

6 Vector Tools and the Paths Panel

To understand the Vector tools in Photoshop, you must first understand what Vectors are and how they differ from Pixels. Pixels are the basic building blocks of images. They are easy to manipulate and we can apply filters and adjustments to them to change their appearance. Vector based objects are drawn by the program using mathematical co-ordinates to create the shape. The outline that determines the Vector shape is known as a Path.

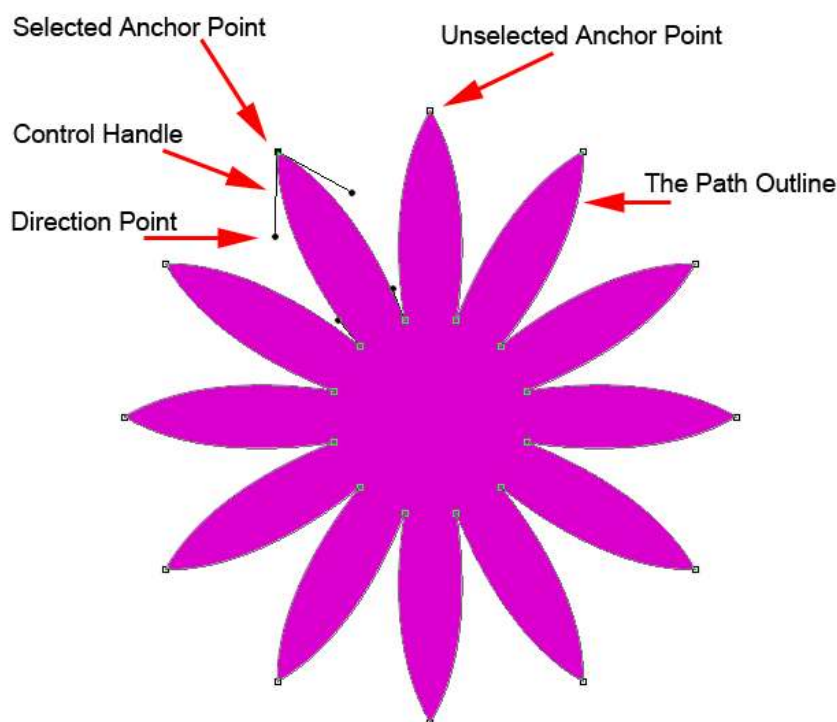


Fig 6.1 the components of a Vector based object

In fig 6.1 the various components that make up a Vector based object (the Path) have been identified:

- Selected Anchor Points (often referred to as corner points) – these can be manipulated or moved using the Vector tools.
- Unselected Anchor – will remain static unless selected.
- Control Handle – the length of the Control Handle determines the radius of the arc drawn from its Anchor Point.
- Direction Point – determines the direction of the Vector Path and the Length of the Control Handle.

The Vector Tools

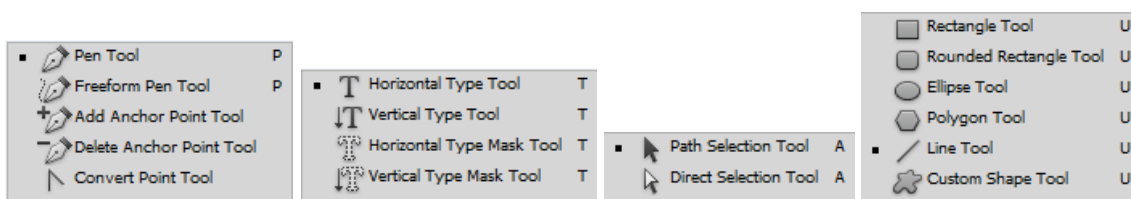


Fig 6.2 all of the expanded Vector tools available in the Tools panel

The Vector tools (fig 6.2) consist of the Pen Tools, The Type Tools, the Vector Selection Tools and the Shape Tools. For the moment, the Pen Tools will not be discussed as they are one the most difficult things to get to grips with in Photoshop. They will be covered in the third book in this series, which covers some of the more advanced features.

The Type Tools

- The Horizontal Type Tool – Creates normal, left to right type and is automatically placed in its own Type layer. It is used in two different ways.
 1. Click in the document to place the type cursor and start typing from that point.
 2. Click and drag with the Type tool to create a text box. When you commence typing, the text will be confined to the inside of the box.
- The Vertical Type Tool – Works in the same way as the Horizontal Type tool but write from top to bottom. This is useful for Asian characters.
- The Horizontal and Vertical Type Tools – work in the same way as the previous two tools. However, they don't create Type layers but instead, create Type shaped selections.

