



# **CTP User's Guide**

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## User's guide



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# 1. What is the CTP?

The CTP is a custom designed program for making animated television series. With it you can carry out each and every step required to complete any animated production for television.

The CTP is designed to give maximum efficiency in the production of series and, to this effect, superfluous and unnecessary operations that would only make the software slower, more costly and complex have been eliminated. Instead, this time has been invested in optimizing, facilitate and compacting the tools needed for production. A clear example of this philosophy is its interface, where all operations are always available, without modules, without endless windows, with everything at first sight and organized in a simple manner.

This type of design allows you to master the CTP and be productive in a very short period of time. And all of this with the guarantee that your productions will always have the best broadcast quality.

With the CTP we are trying to provide you with the best available tools for animated series production. We have tried our best to guarantee the highest quality of our product, but we know there is still room for improvement. For this reason we urge you to contact us with any suggestions, worries or complains you may have about CTP. CTP was designed by an animator for animators, and you, as such, can certainly provide the clues for an even better CTP which will benefit the entire production world.

## 1.1. Information on the use of the CTP

### *1.1.1. Content of this Guide*

This guide is divided into various sections that will lead you to becoming familiar with the functions of the CTP quickly and easily. This User's Guide will lead you, step by step, through all production phases in an introductory way. For further details on the functions of the operations available in the CTP, see the on-line Reference Guide. In the Reference Guide, each and every one of the CTP on-line operations are explained in full detail.

# CHAPTER 1

## 8 What is the CTP?



### ***1.1.2. On-line help***

Once you have opened the CTP, you can press the F1 key, or go to the **Help** option on the menu bar to request on-line help. You can select the topic you need help on from the Reference Guide table of contents or alphabetical index.

## **1.2. Installation**

### ***1.2.1. System requirements***

To use the CTP you need a system with the following minimum characteristics:

- Windows 95 or Windows NT 4.0 or higher
- 10 MB available on the HD
- A Pentium processor or equivalent
- 64 MB RAM
- 1024 x 768 Super VGA graphics
- CD-ROM

The CTP is designed to take full advantage of all system resources. Any improvement with regard to the minimum characteristics of the processor, memory, graphic or disk can considerably improve the final result.

For optimum output, the following configuration is recommended:

- Windows NT 4.0 or higher
- Pentium II processor
- 128 MB RAM or higher
- 1024 x 768 graphics (or higher) with 24 bits of color

Use any TWAIN compatible scanner to input scanned images, and any Windows 95/NT compatible video card to input or output video. For further information on capacity issues please check our web page, where you will find the latest information on tested equipment.

It is highly recommended to use a graphic tablet with CTP. This program supports all Windows 95/NT compatible graphic tablets.

For high-end systems, the use of the Windows NT system is strongly recommended due to its greater efficiency on memory and other resource management in comparison to Windows 95.

## CHAPTER 1

9 What is the CTP?



### ***1.2.2. Technical support***

Each copy of the CTP includes 90 days of user support. This includes unlimited telephone and internet support through the Crater Software website or via email. After the initial 90 days, you can subscribe to the Crater Software annual maintenance and support plan. This annual plan includes all updatings of the CTP, plus unlimited telephone and internet support through the Crater Software website or via email.

#### **Crater Software Canada**

##### **Telephone:**

- Telephone: (450) 676 06 51
- Fax: (450) 676 20 32

##### **Address:**

532 William Barfoot  
Greenfield Park, QC  
Canada J4V 3N5

##### **Email:**

- General information: [ctp@crater.enefecto.es](mailto:ctp@crater.enefecto.es)
- Sales: [ctpventas@crater.enefecto.es](mailto:ctpventas@crater.enefecto.es)
- Technical support: [ctpsoporte@crater.enefecto.es](mailto:ctpsoporte@crater.enefecto.es)

##### **Web:**

[www.crater.enefecto.es](http://www.crater.enefecto.es)

#### **Crater Software Spain**

##### **Telephone:**

- Telephone: 34 93 285 71 49
- Fax: 34 93 284 88 95

##### **Address:**

Alegre de Dalt, 86 Bjs.  
08024 Barcelona  
Spain

### ***1.2.3. Installing from CD-ROM***

- With Windows running, insert the CD in the CD-ROM unit.
- If the install program is not executed immediately, select **Start>Run** on the Windows toolbar. Locate the **SETUP.EXE** file on CD-ROM with the explorer by clicking on the **Browse** button. Click on the **OK** button to execute the **Setup** program.

- Follow the install program instructions.





## 2. Executing the CTP

### 2.1. Basic concepts

Before running the CTP, we will define a series of basic concepts that will appear throughout this entire guide and are the basis of the CTP operation.

*The CTP can generate two types of documents:*

- **Scenes:** These store all the information with which we are going to work when creating an animation scene; drawings, sound, camera effects, etc.
- **Color Model Archives (CMA):** These archives group together a series of Color Models, generally created by the Art Director, that are later on used as color references to add color to the drawings of each scene.

*Within these two types of documents, we can distinguish two types of images:*

- **Drawings:** We will call drawings all line images captured in black and white that are to be colored filled afterwards. These images are special in as much as the program assigns them two independent layers, one for line art and another for the paint or color. This type of images are shown with normal text codes on the storage and exposure sheets.
- **Color image:** This other type of image has just one layer, and is presumed inked and painted and, therefore, cannot be filled as the above. This type of image is used when inserting already painted backgrounds or overlays in a scene. This type of images are shown with bold text codes on the storage and exposure sheets.



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### 12 Executing the CTP



*At any time, when working with these images, you can see on-screen:*



• **Line mode:** If this button is pressed, the program will display only the line art layer of the drawing type images.



• **Fill mode:** With this option running, the program will display only the color layer of the drawing type images.



• **Line + Fill mode:** This option displays both the line art layer as well as the color layer of the drawing type jointly combined. The line art layer has priority and is always on top of the color layer.

The previously mentioned color images are always visualized independent of the option selected. These options affect all CTP processes, giving the program a unique versatility.

*There are a couple of general operations you should be familiar with:*

ok!

no!

• **Auto OK:** Whenever an operation is carried out on an image, the **ok!** and **no!** buttons on the main toolbar are activated. If **no!** is pressed, said operation is cancelled; but if anything else is pressed (such as another operation), the last changes will be approved automatically as if the **ok!** button were pressed.

• **Selection of cells:** To select cells click and drag the mouse over the area to be selected. You can select a group of layers, thus including all cells that belong to these layers, a group of frames, with the same effect, or directly a group of diverse layers and frames. Once selected, if the mouse is released and then clicked again and then dragged over the selection, said selection can be moved within the sheet, which will be explained on further chapters.

To cancel your selection just click the mouse anywhere on the sheet outside the actual selection.

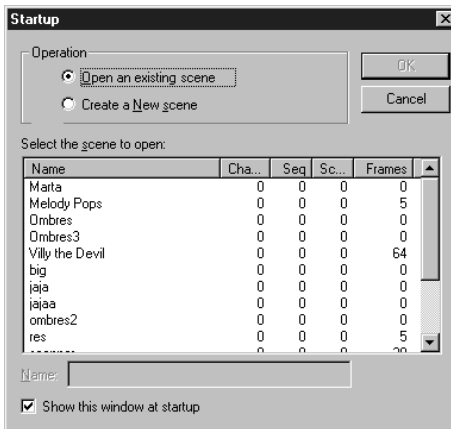
## CHAPTER 2

### 13 Executing the CTP



## 2.2. Running the CTP

To run the CTP select **Start>Programs>Crater Software>CTP** on the Windows task bar. Upon starting, the CTP will display the startup dialog where you can select whether you want to open or create a scene. Such window is divided into three sections: Operation, Select the scene to open, and Name.



- To open an existing scene, activate the **Open an existing scene** option from the **Operation's** section. The white circle to the left of the name should contain a smaller black circle to indicate it has been selected.

The **Select the scene to open** section will display the existing scenes. From the list, select the scene to open by clicking on it. It should invert its color to indicate it has been selected.

Press **OK**. The scene you selected will open right after.

- To create a new scene, activate the **Create a New scene** option from the **Operation's** section. The white circle to the left of the name should also contain a smaller black circle to indicate it has been selected.

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### 14 Executing the CTP

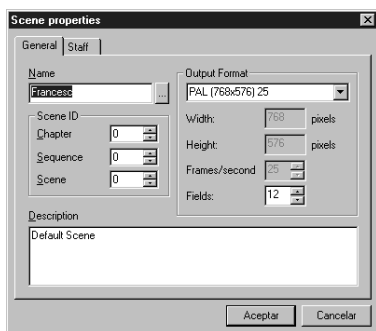


Once it has been activated, a new box on the bottom left corner of the Startup dialogue will be enabled.

Drag your mouse to the **Name** section and click on it. Then, write the name of the new scene to create.

Press OK.

The **Scene properties** window will be displayed. Setup each parameter based on the descriptions given below.



*Scene properties General section*

- **Name:** The name chosen for this scene.
- **Chapter:** The number of the chapter to which this scene belongs.
- **Sequence:** The number of the sequence to which this scene belongs. If you do not use this value, leave it at its initial zero value.
- **Scene:** The scene identification number.
- **Output Format:** Establishes the resolution automatically for several standard formats. If specific setup is required choose the **other** option and set the following parameters:
  - **Width:** frame width measured in pixels (8192 maximum).
  - **Height:** frame height measured in pixels (8192 maximum).
  - **Frames/second:** Establishes the video refresh frequency.

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### 15 Executing the CTP



- **Fields:** The field size equivalent to a full frame resolution.
- **Description:** Here you can include notes about the scene.

*Scene properties Staff section*

- This section includes the names of everyone related to this scene. The use of these fields are optional.

After you have completed these sections press **OK**. The CTP desktop will open with the new scene ready to be used.

### 2.3. Software Protection

This Software is protected against software piracy by means of a dongle. You must plug this dongle to the parallel port of your computer in order to use the CTP.

If you have any suspicion that your dongle has ceased working please get immediately in contact with Crater Software for a replacement.

