CHAPTER 1 FrameMaker Instruction Manual

All rights reserved
Copyright ©2006 Chip Design Management, Inc.
Copying in any form without the expressed written

permission of Chip Design Management, Inc is prohibited

Chapter Overview

- 1.1 How to create an .fm file
- 1.2 The basics in FrameMaker editing
 - 1.2.1 Body
 - 1.2.2 Bulleted
 - 1.2.3 ChapterTitle
 - 1.2.4 code
 - 1.2.5 Figure
 - 1.2.6 Headings
 - 1.2.7 Numbered
- 1.3 Drawing figures
 - 1.3.1 Selection
 - 1.3.2 Geometrical Elements Selector
 - 1.3.2.1 Draw a Line
 - 1.3.2.2 Draw a Rectangle
 - 1.3.2.3 Draw a Polyline
 - 1.3.2.4 Draw a Polygon
 - 1.3.2.5 Draw an Arc
 - 1.3.2.6 Draw an Oval
 - 1.3.2.7 Draw a Text Line
- 1.3.2.8 Copy/Paste-ing, moving, resizing, rotating, aligning, fliping, grouping, distributing drawn objects
 - 1.3.3 Properties Selector
 - 1.3.4 Other recommendations
- 1.4 Tables
- 1.5 Cross references
 - 1.5.1 Table cross reference
 - 1.5.2 Heading cross reference
 - 1.5.3 Figure cross reference
- 1.6 How to create a .pdf file from an .fm file
- 1.7 Editing the template
 - 1.7.1 Importing the format from the template doc
 - 1.7.2 Different views
 - 1.7.3 Default fonts
 - 1.7.4 Paragraph numbering
- 1.8 Creating and maintaining a book

1.9 Additional info

1.1 How to create an .fm file

If you have to create a .fm file it's probably intended for transcribing a .pdf file into it. The easiest way to do that is to go in projectx/docs/framemaker/ directory and copy the template file (old_template_modified.fm) where you want the .fm created. Then open the file and delete al the content that is placed right below the copyright notes. Now you have a blank .fm file ready to use, and you don't have to import the template anymore, because you work in a copy of the original template(old_template_modified.fm). Change the name of the file accordingly to the .pdf file you must transcribe and save. Don't forget to Add + Commit the file in the SVN Client that you currently use. After you do that, every time you want to edit the file you do the following:

- 1. Within the SVN Client you Update the directory where the file is located.
- 2. Open the fileaah
- **3**. Edit the file (and save often)
- **4.** Commit the changes within the SVN Client when you are done (write a small summary of what you did in that file)

The steps above must be followed especially when you work with csl files (placed in projectx/docs/manuals/production/csl_files/ directory). In this case the first step is **mandatory!** This way you will always work with the last revision of the file you want to edit.

Once you have a file open you can access the menu items thru keyboard shortcuts. To do that, first-start by pressing ESC. Then you must press the first letter of a menu: f(file), e(edit), v(view), s(special), or t(table). After that you must press the first letter of a submenu name. Try different combinations to see what's happening:

```
ESC+v+t (View -> Text Symbols)
ESC+f+s (File -> Save)
ESC+f+p (File -> Print)
ESC+e+s (Edit -> Spelling Checker)
ESC+s+c (Special -> Cross Reference)
```

If you must transcribe a .pdf file it's a good practice to label the .fm page with the handwriten page number so that the .fm page can be checked for correctness against the handwritten page.

1.2 The basics in FrameMaker editing

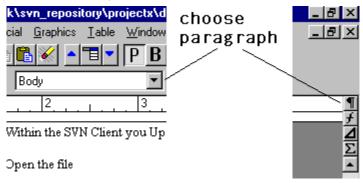
The paragraph above described how to create/edit an .fm file. In both cases you don't have to worry about the template: when you create a file, you practically work with a copy of the template and when you edit a file, it usually has the template already imported. Template editing/importing will be

2 7/7/06 **Confidential** Copyright © 2006 Chip Design Management, Inc. Copying in any form without the expressed written permission of Chip Design Management, Inc. is prohibited

covered in a later section.

Each .fm file is composed from entities called "paragraphs". You have 3 ways to choose a pragraph. 2 of them are highlighted in the figure:

FIGURE 1.12 ways to choose a paragraph



The 3rd one (and the most handy) is by pressing F9. This will highlight the paragraph catalog at the bottom of the page :

FIGURE 1.2The most common way to choose a pragraph



Then, by pressing letters from the keyboard you can navigate thru the paragraph's structure. When you decide on the paragraph you want to use, press ENTER. For example you select a section of text which is Bulleted and you want it Body. Press F9 and then press B untill the paragraph catalog at the bottom of the page says "Body". Then press ENTER. The section of text will transform from Bulleted to Body.

