Pro Motion V1.0

What is "Pro Motion", and what can it offer?
The Screen

The Menuline
    File
    Brush
    Mode
    Frame
    Animation
    Colors
    Stencil
    Clipboard
    Plugins
    Options
    Help

Important Hints

Samples step by step...
a jumping ball
a flying text in 3d

How can i ...?

Installation und use of plugins
Technical Informations

What is "Pro Motion", and what can it offer?

Did you ever want to...
improve your WWW-Homepage using Animations and Images, but you don´t have suitable software ?
create your own games but you lack of a flexible and easy to use spritedesigner ?
paint your own animated cursors for Windows 95, but you don´t know how to do ?

Then "Pro Motion" is just the right solution for you.

"Pro Motion" is a painting-program for animations. It has lots of functions that support painting or creating animations.

Features:
  * up to **255 images**, each can have its own colortable of up to **256 colors**,
    with a **screen refresh rate of 60 images per second** and even more
  * images up to a size of **1024*768** pixels
  * animations with **different delays between frames**,
    ideal for displaying images step by step for presentation graphics
  * a **lighttable**, with which you can lay upon another several images to draw
    animation-steps perfectly
  * **32-times Undo/Redo**
  * a **Keyframer**, which helps you creating **3d-Animations** based upon a 2d-image
  * **special effects** like mosaic, fade in/over/out or palette-animations
  * **19 different painting methods** like smoothing, colorcycling, embossing,
    brighten, darken ...
  * **7 different filling methods** for color shading
  * **2 dither-methods** to increase color depth
  * a simple **plugin-interface** to expand prgram functions
  * Autodesk´s **FLI/FLC-support**
  * a simple file format for **sprite-grafiks**, ideal for game developers
  * allows creation of **animated cursor-files** for Windows 95

for help click on a screen-element...
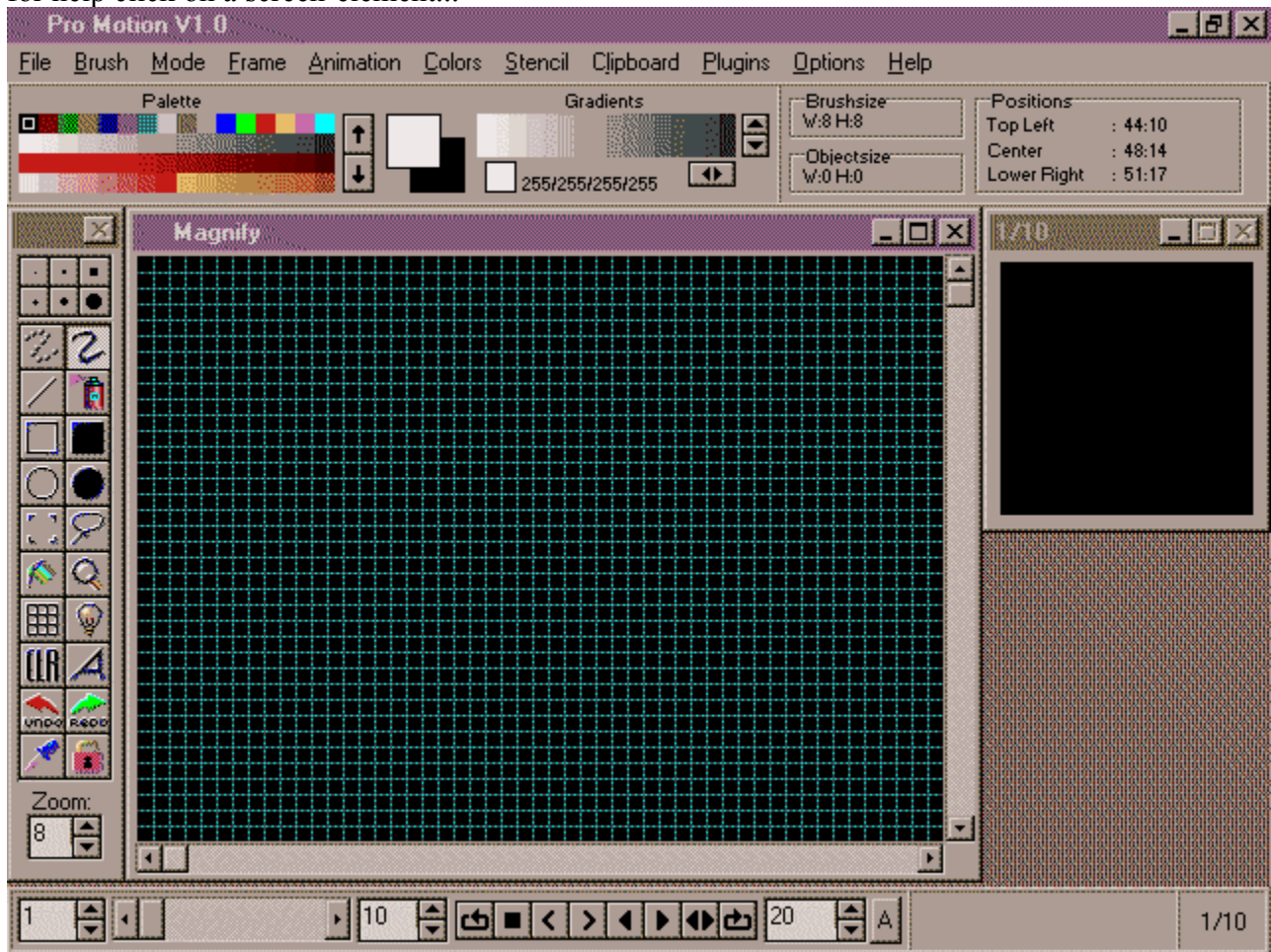
The menu "File"

NEW
    opens a <u>dialogbox</u> for creating a new animation

EXIT
    exits program

The menu "Brush"

RESTORE

   with "Restore" you undo the last operation that changed the brush

RESIZE

   with "Resize" you can change the size of the current brush
   usage:
   "click and drag method"

GRIP

   Grip is the brushgrip, which can have the positions
   TOP LEFT
   CENTER
   LOWER RIGHT
   relative to the brush

ROTATE

   rotates current brush
   90° CCW   =90° counter clockwise
   90° CW   =90° clockwise
   180°
   FREE   =freehand
   usage:
   "click and drag method"

BEND, SHEAR, MIRROR

   bends, shears, mirrors current brush
   HORIZONTAL
   VERTICAL
   usage:
   "click and drag method"

HALVE, DOUBLE

   halves, doubles brush´s size
   X   =width
   Y   =height
   XY   =width and height

OUTLINE

   outlines brush with current foregroundcolor
   You can use this function together with colorcycling (menu "Mode") to outline brush step
   by step with current gradient.

MAKE SINGLE COLOR

   makes brush using current foregroundcolor if it contains more than one color

PUT TO CLIPBOARD, GET FROM CLIPBOARD

a brush can be saved into one of 4 clipboards in the <u>brushcontainer</u> and can be loaded from there afterwards.

REMAP COLORS

converts brush´s colortable to image´s colortable, by finding best matching colors

CHANGE TRANSPARENT COLOR

opens a <u>dialogbox</u>, where you can change transparent color of   the brush

LOAD BRUSH, SAVE BRUSH

loads or saves brush as image file

The menu "Mode"

"Mode" indicates current painting mode, which is used when painting with brush or using primitives like line, rectangle, circle (filled, not filled).

PAINT
> paints with current brush

BRIGHTEN
> brightens image colors

DARKEN
> darkens image colors

TINT
> tints image colors with brush colors

SHIFT HUE
> rotates hue of image colors

INC/DEC SATURATION
> increments/decrements saturation of image colors

INVERT
> inverts image colors using RGB-colormodel

DIFFERENCE
> uses difference values between image and brush colors for painting

TRANSLUCENT
> mixes image and brush colors

DITHER
> paints using a dithered pattern

COLORCYCLE
> uses colors of current gradient one after another

GRAY
> reduces colors to gray levels

FILTER
> HIGHPASS
> > increases brightness contrasts

> SOFTEN

softens color contrasts

SOFTEN MORE
softens color contrasts more and creates a blur effect

LIGHT EDGES SE
emphasizes edges that are nearly parallel to south, east or south east direction

LIGHT EDGES NW
emphasizes edges that are nearly parallel to west, north or north west direction

EMBOSS I
puts dark colored areas into the background

EMBOSS II
puts light colored areas into the background

SET
opens a dialogbox, that lets you specify values for these painting modes

The menu "Frame"

Here are functions that refer to a single image of the animation.

CLEAR
    clears current image by filling it with current background color

NEXT
    switches to next image of the animation

PREVIOUS
    switches to previous image of the animation

COPY
    shows a dialogbox , where you can copy an image to other ones

INSERT
    inserts an image to current position

DELETE
    deletes current image from the animation

SPARE FRAME
    FRAME -> SPARE FRAME
            copies current image to a spare frame

    FRAME <- SPARE FRAME
            copies spare frame to current image

    FRAME <-> SPARE FRAME
            swaps spare frame with current image

SCROLL
    LEFT
            scrolls image one pixel to the left

    RIGHT
            scrolls image one pixel to the right

    UP
            scrolls image one pixel upwards

    DOWN
            scrolls image one pixel downwards

BACKGROUND FIXED
    if you switch this function on, then the current image will be saved to memory.

