# GRAPHICS FOR FLAG DESIGN

(from newzealand.flagoptions.com)

(An abbreviated version of this document was originally ADDENDUM SIX to a PDF entitled "Good Flag, Bad Flag is Rubbish")

In the second section of the denouncement to which this addendum has been attached, it was observed that the process of finding and selecting symbols to incorporate in a flag design will essentially be a research project. The process of actually *designing* a flag, on the other hand, after most or all of its potential symbols have been gathered together, will essentially be a *graphics* project. Flag designers who are conversant with one or more computer graphics programs will have a tremendous advantage over those who may naively think that they can get by with ordinary manual drafting equipment, or even worse (far, far worse), with just a ruler, a compass, and some coloured pencils.

Yet that latter option is actually the only one that the author of "*Good Flag, Bad Flag*" has ever recommended to flag designers, revealing yet another facet of his charlatanry. To be specific, he has suggested that a flag should be designed on a small piece of paper that has the approximate dimensions of a wide postal stamp, or in his parlance, *"one inch by 1.5 inches"* (about 2.5 cm by 3.8 cm). He explains his suggestion by adding: *"Realistically, that's how people will be seeing it as it flaps from a flagpole 30 metres away."* Just to be clear, he does not offer this sage recommendation within the pages of his pamphlet, but in his other writings and in his occasional dog-and-pony shows. Other so-called flag design experts, including Roman Mars, who has become GFBF's sycophant-in-chief, have offered the same advice. Mars has gone so far as to provide a clarifying illustration on one of his websites, as shown to the left below, where he not only repeats the daft idea itself, but its obvious bias towards a 2:3 dimensional ratio.
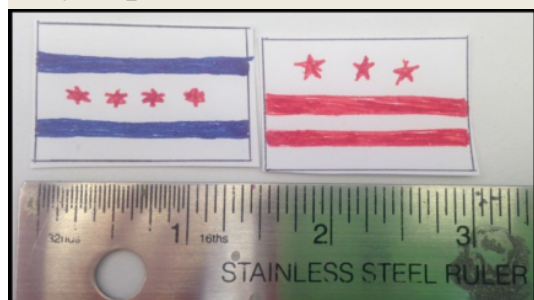
Presumably one would enter such a design into a flag contest by submitting it in the form of a zoomed and cropped photograph. Of course, no properly run flag contest would accept such an entry. As the reader may know, the New Zealand Flag Referendums of 2015-2016 allowed them, but that unhappy endeavour cannot be characterised as having been 'properly run'.

Although a flag of practically any dimensions, waving thirty metres away, can certainly be visually occluded by a postal stamp held at a certain distance from an observer's eye, and although it is nice to know how a waving flag might appear from such a distance, the idea of forcing a flag design into simplicity by shackling it to a tiny design area has no merit, since **great flags are not limited to those that have simple designs**. There is nothing wrong with using paper and coloured pencils to experiment with flag design ideas in their nascent stages, and some flag designers prefer to work in that way. In the early days of personal computer systems, designers often did not need to go any further, as was the case for Frederick Brownell in 1994, when he designed the flag of South Africa. Yet the paper on which Brownell experimented was never stamp-sized.

Flags should not be designed on pieces of paper that are the size of wide postal stamps. They should instead be designed as postal stamps *themselves* are now designed, on the large screens of computer monitors. Moreover, flag designers should be free to include as much complexity in their designs as stamp designers are free to include in theirs. Readers are asked to consider some of the beautifully complex stamps that they have seen in their lifetimes. Would they characterise their experiences of viewing such stamps, to borrow a bit of hyperbole from the author of GFBF, as being 'overwhelmed'? Have they found the numerous colours that are often seen in such stamps 'hard to distinguish'? Have they ever felt that such stamps would have been 'better', had their designs been 'simple enough for a child to draw from memory'? Yes, stamps are flat,

and we do not observe them waving like flags, but on the other hand, every detail in a flag that is waving at a distance will be assimilated in the mind of an observer after only a few moments of the flag's waving. In effect, a distantly-waving flag will be 'flattened' by the 'mind's eye', making the viewing of a distantly-waving, complexly-designed flag essentially the same as viewing a flat, complexly-designed stamp, held at arm's length.

Having addressed the witless approach to graphics that the author of GFBF advocates, this addendum can focus on its more pleasant purposes. As implied by its first paragraph, its premise is that aspiring flag designers should use graphics software to design their flags. It is intended for those who have not yet scaled the learning curve of such software, and who are open to advice about how they might best choose at least one such learning curve to begin climbing. Their climb needn't be arduous, nor should it require more than a modest expense of time, because flag designers do not need to ascend to the levels of professional graphics designers. Moreover, their expense need not be monetary at all, because all that they will require is freely available. They only need to make an informed choice, and this addendum intends to help them make one. In flag design, as in so many other endeavours, the best way to learn is by doing. Moreover, the time to learn how to use graphics software is long *before* a flag contest or some other event presents an *opportunity* to design a flag, so make a start, mate.

Computer graphics programs can create and process two basic categories of graphic images, both of which are relevant to flag design, and each of which can be saved in a number of different computer file formats. One of the two basic graphic image categories is called 'raster', which can also be called 'bitmap'. The other basic graphic image category is called 'vector'. Flag designers can work with raster images, with vector images, or with a combination of the two. Neither will be extensively explained here. Readers who are not already aware of the basic properties of raster and vector imaging are expected to inform themselves by means of Internet searches. Some of the best results for such searches may be provided by graphics software producers such as Adobe, who may sprinkle references to their own proprietary products within their explanations, as indeed Adobe does in its thorough and well-organised descriptions of raster files, of vector files, and of how they differ. Several other graphics-related terms have become fairly uniform across different graphics software programs, and many of these standard terms have been assembled into lists both here and here, where Adobe has accompanied each of the terms with a helpful visual explanation.

For the novice, **raster** imaging software may offer a quicker and easier learning curve, at least to the level of proficiency required for flag design. The menu of free software that is available is also longer, and the useful and enjoyable things that one can do with raster imaging software *besides* designing flags are innumerable. Anyone who wants to manipulate digital photographs and videos, for example, will find raster software the only way to go. Raster images can be stored and manipulated in file formats that retain a maximum amount of image detail, and which accordingly require larger file sizes. These are called lossless or 'uncompressed' file formats, and they should be used for every stage of designing a raster image flag, whether they are proprietary to the graphics software being used or they are one of several conventional lossless formats. When flag designs are presented on Web pages, however, they will generally need to be converted to more lossy or 'compressed' raster image file formats that have much smaller file sizes. Flag designers working with raster images will accordingly need to understand such things as anti-aliasing and pixel density, often improperly called resolution, as well as bit depth, which can also be called colour depth or colour count. Bit depth also applies to vector images. Explanations for these terms will follow later.

One of the advantages that **vector** image files will usually have over comparable raster image files is their smaller file sizes, making them more 'polite' about the space that they will need to use on storage drives, including the drives of website servers. The *chief* advantage of vector imaging software, however, is that the files it produces are ready, just as they are, to be transformed into actual flags by manufacturers, because the edges of such images will remain razor-sharp, no matter the sizes to which they are scaled. The novice flag designer may therefore prefer to pick a vector software learning curve, even though their climb is apt to be somewhat more difficult and lengthy than for a raster route. Vector software will not help them with ordinary photos and videos, but otherwise there will be no drawbacks to choosing vector. For the purposes of such things as Web page presentations and flag contest entries, almost all vector graphics programs can save or export vector image files as compressed, raster image files.

On the other hand, although vector imaging software can directly produce flag designs in the file formats that are required for manufacture, this is not really the disadvantage that it may seem for raster image files, which can always be *converted* to vector image files, albeit with somewhat more effort than is required by conversions in the vector-to-raster direction. Some flag manufacturers even offer a free service to convert raster image files into the vector image files that they will need for producing actual flags. The upshot is that raster software users need not be overly concerned about this issue.

There are an intimidating number of <u>raster image file formats</u>, but except for the uncompressed, proprietary image format of whatever raster image software is chosen, the two formats that will arguably be the most useful for flag designers are (1) the uncompressed Portable Network Graphic (PNG/.png) format and (2) the compressed Joint Photographic Experts Group (JPEG/.jpg) format, although the highly-compressed Graphics Interchange Format (GIF/.gif) may also have its occasional uses.

There are also a plethora of <u>vector image file formats</u>, but again, except for the proprietary image format of the chosen graphics software, there are really only a few vector image formats that are 'all that', or possibly even only two, when push comes to shove, which are (1) the Scalable Vector Graphics (SVG/.svg) format and (2) the Portable Document Format (PDF/.pdf).

Some readers may quibble that there is a third category of graphics image file formats, the variety of which are also numerous, namely <u>3D image file formats</u>, but since 3D imaging is really just a specialised use of vector imaging, and sometimes even one of raster imaging, and since one will struggle to find a great deal of use for 3D imaging in flag design, this will be the only place where this addendum will address such a nitpick.

Graphics software noobs who are tempted to dive into the raster imaging pool may at first be intimidated by the long list of <u>raster imaging software</u> that is available. Those who think that they can simply 'cut through the clutter' by spending money on a high-end proprietary graphics software product may find to their chagrin that they are confronted with software that has fantastic capabilities, but one that is accordingly so bloated, cluttered, and user-unfriendly as to encourage them to not even *try* to learn how to use it for the relatively simple task of designing a flag. Thankfully, there are some well-known raster graphics software products that are not only more suited to the task of designing a flag than, say, Adobe Photoshop, but that are also free to use. An Internet search for 'best free raster graphics software' is bound to mention <u>GIMP</u>, which can be used on Windows, Apple, Linux, and even other systems, but although its use will not put a monthly Adobe charge on one's credit card, its learning curve is not a

particularly gentle one, because it essentially aims to be a Photoshop replacement, so it is accoutred with some of the same drawbacks as that product. Should one instead search the Internet for 'best free raster graphics software for *beginners*', one may discover some [free products that are more suited to novices](#), but which may also be platform-limited, such as [Paint.NET](#) (Windows only). Your best approach may be to install several such free programs, to dabble with each of them, and to primarily settle on the one that seems to be most suited to the needs of flag design, although you may inevitably find your needs changing as you become more proficient, so you may have to 'jump ship' a few times to find a product that *really* suits most or all of your needs. Much more on that later.

Graphics software novices who decide to work with [vector imaging software](#) will soon find that one of the most often recommended free alternatives to the pricey Adobe Illustrator is [Inkscape](#), which like its raster counterpart GIMP can run on many system platforms, and which also like GIMP may not be the easiest software to master. Another free vector graphics editor that has a lot going for it is [Libre Office Draw](#), which like Inkscape is available for multiple platforms. Several other free vector imaging editors are listed [here](#) and [here](#). Free vector software that is tailored to beginners cannot always be downloaded for stand-alone installation, and must instead be used online, or largely so, as is apparently the case for [Vectr](#). Whether vector editors are stand-alone or online-only, a basic familiarity with at least a few of them may offer some advantages. Certain programs are more robust than others in their abilities to open, save, or convert particular vector file formats, for example, so one might very well want to keep such programs around, just for those express purposes. Of course there is nothing to prevent one from owning and using both vector *and* raster graphics software programs, especially since both sorts are freely available, and there is something to be said for being able to work with both of the basic image file formats.

Searches on the Internet are bound to turn up reviews and Internet tutorials for most or all of the graphics software that you decide to consider. If you think that vector software will be your cup of tea, for example, you may want to check out [this Wikimedia Commons Inkscape tutorial](#), as well as [those that Inkscape itself offers](#), or perhaps [Vectr's online tutorials](#), an expansion of which were being planned at the time of this writing, [according to this Web page](#). If on the other hand you think that raster software will suit you best, GIMP offers [a selection of tutorials](#), and Paint.NET is at least working on some. Whatever graphics software you contemplate, appropriate searches on YouTube may reward you with some very informative videos to watch.

In addition to all of the free graphics software with which one can actually design flags, there are also a handful of other flag-design-related resources that are free, that may be useful for flag designers, and that the author of this addendum would be remiss in failing to mention. For example, the online [Scrontch's Flag Designer](#) is worth a look, regardless of how elementary it is, if for no other reason than its ability to open and to save SVG files. Somewhat more sophisticated is the online [Flag Maker](#), a resource that is provided by an actual flag manufacturer, and one that even includes a handful of automated tutorials. There are other flag manufacturers that offer similar, 'design your flag here' Web pages. There is also a free NASA graphics software product called


[G.Projector](#), which at first glance might seem to have little relevance to flag design, but which should perhaps not be dismissed without a review of [this document](#), or [this one](#). The use of G.Projector was instrumental, for example, in the design of the speculative New Zealand flag shown left.

Penultimately there is the online Flag Waver, which may be the most useful of all of the freebies in the grab bag of items listed here. Primarily the brainchild of a sharp young coder called Joshua Koo, Flag Waver solves one of the biggest problems in flag design, by giving flag designers, as well as viewers of flag designs, a fair idea of how a given flag will actually look when it is waving from a flagpole in a wind, or even when it is hanging limply in a lack of wind, which are things that they might otherwise be bad at visualising. Lastly there are utilities that are intended to ease the task of converting a raster graphics image into a vector graphics image. One of the best of them may be Potrace, which can also be integrated into Inkscape. Supposedly GIMP has raster-to-vector conversion capability as well. Whatever the vehicle, your kilometrage may vary.

Now, it is certainly not *impossible* to design a flag by using graphics software that is as elementary as, say, the built-in Paint app that is included in Windows systems, or the free Paintbrush app that is available for Macs, or even the Drawing app that is automatically included in many Linux distros. It is also not impossible to start a fire by rubbing two sticks together. What the simplest graphics programs generally lack are features that allow for extensive *revisions* of flag designs, not only at first but in future. To be specific, where graphics *editors* for flag design are concerned, the feature that separates the wheat from the chaff is the ability to design a flag in 'layers', which in vector imaging may also be called 'groups'. The layers and/or groups of any flag design can be either raster in nature, vector in nature, or a combination of the two, and they can be converted from one to the other. They can be 'resized', 'merged' or 'flattened', 'grouped' or 'ungrouped', 'arranged' upwards or downwards, made 'hidden' or 'visible', made fully or partially opaque, translucent, or transparent, 'mirrored', 'flipped', 'rotated', changed in colour, and separately manipulated in countless ways. The flag that is designed with utterly simple software is dunzo, and it will be difficult or impossible to revise, once it has been finished and saved, but one that is designed using graphics *editing* software that supports layers can be revised long *after* it is saved. Instead of producing one-off flag designs, *real* graphics editors can produce flag design *projects*, which can be returned to repeatedly until they reach ultimate refinement.
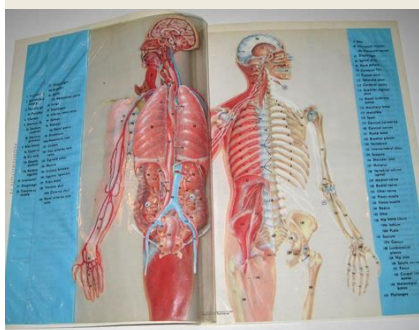
It is difficult to overstate the power of layers in designing flags. The concept of layers is second nature to seasoned graphics designers, but it may not be immediately grasped by novices, for whom an analogy may be helpful. Beginners are asked to consider certain booklets or book inserts that they have probably seen, sometime in their lives, which use illustrations on several pages of cellulose acetate, most often to reveal human anatomy or the anatomy of other creatures. Each page of acetate is transparent, other than for its particular full-colour illustration and accompanying notes. To reveal the wonders of human anatomy, for example, the top acetate page or layer will typically depict the skin, and by turning successive pages the underlying musculature, blood circulation, nervous system, internal organs, and so-on will be illustrated, right down to a first or basic layer that will show the skeleton.

The starting point for any flag that one designs by using a graphics editor will be its first layer, which can be thought of as the basic foundation of the design, or perhaps its 'skeleton', if we borrow from the analogy above. This 'background' layer will generally be called 'Layer 1' by default, but it can always be re-named more descriptively later on.

Layer 1 of the 'image', 'project', or 'document', as a given graphics editing program may refer to one's flag design, will be assigned a set of properties, either by default when the program opens, as is the case for Inkscape, or on each occasion when the user begins a 'New' design from the program's menu. Layer 1, like all subsequent layers, will always be depicted as a rectangle. This will not prevent the design of non-rectangular flags, as long as they can 'fit' within the rectangular area that Layer 1 has defined.

The most basic property of Layer 1 will be its vertical and horizontal dimensions, respectively corresponding to a flag's height and length. As all flag designers should know, a flag's 'dimensional ratio' is always expressed as the ratio of its height to its width. Thus the length of a 2:3 flag is 1.5 times its height, and the length of a 1:2 flag is twice its height. Designers who are interested in other possible flag dimensional ratios, which are sometimes less accurately called aspect ratios, will find two dozen of them shown in chart #15 on the Flag Stories website, the incredibly informative charts of which have all been made conveniently available as PDF files, here and here.

Because of a single powerful nation that has remained too dimwitted to adopt the metric system, most graphics editors will allow Layer 1 to be dimensioned in inches, but sensible flag designers will opt for centimetres, or perhaps even for pixels, if they are designing in raster. It has become something of a convention for flag contests to require the vertical dimension of submitted flag designs to be ten centimetres, which, for the possible benefit of the Imperial-system-handicapped, is the length of a '100s' cigarette. Thus the minimum vertical dimension of Layer 1 should be 10 cm, and the corresponding minimum horizontal dimension of Layer 1 should be calculated from the dimensional ratio of the flag that is being designed. For a 2:3 flag, for example, the minimum horizontal dimension of Layer 1 would be 15 cm, and for a 1:2 flag, it would be 20 cm. These are not *required* dimensions for Layer 1, because a flag that is designed in layers with larger dimensions can always be resized for submission to a contest, and also because larger dimensions may provide certain design benefits. For example, a 20 cm dimension will only be equally divisible by 2, 4, 5, or 10 cm, whereas a 60 cm dimension will be equally divisible by 2, 3, 4, 5, 6, 10, 12, 15, 20, or 30 cm. This will be less of an issue for purely vector designs, which can always be scaled upwards when needed without any image degradation. Purely raster designs, or those that may use a combination of raster and vector imaging whilst they are being worked on, may benefit in other ways from larger dimensional work areas, such as the essentially equal anti-aliasing that will be applied to the overall design when it is reduced to contest-submission size. Yet larger design layer dimensions will also require more system memory. Designers who do not want to be plagued by error messages such as 'insufficient memory to carry out the specified operation' are advised to keep their layer dimensions reasonable, lest they find themselves unable to save a carefully-crafted image layer without first closing every other image and extraneous program, or emptying their clipboard and their command history, or taking steps to increase the system memory that their graphics editor can use, or even all of the above.
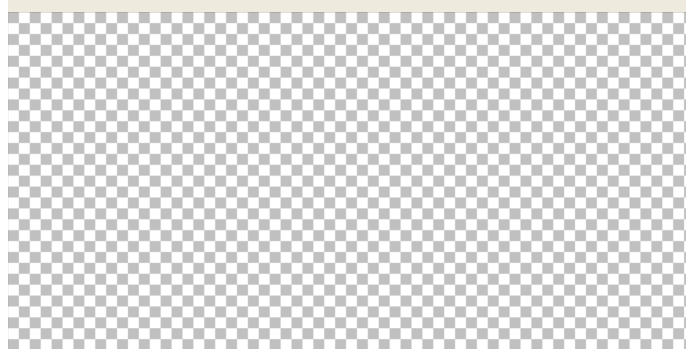
Amongst the other possible properties of Layer 1, whether is is a raster layer or a vector layer, will be its initial colour or its transparency, the latter being typically indicated by a chequerboard of white and grey, as illustrated by the image shown to the left. Transparency in the layer of a flag design image is analogous to the clear areas

of the acetate pages in the anatomy pamphlets and the book inserts mentioned earlier, although thankfully without any analogy to the spectacular flammability of acetate. There is no need for Layer 1 to have any initial colour, because it can be added later, but if the flag designer already knows the exact primary field colour of the flag that they will be designing, it can be specified when Layer 1 is created, and its initial label might even be changed from 'Layer 1' to something like 'Background Field'. As the layers of a flag design become more numerous, in fact, giving each of them a descriptive name will usually help to prevent confusion, as will giving the layered flag design file *itself* a name that will distinguish it from any ordinary, single-layer image file. Such flag design filenames as 'Layers for Design #1' or 'Design #1 Layer Cake' can pay big dividends, as when one needs to find a layered image file in a list of other files, images or otherwise.
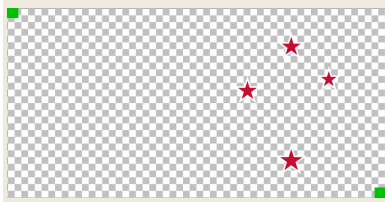
To get a better idea of some of the advantages of layers, consider the illustration below. The twelve layers at the left side of the illustration can all be part of a single, flag design image file. By purposefully arranging the layers, and then merging or flattening those that have been made visible, all four of the single-layer flag design variants that are shown at the right side of the illustration, and many others, can be easily obtained.
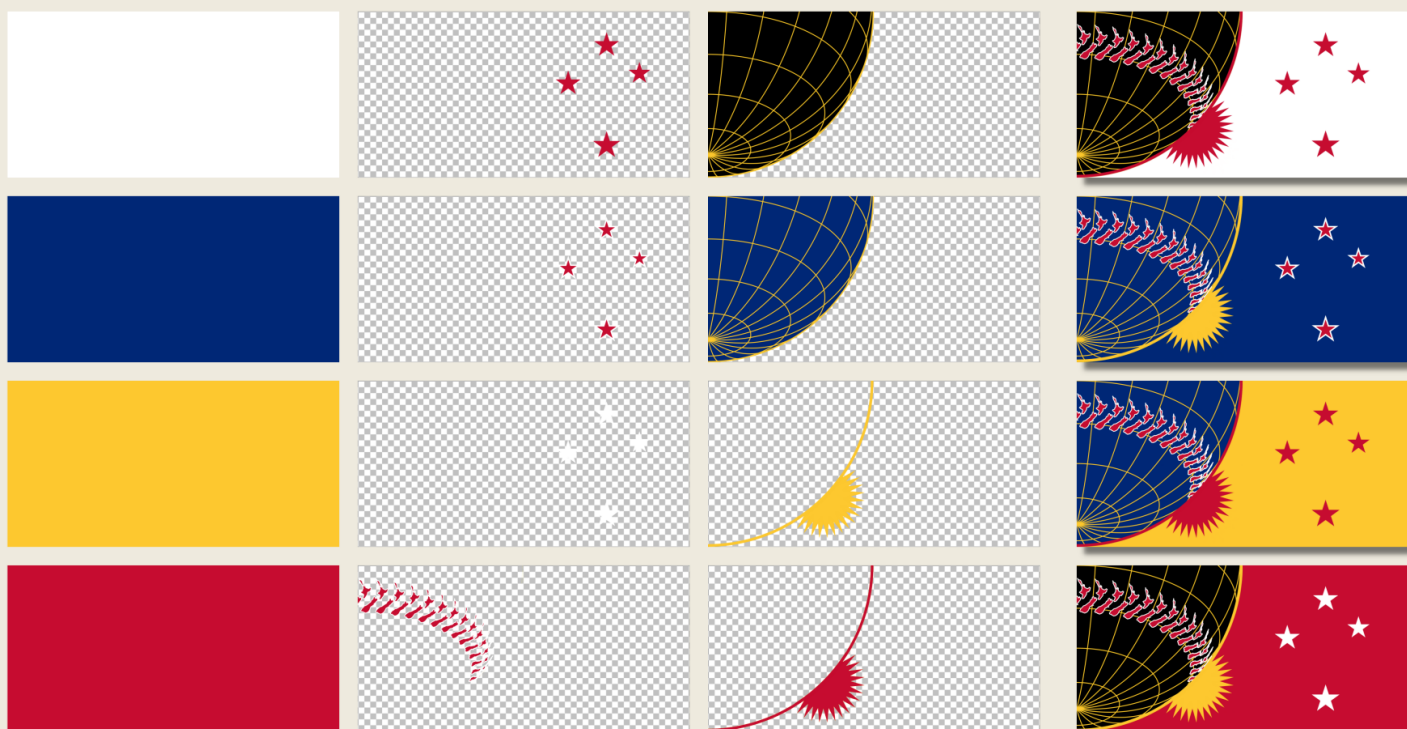
Each of the flag design variants can of course be resized, converted to any of a number of file formats, and then saved as a separate file. Also, each of the layers in what we might refer to as the original 'layer cake' can be individually copied and saved for use in other flag design image files. For example, one might want to make other uses of the layer that is depicted to the left below. However, if one were to select that layer and then simply 'Copy' it to the system clipboard, one might be disappointed in the appearance of the layer after a 'Paste' operation, as depicted to the right below. The

 inherent or 'native' dimensions of an image that is part of an otherwise transparent layer are not those of the layer, but those of a rectangle bordering only the image. If we return to our anatomy booklet analogy, we can think of the binding of the acetate pages as their 'indexing' mechanism, the means by which they are all kept in proper visual alignment. If we were to pull two of the acetate pages out of the binding and re-order them, perhaps to depict the skeleton layer above the skin layer, we could still preserve correct layer indexing by lining up the binding edges of the two pages, which would re-index them. If on the other hand we were to use scissors to cut out a rectangle that tightly bordered

the image of the skeleton, we would forfeit that page's indexing mechanism, as we did for our copied graphics layer. However, there is an easy way to preserve the prior 'indexing' of a graphics image layer that includes transparency, when desired, by temporarily adding small shapes to the layer in at least two of the diagonal corners of its dimensional borders, as illustrated to the left. Thus the layer can be saved, and it can later be pasted as a new layer atop an image of the same dimensions. Once in place, its diagonal indexing shapes can be deleted.

There are far too many graphics layer 'tips and tricks' to fully catalogue in this brief addendum, but one of them is so useful that it cannot go unmentioned. Whatever the dimensions of a graphics layer, on its initial pasting atop another graphics layer it will be perfectly centred. Thus if we were to paste our non-indexed, 'copied' layer from the previous example as a new layer, it might appear as illustrated to the top right, just as we might desire. If instead we were to paste our 'indexed' layer as a new layer atop one of greater dimensions, it might appear as illustrated to the bottom right, as we might or might *not* desire.
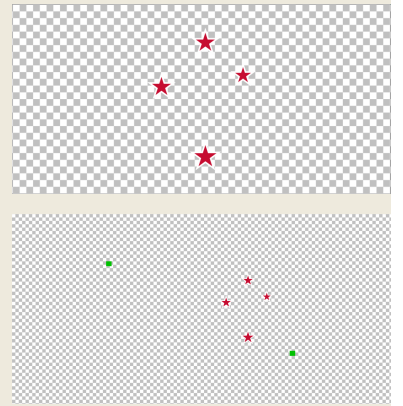
Flag designers will often want to incorporate 'arrays' of various kinds in their designs. A circular array of stars, for example, is a feature of many flags. Some graphics editors will feature built-in methods for producing such arrays, and some will not. For the latter type of graphics editor all is not lost, if it can make use of the automatic centring properties of pasted layers. Suppose we are designing a flag for a nation of sixteen regions, for example, or another flag for which 'sixteen' will be numerically symbolic:
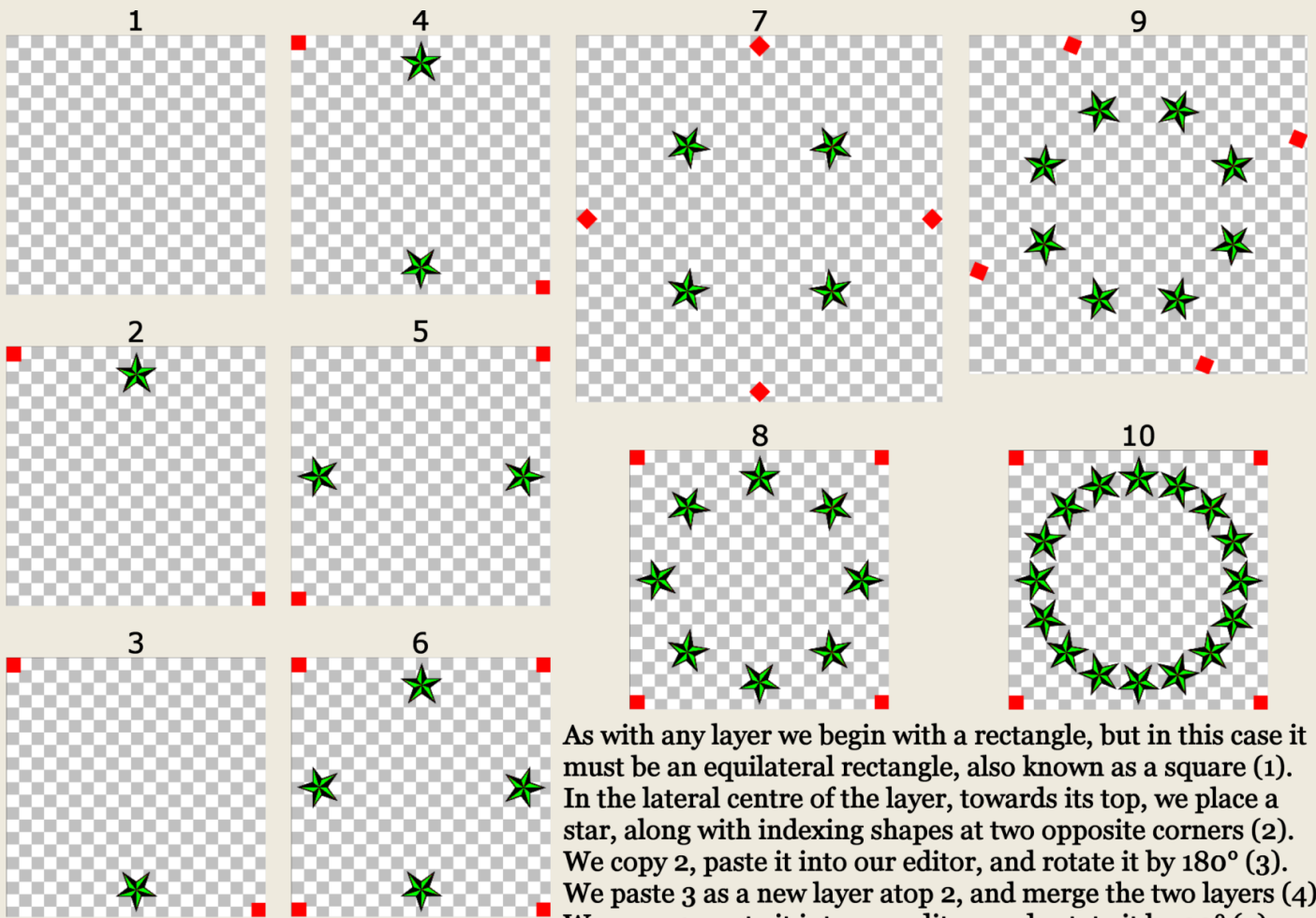
As with any layer we begin with a rectangle, but in this case it must be an equilateral rectangle, also known as a square (1). In the lateral centre of the layer, towards its top, we place a star, along with indexing shapes at two opposite corners (2). We copy 2, paste it into our editor, and rotate it by 180° (3). We paste 3 as a new layer atop 2, and merge the two layers (4). We copy 4, paste it into our editor, and rotate it by 90° (5).

We paste 5 as a new layer atop 4, and merge the two layers (6). We copy 6, paste it into our editor, and rotate it by 45°, after which it may be informative to copy and paste it again to show its enlarged dimensions, or its 'canvas area' (7). We copy 7, paste it as a new layer atop 6, and merge the two layers (8). We copy 8, paste it, rotate it by 22.25°, copy and paste again to see its new area (9), paste 9 atop 8, and merge them into (10).