You may not have realised that Type consists of Vector information because you cannot edit Type anchor points directly. To customise type you must first convert it to a Vector Shape layer (fig 6.3) or Path.



Fig 6.3 a standard Type layer and one that has been converted to a Shape Layer and edited

In fig 6.3 the letter R has been edited to resemble the type used in a popular movie. The method used for creating this custom text will be covered in the next section on using the Path Selection Tools.

The Path Selection Tools

There are two path selection tools (fig 6.2) which are used to move and edit points that make up a Vector Shape or Path.

The Path Selection Tool (Black Arrow) – is used to select and move a complete Vector Shape or Path. It is used in a similar way to the standard Move tool and gives you access to the same alignment and distribution functions in the Option panel. It can also be used to quickly duplicate a Vector Shape or Path. Hold down the Alt/Option (PC/Mac) key and drag a Vector shape or Path to create a copy. If you then click and drag with Path Selection Tool, you can create a selection box to encompass both objects. Alternatively, you can hold down the Shift key and click on the second Path to select it. When more than one Vector Shape is selected you can use the alignment and distribution functions in the Option panel to position them accurately, fig 6.4.

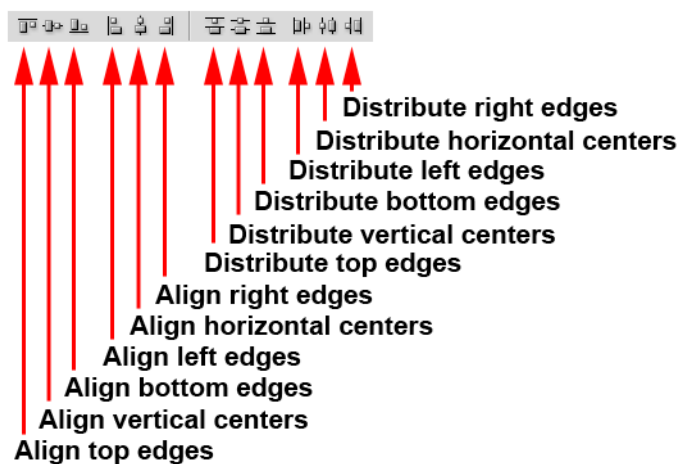


Fig 6.4 the Alignment and Distribution functions. They may be used with the Move tool and the Path Selection tool.

The Direct Selection Tool (White Arrow) – use this tool to move and manipulate Shape/Path components.

The Vector Shape Tools

The Vector shape tools are used for creating simple geometric shapes. However, several shapes may be combined to form more complex designs.

The Shape Tools may be used to create three different types of object which are chosen from the Option panel, fig 6.5.

An advertisement for 'Need help with your dissertation?'. It features a large orange button that says 'Get Help Now' with a hand cursor icon. To the right is an image of a clipboard with a checklist: 'EXCELLENT' (checked), 'GOOD', 'AVERAGE', and 'POOR'. Below the checklist is a 'COMMENTS:' section. At the bottom, it says 'Go to www.helpmyassignment.co.uk for more info' and includes the 'Helpmyassignment' logo.



Fig 6.5 from left to right – Shape Layer, Path and Filled Pixel

- The Shape Layer – this consists of a solid colour fill and a Vector based mask that defines the shape. They are automatically created in the Layers panel when this option is chosen
- The Vector Path – Paths by themselves do not create layers, neither can they be printed. They contain no colour fill or stroke to define them. They are mainly used as guides for other functions. For example, Type may be placed on a Path (fig 6.6), or constrained within a path.



Fig 6.6 create Type on a Path. A method commonly employed in logo design.

- Filled Pixel Layers – the Vector Shape tools are used to draw with Pixels. A new blank layer must be created as this option does not generate one automatically as with Shape Layers.

There are five standard Shape tools, comprising of:

- The Rectangle Tool - draws a rectangle. If you wish to create a square, hold down the Shift key as you drag out the shape.
- The Rounded Rectangle Tool – draws rectangles with rounded corners. The radius of the corners can be changed from the Options panel.
- The Ellipse Tool - draws an ellipse. If you wish to create a circle, hold down the Shift key as you drag out the shape.
- The Polygon Tool – draws multi-sided shapes. The number of sides for the shape is entered in the Options panel.
- The Line Tool – draws a straight line. An arrowhead can be added to the one or both ends of the line. The Arrowhead function is available from the drop down box accessed from the Options panel, fig 6.7.