When now using background color for painting then this image is restored instead of painting with background color. You can not use this function together with the lighttable.

REMAP COLORS

adapts all colors of the current image to their current color table if this color table has been changed. Windows-system colors (0-9, 246-255) are not used.

REMAP COLORS INCL. SYSTEM

adapts all colors of the current image to their current color table if this color table has been changed. Windows-system colors (0-9, 246-255) are used too.

LOAD/SAVE

loads/saves an image from/to disk

The   menu "Animation"

In this menu you find functions that refer to a sequence of images.

PLAY FOWARD
    plays the choosen image sequence one time forward

PLAY BACKWARD
    plays the choosen image sequence one time backward

PING PONG
    plays the choosen image sequence endless foward and backward

LOOP FORWARD
    plays the choosen image sequence forward as a loop

LOOP BACKWARD
    plays the choosen image sequence backward as a loop

STOP
    stops playing of animation

NUMBER OF FRAMES
    shows a dialogbox, that lets you specify the number of images of the animation

CREATE ANIMATION
    shows a dialogbox, that lets you create animations in 3d-space

EFFECTS
    shows a dialogbox, that lets you apply several effects on your animation

REMAP COLORS
    adapts all colors of all images to their current color table if this color table has been
    changed. Windows-system colors (0-9, 246-255) are not used.

REMAP COLORS INCL. SYSTEM
    adapts all colors of all images to their current color table if this color table has been
    changed. Windows-system colors (0-9, 246-255) are used too.

LIGHTTABLE
    ADJUST LIGHTTABLE
        shows a dialogbox, where you can set up adjustments for the lighttable

    LIGHTTABLE ON
        switches lighttable on/off

MELT FRAMES
shows a <u>dialogbox</u>, which lets you specify images that shall be combined with images shown by the lighttable

LOAD ANIMATION
loads an animation from disk

LOAD ANIMATION TO POSITION
shows a <u>dialogbox</u>, thats lets you load an animation to a special position within the current animation

APPEND ANIMATION
loads an animation from disk and appends it to the last image of current animation if the image sizes of the new animation are smaller or equal to the current image sizes.

SAVE CLIPPED ANIMATION
shows a <u>dialogbox</u>, where you can save a part of the current animation

SAVE ANIMATION SINGLE IMAGES
shows a <u>dialogbox</u> , that lets you save a part of the animation as single images

SAVE ANIMATION
saves whole animation to disk

The menu "Colors"

This menu contains functions for work with colortables and gradients.

EDIT PALETTE
shows a dialogbox , where you can change single palette colors

EDIT CURRENT GRADIENT
shows a dialogbox, where you can change the currently selected gradient

SORT PALETTE BY COLOR
tries to sort the colors in the palette starting with white.
After this function you should use the "Remap"-funktion

RESET TO DEFAULT
resets the palette to standard colors

ONE PALETTE
copies current palette to all frames within the animation and remaps all frames to this palette.

GET PALETTE FROM BRUSH
copies the brush color table to the current frame

COPY PALETTE
shows a dialogbox , where you can copy a range of the current palette colors to other frame ´s palettes

LOAD PALETTE
loads a color table file

SAVE PALETTE
saves a color table file

The menu "Clipboard"

With these functions you can transfer single images from and to other applications using the Windows Clipboard.

PUT   FRAME TO CLIPBOARD
copies current image to Windows Clipboard.

GET FRAME FROM CLIPBOARD
reads an image from the Windows Clipboard.
(this function is only available if the clipboard contains a 256 color image!)

The menu "Stencil"

This menu contains functions for painting with a <u>stencil</u>.

STENCIL ON
> switches   <u>stencil</u> on/off

MAKE STENCIL
> shows a <u>dialogbox</u> , where you can specify the stencil

LOAD STENCIL
> loads a stencil file from disk

SAVE STENCIL
> saves a stencil file to disk

The menu "Plugins"

This menu shows installed <u>plugins</u>. You can start them by clicking on the plugin-name.

IMPORT
contains plugins that import grafics of other formats than yet supported.

EXPORT
contains plugins, that can save an animation to other formats than yet supported.

MANIPULATION
contains plugins that can modify animations or images.

The menu "Options"

With this menu you can specify which windows are visible and you can adjust the zoomgrid.

ZOOMGRID
ADJUST ZOOMGRID
shows a <u>dialogbox</u> , where you can change visibleness and color of the zoomgrid

SHOW   ZOOMGRID
switches zoomgrid on/off

SHOW TOOLBOX
switches toolpanel on/off

SHOW ANIMATIONFRAME
switches animationframe on/off

The menu "Help"

This manu contains the usual "Help"-functions for Online-Help.

CONTENTS
    shows contents of helpfile

SEARCH
    jumps to help-search engine

ABOUT
    shows informations relating to the application

The click and drag method

Click with the left mousebutton on the image, keep this button down and move your mouse.

The brushcontainer
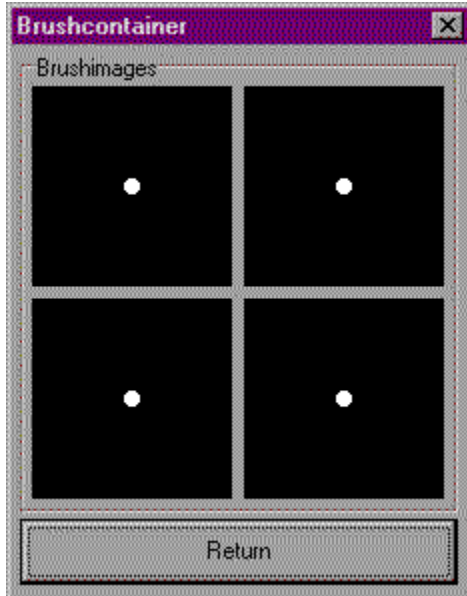
You can put a brush into each of these four fields by clicking the right mousebutton.
With your left mousebutton you can get a brush from a field.

The dialogbox for chnaging the transparent brush color
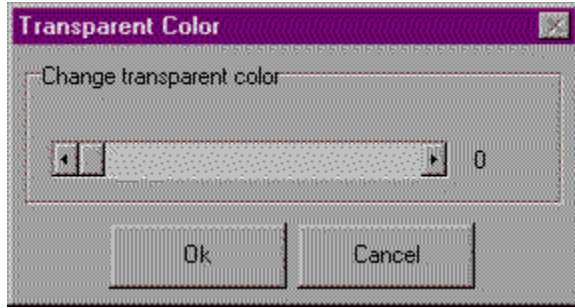
You can change the transparent brush color by using the scrollbar. Each of the 256 possible colors can be used as transparent.

The HSV-color model

The HSV-color model defines a color using the three components:

Hue	(0-359°)with	0°	red
		120°	green
		240°	blue
Saturation	(0-100)with	0	gray
		100	full color
Value	(0-100) with	0	dark
		100	bright

The RGB-color model

The RGB-color model defines a color with the three components:
      Red   (0-255)
      Green (0-255)
      Blue   (0-255)
These values correspond with the brightness of each color type.

The gradient

A gradient is a range of colors defined within a color palette.
You can define a gradient by setting up a first and a last color index within the palette.
A gradient can be used to <u>fill</u> an area with a range of colors to create shading effects.

The dialogbox for paint mode adjustments
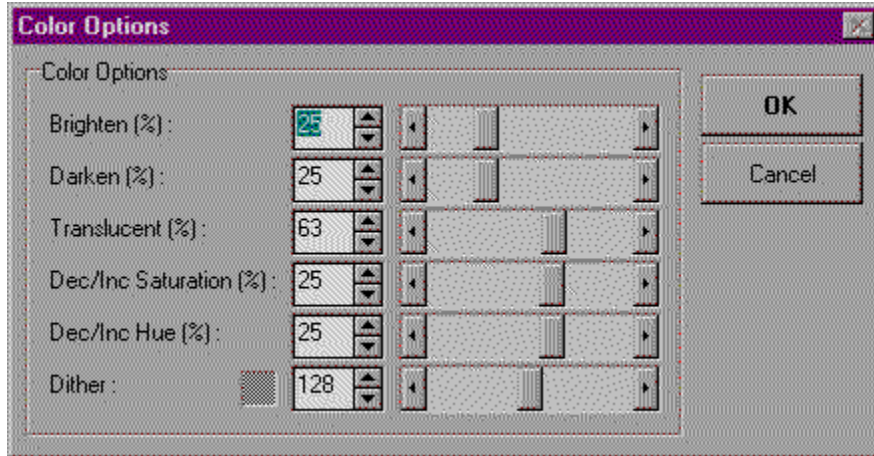
You can change the values for some painting modes.

