MECCA™ 2000

INTEGRATED ELECTRONIC PUBLISHING SYSTEM

Batch Composition

AMGRAF, INC.

MECCA™ 2000 Version 5.05

These specifications are subject to change without notice.

1501 Oak Street • Kansas City, MO 64108-1424
Phone: (816) 474-4797 • Fax: (816) 842-4477
E-Mail: info@amgraf.com • Internet: www.amgraf.com

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Chapter 1: What is Batch Composition

Batch composition files are coded text files processed through a pagination program on MECCA 2000 which creates final artwork.

The composition system produces camera-ready pages. It is flexible enough to produce almost any type of publication through page setup files (format files) which hold the commands that control the design of the document.

Once the user completes the input and editing procedures, the compose program processes all elements and prints a paginated proof of the document. Page breaking and page numbers can be handled automatically. Corrections and changes are quickly made by editing the batch file and reprocessing.

This volume will teach you how to use the "embedded codes" needed to prepare text files for MECCA 2000, and how to use these "Batch Commands" to alter the results. You will find a complete list of the commands, explanation of usage, and step-by-step examples.

When to Use Batch Composition

Batch Composition was developed to assist in the production of large volumes of textual materials. Input, editing, and coding is accomplished through the text editor. Functions found in text editors are necessary production features during data capture, while inserting batch composition commands, and controlling subsequent revisions of large volumes of text. The main advantages of batch pagination are:

- The ability to set up standard page styles (which we call formats);
- Automatic repagination during the revision cycles of documents;
- Merging of graphics with text;
- The ability to use off-line file preparation by keyboarding and marking up files on other systems and moving them to MECCA 2000 to be processed.

Deciding whether to use the Batch Composition side of MECCA 2000 or the drawing portion involves several factors. Ask yourself these questions:

- Is the document lengthy with text that has to be broken into pages?
- Is the document going to need revision passes that will change page breaks?

- Can using Batch Composition be an advantage because of the amount of text editing?
- Will using a stored format for the design of the document be easier to manage?
- For a lengthy file, would several files holding multiple pages, be better than one file for each page.

Answering "yes" to any of the questions above would mean that Batch Composition is the way to go.

When Not to Use Batch Composition

Naturally, you can't draw a graphic with batch composition, so if the graphics portion of the page outweighs the text portion, then you are better off using the graphics package. (Now, this is unless your document needs constant page number revisions, then, you might want to consider *merging graphics* into a batch file with page numbers.)

If the page is a one-time piece and the setup would be such that the job could be completed in the same timeframe, using the {Text Functions} of the graphics package would be the way to go. It would also be easier to use the graphics portion if special designing needs required you to see exactly where each word is located on the page.

How to Use This Book

If you decide to use batch composition, look through the chapters describing the commands and their usage. MECCA's pagination program uses four types of commands. Each type has its own chapter explaining its usage and giving examples both on how to input the command and what it does when output.

See Command List for all commands listed in alphabetical order. This will help you in your search for how to produce a certain effect.

The *How Do I* chapter lists the most common questions asked concerning batch. Here we point you in the right direction. See *Standard Formats* which is completely coded formats and data files for your use.

Specialty items such as tables, blocked items, lists, and merged forms all have their own chapters. The commands and how to use them are found there.

The Five Types of Commands

MECCA 2000 has an extended command set for special composition effects. Through the use of explicit "mark-up" commands, format control can be achieved through a stored *Page Format File* or can be momentarily superseded to enhance a word, phrase or paragraph.

There are five types of commands: *Setup, Text Item, Immediate, Pagination*, and *Merge.*

Setup Commands are necessary to define the page properties and type characteristics. These commands are used in creating format files to determine specific page design and document styles.

Once defined, the information is stored in a format file for later retrieval through the **\PFMT** Pagination command.

Text Item Commands identify the strings of text in your data file and compose them as directed by their corresponding *Setup* commands.

Immediate Commands are used for special effects such as emphasis on words, phrases or paragraphs. They are called Immediate commands because they take effect immediately. When using a special effect command, insert the desired command at the position in the text where the effect should begin. Use another command to reset the effect back at the point were the effect should cease. With these commands you can change type styles, point sizes, etc., in the middle of your paragraph.

All Immediate commands are automatically canceled each time a new Text Item command begins (i.e., heading, paragraph, table).

Immediate commands are the only commands which can be used while inputting text (through your graphic menus) into an illustration.

Pagination Commands are specific instructions to the composition system. They instruct the system to read a format file or break to a new page where the command is encountered. They give the user control over page breaks, column breaks, numbering of pages, etc.

Merge Commands allow you to insert graphic images, figures, barcodes, and variable data into your text document.

Conventions Used

For your convenience in reading, all commands (and their references) are printed in uppercase letters. This is not necessary when inputting into your format and text files.

Most commands require arguments. In this reference the following conventions are used:

```
aa      =  alphabetic argument (choices listed)
n       =  numeric argument
unit    =  unit of measure (default is decipoints)
y/n     =  y (Yes) or n (No)
percent =  percentage of point size
string  =  multiple parameter arguments
```

Whenever a *unit* of measure is needed, all valid units of measure can be used. The following mnemonics apply:

```
d =  decipoint (tenth of point)
p =  points
a =  picas
i =  inches
t =  mils
c =  centimeters
m =  millimeters
```

In our examples, we will be using points, picas, and inches.

The system sees the default unit as being decipoints. This is a tenth of a point. If you forget a mnemonic following the unit, the value will be seen as 1/723 of an inch. Below is the conversion between units:

1 Pica = 12 points = 120 decipoints
and
723 decipoints = 1 inch

The system defaults to decipoints when using batch files. If you want to use other measures as your default, be sure to put the \UNITS command at the top of each of your files.

Batch Composition Commands in Alphabetical Order

\A *(space) n/n^* **Automatic Fraction**

\B^ **Bold**

\BC^ **Backup Center**

\BF^ **Backup Flush**

\BI^ **Bold Italic**

\BK^ **Black**

\BKI^ **Black Italic**

\BLKB*n* **Block Begin**

\BLKE **Block End**

\BLKX*n string* \END **Block Setup**

\CBC *string^* **Combine Characters**

\CBI *y/n* **Column Balance Indicator**

\CBT *unit* **Column Balance Tolerance**

\CD *n* **\END Column Description**

\CF *(space) aa^* **Change Font**

\CLR *n^* **Change Color**

\CM *(space) aa^* **Change Mode**

\COLX*n string* \END **Column Setup**

\CVJ *y/n* **Column Vertical Justification**

\D^ **Down for Subscript**

\DN *unit^* **Move Baseline Down**

\EFORM **End Merged Form Commands**

\ETP **End Tab Position**

\F^ **First Point Size Reset**

\FE^ **Footnote End**

\FIGURE *string* \END **Merge Figure**

\FILL^ **Leader Fill - Default**

\FILL *n^* **Leader Fill - User Defined**

\FJ^ **Force Justify Line**

\FN^ **Footnote Reference**

\FS^ **Footnote Start**

\GRE *n^* **Graduated Color End**

\GRS *n,angle^* **Graduated Color Start**

\HD*n* **Heading**

\HDX*n string* \END **Heading Style Setup**

\HMAX *n* **Maximum Word Spacing**

\HMIN *n* **Minimum Word Spacing**

\HNOM *n* **Normal Word Spacing**

\HR *unit,unit^* **Horizontal Rule**

\HSA *unit^* **Horizontal Space Relative**

\HSPA *unit^* **Horizontal Space Absolute**

\HSZ *unit^* **Horizontal Size**

\HV^ **Heavy**

\HVI^ **Heavy Italic**

\HYMA *n* **Characters After Hyphen**

\HYMB *n* **Characters Before Hyphen**

\HYMC *n* **Consecutive Hyphens Allowed**

\HYMG *n* **Hyphenation Goodness Range**

\HYML *n* **Hyphenation Word Length**

\I^ **Italic**

\KERN *y/n* **Kerning Switch**

\KSIZ *unit* **Kerning Size**

\L^ **Light**

\LASER **Select Output Device**

\LD *unit*^ **Individual Line Lead**

\LEAD *unit*^ **Paragraph Line Lead**

\LDX*n string* \END **Leader Fill Setup**

\LI^ **Light Italic**

\LMAX *n* **Letter Spacing Maximum**

\LMIN *n* **Letter Spacing Minimum**

\LNOM *n* **Letter Spacing Value**

\LS *y/n* **Letter Spacing Switch**

\LYR *n* **Change Layer**

\M^ **Medium**

\MBARCODE *string* \END **Merge Barcode**

\MI^ **Medium Italic**

\MFORM *string* \END **Merge Form**

\NOAPB **No Automatic Page Break**

\N^ **Normal**

\NC^ **Next Column**

\NEP^ **New Even Page**

\NL^ **New Line**

\NOP^ **New Odd Page**

\NP^ **New Page**

\OL^ **Outline Type**

\OLSIZ *percent*^ **Outline Weight**

#P **Sequential Page Numbering**

\P*n* **Paragraph Start**

\PDEF *string* \END **Page Definition Setup**

\PFMT *filename* \END **Page Format**

\PFUT*n* **Page Foot**

\PFUTX*n string* \END **Page Foot Setup**

\PHED*n* **Page Heading**

\PHEDX*n string* \END **Page Head Setup**

\PN *n* **Page Number**

\PSFORM *string* \END **PostScript Form**

\PSZ *unit*^ **Point Size**

\PX*n string* \END **Paragraph Style Setup**

\R^ **Reset for Super/Subscript**

\RF^ Restore Font

\RV^ **Reverse Type**

\SCRN *n* **Set Screen Lineage**

\SF^ Save Font

\SP *y/n* **Literal Space Switch**

\STP **Set Tab Position Ruler**

\STPSV **Save Tab Position Ruler**

\SUBOFF *percent*^ **Subscript Offset**

\SUBSIZ *percent*^ **Subscript Size**

\SUPOFF *percent*^ **Superscript Offset**

\SUPSIZ *percent*^ **Superscript Size**

\TBX*n string* \END **Tab Setup**

\TE **Table End**

\TH^ **Thin**

\THI^ **Thin Italic**

\TS*n* **Table Start**

\TSX*n string* \END **Table Style Setup**

\TXT*n string* \END **Text Style Setup**

\U^ **Up For Superscript**

\UE^ **Underline End**

\ULPOS *percent*^ **Underline Position**

\ULSIZ *percent*^ **Underline Weight**

\UNITS *type* **Units of Measure**

\UP *unit*^ **Move Baseline Up**

\US^ **Underline Start**

\VL^ **Very Light**

\VLI^ **Very Light Italic**

\VS *unit*^ **Vertical Space**

\VSZ *unit*^ **Vertical Size**

\XB^ **Extra Bold**

\XBI^ **Extra Bold Italic**

\XOL^ **Cancel Outline Type**

\XRV^ **Cancel Reverse Type**

*** Comment**

\-^ Discretionary Hyphen

\~ *a* **Tilde Character Setup**

~ Tilde Character

\nnn^ **Special Characters**

@>M **Em-Space**

@>N **En-Space**

@>T **Thin-Space**

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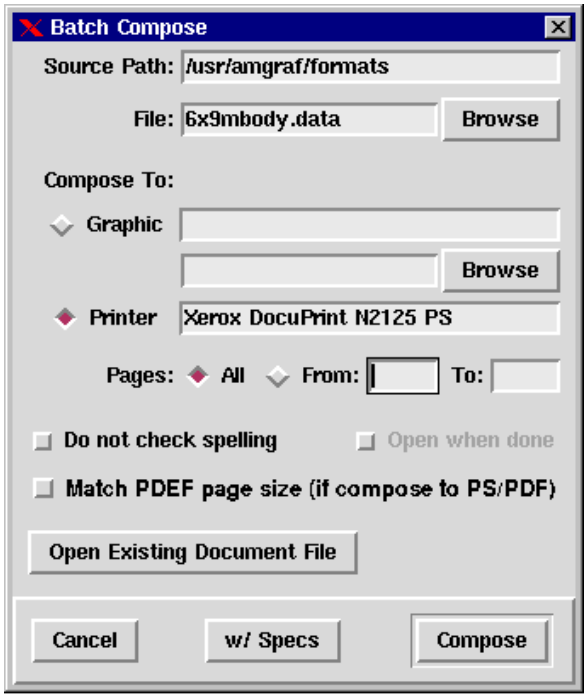
Chapter 2: Printing with Batch Composition

After putting in all of the embedded commands into your data file, you are now ready to output. Go to the **Project, Batch and More, Batch Compose** option and [Browse] for the data file.



Once you have selected the text file to be printed, you will be returned to the **Batch Compose** dialog window. Here you can select to send the file to a **Printer.** Immediately the dialog for Printer Selection will appear. After you have made your printer selection, click the **[Compose]** button to start the printing.

Spelling Check: You have a choice to have the file run through Spelling Check. It will allow you to make spelling corrections, but it is NOT correcting the data file. It is only correcting the printed version.

[w/ Specs] Button: This separate dialog under Batch Compose, was added to handle composing to printer using an external separation specs file, and selecting parts to print. (Note: once the user selects a specs file, it is loaded same as the Parts, Load; therefore the "Parts" button can be used to examine the different separation specifications.)

Note: The Open options are for batching to preview. The Match PDEF page size can be used if creating PS or PDF files.

"bcompose" and "batchcomp" Shells

A command-line equivalent to the Batch Compose option is "bcompose". It can take multiple input files and compose them to PostScript files, using a common set of options. To get a list of options, type "/usr/bin/amgraf/bcompose" and press Enter in an xterm window, or a virtual terminal.

Options for bcompose:

-Pprinter	Printer name. Optional, default 1st printer. 'printer' may be an integer: 0 is 1st, 1 is 2nd etc., per the printer order in Print dialog. Quote 'printer' if name has spaces in it.
-ttray	Tray name. Optional, default 1st tray of printer. 'tray' may be an integer: 0 is 1st, 1 is 2nd etc., per the tray order in Print dialog.
-Sspecf	Separation specs file name. Optional, if not given here, then any specs found in graphics will be used. Use -m to force "no separations".
-pM,N	Select ppd menu slot M sub-entry N; these numbers start from 0. optional and is only for printers that have 'PPD Features' menu; multiples of this option accumulate.
-sP,s1,s2	Print Part and Separations. P designates part number, seps s1 and s2 etc. -s1 prints all seps in part 1. Use additional -s for each part needed.
-arotate	Rotate. Optional, default is 0. Rotate is one of these angles: 0/90/180/270.
-odir	Output directory name. Optional, use if output to EPS, PS files or graphics. Output files will have the same base name as compose files. –o. means output to current directory.
-e	Set output files to EPS. Requires -o option.
-f	Match output PS page size to page width/depth in input PDEF command. (Note: this causes 100% scaling and no rotation.)
-g	Set output files to graphic (.g). Conflicts with -m, requires –o option. Output files will have the same base name as compose files.
-m	Set for hi-speed merge (flash) output, or force no separations. Conflicts with -g.
-M	Set multi-page PS output optimization. Ignored for -g.
-pp	Set output to be one part per page (default for color printer).
-PP	Run pmunu in page-by-page mode.
-sf	Set output to be one sep per file (for EPS files).
-3	Set output to use PostScript Level-3 features.

-cmyk Convert composite RGB raster images to CMYK on output.

-c Output with cut-marks. They will only appear if there is room, so output your letter size job to ledger size paper. Cut-marks have the job, filename, and print date next to them.

-#,# Immediately following the text filename, you can request pages for output with the numbers representing start and end page numbers. Note: Default is to output all pages. This option is not applicable for high-speed merge which uses flash output.

Examples:

bcompose –o. file1.txt – Compose file1.txt to a PostScript file. Place it in the same directory.

bcompose –o. file1.txt -2,4 – Compose pages 2 through 4 of file1.txt to a PostScript file placed in same directory.

bcompose –g -o. file1.txt file2.txt – Compose file1.txt and file2.txt to graphics and put them in the same directory as the text files.

bcompose –Sstandard.spec –s1 –s2 –pp file1.txt – Compose file1.txt to the default printer using the specification file "standard.spec". Print Part 1 and Part 2 using the One Part per Page option.

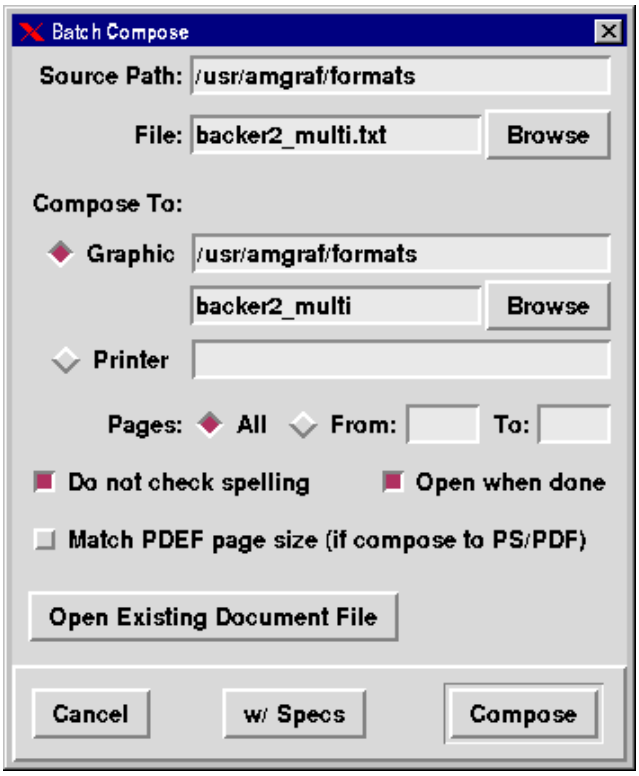
Batchcomp – A Simplified "bcompose"

There is a simplified form of the "bcompose" keyboard command that has stock options for creating an optimized PostScript file; great for distilling to PDF.

batchcomp file1.txt – Compose file1.txt to a PostScript file using options –o. -m -M -3 –f

Batching to a Graphic File and Previewing

After putting in all of the embedded commands into your text file, you are now ready to output. Go to the **Project, Batch and More, Batch Compose** option.



The [Browse] will let you locate the text file. Once you have selected your file to be batched you will be returned to the **Batch Compose** dialog window.

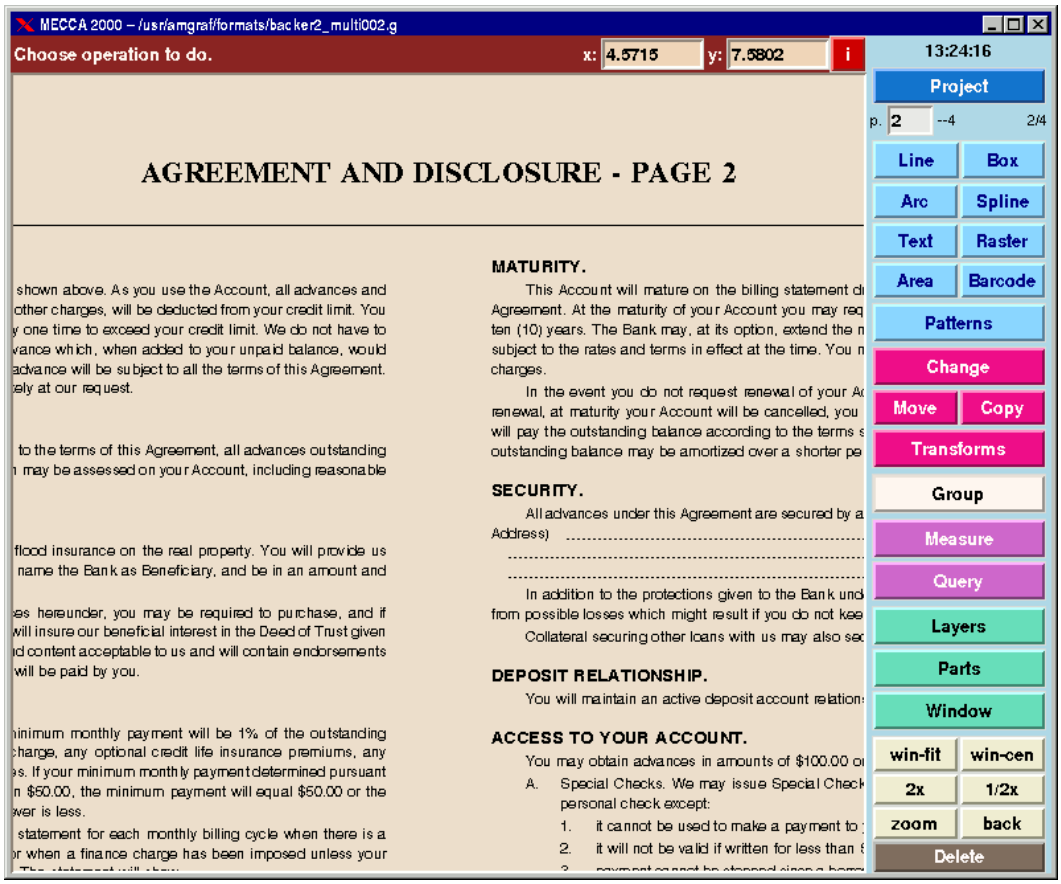
Now you can select to send the file to a **Graphic.** The Graphic Name is automatically the basename of the data file and will be given the extension .g (for graphic). Since a text file can hold data for more than one page, it will also include a page number in the name (i.e., backer2_multi001.g).

Select **Open When Done** and click the **[Compose]** button.

When Open When Done is checked, the composed graphic files are noted in a log file (basename.prv), and the 1st page will load automatically.

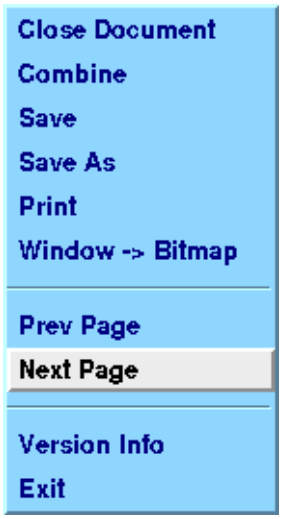
The menu area changes and a page number box will appear under the Project button. In the page number box, one can type in a page number and [Enter], or press [PageUp] for previous page, or [PageDn] for next page. This allows you a quick way to see all graphic files without having to open each one manually.

When using the Batch Compose option and outputting to Graphic, a ".prv" file is created to allow easy previewing of the graphic files.



The **[Open Existing Document File]** button in the compose dialog loads an existing .prv file, and displays the graphic file page after the one loaded last time (if last page loaded was 1, page 2 will now open).

The Project menu contents has changed: there is no "Open", nor is there "New Graphic", instead a "Close Document", plus "Next Page" and "Prev Page".

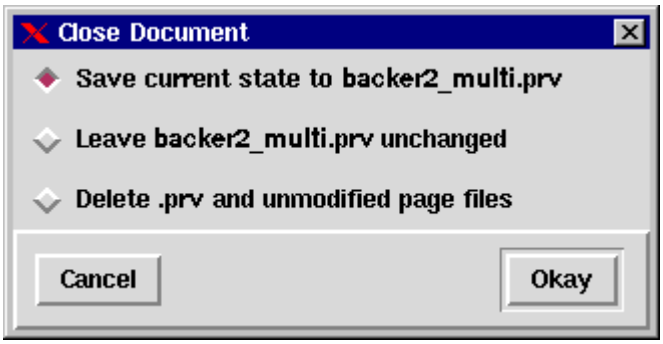


Close Document offers some choices as to how the state of the preview file should be kept.

Save Current State is saving the .prv file with a marker denoting the last page previewed. When using [Open Existing Document] it will start where you left off.

Delete will remove the .prv file and also the associated graphic files (only after they have all been looked at).

Leave Unchanged does just what it says, the .prv file and graphics are not changed.



Chapter 3: Setup Commands

This chapter covers Setup commands and how to measure your page, columns, paragraphs, etc. It is essential studying material for anyone wanting to design their own formats.

First let's look at the files necessary to create a document. Then cover the \PFMT Page Format command which refers the system to the correct setups. After that you will find specific instructions on writing your own format file and each individual command.

A Typical Format File

On the following pages is an example of a Format File. They hold setup commands that are the design of the document. We will examine the format and data files used to produce artwork for a Reference Manual. Our format uses the following commands

Comment * (data) *
This command works in pairs. Be sure to put it *before* and *after* what is to be commented.

Output Device \LASER
This command sets your output device type. This must be first if being used.

Page Definition Setup \PDEF
This command sets up your page dimensions, cut-marks and binding margins. Must be before the column commands.

Column Setup \COLX
The image area within your cut-marks is defined with this command. You need a COLX for each column location in your document.

Column Description \CD
Since the system allows multiple column setups, this command selects the column setup to be used.

Text Style Setup \TXT
Naturally you need type styles, sizes, etc.

Header Style Setup \HDX
Header styles are defined here. Headers are used to help the system determine page breaks.

Paragraph Style Setup \PX
Paragraph styles are defined here. We have four in our example.

Page Foot Setup \PFUTX
Running Page Feet used for the Page Number.

"manual.pfmt" Format File

```
\* Format for Reference Manual  \*
\* Output Device  \*
\LASER

\* Page Definition  \*
\PDEF WIDTH=5.5i DEPTH=8.5i LM=4a RM=3a DUPLEX=Y CUTS=Y  \END

\* Column Definition  \*
\COLX1 LM=0 RM=26a BOT=1i TOP=7.25i  \END  \* Full Page  \*

\* Start Out In Full Page Mode  \*
\CD 1  \END

\* Type Faces For Headers  \*
\TXT1 FONT=GE STYLE=B HSIZE=14p VSIZE=14p LEAD=16p  \END  \* HD1  \*
\TXT2 FONT=GE STYLE=B HSIZE=12p VSIZE=12p LEAD=14p  \END  \* HD2  \*
\TXT3 FONT=GE STYLE=B HSIZE=10p VSIZE=10p LEAD=11p  \END  \* HD3  \*

\* Type Face For Paragraphs  \*
\TXT4 FONT=GE STYLE=N HSIZE=10p VSIZE=10p LEAD=12p  \END  \* P1-P3, P13  \*

\* Type Face For Page Heads and Feet  \*
\TXT5 FONT=GE STYLE=B HSIZE=9p VSIZE=9p LEAD=9p  \END  \* PHED,PFUT  \*

\* Chapter Header Definitions  \*
\HDX1 TEXT=1 LM=0 RM=26a CM=CE LB=48p LA=0  \END  \* HD1  \*
\HDX2 TEXT=2 LM=0 RM=26a CM=FL LB=24p LA=0  \END  \* HD2-First Enum. Head  \*
\HDX3 TEXT=3 LM=2a RM=26a CM=FL LB=24p LA=0  \END  \* HD3-Second Enum. Head  \*

\* Paragraph Definitions  \*
\PX1 TEXT=4 LM=0 RM=26a CM=JU LB=24p LA=0  \END  \* P1-Body  \*
\PX1 IL1=2a IL2=0 NLI=1  \END \* 1st Line Indent \*

\PX2 TEXT=4 LM=2a RM=26a CM=JU LB=18p LA=0  \END  \* P2-Sub-Heads  \*

\PX3 TEXT=4 LM=3.5a RM=26a CM=JU LB=18p LA=0  \END  \* P3-Indented Body  \*

\PX4 ETX=4 ELM=3.5a ERM=4.5a ECM=FL  \END  \* P4-Enumeration  \*
\PX4 TEXT=4 LM=4.5a RM=26a CM=FL LB=18p LA=0  \END  \* P4-Body  \*

\* Page Foot Definitions  \*
\PFUTX1 TEXT=5 LM=3.5a RM=29.5a CM=FL YPOS=2a  \END  \* PFUT1-Even Page  \*
\PFUTX6 TEXT=5 LM=3.5a RM=29.5a CM=FR YPOS=2a  \END  \* PFUT6-Odd Page  \*
```

Looking at a Typical Text Data File

As you can see the data file has explicit Text Item coding. Our text data file uses the following commands:

Comment * (string) *

Using comments in your file is nice for keeping track of what and why you have created something. **NOTE:** When using comments be sure to put * *before* and *after* what is to be commented.

Page Format \PFMT

Read the setups found in the file *manual.pfmt.*

Page Feet \PFUT

Here we type in the text for our Page Number.

Sequential Page Number #P

Used to number pages. As you can see, the Page Number \PN command was not used, this is because each file automatically starts out with page number one. If we wanted our file to start with page number 3 we would input \PN 3 on the line below the PFUT command.

Header \HD

Header text is input here. We have three in our example. Remember, Headers are used to help the system determine page breaks.

Paragraph \P

Paragraph mark-up is put in to let the system know what the text following it should look like.

Italic and Normal \I^, \N^

These immediately change the type style.

Special Characters \121^, \80^

This command is used to tell the system to output the symbol for a bullet and the M-dash.

"manual.data" Text File

```
\PFMT manual.pfmt  \END
\PFUT1 2-#P
\PFUT6 2-#P

\HD1 FIRST PHASE

\P1 This chapter instructs in detail the technique to be followed in
identifying each task within the First Phase to a structured system development.

\P1 It is during the First Phase that apparent and actual problems
are identified: scope of the problem; alternative for possible solutions
to the problem and the effect proposed solutions have on personnel.

\HD2 PROBLEM ANALYSIS

\P2 The purpose of the problem analysis is to establish a solid
foundation for problem definition by identifying the requestor and his
present and future needs. This initial task consists of two distinctive steps:
1/ gaining an overall view or \I^"Overall Picture" \N^of the
organization and of the project, 2/ planning and writing the preliminary assignment.

\HD3 Getting the "Overall Picture"

\P3 To set up the system project so as to support the corporate
goals you have to have a clear understanding of the organization, and
of the department and its growth. In addition, you need to investigate
the department's relationship with other departments and the relationship
of the department management and staff.

\HD3 Analyzing the Request

\P3 Before gathering information about the problem, study and
analyze the request thoroughly, so you will be able to define:

\P4  \121^  \END Who is issuing the request?
\P4  \121^  \END What type of service does the requestor need?

\HD2 DECISION MAKING

\P2 Great emphasis has been placed recently on
the importance of decision making in managing. Two
techniques seem to be involved; formal logic and
judgement.

\HD3 Formalized Decision Process

\P3 First it is necessary to recognize that a
problem exists — that is, to identify the problem
and to establish an appropriate, measurable objective.

\HD3 Develop an Explanation of
the Relationship

\P3 Before gathering information about the
problem, study and analyze the relationships between the
factors pertinent to the problem:

\P4 \121^ \END  To state clearly the
problem.

\P4 \121^ \END  To facilitate solution
of the problem through the application of formal logic.
```

FIRST PHASE

This chapter instructs in detail the technique to be followed in identifying each task within the First Phase to a structured system development.

It is during the First Phase that apparent and actual problems are identified: scope of the problem; alternative for possible solutions to the problem and the effect proposed solutions have on personnel.

PROBLEM ANALYSIS

The purpose of the problem analysis is to establish a solid foundation for problem definition by identifying the requestor and his present and future needs. This initial task consists of two distinctive steps: 1/ gaining an overall view or *"Overall Picture"* of the organization and of the project, 2/ planning and writing the preliminary assignment.

Getting the ''Overall Picture''

To set up the system project so as to support the corporate goals you have to have a clear understanding of the organization, and of the department and its growth. In addition, you need to investigate the department's relationship with other departments and the relationship of the department management and staff.

Analyzing the Request

Before gathering information about the problem, study and analyze the request thoroughly, so you will be able to define:

- Who is issuing the request?
- What type of service does the requestor need?

DECISION MAKING

Great emphasis has been placed recently on the importance of decision making in managing. Two techniques seem to be involved; formal logic and judgement.

The Importance of Page Formats

Page formats are files that contain setup commands. They control the design for a document, such as page size, column layouts, fonts and point sizes, leading, paragraph margins, and page heads/feet. Also, hyphenation, underlining, letter spacing and kerning controls are usually stored in format files.

Formats are referenced using the (\PFMT) PAGE FORMAT Setup command. The format file is processed when the document is composed. Many documents can share a single format file.

Format setups could be typed into your document file, but it would become hard to "manage change" doing it that way. For example, you may have several text files in a book, one for each chapter. When a global change in the design is needed, (like changing a point size or a paragraph style,) it can easily be done for the whole book, and controlled, by editing one location – the Page Format file.

Format files do not necessarily have to be *Page Setups.* Table setups can be placed in a format file (like our Table Formats). The document file is easier to edit without the table setup mark-up getting in the way.

Page format files can also be copied and modified to build a library of stored setups, which naturally increases productivity. This is what we have done to produce the "canned" formats that are available in the system, especially the table formats one through six.

Formatting commands have a recommended logical order. On the next page is a diagram of the command *hierarchy.* It illustrates the suggested order of commands when creating a format. You will notice that we used this structure with our *canned* formats.

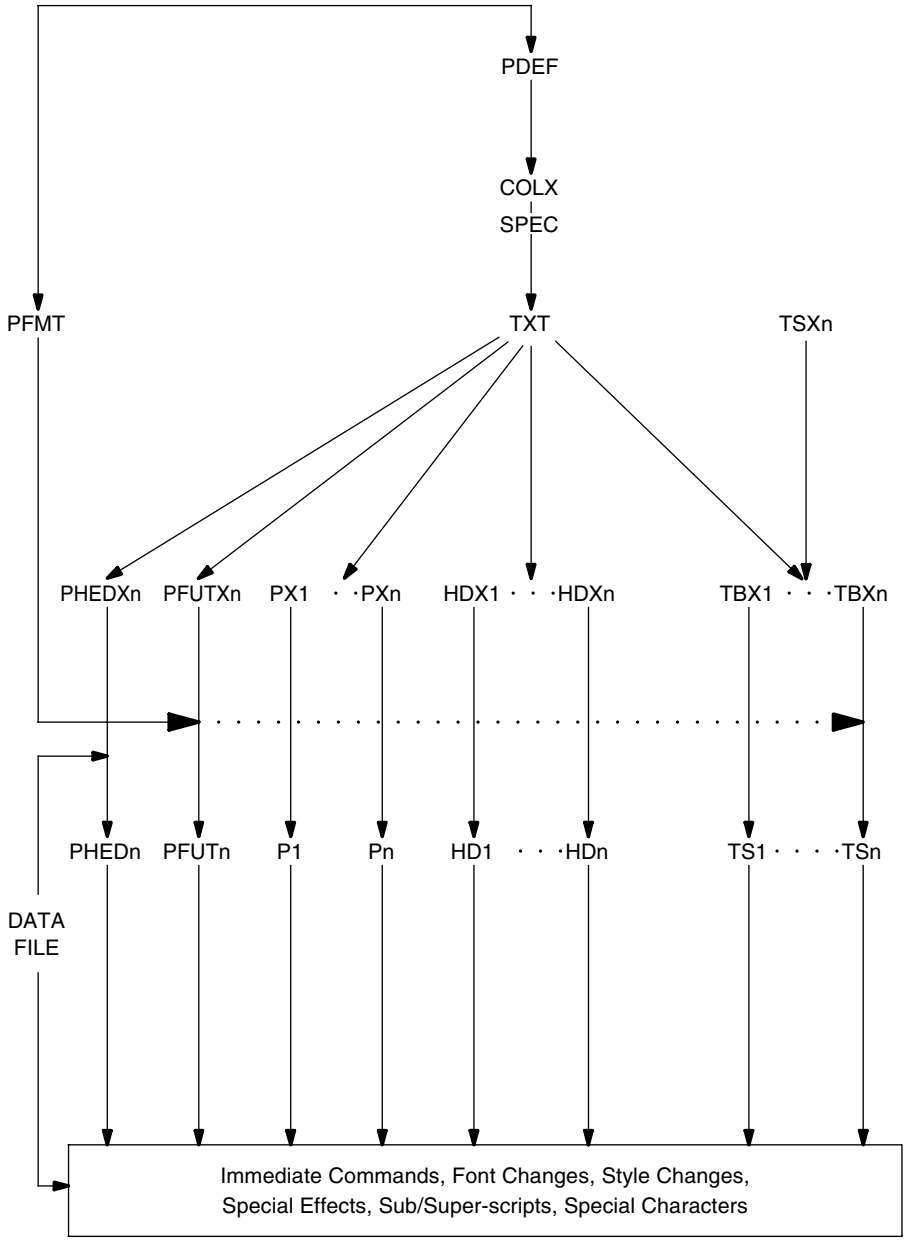


Figure 3-1: Command Hierarchy

PAGE FORMAT \PFMT

Purpose: This feature allows composition FORMAT files to be created and referenced whenever needed. By placing the \PFMT command at the top of the data file, the FORMAT file is referenced before the data is composed.

This command basically means, "Go read the referenced file, then carry out any instructions encountered."

FORMAT files use the standard filenaming conventions. FORMAT files are not inserted into your data file but through this command are read and processed when the data file is composed.

Format: \PFMT */path/filename* \END

Argument:

/path/	if not in the current directory, specify path levels.
filename	is the name of the file you wish to have referenced before composing the data file. This name cannot exceed 14 alphanumeric characters. For ease of locating FORMAT files use the file extension ".pfmt".

Remarks: There is no limit to the number of times the \PFMT command can be used, nor is there a limit to the number of \PFMT commands which can be used in a data file. Also, a FORMAT file can contain a reference to another FORMAT file.

Once a FORMAT file is created, the Setup commands and Text Items stored in the file can be effectively inserted into the main data file by entering this \PFMT command. This feature permits standard composition formats to be defined and saved for repeated usage. In practice, it is recommended that the job setup parameters for a data file to be keyed into a file. It is also useful to key all lengthy command sequences as individual files and to use the \PFMT command to reference them. Doing this makes the data file more readable and simplifies error correction.

Example: \PFMT /usr/amgraf/formats/letter1.pfmt \END

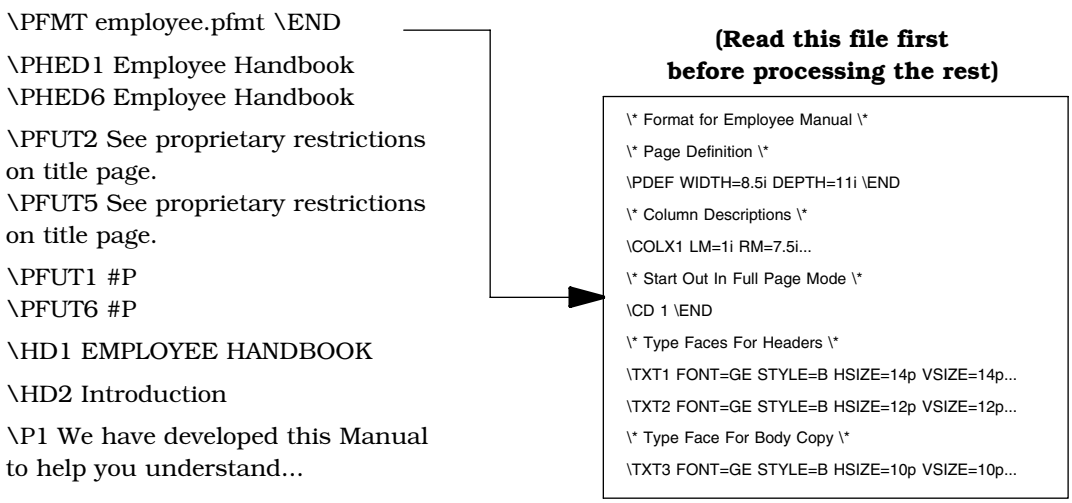


Figure 3-2: Embedded \PFMT Command

Environment Variable for Location Path

An environment variable can be set for inserting the location path of the called format. This is useful if a file must transfer from one user area to another. The variable ${HOME} can be used, and the user's path will be inserted when the job is composed.

Syntax: ${HOME}

– This will insert the login path */usr/amgraf before the format filename.*

Example:

\PFMT ${HOME}/letter1.pfmt \END

Defining Your Own Environment Variable

The user can define an environment variable if needed. Use the standard file naming conventions: 14 characters, alpha and/or numeric, case dependent, with the only punctuation character available being the underbar (_).

The environment variable assigns the location path to be whatever you have specified. This environment variable can be placed in any standard location, such as */usr/bin/amgraf/mecca.include* or your *.profile.*

Syntax:

${xxx}=/complete/path/
export ${xxx} *(xxx being the variable name)*

Example:

\PFMT ${xxx}/letter1.pfmt \END

Measuring Your Page

There are several beginning steps that need to be done first before we can start creating a new format. Make sure that we have all of the necessary tools at hand, and the necessary information calculated. Tools needed are: Pencil, Scratch Paper, Calculator, Points Measuring Tool, Type Size Spec Sheet and a Rough Sample of the Page Layout.

These are the questions that need answered:

WIDTH of Page from Cutmark to Cutmark = _____
DEPTH of Page from Cutmark to Cutmark = _____
Number of Columns on a Page = _____
IMAGE AREA WIDTH for each Column Specified Above = _____
IMAGE AREA DEPTH for a Full Page= _____
Inside Margin Width on Odd Page = _____
Outside Margin Width on Odd Page = _____
What Text Styles are going to be used? _____
(Text Styles are combinations of Fonts, Point Sizes and Lead)

Using Running Folios: Page Heads and Feet

Pages are not complete without page headings (such as the document name, page number, date of publication, etc.) and/or page feet (such as a notice, disclaimer or page number). Normally, a page heading is set on each page of the document.

There are six each of the PAGE HEADING STYLE and of the PAGE FOOT STYLE Setup commands. On the next page Figure 3-3 represents the six common positions for placement of the heads and feet.

It is customary to "flip-flop" the headings/feet for two-sided printing. For this reason, Page Head/Foot positions 1, 2 and 3 will only set on EVEN pages and Page Head/Foot positions 4, 5 and 6 will only set on ODD pages.

The first page in every file is an ODD page (Page Number=1) unless specified differently by using the PAGE NUMBER Pagination command (\PN). When using the PAGE NUMBER command, the pages are EVEN and ODD according to their page numbers.

The illustration on the next page shows the suggested position for each of the \PHED and \PFUT Text Items. Commands 1, 2 and 3 will typeset *only* on EVEN pages. Commands 4, 5 and 6 will typeset *only* on ODD pages.

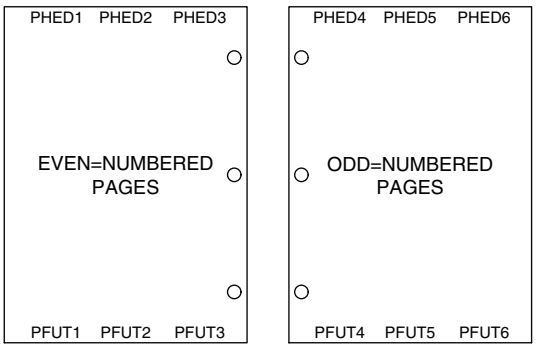


Figure 3-3: Suggested \PHED/\PFUT Positions

Determining Text Items

What are the Text Items which make up your document? Chapter Headings, Sub Headings, Paragraphs, Tables, and Graphics. Page Heads/Feet and Blocks are also considered as Text Items.

To determine what Headers and Paragraphs are needed, let's take a look at your document.

Number of Headings. Look at each Main and Sub-heading and mark down differences. If either the point size, lead before, composition mode, indents, or margins change, then count it as a separate heading. **NOTE:** the differences in headings and paragraphs are; 1) headings are used by the composition system to help determine page breaks, (i.e., a heading cannot fall alone at the bottom of a column); 2) a heading has force-new-page parameters that can be turned on.

Number of Paragraphs. Look at each paragraph and mark down differences. If either the font, point size, indents, or margins change, then count it as a separate paragraph. Actually, any change in style would be reason to make a new paragraph number.

Determining Columns

Now, to accommodate your headings and paragraphs, how many columns do you need to setup? To figure this out, look at your layout and answer the questions below.

Does everything fit within one measure? Paragraphs and headings may be a different composition mode (or indented) but when allowed to fill its measure, do all items fall within one column? If so, you need 1 column setup (COLX1). *This manual is designed with one column setup.*

Does your material start in the left hand column (COLX1), fill that column and flow to the top of the next column on that page (COLX2), fill column 2, then close the page, open the next page and repeat the sequence? For each column on your page, you need a column setup (COLX1 and COLX2).

Column definitions can overlap each other. Is there a main Chapter Heading or something similar that spans across the full page (COLX1) with two columns (COLX2 and COLX3) underneath? If the answer is yes, then a column setup must be made to accommodate the full measure Text Item (COLX1). Also, two other columns need to be created for the first of the two columns (COLX2) and also the second of the two columns (COLX3). This would mean you would need 3 column setups altogether.

Finishing the Format

At this point we have analyzed our document, decided the page size, the image areas, and the number of columns to define. We have looked at the Chapter Headers and Paragraphs to decide how many setups we need to define, it is now time to decide what fonts and point sizes we are going to use and to create the Header and Paragraph setups. Continue on by creating a \TXT statement for each font, style, size that you need to use. Your \PHED and \PFUT, the \HDX and \PX setup commands all reference a \TXT TEXT STATEMENT for font callouts.

Once you have created \TXT setups for all of the fonts you are going to use in your document, go ahead and create your \HDX's and \PX's. for your paragraphs and chapter headers.

When you are ready to try your format out, create a text data file similar to our example in the front of this volume and compose it. Test your format on several pages to make sure you have the running heads/feet working properly and try an example of each Chapter Header and Paragraph type.

If you need, change the hyphenation, letter spacing, etc., by placing those commands in your format. The parameters for all setup commands are following, they are in usage order.

How to Measure Leading

Vertical spacing is controlled by several different commands. The most common is the *LEAD* parameter of the (\TXT) TEXT Style Setup command. This parameter controls the line-to-line vertical spacing within the paragraphs and chapter heads. It also controls the line lead within page heads/feet and tables.

Additional controls of vertical space are the *LB* and *LA* parameters of the Setup commands for the paragraphs and headers *(\PX, \HDX). They are also found in the column and table setups.*

Leading Before

The *LB* parameter controls the vertical space between the baseline of the preceding paragraph (text item) and the baseline of the first line of the current paragraph (text item). This is a very important parameter since it controls the spacing between items, or the *Paragraph Lead Before.*

Leading After

The *LA* argument is not so important, since it is only used in exception cases where a paragraph, or head (usually a chapter head) always needs a little extra leading following it. This would cause additional lead to be placed before reading the 'lead before value' of the following paragraph item.

Note:

It is easier to control vertical leading when consistently using the lead before *LB* parameter, and only using the lead after for exception cases.

Measuring Paragraph Leading

Text and paragraph leading is illustrated in the figure on the next page. Establishing leading is related to the point size and font, as well as other factors concerning the style and design of the document.

Remember, body leading is controlled by the *LEAD* parameter in the \TXT and spacing around paragraphs is controlled by the *LB* and *LA* parameters in each Text Item Setup command.

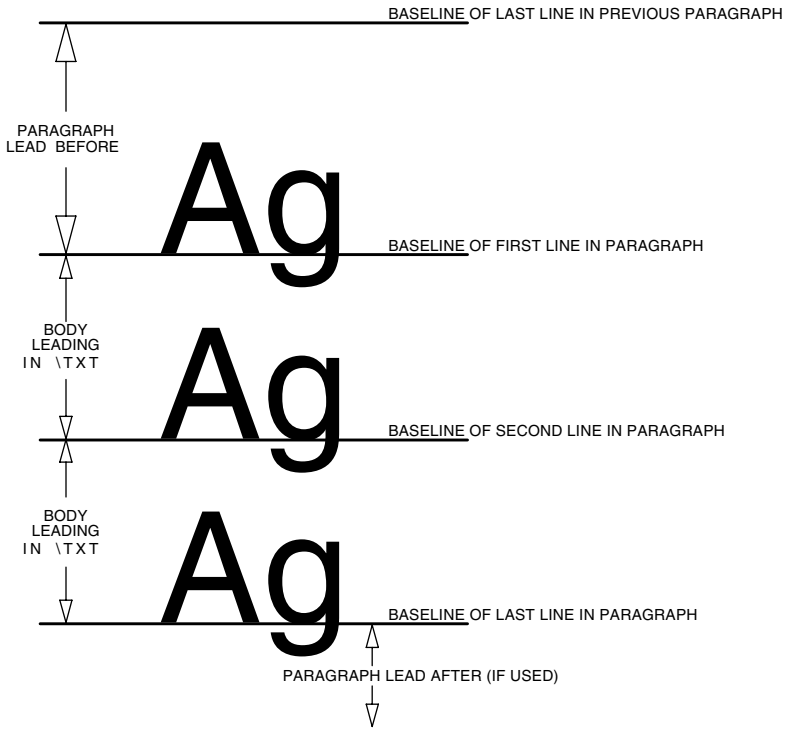


Figure 3-4: Measuring Paragraph Leading

Order of Usage for Setup Commands

Setup commands have a definite order of usage. The page properties cannot come after the type characteristics, etc. Below is the standard order of commands, with not all commands necessarily being used.