Raster and vector graphics editors have many common features, and one that flag designers will need to have a basic grasp of is the RGB colour model, so for the benefit of those who have not used a graphics editor before, this addendum will offer a primer. Here and there it may also dip a toe into colour theory, but it will not take a deep swim. The RGB colour model allows for 256 shades of red, 256 shades of green, and 256 shades of blue, meaning a possible combination of 256 x 256 x 256, or 16,777,216 individual colours (zero to 16,777,215), roughly eight million more than human vision can discriminate, so plenty. RGB colour is also called 24-bit colour, because 16,777,215 expressed as a base-2 or binary number (ones and zeroes) is a string of 24 ones. RGB colour is also called 16 million colours, which is easier than saying '16,777,216'. Each of the 16,777,216 RGB colours from zero to 16,777,215 can also be expressed as a base-16 or hexadecimal number ranging from #000000 to #FFFFFF (hex digits are zero-through-nine plus A-through-F). The preceding hash mark signals: "This is a coded 'hex notation' of a particular RGB colour." In hex, '00' equals zero and 'FF' equals 255, so when RGB colour is 'coded' using hex notation, the first two digits of the six-digit hex number specify one of 256 shades of red (from zero to 255), the middle two digits specify one of 256 shades of green, and the last two digits specify one of 256 shades of blue. Included in the RGB colour model are pure black, pure white, and 254 shades of grey betwixt them, which taken together comprise the 256 values of 'greyscale'. Of course, real life actually has more than 254 shades of grey between black and white, but you can't have everything. In hex notation #000000 is pure black and #FFFFFF is pure white. When all three of the pairs of two-digit hex values are the same, but they are neither 00 nor FF, they specify one of the 254 shades of grey that lie between black and white. For example, #282828, #7B7B7B, #A6A6A6, and #BEBEBE are hex notations for four different greys. If you fully grasp the relationships described in this paragraph, you will probably realise that when all three red, green, and blue decimal values are zero, they will specify pure black, when all three of their decimal values are 255, they will specify pure white, and when all three of their decimal values are the same, but lying somewhere between one and 254, they will specify one of the 254 shades of grey between black and white. Greyscale is thus an 8-bit model, because in base-2 binary, 255 is a string of eight ones, so greyscale is an 8-bit 'black-and-white' model, nested in the 24-bit RGB colour model. Some graphics editors will allow one to work not only with 24-bit colour, but with 16-bit colour, 8-bit colour, 4-bit colour, and even 1-bit colour (only pure black and pure white). All have advantages, but not for flag design, so stick with 24-bit RGB colour. To make matters more confusing, some graphics editors use a colour model called RGBA, where the 'A' is an 'alpha' channel that specifies how transparent or opaque an RGB colour is, whether respectively on a scale from zero to one, or from zero to 100%, or from zero to 255, or even from 00 to FF. Graphics editors that do not specify an alpha channel will generally provide other ways of varying the 'opacity' of RGB colours. Got all that? If not, no worries, it will all become clear when you pick colours in a graphics editor for use in an actual flag design.

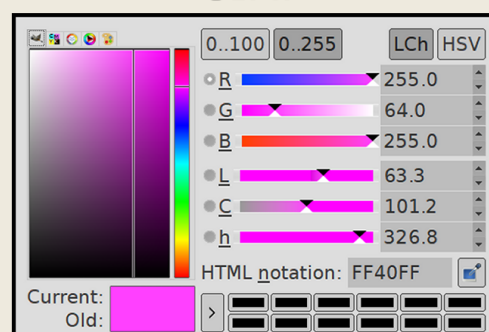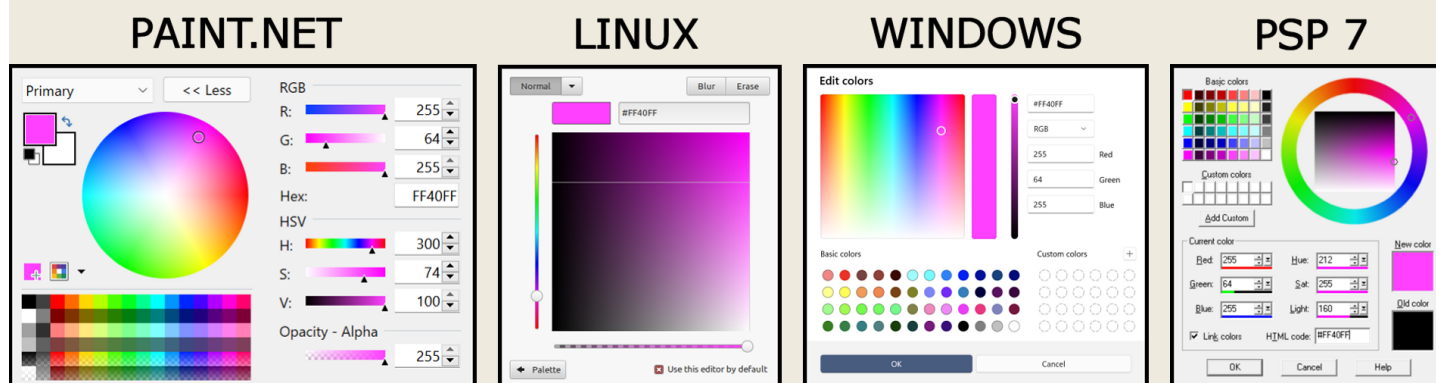## SOME RGB COLOUR PICKER APPLETS FROM GRAPHICS EDITORS

INKSCAPE

LIBRE OFFICE DRAW

GIMP

PAINT.NET   LINUX   WINDOWS   PSP 7
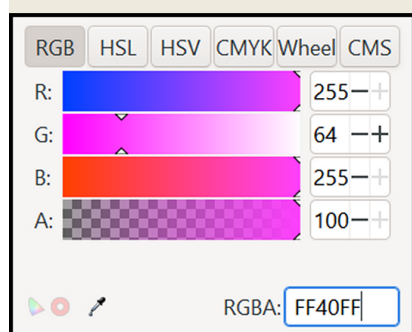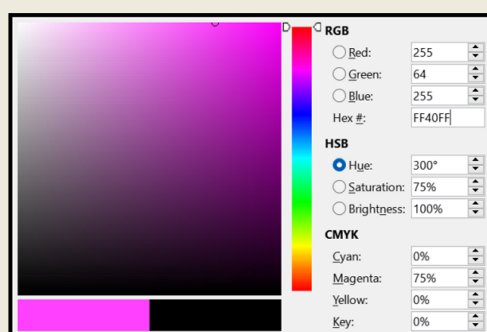
After examining the typical colour picker applets that have been illustrated above and on the previous page, the reader may safely assume that all such applets will have a box where a hex notation that specifies one of the 16,777,216 RGB colours can be entered, or where it will appear automatically, if the RGB colour has been selected by means of other provisions in the applet. The RGB hex notation box is always easy to locate, but it may not be labelled, and even if it is, its label may not be 'hex notation', but rather 'hex', 'hex #', 'hex triplet', 'RGBA', 'HTML code', 'HTML notation', or possibly even something else. When one manually enters RGB hex notation into such a box, usually no leading hash mark need be included, just as 'www' need not be included in the URL address box of an Internet browser. One only need enter the six digits of the RGB hex notation, and the graphics editor will understand one's intent. For an 'RGBA'-labelled box, an 'A' or alpha setting entry will be optional, so flag designers can safely ignore it. 'HTML'-type labels are a reflection of the fact that Web pages only know which colours to display due to RGB hex notations within their HyperText Markup Language coding.

As far as a flag designer is concerned, only the RGB colour model matters, so any other colour model or colour space that a graphics editor's colour picker applet may tempt one to muck with, such as HSL and HSV, CMYK, or CIE and LCh, will best be ignored. As far as a graphics editor is concerned, only a colour's RGB hex notation matters, and no matter how elaborate the human-machine-interface of a colour picker applet may be, everything but its hex notation box will just be for the benefit of us mouse clickers.

It follows that each of the exact colours that are used in a flag design will ultimately be defined by its RGB hex notation, which is really the most convenient way in which a flag colour *can* be defined, so it likewise follows that flag designers will be wise to keep some kind of written list of the RGB hex notations for all of the colours in their designs.

When you were a wee ankle-biter in kindergarten or in primary school, did you occasionally have, amongst your possessions, a small tin palette of water colours? Whether you did or you did not, such a concise and handy tin of colours is a fair analogy for the palette of colours that one must select for use in a flag design. Ultimately flag designers will need to know RGB hex notations for all of the colours in their palettes, so we will return to that, but first we should consider how they might best *choose* their palettes, which will basically boil down to one of three approaches.

First there is the approach that the author of *Good Flag, Bad Flag* suggests. According to him, a flag designer's palette should be far more limited than that of an ankle-biter's tin, comprising only two or three colours, or perhaps four at the most, since he claims that any more will be 'hard to distinguish', but whether the acceptable colours number two, three, or four, he says that they should be selected from "the standard colour set". He uses that precise term twice in his pamphlet, yet doubling zero still yields zero:

There is no such thing as 'the standard colour set' of flag design. It seems unlikely that the author of GFBF is referring to the 16,777,216 possible colours of a digitally-printed flag, nor to the well over 1,300 possible ink colours that can grace a screen-printed flag, nor even to the 75-or-more flag fabric colours that are commercially available to serve as a starting-point for a screen-printed flag or for a sewn flag. So what is he on about? Perhaps we can decipher this clue: *"The basic flag colours are red, blue, green, black, yellow, and white. They can range from dark to light. Occasionally other colours are also used, such as purple, grey, and orange..."*. What a masterful way of saying absolutely nothing at all. A liberal interpretation of 'they can range from dark to light' would include each of the 256 possible shades of red, green, and blue, in which case we *would* be left with sixteen million colours. So once again, what the bloody hell could he possibly *mean* by his pulled-from-an-orifice, imaginary term, 'the standard colour set'?

The only logical conclusion is that he is referring to the rather tightly-standardised 'heraldic tinctures' of armorial bearings and of coats of arms. The idea that the colours of flag designs should be limited to heraldic tinctures is rooted in a pre-mid-twentieth century mindset, when anything to do with flags was generally considered to be a subcategory of the topic of heraldry. If one considers the actual hues of heraldic tinctures, one will observe that except for black and white they are essentially the six colours of Nature's spectral rainbow, meaning red, orange, yellow, green, light blue, and dark blue (Sir Isaac Newton basically only made his tortured split of dark blue into indigo and violet because of occult beliefs that he harboured about the number 'seven'). Given rather short shrift in the heraldic tinctures are 'non-spectral' colours that do *not* occur in Nature's rainbow, such as brown (orange darkened with black), pink (red lightened with white), and magenta (which like purple combines the reds of one end of the rainbow with blues from its other end). Grey is another non-spectral colour that often goes without mention, except when it is elevated by terms like 'silver' or 'cendrée'.

Limiting flag colours to the dozen-or-so that comprise traditional heraldic tinctures is a pointless approach. It is neither based in logic nor in necessity, and is merely another example of the basic GFBF credo of adhering to simplicity for simplicity's sake. To give credit where credit is due, European heraldic bearings have sometimes been a *source* for flag colours, although mostly in the mid-to-late nineteenth century, and even now they can often provide other valuable forms of cultural symbolism that may be used within a flag design, such as shapes, patterns, official flora and fauna, and inscriptions. Heraldic rules of colour also include 'common sense' guidelines about adjacent colours ideally having good contrast, or of otherwise being separated by contrasting borders. Yet the purposes of flags *differ* from those of arms, and so do the ways in which their colours should be chosen to best *serve* their differing purposes. Flag design is only in the loosest sense allied with heraldry, because it is a completely separate visual art.
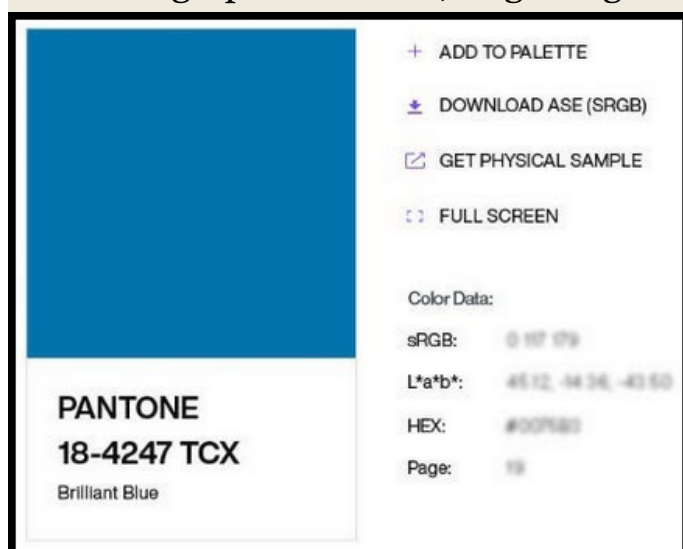
A second approach to choosing flag colours is one that a graphic designer might take. For the purposes of this addendum, 'graphic design' is also intended to mean graphic art and commercial art, which one can argue are more or less peas from the same pod. What students of graphic design are primarily taught about colour choices, in the two-to-four years of formal study that may pave their way towards becoming actual graphic designers, graphic artists, and commercial artists, as well as what they continue to learn about colour choices, once they have become employed under one of those titles, is how to suit their choices to the purposes of graphic design. Those purposes usually being commercial, they are highly unlikely to align with those of flags. Like heraldry, graphic design is a completely different form of visual art. It serves altogether different purposes than the visual art of flag design, as will colours chosen to *suit* its purposes.

Nevertheless, both the colour theory and the colour schemes that are taught to graphic designers can be valuable for flag designers to have a basic grasp of as well, and it will do them no harm to view some 'basics of graphic design' YouTube videos like this one, this one, this one, and this one. Yet for the most part flag designers will not be concerned with the many clever ways in which the primary, secondary, and tertiary hues of a colour wheel can be combined to form aesthetically pleasing colour schemes.

The approach to flag colour that is championed by this addendum is the one that has been presented on pages 44-46 of the PDF entitled "*Good Flag, Bad Flag is Rubbish*", where it is thoroughly explained. Here the approach will only be briefly summarised: The best colours that can be chosen for use in a flag design will usually be those that are **culturally symbolic** to the persons whom the flag is intended to represent. These may include the precise 'official' colours of nations, provinces, states, cities, organisations, and so-on, including any official colours that have already been used for the flags of any or all of those entities, as well as colours that may be spiritually or politically significant within the culture for which a flag is being designed. The chief virtue of such colours is that their symbolism will be obvious, and thus inherently strong. Colours that are not *culturally* symbolic may still carry *emotional* meaning, but their symbolism will generally be of a weaker sort, because the meaning of a given colour can vary widely between different cultures, and even *within* a given culture.

Whatever *approach* that flag designers may elect to take when choosing the colours in their palettes, they will inevitably choose *specific* colours for their flags from the Pantone Colour Matching System (PMS), which has become the dominant standard of colour reproduction for almost all industries worldwide, including flag manufacture. To be clear, the Pantone people do not manufacture flag inks, nor inks of any kind. They make their money by selling books and booklets of standardised colour swatches, which are in turn used by various manufacturers to bring the colours of their products into world-wide conformance. There are supposedly about 15,000 different Pantone colours, but perhaps only 1,347 of them are particularly relevant to flag manufacture. These are the Pantone 'coated' colours, designated with a 'C' in their Pantone ID numbers. Almost all officially designated colours for flags will be Pantone 'C' colours, which appear 'brighter' than Pantone uncoated 'U' colours with the same ID number, and which will work well for most modern flag fabrics, perhaps most notably polyester.

In any event, flag manufacturers do not use flag colours that are chosen from GFBF's imaginary 'standard colour set'. Instead they will formulate the colours of the inks that they will use to match the Pantone colour values that are specified by the flag designer. For their graphics editors, flag designers will need to 'translate' Pantone colours into their 'close-as-possible', RGB hex notation equivalents. The Pantone people are aware of this need, so in addition to selling physical colour swatches they also sell a service called 'Pantone Connect', as typified by the image to the left. This service amounts to what could be considered the most 'official' way of converting a given Pantone colour into its equivalents in other colour systems, including RGB hex notation. Note that the conversions in the image are greyed out. Even for a single swatch, the Pantone people are not keen to give anything away for free.

Depicted here are the 1,347 Pantone 'coated' colours that can be formulated into inks for use in the manufacture of screen-printed flags, or that can otherwise be colour-matched for the manufacture of digitally-printed flags or sewn-together flags. They have been assembled into the low-resolution image below from a website where each colour has been indexed with its Pantone ID number and with a close-equivalent RGB hex notation for graphics editors.
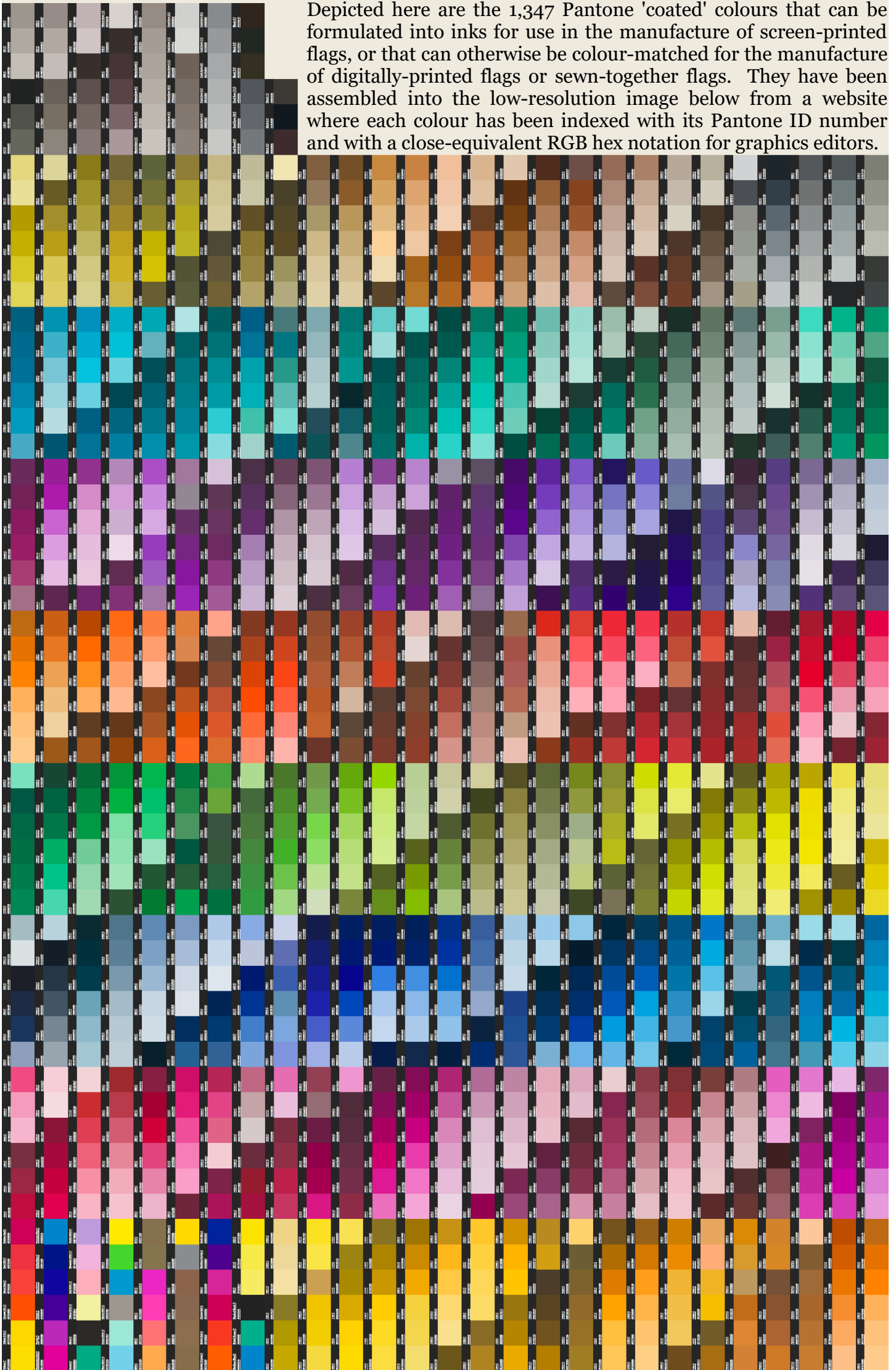
The Pantone people want to sell *physical* colour swatches, and they consider both their swatches and their swatch numbering system to be their intellectual property, so their website does not display the 1,347 *digital* colour swatches that are depicted on the previous page. Fortunately for flag designers this has not prevented *other* websites from depicting digital Pantone colour swatches, along with reasonably-close, RGB hex notation equivalents. [One of the best of these websites is hex-to-rgb.com](), from which the image on the previous page was derived. The persons behind hex-to-rgb.com may have assembled their information from a one-time use of the Pantone Connect service, or they may have laboriously pieced their data together by other means, as many other websites seem to have done, although with varying degrees of success and usefulness. If flag designers rely on any of these other websites instead of on the one that has been noted here, they should be wary of Pantone swatch ID numbers that do not include a 'C', a 'U', or any other designator. Sometimes the 'C' is just assumed, as it probably has been for all of the Pantone colour swatches that have been depicted on [this actual flag manufacturer's website](), which incidentally only depicts 929 colours, and which also does not list any RGB hex notation equivalents. Assumptions are best avoided whenever possible. One should also closely examine the swatches on such websites to verify that their colours are completely uniform, which can be tested on some Web browsers by simply 'zooming' in. Website images are sometimes 'compressed' to decrease their file sizes, which can often result in colour variances and inaccuracies.

Armed with all of this information, how might a flag designer go about assembling a symbolic colour palette of Pantone colour swatches, along with their Pantone ID numbers and their close-equivalent RGB hex notations? As an example, consider the colours that might be assembled for some kind of Australian flag design. Perhaps we could begin by doing a Web search for 'official Australian colours', the results of which would tell us that they are green and gold, with the respective Pantone values of 348 C and 116 C. Some of our search results might also list RGB and/or RGB hex notation values, but if we compare them with those that are given on the hex-to-rgb.com website, we will probably find minor differences. Best to stick with a single source, which in our case would yield RGB hex notations of #00843D and #FFCD00, respectively. For other symbolic palette colours we might research the official colours of some existing Australian flags. For example, the official red and blue colours that are in [the Australian national flag]() (quite the handy website, that one), are respectively 185 C and 280 C, with RGB hex notation values of #E4002B and #012169. The white colour that is in the national flag is considered to be Pantone 'safe', with the RGB hex notation of #FFFFFF. Continuing our research, we might find that the official 'red ochre' colour in [Australia's Northern Territory flag]() is 159 C, and that its RGB hex notation value is #CB6015. The NT flag also features the colour black, as do many other Australian flags. Although Pantone provides a few 'shades' of near-black, none of them are listed as being official for the NT flag, so we can safely assume that its black is Pantone safe, just like its white, and that is has the RGB hex notation of #000000.

A POSSIBLE SYMBOLIC COLOUR PALETTE FOR AN AUSTRALIAN FLAG DESIGN						
348 C	116 C	185 C	280 C	SAFE	159 C	SAFE
#00843D	#FFCD00	#E4002B	#012169	#FFFFFF	#CB6015	#000000

Amongst the advantages of assembling an *image* of colour palette, like the one that has been shown on the previous page, is that it can be called up and used in a graphics editor to let a flag designer figuratively dip the editor's 'brush' into its various colours. More precisely, its various colours can be conveniently selected by the editor's colour picker tool, which is typically represented by an eye-dropper icon. One caveat is that the colour palette should be saved as an uncompressed image file in the native format of the graphics editor, or failing that as an uncompressed PNG file, and *not* as a JPEG.

Having given the novice flag designer a leg up on colour issues, this addendum needs to cover a few specifics for the benefit of those designers who will be using a raster imaging graphics editor, beginning with a look at a couple of terms that were previously mentioned yet left undefined, namely 'pixel density' and 'anti-aliasing'.

All raster images are composed of pixels, which are tiny squares of uniform colour. Pixel density is an expression of the number of pixels that can fit within a given unit of measure. For raster images, pixel density can be expressed as either pixels-per-centimetre (PPcm) or pixels-per-inch (PPI). The image above left is actually an amalgam of two images, with the top image having a pixel density of 10 PPcm, and with the bottom image having a pixel density of 100 PPcm. At the normal viewing size of this addendum, little if any difference will be perceived in the two images. The same image amalgam has been reproduced at a larger scale to the right, and now the two images display a pronounced difference in visual quality, allowing us to realise that the image is an X-ray of a bird, in this case one of the five species of the New Zealand kiwi. [Female kiwis lay incredibly huge eggs](#) in proportion to their body sizes, and the X-ray reveals this as few other images would be able to do. Although the bottom image in the amalgam now looks sharp, if we continue to enlarge it we will reach a point where it, too, will appear somewhat blocky, or 'pixelated', as in the enlarged excerpt from the bottom image that has been shown to the right. Along the edges of the excerpt, the pixels are not sharply stair-stepped. Instead they are blended with other pixels of varying colour in what is called anti-aliasing, the effect of which is to give the edges of raster images a visual smoothing. Good raster image editors are capable of using anti-aliasing in a number of ways. For example, some raster editors allow image resizing to be a 'smart' process, with additional anti-aliasing applied to make the image appear as smooth as possible at its new size. Alternatively, the pixels in an image *themselves* can be resized, in which case no new anti-aliasing will be applied (pixel resizing was the method used for all of the variously-sized images on this page). Anti-aliasing can not only come into play when resizing images, but when creating text and other objects, when making selections, when selecting or changing colours, and in many other ways that will really only become clear to a user with their use of an editor.
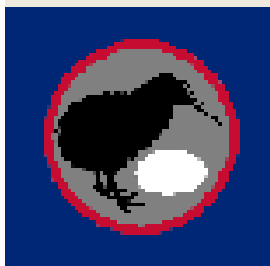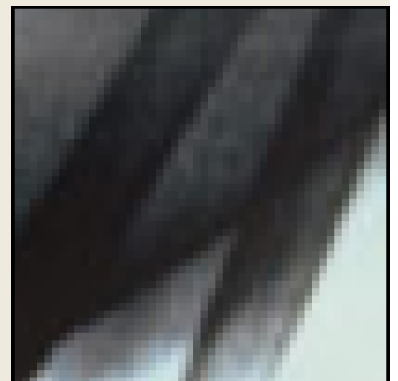
What we are leading up to is what might be thought of as an 'ideal' pixel density for flag designs that are created using raster image editors. From what we have seen, an original or 'native' pixel density of 10 PPcm, as in the design left, will not be good enough, but one of 100 PPcm, as in the design right, might.

It is an unfortunate fact that many raster image graphics programs, especially older ones, will have a 'default' pixel density setting of 72 PPI upon their initial installation. The reason is down to a bit of computer arcana. In the 1980s, Apple had a fledgling computer monitor with a display density of 72 PPI, as well as a dot-matrix printer with a print resolution of 72 DPI. By limiting raster images to a pixel density of 72 PPI, an image on the monitor would always be at its native dimensions, and a print of the image would also always be at its native dimensions. All of this was a big selling point that was referred to as 'WYSIWYG' (wiz'-ee-wig), or 'what you see is what you get'. Thus 72 PPI became an early pixel density standard, and one that is sadly still with us. A pixel density of 72 PPI is equivalent to one of just over 28 PPcm, which frankly is just not much better than 10 PPcm for a flag design. Again, should the default pixel density of raster graphics editors be 100 PPcm/254 PPI? Although opinions vary, the general consensus is that raster images look best at their original or 'native' sizes when their pixel densities range from 220 to 300 PPI, or about 87 to 118 PPcm. As far as large, high-quality digital raster images go, pixel densities far *above* 118 PPcm may certainly be appropriate, but as far as raster images of flag designs go, anything above a pixel density of about 300 PPI/118 PPcm will essentially be a waste, or at least when the native heights of those flag designs are only ten centimetres, which as the reader may recall was the previously-recommended height for finished flag design layers. Also, although modern printers can produce prints of 600 dots-per-inch (DPI) or even 1200 DPI and higher, it is generally agreed that most prints gain little or nothing by being printed at resolutions above 300 DPI. This does not mean that raster images should perfectly follow suit, with pixel densities of 300 PPI, because few if any human eyes can see a difference in the print of a 254 PPI raster image versus the print of a 300 PPI raster image, as long as both raster images are printed in their native dimensions. Also, for a given set of native dimensions, the file size of a raster image will increase with its pixel density, so 100 PPcm has a bit of an advantage over 118 PPcm there, too, and most certainly over even higher densities. Also, if a flag design has a pixel density of 100 PPcm and a height of 10 cm, it will have a height of 1000 pixels, a good and easily-remembered number that is exactly divisible in many ways. If the 10 cm design height is only intended for finished designs and/or contest submission, and the designer prefers, say, a 30 cm height for unfinished designs, a 100 PPcm pixel density will equate to a height of 3000 pixels, which will be exactly divisible in even more ways. So yes, 100 PPcm/254 PPI is a good default pixel density for raster image flag designs.

To wrap up our discussion regarding raster imaging, we should say a few more words about bit depth, which as previously noted will also be relevant for vector imaging. Consider the raster image to the left, which depicts a Kodak multiracial 'Shirley card' of the 1990s. The image has been embedded on this page in its actual dimensions of 10 cm by 10 cm, with a pixel density of 100 PPcm. It follows that the dimensions of the image are 1000 by 1000 pixels (one million total), along the lines that were discussed in the previous paragraph. The image has been rendered in 24-bit RGB colour, as you might expect. In all respects it is sharp, clear and colourful.

In each of the images in the strip of images further below, a one-square-centimetre section of the Shirley card raster image on the previous page has been extracted and then enlarged by a factor of exactly 4.75. The enlargement has been effected using a graphics editor that allows pixel resizing, so that each of the images is still 100 pixels square, just as when they were originally only one cm square. Thus each image has a total of 10,000 pixels. The leftmost raster image still seems reasonably sharp at its 4.75 enlargement. It retains the 24-bit colour depth of the original image, although it actually only displays 697 pixel colours out of a possible 16,777,216. The second raster image has been given an 8-bit colour depth, and although it displays 255 colours out of a possible 256, it has slightly sacrificed some of the sharpness of the first image. The third raster image has been given a 4-bit colour depth, and although it uses all sixteen of its possible pixel colours, it has very poor quality. The fourth raster image, included just to complete the discussion, has been given a 1-bit colour depth. It has been processed so that its pure black or white pixels can be perceived as shades of grey by the human eye, much like half-tone images in old newspapers. It represents a true 'black-and-white' image, although we also apply that term colloquially to monochrome 'B&W' photos and films, and sometimes even less accurately to greyscale raster images.

As noted earlier, the larger the pixel density of a raster image, the larger its file size. The file size of a raster image will *also* be larger with increases in bit depth. This might lead one to think that raster flag designs with 8-bit colour may be preferable to those using 24-bit RGB colour. After all, the second image above is only slight degraded, so under certain circumstances there might be something to be said for this approach. However, if we remember that there are 1,347 possible RGB Pantone C flag colours, reducing them to the nearest 256 may no longer seem so attractive. The file sizes of 24-bit raster images are not all that cumbersome anyway, as long as their dimensions are kept reasonable, and as long as their pixel densities remain at 100 PPcm. So those are the recommendations of this addendum for designers who chose raster imaging.

Up to this point, the author of this document has made a deliberate effort to present objective information for flag designers to consider when choosing a graphics editor. The remainder of this document will promote the author's four subjective preferences, which are Windows platform products dating from 2001 through 2004. If you are an Apple user, you will have to run them in a Windows emulator. If you are a Linux user, you will have to run them in something like the Wine utility. All four can be installed and used for free. The first three are mainly raster imaging editors, although they can also produce vector layers, objects, and full flag designs. The fourth is for SVGs only.

In 1991, the computer scientist Robert Voit founded Jasc Software, and he created the first version of Paint Shop Pro, which he sold under the label of his new company. As the years went by, and as new versions were released, PSP gained a steady and loyal following as [a powerful and affordable option to Adobe Photoshop](), perhaps to the point of becoming a genuine thorn in Adobe's side, judging from the fact that even to

this day, Photoshop will not open graphics files in any PSP format. But ignoring PSP did not make it go away, and by late-2001 it was such a successful and mature product that it was released in a 'Tenth Anniversary Edition' as Jasc Paint Shop Pro version 7.04, a powerful and user-friendly product with nearly all of the features that any flag designer could want. By 2004, PSP had gone through versions 8.10 and 9.01, at which point the Corel Corporation bought Jasc Software, and eventually managed to muck up the PSP interface, or so claim many of the loyal users of pre-Corel versions. Corel still markets PSP, but whether their versions improve on the old Jasc versions is debatable.

One drawback of PSP 7.04 is that its built-in 'help' files are in an outdated format that cannot function in Windows 10 and later, nor even in Windows Vista or Windows 7 through 8.1 without the installation of a special Microsoft interpreter program. This is not a severe handicap, as will be explained later. The built-in help files in PSP versions 8.10 and 9.01 *do* function for all versions of Windows, and those versions of course have certain features that are not present in PSP 7.04. All three versions have pros and cons, and all three can be installed simultaneously on Windows systems without interfering with each other, so all three will be discussed as this document continues.

Like prior versions of the Jasc PSP software, versions 7, 8, and 9 were sold on CDs that each came with a unique, alphanumeric serial 'installation key'. All three versions can still occasionally be found for purchase on eBay and elsewhere, sometimes even in unopened packaging, ensuring that their enclosed CDs will include a valid installation key. When any of the three versions are installed using the regular installation 'set-up' utility that is on the CD, and which may run automatically when the CD is inserted into an optical drive, they will only function on a trial basis for a limited time without a key.

