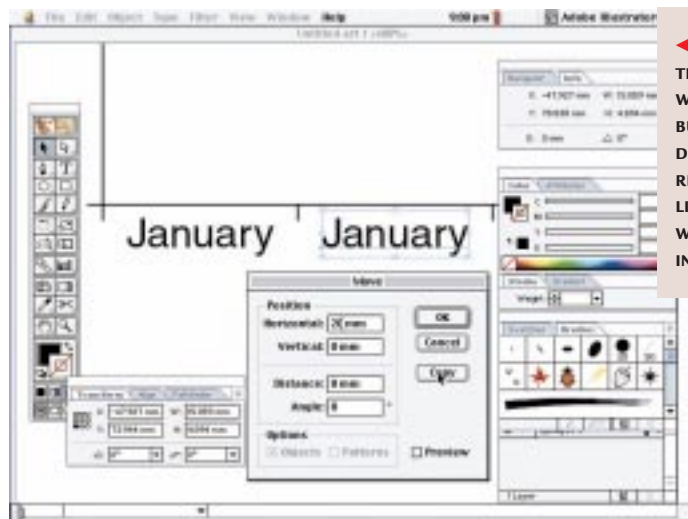## graphics & dtp

# Top of the charts

**Style challenge: Ken McMahon makes it easy to draw graphs that will add oomph to any document.**

Graphs and charts are an excellent way to add visual punch to any document. Where you have page upon page of numbers, be it a statistical analysis of the incidence of blindness in home-brewers or the annual report and accounts of the local cricket club, graphs provide visual sparkle, as well as allowing you to present the data in a more digestible format.

Unfortunately, most of the graphing features provided in packages from spreadsheets to word processors obscure, rather than illuminate, trends in data. Three-dimensional bar graphs with perspective shadows that can be rotated on two axes may look impressive, but they rarely tell you a lot. And why is it that software festooned with such bells and whistles often lacks the ability to make simple edits like changing the axis label font or removing tick marks?

### ☛ Drawing a conclusion

Such frustrations led me many years ago to the conclusion that the only way to produce readable charts and graphs was to produce them from scratch in a drawing package. Of course, if you have lots of data, you can save yourself time by keying it into your spreadsheet application and producing a simple graph to use as a template. Some vector

illustration packages also have built-in graphing functions. But this should only be necessary if you're producing a line graph, say, of share prices over a period longer than a week. Most bar and pie charts have so few bars or segments that it's often easier to create them manually.

**1** **First, let's take a look at creating a simple bar chart** comparing my average monthly internet usage during 1998 and 1999 (yes, I've made these figures up). The first job is to create the horizontal and vertical axes for the graph by using the rectangle tool to draw a box. Make the horizontal dimension a multiple of 12: I've made it 240mm, giving 20mm for each month or 10mm for each bar. The bars will actually be narrower than that because we need space between them and room for a drop shadow. I've made the depth of the box 200mm, which will represent my estimated maximum monthly online time of 100 hours.

**2** **Next, create the vertical and horizontal tick marks.** In Illustrator 8, I've done this using the line tool to create one 0.5pt short horizontal and vertical line at the origin. Then I used the move tool with a 20mm offset to create the next horizontal tick, followed by Ctrl-D to repeat the transformation for the remainder.

You can create the first label, 'January', using the type tool and duplicate it using the same offset before overwriting the correct month. Before you start duplicating the months, make sure the type is 'typographically' centred, and that the type object is centred between the two tick marks. You can easily achieve this in Illustrator and CorelDraw using the type align/ distribution palette, so that when you overwrite, everything remains centred. Also, make sure you have room for the longest month, September.

**3** **To make it easier** to determine the value of each bar, we're going to drop a tint into the box and draw horizontal grid lines from left to right. I've chosen a light-coloured tint and white grid lines — the idea is to make the values easier to read without making the graph too fussy.
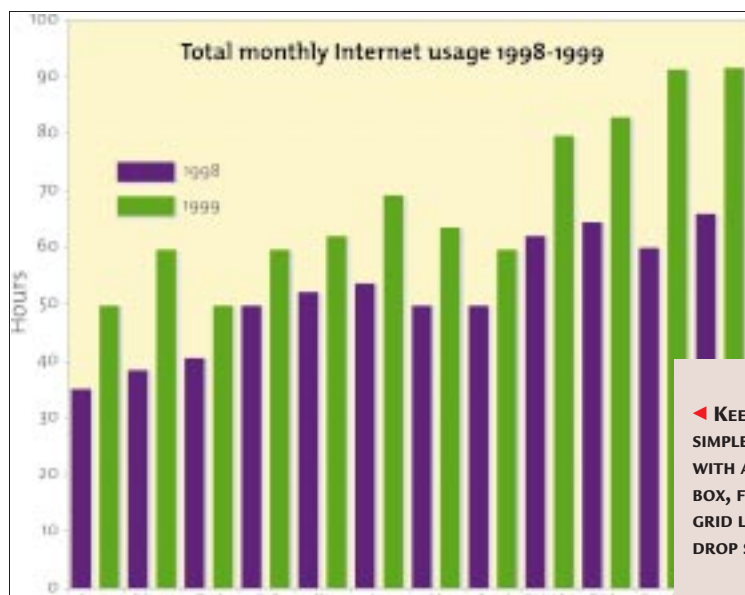

