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TDR

FrameMaker 5.5 Template
Version 1.1

User Manual

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1 TDR management

The primary task of the main editor is the smooth orchestration of the multi-author document editing. To help this cause, the FrameMaker template has been conceived to have a subdirectory per chapter. Write access for this subdirectory may then be also assigned to the respective individual chapter authors. The chapters may be edited in place or checked out by the chapter authors and worked on in their environment of choice. In both cases, the main editor must address the following issues:

- Version control for the entire document.
- Ownership of chapter (or section) files; avoidance of merging issues.
- How "chapters", i.e. subdirectory structures, are checked out and checked back in.

Other tasks for the main editor include the management of the FrameMaker book file, explained below.

1.1 The file structure of the FrameMaker Book for the TDR document

Each chapter or appendix in the FrameMaker book is contained in a separate file (could be also broken up into more than one file). This provides for the structure indicated in Figure 1-1

```
<path>/<TDR Volume>/

              TDR.bk                 FrameMaker book file

              FrontMatter/
                   FrontMatter.doc  Editable FrameMaker file
              AutoFiles/
                   TDR_TOC.doc       Table of Contents FM file
                   TDR_LOF.doc       List Of Figures FM file
                   TDR_LOT.doc       List Of Tables FM file

         +-  <chapter>/
 1 per   |        <chapter.doc>     FrameMaker file for chapter
 chapter --|      <colourfigs.doc> FrameMaker file for colour figures
         --|      imported/
         +-                         All imported files (graphics)

         +-  <appendix>/
 1 per   |        <appendix.doc>    FrameMaker file for appendix
 appendix --|      imported/
         |                          All imported files (graphics)
         +-       Colophon.doc      The colophon for the document
```

Figure 1-1 The file structure of the TDR FrameMaker book

Directories and files for chapters and appendices may be named as required. Most of Chapter 2, "Editing the TDR" deals almost exclusively with the chapter template.

1.1.1 The front matter template file

The front matter file differs from normal chapter files in only the following two ways:

1. It contains some special paragraph formats to be used on the cover page to describe the document.

2. The headings are not numbered.

1.1.1.1 The paragraph styles for the front cover

Table 1-1 lists the paragraph styles that are intended for use only on the front cover of the document.

Table 1-1 The paragraph styles for the front cover.

Paragraph style tags	Use
Document: Author	To specify the name(s) of the author(s). The string prior to the first TAB character may be changed as required. To specify more than one author use commas as separators, and tabs and forced line breaks as necessary.
Document: Creation Date	The string "Created on" is part of the format definition.
Document: Institution Name	To specify the name(s) of the institution(s) issuing the document.
Document: Issue	The issue the document
Document: Last Modified Date	The string "Last modified" is part of the format definition.
Document: Project Name	The name of the project of which the document is a part of.
Document: Project Name Qualification	A qualification of Document: Project Name.
Document: Reference	A reference id for the document.
Document: Revision Number	Revision number of the current issue.
Document: Type	The kind of document.

1.1.1.2 The headings in the front matter

These are four, as in the chapter and appendix files. The paragraph styles for these are named as follows:

- H1 No Number
- H2 No Number
- H3 No Number
- H4 No Number

1.1.2 The appendix template file

The appendix template is identical to the chapter template except for differences in the numbering of:

1. Headings
2. Figures
3. Tables
4. Equations
5. Bibliographical References

In all cases, the paragraph tags in the appendix template that are different than the corresponding ones in the chapter template have the word Appendix appended to their name.

For a sampler of these paragraphs in the appendix look at Appendix A, "Sample Appendix".

1.2 Adding a new chapter or appendix

1. Create a subdirectory at the same location as the TDR.bk FrameMaker book file, using an appropriate name for the chapter to be added.
2. Copy the template file for the chapter to the chapter subdirectory, assigning it a name of your choice.
3. If you have any colour figures in your chapter then also copy the colour figures template file into the chapter subdirectory.
4. Under the chapter subdirectory create the imported subsubdirectory, which will contain any imported files for the chapter.
5. With FrameMaker open the file TDR.bk.
6. Select File:Add File... and browse to the newly copied chapter file.
7. Select the file and set the position in the book where it is to be added.
8. Click on Add.
9. Update the running header for the added files as detailed in Section 1.4.2.
10. Update the book as explained in Section 1.3.

1.2.1 Page numbering of first chapter file

The page numbering of the first chapter file should be restarted at 1. This information cannot be part of the template file for the chapter as this would cause all chapters to start at 1. Instead, this information is contained in the book file as part of the component file settings.

To set the page numbering of the first content file to start at 1:

1. In the book file window, click on the filename for the first content file.
2. From the book file menu choose File:Set Up File...

3. Under Page Numbering choose Restart at 1.

4. Click on Set.

Note that if you have an external colour figures file prior to the first chapter file, then it is the colour figures file that should start at 1.

All other chapters should have Page Numbering: Continue, Paragraph Numbering: Continue and Starting Page Side: Right.

Table 1-2 UNIX keyboard macro to reset page numbering to start at 1.

UNIX keyboard macro	Description	Preconditions
`Control-x RestartAt1`	Restart page numbering for this file at 1.	In the book file window, select the filename for the first chapter and keep the mouse over the book file window.

1.3 Updating a FrameMaker book

Updating a book file means to update all cross-references and file numbering, and regenerate all automatically generated files.

If any chapter files have been added make sure you update the variable definitions for the running header, as explained in Section 1.4.

To update a book:

1. Open the FrameMaker book file.

2. Hold down Shift key and to pull down the File menu select Open All Files in Book (`Esc fO`).

3. Select File:Generate/Update from the book file menu.

4. Make sure that all the automatically generated files are under Generate.

5. Click on Generate.

6. Hold down Shift key and to pull down the File menu select Save All Files in Book (`Esc fS`).

Before printing the book document, update the book.

Table 1-3 UNIX keyboard macro to update numbering, cross-references in this book.

UNIX keyboard macro	Description	Preconditions
`Control-x GUB`	Generate/Update Book.	Activate the FrameMaker book file window and keep the mouse over it.

1.4 The running header for all files in the book

All pages of the document contain a 2-line running header with information about the TDR volume. This information is contained in the definition of 4 FrameMaker variables, listed in Table 1-4.

Table 1-4 FrameMaker variables for the running header on all document pages.

FrameMaker Variable Name	Type of Information	Example
Running Header: 1st Line, Left	Document title	ATLAS TILE Calorimeter
Running Header: 1st Line, Right	Type of document	Technical Design Report
Running Header: 2nd Line, Left	Issue/Revision numbers	Draft Revision 1
Running Header: 2nd Line, Right	Last publication date	9 October 1996

1.4.1 Setting the running header variables

1. Open the book file.
2. Double-click on the front matter file to open it (FrontMatter.doc).
3. Click inside a text column.
4. Select Special:Variable...
5. Edit each variable definition listed in Table 1-4 as required.

1.4.2 Updating running header variables in all files in the book

1. Open the book file.
2. Hold down Shift key and to pull down the File menu select Open All Files in Book (`Esc fO`).
3. From the book File menu select File:Import:Formats (Esc fio).
4. Under Import from Document select FrontMatter.doc.
5. Under Import and Update: turn on the check box for Variable Definitions *only.*

   Make sure that all other format check boxes are turned off!
6. Make sure that all files in the book are under Update: and click on Import.
7. Hold down Shift key and to pull down the File menu select Save All Files in Book (`Esc fS`).

Table 1-5 UNIX keyboard macro to propagate new running header values to all files in book.

UNIX keyboard macro	Description	Preconditions
`Control-x UHV`	Update Header Variables in all files in the book.	Activate the FrameMaker book file window and keep the mouse over it.

1.5 Splitting single chapters into multiple files

This may be done as necessary. The only two problems are that:

1. When printed, each separate file will be printed starting on a new page.

2. There is no automatic running footer for the files which do not contain the chapter heading.

The second of these problems can be resolved by inserting a marker of Type Header/Footer $1 at the beginning of the text containing exactly the concatenation of the following pieces of text:

1. The chapter number.

2. 4 spaces.

3. The chapter heading text.

1.6 Decide whether to import graphics by copy or by reference

Importing by copy stores a description of the graphic inside the FrameMaker file, while importing by reference stores only the path information for the graphic file on the disk.

The advantages of importing by reference are:

*   The FrameMaker document is automatically updated when the graphic file changes.

