

**TV Paint
JUNIOR**

TV Paint JUNIOR

ABOUT THIS PROGRAM :

TV Paint Junior is a smaller version of TVPaint, the reference in 24 bit painting software. TVPaint Junior is just that: a smaller version of TVpaint. TVPaint Junior is designed to be able to use your new graphic board immediately and to have fun by drawing in true color. TVPaint Junior is **not** designed to work hard on 24 bit images, this is the job of the classic TVPaint. Contact your dealer for more informations.

PROBLEMS ?

We have taken reasonable care in releasing and preparing this product. However, some problems might remain. Furthermore, you might wish to send your observations or have more informations on our products. We are at your disposal and encourage you to consult us if necessary. We will be happy to answer and advise you.

TECSOFT IMAGES
19 rue Dupont des Loges
F 57 000 METZ
FRANCE
Tél : +33 87.74.33.27
Fax : +33 87.75.75.14

CRASH ?

When nothing works, read the instructions (Allen's law).

Program :	Hervé ADAM
Annexed routines :	Sébastien MORIN, Amiga Télécom Paris
Design :	Hervé ADAM, Nicolas GELEY
Documentation :	Nicolas GELEY
Dongle key :	Denis FRIEDRICH
Circuit assembly :	Jiji
Key cast :	Patrice OGÉ
Distribution & public relations :	Rémy CERF
Translation :	Bruno CHARBONNIER & ACS
BBS service :	Jean-Michel DELOR

And everyone who has tested the program.

All the trade marks named in this manual are deposited by their respective owners. But we can name some marks : Amiga is a trademark of Commodore-Amiga Inc. Amiga 2000, Amiga 3000, AmigaDOS, Amiga Workbench and Amiga Kickstart are trademarks of Commodore Electronics, Ltd. ARexx is a trademark of William S. Hawes. AVidéo is a trademark of Archos. Harlequin is a trademark of Amiga Centre Scotland. Impact Vision 24 is a trademark of Great Valley Products. VisionA is a trademark of X-Pert GmbH. VD2001 is a trademark of KÖHLER GmbH. V-LAB is a trademark of MacroSystem GmbH. Caligari is a trademark of OCTREE. TVPaint, TVPaint Junior, TVDisplay, TVtools, TVRecord are a trademarks of Tecsoft Images.

This documentation was written entirely with Pro Page 2.1 and it was no picnic.

INTRODUCTION

WHAT ?

TVPaint Junior is a 32 bit imaging software, a painting program working with 16 million colors. TVPaint Junior is designed to take full advantage of this wide palette of colors.

A STANDARD

TVPaint Junior works on most of the Amiga graphic boards with the resolution and the particularity of each of them but retaining the same unique basis. TVPaint Junior (to have fun) is a first to the classic TVPaint (to work). If you change your configuration (board or TVPaint version), you will be perfectly at ease in the same environment. The main functions remain standards and the differences will be pointed out throughout the manual.

Talking about standards, let it be known that a library called EGS is used by several graphic boards. These boards can have different technical features (highest resolution, color numbers,...) but they all work on the same model : the VisionA model for instance. So, everytime you read the words "VisionA boards" bear in mind that you can replace them by "EGS boards" and *vice versa*.

Concerning non-24 bit boards - such as the Impact Vision 24 or the DMI Resolver (8 bits) - they work on the same model as the "Impact Vision 24": TVPaint works, as we will see below, in 24 bits in memory (and even 32) even if the board displays only 12 or 8 bits (or 6). The user can use the images as they are displayed on the screen (in 8 or 12 bits with or without dithering*) or as they are saved in memory (in 32 bits).

INSTALLATION

To install TVPaint, you just have to pick the TVPaint directory (on the program disk) with the mouse and drag it in to hard disk.

With some boards TVPaint uses libraries to access the graphic boards or to control the disk requester (req.library). Remember to check if these libraries are installed.

LAUNCHING

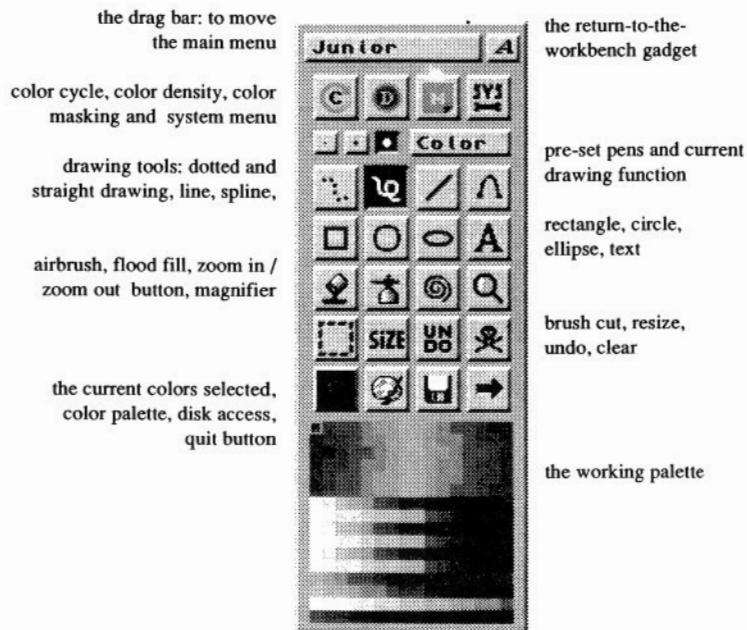
Whether or not TVPaint is set on your hard disk, run it by double-clicking on the program's icon. Two things can happen:

1. a configuration menu appears on the Amiga screen. This menu allows you to choose

the resolution of the working screen.