Output Device \LASER
This command sets your output device type. This must be first if being used.

Units of Measure \UNITS
This command sets your unit of measure. Not necessary if you use the unit mnemonic for each entry.

Page Definition Setup \PDEF
This command sets up your page dimensions, cutmarks and binding margins. Must be before the column commands.

Column Setup \COLX
The image area within your cutmarks is defined with this command. You need a COLX for each column location in your document.

Text Style Setup \TXT
Naturally you need type styles, sizes, etc. These commands must always appear before the header, paragraph, page head/feet commands.

Header Style Setup \HDX
Header styles are defined. Headers are used to help the system determine page breaks.

Paragraph Style Setup \PX
Paragraph styles are defined here.

Page Heads \PHEDX
Running Page Heads used for Page Numbers, Book Title, etc., at the top of pages.

Page Feet \PFUTX
Running Page Feet used for Page Numbers, Book Title, etc., at the bottom of pages.

All other commands which control hyphenation, word spacing, letter spacing, kerning, etc., can be added as needed at this point.

SELECT OUTPUT DEVICE \LASER

Purpose: Setup command for specifying PostScript output device character width tables. This is the standard output device configuration.

Format: \LASER

Argument: None

Remarks: If your configuration is not set for PostScript output, this command can be used to override another device and select laser. It must be the *first command to be read* in your format. So place it at the very top of your format file, before the **\PDEF** command.

Default: It is according to your system configuration and is setup during installation.

SELECT UNITS OF MEASURE \UNITS

Purpose: This setup command allows the use of units of measure other than the system default decipoints.

Format: \UNITS *type of measure*

Argument: *type of measure*

dpoint = decipoints
point = points
pica = picas
mm = millimeters
cm = centimeters
mil = mils (.001 inch)
inch = inches

Remarks: In addition to the above global file command, units may be changed during input by using mnemonics. This allows a mixture of units to be used in a format.

Arguments: *(-/+ sign)nnn.nnn(units mneumonic)*

Example:

(-/+ sign) is optional for positive values, required for negative values.
nnn is a sequence of decimal digits.
(units) is one of the following codes:

d = decipoints
p = points
a = picas
i = inches
t = mils
c = centimeters
m = millimeters

If it is desired to change units of measure *only for a moment,* you may input a numerical value with the unit's mnemonic attached, and it will be interpreted as that type of measurement.

Example:

```
\* FORMAT FOR EMPLOYEE MANUAL \*

\* Units of Measure \*
\UNITS inch

\* Page Definition \*
\PDEF WIDTH=8.5 DEPTH=11 LM=1 RM=1 \END

\* Column Definitions \*
\COLX1 LM=0 RM=6.5 BOT=1 TOP=10.5 \END \* Full Page \*

\* Start Out In Full Page Mode \*
\CD 1 \END

\* Units of Measure \*
\UNITS point

\* Type Faces For Headers \*
\TXT1 FONT=GE STYLE=B HSIZE=14 VSIZE=14 LEAD=15 \END \* HD1 \*
\TXT2 FONT=TI STYLE=N HSIZE=10 VSIZE=10 LEAD=13 \END \* Body Copy \*

\* Units of Measure \*
\UNITS pica

\* Paragraph Definition \*
\PX1 TEXT=2 LM=0 RM=39 CM=JU LB=2 LA=0 \END \* Body \*
\PX2 TEXT=2 LM=2 RM=39 CM=JU LB=2 LA=0 \END \* 1st Indented Body \*
\PX3 TEXT=2 LM=155p RM=39 CM=JU LB=2 LA=0 \END \* 2nd Indented Body \*

\* Units of Measure \*
\UNITS inch

\* Page Header Definition \*
\PHEDX1 TEXT=4 LM=1 RM=7.5 CM=FL YPOS=10 \END
\PHEDX2 TEXT=4 LM=1 RM=7.5 CM=CE YPOS=10 \END
```

Default: The default is always decipoint for all batch files. A **\UNITS** command will be necessary in each file if you want to change it.

PAGE DEFINITION \PDEF

Purpose: Setup command for specifying page boundaries and the type of page wanted. This command controls cutmarks and the automatic flip-flopping of margins needed for binding of double-sided (duplex) printing.

Format: \PDEF *string* \END

Argument: *string*

WIDTH=unit	Full Width of Page
DEPTH=unit	Full Depth of Page
LM=unit	Left Margin
RM=unit	Right Margin
DUPLEX=y/n	Two-sided Printing Switch
ORN=n	Rotate Page Heading/Foot
CUTS=y/n	Four-corner Cutmarks

Example: \PDEF WIDTH=8.5i DEPTH=11i LM=1i RM=.5i DUPLEX=Y ORN=0 CUTS=N \END

Remarks:

WIDTH= is the total width of the page from cutmark to cutmark.

DEPTH= is the total depth of the page from cutmark to cutmark.

LM= is the margin reserved on the bound side of a page. Always figure margin for an ODD page. This argument is *necessary* when turning on the Two-Sided Printing Switch (DUPLEX=Y).

RM= is the margin reserved on the right side of a page. Always figure margin for an ODD page. This argument is *necessary* when turning on the Two-Sided Printing Switch (DUPLEX=Y).

DUPLEX= is the switch that turns on the automatic flip-flopping of the LM (Left Margin) for two-sided printing.

Y = Yes, turn on automatic flip-flopping of margins for double-sided printing.

N = No, this document is for single-sided (or simplex) printing, do not flip-flop the margin values.

ORN= **0 =** Do Not Rotate Page Heading/Foot.

1 Rotate Page Heading/Foot 90 Degrees.

CUTS= is the switch that turns on and off cutmarks.

Y = Yes, put page boundary cutmarks on all four corners of the page.

N = No, do not show page boundary.

There is also a CUTS option on the {Print} dialog window. It will only work if you have CUTS=Y in the PDEF. Then you can toggle the CUTS on or off through the menu.

Note 1: The argument for LM (Left Margin) in the PAGE DEFINITION Setup command affects the X coordinates of the COLX command. If in COLX command the argument for MINX is not 0, you will notice the columns horizontally offset by that value.

See Also: \COLX
COLUMN Setup

Defaults: \PDEF WIDTH=8.5i DEPTH=11i LM=0 RM=0 DUPLEX=Y ORN=0 CUTS=Y \END

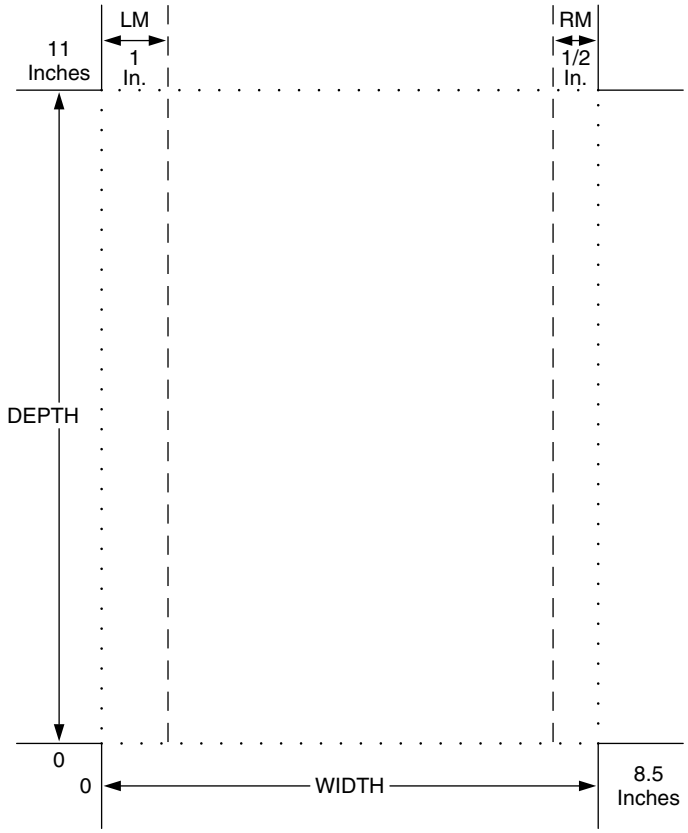


Figure 3-5: Page Definition Measurement

Note 2: Always figure margin values using an ODD page.

Note 3: Strictly for batch compose going to PDF. It is now possible to use PDEF commands with different page sizes in the same file, following a

COLUMN \COLX^*n*

Purpose: To specify column boundaries (the image area) on a page. Column boundaries are needed to assist in the pagination of Text Items such as paragraphs, headings and tables. Using the string parameters below, the column descriptions are defined for later recall through the COLUMN DESCRIPTION command **(\CD).**

Format: \COLX*n string* \END

Arguments:

n	is the **COLUMN Number** assigned to each individual COLUMN Setup command and is referenced by its corresponding COLUMN DESCRIPTION **(\CD)** Pagination command and is a number from **1 to 8**.
string	
LM=unit	or *(MINX),* Left Position of Column
RM=unit	or *(MAXX),* Right Position of Column
BOT=unit	or *(MINY),* Bottom of Column
TOP=unit	or *(MAXY),* Top of Column
LB=unit	Lead Before Column

Example: \COLX1 LM=0 RM=26a BOT=1i TOP=7.25i LB=2a \END

Remarks:

LM=	is Left edge of column. This is the minmum X position measuring from the left edge of page to left side of the column. Always subtract the PDEF's left margin from the COLX left margin. This will normally cause the COLX LM to be 0.
RM=	is Right edge of column. This is the maximum X position measuring from the left edge of page to right side of the column. Always subtract the PDEF's left margin from the COLX right margin. This will normally cause the COLX RM to be the same as the paragraph measure. This will be the measure of the Headers (HDX) and Paragraphs (PX) in this column if their RM is set to 0 (zero).

Note: The argument *LM (Left Margin)* in the PAGE DEFINITION Setup command **(\PDEF)** affects the X coordinates of this command. If in the PAGE DEFINITION Setup command the argument LM has a value other than 0, the COLX's left and right margins are offset by that amount.

BOT=	is the coordinate from bottom edge of page to bottom of the column.
TOP=	is the coordinate from bottom edge of page to top of the column.
LB=	is the amount of leading to be placed before a column is set. Appears only when switching from one column description to another on the same page.

Note: When a paragraph, heading or table starts at the top of a column, the lead before value of that Text Item is ignored. The top of the type is flush with the TOP value in the **\COLX.** The vertical space value is taken from the LEAD of the **\TXT** command in effect. Also, the lead after of the Text Item is dropped when a paragraph, etc., falls at the bottom of the column. This allows the tops and bottoms of the columns to balance.

Default: \COLX1 LM=0 RM=6.5i BOT=1i TOP=10i LB=30p \END

Pagination Command: \CD *n, n* \END
COLUMN DESCRIPTION

See Also: \PDEF
PAGE DEFINITION Setup

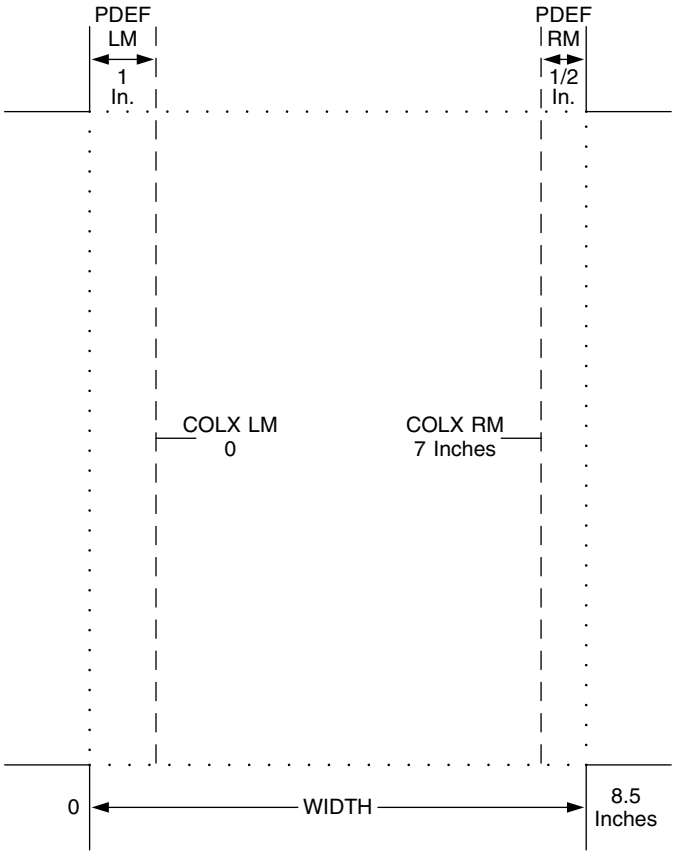


Figure 3-6: Measuring Column Width for COLX LM and COLX RM Values

NOTE: If the \PDEF has a LM and RM value other than 0, then the COLX LM is 0 and the COLX RM is the width of the column.

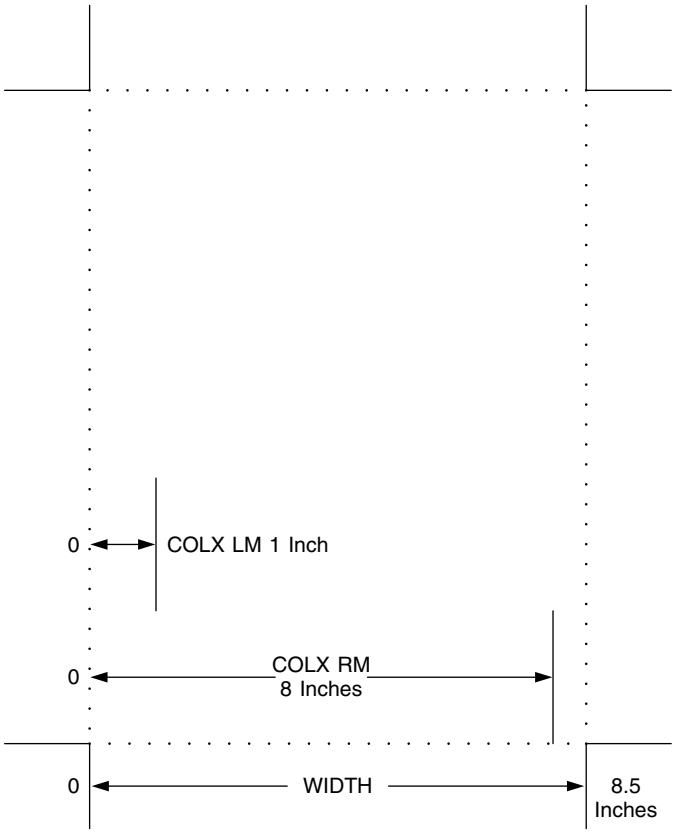


Figure 3-7: Measuring Column Width for COLX LM and COLX RM Values

NOTE: If the \PDEF has a LM and RM value of 0, then the COLX LM and COLX RM are values measured from the edge of the page.

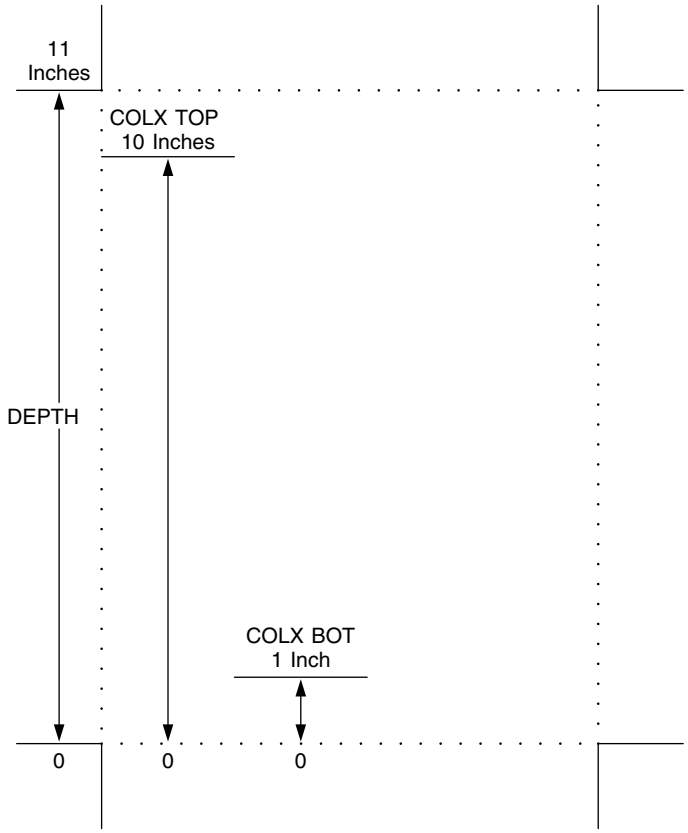


Figure 3-8: Measuring Columns (TOP & BOT)

NOTE: Always measure from the bottom of the page for the BOT and TOP value.

TEXT STYLE \TXT*n*

Purpose: Enables the user to specify which typeface, style and point size to use for all Text Items. The values specified are stored and recalled later by other setup commands such as PARAGRAPH, HEADING, etc., in the TEXT=*n* parameters.

Format: \TXT*n string* \END

Arguments:

n is a number from **1 to 32**. This allows 32 different TEXT STYLE Setup commands to be assigned and saved for later recall.

string

Required Parameters:

FONT=aa	Typeface
STYLE=aa	Type Style
HSIZE=unit	Horizontal Point Size
VSIZE=unit	Vertical Point Size
LEAD=unit	Baseline-to-Baseline Leading

Example:

```
\TXT1 FONT=GE STYLE=B HSIZE=24p VSIZE=24p LEAD=26p\END
```

Optional Parameters:

FC=n	Set Foreground Color
BC=n	Set Background Color
ATT=aa	Outline/Reverse Attribute

Remarks:

FONT= is the typeface mnemonic assigned:

GE= Geneva

TI= Times Roman

STYLE= is the type style assigned:

\VL^	Very Light	\VLI^	Very Light Italic
\TH^	Thin	\THI^	Thin Italic
\L^	Light	\LI^	Light Italic
\N^	Normal	\I^	Italic
\M^	Medium	\MI^	Medium Italic
\B^	Bold	\BI^	Bold Italic
\XB^	Extra Bold	\XBI^	Extra Bold Italic
\HV^	Heavy	\HVI^	Heavy Italic
\BK^	Black	\BKI^	Black Italic

Type styles are dependent on availability of that style on your system. If you select a style that is not available (such as Light and

Extra Bold on the LaserWriter), the system will output the next best thing. For example, if Extra Bold is not available, Bold will be output.

HSIZE= is the horizontal point size assigned to this text style.

VSIZE= is the vertical point size assigned to this text style.

To create a condensed text style, make the HSIZE value less than that for the VSIZE. To create an expanded text style, make the value of the HSIZE greater than the VSIZE value.

LEAD= is the amount of vertical leading from baseline to baseline in the body of paragraphs, headings, tables, etc.

Optional Parameters:

FC= This is the color index number assigned to the type itself.

BC= This is the color index number assigned to the background of the type when using the reverse attribute.

Note: When assigning a color index number to type, do not forget to use the \SCRN Set Screen Lineage command to determine the number of lines per inch.

ATT= Here you can assign an attribute of:

RV Reverse type.

OL Outline type.

RO Reversed Outline type.

Defaults:

```
\TXT0 FONT=GE STYLE=N HSIZE=10p VSIZE=10p LEAD=11p\END
\TXT0 FC=NONE BC=NONE ATT=NONE\END
```

HEADING STYLE \HDX*n*

Purpose: Enables user to define up to 31 heading styles. The values specified are stored and recalled later through the respective HEADING Text Item command.

Headings are used during pagination to help determine column and page breaks. For example, the composition program does not allow headings to fall at the bottom of a column.

Format: \HDX*n string* \END

Arguments:

n is a number from **1 to 31**. This allows 31 different HEADING STYLE Setup commands to be assigned and saved for later recall.

string

Required Parameters:

TEXT=n	Text Style Command Referenced
LM=unit	Left Margin
RM=unit	Right Margin
CM=aa	Composition Mode
LB=unit	Leading Before Heading
LA=unit	Leading After Heading
LAYER=n	Layer

Optional Parameters:

IL1=unit	First Indent Value
IL2=unit	Second Indent Value
NLI=n	Number of Lines to Use IL1 Value
NP=y/n	Force a New Page Break
NO=y/n	Force a New Odd Page Break

Enumeration Parameters:

ETX=n	Enumeration Text Style Command Referenced
ELM=unit	Enumeration Left Margin
ERM=unit	Enumeration Right Margin
ECM=aa	Enumeration Composition Mode

Remarks:

TEXT= is the TEXT STYLE Setup command number assigned to this heading.

LM= is the left margin of the heading measuring from the left edge of the column. If the user wants the heading to fall flush with the left edge of the column the argument would be 0.

RM= is the right margin measuring from the left edge of the column. Normally, the right margin of a heading is the same as the column width (MAXX). When this is the case use RM=0, this will cause the program to pick up the measure from the MAXX. Very useful when the heading is needed in varied width columns.

CM= is the composition mode of the heading. This controls where the heading will set between the left and right margins. The options are:

CE= Center

FL= Flush to the Left Margin

FLC= Flush to the Left Margin Centered

FR= Flush to the Right Margin

FRC= Flush to the Right Margin Centered

JU= Justify at Both Margins

LB= is the white space before the heading is set. Measure from baseline of the previous item to baseline of the heading.

LA= This parameter allows the user to place extra leading after a chapter heading if needed.

LAYER= The layer the item is to be set on. Default layer is 1.

Example:

```
\HDX1 TEXT=1 LM=0 RM=7i CM=FL LB=36p LA=0 LAYER=1\END
```

This will output a heading in the font and style defined in the TEXT STYLE Setup command number 1 (TEXT=1). It will be flush to the left edge of the column (LM=0). If the heading is longer than 7 inches (RM=7i), it will wrap back down to the left edge of the column (CM=FL). It will drop down 36 points when following another Text Item (LB=36p) and will not force any extra leading to follow it (LA=0).

Optional Parameters:

IL1= This parameter is optional. The First Indent Value is the amount you wish to indent a line(s) of the heading from its left margin.

IL2= This parameter is optional. It gives the capability to have a second indention value to create a hanging heading effect, etc. It is used in conjunction with the IL1 and NLI parameters.

NLI= This parameter is optional. Inputs how many lines of the heading are to be indented at value number one (IL1). The rest of the heading will use indent value number two (IL2).

See Also: PARAGRAPH STYLE Setup Command for examples.

NP= Every occurrence of this header will cause a new page break.

NO= It will force an ODD page to begin at each occurrence of the heading. This may cause a blank EVEN page.

Enumerated Headings:

What is referred to in standard typing as a simple outline style is called, in MECCA 2000 as, "enumerated." An enumerated heading is one with a number, word or other item in the left margin of the indented heading.

A. THIS IS AN ENUMERATED HEADING. WHEN THE HEADER WRAPS IT IS UNDER THE BODY COPY.

Enumeration Parameters:

ETX= is the number of the TEXT STYLE Setup command you want the enumeration Text Item to use. It can be different from the body copy of the heading.

ELM= is the left margin of the enumeration field measuring from the left edge of the column. If the user wants the enumeration to fall flush with the left edge of the column the argument would be 0. This argument prior to version 8.0 was ELB. Those files using ELB will still be valid.

ERM= is the right margin of the enumeration field measuring from the left edge of the column. This argument prior to version 8.0 was ERB. Those files using ERB will still be valid.

ECM= is the composition mode of the text inside the enumeration field. This controls where it will between the left and right boundaries. The options are:

CE= Center
CE= Center
FL= Flush to the Left Margin
FLC= Flush to the Left Margin Centered
FR= Flush to the Right Margin
FRC= Flush to the Right Margin Centered
JU= Justify at Both Margins

Defaults:

```
\HDX1 ETX=0 ELM=0 ERM=18p ECM=FL\END
\HDX1 TEXT=0 LM=0 RM=6.5i CM=FL LB=15p LA=0 LAYER=0\END
\HDX1 IL1=0 IL2=0 NLI=0 NP=N NO=N\END
```

See Also: Examples of Indents in the \PX*n PARAGRAPH STYLE Setup*

Text Item Command: \HD*n*

PARAGRAPH STYLES \PX*n*

Purpose: Enables the user to define up to 31 paragraph styles. The values specified are stored and recalled later through the corresponding PARAGRAPH Text Item command.

Format: \PX*n string* \END

Arguments:

n is a number from **1 to 31.** This allows 31 different PARAGRAPH STYLE Setup commands to be assigned and saved for later recall.

string

Required Parameters:

TEXT=n	Text Style Command Referenced
LM=unit	Left Margin
RM=unit	Right Margin
CM=aa	Composition Mode
LB=unit	Leading Before Paragraph
LA=unit	Leading After Paragraph
LAYER=n	Layer

Optional Parameters:

IL1=unit	First Indent Value
IL2=unit	Second Indent Value
NLI=n	Number of Lines to Use IL1 Value

Enumeration Parameters:

ETX=n	Enumeration Text Style Command Referenced
ELM=unit	Enumeration Left Margin
ERM=unit	Enumeration Right Margin
ECM=aa	Enumeration Composition Mode

Remarks:

TEXT= is the number of the TEXT STYLE Setup command you wish to use.

LM= is the left margin of the paragraph measuring from the left edge of the column. If you want the paragraph to fall flush left at the edge of the column, the argument is 0.

RM= is the right margin measuring from the left edge of the column. Normally, the right margin of a paragraph is the same as the column width (MAXX). When this is the case use RM=0, this

will cause the program to pick up the measure from the MAXX. Very useful when the paragraph is needed in varied width columns.

CM= is the composition mode of the paragraph. This controls where it will set between the left and right margins. The options are:

CE= Center

FL= Flush to the Left Margin

FLC= Flush to the Left Margin Centered

FR= Flush to the Right Margin

FRC= Flush to the Right Margin Centered

JU= Justify at Both Margins

LB= is the white space before the paragraph is set. Measure from baseline of previous item to baseline of paragraph.

LA= This parameter allows the user to place extra leading after a paragraph if needed.

LAYER= The layer the item is to be set on. Default layer is 1.

Example:

```
\PX1 TEXT=1 LM=0 RM=240p CM=JU LB=24p LA=0 LAYER=1\END
```

This will output a paragraph in the font and style defined in the TEXT STYLE Setup command number 1 (TEXT=1). Each line in the paragraph will have a length of 240 points (RM=240p). It will be justified on both edges (CM=JU). As lines of the paragraph reach the right margin, they will drop down the amount of lead specified in the TEXT STYLE Setup command and will wrap back to the Left Margin (LM=0). Each paragraph will drop down 24 points when following another Text Item (LB=24p) and will not force any extra leading to follow it (LA=0).

Optional Parameters:

IL1= This parameter is optional. The First Indent Value is the amount you wish to indent a line(s) of the paragraph from its left margin.

IL2= This parameter is optional. It gives the capability to have a second indention value to create a hanging paragraph effect, etc. It is used in conjunction with the IL1 and NLI parameters.

NLI= This parameter is optional. Inputs how many lines of the paragraph are to be indented at value number one (IL1). The rest of the paragraph will use indent value number two (IL2).

Example: To create a paragraph with a first-line indent only, you would include the following:

IL1=12p	twelve points or one-pica indent
NLI=1	indent one line of the paragraph the amount shown in IL1
IL2=0	do not indent lines two, three, four, etc.; instead, go back to the Left Margin (LM) value.

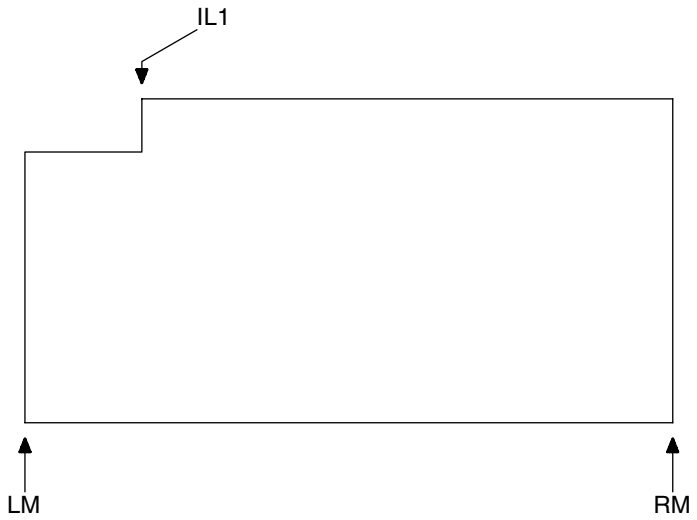


Figure 3-9: Profile of an Indented Paragraph

Example: In this example, you want the first three lines of the paragraph to set flush left to the edge of the column, but want line four through the rest of the paragraph to be indented one inch:

IL1=0	first indent value
NLI=3	Indent the **first three lines** of the paragraph the amount shown in IL1, which is 0 (zero).
IL2=1i	Start indenting at **line four** through the rest of the paragraph 1 inch.

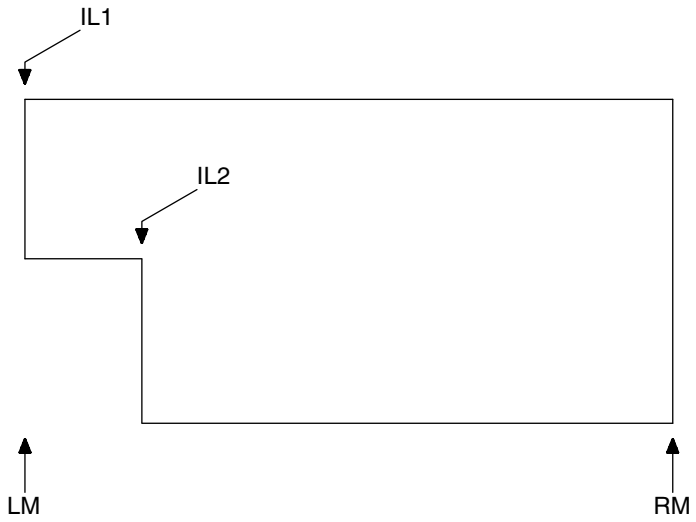


Figure 3-10: Profile of a Hanging Paragraph

Enumerated Paragraphs:

What is referred to in standard typing as a simple outline style is called, in MECCA 2000, "enumerated paragraphs." An enumerated paragraph is one with a number, word or other item in the left margin of the indented paragraph.

I. This is an enumerated paragraph.

a. This is an enumerated paragraph.

1. This is an enumerated paragraph.

Note: This is an enumerated paragraph.

In addition, another good example are the actual pages in this user's guide. The copy is set up almost entirely using enumerated paragraphs.

Enumeration Parameters:

ETX= is the number of the TEXT STYLE Setup command you want the enumeration Text Item to use. It can be different from the body copy of the paragraph.

ELM= is the left margin of the enumeration field, measuring from the left edge of the column. If the user wants the enumeration to fall flush with the left edge of the column the argument would be 0. This option prior to Version 8.0 was called ELB. All files using ELB are still valid.

ERM= is the right margin of the enumeration field measuring from the left edge of the column. This option prior to Version 8.0 was called ERB. All files using ERB are still valid.

ECM= is the composition mode of the text inside the enumeration field. This controls where it will between the left and right boundaries. The options are:

CE= Center

FL= Flush to the Left Margin

FLC= Flush to the Left Margin Centered

FR= Flush to the Right Margin

FRC= Flush to the Right Margin Centered

JU= Justify at Both Margins

Example: To create an enumerated paragraph with the enumeration hanging out from the paragraph, the **\PX** setup command would be:

```
\PX11 ETX=1 ELM=0 ERM=24p ECM=FL\END
\PX11 TEXT=1 LM=30p RM=240p CM=JU LB=24p LA=0 LAYER=1\END
```

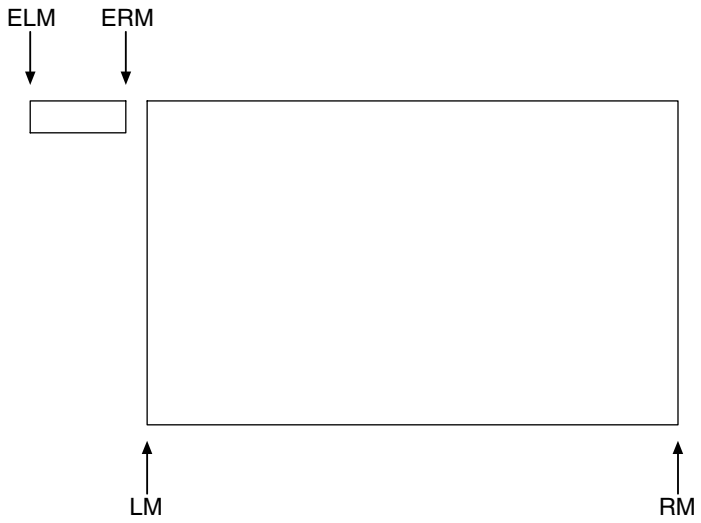


Figure 3-11: Profile of a Paragraph with a Hanging Enumeration

Example: To create an enumerated paragraph with the paragraph wrapping under the enumeration, the **\PX** setup command would include the IL1, IL2 and NLI parameters:

```
\PX11 ETX=1 ELM=0 ERM=24p ECM=FL\END
\PX11 TEXT=1 LM=0 RM=240p CM=JU LB=24p LA=0 LAYER=1\END
\PX11 IL1=30p IL2=0 NLI=1\END
```

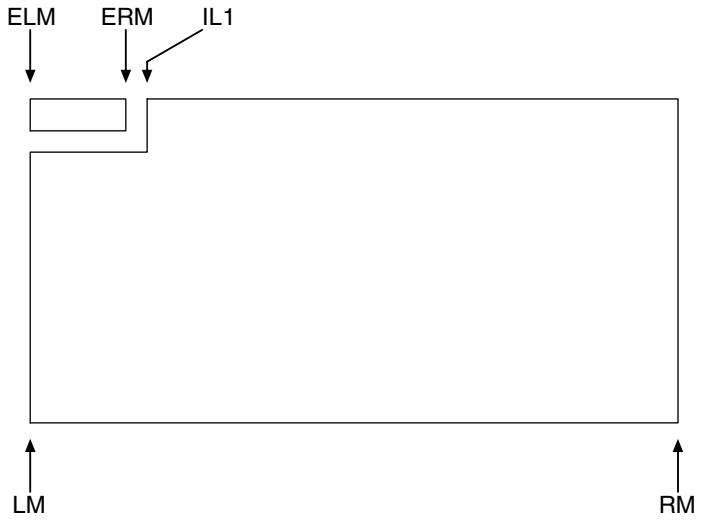


Figure 3-12: Profile of a Paragraph with an Embedded Enumeration

Example: To create a paragraph with a large initial cap, the **\PX** Setup command would include the IL1, IL2 and NLI parameters along with the enumeration parameters.

The enumeration field would point to a larger point size as shown in **\TXT1** and the paragraph to the normal point size in **\TXT2:**

Previously Defined:

Text Style Setup —

```
\TXT1 FONT=TI STYLE=B HSIZE=26p VSIZE=26p LEAD=26p\END
\TXT2 FONT=TI STYLE=N HSIZE=11p VSIZE=11p LEAD=11p\END
```

Paragraph Style Setup —

```
\PX11 ETX=1 ELM=0 ERM=22p ECM=FL\END
\PX11 TEXT=2 LM=0 RM=132p CM=JU LB=24p LA=0 LAYER=1\END
\PX11 IL1=22p IL2=0 NLI=2\END
```

Input:

\P11 \DN 10p^O **\END** nce upon a time, there were three bears who lived in the forest.

Output:

Once upon a time, there were three bears
who lived in the forest.

Defaults:

```
\PX1 ETX=1 ELM=0 ERM=18p ECM=FL\END
\PX1 TEXT=1 LM=0 RM=6.5i CM=FL LB=15p LA=0\END
\PX1 IL1=0 IL2=0 NLI=0\END
```

Text Item Command: \P*n* — *PARAGRAPH Text Item*

PAGE HEAD/FOOT STYLE \PHEDX*n* *PFUTXn*

Purpose: Enables the user to define page head/foot styles. The values specified are stored and recalled later through the corresponding PAGE HEAD/FOOT Text Item commands.

Format: \PFUTX*n string* \END
\PHEDX*n string* \END

Arguments:

n is a number from **1 to 6.** This allows 6 different PAGE HEAD/FOOT STYLE Setup commands to be assigned and saved for later recall.

string

Required Parameters:

TEXT=n	Text Style Command Referenced
LM=unit	Left Margin
RM=unit	Right Margin
CM=aa	Composition Mode
LAYER=n	Layer
YPOS=unit	Y (Vertical) Position on the Page

Note: The illustration below shows the suggested position for each of the \PHED and \PFUT Text Items. Commands 1, 2 and 3 will typeset *only* on EVEN pages. Commands 4, 5 and 6 will typeset *only* on ODD pages.

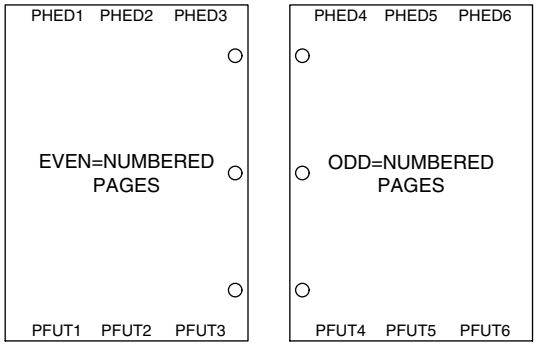


Figure 3-13: Suggested Positions for Page Heads and Feet

Remarks:

TEXT= is the number of the TEXT STYLE Setup command you wish to use.

LM= is the left margin of the page head/foot measuring from the left edge of the page.

RM= is the right margin measuring from the left edge of the page.

	CM=	is the composition mode of the page head/foot. This controls where it will set between the left and right margins. The options are: ***CE=*** Center ***FL=*** Flush to the Left Margin ***FLC=*** Flush to the Left Margin Centered ***FR=*** Flush to the Right Margin ***FRC=*** Flush to the Right Margin Centered ***JU=*** Justify at Both Margins
	LAYER=	The layer the item is to be set on. Default layer is 1.
	YPOS=	is the Y (vertical) position on the page measuring from the bottom of the page to the top of text (not baseline) of the first line of the page head/foot. Bottom of the page is Y=0.

Example:

```
\PFUTX1 TEXT=1 LM=.5i RM=7.5i CM=FL LAYER=1 YPOS=1i\END
```

This will output a page foot, on page two, in the font and style defined in the TEXT STYLE Setup command number 1 (TEXT=1). It will be flush left one-half inch from the edge of the page (LM=.5i), and the baseline will set one inch from the bottom of the page (YPOS=1i).

```
\PFUTX1 TEXT=1 LM=1i RM=7.5i CM=FR LAYER=1 YPOS=30p\END
```

This will output a page foot, on the odd pages, it will look like the one on the even pages, but will be flush right to the outer margin.

Optional Parameters:

IL1=unit	First Indent Value
IL2=unit	Second Indent Value
NLI=n	Number of Times to Use First Value
ETX=n	Enumeration Text Style Command Referenced
ELM=unit	Enumeration Left Margin
ERM=unit	Enumeration Right Margin
ECM=aa	Enumeration Composition Mode

Indented Page Foot:

IL1=	This parameter is optional. The First Indent Value is the amount you wish to indent a line(s) of the page head/foot from its left margin. It is used in conjunction with the IL2 and NLI parameters.
IL2=	This parameter is optional. It gives the capability to have a second indention value to create a special effect.

NLI= This parameter is optional. Indicates how many lines of the page head/foot to be indented at value number one (IL1). The rest of the page head/foot will use indent value number two (IL2).

See Also: PARAGRAPH STYLE Setup command for examples of usage for the IL1, IL2 and NLI parameters.

Enumerated Page Foot:

What is referred to in standard typing as a simple outline style is called, in MECCA 2000 as, "enumerated." An enumerated page head/foot is one with a number, word or other item in the left margin of indented page head/foot body copy.

The following is an example of an enumerated page head/foot:

Notice – See proprietary restrictions on title page.

Enumeration Parameters:

ETX= is the number of the TEXT STYLE Setup command you want the enumeration Text Item to use. It can be different from the body copy of the page head/foot.

ELM= is the left margin of the enumeration field, measuring from the left edge of the page.

ERM= is the right margin of the enumeration field measuring from the left edge of the page.

ECM= is the composition mode of the text inside the enumeration field. This controls where it will set between the left and right boundaries. The options are:

CE= Center

FL= Flush to the Left Margin

FLC= Flush to the Left Margin Centered

FR= Flush to the Right Margin

FRC= Flush to the Right Margin Centered

JU= Justify at Both Margins

Example:

```
\PFUTX1 TEXT=1 LM=1.5i RM=7.5i CM=FL LAYER=1 YPOS=30p\END
\PFUTX1 ETX=1 ELM=.5i ERM=1.5i ECM=FL\END
```

This will output a page foot, on page two, that has two fields. The body copy of the page foot wraps back under the left margin.

Text Item Command: \PFUT*n PAGE FOOT Text Item*
\PHED*n PAGE HEADING Text Item*

MAXIMUM WORD SPACING \HMAX

Purpose: This command sets the *Maximum Amount of Word Spacing* to be used in Text Items.

Format: \HMAX *n*

Argument:

n	is the maximum amount of word spacing in relative units. (1 Relative Unit = 1/10 point for 10-point type.) As the point size increases, the actual word space value increases.

Remarks: Use this formula to figure maximum word spacing:
Maximum Word Space = 56 Relative Units x Point Size ÷ 100.

This command, along with its other related commands, gives the user control over word spacing.

Related Commands: \HMIN *n MINIMUM WORD SPACING*

\HNOM *n NORMAL WORD SPACING*

Defaults: \HMAX 56
\HMIN 20
\HNOM 34

MINIMUM WORD SPACING \HMIN

Purpose: This command sets the *Minimum Amount of Word Spacing* to be used in Text Items.

Format: \HMIN *n*

Argument:

n	is the minimum amount of word spacing in relative units. (1 Relative Unit = 1/10 point for 10-point type.) As the point size increases, the actual word space value increases.

Remarks: Use this formula to figure minimum word spacing:
Minimum Word Space = 20 Relative Units x Point Size ÷ 100.

This command, along with its other related commands, gives the user control over word spacing.

Related Commands: \HMAX *n MAXIMUM WORD SPACING*

\HNOM *n NORMAL WORD SPACING*

Defaults:
\HMAX 56
\HMIN 20
\HNOM 34

NORMAL WORD SPACING \HNOM

Purpose: This command sets the *Normal Amount of Word Spacing* to be used in Text Items.

Format: \HNOM *n*

Argument: *n* is the normal amount of word spacing in relative units. (1 Relative Unit = 1/10 point for 10-point type.) As the point size increases the actual word space value increases.

Remarks: Use this formula to figure normal word spacing:
Normal Word Space = 34 Relative Units x Point Size ÷ 100.

This command, along with its other related commands, gives the user control over word spacing.

Related Commands: \HMAX *n MAXIMUM WORD SPACING*

\HMIN *n MINIMUM WORD SPACING*

Defaults: \HMAX 56
\HMIN 20
\HNOM 34

CHARACTERS AFTER HYPHEN \HYMA

Purpose: This command sets the *Minimum Number of Characters Allowed After A Hyphen*.

Format: \HYMA *n*

Argument: *n* is the minimum number of characters left in the broken word following a hyphen.

Remarks: This command, along with its other related commands, gives the user control over hyphenation.

Example:
```
\HYMA 4
\HYMB 4
\HYMC 1
\HYML 8
```

The example above states, there must be proper word breaks of *at least 4 characters before* **(\HYMB 4)** and *after* **(\HYMA 4)** the hyphen to allow the word to break. There *cannot be 2* hyphenated lines one directly after the other **(\HYMC 1).** This command will **not** hyphenate words with *fewer than 8 characters* **(\HYML 8).**

Related Commands:

\HYMB *n CHARACTERS BEFORE HYPHEN*

\HYMC *n CONSECUTIVE HYPHENS ALLOWED*

\HYML *n HYPHENATION WORD LENGTH*

CHARACTERS BEFORE HYPHEN \HYMB

Purpose: This command sets the *Minimum Number of Characters Allowed Before A Hyphen.*

Format: \HYMB *n*

Argument: *n* is the minimum number of characters left in the broken word before a hyphen.

Remarks: This command, along with its other related commands, gives the user control over hyphenation.

Example:
```
\HYMA 4
\HYMB 4
\HYMC 1
\HYML 8
```

The example above states, there must be proper word breaks of *at least 4 characters before* **(\HYMB 4)** and *after* **(\HYMA 4)** the hyphen to allow the word to break. There *cannot be 2* hyphenated lines one directly after the other **(\HYMC 1).** This command will **not** hyphenate words with *fewer than 8 characters* **(\HYML 8).**

Related Commands: \HYMA *n CHARACTERS AFTER HYPHEN*

\HYMC *n CONSECUTIVE HYPHENS ALLOWED*

\HYML *n HYPHENATION WORD LENGTH*

CONSECUTIVE HYPHENS ALLOWED \HYMC

Purpose: This command sets the *Number of Consecutive Lines* in a Text Item in which hyphenation will occur.

Format: \HYMC *n*

Argument: *n* is the number of lines that will be consecutively hyphenated.

Remarks: This command, along with its other related commands, gives the user control over hyphenation.

Example:
```
\HYMA 4
\HYMB 4
\HYMC 1
\HYML 8
```

The example above states, there must be proper word breaks of *at least 4 characters before* **(\HYMB 4)** and *after* **(\HYMA 4)** the hyphen to allow the word to break. There *cannot be 2* hyphenated lines one directly after the other **(\HYMC 1).** This command will **not** hyphenate words with *fewer than 8 characters* **(\HYML 8).**

Related Commands: \HYMA *n CHARACTERS AFTER HYPHEN*

\HYMB *n CHARACTERS BEFORE HYPHEN*
\HYML *n HYPHENATION WORD LENGTH*

HYPHENATION GOODNESS WEIGHT \HYMG

Purpose: This command sets the *Goodness Weight* of hyphenation to be used during algorithm hyphenation checks. There are 9 weights with each increasing in hyphenation reliability. Weight *1* allows hyphenation at any syllable which would only be acceptable in narrow column work. With *9* being almost no hyphenation since it only allows hyphenation of compound words.

Format: \HYMG *n*

Argument: *n* is a number from 1 through 9, with 1 being the lowest hyphenation checks and 9 being the highest. These weights are derived on an empirical basis according to the following:

1 & 2 would be acceptable for a newspaper's narrow column, but would not be suitable for normal book measure.

3 indicates a syllable beginning or end.

6 indicates a morpheme beginning or end, (i.e., -tion, -ing, sub- or a string of characters indicating a meaning such as admin- and quad-)

9 allows only compound word beginnings or end.

Weights of *1 and 2* should be avoided except for narrow column work.

Default: 3

Related Commands: \HYMA *n CHARACTERS AFTER HYPHEN*

\HYMB *n CHARACTERS BEFORE HYPHEN*

\HYMC *n CONSECUTIVE HYPHENS ALLOWED*

\HYML *n HYPHENATION WORD LENGTH*

Note: To turn off hyphenation completely, use this command and set the minimum word length to be a large word.

\HYML 22

HYPHENATION WORD LENGTH \HYML

Purpose: This command sets the *Minimum Number of Characters* that a word must have before it will be hyphenated.

Format: \HYML *n*

Argument: *n* is the minimum number of characters in a word before it will be hyphenated.

Remarks: This command, along with its other related commands, gives the user control over hyphenation.