Brighten   = brighten colors xx%

Darken   = darken colors xx%

Translucent   = mix colors (xx% of brush colors and (100-xx)% of image colors)

Inc/Dec Saturation   = increment, decrement image colors´ saturation xx%

Inc/Dec Hue   = increment, decrement image colors´ hue in %

Dither   =selects a dither pattern to be used for painting

The dialogbox for copying frames
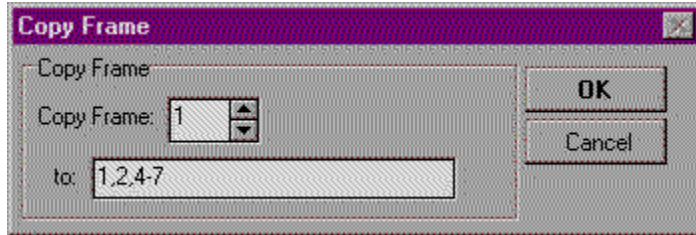
This dialogbox enables you to copy a single image onto other ones.
The upper input field specifies the source frame.
The lower input filed specifies the destination frames. You can enter single numbers or ranges separated by comma (f.e. 1-10,12,13).

The lighttable

The lighttable enables you to lay several frames one upon another.You can <u>adjust</u>, what frames are to be shown and at which brightness. The current frame is always shown at normal brightness.
The current selected background color is used as transparent and instead of this color the frames specified for the lighttable are shown. It is very important to select the right color for background!
You can´t use lighttable together with the <u>"background fixed"</u>-function!

The dialogbox for lighttable adjustments
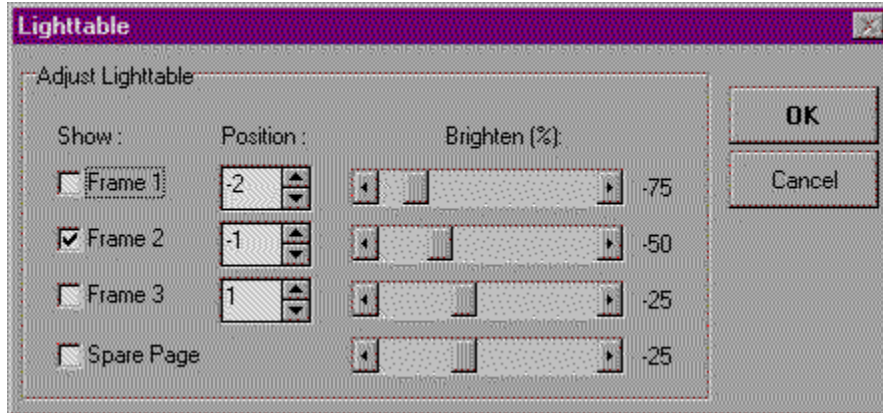
"Show" selects frames that will be shown. You can select up to four different frames for illumination.
"Position" specifies the position relative to the current frame. A value of "-1" shows the previous frame and "2" the next but one.
The scrollbars select the brightnesses these frames are shown with.
In addition to frames their position is relative to current frame you can use the image in the "spare page".

Installation and using of plugins

A "plugin" is a single program that is executed by "Pro Motion" and that has certain functions. So plugins are extensions for the application. Hobby-programmers can extend this program by themselves.

"Pro Motion" offers a simple plugin-interface and can differ between three kinds of plugins:

1. IMPORT-Plugins

   are programs that can read images or animations that use a fileformat that is not supported by the application.

2. EXPORT-Plugins

   are the opposite type of plugins than the IMPORT-Plugins and can write out image or animation data to other fileformats than supported by the application.

1. MANIPULATION-Plugins

   are programs that modify a single image or an animation and can be used to create special effects.

The interface between plugin and application

The physical interface between "Pro Motion" and a plugin is the directory "PLUGINS", in the directory where the application is installed.

When an EXPORT/MANIPULATION-Plugin is executed, all images of the animation will be saved into this directory as single files in PCX-format and can then be loaded from the plugin itself. The names of these images are defined as "PLUGx.PCX", where "x" is the running image number.

In addition a file "Frames.ini" is created that contains informations about the images. The file looks like this:

        [Frames]
        Count=x
        Width=w
        Height=h
        Delay_1=AA
        Delay_2=BB
        ...
        Delay_N=XX

Where "x" is the number of images, "w" the width and "h" the height of all PCX-Images in the plugin-directory. "Delay_N" is the delay value in ms between the N-th image and its successor. Is the execution of an IMPORT/MANIPULATION-Plugin finished, all saved images are reloaded.

Only the number of images specified in the "Frames.ini"-file will be loaded.

So if you want to delvelop an IMPORT-Plugin, don´t forget to set up the right number of images in this file!

Notice that a MANIPULATION-Plugin should not enlarge width and height of the images!

The usage of a plugin looks like the following:

IMPORT

        1. Execution of the plugin
            {after finishing execution}
        2. Loading the data specified in the "Frames.ini"-file

3. Creating a new animation with the data from 2.
4. Reading the images
5. Erasing all loaded images from the Plugin-directory

EXPORT
1. Saving all images of the animation
2. Writing animation data (number of images, width, height...) into "Frames.ini"-file
3. Execution of the plugin
   {after finishing execution}
4. Erasing all loaded images from the Plugin-directory

MANIPULATION
1. Saving all images of the animation
2. Writing animation data (number of images, width, height...) into "Frames.ini"-file
3. Execution of the plugins
   {after finishing execution}
4. Loading the data specified in the "Frames.ini"-file
5. Enlarging number of frames of the current animation if necessary
6. Reading the images
7. Erasing all loaded images from the Plugin-directory

Installation of plugins
The "Plugin"-directory contains also a "Plugins.ini"-file. This file contains informations about the installed plugins. It looks like this:

        [plugins]
        pluginX_name   =NAME
        pluginX_exe   =PATHEXE
        pluginX_type   =import|export|manipulation

where "X" is the identifying number of the plugin (1,2,3,...).
* NAME is the plugin-name that is shown in the plugins-menu.
* PATHEXE is the complete path where the plugin-program is installed.
* import|export|manipulation is the type of plugin (import or export or manipulation).
If you want to install a plugin you must register it in this "Plugins.ini"-file. When the plugin is executed and it is not contained in the plugin-directory it can read the pm.ini-file that is in the windows-directory to get the installation-path of "Pro Motion" and so can locate the plugin-directory.
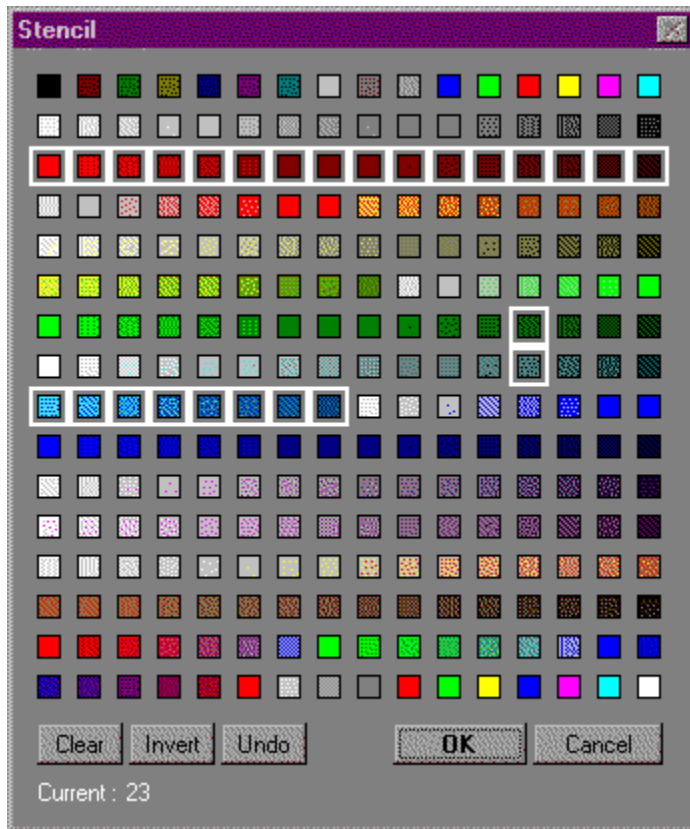When you start "Pro Motion" all installed plugins will be shown in the Plugin-menu.

Adjustments for the zoomgrid
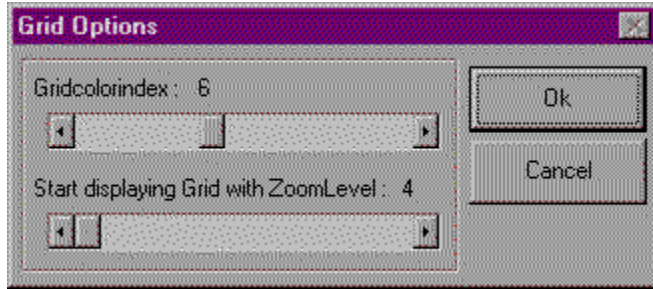
The upper scrollbar changes the color, the zoomgrid will be drawn with. You can use the colors 0-15. The other scrollbar defines the zoom level from which a grid will be shown.