*   Less duplication: If an image is imported more than once in the same chapter it need not be duplicated.

*   The FrameMaker file size does not grow excessively.

*   Large graphics slow down FrameMaker. A file containing many graphics can become very tedious to edit. When imported by reference, graphics may be temporarily hidden from FrameMaker, allowing the editing of text to go much faster.

The advantages of importing by copy are:

*   Guarantees that the FrameMaker file and the graphic stay together.

*   The graphic must be re-imported each time that the source graphic changes.

*   The FrameMaker file is easier to move around than a directory structure with relative pathnames.

*   Some graphic file formats are not compatible across platforms. When a graphic is imported by copy it is stored internally as a FrameImage or FrameVector formats which can be displayed on all platforms.

1.7 Choose what external graphic formats to adopt

One may of course allow all formats that FrameMaker is able to import. However, this may be a source of problems later on when the figures need to be manipulated in any way. With many different formats you will possibly require a more complicated combination of tools and infor-

mation when modifications need to be made. Another source of problems is moving the document, with external graphics, from one platform to another.

Thus, it seems reasonable to choose and allow only two formats for imported graphics, one for each major class of image formats:

1. Vector graphics, such as Encapsulated PostScript.

   This contains a mathematical description of the objects that make up the graphic. It is printed at the resolution of the printer and is well supported on all FrameMaker platforms.

2. Bitmap graphics, such as GIF.

   Small file sizes, may be useful for the WWW version of the document and is well supported on all FrameMaker platforms.

1.8 Updating formats from a newer version of the template

This may be done in two ways: either manually for each file in the document or by first running (UNIX only) a perl utility that generates an `fmbatch` file[1] which can then be modified and executed as necessary.

In both cases the automatically generated files may be just written (copied) over by the ones from the new template. Next time you generate the book these files will be updated.

1.8.1 Time saving "customisations" to the template

Making some changes to the template before you use it to update your TDR may save you time and effort. In general, these changes should propagate whatever deviations you have adopted for your TDR. Including these deviations in the template will save you the trouble of having to redo them for the TDR files after that they are overwritten during the update.

Particular changes to the template may include:

1. **Setting the running header variables** of the template to be what they should be for your TDR (see Section 1.4, "The running header for all files in the book"). This will save you having to update them through the TDR book each time you update one file.

2. If you have chosen **not to have boxes around the figures**, modify the template such that the figure table formats, and the samples on the reference pages, do not have boxes. This is done as follows:

   a. Change the definitions of the table formats in the chapter file: Figure, Figure Half and Figure Double, to remove all ruling around cells.

      From the table designer, select each of these table formats, one at a time, and set all Ruling to None. Click on Update All.

---

1. The `fmbatch` utility is only available on UNIX.

b. In the Formatting Figures reference page, remove the table ruling customisations for the Figure Double sample.

Select the entire table by `Control`-triple-clicking one of the figure captions. From Table:Custom Ruling and Shading set Apply Ruling Style to From Table and apply to all edges and borders.

c. Update the table formats (and only the table formats!) of the file FrontMatter.doc from the chapter template.

d. Repeat a. and b. for the appendix file.

1.8.2 Updating the files in the volume manually (PC and Mac)

For the automatically generated files just copy the ones from the template over the ones of the volume. These will be updated next time you update the book, as explained in Section 1.3.

For all other files you need to do the following:

1. Open the file you want to update.

2. Open the template file that corresponds to the file that you want to update, i.e. one of FrontMatter.doc, Chapter.doc, ColourFigures.doc or Appendix.doc.

3. From the File menu of the file you want to update select Import:Formats... (`Esc fio`)

4. Under Import from Document: select the corresponding template file.

5. Under Import and Update: check that all check-boxes are turned on.

6. Under While Updating, Remove: check that both check-boxes are turned on.

7. Click on Import.

After updating you will need to update the book as explained in Section 1.3.

1.8.3 Updating the files in the volume automatically (UNIX)

1. Close the book file and all component files for the volume that you want to update.

2. Close the template book file and all component files.

3. Execute the provided perl script `TDR_genUpdateBatchFile` (follow the help information provided by the script).

4. Edit the generated fmbatch file `UpdateBatchFile.fmbatch`, to tell it which component files are chapters, which ones are colour figure files and which ones are appendices.

5. Run fmbatch by typing:

```
fmbatch UpdateBatchFile.fmbatch
```

The fmbatch file may be re-used again if the conditions do not change, e.g. if no component files are added.

Note that this will also produce a PostScript file for the entire volume as well as one for each component file.

1.9 ATLAS Collaborations and Members lists

As this information changes continuously the most up-to-date version of the *ATLAS Collaboration* and *Members of the ATLAS Collaboration* lists can be obtained from Connie Potter in the AT-LAS secretariat, who is maintaining them.

1.9.1 ATLAS Collaboration

The FrameMaker file containing the *ATLAS Collaboration* list can be added to the TDR book as a normal document file, after the FrontMatter.doc file. You will need to update the running headers after the file is added. Formats for this file may be updated only form the file FrontMatter.doc.

This list is formatted using a Body Block Small paragraph for the country followed by one Body After Block Small paragraph for each institute in the country.

1.9.2 Members of the ATLAS Collaboration

The FrameMaker file containing the *Members of the ATLAS Collaboration* list can be added to the TDR book as the last appendix. You will need to update the running headers after the file is added.

This list is formatted using a Body Block Small for the country, followed by pairs of one Body After Block Emphasis Small for the institute and a Body After Block Small that contains a comma separated list of members, with last name followed by initials. There should be a hard space, SHIFT-RETURN, between the name and the first initial.

1.10 Converting to WWW

TDR documents prepared with FrameMaker 5 could be converted to HTML with the use of WebMaker 3.0. Since, to date, WebMaker does not support FrameMaker 5.5, this version of the TDR template has been pre-configured[1] to take advantage of the new Save as HTML... module that comes with FrameMaker 5.5. Another possibility as a format appropriate for distribution on WWW is PDF, supported by the new FrameMaker 5.5 Save as PDF... feature, explained below.

1.10.1 HTML

Old TDRs, prepared with FrameMaker 5, need to be updated to use the built-in HTML generation. In addition, the configuration for conversion on the reference pages would need to be individualised to the actual document. Finally, after each time that a TDR is saved as HTML, a few steps require to be performed manually.

---

1. The configuration assumes that entire books are saved as HTML and not individual component files.

1.10.1.1 Updating documents prepared with FrameMaker 5

To update existent TDRs prepared with Release 5 of FrameMaker, you need to:

1. Open both the first file in the book of your TDR (normally `FrontMatter.doc`) and the `FrontMatter.doc` file provided with the TDR template.

2. Import formats for Reference Pages (and *only* Reference Pages) from the front matter template file to the first file in the book of your TDR.

3. Update all formats (*except* Variables) in the files:

   - `TDR_TOC.doc`

   - `TDR_LOF.doc`

   - `TDR_LOT.doc`

   from the corresponding files delivered with the TDR template.

1.10.1.2 Before saving as HTML...

Prior to saving as HTML with FrameMaker 5.5 you need to individualize the configuration for the conversion. Go to the BookHTML reference pages (View:Reference Pages), locate the Systems Macros table, and modify the following information, as necessary:

- The context links in macros StartOfDoc, StartOfSubDoc and StartOfLastSubDoc. The HTML code, shown below, is inserted at the beginning of every generated HTML page. You may wish to change it.

  ```
  <strong><a href="http://www.cern.ch/">CERN</a> | <a href="http://
  atlasinfo.cern.ch/Atlas/">ATLAS</a> | <a href="http://atlasinfo.cern.ch/
  Atlas/GROUPS/notes.html">Notes/Publications/TDRs</a> </strong>
  ```

- The title text for the TDR, in macros StartOfDoc, StartOfSubDoc and StartOfLastSubDoc, included in every generated HTML page. The initial value is shown below:

  ```
  <p>TILE Calorimeter Technical Design Report
  ```

  You will also need to change the version of StartOfDoc macro executed in Head. The initial setting for this is:

  ```
  <TITLE>TILE Calorimeter Technical Design Report </TITLE>
  ```

- The signature of each generated HTML page, in macros EndOfDoc, EndOfSubDoc and EndOfLastSubDoc. In particular you may wish to change the date, the name of the webmaster, and the URL this is linked to, if any. The initial setting is:

  ```
  <address>15 December 1997 - <a href="http://consult.cern.ch/xwho/people/
  XXXXX">WebMaster</a></address>
  ```