*Un*like prior versions of the PSP software, the CDs for versions 7, 8, and 9 all included a method of permanent installation that actually did not require an installation key. This may have been an oversight, but one suspects that it was actually intentional on the part of Jasc, which for its entire existence was never an overly mercenary software company, and which always sold a good product for a reasonable price. It is fairly certain that the acronym 'Jasc' originally stood for 'Just Another Software Company', which may give you an idea of the attitude that Robert Voit had towards more greedy software providers. It is also possible that even back in 2001, Corel had been making purchase overtures, and with the prospect of selling Jasc, perhaps Voit wanted to leave an installation 'back door' for his products, which he anticipated would either be discontinued or gutted beyond recognition after their sale, not an unusual occurrence. And so, versions 7, 8, and 9 are presented here for your consideration, beginning with:

JASC PAINT SHOP PRO VERSION 7.04 (Tenth Anniversary Edition)

(1) From a Windows system, go to https://archive.org/details/jasc-paint-shop-pro-704
(2) Download the 'ISO IMAGE' file (PSP704A_AE.iso) to a folder on your system.
(3) When the download is complete, navigate to the folder where you downloaded the ISO file. Right-click the file and select 'Open with > Windows Explorer'. This should place a virtual CD/DVD drive on your system, with a drive letter immediately above those of whatever physical drives your system may include. The virtual drive will remain on your system until the virtual CD is ejected or until your system is restarted. The virtual CD will probably open to its root directory automatically, but if it also attempts to auto-install, **do not allow it to do so**. Instead just open the CD to its root directory, where you can read its two 'Readme' files if you like, but **do not click autorun.exe**. (If this step does not work as described, you have the option of burning

the ISO file to a physical CD or to a bootable thumb-drive, and to carry on from there.)
(4) From the root directory of the virtual CD, physical CD, or bootable thumb-drive, open the 'PSP' directory. **Do not click setup.exe**. Instead click the file that is named 'Paint Shop Pro 7 Anniversary Edition.msi'. An installation window should appear:
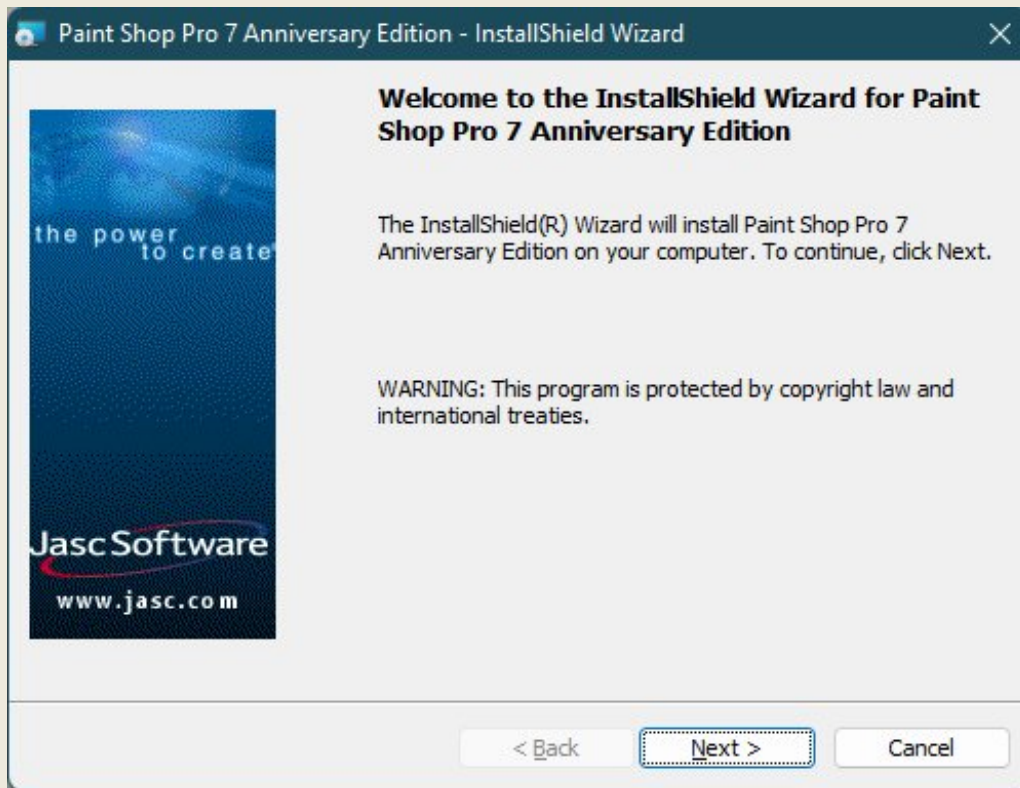
(5) Click 'Next' to see the licence agreement. Select the 'I accept' bullet and click 'Next':
(6) In the 'Customer Information' window that opens, enter 'User Name' and/or 'Organisation' in the appropriate spaces, or leave them blank, select either the bullet that will allow the software to be used by 'Anyone who uses this computer (all users)' or 'Only for me (_____)', and click 'Next'.
(7) In the 'Setup Type' window that opens, select the 'Custom' bullet and click 'Next'. In the 'Custom Setup' window that opens, select the options that are indicated in the two images below (eliminating outdated and superfluous features) and click 'Next':
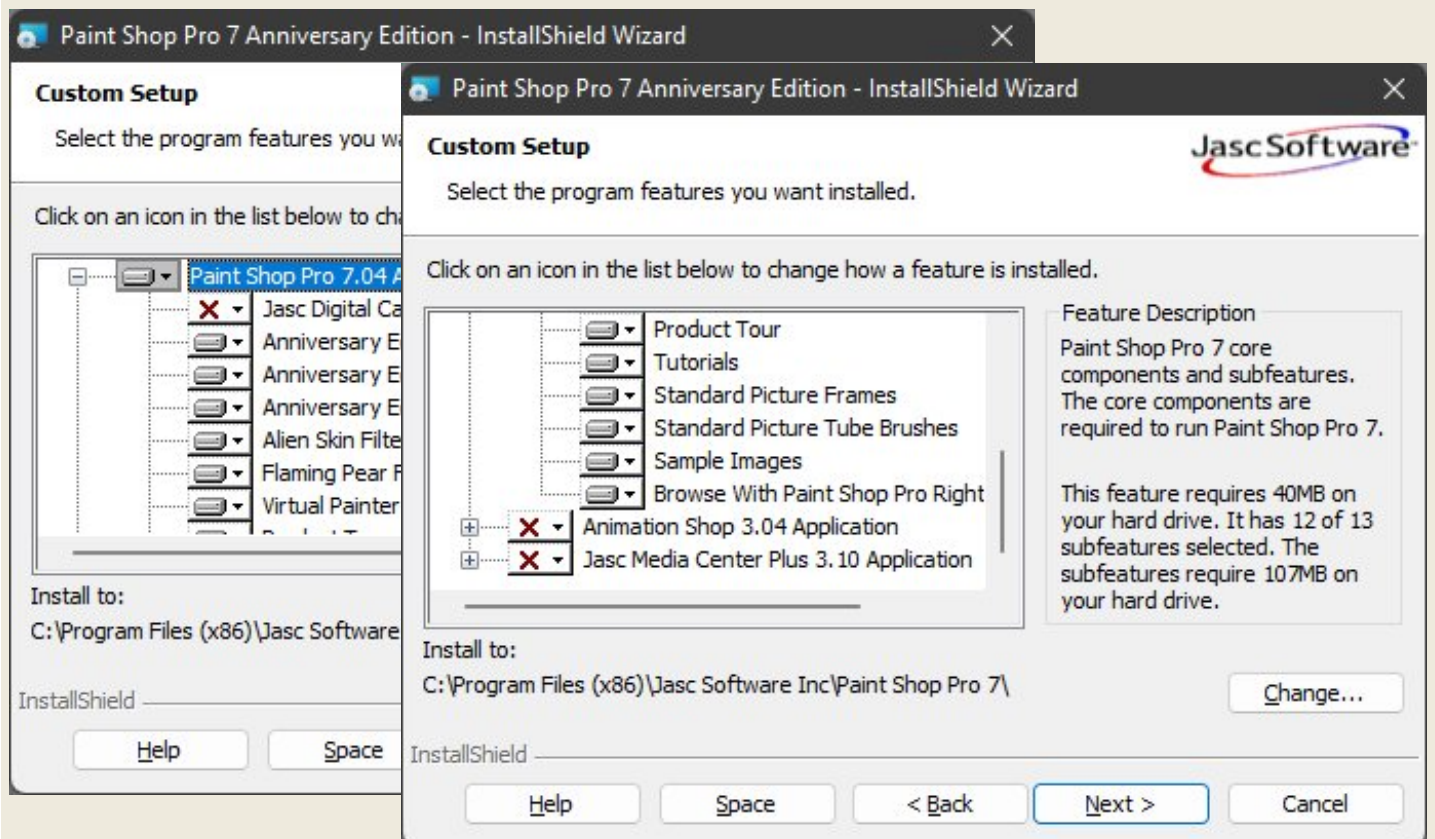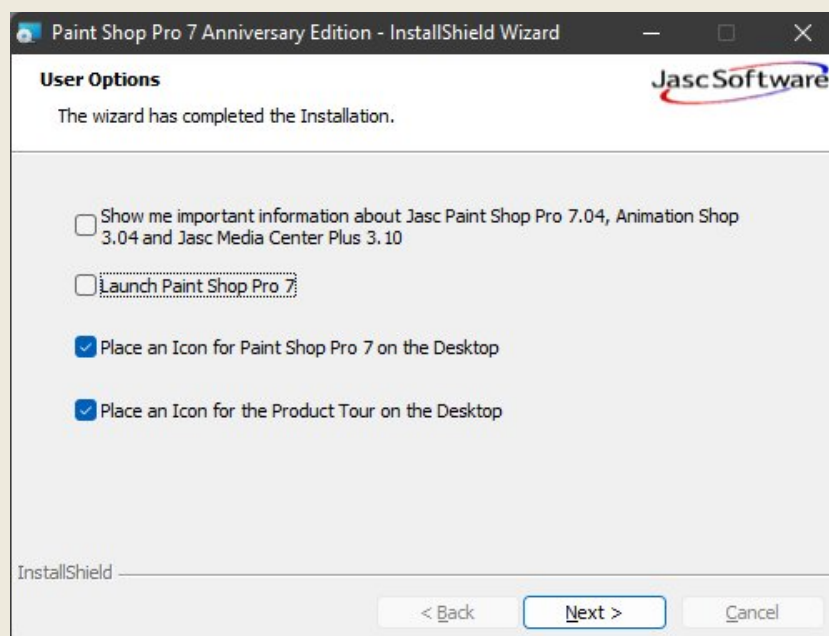
(9) In the 'Ready to Install the Program' window that appears, click 'Install', ...
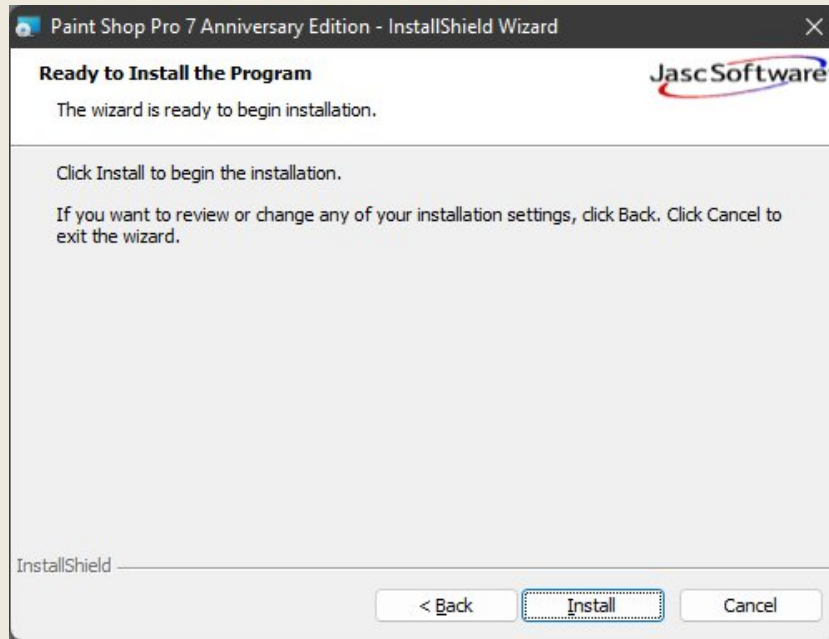
... allow the installation to run to completion, ...
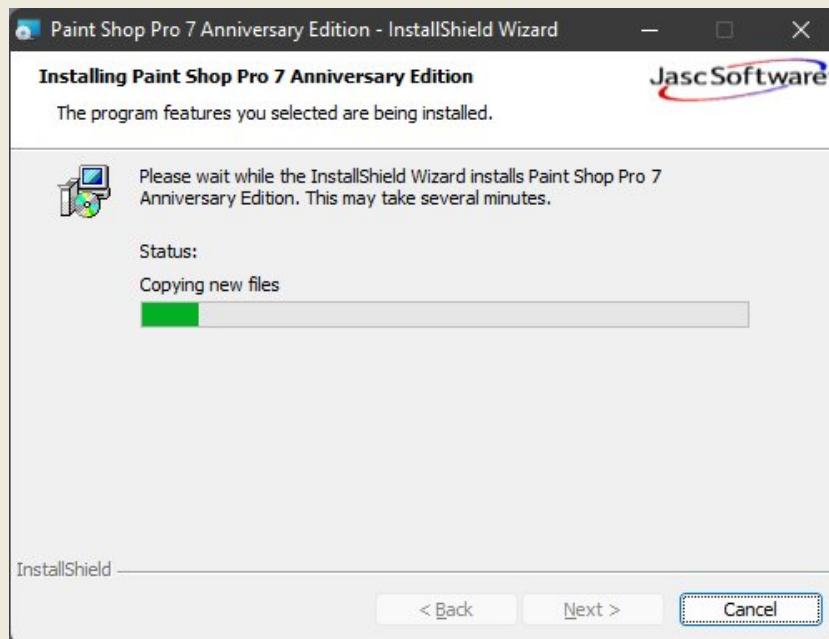
... select the bullets that you prefer in the 'User Options' window that appears, ...


... and click 'Next' to see the 'InstallShield Wizard Completed' window. Click 'Finish'.

At some point during or after installing PSP 7.04, you may see a window asking you to register your software. Click 'Skip', 'Never remind me again', or the like. Jasc Software no longer exists, and neither do any of their old registration servers. You also cannot register your software with Corel, since they too offer no way to register Jasc products.

When you run PSP 7.04 for the first time, you will be presented with a window in which you can choose 'File Format Associations'. Any choices that you make can be changed at a later time, so you may want to choose 'Select All' and click 'OK', so as to make PSP 7.04 the default software that will open all of the image types listed (although Windows will probably fight you on some or all of your choices). You will then be presented with a 'Tip of the Day' window that will allow you to see a 'tip' whenever you start the program. If you wish, clear the tick box and click 'Close'. The default appearance of the PSP 7.04 window on its first run will probably look like this:
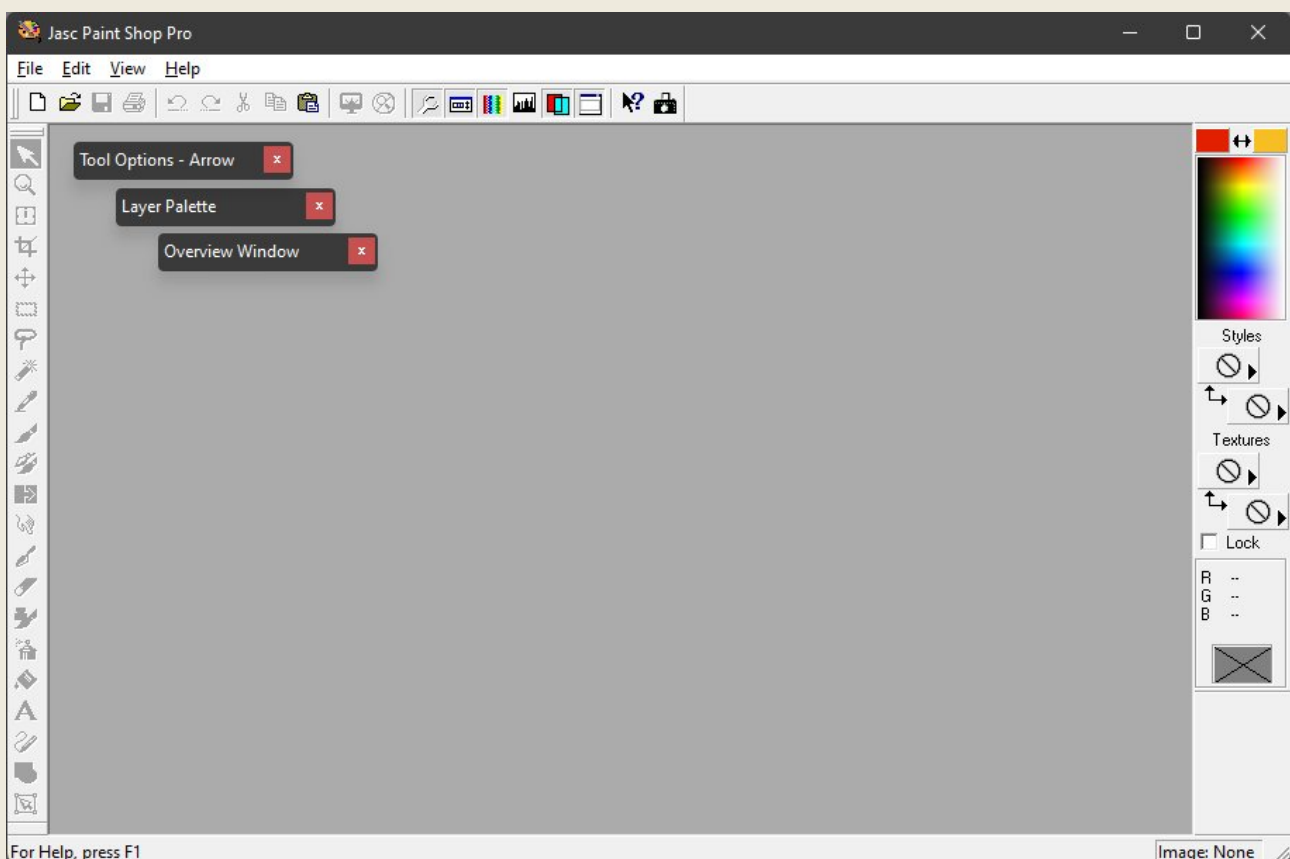
Close the program and run it again. At start-up it will now probably appear as in the illustration at the top of the following page.
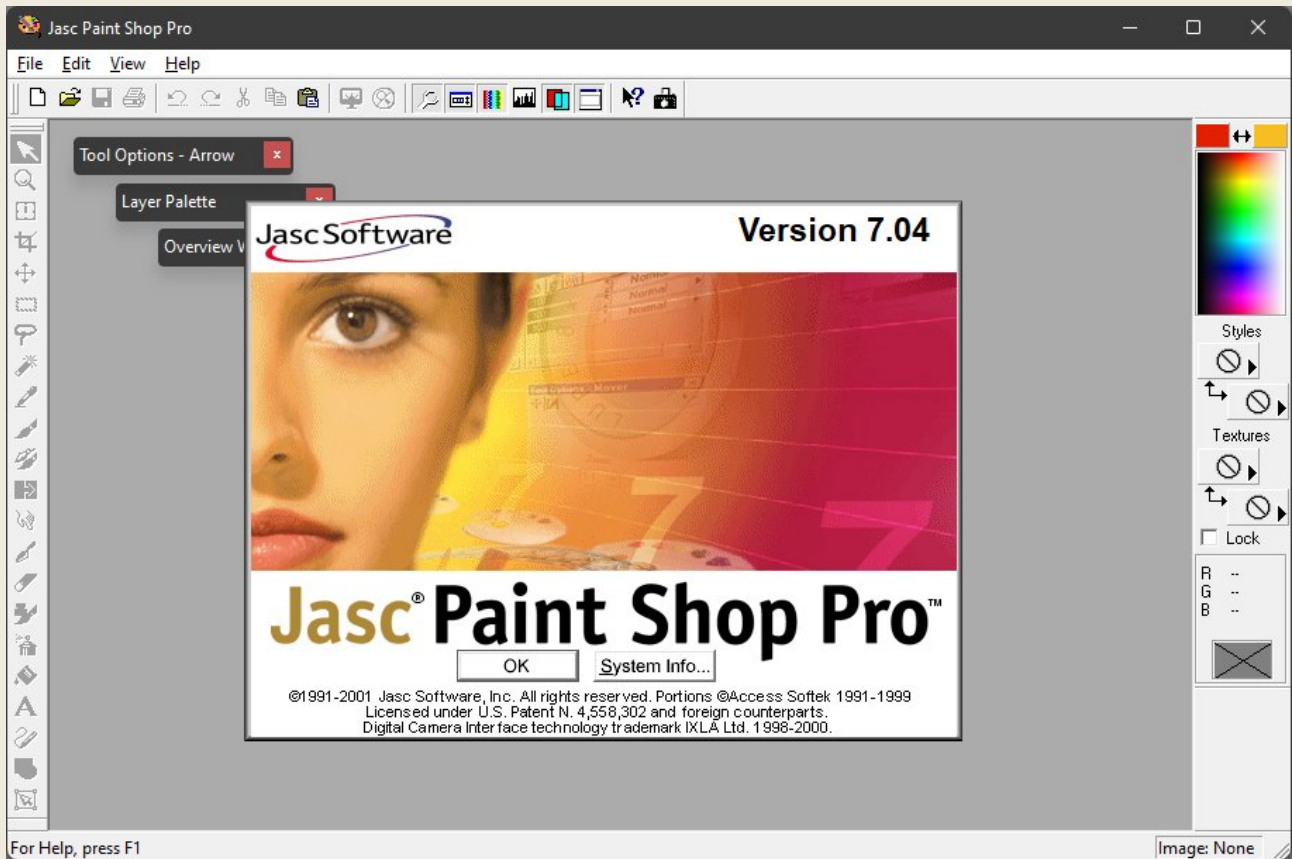
Click 'OK' on the splash screen to close it, and then close 'Tool Options – Arrow', 'Layer Palette', and 'Overview Window'. Along the left edge of the window is the 'Tool Palette'. You may like it where it is, but for now click and drag it by the stripe at its top end and drop it to the right of the 'Standard Toolbar', as illustrated below. You may need to resize the PSP 7.04 window to accommodate the full length of the Tool Palette. Right-click the Standard Toolbar and select 'Customise' to open the 'Toolbars' window that is shown at the centre of the image below. Clear all of the tick boxes at its bottom. You can experiment with enabling and disabling the various toolbars. Note that the 'Customise' button will be enabled for some of them, when they are selected. We will come back to that. When you have finished experimenting, ensure that 'Standard Toolbar', 'Tool Palette', 'Colour Palette', and 'Status Bar' are ticked, and click 'Close'.

Click 'File > Preferences > General Program Preferences' to open the 'Paint Shop Pro Preferences' window. Suggested settings for its eight tabs are illustrated below:

Paint Shop Pro Preferences — Undo/Redo tab

Tabs: Miscellaneous | Rulers and Units | Transparency | Warnings | Undo/Redo | Viewing | Dialogs and Palettes | Browser

- ☑ Enable the undo system
  - ☐ Limit undo/redo disk usage to 100 MBytes of storage per open image
  - ☐ Limit undo/redo to 10 steps per open image
  - ☐ Compress undo/redo information (slower / saves disk space)
- ☑ Enable the redo system

[OK] [Cancel] [Help]

Paint Shop Pro Preferences — Viewing tab

Tabs: Miscellaneous | Rulers and Units | Transparency | Warnings | Undo/Redo | Viewing | Dialogs and Palettes | Browser

Zooming
- ☑ Fit window to image when zooming in - The window will resize to fit the image
- ☑ Fit window to image when zooming out - The window will resize to fit the image

New images
- ☑ Auto size - Automatically set the zoom factor when loading large images

After changing size
- ☑ Fit window to image - The window will resize to fit the image if the image size changes
- ☑ Auto size - Automatically set the zoom factor when the image size increases

[OK] [Cancel] [Help]

Paint Shop Pro Preferences — Dialogs and Palettes tab

Tabs: Miscellaneous | Rulers and Units | Transparency | Warnings | Undo/Redo | Viewing | Dialogs and Palettes | Browser

Presentation
- ☐ Display large text and icons on palettes
- ☐ Display flat style toolbars
- ☑ Remember last type used in file save-as dialog
- ☑ Display menu icons
- ☐ Enable automatic palette roll-ups
- ☑ Display all color dropper tooltips

Color palette
- ◉ Display colors in RGB format
- ○ Display colors in HSL format
- ☐ Use standard Windows color picker
- ◉ Decimal display
- ○ Hexadecimal display
- ◉ Show rainbow picker
- ○ Show document palette

[OK] [Cancel] [Help]

Paint Shop Pro Preferences — Browser tab

Tabs: Miscellaneous | Rulers and Units | Transparency | Warnings | Undo/Redo | Viewing | Dialogs and Palettes | Browser

Thumbnail size
- ☑ Symmetric
- Width: 80
- Height: 80

Appearance
- ○ Use Windows colors
- ◉ Use classic colors
- Selection color: [magenta]
- ☐ Display flat style thumbnails

- ☑ Save Browser files to disk
- ☑ Automatically update the thumbnails

[OK] [Cancel] [Help]

Paint Shop Pro Preferences — Warnings tab

Tabs: Undo/Redo | Viewing | Dialogs and Palettes | Browser | Miscellaneous | Rulers and Units | Transparency | Warnings

The following warnings can occur when operations will result in lost information or when operations cannot be performed. Experienced users may want to skip the warning message(s) by unchecking the appropriate checkbox(es)

[Enable All]
[Disable All]

- ☑ Adding raster layer to paletted image
- ☑ Deleting layer via drag and drop
- ☑ Drawing a single line with no stroke style defined
- ☑ Exporting shape library selection
- ☑ File format limitations
- ☑ Loading unsupported adjustment layers (PSD files only)
- ☑ Operations requiring decrease in color depth
- ☑ Operations requiring image to be flattened or merged
- ☑ Replacing a mask

[OK] [Cancel] [Help]

Paint Shop Pro Preferences — Transparency tab

Tabs: Undo/Redo | Viewing | Dialogs and Palettes | Browser | Miscellaneous | Rulers and Units | Transparency | Warnings

Grid size: Medium

Grid colors
- Scheme: Light Grey
- Color 1 [white]
- Color 2 [grey]

Preview: [checkerboard pattern]

[OK] [Cancel] [Help]

Paint Shop Pro Preferences — Rulers and Units tab

Tabs: Undo/Redo | Viewing | Dialogs and Palettes | Browser | Miscellaneous | Rulers and Units | Transparency | Warnings

Rulers
- Display units: Pixels
- ○ Black on white
- ◉ Toolbar colors

Default resolution
- 100.000 Pixels / cm

Grid
- Units: Pixels
- Horizontal spacing: 50
- Vertical spacing: 50
- Line color: [black]

Guide
- Line color: [black]

[OK] [Cancel] [Help]

Paint Shop Pro Preferences — Miscellaneous tab

Tabs: Undo/Redo | Viewing | Dialogs and Palettes | Browser | Miscellaneous | Rulers and Units | Transparency | Warnings

Recently used file list contains 2 file names (Takes effect after program restart)

Use 10 % tolerance to background color when pasting a transparent selection

- ☐ Do not ask to empty the clipboard on Exit
- ☐ Force full window redraw when positioning image elements
- ☐ Show splash screen when application starts
- ☑ Disable pressure support for puck-type pointing devices

[OK] [Cancel] [Help]

In the 'Colour Palette' at the right of the PSP 7.04 window, click the Styles right arrow buttons and pick the 'Solid' brush icons. Note that you can also choose gradient colours or patterns. Tick the 'Lock' box to make the Styles choices automatically work in concert for all tools that have optional border and interior fill treatments, such as text and shapes, which can either have solid colours or patterns throughout, or differing outline and fill colours and/or patterns. When the Styles buttons are solid colours, the top button is the 'foreground' colour, and the bottom button is the 'background' colour. Clicking the dual arrow to their left will swap their positions and functions, as will the double arrow at the top of the Colour Palette. Click on one or both of the Styles buttons to open the PSP 7.04 colour picker. Experiment to gain familiarity with the ways in which it can be used. Also investigate the 'Textures' buttons. When one or both of them are enabled, a foreground and/or background texture will be applied to the solid colours, gradient colours, or patterns of your chosen Styles. Move your mouse over the rainbow-like area to see the RGB decimal values for its various hues. Note that clicking within the area only changes the foreground Style colour.
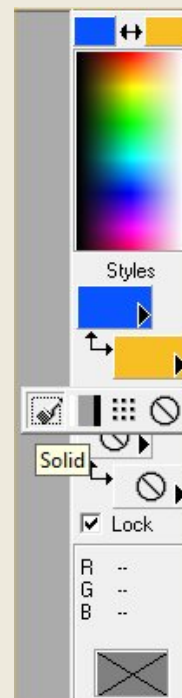
Often it can be useful to have a maximum horizontal working area in the PSP 7.04 window, including the fair amount of horizontal space that the Colour Palette occupies. At the top of the PSP 7.04 window you will see the six buttons below:

Respectively from left to right, these are 'visibility toggles' for the Tool Palette (which you already moved out of the way in an earlier step), the Tool Options Window (which we will take a closer look at later), the Colour Palette (which we definitely may want to occasionally hide), the 'Histogram Window (which is not of much use to a flag designer), the 'Layer Palette' (which can be useful, but which is also somewhat unnecessary in PSP 7.04), and the Overview Window (which is also a little redundant, since it basically just display a miniature view of the PSP window). The toggle buttons have a 3D look because we disabled 'Display flat style toolbars' in an earlier procedure. You can experiment by toggling all of them, although they will not show much for now.

Close and restart the PSP 7.04 graphics editor. In the menu at the top of the PSP 7.04 window, click 'File > New' to open the 'New Image' window shown to the left below. Make all of its settings match those that are shown, and click 'OK' to see 'Image1' in the PSP 7.04 window. If you are using a 'wheel' mouse, hover your mouse cursor over Image1 and roll the wheel to zoom in or out. In the menu at the top of the PSP 7.04 window, click 'View > Rulers' to make Image1 appear as illustrated to the right below. Note that because the image has a pixel depth of 100 PPcm, the vertical and horizontal graduations of the rulers are in both millimetres and pixels, which can be convenient for dividing a background field. In the menu at the top of the PSP 7.04 window, click 'Layers > Merge > Merge All (Flatten)'.
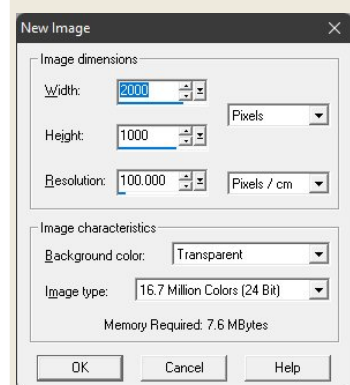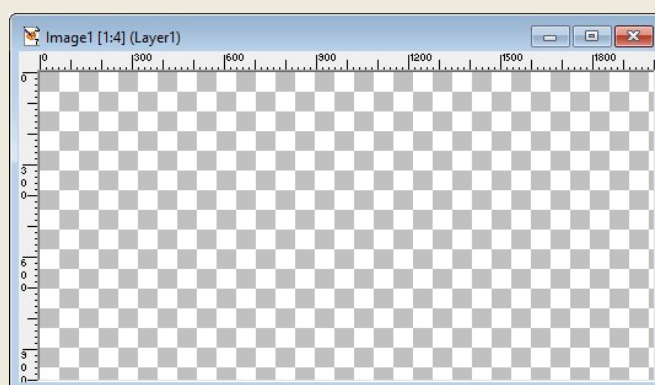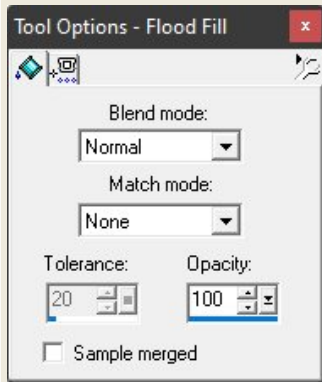
Image1 should now be solid white. In the menu at the top of the PSP 7.04 window, click 'Colour > Negative Image'. Image1 should now be solid black. Right click the Image1 title bar and select 'Copy'. Move your mouse cursor to an open area in the PSP 7.04 window, right-click again, and select 'Paste'. You should now have a solid black Image2. Ensure that the foreground Style in the Colour Palette is a solid colour. In the Tool Palette at the top of the PSP 7.04 window, find and select the 'Flood Fill' tool, which appears as a 'tipping paint can' icon. Click the visibility toggle for the Tool Options Window, which should appear as illustrated to the left below. This window will change to indicate options for whatever tool has been selected in the Tool Palette. Note that you can move the Tool Options window outside of the PSP 7.04 window. This will also be true for many other palettes and option windows, such that a flag designer can have many options available on a second monitor. Use the toggle to hide the Tool Options window. Note that Flood Fill is still the selected tool. Hover your mouse cursor over Image2 and left-click. Image2 should now have the Styles foreground colour. Ensure that the Styles background has a different solid colour. Hover your mouse cursor over Image2 and *right*-click. Image2 should now have the Styles *background* colour. In the menu at the top of the PSP 7.04 window, click 'Edit > Undo Flood Fill'. Image2 should once again have the Styles foreground colour. In the menu at the top of the PSP 7.04 window, click 'Selections > Select All'. Note the animated dashed line that indicates the selected area in Image2. In the menu at the top of the PSP 7.04 window, click 'Edit > Clear', or alternatively push the 'Delete' key on your keyboard. Image2 should once again have the Styles background colour. In the menu at the top of the PSP 7.04 window, click 'Selections> Select None', and note that the animated dashed line has disappeared.   Right-click the Image2 title bar and select 'Copy'. Right-click the Image1 title bar and select 'Paste As New Layer'. Note that the selected tool is no longer Flood Fill, but the 'Mover' tool. Reselect the Flood Fill tool. Hover your mouse over Image2 and left-click. Image2 should once again have the Styles foreground colour. Right-click the Image2 title bar and select 'Copy'. Right-click the Image1 title bar and select 'Paste As New Layer'. In the menu at the top of the PSP 7.04 window, click 'Layers'. If you like, select and 'Arrange' each layer, examine and change its 'Properties', add additional raster and/or vector layers, and experiment with other options in the Layers menu. You can also toggle the Layers Palette into view. Some flag designers may prefer to use the Layers Palette, but in PSP 7.04, the Layers file menu provides almost as much control.