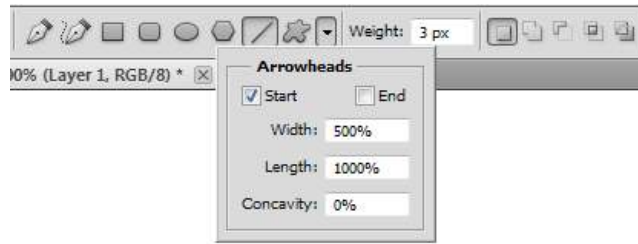


Fig 6.7 add an Arrowhead to a line from the dropdown box, accessed in the Options panel.

The sixth Shape tool is the Custom Shape tool. The various shapes can be accessed from the drop down box in the Options panel, fig 6.8. More shapes can be added to the list from the flyout menu in the corner of the box, fig 6.8.

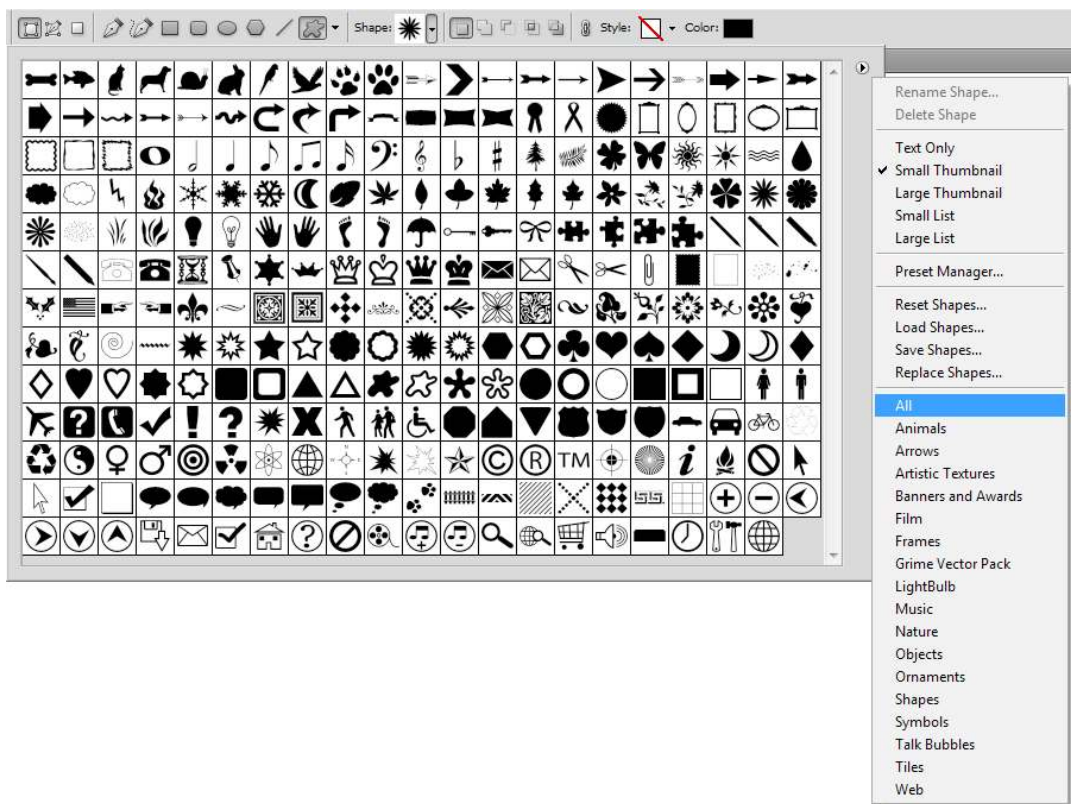


Fig 6.8 add more Custom Shapes to the list from the flyout menu in the top right hand corner of the box.

There are a number of different settings available from the Options panel that enable you to create complex shapes, fig 6.9.



Fig 6.9 the Shape drawing settings in the Options panel.

The settings from left to right are:

Create New Shape Layer – draws a shape in a new vector shape layer, added automatically.