2. TVPaint is launching directly with the resolution defined by the preferences of the board (on the Retina board, EGS boards, Sage boards... for instance).

FUNCTIONS

THE MAIN MENU :**ABOUT MENUS**

It is worth noting that the main menu first appears in the middle of the screen BUT you can move it, like all the other windows in TVPaint. We have tried to respect the conventions used in the Amiga standards : each menu owns a drag bar on its upper side which allows you to catch the window and move it where you like, each window has a close gadget in its upper left corner,...

Click on the upper side of the main menu and move the mouse while pressing the mouse button : you are moving the main menu. You can even move the window over the side of

the screen. Don't be afraid : you cannot lose it.

Hide and show the main menu with the F10 keystroke or the space bar. If you have a three button mouse you can also use the middle mouse button. Note that you can draw UNDER the main menu without hiding it. You don't have to hide the main menu to draw.

NON-24 BITS DISPLAY

If you are using a non-24 bit display (non-24 bit board or non-24 bit display mode), TVPaint can not display a 24 bit image on the working screen. So the image DISPLAYED is in 8, 12, 15 bits (with or without dithering) but the image IN MEMORY is actually in 24 bits (even in 32 bits with the alpha channel).

Concerning the boards used, functions enable you to change the displaying mode. These functions are available in the SYStem menu (the icon marked SYS in the bottom of the main menu) and also on the 1,2 and 3 keys.

- 1 to draw with the lowest quality display (6 bits or 8 bits without dithering)
- 2 to draw with the normal or with dithering display,
- 3 to display in true 24 bits (display only) on the AVideo 24.
There is also Shift + 3 which displays a 12 bit-dithering image.



DOTTED DRAWING

You are using, by default, the dotted drawing option. The faster you move, the farther the points are. This option is "selected" in the main menu : its icon is displayed in negative in comparison to the others.



STRAIGHT DRAWING

You can change the size of your pen while drawing by pressing the + and - keystrokes (those on the numeric keyboard are the most convenient). You will notice that when your pen becomes "too" big, the straight drawing becomes very slow. In fact, in this mode, TVPaint has to draw all the points between two mouse pointer positions. The bigger the pen, the longer the work. Then, select the dotted drawing option : if you don't draw too fast, you will obtain the same result as with the straight drawing and you will recover the

execution speed. TVPaint draws dotted lines, but with a big pen you cannot it seems as a straight line.



COLOR SELECTION

This icon of the main menu displays the current selected colors. To choose a new working color, you just have to click, with the left mouse button, on a color of the palette at the bottom of the main menu. The selected color is displayed in the center of the current color icon above the left upper side of the palette.

TVPaint uses two working colors: a foreground and a background color. To choose a new background color you just have to click, with the right mouse button, on a color of the palette. The selected color on the right button (so called the "background" color) is displayed around the current color icon.

When you draw with the left mouse button, the foreground color is used. When you use the right mouse button, the background color is used. The background will be also used for clearing the screen.



HOW TO PICK A COLOR

To select a color, not in the working palette but directly on the screen: click with the left mouse button on the current color button itself. The mouse pointer turns into a question mark to show that it is waiting for you to pick a color. Click with the left mouse button on the image. The selected color, displayed in the current color button becomes the color that you have picked. You can select the background color in the same way, by selecting a color with the RIGHT mouse button.



CORRECTIONS

To cancel a line, just click on the button marked UNDO at the bottom of the main menu. If you want to cancel the UNDO then press again. Note that this UNDO just cancels the last action.

The UNDO buffer is updated at the beginning of each action on the working screen. The

UNDO function thus cancel the last action. However, the update is NOT instantaneous and can sometimes slow down the very beginning of your stroke: when the previous stroke takes too much space in the screen. When you draw a freehand diagonal then a little stroke, the mouse pointer "stutters" while the UNDO buffer is updated with the long diagonal. In this case, you can FORCE IN the UNDO buffer update by pressing the ESCape key (and avoid the "stuttering" problem).

ANTI-ALIASING

In the Junior version of TVPaint there is no Anti-aliasing function on drawings.



STRAIGHT LINES

Select the line drawing option by clicking on its icon with the left mouse button. To draw a line, TVPaint Junior needs a starting point and an ending point. Indicate the starting point of the line by clicking on the screen with the left mouse button. Then, move the pointer keeping the button pressed. A ghost line is drawn from the starting point to the mouse pointer to show what the result will be. When you release the mouse button, the ending point is set and the line is drawn.



CURVE

The curve (or spline) function works in the same way as the line drawing function. You have to place a starting and an ending point, but you need a third point which the curve will pass through. Click on the screen and move while holding down the button, release, and move again : the curve follows your cursor. Click again to place the third point and draw the spline.

If you start drawing a spline but want to interrupt it, you just have to select an other option in the main menu or press the DEL key. This key stops all the executing functions.



CONTINUOUS CURVE

When you click twice on the spline curve button, the icon is modified to show you that the continuous curve drawing function is selected. This option works in two stages. First, you draw some succeeding lines. Then, when you click on the right mouse button (or press enter) TVPaint Junior draws a curve which passes through all the lines' extremities.