Note that you can be aware of the paragraph type the cursor is currently in by watching the paragraph catalog in the bottom left corner of the window.

We will present briefly only the commonly used paragraphs.

1.2.1 Body

This is the most used paragraph type. It handles common text. To switch to Body press F9, press B untill you see "Body" in the bottom left corner, and then press ENTER.

1.2.2 Bulleted

This paragraph type handles unnumbered lists. To switch to this type do the usual:

```
F9 -> B untill "Bulleted" appears in the bottom left corner -> ENTER •this is
```

7/7/06

3

Confidential Copyright © 2006 Chip Design Management, Inc. Copying in any form without the expressed written permission of Chip Design Management, Inc. is prohibited

- an example
- of a Bulleted
- paragraph type
 - •this is
 - a Bulletedsub
 - paragraph type

As you can see there is another Bulleted paragraph type: the Bulletedsub. This differs from Bulleted by the size of the text indentation (the text is more indented to the right).

1.2.3 ChapterTitle

This paragraph type can be located at the beginning of each chapter and therefore is used only once in an .fm document. It is generated in the template file and you won't have to deal with it unless you are supposed to change the chapter name.

1.2.4 code

This is used for code sections. Selection of this paragraph can be done the usual way (via the F9 key).

```
this is a code paragraph type. As you can see the font is Courier New
and the text is indented.
class X
 public:
```

Each code block level must be indented with 2 spaces.

1.2.5 Figure

The Figure paragraph is a bit more special because it goes along with another feature: the anchored frame. When you want to draw a figure, FrameMaker helps you by providing a space for the figure's name (the Figure paragraph) and a white board (the anchored frame) where the figure will be drawn:

FIGURE 1.3 Figure example

empty anchored frame

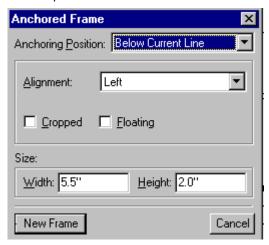
To create a figure you must select first the Figure paragraph (use the F9 key) and then:

```
right click -> Anchored Frame...
or
ESC+s+a
```

The following will appear:

7/7/06 Confidential Copyright © 2006 Chip Design Management, Inc. Copying in any form without the expressed written permission of Chip Design Management, Inc. is prohibited

FIGURE 1.4The Anchored Frame options



Position the anchored frame below the current line and align it to the left. The size of the frame is your call.

1.2.6 Headings

It could be viewed as the headings form a tree structure within a document and hold the contents of that document in a nutshell. The headings are numbered on a 5 based scale accordingly to their importance (1 the most important, 5 the least important). As you probably noticed already the headings differ in appearence too. You will learn how to modify the properties of a heading in 1.7 Editing the template. You can make a heading by pressing:

F9 -> H untill you reach the heading number you want -> ENTER

1.2.7 Numbered

This is used for a numbered list (as opposed to Bulleted which is used for unnumbered lists). There are 2 different Numbered paragraphs: Numbered and Numbered1. The difference between them is that Numbered increments a counter for each item in the list (this counter is also displayed), and Numbered1 resets that counter to 1. This is useful when you have multiple numbered lists that must appear separated. In this case you use Numbered1 for the first item in each list and then Numbered for the rest of the items:

- 1. Numbered 1
- 2. Numbered
- 3. Numbered

7/7/06 5

- 1. Numbered1
- 2. Numbered

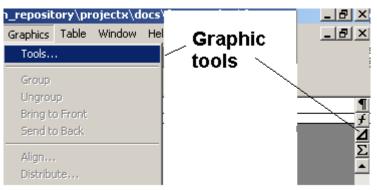
1.3 Drawing figures

To draw a figure you must do the following:

- 1. F9 -> F untill "Figure" is selected in the paragraph catalog -> ENTER
- **2**. Type the name of the figure
- 3. right click -> Anchored Frame...
- **4.** follow the instructions in 1.2.5 Figure

After you setup your anchored frame you can start drawing on it using the graphical tools:

FIGURE 1.5 Graphical tools

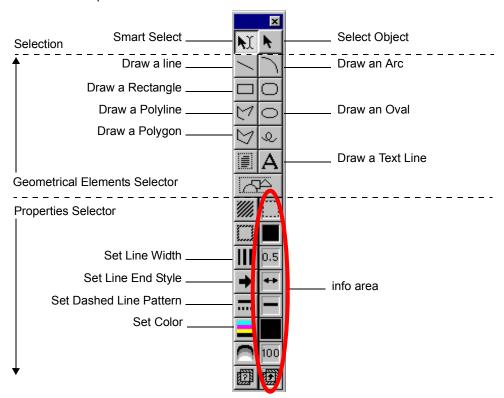


The next figure contains a picture of the graphic toolbar and the names of the most used tools. Their meanings are self explanatory:

7/7/06

Confidential Copyright © 2006 Chip Design Management Inc. Copying in any form

FIGURE 1.6The Graphic Toolbar



The figure above is divided in 3:

- 1. The Selection area
- 2. The Geometrical Elements Selector (GES)
- **3.** The Properties Selector (PS)

As the names implies, the elements from the Selection area are used to select objects from the anchored frame, the elements from the GES can be used for actual drawing and the elements from the PS control the properties of the drawn elements. This is how it's done:

1.3.1 Selection

The Smart Select and the Select Object are used to select different types of objects in different ways. If we are reffering to geometrical elements those 2 are the same (just click the object you want to select, or CTRL+click more objects). The difference appears when we want to select a Text Line.

A Text Line can be selected for editing or for moving. If you want to edit the Text Line choose Smart Select and if you just want to move it around the anchored frame choose Select Object.

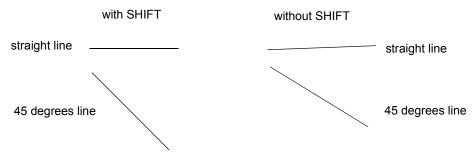
1.3.2 Geometrical Elements Selector

In this area we can find enough tools with which we can draw mostly anything. Before starting uncheck Graphics -> Snap.

1.3.2.1 Draw a Line

To draw a line on the anchored frame you must first click the Draw a Line tool from the graphical toolbar. Then you position the cursor where you want the line to start, right click and drag the mouse (with the right button pressed) where you want the line to end, then release the mouse. All the lines must be straight. To draw a straight line you must first press SHIFT and then do the above:

FIGURE 1.7 Drawing lines

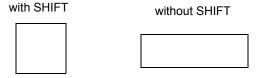


As you can see the results are pretty much different with a big minus in "artistic impression" for the case where SHIFT is not used.

1.3.2.2 Draw a Rectangle

To draw a rectangle on the anchored frame you must first click the Draw a Rectangle tool from the graphical toolbar. Then position the mouse where you want the rectangle to start, right click and drag the mouse (with the right button pressed) untill the rectangle has the dimensions you need. Again SHIFT can be used, this time for drawing simetrical rectangles (squares):

FIGURE 1.8Drawing rectangles



7/7/06 Confidential Copyright © 2006 Chip Design Management, Inc. Copying in any form

1.3.2.3 Draw a Polyline

To draw a polyline on the anchored frame you must first click the Draw a Polyline tool from the graphical toolbar. Then position the mouse where you want the polyline to start, right click once, release the mouse button and move the mouse where you want the first brake on the polyline, right click again, release and move again to the second brake and so on. If you finished drawing the polyline press ESC. The SHIFT key combination shows its benefits:

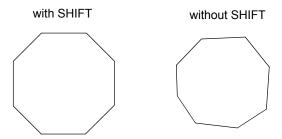
FIGURE 1.9Drawing polylines



1.3.2.4 Draw a Polygon

Drawing a polygon is the same as drawing a polyline. Actually the polygon is a particular case of a polyline: an enclosed one.

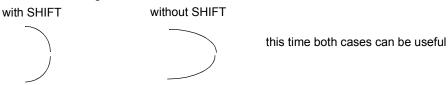
FIGURE 1.10 Drawing polygons



1.3.2.5 Draw an Arc

To draw an arc on the anchored frame you must first click the Draw an Arc tool from the graphical toolbar. Then position the mouse where you want the arc to start, right click and drag the mouse (with the right button pressed) until the arc has the dimensions you need. In this case SHIFT is not mandatory anymore and can be used only if needed:

FIGURE 1.11 Drawing arcs



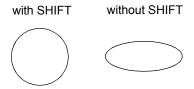
7/7/06

Confidential Copyright © 2006 Chip Design Management, Inc. Copying in any form without the expressed written permission of Chip Design Management, Inc. is prohibited

1.3.2.6 Draw an Oval

To draw an oval on the anchored frame you must first click the Draw an Oval tool from the graphical toolbar. Then position the mouse where you want the oval to start, right click and drag the mouse (with the right button pressed) untill the oval has the dimensions you need. Again SHIFT can be used, this time for drawing simetrical ovals (circles):

FIGURE 1.12Drawing ovals



1.3.2.7 Draw a Text Line

To place text to the anchored frame you must first click the Draw a Text Line tool from the graphical toolbar. Then click on the anchored frame where you want to place the text.. A blinking cursor will signal when you enter text input mode. All the figures above have text lines on their anchored frames.