If you like, experiment further with menu items, tools, and tool options. The more you suss out what everything is for, the easier it will be for you to apply PSP 7.04 to the purposes of flag design. When you have come to whatever stopping point feels good to you, close all open images (no need to save them, but no worries if you have done so). At the top of the PSP 7.04 window, click 'Help > Product Tour'. Assuming that the 'tour' will run properly on your system, follow its easy instructions and click when needed during the largely automated, fifteen-minute-or-so presentation. Most of what you will learn may not be applicable to flag design, but some will, and you should gain a better understanding of the many other things that the PSP 7.04 editor is capable of. When you have completed the tour you may want to return to the Help menu and click 'Help > Tutorials' to open an informative PDF document that offers ten tutorials that you can complete at your leisure, further bolstering your familiarity with PSP 7.04. Note that the Help menu items 'Help > Context Help' and 'Help > Help Topics' cannot function in Windows versions above 8.1, as was previously discussed. As consolation, however, visit https://www.corel.com/6763/psp_downloads/pub/PSP705guide.exe,

which will allow you to download the file 'PSP705guide.exe' from an old Jasc FTP server that Corel still maintains. When run, the executable file will place a PDF copy of the official Jasc, 146-page *"Paint Shop Pro 7 Getting Started Guide"* in the directory where you installed PSP 7.04. You can then navigate to that directory, which is typically 'C: > Program Files (x86) > Jasc Software Inc > Paint Shop Pro 7', and make a shortcut to the PDF file, which you may want to rename 'PSP 7 Getting Started Guide'. The PDF does not have the pretty cover of the printed version of the guide, but otherwise it is identical, and as a PDF it has the advantage of being searchable. If you are nervous about downloading and running an executable file, you can alternatively download the PDF from here or from here. Flag designers should pay particular attention to Chapter 3, *Getting to Know Paint Shop Pro*, to Chapter 11, *Using Adjustment Layers*, to Chapter 12, *Using Vector Objects and Text*, and to Appendix A, *Paint Shop Pro Shortcuts and Hotkeys*. You may also want to visit the [Internet Archive 'Books to Borrow' feature](), where you can freely read millions of books after you [sign up for a free account](). Books to Borrow offers some third-party books about PSP 7, including [this one](), [this one](), and [this one](), but not yet the official Jasc, 500-page *"Paint Shop Pro 7 Reference Guide"*, a PDF version of which does not exist.
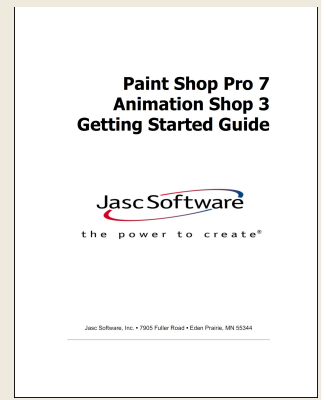
No discussion of PSP 7.04 would be complete without touching on its integrated 'image browser' feature. Unlike many graphics editors that require the use of external windows for common operations such as opening and saving files, Jasc Paint Shop Pro allows all necessary file operations to take place from within its own window. At the top of the PSP 7.04 window, click 'File > Browse' to open the PSP image browser window, as illustrated below. The browser has a standard 'tree' along its left side area, from which any folder may be chosen. Within its right side area, the images in the selected folder will be displayed as thumbnails. Images can be opened with double-clicks or by dragging their thumbnails into the PSP 7.04 window. Right-clicks on the thumbnails allow file operations such as 'Copy to', 'Delete', 'Move To', and 'Rename'. Right-clicking the grey area in the browser window allows the thumbnails to be sorted and to be searched for particular images. By making a folder like the one shown in the browser's tree, flag designers can easily keep track of all of their flag-related images.
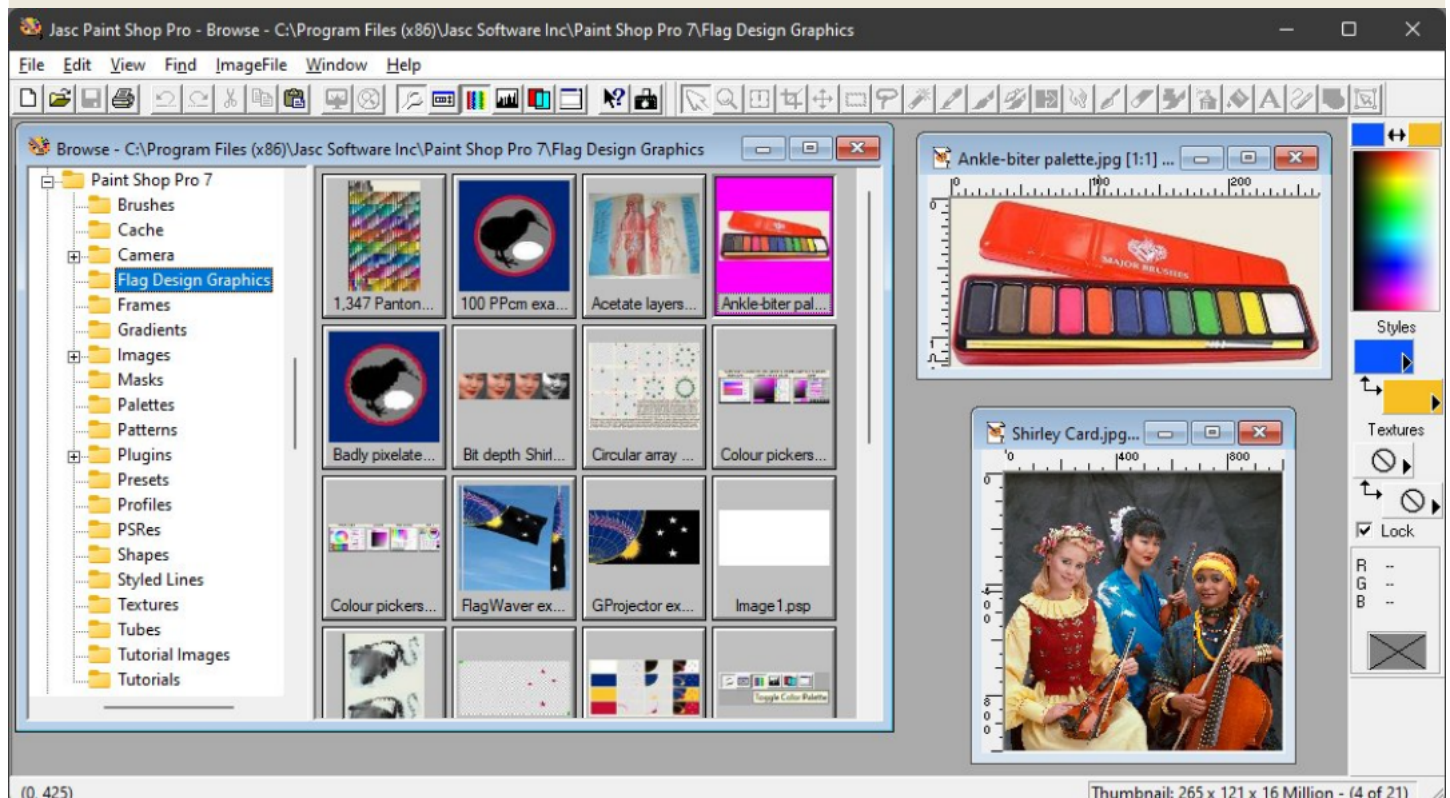
Although the default arrangement of the PSP 7.04 user interface is reasonably good just as it is, it can always be customised in ways that may better suit the needs of a flag designer. For example, a flag designer is apt to make extensive use of a mouse for such operations as cut, copy, and paste, so the removal of dedicated buttons for those functions may help to streamline the interface. Moreover, if the Tool Palette is to remain where we previously relocated it, at the top of the PSP 7.04 window to the right of the Standard Toolbar, there will be no need for it to have a visibility toggle button. Of course these are only some possibilities, and any actual customisations should serve the personal preferences and habits of the user. At the top of the PSP 7.04 window, click 'View > Toolbars'. In the Toolbars window that opens, highlight 'Standard Toolbar' and click the 'Customise' button to open the 'Customise Toolbar' window that is shown in the image below. Note that the window allows 'Available toolbar buttons' to be added, and that it allows 'Current toolbar buttons' to be removed or rearranged. If you scroll through all of the available toolbar buttons, you will find one of them for practically any function in the entire file menu. Along the top of the window that is depicted below, a suggested customisation of the Standard Toolbar has been effected. Its buttons are: New, Open, Browse, Save, Print, Image Information, Undo, Redo, Toggle Tool Options Window, and Toggle Colour Palette, along with a few Separators. The Tool Palette in PSP 7.04 cannot be customised, nor does it particularly need to be.
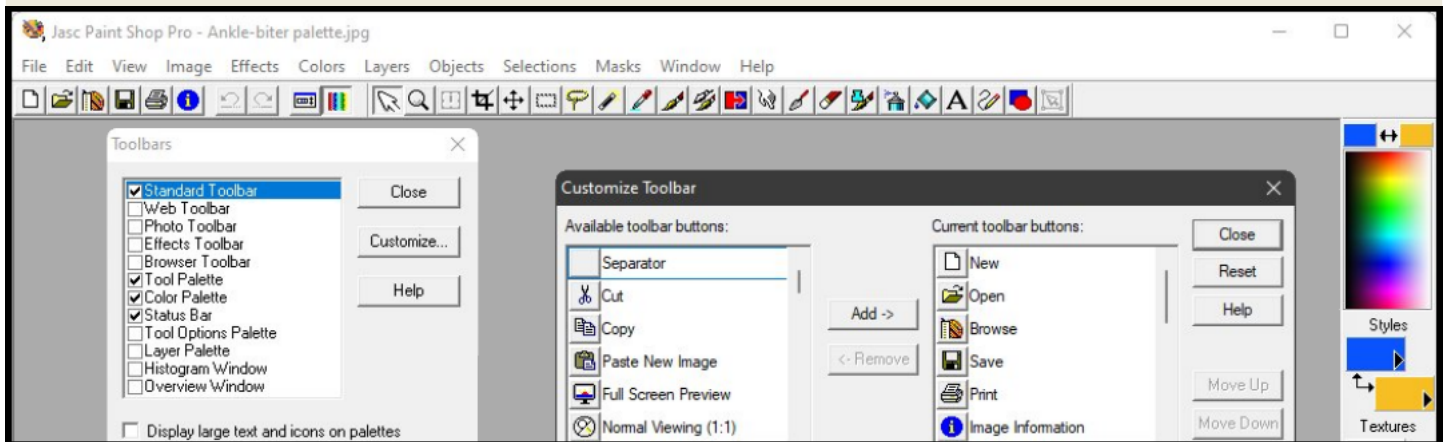

The PSP 7.04 window has been shown 'compressed' in prior illustrations, so perhaps a final look should depict it filled with a flag design on the screen of a large monitor:
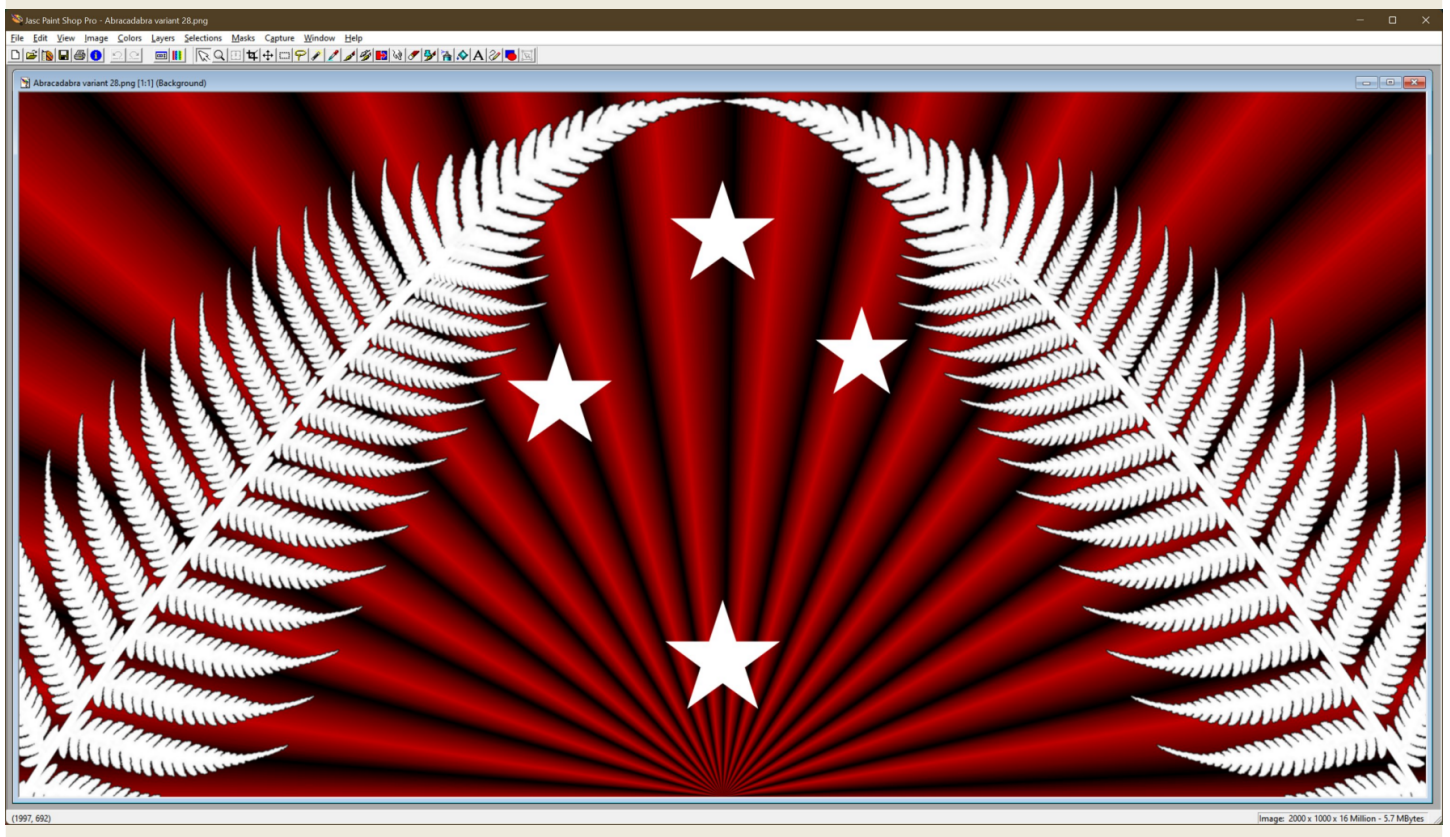
The native file format of PSP 7.04 is '.psp'. PSP 7.04 cannot open PDF or SVG image files, nor can it save vector image PSP files as '.pdf' files or as '.svg' files. However, PSP 7.04 can save vector image PSP files as Photoshop PSD ('.psd') files, which can then be converted to PDF or SVG files using third-party converters such as this one or this one. The native file format of PSP 8.10/PSP 9.01 included new features, so it became '.PspImage'. V8/V9 can open all PSP files, but V7 cannot open all PSPIMAGE files. V8/V9 can also open PDF and SVG files. Like V7 they cannot *save* files to PDF or SVG, but also like V7 they can save files to PSD format, for later *conversion* to PDF or SVG.

JASC PAINT SHOP PRO VERSION 8.10

(1) Go to https://archive.org/details/jasc-paint-shop-pro-8
(2) Download the 'ISO IMAGE' file (Jasc Paint Shop Pro 8.iso) to one of your folders.
(3) When the download is complete, navigate to the folder where you downloaded the ISO file. Right-click the file and select 'Open with > Windows Explorer'. This should place a virtual CD/DVD drive on your system, with a drive letter immediately above those of whatever physical drives your system may include. The virtual drive will remain on your system until the virtual CD is ejected or until your system is restarted. The virtual CD will probably open to its root directory automatically, but if it also attempts to auto-install, **do not allow it to do so**. Instead just open the CD to its root directory, but **do not click autorun.exe**. (If this step does not work as described, you can still burn the ISO to a physical CD or to a bootable thumb-drive.)
(4) From the root directory of the virtual CD, physical CD, or bootable thumb-drive, open the 'PSP' directory. **Do not click setup.exe.** Instead click the file that is named 'Jasc Paint Shop Pro 8.msi'. An installation window should appear.
(5) Click 'Next' to see the licence agreement. Select the 'I accept' bullet and click 'Next'.
(6) In the 'Customer Information' window that opens, fill in the spaces or leave them blank, select an appropriate bullet for 'Install this application for', and click 'Next'.
(7) In the 'Custom Setup' window, select options as indicated below. (Jasc Animation Shop 3 is another good program, but its final version is not the one that is offered with PSP 8.10. You can install its final version when and if you choose to install PSP 9.01.)
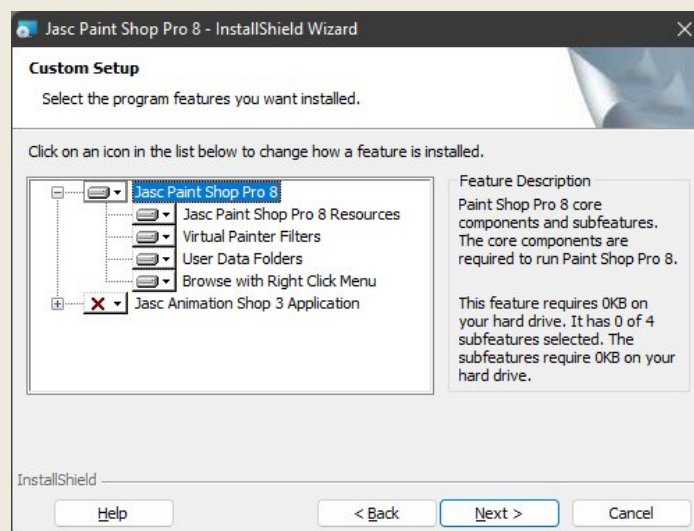

Click 'Next' to open the 'Ready to Install the Program' window, and click 'Install'. When the installation completes, make selections in the 'User Options' window that appears, and click 'Next'. In the software registration window that appears, click 'Skip'. In the 'InstallShield Wizard Completed' window that appears, click 'Finish'. When you run PSP 8.10 for the first time, a registration window may again appear. Click 'Skip'. You will probably also be presented with a 'File Format Associations' window, but for the time being you should either click 'Remove All' or simply close the window, especially if you have previously associated PSP 7.04 with all of the graphics files listed.

Amongst the differences in the **default** PSP 8.10 user interface from that of PSP 7.04:

● The Colour Palette has been renamed the 'Materials Palette', and because of its new features it has become yet a wider horizontal intrusion into the design area window.
● Docked by default beneath the Materials Palette are the 'Overview Palette' and the 'Layers Palette'. The Standard Toolbar has no default toggles to hide these palettes.
● In the Tools Toolbar at the left side of the PSP 8.10 window, many tools have now been 'nested' by default, meaning that access to some will require an extra mouse click.
● Horizontally docked beneath the Standard Toolbar is the new Tool Options Palette, which vertically intrudes into the full width of the top of the design area window.
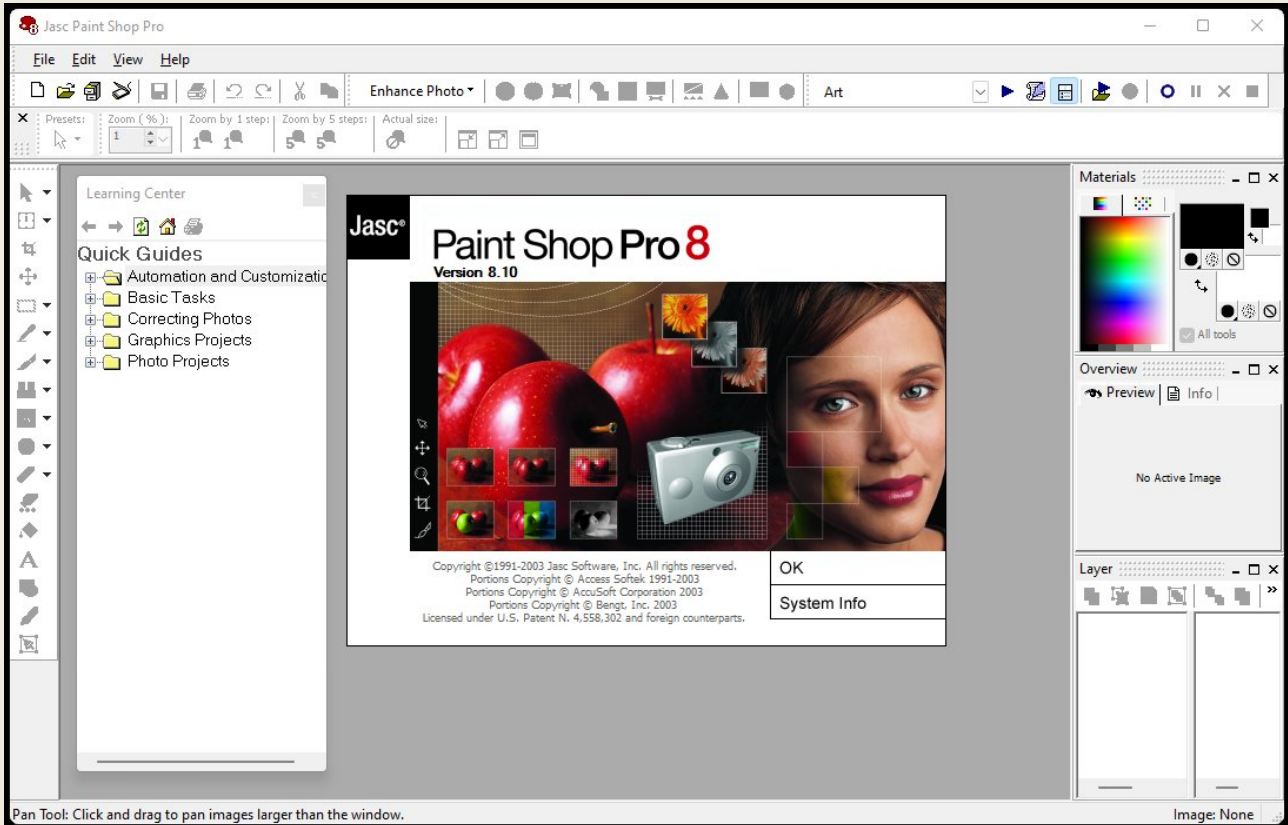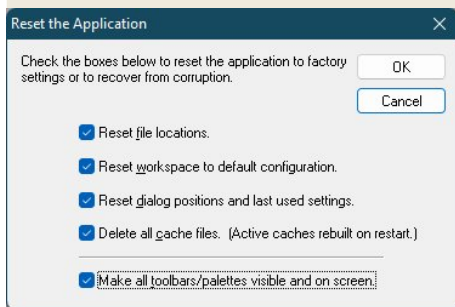

● As illustrated in the image below, layers are no longer listed at the bottom of the Layers file menu, so they can only be manipulated by using the Layers Palette.
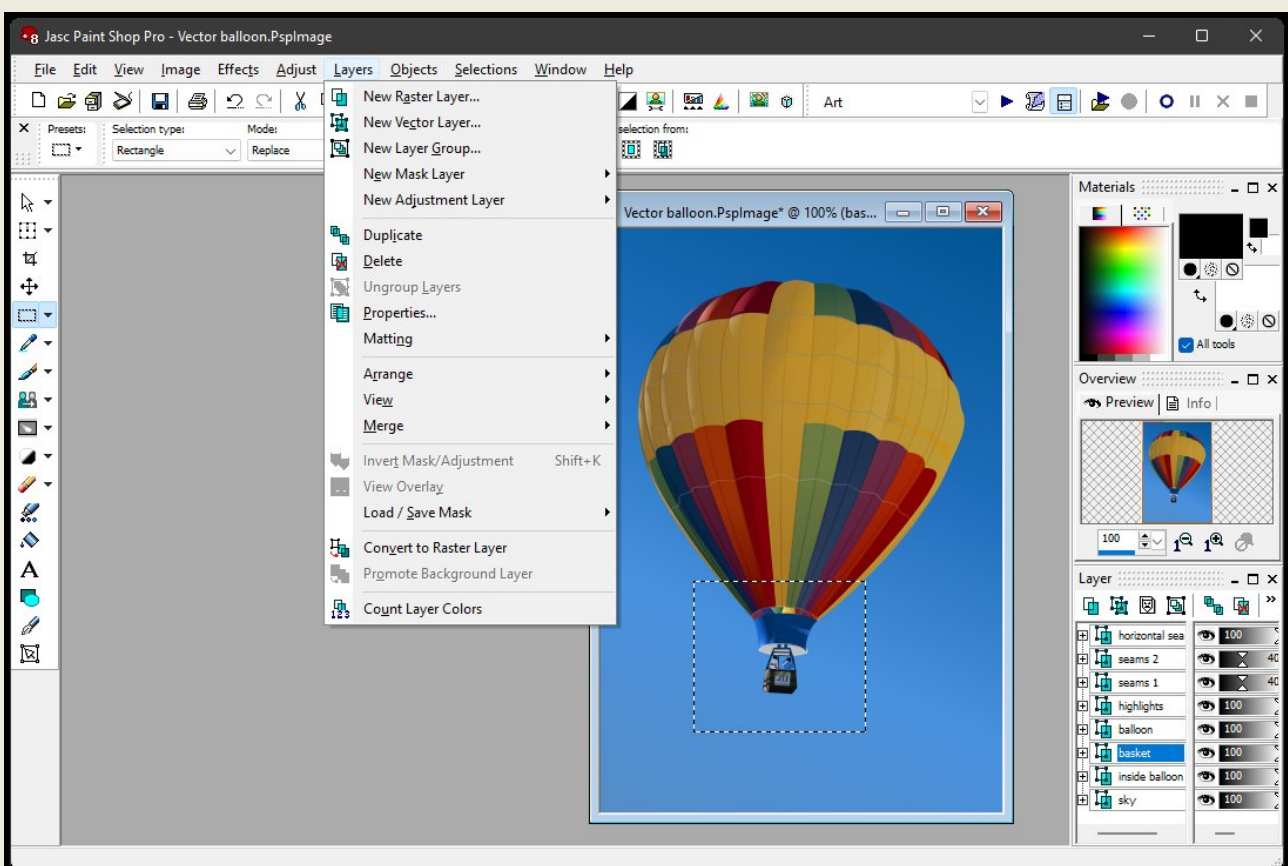
• There is no option to give tool icons a '3D button' look. Instead all icons have a flat appearance, and a pastel blue highlight is used to indicate any currently-selected icon.

• Except for any image that may appear in the design area, as well as the Status Bar that appears at the bottom of the design area, each and *every* menu, tool bar, and palette has been given a mouse cursor 'grasping' area that will allow it to be undocked, re-docked or docked elsewhere, or simply moved to become a free-floating element, either inside the design area or entirely outside of it, including on a second monitor.
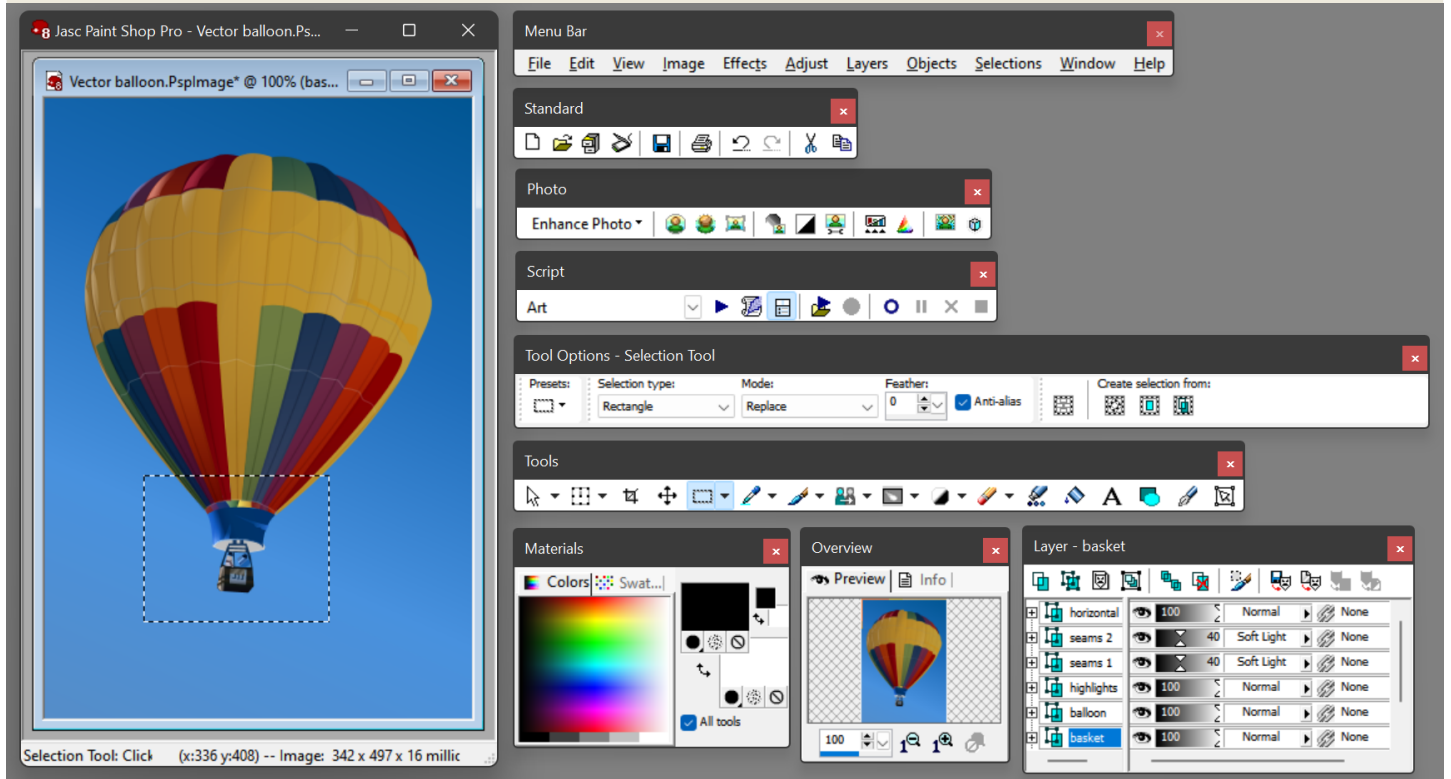

When faced with all of the radical changes to the PSP user interface that began with Version 8, some of the most obvious of which have been pointed out both above and on the previous page, many users of Version 7 were initially intimidated, so perhaps understandably a number of them were critical of the changes, even to the point of opining to this day that Version 7 was the 'best' version of Jasc Paint Shop Pro that was ever developed. Yet the default appearance of PSP 8.10, on its initial installation, shows only a part of its full features. To see all of them, as shown right, one can use the file menu item 'File > Preferences > Reset Preferences', and make selections in the 'Reset the Application' window, as shown left. This is a quick way to return all externally-moved menus, toolbars, and palettes, as shown in the image at the top of this page, back to the PSP window. Obviously PSP 8.10 was an even more powerful alternative to Photoshop than was PSP 7.04, so it left some users yearning for simpler times. Yet PSP 8.10 (and PSP 9.01) can be fully customised in ways to please any flag designer.
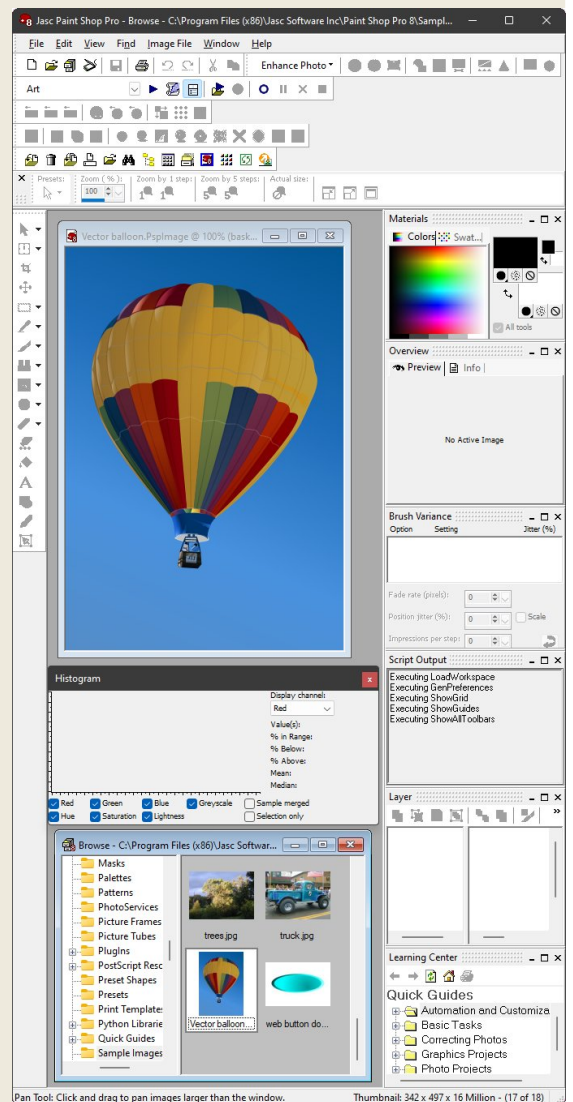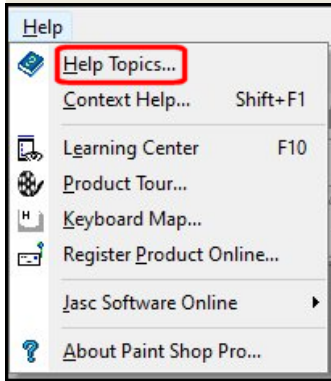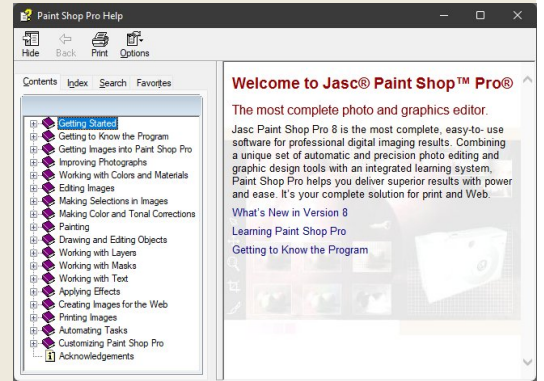
Before customising PSP 8.10, however, users should familiarise themselves with the many tools that Jasc included with the product to help its users to master it. Open the 'Help' menu, as shown left, and click 'Help Topics' to open the Windows-style help window shown right.