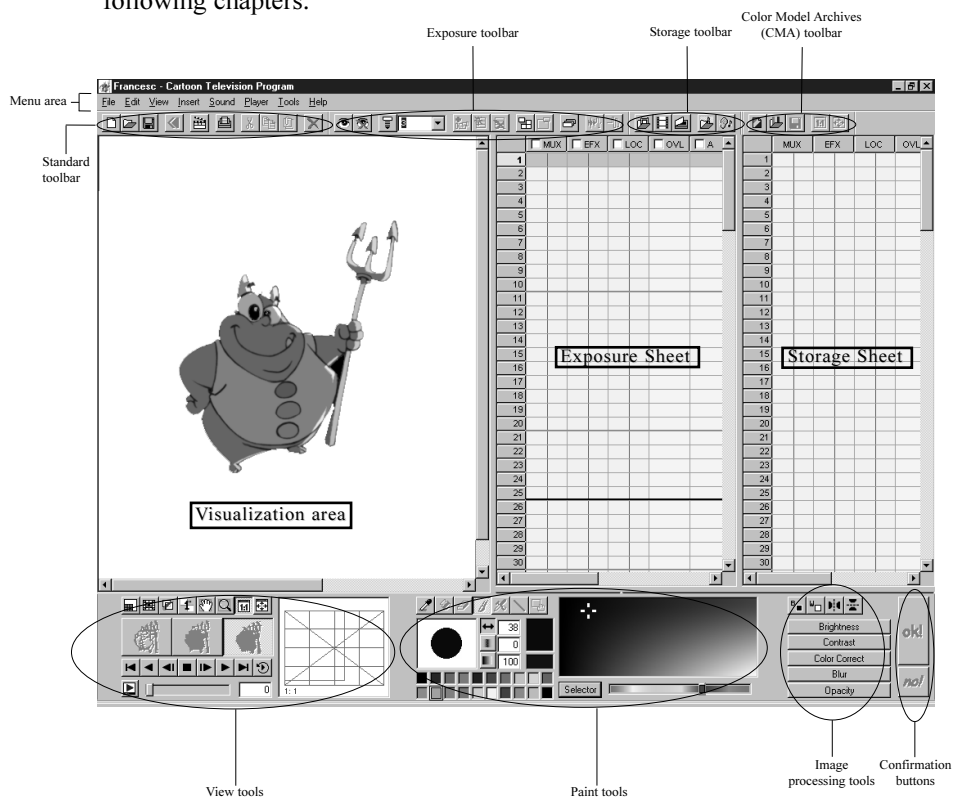
## CHAPTER 3

### 17 Working with the CTP



## 3. Working with the CTP

This is the CTP desktop where, with the use of all the elements, each scene is created. All these elements will be fully described throughout this and the following chapters.



*The CTP desktop and its elements*

By default, the program opens up in **Full Screen** option. This option will show the CTP desktop with no borders, thus no minimize or close window buttons will be visible. In order to change it, click on the **View** menu and deactivate the **Full Screen** option.

## CHAPTER 3

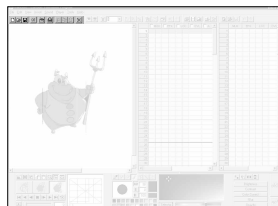
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### 3.1. Standard toolbar



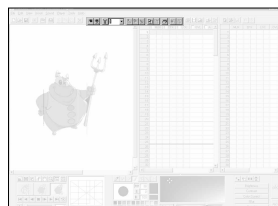
The Standard toolbar contains all the usual file management commands and clipboard operations, such as New Scene, Open Scene, Save Scene, Undo, Scene Properties, Print, Cut, Copy, Paste and Delete.



### 3.2. Exposure toolbar



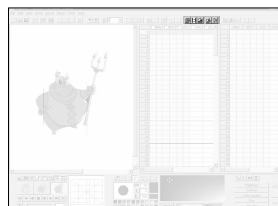
The Exposure toolbar contains the editing commands, such as Activate/Deactivate layers, number of Repetitions, Add/Remove layers, cells Composition, cell Merge, audio Stretch & Squash, audio offset.



### 3.3. Storage toolbar



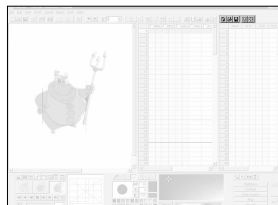
The Storage toolbar contains the capture commands for the actual scene, such as, Import images from File, from Video Input, from Scanner, as well as importing sound from File, or Sound Card.



### 3.4. Color Model Archives toolbar



The Color Model Archives (CMA) toolbar is composed of the commands to create/open CMA, Save CMA, as well as CMA display area functions such as Real Size and Fit to Window.



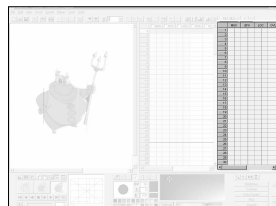
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### 19 Working with the CTP



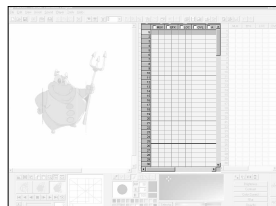
### 3.5. Storage Sheet

The storage sheet is one of the most fundamental parts of the CTP. There, we store all the information, both images as well as sound, pertaining to a specific scene. This sheet can store only original material and does not allow any sort of editing, except for deleting unnecessary material. In this way, we can always capture original material without having to rescan it or recover it in any other way, should there be an error in editing the scene. All the information on this sheet is always stored within the scene.



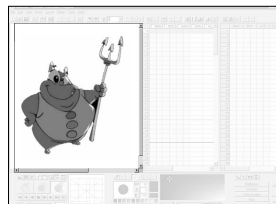
### 3.6. Exposure Sheet

If we have said that all the images and sound are stored on the storage sheet, the exposure sheet is used for the animation editing. On this sheet, we can join together all animation components so as to complete the scene animation.



### 3.7. Visualization area

The Visualization area displays the resulting art work from the Exposure Sheet, this is, the compositing of each frame, selected frames, layers, and the scene as a whole. By the default, this area has a gray background color. Whenever an image operation is performed, this color will change to a reddish tone to indicate you are about to change the data on the exposure sheet.

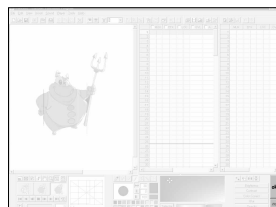


### 3.8. Confirmation button

As stated on the previous chapter, the OK! and NO! buttons are activated whenever an operation is carried out on an image. They are used to approve or cancel the last operation, respectively.

ok!

no!



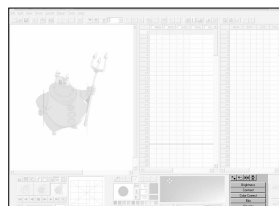
## CHAPTER 3

### 20 Working with the CTP



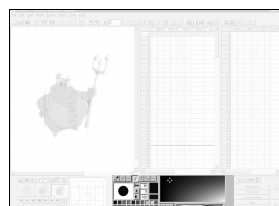
### 3.9. Image Processing tools

The Image Processing tools are used to carry out general changes on the image, such as Black or White Cell, Vertical or Horizontal flip, as well as general color changes on a color model: Brightness, Contrast, Color Correct, Blur, and Opacity.



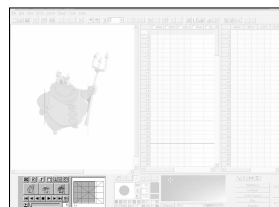
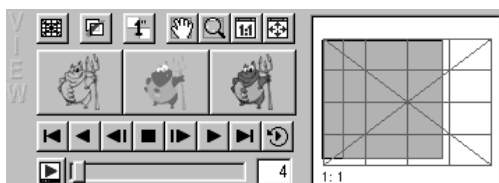
### 3.10. Paint tools

The Paint tools contain a paint toolbar (get color, fill, eraser, paintbrush, airbrush, line and drag image buttons), brush functions (size, smoothness, opacity), a present/previous color display, a user's color palette, and a color selector toolbar. By clicking on the Selector button you can adjust the *hue*, *saturation* and *value* of the color as preferred.



### 3.11. View tools

The view tools are divided into five parts:



#### 3.11.1. Dialog toolbar



The Dialog toolbar contains a Field Chart, Reference Frames or Layers, Sequence, Move Display, Zoom Display, Real Size, and Fit to Window buttons.





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### 21 Working with the CTP



#### 3.11.2. Display Mode



As stated on the previous chapter, when working with images you can see each frame in three different modes (from left to right):

- **Line art mode:** if this button is pressed, the program will display only the line art layer of the drawing type images.
- **Fill mode:** with this option running, the program will display only the color layer of the drawing type images.
- **Line+Fill mode:** This option displays both the line art layer as well as the color layer of the drawing type jointly combined.

#### 3.11.3. Playback controls

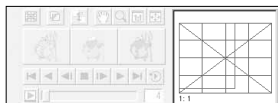


The playback controls allow you to do the following:

- go to the first frame, previous frame, next frame, or last frame either of the exposure sheet or of the animation, if you are on play mode.
- Play backwards, stop, play forward, and loop the animation.
- You can also carry out the playback function using the video card of your computer.

#### 3.11.4. Explorer

This window displays an outline of the current format of the images present in the visualization area.



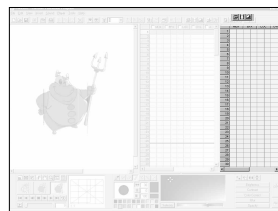
### 3.12. CTP educational version restrictions

There are some restrictions which apply to the CTP educational version only:

- The maximum scene resolution is 384 x 288 pixels.
- Add/Remove layer's functions are not available on this version.
- The exposure sheet layers are set and locked at: 2 sound layers, 5 image layers, three local cameras and one global camera layer per scene.

## CHAPTER 4

### 23 Importing Animation



## 4. Importing an animation

The import animation process allows obtaining the images that will form part of the animation. These images will be stored on the storage sheet and, later, you will be able to move them into the exposure sheet in order to edit the animation. There are three different ways of capturing images: from file, from video input, and from scanner.

Depending upon the type of job we are going to carry out, a rough line test, a cleanup line test or the fill in and editing of the final animation, you should use the proper method. Obviously, this will also depend upon the possibilities of your present equipment. To capture preliminary material you can use a camera that, even manually, can be faster than a scanner with automatic feeder. For final line artwork, only the scanner option has any sense, and to import any externally created images like 3D backgrounds or live digital footage, use the file import option.



All the image retrieving operations detailed below store their information on the storage sheet. These images will be stored in consecutive cells of the layer selected for this purpose. If you need to remove any cells from the storage sheet, simply select the range of cells to delete and press the **Del** key or the Delete tool button on the file toolbar.

Whenever a new cell is added to the storage sheet, most of the time, it will be assigned an automatic cell code. To change this code press **F2** and write the new code. Press **ENTER** to confirm changes. Remember that cell codes can only be three digits followed by an uppercase letter.