Adjustments for the stencil

With your left mousebutton you can select/unselect a color for the stencil.
"Current" shows the color index under the mousecursor.
"Invert" inverts selected and not selected colors.
"Undo" makes all changes undone.
"Clear" clears the stencil and unselects all colors.

The stencil

The stencil is a mask that is <u>specified</u> using color indexes. That means you can lock special colors for painting.
If you select the colors 10-20 into the stencil for example then you can not paint over these colors. If you create a new brush by selecting it from an image these colors will be left out.

The dialogbox for changing the color palette
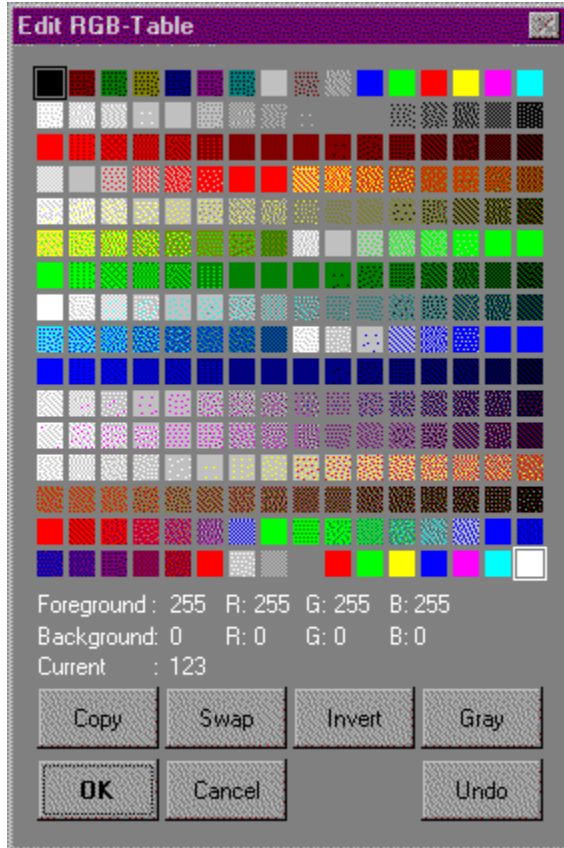
With the left mousebutton you can select the foreground color index (white frame) and with the right mousebutton the background color index (black frame).

By doubleclicking on a color a dialogbox is shown where you can change the RGB- and HSV-values for this color.

"Foreground" shows the current color index and RGB-values for the foreground color.

"Background" shows the current color index and RGB-values for the background color.

"Current" shows the color index under the mousecursor.

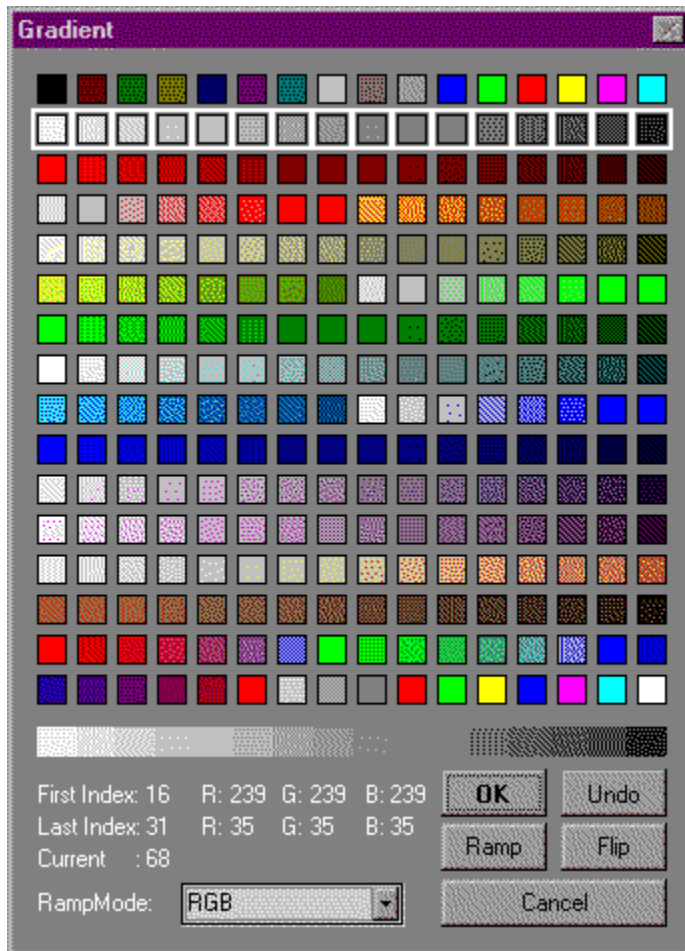"Copy" copies the RGB-values of the foreground color index to the backgroud color index.

"Swap" swaps the RGB-values of the foreground color index with the backgroud color values.

"Invert" inverts the RGB-values of all colors.

"Gray" makes all colors to gray scales.

"Undo" makes all changes undone.

Changing a gradient

The current gradient is displayed by a white frame around each color that belongs to it.
With "Shift+left mousebutton" you can select the first and with "Shift+right mousebutton" the last color index of the gradient.
The gradient is shown below the color table.
"Ramp" calculates a smooth ramp between the first color and the last color within the gradient.
With the right mousebutton you can set a color within the gradient to be included in the ramp calculation. These colors will be signed with a red frame around them.
"Rampmode" defines wether the calculation is made using the RGB- or HSV-color model.
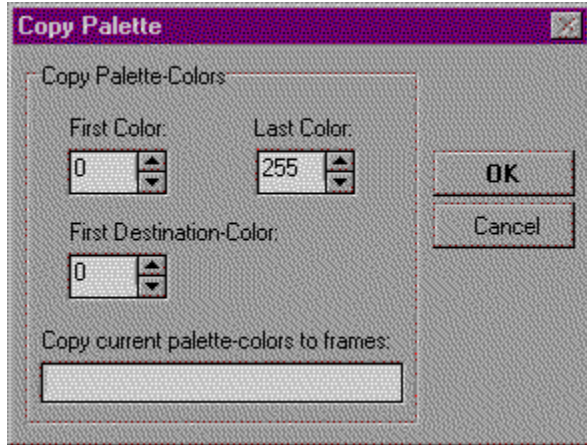By doubleclicking on a color you can change the color values.
"Flip" swaps gradients first and last color index.
"Undo" makes all changes undone.
"First Index" and "Last Index" show the gradient´s first and last color.
"Current" shows the color index currently under the mousecursor.

Copy a palette to other frames

You can copy ranges from within the current color table to an other position into the same table or other ones.

"First Color" and "Last Color" define the first and the last color index of the range to be copied.

"First Destination Color" is the color index the range will be copied to.

The lowest input field contains the destination palettes, where you can enter single frame numbers or ranges separeted by commas.
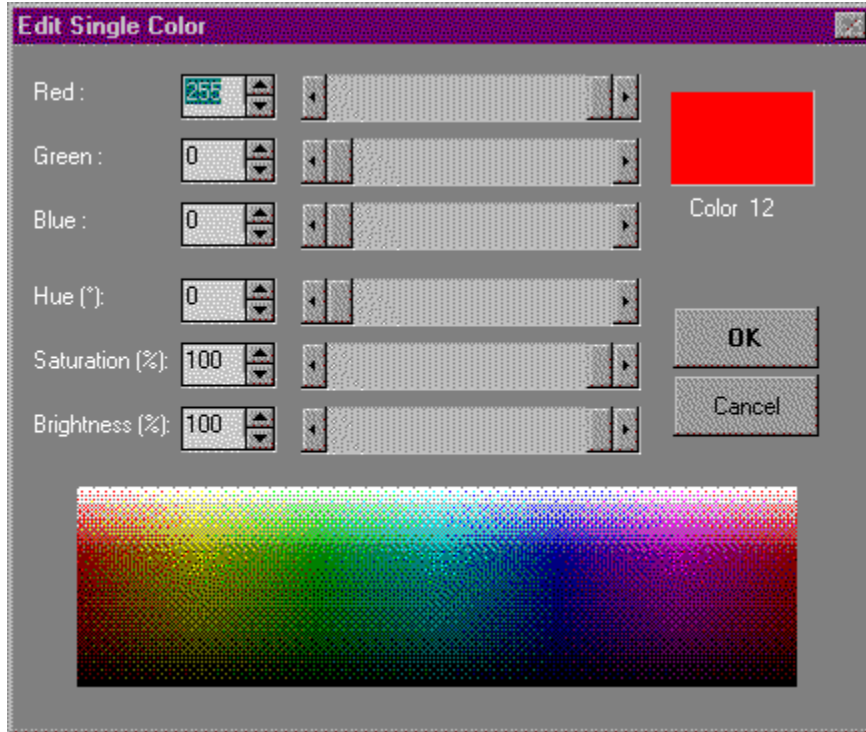
Example:

You want to copy colors 16-31 of the current color palette to colors 64-79 of the palettes 1,3 and 5-10.