Clicking 'Context Help' will change the mouse cursor into one that includes a small question mark. By clicking this special cursor on a feature, whether a menu, toolbar, palette, or practically anything else, the help window will automatically open to display information that is contextually relevant. The special cursor will then revert to normal.
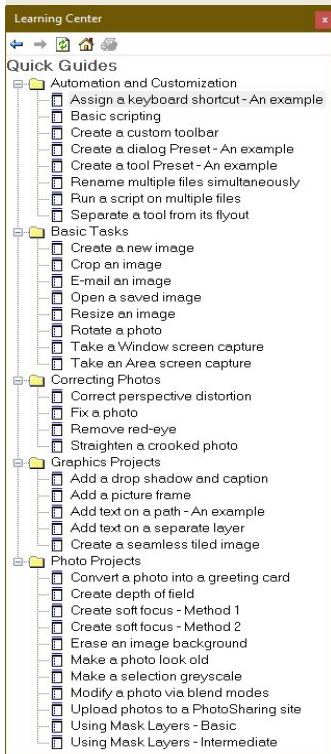
Clicking 'Learning Centre' in the Help menu will open the Learning Centre window, which is actually a palette that can either be docked at the right edge of the design area, along with the Materials Palette and others, or left as a free-floating window, as shown to the left. The Learning Centre provides step-by-step tutorial instructions for all of the graphics operations that it lists.

Like PSP 7.04, PSP 8.10 includes an animated 'Product Tour' in its Help menu, but if clicked it will probably not run, and will instead return an error message. Unlike the Product Tour in PSP 7.04, which runs by using a self-contained version of the Macromedia Flash Player, the Product Tour for PSP 8.10 was built using Adobe Flash, an outdated video animation format that was always so riddled with security flaws that many systems now simply refuse to run it under any circumstances. However, there is a fairly good workaround. Go to https://ruffle.rs/#downloads and download a version of the 'Ruffle' Flash Player emulator that will be appropriate for your system.

Unzip the downloaded files to a folder. You should give the folder a descriptive name, such as 'Ruffle Flash Player Emulator', and place it in a permanent location on your system, perhaps in the 'Program Files (x86)' directory. In your Windows settings for 'Apps > Default apps', as illustrated to the right, enter '.swf' in the 'Set a default for a file type' space. To 'Choose a default' program to open .swf files, navigate using 'More apps' to the folder where you have located Ruffle, select the ruffle.exe file, and click 'OK'.
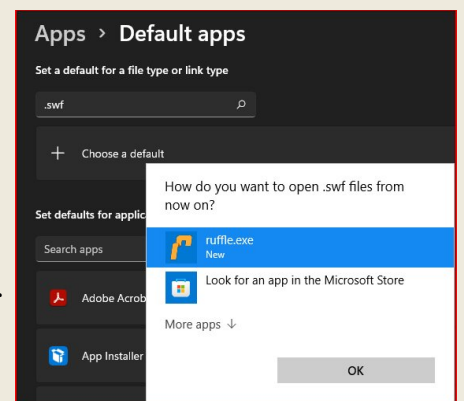
You will still not be able to run the Product Tour from the Help menu. Instead, navigate to the 'Learning Centre' sub-folder of wherever you installed PSP 8.10. Typically this will be 'C: > Program Files (x86) > Jasc Software Inc > Paint Shop Pro 8 > Learning Centre'. In the Learning Centre folder, note that there are 46 SWF video files, each with a descriptive name. Two of the files, named 'welcome.swf' and 'jasc_com.swf', are superfluous. The file named 'prod_tour.swf' will launch a window as shown to the left, from which the 43 remaining and
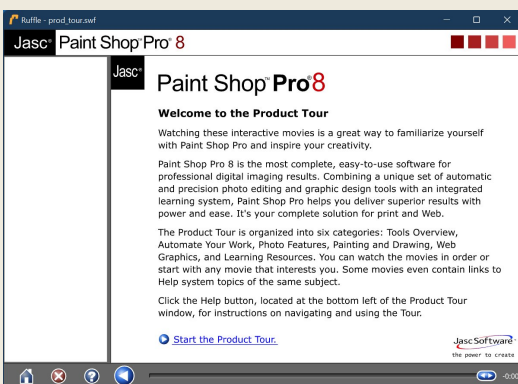
Name of Product Tour Video	Corresponding SWF File
(1) Product Tour (plays vids below)	(1) prod_tour.swf
(2) Tool Palette (Tools Toolbar)	(2) tool_palette.swf
(3) Tool Options Palette	(3) tool_options_palette.swf
(4) Materials Palette	(4) materials_palette.swf
(5) Layers Palette	(5) layer_palette.swf
(6) Customise the Interface	(6) customize_interface.swf
(7) Create a Custom Toolbar	(7) custom_toolbar.swf
(8) Preferences	(8) preferences.swf
(9) Presets	(9) presets.swf
(10) Automated Productivity Scripts	(10) scripts.swf
(11) Batch Process	(11) batch_process.swf
(12) Batch Rename	(12) batch_rename.swf
(13) Digital Cameras	(13) digital_cameras.swf
(14) Scan Images	(14) scan.swf
(15) Rotate a Photo (or an image)	(15) rotate.swf
(16) Straighten a Photo	(16) straighten.swf
(17) Crop a Photo (or an image)	(17) crop.swf
(18) Resize a Photo (or an image)	(18) resize.swf
(19) Easy Photo Correction	(19) photo_correction.swf
(20) Red-eye Removal	(20) redeye.swf
(21) Repair Scratches	(21) repair_scratches.swf
(22) Perspective Correction	(22) perspective_correction.swf
(23) Clone Brush (tool)	(23) clone_brush.swf
(24) Warp Brush (tool)	(24) warp_brush.swf
(25) Photo Effects	(25) photo_effects.swf
(26) Background Eraser (tool)	(26) background_eraser.swf
(27) Tinting a Photo	(27) tinting.swf
(28) Photo Collage	(28) photo_collage.swf
(29) Picture Frames	(29) picture_frames.swf
(30) Print Templates	(30) print_templates.swf
(31) Online Photo Services	(31) photo_sharing.swf
(32) Paint Brush (tool)	(32) paint_brush.swf
(33) Picture Tubes	(33) picture_tubes.swf
(34) Preset Shapes (tool)	(34) preset_shapes.swf
(35) Vector Drawing	(35) vector_drawing.swf
(36) Add a Text Caption	(36) add_text.swf
(37) Text on a Path	(37) text_path.swf
(38) Seamless Tiling	(38) seamless_tiling.swf
(39) Buttons	(39) buttons.swf
(40) Optimising Images	(40) optimize.swf
(41) Image Mapping	(41) mapping.swf
(42) Image Slicing	(42) slicing.swf
(43) Quick Guides	(43) quick_guides.swf
(44) Help and User Guide	(44) psp_help.swf

actually informative videos can be played, but only in a fixed sequence that cannot be altered. Not all of the videos deal with features that will be especially relevant for flag designers, but viewing the entire sequence of short videos at least once is nevertheless recommended for new users of the software. Since each individual SWF video file can be played alone at any time, users may want to make a shortcut to the 'Learning Centre' folder, so that they can easily return and review the video files that are most instructive for them. An index of the individual Product Tour videos and their corresponding SWF files has been depicted to the left.

Incidentally, unlike Jasc PSP 7.04 and PSP 8.10, Jasc Paint Shop Pro 9.01 includes no animated videos Product Tour. However, since many of the features of Paint Shop Pro remained the same through various revisions, the PSP 7 and 8 Product Tours will also be relevant for PSP 9.01.

Whilst you were exploring the 'Learning Centre' folder, you may have noticed its sub-folder labelled 'PDF Files'. If you open that folder you will find the *"PSP 8 User Guide"* PDF. You should make a shortcut to this PDF, because it is the complete, 434-page, official Jasc user manual for PSP 8, and it is identical to the printed version that was included with many of the commercially-sold packages of the PSP 8 software. As a PDF it is completely searchable, which of course gives it an important advantage over the printed version. This brilliant 'hidden feature' of PSP 8.10 cannot be found in PSP 7.04, for which only printed versions of a user guide were produced, and PSP 9.01 likewise includes no user guide with its installation.


**Paint Shop Pro User Guide**

Jasc Paint Shop Pro 8
Quick Reference Guide
Contents

PSP8_QR_UI_Overview.pdf
Annotated screen capture of the user interface.

PSP8_QR_Tools_Overview.pdf
Annotated screen capture of the tools (including "flyouts").

PSP8_QR_Toolbars_Overview.pdf
Annotated screen captures of the toolbars.

PSP8_QR_Palettes1_Overview.pdf
Annotated screen captures of Layers, Materials and Tool Options palettes.

PSP8_QR_Palettes2_Overview.pdf
Annotated screen captures of all other palettes.

PSP8_QR_Automtn_Custmztn.pdf
Instructions on common automation and customization tasks.

PSP8_QR_Image_Editing1.pdf
Instructions on six common image editing tasks.

PSP8_QR_Image_Editing2.pdf
Instructions on another six common image editing tasks.

PSP8_QR_Menu1.pdf
Command reference for the File, Edit, and View menus.

PSP8_QR_Menu2.pdf
Command reference for the Image and Effects menus.

PSP8_QR_Menu3.pdf
Command reference for the Adjust and Layers menus.

PSP8_QR_Menu4.pdf
Command reference for the Objects, Selections, Window and Help menus.

PSP8_QR_UserAsstnc_Rsrcs
Brief overview of the main user assistance resources.

Also curiously obscure is another useful PDF that one can only find by searching through the old Jasc FTP servers. The extremely well-illustrated *"Jasc Paint Shop Pro 8 Quick Reference Guide"* is actually a consolidation of thirteen informative one-page PDFs, each of which can be rapidly accessed from the PDF's hyperlinked, 'table of contents' cover page, as shown to the left. You can view and download the PDF from this Corel site, or alternatively from here or from here.

Perhaps because its interface was such a departure from that of PSP 7, PSP 8 unquestionably has the most 'help' resources of any PSP version that Jasc ever made, as evidenced by the fact that a full two pages of this document were required to simply catalogue all the ways that one can learn to use it.

To customise PSP 8.10 for a flag designer, we can begin by clicking 'File > Preferences > General Program Preferences' to open the 'Paint Shop Pro 8 Preferences' window. Suggested settings for its nine tabs are presented below and on the following page.
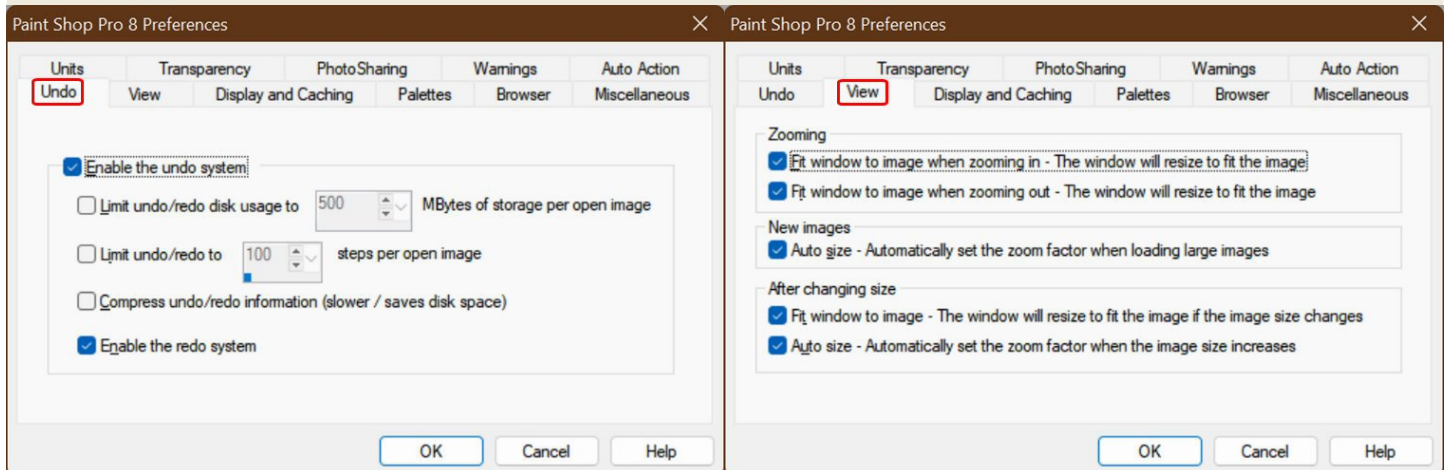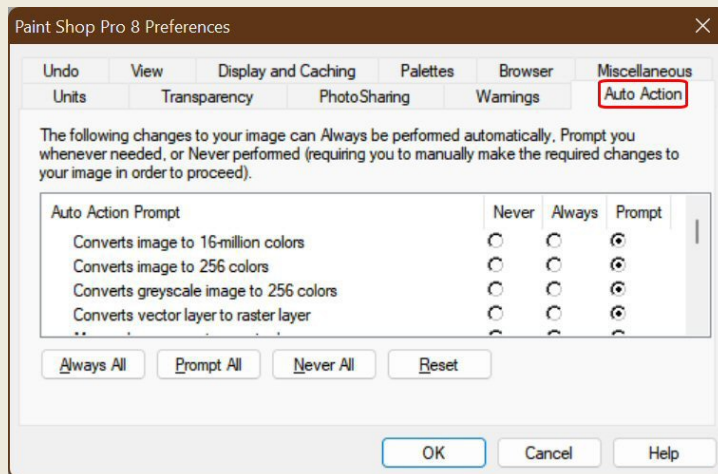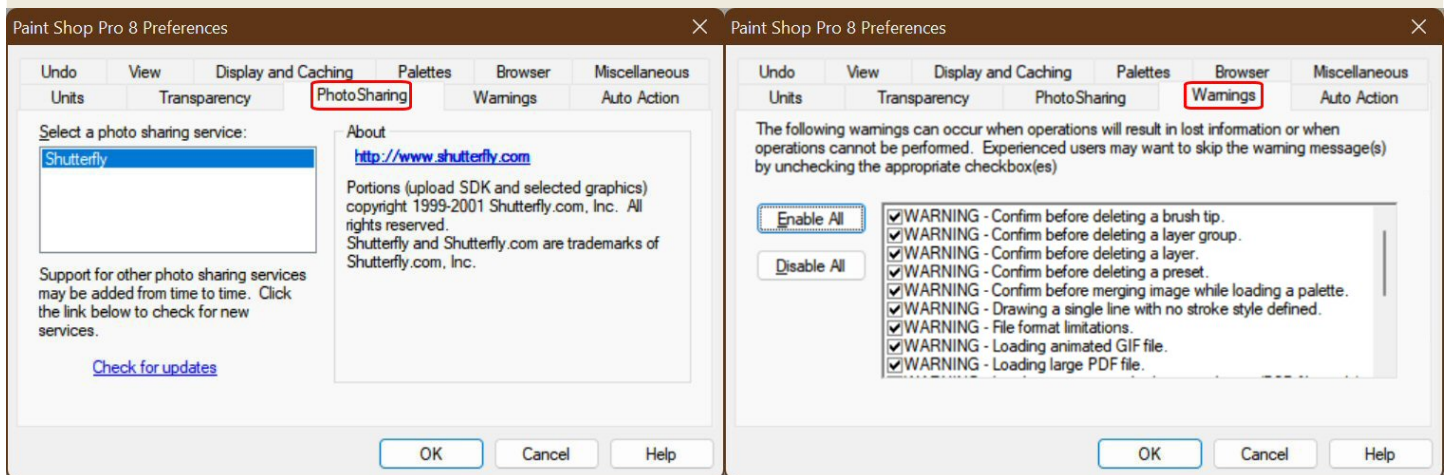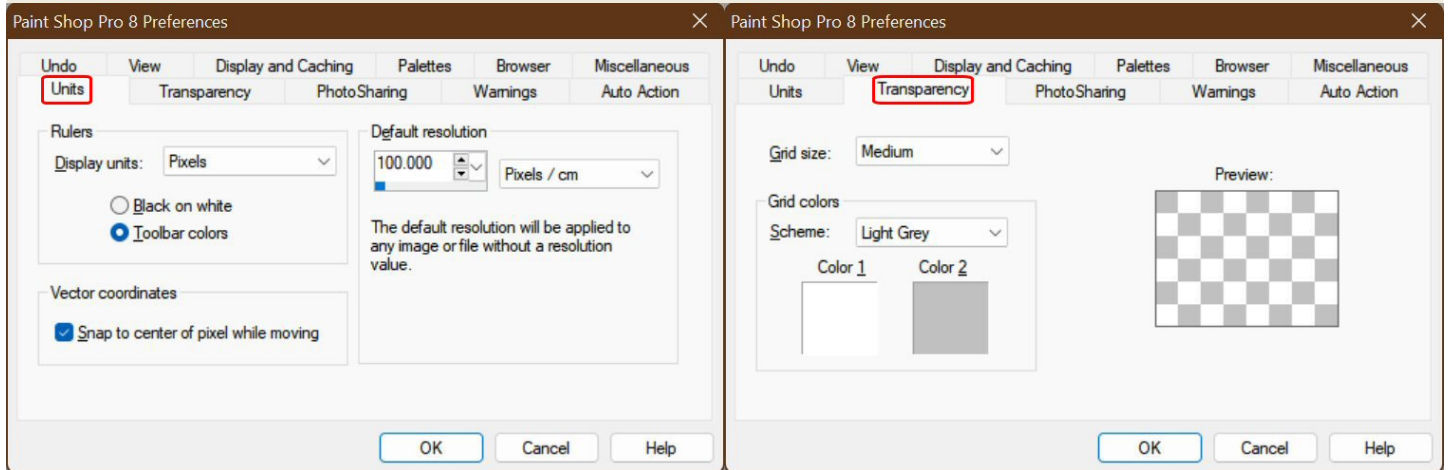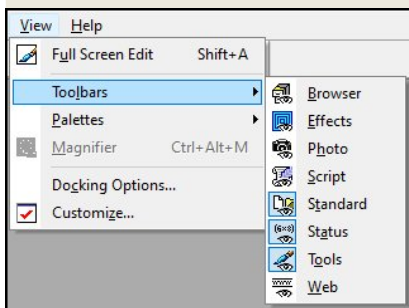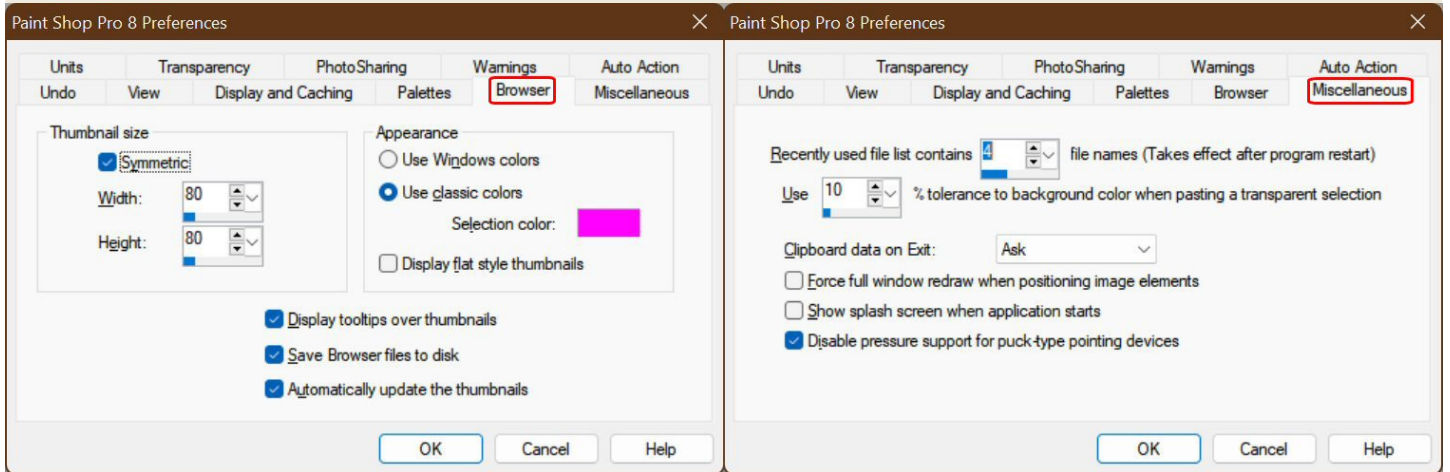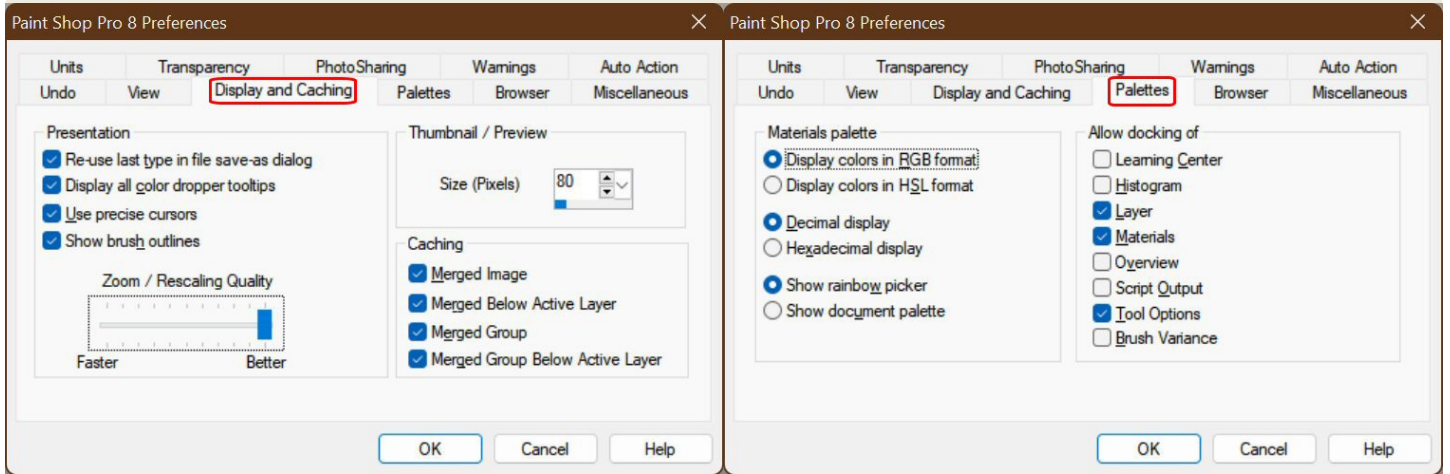
Prior to further customisations it may be helpful to simplify the default appearance of the PSP 8 window, by setting the file menu items 'View > Toolbars' and 'View > Palettes' as respectively illustrated left and right (so that only the 'Standard', 'Status', and 'Tools' toolbars will show for now, and so that none of the palettes will show for now). We can now drag and drop the Tools Toolbar to the right of the Standard Toolbar, leaving the top of the PSP 8.10 window looking as it does in the illustration below.
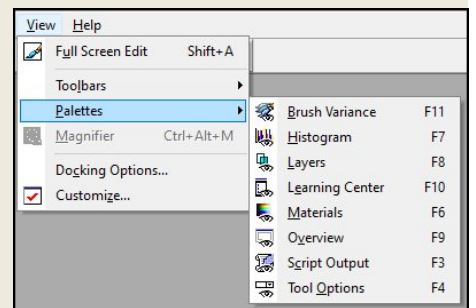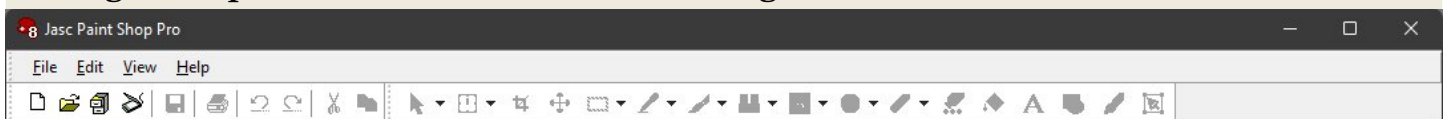
If we now click 'View > Customise', the PSP 8.10 window will appear as shown below, with the 'Customise' window 'unlocking' _everything visible_ for possible customisation.
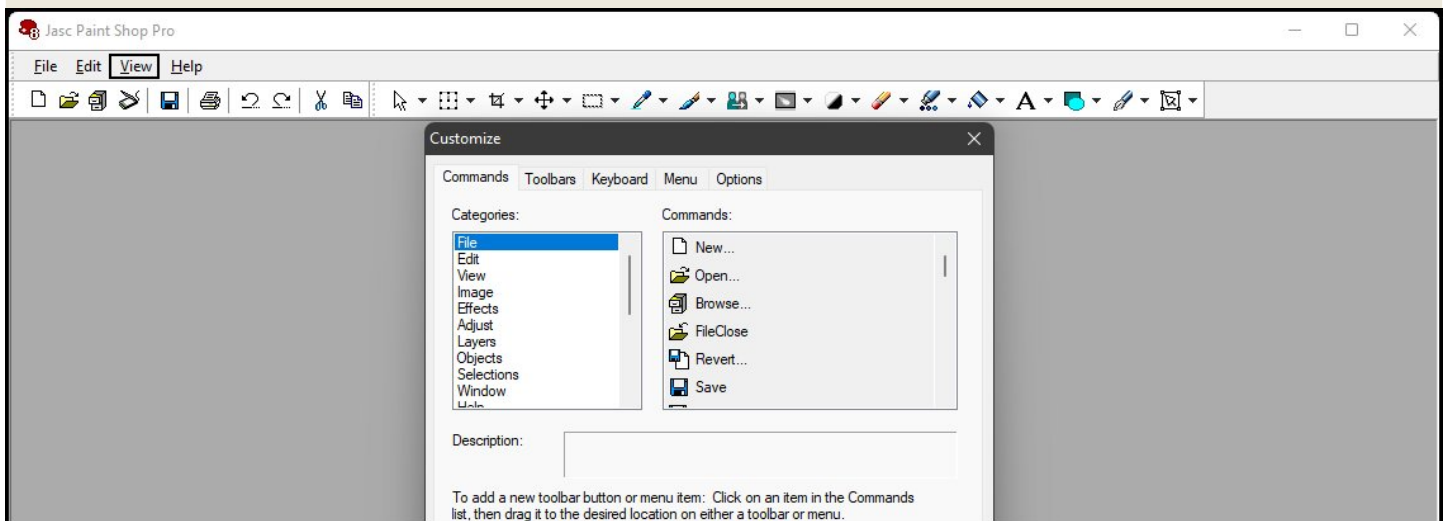
Take a few moments to explore the incredible array of customisation 'Categories' and 'Commands'. As opposed to the rather limited customisation features of PSP 7.04, those of PSP 8.10 (and those of PSP 9.01) are practically limitless, and they are as easy to effect as a drag-and-drop mouse operation. To add something to the file menu, to the Standard Toolbar, or to the Tools Toolbar, one need only drag and drop a Command from the Customise window, and to remove something from the file menu, from the Standard Toolbar, or from the Tools Toolbar, one need only perform that operation in reverse, by dragging and dropping an item *to* the Customise window. There is no risk of 'damaging' the PSP 8.10 user interface, because no customisation will be irreversible. To get some practice, click 'Help', which contains the three useless items 'Product Tour', 'Register Product Online', and 'Jasc Software Online'. Drag and drop each of these items, in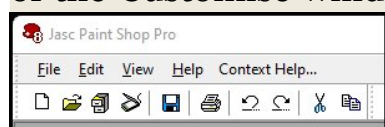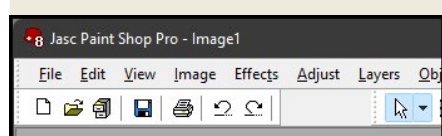 turn, to the Customise window. In the Categories section of the Customise window, select 'Help', and from the related Command section of the Customise window, drag and drop 'Context Help' up and to the right of 'Help', as illustrated to the left. Now you can access the Context Help feature with a single click. Close the Customise window and click 'File > New' (or the 'New' icon in the Standard Toolbar) to open the 'New Image' window. Change its settings to match those shown in the image to the left, and click 'OK'. Note that because an image is now open, the file menu has changed to include additional relevant menu items, and that 'Context Help' no longer appears to the right of 'Help'. Open the Customise window again by clicking 'View > Customise', select 'Help' in the Command section of the Customise window, and once again drag and drop 'Context Help' from the Commands section of the Customise window to the right of 'Help'. Now you can always access Context Help with a single click, no matter what is shown in the file menu, as illustrated below:
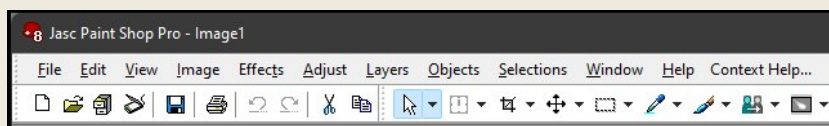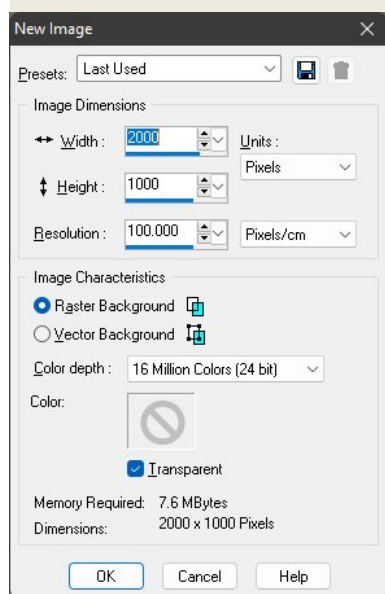
By leaving both the New Image and the Customise windows open, we can easily make many more changes to better suit the PSP 8.10 interface to the needs of flag designers. From the Standard Toolbar, drag and drop the icons for 'Twain Acquire', 'Cut', and 'Copy' to the Customise window (scanning operations will be rare for flag design, and cut, copy, and paste operations are usually easier to perform by using left and right mouse clicks on an image, without ever involving the file menu). Now the Standard Toolbar should appear as it does in the image to the left. By dragging and dropping both the 'File Save' and 'Print' icons just to the right of the 'Browse' icon, we can eliminate a couple of superfluous vertical divider lines, leaving the Standard Toolbar appearing as it does in the image to the right. In the Categories section of the Customise window, select 'Image', and from the Commands section of the Customise window, drag and drop 'Image Information' just to the right of the 'Print' icon, to make the Standard Toolbar appear as it does in the image to the left. In the Categories section of the Customise window, select 'View', and from the Commands section of the Customise window, drag and drop in turn, just to the right of the vertical divider line, at the right-hand end of the Standard Toolbar, the palette toggles for 'Tool Options', 'Materials', and 'Layers'.