1.10.1.3 After saving as HTML...

After each time you save as HTML, you are required to (in the same directory as the generated HTML files):

1. Create a symbolic link `contents.html` that points to the generated file that contains the HTML version of the global table of contents. E.g. (UNIX):

```
ln -s tile-tdr.3.html contents.html
```

Or, just copy the file:

```
cp -p tile-tdr.3.html contents.html
```

2. Create a symbolic link welcome.html that points to the first file of the generated web. E.g. (UNIX):

```
ln -s tile-tdr.html welcome.html
```

Or, just copy the file:

```
cp -p tile-tdr.html welcome.html
```

3. Over-write the generated cascading style sheet file with the one provided with the template, `TDR-Master.css`. E.g. (UNIX):

```
cp -p <template>/miscellaneous/TDR-Master.css tile-tdr.css
```

1.10.2 PDF

Saving as PDF is straight forward, except for the setting up of bookmarks. It is recommended that the same hierarchy as the FrameMaker table of contents is used. Thus, the list below Include Paragraphs: of the Acrobat Setup dialog should look like this:

```
H1
H1 Appendix
H1 No Number
H1 NoIncrement
  H2
  H2 Appendix
  H2 No Number
    H3
    H3 Appendix
    H3 No Number
      H4
      H4 Appendix
      H4 No Number
Z:LOF+
Z:LOT+
Z:TOC+
```

To guarantee that hyperlinks within the TDR work properly in PDF, it is better to produce one PDF file for the entire TDR, as opposed to single ones for each source file.

2 Editing the TDR

2.1 Formatting headings

There are 4 level headings, H1, H2, H3 and H4 which have structural significance as they correspond to chapter, section, subsection and subsubsection. Any occurrence of these will generate an entry in the table of contents next time the book is updated (see Section 1.3). Examples of these headings may be seen throughout this document.

Body Block paragraphs
In addition to the 4 structural headings described above there is one non-structural heading, Body Block, that does not appear in the table of contents. It is useful for breaking up text without necessarily creating sub-sections. Body Block paragraphs should be followed by a Body After Block paragraph, such as this one.

2.2 Formatting text

Text is formatted using any of the pre-defined formats contained in the paragraph and character catalogs. Do not format text using the Format menu! This will constitute a format override and will be overwritten during book updates.

2.2.1 Using character highlights

The predefined character tags in the FrameMaker Character Catalog are indicated below.

- *Emphasis*
- **Strong**
- Code
- Σψμβολ (Symbol)
- Subscript
- Superscript
- *Italic*
- **Bold**
- **Helvetica Bold**
- Keyword
- C̄h̄ān̄ḡēd̄
- ~~Removed~~

You may mark up text as necessary, following specified ATLAS conventions.

2.2.2 Non-mathematical text abbreviations

Table 2-1 lists the defined text abbreviations. To insert type the indicated shortcut.

These abbreviations are defined as FrameMaker user variables and, as the maximum number of user variable definitions is limited, I have factored out the "submitted to" and the "to be submitted to" from the corresponding groups of predefined LaTeX macros.

FrameMaker user variables are not parametrisable. Thus, the full functionality of the parametrisable LaTeX macros cannot be replicated here.

It is recommended to use abbreviations whenever these exist as this helps manage the consistency of the document.

Table 2-1 Non-mathematical text abbreviations.

Keyboard shortcut	Appearance in text	Corresponds to LaTeX macro
Control-0 collab Return	ATLAS	\collab
Control-0 EM Return	e.m.	\EM
Control-0 emc Return	*em*	\emc
Control-0 degr Return	°	\degr
Control-0 degC Return	°C	\degC
Control-0 degK Return	K	\degK
Control-0 NIM Return	Nucl. Instrum. Methods	No exact equivalent
Control-0 NP Return	Nucl. Phys.	No exact equivalent
Control-0 PL Return	Phys. Lett.	No exact equivalent
Control-0 PR Return	Phys. Rev.	No exact equivalent
Control-0 PRL Return	Phys. Rev. Lett.	No exact equivalent
Control-0 ZP Return	Z. Phys.	No exact equivalent
Control-0 ATL Return	ATLAS Internal Note	No exact equivalent
Control-0 sub Return	submitted to	No exact equivalent
Control-0 tosub Return	to be submitted to	No exact equivalent

2.2.3 General paragraph formats

The paragraph formats that are neither lists nor headings are indicated in the paragraphs in this subsection. The most commonly used paragraph is the Body paragraph tag, such as this one.

Body Comment *paragraphs such as this one are italicised to distinguish from normal document text. It may be useful for temporary text to be used by the editors.*

> Body Inset paragraphs are indented both from the left and the right side and may be suitable for quoted material.

Body Preformatted `paragraphs have a fixed width font and are suitable for material that`
`is already formatted and the formatting must be preserved, such as code listings`
`or "pictures" such as the following:`

```
               OOO
              OO
             O    ___     _____
           II__|[] |  |    I I
           |        |_|    I I
         < OO----OOO  OO----OO
```

Note Small notes such as this one may be entered using the Body Small Note paragraph style.

2.3 Formatting lists

There are three groups of paragraph styles provided for lists: Bulleted, Numbered and Definition Lists.

2.3.1 Three levels of bulleted list styles

In additions to the predefined paragraph styles for 3 levels of bulleted lists, there is 2 list continuation paragraph tags for each list level, as indicated in the list below.

- L1 Bullet list item.

  L1 Continuation for use within level 1 lists

- L1 Bullet list item.

  L1 Continuation Preformatted `for use within level 1 lists`

  - L2 Bullet list item.

    L1 Continuation for use within level 1 lists

  - L2 Bullet list item.

    L1 Continuation Preformatted `for use within level 1 lists`

    - L3 Bullet list item.

      L1 Continuation for use within level 1 lists

    - L3 Bullet list item.

      L1 Continuation Preformatted `for use within level 1 lists`

    - L3 Bullet list item.

  - L2 Bullet list item.

- L1 Bullet list item.

2.3.2 Three levels of numbered lists

Numbered lists are different from bulleted lists in two ways: the numbering style and the fact that for each level, the first occurring list item in the level has a different style than the ones that follow. These differences are indicated in the following list.

1. L1 Number 1st list item
2. L1 Number list item
    a. L2 Number 1st list item
    b. L2 Number list item
        i. L3 Number 1st list item
        ii. L3 Number list item
    c. L2 Number list item
3. L1 Number list item

The list continuation paragraphs shown in Section 2.3.1 may also be used with numbered lists.

2.3.3 Two styles of definition lists

Each definition is formatted using a pair of paragraphs, one for the term and one for the description. Definition lists may appear in two levels with a choice of two styles, i.e. with either the term formatted on the same line as the description (run-in head) or with the term being on a different line than the description. In both cases the paragraphs for the description are:

- DL1 Description
- DL2 Description

The paragraph tag names for the run-in style for the term are:

- DL1 Term RIH
- DL2 Term RIH

Definitions formatted in this style will appear as follows:

PSS   Procedures, Specifications and Standards

        URD   User Requirements Document

        UR/R   User Requirements Review

The paragraph tag names for the style with the term on its own line are:

- DL1 Term
- DL2 Term

Definitions formatted in this style will appear as follows:

Event

        An initial set of particle types, vertices, momenta and times.

Event parallelism

To process multiple events in parallel by multiple processors.

2.4 Using tables

FrameMaker tables are used not only as normal tables but also to format figures. A few predefined table formats are included in the template to facilitate both these uses. However, as properties like straddling and irregular ruling may not be stored as part of a table format, there may be a certain amount of table customisation necessary. This may be tricky to the uninitiated especially as some customisations are lost when a document is updated with the formats of a new version of the template. So, in the hope of saving you a lot of unnecessary work, we provide below an outline of some general recommendations[1] about table usage and customisation.

2.4.1 The predefined table formats

General formats
There are a number of general full-width predefined formats provided for convenience. These are:

- 2 Column Simple

- 3 Column Simple

- 4 Column Simple

- 5 Column Simple

- 6 Column Simple

- 7 Column Simple

- 8 Column Simple

Half-width tables with runaround text
There exists no property associated with tables allowing to do this. However, as this property is allowed for anchored frames, it is possible to enclose tables in an anchored frame in the same way that is done for half width figures. You will need to copy and paste one of the four samples on the Half Width Tables reference page. The total width of the columns in these tables should never be changed from 7.6cm. The outer Anchored Frame is manipulated in exactly the same way as for half width figures with runaround text.

