TMAX

Chapter 1. Introduction

TMAX stands for Tedit Macros And eXtensions and it enhances TEdit by providing a convenient way to do things such as numbering, indexing, creating a table of contents, and more. At SUMEX these sort of operations are done with Scribe.[1] Scribe is a powerful document preparation language but it consumes all together too many cycles on our mainframe. Furthermore with Scribe you must hardcopy your document to see what it looks like. If you want to change the format, you must add the appropriate commands to the Scribe input file, run Scribe again, and hardcopy the output file. This sort of "batch processing" wastes both yours and the mainframe's time. TEdit is a WYSIWYG (What You See Is What You Get) text editing and formatting system. You see what your document will look like while you are creating it.

TMAX makes no attempt to mimic Scribe in TEdit nor does it have any facility to translate a Scribe .MSS (i.e. source) file into a TEdit file. Rather it implements some of the more commonly used features of Scribe in TEdit. Currently there are four main areas in TMAX; indices, numbering, endnotes, and forward and backward references. The TMAX features described here plus the editing and formatting features already available in TEdit make it an attractive alternative to Scribe. For more information on TEdit, please read the first part of the **Text Editing** section in **The Lisp Library Packages Manual**.

All the features described here are merely additions to a TEdit document. TMAX does not alter your text in any way. When you invoke one of these features, TMAX inserts a "special character" (i.e. an Image Object)[2] into your document at the current cursor position. These "special characters" may appear to be strings but they are really just single characters. This means you can delete any TMAX feature you add by simply deleting the corresponding "special character" just as you would delete any other character. The features described in this document are also used throughout this document. Rather than including pictures of each menu (and there are lots of them), we have decided to show you how to pop-up these menus yourself. This document is both an explanation and example of how to use TMAX. We suggest you read this document under TMAX/TEdit and try these features as you read about them. This document was written assuming you are reading it in a TEdit window.

Chapter 2. Menus

When you first load TMAX.DCOM, a new item called **TMAX Menu** is added to the main TEdit pop-up menu. Since you probably used this menu to **Get** this document, you may have already seen this new item. Buttoning **TMAX Menu** brings up the TMAX menu which is attached to the top of your TEdit window. Now you can invoke the TMAX features by simply buttoning items in this menu. You can remove this window by right buttoning the mouse in its title bar and selecting Close (just as you would remove any other TEdit menu). The small window just above this window is called the "prompt window". TMAX uses this window both to prompt you for text input and to report current values and status. Please pop up the TMAX Menu now by pointing the mouse at the black bar above this window, left or middle buttoning it, and selecting **TMAX Menu**.

There are three types of fields in the TMAX menu; labels, values, and commands. You select items by pointing the mouse at the item and pressing either the left or middle button.

1) The fields on the far left of each line (Miscellany:, References:, etc.) are simply labels that specify the nature of the items on the rest of that line. You cannot select these label fields.
2) There are eight items that are used to set values. Five of the items are toggle switches, two define output filenames, and one pops up a menu of possible settings.
   2.a) The five toggle switches are ***Set AutoUpdate***, ***NGroup Menu***, ***Text Before***, ***Text After***, and ***Manual Index***. They are all in a bold italic font to distinguish them from other items. These 2-way toggle switches appear in normal video (as they are above) when they are off and in reverse video when they are on. Buttoning these items complements their current setting.
   2.b) **TOC Filename:** and **Index Filename:** are used to define the name of the Table-Of-Contents and Index file respectively. When these items are buttoned, the cursor

appears to the right of the colon and TMAX waits for you to specify a filename. On a **Get** these items are defaulted to the name of the input file with the extensions .TOC and .INDEX.

2.c) The last value item is **Reference By** and the light face field following it is its current setting. Buttoning this item pops up a menu of possible settings.

3) All the other items (everything except labels and values) are commands. Buttoning these items invokes the corresponding TMAX feature. These items turn to reverse video while they are active and then return to normal video when they finish.

Many of the TMAX features use pop-up menus. Buttoning the mouse outside any pop-up menu is equivalent to no selection and will make that menu disappear. Whenever TMAX prompts you for a new value, it always displays the current value in the prompt window.