Total monthly Internet usage 1998-1999

To create a tint of one of the default swatch colours in Illustrator, you first need to select the swatch, then choose swatch options from the Palette menu. Uncheck the box marked non-global and a tint slider will appear in the colour palette below the swatch. Drag the slider to produce the required percentage value, then drag the swatch from the colour palette to the swatch palette to create a new swatch for that specific tint.

**4** **To create the white rules,** copy the '10' tick mark on the vertical axis and drag the endpoints so it abuts the tick mark on the left and the right edge of the box at the right. To create the bars, use the rectangle tool to draw a 7mm-wide rectangle extending from the baseline to the halfway mark, and drop a colour swatch onto it.

**5** **It's important to get** the size and positioning right at this point. The first rectangle should be 1mm in from the vertical axis — precise positioning is possible by turning on the rulers, positioning the ruler origin at the graph origin and using the transform palette.



When the first bar is in position, duplicate it with a 10mm horizontal offset and apply a different colour to the second bar.

**6** **At this stage** it's a good idea to make a new layer for the bars. Select 'new layer' from the Layer Palette menu and call it bars, then select both bars and move them to the new layer by dragging the coloured dot from 'layer one' to 'bars' in the layer palette. Also, create a third layer called 'shadow' and drag it in the layer palette so that it's

# PICTURE THIS — AT LAST!

**J**udging by the number of emails I've received, June's PhotoDeluxe 2 cover disk was a popular choice. For anyone still looking for the serial number, it can be found on page 16 of that issue's *Cover Disk Notes*.

The next most frequently asked question concerned the missing clip-art and photo backgrounds which, as was pointed out also on page 16 of that issue, 'will be included on next month's CD'.

So, to everyone who eagerly dived into the *Hands On Workshop* on page 186, only to get a confused and confusing error message when they attempted to load up with sky, smarties, balloons and other wacky backgrounds, I can only say sorry. Had I known you were all one issue short of a full instalment, I would have handled it differently.

By now you should be in possession of the full works, and I'm sure you'll agree it was worth waiting for.

underneath (behind) the bars layer.

With both bars still selected, copy them with a horizontal offset of 20mm and repeat the transformation until you have bars for every month to December. Now all you have to do is to select each bar in turn and drag the top centre handle of the bounding box to the correct position on the vertical axis.

If you want to be precise, you can enter the exact height of the bar (20mm = 1 hour) in the height field of the transform tab. To add a drop



▲ **CREATE STUNNING PICTORIAL GRAPHS USING ART BRUSHES — YOU CAN EDIT THE BRUSH TO PRODUCE THE DROP SHADOW**

shadow to each of the bars, select all of them (turn off all but the bars layer and Ctrl-A) and copy them with vertical and horizontal offsets of 1mm; Illustrator counts up the page from the origin so your vertical offset needs to be -1.

Drag the handle at the bottom centre of the bounding box until it rests on the baseline. Colour the shadow bars with a 20 percent tint of black and move them to the shadow layer by dragging the red blob in the layers palette.

**7** **Finally, it just remains** to add a legend. Keep it simple and use exactly the same style, including the drop shadow, as you have used for the bars.

☞ **Illustrating the point**
As you can see, if your drawing package lacks graphing facilities and you don't have a spreadsheet, you can still easily produce great-looking graphs. And even if you have Illustrator 8's excellent graphing capacity, this is often a better way of doing things. Using the background layer as a template, you can add new data to additional layers to produce new graphs.

One way to produce quite stunning pictorial graphs with a minimum of effort is to make use of Illustrator 8's art brushes. In the example [*left*] I've replaced the bars with a single path using the pen tool and applied the paintbrush art brush.

To create the drop shadows you'll need to duplicate the art brush and edit it. Select brush options from the brushes palette menu and change the colourisation method from none to tint, then select a light tint as the current stroke value before applying the new brush to the shadow stroke.

● *See our Group Test starting on page 162 for a range of professional and budget drawing packages.*

**PCW** CONTACTS

*Ken McMahon welcomes your feedback on the Graphics & DTP column. Contact him via the PCW editorial office, or email graphics@pcw.co.uk*