Draw a W on the screen to see for yourself how the function works

CURVE TENSION

The classic TVPaint enables you to control the tension of the curves. TVPaint Junior uses only the default value which is 100%.



RECTANGLE, CIRCLE, ELLIPSE

By clicking once on the shape button you select the outlined shape, by clicking twice you select the filled shape.

The geometric shape drawing options (rectangle, circle, ellipse) work just like the line drawing tool. You specify a starting point, then you move the pointer to define an ending point while holding down the button. When you are satisfied you just have to release the mouse button.



TEXT

When you click on the text icon a cursor appears under the mouse pointer. Place it on the screen and write. You edit the text line by line. You are in edit mode on a line as long as you don't click on the screen or press RETURN. When you press the latter button, the line is written on the screen with the active drawing color.

To choose a font, click on the text icon with the right mouse button: a requester appears where you are able to select a new font.



FLOOD FILL

As its name reveals, this option floods the paint in a shape. The shape is filled with the paint until a different color outline is reached. Note that the shape that you fill has to be closed, otherwise the painting will flood all over the screen. Select colors in the working palette and fill some shapes just by clicking inside them.



AIRBRUSH

TVPaint Junior's airbrush produces the same effect as a real airbrush. As in real life (the one where there is no UNDO function), it sprays painting or color on the screen. The more you spray on the same spot, the more intense the resulting color is. As in reality, this drawing tool will be really efficient only if you use zone-masking and color-locking which systems in order to protect the rest of the image from any painting projection.

Airbrush can be used with all the drawing tools: dotted and straight drawing, line, spline curve, outlined circle, ellipse, rectangle... It works also with the background color, when you use the right mouse button to draw.

Press the + and - keys (those on the numeric keyboard are the most convenient) to change the radius of the airbrush. You can also click on one of the pre-set pencil icons (in the top of the main menu). The mouse pointer turns into a question mark which means that you are adjusting the diameter of the pencil. Click on the left mouse button and move the pointer while pressing the button. As long as the button is held down, an outlined circle displays the new diameter of the pencil. To update this new size, just release the mouse button.

AIRBRUSH MENU

Click on the airbrush icon with the right mouse button. A menu appears where you can set the size and the power value of the airbrush.

In the classic TVPaint you can also set the aspect of the airbrush to obtain conical, rounded, pointed, ring... effects.



MAGNIFIER

The magnifying option allows you to magnify a screen area and to work more comfortably.

Click on the magnifying icon with the left mouse button. A white rectangle is added to the mouse pointer. The size of this rectangle is proportional to the size of the screen area which needs magnifying. Click on the screen, the magnified area is immediately displayed on the right of the main menu. Move the magnified area with the arrow keys of the keyboard.

The spiral beside the magnifying option button sets the magnifying process: click on this button with the left and right buttons to increase and reduce the magnifying coefficient.



CUTTING A BRUSH

A brush looks like a pencil because you can draw with it. The difference is that a brush can be any part of a screen and that you can modify it (inverted, doubled, halved, etc.). In the classic TVPaint there are three options (rectangular, lasso, freehand) enable you to CUT a shape in the screen which will become a BRUSH. In TVPaint Junior there is only the rectangular cut. It works just like the rectangle drawing option, except that it cuts the corresponding rectangle brush.

Note that when you are drawing with the freehand straight drawing, the brush is less convenient than with the dotted drawing, because TVPaint has to draw all the positions of the brush and not the odd one. Note that the bigger the brush, the slower the moves. When the brush is too big, it is replaced by an outline rectangular shape to make your operations simpler, and easier to handle. Yet, you can force the display of the selected brush with the W key. To hide the brush again, press the key one more time.

When you have cut a screen brush and then selected a pre-set pencil in the main menu, your former screen brush is not lost. Click on one of the three brush icons with the RIGHT mouse button to get your screen brush back (or press the B key (b caps)).

THE STAMP FUNCTION

When you cut a black or blue brush, you might want to use it in another color, in red for example. But even if you select red as the current color, the brush goes on drawing in the original color. You can use the right mouse button to draw this brush with the background color, but it is not always convenient. So press the F1 key, or select the STAMP mode, in the drawing mode scrolling menu. When you are in STAMP mode, the brush is drawing with the selected current color, as if you had dipped it in the ink.

To return to the "normal" mode (COLOR) press again the F1 key or select this mode in the working mode menu.

MODIFYING A BRUSH

You can apply several modifications to a brush. They are threefold : inversion, rotation and stretching. Cut a medium-sized brush and try the following alterations :

Use the x and y keys (in lower case) to invert the brush, to obtain its mirror image, horizontally or vertically.

Turn the brush 90° with the z key.

Double or halve the brush with the H and h keys.

You can also accede to these functions thanks to a menu : click with the right mouse button on the SIZE button, placed just at the right of the brush button in the main menu. This menu groups all the brush modification functions.

To stretch a brush, click directly on the SIZE button, with the left mouse button. A white outlined rectangle replaces the brush. Hold down the left mouse button and move : you are stretching the rectangle. When you release the button the selected brush is stretched to the size of the rectangle.