We will now discuss each item in the TMAX menu in detail. Since many of the items interact with other items, it is difficult to find a starting point. Instead we have described the TMAX menu row by row and left to right within each row. We suggest you first peruse this document to get a general idea of the features and then focus on the areas that interest you.

Chapter 3. Miscellany

3.1 Update

When you use TMAX to do some sort of numbering, TMAX inserts a "marker" rather than the actual number. It does this for speed since it is much faster to insert a marker rather than figure out the corresponding numeric value each time. Buttoning **Update** will convert all these markers to their corresponding (and consecutive) numeric values. In addition, any References (see chapter 4) to these numbers will be updated. Finally, if the Endnotes (see chapter 5) have already been inserted, **Update** will reinsert them but this time with the actual Endnote numbers. Currently the only numbering constructs in TMAX are Endnotes, Number Groups, and References to them. Please button **Update** now and watch all the changes.

3.2 Undo Update

Buttoning this item undoes everything that **Update** does. That is it converts all the Endnote and Number Group numbers back to their corresponding markers along with any References to these numbers. If the Endnotes have already been inserted, **Undo Update** will reinsert them but this time with the Endnote numbers replaced by their markers.

3.3 Set AutoUpdate

When this toggle switch is on, all numbering markers are immediately updated to their corresponding numeric value as they are inserted. Note that it only updates inserted markers; it does not automatically update any markers in a TEdit file that you load via **Get**. We do not encourage setting this switch for large documents. This switch causes TMAX to check every number it generated in the entire document whenever a new number is inserted. For large documents this could take some time.

3.4 Current Date/Time

Buttoning this item inserts the current date into your document. For example, the date enclosed in the following parentheses (April 22, 1987) was inserted by buttoning **Current Date/Time**. Middle buttoning this inserted date pops up a Date/Time menu. If you'd like to see this menu, go ahead and middle button the date in the parentheses. This menu allows you to change the format of the date/time, replace the date with the time, or update an old date/time to the current date/time. The font is the same as the font currently in effect in your TEdit document when the date/time was inserted.

Chapter 4. References

These commands allow you to reference Endnotes and Number Groups by either their numeric value or by the page number they appear on. A Reference is simply an association between a "Tag" and a reference to that Tag. To assign a Tag, middle button the Endnote or Number Group marker (or its numeric value if it has already been updated). A menu will pop up and one of the items will allow you to define a Tag for the Endnote or Number Group. If the Endnote or Number Group is already tagged, the menu will allow you to change or delete the Tag. All the Tags in a document must be unique and TMAX will not allow you to create a Tag that is already defined. If you COPY a tagged Endnote or Number Group within the same window, TMAX will remove the Tag on the copied object. If you COPY a tagged object to another TEdit window, TMAX will preserve the tag assuming that Tag name isn't defined in the other TEdit window. The font of a Reference is the same as the font currently in effect in your document regardless of what font is used to display the Endnote or Number Group.

As an example, we have tagged both the Endnotes chapter (a Number Group on page <5/Page>) with "EN Chap" and the Endnote at the end of this sentence with "EN Note".[3] Now we can reference the Endnotes chapter as 5 and the previous Endnote as 3. Also the page number of the Endnotes chapter above was generated by a Reference to "EN Chap" by page instead of by value. You will have to button **Update** to convert the "<Chapter/Value>" and "<Note#/Value>" to their respective numeric values. Of course, if ***Set AutoUpdate*** was on, the "<Chapter/Value>" and "<Note#/Value>" would be converted as soon as they were inserted.

4.1 Reference

TMAX will prompt you for a Tag name when you button this item. A bare carriage return cancels this command. It doesn't matter if the Tag you specify is defined yet or not. If the Tag is not defined, the Reference marker is "<Reference Tag/Type>" where Tag is the Tag name and "Type" is either Value or Page. In this case the Tag name is embedded in the marker. If the Tag is defined, the Reference marker is either <Note#/Type> for Endnotes or the Number Group marker enclosed in angle brackets (e.g. <Chapter/Type>). In this format there is no indication of what the Tag name is. If you middle button a Reference marker (whether it is updated or not), TMAX will display the corresponding Tag in the prompt window. All Reference markers that have not been updated are enclosed in angle brackets (i.e. < and >) to distinguish them for normal text.