The Standard Toolbar should now appear as it does in the image to the right. There are several tools in the Tools Toolbar that will rarely be of use to mouse-wielding flag designers, so in turn, drag and drop the icons for 'Deform Tool', 'Crop Tool', 'Clone Brush', 'Dodge Brush', 'Lighten/Darken Brush', and 'Picture Tube Tool' to the Customise window. The Tools Toolbar should now appear as it does in the image to the left. Click the 'Pan Tool', which is highlighted in pastel blue in the image to the left, to reveal its drop-down menu item, the 'Zoom Tool'. Drag and drop the Zoom Tool just to the right of the Pan Tool. Be certain that you have only relocated the tool's icon. If you accidentally also relocate a tool's name to the Tools Toolbar, or if you make some other mistake, select 'Tools' in the Categories section of the Customise window, and use items as needed from the Commands section of the window to make corrections.
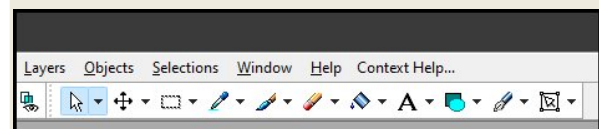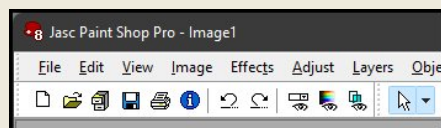
Move on to the 'Selection Tool', and in turn drag and drop its submenu items the 'Freehand Selection' tool and the 'Magic Wand' tool to the right of the Selection Tool. Move on to the 'Dropper Tool', and drag and drop its sub-menu item the 'Colour Replacer Tool' to the right of the Dropper Tool. Move on to the 'Paint Brush' tool, and drag and drop its sub-menu item the 'Airbrush' tool to the right of the Paint Brush tool. Drag and drop its 'Warp Brush' tool to the Customise window. Move on to the 'Eraser Tool', and drag and drop its sub-menu item the 'Background Eraser' to the right of the Eraser Tool. You have now relocated all of the tools that were located in sub-menus. Close the Customise window. The drop-down arrows in the Tools Toolbar will be gone, and the top of the PSP 8.10 window should appear as it does in the image below:
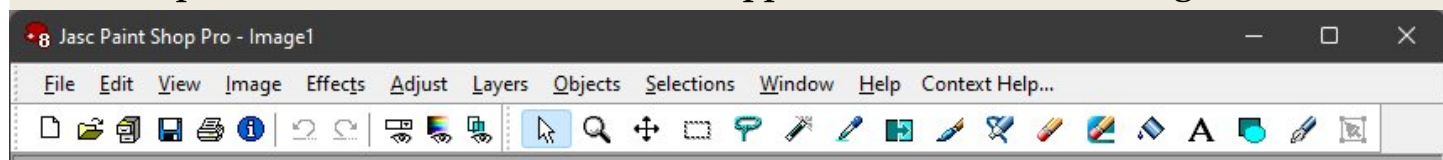
You should still have a New Image open. Minimise it to the bottom of the PSP 8.10 window, and click the toggle icons for Tool Options, Materials, and Layers to obtain a window that appear much like the one below. Note that you can change the relative vertical sizes of the Materials and/or Layers palettes by dragging their top edges.
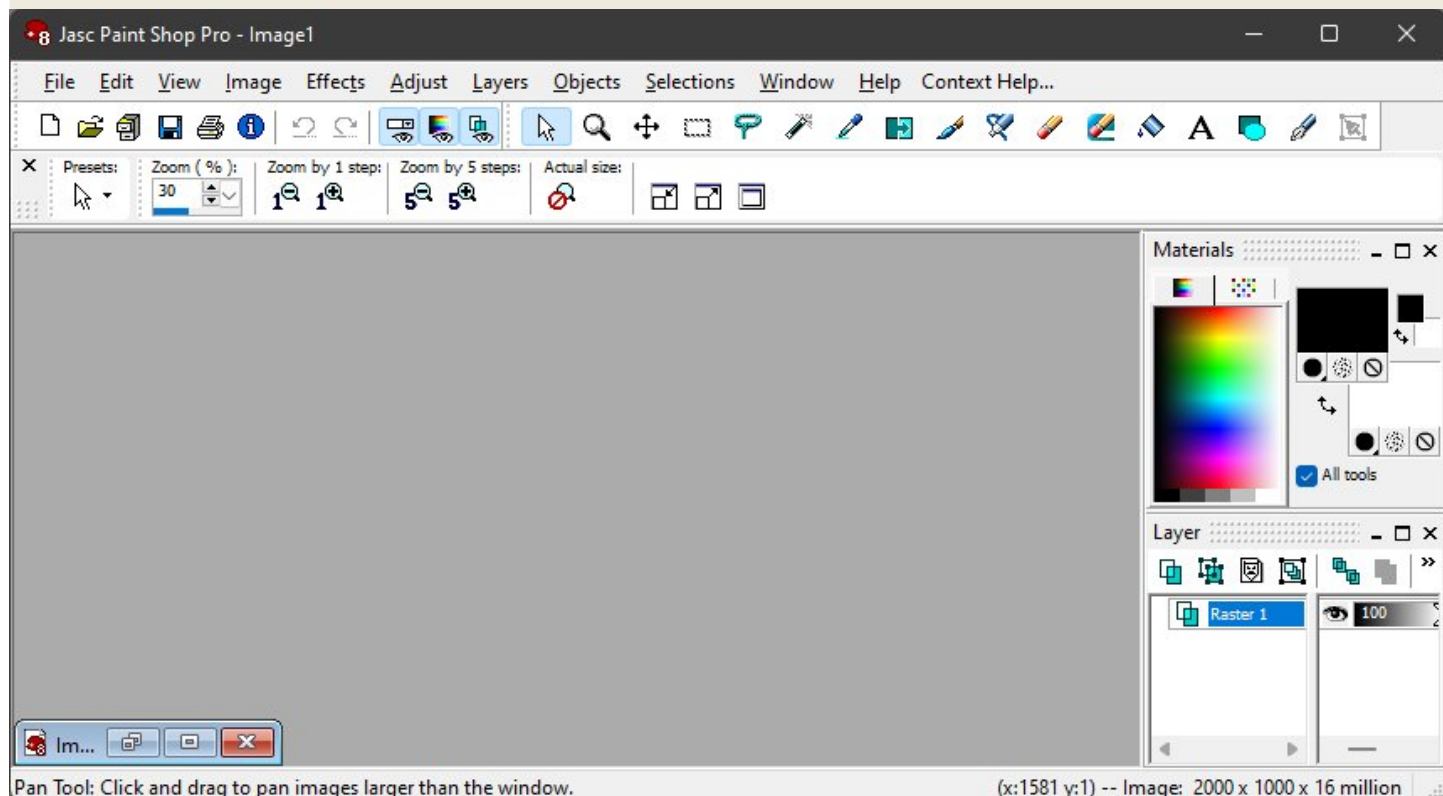
You will find that the Tool Options Palette can be docked at the top or at the bottom of the PSP 8.10 design window, that the Materials and Layers Palettes can be docked at any edge of the design window, and that all three can be made free-floating, as below:
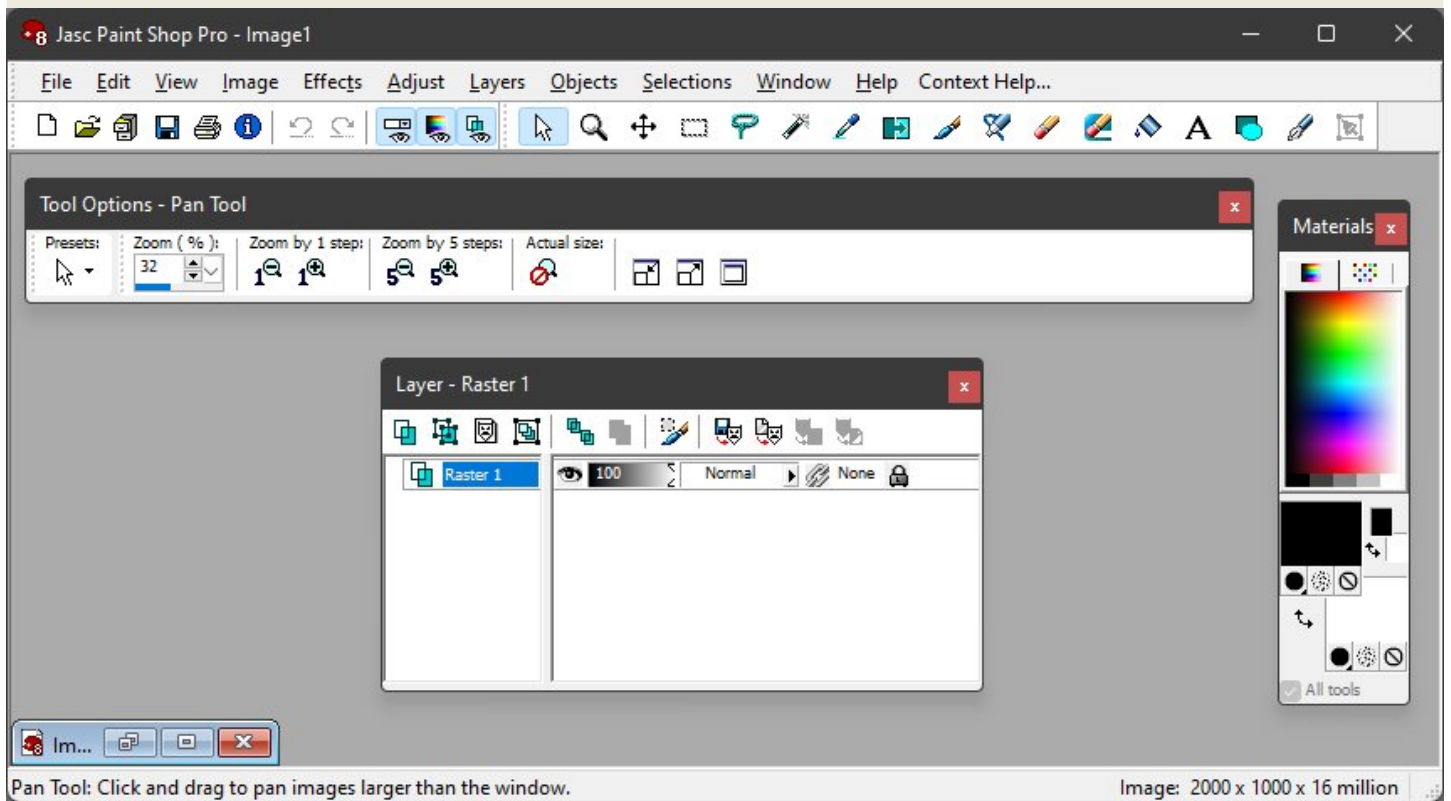
Toggle all three floating windows out of view. They will appear in the same states and positions when they are toggled back into view, whether they are docked or free-floating. This will also be the case when the PSP 8 program is shut down and restarted.
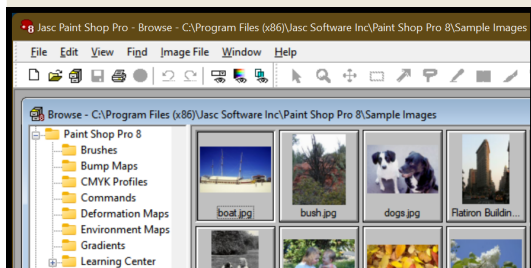
Incidentally, if there is no image open in the PSP 8.10 window, and if you open the editor's integrated image browser, which is as brilliant a feature in PSP 8.10 as it is in PSP 7.04 (or in PSP 9.01), you may notice that the file menu changes slightly, but that 'Context Help' no longer appears. No worries, you can fix that, yes?

JASC PAINT SHOP PRO VERSION 9.01

(1) https://archive.org/details/Jasc_Paint_Shop_Pro_v9.01_Windows_2004_Eng
(2) Download the 'ISO IMAGE' file (PSP9EN01.iso) to one of your folders.
(3) When the download is complete, navigate to the folder where you downloaded the ISO file. Right-click the file and select 'Open with > Windows Explorer'. This should place a virtual CD/DVD drive on your system, with a drive letter immediately above those of whatever physical drives your system may include. The virtual drive will remain on your system until the virtual CD is ejected or until your system is restarted. The virtual CD will probably open to its root directory automatically, but if it also attempts to auto-install, **do not allow it to do so**. Instead just open the CD to its root directory, but **do not click autorun.exe**. (If this step does not work as described, you can still burn the ISO to a physical CD or to a bootable thumb-drive.)
(4) From the root directory of the virtual CD, physical CD, or bootable thumb-drive, open the 'PSP9' directory. Again, **do not click autorun.exe**.
(5) From the PSP9 directory, open the 'Paint Shop Pro 9' directory. **Do not click setup.exe.** Instead click the file that is named 'Jasc Paint Shop Pro 9.msi'. An installation window should appear.
(6) Click 'Next' to see the licence agreement. Select the 'I accept' bullet and click 'Next'.
(7) In the 'Customer Information' window that opens, fill in the spaces or leave them blank, select an appropriate bullet for 'Install this application for', and click 'Next'.
(8) In the 'Custom Setup' window that opens, all options will be selected by default, as illustrated below. Leave them all selected and click 'Next'.
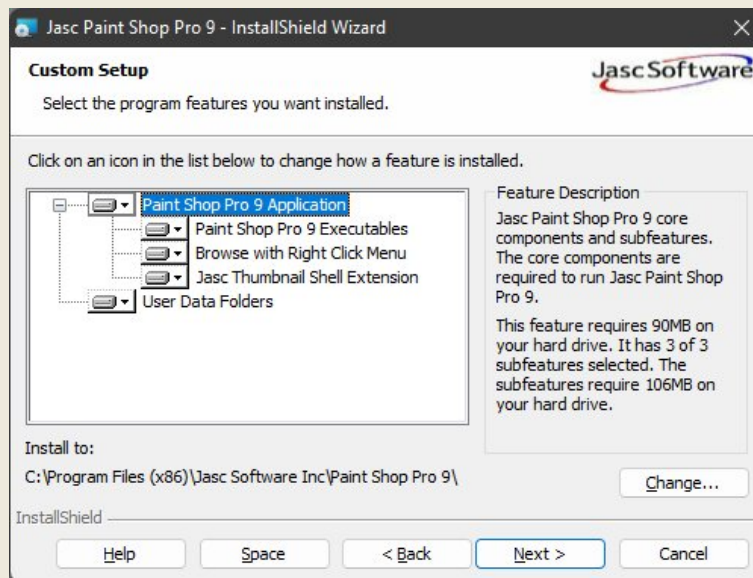
In the 'Ready to Install the Program' window that appears, click 'Install'. When the installation is complete, an 'InstallShield Wizard Completed' window will appear. Select options in the window as you like, and click 'Finish'. A software registration window will probably appear, and it may appear again when the software is first run. Always click 'Skip', because no Jasc or Corel registration servers exist for this software.

When PSP 9.01 is first run, a 'File Format Associations' window will open, just as it did for the first runs of PSP 7.04 and PSP 8.10. If you have previously allowed one of those programs to be the default graphics program to open some or all of the graphic file types listed in the window, you may not want to allow PSP 9.01 to open them by default. You can always make changes later to the file format associations that you have selected for each of the programs. For now you may want to select 'Remove All', and to click 'OK'. At this point you may want to close or minimise the PSP 9.01 window, to consider installing two other programs before learning more about PSP 9.

Included with the Jasc PSP 9.01 ISO is the ability to install **Jasc Animation Shop 3**, a good program that will allow you to make animated GIFs, should that sort of thing be your cup of tea. This is version 3.11, the last version of the program that Jasc produced (Corel did not make further revisions). Animated GIF software can be pricey, so providing such a program for free with Paint Shop Pro was yet another way in which Jasc could tweak the noses of more greedy software providers. Because the interface of the program is modelled on that of Paint Shop Pro, getting around within it is easy. Its built-in 'Help' files are no longer supported, but Chapter four in the *"PSP 7 Getting Started Guide"*, available here or here, explains all of Animation Shop's basic functions.

It is assumed that you still have the PSP 9 ISO opened as a virtual CD on your system, following your installation of PSP 9.01. When you first opened its 'PSP9' directory, you probably noticed that besides its 'Paint Shop Pro 9' sub-directory there were two other sub-directories named 'Paint Shop Photo Album 5' and 'Animation Shop'.

In the **Paint Shop Photo Album 5** sub-directory you will find a 'Setup.exe' file, with which you can install **Jasc Paint Shop Photo Album 5.2.2**, the final version that Jasc ever made of this digital photo organisation/enhancement/presentation software. It is a useful, well-made product that is yours for the taking. No working 'Help' files.

In the **Animation Shop** sub-directory **do not click setup.exe.** Instead click the file that is named 'Jasc Animation Shop 3.msi'. An installation window should appear. Click 'Next' to see the license agreement. Select 'I accept' and click 'Next'. Make entries as you like in the 'Customer Information' window and click 'Next'. Select the 'Complete' setup type and click 'Next'. In the 'Ready to Install' window, click 'Install'. When you first run the program, skip any registration and decide on any file format associations. If you have previously familiarised yourself with PSP 7.04, PSP 8.10, or PSP 9.01, you will have little difficulty mastering **Jasc Animation Shop 3**, which includes familiar tools and toggles, drag and drop toolbars, and preferences settings, as well as a PSP-styled colour palette and an integrated image browser. Explore, enjoy.

We can now get back to **JASC PAINT SHOP PRO VERSION 9.01**, which on its first run will have a default appearance much like that shown in the image below.
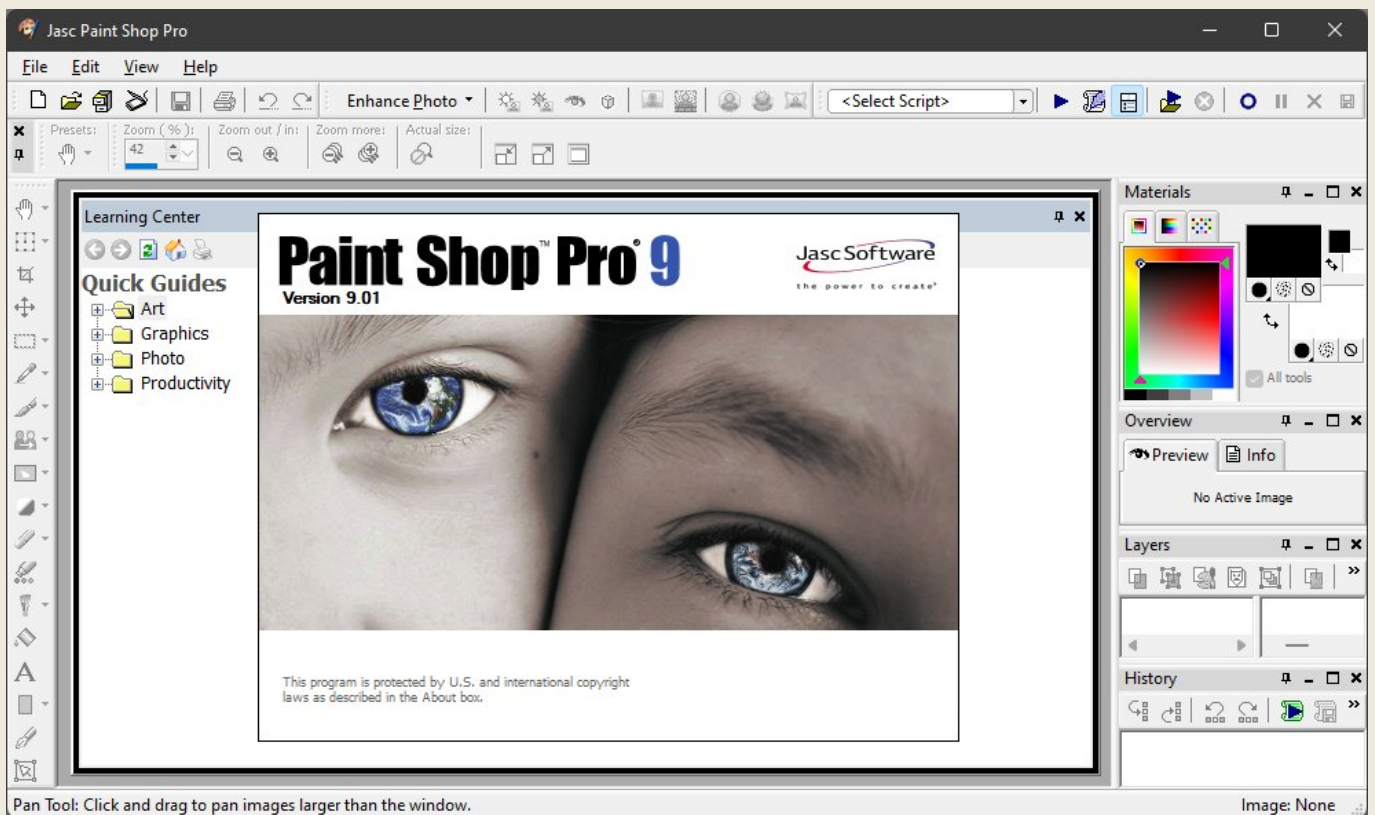
To kick off our closer look at PSP 9.01, we can make a few operations on a New Image to 'light up' the default tools, palettes, and menus, as illustrated in the image below. The default appearance of PSP 9.01 is much the same as for PSP 8.10, but note the new 'History Palette', a useful feature that allows undo/redo operations on any previous image operation, instead of only on the last image operation performed, as well as the alternative type of colour picker 'rainbow' that has been added to the Materials Palette. Other changes are less obvious, and will be spotlighted as this discussion continues.
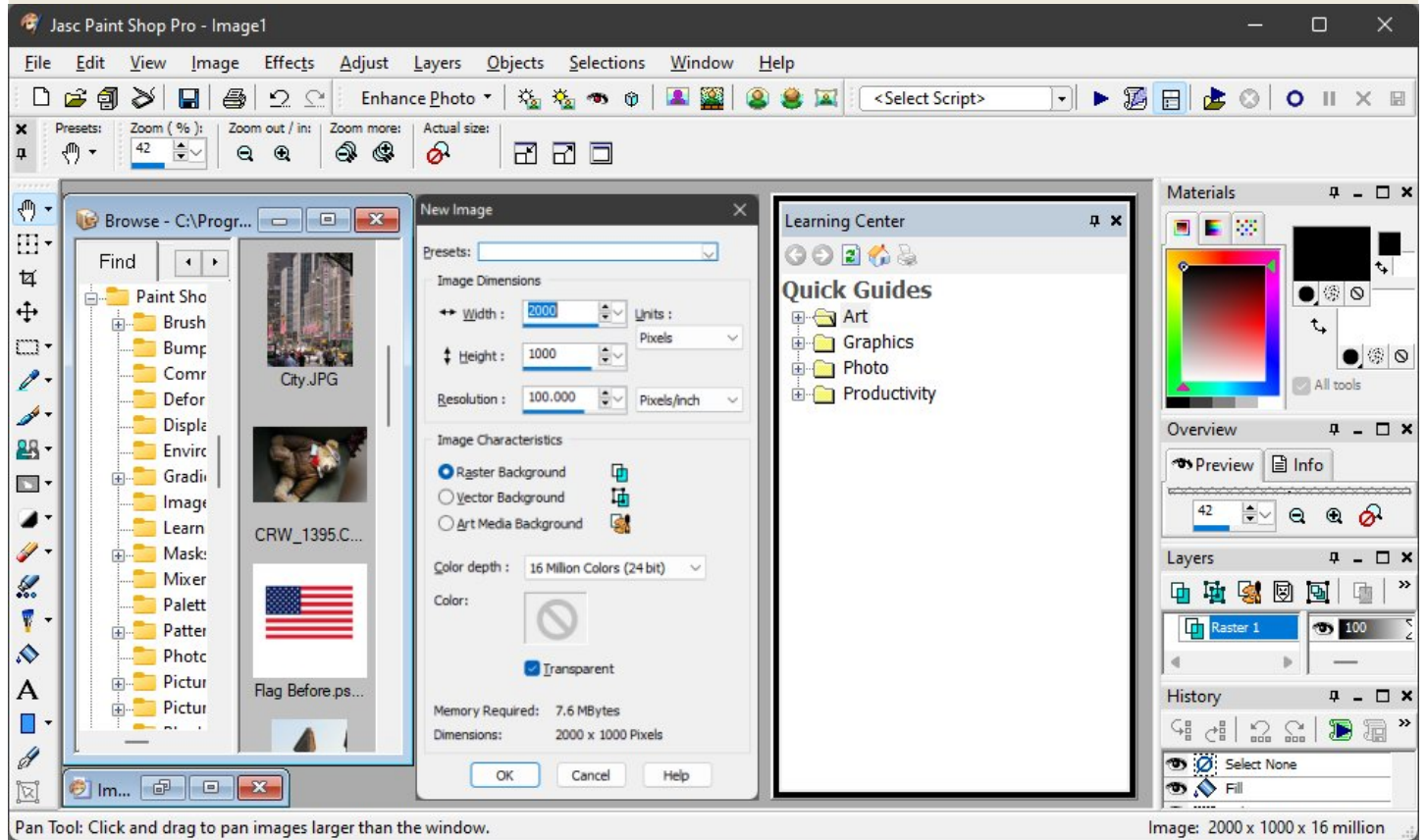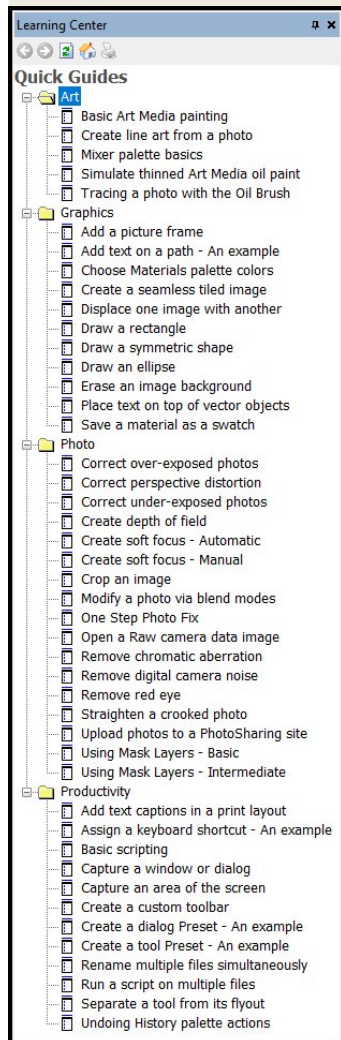
As previously mentioned, PSP 9.01 includes no animated Product Tour, but those for PSP 7.04 and PSP 8.10 remain relevant. Learning resources include file menu 'Help' and 'Context Help', as well as an expanded 'Learning Centre' palette, as illustrated to the left. Little in the way of documentation is installed with PSP 9.01 by default, but one can download a searchable PDF of the official, 502-page *"Jasc Paint Shop Pro 9 User Guide"* from this old Jasc FTP site retained by Corel, or alternatively either from here or from here.
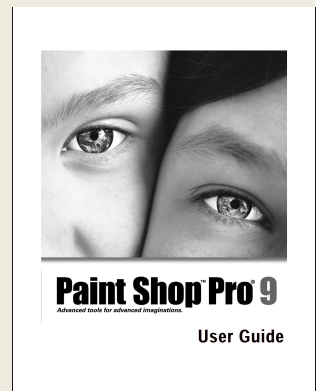
Prior to further customisations it may be helpful to simplify the default appearance of the PSP 9.01 window as we did for PSP 8.10, by setting the file menu item 'View > Toolbars' to show only the 'Standard', 'Status', and 'Tools' toolbars, and by setting the menu item 'View > Palettes' to show no palettes for now. We can drag and drop the Tools Toolbar to the right of the Standard Toolbar, leaving the top of the PSP 9.01 window as shown below.

Using the file menu item 'File > Preferences > General Program Preferences', we can open the 'Paint Shop Pro 9 Preferences' window. Suggested settings for its nine tabs are on the next page.

Paint Shop Pro 9 Preferences ✕

| Undo | View | Display and Caching | Palettes | Browser | Miscellaneous |
| Units | Transparency and Shading | | PhotoSharing | Warnings | Auto Action |

Rulers
Display units: Pixels
○ Black on white
● Toolbar colors

Default resolution
100.000 ▲▼ Pixels / cm ▼
The default resolution will be applied to any image or file without a resolution value.

Vector coordinates
☑ Snap to center of pixel while moving

OK   Cancel   Help

Paint Shop Pro 9 Preferences ✕

| Undo | View | Display and Caching | Palettes | Browser | Miscellaneous |
| Units | Transparency and Shading | | PhotoSharing | Warnings | Auto Action |

Grid
Grid size: Medium
Scheme: Light Grey
Color 1   Color 2

Preview:

Shading
Color   Opacity
38 ▲▼
☑ Enable crop shade area

OK   Cancel   Help

Paint Shop Pro 9 Preferences ✕

| Undo | View | Display and Caching | Palettes | Browser | Miscellaneous |
| Units | Transparency and Shading | | PhotoSharing | Warnings | Auto Action |

Select a photo sharing service
Ofoto
PhotoBox
Shutterfly

About
www.ofoto.com/Welcome.jsp

Support for other photo sharing services may be added from time to time. Click the link below to check for new services.

Check for updates

OK   Cancel   Help

Paint Shop Pro 9 Preferences ✕

| Undo | View | Display and Caching | Palettes | Browser | Miscellaneous |
| Units | Transparency and Shading | | PhotoSharing | Warnings | Auto Action |

The following warnings can occur when operations will result in lost information or when operations cannot be performed. Experienced users may want to skip the warning message(s) by unchecking the appropriate checkbox(es)

Enable All
Disable All

☑ WARNING - Confirm before deleting a file.
☑ WARNING - Confirm before deleting a layer group.
☑ WARNING - Confirm before deleting a layer.
☑ WARNING - Confirm before deleting a preset.
☑ WARNING - Confirm before merging image while loading a palette.
☑ WARNING - File format limitations.
☑ WARNING - Importing vector data not supported.
☑ WARNING - Loading animated GIF file.
☑ WARNING - Loading large PDF file.
☑ WARNING - Loading unsupported adjustment layers (PSD files only).

OK   Cancel   Help

Paint Shop Pro 9 Preferences ✕

| Undo | View | Display and Caching | Palettes | Browser | Miscellaneous |
| Units | Transparency and Shading | | PhotoSharing | Warnings | Auto Action |

The following changes to your image can Always be performed automatically, Prompt you whenever needed, or Never performed (requiring you to manually make the required changes to your image in order to proceed).

Auto Action Prompt	Never	Always	Prompt
Converts image to 16 million colors	○	○	●
Converts image to 256 colors	○	○	●
Converts greyscale image to 256 colors	○	○	●
Converts vector layer to raster layer	○	○	●
Merges layer group to a raster layer	○	○	●

Always All   Prompt All   Never All   Reset

OK   Cancel   Help

Paint Shop Pro 9 Preferences ✕

| Units | Transparency and Shading | PhotoSharing | Warnings | Auto Action |
| Undo | View | Display and Caching | Palettes | Browser | Miscellaneous |

☑ Enable the undo system
  ☐ Limit undo/redo disk usage to 500 MBytes of storage per open image
  ☐ Limit undo/redo to 250 steps per open image
  ☐ Compress undo/redo information (slower / saves disk space)
☑ Enable the redo system

10 ▲▼ Non-undoable steps after last undoable step.

OK   Cancel   Help

Paint Shop Pro 9 Preferences ✕

| Units | Transparency and Shading | PhotoSharing | Warnings | Auto Action |
| Undo | View | Display and Caching | Palettes | Browser | Miscellaneous |

Zooming
☑ Fit window to image when zooming in - The window will resize to fit the image
☑ Fit window to image when zooming out - The window will resize to fit the image

New images
☑ Auto size - Automatically set the zoom factor when loading large images

After changing size
☑ Fit window to image - The window will resize to fit the image
☑ Auto size - Automatically sets the zoom factor

OK   Cancel   Help

Paint Shop Pro 9 Preferences ✕

| Units | Transparency and Shading | PhotoSharing | Warnings | Auto Action |
| Undo | View | Display and Caching | Palettes | Browser | Miscellaneous |

Presentation
☑ Re-use last type in file save-as dialog
☑ Display all color dropper tooltips
☑ Use precise cursors
☑ Show brush outlines

Zoom / Rescaling Quality
Faster   Better

Thumbnail / Preview
Size (Pixels) 80 ▲▼

Caching
☑ Merged Image
☑ Merged Below Active Layer
☑ Merged Group
☑ Merged Group Below Active Layer

OK   Cancel   Help

Paint Shop Pro 9 Preferences ✕

| Units | Transparency and Shading | PhotoSharing | Warnings | Auto Action |
| Undo | View | Display and Caching | Palettes | Browser | Miscellaneous |

Materials palette
● Display colors in RGB format
○ Display colors in HSL format
● Decimal display
○ Hexadecimal display
● Show rainbow picker
○ Show document palette

Allow docking of
☐ Learning Center
☐ Histogram
☑ Layers
☑ Materials
☐ Overview
☐ Script Output
☑ History Palette
☑ Tool Options
☐ Brush Variance
☐ Mixer

OK   Cancel   Help

Paint Shop Pro 9 Preferences ✕

| Units | Transparency and Shading | PhotoSharing | Warnings | Auto Action |
| Undo | View | Display and Caching | Palettes | Browser | Miscellaneous |

Thumbnail size
☑ Symmetric
Width: 80 ▲▼
Height: 80 ▲▼

Appearance
○ Use Windows colors
● Use classic colors
Selection color:
☐ Display flat style thumbnails

☑ Display tooltips over thumbnails
☑ Save Browser files to disk
☑ Automatically update the thumbnails

File format exclusions...