Special Colour Figures table
This format is included only in the colour figures template file. It essentially is a table with all spacing, ruling and shading parameters set to "0" (zero) or "None" as applicable. This table is to be then customized to control the layout of a colour figure page that is made up of multiple small figures.

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1. Largely thanks to Fridolin Dittus.

2.4.2 Recommendations for table customisations

The default table formats provided by the template are left-aligned, full-column-width tables where all columns have equal widths. Such tables with one heading row and 2 - 8 columns can be created with the Table:Insert Table... command. Horizontal ruling is provided between the heading and first body row, and above and below the table itself. No vertical ruling is predefined and this is the TDR standard.

First of all, **never use** the Table Designer and/or Paragraph Designer for fine-tuning tables. All definitions provided by these will be overwritten with those from a newer template during the update-from-template procedure. You should never even have the Table- and Paragraph Designer windows on the screen.

The proper methods for doing the following table customisations are:

Add rows or columns
Click in table, then select Table:Add Rows or Columns...

Delete rows or columns
Select the entire row or column and then select Edit:Cut.

Adjusting the width of table columns
As you fill in the contents of a table, you will normally find the need to re-size certain columns (drag vertically over 2 or more cells, and then use the handles that appear to resize the whole column). When you have finished entering information, control-triple-click in any cell to select the entire table, then select Table:Resize Columns... and "By Scaling to Widths Totalling:" in the Resize-Selected-Columns pop-up window; finally, click on the Resize button. This will result in a table which spans the full width of the text column again (unless you have specifically selected another total width). Before adjusting the table width, you may want to equalize the width of some columns - this you do in much the same way, except that you select only the columns you want, and then choose "To Equal Widths Totalling:" in the Resize-Selected-Columns window.

Table alignment
All tables are left-aligned. These properties are defined in the Table Designer, which you **should not** use. To make the contents look centred but still have the full-width line separators, the recommended trick is to add blank columns in strategic places, i.e. normally one to the far left and one to far right of the non-empty columns.

Table Cell alignment
This is achieved by assigning the proper Paragraph Formats from the Paragraph Catalog. The choices are:

- Table Cell Body
- Table Cell Body A.(1.2 cm) {aligns on the first occurring decimal point, which is then positioned at an 1.2cm indentation from the left}
- Table Cell Body Centred
- Table Cell Body Right
- Table Cell Heading
- Table Cell Heading Centred
- Table Cell Heading Right

Ruling, Shading, and Straddling

To make the TDR look uniform, custom ruling or shading should be avoided as much as possible. Only in special cases is extra ruling or shading sometimes desirable, for example in tables where certain cells span ("straddle") more than one row or column (Select the cells to "straddle", and then Table:Straddle). Ruling or Shading can be applied to any selection of cells with the "Custom Ruling and Shading" window (**only** in this way, **never** with the Table Designer!) accessible from the Table menu. Note that the Ruling/Shading Styles "From Table" can be selected in order to restore default ruling/shading.

2.5 Formatting Figures

Five schemes are provided for formatting images, depending on whether the figure is:

1. a small half-width figure with runaround text;

2. one of two adjacent half-width figures;

3. spans the entire text column width;

4. occupies the entire page;

5. is one of the full-page colour figures at the beginning or at the end of the chapter.

Each of these schemes is explained in the sections below. Samples for the first 3 types are available from the Formatting Figures Reference page (to view references pages select View:Reference Pages).

The UNIX macros listed below may help you speed up the formatting of figures.

Table 2-2 UNIX keyboard macros to help figure formatting.

UNIX Keyboard macro	Description	Preconditions
Control-x AFmedium	Create an Anchored Frame for medium figures (width of page).	Place the cursor in the upper cell of the table for this type of figure.
Control-x AFlarge	Create a Anchored Frame for large figures (full page, landscape).	Place the cursor in the text where you want to anchor the figure.
Control-x AC	Centre selected graphic.	Graphic to be aligned is selected.
Control-x ATC	Align selected graphic along the Top, and centre horizontally.	Graphic to be aligned is selected.
Control-x ATL	Align selected graphic along the Top and Left sides.	Graphic to be aligned is selected.
Control-x ATR	Align selected graphic along the Top and Right sides.	Graphic to be aligned is selected.
Control-x GU5	Scale selected graphic up by 5%.	Graphic to be scaled is selected.
Control-x GU1	Scale selected graphic up by 1%.	Graphic to be scaled is selected.
Control-x GD5	Scale selected graphic down by 5%.	Graphic to be scaled is selected.
Control-x GD1	Scale selected graphic up by 1%.	Graphic to be scaled is selected.

2.5.1 Formatting small figures with runaround text

Small figures with runaround text must be put into a floating anchored frame that is set to Run Into Paragraph. Position the cursor where you would like to anchor the figure in the text and copy and paste the Anchored Frame from the Formatting Figures Reference page.

Then adjust the height, and ONLY the height, of the outer anchored frame (that contains the table) and of the inner anchored frame (that contains the actual figure) as needed. Fill in the Figure Caption as necessary. To Left align the figure, select the anchored frame and choose Alignment:Left.

2.5.2 Formatting double figures
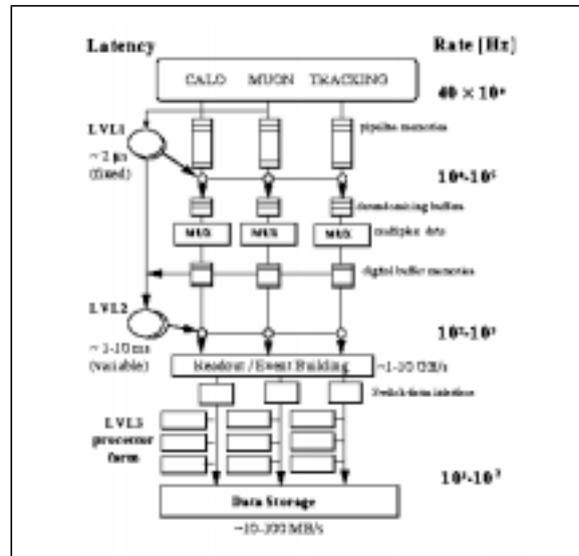
Figure 2-1 The ATLAS three-level trigger architecture

Double figures are formatted into a special table Figure Double. Position the cursor where you would like to anchor the double figure in the text and copy and paste the table from the Formatting Figures Reference page. wing table:
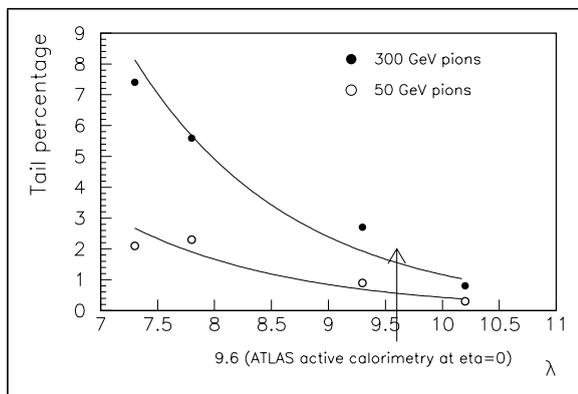
Figure 2-2 Percentage of events in the low energy tail (below 2σ) for different calorimeter depth configurations. Results are shown for 50 and 300 GeV pions.
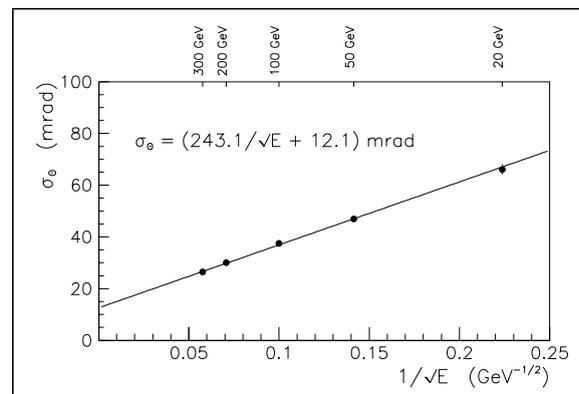
Figure 2-3 Angular resolution for pions as a function of the beam energy.