4.2 Previous References

Buttoning this item brings up a menu of all the defined Tag names in alphabetical order. You can then create a Reference to one of these Tags by simply buttoning the corresponding Tag in this menu. Although it doesn't matter if you define the Tags or References to these Tags first, we suggest you define the Tags first. Once the Tags are defined you can use this command to easily create the References to these Tags. If you button **Previous References** now you will see all the Reference Tags defined in this document.

4.3 Reference By

This item allows you to select whether you want References by numeric value (of the Endnote or Number Group) or by the page number (on which the Endnote or Number Group appear). Buttoning this item pops up a menu with three items; Ask, Value, and Page. If you select Value or Page then all References you add will be of the type you specified. If you select Ask then TMAX will prompt you for the type every time you make a Reference. As you can see in the TMAX menu above, the default Reference type is by Value.

There is one minor inconvenience with doing forward references by page. You must do a dummy hardcopy and then button **Update** before the real hardcopy. The reason is TEdit only knows the current page number while it is hardcopying a document. As TMAX encounters Endnotes and Number Groups, it saves their corresponding page numbers. If you reference an Endnote or Number Group that TMAX hasn't seen yet then it can't possibly know the corresponding page number. In this case, TMAX will change the Reference marker to the Endnote's or Number Group's numeric value followed by "/Page" both enclosed in angle brackets (e.g. <1.2/Page>) to indicate that the page number is not known yet. This only applies to forward references by page. You don't have to do a dummy hardcopy if you are referencing by value or doing backward references by page.

Chapter 5. Endnotes

These commands allow you to generate a numbered list of notes. Endnotes are like footnotes except the numbers and corresponding text appear at the end of the document rather than the bottom of the page. (TMAX does not support footnotes yet.) The Endnote numbers are consecutive and always start at 1. If you add an Endnote in the middle of a document, all the following Endnote numbers will be adjusted automatically. Suppose for example you have three Endnotes and you add another between Endnotes 1 and 2. The new Endnote becomes 2 and the Endnotes that were formerly 2 and 3 are now 3 and 4. This will happen when you button **Update** (or immediately if ***Set AutoUpdate*** is on). The font of the Endnote numbers, text, and title line is determined by the **Set Style** command and the default font is Gacha 10 Standard.

If you middle button an inserted Endnote marker, a menu will pop up allowing you to define a Tag for this Endnote marker or edit the text associated with this Endnote marker. If this Endnote already has a Tag, this menu will give you the option of changing, deleting, or displaying the Tag or editing the Endnote text. If you choose to edit the Endnote text, you will be prompted to open another TEdit window where the text will be displayed. When you are done editing the text, move the mouse to the title bar (i.e. the thick black bar at the top of the new TEdit window) and left or middle button the mouse. A menu will pop-up giving you the option of saving or aborting the changes. There is a sample Endnote at the end of this sentence you can play with.[4]

5.1 Endnote

Buttoning this item inserts an Endnote marker at the current cursor position. The Endnote marker is a superscript "Note#". You will also be prompted for the text associated with this Endnote.

5.2 Insert Endnotes

This item inserts the title line "Notes" followed by the Endnote numbers and their corresponding text after the last line in your TEdit document. If you have already inserted the Endnotes and button this command again, TMAX will delete the old Endnotes and then reinsert them. It does this in case you have added or deleted any Endnotes since the last time they were inserted.

5.3 Delete Endnotes

Buttoning this item undoes what **Insert Endnotes** does. It deletes the title line "Notes" and the Endnote numbers and text that follow from the end of your document.

If you already inserted the Endnotes and wish to add more text at the end of your document, you ***must*** first delete the Endnotes with this command. If you don't, the additional text at the end of your document will be deleted when the Endnotes are reinserted. Suffice it to say this is due to the way Endnotes are implemented rather than a bug in TMAX. A future version of TMAX will fix this awkwardness.

5.4 Set Style

Buttoning this item pops up the Endnote Fonts menu. This menu has three items; Number, Title, and Text. You can use this pop-up menu to change the font of the Endnote numbers, title line, and text. The title line is always "Notes". When you select one of the items from this menu, the current font of that item will be displayed in the prompt window before TMAX prompts you for the new font.