OK   Cancel   Help

Paint Shop Pro 9 Preferences ✕

| Units | Transparency and Shading | PhotoSharing | Warnings | Auto Action |
| Undo | View | Display and Caching | Palettes | Browser | Miscellaneous |

Recently used file list contains 10 ▲▼ file names (Takes effect after program restart)

Use 10 ▲▼ % tolerance to background color when pasting a transparent selection

Clipboard data on Exit: Ask

☐ Force full window redraw when positioning image elements
☐ Show splash screen when application starts
☑ Disable pressure support for puck-type pointing devices

OK   Cancel   Help

If we use the file menu item 'File > New' (or if we click the 'New' tool in the Standard Toolbar), we can open the 'New Image' window. Choose settings in the New Image window, or use those suggested in the image to the right, and click 'OK'. With an active image in the design window, the icons in the Standard Toolbar and in the Tools Toolbar will now be active and easy to discern.
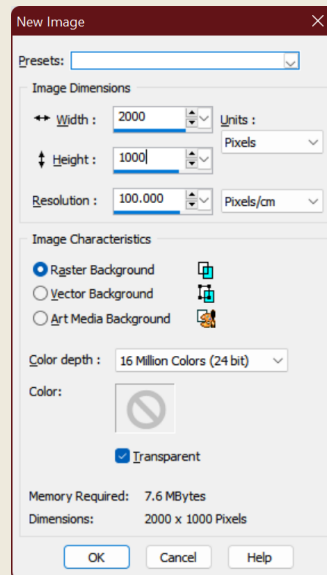
By clicking the menu item 'View > Customise', we can open the 'Customise' window, and just as we did for PSP 8.10, we can now use drag and drop operations to fully customise the file menu, the Standard Toolbar, and the Tools Toolbar, as shown further below. However, new features in PSP 9.01 allow us to add a 'Show/Hide History Palette' toggle and four separate shape tools, which are the 'Rectangle Tool' (also makes squares), the 'Ellipse Tool' (also makes circles), the 'Preset Shape Tool' (with 89 unique shapes), and the new and very useful 'Symmetric Shape Tool' (makes radially-symmetric polygonal or stellated shapes with three to one thousand 'sides'). There is also the option of adding an icon to launch Animation Shop 3, which can be handy for users of both programs who may want to transfer images between them. (Actually the 'Launch Animation Shop' icon is also usable in PSP 7.04 and in PSP 8.10.)
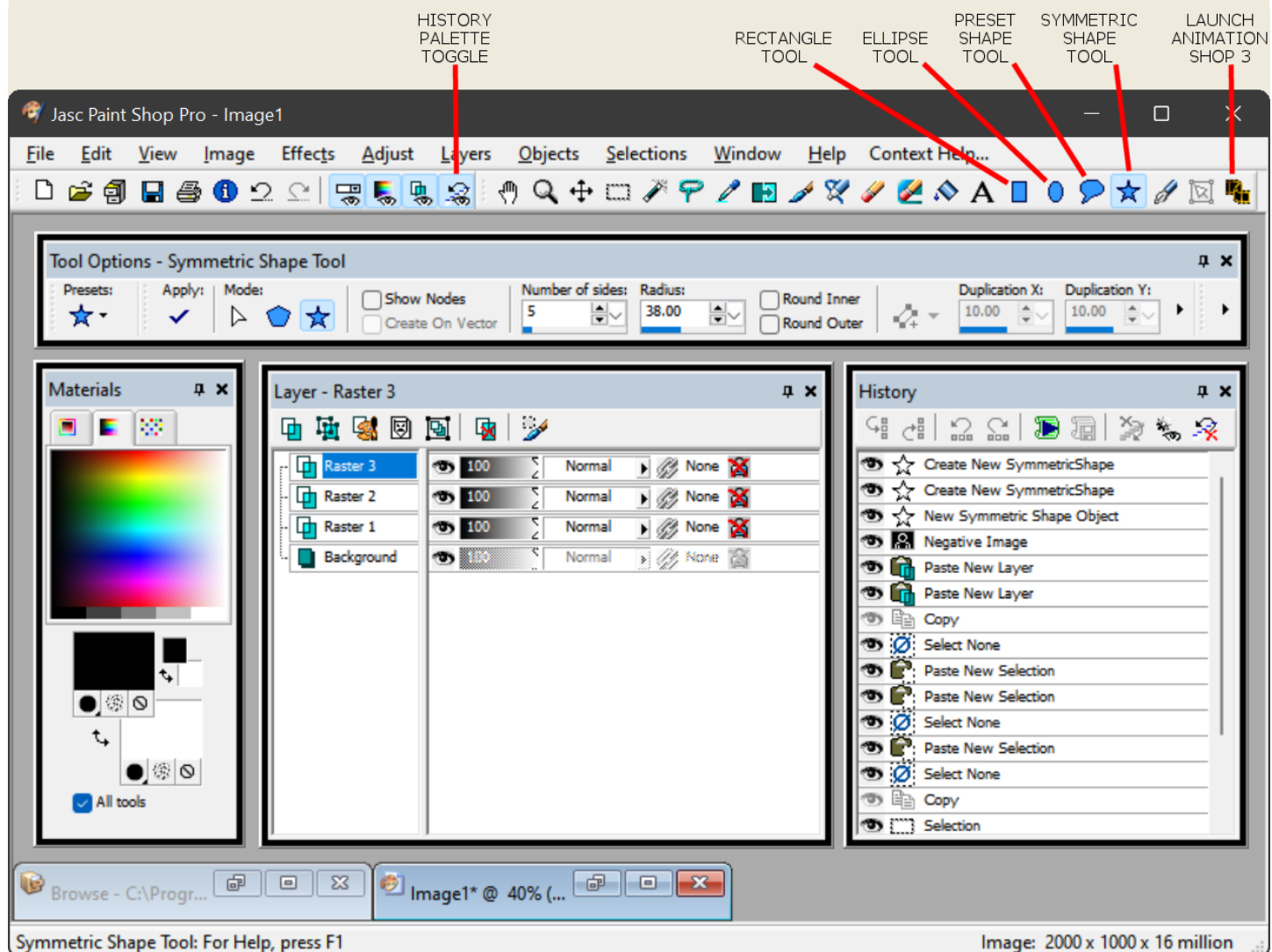
Also as in PSP 8.10, we can either dock the palettes or make them into free-floating windows, as in the illustration above. As mentioned earlier, the new History Palette allows one to undo/redo previous image changes, rather than only the last change, and it is also where one can clear an image's complete or partial command history, so as to reclaim memory. (PSP 7 and PSP 8 did this from the file menu item 'Edit > Empty'.)

Besides either docking the palettes or free-floating them, as we can do in PSP 7.04 and in PSP 8.10, we have a new feature in PSP 9.01 that gives us a third and very elegant option of docking the palettes as barely intrusive 'tabs', as shown in the image below. Hovering a mouse cursor over a tab will make its palette slide open, and the palette will only remain visible while the cursor is within its borders, 'rolling up' when the cursor moves away. Alternatively, *clicking* a tab will make its palette slide open and remain visible until the mouse is clicked somewhere else. And there are even other options.
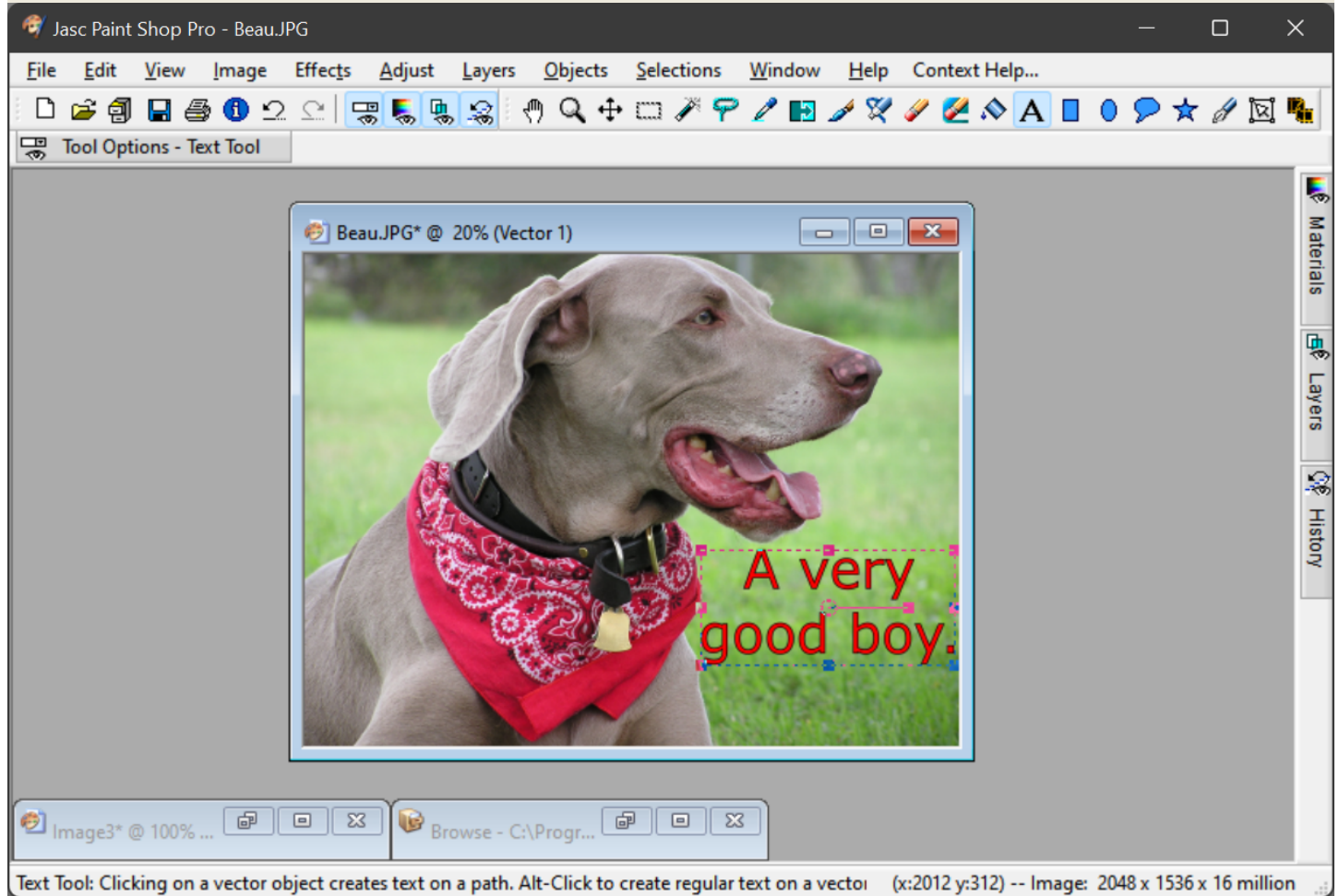
To learn more about the many palette docking options in PSP 9.01, use the file menu item 'Help > Help Topics > What's New in Paint Shop Pro 9', as illustrated below.
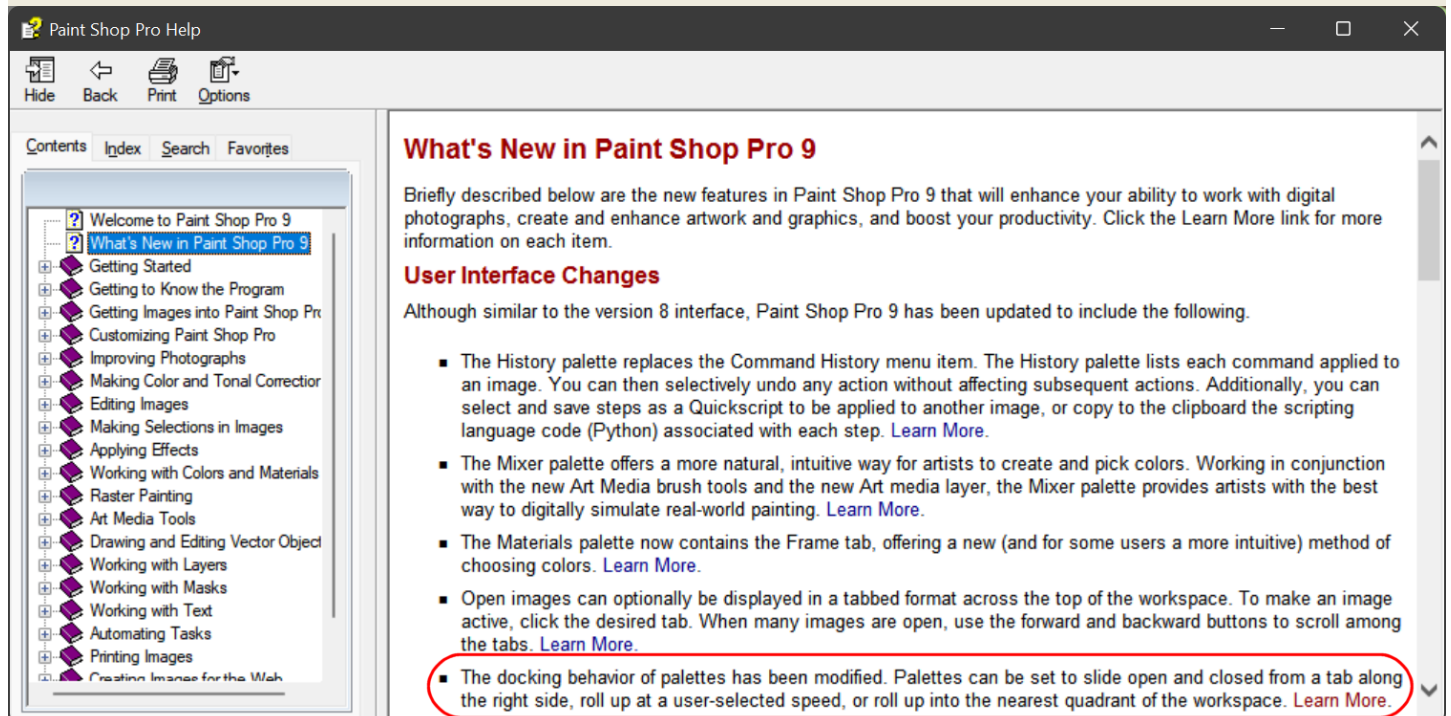

Whilst you are there, you can also learn all about the great new Symmetric Shape Tool in PSP 9.01, which is a real improvement on the shape-making abilities of PSP 7 and 8.
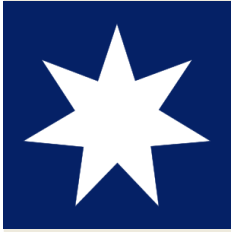
Consider, for example, the seven-pointed Australian Commonwealth Star, which appears in five places on the Australian national flag. As all Aussies know, six of the points on the Commonwealth Star symbolise Australia's six states, whilst the seventh point represents the nation's ten territories. The 'Preset Shapes' tool in PSP 7.04 and in PSP 8.10 only offers four, five, six, and eight-pointed star shapes, so using either of those versions of Paint Shop Pro to make a seven-pointed star can be a bit of a mission, but with the Symmetric Shape Tool in PSP 9.10, a perfect seven-pointed star is but a few clicks away, and that was all the effort that was required to make the image top left.

Prior to its acquisition by Corel, Jasc made a small software patch available for PSP 9.01, and it can still be obtained from the old Jasc FTP server files that Corel maintains at https://www.corel.com/6763/psp_downloads/pub/update/, or from the same FTP server files that are preserved on an Internet Archive website that can be found here. On visiting either website, note that the eighth file listed is 'en_psp9011_jasc.exe'. When run, this small patch file will update several of the PSP 9.01 Dynamic Link Library (DLL) files from version 9.0.1.0 to version 9.0.1.1. What bugs the patch fixes, or what performance improvements it may provide, are anyone's guess, but it is safe to assume that it does *something* beneficial, and that it is therefore worth installing. However, one cannot simply click on the patch file to download it. Instead one must either copy and paste its name, or manually type its name, directly after the final forward slash in the webpage URL address, as illustrated in the image below.
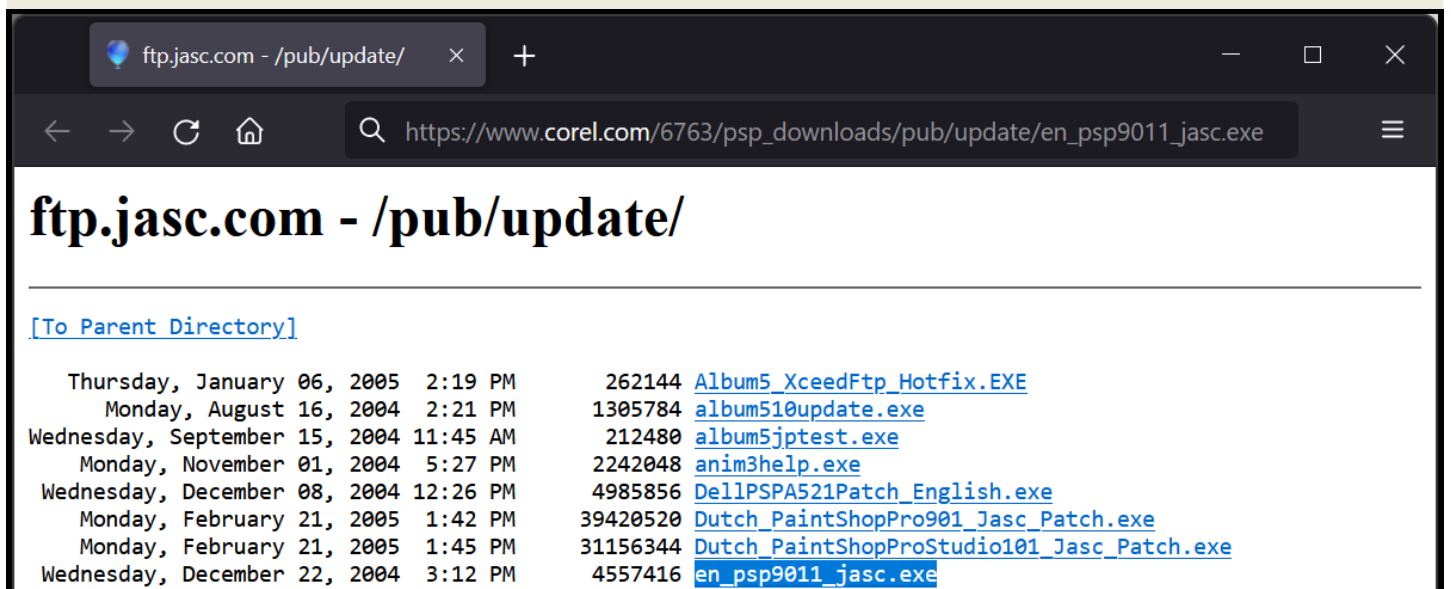
Hitting 'Enter' will then replace the FTP webpage with a download window . . .
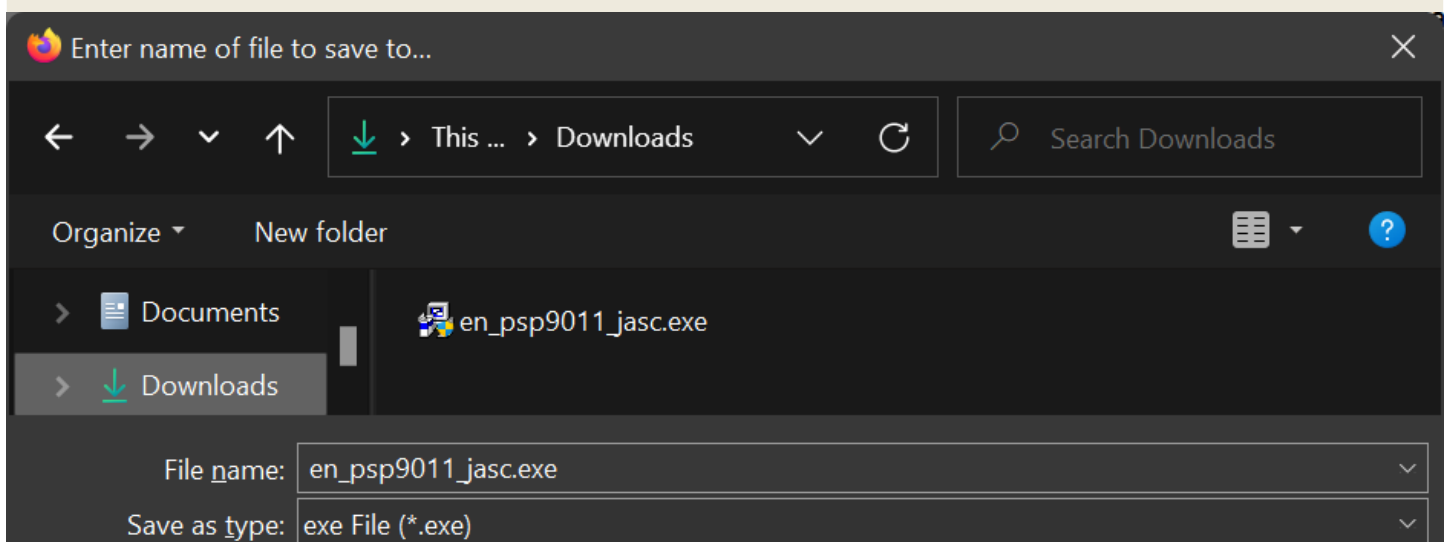
. . . from which the executable patch file can be saved to a selected location and opened.

PSP 9.01 must be fully shut down during the patch, including its background files, so a system restart may be required before the patch will successfully run to completion.

By the way, all of the subdirectories at https://www.corel.com/6763/psp_downloads/, as well as all of the subdirectories of those subdirectories, have been carefully explored to glean everything useful for Jasc PSP 7/8/9, for Jasc Animation Shop 3, and for Jasc Paint Shop Photo Album 5, including relevant documentation. There is no listing for a PDF version of the Jasc Paint Shop Pro 7 User Guide, and there are no official Jasc patches for PSP 7.04 or PSP 8.10, nor any official Jasc patch to upgrade PSP 9.01 to PSP 9.02, the final Jasc version of PSP 9 that is referenced on Wikipedia and elsewhere, but which probably never existed. Persons who search for such things on the Internet may find websites that claim to offer them, but that actually offer malware.

In addition to the lack of any update file for Jasc Paint Shop Pro 9.02 on either Corel or Jasc FTP servers, addition evidence that it probability never existed can be found from the version of PSP 9 that Corel distributed in 2005, using its own branding on both the packaging of the software and on the label of its installation CD. Arguing against the existence of the version is the fact that the Corel-branded software shown left installs version 9.0 of Jasc Paint Shop Pro, not 9.02, nor even 9.01. The trustworthy third-party update website oldversion.com, at http://www.oldversion.com/windows/paint-shop-pro/, also lists no version 9.02 update file. A few of the DLL files that are installed by PSP 9.01 are in fact version 9.0.2.0, but given that most of them are version 9.0.1.0, and given that even the previously mentioned patch only updates a few of the DLL files to version 9.0.1.1, the existence of the few that are version 9.0.2.0 only implies that Jasc may have had *plans* to eventually update PSP 9.01 to PSP 9.02, and not that those plans ever came to fruition after Corel's acquisition of the company. Rest assured, however, that the author of this document will keep an open mind on the subject, and will continue to search for such an update. If eventually one can be found to download, a link to it will be provided in a future revision of this document.

One can open multiple instances of any or all of the PSP versions that have been discussed here, which can sometimes prove useful, perhaps especially for multi-monitor systems or for those that use virtual desktops, when copy and paste operations between running instances of Paint Shop Pro may afford some advantage, for example, but whether the amount of system memory that is available for each instance remains the same, or is reduced, is beyond the ken of the author of this document. However, if memory does run short, one temporary remedy is to go to the Windows Task Manager, expanding its details if needed to access its 'Processes' tab. One can then right-click any running process of Paint Shop Pro and select 'Go to Details'. By right-clicking the Paint Shop Pro listing on the 'Details' tab, one will have the option of elevating the 'Set priority' setting from its default of 'Normal' to 'Above normal', 'High', or 'Realtime'.

All of the versions of Paint Shop Pro that are described here can also make use of 'Adobe-compatible plug-ins', although the author of this document knows of none to recommend. Using the file menu item 'File > Preferences > File Locations' will open a window in which locations and certain options for such plug-ins can be specified. Also
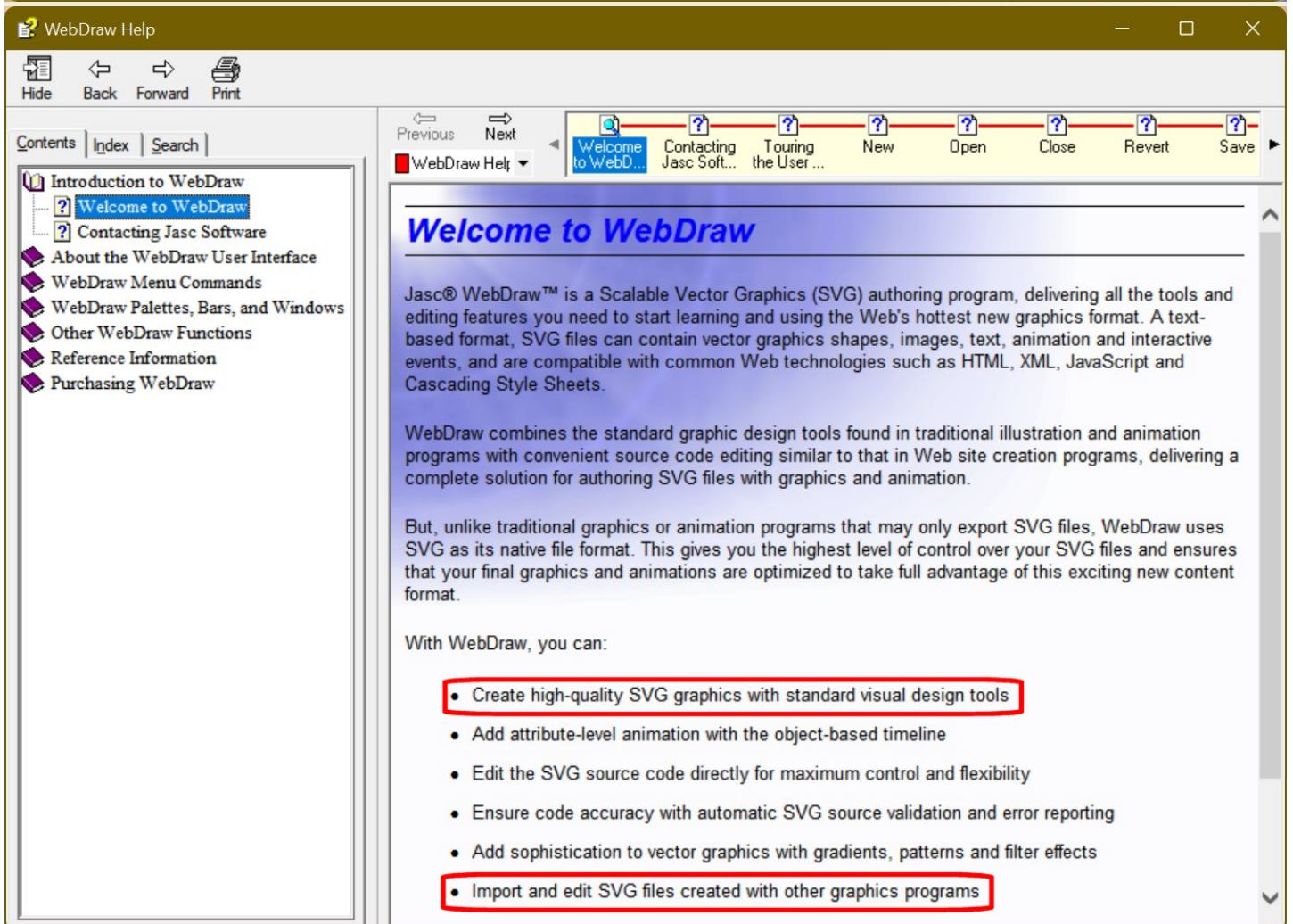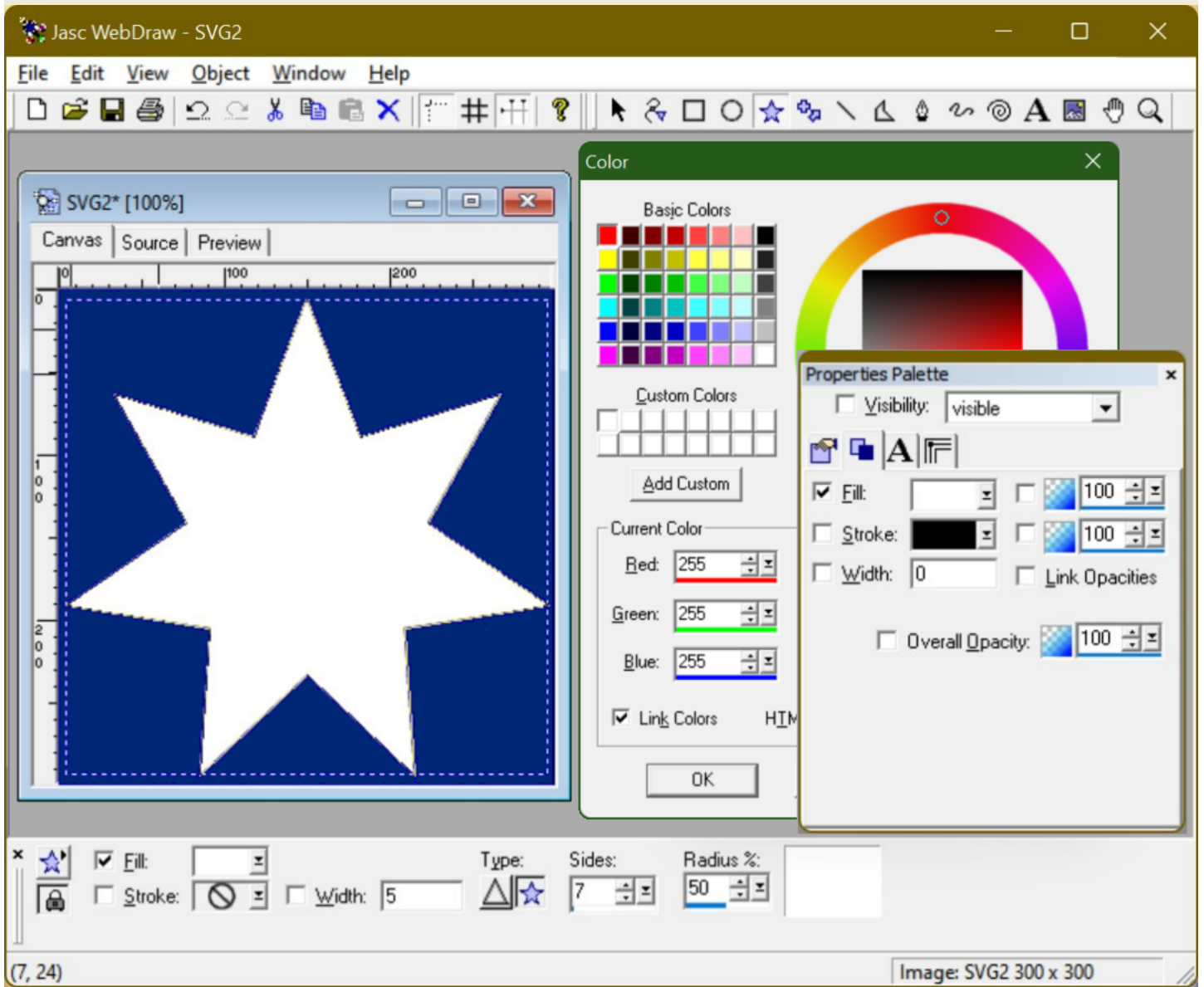
available in the window will be a place to specify the 'Web Browsers' that one can theoretically call from within the Paint Shop Pro software, although probably only for websites that no longer exist. The Web browser that is listed by default is Microsoft's Internet Explorer, which is now defunct, so users may want to delete it, and to instead list paths to whatever browsers they may use. For the Firefox Web browser this will typically be 'C:\Program Files\Mozilla Firefox\firefox.exe', and for Microsoft Edge it will typically be 'C:\Program Files (x86)\Microsoft\Edge\Application\msedge.exe'.