Example:
```
\HYMA 4
\HYMB 4
\HYMC 1
\HYML 8
```

The example above states, there must be proper word breaks of *at least 4 characters before* **(\HYMB 4)** and *after* **(\HYMA 4)** the hyphen to allow the word to break. There *cannot be 2* hyphenated lines one directly after the other **(\HYMC 1).** This command will **not** hyphenate words with *fewer than 8 characters* **(\HYML 8).**

Related Commands: \HYMA *n CHARACTERS AFTER HYPHEN*

\HYMB *n CHARACTERS BEFORE HYPHEN*

\HYMC *n CONSECUTIVE HYPHENS ALLOWED*

Note: To turn off hyphenation completely, use this command and set the minimum word length to be a large word.

\HYML 22

KERNING SWITCH \KERN

Purpose: This command turns Kerning on and off. It will cause kerning to start at the point size specified in the KERNING SIZE Setup command. Kerning cannot be turned on inside of a Text Item (paragraph, etc.) with this command. This command is used for turning on and off kerning for an entire Text Item or file.

Format: \KERN *y/n*

Arguments: *y/n* *Y* for Yes

or

N for No

Related Command: \KSIZ *n*
KERNING SIZE Setup

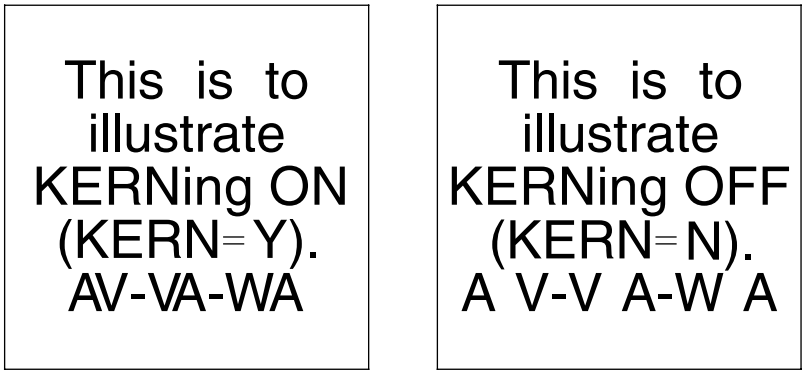


Figure 3-14: Examples of Kerning

KERNING SIZE \KSIZ

Purpose: This command sets the starting point size in which Kerning Table values will be invoked. Kerning is turned ON/OFF through the KERNING SWITCH Setup command (**\KERN** *y/n*).

Format: \KSIZ *unit*

Argument: *unit* — The point size at which kerning starts, e.g., normally at sixteen point (16p). All type at or above the point size indicated will be kerned.

Example: \KSIZ 16p

Related Command: \KERN *y/n* *KERNING SWITCH Setup*

LEADER FILL DEFINITION \LDX*n*

Purpose: Enables user to define line style patterns that will be drawn as leader fill output. The values specified are stored and recalled later through the respective **\FILL** *n*^ Immediate command.

The \LDX commands are numbered to allow for multiple leader style definitions to exist and be used at the same time on the same page (even within the same text item).

Format: \LDX*n string* \END

Arguments:

n	is a number from 1 to 9. This allows nine different line styles to be defined within one file.
string	
PAT=[n,n, ...]	Output pattern expressed as on/off pairs (up to 4 pairs maximum), end pattern with -1.
LINW=unit	Output weight of fill pattern (0 for invisible).
GUTL=unit	Left gutter of FILL
GUTR=unit	Right gutter of FILL
COLOR=n	Color number (0=Black is default)
SCREEN=dpi	Output screen gauge value.
ENDS={r}|{s}	Ends of line pattern either **R**ound or **S**quare.
VOFFSET=unit	Vertical offset from text baseline to draw fill pattern. If 0, the line will be centered on the baseline.

Remarks:

PAT= This controls the output pattern. The first number given is the distance the line should be "on" for (drawing black) and the next number the distance the line should be "off". This on-off sequence may be repeated up to 4 times.

The specification is the same as the MECCA line pattern option for defining the output pattern. If you wish to draw a dot pattern with 4 points between the dots the specification should be **PAT=1d,40d,-1** . If you wish to draw a solid line the specification should be **PAT=30d,0d,-1** .

The minus one (-1) is the way to end a pattern.

LINW= This will set the output line weight of the fill pattern. If you desire a blank fill pattern this number should be set to 0.

GUTL= This is the amount of white space left between the prior piece of text and the fill pattern. It is important to note that because the fill pattern is gridded to the page origin it may appear that the

space is more than the gutter size due to synchronizing the fill pattern.

GUTR= This is the amount of white space left between the fill pattern and the following piece of text. It is important to note that because the fill pattern is gridded to the page origin it may appear that the space is more than the gutter size due to synchronizing the fill pattern. We do not display a partial pattern but only an integer number of patterns.

COLOR= This is the color number the pattern will be output as. If nothing is specified it will be rendered in black. Alternately, one of the gray scale values (600 through 700) may be specified.

SCREEN= This is the output screen gauge that will be used. This is only important if a color other than black or white is specified for the output leader.

ENDS= This controls the shape of the line ends of the pattern. It is important to remember that the leader fill is done with the line pattern options in the version 5.0 and above systems. This option controls how the ends of the pattern will be drawn. Do not ask for a dot fill with square ends unless that is really what you want. Also, note that every section of the pattern, not just the very extreme ends, will have this same line ends.

The options are:

R Round ends.

S Square ends.

VOFFSET= This controls the offset from the baseline that the fill pattern will be drawn at. If 0 or not specified, the output pattern will be centered on the baseline. If the output is desired to be flush to the text baseline, it must be offset by a positive one half the specified line weight. By using a negative offset, it can be set to align with the underscore offset or position of the underscore character.

Example:

```
\LDX1 PAT=1d,4p,-1 LINW=1.5p GUTL=2p GUTR=2p ENDS=r VOFFSET=0\END
```

This would output a fill pattern, (when invoked via the \FILL 1^ command), with round dots spaced 4-points apart with a 2-point gutter on each end. It will have a thickness of 1.5-points and rest on the text baseline.

Related Command: \FILL *n^ FILL USER DEFINED Immediate Command*

See Also: Using the Immediate \FILL Command with Line Patterns

If a \FILL *n*^ command is to be used with a *Preview* file, not only is an \LDX necessary during the compose, but a matching Line Pattern (.pat) file must be combined into the drawing file before output.

Examples of Usage:

Previously Defined

Leader Fill Setup —

```
\LDX1 LINW=0 \END
\LDX2 PAT=1d,0,-1 LINW=.5p GUTL=3p GUTR=3p ENDS=S\END
\LDX3 PAT=1d,8p LINW=1p GUTL=8p GUTR=8p ENDS=R VOFFSET=0\END
\LDX4 LINW=2p GUTL=3p GUTR=3p COLOR=615 SCREEN=60 ENDS=S VOFFSET=1p\END
```

Input:

```
Line style one\FILL 1^creates a\FILL 1^white space fill.
```

Output:

Line style one creates a white space fill.

Input:

```
Line style two\FILL 2^\NL^creates a solid half-point rule
with three-point gutters on each end.
```

Output:

Line style two
creates a solid half-point rule with three-point gutters on each end.

Input:

```
Line style three\FILL 3^creates\NL^ a dotted line with eight
points of spacing between the dots.
```

Output:

Line style three . . . . . creates a dotted line with eight points of spacing between the dots.

Input:

```
Line style four\FILL 4^\NL^creates a screened line with
squared ends.
```

Output:

Line style four
creates a screened line with squared ends.

MAXIMUM LETTER SPACING \LMAX

Purpose: This command sets the *Maximum Amount of Letter Spacing* to be used in Text Items.

Format: \LMAX *n*

Argument: *n* is the maximum amount of letter spacing in relative units. (1 Relative Unit = 1/10 point for 10-point type.) As the point size increases, the actual letter space value increases.

Remarks: This command keeps track of the value in the LNOM command. When the LNOM is changed the LMAX is automatically set for the same value. If you want a different value for LMAX, then set the LMAX command with the new value after the LNOM command.

Related Commands: \LMIN *n MINIMUM LETTER SPACING*

\LNOM *n NORMAL LETTER SPACING*

Defaults: None

MINIMUM LETTER SPACING \LMIN

Purpose: This command sets the *Minimum Amount of Letter Spacing* to be used in Text Items.

Format: \LMIN *n*

Argument: *n* is the minimum amount of letter spacing in relative units. (1 Relative Unit = 1/10 point for 10-point type.) As the point size increases, the actual letter space value increases.

Remarks: This command keeps track of the value in the LNOM command. When the LNOM is changed the LMIN is automatically set for the same value. If you want a different value for LMIN, then set the LMIN command with the new value after the LNOM command.

Related Commands: \LMAX *n MAXIMUM LETTER SPACING*

\LNOM *n NORMAL LETTER SPACING*

Defaults: None

LETTER SPACING VALUE \LNOM

Purpose: This command sets the *Normal Amount of Letter Spacing* to be used in running text and justified paragraphs.

Format: \LNOM *n*

Argument:

n	is the normal amount of letter spacing in relative units. (1 Relative Unit = 1/10 point for 10-point type.) As the point size increases, the actual letter space value increases. Use a negative number to tighten letter space, and a positive number to open up letter space.

Examples: This example is of a paragraph with *no change to* the normal letter spacing:

```
\LNOM 0
\LS
```

To meet the challenge of change, magazine designers have been forced to constantly adjust their creative approach and explore new directions in visual presentation.

This example is of a paragraph with *increased* letter spacing:

```
\LNOM 4
\LS
```

To meet the challenge of change, magazine designers have been forced to constantly adjust their creative approach and explore new directions in visual presentation.

This example is of a paragraph with *decreased* letter spacing:

```
\LNOM -1
\LS
```

To meet the challenge of change, magazine designers have been forced to constantly adjust their creative approach and explore new directions in visual presentation.

Note: You must turn on the LETTER SPACING SWITCH after setting the values in \LNOM.

Related Commands: \LS *y/n LETTER SPACING SWITCH Setup*

Defaults: \LNOM 0
\LS N

LETTER SPACING SWITCH COMMAND \LS

Purpose: This command turns on and off Letter Spacing. It will recall the value specified in the LETTER SPACING VALUE Setup command. Letter Spacing cannot be turned on inside of a paragraph or other Text Item. It must be turned on and off between Text Items.

Format: \LS *y/n*

Arguments: *y/n*

Y for Yes

or

N for No

Related Commands: \LNOM *n LETTER SPACING VALUE Setup*

Note: When using letterspacing you must put in the value first and then turn on that value with the letterspacing switch, if you input the commands in the other order, they will not work properly.

Defaults: \LNOM 0
\LS N

OUTLINE WEIGHT \OLSIZ

Purpose: Enables the user to define the weight of the outline recalled by the OUTLINE STYLE Immediate command **(\OL^).**

Format: \OLSIZ *percent*^

Arguments: *percent* is a percentage of the vertical size of the text to be outlined.

Formula: Line Weight ÷ Vertical Size = Percentage
.5 ÷ 36 = .01 (A half-point rule with 36-point text.)

Input:

```
\OLSIZ 1^

\OL^HEADING
```

Output:

Formula: 1 ÷ 36 = .02 (A 1-point rule with 36-point text.)

Input:

```
\OLSIZ 2^

\OL^HEADING
```

Output:

No Outline
Output:

Default: 2

Related Commands: \OL^ *OUTLINE STYLE Immediate*

SET SCREEN LINEAGE \SCRN

Purpose: This command sets the *Number of Lines Per Inch* to be used in running text if that text has a color process attribute.

Format: \SCRN *n*

Argument: *n* is the number of lines per inch for the screen value.

Related Commands: \TXT*n TEXT STYLE Setup*

The Text Style setup command has two arguments which allow you to assign color process attributes to text. These are the FC (Foreground Color) and BC (Background Color) arguments. See the Text Style setup command for further information.

Default: None

LITERAL SPACE SWITCH \SP

Purpose: This command turns on and off "Literal Spacing". Meaning whenever a keyboard space is encounter "set a fixed space". With literal spacing ON, you will get multiple spaces whenever they are encountered.

Format: \SP *y/n*^

Arguments: *y/n*

Y for Yes (Set Multiple Spaces)

or

N for No (Ignore Multiple Spaces)

Examples: When using literal spacing, place the command on a line of its own before the paragraph or table.

Input:

```
\SP Y^

\P1      This paragraph is indented using literal space. The
fill-in is also set with       literal spacing. Typing in
eight spacebar characters, will give you eight spaces.

\SP N^

\P1      This paragraph will not be indented even though the
spaces are in the paragraph. All multiple     spaces will be
ignored.
```

Output:

This paragraph is indented using literal space. The fill-in is also set with literal spacing. Typing in eight spacebar characters, will give you eight spaces.

This paragraph will not be indented even though the spaces are in the paragraph. All multiple spaces will be ignored.

Default: No – Ignore multiple spaces.

SET SPECFILE \SPEC

Purpose: Enables the user to call an external output separation specs file to tell the PostScript file generator (typdrv) what color model (spot or process) the compose job is using.

Format: \SPEC *specfilename* *\END*

Argument: *specfilename* is the name of the external ".spec" specification file to use.

Usage: This command is intended for use with batch compose or bcompose when not using its specification command. It should be used only once in a file, and fairly early on before any headers or paragraphs or set.

Default: Typdrv will assume process color model, composite printing, from a batch job where no spec file is given.

SUBSCRIPT BASELINE OFFSET \SUBOFF

Purpose: Enables the user to control the position of the subscript in relation to the baseline.

Format: \SUBOFF *percent*^

Argument:

percent	is the percentage of the current point size to lower the subscript from the current baseline

Example:

Input:

```
\SUBOFF 45^

Subscripts are used in scientific documents.
CH\D^3\R^(CH\D^2\R^)\D^17\R^
```

Output:

Subscripts are used in scientific documents. $CH_3(CH_2)_{17}$

In the following example, we are using the default value of 25. Notice that the subscripts have not dropped down as far as the previous example.

Input:

```
\SUBOFF 25^

Subscripts are used in scientific documents.
CH\D^3\R^(CH\D^2\R^)\D^17\R^
```

Output:

Subscripts are used in scientific documents. $CH_3(CH_2)_{17}$

Default: 25 percent

Related Commands: \SUBSIZ *SUBSCRIPT SIZE Setup*

\D^ *SUBSCRIPT Immediate*

\SUPSIZ *SUPERSCRIPT SIZE Setup*

\SUPOFF *SUPERSCRIPT BASELINE OFFSET Setup*

\U^ *SUPERSCRIPT Immediate*

SUBSCRIPT SIZE \SUBSIZ

Purpose: Enables the user to control the size of a subscript created by the \D^ subscript command.

Format: \SUBSIZ *percent*^

Argument: *percent* is the percentage of the current point size used to create a subscript

Example:

Input:

```
\SUBSIZ 75^

Subscripts are used in scientific documents.
CH\D^3\R^(CH\D^2\R^)\D^17\R^
```

Output:

Subscripts are used in scientific documents. $CH_3(CH_2)_{17}$

In the following example, we are using the default value of 60.

Input:

```
\SUPSIZ 60^

Subscripts are used in scientific documents.
CH\D^3\R^(CH\D^2\R^)\D^17\R^
```

Output:

Subscripts are used in scientific documents. $CH_3(CH_2)_{17}$

Default: 60 percent

Related Commands: \SUBOFF *SUBSCRIPT BASELINE OFFSET Setup*

\D^ *SUBSCRIPT Immediate*

\SUPSIZ *SUPERSCRIPT SIZE Setup*

\SUPOFF *SUPERSCRIPT BASELINE OFFSET Setup*

\U^ *SUPERSCRIPT Immediate*

SUPERSCRIPT BASELINE OFFSET \SUPOFF

Purpose: Enables the user to control the position of the superscript in relation to the baseline.

Format: \SUPOFF *percent*^

Argument: *percent* is the percentage of the current point size to raise the superscript from the current baseline

Example:

Input:

```
\SUPOFF 65^

Superscripts are used in scientific documents. Cu\U^+\R^ +
Fe\U^+++\R^ = Cu\U^++\R^ + Fe\U^++\R^
```

Output:

Superscripts are used in scientific documents. $Cu^{+} + Fe^{+++} = Cu^{++} + Fe^{++}$

In the following example, we are using the default value of 50. Notice that the position of the superscripts have changed.

Input:

```
\SUPOFF 50^

Superscripts are used in scientific documents. Cu\U^+\R^ +
Fe\U^+++\R^ = Cu\U^++\R^ + Fe\U^++\R^
```

Output:

Superscripts are used in scientific documents. $Cu^{+} + Fe^{+++} = Cu^{++} + Fe^{++}$

Default: 50 percent

Related Commands: \SUPSIZ *SUPERSCRIPT SIZE Setup*

\U^ *SUPERSCRIPT Immediate*

\SUBSIZ *SUBSCRIPT SIZE Setup*

\SUBOFF *SUBSCRIPT BASELINE OFFSET Setup*

\D^ *SUBSCRIPT Immediate*

SUPERSCRIPT SIZE \SUPSIZ

Purpose: Enables the user to control the size of a superscript created by the \U^ superscript command.

Format: \SUPSIZ *percent*^

Argument: *percent* is the percentage of the current point size used to create a superscript

Example:

Input:

```
\SUPSIZ 85^

Superscripts are used in scientific documents. Cu\U^+\R^ +
Fe\U^+++\R^ = Cu\U^++\R^ + Fe\U^++\R^
```

Output:

Superscripts are used in scientific documents. $Cu^{+} + Fe^{+++} = Cu^{++} + Fe^{++}$

In the following example, we are using the default value of 60.

Input:

```
\SUPSIZ 60^

Superscripts are used in scientific documents. Cu\U^+\R^ +
Fe\U^+++\R^ = Cu\U^++\R^ + Fe\U^++\R^
```

Output:

Superscripts are used in scientific documents. $Cu^{+} + Fe^{+++} = Cu^{++} + Fe^{++}$

Default: 60 percent

Related Commands: \SUPOFF *SUPERSCRIPT BASELINE OFFSET Setup*

\U^ *SUPERSCRIPT Immediate*

\SUBSIZ *SUBSCRIPT SIZE Setup*

\SUBOFF *SUBSCRIPT BASELINE OFFSET Setup*

\D^ *SUBSCRIPT Immediate*

TILDE CHARACTER \~ *a*

Purpose: The tilde setup command is used to define the tilde character to hold a specific amount of space. The tilde character is MECCA's hardspace character. You can define the width by what character you type in this setup command.

Format: \~(space)*a*

Argument: *a* is a specific character

Example: Say we need the tilde to hold the same amount of space as a Capital M. This would simulate an "em space." After this is set, whenever you use the tilde command it will leave a blank space with the width of a Capital M. The tilde can be changed numerous times throughout a file. *There must be a space after the tilde, before the character being defined.*

Input:

```
\TXT1 FONT=GE STYLE=N HSIZE=9p VSIZE=9p LEAD=10p\END

\PX1 TEXT=1 LM=0 RM=312p CM=FL LB=10p LA=0\END

\~ M

\P1 MMM
\P1 M~M

\~ n

\P1 MnM
\P1 M~M

\~ i

\P1 MiM
\P1 M~M

\~ 0

\P1 12345.00
\P1 ~1234.00
\P1 ~~123.00
\P1 ~~~12.00
\P1 ~~~~1.00
\P1 ~~~~~.00
```

```
\~ $

\P1 $ 125.00
\P1 ~ 125.00

\~ 0

\P1 This is tildes and fills\FILL^ 1-1~
\P1 This is tildes and fills\FILL^ 1-1~
\P1 This is tildes and fills\FILL^ 1-1~
\P1 This is tildes and fills\FILL^ 1-2~
\P1 This is tildes and fills\FILL^ 1-11
```

Output:

```
MMM
M   M

MnM
M  M

MiM
M M

12345.00
 1234.00
  123.00
   12.00
    1.00
     .00

$ 125.00
  125.00
```

This is tildes and fills 1-1

This is tildes and fills 1-1

This is tildes and fills 1-1

This is tildes and fills 1-2

This is tildes and fills 1-11

Default: The tilde holds the space of the number zero if not set.

UNDERLINE POSITION \ULPOS

Purpose: Enables the user to position the baseline of an underline recalled by the UNDERLINE START Immediate command **(\US^).**

Format: \ULPOS *percent*^

Arguments:

percent is the percentage of the point size to raise or lower the underline.

A negative value is for underlining and a positive value is for strike-through or overscoring effect.

Example:

Input:

```
\ULPOS -20^

Underlining is used \US^ to place emphasis on words or
sentences\UE^.
Connect the command to the word or phrase you are stressing.
```

Output:

Underlining is used to place emphasis on words or sentences.
Connect the command to the word or phrase you are stressing.

In the following example, we want to strike through the word *Blue*:

Input:

```
\ULPOS 40^

Draw a line through the wrong answer:
Red \US^Blue\UE^ Green
```

Output:

Draw a line through the wrong answer:
Red ~~Blue~~ Green

Default: -20 percent

Related Commands:

\ULSIZ percent^ *UNDERLINE WEIGHT Setup*

\US^ *UNDERLINE START Immediate*

\UE^ *UNDERLINE END Immediate*

UNDERLINE WEIGHT \ULSIZ

Purpose: Enables the user to define the thickness of the underline recalled by the UNDERLINE START Immediate command **(\US^).**

Format: \ULSIZ *percent*^

Arguments:

percent	is a percentage of vertical size currently being used. The size of the underscore will increase as the vertical size of the type increases. Formula for figuring the percentage: Line Weight ÷ Vertical Size = Percentage.

Example:

Formula: .5 ÷ 14 = .03 (A half-point rule with 14-point text.)

Input:

```
\ULSIZ 3^

Underlining puts \US^emphasis on words\UE^.
```

Output:

Underlining puts emphasis on words.

Formula: 1 ÷ 10 = .10 (A 1-point rule with 10-point text.)

Input:

```
\ULSIZ 10^

Underlining is used \US^to place emphasis on words or
sentences\UE^.
\US^This is a one-point rule.\UE^
```

Output:

Underlining is used to place emphasis on words or sentences.
This is a one-point rule.

Formula: Line Weight ÷ Vertical Size = Percentage

Default: 10 percent

Related Commands: \ULPOS *percent*^ *UNDERLINE POSITION Setup*

\US^ *UNDERLINE START Immediate*

\UE^ *UNDERLINE END Immediate*

Chapter 4: Text Item Commands

Text Item commands identify and control the composition of strings of text, as directed by their corresponding Setup commands. Every Text Item command must have a Setup Command already defined. In your text data file, they point out how the text is to be read, for example, whether it is a paragraph or a header.

The MECCA 2000 batch composition program converts text data files consisting of headings, paragraphs (Text Items), tables into paginated pages. To ensure that the system properly recognizes headings and paragraphs input them with **blank lines** in between each item, as shown below.

Do not worry about blank lines taking up room on the page. They do not control white space between items. The leading between Text Items is controlled by the setup command in effect, and is no way influenced by the number of blank lines in the file.

The same is true about spaces between words. Extra spaces between words are discarded by the composition system. In fact, a perfect paragraph could be composed from a file that had only one word per line. The most important thing is to have blank lines before and after each paragraph and **not** to have blank lines in the middle of a paragraph.

Text Item Commands in a Data File

```
\PFMT 5x8mbody.pfmt \END

\PHED1 First Phase
\PHED6 First Phase

\PFUT1 2-#P
\PFUT6 2-#P

\HD1 FIRST PHASE

\P1 This chapter instructs in detail the
technique to be followed in identifying each
task within the First Phase to a structured
system development.

\P1 It is during the First Phase that apparent
and actual problems are identified: scope of the
problem; alternative for possible solutions to the
problem and the effect proposed solutions
have on personnel.

\HD2 PROBLEM ANALYSIS

\P2 The purpose of the problem analysis is to
establish a solid foundation for problem definition
by identifying the requestor and his present and
future needs.
```

HEADING \HD*n*

Purpose: Causes all following text to be set as a heading. Recalls the values specified and stored through the corresponding HEADING STYLE Setup command such as font and size, etc. Each HEADING Text Item command **must** have a corresponding HEADING STYLE Setup command.

Headings are used during pagination to help determine column and page breaks. The composition program will not allow headings to fall at the bottom of a column or at the bottom of a page. They are required to have at least two lines of a paragraph following them before a page break can take place. If the headings and its immediatly following subheads will not fit, the entire piece will go to the top of the next page (or column).

Format: \HD*n*

Argument: *n* is a number from **1 to 31**. This number corresponds to a HEADING STYLE Setup command.

Example: **Previously Defined:**

Text Style Setup —

```
\TXT1 FONT=GE STYLE=B HSIZE=16p VSIZE=16p LEAD=18p\END
```

Heading Style Setup —

```
\HDX1 TEXT=1 LM=0 RM=240p CM=FL LB=36p LA=0\END
```

Input:
\HD1 CHAPTER ONE

Output:

CHAPTER ONE

Setup Command: \HDX*n string* \END

Enumerated Headings: What is referred to in standard typing as a simple outline style is called, "enumerated" in MECCA 2000. An enumerated heading is one with a number, word or other item in the left margin of an indented heading. The following is an enumerated heading:

2.0 FEATURES, ENHANCEMENTS AND MODIFICATIONS FOR RELEASE NO. 6.

Example: **Previously Defined:**

Text Style Setup —

```
\TXT1 FONT=GE STYLE=B HSIZE=10p VSIZE=10p LEAD=12p\END
```

Heading Style Setup —

```
\HDX1 ETX=1 ELM=132p ERM=168p ECM=FL\END
\HDX1 TEXT=1 LM=168p RM=420p CM=FL LB=26p LA=0\END
```

Input:

```
\HD1 A. \END FEATURES FOR RELEASE NUMBER SIX\80^
DATED APRIL, 1992\NL^
(This is an Enumerated Heading.)

\HD1 FEATURE NUMBER ONE\NL^
(This heading has no enumeration.)
```

Note: The **\END** is used only when an item is to be set within the Enumeration Boundary. It stops the enumeration copy and starts the heading body copy. If there is no item to be set in the enumeration field, the **\END** is not necessary.

Output:

A. FEATURES FOR RELEASE NUMBER SIX — DATED APRIL, 1992
(This is an Enumerated Heading.)

FEATURE NUMBER ONE
(This heading has no enumeration.)

PARAGRAPH \P*n*

Purpose: Causes all following text to be set as a paragraph. Recalls the values specified and stored through the corresponding PARAGRAPH STYLE Setup command such as style and composition mode, etc. Each PARAGRAPH Text Item command **must** have a corresponding PARAGRAPH STYLE Setup command.

Format: \P*n*

Argument: *n* Is a number from **1 to 31**. This number must correspond to a PARAGRAPH STYLE Setup command.

Example: **Previously Defined:**

Text Style Setup—

```
\TXT1 FONT=GE STYLE=N HSIZE=9p VSIZE=9p LEAD=12p\END
```

Paragraph Style Setup—

```
\PX1 TEXT=1 LM=0 RM=234p CM=FL LB=24p LA=0\END
```

Input:
\P1 The little girl did not know that her mother was not at home. She called and called for her mother all over the house.

Output:
The little girl did not know that her mother was not at home. She called and called for her mother all over the house.

Setup Command: \PX*n string* \END

Enumerated Paragraphs: What is referred to in standard typing as a simple outline style is called "enumerated" in MECCA 2000. An enumerated paragraph is one with a number, word or other item in the left margin of an indented paragraph. The following are all enumerated paragraphs:

1. This is an enumerated paragraph.
   a) This is an enumerated paragraph.
      - This is an enumerated paragraph.

Example: **Previously Defined:**

Text Style Setup—

```
\TXT1 FONT=GE STYLE=N HSIZE=10p VSIZE=10p LEAD=12p\END
```

Paragraph Style Setup—

```
\PX11 ETX=1 ELM=50p ERM=74p ECM=FL\END
\PX11 TEXT=1 LM=74p RM=280p CM=FL LB=26p LA=0\END

\PX12 ETX=1 ELM=74p ERM=98p ECM=FL\END
\PX12 TEXT=1 LM=98p RM=280p CM=FL LB=18p LA=0\END
```

Input:

```
\P11 1. \END This is an enumerated paragraph
which will wrap back under the para body.

\P11 This paragraph has no enumeration.

\P12 a) \END This is an enumerated paragraph.

\P12 This paragraph has no enumeration.
```

Output:

1. This is an enumerated paragraph which will wrap back under the para body.

   This paragraph has no enumeration.

   a) This is an enumerated paragraph.

      This paragraph has no enumeration.

Note: The **\END** is used only when an item is to be set within the Enumeration Boundary. It stops the enumeration copy and starts the paragraph body copy. If there is no item to be set in the enumeration field, the **\END** is not necessary.

PAGE HEAD/FOOT \PHED*n* *PFUTn*

Purpose: Causes all following Text Items to be set as a page head or foot. Recalls the values specified through a corresponding PAGE HEAD/FOOT STYLE Setup command such as style and mode, etc. Each PAGE HEAD/FOOT Text Item command **must** have a corresponding PAGE HEAD/FOOT STYLE Setup command.

Format: \PHED*n*
\PFUT*n*

Argument: *n* is a number from **1 to 6**. This number must correspond to the PAGE HEAD/FOOT STYLE Setup command needing recalled.

Example: **Previously Defined:**

Text Style Setup —

```
\TXT1 FONT=GE STYLE=B HSIZE=10p VSIZE=10p LEAD=12p\END
```

Page Foot Setup Command —

```
\PFUTX1 TEXT=1 LM=36p RM=542p CM=FL YPOS=30p\END
```

Input:
\PFUT1 #P/Women's World Magazine

Output:
2/Women's World Magazine

Setup Commands: \PHEDX*n*
PAGE HEADING STYLE

\PFUTX*n*
PAGE FOOT STYLE

Enumerated Page Head/ Page Foot: What is referred to in standard typing as a simple outline style is called "enumerated" in MECCA 2000. An enumerated page foot is one with a number, word or other item in the left margin of the indented page foot body copy.

Previously Defined:

Text Style Setup —

```
\TXT1 FONT=GE STYLE=B HSIZE=10p VSIZE=10p LEAD=12p\END
```

Page Foot Setup Command —

```
\PFUTX2 ETX=1 ELM=202p ERM=276p ECM=FL\END
\PFUTX2 TEXT=1 LM=276p RM=400p CM=FL YPOS=84p\END
```

Example:

Input:

\PFUT2 Restriction: **\END** This document is for internal use only.

\PFUT2 There is no enumeration in this page foot.

Output:

Restriction: This document is for internal use only.

There is no enumeration in this page foot.

Note: The **\END** is used only when an item is to be set within the Enumeration Boundary. It stops the enumeration copy and starts the page foot body copy. If there is no item to be set in the enumeration field, the **\END** is not necessary.

The illustration below shows the suggested position for each of the \PHED and \PFUT Text Items. Commands 1, 2 and 3 will typeset *only* on EVEN pages. Commands 4, 5 and 6 will typeset *only* on ODD pages.

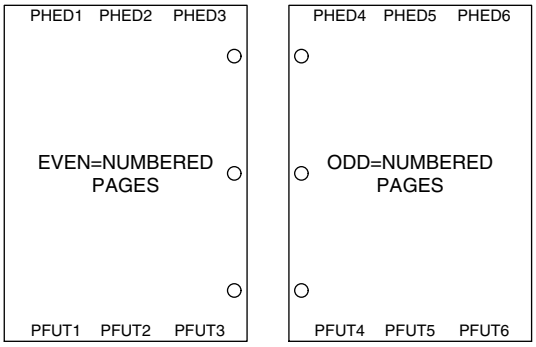


Figure 4-1: Suggested Positions for Page Heads and Feet

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Chapter 5: The Immediate Commands

Immediate commands are used for special effects such as emphasis on words, phrases or paragraphs. They are called Immediate commands because they take effect immediately. When using a special effect command, insert the desired command at the position in the text where the effect should begin. Use another command to reset the effect back at the point where the effect should cease. All Immediate commands are automatically canceled each time a new Text Item begins.

Immediate commands are the only commands which can be used while inputting text (through your graphic menus) into an illustration. They work with the text input options: {Input Text}, {Edit Text} and {Place Text into Boxes}.

Immediate Commands (Hierarchy)

Automatic Fraction \A
Backup Center \BC
Backup Flush \BF
Bold and Bold Italic \B^, \BI^
Black and Black Italic \BK^, \BKI^
Combine Characters \CBC
Change Font \CF
Change Color \CLR
Change Mode \CM
Down for Subscript \D^
Move Baseline Down \DN
First Point Size Reset \F^
Leader Fill Default \FILL^
Leader Fill User Defined Batch \FILL n^
Leader Fill User Defined Graphics \FILL n^
Force Justify Line \FJ^
Graduated Color Start and End \GRS, \GRE
Horizontal Rule \HR
Horizontal Space Relative \HSA
Horizontal Space Absolute \HSPA
Horizontal Size \HSZ
Heavy and Heavy Italic \HV^, \HVI^
Discretionary Hyphen \-^
Line Leading \LEAD, \LD
Light and Light Italic \L^, \LI^
Change Layer \LYR
Medium and Medium Italic \M^, \MI^
Normal and Italic \N^, \I^
New Line \NL^
Outline Type \OL^, \XOL^
Point Size \PSZ
Reset for Super/Subscript \R^
Reverse Type \RV^, \XRV^
Save and Restore Font \SF^, \RF^
Thin and Thin Italic \TH^, \THI^
Tilde Character \~
Up for Superscript \U^
Move Baseline Up \UP^
Underscore Start and End \US^, \UE^
Very Light and Very Light Italic \VL^, \VLI^
Vertical Point Size \VSZ
Extra Bold and Extra Bold Italic \XB^, \XBI^
Thin, En- and Em-Space, @>T, @>M, @>N
Special Character \nnn^

AUTOMATIC FRACTION \A

Purpose: Allows fractions to be created with minimal coding. A numerator and denominator is set with the fraction bar character replacing the forward slash.

Format: \A (space) *n/n^*

Arguments:

n/	is the numerator of the fraction	
	and	
*n^*	is the denominator of the fraction.	

Example: In this example, the **\A 1/2^** fraction command will produce the one-half fraction. (There *must* be a wordspace between the \A and the fraction itself.)

Input:

```
\P1 The carpet measures 16\A 1/2^ feet, not
16\A 3/4^ feet.
```

Output: The carpet measures 16½ feet, not 16¾ feet.

Remarks: This command reads a control file */fontinfo/fractions.data* which regulates the percentage of reduction and relative baseline position for the fraction. There are also files necessary to map the forward slash character, to a fraction bar character for output.

Default: The default font is Geneva (Helvetica).

BOLD and BOLD ITALIC \B^ \BI^

Purpose: These are the two type style commands for **Bold** and ***Bold Italic.*** Bold is a **thicker version** of the normal type style, while Bold Italic is a ***slanted thicker version.*** Both of these commands will stay in effect until another style command or a Text Item command is encountered.

Format: \B^ and \BI^

Arguments: None

Example: In the examples below, notice the command is connected to the word it is changing.

Input:

```
Use the \B^Bold Command \N^to place emphasis on words or
sentences. \BI^Here we are using the Bold Italic Command.
```

Output: Use the **Bold Command** to place emphasis on words or sentences. ***Here we are using the Bold Italic Command.***

List of Type Styles:

\VL^	Very Light	\VLI^	Very Light Italic
\TH^	Thin	\THI^	Thin Italic
\L^	Light	\LI^	Light Italic
\N^	Normal	\I^	Italic
\M^	Medium	\MI^	Medium Italic
\B^	Bold	\BI^	Bold Italic
\XB^	Extra Bold	\XBI^	Extra Bold Italic
\HV^	Heavy	\HVI^	Heavy Italic
\BK^	Black	\BKI^	Black Italic

Note: Type styles are dependent on availability of that style on your system. If you select a style that is not available, the system will default to normal or italic. (Exception: Extra Bold defaults to Bold.)

BACKUP CENTER \BC^

Purpose: This command allows any character or number to back up and center itself on top of the previous character. The two different character widths are centered by the wider character. The command looks for the character following it and centers that character on the character before it.

Format: \BC^

Argument: None

Example:

Input:

```
My brother's ham radio handle is
WO\BC^/LFMAN.
```

Output: My brother's ham radio handle is WØLFMAN.

Related Command: \BF^
BACKUP FLUSH

BACKUP FLUSH \BF^

Purpose: This command allows any character or number to back up the full distance of the previous character giving a flush-left effect.

Format: \BF^

Argument: None

Example:

Input:

```
\316^\BF^\DN60^\317^
```

Output: ⌈⌊

Note: The SPECIAL CHARACTER numbers are \316^ = ⌈ and \317^ = ⌊. Check your Special Characters Tables for the correct numbers for your system.

Related Command: \BC^
BACKUP CENTER

BLACK and BLACK ITALIC \BK^ \BKI^

Purpose: These are the two type style commands for **Black** and ***Black Italic.*** Black is a **thicker version** of the bold type style, while Black Italic is a ***slanted thicker version.*** Both of these commands will stay in effect until another style command or a Text Item command is encountered.

Format: \BK^ and \BKI^

Arguments: None

Example: In the examples below, notice the command is connected to the word it is changing.

Input:

```
Use the \BK^Black Command \N^to place emphasis on words or
sentences. \BKI^Here we are using the Black Italic Command.
```

Output: Use the **Black Command** to place emphasis on words or sentences. ***Here we are using the Black Italic Command.***

List of Type Styles:

\VL^ Very Light	\VLI^ Very Light Italic
\TH^ Thin	\THI^ Thin Italic
\L^ Light	\LI^ Light Italic
\N^ Normal	\I^ Italic
\M^ Medium	\MI^ Medium Italic
\B^ Bold	\BI^ Bold Italic
\XB^ Extra Bold	\XBI^ Extra Bold Italic
\HV^ Heavy	\HVI^ Heavy Italic
\BK^ Black	\BKI^ Black Italic

Note: Type styles are dependent on availability of that style on your system. If you select a style that is not available, the system will default to normal or italic. (Exception: Extra Bold defaults to Bold.)

COMBINE CHARACTERS \CBC

Purpose: There are times when a rare accented character is needed, but it is not readily available in the selected font. While it is possible to build such a character by using a combination of BC (Backup Center) and UP/DN (Up and Down) mark-up commands in MECCA, it is nonetheless inconvenient, plus the resulting "character" is not subject to font size change.

This immediate command, CBC (ComBined Character) lets the user set a base character, then a sequence of "mark characters" (those standalone accent glyphs) to be placed above or below the base character, while keeping all those characters centered, much like the BC command.

Format: \CBC (space) *base,gap-direction,mark^*

Arguments:

base, is the base character

gap-direction, specifies the vertical gap and direction above or below. The vertical gap is in EM units (for MECCA, there are 100 units per EM) between the characters' bounding boxes.

The direction: "above" or "below", is indicated by a single character 'a' or 'b'.

*mark^* is the character to be placed above or below the base character.

Example: As an example, there is no "o-cedilla" in a standard font, but using CBC, and the \013 special character code for cedilla, here's "o-cedilla":

Input 1: `\cbc o,b,\013^`

Output 1:

where o is the base character, the 'b' says "no gap, and place below", and the mark is cedilla (which is to be placed below o).

Default Gap: The default gap for above or below is always zero, such that the bounding boxes of the characters touch. This is because there is no standard gap size for all typefaces: while *Technical Note #2 at Unicode.org* suggests "a value of 1/12 EM square might be appropriate", gap sizes have been found to range between 6.6 and 10 EM units in actual font files. Hence, we decided to let users specify the gap where and when they want it, rather than imposing a default gap value.

The gap value can be negative: look at the "o-cedilla" example, since no gap was specified, the o and cedilla bounding boxes just touch, the result doesn't look quite right. Normally, a cedilla is placed below the base character but with some overlap, so you can do this using the vertical adjustment.

Input 2: `\cbc o,-2b,\013^`

Output 2:

This causes the cedilla and o bounding boxes to overlap by 2 EM units, and the combination now looks much better.

The vertical gap value, given before either 'a' or 'b', is positive to "loosen or spread" the characters, negative to "tighten or contract" the characters, vertically.

More Examples:

We will start with an "o" and "hyphen" above, having a gap of 6.6 units between "o" and "hyphen".

Input 3: `\cbc o,6.6a,-^`

Output 3:

You can place both "above" and "below" parts in one CBC command. The next two examples may be combined into one "o-cedilla with hyphen above":

Input 4: `\cbc o,6.6a,-,-2b,\013^`

Output 4:

Or, you can create an "o with hyphen above and below, plus a cedilla tail":

Input 5: `\cbc o,6.6a,-,6.6b,-,-2b,\013^`

Output 5:

Note that there are two "below" characters now: first the hyphen, 6.6 units below o, then the cedilla, overlapping 2 units with the hyphen (not the o).

This last example illustrates two things:

1. The gap is always the distance between the "current bounding box", and the bounding box of "the next character". The base character defines the initial bounding box.
2. You can use any number of above/below characters in one CBC command, and there is no preset requirement as to the order of above or below placement. The last example could be re-written with "below parts first":

Input 6: `\cbc o,6.6b,-,-2b,\013,6.6a,-^`

Output 6:

and will produce the same result (of course, you can also sandwich the one "above hyphen" between the two "below" parts, the result will again, be the same).

Sharp eyed customers may have noticed: when you use a \NNN character code in a CBC sequence, you do not terminate it with a caret (unless it happens to terminate the CBC command). This is the only condition where a special character code need not (indeed, must not) be terminated with a caret – CBC itself is an immediate command, and immediate commands do not nest in MECCA.

One final syntax note, as we examine the "o-cedilla" more:

Input 7: `\cbc o,-2b,\013^`

Output 7:

If the font is in italic, MECCA will recognize that fact, and center the cedilla accordingly (pulling it to the left a little bit, per the italic angle). However, that amount may not be enough – curious customers can compare with the "c-cedilla" in Helvetica Italic (ge/i), ç, which does exist in the font, to see the difference – and you may want to do a little horizontal adjustment yourself. Here is how:

Give any horizontal adjustment (in units of EM), AFTER the ’a’ or ’b’ directional indicator. Negative value pulls to the left, and positive value pushes toward the right. For example:

Input 8: `\I^\cbc o,-2b-4,\013^`

Output 8:

will not only overlap cedilla on the bottom by 2 units, but also move the cedilla left by 4 units (after centering and any italic adjustment).

Horizontal adjustment like this does not "carry over": if you place another character below the cedilla, that character will not retain the -4 horizontal adjustment applied to the cedilla.

Caution:

1. CBC is meant to create a combined character as if that character was in the font. Therefore, any font, style, color etc. properties you want, must be set before using CBC. Inside the CBC command, there can be no other immediate command.
2. The base character is always used for kerning purpose.
3. The "width of a CBC character" is the widest of all characters in the sequence, not the "combined total width of all characters".

4. Depending on font used and surrounding characters, an HSA command may need to follow CBC in order to tighten letter spacing.
5. Color or density graduation over a CBC character is not well supported.
6. CBC character is not supported for spelling check, i.e. it is handled as a normal immediate command and skipped during spelling check, it is not treated as "one character" (that may reside in a word).

CHANGE FONT \CF

Purpose: Enables user to Change Font, at the beginning of, or within a text paragraph.

Format: \CF (space) *aa*^

Arguments:

aa	are the mnemonics assigned to your fonts. **GE** for Geneva and **TI** for Times Roman. These commands will override the generic font called by the current command in effect, but only until the next text item starts.

Example: Notice in the *Input* the wordspace between the \CF and the Font Mnemonic. The command will not be recognized without it.

Input:

```
\CF GE^Text will be in Geneva.
\CF TI^Text will be in Times Roman.
```

Output:

Text will be in Geneva.
Text will be in Times Roman.

Note: The typefaces available are dependent on the output device. To list the font mnemonics that are on your system, type in the following commands at the Unix $-prompt:

CHANGE COLOR \CLR

Purpose: Enables the user to change the *Color Number* immediately within a text string. This is limited to the 600 through 700 color numbers unless you own the *Full Color Process Software* for the ability to output CMYK separations.

Format: \CLR *n*^

Argument: *n* is the color number assigned to the text following.

Graphics: This command allows the user to assign text a different color, immediately within a sentence. And if needed, to switch back again. To output CMYK layers, you must use {Set Color Options} {Print CMYK Color Seps}.

This command references the color numbers found in the default table */color/fcp01.gray (or /color/fcp01)* if the number is not found in the drawing's active CMYK table.

Batch Composition: This immediate color command is ignored unless output with a Spec Type "P" and a Spec File. It is kept when composed to Graphic or Preview file, but again must be output using CMYK Color Separation Files.

Example: Color Number 485 is red.

Input:

Every good **\CLR 485^** boy **\CLR 0^**does fine.

Output on Black: Every good does fine.

Output on Magenta: boy

Output on Yellow: boy

Default: 0

Related Command: \LYR
LAYER

Setup Command: \SCRN *n*^
SCREEN LINEAGE

CHANGE MODE \CM

Purpose: Enables the user to change the composition mode of a paragraph or other Text Item. The composition mode controls how the text will set between the left and the right margins. This command controls the whole paragraph; the last composition mode change read, will be the one used.

Format: \CM (space) *aa*^

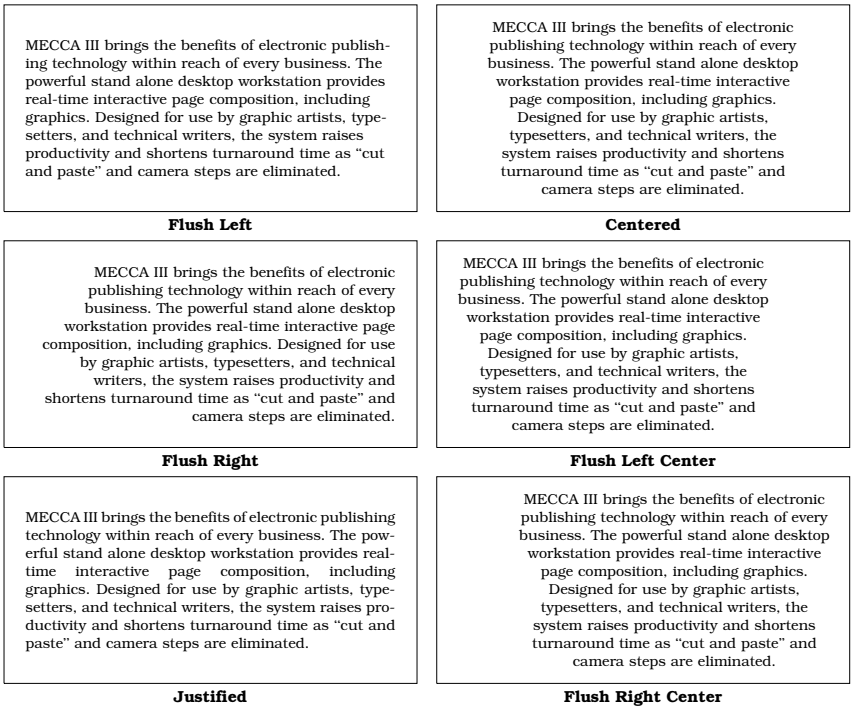
Arguments: *n* is the new composition mode. The options are:

FL	Flush to the Left Margin	CE	Center
FR	Flush to the Right Margin	FLC	Flush Left Centered
JU	Justify at Both Margins	FRC	Flush Right Centered

Example: Below are examples of the six composition modes along with how to input the command.

Input:

```
\P1 \CM CE^MECCA 2000 brings the benefits.....
```



DOWN FOR SUBSCRIPT \D^

Purpose: This command allows the user to immediately create subscripts. It lowers the baseline and reduces the current point size by 50% for the characters following the command.

Format: \D^

Argument: None

Example:

Input:

```
One atom of hydrogen-1 has a mass of
1.67 x 10\D^24 \F^g.
```

Output: One atom of hydrogen-1 has a mass of 1.67 x 10_{24} g.

Related Commands:

\F^
FIRST POINT SIZE RESET

\R^
RESET TO SUPER/SUBSCRIPT

\U^
UP FOR SUPERSCRIPT

Setup Commands:

\SUBOFF *n*
SUBSCRIPT BASELINE OFFSET

\SUBSIZ *n*
SUBSCRIPT SIZE

MOVE BASELINE DOWN \DN

Purpose: This command allows the user to immediately lower the baseline of the text following it for that paragraph only. The original positioning is restored at the end of the text item, it does not effect the leading before the following paragraphs.