Chapter 6. Number Groups

The Number Group (NGroup) commands allow you to number any arbitrary objects in your TEdit document. You define the hierarchy, font, and format of each NGroup member and then insert them wherever you want something numbered. The NGroup numbers are consecutive and start at 1 by default although you can change the starting value. This allows you to number individual pieces of a document without having to load the entire document. Some NGroup values depend on other NGroup values. For example, the sections of this document each begin with the corresponding chapter number. Each time the chapter number changes, the section number is reset to its starting value. You can nest NGroups as deep as you like. If you insert a new NGroup member in the middle of a document, all the following NGroup members that depend on this new member will be adjusted when you button **Update** (or immediately if ***Set AutoUpdate*** is on). This makes it trivial to number (and renumber) things. All you do is insert an NGroup member wherever you want something numbered and TMAX takes care of all the rest. The default NGroup font is Gacha 10 Standard.

6.1 NGroup Menu

When this toggle switch is on, the NGroup menu "graph" is displayed in a window attached to the top of the TMAX menu window. The Number Group graph is a tree structure showing the hierarchy and order of all the Number Group members. If you haven't buttoned ***NGroup Menu*** yet, please do so now.

6.2 New NGroup

This item allows you to create new Number Group members. When it is buttoned, TMAX first turns on ***NGroup Menu*** if it was off so you can see the NGroup graph. It then prompts you for the name of the NGroup member. Finally TMAX prompts you for the parent of this new NGroup member by popping up a menu of the known NGroup names and you select the parent from this menu. By parent we mean the node to the immediate left in the NGroup graph. If you don't select any parent (i.e. button the mouse outside the pop-up menu) the new NGroup becomes a "top level" node. A top level node is one whose parent is the boxed **NGroups** (at the far left). The NGroup graph is always built from left to right. Since the first NGroup member defined will have no parents, TMAX just adds this member to the graph. You can create as many NGroup members as you like even if you don't use them all. As long as there is at least NGroup in you document, the entire NGroup graph will be saved/restored over a **Put**/**Get**.

6.3 Text Before

When this toggle switch on, you will be prompted for a preceding text string each time you insert a NGroup member. This text string becomes part of the inserted NGroup marker. You can use this string as a heading for the chapter, section, figure, example, etc. you have numbered. The text string is always printed in the same font as the corresponding NGroup member and TMAX always inserts one space between the preceding text string and the NGroup marker. If you would like more spaces, you must put them in the ***Text Before*** string

yourself. Any tabs in this string are automatically converted to spaces. The default ***Text Before*** string is the name of the NGroup. In this document all the Chapter NGroup markers were inserted with ***Text Before*** on and the Section NGroup markers were inserted with ***Text Before*** off.

6.4 Text After

When this toggle switch on, you will be prompted for a succeeding text string each time you insert a NGroup member. This text string becomes part of the inserted NGroup marker. You can use this string as a heading for the chapter, section, figure, example, etc. you have numbered. The text string is always printed in the same font as the corresponding NGroup member and TMAX always inserts one space between the NGroup marker and the succeeding text string. If you would like more spaces, you must put them in the ***Text After*** string yourself. Any tabs in this string are automatically converted to spaces. There is no default ***Text After*** string. In this document all the Chapter and Section NGroup markers were inserted with ***Text After*** on.

6.5 Changing the default Font and Format

Consider the Number Group graph in this document. The boxed **NGroups** at the far left is a special node and buttoning it does nothing. The order of the nodes in a branch is important but the order of the branches themselves isn't. If you would like to see a more complex NGroup graph then just add some more members to this graph. Don't worry; adding extra NGroup members doesn't affect anything.

When you create NGroup members by buttoning **New NGroup**, you are actually defining "prototype" NGroups. The font and format of these prototypes determine the font and format of the NGroups you insert into your document. To change the font and/or format of a prototype NGroup member, simply point the mouse to the member name in the Number Group menu graph and ***middle*** button it. A menu will pop up with four items; Change Font, Show Font, Change Format, and Show Format. Buttoning Show Font or Show Format will display the font or format of the selected prototype NGroup in the prompt window.

Buttoning Change Font or Change Format allows you to change the font or format of the selected prototype NGroup. This is a *global* change. If you change the font/format of a prototype NGroup, TMAX will apply that change to every occurrence of that NGroup in your document. Before TMAX prompts you for the new font/format, it always shows you the current font/format in the prompt window. Change Font and Change Format both have subitems that allow you to change part of the font/format without changing anything else.