Then adjust the height, and **only** the height, of the two inner anchored frames (that will contain the two actual figures) as needed. Fill in each Figure Caption as necessary.

2.5.3 Formatting full-width figures

You can either insert a table with format Figure and then insert an Anchored Frame into the upper cell, or just copy and paste the table from the Formatting Figures Reference page.
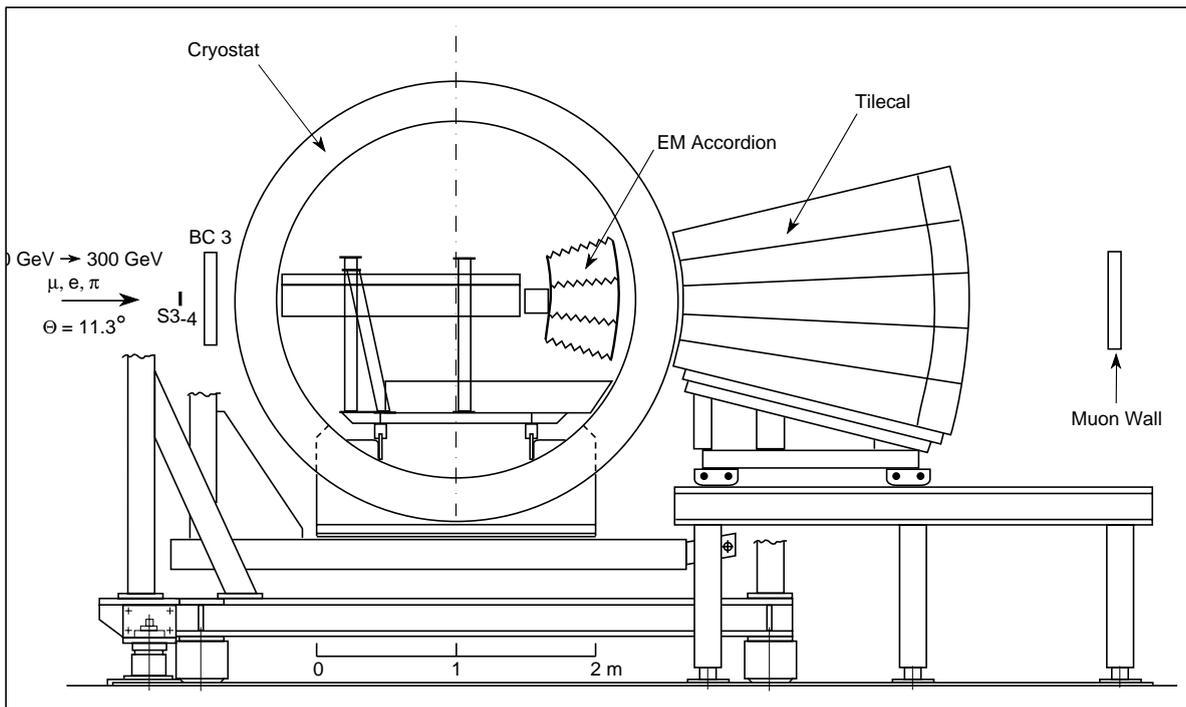
Figure 2-4 Setup of the combined Liquid Argon-Tile Calorimeter test beam configuration.

In both cases you will need to adjust the height of the anchored frame as necessary and fill in the Figure Caption as necessary. Create or import the image(s) for the figure into the anchored frame.

The advantage of using a table is that the figure and the figure caption are kept together as one unit and it automatically resizes when the height for the anchored frame or the length of the figure caption are changed. However, tables cannot be run into paragraphs or rotated on the page, thus cannot be used for small or full-page landscape figures.

2.5.4 Formatting full-page figures

Full-page portrait figures are formatted in exactly the same way as full-width figures except that the anchored frame in the upper cell is made to be as tall as the page (leaving enough space for the figure caption).

The recommended way to format full-page landscape figures is to insert an anchored frame with the settings of Table 2-3. The figure caption is then inserted into a text column that is created and placed *inside* the anchored frame. The text column for the figure caption may then be rotated and manipulated using the FrameMaker graphic tools.

Special landscape master page formats *may* be used for figures that are in landscape mode. In this case you would use the Figure table format (same as for full-width figures) with the width adjusted to 23.4cm. However, if the figures are moved to a different page these master pages are not moved automatically by FrameMaker.

Figures 2-i is an example of a landscape full-page colour figure.
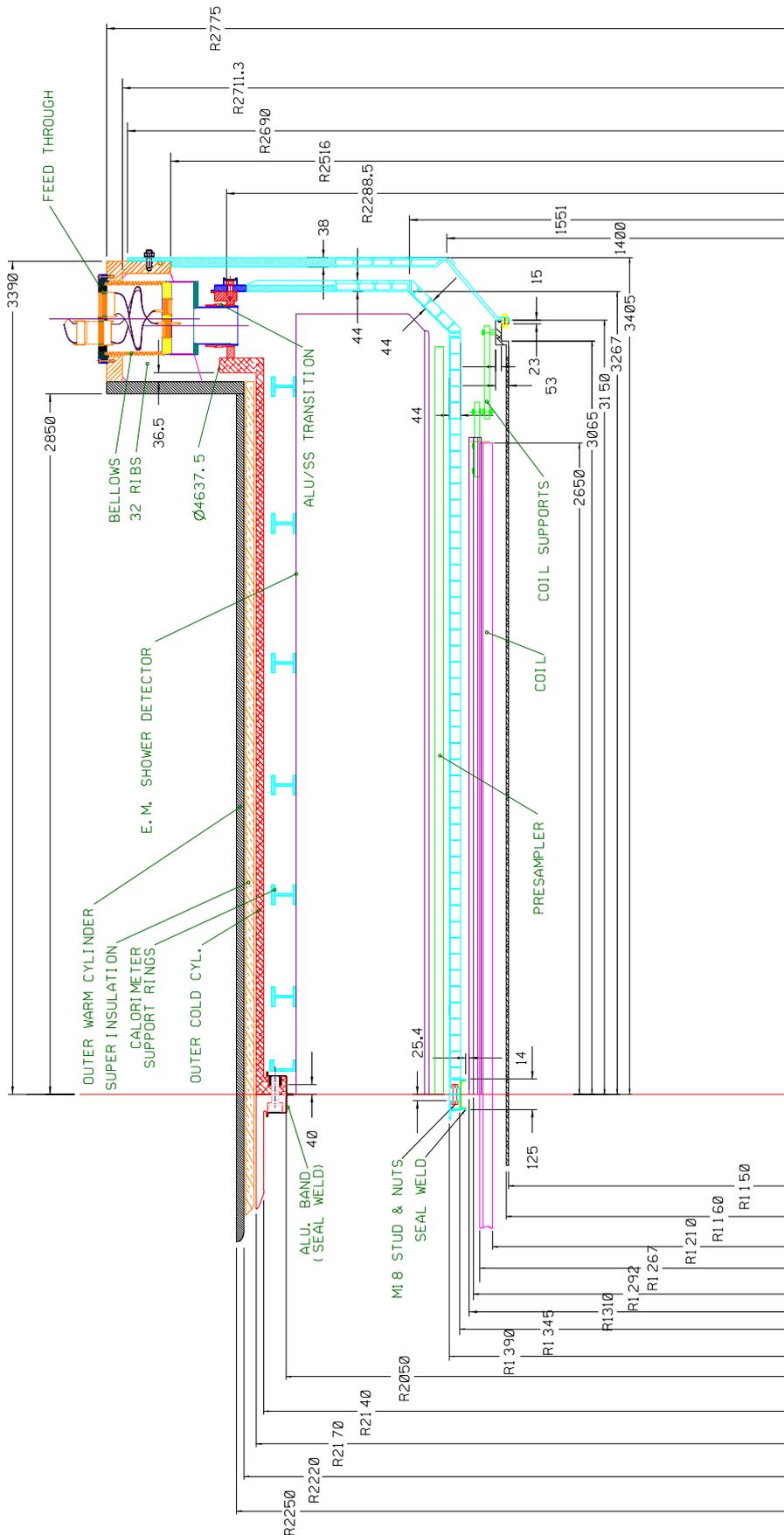
Figure 2-i Side view of the barrel cryostat. We show a "quarter view".