1.3.2.8 Copy/Paste-ing, moving, resizing, rotating, aligning, fliping, grouping, distributing drawn objects

To Copy/Paste an object:

```
select it by left clicking on it -> CTRL+C -> CTRL+V If the object is a text line make sure Select Object is on so you can select it properly.
```

To move an object select it by left clicking on it then drag it where you want. Again if it is a text line Select Object must be on. A more precise way of moving an object is the following:

```
select it by left clicking on it -> ALT+ARROWS
select it by left clicking on it -> SHIFT+ALT+ARROWS
The difference between those 2 is that the latter moves the objects with bigger steps than the first.
```

To resize an object select it by left clicking on it. The resizing handles will appear. You can drag them to resize the object anyway you want. You can also use SHIFT. **ATTENTION!!!** Do not resize text lines. This will make them to lose the original font properties and will only cause trouble so please resist this instinct.

To rotate an object:

```
select it by left clicking on it -> right click -> Rotate
You can choose the number of degrees and the direction where you want to rotate the object.
```

To align objects:

```
select them (CTRL+left click on each object) -> ESC+g+a You have 2 possibilities: Top/Bottom or Left/Right align. Those 2 features are very powerful especially when used in combination with distribution, so use them wisely.
```

10 7/7/06

Confidential Copyright © 2006 Chip Design Management, Inc. Copying in any form without the expressed written permission of Chip Design Management, Inc. is prohibited

To flip an object:: select it by left clicking on it -> Flip Up/Down select it by left clicking on it -> Flip Left/Right To group several objects: select them (CTRL+left click on each object) -> ESC+q+q To ungroup them: select the grouped object -> ESC+g+u To distribute several objects: select them (CTRL+left click on each object) -> ESC+q+d You can choose to distribute them vertically or horizontally. When used in combination with align, distribution can be very powerful: FIGURE 1.13A simple example CTRL+c CTRL+v CTRL+v CTRI +v Select the objects ESC+g+a Left Sides ESC+q+d Vertical Spacing -> Edge Gap = 0.2 ESC+q+q Select the grouped object CTRL+c

1.3.3 Properties Selector

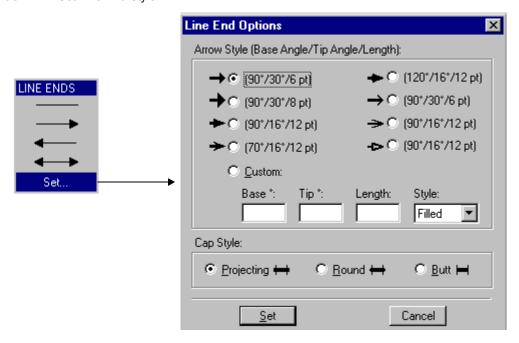
right click -> rotate -> 90 Select them both ESC+q+a

T/B Centers & L/R Centers

CTRL+v

Let's go back to Figure 1.6 on page 7. Those 4 tools from the Properties Selector area have self explanatory names. 3 are left at their defaults. Set Line End Style must be adjusted (only if you want to draw arrows). Click on it:

FIGURE 1.14Set Line End Style



Make sure that the Line End Options look like in the figure above. Now, if you want to draw an arrow, you click again Set Line End Style and when Line Ends appear, choose the type of arrow you want. Then draw a simple line. You will see that you actually draw an arrow, and not a line. Of course you can change the line end to its default by clicking again Set Line End Style and from Line Ends choose the simple line (the first option).

The info area gives you information about the actual state of the Line Width, Line End Style, Dashed Line Pattern and Color (I've mentioned only the ones that present interest).

You can see that the block right besides Set Color is black, meaning that all the objects you will draw will be black.

In the arrow drawing example above you could notice that after you choose a type of arrow from Line Ends, the corresponding block from the info area shows you a little arrow. It means that all the lines(polylines) you draw from now on are arrows. This will change ofcourse when you get back to the default settings.

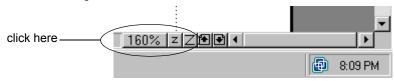
So, before drawing something it's better to peek to info area to make sure you will draw what you want and not something else.

1.3.4 Other recommendations

It's good practice to set up the zoom to 160% (the bigger the better) when you draw figures. This will give you a better view over the figure and help you to eliminate mistakes:

12 7/7/06 Confidential Copyright © 2006 Chip Design Management, Inc. Copying in any form

FIGURE 1.15 Setting the zoom



After you finish your figure, select all the objects and group them.

Try to use Align and Distribute as more as possible. It will make your designs look symmetrical and well organized.

Use SHIFT as more as you can when you draw lines(polylines).

1.4 Tables

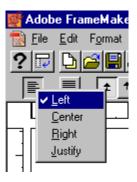
To insert a table press ESC+t+i. The Insert Table prompt will appear. Choose Format A and then choose the number of lines and columns you need. The number of heading rows and footing rows must be 0.