Click twice on the SIZE button in the main menu (or once if the button is already selected). The icon is modified. A white rectangle shows the outline of the brush. Hold down the left mouse button and move the pointer : the outline is ROTATING. When you release the mouse button, the brush is in its rotative process.

SMOOTHING

TVPaint Junior does not generate anti-aliased brushes or smoothed rotations or resizing. The classic TVPaint does.

THE BRUSH AND THE POINTER

When you cut a brush, the pointer is automatically placed in the middle of the brush. When you cut small brushes, the pointer can obstruct your work. We have chosen to write off the erasing option of the pointer so that it can't be lost. But you will still be able to shift the pointer and the brush. Select the HANDLE button in the brush-size menu or press the HELP key, (a white cross appears) press the left mouse button and move while holding down the button to indicate the new position of the pointer. When you release the mouse button, the new position is updated.

LEFT BUTTON / RIGHT BUTTON

When you cut a brush with the left mouse button, you actually duplicate this brush, and you get two copies of this brush : one on the screen and one under the pointer. When you cut a brush with the right mouse button, you really cut the brush: the part of screen that you cut is under your pointer and its original location on the screen is filled with the cur-

rent background color.

TO WRAP A BRUSH

Cut a brush, open the **CYCLE** menu by clicking with the right mouse button on the icon marked **C** in the top of the main menu. Select the icon marked with the horizontal arrows at the bottom of the menu. Return to the working screen and draw a filled shape (freehand shape, circle, rectangle, polygon,...).

This brush-wrapping function is placed in the **CYCLE** menu simply because this menu can be regarded as a **FILL MODE** menu : color cycle or brush wrapping.

In TVPaint Junior, the brush-wrapping is only horizontal. In the classic TVPaint you can choose a horizontal, vertical or global action.



COLOR PALETTE

The palette available in the main menu has only 256 different colors. This working palette is not rigid and you can modify it by setting the palette menu: click on the selection icon with... a palette.

Each color is made of different components in various quantities. There are different systems, with different types of components to define the same color :

- Red, Green and Blue (RGB);
- Cyan, Magenta, Yellow (CMY);
- Hue, Saturation, Lightness (HSL).

TVPaint enables you to access to these three systems, to these three types of color representation. Note in the menu, a series of horizontal gadgets, of slide bars, for the RGBA and HSL values, with at the end of each of them, the display of the current value of the corresponding component (form 0 to 255). Click on the CMY button to turn the RGB system display in to a CMY system.

CHOOSING A COLOR

1. Click directly on a color in the palette: it is displayed in the current color indicator and its RGBA / HSL or RGBA /HSL values are updated in the slide-bars.
2. Click directly on one of the two colored discs placed in the bottom of the palette menu: the color that you have clicked is displayed in the current color indicator and its RGBA / HSL or CMYA / HSL are displayed in the slide-bars. If you keep the mouse button pressed and move the mouse pointer on the discs, you successively select all the colors under the pointer : note the real time modification of the slide-bars. These two disks represent the complete pure color spectrum.
3. Click with the right mouse button on the current color indicator. The mouse pointer turns into a question mark. It is the PICK function that we have already seen in exercise 3 and which allows you to choose a color anywhere on the screen. Click on the working screen : the chosen color is displayed in the current color indicator and its RGBA / HSL or RGBA /HSL values are updated in the slide-bars.

SETTING A COLOR

If you want to set a color, you just have to modify its component values : more or less red, more or less cyan or saturation and so on.

COPYING, EXCHANGING, SPREADING A COLOR TO AN OTHER

When you are satisfied with the current color, click on the COPY button and on the place where you want to copy this color.

Follow the same procedure to copy a color of the palette on to an other : click on the color to be copied, click on the COPY button and then on the color which you want to replace.

Same procedure to EXCHANGE two colors in the palette : click on the first color to exchange, on the EXCHange button and then on the color which you want to exchange with the first one.

Same procedure to SPREAD a color to an other and generate a linear color range between these two colors : click on the first color to be spread, on the SPREAD button and then on the color to spread on to.

COLOR MIXER

In the classic TVPaint there is a mixer to blend your own colors.

**LOAD**

Click on the disk access icon which is in the bottom of the main menu. A window appears where TVPaint is waiting for you to define what you want to do : **LOAD** or **SAVE** something. You have also to choose with the selected button at the bottom of the window, what you want to load or save: an image, a brush or a palette.

To load an image: verify that the image button is selected in the bottom of the menu, click on the load button. A requester appears where you have to choose the name of the image to load.

**SAVE**

To save your work, click on the disk access icon in the same way as you use the load function. The **LOAD-SAVE** menu appears. Click on the **SAVE** button and specify the name that you want to give to your image.

Below the **SAVE** button, an area marked **DEEP** shows the selected file format. To change the file format, click on the area placed just below the **SAVE** button : a menu appears. Move in the format list while still pressing the mouse button. When you are on the required format, release the button : your choice is displayed in the format area.

FORMATS

TVPaint Junior only knows **DEEP**, **ILBM** and **JPEG** formats. The classic TVPaint knows **DEEP**, **ILBM**, **TGA**, **JPeG**, **RENDITION**, **DELTA**,... For the time being, we advise you to use the **DEEP** format, quicker and more efficient than its friends.

Note: it is worth recording for you and those who will work with your images in which format an image was saved. This information can be given with an extension to the name of the image : **image.deep**, **image.jpg**...