Format: \DN *unit*^

Argument: *unit* is the amount the baseline is to be lowered.

Example:

Input:

```
\P1 To move a line \DN 3.5p^DOWN just use the
immediate down command.

\P1 The original positioning is restored
at the end of the text item.
```

Output:

To move a line DOWN just use the immediate down command.

The original positioning is restored at the end of the text item.

Related Command: \UP *unit*^
MOVE BASELINE UP

FIRST POINT SIZE RESET \F^

Purpose: This command resets the point size and baseline, after super/subscript, back to the original type size and baseline. When utilizing more than one level of sizes (such as a superscript between subscripts), this command will automatically reset the type back to the original level before it encountered the first super/subscript.

Format: \F^

Argument: None

Example:

Input:

```
Levels of super/subscripts are easy:
1.11 \D^22\U^33\R^ 22 \F^1.11.
```

Output: Levels of super/subscripts are easy:
1.11 $_{22}{}^{33}{}_{22}$ 1.11.

Related Commands:

\D^
DOWN FOR SUBSCRIPT

\R^
RESET TO SUPER/SUBSCRIPT

\U^
UP FOR SUPERSCRIPT

LEADER FILL – DEFAULT \FILL^

Purpose: Allows a pattern of leader dots to be drawn between text pieces in a paragraph or table. The purpose of the \FILL^ command is to fill remaining space in a measure with the leader dots.

When the \FILL^ command occurs in a line, the text to the left of the command will set flush left and the text to the right of the command will set flush right. With any remaining space being taken up by the fill. If more than one \FILL^ command is in a given line, they will divide equally the remaining space on the line.

The composition mode of the text item using the fill must be either Flush Left (FL) or Justified (JU). If you want a designated line break, you must use the \NL^ NEW LINE command to break the line. Otherwise, the \FILL^ command will break the lines as normal and use the remaining space to fill. In the case of justified lines there is no remaining space, so a \FJ^ command to control the line break is
absolutely necessary. On any line that contains a \FILL^ command, the line will fill the measure.

Format 1: \FILL^

Argument: None

Remarks: This is the default format of the \FILL^ command. This will produce a leader dot pattern made up of the period character of the current font spaced at 6 points between with a 6 point gutter at each end. It will pick up the style of the associated paragraph.

Batch Composition: The \FILL^ command must be associated with a paragraph or table as any other immediate command.

MECCA Graphics: The \FILL^ command can be used with any text input option. It will display dotted in the color of the text attribute it is associated with. It will query using {Text — Words} as FL=0 meaning default.

Example:

Input:

```
This is the default \FILL^ leader fill.
```

Output:

This is the default . . . . . leader fill.

Default: There are three formats. Format 1 does not require any setup. It is the default leader dot pattern. Format 2 requires either an \LDX Setup. Format 3 requires a Line Pattern (.pat) file prior to use.

LEADER FILL – USER DEFINED *(Batch)* \FILL *n^*

Purpose: Allows a pattern of white space, leader dots, a solid line, or dotted/dashed patterns to be drawn between text pieces in a paragraph or table. The purpose of the \FILL command is to fill remaining space in a measure with the specified pattern.

This \FILL *n^* command is expanded to allow the user to define the pattern or spacing of dots, lines, and line weight, gutters, etc. It is controlled through the \LDX Setup command when used in Batch Composition.

When the \FILL command occurs in a line, the text to the left of the command will set flush left and the text to the right of the command will set flush right. With any remaining space being taken up by the fill. If more than one \FILL command is in a given line, they will divide equally the remaining space on the line.

The composition mode of the text item using the fill must be either Flush Left (FL) or Justified (JU). If you want a designated line break, you must use the \NL^ NEW LINE command to break the line. Otherwise, the \FILL command will break the lines as normal and use the remaining space to fill. In the case of justified lines, there is no remaining space so a \FJ^ command to control the line break is absolutely necessary. On any line that contains a \FILL command, the line will fill the measure.

Format 2: \FILL *n^*

Arguments: *n* Style number of the \LDX command.

Remarks: For the \FILL *n^* command to be used, a PAGE DEFINITION, COLUMN and a PARAGRAPH STYLE Setup command must be defined before the \LDX Leader Setup.

There is a format file in */usr/amgraf/formats/fill.pfmt* which you can read into your format file. It is the four \LDX commands in the examples on the next page.

Examples of Usage in Batch:

Previously Defined

Leader Fill Setup —

```
\LDX1 LINW=0 \END
\LDX2 PAT=1d,0,-1 LINW=.5p GUTL=3p GUTR=30 ENDS=S\END
\LDX3 PAT=1d,8p LINW=1p GUTL=8p GUTR=8p ENDS=R VOFFSET=0
\END
\LDX4 LINW=2p GUTL=3p GUTR=3p COLOR=615 SCREEN=60 ENDS=S
VOFFSET=1p \END
```

Input:

```
Line style one\FILL 1^creates a\FILL 1^white space fill.
```

Output:

Line style one creates a white space fill.

Input:

```
Line style two\FILL 2^\NL^creates a solid half-point rule
with three-point gutters on each end.
```

Output:

Line style two

creates a solid half-point rule with three-point gutters on each end.

Input:

```
Line style three\FILL 3^creates\NL^ a dotted line with eight
points of spacing between the dots.
```

Output:

Line style three . . . . . creates a dotted line with eight points of spacing between the dots.

Input:

```
Line style four\FILL 4^\NL^creates a screened line with
squared ends.
```

Output:

Line style four

creates a screened line with squared ends.

Setup Command: \LDX
LEADER FILL SETUP

LEADER FILL – USER DEFINED *(Graphics)*
\FILL ***string^***

Purpose: Allows a pattern of white space, leader dots, a solid line, or dotted/dashed patterns to be drawn between text pieces in a paragraph or table. The purpose of this \FILL command is to fill remaining space in a measure with the specified pattern.

This \FILL command is expanded to allow the user to define the pattern or spacing of dots, lines, and line weight, gutters, etc. It is controlled through a Line Pattern File (.pat).

When the \FILL command occurs in a line, the text to the left of the command will set flush left and the text to the right of the command will set flush right. With any remaining space being taken up by the fill. If more than one \FILL command is in a given line, they will divide equally the remaining space on the line.

The composition mode of the text item using the fill must be either Flush Left (FL) or Justified (JU). If you want a designated line break, you must use the \NL^ NEW LINE command to break the line. Otherwise, the \FILL command will break the lines as normal and use the remaining space to fill. In the case of justified lines, there is no remaining space so a \FJ^ command to control the line break is absolutely necessary. On any line that contains a \FILL command, the line will fill the measure.

Format 2: \FILL *n, string^*

Arguments:

n	Argument 1, FILL PATTERN STYLE NUMBER. All five arguments are necessary in this order.
unit,	Argument 2, LEFT_GUTTER. Gutter to left of fill pattern.
unit,	Argument 3, RIGHT_GUTTER. Gutter to right of fill pattern.
unit,	Argument 4, VERTICAL_OFFSET. Vertical offset of the pattern from the baseline. The fill pattern is always drawn centered about the baseline, to have the bottom of the fill pattern exactly touch the baseline it should be offset by half the line weight of the corresponding \LDX command.
unit,	Argument 5, LINE_WEIGHT. Line weight to be used.

MECCA Graphics:

The \FILL *string*^ command can only be used if a pattern file has been previously combined using {Edit Files} {Combine Line Pattern} prior to keying in the Immediate \FILL command. There is a pattern file in the directory */usr/amgraf /formats* named *mecca.pat,* which defines four \FILL's as shown in our examples below. Once defined through the {Combined Line Pattern} the \FILL attributes are stored with the drawing when saved and can be used at any time.

The fill will display dotted in the color of the text attributes it is associated with and can be queried by {Text — Words}. FL=1 means that it is a fill style 1. To determine what immediate fills you have available in your drawing, they are found under {Line} {Set Line Attributes} {Set Line Styles} {User Definable Styles} as _FILLP01, _FILLP02, etc. These are valid, usable line styles which also have control over the \FILL command.

When using the \FILL command in MECCA, all five arguments must be used, even if zero. (Example: \FILL 1,0p,0p,0p,0p^)

Examples: **Previously Combined:**

The "mecca.pat" file must be previously combined into your drawing file before using any \FILL commands.

Input:

```
This is the default \FILL^ leader fill.
```

Output:

This is the default . . . . . leader fill.

Input:

```
Line style one\fill 1,0p,0p,0p,0p^creates a\fill
1,0p,0p,0p,0p^white space fill.
```

Output:

Line style one creates a white space fill.

Input:

```
Line style two\fill 2,3p,3p,0p,.5p^\nl^creates a solid
half-point rule with three-point gutters on each end.
```

Output:

Line style two
creates a solid half-point rule with three-point gutters on each end.

Input:

```
Line style three\fill 3,8p,8p^0p,1p^creates\nl^ a dotted
line with eight points of spacing between the dots.
```

Output:

Line style three . . . . . creates a dotted line with eight points of spacing between the dots.

Input:

```
Line style four\fill 4,3p,3p,1p,2p^\nl^creates a screened
line with squared ends.
```

Output:

Line style four
creates a screened line with squared ends.

Note: Even if your graphic is the result of a Preview file that has LDX setups for the fill's, a matching mecca.pat file must still be combined to control these fills as a graphic.

FORCE JUSTIFY LINE \FJ^

Purpose: Enables the user to immediately force the current line to end and be justified, with all remaining text to start composing on the next baseline.

Format: \FJ^

Argument: None

Examples: This is how the paragraphs look *without* using the FORCE JUSTIFY LINE command and letting the lines justify normally.

Input:

```
\HD1 BEHAVIOR OF GOOD BOYS

\P1 Every good boy does fine most of the time. It is hard to
do good behavior all of the time.
```

Output:

BEHAVIOR OF GOOD BOYS

Every good boy does fine most of the time. It is hard to do good behavior all of the time.

This is how the paragraphs look using the FORCE JUSTIFY LINE command. As you can see it will justify to the right margin regardless of the current wordspacing controls and resets the wordspacing controls to what is needed to do the justification.

Input:

```
\HD1 BEHAVIOR OF GOOD BOYS\FJ^

\P1 Every good boy does fine most of the time. It is hard to
do\FJ^good behavior all of the time.
```

Output:

BEHAVIOR OF GOOD BOYS

Every good boy does fine most of the time. It is hard to do good behavior all of the time.

Remarks: This command will not squeeze items to fit in a certain line measure. It only expands word spacing. **Use within Graphic Files:** Even after the FORCE JUSTIFY is removed the wordspacing controls for that piece stays set to the larger value. You will need to change wordspacing back to default through {Change Attributes} to get back to original wordspacing.

GRADUATED SCREEN COLOR START \GRS and END \GRE

Purpose: Allows the user to graduate text. Using these commands you can specify a start color number and an angle of graduation for text. By also using the \GRE (Graduation End Color Number) command you surround the text with the start and end colors.

Format: \GRS *n,angle* and \GRE *n*^

Arguments:

n	is a color number
	and
angle	is the angle of graduation using an integer from 0 to 360 degrees.

Remarks: These commands graduate text starting at the color of the GRS command and end the graduation at the color of the GRE command. These commands must be within a Text Item, they cannot sit alone.

Example:

Input:

```
\GRS 605,270^GRADUATED\GRE 700^
```

Default: No graduation. Graduated color numbers are always reading the default color tables: */color/fcp01.gray* or */color/fcp01*.

Warning: There may be a possibility of characters being too complex to graduate. If the character cannot be graduated you will experience no output of the character.

This command does not display on the graphic monitor. The only way you will know if it works is to print the file.

Setup Command: \SCRN *n*^
SCREEN LINEAGE

HORIZONTAL RULE \HR

Purpose: Allows the user to draw a *horizontal rule* within a paragraph or table. It is used for "fill-in-the-blank" type material.

Format: \HR *unit,unit^*

Arguments:

unit,	is the length of the rule	
	and	
*unit^*	is the height (or weight) of the rule.	

Remarks: This command draws a *horizontal rule* the specified length from the current position. Paragraph or table margins are used to control the starting position. The command must be within a Text Item, it cannot sit alone.

Example: In this example, the **\HR** command will produce a line one inch long with a thickness of one point.

Input:

```
\P1 I hereby certify the above to be true
to the best of my knowledge on
the \HR 1i,1p^ day of April, 1992.
```

Output:

I hereby certify the above to be true to the best of my knowledge on the _____ day of April, 1992.

HORIZONTAL SPACE RELATIVE \HSA

Purpose: Enables the user to move *Horizontal Space Relative* to current position.

Format: \HSA *unit*^

Argument: *unit* is the amount to move from current position

Remarks: This command moves text a specified amount by using an X coordinate (positive or negative), relative to the text's current position. In the example below, a HORIZONTAL SPACE RELATIVE command is used to open up space in a line.

Example:

Input:

```
There are\HSA 24p^U.S. dry pints per
British Imperial fluid ounce.
```

Output:

There are U.S. dry pints per British Imperial fluid ounce.

In the example below, the command is used to close space between the A and V characters. There are KERNING controls for this, but for those cases where kerning tables are not available, the negative HSA is useful.

Input:

```
\PSZ 72p^SA\HSA -10p^VE
```

Output:

Notes: This command takes the place of the emspace, enspace, and thin space characters in other systems. For your information an emspace is 100% of a given point size. The enspace is 60% of the point size and a thin space is 30%.

HORIZONTAL SPACE ABSOLUTE \HSPA

Purpose: Enables the user to move horizontally from the left margin to a fixed position.

Format: \HSPA *unit*^

Argument: *unit* is the amount to move from left margin

Remarks: This command moves text a specified amount by using an X coordinate (positive only), absolutely from the left margin of the Text Item. In the example below, a HORIZONTAL SPACE ABSOLUTE command is used to create two columns and yet linking the items together within one paragraph.

Example:

Input:

```
01009 \hspa 1i^ Kearny\nl^
0298CX \hspa 1i^ Rockaway\nl^
0299CZ \hspa 1i^ Belleville\nl^
03AAZ \hspa 1i^ Springfield
```

Output:

01009	*Kearny*
0298CX	*Rockaway*
0299CZ	*Belleville*
03AAZ	*Springfield*

Remarks: If the absolute position has already been passed before encountering the command, then a line break will be forced and the position will be honored on the next line.

HORIZONTAL SIZE \HSZ

Purpose: Enables the user to alter *Horizontal Size* of type.

Format: \HSZ *unit*^

Argument: *unit* is width of type in any unit

Remarks: This command alters horizontal set width; can condense or expand: **\HSZ 8p^** = horizontal size of 8 points, and **\HSZ 14p^** = horizontal size of 14 points.

Example:

Input:

```
\HSZ 8p^You are reading an example of 8-point
condensed type.

\HSZ 14p^You are reading an example of 14-point expanded
type.
```

Output:

You are reading an example of 8-point condensed type.

You are reading an example of 14-point *expanded* type.

Related Commands: \PSZ *unit*^
POINT SIZE

\VSZ *unit*^
VERTICAL SIZE

HEAVY and HEAVY ITALIC \HV^ \HVI^

Purpose: These are the two type style commands for **Heavy** and ***Heavy Italic.*** Heavy is usually considered a **very thick version** of the bold type style, while Heavy Italic is a ***slanted version.*** Both of these commands will stay in effect until another style command or a Text Item command is encountered.

Format: \HV^ and \HVI^

Arguments: None

Example: In the examples below, notice the command is connected to the word it is changing.

Input:

```
Use the \HV^Heavy Command \N^to place emphasis on words or
sentences. \HVI^Here we are using the Heavy Italic Command.
```

Output:

Use the **Heavy Command** to place emphasis on words or sentences. ***Here we are using the Heavy Italic Command.***

List of Type Styles:

\VL^	Very Light	\VLI^	Very Light Italic
\TH^	Thin	\THI^	Thin Italic
\L^	Light	\LI^	Light Italic
\N^	Normal	\I^	Italic
\M^	Medium	\MI^	Medium Italic
\B^	Bold	\BI^	Bold Italic
\XB^	Extra Bold	\XBI^	Extra Bold Italic
\HV^	Heavy	\HVI^	Heavy Italic
\BK^	Black	\BKI^	Black Italic

Note: Type styles are dependent on availability of that style on your system. If you select a style that is not available, the system will default to normal or italic. (Exception: Extra Bold defaults to Bold.)

LIGHT and LIGHT ITALIC \L^ \LI^

Purpose: These are the two type style commands for **Light** and ***Light Italic.*** Light is a **thinner version** of the normal type style, while Light Italic is a ***slanted thinner version.*** Both of these commands will stay in effect until another style command or a Text Item command is encountered.

Format: \L^ and \LI^

Arguments: None

Example: In the examples below, notice the command is connected to the word it is changing.

Input:

```
Use the \L^Light Command \N^to place emphasis on words or
sentences. \LI^Here we are using the Light Italic Command.
```

Output:

Use the Light Command to place emphasis on words or sentences. Here we are using the Light Italic Command.

List of Type Styles:

\VL^	Very Light	\VLI^	Very Light Italic
\TH^	Thin	\THI^	Thin Italic
\L^	Light	\LI^	Light Italic
\N^	Normal	\I^	Italic
\M^	Medium	\MI^	Medium Italic
\B^	Bold	\BI^	Bold Italic
\XB^	Extra Bold	\XBI^	Extra Bold Italic
\HV^	Heavy	\HVI^	Heavy Italic
\BK^	Black	\BKI^	Black Italic

Note: Type styles are dependent on availability of that style on your system. If you select a style that is not available, the system will default to normal or italic. (Exception: Extra Bold defaults to Bold.)

LINE LEADING \LEAD \LD

Purpose: Enables the user to change *Line Leading* within a paragraph. There are two commands:

LEAD is the baseline-to-baseline leading for the entire paragraph, regardless of where within the paragraph it is encountered.

LD takes effect *after* the line in which it is encountered. It is an additional leading (positive or negative value) that effects all subsequent lines unless another \LD command is issued. There can be multiple *LD* commands in one paragraph item.

Format: \LEAD *unit*^

Argument: *unit* is line leading from baseline to baseline.

Example:

Input:

```
This is an \PSZ 8p^\LEAD 9p^example of the pointsize and
leading command used to change the set size and leading.
Remember the LEAD command effects the entire paragraph.
```

Output:

This is an *example of the pointsize and leading command used to change the set size and leading. Remember the LEAD command effects the entire paragraph.*

Format: \LD *unit*^

Argument: *unit* is a positive or negative amount to add to existing lead value.

Input:

```
Dr. John Mercers\NL^
\PSZ 8p^\LD -3p^Seaport Towers, Suite 110\NL^
3904 Main Street\NL^
Kansas City, Missouri 64111\LD 5p^\NL^
\PSZ 12p^General Surgery
```

Output:

Dr. John Mercers
Seaport Towers, Suite 110
3904 Main Street
Kansas City, Missouri 64111
General Surgery

System Default: 11-point leading

CHANGE LAYER \LYR

Purpose: Enables the user to change *Layer* immediately within a text string.

Format: \LYR *n*^

Argument: *n* is a number from 1 to 16, which is the new layer number of the text to follow.

Batch Composition: The immediate layer command is ignored when composing directly to an output device through Batch Composition. It is recognized by Graphic or Preview Files for MECCA Graphics or when outputting with a Spec Type "S" and a Spec File.

Concerning Cutmarks: All layers will have cutmarks only if specified by either CUTS=Y in the \PDEF command or toggled on in the {Print} dialog window.

Graphics: This command allows the user to immediately within a sentence place text on a different layer (and if needed switch back again) through {Key-in Short Text} and {Input from Editor}.

MECCA's Display of Layers: Manually toggling layers ON and OFF allows you to view how the layers will print, but does not effect printing of those components with the layer command. The immediate layer command is only recognized during output through the "Spot Color" Spec Files.

Save Drawing: {Save Current Layers} The immediate layer command does not effect saving of the components. Manually toggling layers ON and OFF and saving will cause a component to be saved on the layer of the "true set layer attribute," not of the immediate layer change. A component can only be saved off in its entirety.

Example:

Input:

Every good **\LYR 2^** boy **\LYR 1^**does fine.

Output on Layer 1:

Every good does fine.

Output on Layer 2:

boy

Default: Layer 1

MEDIUM and MEDIUM ITALIC \M^ \MI^

Purpose: These are the two type style commands for **Medium** and ***Medium Italic.*** Medium is usually a **slightly thicker version** of the normal type style, while Medium Italic is a ***slanted thicker version.*** Both of these commands will stay in effect until another style command or a Text Item command is encountered.

Format: \M^ and \MI^

Arguments: None

Example: In the examples below, notice the command is connected to the word it is changing.

Input:

```
Use the \M^Medium Command \N^to place emphasis on words or
sentences. \MI^Here we are using the Medium Italic Command.
```

Output:

Use the **Medium Command** to place emphasis on words or sentences. ***Here we are using the Medium Italic Command.***

List of Type Styles:

\VL^	Very Light	\VLI^	Very Light Italic
\TH^	Thin	\THI^	Thin Italic
\L^	Light	\LI^	Light Italic
\N^	Normal	\I^	Italic
\M^	Medium	\MI^	Medium Italic
\B^	Bold	\BI^	Bold Italic
\XB^	Extra Bold	\XBI^	Extra Bold Italic
\HV^	Heavy	\HVI^	Heavy Italic
\BK^	Black	\BKI^	Black Italic

Note: Type styles are dependent on availability of that style on your system. If you select a style that is not available, the system will default to normal or italic. (Exception: Extra Bold defaults to Bold.)

NORMAL and ITALIC \N^ \I^

Purpose: These two type style commands allow the user to change to a NORMAL type style or the *ITALIC (slanted)* version of the normal type style. Normal is the most commonly used type style and is the system default. Both of these commands will stay in effect until another style command or a Text Item command is encountered.

Format: \N^ and \I^

Arguments: None

Example:

Input:

```
\I^Use the \N^Normal Command to get back to the regular type
style, \I^after placing emphasis \N^on words or sentences
with another type style. \I^Slanted type is the italic type
style.
```

Output:

Use the Normal Command to get back to the regular type style, *after placing emphasis* on words or sentences with another type style. *Slanted type is the italic type style.*

List of Type Styles:

\VL^ Very Light	\VLI^ Very Light Italic
\TH^ Thin	\THI^ Thin Italic
\L^ Light	\LI^ Light Italic
\N^ Normal	\I^ Italic
\M^ Medium	\MI^ Medium Italic
\B^ Bold	\BI^ Bold Italic
\XB^ Extra Bold	\XBI^ Extra Bold Italic
\HV^ Heavy	\HVI^ Heavy Italic
\BK^ Black	\BKI^ Black Italic

Note: Type styles are dependent on availability of that style on your system. If you select a style that is not available, the system will default to normal or italic. (Exception: Extra Bold defaults to Bold.)

NEW LINE \NL^

Purpose: Enables the user to immediately force the current line to end and all remaining text to start composing on the next baseline.

Format: \NL^

Argument: None

Example:

Input:

```
Mr. George Jones\NL^
1115 Grand Ave.\NL^
Kansas City, MO 64109
```

Output:

Mr. George Jones
1115 Grand Ave.
Kansas City, MO 64109

Note: The NEW LINE command overrides line justification. When the composition program encounters a NEW LINE command, the system immediately stops that line of text (without justifying the line) and drops down to the next baseline.

Related Command: \FJ^
FORCE JUSTIFY LINE

OUTLINE TYPE \OL^ \XOL^

Purpose: Enables the user to change to an OUTLINE type style. The character will stay in its current type style, such as Bold, or Italic, but will outline that current style. This command will stay in effect until canceled with the \XOL^ Cancel Outline command, or another Text Item command is encountered.

Format: \OL^ and
\XOL^

Argument: None

Examples:

Input:
```
Use the \OL^Outline Command \XOL^to outline words or
sentences. Connect the command to the word you are
stressing.
```

Output:
Use the Outline Command to outline words or sentences. Connect the command to the word you are stressing.

Input:
```
Using \I^\OL^Outline \N^\XOL^Type
```

Output:

Using *Outline* Type

Input:
```
\RV^\OL^Reverse Outline
```

Output:

Note: Be sure to use a large enough point size when using outline type to get a crisp outline that does not fill in.

When the Outline commands are used in a graphic drawing, the outlined text will display for only the Basic 35 PostScript font set. The combination of Reversed Outline will not display as reversed, but will always print correctly.

Setup Command: \OLSIZ *percent*^
OUTLINE SIZE

POINT SIZE \PSZ

Purpose: Enables the user to change *Point Size.*

Format: \PSZ *unit*^

Argument: *unit* is the size of type in any valid unit

Example:

Input:

```
\B^\PSZ14p^E\N^\PSZ9p^very good boy does fine.
```

Output:

Every good boy does fine.

Related Commands: \HSZ *unit*^
HORIZONTAL SIZE

VSZ unit^
VERTICAL SIZE

RESET FOR SUPER/SUBSCRIPT \R^

Purpose: This command allows the user to reset a super/subscript back to the last known point size. It will reset to previous level of super/subscript if multiples are necessary, or will reset back to original point size if there is only one super/subscript.

Format: \R^

Argument: None

Example:

Input:

```
Using Kleenex\U^\112^\R^ to clean your eyeglasses can
scratch your lenses.
```

Output:

Using Kleenex® to clean your eyeglasses can scratch your lenses.

Below is an example that is occasionally necessary when working with equations – placing a superscript inside a subscript.

Input:

```
Levels of super/subscripts are easy:\NL^
1.11 \D^22\U^33\R^22 \F^1.11.
```

Output:

Levels of super/subscripts are easy:
1.11 $_{22^{33}22}$ 1.11.

Related Commands:

\D^
DOWN FOR SUBSCRIPT

\F^
FIRST POINT SIZE RESET

\U^
UP FOR SUPERSCRIPT

REVERSE TYPE \RV^ \XRV^

Purpose: Enables the user to change to a type style. The character will stay in its current type style, such as Bold, or Italic, but will reverse that current style. This command will stay in effect until canceled with the \XRV^ Cancel Reverse command, or another Text Item command is encountered.

Format: \RV^ and \XRV^

Argument: None

Examples:

Input:

```
Use the \RV^Reverse Command\XRV^ to reverse words or
sentences. Connect the command to the word you are
stressing.
```

Output:

Use the to reverse words or sentences. Connect the command to the word you are stressing.

Input:

```
Use the \I^\RV^Reverse Command\N^\XRV^ to reverse words or
sentences. Connect the command to the word you are
stressing.
```

Output:

Use the to reverse words or sentences. Connect the command to the word you are stressing.

Input:

```
\RV^Use the Reverse Command to reverse words or sentences.
Connect the command to the word you are stressing.\XRV^
```

Output:

Note: When using reverse for a complete paragraph, you must be aware that the leading of the text in the paragraph plays an important part. The system is reversing 110% of the VSIZE of the text, and placing 80% of that above the baseline and 30% below the baseline. If your lead is more than 110% of the VSIZE of the text you will have white showing between each line of your paragraph. When using reverse in a table, the entire row for that field will be reversed.

When the Reverse commands are used in a graphic drawing, the reversed text will not display as reversed. You can verify that the text is truly reversed by using {Query} {Words}. It will be reported as RV in the status area. It will always print correctly.

SAVE, RESTORE FONT ATTRIBUTES \SF^, \RF^

Purpose: Enables user to Save Font properties such as font, style, point sizes etc.. prior to any immediate attribute change. A subsequent \RF command restores the saved font properties.

Can be used at the beginning of, or within a text paragraph.

Multiple \SF^(s) can be used. The \RF^ will reset to the last known \SF^. The best option is to use an \RF^ for each \SF^ to reset back to the original settings.

Format: \SF (property change)
\RF^

Arguments: None

Example:

Input:
Use the Save Font Command **\SF^** \CF GE^ \PSZ 14p^\B^prior to an immediate property change. Then use the **\RF^** Restore Font Command to reset properties back to the original property settings.

Output:
Use the Save Font Command **prior to an immediate property change. Then use the** Restore Font Command to reset properties back to the original property settings.

Note: The typefaces available are dependent on the output device. To list the font mnemonics that are on your system, type in the following commands at the Unix $-prompt:

THIN and THIN ITALIC \TH^ \THI^

Purpose: These are the two type style commands for **Thin** and ***Thin Italic.*** Thin is a **thinner version** of the light type style, while Thin Italic is a ***slanted thinner version.*** Both of these commands will stay in effect until another style command or a Text Item command is encountered.

Format: \TH^ and \THI^

Arguments: None

Example: In the examples below, notice the command is connected to the word it is changing.

Input:

```
Use the \TH^Thin Command \N^to place emphasis on words or
sentences. \THI^Here we are using the Thin Italic Command.
```

Output:

Use the Thin Command to place emphasis on words or sentences. *Here we are using the Thin Italic Command.*

List of Type Styles:

\VL^	Very Light	\VLI^	Very Light Italic
\TH^	Thin	\THI^	Thin Italic
\L^	Light	\LI^	Light Italic
\N^	Normal	\I^	Italic
\M^	Medium	\MI^	Medium Italic
\B^	Bold	\BI^	Bold Italic
\XB^	Extra Bold	\XBI^	Extra Bold Italic
\HV^	Heavy	\HVI^	Heavy Italic
\BK^	Black	\BKI^	Black Italic

Note: Type styles are dependent on availability of that style on your system. If you select a style that is not available, the system will default to normal or italic. (Exception: Extra Bold defaults to Bold.)

TILDE CHARACTER ~

Purpose: The tilde character is used to hold a specific amount of space. The tilde character is MECCA's hardspace character. The width is a figure space. You can define the width through its Setup command.

Format: ~

Argument: *none*

Example:

Input:

```
\P1 12345.00
\P1 ~1234.00
\P1 ~~123.00
\P1 ~~~12.00
\P1 ~~~~1.00
\P1 ~~~~~.00
```

Output:

```
12345.00
 1234.00
  123.00
   12.00
    1.00
     .00
```

Remarks: When the tilde is used to join two words together it will not allow those words to break. To get a tilde to print you must use the special character number 248.

Default: The tilde holds the space of the number zero.

Setup Command: \~
TILDE

UP FOR SUPERSCRIPT \U^

Purpose: This command allows the user to immediately create superscripts. It raises the baseline and reduces the current point size by 50% for the characters following the command.

Format: \U^

Arguments: None

Example:

Input:

```
One atom of hydrogen-1 has a mass of
1.67 x 10\U^24 \R^g.
```

Output:

One atom of hydrogen-1 has a mass of
1.67 x 10^{24} g.

Related Commands: \D^
DOWN FOR SUBSCRIPT

\F^
FIRST POINT SIZE RESET

\R^
RESET TO SUPER/SUBSCRIPT

Setup Commands: \SUPOFF *n*^
SUPERSCRIPT BASELINE OFFSET

\SUPSIZ *n*^
SUPERSCRIPT SIZE

MOVE BASELINE UP \UP

Purpose: This command allows the user to immediately raise the baseline of the text following it for that paragraph only. The original positioning is restored at the end of the text item, it does not effect the leading before the following paragraph.

Format: \UP *unit*^

Argument: *unit* is the amount the baseline is to be raised.

Example:

Input:

```
\P1 To move a line up just \UP 3.5p^use the
immediate UP command.
\P1 The original positioning is restored
at the end of the text item.
```

Output:

To move a line up just use the immediate UP command.

The original positioning is restored at the end of the text item.

Related Command: \DN *unit*^
MOVE BASELINE DOWN

UNDERLINE START and END \US^ \UE^

Purpose: Enables the user to underline a word or words. This command will stay in effect until an UNDERLINE END command (\UE^) is encountered or the end of the text item.

Format: \US^ and \UE^

Arguments: None

Example:

Input:

```
Underscoring is used
\US^to place emphasis on words or sentences.\UE^ Connect the
command to the word you are
stressing.
```

Output:

Underscoring is used to place emphasis on words or sentences. Connect the command to the word you are stressing.

Default: 0

Setup Commands: \ULPOS *percent*
UNDERLINE POSITION

\ULSIZ *percent*
UNDERLINE WEIGHT

VERY LIGHT and VERY LIGHT ITALIC \VL^ \VLI^

Purpose: These are the two type style commands for **Very Light** and ***Very Light Italic.*** Very Light is an **extremely thin version** of the light type style, while Very Light Italic is the ***slanted version.*** Both of these commands will stay in effect until another style command or a Text Item command is encountered.

Format: \VL^ and \VLI^

Arguments: None

Example: In the examples below, notice the command is connected to the word it is changing.

Input:

```
Use the \VL^Very Light Command\N^to place emphasis on words
or sentences. \VLI^Here we are using the Very Light Italic
Command.
```

Output:

Use the Very Light Command to place emphasis on words or sentences. *Here we are using the Very Light Italic Command.*

List of Type Styles:

\VL^	Very Light	\VLI^	Very Light Italic
\TH^	Thin	\THI^	Thin Italic
\L^	Light	\LI^	Light Italic
\N^	Normal	\I^	Italic
\M^	Medium	\MI^	Medium Italic
\B^	Bold	\BI^	Bold Italic
\XB^	Extra Bold	\XBI^	Extra Bold Italic
\HV^	Heavy	\HVI^	Heavy Italic
\BK^	Black	\BKI^	Black Italic

Note: Type styles are dependent on availability of that style on your system. If you select a style that is not available, the system will default to normal or italic. (Exception: Extra Bold defaults to Bold.)

VERTICAL SIZE \VSZ

Purpose: Enables the user to alter Vertical Size.

Format: \VSZ *unit*^

Argument: *unit* is the height of the type in any valid unit

Remarks: This command will alter vertical set width; can reduce or heighten: **\VSZ 14p^** = vertical size of 14 points.

Example:

Input:

```
Every good \VSZ 14p^boy does fine.
```

Output:

Every good boy does fine.

Related Commands: \PSZ *unit*^
POINT SIZE

\HSZ *unit*^
HORIZONTAL SIZE

EXTRA BOLD and EXTRA BOLD ITALIC \XB^ \XBI^

Purpose: These are the two type style commands for **Extra Bold** and ***Extra Bold Italic.*** Extra Bold is a **thicker version** of the bold type style, while Extra Bold Italic is a ***slanted thicker version.*** Both of these commands will stay in effect until another style command or a Text Item command is encountered.

Format: \XB^ and \XBI^

Arguments: None

Example: In the examples below, notice the command is connected to the word it is changing.

Input:

```
Use the \XB^Extra Bold Command\N^to place emphasis on words
or sentences. \XBI^Here we are using the Extra Bold Italic
Command.
```

Output:

Use the **Extra Bold Command** to place emphasis on words or sentences. ***Here we are using the Extra Bold Italic Command.***

List of Type Styles:

\VL^	Very Light	\VLI^	Very Light Italic
\TH^	Thin	\THI^	Thin Italic
\L^	Light	\LI^	Light Italic
\N^	Normal	\I^	Italic
\M^	Medium	\MI^	Medium Italic
\B^	Bold	\BI^	Bold Italic
\XB^	Extra Bold	\XBI^	Extra Bold Italic
\HV^	Heavy	\HVI^	Heavy Italic
\BK^	Black	\BKI^	Black Italic

Note: Type styles are dependent on availability of that style on your system. If you select a style that is not available, the system will default to normal or italic. (Exception: Extra Bold defaults to Bold.)

DISCRETIONARY HYPHEN \-^

Purpose: Allows preferred hyphenation at that point in the word. This command overrides the system hyphenation dictionary for that word. If the word does not need to be hyphenated, the command will be ignored.

Format: \-^

Argument: None

Example: Place the command directly in the word where you prefer it to break:

```
sensi\-^tivity
```

Before: The grid system when used with **sensitivity** and imagination can produce handsome, well ordered magazine units.

After: The grid system when used with **sensi-tivity** and imagination can produce handsome, well ordered magazine units.

SPECIAL CHARACTERS *nnn*^

Purpose: Special characters, such as stars, bullets, daggers, etc., are selected by entering the special character numbers.

Format: *nnn*^

Argument: None

Example: Place the command directly where you want it to be within the paragraph, heading or table.

Input:

```
Made by Fluffy\111^ Toys, Inc.
```

Output:

Made by Fluffy© Toys, Inc.

NO.	CHAR.
1	°
2	°
3	´
4	´
5	`
6	`
7	ˆ
8	ˆ
9	¨
10	¨
11	˜
12	˜
13	¸
14	¸
15	ß
16	Æ
17	Œ
18	æ
19	œ
20	T
21	U
22	V
23	W
24	X
25	Y
26	Z
27	a
28	b
29	c
30	d
31	e
32	f

NO.	CHAR.
33	g
34	h
35	i
36	j
37	k
38	l
39	m
40	n
41	o
42	p
43	q
44	r
45	s
46	t
47	u
48	v
49	w
50	x
51	y
52	z
53	1
54	2
55	3
56	4
57	5
58	6
59	7
60	8
61	9
62	0
63	$
64	¢

NO.	CHAR.
65	&
66	:
67	;
68	.
69	,
70	‘
71	’
72	?
73	!
74	%
75	*
76	(
77	)
78	/
79	-
80	—
81	–
82	⁄
83	fi
84	fl
85	&
86	&
87	&
88	^
89	*f*
90	,
91	„
92	¯
93	˘
94	˛
95	ˇ
96	¦

NO.	CHAR.
97	Đ
98	ð
99	º
100	¼
101	½
102	Ý
103	ý
104	°
105	÷
106	¾
107	×
108	©
109	®
110	™
111	©
112	®
113	™
114	¶
115	…
116	#
117	“
118	”
119	ı
120	@
121	•
122	•
123	°
124	†
125	‡
126	§
127	[
128	]

Special Character Access Chart (ge/n) Helvetica

NO.	CHAR.
129	A
130	B
131	C
132	D
133	E
134	F
135	G
136	H
137	I
138	J
139	K
140	L
141	M
142	N
143	O
144	P
145	Q
146	R
147	S
148	T
149	U
150	V
151	W
152	X
153	Y
154	Z
155	a
156	b
157	c
158	d
159	e
160	f

NO.	CHAR.
161	g
162	h
163	i
164	j
165	k
166	l
167	m
168	n
169	o
170	p
171	q
172	r
173	s
174	t
175	u
176	v
177	w
178	x
179	y
180	z
181	1
182	2
183	3
184	4
185	5
186	6
187	7
188	8
189	9
190	0
191	$
192	¢

NO.	CHAR.
193	&
194	:
195	;
196	.
197	,
198	‘
199	’
200	?
201	!
202	%
203	*
204	(
205	)
206	/
207	-
208	—
209	–
210	{
211	}
212	[
213	]
214	·
215	#
216	“
217	”
218	@
219	_
220	■
221	°
222	†
223	‡
224	`

NO.	CHAR.
225	´
226	¨
227	¨
228	˙
229	˙
230	\
231	•
232	+
233	–
234	×
235	÷
236	=
237	≠
238	≈
239	≡
240	&
241	<
242	>
243	≤
244	≥
245	±
246	ˆ
247		
248	~
249	"
250	'
251	˚
252	˚
253	
254	
255	
256	

Special Character Access Chart (ge/n) Helvetica *(continued)*

NO.	CHAR.
257	Α
258	Β
259	Γ
260	Δ
261	Ε
262	Ζ
263	Η
264	Θ
265	Ι
266	Κ
267	Λ
268	Μ
269	Ν
270	Ξ
271	Ο
272	Π
273	Ρ
274	Σ
275	Τ
276	ϒ
277	Φ
278	Χ
279	Ψ
280	Ω
281	α
282	β
283	γ
284	δ
285	ε
286	ζ
287	η
288	θ

NO.	CHAR.
289	ι
290	κ
291	λ
292	μ
293	ν
294	ξ
295	ο
296	π
297	ρ
298	σ
299	τ
300	υ
301	ϕ
302	χ
303	ψ
304	ω
305	*f*
306	∂
307	∇
308	&
309	⌈
310	⌊
311	⌊
312	⌉
313	⌋
314	⌋
315	~
316	⌈
317	⌊
318	&
319	&
320	⌋

NO.	CHAR.
321	&
322	&
323	→
324	←
325	↑
326	↓
327	&
328	&
329	&
330	&
331	&
332	&
333	&
334	&
335	&
336	&
337	√
338	&
339	≅
340	∫
341	¡
342	‰
343	£
344	¥
345	&
346	&
347	&
348	↵
349	⊕
350	&
351	&
352	&

NO.	CHAR.
353	&
354	&
355	©
356	↓
357	™
358	∝
359	∂
360	⇒
361	⇐
362	•
363	⌠
364	⌡
365	&
366	&
367	&
368	&
369	*f*
370	&
371	ℜ
372	&
373	&
374	√
375	&
376	∞
377	′
378	″
379	&
380	&
381	&
382	&
383	&
384	&

Special Character Access Chart (ge/n) Helvetica *(continued)*

NO.	CHAR.
385	•
386	•
387	•
388	•
389	•
390	Á
391	á
392	Â
393	â
394	Ä
395	ä
396	À
397	à
398	Å
399	å
400	Ã
401	ã
402	Ç
403	ç
404	É
405	é
406	Ê
407	ê
408	Ë
409	ë
410	È
411	è
412	Í
413	í
414	Î
415	î
416	Ï

NO.	CHAR.
417	ï
418	Ì
419	ì
420	Ñ
421	ñ
422	&
423	©
424	©
425	®
426	®
427	&
428	&
429	♦
430	♦
431	♦
432	&
433	&
434	&
435	♦
436	♦
437	♦
438	◊
439	◊
440	◊
441	&
442	Ó
443	ó
444	Ô
445	ô
446	Ö
447	ö
448	Ò

NO.	CHAR.
449	ò
450	Õ
451	õ
452	Š
453	š
454	Ú
455	ú
456	Û
457	û
458	Ü
459	ü
460	Ù
461	ù
462	Ÿ
463	ÿ
464	Ž
465	ž
466	•
467	«
468	»
469	‹
470	›
471	¿
472	&
473	⊕
474	⊗
475	¤
476	¤
477	ı
478	ł
479	ø
480	œ

NO.	CHAR.
481	ß
482	♦
483	Æ
484	Ł
485	Ø
486	Œ
487	æ
488	&
489	¤
490	&
491	•
492	•
493	•
494	⇒
495	⇐
496	⇑
497	⇓
498	⇔
499	&
500	&
501	&
502	&
503	&
504	&
505	¤
506	&
507	&
508	א
509	&
510	&
511	℘
512	&

Special Character Access Chart (ge/n) Helvetica *(continued)*

NO.	CHAR.
1	❶
2	❶
3	③
4	③
5	②
6	②
7	④
8	④
9	⑨
10	⑨
11	⑤
12	⑤
13	❷
14	❷
15	➳
16	➡
17	➪
18	➯
19	➙
20	✳
21	✳
22	✶
23	✷
24	✸
25	✹
26	✺
27	❁
28	❂
29	❋
30	❄
31	❃
32	❆

NO.	CHAR.
33	✳
34	✻
35	❇
36	✳
37	✻
38	●
39	❍
40	■
41	❑
42	❒
43	❑
44	❒
45	▲
46	▼
47	◆
48	❖
49	◗
50	|
51	❙
52	❚
53	➪
54	➳
55	✓
56	✔
57	×
58	✖
59	✗
60	✘
61	✙
62	✎
63	✂
64	❢

NO.	CHAR.
65	✆
66	✚
67	✛
68	✎
69	✌
70	❀
71	✇
72	✝
73	✁
74	☎
75	☛
76	✈
77	✉
78	✏
79	✍
80	❼
81	⑥
82	❤
83	③
84	④
85	✆
86	✆
87	✆
88	✾
89	❦
90	❸
91	❹
92	⑥
93	⑦
94	❺
95	❻
96	➥

NO.	CHAR.
97	➦
98	➧
99	➫
100	➬
101	➩
102	➩
103	➭
104	➲
105	➳
106	➴
107	➷
108	➸
109	➹
110	➾
111	©
112	®
113	™
114	❶
115	❼
116	✂
117	♥
118	❺
119	➵
120	✠
121	•
122	•
123	◦
124	⑦
125	⑧
126	❧
127	✲
128	✻

Special Character Access Chart (zd/n) ZapfDingbats

NO.	CHAR.
129	✡
130	✢
131	✣
132	✤
133	✥
134	✦
135	✧
136	★
137	☆
138	✪
139	✯
140	✰
141	✭
142	✮
143	✬
144	✫
145	✱
146	✲
147	✳
148	✴
149	✵
150	✶
151	✷
152	✸
153	✹
154	✺
155	❁
156	✿
157	❋
158	❄
159	❃
160	❆

NO.	CHAR.
161	✳
162	✼
163	❇
164	✳
165	✻
166	●
167	❍
168	■
169	❑
170	❒
171	❑
172	❒
173	▲
174	▼
175	◆
176	❖
177	◗
178	❘
179	❙
180	❚
181	➪
182	➫
183	✓
184	✔
185	×
186	✖
187	✗
188	✘
189	✙
190	✐
191	✂
192	❢

NO.	CHAR.
193	✆
194	✚
195	✛
196	✎
197	✌
198	❀
199	✇
200	✝
201	✁
202	☎
203	☛
204	✈
205	✉
206	✏
207	✍
208	❼
209	⑥
210	❛
211	❝
212	❊
213	✻
214	⑨
215	✂
216	♥
217	❺
218	✠
219	✿
220	■
221	°
222	⑦
223	⑧
224	②

NO.	CHAR.
225	③
226	⑨
227	⑨
228	⑧
229	⑧
230	✲
231	❷
232	☞
233	⑥
234	×
235	÷
236	†
237	≠
238	≈
239	≡
240	✆
241	✜
242	✞
243	≤
244	≥
245	±
246	④
247	❜
248	❞
249	✂
250	♦
251	❶
252	❶
253	
254	
255	
256	

Special Character Access Chart (zd/n) ZapfDingbats *(continued)*

NO.	CHAR.
257	Α
258	Β
259	Γ
260	Δ
261	Ε
262	Ζ
263	Η
264	Θ
265	Ι
266	Κ
267	Λ
268	Μ
269	Ν
270	Ξ
271	Ο
272	Π
273	Ρ
274	Σ
275	Τ
276	ϒ
277	Φ
278	Χ
279	Ψ
280	Ω
281	α
282	β
283	γ
284	δ
285	ε
286	ζ
287	η
288	θ

NO.	CHAR.
289	ι
290	κ
291	λ
292	μ
293	ν
294	ξ
295	ο
296	π
297	ρ
298	σ
299	τ
300	υ
301	ϕ
302	χ
303	ψ
304	ω
305	*f*
306	∂
307	∇
308	✆
309	⎧
310	⎨
311	⎩
312	⎫
313	⎬
314	⎭
315	~
316	⎡
317	⎣
318	✆
319	✆
320	⎪

NO.	CHAR.
321	✆
322	✆
323	→
324	←
325	↑
326	↓
327	✆
328	✆
329	✆
330	✆
331	✆
332	✆
333	✆
334	✆
335	✆
336	✆
337	√
338	✆
339	≅
340	∫
341	❡
342	❽
343	❣
344	➽
345	✆
346	✆
347	✆
348	↵
349	⊕
350	✆
351	✆
352	✆

NO.	CHAR.
353	✆
354	✆
355	©
356	↓
357	™
358	∝
359	∂
360	⇒
361	⇐
362	•
363	⎛
364	⎝
365	✆
366	✆
367	✆
368	✆
369	*f*
370	✆
371	ℜ
372	✆
373	✆
374	√
375	✆
376	∞
377	′
378	❹
379	✆
380	✆
381	✆
382	✆
383	✆
384	✆

Special Character Access Chart (zd/n) ZapfDingbats *(continued)*

NO.	CHAR.
385	❷
386	❷
387	❷
388	❷
389	❷
390	
391	
392	
393	
394	
395	
396	
397	
398	
399	
400	
401	
402	
403	
404	
405	
406	
407	
408	
409	
410	
411	
412	
413	
414	
415	
416	

NO.	CHAR.
417	
418	
419	
420	
421	
422	✆
423	©
424	©
425	®
426	®
427	✆
428	✆
429	♦
430	♦
431	♦
432	✆
433	✆
434	✆
435	♦
436	♦
437	♦
438	◊
439	◊
440	◊
441	✆
442	➤
443	⑤
444	⑩
445	❾
446	①
447	⑩
448	❸

NO.	CHAR.
449	❽
450	❾
451	❿
452	➔
453	→
454	↔
455	↕
456	↘
457	➙
458	↗
459	➛
460	➜
461	⟶
462	⟶
463	➟
464	➠
465	➢
466	❷
467	♠
468	❻
469	①
470	②
471	⑩
472	✆
473	⊕
474	⊗
475	♣
476	♣
477	➵
478	➳
479	➶
480	➷

NO.	CHAR.
481	➻
482	♦
483	➡
484	➡
485	⇨
486	➪
487	⇨
488	✆
489	♣
490	✆
491	❷
492	❷
493	❷
494	⇒
495	⇐
496	⇑
497	⇓
498	⇔
499	✆
500	✆
501	✆
502	✆
503	✆
504	✆
505	♣
506	✆
507	✆
508	א
509	✆
510	✆
511	℘
512	✆

Special Character Access Chart (zd/n) ZapfDingbats *(continued)*

THIN SPACE, EN-SPACE, EM-SPACE
@>T, @>N, @>M

Purpose: These commands are used to hold a specific percentage of space relative to the current point size. Our "thin space" holds 30%, an "en-space" holds 60%, and the "em-space" holds 100%.