"First Color": 16   "Last Color": 31

"First Destination Color": 64

"lowest input field": 1,3,5-10

Dialogbox for changing color values

The scrollbars correspond with the input fields. The upper three fields define values for the RGB-color model and the lower three scrollbars for the HSV-color model .
In addition you can select a color from the color range displayed at the bottom.
The selected color is displayed in the upper right corner.
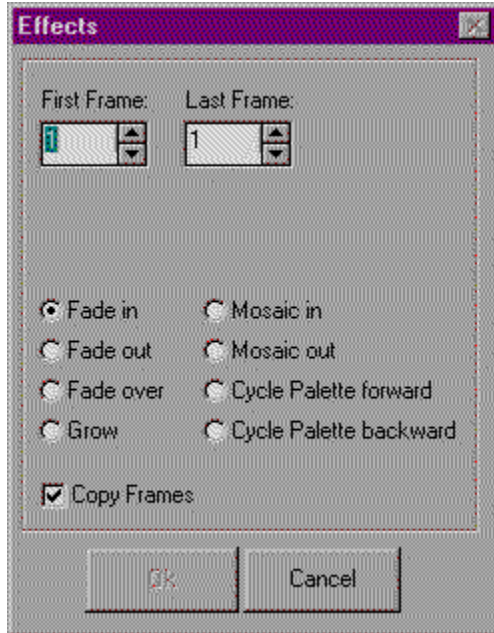
Changing number of frames
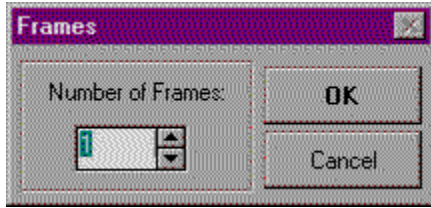
If you increase the number of frames then the corresponding number of frames will be appended at the current animation and the last frame is copied onto the new ones.
If you decrease the number of frames then the corresponding number of frames will be truncated from the end of the current animation.

Generating effects

"First Frame" and "Last Frame" define the range of frames that the effect will be applied to.
"Copy Frames" copies a frame to all frames within this range (The "First Frame" is copied when using : fade out, mosaic out, cycle palette b/f ; the "Last Frame" is copied when using : fade in, mosaic in).
That is useful if you want to fade out a single image using 10 frames. Then the image will be automatically copied to all other frames and the fading will be calculated.
If you want to fade out an animation sequence that does not contain same image data then you must switch off "Copy Frames" so that the fading is calculated on the current image data of each frame.

The effects:
"Fade In"
Fades an image in by brightening the palette colors.
(recommended number of frames: 10-20)

"Fade Out"
Fades an image out by darkening the palette colors.
(recommended number of frames: 10-20)

"Fade Over"
Fades an image into an other one. These two frames must use the same palette!
(recommended number of frames: 15-20)

"Grow"
The "Last Frame" - image grows out of the "First Frame"- image as a box that is centered. Both images must use the same palette!

"Mosaic in/out"
The last/first image is subdivided into squares that become smaller/larger.
The maximum size of these squares is defined under "Mosaicsize" (will be shown when one of these effects is selected)

"Cycle Palette forward/backward"
Under "First Color"/"Last Color" (will be shown when one of these effects is selected) you define a color range within the palette that is to be cycled. This effect only makes sense if all frames use the same colors in this range of palette color indexes.

Melt frames with lighttable
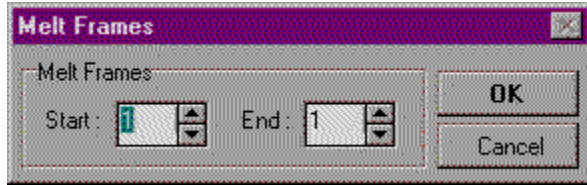
The frames defined in the range of "Start" and "End" will be combined with the frames illuminated by the lighttable.
After finishing this operation the images will look like the lighttable was still switched on.
You can use this function for example to add a background image to an animation.
This can be achieved by copying the image to the spare page and by switching the lighttable on, where it is <u>adjusted</u> that only the spare page is illuminated (with normal brightness).
Now you can define the range of frames that shall have this image as background and start melting.
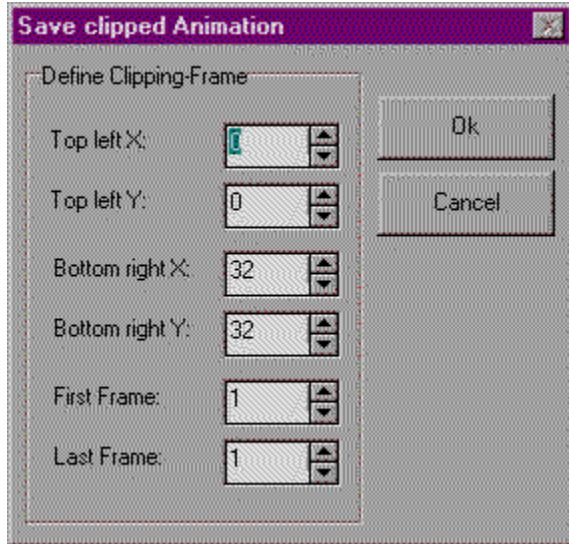The background image should have the same color table as the frames of the animation.

Load an animation to position
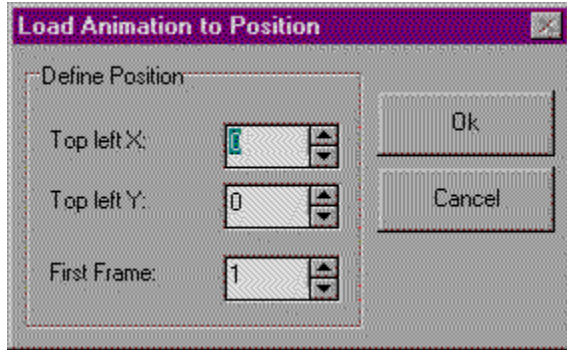
"Top left X" and "Top left Y" define a point within a frame where the animation will be loaded to.
"First Frame" is the frame number where the first frame of the new animation will be loaded to.
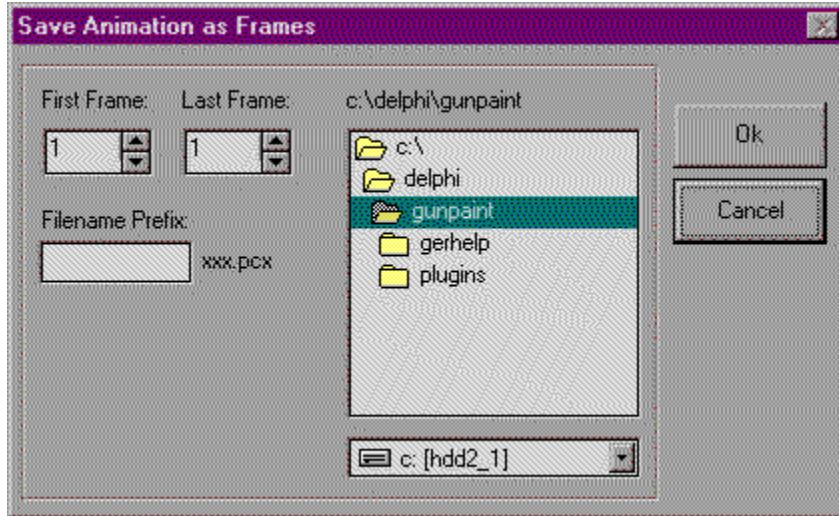
Save a clipped animation

"Top left X", "Top left Y", "Bottom right X" and "Bottom right Y" define a square region that is to be saved as animation.
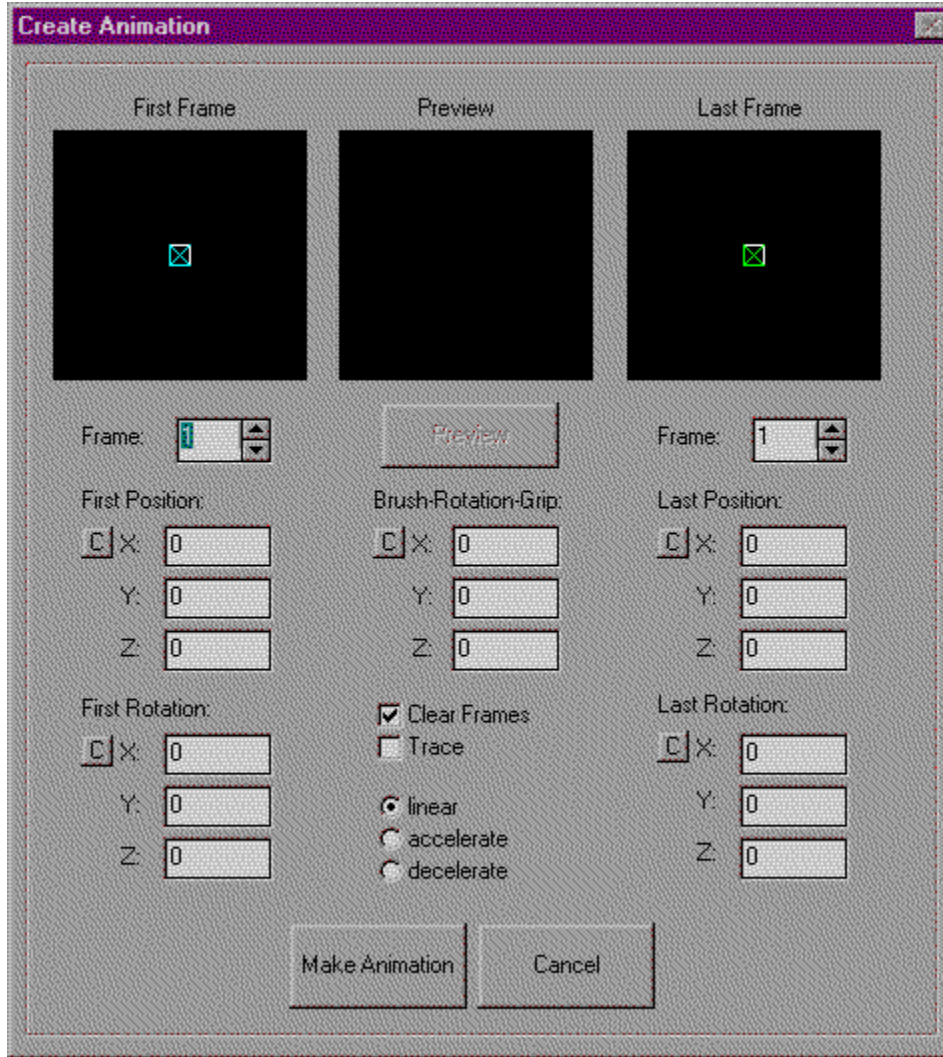"First Frame" and "Last Frame" define the range of frames to be saved as animation.