COLOR RANGES

Select the CYCLE icon with the left mouse button. Select the first color of the working palette, in the upper left corner. Then, draw a FILLED figure (freehand shape, circle or rectangle).

As you complete your figure, you will notice that it is not drawn immediately. Something unexpected occurs : a vector appears, joining the figure center to the mouse pointer. Move the pointer to orient this vector horizontally and click on the left mouse button. The figure fills with a superb color range. The vector which appears at the end of a figure drawn in CYCLE mode, defines the color range direction.

COLOR CYCLE NOTION

The current color must belong to a color cycle to activate the color range option when drawing the figure. A color cycle is simply a series of colors, defined by a starting and an ending color. When the CYCLE option is selected, if you choose a color from one of these color cycles, you will obtain a color range. Otherwise you will not.

DEFINING A COLOR CYCLE

Click on the CYCLE icon, with the RIGHT mouse button. A menu appears. First note then the color ranged area just above the palette : it shows the current color cycle. Click on the + and - buttons to change the cycle number and observe the preview area. You come across the four color cycles.

Select one of these four cycles (the #1 for example). Click on the START button and then in the palette to specify the starting color of the cycle. Click on the END button and in the palette to specify the ending color of the cycle. Note that, while selecting a color, if you keep the mouse button holding down, the preview area reveals the current cycle that you are defining in real time.

You can also use the button marked X, at the far left of the preview area, to INVERT the cycle direction (by inverting the starting and the ending colors).

COLOR RANGE FLOOD FILL

The color range fill function also works with all the filled figures (freehand shape, rect-

angle, circle, ellipse,polygon). Select the fill function and try (with the CYCLE option selected) to fill some shapes. You can define some color cycles, load the exercise 3 image (the desert island to be colored) and fill it by using your own color cycles.

CENTERED COLOR RANGE THE REDO FUNCTION

These options are available only in the classic TVPaint.

REPETITION FUNCTION

Press the ConTRoL key (on the left of the keyboard) and draw a straight line. You immediately understand the effect of this magic key. This option works with almost all the drawing tools. Try with spline curves, circles, rectangles.

SECOND USE OF THE COLOR CYCLE

The CYCLE function can automatically update the current color for each new line. Activate the CYCLE button (by clicking once on it with the left mouse button), select a



COLOR DENSITY

Select the Density icon (marked D) with the left mouse button. Draw a filled shape (rectangle, circle, freehand shape...). The intensity of the color is not uniform in the shape that you have drawn. Note that it is not a color range, but the use of more or less color.

Click on the DENSITY icon with the right mouse button this time. A setting menu appears. This menu will enable you to set the density variation in the shape. This description of the density variation is graphically represented with two curves : one for the horizontal variation, one for the vertical variation. The higher the curve is, the bigger the color density. The two X and Y curves surround a preview area which displays the setting result.

LOCATE THE HIGHER DENSITY ZONE

Click ON the preview area and see the modifying curves and the preview area itself. When you click with the left mouse button, the curve is a spline, whereas you get a broken line with the right mouse button. The preview area displays the result you will obtain.

EDITING THE DENSITY CURVES

Click this time on the upper curve (the X curve) with the left mouse button. Move the mouse while holding down the button : you are drawing the curve yourself. If you use the right mouse button, you obtain a horizontal curve (and a uniform density). In these two cases, the preview is updated when you release the button. You immediately see the effect of the curve that you have just drawn.

FUNCTION TO EDIT THE CURVES

Some functions, placed at the upper left corner of the density menu, will help you to edit the curves. Their action is supposed to be clearly represented by their icon :



copies the X curve to the Y curve (which is erased),



copies the Y curve to the X curve (which is erased),



swaps the X and Y curves,



inverts the curves in their width,



inverts the curves in their height,



smoothes the curves.

SOME PRE-SET CURVES

You have certainly noticed the mini preview with the + and - button in the lower right corner of the density menu. This is a list of pre-set curves. Click on the + and - buttons to move inside the list : a mini preview of each curve is displayed. When you are satisfied with a curve, just click on the mini preview to select it : the curves and the preview area will be updated.

SEVERAL WAYS TO APPLY A CURVE IN A SHAPE

There are many ways to apply the X and Y density curves in a filled shape. There are 3 modes : MAXIMUM, PARTIAL and CENTERED (which is available only in the classic TVPaint). So far you have used the MAX mode. You select the mode by clicking on the 4 buttons placed at the bottom of the density menu. They are switcher-buttons : they are selected if you click once, and deselected if you click twice.

You can select only one mode (MAXIMUM, PARTIAL) for each dimension (X and Y). You can also select NO mode for a dimension. Deselect all the X icons. The X curve is no longer reckoned with. It doesn't appear in the preview and further more, it is not affected by the inversion or the smoothing functions or the pre-set curves update process. When you choose a pre-set curve, only the Y curve is updated.

MAXIMUM

When this mode is selected, the curve is applied, with the MAXIMUM size for the whole shape (width or height depending on the given dimension). It gives an uniform applying effect whatever the filled shape was.

PARTIAL

When this mode is selected, the curve is applied on each line (or row) depending on the local, partial size of the shape on this spot. It gives a following edge applying effect.

CENTERED

This function is available only in the classic TVPaint. When this mode is selected, the X curve is applied on a radius starting from a specified center. This mode works with the X curve only.