The subitems for Change Font are Family, Size, and Face. If you button one of these subitems, TMAX will pop up the corresponding menu and only that part of the font will be changed. If you button Change Font instead, TMAX will prompt you for all three values via pop-up menus.

There are seven subitems for Change Format. You can change any part of the format by selecting one of these subitems. If you button Change Format instead, TMAX will prompt you for all seven values. Six of the values use pop-up menus and the other requests input in the prompt window. The seven parts of the prototype format are:

i: Delimiter Before
This is the delimiter that precedes the NGroup. TMAX pops up a menu of commonly used delimiters. You can select one of these or select Other in which case TMAX will prompt you for a delimiter string in the prompt window. The default Delimiter Before is a null string.

ii: Display Type
This is how the NGroup's numeric value is displayed. TMAX pops up a menu of the various ways a NGroup can be displayed. These ways are as an Arabic numeral, a null string, or an upper/lowercase letter or Roman numeral. The default is as an Arabic numeral.

iii: Delimiter After
This is the delimiter that follows the NGroup. It uses the same mechanism as the Delimiter Before. The default Delimiter After is a period (i.e. ".").

iv: Abbreviate Level
Normally a NGroup's value is the concatenation of all its parents values plus its own value. This subitem allows you to specify how far up the NGroup branch to go when computing a NGroup's value. TMAX pops up a menu containing this NGroup name and all its parents. You control how much of the NGroup value to display by selecting

the first NGroup to be used in this NGroup's value. Note that this subitem doesn't actually change the NGroup value; it only determines how much of this value to display. Since top level NGroups only have a single value, you cannot abbreviate them. The subitems listed here are numbered with the NGroup "Sect Cntr" which as been abbreviated such that it only prints its own value without any of its parents values.

v: Starting Value
This is the starting value of the NGroup. TMAX prompts for the new value in the prompt window rather than using a menu. The default Starting Value is 1.

vi: Table-Of-Contents
This is a flag that says whether or not this NGroup will be included in the Table-Of-Contents file should you decide to create one. The default is to include all NGroups in the Table-Of-Contents file.

vii: Manual Index
This is a flag that says whether or not this NGroup should be included in the manual-style index. Note that this item is only offered if the ***Manual Index*** (see section 8.4) toggle switch is on. The default is to not include any NGroups in the manual-style index.

6.6 NGroup Delimiters

The Delimiter Before/After construct allows TMAX to support any numbering format. Since the default Delimiter Before is a null string and the default Delimiter After is a period, the default number format is of the form "1.", "1.2.", "1.2.3." etc. You may have noticed that this document uses this default form for the Chapter numbers but not for the Section numbers. To see how we did this just middle button Chapter in the NGroup graph above and select the Show Format item from the pop up menu. Then do the same for Section. The field following "Display=" consists of the Delimiter Before, the Display Type, and the Delimiter After in that order.

There is one small anomaly with delimiters, namely the case where one NGroup has a Delimiter After (e.g. Chapter) and the following NGroup has a Delimiter Before (e.g. Section). If the Delimiter Before is not a null string then it will *always* override the Delimiter After in the preceding NGroup regardless of what the Delimiter After is. For example, if the Delimiter After for Chapter was a colon and the Delimiter Before for Section was a dash then chapter numbers would look like "1:" and section numbers would look like "1-2.".

6.7 Inserting Number Groups

You create NGroup members by buttoning **New NGroup**. To insert an NGroup member into your document, simply point the mouse to the appropriate name in the Number Group menu graph and ***left*** button it. The NGroup member name enclosed in square brackets (e.g. [Chapter]) will be inserted at the current cursor position in whatever font you have specified for this member. All NGroup markers that have not been updated are enclosed in square brackets to distinguish them from normal text. TMAX will warn you if you insert NGroups out of order. For example, in this document you should not insert "Section" until you insert "Chapter" because the value of Section depends on the value of Chapter.