### 4.1. Image file import



If you wish to import images made with other programs, press the **import images from file** button to access the import images window. Actually, the CTP can import/export the following image file formats:

AVI	
Quicktime	(requires Quicktime 3.0 to be installed)
BMP	(no compression, RLE compression, OS/2 BMP)
CTP	(CTP proprietary format)

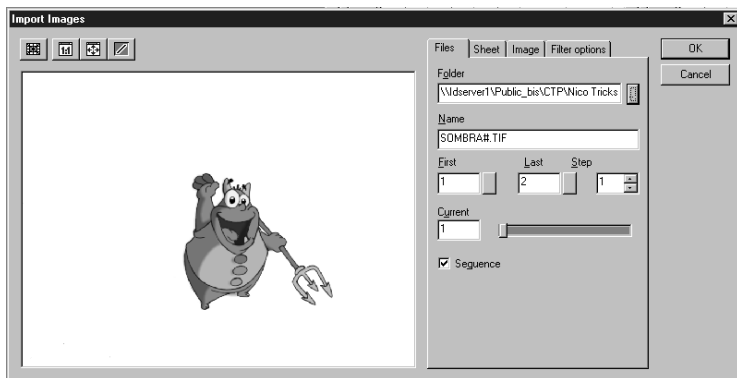
## CHAPTER 4

### 24 Importing Animation



EPS	Encapsulated PostScript
EXIF	
FPXK	Kodak FlashPix
IMG	GEM Image
JPEG	
LEAD	
MAC	MacPaint
MSP	Microsoft Paint
PCT	MacPict
PCX	ZSoft PCX
PNG	Portable Network Graphics
PSD	Adobe Photoshop 3.0 (RGB single layer only)
RAS	Sun Raster
TGA	TARGA
TIFF	(RGB, CMYK, YCbCr and PackBits compression)
WMF	Windows Meta File
WPG	

**Note:** LZW compression is not supported on any of the above formats.



This window is divided into four sections: **Files**, **Sheet**, **Image** and **Filter options**. Use the selection tabs to modify the parameters for each of these sections.

## CHAPTER 4

### 25 Importing Animation



#### 4.1.1. Files

Use the **Files** tab section to determine what files to import.



1. Press the file selection button, located at the right of the **Folder** box. You will enter a typical explorer window. Locate and select the name of the file to open and press **OK**. The path to the selected file will be displayed in the **Folder** box, and its name in the **Name** box.

If you have selected a file which belongs to a sequence of consecutively numbered files, the CTP will try to determine the filename numbering format. If it can figure out the sequence, it will show the selected filename with a symbol "#" where the sequence number appears. If it cannot figure out the numbering pattern it will simply show the selected filename. In that case you should place the "#" where required to identify the sequence. With this method you will be able to import full sequences of images easily in a single step.

2. Choose if you want to load the whole sequence or just a single file by enabling/disabling the **Sequence** option. If you choose to load a single file, it will be the one you selected initially from the browser.

3. If you selected the **Sequence** option, now you will have a chance to establish which range of frames you would like to load from this sequence.

- At the **First** box enter the file number of the first image to import.
- At the **Last** box enter the last file number to be imported.

## CHAPTER 4

### 26 Importing Animation



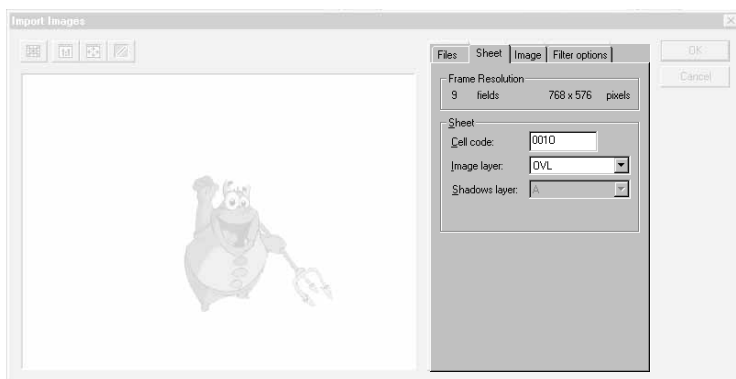
- At the **Step** box enter the import step desired. A step of 2 will load one out of every two images, a step of 3, one out of every three images, and so on.



You can use the **Current** box and slider to set which image to view on-screen from within your sequence. You can use this feature to check if the selected sequence is the expected one or to test the import filters on any of the sequence images. You can also use the **Get Frame** buttons to place the **Current** frame number in the **First** and **Last** boxes.

#### 4.1.2. Sheet

Use this section to select where do you want to store the imported images.



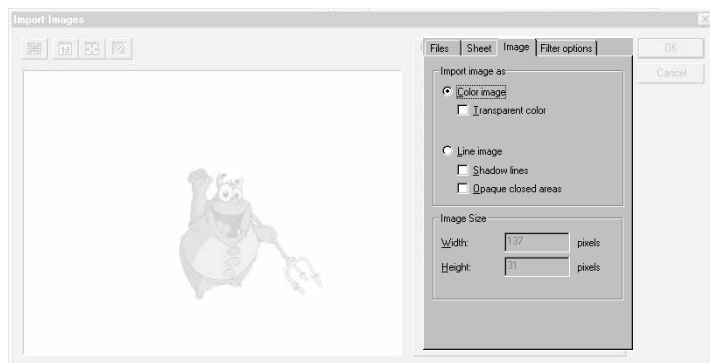
The **Frame Resolution** area shows the actual scene field and pixel resolutions as a reference for you.

- **Cell code:** use this field to enter the code of the first cell to be imported. The format of this code must be three digits and a capital letter (ex. 001A). This code will be increased automatically with each imported image.
- **Image layer:** use this field's drop down menu to select on which storage sheet layer you want the imported images to be stored.
- **Shadows Layer:** use this field's drop down menu to select the storage sheet layer in which you want the shadow images to be stored. This option is only available if the **Shadow lines** filter option from the **Image** tab has been activated.



### 4.1.3. Image

Use this section to establish which type of image your are about to import. This section will only be enabled if you have already selected some readable files to process.



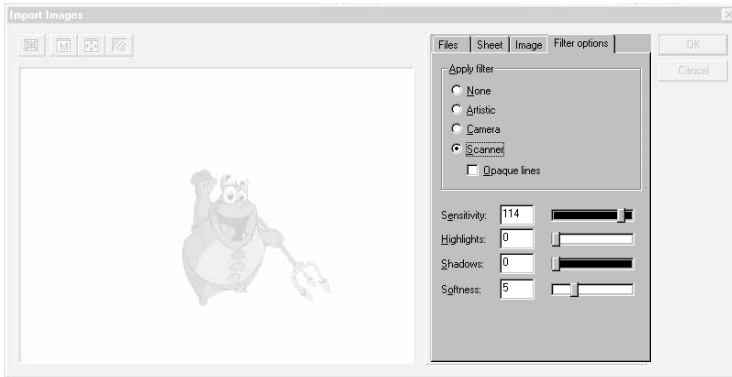
- **Color image:** activate this option to import color images like painted backgrounds in full color. This images will only have a single color layer and will appear with bold letters on the storage and exposure sheets.
  - **Transparent color:** use this option to scan overlays. It will set as transparent all the white areas on a color image.
- **Line image:** activate this option to import line drawings. This drawings will be setup with two layers as explained in earlier chapters, a line layer and a color layer. After import, the line layer will contain the captured data and the color layer will be empty, awaiting to be colored in. This type of image will appear with standard letters on the storage and exposure sheet.
- **Shadow lines:** enables the shadow line processing. This process will detect bright color lines (red, green, blue, etc) which mark the shadow areas. This option will output two images, one with the usual line art, the other with the added shadow lines. Select the shadow line images destination with the **Shadows layer** option from the **Sheet** section.
- **Opaque closed areas:** this option fills all closed areas with opaque white color. This option avoids having to fill in closed white areas.

The Image size area will show the current image's resolution in pixels.



#### 4.1.4. Filter options

Use this section to select and setup the cleanup filters and their parameters. This section will only be enabled if you have activated the **Line image** option on the **Image** section.



- **None:** no filter is applied.
- **Artistic:** this filter will apply basic modifications to the highlights and shadows of an image, respecting any type of artistic line drawing (thick lines, etc).
- **Camera:** this filter works wonders on low contrast images (usually those obtained through camera input). This is the recommended filter for camera line-test grabbing.
- **Scanner:** this filter is intended for images obtained with a better quality (usually from scanner). It will strictly try to find the lines drawn on the image.
  - **Opaque lines:** this option, only available with the scanner mode, will guarantee that the line is always totally opaque at its center giving the best fill results.

To cleanup an imported image you will need to setup the following parameters properly. Every filter type will maintain its parameter setup even if you close the **Import Images** dialog. The only exception is the **Opaque lines** option

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### 29 Importing Animation



which shares the same Sensitivity and Highlight values as the **Scanner** option.

- **Sensitivity:** adjust this parameter until the background areas appear white, but making sure the lines don't appear broken. Place the slider at its rightmost position and drag it slowly to the left until you see a clear difference between lines and background. This slider is not available with the **Artistic** filter.

- **Highlights:** use this slider to trim down the light gray areas surrounding the lines. Moving it to the right will give you a thicker, less defined line with gray noise around the lines. Drag the slider to the right until a well defined line, but without losing the slight blur that avoids seeing the staircase artifacts of very rough lines.

- **Shadows:** once you get a clear line with the above parameters, use this parameter to darken the line. Most of the time you will be able to darken the line to absolute black by dragging the slider to the right. Be careful not to make it too dark and start losing line quality.

- **Softness:** after setting up all the previous line parameters you can always use this parameter to apply some soft blur to the final images to help avoid any rough edges that may be left.

Some trial and error will be required to set these parameters to their optimal values, but the better the input quality the easier it will be. If you are inputting a sequence of images try to test the set values on several key images and find the value range that works for all of them. Once set you will be able to input the entire sequence with no further parameter modifications.

#### 4.1.5. Image Import toolbar



There are four tool buttons located at the upper right hand corner of the **import images from file** window:



Click on the field chart button to view the field guide overlaid on the display area.



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### 30 Importing Animation



Click on the real size button to view the image in pixel to pixel size.



Click on the fit to window button to view the image scaled down or up to fit the whole dialog display area.



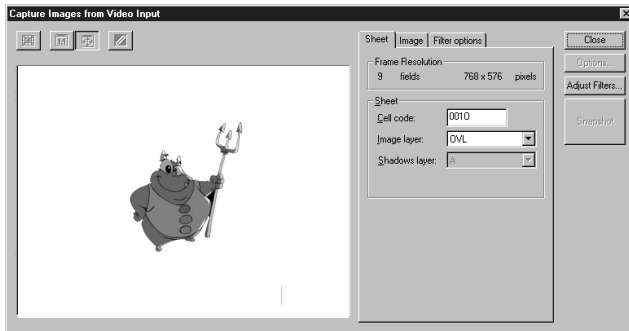
This is the white check button, when activated it indicates which pixels are totally clean and which are not. 100% transparency pixels are shown in bright red color. With this option activated you will be able to adjust more precisely your filtering parameters.

**Note:** The field chart will not be shown while on real size view, only on fit to window view.

## 4.2. Importing images from video input



If you wish to import images from camera press the **import images from video input** button. The following screen will be displayed.



By default the preview display area will show a live image of what the camera is viewing. Press the **Adjust Filters** at any time to freeze the actual camera input and try the filters on it. To go back to the preview mode after adjusting the filters press the **Live Preview** button.

As with image import window, this one is also divided into different tabbed sections: **Sheet**, **Image**, and **Filter options**. Their functionality is similar to the one explained for importing images from file. The only difference being that the Image and Filter options are only active after pressing Adjust Filters.