COLOR MASKING FOR AREA MASKING

To use the airbrush effectively without spraying paint everywhere on the screen, you need to protect some parts of the working image. The MASK option will play this role by locking colors which will be protected against all the drawing options.

The areas to protect will be defined by their color. It will be said that such or such color is being locked whereas in fact, it is the area of the screen where the color is located which is meant here. A color mask (or color lock) is simply defined by the list of the locked colors, and it consists in the map of the locked and unlocked areas. We will say "mask" for the definition (the locked color list) and the result (map of the locked areas).

Click the icon marked M (for mask) at the top of the main menu with the right mouse button. A window appears where the mask can be edited. You can add or subtract colors in the locked color list with the following options, placed in the top of the menu :

⇒ add or subtract ONE color to the list,

⇒ (in the classic TVPaint you can also add or subtract to the list ALL the colors belonging to a range (from the start color to the end color).

Other functions also enable you to FREE the mask (to erase the locked colors off the list), to INVERT the mask (to exchange the locked color list with the unlocked color list) and to SHOW the mask (to display the map of the locked and unlocked areas). In the classic TVPaint you can also SMOOTH the outline of the mask.

SINGLE COLOR LOCKING

Select the color to be locked : click the color button in the highest part of the window. The mouse pointer is modified. Choose the color you want to lock on the working screen directly (or in the working palette at the bottom of the menu). While you are holding down the mouse button, the color selected by the mouse is updated in the color button. After having selected a color, click on the ADD button placed on the right of the same line. This color is added to the mask, this means added to the locked color list. So far, the mask was empty since we hadn't reached it yet. Now it contains the selected color, which is the sole one to be locked.

Return to the main menu (by clicking on the close gadget in the upper left corner of the mask menu) and draw with some drawing options on the color that you have just locked : it remains color-proof. Activate and de-activate the mask by clicking with the left mouse button on the mask icon.

A MARGIN LIMIT

Go back to the mask setting menu. Modify the number displayed just on the right of the color button with the + and - buttons (or by clicking on the number and entering yourself the new value from 0 to 255). It is the margin limit applied to the selected color.

For instance, the selected color is a red with the RGB values R=200, G=10, B=0. If the limit is 0, only the selected color will be used by the ADD or SUB function. If the limit is 1, all the neighboring colors of the selected one will be used, with a margin of 1. This includes the colors with values such as 201, 10, 0 / 200, 9, 0 / 199, 10, 0 / etc. When you add (or sub) a color to the mask with a margin, all the neighboring colors (depending on the value of the margin) will be added (or subtracted) to the locked color list.

DISPLAYING THE MASK

Before leaving the mask menu to test this new mask on the screen, click on the SHOW button. This option shows you the mask like an image : the menu window disappears, then all the free colors in the screen are replaced by the black and all the locked ones by the white. So the mask is displayed in white on a black background. To stop this display, you have to click on the left mouse button.

SUBTRACTING A SINGLE COLOR FROM THE MASK

When you have returned to the mask menu, select the color you have already locked, or even set the margin limit to 0 and then click on the SUB button. This time, instead of adding the selected color to the mask, TVPaint subtracts it (it erases this color from the locked color list). Check on the screen that this color is now free.

INVERTING THE MASK

We have already seen one of the editing function of the mask, that is the FREE option which clears the mask. Now click on the INVERT button. This function inverts the mask. It frees the colors which were locked and locks the one which were free. Test the result with the SHOW function on the working screen.

OTHER FUNCTIONS IN THE SYSTEM MENU

Click on the icon marked SYS in the top of the main menu. A window appears with several options.

THE COORDINATES

This function simply displays the coordinates of the mouse in the top of the main menu.

THE GRID

The grid function makes the mouse to move on the intersections of a specifically sized net (the grid). The mouse doesn't move anymore pixel by pixels but jumps from one cross-roads to the other. Click on the grid icon and draw some lines to see for yourself.

Click on the grid icon with the right mouse button to access to the grid menu. You can not only set the width and the height of the steps, but also set the coordinates of the origin of the grid. Use the + and - buttons of each option to set the values or click on the ADJUST button to set the grid scale graphically : a white outlined rectangle appears on the screen, which you can stretch while holding down the mouse button. When you release the button, the new origin coordinates and the steps are updated.

AN OTHER METHOD TO LINE UP BRUSHES

There is an other way to line up brushes, characters or words in as precise a way as possible. When you place the brush you have cut on the screen, press the ALT key, and move the mouse (while holding down the key) : the first direction which the mouse will move to will be the only authorized one as long as the ALT key is pressed. If you press Alt and the first move of the mouse is horizontal, the mouse will move ONLY in the horizontal direction until you release the key. Same thing with the vertical. This function is very useful to line up brushes in general, and characters or words in particular.