6.8 Customizing inserted Number Groups

Although the font/format of the prototype NGroup determines the font/format of the inserted NGroup, you can change the font and certain parts of the format after the NGroup is inserted. Any change you make is *local* to that particular NGroup; it does not affect any other NGroups. If you middle button an inserted NGroup, a menu will pop up allowing you to define a Tag and show/change the font and format of the selected NGroup. If the NGroup already has a Tag, this menu will give you the option of changing, deleting, or displaying the Tag. The Show Font and Change Font items work exactly the same as those for the the prototype NGroups but the Show Format and Change Format are slightly different. The Starting Value and the Table-of-Contents and Manual Index flags can only be set for the prototype NGroup. You cannot change these for a particular inserted NGroup.

There are six subitems for Change Format. You can change any part of the format on an inserted NGroup by selecting one of these subitems. If you button Change Format instead, TMAX will prompt you for all six values. Four of the values use pop-up menus and the other two request input in the prompt window. The six parts of an inserted NGroup's format are:

i: Delimiter Before
This works exactly the same as the Delimiter Before subitem for the prototype NGroups except the change doesn't affect any other NGroups.

ii: Display Type
This works exactly the same as the Display Type subitem for the prototype NGroups except the change doesn't affect any other NGroups.

iii: Delimiter After
This works exactly the same as the Delimiter After subitem for the prototype NGroups except the change doesn't affect any other NGroups.

iv: Abbreviate Level
This works exactly the same as the Abbreviate Level subitem for the prototype NGroups except the change doesn't affect any other NGroups.

v: Text Before
This allows you to add, change, or delete the text string preceding the NGroup regardless of the setting of the ***Text Before*** toggle switch. TMAX will prompt you for the new string in the prompt window. A bare carriage return deletes the text before the NGroup. If you do specify a string, remember that TMAX will always append a space to the end of the string. Unlike inserting a NGroup with ***Text Before*** on, there is no default string.

vi: Text After
This allows you to add, change, or delete the text string following the NGroup regardless of the setting of the ***Text After*** toggle switch. TMAX will prompt you for the new string in the prompt window. A bare carriage return deletes the text after the NGroup. If you do specify a string, remember that TMAX will always append a space to the beginning of the string.

6.9 Pruning the NGroup graph

As mentioned before, the entire NGroup graph is saved/restored over a **Put**/**Get** even if some of the NGroup members aren't used in the document. We have described how to add members to this graph but not how to delete them. TMAX has two ways to delete unused NGroup members from the graph.

The first way is to Copy text (including the inserted NGroups) from one TEdit window to another. TMAX will only copy enough of the NGroup graph to handle the NGroups in the copied text. For example, you can remove every unused NGroup member from the graph by copying the entire document to another TEdit window.

The other way is to set the global variable TMAX.PRUNE.NGRAPH to T, open a TEdit window, and then **Get** the document. On a **Put** TMAX writes out the NGroup graph data structure. On a **Get**, TMAX checks this flag and if it is true, it creates the NGroup graph from the NGroups that appear in the document rather than from the NGroup graph data structure. There is a potential problem with using this feature. TMAX creates the NGroup graph from the first occurrence of each NGroup in the document. If the first occurrence of a particular NGroup has been modified (see section 6.8) then TMAX will use this modified format as the new prototype format. There are no problems if the first occurrence of each NGroup has not been modified.

Chapter 7. Contents File

One of the benefits of using NGroups is the Table-Of-Contents (TOC). By default all NGroups are included in the TOC along with their corresponding ***Text Before*** and/or ***Text After*** strings if any. If you don't want certain NGroup members included in the TOC, you can specify this by changing the NGroup's prototype format. Although this document has several NGroups, we have decided to include only the Chapter and Section NGroups in the TOC. The page numbers in the TOC are always printed in the Gacha 10 Standard font.

7.1 Create TOC
Buttoning this item creates a TEdit Table-Of-Contents file. You must first specify the name of the TOC file via the **TOC Filename:** item. Each line in the TOC consists of the ***Text Before*** string (if any), the NGroup number, the ***Text After*** string (in any), a dotted leader, and the page number on which this NGroup appears. Note that the TOC file itself does not contain any TMAX features. It is a simple TEdit text file.

7.2 View TOC
Buttoning this item first creates the TOC file (via **Create TOC**) and then prompts you for a TEdit window where TMAX displays the TOC file it just created.

7.3 TOC Filename:
This item allows you to specify the name of the TOC file. When this item is buttoned, the cursor will appear just to the right of the colon. You then type the name of the TOC file and terminate it with a carriage return. You can edit this filename string anytime. If you have

already terminated the string, just button the item again. The editing features available here are the same as those available in the EXEC window. If you **Get** a TEdit/TMAX file, the **TOC Filename:** defaults to that file with a **.TOC** extension.