They are used for first line indents, specific spacing conditions necessary in typography such as: being used after the period, between sentences, to hold extra space. Also, surrounding dashes as in our example.

Thin Space		En-Space		Em-Space	
Format:	@>T	**Format:**	@>N	**Format:**	@>M

Arguments: None

Example: Input:

```
All who use words
professionally@>T-@>Tsecretaries, students,
writers - are continually faced with problems of where to
divide a word.
```

Output:

All who use words professionally – secretaries, students, writers – are continually faced with problems of where to divide a word.

Input:

```
@>MAlthough there are few hard-and-fast rules for
end-of-line word breaks, current practice provides some
guidance. A single letter is not broken off, and many prefer
to avoid the final unit of only two letters.
```

Output:

Although there are few hard-and-fast rules for end-of-line word breaks, current practice provides some guidance. A single letter is not broken off, and many prefer to avoid the final unit of only two letters.

Remarks: This command requires all three keystrokes and is controlled in the same fashion as the international accented accent characters.

If you have any fonts processed prior to Version 8.0, this command will not work until you run the program *xlatetouch*. It must be executed while at the #-prompt of the "root" login. This program will update all fonts to work with these commands. It may take some time according to how many fonts you own.

Related Commands: ~ *TILDE CHARACTER* \HSA *HORIZONTAL SPACE*

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Chapter 6: Pagination Commands

Pagination commands are specific instructions to the composition system for automatic paging control. They instruct the system to compose into multiple columns on a page or break a page where the command is encountered. They give the user control over page numbers, page breaks, column breaks, column balancing, footnotes, etc. Also, within this type, there is also a command for "No Automatic Page Breaks".

Controlling Column Balancing

Column Balancing controls allow the user to modify the system default setups that the pagination program normally uses to automatically break columns and pages.

The system default is to always vertically justify the pages, and to always balance out columns, (put the same amount of material in each column) on multiple column pages.

When the system decides to column balance the last page, the column balance tolerance is used. This is how much material must be in the first column before you can split the material into multiple columns. The default is three inches.

Defaults: \CVJ Y \CBT 3i \CBI Y

The figure below shows how the pages will look using the system defaults. Notice that the first two pages are vertically balanced.

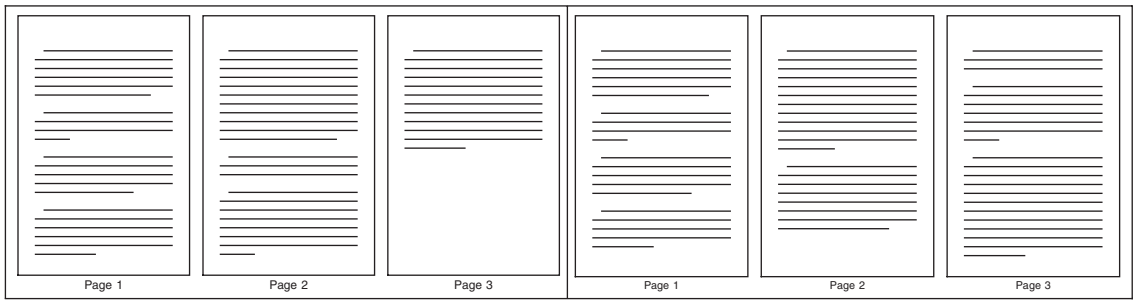


Figure 6-1: One Column – With and Without Vertical Justification

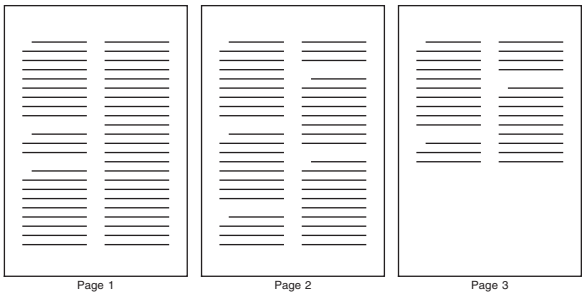


Figure 6-2: Two Column Vertical Justification

Vertical Justification of columns is achieved by letting the system automatically stretch or squeeze 30% of the leading before/after of paragraphs and headers, and stretch or squeeze 5% of the text line lead of headers and paragraphs. This gives the system white space to play with for vertical justification.

If you do not want column vertical justification, use **\CVJ N**. If you turn off CVJ you will get the following, notice that the pages do not vertically justify.

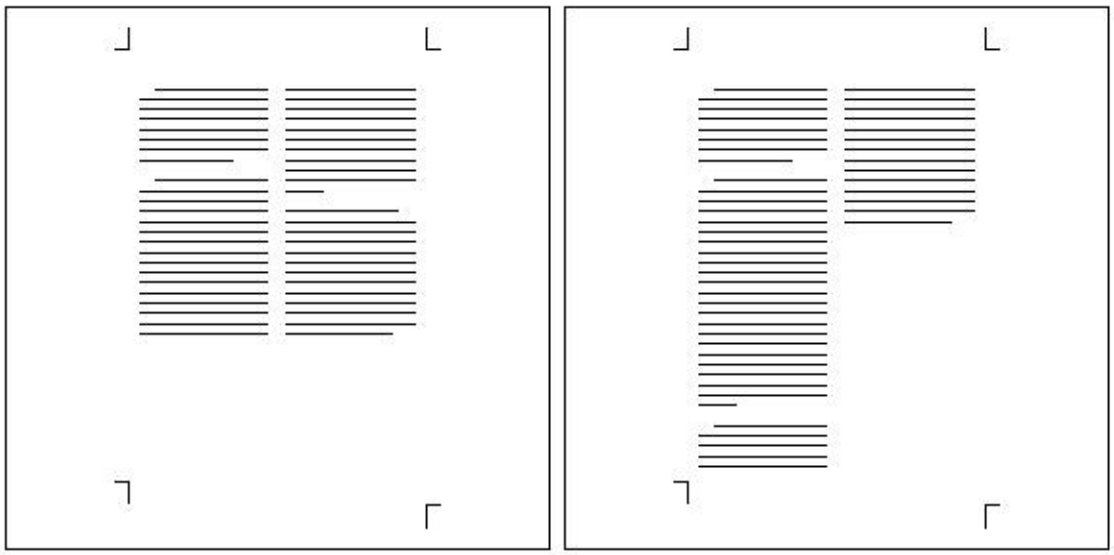


Figure 6-3: Column Balance Indicator For Last Page - Y and N

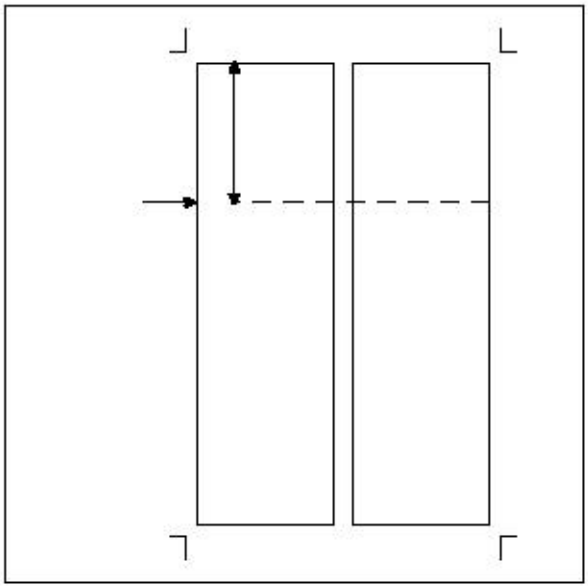


Figure 6-4: Measuring for the Column Balance Tolerance

COLUMN BALANCE INDICATOR \CBI

Purpose: Enables the user to control the automatic column balancing function for the last page of a document. If you do not want the last page of a file to balance multiple columns, turn CBI off.

Format: \CBI *y/n*

Argument: *y/n* Y = Allow Column Balancing on Last Page

N = No Column Balancing on Last Page

Usage: Use in batch composition files to indicate the desired column vertical justification for last page of the document only.

Related Commands: \CBT
COLUMN BALANCING TOLERANCE

\CVJ
COLUMN VERTICAL JUSTIFICATION

COLUMN BALANCE TOLERANCE \CBT

Purpose: Enables the user to define the minimum depth of text in first column before column balancing is invoked.

Format: \CBT *unit*

Argument: *unit* is the minimum depth of text in first column

Usage: Use in batch composition files where column balancing is required. If the column does not exceed this tolerance, it will not be balanced. This option can be used for pages with minimal text, eliminating the chance of one (or two, etc.) sentences in each column.

Related Commands: \CBI
COLUMN BALANCE INDICATOR

\CVJ
COLUMN VERTICAL JUSTIFICATION

COLUMN DESCRIPTION \CD

Purpose: Directs system as to which column description(s) is currently in use.

This command designates the sequence for column filling and switching as running text is composed. A **\CD 1, 2 \END** command will cause column 1 to fill, switch to column 2, fill column 2, then close the page, open the next page, and repeat the sequence.

\CD commands can be entered as needed to change column layouts on pages, from 1 column to multiple columns and so forth.

Format: \CD *n, n* \END

Argument: *n* is a value of **1 through 16** **a**nd **is the COLUMN Number** assigned to the corresponding COLUMN Setup command. For a multiple-column page, enter in the number for each COLUMN Setup command.

Usage: Enter command on a line by itself surrounded by blank lines.

Example: \COLX1 LM=0 RM=26a BOT=1i TOP=7.25i \END

\CD 1 \END

Default: 1

Setup Command: \COLX*n string* \END

COLUMN VERTICAL JUSTIFICATION \CVJ

Purpose: Enables the user to switch the automatic column balancing default. If column vertical justification is allowed, the page(s) will be vertically justified. If justification is not allowed, then the program will not vertically justify to the bottom.

Format: \CVJ *y/n*

Argument: *y/n* Y = Allow Column Vertical Justification

N = No Column Vertical Justification

Usage: Use in batch composition files at the top of a file or in a page format file.

Related Commands: \CBI
COLUMN BALANCE INDICATOR

\CBT
COLUMN BALANCING TOLERANCE

FOOTNOTE REFERENCE \FN

Purpose: Enables the user to reference footnotes. Footnotes are paragraphs at the bottom of a page that comment on or cite a reference for a designated part of the text. The related command FOOTNOTE START **\FS^** is counted in sequence for each FOOTNOTE REFERENCE **\FN^** that is found.

Format: \FN^

Argument: None

Remarks: Always place your footnote paragraphs directly after the referenced paragraph within your file. Surround your footnote paragraphs with the FOOTNOTE START (\FS^) and FOOTNOTE END (\FE^) commands. The composition program counts the footnote reference and footnote start commands and places the proper sequenced footnote at the bottom of the column or page that its referenced paragraph is on.

Example: **Previously Defined:**

Text Style Setup –

```
\TXT5 FONT=GE STYLE=N HSIZE=8p VSIZE=8p LEAD=9p \END
```

Paragraph Style Setup –

```
\PX2 TEXT=5 LM=0 RM=21a CM=FL LB=1a LA=0 \END
```

Input:

```
\P1 "The most extraordinary device is the image
dissector tube," wrote Ed Shubert.**\FN^
\FS^
\P2 \HR 720,5^
\P2 ** \I^Optical Systems, \N^May, 1973, p. 30.
\FE^
```

Output:

"The most extraordinary device is the image dissector tube," wrote Ed Shubert.**

** *Optical Systems*, May, 1973, p. 30.

Related Commands: \FS
FOOTNOTE START

\FE
FOOTNOTE END

FOOTNOTE START/END \FS^ \FE^

Purpose: Enables the user to reference footnotes. Footnotes are paragraphs at the bottom of a page that comment on or cite a reference for a designated part of the text. A FOOTNOTE START **\FS^** is counted in sequence for each FOOTNOTE REFERENCE **\FN^** that is found. It is necessary to have a footnote start/end for every footnote reference command that is used.

Format: \FS^
Text Item Paragraph or Table
\FE^

Argument: None

Remarks: This command places the Text Item within the FOOTNOTE START and END at the bottom of the column or page that the reference (\FN) is on. Place your footnote paragraphs directly after the referenced paragraph within your file. Surround your footnote paragraphs with the FOOTNOTE START (\FS^) and FOOTNOTE END (\FE^) commands. The program counts the footnote reference and footnote start commands and places the proper sequenced footnote at the bottom of the column or page that its referenced paragraph is on.

Example: **Previously Defined:**

Text Style Setup –
```
\TXT5 FONT=GE STYLE=N HSIZE=8p VSIZE=8p LEAD=9p \END
```
Paragraph Style Setup –
```
\PX2 TEXT=5 LM=0 RM=21a CM=FL LB=1a LA=0 \END
```

Input:
```
\P1 "The most extraordinary device is the image
dissector tube," wrote Ed Shubert.**\FN^

\FS^
\P2 \HR 720,5^
\P2 ** \I^Optical Systems, \N^May, 1973, p. 30.
\FE^
```

Output:
"The most extraordinary device is the image dissector tube," wrote Ed Shubert.**

** *Optical Systems*, May, 1973, p. 30.

Related Commands: \FN
FOOTNOTE REFERENCE

NEW COLUMN \NC^

Purpose: Enables the user to immediately force a new column.

Format: \NC^

Argument: None

Usage: Use only in batch composition files. Enter command on a line by itself surrounded by blank lines.

Note: This command overrides column balancing. When the composition program encounters a NEW COLUMN command, the system immediately ends the last column (without adjusting it) and forces a new column.

NEW EVEN PAGE \NEP^

Purpose: Enables the user to force the next page to be an even page.

Format: \NEP^

Argument: None

Usage: Use only in batch composition files. Enter command on a line by itself surrounded by blank lines.

Note: This command may cause a blank ODD page to be set.

Related Commands: \NP^
NEW PAGE

\NOP^
NEW ODD PAGE

NEW ODD PAGE \NOP^

Purpose: Enables the user to force the next page to be an odd page.

Format: \NOP^

Argument: None

Usage: Use only in batch composition files. Enter command on a line by itself surrounded by blank lines.

Note: This command may cause a blank EVEN page to be set.

Related Commands: \NP^
NEW PAGE

\NEP^
NEW EVEN PAGE

NEW PAGE \NP^

Purpose: Enables the user to force a new page.

Format: \NP^

Argument: None

Usage: Use only in batch composition files. Enter command on a line by itself surrounded by blank lines.

Note: If no copy is on the forced page, a blank page will NOT be set.

Related Commands: \NEP^
NEW EVEN PAGE

\NOP^
NEW ODD PAGE

SEQUENTIAL PAGE NUMBERING #P

Purpose: Allows the user to control sequential page numbering within their document. Normally this is used with the batch file PAGE HEADING or FOOT Text Item command. The #P within a **\PFUT***n* or **\PHED***n* will provide running page numbers.

The beginning page number will be 1 unless otherwise specified in the **\PN** (Designate Page Number command).

Format: #P

Argument: None

Usage: Use only in batch composition files. Enter command where you want the page number to be set.

Example: \PFUT*n* #P or
\PHED*n* #P

Input:

```
\PFUT1 #P/Natural Wonder Journal
\PFUT6 Natural Wonder Journal/#P
\PN 3
```

Output:

Natural Wonder Journal/3

4/Natural Wonder Journal

Natural Wonder Journal/5

6/Natural Wonder Journal

Remarks: If you need a pound sign to compose next to a letter P, then you will need to input the pound sign as a special character 116. The #P characters in combination with each other will always output the page number. Special character example: \116^P.

When using multiple page number commands in the same file, they MUST always be increasing numbers. It is not possible to backup to a previous page number. For example, you cannot start with page number 5 and then ask for page number 3. The opposite would be allowed, you can go from page number 3 and then jump to page 5. Page numbers must keep increasing. You cannot use the same page number in the same file and there is no page number 0.

PAGE NUMBER \PN^

Purpose: Enables the user to set a specified page number in a running document.

Format: \PN *n*

Argument: *n* page number

Remarks: Resets page number to designated value. This command only Provides page numbers when used in conjunction with the **#P** SEQUENTIAL PAGE NUMBERING Pagination command.

When using multiple page number commands in the same file, they MUST always be increasing numbers. It is not possible to backup to a previous page number. For example, you cannot start with page number 5 and then ask for page number 3. The opposite would be allowed, you can go from page number 3 and then jump to page 5. Page numbers must keep increasing. You cannot use the same page number in the same file and there is no page number 0.

Usage: Use only in batch composition files. Enter command on a line by itself.

Example:

Input:

```
\PFUT1 #P
\PFUT6 #P
\PN 23
```

Default: 1

Related Commands: #P
SEQUENTIAL PAGE NUMBERING

COMMENT *

Purpose: This command allows information to be in your file without being composed or set. For example, information concerning the job or instructions on why a new page is being forced could be in your file.

Format: *

Argument: None

Usage: Use only in batch composition files. Use in pairs. Surround the text to be commented out.

Example:

Input:

```
\* If article too long, take out the following
paragraph.\*
\P1 Part of their marketing scheme seemed a bit exotic with
the color choices of hot pink and greens.
```

Output:

Part of their marketing scheme seemed a bit exotic with the color choices of hot pink and greens.

Remarks: This command works in pairs. The first one seen starts the comment. The second one stops the comment.

VERTICAL SPACE \VS

Purpose: Enables the user to move up or down the page. This command is to be used outside of Text Items (paragraphs, headings, etc.). It is common to place this command between paragraphs when using it for additional leading. The vertical space command cannot be used inside tables.

Format: \VS(space)*unit*^

Argument:

unit	is the amount to move text vertically. It can be either a negative or positive value: \VS 9p^ = move down 9 points. \VS -9p^ = move up 9 points.

Usage: Use only in batch composition files. Use in pairs. Surround the text to be commented out.

Example: **Input:**

```
\P1 In order to make it easy and clear to know when events
happen, we date them.

\P1 Fairy tales sometimes begin, "Once upon a time." Such a
beginning may work for a fairy tale, but what about the
following?

\VS 12p^

\P1 Once upon a time Columbus discovered America, and later
a holiday was established called "Columbus Day."

\VS 12p^

\P1 The statement about Columbus is true, but as to...
```

Output:

In order to make it easy and clear to know when events happen, we date them.

Fairy tales sometimes begin, "Once upon a time." Such a beginning may work for a fairy tale, but what about the following?

Once upon a time Columbus discovered America, and later a holiday was established called "Columbus Day."

The statement about Columbus is true, but as to...

Usage: Because this command can work with both a positive or negative numbers, always type a space between the command and its argument.

No Automatic Page Breaks (Output Each Page Immediately as Directed by \NP's) \NOAPB

In the batch composition process, the pagination program normally reads the entire file, before it starts to produce pages on output. This is because the assumption that text can flow from column to column (and page to page), through the entire document and that the program must determine the end page balancing as part of the pagination procedure.

For strict applications using FIXED positioning of merge forms (with the FORM, PSFORM, and FIGURE commands), the \NP New Page command sets the page breaks, and no component automatically flows from column-to-column or page-to-page. For this type of job that generates thousands of pages from one file, putting the entire document into memory for pagination purposes is not necessary, and can even exceed the computer's limits.

Purpose: Use the \NOAPB command to indicate to the pagination program, that it can output each page immediately as-is for each \NP command seen.

Format: \NOAPB

Arguments: None

Usage: The \NOAPB command should be placed on a line by itself, at the top of the file, just before the very first \CD command.

Notes: This is not an immediate command, but a pagination command. It is always affecting the entire file.

Equivalent effects can be achieved by using the -PP option with bcompose and batchcomp shells; or -p option for pmunu, when it is run directly.

THIS PAGE INTENTIONALLY LEFT BLANK

Chapter 7: Block Commands

A BLOCK is an area (width, depth and position) defined by the user for positioning of items on a page. Blocks can hold *Heads, Paragraphs, Tables,* and *Figures* in any arrangement not allowing them to break across columns or pages, such as a figure and its caption paragraph.

The Block Command allows three types of pagination, they are: **Floating Block, Fixed Block, Running Block.**

The floating block is mostly used for merging in figures and tables. The fixed block is great for labels, business cards, any type of fixed position, step-and-repeat type of work. Where the running block is for listings which you need to keep together on the same page.

First we will look at the Block Commands, then at examples of each type of pagination.

BLOCK *Setup Command* \BLKX*n*

Purpose: This command is used to define an area on the page, then identify what items are to be placed in that specific area. There are three types of pagination which make the BLOCK commands a very powerful source for positioning that drawing or keeping together those items which seem to invariably split across pages during pagination.

You can place Text Items in a fixed area by surrounding them with BLOCK commands, or use it to keep those items together.

Using the string parameters below, the Block is defined (width, depth and position) for later recall through the BLOCK BEGIN command.

Format: \BLKX*n string* \END

Arguments:

n	is a number from **1 to 99** and is the **BLOCK Number** assigned to each individual BLOCK Setup command and referenced through its corresponding BLOCK BEGIN command.
string	
WIDTH=unit	Width of Block
DEPTH=unit	Depth of Block
VCM=aa	Vertical Composition Mode
XPOS=unit	X Position of Block on Page
YPOS=unit	Y Position of Block on Page
PAGE=aa	Pagination Type
TM=unit	Top Margin Block Gutter
BM=unit	Bottom Margin Block Gutter
LM=unit	Left Margin Block Gutter
RM=unit	Right Margin Block Gutter

Remarks:

WIDTH=	is the total width of the area.
DEPTH=	is the total depth of the area. Required only when using PAGE=FIXED parameter.
VCM=	is the vertical composition control for group placement of the Text Items within the Block. **CE =** Center **FT =** Flush Top **FB =** Flush Bottom

SP = Space Out from Top of Block to Bottom of Block

For most cases, centering text vertically (CE) in the Block is ideal. For some special cases, you may wish to have the copy pushed to the top (FT) or bottom (FB) of the Block. To fill the Block so that the copy spreads between the top and bottom of the Block, indicate (SP) for Space Out.

XPOS= is the coordinate from left edge of page to left side of the Block. This is used for a fixed position block, or a reserved block that is to extend outside of the column area.

YPOS= is the coordinate from bottom edge of page to top side of the Block. This is used for a fixed position block, or a reserved block that is to extend outside of the column area.

When measuring for the X and Y coordinates of a block, the reference point of the block is the upper left corner.

PAGE= Pagination type.

FL = means FLOAT the Block on the page. It uses a logic file to determine the best position of the Block and flows the columns of text around it. When using PAGE=FL, the argument WIDTH must always accompany it. WIDTH must be the same width as the column or columns that the Block will cut across.

FIXED = place the Block on the X and Y coordinates specified by the XPOS and YPOS arguments.

RUN = when asking a Block to RUN in place, you want it to flow along with the text but to keep the items placed within the block together and not allow them to break across a column or page. RUN requires the use of the WIDTH argument only.

TM = is the amount of blank space at the top of the Block to be reserved as a gutter, if needed.

BM = is the amount of blank space at the bottom of the Block to be reserved as a gutter, if needed.

LM = is the amount of blank space at the left of the block to be reserved as a gutter, if needed.

RM = is the amount of blank space at the right of the block to be reserved as a gutter, if needed.

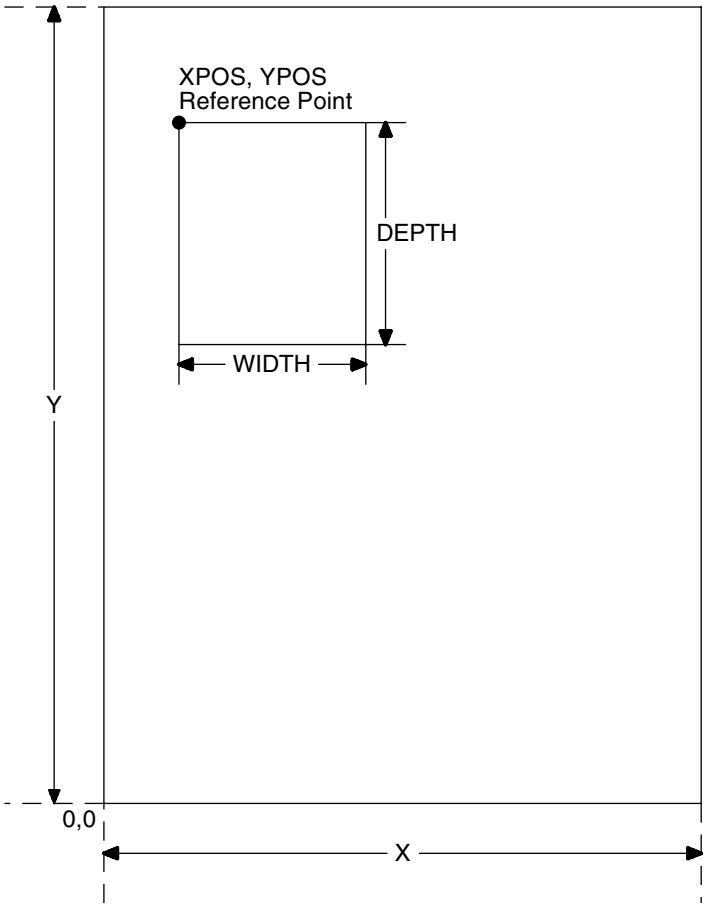


Figure 7-1: Measuring for Fixed Position

BLOCK BEGIN/END *Pagination Command*
\BLKB \BLKE

Purpose: Signifies the start and end of a BLOCK. A Block is a area (width, depth and position) defined by the user to place Text Items within to keep them together.

Format: \BLKB*n*

Text Items

\BLKE

Argument: *n* is a number from **1 to 99**

and

is the **number** assigned to its corresponding BLOCK Setup command.

Example: Enter commands surrounded by blank lines:

\BLKB1

\P1 Fine Candies, Inc.

\P2 Assorted Chocolates

\P3 $9.95

\BLKE

Setup Command: \BLKX*n string* \END

Floating Blocks

This pagination type is used mostly for the merging of drawings and their captions, or perhaps large tables which do not fit within a narrow column measure and needs to spread across the top of the page.

With the pagination type of FL (for FLOAT) only a column width is necessary. This would be input as the BLKX's WIDTH argument. The pagination program would then use this width to momentarily switch column types and make room for the material surrounded by the block commands.

Once the BLKE is encountered it would revert back to the COLX that was in use. Floating always causes the block to float to the top of the page. If the block is the width of two columns, the block will float to the top of the first column if the block is encountered within the first half of the first column. It places the block at the bottom of the second column if the block is encountered on the top of the second column.

All material inside the blocks will flow in their defined columns, but will be *kept together*. Do not specify a DEPTH argument when using float. The depth is determined by the amount of text items within the block.

The following files are located in */usr/amgraf/formats*. They are the *twoclbdy.pfmt* and *twoclbdy.data* with the following modifications shown in Bold print.

Floating Block Format File

```
\* Format for Two Column Body \*
\* Output Device \*
\LASER^

\* Page Definition \*
\PDEF WIDTH=8.5i DEPTH=11i LM=4.5a RM=4.5a DUPLEX=N \END

\* Column Definitions \*
\COLX1 LM=0 RM=20a BOT=1i TOP=10i LB=36p \END \* Left Col. \*
\COLX2 LM=22a RM=42a BOT=1i TOP=10i LB=36p \END \* Right Col. \*
\COLX3 LM=0 RM=42a BOT=1i TOP=10i LB=0 \END \* Full Page \*
\* Start Out In Full Page Mode \*
\CD 3 \END

\* Type Faces For Document \*
\TXT1 FONT=GE STYLE=B HSIZE=10p VSIZE=10p LEAD=12p \END \* HD1, P11 \*
\TXT2 FONT=GE STYLE=N HSIZE=10p VSIZE=10p LEAD=12p \END \* P1,P11-P12 \*
\TXT3 FONT=GE STYLE=B HSIZE=10p VSIZE=10p LEAD=12p \END \* PHED1-6,PFUT1-6 \*

\* Header Definitions \*
\HDX1 TEXT=1 LM=0 RM=0 CM=FL LB=24p LA=0 \END \* HD1 \*

\* Paragraph Definitions \*
\PX1 TEXT=2 LM=0 RM=0 CM=JU LB=24p LA=0 \END \* P1-Body \*

\PX11 ETX=1 ELM=0 ERM=3a ECM=FL \END \* P11-Enumeration \*
\PX11 TEXT=2 LM=0 RM=0 CM=JU LB=24p LA=0 \END \* P11-Body \*
\PX11 IL1=5.5a NLI=2 \END \* Two Line Indent \*

\PX12 ETX=2 ELM=1a ERM=2.5a ECM=FL \END \* P12-Enumeration \*
\PX12 TEXT=2 LM=2.5a RM=0 CM=JU LB=24p LA=0 \END \* P12-Body \*

\PX13 IL1=5.5a NLI=1 \END \* 1st Line Indent \*
\PX13 ETX=1 ELM=0 ERM=3a ECM=FL \END \* P13-Enumeration \*
\PX13 TEXT=2 LM=0 RM=0 CM=JU LB=24p LA=0 \END \* P13-Body \*

\* Page Header Definitions \*
\PHEDX1 TEXT=3 LM=4.5a RM=46.5a CM=FL YPOS=10.75i \END \* PHED1 \*
\PHEDX6 TEXT=3 LM=4.5a RM=46.5a CM=FR YPOS=10.75i \END \* PHED6 \*

\* Page Feet Definitions \*
\PFUTX1 TEXT=3 LM=4.5a RM=46.5a CM=FL YPOS=2a \END \* PFUT1 \*
\PFUTX6 TEXT=3 LM=4.5a RM=46.5a CM=FR YPOS=2a \END \* PFUT6 \*

\* Underline Definition \*
\ULPOS -25
\ULSIZ 10

\* Hyphenation Definition \*
\HYMB 4
\HYMA 3
\HYMC 2
\HYML 8

\* Block Commands \*
\BLKX1 WIDTH=42a PAGE=FL \END \* Full Page Merge \*
\BLKX2 WIDTH=20a PAGE=FL \END \* Single Column Merge \*
```

Floating Block Data File

```
\PFMT twoclbdy.pfmt \END

\PHED1 TN - MAINTENANCE\NL^02/02/86

\PHED6 TN - MAINTENANCE\NL^02/02/86

\PFUT6 1-178

\PN 1

\CD 1, 2 \END

\HD1 MAINTENANCE TESTS ON TELEPHONES

\P11 1.21 \END To properly maintain the telephone,
test signals are periodically applied to the top at the
connector. These tests occur on start and
stop but not on DOD service.

\P1 The maximum positive voltage applied to the terminal
equipment in the on-hook state can be up to a maximum
of 202 volts dc between the tip and ring conductors.
This maximum can also be between conductor and ground. See Figure
1.1.

\BLKB1

\FIGURE NAME=figure1.g POS=IM \END

\P2 Figure 1.1. \81^ Conductor and Ground

\BLKE

\P1 The maximum negative voltage, with respect to ground,
that can be applied to the top with the equipment in the
on-hook state is 165 volts. These telephone maintenance
tests of both dc and ac signals are as follows.

\P12 1) \END AC signals of 10 volts RMS or less,
24 Hz superimposed in -70 to +70 volts dc, on tip
(with ring grounded), on ring (with tip grounded),
or on both tip and ring, with respect to ground.

\P12 2) \END DC voltages from 0 to\245^202 volts,
tip to ring, or on the tip with the ring grounded, or on the
ring with the tip grounded, or on both tip and
ring with respect to ground.

\P12 3) \END AC signals of 3 volts RMS or less, tip to
ring, at any frequency from 1000 to 2000 Hz. It could be desirable
that the customer premises equipment not respond to ac signals
of 5 volts RMS or less, tip to ring, at any frequency from 1000
to 5000 Hz tip to ring or tip and ring to ground.

etc...
```

MAINTENANCE TESTS ON TELEPHONES

1.21 To properly maintain the telephone, test signals are periodically applied to the top at the connector. These tests occur on start and stop but not on DOD service.

The maximum positive voltage applied to the terminal equipment in the on-hook state can be up to a maximum of 202 volts dc between the tip and ring conductors. This maximum can also be between conductor and ground. See Figure 1.1.

The maximum negative voltage, with respect to ground, that can be applied to the top with the equipment in the on-hook state is 165 volts. These telephone maintenance tests of both dc and ac signals are as follows.

1) AC signals of 10 volts RMS or less, 24 Hz superimposed in -70 to +70 volts dc, on tip (with ring grounded), on ring (with tip grounded), or on both tip and ring, with respect to ground.

2) DC voltages from 0 to ±202 volts, tip to ring, or on the tip with the ring grounded, or on the ring with the tip grounded, or on both tip and ring with respect to ground.

3) AC signals of 3 volts RMS or less, tip to ring, at any frequency from 1000 to 2000 Hz. It could be desirable that the customer premises equipment not respond to ac signals of 5 volts RMS or less, tip to ring, at any frequency from 1000 to 5000 Hz tip to ring or tip and ring to ground.

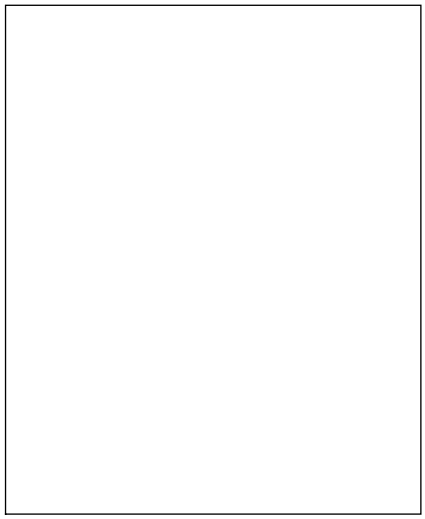


Figure 1.1. – Conductor and Ground

1.22 The conditions described in (1) through (3) above may be applied during mechanized maintenance procedures. Such tests are applied sequentially; the series of tests may last up to 12 seconds.

TESTS MADE IN THE PROCESS OF CONNECTING OR DISCONNECTING A CALL

1.23 There are three tests made in the process of connecting or disconnecting a call that cause a detectable condition outside the switching system. The tests discussed are for LLLD; not all PBXs use similar tests. The tests can occur on start and stop but not on DOD service.

1.24 The power cross test is made before originating and terminating calls. The test detects ac or positive dc voltages of over 16 volts as a power cross on start lines or stop lines. To make this test, detectors are placed tip to ground and ring to ground on the line. The input resistance of each detecto is about 18 kilohms on calls originating from the line. For calls terminating to the line, the ring detector resistance is also about 18 kilohms while the tip detector resistance is about 36 kilohms. The test lasts 50 to 100 milliseconds. The test has caused call failures on originating calls from ground-start lines where the terminal recognizes the 18-kilohm input resistance of the detector as a grounded tip and proceeds as if dial tone is present.

Low Line Resistance Test

1.25 The low line resistance test is designed to prevent false charging where irregularities exist in the called line. A check is performed to ensure that the tip-to-ring resistance is not low enough to cause immediate ring trip upon application of ringing. The test is performed prior to ringing in the terminating call sequence. The low line resistance test is made by applying approximately a 250-ohm ground to the tip and approximately a 250-ohm battery to the ring on start lines. On stop lines, the battery and ground are reversed. See Figure 1.2. In other systems, this

Figure 7-2: Sample of Floating Blocks, Page 1

TN - MAINTENANCE
04/01/92

Figure 1.2. – Battery and Ground

test on ground-start lines is known as PBX start test. The PBX top test is discussed in more detail in parts 2.43 through 2.46. This test will see resistances below 6,300 ohms as a failure and may see resistances below 17,000 ohms as a failure.

Restore and Verify Test

1.26 A restore and verify test is automatically performed on a line after the line is involved in a telephone connection and before it is idled. This test determines if supervision has been returned to the line and if the cutoff contact has been closed. The restore and verify test procedure differs for start lines and stop lines. The circuit places a 1000- or 2000-ohm resistor from the tip to the ring for a start line. The resistor is placed between the ring and ground for a stop line. The test takes about 50 to 100 milliseconds. With start service, the resistance of the line ferrod being tested is approximately 660 ohms to battery on the side of the line, and 660 ohms to ground on the tip side of the line. The test takes about 50 to 100 milliseconds. With start service, the resistance of the line ferrod being tested is approximately 660 ohms to battery on the side of the line, and 660 ohms to ground on the tip side of the line.

1-2

Figure 7-3: Sample of Floating Blocks, Page 2

Batch File Using Fixed Blocks

Fixed blocks are used when you need text items to fall at a specific X and Y coordinate. Our example of fixed block usage is a pricing label. Each individual label is a BLOCK with four paragraph styles inside:

1) the company name which needs to standout using a large point size that is Bold Italic;

2) the candy assortment which is a slightly smaller point size and Bold;

3) the package weight using a point size even smaller and Flush Left instead of Centered like the two above;

4) and the package price that is Flush Right and on the same baseline as the weight, creating a centered effect for that line, but leaving space between the two items for easy readability.

This same kind of technique can be used for mailing labels, coupons, name tags, business cards, etc., any type of job where you need specific locations when the material is to be printed.

On the next two pages is the format file and data file for fixed position blocks. It is found under */usr/amgraf/formats/block.pfmt* and *block.data* if you need this type of layout.

What you will notice different is the PDEF and the COLX measurements are the same. We want the whole page available, with the BLKX commands controlling where the items are to be placed, not the COLX command.

Fixed Block Format File

```
\* BLOCK FORMAT \*

\* Output Device \*
\LASER

\* Page Definition \*
\PDEF WIDTH=5.5i DEPTH=8.5i \END

\* Column Setup \*
\COLX1 LM=0 RM=5.5i BOT=0 TOP=8.5i \END \* Using Full Page \*

\* Column Description Selected \*
\CD 1 \END

\* Type Faces for Paragraphs \*
\TXT1 FONT=GE STYLE=BI HSIZE=16p VSIZE=16p LEAD=18p \END \* P1 \*
\TXT2 FONT=GE STYLE=B HSIZE=14p VSIZE=14p LEAD=16p \END \* P2 \*
\TXT3 FONT=GE STYLE=B HSIZE=12p VSIZE=12p LEAD=14p \END \* P3 and P4 \*

\* Paragraph Definitions \*
\PX1 TEXT=1 LM=0 RM=150p CM=CE LB=17p \END \* Company Name \*
\PX2 TEXT=2 LM=0 RM=150p CM=CE LB=17p \END \* Candy Assortment \*
\PX3 TEXT=3 LM=36p RM=150p CM=FL LB=17p \END \* Package Weight \*
\PX4 TEXT=3 LM=0 RM=114p CM=FR LB=0 \END \* Package Price \*

\* BLOCK Setups \*

\BLKX1 WIDTH=150p DEPTH=108p VCM=CE PAGE=FIXED \END \* Top Left Label \*
\BLKX1 XPOS=150p YPOS=509p \END

\BLKX2 WIDTH=150p DEPTH=108p VCM=CE PAGE=FIXED \END \* Second Left Label \*
\BLKX2 XPOS=300p YPOS=509p \END

\BLKX3 WIDTH=150p DEPTH=108p VCM=CE PAGE=FIXED \END \* Third Left Label \*
\BLKX3 XPOS=150p YPOS=401p \END

\BLKX4 WIDTH=150p DEPTH=108p VCM=CE PAGE=FIXED \END \* Fourth Left Label \*
\BLKX4 XPOS=300p YPOS=401p \END

\BLKX5 WIDTH=150p DEPTH=108p VCM=CE PAGE=FIXED \END \* Top Right Label \*
\BLKX5 XPOS=150p YPOS=293p \END

\BLKX6 WIDTH=150p DEPTH=108p VCM=CE PAGE=FIXED \END \* Second Right Label \*
\BLKX6 XPOS=300p YPOS=293p \END

\BLKX7 WIDTH=150p DEPTH=108p VCM=CE PAGE=FIXED \END \* Third Right Label \*
\BLKX7 XPOS=150p YPOS=185p \END

\BLKX8 WIDTH=150p DEPTH=108p VCM=CE PAGE=FIXED \END \* Fourth Right Label \*
\BLKX8 XPOS=300p YPOS=185p \END

\* Hyphenation Definition \*

\HYML 22
```

Fixed Block Data File

```
\PFMT block.pfmt \END

\BLKB1
\P1 Fine Candies, Inc.
\P2 Assorted Chocolates
\P3 1 lb. \P4 $4.95
\BLKE

\BLKB2
\P1 Fine Candies, Inc.
\P2 Assorted Chocolates
\P3 2 lbs. \P4 $9.95
\BLKE

\BLKB3
\P1 Fine Candies, Inc.
\P2 Assorted Creams
\P3 1 lb. \P4 $4.95
\BLKE

\BLKB4
\P1 Fine Candies, Inc.
\P2 Assorted Creams
\P3 2 lb. \P4 $9.95
\BLKE

\BLKB5
\P1 Fine Candies, Inc.
\P2 Dark Chocolates
\P3 1 lb. \P4 $4.95
\BLKE

\BLKB6
\P1 Fine Candies, Inc.
\P2 Dark Chocolates
\P3 2 lbs. \P4 $9.95
\BLKE

\BLKB7
\P1 Fine Candies, Inc.
\P2 Chocolate Covered Nuts
\P3 1 lb. \P4 $4.95
\BLKE

\BLKB8
\P1 Fine Candies, Inc.
\P2 Chocolate Covered Nuts
\P3 2 lbs. \P4 $9.95
\BLKE
```

Fine Candies, Inc. **Assorted Chocolates** **1 lb. $4.95**	***Fine Candies, Inc.*** **Assorted Chocolates** **2 lbs. $9.95**
Fine Candies, Inc. **Assorted Creams** **1 lb. $4.95**	***Fine Candies, Inc.*** **Assorted Creams** **2 lb. $9.95**
Fine Candies, Inc. **Dark Chocolates** **1 lb. $4.95**	***Fine Candies, Inc.*** **Dark Chocolates** **2 lbs. $9.95**
Fine Candies, Inc. **Chocolate Covered Nuts** **1 lb. $4.95**	***Fine Candies, Inc.*** **Chocolate Covered Nuts** **2 lbs. $9.95**

The rules were drawn to show each block outline for reference only.

Figure 7-4: Sample of Fixed Block Usage

Running Blocks

When it is necessary to keep items together, such as listings, use a block with the pagination type set to RUN.

All material inside the blocks will flow in their defined columns, but will be *kept together.* This type of block is not allowed to split across columns or pages, paragraphs inside the block are always going to stay together during pagination. The block command is basically saying no more than, "Stay Together."

When using a RUNNING Block it is necessary to specify the area WIDTH, but not the position. Also, the DEPTH of the Block CANNOT be specified. If you need your Blocks to have all the same depths you will need to specify a FIXED block. With RUNNING blocks the depth of the paragraphs in each block determines the depth.

Our example is of company listings. Each individual listing is a BLOCK with several paragraph styles inside.

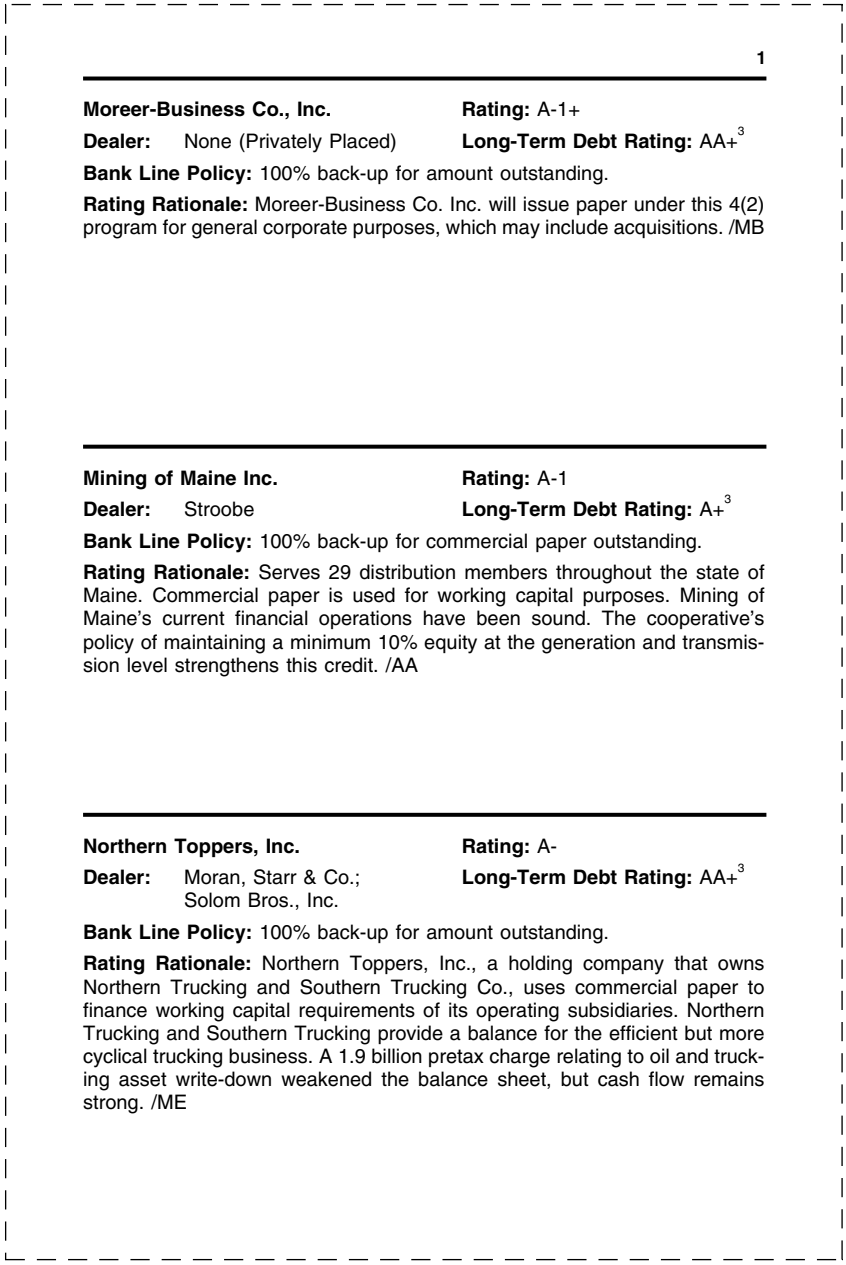
The following files are located in */usr/amgraf/formats* called *blockrun.pfmt* and *blockrun.data.* The format file defines the BLOCK plus holds the normal controls for page size, fonts, paragraph styles, etc. The data file is the material itself and the one that gets composed.