Add to Shape area – if you have an existing shape, choosing this setting will allow you to add to the shape.

Subtract from Shape area - if you have an existing shape, choosing this setting will allow you to subtract from the shape.

Intersect Shape areas – when two overlapping shapes are drawn, only the area that overlaps will be visible.

Exclude overlapping Shape areas - when two overlapping shapes are drawn, the areas that overlaps will not be visible.

The colour of drawn Shape layer can be changed in a number of ways:

1. Double click on the Solid Color layer thumbnail (not the mask) in the Layers panel to bring up the Color Picker dialogue box, fig 6.10.

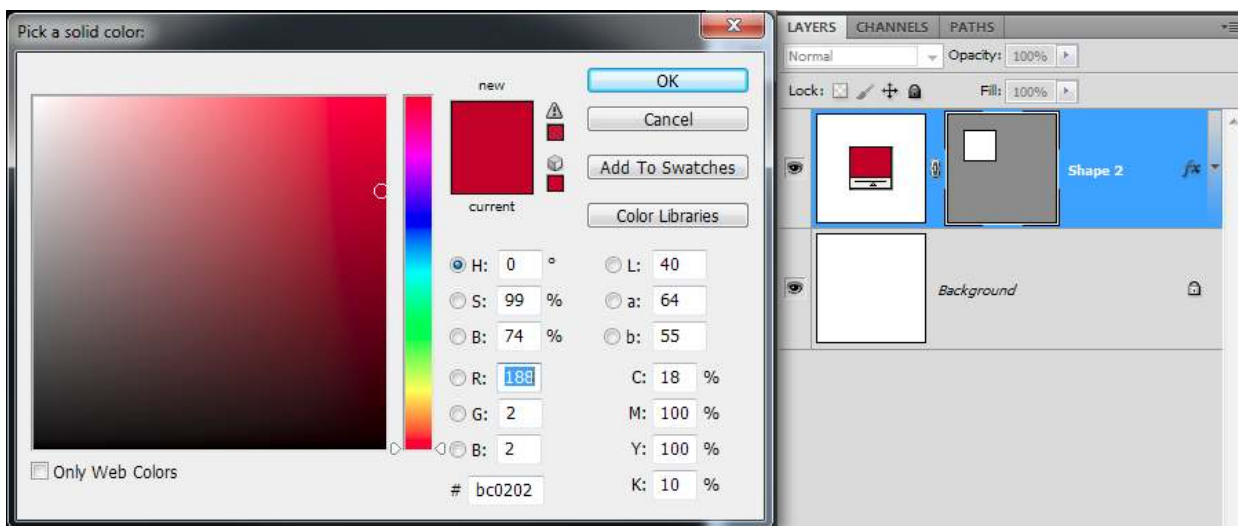


Fig 6.10 access the Color Picker by double clicking on the Solid Color layer thumbnail in the Layers panel.

2. Click on the Color swatch in the Options panel to bring up the Color Picker dialogue box.
3. In the Layer menu, go to Layer Content Options to bring up the Color Picker dialogue box.

Editing Vector Shapes and Text

In fig 6.11 a basic Circle was drawn using the Elliptical Shape tool and holding down the Shift key to constrain the proportions. The control handles and direction points are aligned on either side of the Anchor points. However, to create a heart shape we need the top and bottom control handles to form a V shape. The easiest way to do this is to hold down the Alt/Option (PC/Mac) key and use the Direct Selection tool to move one of the direction points. You can then move either of the direction points independently.