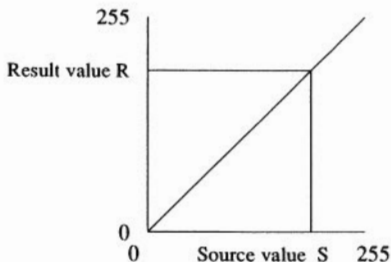


THE LUT (LOOK UP TABLE)

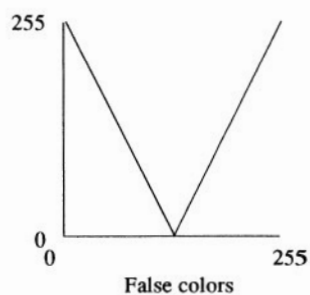
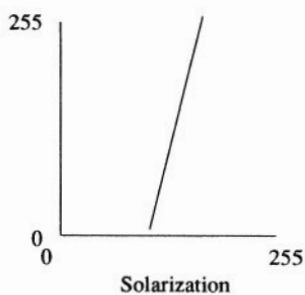
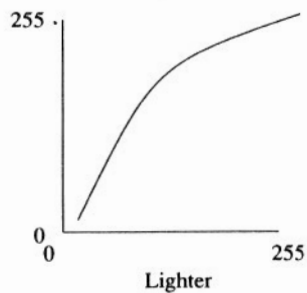
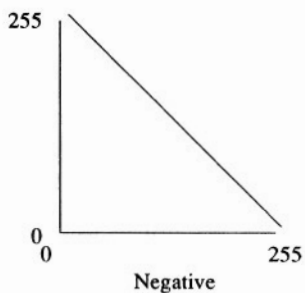
This function enables one to modify the Look Up Table graphically. The curve of the LUT represents a **transformation** applied to one (or several) component of the color (Red, Green, Blue, or all of them). Horizontally we select the source value (from 0 to 255) and vertically we can read the new value, the Result, depending on the aspect of the curve. Look at the figure below, it is very simple. If we draw a diagonal, the transformation is perfectly neutral : for all the values chosen, we get a result equal to the source value. If we stretch this diagonale to the top, the transformation will light the image, because it will return a bigger result for each value. By inverting the direction of the diagonale, we will transform the image into its negative. By drawing stairs in the curve, we will reduce the number of colors used in the image. By chopping the ends of the curve, we will modify the contrast of the image and so on...

Select the component you want to modify (R : red, G : green, B : blue or ALL : all the components) with the R, G, B and ALL buttons in the top of the window. Modify the curve then, just as in the density menu or the aspect setting of the airbrush, with the right mouse button (to draw a spline) or the left mouse button (to draw the curve manually). Click on the MODIFY SCREEN button to run the computing. To cancel all the transformations and return to the original image, click on the CANCEL button.

the curve graphically represents the transformation to apply to the color source.



Here are some examples of curves :



ALPHA CHANNEL

TVPaint ALWAYS works on a 32 bit image in memory. For each pixel, the 24 first bits code the color among a 16 million color palette. The last 8 bits are the alpha channel value of the pixel, the video transparency. The alpha channel enables to control a 0 to 256 value for each pixel which represents the intensity in the mix of the computer image with a video signal. In video applications, the alpha channel enables real anti-aliasing and powerful transparencies between the image and the video signal.

When you draw, the alpha channel is ALWAYS updated. But when it is set to 255 everywhere on the screen, which is when the working image is completely opaque, the alpha channel is absolutely invisible. All the colors of the palette by default have an alpha channel set to 255. As long as you don't modify the alpha channel of a color, or load an image with a particular alpha channel, you draw with "opaque" on "opaque" and everything is happening as if the alpha channel were not there.

THE ALPHA CHANNEL MENU

To access to the alpha channel menu, select the Alpha Channel button in the SYStem menu or press the F8 key.

SIMULATING ALPHA CHANNEL

Even if you are not connected in video, you can simulate the action of the alpha channel thanks to the MERGE SCREENS WITH ALPHA function placed in the bottom of the menu. This function takes the second working screen (spare screen) as a video signal and mixes it, considering the alpha channel, under the image displayed on the first working screen.

SOME FUNCTIONS

As with the color mask, you can INVERT the alpha channel. You can also set the whole screen with an alpha equal to 0 (CLEAR) or to 255 (SET) which is equivalent to setting the screen entirely transparent and entirely opaque.

A SMOOTH function is available in the classic TVPaint.

EDITING THE ALPHA CHANNEL

As for the edition of the color mask, it could be convenient to edit the alpha channel plane, to draw whatever area you like, transparent or opaque. The procedure, as with the color mask, is very simple : load an image on one of the two working screens, swap the screens and draw the alpha you want to add to the previous image on the second working screen. When it is over swap the screens again and click, on the **ADD SPARE** button in the alpha channel menu (after a possible clearing of the alpha plane with the **CLEAR** function). The image on the second working screen is turned into shades of grey and copied onto the alpha channel of the displayed screen. To have a precise idea about the final result, you can draw the image which will become the alpha directly in grey shades.

FILE FORMATS

Be careful when saving your images : not all the formats include the 32 bits. Some of them save images in 24 bits, they only save the colors, not the alpha channel. In the same way, when you load a 24 bit image (with no defined alpha of course) the whole alpha is automatically set to 255. Work in 24 bits : **ILBM**, **JPEG** and work in 32 bits : **DEEP**.

DRAWING MODES

Until now we didn't care about the drawing MODE in which we worked. A mode is a function that you can use with all the drawing tools (freehand drawing, outlined and filled rectangle, circle, polygon, airbrush,...). The current mode is displayed in the button placed in the top of the main menu. By default, you work in COLOR mode but we saw the STAMP mode. Numbers of modes enable you to create fantastic effects.

Click on the current mode indicator: a menu appears where are all the available mode and the key to select them. Some mode are grouped on the same function key : SHADE and LIGHT which respectively shade and light all the pixels under the brush, are grouped on the F5 key. When you press once on this key you select the SHADE mode when you click a second time you select the LIGHT.