Table 2-3 Anchored Frame properties for full page colour figures

Anchored Frame Property	Setting
Anchoring Position	Below Current Line
Alignment	Center
Cropped	Yes
Floating	Yes
Width	15.6cm
Height	23.4cm

2.5.5 Formatting colour figures

Colour figures should be placed in a separate file either at the beginning or at the end of the chapter. In this way life is made easier for both the people in the print shop and for you who is preparing the template by guaranteeing that the figures will always fall on pairs of pages, i.e. per paper sheet. To incorporate them into the final document will thus be very easy, irrespective of the changes that the document will go through.

Because colour figures need to be finalised before the rest of the document, a special numbering scheme is used. This allows for the possible addition of other figures after the colour figures have been submitted for printing, without disrupting the figure numbering. Thus the captions for colour figures are tagged with the Figure Caption Colour format.

Whichever way the colour figures and their captions are produced on paper, they should anyhow be inserted into the Frame document for three reasons;

1. The FrameMaker generated list of figures is complete.

2. The individual colour figures may be cross-referenced from anywhere in the text.

3. The conversion to the web is complete.

The colour figures template file
The colour figures template file is set to always start on a right page and end on a left page. There would normally be one colour figure per page, as follows:

• Assign the Tall Left or Tall Right master page to the current body page, as appropriate.

• On the page have only one Body paragraph in which figure will be anchored.

• Insert either a table or an anchored frame in exactly the same way as explained in Section 2.5.4, "Formatting full-page figures"

• Edit the figure and caption as for any other figure.

This will give a page with running headers and footers (except in the case of the file being placed before the chapter, see below) and a maximum figure size equal to that of the running text column. If for some reason this size is too restrictive or you do not desire to have running headers and footers, the for each figure (page), do the following:

• Assign the None master page.

This will remove the headers and footers but leave the main text column.

- Adjust the size of this text column as required.

- Adjust the size of the table or anchored frame for the figure to make use of the new text column size.

Placing the colour figures at the beginning of the chapter

This problem with placing colour figures at the beginning of the chapter is automatic numbering. As figures are numbered per chapter, it is impossible to have figures to take their base number from a chapter heading that has not yet occurred. To workaround this problem you will need to do 3 things:

1. Change the very first Body paragraph of the file (into which the first figure is anchored) to the format Body PlaceHolder NewChapter.

   This will increment the chapter number in an invisible way.

2. To have a consistent footer with the rest of the chapter, insert a marker of type Header/ Footer $1 into the Body PlaceHolder NewChapter paragraph, containing exactly the concatenation of the following pieces of text:

   a. The chapter number.

   b. 4 spaces.

   c. The chapter heading text.

3. Change the very first paragraph for the chapter that follows, i.e. the H1 chapter heading, to the format H1 NoIncrement.

   This will give a format identical to H1 except that the chapter number is not incremented.

You (the main editor in the case) would then need to generate/update the book (Section 1.3, "Updating a FrameMaker book") to make sure that the autonumbering is working correctly.

2.5.6 Formatting long figure captions

Figure captions that are excessively long can be formatted in two parts. The first part uses the normal Figure Caption (or Figure Caption Colour) paragraph tag, while the second may be tagged with the Figure Caption Continuation tag. The benefit of this is that only the first part appears in the automatically generated list of figures.

2.6 Formatting mathematics

It is possible to format simple mathematical equations as either normal text (using the symbol font face and superscript and subscript character highlights) or as real FrameMaker equations. For a consistent look it is recommended that all mathematics be put into real FrameMaker equations.

Another complication is that the text and equation editing environments in FrameMaker are completely different. For this reason all pre-defined elements need to be provided twice - one for each environment.

2.6.1 The FrameMaker equation editor

The FrameMaker equation editor is a structured mathematics editor with a graphic interface. Thus, a function must have operands, the square root symbol is not simply a symbol but an operator with an operand, and so on. For this reason it may be a little slow to get used to, especially if one is accustomed to typing LaTeX equations. However, all standard LaTeX commands for mathematical symbols are provided as FrameMaker shortcuts.

2.6.2 Small, medium and large equations

FrameMaker equations may be assigned a size of small, medium or large, which only affects their appearance. This allows the differentiation between stand-alone equations, equations inlined in the text, and equations in footnotes, as shown in Table 2-4.

Table 2-4 Usage of small, medium or large FrameMaker equations.

Equation Size:	Shortcut to create	Use is reserved for:
Large	`Esc m l`	Equations that stand alone, whether numbered or not. For an example see equation 2-1.
Medium	`Esc m m`	Equations inlined in the text, e.g. $\alpha^2 + \beta^2 = \Gamma^2$.
Small	`Esc m s`	Equations in footnotes, or otherwise small print.[a]

a. For example $\alpha^2 + \beta^2 = \Gamma^2$

Stand-alone equations, such as 2-1, may be numbered by first creating a Body Equation paragraph and then inserting a new large equation using the FrameMaker editor or keyboard shortcuts. Similarly, the Body Equation No Number paragraph style is used for stand-alone equations that are not numbered, as in the case of the equation above 2-1.

$$\alpha^2 + \beta^2 = \Gamma^2$$

$$\tau = 2^7\left(-b_0 + \sum_{i=1}^{7} b_i 2^{-i}\right) \qquad \text{2-1}$$

Stand-alone equations are centred by inserting a tab character at the beginning of the line.

2.6.3 Using shortcuts in the equation environment

- In a FrameMaker equation, place the cursor where you want to execute the shortcut.
- Type the name of the element preceded by \ (as in Latex).
- Hit `Return`.
- E.g. `\deta Return` will produce $\Delta\eta$ in the equation.

For the list of all shortcuts for equation editing look at the Keyboard Shortcuts... in the online help.

2.6.4 Using shortcuts in the text environment

- In the text, place the cursor here you want to execute the shortcut.

- Do `Control-0` followed by the name of the variable.

- Hit `Return`.

- e.g. `Control-0 deta Return` will produce $\Delta\eta$ in the text.

2.6.5 Variables in italic, subscripts in roman

In general, equations in variables should be in italic, while subscripts should not. Subscripts that are themselves variables should be italic. However, all greek symbols should never be in italic irrespective of whether they are variables or subscripts. This convention is largely due to a lack of a universally available italic symbol font.

In this template, whatever FrameMaker thinks is a variable is formatted in italic. In some cases manual adjustment is necessary to reformat non-variables back to roman, using the predefined Roman character tag.

Thanks to Eric Eisenhandler for help and clarification of this issue.

2.6.6 The TP mathematic element definitions

Table 2-5 contains the complete list of these definitions, largely thanks to Luc Poggioli.

Table 2-5 Pre-defined elements that may be used in equations and/or in the text.

Element name	Appearance in text and/or in equation
lowlumi	10^{32} cm^{-2}s^{-1}
medlumi	10^{33} cm^{-2}s^{-1}
hilumi	10^{34} cm^{-2}s^{-1}
stlumi	1.0×10^{34} cm^{-2}s^{-1}
Lstlumi	$L = 1.0 \times 10^{34}$ cm^{-2}s^{-1}
lowipb	10^{3} pb^{-1}
medipb	10^{4} pb^{-1}
hiipb	10^{5} pb^{-1}
ipb	pb^{-1}
inb	nb^{-1}
icmcms	cm^{-2}s^{-1}
sigE	$\sigma(E)/E$
dpp	$\Delta p/p$
dpT	$\Delta p_{\mathrm{T}}/p_{\mathrm{T}}$

Table 2-5 Pre-defined elements that may be used in equations and/or in the text.

Element name	Appearance in text and/or in equation
xrad	X_0
labs	λ_{abs}
lint	λ_{int}
Bdl	$\int B dl$
BLL	BL^2
ET	E_T
pT	p_T
mt	m_t
mH	m_H
mh	m_h
mA	m_A
mHplus	m_{H^+}
abseta	$|\eta|$
deta	$\Delta\eta$
dphi	$\Delta\phi$
detaphi	$\Delta\eta \times \Delta\phi$
dR	ΔR
sim	$\sim$
simeq	$\approx$
pm	$\pm$
geq	$\geq$
leq	$\leq$
pizero	π^0
JPsi	J/ψ
gaga	$\gamma\gamma$
pigg	$\pi^0 \rightarrow \gamma\gamma$
Zee	$Z \rightarrow e^+e^-$
Hgg	$H \rightarrow \gamma\gamma$
Hllll	$H \rightarrow l^+l^-l^+l^-$
Heeee	$H \rightarrow e^+e^-e^+e^-$
HZZste	$H \rightarrow ZZ^* \rightarrow 4e$

Table 2-5 Pre-defined elements that may be used in equations and/or in the text.