Running Block Format File

```
\* Format for Running Blocks \*

\* Output Device \*
\LASER^

\* Page Size \*
\PDEF WIDTH=5.5i DEPTH=8i LM=.5i RM=.5i DUPLEX=N \END

\* Image Area \*
\COLX1 LM=0000 RM=4.5i BOT=.5i TOP=7.5i \END

\* Start Out with Full Column Type \*
\CD 1 \END

\* No Vertical Column Justification \*
\CVJ N

\* Fonts \*
\TXT1 FONT=GE STYLE=N HSIZE=9.5p VSIZE=9.5p LEAD=11p \END \* NORMAL BODY \*
\TXT2 FONT=GE STYLE=B HSIZE=9.5p VSIZE=9.5p LEAD=11p \END \* BOLD BODY \*
\TXT3 FONT=GE STYLE=B HSIZE=9.5p VSIZE=9.5p LEAD=19p \END \* HRULES \*
\TXT4 FONT=GE STYLE=B HSIZE=8.5p VSIZE=8.5p LEAD=0 \END \* FOLIO \*

\* Paragraph Definitions \*
\PX1 TEXT=2 LM=180p RM=4.5i CM=FL LB=18p LA=0 \END \* PHONE \*

\PX2 TEXT=2 CM=FL LM=0 RM=174p LB=0 LA=0 \END \* CO NAME \*

\PX3 TEXT=2 CM=FL LM=180p RM=4.5i LB=15p LA=0 \END \* ZIP CODE \*
\PX3 IL1=0 IL2=48p NLI=1 \END

\PX4 ETX=2 ELM=0 ERM=42p ECM=FL \END
\PX4 TEXT=1 CM=FL LM=48p RM=174p LB=0 LA=0 \END \* ADDRESS \*

\PX5 TEXT=2 CM=JU LM=0 RM=4.5i LB=15p LA=0 \END \* DESCRIPTION \*

\PX6 TEXT=3 CM=CE LM=0 RM=4.5i \END LB=0 LA=0 \END \* HOR.RULE \*

\* Page Heading Definition \*
\PHEDX1 TEXT=4 YPOS=7.75i CM=FL LM=.5i RM=5i \END
\PHEDX6 TEXT=4 YPOS=7.75i CM=FR LM=.5i RM=5i \END
\PHED1 186
\PHED6 186

\* Hyphenation Definition \*
\HYMA 3
\HYMB 3
\HYMC 3
\HYML 6

\* Block Definition \*
\BLKX1 WIDTH=4.5i PAGE=RUN \END \* Keep Together \*
```

Running Block Data File

```
\PFMT blockrun.pfmt \END

\BLKB1
\P6 \HR 2i,1.5p^
\P1 Telephone: \N^(816) 467-4903
\P2 Mareer-Business Co., Inc.
\P3 Zip Code: \N^64111-2458
\P4 Address: \END 411 South Main\NL^ Kansas City, Missouri
\P5 Description: \N^Mareer-Business Co. Inc. will issue paper under
this 4(2) program for general corporate purposes, which may include acquisitions.
\BLKE

\BLKB1
\P6 \HR 2i,1.5p^
\P1 Telephone: \N^(816) 793-2243
\P2 Mining of Missouri, Inc.
\P3 Zip Code: \N^60569-2323
\P4 Address: \END 5031 Michigan Ave.\NL^ Missouri Center, Missouri
\P5 Description: \N^100% back-up for commercial paper outstanding.
Serves 29 distribution members throughout the
state of Missouri. Commercial paper is used for working capital purposes.
Mining of Missouri's current financial operations have been sound.
The cooperative's policy of maintaining a minimum 10% equity at the generation
and transmission level strengthens this credit.
\BLKE

\BLKB1
\P6 \HR 2i,1.5p^
\P1 Telephone: \N^(913) 356-4590
\P2 Northern Toppers, Inc.
\P3 Zip Code: \N^70229-3938
\P4 Address: \END Central Banking Bldg.\NL^ P.O. Box 450\NL^
Kansas City, Kansas
\P5 Description \N^100% back-up for amount outstanding.
Northern Toppers, Inc., a holding company that
owns Northern Trucking and Southern Trucking Co., uses commercial
paper to finance working capital requirements of its operating subsidiaries.
Northern Trucking and Southern Trucking provide a balance for the efficient
but more cyclical trucking business. A 1.9 billion pretax charge relating
to oil and trucking asset write-down weakened the balance sheet, but cash
flow remains strong.
\BLKE

\BLKB1
\P6 \HR 2i,1.5p^
\P1 Telephone: \N^(816) 777-4949
\P2 Nynex Corp.
\P3 Zip Code: \N^64088-7278
\P4 Address: \END 10th and Central\NL^ Kansas City, Missouri
\P5 Description: \N^100% back-up for amount outstanding.
Nynex Corp. makes recreational, technical, and
marine products, including outboard engines. Senior debt ratings were
lowered earlier this year form 'A\81^', due to the largely debt-financed
acquisitions of two major U.S. boat builders for a total of about $770
million. Revenues for the fiscal year ended June 30 were up 13%, reflecting
stronger demand in marine products. Commercial paper is issued for seasonal
working capital needs.
\BLKE
```



1

Moreer-Business Co., Inc. **Rating:** A-1+

Dealer: None (Privately Placed) **Long-Term Debt Rating:** AA+[3]

Bank Line Policy: 100% back-up for amount outstanding.

Rating Rationale: Moreer-Business Co. Inc. will issue paper under this 4(2) program for general corporate purposes, which may include acquisitions. /MB

Mining of Maine Inc. **Rating:** A-1

Dealer: Stroobe **Long-Term Debt Rating:** A+[3]

Bank Line Policy: 100% back-up for commercial paper outstanding.

Rating Rationale: Serves 29 distribution members throughout the state of Maine. Commercial paper is used for working capital purposes. Mining of Maine's current financial operations have been sound. The cooperative's policy of maintaining a minimum 10% equity at the generation and transmission level strengthens this credit. /AA

Northern Toppers, Inc. **Rating:** A-

Dealer: Moran, Starr & Co.; Solom Bros., Inc. **Long-Term Debt Rating:** AA+[3]

Bank Line Policy: 100% back-up for amount outstanding.

Rating Rationale: Northern Toppers, Inc., a holding company that owns Northern Trucking and Southern Trucking Co., uses commercial paper to finance working capital requirements of its operating subsidiaries. Northern Trucking and Southern Trucking provide a balance for the efficient but more cyclical trucking business. A 1.9 billion pretax charge relating to oil and trucking asset write-down weakened the balance sheet, but cash flow remains strong. /ME

Figure 7-5: Sample of Running Block

Chapter 8: How to Mark-up Tables

A table is defined as multiple columns of Text Items which are associated in rows. If a row has three or more columns, it is considered a table. Each column is assigned a number which references that column to its individual TAB Setup command **(\TBXn**).

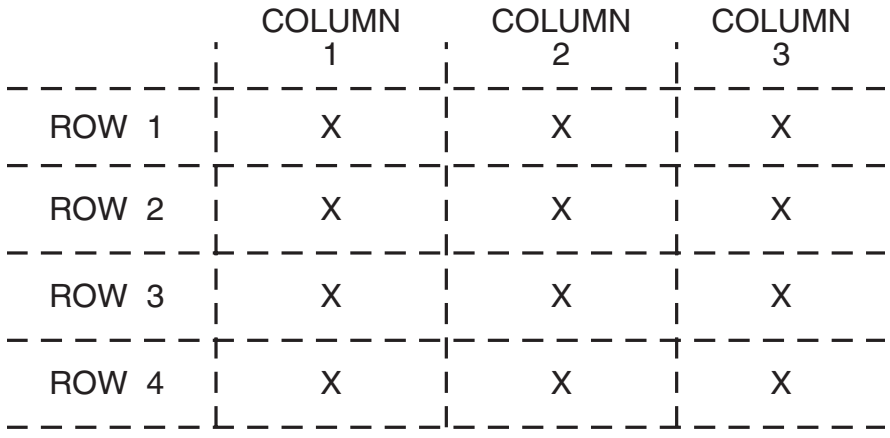


Figure 8-1: Examples of Columns and Rows

When typing tabular text, you must type in a *tab ruler* at the top of your table. The tab ruler shows the starting character position of each tab field.

It is important that every item in each row, in each column, fit in the tab space allowed. *Do not type over a tab position.* If an item does not fit, either break it into multiple lines or move the START TAB POSITION RULER numbers to increase the characters allowed in that tab.

Each and every table **must** utilize the following table commands:

TSXn TABLE Setup command

TSn TABLE START Text Item command

STP tabn START TAB POSITION RULER

ETP END TAB POSITIONS

TE TABLE END

Note: The **\STP, \ETP,** and **\TE** commands are part of the TABLE START command **(\TSn**.)

The SAVE TAB POSITION RULER command (**\STPSV**) and the RULED Table commands discussed later in ''Table Information'' are optional.

Immediate Commands such as BOLD (**\B^**), SPECIAL CHARACTER (**\nnn^**), HORIZONTAL SIZE (**\HSZ**), etc., can be used within a table.

A table **must be completed** with a TABLE END (**\TE**) before entering into another Text Item command such as a PARAGRAPH (**\P***n*).

Example: *Table Input:*

```
\TSX1 COMP=LINE ROWDEPTH=FIXED ROWLEAD=12p LB=24p LA=0 \END

\TBX1 TEXT=3 LM=0 RM=100p CM=FL \END
\TBX2 TEXT=3 LM=100p RM=200p CM=CE \END
\TBX3 TEXT=3 LM=200p RM=300p CM=FR \END

\TS1
\STP
       1                          2                          3
        TAB POSITION 1             TAB POSITION 2             TAB POSITION 3
        FLUSH LEFT                 CENTERED                   FLUSH RIGHT
        WITHIN ONE-                WITHIN ONE-                WITHIN ONE-
        THIRD OF                   THIRD OF                   THIRD OF
        THE MEASURE                THE MEASURE                THE MEASURE
\ETP
\TE
```

Example: *Table Output:*

TAB POSITION 1 FLUSH LEFT WITHIN ONE- THIRD OF THE MEASURE	TAB POSITION 2 CENTERED WITHIN ONE- THIRD OF THE MEASURE	TAB POSITION 3 FLUSH RIGHT WITHIN ONE- THIRD OF THE MEASURE

TABLE STYLE *Setup Command* \TSX*n*

Purpose: Main control command for defining table characteristics. A table is defined as multiple columns of text items which are associated in rows.

Format: \TSX*n string* \END

Arguments:

n	is a number from **1 to 20.** This number is assigned to the corresponding TABLE START Text Item command **(\TS*n*).**
string	
COMP=aa	Type of Composition
ROWDEPTH=aa	Row Leading Control Switch
ROWLEAD=unit	Fixed Row Leading Value
LB=unit	Lead Before Table
LA=unit	Lead After Table
RLWIN=unit	Weight of Rules Within Table
RLWOUT=unit	Weight of Rules Surrounding Table
RULES=aa	Draw Rules Around Table
TBLL=n	Before Rule Lead
TBRL=n	After Rule Lead
TBXL=n	Text Item Lead

Example:

```
\TSX1 COMP=JUST ROWDEPTH=VAR LB=24p RULES=TBLR\END
```

Remarks:

COMP= is how the lines will compose:

JUST indicates that the text in a column can be word-wrapped to fit the tab measure; it can be used to create justified copy in a tab measure. ***Note:*** When using COMP=JUST, each row within the table must be surrounded by blank lines.

LINE indicates that each row will be typeset line for line the way it is input. Line breaks are maintained. Lines with more copy than will fit in the measure will cause the extra words to wrap down onto a line of their own.

ROWDEPTH= is the type of row leading to be specified:

VAR is variable. The leading varies according to the LEAD argument in the TEXT STYLE Setup command being utilized for that tab position.

FIX is fixed lead for the whole table. When stating ROWDEPTH=FIX, the whole table will read the lead value found in the next parameter, ROWLEAD.

ROWLEAD= This is the amount of baseline-to-baseline leading to be used for the whole table. This parameter is only read if ROWDEPTH=FIX.

LB= The amount of space to drop vertically before setting the top rule of the table or the top text item of the table.

LA= The amount of space to drop vertically after setting the bottom rule of the table or the last Text Item of the table.

RLWIN= The weight of the rules, drawn by any ruling commands, within the table. You may use any valid unit of measure.

RLWOUT= The weight of the rules, drawn by the RULES=TBLR command, which box in the table. You may use any valid unit of measure.

RULES= This allows the table to be boxed in by rules. They can be used in any combination. RULES=TBLR will draw a box around the table. RULES=TB will draw a rule at the top and bottom only:

TBLL= controls the leading after a rule is drawn. Default is 125 percent of LEAD value in TEXT STYLE Setup command **(\TXT*n*)** where *n* is the percent of **\TXT** Setup LEAD executed from rule above to baseline of text in row. This parameter is ignored if ROWDEPTH=FIX.

TBRL= controls the leading before a rule is drawn. Default is 50 percent of LEAD value in TEXT STYLE Setup command **(\TXT*n*)** where *n* is the percent of **\TXT** Setup LEAD executed from last line of row baseline to the rule below. This parameter is ignored if ROWDEPTH=FIX.

TBXL= controls the leading between rows with NO rule. Default is 100 percent of LEAD value in TEXT STYLE Setup command **(\TXT*n*)** where *n* is the percent of **\TXT** Setup LEAD executed from baseline to baseline of text in row. This parameter is ignored if ROWDEPTH=FIX.

T Top

L Left

R Right

B Bottom

Related Commands: \TBX*n* *TAB Setup*
\TS*n* *TABLE START Text Item*

TAB *Setup Command* \TBX*n*

Purpose: To define tab positions and tab style characteristics within a table. Tables are made up of columns, which are tabs. Each tab position in a table must have its own setup command. This command defines margins for the tab, composition mode, and which TEXT STYLE Setup command it refers to.

Format: \TBX*n string* \END

Arguments:

n is a number from **1 to 99**. This number is the tab number referenced through the START TAB POSITION sub-command **(\STP)** within the TABLE START command **(\TS*n*).**

string

Required Parameters:

TEXT=n	Text Style Command Referenced
LM=unit	Left Margin of Tab
RM=unit	Right Margin of Tab
CM=aa	Composition Mode

Optional Parameters:

VCM=	*aa* Vertical Composition Mode of Rows
GUTL=unit	Left Gutter
GUTR=unit	Right Gutter
GUTT=unit	Top Gutter
GUTB=unit	Bottom Gutter

Remarks:

TEXT= is the number of the TEXT STYLE Setup command you wish to use.

LM= is the left margin of the tab measuring from the left edge of the current column.

RM= is the right margin measuring from the left edge of the current column.

CM= is the composition mode of the tab. The options are:

CE= Center

FL= Flush to the Left Margin

FLC= Flush to the Left Margin Centered

FR= Flush to the Right Margin

FRC= Flush to the Right Margin Centered

JU= Justify at Both Margins

VCM= is the vertical composition mode of each row. This controls where text will set between the rules, if a ruled table.

CE = Center

FT = Flush to Top of Row

FB = Flush to Bottom of Row

GUTL/GUTR= is reserved space (or gutter) on the left or right side of the tab. Space is needed when the tab has a vertical rule on its left or right so the text can be offset a few points.

GUTT/GUTB= is reserved space (or gutter) at the top or bottom of the tab. Space is needed when the tab has a horizontal rule on its top or bottom so the text can be offset a few points.

Example:

\TBX1 TEXT=1 LM=0 RM=100p CM=FL \END
\TBX2 TEXT=1 LM=100p RM=200p CM=CE \END
\TBX3 TEXT=1 LM=200p RM=300p CM=FR \END

The commands above will position three tabs in a table. Each tab references the same TEXT STYLE number 1 (TEXT=01) and is one hundred points (100p) wide. The composition mode for each one is different: the first will set flush to its left margin (CM=FL), the second will center within both margins (CM=CE), and the last will be flush to its right margin (CM=FR).

Tab One	Tab Two	Tab Three
Tab 1	Tab 2	Tab 3
Tab One	Tab Two	Tab Three

Related Commands:

\TSX*n*
TABLE STYLE Setup

\TS*n*
TABLE START Text Item

TABLE START *Text Item Command* \TS*n*

Purpose: Enables the user to create tabular material. It recalls and uses all the parameters defined by the TABLE STYLE Setup command **(\TSX*n*).** This command also includes the START TAB POSITION sub-command **(\STP),** which references the TAB Setup commands **(\TBX*n*),** and the TABLE END commands **(\ETP, \TE).**

Format:

\TS*n*
\STP
tabn tabn tabn

\ETP
\TE

Arguments:

n	is a number from **1 to 20**. This number is the TABLE STYLE number assigned to its corresponding TABLE STYLE Setup command.
tabn	is the tab positions in the table. This number is the TAB Setup command number assigned to that particular tab (TBX1, TBX2 or TBX3). The numbers do not necessarily have to be consecutive. The **\STP** tab number string is the ruler line which directs the positioning of the text following.

Setup Commands:

\TSX*n string* \END
TABLE STYLE

\TBX*n string* \END
TAB POSITION

START TAB POSITION *Text Item Command* \STP

Purpose: Enables the user to create tabular material. It recalls and uses all the parameters defined by the TABLE STYLE Setup command **(\TSX*n*).** This command also includes the START TAB POSITION sub-command **(\STP),** which references the TAB Setup commands **(\TBX*n*),** and the TABLE END commands **(\ETP, \TE).**

Format:

\TS*n*
\STP
tabn tabn tabn

\ETP
\TE

Arguments:

n	is a number from **1 to 20**. This number is the TABLE STYLE number assigned to its corresponding TABLE STYLE Setup command.
tabn	is the tab positions in the table. This number is the TAB Setup command number assigned to that particular tab (TBX1, TBX2 or TBX3). The numbers do not necessarily have to be consecutive. The **\STP** tab number string is the ruler line which directs the positioning of the text following.

Setup Commands:

\TSX*n string* \END
TABLE STYLE

\TBX*n string* \END
TAB POSITION

SAVE TAB POSITION RULER *Text Item Command* \STPSV

Purpose: This command is used to store **\STP** rulers (if needed) to change the column tab positions within a table. The tab ruler positions immediately follow the **\STPSV** command.

Format: \STPSV
#*n* *tabn* *tabn* *tabn*

Arguments:

n is a number from **1 to 99**. This number is the SAVE TAB POSITION RULER number assigned to each individual ruler and is referenced in the table when switching from one set of tab rulers to another. During table entry, the saved position ruler is recalled by entering the number (1, 2, etc., without the # sign) in the first character position at the left margin of the table.

Note: The first **\STP** of any table is referenced as ruler 0 (zero).

tabn is the tab positions in the table. This number is the TAB Setup command number assigned to that particular tab (TBX1, TBX2 or TBX3). The numbers do not necessarily have to be consecutive. The **\STPSV** tab number string is the ruler line which directs the positioning of the text following.

Example: *Table Input:*

```
\TSX1 COMP=LINE ROWDEPTH=FIXED ROWLEAD=12p LB=24p \END
\TBX1 TEXT=3 LM=0 RM=300p CM=CE \END
\TBX2 TEXT=3 LM=0 RM=150p CM=CE \END
\TBX3 TEXT=3 LM=150p RM=300p CM=CE \END
\TBX4 TEXT=3 LM=0 RM=100p CM=FL \END
\TBX5 TEXT=3 LM=100p RM=200p CM=CE \END
\TBX6 TEXT=3 LM=200p RM=300p CM=FR \END

\STPSV
#1     2                    3
\STPSV
#2     4                    5                        6
\TS1
\STP
       1
         TAB POSITION 1 \80^ CENTERED HEADING ACROSS TABLE

1        TAB POSITION 2        TAB POSITION 3
         CENTERED WITHIN       CENTERED WITHIN
         HALF OF THE           HALF OF THE
         MEASURE               MEASURE

0        SWITCHING BACK TO TAB POSITION 1

2        TAB POSITION 4        TAB POSITION 5           TAB POSITION 6
         FLUSH LEFT            CENTERED                 FLUSH RIGHT
         WITHIN ONE-           WITHIN ONE-              WITHIN ONE-
         THIRD OF              THIRD OF                 THIRD OF
         THE MEASURE           THE MEASURE              THE MEASURE

0        SWITCHING BACK TO TAB POSITION 1
\ETP
\TE
```

Example: *Table Output:*

TAB POSITION 1 - CENTERED HEADING ACROSS TABLE

TAB POSITION 2 CENTERED WITHIN HALF OF THE MEASURE	TAB POSITION 3 CENTERED WITHIN HALF OF THE MEASURE

SWITCHING BACK TO TAB POSITION 1

TAB POSITION 4 FLUSH LEFT WITHIN ONE-THIRD OF THE MEASURE	TAB POSITION 5 CENTERED WITHIN ONE-THIRD OF THE MEASURE	TAB POSITION 6 FLUSH RIGHT WITHIN ONE-THIRD OF THE MEASURE

SWITCHING BACK TO TAB POSITION 1

Remarks: Compare the *Table Input* example with the *Table Output* example. As you can see, the input file resembles the output. It is important that every item in each column fit the space allowed in the SAVE TAB POSITION RULER for that column. *Do not type over a tab position.* If an item does not fit, either break it into multiple lines or move the TAB RULER numbers to increase the characters allowed in that tab field.

Related Command: \TS*n*
TABLE START Text Item

How To Setup Ruled Tables

Ruled tables are created just like unruled tables except for the following ruling commands. These commands are used two ways: 1) in the first character position of the row, or 2) aligned under the first digit of the **\STP** number in the row. This allows two effects: 1) to draw a rule across the complete table, or 2) to draw a rule for that tab width only.

Arguments:

| vertical rule
_ horizontal rule
+ connecting vertical and horizontal rules

The example on the following page shows horizontal and vertical rules connected using the + and using the _ with the | .

To box a table in, use the parameter RULES=TBLR (top, bottom, left and right) in the TABLE Setup command **(\TSX*n*).** This will draw a rule around the perimeter of the table. See "TABLE STYLE Setup command **(\TSX*n*)"** for more information.

Example: *Table Input:*

```
\TSX1 COMP=LINE ROWDEPTH=FIXED ROWLEAD=12p LB=24p \END
\TBX1 TEXT=3 LM=0 RM=300p CM=CE GUTT=10p \END
\TBX2 TEXT=3 LM=0 RM=150p CM=CE \END
\TBX3 TEXT=3 LM=150p RM=300p CM=CE \END
\TBX4 TEXT=3 LM=0 RM=100p CM=FL GUTL=6p \END
\TBX5 TEXT=3 LM=100p RM=200p CM=CE \END
\TBX6 TEXT=3 LM=200p RM=300p CM=FR GUTR=6p \END
\STPSV
#1    2                        3
\STPSV
#2    4                        5                   6
\TS1
\STP
          1
=          TAB POSITION 1 \80^ CENTERED HEADING ACROSS TABLE
1          TAB POSITION 2       |TAB POSITION 3
           CENTERED WITHIN      |CENTERED WITHIN
           HALF OF THE          |HALF OF THE
           MEASURE              |MEASURE
_
0          SWITCHING BACK TO TAB POSITION 1
_
2          TAB POSITION 4       |TAB POSITION 5     |TAB POSITION 6
           FLUSH LEFT           |CENTERED           |FLUSH RIGHT
           WITHIN ONE-          |WITHIN ONE-        |WITHIN ONE-
           THIRD OF             |THIRD OF           |THIRD OF
          _THE MEASURE          +THE MEASURE        +THE MEASURE
0          SWITCHING BACK TO TAB POSITION 1
\ETP
\TE
```

Example: *Table Output:*

TAB POSITION 1 - CENTERED HEADING ACROSS TABLE		
TAB POSITION 2 CENTERED WITHIN HALF OF THE MEASURE		TAB POSITION 3 CENTERED WITHIN HALF OF THE MEASURE
SWITCHING BACK TO TAB POSITION 1		
TAB POSITION 4 FLUSH LEFT WITHIN ONE-THIRD OF THE MEASURE	TAB POSITION 5 CENTERED WITHIN ONE-THIRD OF THE MEASURE	TAB POSITION 6 FLUSH RIGHT WITHIN ONE-THIRD OF THE MEASURE
SWITCHING BACK TO TAB POSITION 1		

Note: When setting ruled tables, the leading parameters TBLL, TBRL and TBXL in the TABLE Setup command **(\TSX*n*)** are in effect.

How to Measure Leading for Ruled Tables

Leading in unruled tables is set by the largest *LEAD* argumenter of the (\TXT) TEXT Style Setup command selected for the table.

Leading in a ruled table is set by the three parameters in the (\TSX) TABLE Style Setup. The Before Rule Lead (TBLL) parameter gives the percentage of lead executed between the horizontal rule above and the baseline of the text following. Default is 125% of base lead.

The After Rule Lead (TBRL) parameter gives the percentage of lead between the baseline of the text and the horizontal rule below. Default is 50% additional base lead.

The Normal Text Item Lead (TBXL) parameter controls the leading between rows of text with no rule in between. Default is 100% of base lead. See the figure following for clarification of where these parameters apply.

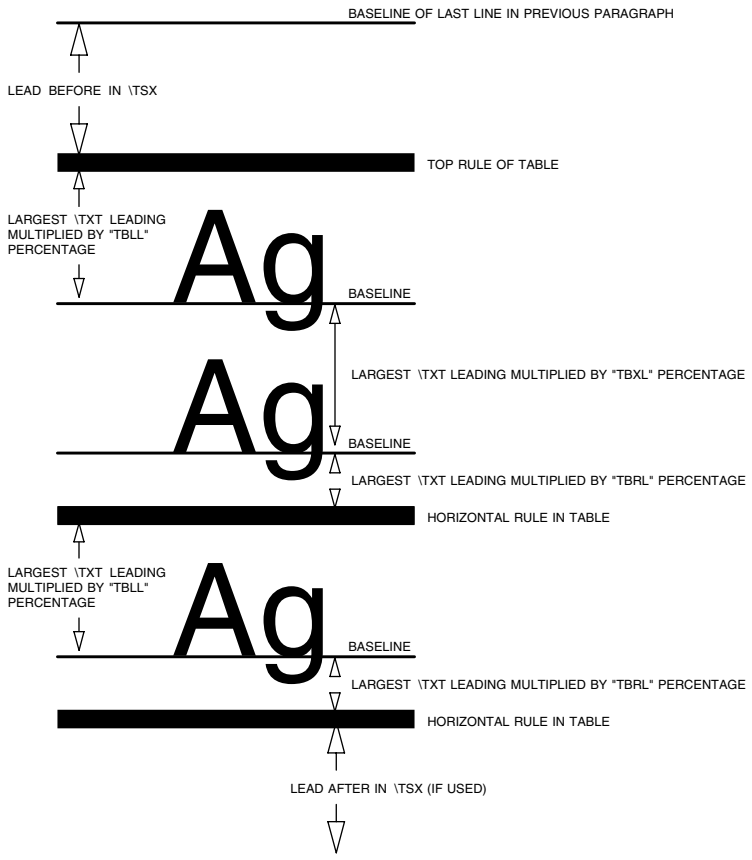


Figure 8-2: Measuring Ruled Table Leading

Chapter 9: Merge Commands

Merge commands allow the user to insert onto the page a graphic, an image, variable text, or a barcode that is previously drawn and stored. The merge commands can be used to bring in a simple image or to create high speed variable imaging for price lists, direct mail, personalized stationary, etc.

There are four commands specifically for merging items into your document:

- \FIGURE – Merge Figure
- \MFORM – Merge Form with Variable Data
- \MBARCODE – Merge Barcode with Variable Data
- \PSFORM – Merge as Repeatable PostScript Form with Variable Data

The simplest is the *Merge Figure* command. This command allows you to leave a hole in the page for a figure to be placed, by referencing its filename. The figure will be centered in the hole and can be a MECCA graphic, EPS, TIFF, or JPEG.

The merge with variable data is for the automatic imprinting of changing information by the use of data positions. This is accomplished through a text file by merging it with assigned positions on a drawing file. There are three Merge Variable Data commands. They are all very similar in nature and are setup the same. Our examples are using the MFORM command.

The *Merge Form* command gives you the ability to change information on a form without having to load the form with the graphics program just to key in new data. Merged Forms can be used in various ways; the most common is checks, business cards, and company forms, for example, any form that needs customized company name with branch office locations.

The *Merge Barcode* allows the same type of behavior as the merge form technique, except we are merging variable data into a pre-drawn barcode graphic to give you variable data barcodes.

The *Repeatable PostScript Form* option takes merge form one step further, resulting in the drawing file content made into a repeatable object in PostScript only once, which can then be placed any number of times, on any page.

High speed variable imaging is available for those PostScript printers which have a direct rip connection. This would be one which does not make an interim bitmap file. High speed variable imaging allows the constant data to be imaged once and saved, then the variable data is ripped and output along with the saved constant data. This technique has faster output time since the constant data is ripped only once.

MERGE FIGURE \FIGURE

Purpose:

This command allows you to leave a hole in the page for a figure to be placed, by referencing its filename. The figure will be centered in the hole and can be a MECCA graphic, EPS, TIFF, or JPEG. This is the simplest command of all of the merge commands.

Format:

\FIGURE *string* \END

Arguments:

string

NAME =aa	Name of Drawing to be Merged
POS =aa	Position of Figure on Page
WIDTH = unit	Width of Figure Location
DEPTH = unit	Depth of Figure
XPOS = unit	X Position of Figure on Page
YPOS = unit	Y Position of Figure on Page
SIZE = n	Standard Graphic Sizes
LB = aa	Lead Before (If POS=IM)
LA = aa	Lead After (If POS=IM)
ORN = degrees	Rotate Figure
TYPE = filetype	Drawing Type of Figure being Merged

Note: The graphic must be {Window} {Fit} before every save if to be used as a merge figure.

Remarks:

NAME = is the file name of the drawing to be merged. If it is not in the current directory, specify the path.

POS = is the type of positioning requested:

IM = Immediately set the drawing.

FL = Float as closely to current position as possible.

FIXED = place the Figure on the X and Y coordinates specified by the XPOS and YPOS arguments.

WIDTH = is total width of the hole for the graphic to be centered within. This is usually the column width. If you make the width the exact size of the drawing, it will fall flush to the left edge of the column.

DEPTH = is total depth of the hole for the graphic to be centered within. If you make the depth the same size as your drawing be sure to use the *LB* argument.

XPOS = is the coordinate from left edge of page to left side of the Figure. This is used for a fixed position, or a reserved position that is to extend outside of the column area. Necessary when using POS=FIXED (Position=Fixed).

YPOS = is the coordinate from bottom edge of page to top side of the Figure. This is used for a fixed position, or a reserved position that is to extend outside of the column area. Necessary when using POS=FIXED (Position=Fixed).

LB = is the amount of white space to place before the figure when using the POS=IM (Position= Immediate) parameter.

LA = is the amount of white space to place after the figure when using the POS=IM (Position= Immediate) parameter.

ORN = This parameter allows the user to rotate the figure. The allowed rotations are 0, 90, 180, and 270. Example: *ORN=90* will rotate the merged figure counter-clockwise 90 degrees. The default is 0.

SIZE = There are defined seven (7) standard sizes. When SIZE is used the drawing being merged is automatically centered within the size. If the SIZE parameter is used, the WIDTH and DEPTH should not be used.

1 = Full Page - 6 1/2" x 9"

2 = Full Page Turned - 9" x 6"

3 = One-half Page - 6 1/2" x 4 1/2"

4 = One Column - 3" x 9"

5 = One-half Column - 3" x 4 1/2"

6 = One-quarter of a Page - 6 1/2" x 2 1/4"

7 = Three-quarters of a Page - 6 1/2" x 6 1/4"

TYPE = Type of file being merged. If TYPE is not used, it assumes the figure is a MECCA graphic. Three other types can be used:

EPSF = Encapsulated PostScript Format

NJPG = Native JPEG Format

TIFF = TIFF Format

Limitations and Conditions Using NJPG

- The JPEG image must be in the form of Baseline JPEG, not Progressive or with any other fancy features.
- Only PostScript Level 2 and above RIPs support such JPEG format images.

- A JPEG image is output in PostScript as an in-line data stream, and cannot be made into any PostScript Level 3 "Form" object.
- JPEG images will only print as a Spot Color composite (Part Per Page).
- A JPEG image is a raster bitmap and on output it will fit (stretch or compress) to the WIDTH and DEPTH you specify in the FIGURE command.
- When composed to preview, the JPEG image will be expanded for display; thereafter printing such a page directly from [Project], [Print] will not contain any JPEG data.
  To retain a smaller JPEG data size advantage, we suggest that once you have adjusted the design layout to your satisfaction by using compose-to-preview, run compose one final time, but compose it to printer (perhaps print-to-file).

Example:

```
\FIGURE NAME=drawing1.g POS=IM WIDTH=6i
DEPTH=2i LB=24p LA=24p ORN=0 \END
```

Environment Variable for Location Path

An environment variable can be set for inserting the location path of the called figure. This is useful if a file must transfer from one user area to another. The variable {HOME} can be used, and the user's path will be inserted when the job is composed.

Syntax: **${HOME}**
This will insert the login path */usr/amgraf* before the figure filename.

Example:

```
\FIGURE NAME=${HOME}/drawing1.g \END
```

Defining Your Own Environment Variable

The user can define an environment variable if needed. Use the standard file naming conventions. The environment variable assigns the location path to be whatever you have specified. This environment variable can be placed in any standard location, such as */usr/bin/amgraf/mecca.include* or your *.profile.*

Syntax: **${xxx} = /complete/path/**
export ${xxx}
With xxx being your environment variable.

Example:

```
\FIGURE NAME=${xxx}/drawing1.g \END
```

What is a Merged Form?

A merged form is for the automatic imprinting of changing information by the use of data fields. This is accomplished through a text file by merging it with assigned positions on a drawing file.

Merged Forms can be used in various ways:

- Creating customized forms for your company, such as sales quote or invoice.
- Labels, Business Cards, Branch Office Company Forms - any type of standard form which needs individual names or branch office locations.
- Merging a graphic (any drawing, logo, etc.) into a document, with the flexibility to change the chapter title, subsidiary branch address, persons name, etc.
- The Merge command has the ability to clip the graphic being merged. This can be an EPS, JPEG, or MECCA graphic.

The advantage of a merged form is the ability to change information on the form without having to load the form with the graphics program just to key in new data.

High speed variable imaging is available for those PostScript printers which have a direct rip connection. This would be one which does not make an interim bitmap file. High speed variable imaging allows the constant data to be imaged once and saved, then the variable data is ripped and output along with the saved constant data. This technique has faster output time since the constant data is ripped only once.

Basics of Merge Form

The base form with all of the non-changing information is drawn and stored on the system, leaving blanks where the changing information is to go. Instead we put in reference numbers to represent the changing text. A text file is then created containing all of the changing information and corresponding reference number. Through the MERGE FORM command (\MFORM), during output, the two files are used to create your filled-in form.

Merging forms utilizes all parts of the system - Drawing Graphics, Format Commands, and Text Files. Familiarize yourself with the following material before attempting your own. For your convenience in */usr/amgraf/formats* are the files that created our examples.

The Five Basic Items of a Merged Form

There are five basic items needed to create a merged form. Below is an outline, followed with step-by-step instructions for creating your own merged form.

1) Base Form: Draw the FORM leaving blank the places where changing information belongs. The screen coordinate of the bottom left corner of the form must be X=0, Y=0.

2) Data Position Numbers: Add a DATA POSITION NUMBER at each location in the graphic where the changing information will be placed. You can use {Input Text}, {Place Text Into Boxes} to create these numbers.

All DATA POSITION NUMBERS must be on a layer assigned exclusively to them. They cannot share a layer with any other component. When creating them use the text attributes needed for the variable information. [win-fit], and save the form. This is your graphic **formname.g.**

3) Formpos Program: Run a program called FORMPOS against the *formname.g* file. This splits the drawing file into two files: the **formname.fp** file holds the data position numbers with their text attributes and X/Y positioning coordinates. The **formname.mf** is the static graphic components of the form.

4) Format File: Create a FORMAT file **formname.pfmt** which contains the setup commands needed for the actual merging of the text file and the form file.

5) Text File: Create a TEXT file **formname.txt** of the variable information prefixed by its data position number.

The text file is now ready to edit and compose whenever you want different information in those locations on your form.

Limitations of a Merged Form

There are a few limitations you should be aware of before you begin your merged form. This information will help you to setup your form properly.

- Merged forms can hold 512 DATA POSITIONS per drawn form. They do not need to be consecutive, but the data numbers cannot be reused on the form. If the same data is to appear twice on the form, it must be entered in as separate positions.
- Every Data Position Number must be a separate text component. Do not use the \NL^ command to create more than one position number at a time.
- The string of changing information cannot exceed a measure of 11 inches.
- Be sure to use FormPos Mode 1 if you need the position data to wrap lines. The Mode 0 does not hold a measure value, so it will not cause text input to "wrap". For multiple line entries, use the \NL^ (New Line) to control where lines break, while entering the text on one line.
- Data Positions cannot be used to bring in raster components or graphic images, only text.
- Six text attributes are stored through the Data Positions: font, style, point size, leading, composition mode, and rotation. All other attributes (such as color and layer) will pick up batch defaults, but can be changed by immediate or formatting commands in the text file.

Detailed Step-By-Step Instructions

Step 1: The "Non-Changing" Portions of the Form

Our example is of a business form, but your form can be any drawing that you wish to use, holding any type of components.

1) Draw the base of your form, leaving blank the places where changing information belongs. Output and proof.

2) The extreme lower-left corner of the form (graphic file) needs to have a position of X=0, Y=0. It is easiest to draw a 0-weight rectangle around the entire

image. If you are drawing cut-marks on the form, treat them as if they are part of the drawing. The position of X=0, and Y=0 would be outside the cut-marks. To be sure your position is correct set the {Snap to} option to {Grid}. Then position your cursor on the forms lower-left corner. The coordinate read-out at the top of the Window Area should read x0, y0.

To move the lower-left corner to X=0, Y=0, do the following:

a. [Group] {All} entire form
b. Go to **[Move]**
c. Select **{Move to Anywhere}**
d. Pick the lower left-hand corner of form
e. Type in 0 **[space]** 0 and hit **[Enter]**

3) Before saving your form, always **[win-fit].** You will experience positioning problems if you save without a prior [win-fit].

4) Measure the width and depth of the graphic, you will need to input this during command setup.

Step 2: Putting "Data Position Numbers" in Your Form

Now that you have the non-changing portion of your form created you are ready to place your data positions. We are going to call each one of these positions a DATA FIELD.

For each data field that you have selected, decide their following five attributes: FONT, STYLE, POINT SIZE, COMPOSITION MODE, and also ROTATION. Be sure to choose a point size that will allow you to input the optimum number of characters needed for the changing information that is to go into that field.

Pull up your form and act as if you are using your form, fill in the changing information for each data field using any of the input text functions. Be sure at this point that you choose a layer not being used when **{Setting Attributes}.** All changing information should be on a layer of its own, we will use layer 16, since this will become the default layer for all data positions once composed.

If you are not sure what point size to pick, experiment with several different sizes until you have selected a point size for each field. Output your form once it is filled in and look at it closely, this is the way it will look with the information in the blanks. Modify your fonts and/or point sizes until they look the way you need them.

Now put in the DATA POSITION NUMBERS. You will need to assign a number to each data field. There can be up to 512 positions and they need not be consecutive. The number 0 is reserved for the graphic size position in the ".fp" file.

You have already created a piece of text the same font, style, point size, and composition mode you want that data field to look like and is in the correct position. Edit your first data field text, using **{Edit Text}**, and change the text to the number 1, now edit your second data field text and change it to number 2, do this for all changing text data fields on the entire form, inputting the assigned number.

If You Know What You Need When Designing, Just Put in the Numbers

The piece of text is now the number of that field, (1, 2, etc.) and that number is the correct font, style, point size and composition mode and is in the proper location where your changing information is going to be merged. This is your goal, if you know what you need when designing the form, you could put in the numbers at that point, just being sure to place them on an exclusive layer.

Output your form. Proof the number entries and keep your final proof as your master to show where each data position is and its number. You are finished with data position mapping and your form is ready to use. Next, we get the program to recognize those DATA POSITION NUMBERS you placed in your form.

.

Figure 9-1: Merge Form with 4 Data Positions

Step 3: Running the Program FORMPOS

To get the composition system to recognize the DATA POSITIONS do the following:

1) Go to [Project], and select {Batch and More}, {FormPos}:

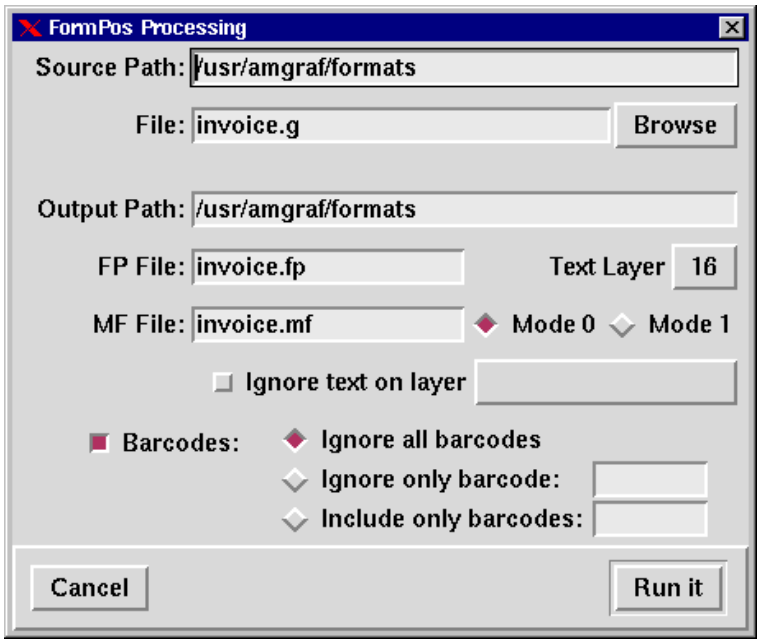


Figure 9-2: MECCA 2000 FormPos Dialog

2) Use the [**Browse]** to locate the ".g" file, or you can type it in fully pathed.

3) Enter the layer number that the text form positions are on: **16.**
The system will give you a default name for the ".fp" and ".mf" files.

4) After you have entered all information needed, click the **[Run it]** button.

This process will copy the graphic file into two files: form positions and merged form graphic . The first file is the **formname.fp** file which contains all form positions in X and Y coordinates. Use this as the \MFORM's **POSFIL= formname.fp** option. The second file is your merged form (.mf), use this name in your \MFORM's **DWGFIL=formname.mf** option. This is the static graphic portion of the form.

The FormPos Processing dialog has additional options: *FP Mode* is 0 or 1, default is 0. Mode 1 refers to reading a column as Line Leading instead of Mark Left; and reading a column as a Measure instead of Mark Right. If Line Leading is being read, the \NL^ command can be used in the data file.

The dialog has options for *Ignore Text on a Layer*, and *Ignore Barcodes, etc*. The Barcode field is the Barcode Index number to be ignored or included.

The **formname.fp** file holds the data position numbers with their text attributes and X/Y positioning coordinates. It also designates the true drawing dimensions for the MFORM. It is an ASCII text file with the numbers meaning the following:

GRAPHIC SIZE: LL=LOWER LEFT
UR=UPPER RIGHT

COORDINATES AND MEASURE ARE IN HUNDREDTHS OF POINTS. HSIZE, VSIZE AND LEADING ARE IN TENTHS. ROTATION IS IN TENTHS OF A DEGREE.

POS#	LLX	LLY	URX	URY	MODE SWITCH
0	0	0	61455	79530	0

0 or BLANK=ML-MR
1=LEAD-MEAS.

POS#	X	Y	CM	FONT	STYLE	HSIZE	VSIZE	ML or LEAD	MR or MEASURE	ROTATION	LTR SPACE
1	5927	72917	1	ge	b	100.000	100.000	110	24000	0	0.00
2	5927	71656	1	ge	n	100.000	100.000	110	24000	0	0.00
3	5927	70395	1	ge	n	100.000	100.000	110	24000	0	0.00
4	5927	69134	1	ge	n	100.000	100.000	110	24000	0	0.00

1=FL 5=FLC
2=CE 6=FRC
3=FR

ML: MEASURE LEFT
MR: MEASURE RIGHT

(0-3600) (LNOM)

Figure 9-3: A Look at the ASCII Form Position File (.fp)

Step 4: Using a FORMAT File

A merge form is printed onto a page using the Batch Compose Output option. This requires that you have the regular setups for page size and columns. A format file normally holds those commands along with any other setups needed. Our format file is named **formname.pfmt.** It also holds the special \MFORM command which actually merges the ".fp" and ".mf" files back together during printing.

For the INVOICE FORM sample we have the following format file:

invoice.pfmt File

```
\* Output Device \*
\LASER

\* Page Definition \*
\PDEF WIDTH=8.5i DEPTH=11i LM=0 RM=0 DUPLEX=N \END

\* Column Definition \*
\COLX1 LM=0 RM=8.5i BOT=0 TOP=11i \END
\CD 1 \END

\* Merge Form Command \*
\MFORM DWGFIL=invoice.mf POSFIL=invoice.fp XPOS=0 YPOS=11i
KEY=INV NBYT=4 DBYT=7 ORN=0 \END
```

Step 5: Creating the Text File

Create a text file which has in it the following items:

1) A FORMAT command (\PFMT) calling up the format file, (or all of the setup commands internally).

2) The KEY NAME with the DATA POSITION NUMBERS followed by the variable information.

3) An \EFORM command showing that the TEXT Item has ended.

Note: Whether variable merge text is desired or applicable, the \EFORM command must be given to end the MFORM command.

invoice.txt File

```
\PFMT invoice.pfmt \END
INV01 NEW COMPANY, INC.
INV02 Suite 900
INV03 1000 Anywhere Lane
INV04 Anywhere, USA 99199
\EFORM
```

The Five Files Used

- **invoice.g -** Graphic, original form with both constant information and data positions
- **invoice.fp -** Data Position coordinates and text attributes
- **invoice.mf -** The graphic constant portion split from the data positions
- **invoice.pfmt -** Page/Column size with MFORM Setup command
- **invoice.txt -** Text file holding variable information

Notes: If you make changes to the graphic file ".g" you will need to rerun the FORMPOS program and generate new ".fp" and ".mf" files.

You can bypass the ".pfmt" and place all coding within the ".txt" file, but using a format helps keep coding away from data entry.

Outputting Merged Forms

Compose the Text File (.txt) by using the Batch Compose output options. If the file is composed to a preview or a graphic the data position entries will be placed on layer 16 by default. They can be specified otherwise through an immediate command.

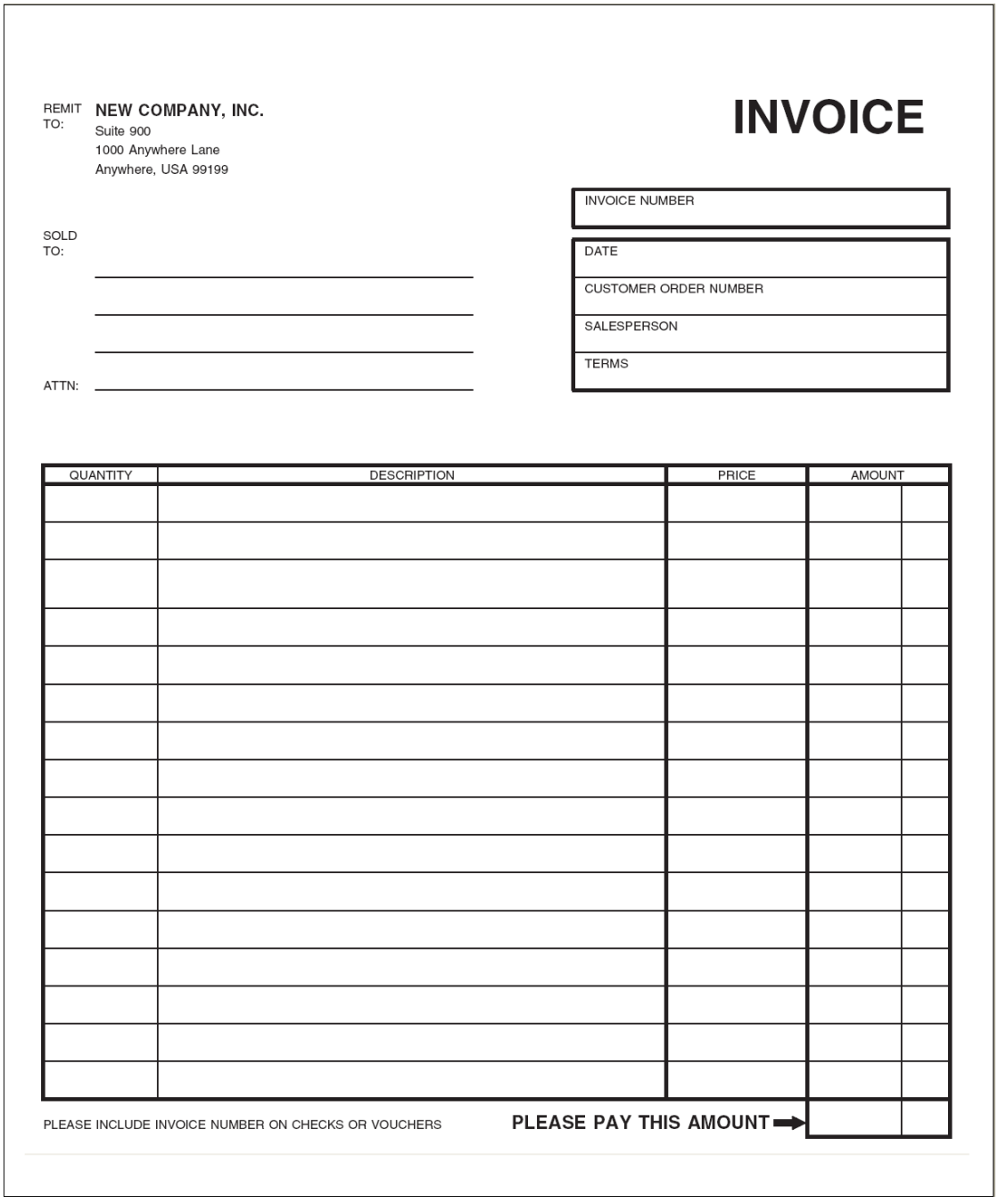


Figure 9-4: Sample of Output

MERGE FORM \MFORM

Purpose:

This command allows the user to merge information into a standard form previously drawn and stored. It is useful where the form does not change, but the data inside of the form needs constant revisions. This command picks up a drawing, positions it on a page, and merges in text from a text file into the form, in the correct positions.