NOTE... You must hardcopy your document before creating the TOC file. The reason is TMAX needs the page numbers for the TOC file but TEdit only knows the page numbers while the document is being hardcopied. During the hardcopy process, TMAX saves the page number for each NGroup member. If you create the TOC without first hardcopying your TEdit document, the page numbers in the TOC will be NIL.

Chapter 8. Indices

TMAX allows you to insert index requests into your document and create a sorted file of these indices including the page number each index appears on. There are two types of index requests; simple and extended. The format of the index marker depends on the type of index request. But, regardless of the type of index, it is important to note that the index markers are only displayed in the TEdit window. If you hardcopy the TEdit document, you will ***not*** see these index markers. TMAX always encloses index requests in curly braces (i.e. { and }) to distinguish them from normal text. **Update** and ***Set AutoUpdate*** have no effect on index requests.

8.1 Index

When this item is buttoned TMAX will prompt you for the index "Key". It will then insert the marker "{Index key}" into your document at the current cursor position. TMAX uses these keys to sort the indices and the sorting is case independent. The key is also printed in the Index file along with the page number(s) it appears on. Currently all simple indices are printed in the Gacha 10 Standard font. For example, we have indexed the phrase "Indexing requests" in the following parentheses (). Of course you will not see this index marker if you hardcopied this document. You can change the index key by middle buttoning the index marker. TMAX will bring up a one item menu (Change Index). If you button this item, TMAX will prompt you for the new index key.

8.2 Extended Index

This is a fancy form of indexing. When this item is buttoned TMAX first prompts you for the key to sort on. TMAX then prompts you for the "Entry" and its font. This is what is printed in the Index file instead of the key. If you do not specify an entry, it defaults to whatever the key is and the font defaults to Gacha 10 Standard. Finally, TMAX prompts you for the index page number option. There are three options; print the normal page number, print a fixed page number that you supply, or don't print any page number at all. TMAX then inserts the index marker "{Index Key=key, Entry=entry, Option}" into your document. The option is "Yes" if the page number is to be included in the index file, "No" if the page number is not included, or the numeric value if a fixed number is to be used in the index file. For example, we have (extended) indexed the word "Spies" but we want "Boris & Natasha" printed instead in the Helvetica 12 Italic font. The extended index is enclosed in the following parentheses (). Of course you will not see this extended index marker if you hardcopied this document. You can change any of the fields in an extended index request by middle buttoning the index marker. TMAX will bring up a one item menu (Change Extended Index). If you button this item, TMAX will prompt you for the new index key, entry, font, and number values.

8.3 Known Indices

Buttoning this item brings up a menu of all the indices and extended indices specified so far in alphabetical order. You can insert another **Index** or **Extended Index** request by simply buttoning the appropriate item in this pop-up menu. This makes it trivial to index the same items throughout a document. Indices are simple items but extended indices have subitems because several extended indices can have same key but completely different entries, fonts, and/or page number options. To insert an extended index, you must button the appropriate subitem; buttoning the extended index item has no effect. The extended index subitem shows the entry, font, and page number option. If you button **Known Indices** above, you will see the two indices used here as examples.

8.4 Manual Index

When this toggle switch is on, the page numbers in the index file are printed in "manual format". By manual format we mean something like "III:25.7" for chapter 3, section 25, page 7 (assuming the chapter's format has been changed to print Roman numerals following by a colon). You specify which NGroup members are included in the manual index page number. To include a NGroup member in the manual format page number, first make sure this toggle switch is on. Then change the format of the NGroup members you want included. The code to change the NGroup format checks the ***Manual Index*** switch setting. If the switch is on, the code asks if you want the selected NGroup member included in the manual index. You can

only include the members of one major branch of the NGroup graph in the manual index page numbers. Using this document's NGroup graph as an example, you can include either or both members in the Chapter-Section branch ***or*** the single member in the NG Format branch but ***not*** both. TMAX will only allow you to include an NGroup member in the manual index if there are no other members included yet or the included members are in the same branch as the new member. The reason is there is no correlation between the numbers in disjoint branches in the NGroup graph. If you don't specify manual indexing, TMAX defaults to "book format" indexing. With book format the index file page references are just the page numbers themselves.