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### 31 Importing Animation



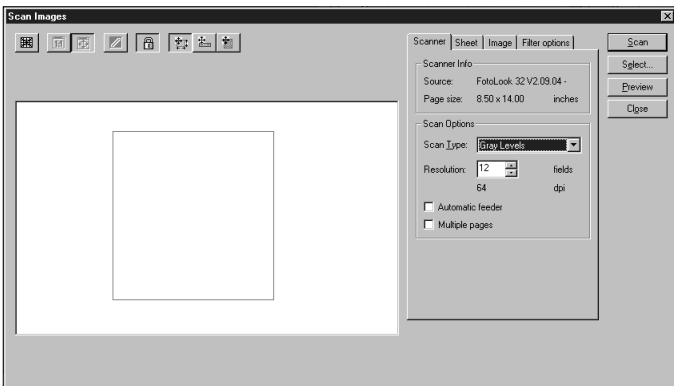
Once all the parameters are setup correctly, press the **Snapshot** button to capture the images. For fast captures, without having to look at your monitor to locate the **Snapshot** button with the mouse, you can just press the **ENTER** key to do further snapshots.

When using the camera capture tool make sure your video I/O board and camera settings are setup properly to get the best possible image from them. Press the **Options** button at any time from the capture window to access the video board manufacturer's setup panel.

### 4.3. Importing images from scanner



If you wish to import images from a scanner press the **import images from scanner** button. The following window will be displayed.



If this is the first time you use your scanner, first you should select which device you are using. Press the **Select** button and choose a device from the list of available scanners. The names displayed will not match exactly the name of your scanner, but they will most probably have some reference to it or its manufacturer. Choose the one that seems more appropriate. You will only have to do this scanner selection, whenever you add a new scanner to your system.

Now you can go ahead and scan an image.

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### 32 Importing Animation



1. Prepare the scanner by placing a sheet inside, or loading the automatic feeder, if available.
2. Press **Preview** to scan the first sheet. With this image displayed, adjust all scanning parameters.

**Note:** The previewed image is already in your computer's memory. After setting the scan parameters and pressing **OK** the image will go straight to the Storage Sheet without being scanned again.

As with image import and camera capture window, this one is also divided into different tabbed sections: **Scanner**, **Sheet**, **Image**, and **Filter** options. The **Sheet**, **Image**, and **Filter** options work mostly as described previously.

#### **4.3.1. Scanner**

The Source area identifies the selected scanner by showing its model name and the maximum scanning area specified by the scanner itself.

- **Scan Type:** the list of available types will be defined by the scanner's possibilities. Select the scan type properly since it can greatly affect your scanner's performance.
- **Resolution:** establishes a field size equivalent to the size of a video screen. This value directly affects the scanning resolution and the size of the field guide overlayed on the display area. With this parameter you are telling the program the field size you want to use for a full video frame. Whatever fits into the display field guide will take the whole video frame size. To scan an image you know will be zoomed in down to field 4, put 4 into this parameter and you will get excellent resolution while zooming in.
- **Automatic feeder:** select this option to use the automatic sheet feeder if available.
- **Multiple pages:** select this option to scan multiple pages. To stop a multiple scan, press the Cancel button at any time. This operation will not affect the images scanned up to that moment.

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### 33 Importing Animation



#### 4.3.2 Image

For the scanner window **Image** section there is just a single new parameter. Use the **Automatic peg detection** option to auto-register your drawings while they are scanned if these are perforated with the standard peg marks. Activating this option will allow you to position the peg bar over your previewed image.

On this window, the Image size area can be used to enter the size, in fields, of the area to scan. This scan area is represented on the display area by a red box.

#### 4.3.3. Scanner toolbar



There are four new tool buttons located at the upper right hand corner of the scanner input window:



Click on the Lock registration button to allow positioning of the field guide and peg bar interactively on-screen. To be able to position any of this elements you need to press the Filed guide button to view the field guide and peg bar overlayed on the display area.



Click on the Move image selection button to move and modify the dimensions of the area to scan. Click and drag your mouse anywhere inside the red box, where the cursor will display a four way arrow, to move it around. Click and drag your mouse near the edges of the box, where the cursor will show a double arrow, to change its size.



Click on the Move peg bar button to place the peg bar over the pegs shown by the scanned image. Moving the pegs will also move your field guide so that you don't loose your registration.



Click on the Move field chart button to setup the proper registration with respect to the peg bar location. Whatever lies at the center of this field chart will precisely match with whatever lies at the center of the field guide displayed over your scene images, no matter what resolution you scan with.

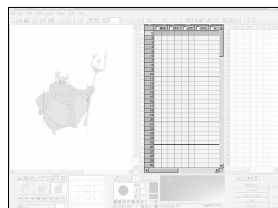
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### 34 Importing Animation



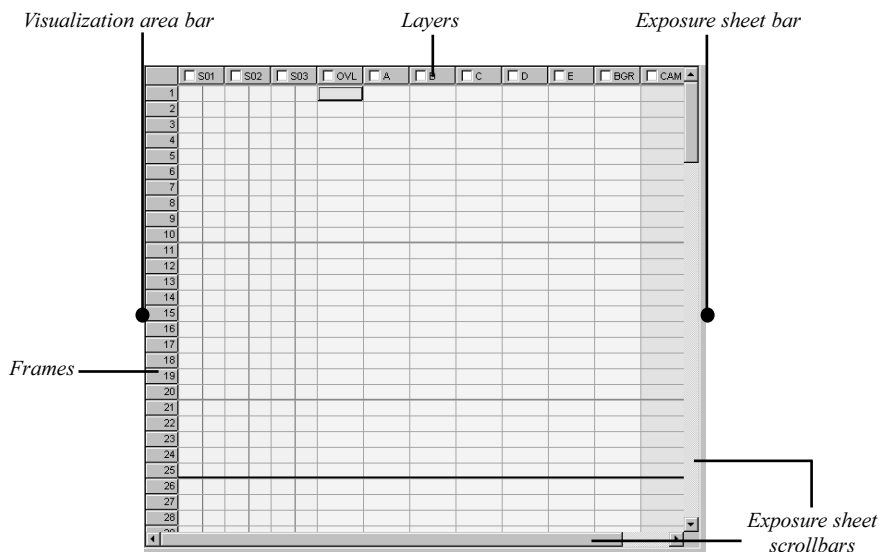
The field chart displayed on the scan window is always shown with the number of fields setup for your scene. This field guide represents the contents of a full scene output frame. Comparing its size to the size of the scan area (red) box you will easily see the dimensions of the final scanned image compared to the size of a single frame.

Whenever you finish setting up this parameters, press the Lock registration button again to make sure you don't accidentally modify your settings.



## 5. Animation editing

Once the animation is captured, you can edit it in the Exposure Sheet. This sheet is based on the classical exposure sheet concept, but using the advantages given to us by the computer when having to edit. On this sheet we can joint together all animation components to complete the production.



As you will see on the screen, the exposure sheet contains three layer colors:

- The audio layers are identified by their bluish color;
- the orange color corresponds to the image layers, and
- the green color to the camera animation layers.

You can move around the storage and exposure sheets by pressing on the space bar from your keyboard while dragging on the left mouse button. Use this method as a complement of the standard window scrollbars.



To add new layers, select the layer to the left from which you want to place the new layers and press the add new layers button. An insert layers window will be displayed. Enter the position from which you want to place them. By

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### 37 Animation editing



default it will show the position from where you made the selection. Enter the number of layers to be added. Then select the layer type; image or sound layer. The insertion is made at the right of the Insert Position, and all the layers will be renamed following an alphabetical order, only first and last layer will keep the same name: OVL and BGR.



To remove a layer, select the layer(s) you want to remove and press the remove layer(s) button.



To add a new camera layer, select the *image* layer to the left from which you want to place the new camera layer and press the add a new camera layer button.

To add a global camera, select the last layer to the right of the exposure sheet and press the add camera layer button.

You can add any number of layers of any type up to an overall maximum of 200 layers.

### 5.1. Copying information from the Storage Sheet onto the Exposure Sheet

To be able to edit the animation on the Exposure Sheet, we must first copy the necessary data from the storage sheet onto this sheet.

Exposure sheet						Storage sheet		
LOC	OVL	A	B	C	BGR	OVL	A	B
1		001A				1	001A	
2		002A				2	002A	
3						3	003A	
4						4	004A	
5						5	005A	
6						6	006A	
7						7		
8						8		
9						9		
10						10		
11						11		
12						12		
13						13		
14						14		
15						15		
16						16		
17						17		
18						18		
19						19		
20						20		
21						21		
22						22		
23						23		
24						24		
25						25		
26						26		
27						27		

1. Select a range of cells to be copied from the storage sheet by dragging your mouse over them. You can select cells within the sheet or, for a quicker operation, entire layers or a set of frames. Selections can include any type of cells and can be as broad as you need.

2. Place your mouse over the selection until a small rectangle appears on the cursor. Copy the selected set of cells from one sheet to the other by clicking on the selection and, without releasing the mouse button, dragging it to the exposure



sheet. During this drag operation, you should see a square over the sheets of a size equal to the number of selected cells.

3. Once you are in the exposure sheet, the marker will display a “+” sign in those positions in which it is possible to insert the copy, or a prohibition sign where this is not possible. Release the mouse button when the square indicating the dragged selection is at the location where you want to copy the cells.

This type of operation can be used both to move or copy cells on to the exposure sheet as well as between both sheets. In the case of working between both sheets, the operation always results in a copy of the storage sheet data onto the exposure sheet. Performing this operation within the exposure sheet only, the result will be a data move. If the **CTRL** key is pressed in this latter case, the result will also be a copy.

If, when carrying this operation out the storage sheet is concealing a large part of the exposure sheet, when moving the data to the exposure sheet, the storage sheet will hide, so you can see a larger part of the exposure sheet to drop your data easily.

## 5.2. Editing

By carrying out selections of the type described above, you can reorganize the sheet so that it matches the classical exposure sheet established for this production. On the exposure sheet you can move, copy, insert, delete and replace cells in accordance with the options you have selected within the Options dialog (available through the Tools menu) and the keys you are pressing. See the on-line Reference Guide for further information.

While editing the sheet you can flatten a group of cells of various layers to the cells of the highest priority layer. The order of the layers on the exposure sheet defines their priorities. The leftmost layer has the highest priority, while the rightmost layer has the lowest priority. The flatten operation can be used to clear various layers so as to include new data in them or to flatten the diverse layers that make up a character that, in any other case, would leave inadequate open areas for filling in. By means of this technique you can virtually handle an infinite number of levels.



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### 39 Animation editing



1. Select the range of cells to be flattened. Remember that your selection can include a range of cells or entire layers.



2. Activate the layer you wish to flatten within the selection by clicking in the box located at the left of the layer name, or by selecting the layer and clicking on the activate button.