TABLE 1.1



After insertion one can add text to the cells or can modify the size of the rows/columns. Usually the text inserted in cells is aligned to the left. If exceptions are required, then select the lines/rows that have exceptions and from the Text Alignment choose the proper alignment:

FIGURE 1.16Text Alignment



To resize the columns/rows of a table, select a column/row. Resize handles will appear. Drag them untill you reach the size you want.

To add new rows/columns, select a column/row. Right click on it and choose Add Rows or Columns. A prompt will appear. Choose how many and where to put them.

If you want to delete a column/row, select the column/row, right click and Cut. From the prompt that appears choose Remove Cells from Table.

To combine 2 or more rows/columns just select them, right click and choose Straddle. To do the opposite select the combined row/column, right click -> Unstraddle.

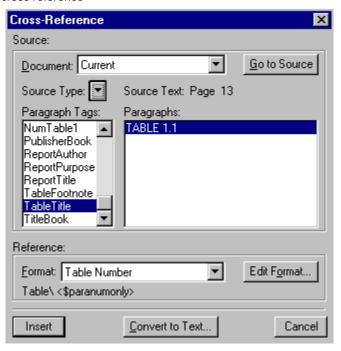
1.5 Cross references

Cross references are equivalent to an anchor and/or a link in a web page. They can point you to a figure/table/heading from the current document or from another document. If you want to include a cross reference press ESC+s+c. A prompt will appear. Usually cross references are used just for tables, headings and figures.

1.5.1 Table cross reference

To make a cross reference to a table press ESC+s+c and you should receive this prompt:

FIGURE 1.17 Table cross reference



From the Document label choose the doc where you want the cross reference to point. Usually is the current doc, but if you want to point to a table in another doc you must have that doc open so you can choose it. The Source Type must be Paragraph. Choose Table Title from the Paragraph Tags and Table Number from the Format. Then you can select the table at which you want your cross reference to point from Paragraphs. Pressing Insert will create the cross reference.

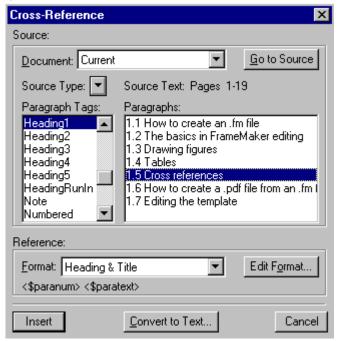
14 7/7/06

Confidential Copyright © 2006 Chip Design Management, Inc. Copying in any form without the expressed written permission of Chip Design Management, Inc. is prohibited

1.5.2 Heading cross reference

To make a cross reference to a heading press ESC+s+c and you should receive this prompt:

FIGURE 1.18 Heading cross reference

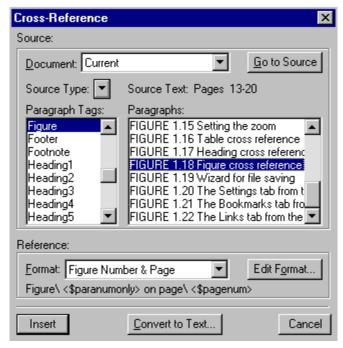


Same discussion for Document and Source Type labels applies here. Choose the heading number from the Paragraph Tags and Heading & Title from the Format. Then you can select the heading at which you want your cross reference to point from Paragraphs. Pressing Insert will create the cross reference.

1.5.3 Figure cross reference

To make a cross reference to a heading press ESC+s+c and the following prompt will appear:

FIGURE 1.19 Figure cross reference



Same discussion for Document and Source Type labels applies here. Choose Figure from the Paragraph Tags and Figure Number & Page from the Format. Then you can select the figure at which you want your cross reference to point from Paragraphs. Pressing Insert will create the cross reference.

NOTE: It is recommended that you don't Edit Format the cross reference from here. All the modifications must be made from the template document so they can be imported to each doc (1.7 Editing the template).

1.6 How to create a .pdf file from an .fm file

The conversion from an .fm file to a .pdf is a simple task because it doesn't require any kind of third party software setup. To do a conversion follow these steps:

- 1. Open the .fm file you want to convert.
- **2.** From the menu choose:

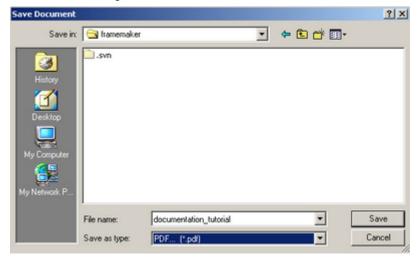
File -> Save As...