JASC WEBDRAW VERSION 1.02 (a Jasc graphics editor for SVG files)

In 2002, when SVG was still a nascent vector image file format, the minds at Jasc Software produced one of the first graphics editing software products that could make use of it, which they called WebDraw. Although Jasc WebDraw got some good press, and although it advanced from version 1.00 to version 1.02, it did not have much time to firmly catch on before the 2004 sale of Jasc Software to the Corel Corporation. Corel's flagship product is CorelDRAW, a vector graphics editor that competes with Adobe Illustrator, so when Corel bought Jasc, they summarily killed off Jasc WebDraw.
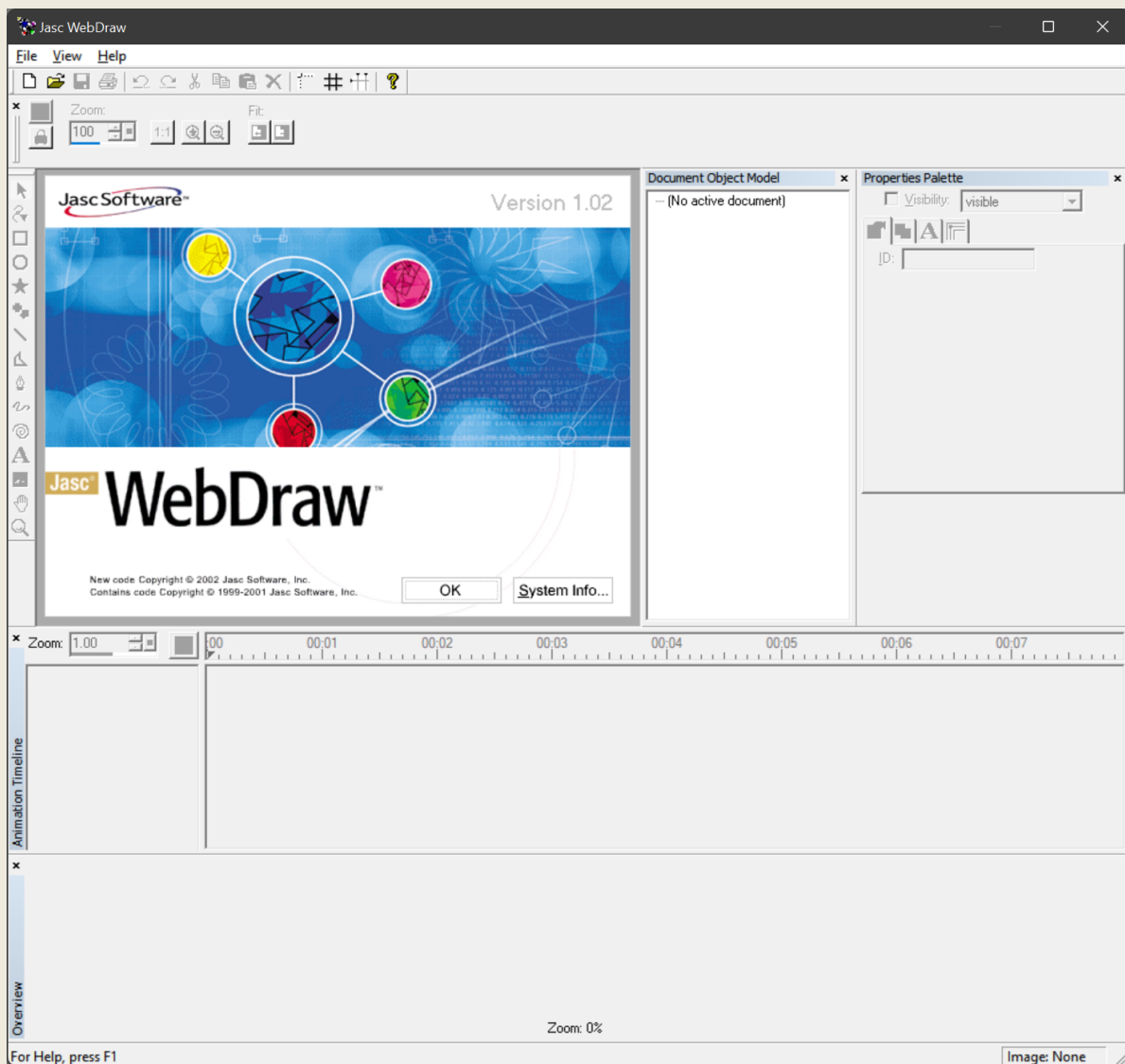
Still, as a product with the ability to not only open and save SVG files but to create them, and with a user interface that is based as much as possible on that of Paint Shop Pro, Jasc WebDraw 1.02 is definitely a graphics editor that flag designers should be aware of. Although not as customisable as Paint Shop Pro 8 or 9, WebDraw can still have visible or hidden toolbars and palettes, and they can be docked or free-floating. The default appearance of the product when it is first installed, as depicted above, can easily be changed to something more suitable for flag design, as shown on the following page, where the fully functional, integrated 'Help' file system has also been illustrated.

Jasc WebDraw - SVG2

File Edit View Object Window Help

SVG2* [100%]

Canvas | Source | Preview

Color

Basic Colors

Custom Colors

Add Custom

Current Color

Red: 255
Green: 255
Blue: 255

☑ Link Colors   HTM

OK

Properties Palette

☐ Visibility: visible

☑ Fill: ☐ 100
☐ Stroke: ☐ 100
☐ Width: 0   ☐ Link Opacities

☐ Overall Opacity: 100

☑ Fill: Type: Sides: Radius %:
☐ Stroke: ⊘   △☆   7   50
☐ Width: 5

(7, 24)   Image: SVG2 300 x 300

WebDraw Help

Hide Back Forward Print

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Previous Next

WebDraw Help

Welcome to WebD... | Contacting Jasc Soft... | Touring the User ... | New | Open | Close | Revert | Save

Welcome to WebDraw

Jasc® WebDraw™ is a Scalable Vector Graphics (SVG) authoring program, delivering all the tools and editing features you need to start learning and using the Web's hottest new graphics format. A text-based format, SVG files can contain vector graphics shapes, images, text, animation and interactive events, and are compatible with common Web technologies such as HTML, XML, JavaScript and Cascading Style Sheets.

WebDraw combines the standard graphic design tools found in traditional illustration and animation programs with convenient source code editing similar to that in Web site creation programs, delivering a complete solution for authoring SVG files with graphics and animation.

But, unlike traditional graphics or animation programs that may only export SVG files, WebDraw uses SVG as its native file format. This gives you the highest level of control over your SVG files and ensures that your final graphics and animations are optimized to take full advantage of this exciting new content format.

With WebDraw, you can:

- Create high-quality SVG graphics with standard visual design tools
- Add attribute-level animation with the object-based timeline
- Edit the SVG source code directly for maximum control and flexibility
- Ensure code accuracy with automatic SVG source validation and error reporting
- Add sophistication to vector graphics with gradients, patterns and filter effects
- Import and edit SVG files created with other graphics programs

Contents tree:

- Introduction to WebDraw
  - Welcome to WebDraw
  - Contacting Jasc Software
- About the WebDraw User Interface
- WebDraw Menu Commands
- WebDraw Palettes, Bars, and Windows
- Other WebDraw Functions
- Reference Information
- Purchasing WebDraw

Commercially-sold versions of Jasc WebDraw that included an installation CD were apparently so rare that few if any have ever shown up for sale on Ebay or on similar websites. All that can be found on the old Jasc FTP servers are two patch files for updating the purchased version, as well as a file to install a time-limited, 'try-and-buy' evaluation copy of WebDraw 1.02.

A previous version of this document informed readers of how to install the evaluation version of Jasc WebDraw 1.02 in such a way that it would probably not expire, but a regular, full-installation version of WebDraw 1.01 was later found, and it has now been made available for download. Once installed it can be updated to Jasc WebDraw 1.02 by using an official patch file, which has been included with the download. Instructions follow for downloading, installing, and updating the official, regular version of WebDraw. Readers who previously installed the evaluation version should fully uninstall it before installing and updating the regular version.

(1) Go to https://archive.org/details/jasc-web-draw-1 and download the 'ISO IMAGE' file (JascWebDraw1.iso) to a folder on your Windows system.
(2) When the download is complete, navigate to the folder where you downloaded the ISO file. Right-click the file and select 'Open with > Windows Explorer'. This should place a virtual CD/DVD drive on your system, with a drive letter immediately above those of whatever physical drives your system may include. The virtual CD will probably open to its root directory automatically, but if it also attempts to auto-install, **do not allow it to do so**. Instead just open the CD to its root directory. Be certain that you **do not run jwdw1.exe**. If you accidentally run jwdw1.exe, initiating a conventional installation of the Jasc WebDraw software, just cancel the installation.
(3) Copy the jwdw1.exe file to a folder on your system. **Do not run it as it is**. Instead, extract, unpack, or unzip its component files into the new folder 'jwdw1', using file archiving/extraction software such as the free 7-Zip utility. Open the new folder but **do not click setup.exe**. Instead click the file 'Jasc WebDraw 1.0 ESD.msi', and follow the instructions to fully install the software with its optional sample files, as well as the Adobe SVG Web viewer plug-in. Skip registration, and shut the program down.
(4) Return to the root directory of the virtual CD and open the sub-directory that is labelled 'Patch v1.01 to v1.02'. Run the file 'wdw102ep.exe' to patch WebDraw to v1.02.
(5) Once the patch is complete, eject the virtual CD from your system.

For a very rudimentary overview of Jasc WebDraw features, go to this archived website and step in turn through the remaining 'overview' webpages that have been provided there. The old Jasc FTP servers that Corel maintains do not contain a user guide PDF for Jasc WebDraw, nor will any such PDF will be found amongst its installation files. Its built-in 'Help' files are good, though, and they often include 'context-sensitive' help for any currently selected tool or element by pressing one's keyboard F1 function key. Additional helpful information can be found in this third-party overview/tutorial, which can also be downloaded from this alternate location. The third-party overview/tutorial references some of the eight sample files that are installed by default with Jasc WebDraw. The sample files are typically located at 'C:\Program Files (x86)\ Jasc Software Inc\WebDraw 1\Sample Files'. A basic SVG tutorial can be found here, and comprehensive information about the SVG file format can be found here. For those users who want to deeply explore all that SVG can offer, two of the three books that Jasc recommended on the subject are free to read at Books to Borrow. They are *"Sams Teach Yourself SVG in 24 Hours"* and *"SVG Essentials"*. The third book, *"Designing SVG Web Graphics"*, a one-kilogram tome that Jasc sold on its website, can often still be bought new or used from various sellers.
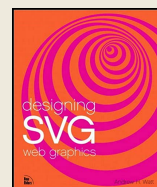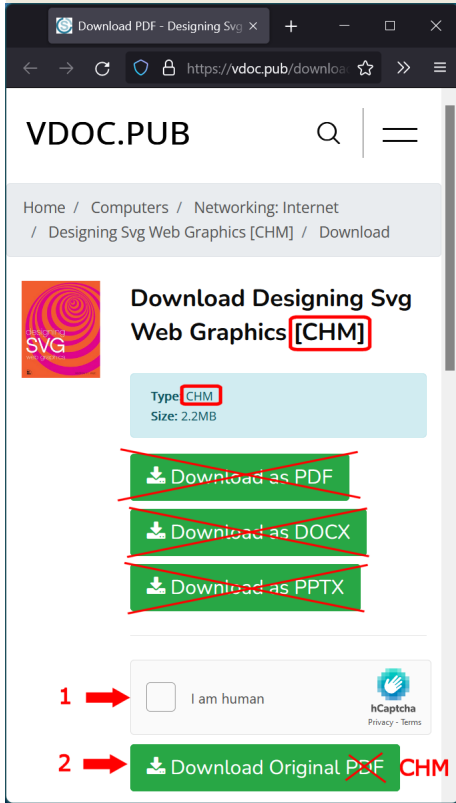
However, there is a free and arguably better way to obtain *Designing SVG Web Graphics*. Go to the website depicted to the left, complete the 'I am human' Captcha, and click the 'Download Original PDF' button. Download the file 'vdoc.pub_designing-svg-web-graphics.chm' to a folder on your Windows system. This is a standard CHM Windows 'Help' file that contains the entire, 592-page content of *Designing SVG Web Graphics*, but in a format that unlike any printed book has hyperlinks and is fully searchable.
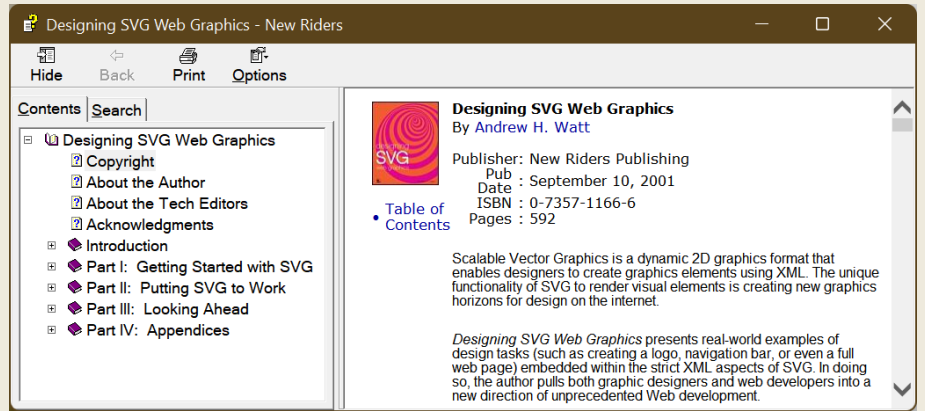
The SVG vector imaging format was invented by Web developers, for Web developers, but that does not prevent it from being used by aspiring flag designers in ways that are unrelated to Web graphics, and without a firm grasp of its Web-related underpinnings. Still, a *basic* grasp of a few things will probably help new users of WebDraw, especially if they have only had prior experience with raster graphics editors like Paint Shop Pro.

The first thing to point out is that the SVG image format is really not an 'image' format at all, but rather a 'document' format. SVG files are actually just text files that are written in a special sub-format of Extensible Markup Language (XML), which is a 'coding' standard that the World Wide Web Consortium (W3C) introduced in 1998. In order to be presented as visual images, the textual 'source code' of 'SVG documents' must be 'interpreted' by a 'rendering engine', or in other words by a graphics editor that can display SVG images, such as WebDraw. In *Designing SVG Web Graphics* there is an example of such SVG source code, as illustrated to the left below. If this code is copied and pasted into the 'Source' tab of a new WebDraw image (document), a corresponding 'Canvas' tab image will be rendered, as illustrated to the right below.

```
<?xml version="1.0" standalone="no"?>
<!DOCTYPE svg PUBLIC "-//W3C//DTD SVG 1.0//EN"
     "http://www.w3.org/TR/2001/PR-SVG-20010719/
      DTD/svg10.dtd">
<svg width="400" height="500">
<defs>
 <filter id="Turbulence1"
filterUnits="objectBoundingBox">
  <feTurbulence type="turbulence" baseFrequency="0.01"
   numOctaves="1" seed="0" >
  </feTurbulence>
 </filter>
</defs>
<rect x="0" y="0" width="400" height="500"
style="filter:url(#Turbulence1)"/>
</svg>
```
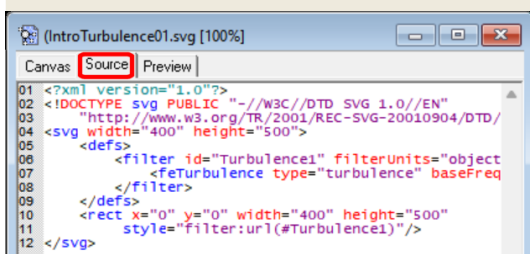
During the exercise on the previous page, if we have docked the WebDraw 'Properties Palette', 'Document Object Model Palette', and 'Overview Window' at the right side of the WebDraw graphics window, they will appear as they do in the illustration to the right. In the SVG 'vernacular', every graphic item that one generates in a Jasc WebDraw Canvas tab is an 'object'. Objects in Jasc WebDraw are <u>roughly</u> analogous to layers in Jasc Paint Shop Pro. Like layers, objects can be rearranged either upwards or downwards, and they can also be merged (or 'un-merged'), although in WebDraw the terms are 'grouped' or 'ungrouped'. Also like layers, objects can be manipulated in various ways, some of them having no PSP analogues.

Thus the WebDraw Document Object Model ('DOM') Palette is <u>roughly</u> analogous to the Layers Palette in Paint Shop Pro 8 and 9. Moreover, each object in an SVG document can have individual properties, such as dimensions, colour, and visibility, making the WebDraw Properties Palette <u>roughly</u> analogous to the Materials Palette in Paint Shop Pro 8 and 9. As illustrated to the right, the content of the Properties Palette will change in accordance with whatever object is currently selected in the DOM Palette, and by the same token will also allow changes to be made to that object.

Because SVG is a text-based graphics format, if one were to become completely fluent in its XML-format source coding language, one could actually design a flag using nothing more than a text editor, even one as ordinary as the Windows Notepad. Of course there are text editors that are much better suited to the task, such as [the free and excellent Notepad++](#), as well as text editors that have been specifically tailored to all of the needs of XML source coding. However, it will usually be easier and less error-prone to use a graphics editor with a user interface that will *automatically* generate the source code from objects that have been built graphically. In Jasc WebDraw, for example, the user constructs objects in the Canvas tab of the SVG image window, arranging and otherwise modifying them as desired, and WebDraw automatically generates the corresponding source code in its Source tab. The XML-based text of the source code can then be copied for integration into HTML-based Web pages, although this WebDraw feature will be more attractive to a Web designer than to a flag designer.

As can be seen from the example above, a few lines of simple text, comprising a very small file size, can equate to a very complex graphic image, and one that can be scaled to any size without degradation. These of course are a few of the previously-mentioned advantages that vector images can sometimes have over raster images, especially since vector images can always be converted, when needed, to raster images. Note that Jasc WebDraw, for example, can 'export' SVG vector image files as compressed JPEG (.jpg) raster image files or as uncompressed BITMAP (.bmp) raster image files. Of particular interest to flag designers, also as previously mentioned, is that SVG files are often suitable, just as they are, for flag manufacturers to use when making actual flags. Other common graphic file formats that flag manufacturers prefer are PDF and PSD. Like Jasc Paint Shop Pro 7, 8, and 9, Jasc WebDraw cannot directly save or export SVG files as PDF files, but third-party converters are available, such as [this one](#). *Un*like Jasc Paint Shop Pro 7, 8, and 9, Jasc WebDraw cannot directly save or export SVG files as PSD files, but third-party converters are again available, such as [this one](#). One should
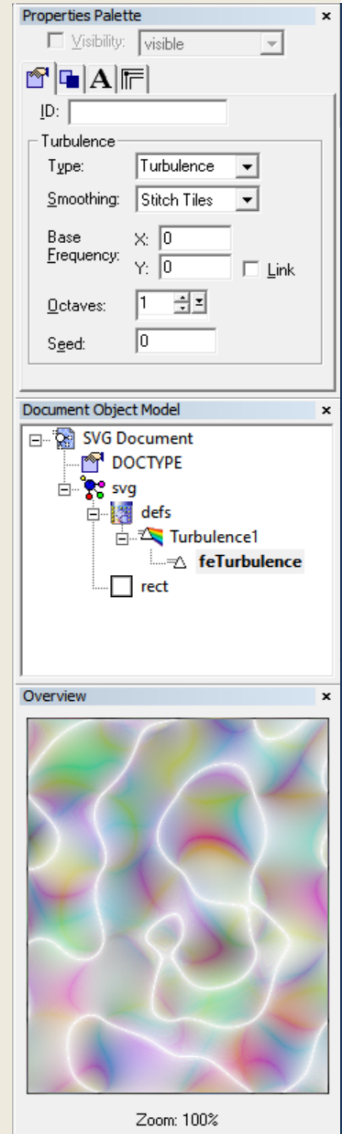
also note that Windows includes a 'virtual' printer called 'Microsoft Print to PDF', which can generate a PDF of any image, including the images of any Jasc product. Print to PDF only accommodates standard paper sizes, not as ideal as generating a PDF with the exact dimensions of a given image, but there are ways of dealing with this, too.

Jasc WebDraw is bit dated, and it is also a bit glitchy, but it can nevertheless serve as a great introduction to vector imaging for aspiring flag designers. If they do not care for its Web-related features (including SVG animation, by the way), they can safely ignore them, and never even glance at the Source code tab or at the Adobe Web Preview tab on their SVG image window, but only at its Canvas tab, as they fill it with the objects that will comprise their flag designs. They can also use WebDraw as a 'stepping stone' to far more feature-rich vector graphics editors such as Inkscape. Before that, though, they should at least muck about a little with all of WebDraw's eight sample images:
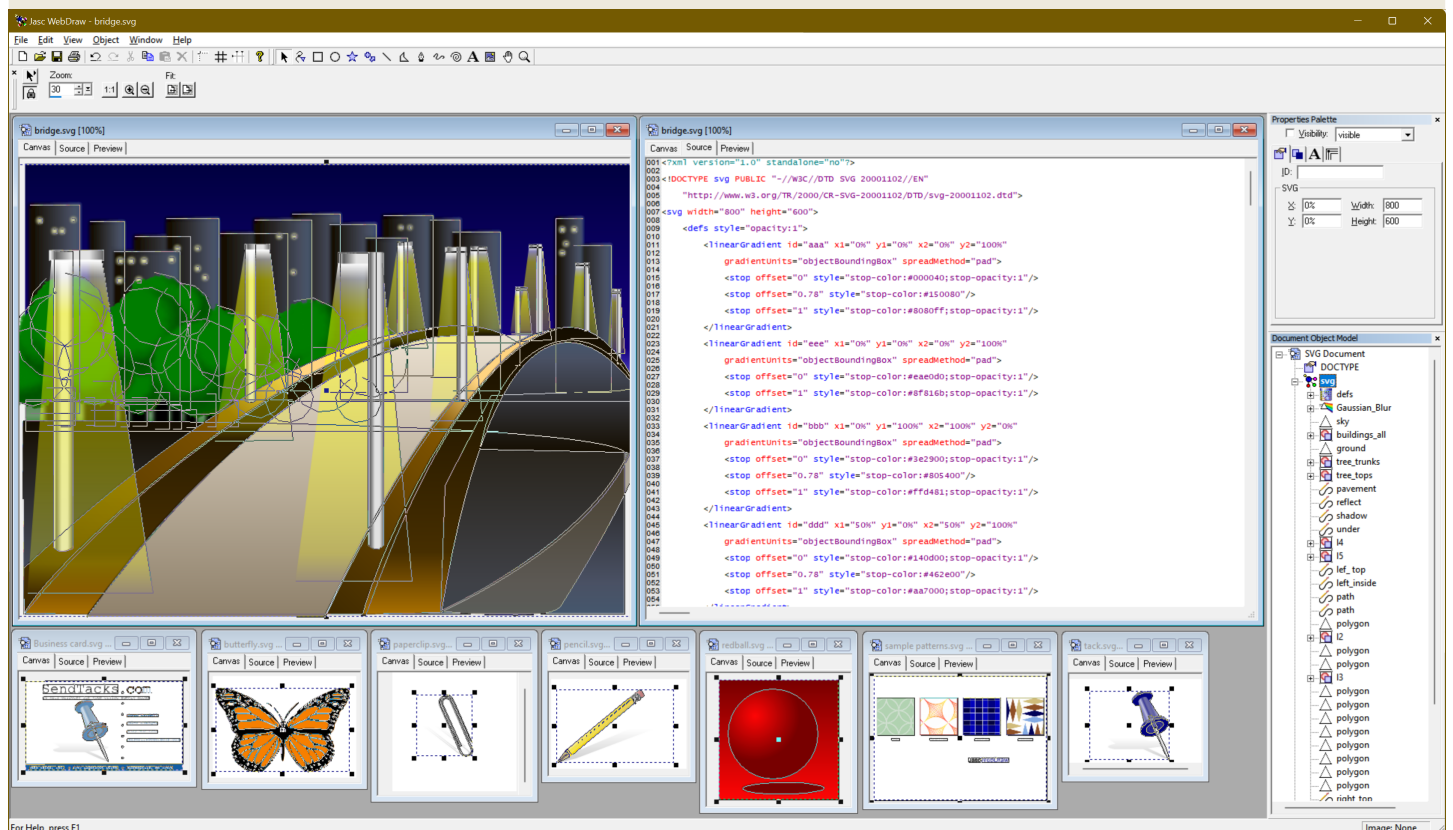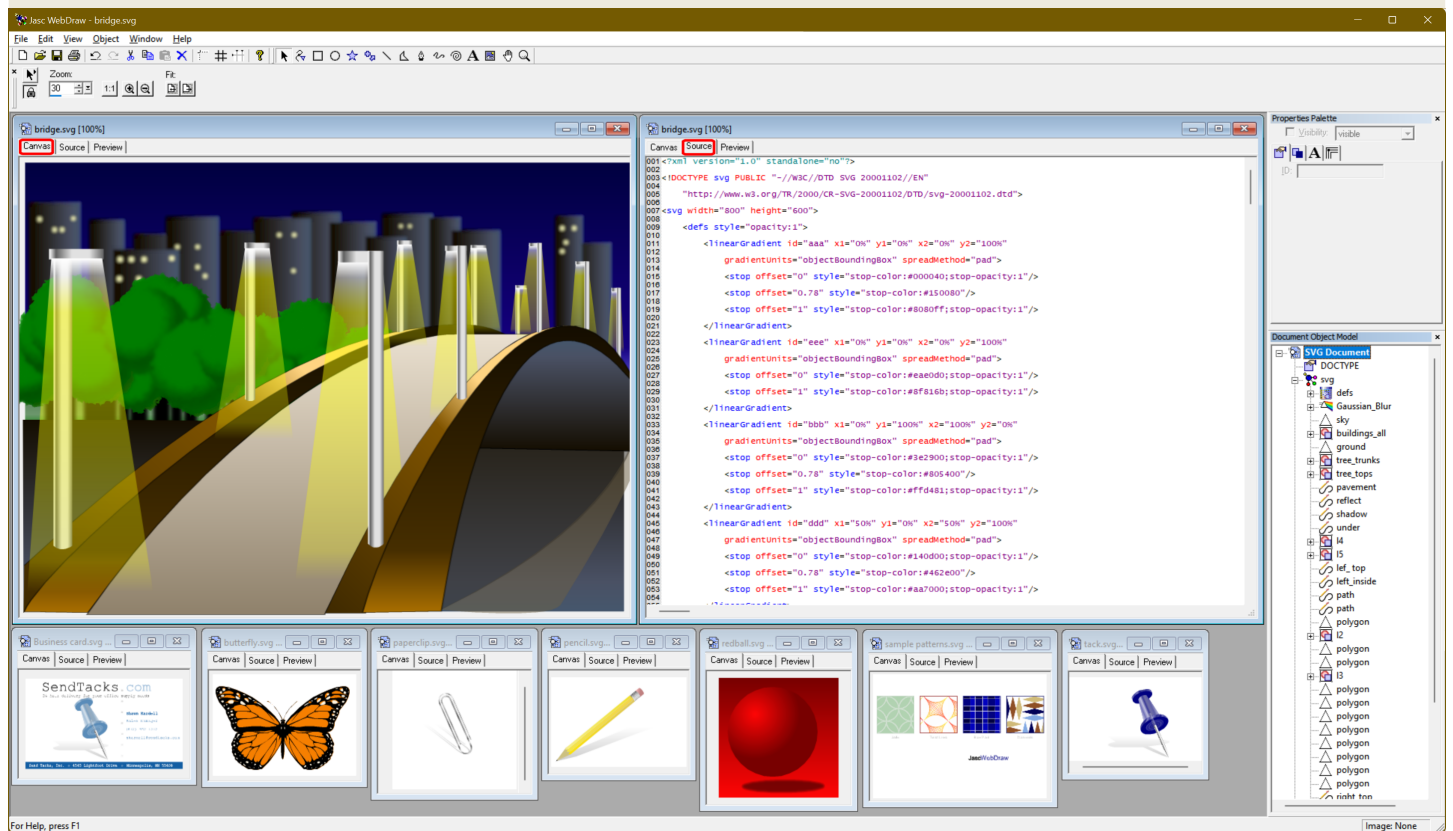
This document will end by saluting yet another old Jasc product that is suitable for use by flag designers, although it probably cannot be installed for free, but only with a 'key'.
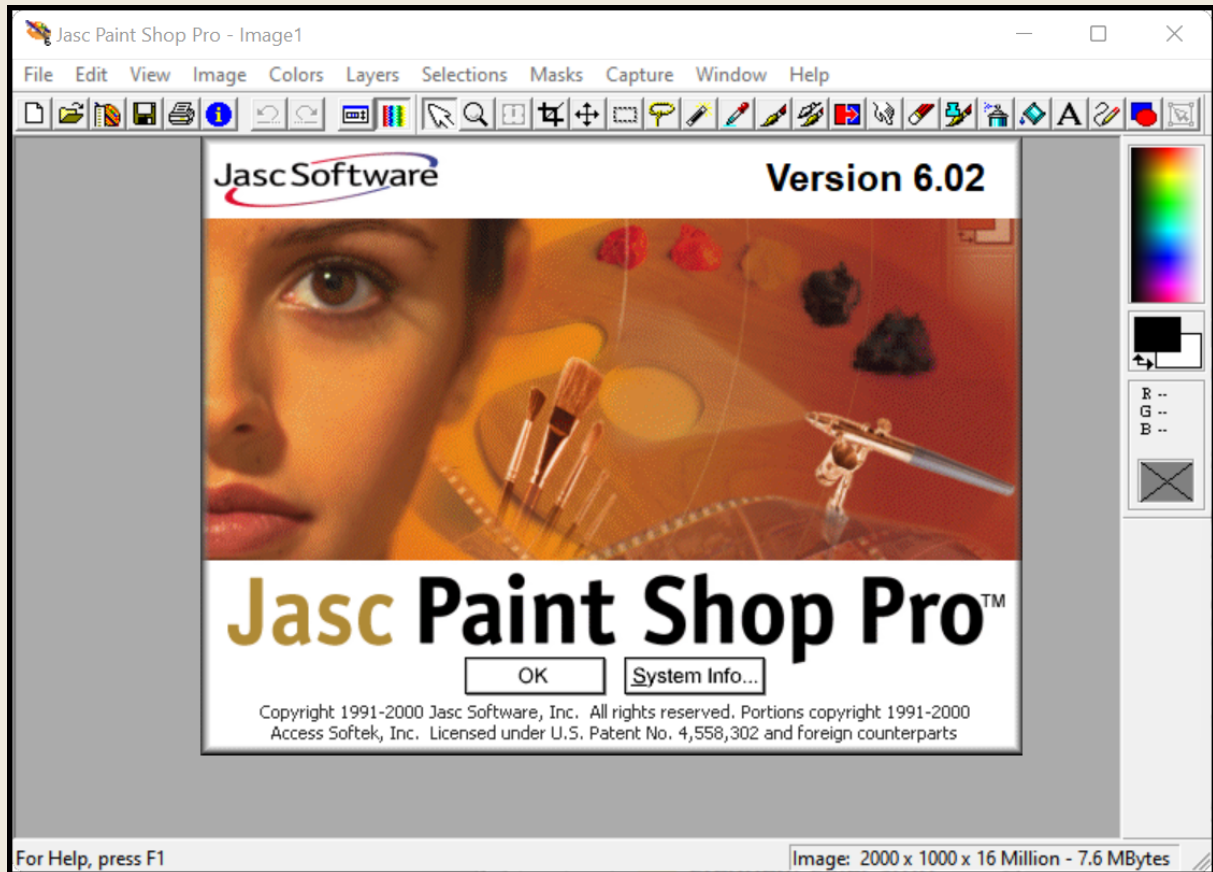
So pick your poison. Start designing flags. And be sure to read and download:
"*Good Flag, Bad Flag is Rubbish*" and "*When Vexillologists are Vexations*"

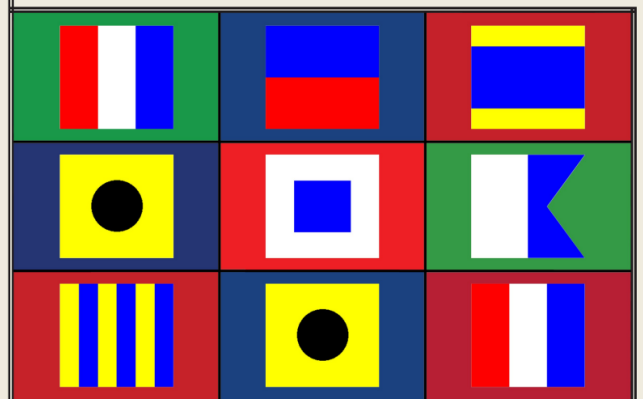"GOOD" FLAG, "BAD" FLAG

How to Design a Great Flag

USE 5 BASIC PRINCIPLES TO CREATE AN OUTSTANDING FLAG FOR YOUR ORGANIZATION, CITY, TRIBE, COMPANY, FAMILY, NEIGHBORHOOD, OR EVEN COUNTRY!

COMPILED BY TED KAYE

North American Vexillological Association
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How to Malign Great Flags

USE 5 BASELESS CRITERIA TO BELITTLE ANY FLAGS NOT REPRESENTING YOUR ORGANISATION, CITY, TRIBE, COMPANY, FAMILY, NEIGHBOURHOOD, OR EVEN COUNTRY!

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The World's Largest Organisation of Pretentious Flag Hobbyists