Element name	Appearance in text and/or in equation
gtsim	$\gtrsim$ (within equations only)
ltsim	$\lesssim$ (within equations only)
percent	% (within equations only)

2.6.7 Commonly used equations for which there are no shortcuts

In FrameMaker it is not possible to provide shortcuts for complex equations. However one can always copy and paste such equations. The Equation Repository reference page contains a list of such equations.

Note that equations 2-3 and 2-4 there are parameters you can fill in. They appear on the screen as a ?, but you do not see them on the printed document. One can replace by editing the ? by the desired value.

2.6.7.1 To copy and paste an equation in the text

- Select the equation frame (small dots around the Frame).
- From Edit, select copy.
- Put the cursor at the place in the text you want to insert.
- In Edit, select Paste.

2.6.7.2 To copy and paste the contents of an equation into another equation

- Select the contents of the equation you want to copy

  Click inside the equation, hold the mouse button down and slide until all contents are selected (they become black).
- In Edit, select copy.
- In the equation where you want to paste to, put the cursor at the place needed.
- In Edit, select Paste.

$$\times 10 \;\; cm^{-2} s^{-1} \tag{2-2}$$

$$\frac{\Delta E}{E} \;=\; \frac{\%}{\sqrt{E}} \oplus \;\; \% \tag{2-3}$$

$$\frac{\Delta E}{E} \;=\; \frac{\%}{\sqrt{E}} \oplus \frac{}{E} \oplus \;\; \% \tag{2-4}$$

$$\frac{\Delta E}{E} \;=\; \frac{10\%}{\sqrt{E}} \oplus 1\% \tag{2-5}$$

$$\frac{\Delta E}{E} = \frac{50\%}{\sqrt{E}} \oplus 2\% \qquad\qquad 2\text{-}6$$

$$E_T^{miss} \qquad\qquad 2\text{-}7$$

$$P_T^{miss} \qquad\qquad 2\text{-}8$$

$$m_{\tilde{g}} \qquad\qquad 2\text{-}9$$

$$m_{\tilde{q}} \qquad\qquad 2\text{-}10$$

$$\Delta R = \sqrt{\Delta^2\eta + \Delta^2\phi} \qquad\qquad 2\text{-}11$$

2.7 Using cross-references

The predefined cross-reference formats are listed in Table 2-6. To insert a cross-reference you first need to place the cursor where you would like to have the cross reference and, from the cross-reference dialogue box (from Special:Cross-Reference...), associate a source paragraph with a cross-reference format.

Table 2-6 The predefined cross reference formats.

Cross reference format	What it does
Paragraph text	Displays the text of the referenced paragraph.
Paragraph autonumber	Displays the autonumber string of the referenced paragraph.
Paragraph autonumber only	Displays the calculated numeric value only, without any extra characters added in the autonumber string of the referenced paragraph.
Paragraph all	Displays a concatenation of the autonumber string and the text of the referenced paragraph.
Figure paranumonly	Displays the word "Figure " followed by the number of the referenced Figure Caption.
Figures paranumonly	Displays the word "Figures " followed by the number of the referenced Figure Caption. To be used in conjunction with the Paragraph autonumber only format to reference multiple figures.
Table paranumonly	Displays the word "Table " followed by the number of the referenced Table Title.
Tables paranumonly	Displays the word "Tables " followed by the number of the referenced Table Title. To be used in conjunction with the Paragraph autonumber only format to reference multiple tables.
Equation paranumonly	Displaysd the word "Equation " followed by the number of the referenced Body Equation.
Chapter paranum	Displays the autonumber string of the referenced paragraph, and precedes it with the string "Chapter ".

Table 2-6 The predefined cross reference formats.

Cross reference format	What it does
Chapter paranum, "paratext"	Displays the autonumber string of the referenced paragraph and the paragraph text enclosed in double quotes, and precedes it with the string "Chapter ".
Section paranum	Displays the autonumber string of the referenced paragraph, and precedes it with the string "Section ".
Section paranum, "paratext"	Displays the autonumber string of the referenced paragraph and the paragraph text enclosed in double quotes, and precedes it with the string "Section ".
Appendix paranum	Displays the autonumber string of the referenced paragraph, and precedes it with the string "Appendix ".
Appendix paranum, "paratext"	Displays the autonumber string of the referenced paragraph and the paragraph text enclosed in double quotes, and precedes it with the string "Appendix ".
Page	Displays the page number of the referenced paragraph, and precedes it with the string "page ".
Bibliographical Reference	Only for Bibliographical Reference items, e.g. ATLAS [2-1], ...
Paragraph tag	Displays the paragraph tag name, in italics, of the referenced paragraph.
Filename	Displays the name, in italics, of the FrameMaker file containing the referenced paragraph.

2.8 Bibliographical references and footnotes

A footnote may be inserted in any paragraph[1] by selecting Special:Footnote.

Bibliographical references are collected at the end of each chapter. The Bibliographical Reference paragraph tag is used.

2-1   *ATLAS Letter of Intent for a General-Purpose pp Experiment at the Large Hadron Collider at CERN*, CERN/LHCC/92–4, LHCC/I2 (1992).

2-2   Reference entries are tagged with the Bibliographical Reference autonumbered paragraph style.

---

1. A footnote.

3 Some things are not allowed!

No format overrides
To format paragraphs and characters **only use the paragraph and character catalogs**! I.e. Never use the paragraph and character designers or anything else under the Format menu. Format over-rides introduce inconsistencies in the text and will anyhow be removed when the document is next updated from a newer version of the template.

Do not modify predefined formats
This may introduce inconsistencies with other predefined formats in the template, and the auto-matic conversion to WWW may produce incorrect results. Again, the changes you make will be lost when the document is automatically updated to conform to a future release of the template.

Do not change paragraph format tag names
Paragraph format tags are used in the definition of other FrameMaker formats (such as varia-bles and paragraph formats) and generated files. Changing tag names may make the FrameMaker template malfunction. Also, the automatic conversion to WWW will break.

Never use File Import Formats... **to update formats**
Updating formats manually may corrupt the integrity of the template. Instead, always use the supplied utility to update formats from a reference template.

Never delete cross-reference markers
This will generate unresolved cross-references in the book. When replacing text, turn on View:Text Symbols to make these markers visible.

Do not add new formats
Please report any missing formats and these will be added to the template thus retaining con-sistency.

A Sample Appendix

The appendix template is exactly the same as the chapter template except for numbering differences for:

1. Headings
2. Figures
3. Tables
4. Equations
5. Bibliographical References

In all cases, the paragraph tags in the appendix which are different than corresponding ones in the chapter template have Appendix added to their name.

A.1 Figures in the appendices

Figures in the appendix are formatted the same as in normal chapters except that the numbering is different. The paragraph tag used for the figure caption is Figure Caption Appendix.
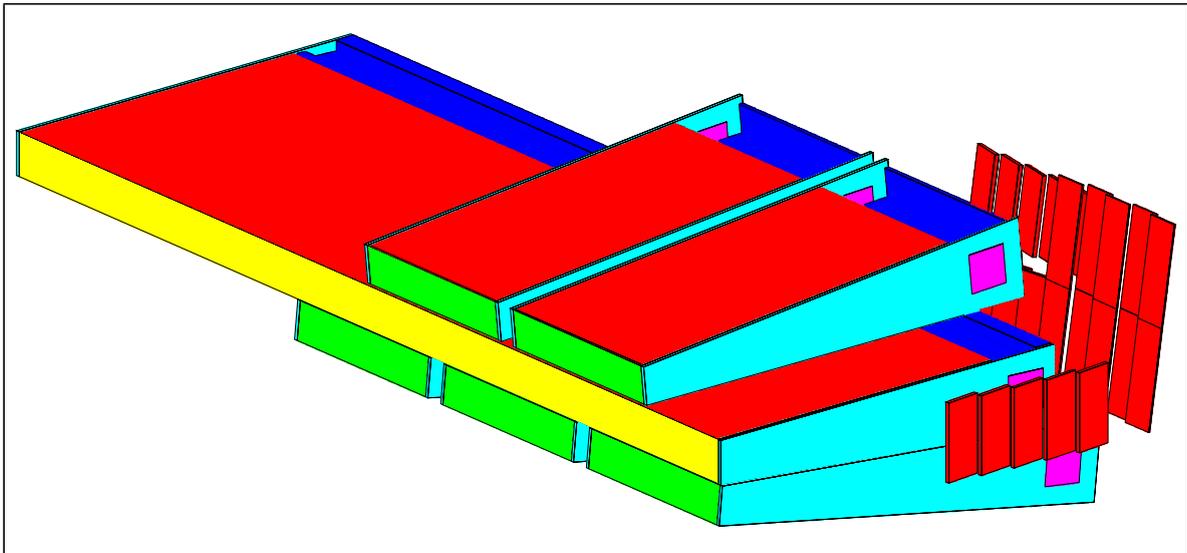

Figure A-1 Sketch of the Module 0 test beam setup. The 1 m prototype modules are placed on top and at the bottom of Module 0, with a 10 cm gap between them. Shown are the side and back muon counters to tag leakage and assist in identifying beam muons.