16 7/7/06

Confidential Copyright © 2006 Chip Design Management, Inc. Copying in any form without the expressed written permission of Chip Design Management, Inc. is prohibited

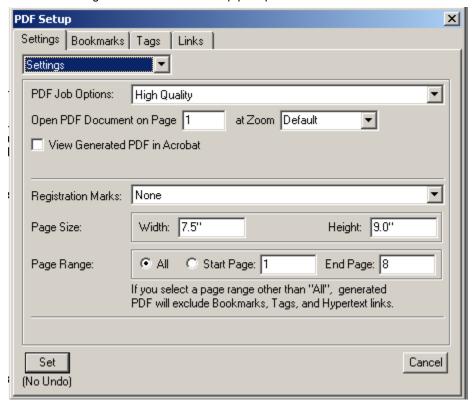
3. A dialog box will appear prompting you to choose a path, a file name and the extension for the file. Choose the path (projectx/docs/manuals/released/csl_files/), type the file name (same as the .fm file name) and then save the file as .pdf:

FIGURE 1.20 Wizard for file saving



4. After you press Save a window with a weird looking message will appear. No worries, just choose Yes (also if you are prompted for overwriting an existing .pdf file choose Yes). Then the PDF Setup prompt will appear. In the Settings tab of this prompt make sure that all the options look like in the figure below. It is recommended that you choose a PDF Job Option that generate a small size file (e.g. Smallest File Size) to reduce the time of update operations that SVN users perform (it might get annoying when you wait for a big file to update). The High Quality option listed below is intended for the final version of the .pdf files. If you want to open the .pdf file right after it's done, check View Generated PDF in Acrobat:

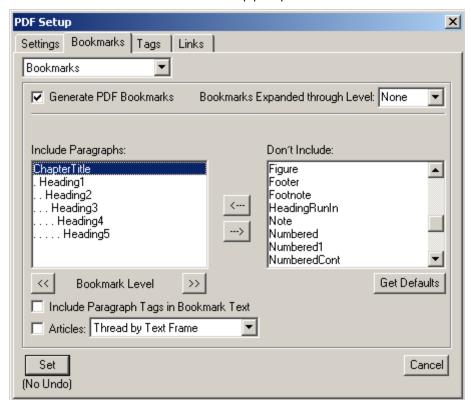
FIGURE 1.21The Settings tab from the PDF Setup prompt



5. The next tab, Bookmarks, must look like the one listed in the next figure:

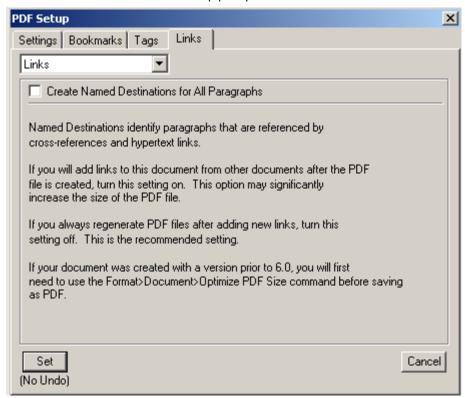
18 7/7/06

FIGURE 1.22The Bookmarks tab from the PDF Setup prompt



- **6.** Skip the Tags tab. This one will go with the default settings.
- **7.** The last tab is called Links. Uncheck the Create Named Destination... option:

FIGURE 1.23The Links tab from the PDF Setup prompt



8. Press Set and sit tight. The Acrobat Distiller will start to convert the .fm file. You will get some funny sounding errors but in the end everything will be just fine. The .pdf file will be generated in the path you gave.

1.7 Editing the template

Imagine that the documentation that we are working on is structured in more than 30 chapters, each of which has a corresponding .fm document. Now, if one decides that a change is to be made in the format (the copyright notices, the way that headers look or their numbering, etc.), that change must apply to all documents. A way to do this is to open each of the 30 documents and apply the change manually. And if another change must be made, open each doc again and apply the change. This happens to be the hardest way to make a change to the docs format.

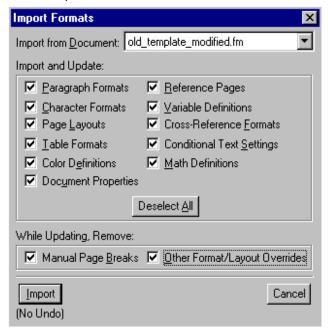
20 7/7/06

1.7.1 Importing the format from the template doc

A much easier way is to keep an empty .fm doc (the template : projectx/docs/framemaker/ old_template_modified.fm) and to apply all the necessary changes only to this doc. Then, open this template doc and a document where you have to apply the changes and do the following:

1. Within the file that must be modified, File -> Import -> Formats... This prompt will appear:

FIGURE 1.24Import Formats options



2. Make sure that the Improt from Document label has the template name checked (old_template_modified.fm) and also that all the checkboxes are checked. Press Import and all the template characteristics regarding the format will apply to the current document.