Save animation as single images

"First Frame" and "Last Frame" define the range of frames to be saved.
At "Filename Prefix" you can enter a name of five characters for use as a filename prefix. The images will be saved in numbered order (i.e. img1.pcx, img2.pcx ...).

Creating animations in 3d-space

This dialogbox is used to create animations using the current brush image.
You can define two keyframes.
"Frame" is the frame number of the (first/second) keyframe within the animation sequence.
"First Position" and "First Rotation" define the 3d-coordinates and the rotation position of the brush that are to be used as first keyframe data.
"Last Position" and "Last Rotation" are used for the second keyframe in the same way.
The position coordinates are relative to the brush´s center.
The rotation values relate to the "Brush-Rotation-Grip" that is the brush´s center by default.
You can see the look of these keyframes in the corresponding images.
The brush is displayed as a rectangle of corresponging size and the brush´s edges on the right and at the top are white for displaying the brush´s direction.
The images will be calculated using perspective view. The positive z-axis is defined into the screen depth.
So the brush gets smaller with increasing z-position. The center of the co-ordinate system (0,0,0) is in the middle of the image.

"Preview" can be used to see the animation as wired preview.

"Clear Frames" erases all frames of the animation before calculation.

"Trace" copies the previous frame to the current frame to be calculated, to create a trace of the brush movement.

"linear", "accelerate" and "decelerate" define the kind of movement.

The "C"-buttons set the corresponging input fields to "0".

"Make Animation" calculates the animation finally.

Three small examples:

Assumptions: -the animation has width and height of 128 pixels

                      -you have created a brush that is 32*32 pixels in size

                      -"First Frame" has a value of   "1" and "Last Frame"

                      a value of   "30"

1. We simply want to move the brush from the left screen border to the right border.
   * erase all position values using "C"-buttons
   * enter the co-ordinates Z=0, X= - 64, Y=0 as positions for the first keyframe
   * enter the co-ordinates Z=0, X= + 64, Y=0 as positions for the second keyframe
   * that´s all, now you can view the animation by using the "Preview"-button
   * try out "accelerate", "decelerate", "linear"
   * with "Make Animation" you can finally calculate the animation

2. Now we want to let fly up an image from the depth.
   * erase all position values using "C"-buttons
   * enter the co-ordinates Z=2000, X=0, Y=0 as positions for the first keyframe
   * that´s all, now you can view the animation by using the "Preview"-button
   * try out "accelerate", "decelerate", "linear"
   * with "Make Animation" you can finally calculate the animation

3. Now we want to let fly up an image from the depth and rotate it around the X-axis.
   * keep the position values from 2.
   * enter the values Z=0, X=360, Y=0 as rotation for the first keyframe
   * that´s all, now you can view the animation by using the "Preview"-button
   * try out "accelerate", "decelerate", "linear"
   * with "Make Animation" you can finally calculate the animation

Creating a new animation
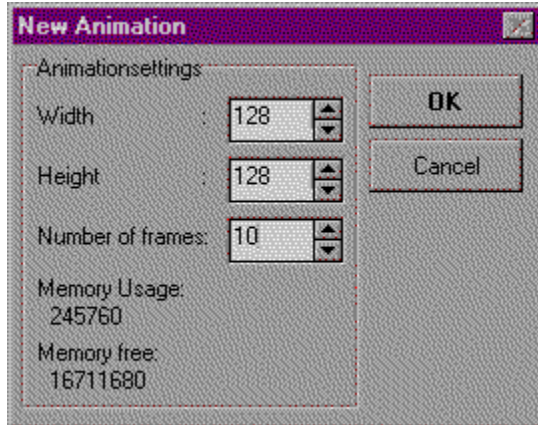
You can specify the width, height and number of frames for the new animation.

The toolpanel
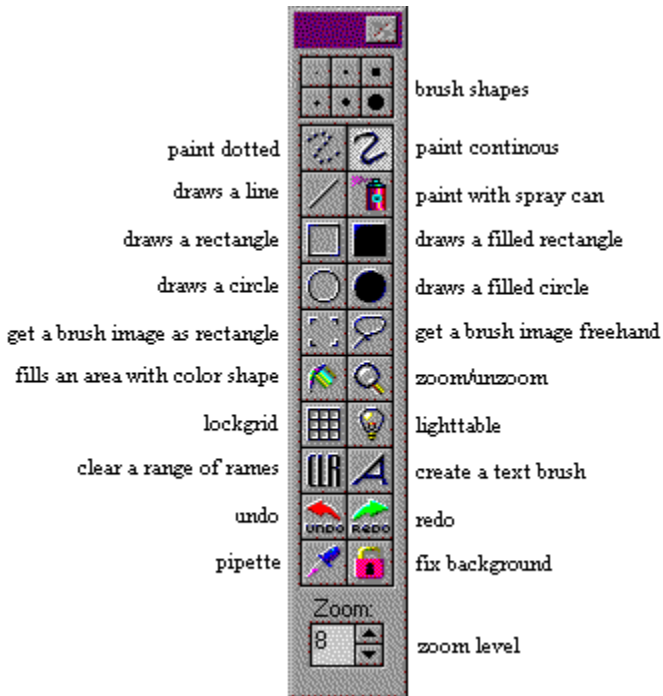
The different tools: (shortcuts)

"predefined brush shapes" ("M" for single pixel)
With the left mousebutton you can choose one of these shapes.
The upper three brushes are rectangles, the lower ones are circles.
With the right mousebutton you can resize the current brush (same function as in "Brush"-menu).

Painting tools:
All Painting tools work the same way. With the left mousebutton you use foreground (or the selected paint mode from menu "Mode") and with the right mousebutton the background color. Tools that create an object (circle, rectangle, line) use the click- and drag method and the sizes are shown under "Objectsize" on the upper screen.

"paint dotted" ("S")
This tool paints single brush dots.

"paint continous" ("D")
Paints continous using current brush.

"draw a line" ("V")
Draws a simple line with the current adjustment for lines. Use the right mousebutton on this symbol to change them.

"spray can" ("Q")

This tool simulates spraying color using a spray can. Use the right mousebutton on this symbol to change the <u>settings</u> for size and pressure.

"draw a rectangle" ("R")
Draws a rectangle using current brush. Use the right mousebutton on this symbol to change the <u>adjustments for lines</u>.

"draw a filled rectangle" ("Shift+R")
Draws a filled rectangle using current paint mode and current <u>filling mode for objects</u>. Use the right mousebutton on this symbol to change the filling mode.

"draw a circle" ("C")
Draws a circle using current brush. Use the right mousebutton on this symbol to change the <u>adjustments for lines</u>.

"draw a filled circle" ("Shift+C")
Draws a filled circle using current paint mode and current <u>filling mode for objects</u>. Use the right mousebutton on this symbol to change the filling mode.

Brush tools:
"get a brush image as rectangle" ("B")
With your left mousebutton you can define a square area within a frame to take as new brush. The current background color will be invisible. Use the right mousebutton on this symbol to get to the <u>brushcontainer</u>.

"get a brush image freehand" ("Shift+B")
With your left mousebutton you can define a region freehand within a frame to take as new brush. The current background color will be invisible. Use the right mousebutton on this symbol to get to the <u>brushcontainer</u>.

Other tools:
"fill an area with color shape" ("F")
You can fill an area using current gradient <u>gradient,</u> foreground or background color. You can select the <u>filling method</u> by clicking with the right mousebutton on this symbol.

