + 1,000 on reg	12,500	On-line	1 (V6)	●	○	●	●
Corel Draw! 3	3.1	12-34	2	76cm	○	○	●	Bundled	●	250	9,000	On-line	5	●	●	●	●
GSP Designworks 3	3.1	5-25	4-8	76cm	●	●	●	○	●	50	1,200	On-line	4	●	●	○	●
Micrografx Draw 5	95	15-66	8	150cm	●	●	○	Bundled	○	250	20,000	On-line	2	●	●	●	●
Serif DrawPlus 3	95	15-27	8	2,540cm	●	○	○	●	○	400	15,000	On-line	2	●	○	●	●
SmartDraw Pro	3.1/95	8	4	125cm	○	●	○	○	○	None	1,200	○	○	○	○	○	○

● = Yes ○ = No *3.1 – runs on Windows 3.1 or higher; 95 – runs on Windows 95 (or NT) only; 95/3.1 – 32-bit app runs on Windows 95 or 3.1 with 32s extensions; 3.1/95 – separate specific versions provided

SmartDraw Pro

In contrast to the mega-CD offerings, this comes on just three floppies, containing both Windows 3.1 and 95 versions – a cheaper 3.1-only version is available. It's shareware, so you can try it out before you buy.

Though there are no bundled fonts, you do get a selection of templates to get you started, and a collection of around 1,000 symbols and clip-art objects including maps, electrical symbols, office furniture, nuts and bolts as well as more decorative items. You also get a selection of instant shapes available from the toolbar – arrows and flowchart symbols as well as the usual rectangles and ellipses. However, the possibilities for altering these are severely limited. You can't, for instance, change the number of sides on a polygon and you're severely limited on changing the radius of a round-cornered box.

A friendly interface produces hint panels when you try something for the first time. There is a decent range of preset effects, such as embossed or shadowed text, but little for the artistically inclined. There are no graduated fills, no shaping or path-fitting of text and no Bezier curves. As such, it's much more of a diagram generator than an artistic illustration tool, and there are some specific features, such as 'linked' lines that snap to objects and stay connected when you move the objects around. As well as working with the toolbar shapes, this feature is also available with all the symbols and clip-art. **Low footprint, quick and easy flowcharts and diagrams, but little for the artist.**

○ Shareware – registration £44.06 incl VAT + postage
○ Thompson Partnership: 01889 564601

SmartDraw Pro 2.06

Functionality	★ ★ ★ ★ ★
Ease of use	★ ★ ★ ★ ★
Value for money	★ ★ ★ ★ ★
Overall	★ ★ ★ ★ ★

Drag-and-drop symbols and clip-art in SmartDraw.

BEST BUY WHAT PC? Of the heavyweights, Corel Draw! 6 certainly offers the most for the money. But we much preferred the other Corel product – British-born Xara! It's fast, stylish and innovative, a clear winner for the serious designer. At a lower price than the other heavyweights, it's our Best Buy.

RECOMMENDED WHAT PC? With the budget packages, the choice is harder. Arts & Letters Express scores well on the sheer quality of the clip-art. Micrografx Draw is easy and fun to use, and you certainly couldn't go wrong choosing Corel Draw! 3. But, and assuming it lives up to the promise of the beta, the one that combines most fun, features and ease of use is **Serif DrawPlus**.   Tim Nott