1.7.2 Different views

Each .fm file has 2 different views (check out the View menu):

- Body Pages
- Master Pages

The default view in a doc is the Body Pages view.

The Master Pages view is the template for the header and the footer in the document. There is usually a cover page and a left and a right master page. You can format the header and the footer of the master pages and the margins. Usually one selects new report and then the footer and the header of

7/7/06 21

Confidential Copyright © 2006 Chip Design Management, Inc. Copying in any form without the expressed written permission of Chip Design Management, Inc. is prohibited

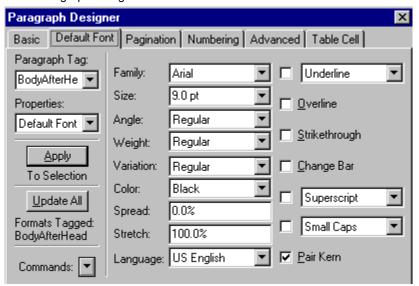
the pages are modified and the user will use special variables that are used to specify the date and the document title and other information in the header and footer. The version of the document can also be specified in the footer using a special variable. It is recommended that the master pages from the template file be modified only by Derek Pappas because the way that the pages are setup is his call.

The Body Pages view allows us to setup the items that appear within a text frame (the paragraphs). In the following sections we will take a look on how to change the paragraphs properties in the template file.

1.7.3 Default fonts

To see the default fonts for the Body paragraph press CTRL+m. The Paragraph Designer will show up:

FIGURE 1.25The Paragraph Designer



Check out the Default Font tab. It shows Arial 9 Regular as the default font. Don't change those options unless you are told to do so (in fact don't change anything unless you really are supposed to. Changing some options in the template is a task that must be done carefully because all those changes will soon be reflected in all files after the template will be imported). Navigate thru the Paragraph Designer's tabs and check out the default options.

If you want to modify the properties of a specific paragraph click the Paragraph Tag combo box and you will be given the option of changing the paragraph type. Choose the one you need and make the requested modifications. After you have changed it, click Update All and then Commands -> Global Update Options -> Update.

To see the default fonts for a table cell for example, choose CellBody from the Paragraph Tag and you will get the properties of the CellBody paragraph (with Times New Roman 10 Regular defualt font).

22 7/7/06 **Confidential** Copyright © 2006 Chip Design Management, Inc. Copying in any form without the expressed written permission of Chip Design Management, Inc. is prohibited

The same thing applies to the rest of paragraphs of interest (headings, ChapterTitle, code, Figure, Bulleted and Numbered).

1.7.4 Paragraph numbering

A tricky problem in an .fm file is the paragraph numbering. FrameMaker gives us the possibility of customizing the way paragraphs are numbered, but the thing is that this is more diffcult then it sounds. The numbering scheme is wrapped around a few counters and the key to the problem is to know how to master those counters.

The only paragraphs that are involved in the numbering scheme are:

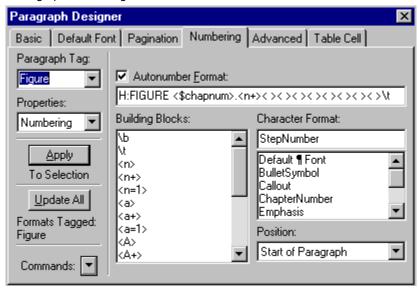
- headings (from 1 to 5)
- figures
- tables

The most important counter is the one associated with the chapter number. This one will appear in front of all counters, no matter the type of the paragraph. For example, in front of the ChapterTitle paragraph in this doc you will see Chapter 1. Now if you scroll down thru the document you can see that each paragraph number starts with an 1, doesn't matte it's a heading, figure or table.

The second important counter is the counter for the figures, then comes the one for the tables, and then the headings (from 1 to 5).

Probably the last sentence will not make any sense untill I reveal how this numbering works in FrameMaker. To find out just press CTRL+m and go to Numbering tab. If you choose Figure from the Paragraph Tag you will see this:

FIGURE 1.26 Paragraph numbering



The thing that we have to focus on is the text edit box below the Autonumber Format. This is responsible for what is displayed when we choose to make a Figure paragraph. First thing we see is FIG-

7/7/06 23

URE followed by a variable called <\$chapnum>. This represents the chapter number and will appear in front of all paragraphs involved in numbering. The variable is followed by a dot and then we see <n+> which means that the counter on the corresponding position is incremented by 1. All counters start from 0, so we can figure that the first figure will always have the number <\$chapnum>.1. All the <> that follow the counter incrementation leave unmodified the counters on their corresponding positions. The "\t" at the end inserts a tab, but on this context it has no use.