For those PostScript printers which have a direct rip connection (does not make an interim bitmap file), high speed variable imaging is available. Through the TYP=SAVE argument in MFORM, you can save a ripped image into the printer's memory and then send the variable data, outputting both. This technique has faster output time since the constant data is ripped only once. *See High Speed Variable Imaging.*

Format:

\MFORM *string* \END

Arguments:

string

DWGFIL = aa	".mf" File to be Merged
POSFIL = aa	".fp" Position File to be Merged
NBYT = n	Position Number Starting Location
DBYT = n	Variable Data Starting Location

(Optional Arguments)

POS = aa	Position Type
XPOS = unit	X Position of Form
YPOS = unit	Y Position of Form
WIDTH = unit	Width of Form
DEPTH = unit	Depth of Form
KEY = aa	Data Key Recognized
ORN = degrees	Rotation of Page
TYP = aa	Merge Form Base Drawing Type
COPY=aa	Merge Form Flash Type
CLIP=dx,dy,w,d	Clip the Merged Form

Remarks:

DWGFIL = Input the name of the *merge form* file. Running FORMPOS splits the original graphic into two pieces. This is the static graphic portion of the original, which FORMPOS gives it the extension ".mf".

POSFIL = Running FORMPOS splits the original graphic into two pieces. This is the data field position numbers with coordinates and text attributes. This is an

ASCII file which FORMPOS gives an extension of ".fp". Input the name of the *form position* file.

NBYT = Number Byte Location is the starting character number that the DATA POSITION NUMBER is seen. For example:

```
1234567890                    1234567890
01                            INV01
02                            INV02
Starting at character         Starting at character
position 1.                   position 4.
```

DBYT = Data Byte Location is the starting column number that the VARIABLE DATA is seen. For example:

```
12345678901234567890123456
INV01 NEW COMPANY, INC.
INV02 Suite 900
INV03 1000 Anywhere Lane
INV04 Anywhere, USA 99199
```

Counting over past the KEY NAME and POSITION NUMBER, the VARIABLE DATA starts at column 7, so DBYT=7. Start reading variable data in character position 7.

POS = is the type of positioning requested during pagination.

IM = Immediately typeset the drawing.

FL = Float as closely to current position as possible.

FIXED = place the Figure on the X and Y coordinates specified by the XPOS and YPOS arguments.

XPOS = is the position of the *upper left corner* of the drawing in relation to the left edge of the trimmed page. Necessary when using POS=FIXED.

YPOS = is the position of the *upper left corner* of the drawing in relation to the bottom edge of the trimmed page. Necessary when using POS=FIXED.

WIDTH= indicates the merged form area width (similar to FIGURE), and will cause dimensional values marked in the first line of the .fp file to be ignored.

DEPTH= indicates the merged form area depth (similar to FIGURE), and will cause dimensional values marked in the first line of the .fp file to be ignored.

KEY = Key names are not necessary. Key Names are used as identifiers for text files. At a glance you can tell what merged form the text file was input for, such as invoice shortened to INV, or use the word QUOTE. INV was the KEY used in the *invoice.txt* sample.

ORN = This parameter allows the user to rotate the form. The allowed rotations are 0, 90, 180, and 270. Example: *ORN=90* will rotate the merged form counter-clockwise 90 degrees. The default is 0.

TYP = TYP is used to describe the type of base drawing file being merged if not a MECCA graphic. The default TYP is a MECCA GRAPHIC file, NOT SAVED in the rip virtual memory. Only use this option of that is not the case:

EPSF = is directing the system that the merged file is not a graphic but is an Encapsulated PostScript File, specifically a "MECCA Included EPSF".

NJPEG = is a Native JPEG image. For more information see the FIGURE command.

TIFF = TIFF Format

COPY = This controls what to do with the file during ripping. Using a copy is directing the rip to store the image for high speed variable imaging. A check is taking place: if the file has not been saved rip the image, if the file has been previously saved, do not rip the image.

SAVE = Using a COPY=SAVE is directing the rip to store the image for high speed variable imaging. You would SAVE only the first time the file is being called. The COPY =SAVE rips the DWGFIL being called, and prints the variable text in black.

FLASH = is reimaging the last image sent. It will reuse the saved form with its variable data printing in white and print the variable image for these data points in black.

LAST = For the system to know to stop using the SAVE image. LAST will need to be used for the last image in a High Speed Variable Image file. It will print the last form and remove the SAVE information from the rip.

Note: When using COPY, the printing messages will always be "Printing Page 1", regardless of how many pages.

CLIP = Specifies a clipping box (e.g. CLIP=36p,36p,3i,1.5i). This string contains comma-separated values (no space character permitted). The first two values specify a dimension X and Y offset for the clipping box, from the upper-left corner of the MFORM image. (Positive DX value moves right, Positive DY values move down.) The next two values are the WIDTH an DEPTH of the clipping box. **Note:** If no offset is needed for the clipping box, you can input two values (e.g. CLIP=3.5i,2i). It is specifying the WIDTH and DEPTH of clipping box, whose upper-left corner is the anchor.

Clipping honors rotation, but when figuring out the clipping area offset and size think of it as a non-rotated image. It will apply the rotation orientation to your values and rotate around the upper-left corner of the MFORM image.

Example:

```
\MFORM DWGFIL=letter.mf POSFIL=letter.fp TYP=EPSF COPY=SAVE
POS=FIX XPOS=0 YPOS=11i KEY=$ NBYT=2 DBYT=6 ORN=0 \END
```

END MERGE FORM \EFORM

Purpose:

The merged form command must be stopped with a \EFORM command before entering into another Text Item command such as a paragraph. This command is also used to end the PSFORM and MBARCODE commands.

Format:

\EFORM

Arguments:

None

Example:

```
\MFORM DWGFIL=invoice.mf POSFIL=invoice.fp POS=FIXED XPOS=0
YPOS=11i KEY=INV NBYT=4 DBYT=7 \END
INV01 NEW COMPANY, INC.
INV02 Suite 900
INV03 1000 Anywhere Lane
INV04 Anywhere, USA 99199
\EFORM
```

Remarks:

Using merge forms utilizes all parts of the system. Graphics, Format Files, Data Files, Data Positions, etc. Familiarize yourself with each part of the system before attempting.

With this example the MFORM command is the last element in the *invoice.pfmt* file.

```
\PFMT invoice.pfmt \END
INV01 NEW COMPANY, INC.
INV02 Suite 900
INV03 1000 Anywhere Lane
INV04 Anywhere, USA 99199
\EFORM
```

Whether variable merge text is desired or applicable, the \EFORM command must be given to end the MFORM command.

```
\MFORM DWGFIL=box.mf POSFIL=box.fp POS=FIXED XPOS=0 YPOS=11i \END
\EFORM
```

High Speed Variable Imaging with MFORM

Following text file is an example of high speed variable imaging. This file can be found in */usr/amgraf/formats/mergeltr.txt.*

Using a merge form requires that you have page and column definition setups previously defined.

```
\* High Speed Variable Imaging\*
\* Output Device\*
\LASER

\* Page Definition\*
\PDEF WIDTH=8.5i DEPTH=11i LM=0 RM=0 DUPLEX=N CUTS=N\END

\* Column Definition\*
\COLX1 LM=0 RM=8.5i BOT=0 TOP=11i\END
\CD 1 \END
```

Notice that the very first merge form has a COPY=SAVE. This is ripping the DWGFIL specified to virtual memory, this one time. It is then ripping the variable data in Black.

```
\* 1st Page Merge Form with SAVE\*
\MFORM DWGFIL=mergeltr.mf POSFIL=mergeltr.fp COPY=SAVE
KEY=$ NBYT=2 DBYT=6 POS=FIXED XPOS=0 YPOS=11i\END
$001 Mary Marlow
$002 Kansas Central Life
$003 PO Box 8474
$004 Maryland, PA  78350
$005 132-305-0600
$006 FAX 154-377-4651
$007 *000261-056*
$008 000261-056
$009 Mary Marlow,
$010 |783505|
\EFORM
```

COPY=FLASH is causing only the variable data to be ripped.

```
\* 2nd Page Merge Form with FLASH\*
\MFORM COPY=FLASH \END
$001 Steven Grassly
$002 Continuous Business Forms
$003 416 Greenview Street
$004 Rainville, MA  78440
$005 393-040-7395
$006 FAX 134-934-3452
$007 *000642-046*
$008 000642-046
$009 Steven Grassly,
$010 |784404|
\EFORM
```

COPY=LAST is used to end the variable data imaging after the last page and cause the rip to remove the saved information from the rip.

```
\* 3rd and Last Page Merge Form with LAST\*
\MFORM COPY=LAST \END
$001 Debra W. Bradley
$002 Startright Business Services
$003 1444 College Blvd.
$004 Boston, MA  79000
$005 248-425-0657
$006 FAX 339-045-7414
$007 *000673-067*
$008 000673-067
$009 Debra W. Bradley,
$010 |790000|
\EFORM
```

Figure 9-5: High Speed Example Text

Outputting the File

The variable imaging text file is output with the batch compose options: [Project], [Batch and More], **[Batch Compose]** or the **bcompose** command.

Note: It will always run the entire file. It will print all pages regardless of the numbers put in the *Pages* fields. In actuality the program is printing one page with multiple entries, it does not see pages.

Also, it is suggested that each page in your format file have a comment denoting what the entry number is, similar to the comments shown in our *mergeltr.txt* file. These comments help you to locate an entry later in very large files.

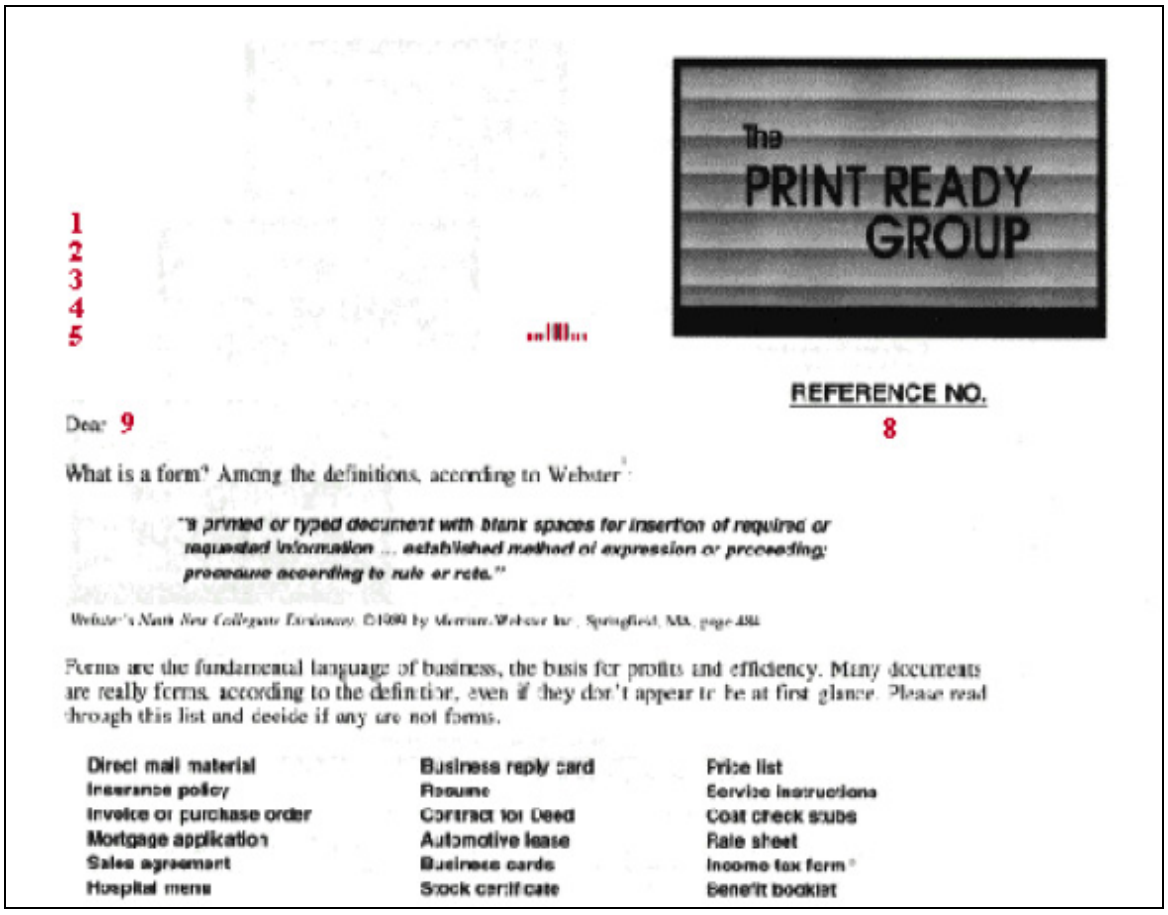


Figure 9-6: Graphic File Showing Data Positions

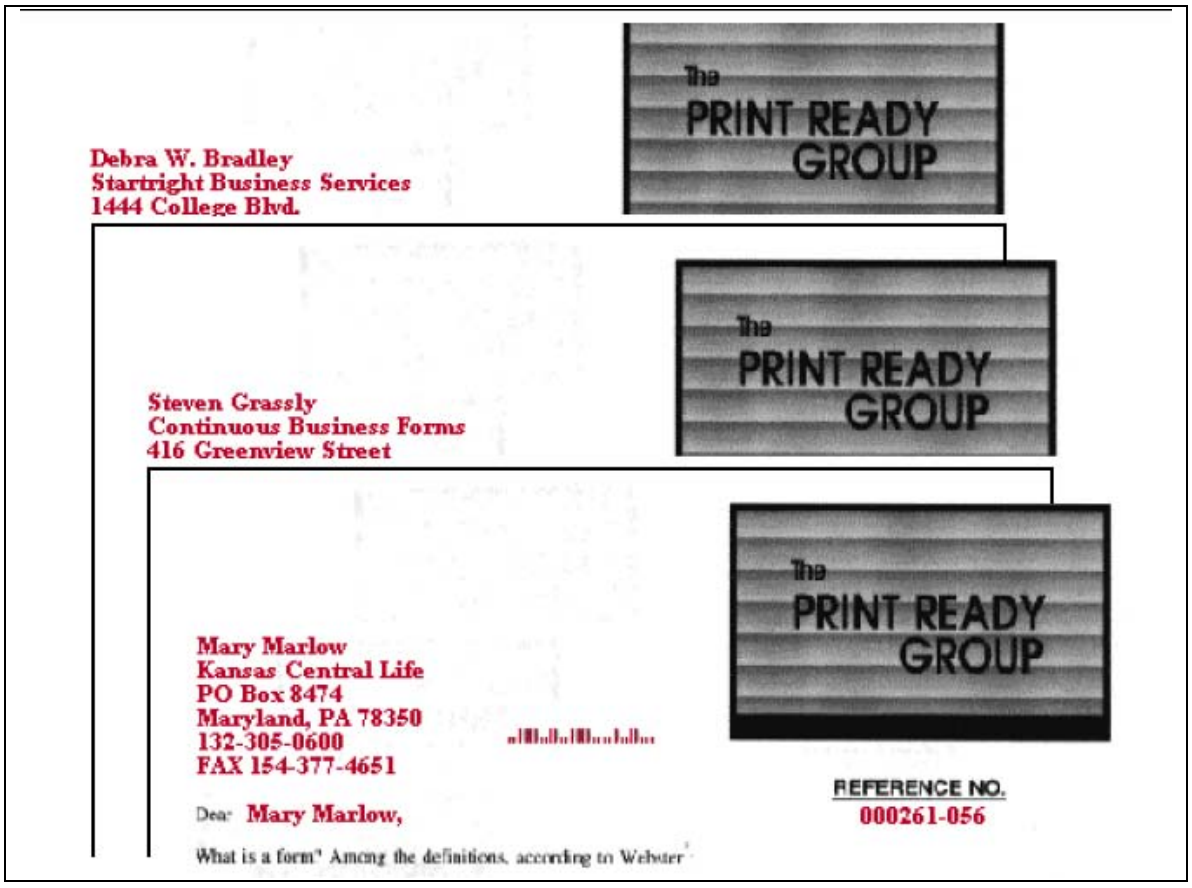


Figure 9-7: Example Output of Three Pages

MERGE BARCODE \MBARCODE

Purpose:

This command makes placing a barcode via batch composition possible. It works similar to merge form.

Format:

\MBARCODE *string* \END

Arguments:

string

DWGFIL = aa	".g" Template File to be Used

(Optional Arguments)

XPOS = unit	X Position of Form
YPOS = unit	Y Position of Form
FORMX = unit	X Relative Position from .g (Template)
FORMY = unit	*Y* Relative Position from .g (Template)
INDEX = n	Barcode to use
CODE = aa	actual barcode data/digits

Remarks:

First create barcode in MECCA 2000 and save it to a .g file to be used as a template.

In the text file, through the MBARCODE command, indicate the graphic template file name via *DWGFIL* and set the actual barcode data/digits via the *CODE* option.

The *FORMX/FORMY* options are for use with the Merge Form applications. If given, it places the Upper Left corner of the template drawing, so that the template barcodes within it, will provide the relative barcode position . When F*ORMX/FORMY* are used, the *XPOS/YPOS* options should not be used.

All attributes of the template barcode will be used, the replacement code data computed, and the barcode placed at the desired location on the page given by *XPOS/YPOS* in the *BARCODE* command.

The *INDEX* option names the number of the barcode in the referenced template file (# starts from one). Default is the first barcode found in the referenced drawing file.

When positioning using *XPOS* and *YPOS* for placement, measure using the "lower-left" corner of the first black bar in the barcode.

All keywords except *DWGFIL* are optional, if no *CODE* is input the template barcode will be output as is. If no *XPOS/YPOS* is input the template barcode's original position will be used.

The data for *CODE* is the normal barcode string that's input as in interactive MECCA under barcode creation. As explained above, all attributes of the barcode item in the referenced file will be used, including start/stop options etc., so the code data here must be consistent with the corresponding template barcode. Also, there is no error checking for the code data provided via *CODE* here.

There is no 2D barcode support at this time.

MERGE POSTSCRIPT FORM \PSFORM

Purpose:

Similar to the MFORM command, but this command results in the drawing content to be made into a repeatable Form in PostScript, which can then be placed any number of times, on any page. Unlike MFORM, this command does not cause a new page. The arguments are described under MFORM.

Format:

\PSFORM *string* \END

Arguments:

string

DWGFIL = aa	".mf" File to be Merged
POSFIL = aa	".fp" Position File to be Merged
NBYT = n	Position Number Starting Location
DBYT = n	Variable Data Starting Location

(Optional Arguments)

POS = aa	Position Type
XPOS = unit	X Position of Form
YPOS = unit	Y Position of Form
KEY = aa	Data Key Recognized
TYP = aa	Merge Form Base Drawing Type
COPY=aa	Merge Form Flash Type

Example:

First, create the Repeatable PostScript Form using the COPY= SAVE:

```
\PSFORM DWGFIL=dwg.mf POSFIL=dwg.fp COPY=SAVE \END
\EFORM
```

Then, place it at desired location on the "current page":

```
\PSFORM DWGFIL=dwg.mf POS=FIXED XPOS=1i YPOS=9i COPY=FLASH \END
\EFORM
```

The *COPY=LAST* option causes it to be placed one last time and then removed from memory list.

```
\PSFORM DWGFIL=dwg.mf POS=FIXED XPOS=1i YPOS=9i COPY=LAST \END
\EFORM
```

If there is variable text data to go with a PSFORM, add the appropriate keywords and data, in the same manner as with MFORM command.

```
\PSFORM DWGFIL=dwg.mf POS=FIXED XPOS=1i YPOS=9i COPY=FLASH \END
INV01 NEW COMPANY, INC.
INV02 Suite 900
INV03 1000 Anywhere Lane
INV04 Anywhere, USA 99199
\EFORM
```

Remarks:

The *TYP* option can be used to "stamp" JPEG or TIFF format raster images for multiple appearance. As with the MFORM command, if *TYP* is not specified, the named file is assumed to be a MECCA graphic or .mf . PSFORM only supports JPEG, TIFF and MECCA graphic file formats.

Regardless whether variable merge text is desired or applicable, the \EFORM command must be given to end the PSFORM command.

If the external drawing file contains raster image(s) such as a logo, the output device MUST support level-3 PostScript, else the repeating will not work.

On repeating *COPY = FLASH*, the *POSFIL* option need not be given again.

The \PSFORM command is not supported by preview, composing to preview file from a mark-up file that includes the \PSFORM command, will result in no appearance of the referenced drawing file content.

PSFORM does not have a rotate via *ORN* option. It is not supported.

Chapter 10: Automatic Paragraph Mark-up

Automatic paragraph mark-up lets the batch compose program determine what each paragraph type is by its position on the screen.

Batch composition converts your file consisting of Text Items (headings, paragraphs, tables, etc.) into typeset artwork. The composition system automatically defines all Text Items as paragraphs if they are not marked otherwise.

Each string of text or strings of text (paragraphs) are identified by its PARAGRAPH Text Item command **(\P1, \P2, etc.)**. When NO paragraph command is used, the composition system dictates the paragraph type (the **\P** number) by the location of the first character in the first line of the paragraph.

The system counts blank character spaces at the beginning of the line, and depending on the number of blanks, composes the paragraph as a **\P1** or **\P2,** etc. Default starting character positions: 1 thru 3 are **\P1's,** 4 thru 7 are **\P2's,** 8 thru 12 are **\P3's,** and 13 thru 17 are **\P4's** etc. The format file still dictates how each paragraph type will look as set up by your PARAGRAPH Setup command **(\PXn).**

Automatic Paragraph Mark-up is used to create outline-type material using many paragraph types without mark-up interfering with the legibility of the text data file. Paragraphs 1 through 9 are designated as not enumerated, and paragraphs 11 through 19 as enumerated.

When using automatic paragraph mark-up it is not necessary to use the tab key, or to space over each line in the paragraph. The system only checks for the first line of a paragraphs starting position and surrounding blank lines.

As an example, the following paragraphs are identical, except for the tab position of the first line of each. You can use your tab key or space bar, whichever is more convenient.

Example of Indented Paragraphs

Now is the time for all good men to come to the aid of their country. Line one of this paragraph starts in tab position 1. The composition system has recognized this text item as a **\P1.**

> Now is the time for all good men to come to the aid of their country. Line one of this paragraph starts in tab position 5. The composition system has recognized this text item as a **\P2.**

Now is the time for all good men to come to the aid of their country. Line one of this paragraph starts in tab position 10. The composition system has recognized this text item as a **\P3.**

Enumerated paragraphs, or indented paragraphs with a number, word or other item in the left margin, are similarly handled. The difference is that the enumeration must be separated by at least 2 spaces from the start of the paragraph, and that both the enumeration and the paragraph text must move to new tabs to change the indent value.

Using the sample paragraphs from above, an enumeration will be added to each of them by inserting a number and spaces at the front of the first line.

Example of Enumerated Paragraphs

A. Now is the time for all good men to come to the aid of their country. The enumeration starts in tab position 1, the paragraph text starts in tab position 5. The composition system has recognized this text item as a **\P11.**

1. Now is the time for all good men to come to the aid of their country. The enumeration starts in tab position 5, the paragraph text starts in tab position 10. The composition system has recognized this text item as a **\P12.**

a. Now is the time for all good men to come to the aid of their country. The enumeration starts in tab position 10, the paragraph text starts in tab position 15. The composition system has recognized this text item as a **\P13.**

The technique of composing indents based on tab position makes paragraph input natural, and increases the readability of the data file.

If you are not sure how the system is reading your paragraphs, compose your file using the "PaginationDebug" option. Type in **"99"** next to "PaginationDebug" and press **[Enter].** This will create a file called "CMP_COMPOSE". You can edit this file and look at the paragraph mark-up in place. This shows you what paragraph types the system is reading. To exit out of the debug mode, go back into the compose menu and type in **"00"** next to "PaginationDebug" and press **[Enter].** Also, after you have finished looking at the CMP_COMPOSE file be sure to delete it.

Environment Variable

If by chance you need to have the composer look at a different *default.fmc* file instead of the one in */usr/bin/amgraf,* you may set the environment variable **M_FMC.**

Syntax:

M_FMC=(path)/filename.fmc
export M_FMC

Changing the Defaults for Automatic Mark-up

There is a file located in */usr/bin/amgraf* that controls how many spaces the program is to read for each paragraph type. To edit the file you must be a **superuser.** The name of the file is *default.fmc.* Go to line number 114 in the file and you will see the table on the following page:

```
FORMAT TABLE:
* LINE1 POS   LINE2 POS    ENUM    P-NUMBER
*
    1-3          1-3        0          1
    1-3          1-3        1         11
    4-7          4-7        0          2
    4-7          4-7        1         12
    8-12         8-12       0          3
    8-12         8-12       1         13
    13-17        13-17      0          4
    13-17        13-17      1         14
    18-22        18-22      0          5
    18-22        18-22      1         15
    23-27        23-27      0          6
    23-27        23-27      1         16
    28-32        28-32      0          7
    28-32        28-32      1         17
    33-37        33-37      0          8
    33-37        33-37      1         18
```

Edit the column for LINE1 POS and LINE2 POS, making them the same. For example if you wanted to change the automatic mark-up to have \P2's start at character position number 5 and \P3's start at 10, etc. your file would look like the following:

```
FORMAT TABLE:
* LINE1 POS   LINE2 POS    ENUM    P-NUMBER
*
    1-4          1-4        0          1
    1-4          1-4        1         11
    5-9          5-9        0          2
    5-9          5-9        1         12
    10-14        10-14      0          3
    10-14        10-14      1         13
    15-19        15-19      0          4
    15-19        15-19      1         14
    20-24        20-24      0          5
    20-24        20-24      1         15
    25-29        25-29      0          6
    25-29        25-29      1         16
    30-34        30-34      0          7
    30-34        30-34      1         17
    35-39        35-39      0          8
    35-39        35-39      1         18
```

The column labeled “ENUM” states whether that paragraph type is enumerated or not, 0=no and 1=yes.

The column labeled “P-NUMBER” states what paragraph type those character positions will cause.

Be sure to save your changes and return to a normal user before going on and composing any files.

Chapter 11: How Do I …

Here is a list of the most often asked questions concerning batch composition. Most of them are questions concerning how to approach certain types of designs.

For most questions the answer lies in knowing where to look for the answer, so here you will be referred to the proper command or section in the manuals.

Q: How do I markup a "Large Initial Cap" Paragraph?
A: This is accomplished with the Immediate command **\PSZ (Point Size).**

Q: How do I markup a "Large Drop Cap" Paragraph?
A: Through the Paragraph Setup command you can design a drop cap. It will require all parameters, including the enumeration and line indenting.

Q: Can I specify a first line indent for a Paragraph?
A: The \PX (Paragraph) Setup command has indent first line arguments. This is an advantage to the immediate commands, because it effects all paragraphs of that style without extra keystrokes.

There are several immediate commands for spacing: You can also use the @>M (Em-Space) command, ~ (Tilde) command or the \HSA (Horizontal Space) command.

Q: I cannot find an open box in the special characters listing. Is there anything I can do?
A: Yes, you have two options. The Geneva font has a closed box in position number \220^. Outline that character for an open box. Example: \OL^\220^\XOL^ will produce an open box.

Q: Is there a limit to how much a paragraph can hold?
A: Yes. A paragraph has a limit of approximately 4000 bytes. This is approximately 50 full lines in the text editor. If you have a paragraph that has exceeded the limit, the compose program will stop at that point.
Also as a rough estimate, for each immediate command used subtract one line. So, if you have five immediate commands in each line, your paragraph cannot exceed 10 lines.

Q: I need to produce material which is in the "outline" format. How can I get my paragraphs to indent after the "A.".

A: We call this type of paragraph, "enumerated". Look at the \PX (Paragraph) Setup command under enumerated paragraphs. Also there is a format in */usr/amgraf/formats* which demonstrates this type of material extremely well - the *5x8mbody.pfmt* and *.data* files.

Q: I need to produce material which is in the "outline" format, but would like a quick way to do this in the graphics program.

A: We call this type of paragraph, "enumerated". It will need an Immediate command to get first line of the paragraph to indent after the enumeration.
Example: A.\HSPA 24p^This is an example of an enumerated paragraph.

Then use the [Indents] button under [Text] to get the second line and all lines following to indent 24-points. Set Indent Values would be Set Indent Line 1=0, Set Indent Line 2=24p, Set No. Lines Ind.=0.

Q: How can I do a name/address listing without the addresses breaking across columns and pages?

A: Surround the name/address material with a BLOCK command. Look at the example of a running block used to "keep items together."

Q: How can I output Small Caps without a special font?

A: For a once in a while feature, the immediate commands allow you to produce special effects. For small caps, reduce the point size two points.
Example: \PSZ 9p^S\PSZ 7p^MALL \PSZ 9p^C\PSZ 7p^APS

Q: How to get the curled quote effect without using special characters.

A: To get open end and closed curled quotes press the single quote keys twice.

Q: How do you figure out point size to use if you only have the cap height of a font?

A: If you just want to get close, standard fonts have a cap height of 72% of the point size. So if its cap height is 10-point, it is probably a 14-point character. (10 / .72 = 13.8)

Now, if you need to be exact, set an "M" in 10-point in the font and style needed. Measure the cap height. Then use the following formula:

10 x Cap Height Wanted / Measured Cap Height of 10-point = Point Size Needed

Chapter 12: Using "Canned" Formats

The following two chapters are a hardcopy of the formats and data files that exist on your system in the directories */usr/amgraf/formats* and *tables.* The "canned" formats range from a simple business card to a complete technical reference manual - from the cover to the glossary.

Using the existing formats allows you to get started in pagination right away by copying a format and customizing it to your liking. If you want, you can use a "canned" format just the way it is, by placing the "canned" format name at the top of your text file, and composing. For ease, you can even copy over the data file and type over the existing text with your own. This way you can be sure the paragraph and header markup is correct.

To use a format as is, you would input the path and format name at the top of your text file, i.e., *\PFMT /usr/amgraf/formats/employee.pfmt \END*

This would tell the system when you are composing your text file that your format is located in the login *amgraf* and that it is found in the *formats* directory under the name *employee.pfmt.*

Copying a File From the *Formats* Directory

To copy a format file (.pfmt) or a text data file (.data) that exists in the *formats* directory, just locate the file and highlight it. Press the right mouse button and select **Copy, Move.** Give it a new path location and new name.

Modifying the Data File

To edit your new file just locate it and double-click. It will open the NEDIT text editor and you are ready to make your edits.

As you can see, the format name is at the top, but it does not specify the path, so you have two options: 1) copy over the format file also, or 2) type in the path to the formats directory as shown on the previous page. **The system only looks in the current directory for a format file, unless told otherwise.**

Change the text to say what you want, but do not type over the Text Item commands themselves. All text items must be marked for the system to recognize it. The chapter headers and subheads can be input wherever you need them, just be sure to use the \HD1 and \HD2 in front of the text.

For the paragraphs, most formats have several different styles. Look them over, and use the right callouts for the style you are trying to get. Type in your text, save your text, and then Batch Compose.

Composing Your New File

Be sure to compose the *.data* file. The *.pfmt* file will not compose.

You can either batch straight to a printer or to the graphics screen.

- **Print with Batch Composition**
- **Batching to a Graphic File**

Using Immediate Commands

Using your immediate commands will give you variety without having to know batch composition like an expert. Spend a little time looking at *Immediate Commands,* it will be worth your while. You can then change styles, point size, or use special characters in your text file to give it that custom look.

Looking at the Units of Measure

Units of measure in the format files are designated by using mnemonics. They are listed below:

```
a =  picas
d =  decipoint (tenth of point)
p =  points
i =  inches
```

Chapter 13: "Canned" Page Formats

The following examples of the formats and data files that exist on your system the the directory */usr/amgraf/formats.* The "canned" formats range from a simple business card to a complete technical reference manual - from cover to glossary.

Using the exisiting formats allows you to get started in pagination right away by copying a format and customizing it to your liking. if you want, you can use a "canned" format just the way it is, by placing the "canned" format name at the top of your text file, and composing. For ease, you can even copy over the data file and type over the existing text with your own. This way you can be sure the paragraph and header markup is correct.

5x8cover.pfmt

```
\* Format for 5 1/2 X 8 1/2 Style Book Cover \*

\* Output Device \*
\LASER

\* Page Definition \*
\PDEF WIDTH=5.5i DEPTH=8.5i LM=3.5a RM=3.5a DUPLEX=N \END

\* Column Definition \*
\COLX1 LM=0 RM=26a BOT=1i TOP=7.25i LB=0 \END  \* Full Page \*

\* Start Out In Full Page Mode \*
\CD 1 \END

\* Type Faces For Body Copy \*
\TXT1 FONT=GE STYLE=B HSIZE=36p VSIZE=36p LEAD=38p \END  \* P1-P2 \*
\TXT2 FONT=GE STYLE=N HSIZE=10p VSIZE=10p LEAD=16p \END  \* P3    \*
\TXT3 FONT=GE STYLE=B HSIZE=10p VSIZE=10p LEAD=14p \END  \* P4    \*

\* Paragraph Definitions \*
\PX1 TEXT=1 LM=0 RM=0 CM=FL LB=24p LA=0 \END  \* P1-Title \*

\PX2 TEXT=1 LM=0 RM=0 CM=FL LB=10p LA=0 \END  \* P2-Horizontal Rule \*

\PX3 TEXT=2 LM=0 RM=0 CM=FL LB=136p LA=0 \END  \* P3-Author \*

\PX4 TEXT=3 LM=0 RM=0 CM=FL LB=120p LA=0 \END  \* P4-Publisher \*

\* Underline Definition Percentages \*
\ULPOS -20
\ULSIZ 10

\* Prevent Hyphenation \*
\HYML 22
```

5x8cover.data

```
\PFMT 5x8cover.pfmt \END

\P1 Practical\NL^
Steps and\NL^
Methods\NL^
Book

\P2 \HR 26a,6p^

\P3 R. Von Ryan

\P4 RELAX PUBLISHING COMPANY, INC.\NL^
\I^A Penny-Hat Company\NL^
\N^Rest, Virginia
```

Printed Sample

Practical
Steps and
Methods
Book

R. Von Ryan

RELAX PUBLISHING COMPANY, INC.
A Penny-Hat Company
Rest, Virginia

5x8conts.pfmt

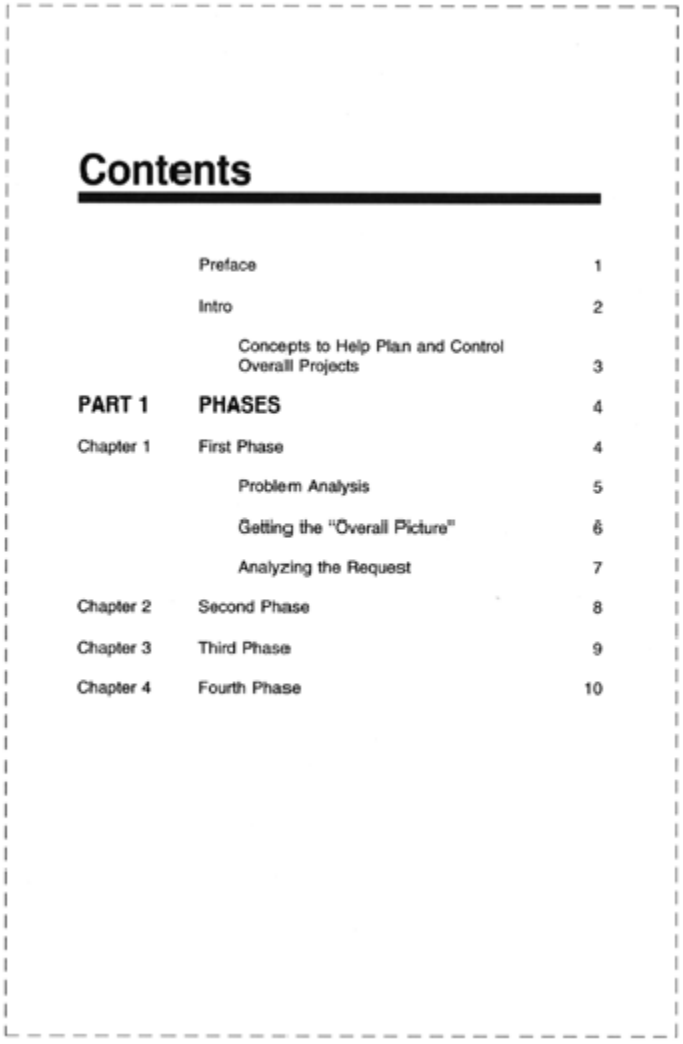
```
\* Output Device \*
\LASER

\* Page Definition \*
\PDEF WIDTH=5.5i DEPTH=8.5i LM=3.5a RM=3.5a DUPLEX=N \END

\* Column Definition \*
\COLX1 LM=0 RM=26a BOT=1i TOP=7.25i LB=0 \END  \* Full Page \*

\* St \* Format for 5 1/2 X 8 1/2 Style Book Contents \*
art Out In Full Page Mode \*
\CD 1 \END

\* Type Face For Headers \*
\TXT1 FONT=GE STYLE=B HSIZE=24p VSIZE=24p LEAD=24p \END  \* HD1, HD2 \*

\* Type Faces For Paragraphs \*
\TXT2 FONT=GE STYLE=N HSIZE=10p VSIZE=10p LEAD=12p \END  \* P1-P3, P11 \*
\TXT3 FONT=GE STYLE=B HSIZE=12p VSIZE=12p LEAD=14p \END  \* P12 \*

\* Header Definitions \*
\HDX1 TEXT=1 LM=0 RM=26a CM=FL LB=24p LA=0 \END   \* HD1 \*
\HDX2 TEXT=1 LM=0 RM=26a CM=FL LB=8p LA=20p \END  \* HD2 \*

\* Paragraph Definitions \*
\PX1 TEXT=2 LM=6a RM=23.5a CM=FL LB=24p LA=0 \END  \* P1 \*
\PX2 TEXT=2 LM=8a RM=23.5a CM=FL LB=24p LA=0 \END  \* P2 \*
\PX3 TEXT=2 LM=0 RM=26a CM=FR LB=0 LA=0 \END  \* P3-Page Number \*

\PX11 ETX=3 ELM=0 ERM=6a ECM=FL \END  \* P11-Enumeration \*
\PX11 TEXT=3 LM=6a RM=23.5a CM=FL LB=24p LA=0 \END  \* P11-Body \*

\PX12 ETX=2 ELM=0 ERM=6a ECM=FL \END  \* P12-Enumeration \*
\PX12 TEXT=2 LM=6a RM=23.5a CM=FL LB=24p LA=0 \END  \* P12-Body \*

\* Underline Definition Percentages \*
\ULPOS -20
\ULSIZ 10

\* Prevent Hyphenation \*
\HYML 22
```

5x8conts.data

```
\PFMT 5x8conts.pfmt \END

\HD1 Contents

\HD2 \HR 26a,6p^

\P1 Preface
\P3 1

\P1 Intro
\P3 2

\P2 Concepts to Help Plan and Control Overall Projects
\P3 3

\P11 PART 1 \END PHASES
\P3 4

\P12 Chapter 1 \END First Phase
\P3 4

\P2 Problem Analysis
```

```
\P3 5

\P2 Getting the "Overall Picture"
\P3 6

\P2 Analyzing the Request
\P3 7

\P12 Chapter 2 \END Second Phase
\P3 8

etc...
```

Printed Sample



Contents

5x8mbody.pfmt

```
\* Format for 5 1/2 X 8 1/2 Book Main Body \*

\* Output Device \*
\LASER

\* Page Definition \*
\PDEF WIDTH=5.5i DEPTH=8.5i LM=4a RM=3a DUPLEX=Y \END

\* Column Definition \*
\COLX1 LM=0 RM=26a BOT=1i TOP=7.25i LB=0 \END  \* Full Page \*

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\PHED1 First Phase
\PHED6 First Phase
\PFUT1 2-#P
\PFUT6 2-#P

\HD1 FIRST PHASE

\P1 This chapter instructs in detail the technique to be followed in
identifying each task within the First Phase to a structured system
development.

\P1 It is during the First Phase that apparent and actual problems
are identified: scope of the problem; alternative for possible solutions
to the problem and the effect proposed solutions have on personnel.

\HD2 A/ \END PROBLEM ANALYSIS

\P2 The purpose of the problem analysis is to establish a solid
foundation for problem definition by identifying the requestor and his
present and future needs. This initial task consists of two distinctive
steps: 1/ gaining an overall view or \I^"Overall Picture" \N^of the
organization and of the project, 2/ planning and writing the preliminary
assignment.

\HD3 1/ \END Getting the "Overall Picture"

\P3 To set up the system project so as to support the corporate
goals you have to have a clear understanding of the organization, and
of the department and its growth. In addition, you need to investigate

etc...
```
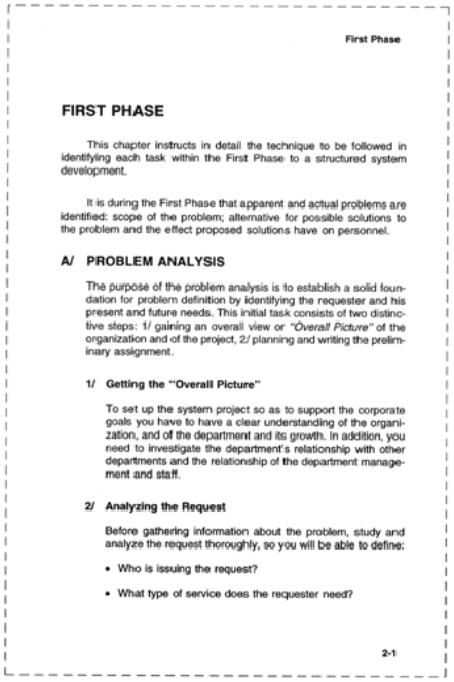

Printed Sample



First Phase

FIRST PHASE

This chapter instructs in detail the technique to be followed in identifying each task within the First Phase to a structured system development.

It is during the First Phase that apparent and actual problems are identified: scope of the problem; alternative for possible solutions to the problem and the effect proposed solutions have on personnel.

A/ PROBLEM ANALYSIS

The purpose of the problem analysis is to establish a solid foundation for problem definition by identifying the requester and his present and future needs. This initial task consists of two distinctive steps: 1/ gaining an overall view or *"Overall Picture"* of the organization and of the project, 2/ planning and writing the preliminary assignment.

1/ Getting the "Overall Picture"

To set up the system project so as to support the corporate goals you have to have a clear understanding of the organization, and of the department and its growth. In addition, you need to investigate the department's relationship with other departments and the relationship of the department management and staff.

2/ Analyzing the Request

Before gathering information about the problem, study and analyze the request thoroughly, so you will be able to define:

- Who is issuing the request?
- What type of service does the requester need?

2-1

5x8index.pfmt

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\HD2 \HR 26a,6p^

\HD3 A
\P1 Activity Figures, 28, 32 (Fig. 1-25), 40 (Fig. A-6)
\P1 Analyzing Phases
\P2 Controls, 39
\P2 Criteria, 112
\P2 Cross Referencing Material, 110
\P2 Filing Control Material, 50

\HD3 B
\P1 Backup Phases, 5
\P2 Analysis of Backup System, 6

\HD3 C
\P1 Clerical Duties
\P2 Analysis of Phases, 10
\P2 Analysis of Job Related Functions, 56
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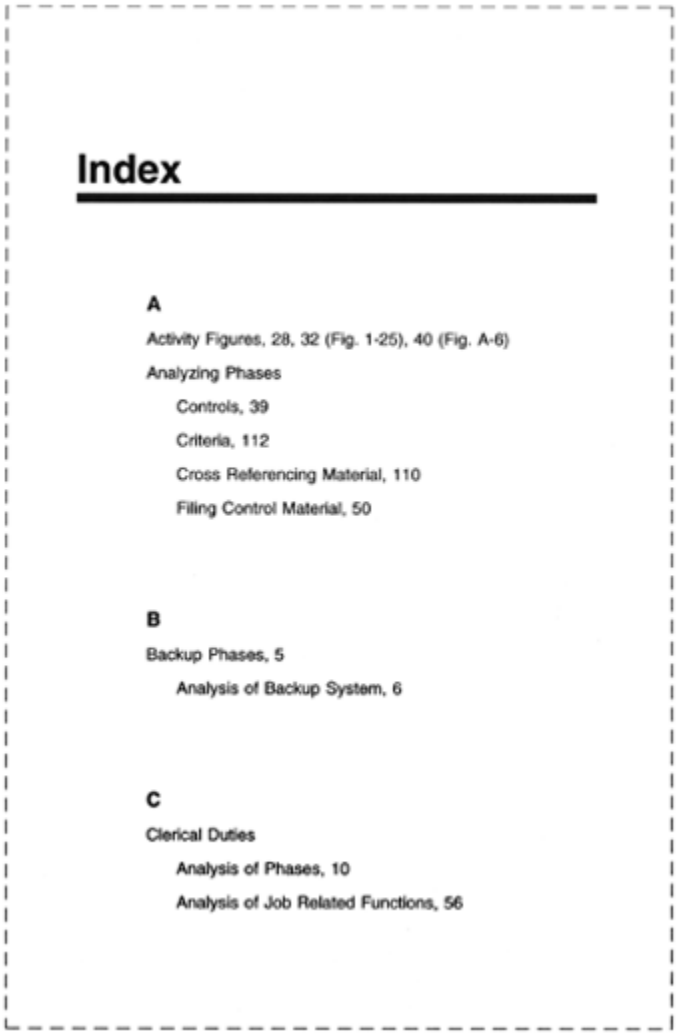

Index

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\HD1 portfolio\NL^ master

\HD2 8

\P1 REFERENCE GUIDE AND WORKBOOK FOR\NL^
THE PREPARATION AND PRESENTATION OF\NL^
YOUR PORTFOLIO\NL^
(OR HOW TO SELL YOURSELF)

\P2 GEORGE A. SMITH

\P3 Business Marketing Foundation

\P4 BOSTON\80^SAN FRANCISCO\80^NEW YORK\80^KANSAS CITY
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Printed Sample

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\HD1 TABLE OF CONTENTS

\P1 Introduction \FILL^4

\P1 Staff \FILL^7

\P1 Consultants \FILL^9

\P1 Special Articles

\P2 Language, Poise and Confidence

\P3 Leisa Louise \B^~\FILL^15

\P2 Understanding Your Natural Resources

\P3 Sam Tanner \B^~\FILL^28

\P3 Rich Dray \B^~\FILL^30

\P1 Guide to the Workbook \FILL^33

\P1 Biographical Entries \FILL^129
\P1 Accredited Schools \FILL^132
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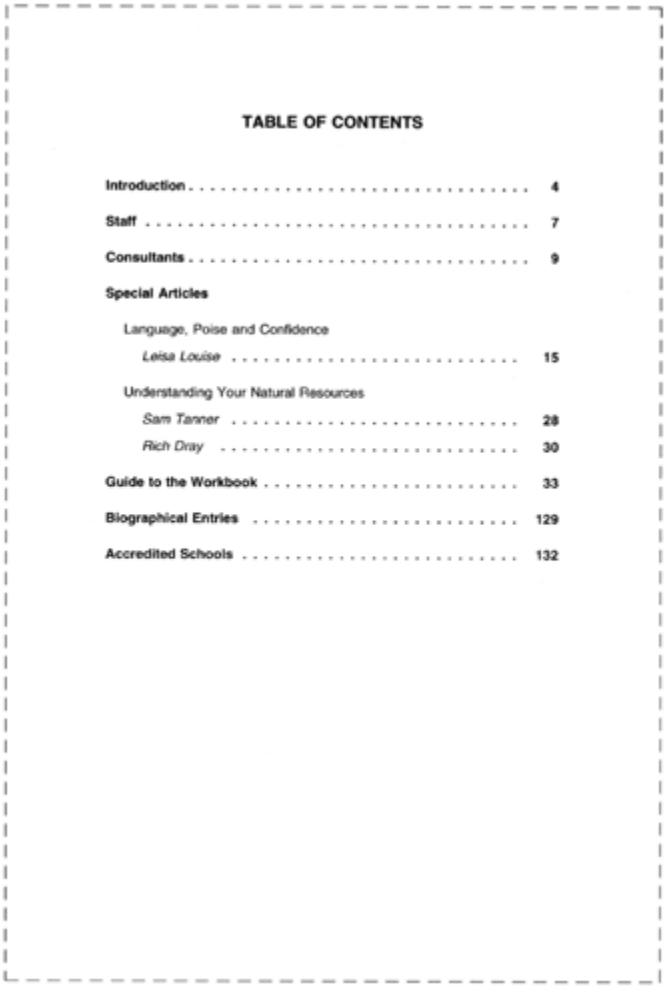

TABLE OF CONTENTS

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\HD1 LANGUAGE, POISE AND CONFIDENCE

\P1 Modeling is a profession that requires hard work, dedication,
stamina, discipline and an unbounded desire to succeed. If you feel you
have these qualities and are interested in achieving a career that offers
opportunity for travel, financial rewards and professional and personal
satisfaction, you just may be a step closer to fulfilling your goal.