"zoom image" ("P")
This tool can zoom/unzoom an image within the magnify-window. Use left or right mousebutton on this window to zoom/unzoom.

"lockgrid on/off" ("Shift+G")
The lockgrid is a kind of raster the brush uses for positioning. That means that a brush can only move on the crossing points defined by this grid. To change the <u>sizes of this grid</u> use the right mousebutton on this symbol.

"lighttable on/off"
Switches lighttable on/off. Use the right mousebutton on this symbol to <u>adjust lighttable</u>.

"clear a range of frames"
 You can clear simply one frame by filling it with current background color or you can set up a
 range of frames to be cleared. Use the right mousebutton to <u>change</u> this range.

"Text erzeugen" ("T")
 Shows a <u>dialogbox</u> , that lets you create a brush containing text.

"Undo" ("U")
 Undo can go up to 32 paint steps backward.

"Redo" ("Shift+U")
 Redoes the steps that have been made undone by the Undo-function.

"Pipette" ("N")
 The pipette tool is for picking up colors from an image. With the left mousebutton the
 foreground and with the right mousebutton the background color is picked up.
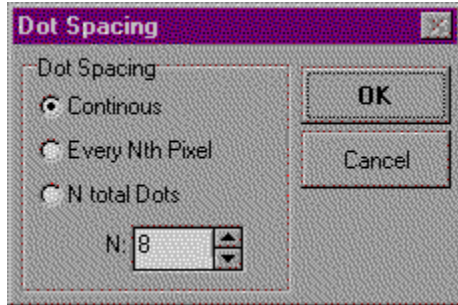
"fix background"
 This tool is identical with the "Background fixed"-function of the <u>"Frame"-menu</u>.

"zoom level"
 Shows the current zoom-factor for the magnify-window.

Adjustments for lines

"Continous" draws all lines continous.
"Every Nth Pixel" draws a brush dot every Nth pixel.
"N total Dots" draws a line that contains exactly N brush dots.

Adjustments for spray can

"Radius" defines the radius of the spray cone.
"Pressure" defines the amount of color to be used.
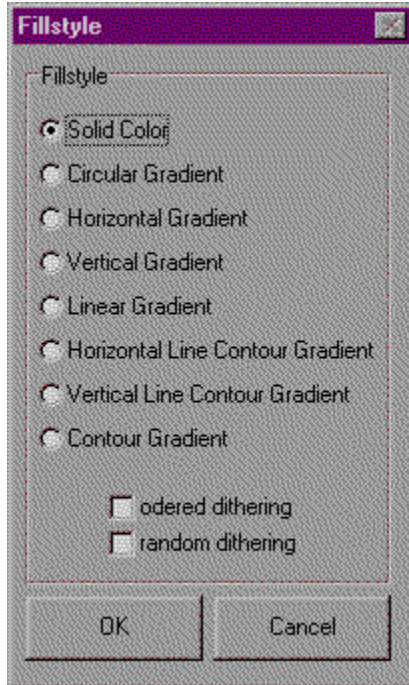
Adjustments for filled objects
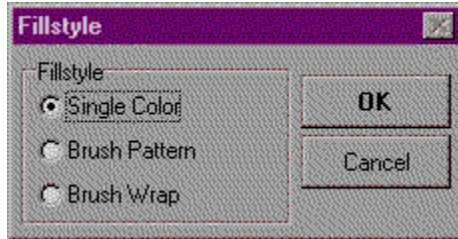
"Single Color" fills the object (Circle, Rectangle) with current foreground or background color.
"Brush Pattern" fills object with brush as a pattern where the brush image is drawn side by side.
"Brush Wrap" fills object with brush as a pattern where the brush image is fitted into the object.

Adjustments for color filling

Fillstyle dialog box:

Fillstyle
- ⦿ Solid Color
- ○ Circular Gradient
- ○ Horizontal Gradient
- ○ Vertical Gradient
- ○ Linear Gradient
- ○ Horizontal Line Contour Gradient
- ○ Vertical Line Contour Gradient
- ○ Contour Gradient

☐ odered dithering
☐ random dithering

[OK]   [Cancel]

"Solid Color" fills an area with current foreground/background color.
"Circular Gradient" uses current selected gradient to create a circular color shade.
"Horizontal Gradient" creates a horizontal color shade using current gradient.
"Vertical Gradient" creates a vertical color shade using current gradient.
"Linear Gradient" creates a color shade along a line defined with the click and drag method .
"Horizontal Line Contour Gradient" creates a horizontal color shade using current gradient
where the shade is adapted to each horizontal pixel-line.
"Vertical Line Contour Gradient" creates a vertical color shade using current gradient where the
shade is adapted to each vertical pixel-line.
"Contour Gradient" creates a color shade using the current gradient that is adapted to the shape
of the area to be filled.

"ordered dithering" increases color depth bei mixing neighbouring colors in an ordered way.
"random dithering" increases color depth bei mixing neighbouring colors randomly.

Adjustments for the lockgrid
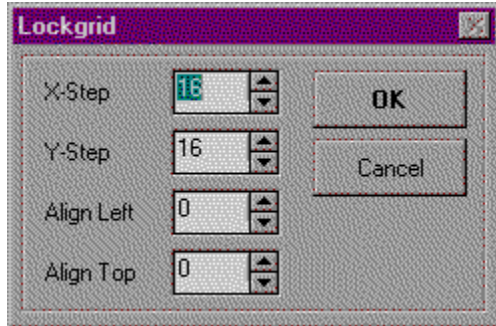
"X-Step" defines width and "Y-Step" defines height of a grid cell.
"Align Left" and "Align Top" define horizontal and vertical pixel alignment of the lockgrid.

Adjustments for clearing frames

Clear Frames

Clear
- ⦿ Current Frame
- ◯ All Frames
- ◯ Clear from [1] to [1]

[Ok]   [Cancel]
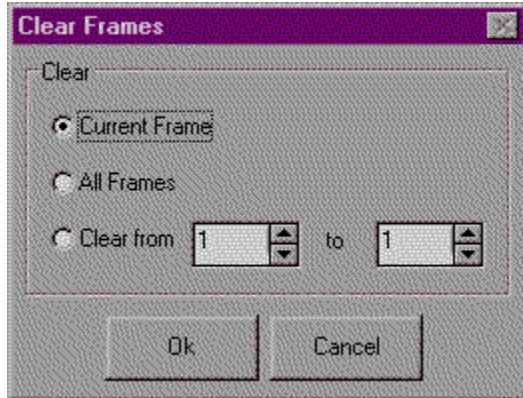
A frame will be cleared by filling it with current background color.
"Current Frame" only erases current frame.
"All Frames" erases all images in the animation.
"Clear from ... to ..." defines a range of frames to be cleared.

Creating a textbrush
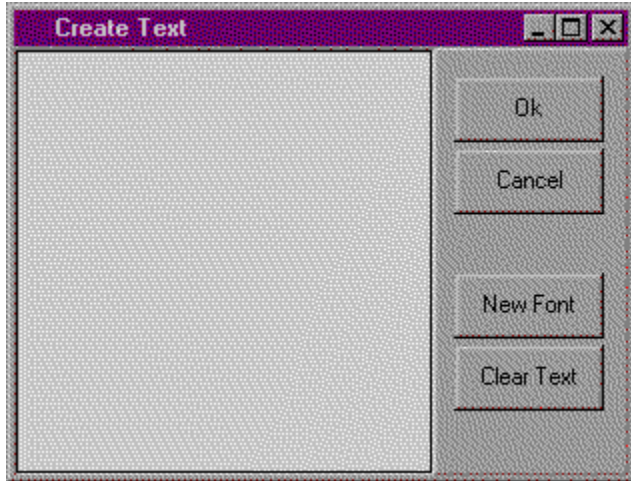
In the white field you can enter a text you want to create.
With "New Font" you can select a new font.
"Clear Text" erases the text field.
You can resize the Window to enter large texts.

Click with your left mousebutton to select a color as foreground color and with the right mousebutton to select a background color.
The arrows to the right are for scrolling through the palette.

Here the current selected gradient is shown. You can select a foreground or background color by clicking on it with the left or right mousebutton.
The both arrows on the right are for switching between the 16 different gradients which you can define freely.
The button on the right (below the gradient) is for flipping the gradient.

Here the current foreground and background colors are shown.

Shows the current color that is under the mousecursor:
"color index/Red/Green/Blue"

"Brushsize" shows the width and height of the current used brush.
"Objectsize" shows the width and height of an area that is created using the <u>click and drag method</u>. So you can see the size of a painted object (rectangle, line...).
"Positions" shows current brush´s positions ("Top Left", "Center", "Bottom Right").

Within this window you can paint. You can also zoom the image in this window, where the size of the original image is multiplied with the <u>zoom level</u>. In addition a <u>zoomgrid</u> can be displayed to help drawing and positioning.

This window shows the current image in its original size and is also used to show a playing animation.
You can also paint within this window.