To keep it simple, imagine that everytime you create a heading, figure or table all the counters are refreshed. <> practically stop this refreshing for the corresponding counters (stops them from being reseted to zero). This means that the figure numbering doesn't interfere with table or heading numbering. And the figure numbering doesn't depend also on any other paragraph numbering (it depends just on the chapter number and on its corresponding counter).

The table numbering is similar to the figure numbering (to see that choose TableTitle from Paragraph Tag). The only difference is that it uses another counter (as it should be). This can be observed from the sequence after the dot: < ><n+>< >< >< >< >< >< >< >< >. This can be translated as: "don't reset the figure counter, increment your own counter by 1 and leave the other counters alone". Now that the figure and table numbering are clear (I hope), let's take a look to the headings numbering the property of the property

ing. This is similar to scoping rules. When you make a heading it's like when you create a scope. The global scope is H1, then it comes H2 (which is nested in H1), then H3(which is nested in H2) and so on. Now imagine that on the same level with each scope a variable is declared (the counter corresponding to each heading number) and initialized to 0. This means that when you exit a scope that variable disappear and when you enter the scope again it will be declared and initialized to 0 again. (take a look at the first page of this doc and notice the way the headings are numbered) To help understanding this the next table overlap the numbering scheme for each numbered paragraph:

Paragrpah	c 1	c2	c3	c4	c5	c6	c7	c8	c9	c10
Figure	<\$chapnum>	. <n+></n+>	<>	<>	<>	<>	<>	<>	<>	<>
Table	<\$chapnum>	.<>	<n+></n+>	<>	<>	<>	<>	<>	<>	<>
Heading1	<\$chapnum>	.<>	<>	<n+></n+>						
Heading2	<n></n>	.<>	<>	<n></n>	. <n+></n+>					
Heading3	<n></n>	.<>	<>	<n></n>	. <n></n>	. <n+></n+>				
Heading4	<n></n>	.<>	<>	<n></n>	. <n></n>	. <n></n>	. <n+></n+>			
Heading5	<n></n>	.<>	<>	<n></n>	. <n></n>	. <n></n>	. <n></n>	. <n+></n+>		

TABLE 1.2Numbering schemes

In the table above:

- <\$chapnum> will display the current chapter number
- •< > means "don't reset the counter on this position" and don't disply anything
- <n> means "don't reset the counter on this position" and displays this counter
- •<n+> means "increment by 1 and display the counter on this position"

It's worth noticing here the lack of < > for some counters. This is done deliberately so that every time when you make a heading all the counters for the lower headings are reset to zero (for example if you make a Heading2 then c6, c7 and c8 for all Headings 3, 4 and 5 will be reset to 0).

24 7/7/06

Confidential Copyright © 2006 Chip Design Management, Inc. Copying in any form without the expressed written permission of Chip Design Management, Inc. is prohibited

Also c1 for Heading 2, 3, 4 and 5 could be <\$chapnum> instead of <n>.

In this way you could make your own numbeing scheme using the Building Blocks from the Numbering tab of the Paragraph Designer.

1.8 Creating and maintaining a book

When there are many files for processing, creating a single .fm doc is not the best thing to do. If you are working with more than 100 pages (this is our case too with the current documentation) it's better to structure the content on chapters and then create a book file:

```
File -> New -> Book
```

What's so special with the book file, you may ask. The book file will act like a link between the files that you include in it as chapters. Within a book you can automatically generate a table of contents, a list of tables or a list of figures. The book organize the files it contains by numbering the paragraphs for you. And, the most important, when you will save the book as a .pdf file all chapters will be linked together in the order they were added, just like any other book you've seen (check out projectx/docs/manuals/released/csl_files/Computer Design Application Notes.pdf. This file was generated from a book with 3 chapters).

Once you create a new book file you can add files to it

```
Add -> Files
```

The order of the files in the book can be established at any time by draging the files on the desired position.

After you've added some files you can also add a table of contents and all sorts of lists (check out Add menu item).

Once in a while it's good to update the book

```
Edit -> Update Book...
```

This will open each file in the book and renumber the chapters and paragraphs (don't forget to save after updating).

1.9 Additional info

If this tutorial doesn't solve the problem you have regarding FrameMaker editing you can find out more by checking the links below:

```
http://www.io.com/~tcm/etwr2372/planners/frame/frame_tags.html
http://www.cs.uni.edu/Help/FrameIntro/
http://www.vtc.com/products/framemaker-7.htm
http://www.frameexpert.com/tutorials/cross-references.htm
http://www.microtype.com/resources/BBmarkertype.pdf
http://www.microtype.com/resources.html
```

7/7/06 25