A.2 Equations in the appendices

Again the only difference is the numbering, as shown by equation A-1.

$$\tau \,=\, 2^{7}\!\left(-\,b_0 + \sum_{i\,=\,1}^{7} b_i 2^{-i}\right) \qquad\qquad \text{A-1}$$

A.3 Tables in the appendices

The paragraph tag for the table title in the appendix is the Table Title Appendix, which is used by all predefined table formats in the appendix. All else is the same as in the chapter template.

A.4 Bibliographical references in the appendices

The tag used is Bibliographical Reference Appendix and the numbering is different, as indicated in [A-1].

A-1   *ATLAS Letter of Intent for a General-Purpose pp Experiment at the Large Hadron Collider at CERN*, CERN/LHCC/92–4, LHCC/I2 (1992).

A.5 Reference lists of notes and papers in the appendix

For the convenience of distinguishing between general references and notes and papers, two special paragraph formats have been provided:

- Numbered Note Appendix
- Numbered Paper Appendix

B Using the predefined UNIX macros

To use the UNIX keyboard macros you need to first tell FrameMaker about them by reading the macro file:

1. Select File:Utilities:Keyboard macros... (`Esc ftk`)

2. In the dialogue box, browse to where the macro file TDR.FMmacros is and select it.

3. Under Options, select Read Macros from File.

From this point on you could just type the indicated shortcut exactly as is (case-sensitive), always following the indicated preconditions.

C Updating figures and tables individually

Due to the fact that the width and other table attributes are not stored as part of the table format but as table customisation, these attributes may not be updated automatically simply by importing the new table definitions. Thus, old figures and tables (inserted with template version 0.5 or prior) will need to be updated by hand.

Note that documents that need to be updated from the formats of template release 0.5 to release 0.6 only need to update half-width and double figures individually.

C.1 Updating old half-width figures individually

This is done by cutting and pasting the contents (image and caption) of the old figure to a fresh copy of a blank one.

- From the Formatting Figures reference page copy the outer anchored frame (and all its contents) for half-width figures.
- Paste it somewhere in the text close to the old figure you want to update.
- Select and **cut** the contents of the inner anchored frame of the old figure.
- Select the inner anchored frame of the new figure.
- Paste.
- Triple-click the figure caption of the old figure, to select it.
- **Cut** the figure caption and paste it into in the new figure (then delete the extra paragraph that you will have).
- Remove the old figure.
- Move the new figure to where the old figure was.
- Enlarge the outer frame and then the inner frame of the new figure.
- Resize and reposition the image as necessary.
- Resize the inner anchored frame and the outer anchored frame.

C.2 Updating old double figures individually

- From the Formatting Figures reference page copy the sample table for double figures.
- Paste it somewhere in the text close to the old figure you want to update.
- For each figure: select, **cut**, and paste the contents of the anchored frame of the old figure to the new figure.
- For each figure: Triple-click the figure caption of the old figure, to select it, then **cut** it paste it into in the new figure.
- Remove the old figure.
- Move the new figure to where the old figure was.

- Resize and reposition the images of the new figures as necessary.

C.3 Updating old full-width figures individually

- Select the anchored frame in the upper cell of the table.

- From Special menu select Anchored Frame...

- Change the width to 15.6cm.

- Hold down the `Control` key and click in the upper table cell to select it (click outside of the anchored frame).

- From Table menu select Resize Columns...

- Select "By Scaling to Widths Totalling; 15.6cm"

C.4 Updating old tables individually

- Hold down the `Control` key and triple-click in the table you want to update, to select it.

- From Table menu select Resize Columns...

- Select "By Scaling to Widths Totalling; 15.6cm"

If the table had been previously customised it may need to be re-customised.

D Template numbering scheme

The FrameMaker paragraph numbering schemes reserve a position per counter. The TDR template numbering scheme is chapter (or appendix) dependent and labeled with the letter H (or A in the appendix). There are 9 counter positions which are reserved for:

1. Chapters

2. Figures

3. Colour figures

4. Tables

5. Equations

6. References

7. Sections

8. Subsections

9. Subsubsections

The paragraph and the autonumber formats that are part of this chapter dependent scheme are:

Table D-1 Chapter based paragraph numbering scheme for the TDR template

Paragraph tag name	Autonumbering scheme
H1	H:<n+>
Body PlaceHolder NewChapter	H:<n+> Colour Figures
H1 NoIncrement	H:<n>< >< >< >< >< >
H2	H:<n>.< >< >< >< >< ><n+>
H3	H:<n>.< >< >< >< >< ><n>.<n+>
H4	H:<n>.< >< >< >< >< ><n>.<n>.<n+>
Bibliographical Reference	H:<n>-< >< >< >< ><n+>< >< >< >\t
Body Equation	H:\t<n>-< >< >< ><n+>< >< >< >< >
Figure Caption	H:Figure <n>-<n+>< >< >< >< >< >< >< >
Figure Caption Colour	H:Figure <n>-< ><r+>< >< >< >< >< >< >
Table Title	H:Table <n>-< >< ><n+>< >< >< >< >< >

Note that there is no equivalent to the 'Body PlaceHolder NewChapter' or 'H1 NoIncrement' paragraph formats in the appendix scheme.

E Miscellaneous pitfalls

E.1 Using Mac extended characters

Problem pointed out by Eric Eisenhandler. The following text is his except for adjustments to account for change in context.

In the Mac extended (8-bit) character set, a number of the special characters do not print at all on HP LaserJet printers, at least the LaserJet 5si model, even though they print fine on other HP printers and on other postscript printers. This is NOT a FrameMaker or a TDR template problem; it seems to be in the printer's firmware since it is true across other applications. The symbols concerned include greater than or equal to, less than or equal to, degrees, plus-minus, mu (as in "micro"), etc. However, many other "extended" symbols work fine. Since there are a lot of these printers at CERN and elsewhere, and since the Mac version of the FrameMaker manual says it's o.k. to use these characters (and they are easier to type than the equivalent variables defined in the template, which all work, and since they fit in better in some cases with the default font being used), people should perhaps be warned - I was caught before by this (using Word) about a year ago but it took a moment for my memory to catch up with the shock of all the blank spaces I was getting.

E.2 Incorrect printing of Symbol font characters on Windows

Problem pointed out by Lorne Levinson, who also supplied the following solution:

Symptoms
On Windows machines, characters in the Symbol font do not get printed correctly on some printers, e.g. HP LaserJet. For example, eta prints as h and mu as m, but not the serif version of these characters. The characters print OK on QMS printers.

Diagnosis
There seems to be two fonts with the same user name, 'Symbol'. The printer has one of these fonts which is not the same as the Windows TrueType Symbol font. The Windows default is to prefer a font already in the printer over a same-named font in the system.

Solution
Windows can be told to prefer system TrueType fonts over printer fonts that have the same name. Click: Start / Settings / Printers / Your-printer / Properties / Fonts / Send Fonts as / then check the box: 'Favor system TrueType fonts over printer fonts that have the same name'.

This document has been prepared with Release 5.5 of the Adobe FrameMaker® Technical Publishing System using the Technical Design Report template prepared by Mario Ruggier of the Information and Programming Techniques Group, ECP Division, CERN, according to requirements from the ATLAS collaboration.

To facilitate multiple author editing and electronic distribution of documents, only widely available fonts have been used. The principal ones are:

Running text:	Palatino 10.5 point on 13 point line spacing
Chapter headings:	Helvetica Bold 18 point
2nd, 3rd and 4th level headings:	Helvetica Bold 14, 12 and 10 point respectively
Figure and table captions:	Helvetica 9 point