Chapter 9. Indices File

These commands allow you to write out an index file sorted by the index keys. As we mentioned before, the sorting is case independent. The page numbers (for both "book" and "manual" style) are always printed in the Gacha 10 Standard font.

9.1 Create Index

Buttoning this item creates a TEdit sorted index file. You must first specify the name of the index file via the **Index Filename:** item. For simple indices each line in the index file consists of the index key followed by the page number(s) on which this index key appears. Extended indices are treated a little differently. Each extended index is printed on a separate line. Note that the index file does not contain any TMAX features. It is a simple TEdit text file.

9.2 View Index

Buttoning this item first creates the index file (via **Create Index**) and then prompts you for a TEdit window where TMAX displays the index file it just created.

9.3 Index Filename:

This item allows you to specify the name of the index file. When this item is buttoned, the cursor will appear just to the right of this item. You then type the name of the index file and terminate it with a carriage return. You can edit this filename string anytime. If you have already terminated the string, just button the item again. The editing features available here are the same as those available in the EXEC window. If you **Get** a TEdit/TMAX file, the **Index Filename:** defaults to that file with a **.INDEX** extension.

NOTE... You must hardcopy your document before creating the index file. The reason is TMAX needs the page numbers for the index file but TEdit only knows the page numbers while the document is being hardcopied. During the hardcopy process, TMAX saves the page number(s) on which each index appears. If you create an index file without first hardcopying your TEdit document, the page numbers in this index file will be NIL.

Chapter 10. Specifying a Font

TMAX uses the same mechanism whenever it prompts you for a font. To specify a font you must select a value from each of three different menus. The first pop-up menu is used to specify the font family. The font families are Classic, Gacha, Helvetica, Modern, and Times Roman. After you select the family, the font size menu pops up. This menu contains the sizes 6, 8, 10, 12, 14, 18, 24, and 36. After you select the size, the font face menu pops up. The font faces are Standard, Italic, Bold, and Bold Italic.

The default for any value not specified (i.e. the mouse is buttoned outside the pop-up menu) is whatever it was before. The default font always starts out as Gacha 10 Standard. Therefore, if you select a new family (say Helvetica) and button the mouse outside the font size and face menus, the new font would be Helvetica 10 Standard. Now if you were to button the mouse outside the font family and size menus and select a new face (say Bold), then the new font would be Helvetica 10 Bold.

Some TMAX functions (like **Set Style**) require you to select values from three different menus. Other functions (like changing a NGroup font) allow you to change one of the three fields directly without changing the other two. This is exactly equivalent to selecting a value from one menu and buttoning the mouse outside the other two menus.

Chapter 11. Random thoughts and hints

- You can Copy any of the TMAX features. from one TEdit window to another and TMAX will automatically set up the internal data structures necessary to support that feature in the destination window. For example, if you Copy a NGroup marker, TMAX will automatically set up

the NGroup graph. Note that it only sets up enough to support what was copied; TMAX does not set up the entire NGroup graph.

- TMAX does not support Move. If you want to move any TMAX features, you will have to Copy and then delete the features.

- If you just want to select a TMAX feature, you should do so with the left mouse button. The right button will select the feature as well but it also causes TMAX to pop up a menu. Every TMAX feature pops up a menu if it's middle buttoned.

- Regarding forward page References and doing a "dummy" hardcopy, we do the dummy hardcopy to a file whose device is {NODIRCORE} and whose extension corresponds to the eventual hardcopy device (e.g. {NODIRCORE}X.INTERPRESS). NODIRCORE is the bit bucket and the extension causes TEdit to load the appropriate fonts so the real hardcopy will go a little faster.

- Remember that changing the font/format of a prototype NGroup will also change every occurrence of that NGroup in the document. Therefore you should settle on the font/format of the prototype NGroups before you start customizing any inserted NGroups (see section 6.8).

- Occasionally TEdit (not TMAX) has problems displaying some TMAX features. For example, if you change the prototype NGroup font then every occurrence of that NGroup also changes. Sometimes it looks like only the first occurrence has changed when in fact they all have. If you Redisplay the window, it will look like it should. It is a good idea to Redisplay the TEdit window whenever you think it doesn't look right.