3. Press the flatten button. All cells included in this selection and belonging to active layers, except for those belonging to the highest priority layer, will be deleted. The cells of this top priority layer now contain the results of the flatten operation and keep this layers' original codes.

**Note:** when **flattening** images a warning pop up window will be displayed for confirmation. Activate the **Clip images at frame size** option to clip the selected images' seen size. This option is very useful to save memory. Once **OK** has been pressed, it is **not** possible to undo this operation.

When editing the data on the sheets you can open and close the sheets by means of the display area and exposure sheet bar. With the first you can limit the size of the display area, and with the second the size of the exposure sheet with regard to the storage sheet (see the graph at the beginning of this chapter).

### 5.3 Display

When carrying out a selection as described above on the exposure sheet you will notice that the first cell turns yellow. This is the active cell and the cell that determines what will appear on screen while carrying out any paint or image processing operations. If this cell belongs to the image layers, the image will appear on screen. If, on the other hand, it belongs to the sound layers, no image will be displayed. If the active cell belongs to an animation layer, what will appear on screen are the images resulting from the composition of the active image layers affected by the corresponding camera layer.

Clicking on a single cell is like carrying out a selection, but on just one cell. Therefore, this will be the active cell.



### 5.4 Animation playback

At any time during the edit of the contents of the Exposure Sheet, you can carry out a playback to check the results of the modifications made.



1. Activate or deactivate layers, depending upon the layers you want to view. To change the condition of several layers at the same time, select various layers and press the layer activation or deactivation buttons. If you press these same buttons while pressing the **SHIFT** key, you will activate or deactivate all the exposure sheet layers at the same time, independent of the selection.



2. Select the range of frames to be played and press the playback button. The program will calculate the render of all the images, and show the playback on-screen.

3. You may, at any time, stop the playback function and use the typical buttons on a video unit to move along the animation.



During the playback function, the selected frames appear in light gray on the exposure sheet to indicate you are in playback mode, during which the operations allowed are very limited. To cancel the playback mode and continue editing the sheet, click on any cell of the exposure sheet.

### 5.5 Animation timing

Always, when working with animation, it is quite usual to find repeated image cells. To avoid excessive efforts and make editing of the exposure sheet more efficient, you can repeat any image cell as many times as you like. These repetitions are identical and are linked, for which reason any change made on one affects all the rest.

1. Select the range of cells to be repeated. These can belong to different layers.

2. Enter the number of repetitions needed for each cell next to the repeat button.

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### 41 Animation editing



3. Press the repeat button, and inserted below each selected cell there will appear as many repeat symbols as requested. These repetitions are counted as of the primary (or main) cell. If you have selected three repetitions, they will be setup as one cell with the code and two with the repeat symbol "~".

001A	
~	
~	

If you want to delete the repetitions of any cell, select its primary cell and enter 1 as the number of repetitions. Press the repeat button and only the primary cell will remain.



You can also delete cells or its repetitions by selecting a range and pressing the **Del** key from your keyboard or the Delete button.

A *ping-pong* effect within cells is also available. To enable this operation first select the cells to be reversed. Then, either click on the **Edit Menu** and select **Reverse cells** or, for fast exposure sheet editing, press the **R** key from your keyboard. For example, if you select cells 001A, 002A, 003A, 004A, and then press the **R** key, the result will be the following: 004A, 003A, 002A, 001A.

You can *toggle* sheets by pressing the **S** key from your computer. This operation will permanently hide the storage sheet so to obtain a greater view of the exposure sheet. To recall the storage sheet back to its original location just press the **S** key again.

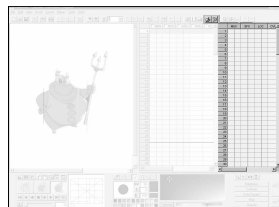
Pressing the right mouse button on an active cell or a group of cells will display a popup menu. This menu will allow you to **copy**, **paste**, insert **white** or **black cells**, **repeat**, **reverse**, **delete** or **remove cells**.

To select a range of cells click on the first cell to be selected and, while pressing the **Shift** key, click on the last cell to be selected.

**Note:** for fast exposure sheet editing you can use the **+** and **-** keys to add and remove repetition. To jump to the next master cell press the **CTRL** + up or down cursor keys.

## CHAPTER 6

### 43 Capturing sound



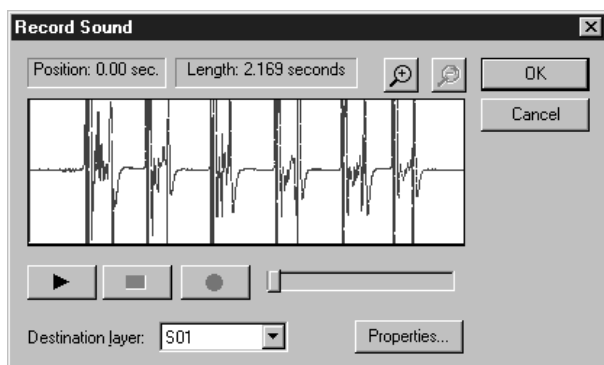
## 6. Capturing sound

The insertion of sound in the Storage Sheet can be carried out by directly importing WAV type files, or by directly recording the sound by means of the audio inputs of your computer (CD, tape, microphone, etc.).

### 6.1. External capture of sound



To capture a sound through the computer audio card, press the sound capture button, which will display the window for this purpose.



1. Prepare the material to be captured, whether it be on tape, CD or microphone, checking the exact duration of it.
2. Press the record button and start the tape, CD or talk into the microphone.
3. Check the time displayed on the counter located at the top of the window. When this time is greater than the estimated duration time, press the stop button.

Once captured, the window displays the amplitude graph of the recorded sound. If you want to check the recording, use the play and stop buttons at your own convenience. To replay specific areas, click and drag the mouse on any area of the graph. Once checked, you must select the necessary part of the sound and eliminate unnecessary silences.

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### 44 Capturing sound



1. Check to see which parts of the sound are necessary by means of the zoom buttons and the playback of same.
2. Clicking on and dragging the sound graph, select only the necessary part of the sound, but without worrying about precision. You will be able to edit the sound with precision once it is in the Exposure Sheet.
3. Select the destination layer for the sound and press **OK**.

The selected sound is stored in the layer of the selected sheet, and the rest is discarded. The same sound amplitude graph that appears in the record window will now appear in the selected layer of the Storage Sheet, but vertically.

### 6.2. Importing sound files

The CTP can import sound files to the storage sheet, in case this material is offered on some sort of magnetic support. To be able to import a file, it must be of the WAV type.

1. Select the sound layer from the Storage Sheet to which you wish to import the sound.

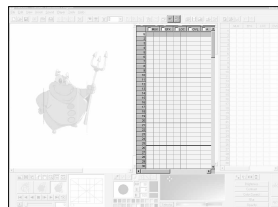


2. Press the sound import button. The sound import window will display the selected destination layer. By selecting a layer from the storage sheet prior to pressing the button, you will have already specified the desired destination layer. You can do this in this way, or by selecting it once the window is open.
3. Use the . . . button to access the Windows explorer and find the sound file that you want to import. Press **OK**.

Once imported, and as in the case of capturing, the imported sound amplitude graph appears in the selected layer.

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### 7. Sound editing

Sound editing is carried out exactly like the editing of any exposure sheet cell, selecting and dragging cells. The only difference is that the sound cells are never considered empty and, if no sound has been entered into these, they contain silence. Therefore, on all sound layers all cells initially contain a zero amplitude graph depicted by a straight vertical line.

#### 7.1. Copying sound from the Storage Sheet to the Exposure Sheet

The same as with images, sounds cannot be edited on the Storage Sheet and must be copied on to the Exposure Sheet. Use the same method explained for animations.

#### 7.2. Sound Editing

We can modify the length of a sound to adjust it to an animation by means of a stretch & squash operation.

1. Select the range of cells on which you want to carry out this operation.



2. Press the Stretch & Squash button.

3. On the window that appears, enter the new size of the sound in number of frames, and press **OK**.

This new size of the selected sound should match the exact number of frames entered.



In the same manner you can use the offset button to precisely adjust the start point of the sound. Enter the number of milliseconds of required offset and press **OK**.

Once the sound is edited on the Exposure Sheet, you can listen to the result by activating the desired sound layers and pressing the play button. If any image

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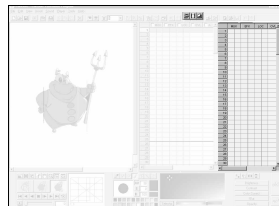
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layer is activated, the playback will be both of sound and image and, therefore, you will have to wait for the render execution. If, on the contrary, there are no activated image layers, sound reproduction would be practically instantaneous.



**Note:** As with images, sound layers can also be flattened together. Remember to activate the desired layers to be flattened before carrying out this operation.



## 8. Importing of backgrounds



The import of backgrounds is carried out exactly in the same manner as the importing of an animation, with the difference that a background image, due to its original size, can be made up of various acquired images which can later be composed together. The same as these, backgrounds can also be acquired in drawing mode, to be filled in with the CTP, or in color image mode to be used directly.

### 8.1. Classical and high resolution scanning

The image scanning process that makes up a background is the same as that explained in section 4.3. *Importing images from scanner*. If it is known beforehand that the background is going to be used in a scene with zoom operations that surpass 200% of the original size, it is important to increase the scanner resolution to obtain maximum quality. To do this it will be sufficient to change the value, on the scanning dialog, of the field that represents a complete video frame for the value of the maximum zoom field that will be applied to this image.

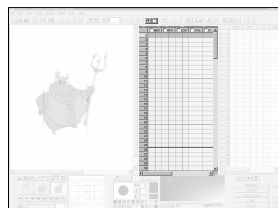
### 8.2. Capture by camera

Capturing by camera is carried out exactly as explained in section 4.2. *Importing images from video input* but, as opposed to the scanning method, in this case we cannot adjust the capture quality and, therefore, its use is not recommended for background capturing.



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### 51 Background editing



## 9. Background editing

Once we have scanned or captured the images necessary to form our background, we must join them together to form a single image. This new image is the one that will be used in the final scene. As usual, the first step will be to transfer the scanned images to the exposure sheet to be able to work with them.

### 9.1. Composed images

A composed image is nothing more than a normal image increased in size to accommodate all subimages that make it up.



1. Select any empty cell and press the white cell button.



2. Press the compose button. A window will appear indicating the size (in the number of subimages) that you want to create. Select the desired size by dragging your mouse over the window.

If you check the image on-screen after this operation, it must contain sufficient blank space to accommodate the remaining subimages.

### 9.2. Compositing

Now you should insert each one of the subimages that make up the background in their corresponding place within this large white cell.



1. Press the add subimages button. The cursor will become a hand with the index finger sticking out and a square at the end indicating that you should select the cell to be added.

2. Click on one of the cells to be added. The image of the selected cell will appear immediately on-screen, with semitransparent colors, and when the cursor is placed on it the cursor will turn into an open hand with a square at the end.