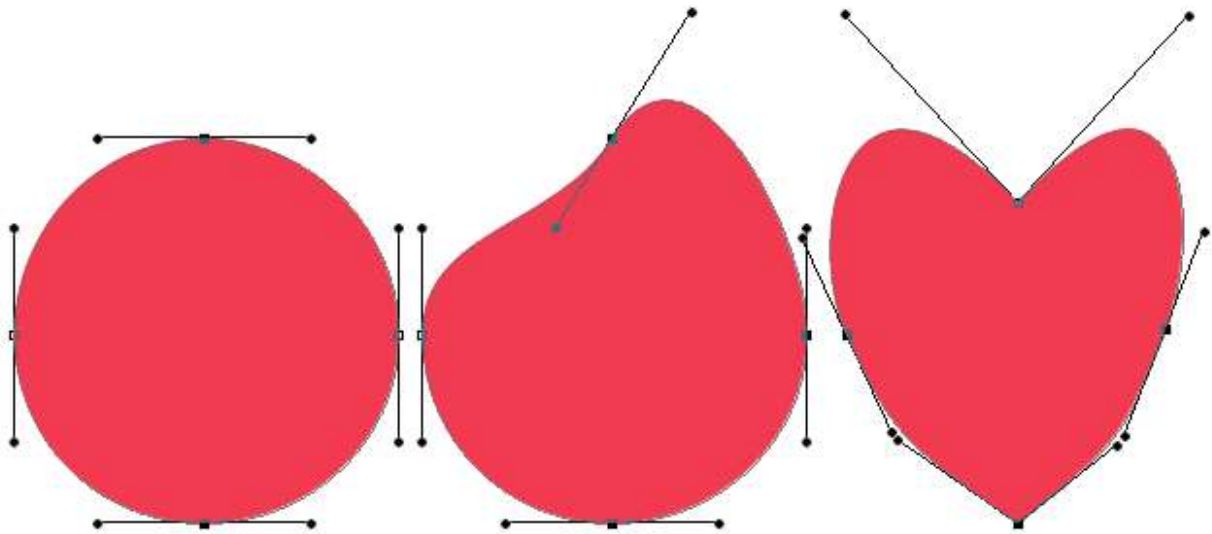


Fig 6.11 change a circle into a heart by using the Direct selection tool (white arrow) to manipulate the control handles.

In order to create your own custom Type, it must be converted to a Shape before you can edit it. To do this, go to the Layer menu and choose Type > Convert to Shape. In fig 6.12 you can see a letter P before and after editing. The Anchor points and Direction points were manipulated using the Direct Selection tool and a couple of extra Anchor points were added using the Add Anchor Point tool, fig 6.2. The effect was finished off by adding a few layer styles.



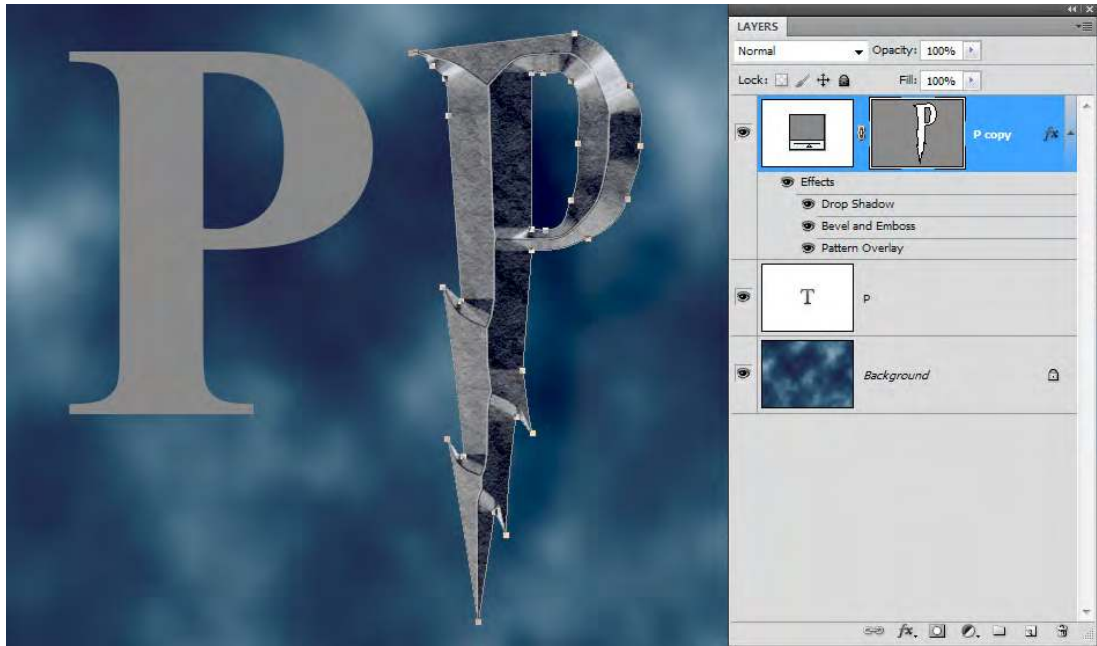


Fig 6.12 create your own stylized type by converting it to a shape and editing the points using the direct selection tool.