These components are for playing an animation.
"First Input Field", "Scrollbar", "Second Input Field", "Control Buttons", "Third Input Field", "A-Button"

"First Input Field" defines the first frame for playing as animation .
"Scrollbar" for fast switching between frames.
"Second Input Field" defines the last frame for playing as animation .
"Control Buttons" have the following functions:
1. plays backward as a loop
2. stop
3. one frame backward
4. one frame forward
5. play one time backward
6. play one time forward
7. plays forward as a loop
"Third Input Field" shows the delay value for this frame in ms
"A-Button" sets all frames that are selected as animation sequence to the current dela value

The statusline shows informations about functions, the current <u>painting mode</u> or shows a progress indicator.

Technical informations

System requirements
minimum:
   PC-System with 486 DX 40-CPU
   4 MB RAM
   Grafiks device with at least 512KB Video-RAM
   Windows 3.11 or better
   5 MB free harddisk space

recommended:
   PC-System with Intel Pentium 100 or a CPU with corresponding performance
   16 MB RAM
   Grafiks device with 1MB Video-RAM
   Windows 95
   20 MB free harddisk space

Supported grafics formats (r=read, w=write):

Windows Bitmap	*.bmp	(r, w)
PC Paintbrush	*.pcx	(r, w)
Windows animated Cursor	*.ani	(r, w)
Windows Icon	*.ico	(r, w)
Autodesk 320*200 Flic	*.fli	(r)
Autodesk Flic	*.flc	(r, w)
simple Spriteformat	*.spr	(r, w)

Expansion of   Autodesk FLC-Format
So far you can save only animations using Autodesk FLC-format that only have one delay value for all frames.
I expanded the format a bit so that each single frame can have its own delay value.
The following change has been made (a complete description of the FLC-format is available under FTP://x2ftp.oulu.fi/pub/msdos/programming/formats/   ):
Now the bytes 8 and 9 of each frameheader (yet unused and 0) are a 16-Bit delay value for this specific frame.

Definitions for own file formats
Sprites (*.spr)
This format saves an animation by writing the image data plain uncompressed into a file. So these files can be easily read and converted to other formats.
The format:

Position	Type	Description
$00	3 ASCII-chars	"SPR" as sign for this format
$03	Word	number of frames
$05	Word	WIDTH in pixels
$07	Word	HEIGHT in pixels
$09 ...		

following for each frame repeating:

$00	Word	delay value for this frame in ms
$02	256*3 Bytes	describes the 256 color table
		with the values Red, Green, Blue
$302	WIDTH*HEIGHT Bytes	image data of this frame

...

Color palettes (*.pal)
These color tables are exact 768 Bytes large and contain for each of the 256 colors 3 byte values for Red, Green and Blue.

A simple Animation

Please get familiar with the <u>screen</u>-elements first!

Jumping ball (file "jball.flc")

We will now create an animation step by step, which displays a jumping ball and uses 30 frames.
Create a new animation   (<u>menu "File"</u>) that has a width and height of 128 pixels and contains only 1 frame.
Draw a filled circle with the corresponding tool from the <u>toolpanel</u> with a diameter=width=height of 30 pixels (will be shown under "Objectsize").
Choose a gradient that gets darker from left to right. Use the right mousebutton on the bucket-symbol in the <u>toolpanel</u> and choose "Contour Gradient" in the appearing dialogbox.
Fill the circle by clicking on its center. Now it should look like a ball.
Get this ball as a brush (<u>toolpanel</u>). Erase the frame by clicking on "CLR" at the toolpanel or by painting with the background color (right mousebutton).
Choose "Create Animation" from the menu "Animation".
Enter 15 for the "Last Frame" and 1 for the "First Frame".
"First Position" gets an Y-value of   40, "Last Position" gets an Y-value of   -40.
Switch now on "accelerate". Now you can watch the first part of the animation by pressing "Preview".
The square that represents the brush (and thereby the ball) should move from top to bottom and accelerate. This movement simulates tha falling of the ball downwards.
Press "Make Animation" and wait until the animation has been calculated successfully.
You can now play the first part of the animation.
Choose "Create Animation" from the menu "Animation" again.
The second part of the animation must have the inverse movement.
So "Last Frame" gets number 30, and "First Frame" number 16.
"First Position" gets an Y-value of   -40, "Last Position" gets an Y-value of   40.
Switch on "decelerate".
Use "Make Animation" again an wait for the caluculation.
Voila, now you have got a simple jumping ball.

A simple animation

Please get familiar with the screen-elements first!

flying text (file "ftext.flc")

We will now create an animation step by step, which displays a flying word. At the end it will fade over to another word.

Create a new animation   (menu "File") that has a width and height of 128 pixels and contains only 1 frame.

Press on the "A"-symbol in the toolpanel to create a text-brush.

Choose the new font "Times New Roman"/bold/size 36. Enter the text "Hello" and press "OK". Now you should have a brush that contains this word. Choose the color white as foreground color (and thereby as text/brush-color).

Choose "Create Animation" from the menu "Animation".

Enter 30 for the "Last Frame" and 1 for the "First Frame".

"First Position" gets a Z-value of 2000, "First Rotation" an X-value of   90 and an Y-value of 270. All other fields must have a 0-value

Switch on "linear". Now you can watch the first part of the animation by pressing "Preview". The square that represents the brush (and thereby the text) should move from the depth to front and should rotate.

Press "Make Animation" and wait until the animation has been calculated successfully.

You can now play the first part of the animation.

Choose from the menu "Animation" the function "Number of Frames" and increase the number of frames to 40.

Create a new text-brush with the already used method and enter "Folks" as text. Go to the 40th frame and Erase it using CLR (toolpanel) and paint this text on the position where "Hello" has stood (to make this easier you can switch between the last and the current frame by pressing "Shift+1" and "Shift+2").

Now create a fade-over-effect by using the function "Effects" from the menu "Animation".

Choose "Fade over", "First Frame"=30, "Last Frame"=40 and press "OK".

When the effect has been calculated successfully, set a new range for the animation-playing (the first input fields bottom left on the screen) to 30-40.

Change the delay value for these 10 frames to 70ms, by entering this number as delay and pressing the "A"-button beside the input field for delays.

Now set the range for the animation-playing to 30-40. Go to the 30th frame and enter for this single frame a delay of 1000ms.

Now you can play the animation.

During the first 30 frames the word "Hello" should fly from depth to front, wait a bit and then it should fade over to the word "Folks".

Now we will fade out the second text using the Mosaic-effect (a brief description):

1. number of frames to 50.
2. delay value for the 40th frame to 1000ms
3. function "Effects" from menu "Animation" with "First Frame"=40, "Last Frame"=50, "Mosaicsize"=20, "Mosaic out" -> "OK"
4. erase 50th frame, and delay value of this frame to 3000ms

Finished.

How can i...

...create an animation for my WWW-Homepage?
To achieve this there are two ways.
1. You save the animation as an Autodesk-FLC-File and put it into your HTML-file by using a Java-Applet. For further information please read Software.txt (in programgroup called "Software Information").
2. You save the animation as single images and use other software to create a GIF89a-file that can contain multiple images. At the moment you can not save this file format directly from the application. A freeware GIF89a export plugin will be available with the registered version.

...create an animated Windows 95-Cursor?
To paint an animated Windows 95-Cursor you have to create an animation that is 32 pixels wide and high.
You can select the number of frames freely.
For the images you may only use the colors from the Windows-16-palette (colors 0-7, 248-255).
It is important that you **select a color that does not belong to these 16 colors as background color**,and that all frames are filled with this color. So when using this animation as a cursor this color is not visible.
You must save the painted animation as a .ani-file into the Windows\Cursor-directory.
Now you can use it as animated mousecursor.
The steps:
1. select a color as a background color from range 9-247
2. create a new animation with the "New"-function from the "File"-menu, 32 pixels wide and high
3. paint the animation using colors 0-7, 248-255
4. save animation as .ani-file into the Windows\Cursor-directory

...paint a Windows Icon?
There are the same restrictions using colors as with creating animated cursor files (see above).
But an Icon contains only one image, there is no animation possible.
Save the single frame as .ico-file.

Important notes...

By pressing F1 you can get a context sensitive help to each dialogbox.

To increase performance of playing and creating animations, "Pro Motion" does not change the 20 Systemcolors of Windows (0-9, 246-255). So they are fixed defined and you can not change them. So you have 236 colors left that can be modified freely.
If you want to load an image or an animation which was not created with "Pro Motion" and thus it uses 256 unique colors, you have to use the "Remap Colors"-functions from the menus "Frame" or "Animation" !!!
These function will remove possible color errors.

The built in Undo/Redo-function saves some data to disk. Therefore it is important that you have always enough free disk space, otherwise these functions will not work with its full capacity of 32 steps! Windows 3.11-users should set up their harddisk for 32-bit access, otherwise the Undo/Redo-functions are quite slow.

To guarantee an even playing of animation sequences, all applications that use much processor-time should be closed. Such Applications are f.e. DOS-programs or Web-browsers that are running in background.

This application was created with a german language compiler. So runtime-error messages created from the compiler´s runtime-library are possibly displayed in german.
Key shortcuts in the pull down menus are also displayed in german with the following meanings:
"Umsch"="Shift"
"Strg"="Control"