In a general way, you use all the modes with the left mouse button. The right mouse button is ALWAYS in COLOR mode and enables you to always have a rubbing color under your mouse.

F1 :	COLOR, STAMP	F5 :	SHADE, LIGHT
F2 :	SMOOTH, BLUR*	F6 :	COLORIZE*, HUE*
F3 :	SMEAR, SHIFT	F7 :	DITHERING*, GRAIN
F4 :	TRANS,		

*Blur, Colorize, Hue and Dithering are only available in the classic TVPaint.

COLOR

It is the working mode selected by default. It is the "normal" mode where you draw colored lines with the current selected color.

STAMP

In COLOR mode, when you cut a brush and you draw a line with it, just as with a pencil, the brush is still drawn with its original colors. If you cut a red brush, even if you select green as the current working color, you will draw a red line. Then select the STAMP mode : the brush will be drawn with the current color and the color cycles will be available too.

SMOOTH

The smooth mode creates a... smooth effect under the brush. Draw a white filled circle on a black background (in COLOR mode), select the SMOOTH and draw some strokes on

the edge of the disc. Don't hesitate to use big brushes or to draw several times on the same place. As the BLUR mode, the SMOOTH mode enables you to anti-alias the pixels of the image, to soften a grainy digitalization or to create depth of field in a 3D image (desperately flat).

SMEAR

The SMEAR mode makes color marks under the brush, just as if you draw with your fingers on still wet painting. The SMEAR mode, used with a middle-sized brush and the straight drawing tool gives a pencil, a graphic aspect. More, to stretch the color gives a direction, just as the brush stroke on a canvas or a motion blur effect on a photography.

SHIFT

When you draw a line with the SHIFT mode, everything which is under the brush is shifted in the direction of the line, carried by the breath of its passage. The resulting effect has nothing to do with the SMEAR mode which makes color marks. The SHIFT mode enables to move some part of the screen while keeping (more or less) the image coherence.

TRANS

In TVPaint you have two working screens, a displayed screen and a spare screen. These two screens can be exchanged when you want, the displayed screen becoming the spare screen and the spare becoming the displayed. All the options and functions of TVPaint work in the same way on the two screens. The "j" key (lower case) enables to swap the screens and "J" (caps) to copy the displayed screen to the other. These options are also represented with buttons in the SYStem menu.

TRANS is a TRANSparency mode which works with the two screens. Load an image on one of the two screens. Press the "j" key to swap the screens. Select the TRANS mode (in the menu or by pressing the F4 key). Draw some lines... instead of drawing colored lines, it is just as if you was drawing holes in the front image through them you can see the background image. Try with different functions : circle, AIRBRUSH (great, but only in the classic TVpaint) and filled shapes with the density (really great).

TRANS is a fantastic tool to mix two images. But this working mode can localize the action of special effects, which are normally applied to the entire screen. Load an image, copy it to the second screen (with J), turn it in its negativ (with the LUT function). Now use the TRANS mode to mix parts of the negativ and the original to get strange effects. Try also to write text inTRANS mode, to map textures on letters.

SHADE and LIGHT

The SHADE mode... shades the pixels under the brush. The more you draw on the same place the more the effect is increased. The LIGHT mode... lightens the pixels.

GRAIN

This mode generates grain under the brush. Ideal to create grainy textures on 3D desperately clean images. In fact, this mode simply generates irregular 12 bit dithering.

DRAWING TOOLS :

a : airbrush
A : setting menu of the airbrush
b : brush
B : gets the last brush back
c : outlined circle
cc : filled circle
d : straight drawing
dd: freehand filled shape
e : outlined ellipse
ee: filled ellipse
f : fill
j : swaps the two working screens
J : copies the displayed screen to the second working screen
K : clears the displayed screen
m : magnifier
< and >: increase and reduce the magnifying coefficient
p : color palette
q : spline curve
qq: spline curveS
r : outlined rectangle
rr: filled rectangle
s : dotted drawing
t : text
T : loads new fonts
v : line drawing
:: pick color option

MODES :

F1 :	Color, Stamp	F5 :	Shade, Light
F2 :	Smooth,	F6 :	
F3 :	Smear, Shift	F7 :	Grain
F4 :	Trans		

BRUSH :

- w : forces in the brush display
- x : inverts the brush horizontally
- y : inverts the brush vertically
- z : rotates the brush 90°
- h : halves the brush
- H : doubles the brush
- X : doubles the brush horizontally
- Y : doubles the brush vertically
- Z : stretching
- : : selects the | size brush
- Help : sets the shift between the brush and the pointer

OTHER FUNCTIONS :

- L : load menu
- S : save menu
- Q : quits TVPaint
- F8 : Alpha Channel menu
- F10 / space : hides or shows the main menu
- u : UNDO
- Ctrl : activates / de-activates the Repeat mode
- Tab : activates / de-activates the Cycle mode
- ' (Tilde) : activates / de-activates the Mask mode
- Del : stops the execution of the computing function
- Alt : locks the mouse pointer moves horizontally or vertically
- Shift : locks the mouse pointer moves diagonally
- l : displays / hides the coordinates
- [and] : flip the screen horizontally or vertically
- Esc : updates the UNDO buffer