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### 52 Background editing



3. Click on the new subimage and use your mouse to drag it into position. For precise position adjustments use the cursor keys. If you want to zoom or move the screen while making up the background, you can do so with the usual tools, but remember to reselect the move subimage button when you want to continue relocating the present subimage.

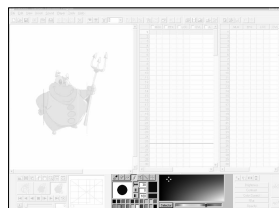
4. Once the image is in place, press the ok! button located on the main toolbar. The subimage will then form part of the background image, going back to its normal color. Repeat this procedure for each subimage until the background is completed.

**Note:** when **compositing** images a warning pop up window will be displayed for confirmation. Once OK has been pressed, it is **not** possible to undo this operation.

Remember the CTP uses two types of images, drawings and color images. Whenever you compose large images the result will always be a drawing, maintaining all the color of color images, unless all images used are color images. In this only case the result will be a color image as well.

You can use the cursor keys to move the image more precisely, pressing the **SHIFT** key to move it by 10 pixel increments.

To facilitate the composition of the images that make up the background, it is important to scan them with parts that overlap, or you will not be able to adjust their position correctly.



## 10. Painting

After having acquired all images, overlays and backgrounds, its time to fill these in. This operation can be carried out either directly selecting the color from the painting palette or using Color Models Archives (CMA).

### 10.1. Painting modes

As mentioned in earlier chapters, the CTP has three display modes. These modes will also determine which image layers you are modifying while working with the paint tools.



- **Line mode:** in this mode only the line layer will be displayed and affected. Use this layer to modify the line shape or color. This is the layer you **must** use to close gaps, since the fill algorithm uses this line layer as a reference to know what it has to fill.



- **Fill mode:** in this mode only the fill color layer will be displayed and affected. You will rarely use this layer for painting unless you want to achieve some unusual effect. The fill tool will not work in this mode since it has no reference line to work with.



- **Line + Fill mode:** in this mode both the line and fill layers will be displayed, but **only** the fill layer will be modified, using the line layer as a reference. This is the mode you **must** work in to fill in your images with color.

Remember that the line layer always lies on top of the fill color layer and that these two layers are only available on drawing type images.



To view any of the remaining animation layers as a reference, press the Onion Skinning button and activate the corresponding storage sheet layers. This mode is extremely practical during the entire editing process since it allows you to see the whole frame composition without having to render any previews. This reference layer display has a minimum effect on the program's performance. For more information on this matter refer to *Chapter 15. Options Setup* on page 80.



Whenever you select a cell to paint on it, the CTP will deactivate its camera layer (although the camera layer on-screen status will not change) so you can work on the image's neutral position. This camera deactivation will obviously affect any other cell images affected by the same camera as the actually selected cell.

### 10.2. Adjusting the brush

To use some of the paint operations you will need to adjust the paint brush format to your needs.



1. Press the button to vary the size of the paint brush. Adjust the size by dragging the mouse within the window displaying the present paintbrush format. Moving it upwards will increase the diameter of the paintbrush, and downwards will decrease it. You can also adjust the value by modifying the number on screen.



2. Press the button to vary the softness of the paint brush. Adjust the value by means of the previous method. This softness determines the roughness of the outlines of the paintbrush.



3. Lastly, press the button to modify the opacity of the paint brush. Adjust the value also by means of the previous method.

To select a color for your brush just click on the color palette located on the center of the main toolbar, click on one of the user palette colors, or click on **Selector** and use the sliders to make a precise selection. To perform fast and accurate color selections for your fill operations, the best method is to use color models. These are explained thoroughly on the next chapter.

The selected color affects almost all operations of the graphic palette. If after having selected a color you want to get back the previous color, click on the color area beneath the present color box.

## CHAPTER 10

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Once having established the paint brush format, you can draw on the selected models with any of the paintbrush, airbrush or line draw tools. In the same way, you can also vary the paint brush format for the eraser tool, the only difference being that the opacity of the latter cannot be adjusted (it is always transparent) and does not take into account the selected color.



If you wish to select a color from the screen, press the get color selector tool and click on the area with the desired color. Once the color is selected, the previous operation will be reactivated so that you may continue to work without having to reselect this operation again.

### 10.3. Paint tools

On this section we are going to describe all the paint tools available and how they will perform depending on what painting mode you are in.



#### Fill



*Line mode:* Use the fill tool to color in only the connected lines by clicking on them. If you press the **SHIFT** key while clicking on any part of the display area, all the lines of the image will be colored with the current color. Also, with the **SHIFT** method, if you press **OK** and you have several selected cells, the system will ask you if you want to modify all the cells in the same manner.

*Fill mode:* Not available.

*Line + Fill mode:* This is where you will fill in the closed line areas of your drawings. Simply select a color as explained above and click inside any closed area of interest. The area will be filled using the fill layer, but delimited by the lines on the line layer. Whenever filling in this mode you will notice that the actual content of the closed area is ignored. This means, if a closed area is partially filled with any color, clicking inside of it will still fill it in full, limited only by its surrounding lines.



### Eraser



*Line mode:* Use the eraser in this mode to erase any part of the lines in your drawings.

*Fill mode:* This will erase only the fill colors.

*Line + Fill mode:* This will have the same effect as the Fill mode by itself, but allowing you to see the Line layer in the process. On this mode it is impossible to erase the lines.

Pressing the **SHIFT** key while using this tool will erase the entire display area contents affecting the selected mode layers. If a range of cells have been selected, this operation will affect all these cells.

### Paintbrush



*Line mode:* Use the paintbrush in Line mode to draw new lines. This brush is not accumulative while dragging. That means, that unless you lift the mouse button, the brush color will not step on itself and will paint in a constant color. To add new lines to a drawing simply set the brush size to a very small value (2 to 5), set the softness value very high (50 to 100), and transparency to about 50. This will give you a soft brush to close those nasty gaps.

*Fill mode:* It is used the same as in the Line mode, but modifying the fill layer.

*Line + Fill mode:* It will modify the fill layer while showing the line layer.

### Airbrush



*Line mode:* The airbrush has a special use in Line mode. With it you can change the color of the lines by painting over them. The shape of the line will not be changed, only the color.

*Fill mode:* In this mode the airbrush will paint like the paintbrush, but with accumulative colors. That means that while dragging the mouse if the brush steps over its track it will make the color more opaque every time. To use the airbrush to its fullest, always choose very transparent brushes.

*Line + Fill mode:* As with other tools, on this mode the airbrush will have the same effect as in the Fill mode, but showing the line layer.

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### Line



*Line mode:* Draws lines on the line layer.

*Fill mode:* Draws lines on the fill layer.

*Line + Fill mode:* Draws lines on the fill layer while showing the line layer as well.



### Drag image

This tool is used whenever you are compositing large background images. During that process, whenever you compose an image over another you may need to zoom in. If you select the zoom tool, you will lose the ability to move the new image to finalize your composition. Click on this tool to be able to move the new image once again.

While using any of the paint tools specified above, pressing the **CAPS LOCK** key the cursor image will change to a cross-hair for improved tool accuracy.

## 10.4 Customizing the user palette

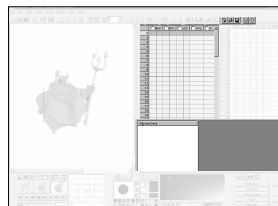
To modify any of the user palette color boxes simply follow these three steps:

1. Select the color box you want to modify.
2. Choose a color for this color box with any of the methods described above.
3. Double click on the current color box. The previously selected user palette box should now contain the desired color.

## 10.5 Accepting your painting



When you have finished painting the image, press the **ok!** button to accept the changes, or the **no!** button to cancel them. Remember that if you select another cell without having pressed one of these buttons, the changes will be accepted automatically as if the **ok!** button were pressed. If you only want to go back one step use the undo button command or press **CTRL + Z**, which will only undo your last paint operation. Press it again to redo this operation. Press the **ESC** key to cancel all made changes.



## 11. Color Models



Color models are used as an easy and accurate way to ink&paint animations. They are usually setup at the start of an animation project so that every ink&paint operator can choose the proper colors easily. On the CTP the Color Models are saved in Color Model Archives (CMA). These archives can contain as many color models as required and can be easily edited by means of the standard exposure sheet. Once created, the color models have no direct link with any scene. They can be opened for use as a reference while editing any scene.

### 11.1. Creating Color Models



To create a new Color Models Archive (CMA) choose the **New CMA** option under the **File** menu or on the CMA toolbar. A dialog will appear showing the available archives. Write down the name of the new archive making sure it is different from any of the already existing ones. Once created it will appear at the lower right area of the screen, right below the exposure and storage sheets.

Color Model Archives can only be edited or used while working with a scene. That means you must open a scene even if you only want to modify a CMA. After editing the CMA you can discard the scene data, the CMA's data is totally independent of the scene used to create it.

Once a CMA is created it can be opened at any time while editing a scene by using the **Open CMA** menu option under the **File** menu or on the CMA toolbar. Select the needed archive from the displayed list of available CMAs and press the **OK** button.

While working with color models on a network, only one operator will be allowed to open the color model to modify it. If someone else tries to open the same color model, he will not be allowed to modify any of its data, just pick colors from it.





## 11.2. Editing Color Models

All images included in any color model have its origin in the exposure sheet of a scene. You must edit the future color model as a regular drawing or full color image on the exposure sheet as you would do with any other drawing or image. Once processed and colored you simply drag and drop the required cells to the color model area. The new color models will appear on the color model list.

In the same manner, you can drag and drop any color model back into the exposure sheet for further editing. Whenever dragging a color model from/to the exposure sheet you can use the **CTRL** key to generate a copy of the selected cells, otherwise a move will be performed and the original cells erased.



You can modify the names of color models once they are on the color model list. Press the **F2** key and write the required name. Names for sheet cells are limited in length to four characters, but color model names have no limit. Whenever a color model is moved back to the exposure sheet for further editing, its name will be cut down to four characters, but without losing the original name. Once editing has finished and it is brought back to the color model list, its name will be restored to its full length.

To erase any number of color models, click on the first model to erase, **SHIFT** click on the last model to erase, and press the **Del** key. You can also select individual models by using the **CTRL**+click to select or deselect any color model. The highlighted color models will be erased whenever you press the **Del** key. This operation is not recoverable so the program will ask for your verification before satisfying such a request.



### 11.3. Using Color Models



Once a CMA is opened, it can be used to select colors while performing paint operations on any exposure sheet cell. Simply move the mouse to the color model display area and click on the desired color. Whenever the mouse cursor is in the color model display area it will show the classical get color icon to indicate you are about to make a selection. When returning to the paint area the previously selected paint tool icon will reappear automatically.



Since color model images can be as large as required you have several tools to control which part of the color model you want to view. Use the **Real Size** tool on the CMA toolbar to show a pixel accurate representation of the color models. Use the **Fit to Window** tool on the CMA toolbar to fit the entire toolbar in the display area. To zoom in and out on the color model select the **zoom** tool on the main toolbar.

