About BOXSTRINGS……..making programming easier

Before TrueBASIC can display a graphics image it must first be converted to an internal format used by TrueBASIC that is specific to the operating system, and specific to the language series. In other words you cannot interchange internal images across platforms or from Windows to DOS.

This conversion can be carried out with the built-in routine:

CALL read_image(type$, boxstring$, filename$)

e.g. CALL read_image("MS BMP", boxstring$, "myfile.bmp")
or   CALL read_image("JPEG", boxstring$, "myfile.jpg")

Displaying boxstring images is done with other built-in statements, e.g.
ASK PIXELS xpix,ypix
SET WINDOW 0,xpix-1,ypix-1,0
BOX SHOW boxstring$ AT left,bottom
Where left=pixel position across the screen from the left edge
Where bottom=pixel position up from the bottom edge of the screen.

Boxstring images display much faster than reading other formats such as BMP or JPG simply because they don't need to be converted. For animated sequences, smoother results can be obtained by reading BOX string files direct from a hard drive. It is worth doing the preliminary conversion from say JPG images to BOX string format, in order to achieve high speed smooth "frame by frame" animation. There is no data compression so boxstring files tend to be large.

The BOXSTRINGS library module allow you to manipulate boxstrings without displaying them on screen. You can find out what color any pixel is, just by specifying the left and bottom co-ordinates. Similarly, you can change the color of any pixel to any RGB value. Working on the boxstring directly is much quicker than displaying the image and asking what color the screen pixel is.

The library module also allows you to magnify or reduce the image size. You need to exercise great care when doing this when using large magnifications or reductions because the image quality can suffer badly. Magnifications or reductions by a factor of less than 2 work reasonably well.

The library also has a routine that will write a boxstring to a file, and another that will read boxstrings from a file. Many other library modules use the convention of giving boxstring filenames the extension .TBX

The manual also includes a byte by byte description of the boxstring format.