If the color model's full size is larger than the actual display area, you can press the spacebar at any time to drag the image around by clicking on the left mouse button and moving the mouse.

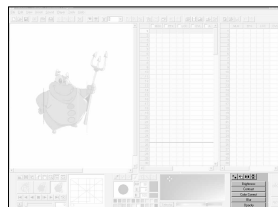
### 11.4. Saving CMAs



Whenever you have modified a Color Model Archive make sure to save it to keep all the changes. If the CTP or the archive is closed without saving and changes have been made, the CTP will ask you if you want to save these changes before closing.

Due to the fact that a CMA is made up of various files, the most practical way to remove them once they are no longer necessary, is by means of the CTP. Use the command **Remove CMA** on the **File** menu to delete CMAs you no longer need.

The CMAs are made up of a group of specific images and files of the CTP. These files are stored in one single folder with the actual name of each CMA. If you wish to transfer a CMA to a removable magnetic support to distribute it amongst your animators, you only have to copy the required CMA folder to that media.



## 12. Image processing

Image processing are processes that affect the totality of an image although it will take into account whatever mode you are in: line, color, or line + color. These image operations can be used to produce certain effects, or to finish adjusting the images visually.

### 12.1. Operations

To carry out certain general changes on a cell or selection of cells we have the following operations:



- **Brightness:** Adjusts the intensity of the image. The greater the brightness, greater is the intensity of the image.
- **Contrast:** Adjusts the contrast between the dark and light tones of the image. The greater the contrast, the larger the difference between these tones.
- **Color correct:** This operation allows you to adjust the level of each color component of the image. The positive values will intensify the color component, where as the negative values will decrease intensity.
- **Blur:** This operation will blur the entire image to make all outlines smoother.
- **Opacity:** This operation will establish the new global opacity values of the image.

These operations affect the entire range of selected cells. To use any of these, first select the cells that you want to modify, and then carry out the

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corresponding modifications. Remember that they will only affect the image layers shown by the actual display mode.

1. Select the range of cells to be modified. Only the first cell selected will be displayed on screen.
2. Press the button on that corresponds to the operation to be carried out. The screen will display the first of the selected cells already processed with the selected effect. Use this cell as a reference of what will occur with the rest of the selected cells.
3. Adjust the parameter(s) of the selected effect until the desired results are obtained.
4. If the results are correct, press ok!, and this operation will be carried out over all selected cells. If not, press no! and it will be canceled.



Press the Black Cell button to convert the selected cells into opaque black cells.



Press the White Cell button to convert the selected cells into transparent white cells. Use this command to create empty cells on which you can paint.



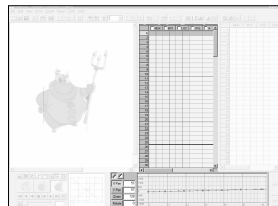
Press the Flip Horizontally button to horizontally invert all images of the selected cells.



Press the Flip Vertically button to vertically invert all images of the selected cells.

## CHAPTER 13

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## 13. Camera movements

The CTP has been designed to support any number of camera layers. Each camera layer must be assigned to at least one animation layer. Every camera layer will affect all the animation layers to its left up to the next camera layer. A special case to this rule is the global camera which is displayed at the end of the exposure sheet in a darker green color and affects the entire exposure sheet.

### 13.1. Field Chart



If the field chart button is pressed, the screen will display a classical field chart, showing the present registration of the image. Everything that appears within the field chart is what will appear when making a playback render of the animation. This field chart is simply a reference, and you can work normally both if it is activated as well as deactivated.

### 13.2. Camera layers

Selecting a cell of one of the camera layers activates the motion area on the main toolbar. The screen will display only the drawings or images belonging to the cells of the active layers affected by the camera layer in question. Remember to activate the layers you wish to view.

You can modify each parameter of the animation interacting with the image directly on screen, by modifying the parameter on the motion area, or by modifying the animation curve. By pressing the Reset button all parameters go back to their original values; pan to zero, zoom to 100%, rotate to zero.

To carry out a camera movement between certain amount of frames, just edit the parameters of the first and last frames. The system will automatically calculate the required camera movement values for all the selected cells to guarantee a smooth transition.



Camera layers can also be flattened together with their image layers in order to modify their original size or input position, freeing up that camera layer to create compound animations.

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### 68 Camera movements



By pressing the Low and High buttons you can vary the on-screen preview quality. This quality option does not affect, in any way, the final playback render quality option found in the general options panel of the program.



### 13.3. Pan

X Pan	-95
Y Pan	-78

With the pan operation you can place the camera horizontally and vertically. The movement is measured in pixel units. Selecting **X** or **Y Pan** will only select which animation curve will be displayed. You can always modify both values interactively on-screen selecting either button.

### 13.4. Zoom

Zoom	99
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Place the cursor over the area you want to zoom and drag the mouse to move the image closer to or further away from the camera. By dragging your mouse upwards you get the camera closer (a larger image), and downwards to move it further away (a smaller image). While zooming, the location over which the mouse was set initially is always kept fixed on-screen, that area will be the center of the operation.

The units used to measure the zoom are in percentages. 100% is the original size of the image, 200% is twice as large, and so on. If you have intentions of carrying out very deep zooms of over 200%, it is advisable to scan the images at a higher resolution to obtain maximum quality. The maximum allowed zoom size is of 400%.

### 13.5. Rotate

Rotate	90
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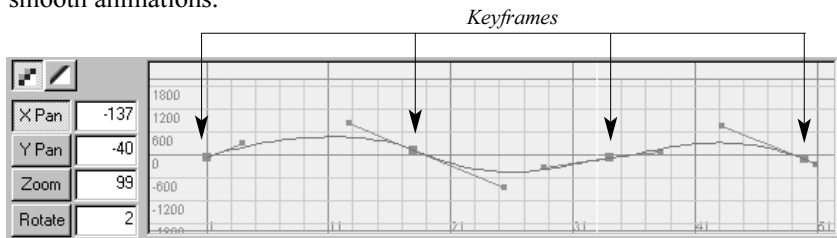
With the rotate operation you can rotate the camera around its axis. Move your mouse around the rotational axis both clockwise (negative angle) as well as counter clockwise (positive angle) to modify its value interactively. The rotation is measured in degrees.

Pressing the **SHIFT** key while rotating will use increments of 15 degrees.



### 13.6. The camera curve area

The camera curve area is designed to help you create very accurate and smooth animations.



The camera graph is where we will set all our *keyframes*, which indicate the camera positions throughout the animation. The graph's horizontal axis will display your position in time, the frame numbers. On the other hand, the graph's vertical axis will display the range of values for the actual parameter you are modifying. Select any of the available parameters to display and modify its keyframe graph.

You can work directly on the camera graph to add and remove keyframes, change their position, zoom in/out, use a hand tool to be able to move along the whole graph, or control the keyframe tension points.

- **Adding keyframes:** move the mouse to the point where you want to make the addition. Hold the **CTRL** key and click on the left mouse button. Whenever you add a keyframe for any of the available parameters, the program will automatically add keyframes for all the other parameters at their actual values to make sure you get consistent camera animation.
- **Removing keyframes:** move the mouse to the keyframe you want to remove. Then, proceed in the same way as when adding keyframes, this is, holding the **CTRL** key and clicking on the left mouse button.
- **Changing keyframe's position:** drag the mouse to the keyframe you want to change its position and click on it. Notice a vertical white line crossing the selected keyframe which means you are actually displaying this frame. To change the keyframe's position keep the left mouse button pressed down, and drag it along the vertical axis. If you look at the visualization area while doing this operation, you will see the image changing its position. You will see, as well, the keyframe moving upwards or downwards, depending upon which



direction you are dragging your mouse. Release the left mouse button to drop the keyframe at the desired value.

- **Zoom in/Out:** To zoom the graph, move your mouse over it and, while holding the *right* mouse button and the space bar from your keyboard, move the mouse on the following directions:

- . To the right → Stretches the graph horizontally.
- . To the left → Squashes the graph horizontally.
- . Upwards → Stretches the graph vertically.
- . Downwards → Squashes the graph vertically.

- **Hand tool:** In a large scene, you will notice that some keyframes are not shown on the graph at the same time due to the graph's scale. To be able to move along the whole graph, move your mouse inside of it, and, while holding the *left* mouse button and the space bar from your keyboard, move the mouse to the left or right along its full length.

- **Keyframe tension points:** The keyframe tension points are located at both sides of each keyframe. These two points are used to control the smoothness



Keyframe tension points

of the curve between two keyframes. The left tension point will affect the curve between its own keyframe and the one to its left. Therefore, the right tension point will affect the curve between its own keyframe and the one to its right. Notice that the tension points will not allow you to move them over any other

keyframe. To move each tension point, click on the point you want to move and, while holding the button, move the mouse on any desired direction.

If you wish to move keyframes in time from one frame to another, press the **SHIFT** key and, while holding on the left mouse button, drag the keyframe to the desired position. Release the left mouse button to drop it. When a keyframe is being moved, it cannot be moved further than any of the surrounding keyframes.

If you wish to level horizontally both keyframe tension points, press the **SHIFT** key and drag one of the tension points.





## 14. Transfer



Once the editing of the scene is finished, it should be transferred to video, either for checking or for broadcasting. To accomplish this it is as simple as doing a playback as explained in the section on editing the scene, but with certain particularities.

### 14.1. Transfer to video



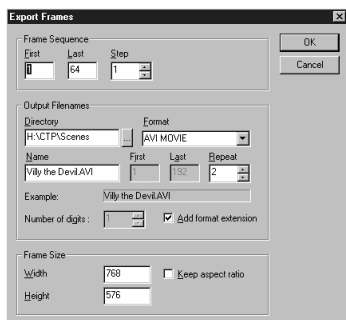
To transfer to video through the video I/O board on your computer, simply activate the video transfer button. With this option activated, any playback operation carried out will always go through the video board. Depending on the characteristics of your video board, it may also appear on screen.

So that the output quality may be optimum when using this method, setup your computer carefully following the suggestions of the video board manufacturer. The CTP supports all Windows 95/NT compatible video boards. Choose the video board with the appropriate input/output quality for your job.

The information stored in the CTP files is always broadcast quality, but the video output quality depends totally on your video board.

### 14.2. Exporting images

To export images select **Export Frames** from the **File** menu. The following window will be displayed:



1. Enter the **First** and **Last** frame numbers to export. If you have previously selected a range of frames, these will be automatically entered. By default it will always show the first and last animation frames.

2. Enter the **step** desired. A value of two will export every two frames, a value of

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three every three, and so on successively. In this way, you can avoid exporting repeated frames.

3. Press the file selection button ... located at the right of the **directory** box. Enter the name of the file to save and press **Save**.

4. On the **Format** drop down list select the preferred export image format. To export frames as a movie select either **AVI Movie** or **Quicktime Movie**. Either of this two options will export the whole animation as a single file. If you want to export frames as sequence of individual images select the corresponding image format from the list.

5. At the **Name** box will be displayed the name given to the file. If an image format has been selected from the **Format** list, the selected name will contain the “#” symbol. Use this symbol to place where you want the file sequence number to appear in the filename. For example, if the filename is Villy the Devil.JPG, the file sequence will be Villy the Devil.1.JPG, Villy the Devil.2.JPG, etc.

6. Next to the **Name** box you will find another **First** and **Last** entry boxes. The **First** box will automatically display the number entered at the previous **First** box located at the **Frame Sequence** section. The **Last** box will vary depending upon the number of frame repetitions entered on the **Repeat** field. By default, the **repeat factor** will be the same as the one selected from the Options window (Tools menu>Options>Player tab). The **Repeat factor** goes from 0 to 100.

7. Enter the **number of digits** format you want to use for the filenames. The maximum value is 5 digits. This value sets the size in digits given to each file sequence number. If the sequence number is not large enough to fill this amount of digits it will be filled in with zeros. An **example** will be displayed.

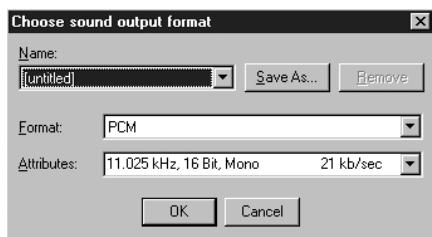
8. Enter the **Width** and **Height** for the selected frames. **Keep the aspect ratio** activated if you want to automatically maintain the same rational ratio you use on your scene.

9. Press **OK**.



### 14.3. Exporting sound

To export sound select **Export Sound** from the **File** menu. The following window will be displayed:



1. Press the **Save As** button and enter the name of the sound archive.
2. Select the sound format at the **Format** drop down list.
3. Select the sound frequency at the **Attributes** drop down list. The higher the frequency selected, the more memory will be required, but the better the output quality will be.
4. Press **OK**.

### 14.4. Sharing scenes with removables

Each Scene or Color Models Archive stored by the CTP is saved integrally in its own folder, and these document folders are stored within a general folder selected for this purpose in the general program options. To share data simply copy the folder with the name of the required Scene or CMA onto a removable magnetic support (ZIP, CD-ROM, hard disk, etc.), or onto another folder on the network. All information on a Scene or CMA is in its own folder, and whoever receives it will have an integral copy of this document. You can also open the scene with the CTP and use the **Save As** option to save it on any other disk.



### 14.5. Printing sheets and images



If you want to print out the Storage Sheet, the Exposure Sheet, the actual display area or the reference Color Model, press the Print button or select the Print command on the **File** menu. Select what you want to print in the selection window and press **OK**.

### 14.6. Networking

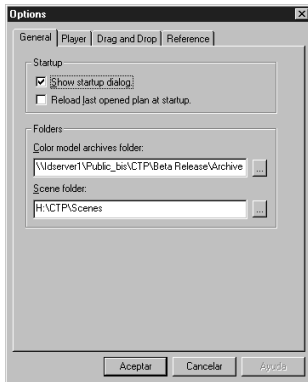
Due to the simple file management on which the CTP is based, networking is extremely simple. Whether it is a local network, through Internet or with the use of removable devices, it is extremely easy to share jobs with various operators.

Nevertheless, and due to the complex changes carried out by the CTP on the archives of the opened documents, you can never have more than one person working on the same Scene or Color Model.



## 15. Options Setup

Use this setup option window to configure general program behavior parameters. These parameters have reasonable default values set during installation, but you can customize them to your liking at any time.



This command displays the CTP options window of the program, divided into four tabs.

### *General*

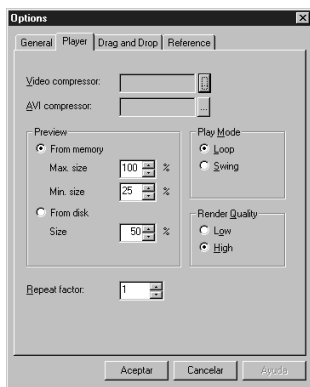
Contains the global options of the program, which affect all documents carried out with it.

- **Show startup dialog:** Activate this option if you want to view the initial dialog to open or create documents each time you start up the application.
- **Reload last opened plan at startup:** Activate this option if you want the program to automatically open the last scene you were working on.
- **Color model archives folder:** Enter the folder where the color models archives are stored, or select it from the Windows Explorer by pressing the ... button.
- **Scene folder:** Enter the folder where the scenes are stored, or select it from the Windows Explorer by pressing the ... button.



### *Player*

With these options you can define the output characteristics when reproducing an animation. It is very important to format these parameters carefully so as to obtain the best possible quality.



- **Video compressor:** Compressor to be used for the video output by the video I/O card of your computer. By pressing the ... button of this section you can view a list of available compressors. Locate the name of your video card on this list and select it.
- **AVI compressor:** Compressor to be used for visualizing the animation on screen from a disk. The same as in the previous case, press the ... button to view the list of compressors. It is recommending to select the **Cinepak** compressor due to its good quality/performance ratio.
- **From memory:** Activate this option to visualize the animations from the memory (faster), whenever possible.
- **Max. size:** The maximum permitted size, in percentage, during a playback from memory. Adjust this value in accordance with the performance of your video card and the amount of available memory.
- **Min. size:** The minimum permitted size, in percentage, during a playback from memory. In the case of not having enough memory to visualize in this minimum size, the playback will be carried out from disk with the compression format previously selected.

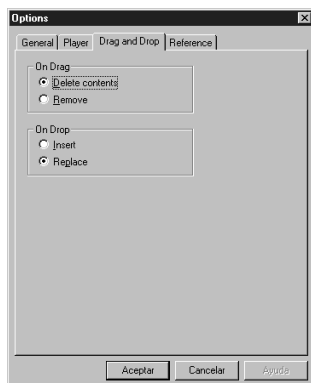
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- **From disk:** Activate this option to force the visualization of the animations to be carried out from disk always. This is less efficient, but does not require such a large amount of memory.
- **Size:** Size established for animations from disk. Keep in mind that this type of playback is less efficient than the one from memory.
- **Loop:** Activate this option to have the loop button of the video controls repeat the animation from start to finish each time.
- **Swing:** Activate this option to have the loop button of the video controls repeat the animation from start to finish, and backwards, each time.
- **Low:** Activate this option to set to low quality the animation playback render.
- **High:** Activate this option to set to high quality the animation render.
- **Repetition factor:** This is the number of times each frame is repeated when playing an animation. Use this option only if your animation must have constant repetitions. If not, set it to 1 and use the cells repetition features.

### *Drag and Drop*



- **Delete contents:** Activate this option if, when deleting cells selected from the exposure sheet, you want the sheet to remain exactly the way it was and the deleted cells replaced by empty cells.
- **Remove:** Activate this option if you want the deleted cells to be replaced by successive cells of the same layer. All cells below will be moved upwards to fill in the empty spaces.
- **Insert:** Activate this option if, when dragging a group of cells over another, you

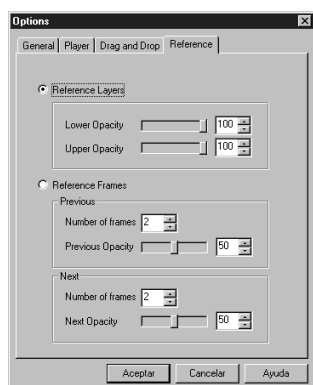


want to insert it where the cursor is located, moving the current one so as to fit the new ones in.

- **Replace:** Activate this option if, when dragging a group of cells over another, you want the new ones to replace the current ones.

These two later options can be interchanged if, while dragging the cells, the **SHIFT** key is pressed.

### Reference



- **Reference layers:** Activate this option to display all images of the cells belonging to the activated layers of a frame. In this way we can work on any cell while always using as a reference the images of the remaining layers of that frame. This mode does not take into account the animation layer of the cell being edited.

- **Lower Opacity:** indicates the lower layer's opacity.
- **Upper Opacity:** indicates the upper layer's opacity.

• **Reference frames:** Activate this option to display all images of the cells of the actual layer. In this way we can work on any cell from the actual layer while always using as a reference the images of the remaining cells of that frame. This mode does not take into account the animation layers.

- **Number of Frames:** number of upper frames (previous) and lower frames (next) at the present frame which will be displayed.
- **Previous Opacity:** the opacity applied to the cells pervious to the actual cell.
- **Next Opacity:** the opacity applied to the cells after the actual cell.





### A. Shortcut Keys

#### A.1. Paint

##### **Space bar**

Press it at any time, and keep it pressed, to move the visualization area. Upon releasing it you will retrieve the operation you had selected previously.

##### **Caps Lock**

Press it to change the cursor from any paint tool icon to a cross which will allow you to paint with greater accuracy. Press this key again to retrieve the normal cursor.

<b>A</b>	Select the airbrush tool.
<b>B</b>	Select the paintbrush tool.
<b>C</b>	Select the fit to window display mode.
<b>E</b>	Select the eraser tool.
<b>H</b>	Select the move display area tool.
<b>I</b>	Select the get color tool.
<b>K</b>	Select the fill tool.
<b>L</b>	Select the line tool.
<b>X</b>	Select the real size display mode.
<b>Z</b>	Select the zoom tool.

## Appendix A

### 83 Shortcut Keys



### A.2. Sheets

#### **Space bar**

Press it at any time, and keep it pressed, to move the Exposure and Storage Sheets.

**+**

Increment repetitions.

**-**

Decrement repetitions.

**Ctrl + C**

Copy.

**Ctrl + F**

Find.

**Ctrl + N**

New Scene.

**Ctrl + O**

Open Scene.

**Ctrl + P**

Print.

**Ctrl + S**

Save.

**Ctrl + V**

Paste.

**Ctrl + X**

Cut.

**Ctrl + Z**

Undo.

**R**

Reverse cells.

**S**

Toggle sheets.

## Appendix A

### 84 Shortcut Keys



### A.3. Color Models Archive area

#### Space bar

Press it at any time, and keep it pressed, to move the visualization color model area. Upon releasing it you will retrieve the operation you had selected previously.

#### I

Select the get color tool.

#### Z

Select the zoom tool.

### A.4. Animation Curves' area

#### Space bar

Press it at any time, and keep it pressed, while dropping the mouse to move the visualization curves' area.

Use this same method, but with the right mouse button, to use the zoom tool.

#### Ctrl

To add keyframes move the mouse to the point where you want to make the addition. Hold the Ctrl key and click on the left mouse button.

Use this same method to remove keyframes.

#### Shift

To move keyframes in time from one frame to another, press the Shift key and, while holding on the left mouse button, drag the keyframe to the desired position. Release the left mouse button to drop it.

If you wish to level horizontally both keyframe tension points, press the Shift key and drag one of the tension points.