\P2 Modeling is a profession that requires hard work, dedication,
stamina, discipline and an unbounded desire to succeed. If you feel you
have these qualities and are interested in achieving a career that offers
opportunity for travel, financial rewards and professional and personal
satisfaction, you just may be a step closer to fulfilling your goal.

\etc…
```

Printed Sample

LANGUAGE, POISE AND CONFIDENCE

Modeling is a profession that requires hard work, dedication, stamina, discipline and an unbounded desire to succeed. If you feel you have these qualities and are interested in achieving a career that offers opportunity for travel, financial rewards and professional and personal satisfaction, you just may be a step closer to fulfilling your goal.

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1

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\P3 54

\P2 Advance publicity
\P3 8

\P1 Basic weight chart
\P3 36

\P2 Behavior control
\P3 79

\P2 Body language
\P3 27

\P1 Calories, counting
\P3 80

\P2 Color, choosing your make-up
\P3 55
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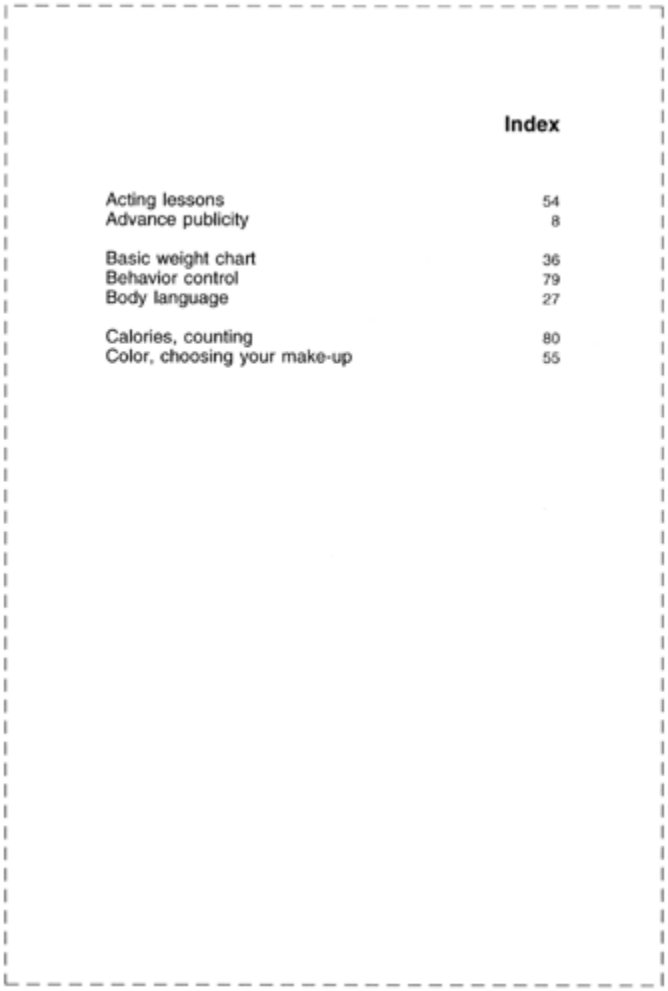

Index

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\HD1 YOU ARE CORDIALLY INVITED TO ATTEND

\HD1 A HALF-DAY SEMINAR

\HD2 COMPUTER GRAPHICS:

\HD3 THE MANAGEMENT TOOL FOR THE 90's

\P1 Data representation graphics has literally exploded upon the
American business and scientific scenes. Decision support graphics
may yet prove to be the most valuable people productivity tool for
the 90's.

\P1 Some users of business and scientific graphics report being able
to absorb up to 600% more data in less time and with less effort.
For this reason, boardroom graphic systems are underway in the
largest and most profitable U.S. corporations.

\P1 Graphics turns data into information and can facilitate comparisons,
reveal trends, consolidate data, focus attention of significant
information and communicate a message better than any printout.
```

```
\P1 Current applications for computer graphics include:

\P11 \121^ \END Financial monitoring

\P11 \121^ \END Sales and marketing presentations

\P11 \121^ \END Scientific data analysis

\P11 \121^ \END Budget vs. actual trends

\P11 \121^ \END Research data display

\P1 Business graphics make managers more productive by shortening the
decision cycle and reducing the length and number of meetings.
```

Printed Sample

YOU ARE CORDIALLY INVITED TO ATTEND

A HALF-DAY SEMINAR

COMPUTER GRAPHICS:
THE MANAGEMENT TOOL FOR THE 90's

Data representation graphics has literally exploded upon the American business and scientific scenes. Decision support graphics may yet prove to be the most valuable people productivity tool for the 90's.

Some users of business and scientific graphics report being able to absorb up to 600% more data in less time and with less effort. For this reason, boardroom graphic systems are underway in the largest and most profitable U.S. corporations.

Graphics turns data into information and can facilitate comparisons, reveal trends, consolidate data, focus attention of significant information and communicate a message better than any printout.

Current applications for computer graphics include:

- Financial monitoring
- Sales and marketing presentations
- Scientific data analysis
- Budget vs. actual trends
- Research data display

Business graphics make managers more productive by shortening the decision cycle and reducing the length and number of meetings.

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buscard.data

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\P1 JAMES C. MAN

\P2 (816) 218-5113

\P3 LITHO STEP, INC.

\P4 1006 Adams Circle\NL^ Kansas City, Missouri 64103

\P5 "PRECISE STEPPING ON FILM"
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Printed Sample

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\P1 April 6, 1992


\P1 Parke & Blake, Inc.\NL^
4728 La Juanta Street\NL^
Pueblo, Colorado 81002\NL^

\P1 Attention of the President

\P1 Gentlemen:

\P1 Thank you for the letter in which you described the financial
problems that you are having and request us to extend for two months
the date on which your final payment on our building contract will
be due.

\P1 We are happy to make the extension you wish, and we will enclose
with this letter an agreement to cover the added time. You will note
that it simply involves your continuing for two more months the same
rate of interest you have been paying on your balance.

\P1 Our Colorado Springs agent, Mr. Willis Crane, will call you
early next week to learn when you may wish him to visit you and
execute the papers. If there is any help or counsel that he can
provide, you may be sure he will be happy to be of service to you.

\P1 Yours truly,\NL^
JUDD-KANE, Inc.

\P2 Thomas J. Kane, Jr.\NL^
Executive Vice President

\P1 TJK/lll
\P1 Enclosures: 2
```

Printed Sample

April 6, 1992

Parke & Blake, Inc.
4728 La Juanta Street
Pueblo, Colorado 81002

Attention of the President

Gentlemen:

Thank you for the letter in which you described the financial problems that you are having and request us to extend for two months the date on which your final payment on our building contract will be due.

We are happy to make the extension you wish, and we will enclose with this letter an agreement to cover the added time. You will note that it simply involves your continuing for two more months the same rate of interest you have been paying on your balance.

Our Colorado Springs agent, Mr. Willis Crane, will call you early next week to learn when you may wish him to visit you and execute the papers. If there is any help or counsel that he can provide, you may be sure he will be happy to be of service to you.

Yours truly,
JUDD-KANE, Inc.

Thomas J. Kane, Jr.
Executive Vice President

TJK/ll

Enclosures: 2

letter2.pfmt

```
\* Format for Semi-Block Style Business Letter \*

\* Output Device \*
\LASER

\* Page Definition \*
\PDEF WIDTH=8.5i DEPTH=11i LM=1.5i RM=1.5i DUPLEX=N \END

\* Column Definition \*
\COLX1 LM=0 RM=5.5i BOT=4a TOP=9.25i LB=0 \END  \* Full Page \*

\* Start Out In Full Page Mode \*
\CD 1 \END

\* Type Face For Paragraphs \*
\TXT1 FONT=GE STYLE=N HSIZE=11p VSIZE=11p LEAD=12p \END  \* P1-P3 \*

\* Paragraph Definitions \*
\PX1 TEXT=1 LM=16.5a RM=0 CM=FL LB=24p LA=0 \END  \* Date, Closing \*

\PX2 TEXT=1 LM=0 RM=0 CM=FL LB=24p LA=0 \END  \* Salutation \*

\PX3 TEXT=1 LM=0 RM=0 CM=JU LB=24p LA=0 \END  \* P3-Body \*
\PX3 IL1=3a NLI=1 \END  \* P3-1st Line Indent \*

\* Underline Definition Percentages \*
\ULPOS -25
\ULSIZ 10

\* Hyphenation Definition \*
\HYMB 4
\HYMA 3
\HYMC 2
\HYML 8
```

letter2.data

```
\PFMT letter2.pfmt \END

\P1 April 10, 1992

\VS 36p^

\P2 Foote, Klein & Hughes, Inc.\NL^
1300 Rider Building\NL^
Trenton, New Jersey 08607

\P2 Gentlemen:

\P3 Thank you for your inquiry of April 5 concerning our rates for
space in JUNIOR EXECUTIVE magazine. We are enclosing our standard
rate card. You will note on it that the rates for the space dimensions
about which you specifically asked are as follows:

\P3 1. Quarter page is 125.00
\P3 2. One-half page is 235.00
\P3 3. Complete page is 400.00

\P3 Worth noting also is the 10% discount that you earn for four
or more reservations in one calendar year. We allow the usual
15% agency fee, of course.

\P3 If you wish to reserve space in our May issue, which is
the next one going to press, we should have your reservation
(and copy, if it is to be set) no later than April 28. Thank
you for your inquiry.
```

```
\P1 Yours very truly,

\VS 36p^

\P1 J. Paul Prescott\NL^
Business Manager

\P2 lll\NL^
Enclosure
```

Printed Sample

April 10, 1992

Foote, Klein & Hughes, Inc.
1300 Rider Building
Trenton, New Jersey 08607

Gentlemen:

Thank you for your inquiry of April 5 concerning our rates for space in JUNIOR EXECUTIVE magazine. We are enclosing our standard rate card. You will note on it that the rates for the space dimensions about which you specifically asked are as follows:

1. Quarter page is 125.00

2. One-half page is 235.00

3. Complete page is 400.00

Worth noting also is the 10% discount that you earn for four or more reservations in one calendar year. We allow the usual 15% agency fee, off course.

If you wish to reserve space in our May issue, which is the next one going to press, we should have your reservation (and copy, if it is to be set) no later than April 28. Thank you for your inquiry.

Yours very truly,

J. Paul Prescott
Business Manager

lll
Enclosure

employee.pfmt

```
\* FORMAT FOR EMPLOYEE MANUAL \*

\* Output Device \*
\LASER

\* Page Definition \*
\PDEF WIDTH=8.5i DEPTH=11i LM=1i RM=1i DUPLEX=N \END

\* Column Definitions \*
\COLX1 LM=0 RM=6.5i BOT=1i TOP=59.5a \END  \* Full Page \*

\* Start Out In Full Page Mode \*
\CD 1 \END

\* Type Faces For Headers \*
\TXT1 FONT=GE STYLE=B HSIZE=14p VSIZE=14p LEAD=15p \END  \* HD1 \*
\TXT2 FONT=GE STYLE=B HSIZE=12p VSIZE=12p LEAD=13p \END  \* HD2 \*

\* Type Face For Body Copy \*
\TXT3 FONT=GE STYLE=N HSIZE=10p VSIZE=10p LEAD=12p \END  \* P1 thru P3 \*

\* Type Face For Page Heads & Feet \*
\TXT4 FONT=GE STYLE=B HSIZE=10p VSIZE=10p LEAD=10p \END \* PHED and PFUTs \*

\* Header Definitions \*
\HDX1 TEXT=1 LM=0 RM=0 CM=CE LB=48p LA=0 \END  \* HD1 \*
\HDX2 TEXT=2 LM=0 RM=0 CM=FL LB=36p LA=0 \END  \* HD2 \*

\* Paragraph Definitions \*
\PX1 TEXT=3 LM=0 RM=0 CM=JU LB=24p LA=0 \END   \* No Indent Body - P1 \*
\PX2 TEXT=3 LM=2a RM=0 CM=JU LB=24p LA=0 \END  \* 1st Indent Body - P2 \*
\PX3 TEXT=3 LM=13a RM=0 CM=JU LB=24p LA=0 \END   \* 2nd Indent Body - P3 \*

\* Page Header Definitions \*
\PHEDX1 TEXT=4 LM=1i RM=7.5i CM=FL YPOS=64a \END  \* PHED1-Even Page \*
\PHEDX6 TEXT=4 LM=1i RM=7.5i CM=FR YPOS=64a \END  \* PHED6-Odd Page \*

\* Page Feet Definitions \*
\PFUTX1 TEXT=4 LM=1i RM=7.5i CM=FL YPOS=3a \END  \* PFUT1-Even Page \*
\PFUTX2 TEXT=4 LM=1i RM=7.5i CM=CE YPOS=3a \END  \* PFUT2-Even Page \*
\PFUTX5 TEXT=4 LM=1i RM=7.5i CM=CE YPOS=3a \END  \* PFUT5-Odd Page \*
\PFUTX6 TEXT=4 LM=1i RM=7.5i CM=FR YPOS=3a \END  \* PFUT6-Odd Page \*

\* Prevent Hyphenation \*
\HYML 22
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employee.data

```
\* EMPLOYEE HANDBOOK \*

\PFMT employee.pfmt \END

\PHED1 Employee Handbook
\PHED6 Employee Handbook

\PFUT2 See proprietary restrictions on title page.
\PFUT5 See proprietary restrictions on title page.

\PFUT1 #P
\PFUT6 #P

\HD1 EMPLOYEE HANDBOOK

\HD2 Introduction

\P1 We have developed this Manual to help you understand
```

```
the benefits and what we expect of you. While we follow
the policies outlined in the Manual, \I^we want you
to clearly understand that it is not a contract of employment.
\N^You and the Company both have a legal right to terminate your
employment at any time for any reason, except certain reasons
specifically prohibited by law.

\P2 \BI^Notice: \N^From time to time, this Manual may be changed
without prior notice to reflect changing circumstances, your
desired changes in the law, the Company's growth, etc. In the
event there is any conflict between this Manual and federal,
state or local laws, such laws will take precedence.

\P1 We have tried to make this Manual complete, but if you have
any questions about it or any aspect of your employment,

etc. . . .
```

Printed Sample

Employee Handbook

EMPLOYEE HANDBOOK

Introduction

We have developed this Manual to help you understand the benefits and what we expect of you. While we follow the policies outlined in the Manual, *we want you to clearly understand that it is not a contract of employment.* You and the Company both have a legal right to terminate your employment at any time for any reason, except certain reasons specifically prohibited by law.

Notice: From time to time, this Manual may be changed without prior notice to reflect changing circumstances, your desired changes in the law, the Company's growth, etc. In the event there is any conflict between this Manual and federal, state or local laws, such laws will take precedence.

We have tried to make this Manual complete, but if you have any questions about it or any aspect of your employment, please feel free to contact your General Manager or your Supervisor.

No one has the authority to deviate from the policies or benefits as defined by this manual without prior consultation with the Corporate Personnell Department. Any clarifications needed should be obtained from the Corporate Personnel Department thru your Supervisor.

BENEFITS

Pension Plan

All regular full-time and part-time employees who have reached the age of twenty-five and have completed at least one thousand (1,000) hours of service within a twelve (12) consecutive month period, are eligible to participate in the Company Pension Plan on entry date (January 1 or July 1) immediately following satisfaction of the conditions stated above. Under the Plan, the Company makes contributions based on your level of compensation.

Additional information regarding the Pension Plan will be made available when you become eligible to participate.

Remember, the actual Plan is the controlling document. If you have any questions, please contact the Corporate Controller.

The pension plan described herein is currently being revised to comply with the recent changes in the laws that govern pension plans. All personnel will be advised of the changes once they have been finalized. Should you have any questions regarding the current plan, please address them in writing to:

PENSION PLAN ADMINISTRATOR
2220 Boston Blvd.
Houston, TX 95416

Sick Leave

All regular full-time employees are eligible for paid sick leave upon the completion of the probationary period. Upon successful completion of the probationary period, regular full-time employees will be credited with 12 hours sick leave; thereafter, such leave will accrue at the rate of four (4) hours per month. Sick leave may be accumulated up to a maximum of sixty (60) days. A month will be considered to begin on the first day of the month in which the employee's probationary period ends.

See proprietary restrictions on title page. 1

newsad1.pfmt

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\* Format for News Ad 1 \*

\* Output Device \*
\LASER

\* Page Definition \*
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\* Column Definition \*
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\* Start Out In Full Page Mode \*
\CD 1 \END

\* Type Faces For Paragraphs \*
\TXT1 FONT=GE STYLE=B HSIZE=30p VSIZE=30p LEAD=30p \END  \* P1 \*
\TXT2 FONT=GE STYLE=N HSIZE=10p VSIZE=10p LEAD=11p \END  \* P2 \*
\TXT3 FONT=GE STYLE=N HSIZE=24p VSIZE=24p LEAD=26p \END  \* P3 \*
\TXT4 FONT=GE STYLE=N HSIZE=8p VSIZE=8p LEAD=10p \END    \* P4 \*
\TXT5 FONT=GE STYLE=B HSIZE=30p VSIZE=30p LEAD=32p \END  \* P5 \*
\TXT6 FONT=GE STYLE=B HSIZE=14p VSIZE=14p LEAD=16p \END  \* P6 \*

\* Paragraph Definitions \*
\PX1 TEXT=1 LM=0 RM=0 CM=CE LB=33p LA=0 \END   \* P1 \*
\PX2 TEXT=2 LM=0 RM=0 CM=CE LB=14p LA=0 \END   \* P2 \*
\PX3 TEXT=3 LM=0 RM=0 CM=CE LB=22p LA=0 \END   \* P3 \*
\PX4 TEXT=4 LM=0 RM=0 CM=CE LB=10p LA=0 \END   \* P4 \*
\PX5 TEXT=5 LM=0 RM=0 CM=CE LB=32p LA=8p \END  \* P5 \*
\PX6 TEXT=6 LM=0 RM=0 CM=CE LB=20p LA=0 \END   \* P6 \*

\* Underline Definition Percentages \*
\ULPOS -25
\ULSIZ 10

\* Prevent Hyphenation \*
\HYML 22
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newsad1.data

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\PFMT newsad1.pfmt \END

\P1 Professional\NL^
Office\NL^
Furniture

\P2 Attorneys/Paralegals and\NL^
secretary desks and chairs,\NL^
conference table and chairs.\NL^
No Delivery Charges.\NL^
Just call:

\P3 1-816-384-0100

\P4 Ask for Don.

\P5 Corporate Furniture

\P4 \I^the

\P6 Furniture Specialists
```

Printed Sample

newsad2.pfmt

```
\* Format for News Ad 2 \*

\* Output Device \*
\LASER

\* Page Definition \*
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\* Column Definition \*
\COLX1 LM=0 RM=28a BOT=2i TOP=9i LB=0 \END \* Full Page \*

\* Start Out In Full Page Mode \*
\CD 1 \END

\* Type Faces For Body Copy \*
\TXT1 FONT=GE STYLE=N HSIZE=12p VSIZE=12p LEAD=14p \END  \* P1, P6 \*
\TXT2 FONT=GE STYLE=B HSIZE=36p VSIZE=36p LEAD=38p \END  \* P2 \*
\TXT3 FONT=GE STYLE=B HSIZE=20p VSIZE=20p LEAD=22p \END  \* P3 \*
\TXT4 FONT=GE STYLE=B HSIZE=13p VSIZE=13p LEAD=15p \END  \* P4 \*
\TXT5 FONT=GE STYLE=B HSIZE=24p VSIZE=24p LEAD=26p \END  \* P5 \*

\* Paragraph Definitions \*
\PX1 TEXT=1 LM=0 RM=0 CM=FL LB=14p LA=0 \END  \* P1-Horizontal Rule \*
\PX2 TEXT=2 LM=0 RM=0 CM=CE LB=38p LA=0 \END  \* P2 \*
\PX3 TEXT=3 LM=0 RM=0 CM=CE LB=24p LA=0 \END  \* P3 \*
\PX4 TEXT=4 LM=0 RM=0 CM=CE LB=17p LA=0 \END  \* P4 \*
\PX5 TEXT=5 LM=0 RM=0 CM=CE LB=26p LA=0 \END  \* P5 \*
\PX6 TEXT=1 LM=0 RM=0 CM=CE LB=14p LA=0 \END  \* P6 \*

\* Underline Definition Percentages \*
\ULPOS -25
\ULSIZ 10

\* Prevent Hyphenation \*
\HYML 22
```

newsad2.data

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\PFMT newsad2.pfmt \END

\P1 \HR 28a,4p^

\P2 COMPUTER\NL^
GRAPHICS\NL^
FOR\NL^
DESIGN\NL^
SPRING 92

\P1 \HR 28a,1p^

\P3 WEEKEND WORKSHOPS

\P4 MARCH AND APRIL\NL^
SAN FRANCISCO, SEATTLE, ALBUQUERQUE

\P1 \HR 28a,1p^

\P5 FALL WEEKEND IN S.F.

\P4 SEMINARS/TUTORIALS/EXHIBITS\NL^
OCTOBER 20 AND 21\NL^
ST. FRANCIS HOTEL

\P1 \HR 28a,1p^

\P4 \I^For more information:\NL^
```

```
\N^Seminole Complex\NL^
One Graphics Drive\NL^
San Francisco, CA 90000\NL^
415 / 555-5555

\P6 SEMINOLE CENTER FOR COMPUTER GRAPHICS

\P1 \HR 28a,4p^
```

Printed Sample

newsad3.pfmt

```
\* Format for News Ad 3 \*

\* Output Device \*
\LASER

\* Page Definition \*
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\* Column Definition \*
\COLX1 LM=0 RM=43a BOT=1i TOP=9i LB=0 \END  \* Full Page \*

\* Start Out In Full Page Mode \*
\CD 1 \END

\* Type Faces For Paragraphs \*
\TXT1 FONT=GE STYLE=N HSIZE=8p VSIZE=8p LEAD=9p \END  \* P1 \*
\TXT2 FONT=GE STYLE=N HSIZE=9p VSIZE=9p LEAD=9p \END  \* P2 \*
\TXT3 FONT=GE STYLE=N HSIZE=22p VSIZE=22p LEAD=22p \END  \* P3    \*
\TXT4 FONT=GE STYLE=N HSIZE=30p VSIZE=30p LEAD=30p \END  \* P4    \*
\TXT5 FONT=GE STYLE=N HSIZE=16p VSIZE=16p LEAD=16p \END  \* P5    \*
\TXT6 FONT=GE STYLE=B HSIZE=16p VSIZE=16p LEAD=16p \END  \* P6-P7 \*

\* Paragraph Definitions \*
\PX1 TEXT=1 LM=0 RM=0 CM=FR LB=20p LA=0 \END  \* P1 \*
\PX2 TEXT=2 LM=0 RM=0 CM=FR LB=40p LA=0 \END  \* P2 \*
\PX3 TEXT=3 LM=0 RM=0 CM=FR LB=40p LA=0 \END  \* P3 \*
\PX4 TEXT=4 LM=0 RM=0 CM=FR LB=60p LA=0 \END  \* P4 \*
\PX5 TEXT=5 LM=0 RM=0 CM=FR LB=40p LA=0 \END  \* Body \*
\PX6 TEXT=6 LM=0 RM=0 CM=FR LB=60p LA=0 \END  \* Body \*
\PX7 TEXT=6 LM=0 RM=0 CM=FR LB=20p LA=0 \END  \* Body \*

\* Underline Definition Percentages \*
\ULPOS -25
\ULSIZ 10

\* Prevent Hyphenation \*
\HYML 22
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newsad3.data

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\PFMT newsad3.pfmt \END

\P1 This announcement is neither an offer to sell nor a solicitation
of an offer to buy these securities.\NL^ The offer is made only by
the Offering Circular.

\P1 The Bonds are not savings accounts or deposits and are not
insured by the Federal Savings and Loan\NL^ Insurance Corporation
or any other government agency. The Bonds have not been approved\NL^
or disapproved by the Federal Home Loan Bank Board or the Federal Savings
and Loan\NL^ Insurance Corporation nor has such board or corporation
passed upon the accuracy or\NL^ adequacy of the Offering Circular.
Any representation to the contrary is unlawful.

\P2 New Issue/April 1, 1992
\P3 $1,000,000,000
\P4 Horizon Financial Services
\P5 GNMA/FHLMC/FNMA-Secured Zero Coupon Bonds, Series Z

\P1 The Bonds are general obligations of Horizon Financial Services,
a Missouri-chartered stock savings\NL^ and loan association. The Bonds
do not pay interest periodically. The only scheduled payment to\NL^
the holder of a Bond will be the amount due at maturity. The Bonds will
be secured initially by\NL^ mortgage certificates of the Government
National Mortgage Association, the Federal Home\NL^ Loan Mortgage
Corporation and the Federal National Mortgage Association. Subsequently\NL^
```

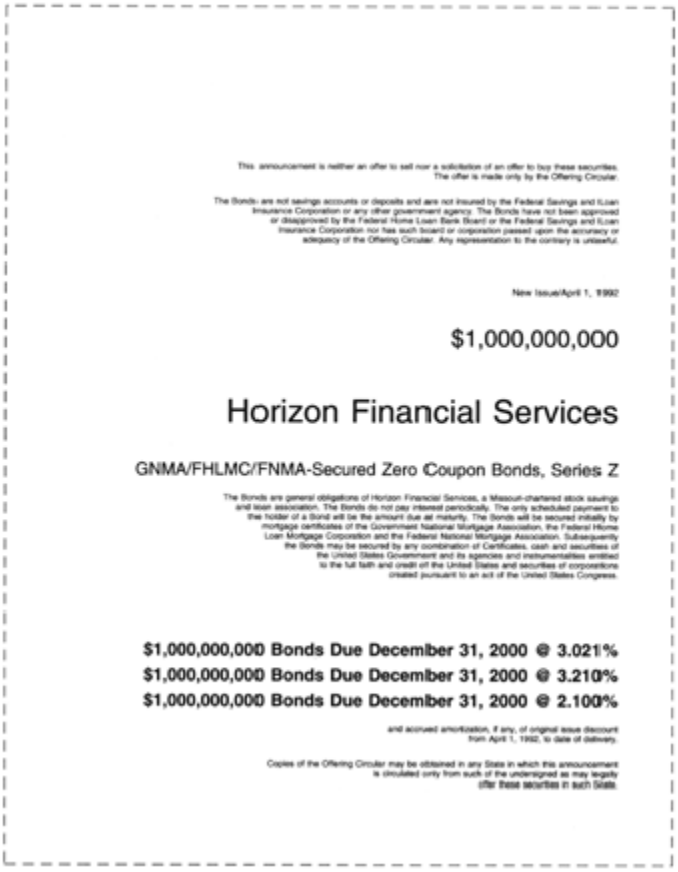
```
the Bonds may be secured by any combination of Certificates, cash and
securities of\NL^ the United States Government and its agencies and
instrumentalities entitled\NL^ to the full faith and credit of the
United States and securities of corporations\NL^ created pursuant
to an act of the United States Congress.

\P6 $1,000,000,000 Bonds Due December 31, 2000  \120^ 3.021%
\P7 $1,000,000,000 Bonds Due December 31, 2000  \120^ 3.210%
\P7 $1,000,000,000 Bonds Due December 31, 2000  \120^ 2.100%

\P1 and accrued amortization, if any, of
original issue discount\NL^
from April 1, 1992, to date of delivery.

etc...
```

Printed Sample



This announcement is neither an offer to sell nor a solicitation of an offer to buy these securities. The offer is made only by the Offering Circular.

The Bonds are not savings accounts or deposits and are not insured by the Federal Savings and Loan Insurance Corporation or any other government agency. The Bonds have not been approved or disapproved by the Federal Home Loan Bank Board or the Federal Savings and Loan Insurance Corporation nor has such board or corporation passed upon the accuracy or adequacy of the Offering Circular. Any representation to the contrary is unlawful.

New Issue/April 1, 1992

$1,000,000,000

Horizon Financial Services

GNMA/FHLMC/FNMA-Secured Zero Coupon Bonds, Series Z

The Bonds are general obligations of Horizon Financial Services, a Missouri-chartered stock savings and loan association. The Bonds do not pay interest periodically. The only scheduled payment to the holder of a Bond will be the amount due at maturity. The Bonds will be secured initially by mortgage certificates of the Government National Mortgage Association, the Federal Home Loan Mortgage Corporation and the Federal National Mortgage Association. Subsequently the Bonds may be secured by any combination of Certificates, cash and securities of the United States Government and its agencies and instrumentalities entitled to the full faith and credit of the United States and securities of corporations created pursuant to an act of the United States Congress.

$1,000,000,000 Bonds Due December 31, 2000 @ 3.021%
$1,000,000,000 Bonds Due December 31, 2000 @ 3.210%
$1,000,000,000 Bonds Due December 31, 2000 @ 2.100%

and accrued amortization, if any, of original issue discount from April 1, 1992, to date of delivery.

Copies of the Offering Circular may be obtained in any State in which this announcement is circulated only from such of the undersigned as may legally offer these securities in such State.

menu.pfmt

```
\* Format for Restaurant Menu \*

\* Output Device \*
\LASER

\* Page Definition \*
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\* Column Definition \*
\COLX1 LM=0 RM=6.5i BOT=1i TOP=10i LB=0 \END  \* Full Page \*

\* Start Out In Full Page Mode \*
\CD 1 \END

\* Type Face For Header \*
\TXT1 FONT=GE STYLE=B HSIZE=20p VSIZE=20p LEAD=21p \END  \* HD1 \*

\* Type Faces For Paragraphs \*
\TXT2 FONT=GE STYLE=N HSIZE=10p VSIZE=10p LEAD=12p \END  \* P11 \*
\TXT3 FONT=GE STYLE=B HSIZE=16p VSIZE=16p LEAD=16p \END  \* P11 \*
\TXT4 FONT=GE STYLE=I HSIZE=10p VSIZE=10p LEAD=12p \END  \* P1 \*

\* Header Definition \*
\HDX1 TEXT=1 LM=0 RM=0 CM=FL LB=0 LA=12p \END  \* HD1 \*

\* Paragraph Definitions \*
\PX1 TEXT=4 LM=0 RM=0 CM=CE LB=12p LA=0 \END  \* P1-Centered Body \*

\PX11 ETX=3 ELM=0 ERM=1.5a ECM=FR \END  \* P11-Enumeration \*
\PX11 TEXT=2 LM=2.5a RM=0 CM=FL LB=45p LA=0 \END  \* P11-Body \*

\* Underline Definition Percentages \*
\ULPOS -25
\ULSIZ 10

\* Prevent Hyphenation \*
\HYML 22
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menu.data

```
\PFMT menu.pfmt \END

\HD1 Sandwiches

\P11 1 \END
Louisiana Style Poor Boy \FILL^3.50

\P1 Beef or Ham on French Roll with Steak Fries, Lettuce, Tomato & Mayonnaise

\P11 2 \END Burger Basket with Steak Fries & Slaw \FILL^3.25

\P1 1/2 pound Fresh Ground Beef

\P11 3 \END
Hamburger & Fries with Lettuce, Tomato & Mayonnaise Served
on a Grilled Bun \FILL^1.89

\P11 4 \END Roast Beef with Lettuce, Tomato \FILL^2.15

\P11 5 \END
Hot Corned Beef on your choice of Bread, Served
with Lettuce & Tomato \FILL^2.30

\P11 6 \END
Hot Pastrami & Swiss with Mustard \FILL^2.15
```

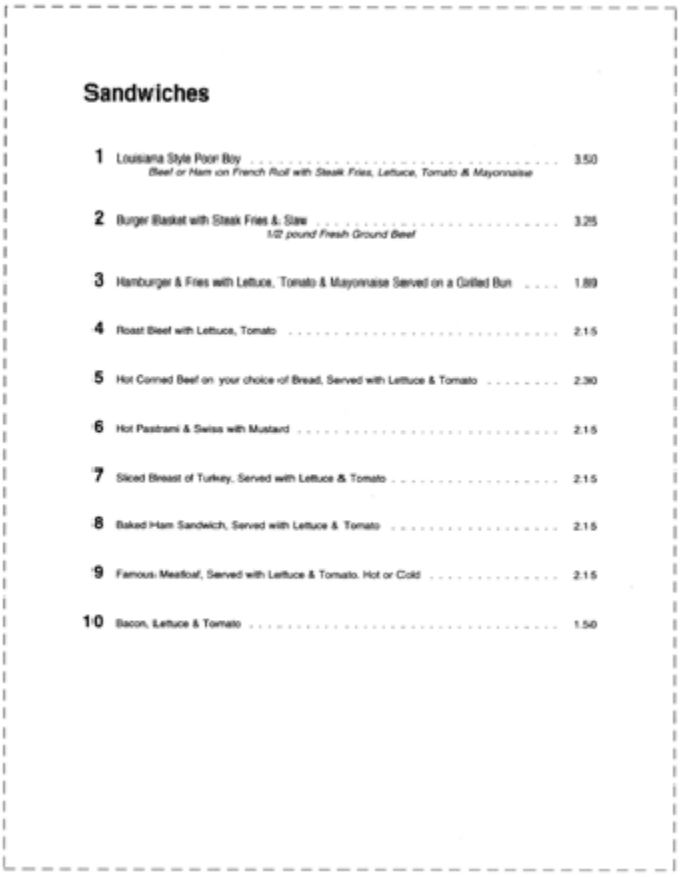
```
\P11 7 \END
Sliced Breast of Turkey, Served with Lettuce & Tomato \FILL^2.15

\P11 8 \END Baked Ham Sandwich, Served with Lettuce & Tomato \FILL^2.15

\P11 9 \END Famous Meatloaf, Served with Lettuce & Tomato.
Hot or Cold \FILL^2.15

\P11 10 \END Bacon, Lettuce & Tomato \FILL^1.50
```

Printed Sample



Sandwiches

1 Louisiana Style Poor Boy 3.50
Beef or Ham on French Roll with Steak Fries, Lettuce, Tomato & Mayonnaise

2 Burger Basket with Steak Fries & Slaw 3.25
1/2 pound Fresh Ground Beef

3 Hamburger & Fries with Lettuce, Tomato & Mayonnaise Served on a Grilled Bun 1.89

4 Roast Beef with Lettuce, Tomato 2.15

5 Hot Corned Beef on your choice of Bread, Served with Lettuce & Tomato 2.30

6 Hot Pastrami & Swiss with Mustard 2.15

7 Sliced Breast of Turkey, Served with Lettuce & Tomato 2.15

8 Baked Ham Sandwich, Served with Lettuce & Tomato 2.15

9 Famous Meatloaf, Served with Lettuce & Tomato. Hot or Cold 2.15

10 Bacon, Lettuce & Tomato 1.50

resume1.pfmt

```
\* Format for Resume 1 \*

\* Output Device \*
\LASER

\* Page Definition \*
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\* Column Definition \*
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\* Start Out In Full Page Mode \*
\CD 1 \END

\* Type Faces For Paragraphs \*
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\TXT2 FONT=GE STYLE=B HSIZE=10p VSIZE=10p LEAD=12p \END \* P11 \*
\TXT3 FONT=GE STYLE=N HSIZE=7p VSIZE=7p LEAD=8p \END \* P1 \*

\* Paragraph Definitions \*
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\PX11 ETX=2 ELM=0 ERM=12.5a ECM=FL \END \* P11-Enumeration \*
\PX11 TEXT=1 LM=12.5a RM=0 CM=FL LB=24p LA=0 \END \* P11-Body \*

\* Underline Definition Percentages \*
\ULPOS -25
\ULSIZ 10

\* Hyphenation Definition \*
\HYMB 4
\HYMA 3
\HYMC 2
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resume1.data

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\P11 Hyman B. Prospect \END
1234 North Fremont\NL^
Chicago, IL 60000\NL^
(312) 000-0000

\P11 Goal \END
To utilize and expand skills in project design, analysis,
organization, communication and management in a challenging
growth position.

\P11 Education \END
\B^Illinois Institute of Technology, Institute of Design, Chicago, Illinois\NL^
\N^Candidate for Masters of Science Degree in Product Design\NL^
January 1982 \81^Present

\P11 \B^University of Illinois, Chicago, Illinois\NL^
\N^Non-degree\NL^ 1979 \81^1981

\P11 \B^University of Illinois, Urbana, Illinois\NL^
\N^Bachelor of Science in Agriculture, 1977

\P11 Professional Experience \END
Developing preliminary designs, cost estimates, final plans,
contract specifications and supervising construction of landscape
and building project work in a private business and a public agency

\P11 Researching a topic, developing preliminary designs in sketch
```

```
format, constructing three-dimensional mock-ups and models, and
documenting these concepts for presentation.

\P11 Writing, debugging and executing many types of computer programs
and experience as a user of computer communication and information systems.

\P11 Planning and presenting educational/instructional programs and
public meetings utilizing various media.

\P11 Organizing, researching and writing various types of reports
as a professional and a student.

\P11 Delegating and recording daily work assignments, evaluating and
interviewing employees, compiling and presenting annual reports
```

Printed Sample

Hyman B. Prospect
1234 North Fremont
Chicago, IL 60000
(312) 000-0000

Goal
To utilize and expand skills in project design, analysis, organization, communication and management in a challenging growth position.

Education
Illinois Institute of Technology, Institute of Design, Chicago, Illinois
Candidate for Masters of Science Degree in Product Design
January 1982–Present

University of Illinois, Chicago, Illinois
Non-degree
1979–1981

University of Illinois, Urbana, Illinois
Bachelor of Science in Agriculture, 1977

Professional Experience
Developing preliminary designs, cost estimates, final plans, contract specifications and supervising construction of landscape and building project work in a private business and a public agency

Researching a topic, developing preliminary designs in sketch format, constructing three-dimensional mock-ups and models, and documenting these concepts for presentation.

Writing, debugging and executing many types of computer programs and experience as a user of computer communication and information systems.

Planning and presenting educational/instructional programs and public meetings utilizing various media.

Organizing, researching and writing various types of reports as a professional and a student.

Delegating and recording daily work assignments, evaluating and interviewing employees, compiling and presenting annual reports concerning my divisions' activities.

Assisting in the preparation of annual budgets with special emphasis on project budgets.

Employment
Supervisor
Skokie Park District, Skokie, Illinois
1978–Present

Landscaping Design Salesman
Wingren Landscaping, Hinsdale, Illinois
1977–1978

Stock Clerk
Illini Union Bookstore, Champaign, Illinois
1976–1977

References furnished upon request

resume2.pfmt

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\* Prevent Hyphenation \*
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resume2.data

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\P1 MAXINE GUTIERREZ\NL^
4321 72nd Terrace, NE\NL^
Washington DC 20000\NL^
(212) 000-0000

\P2 \US^Experience\UE^

\P11 ADMINISTRATION \END
Standardized contract filing systems for sales department.
Prepared schedules and agendas for national sales meetings.
Developed active lead follow-up system for sales staff.
Maintained department personnel records. Developed
standardized sales call report format. Formatted sales inquiries
on word processor. Planned exhibits and trade shows.

\P11 COMMUNICATION \END
Corresponded with customers regarding product information and
shipment schedules. Handled customer complaints.
Communicated operational procedures to field sales managers
in five regional offices.

\P11 PUBLIC RELATIONS \END
Coordinated and wrote sales department newsletter detailing
sales achievements and new product information. Acted as
company representative at trade shows and exhibits. Acted
as department liaison with all levels of personnel.

\P11 TECHNICAL SKILLS \END
```

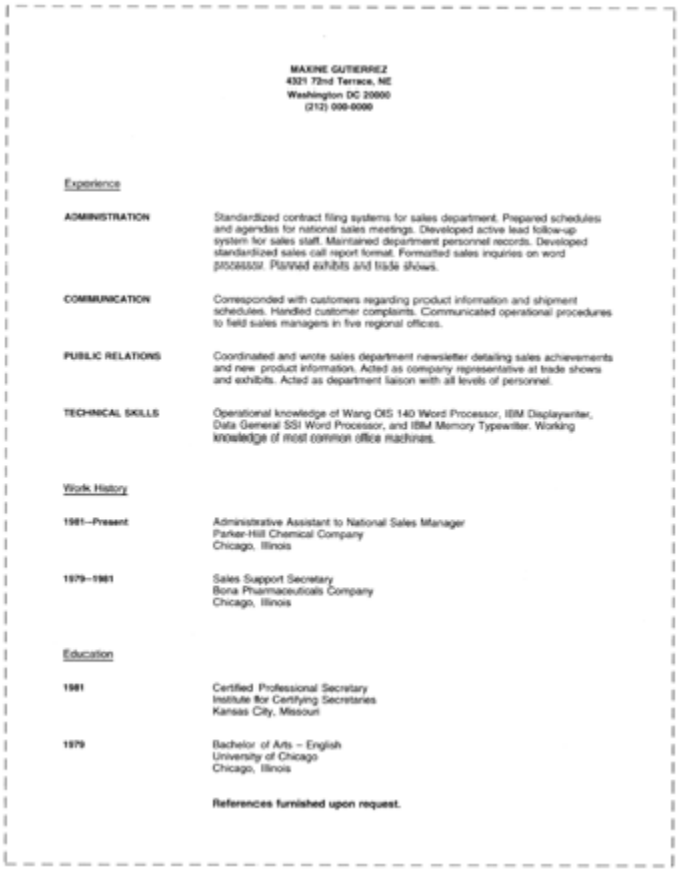
```
Operational knowledge of Wang OIS 140 Word Processor, IBM
Displaywriter, Data General SSI Word Processor, and IBM
Memory Typewriter. Working knowledge of most common
office machines.

\P2 \US^Work History\UE^

\P11 1981 \81^Present \END
Administrative Assistant to National Sales Manager\NL^
Parker-Hill Chemical Company\NL^
Chicago, Illinois

etc...
```

Printed Sample



MAXINE GUTIERREZ
4321 72nd Terrace, NE
Washington DC 20000
(212) 000-0000

Experience

ADMINISTRATION Standardized contract filing systems for sales department. Prepared schedules and agendas for national sales meetings. Developed active lead follow-up system for sales staff. Maintained department personnel records. Developed standardized sales call report format. Formatted sales inquiries on word processor. Planned exhibits and trade shows.

COMMUNICATION Corresponded with customers regarding product information and shipment schedules. Handled customer complaints. Communicated operational procedures to field sales managers in five regional offices.

PUBLIC RELATIONS Coordinated and wrote sales department newsletter detailing sales achievements and new product information. Acted as company representative at trade shows and exhibits. Acted as department liaison with all levels of personnel.

TECHNICAL SKILLS Operational knowledge of Wang OIS 140 Word Processor, IBM Displaywriter, Data General SSI Word Processor, and IBM Memory Typewriter. Working knowledge of most common office machines.

Work History

1981--Present Administrative Assistant to National Sales Manager
Parker-Hill Chemical Company
Chicago, Illinois

1979--1981 Sales Support Secretary
Bona Pharmaceuticals Company
Chicago, Illinois

Education

1981 Certified Professional Secretary
Institute for Certifying Secretaries
Kansas City, Missouri

1979 Bachelor of Arts -- English
University of Chicago
Chicago, Illinois

References furnished upon request.

nl2col.pfmt

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\* Output Device \*
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\HYMA 3
\HYMC 2
\HYML 8
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Printed Sample

SERVICE MAGAZINE

April 2, 1992

Improvements Made To Custom Shop Modifications For Oil Cooled Steering Clutches And Brakes

4100

D3B Tractors, 931B Loaders

REFERENCE: Custom Shop Modification, Supplementary Product Support Literature for D3B Tractors and 931B Loaders Equipped with 8Z7140 Custom Shop Modification–Oil Steering Clutches And Brakes, Form No. SEBF0551–02.

DESCRIPTION OF CHANGE: The new Custom Shop Modification (CSM) for oil cooled steering clutches and brakes used on D3B Tractors and 931B Loaders is easier to install and takes less pedal effort to operate than the former CSM.

Tractor and loaders equipped with the new CSM can be updated to the latest improvements to further reduce the pedal effort requirements for turning and braking.

The former CSM had linkage interference with the battery box. The new CSM eliminates notching of the battery box and prevents interference with it. The new CSM takes less pedal effort to operate because the new linkage provides a 19.7 to 1 mechanical advantage compared to the 18 to 1 mechanical advantage of the former linkage. Other changes that reduce pedal effort include changing the control linkage return spring and changing the rod ends on the brake rods.

A change has been made to the adjustment procedure for the brakes and brake linkage.

ADAPTABLE AS: Chart A contains the effective product identification numbers for the former 8Z7102 and the new 8Z7140 Custom Shop Modification (Oil Steering Clutches And Brakes).

Special Instruction Form SMHS8543 gives complete instruction for installing the 8Z7065 Field Conversion Group (Oil Steering Clutches And Brakes) to convert a standard machine to the 8Z7140 Custom Shop Modification (Oil Steering Clutches And Brakes).

NOTE

The brakes must be in the release position when adjustments are made.

The procedure to adjust the brakes and brake linkage on all D3B Tractors and 931B Loaders equipped with oil steering clutches and brakes is as follows:

1. Disconnect rod (1) by removing the key and pin from one end of the rod.

2. Make adjustments to the length of four rods (3) to get a dimension of 422.0 mm (16.61") between centers of pins.

3. Make adjustments to the length of rod (5) to dimension (B) of 333.0 + 1.5 mm (13.11 + .06") between centers of pins.

4. ***Adjustments to the length of rod (1) she pin removed in Step 1 can be installed easily without moving the rest of the linkage. Install the pin and key. Dimension (A) will be about 996 mm (39.2") between the center of the pins.***

If complaints of high pedal effort are received after machines are updated to all the latest changes with all adjustments being correct and the linkage well lubricated, check the surface finish on the brake drums. The surface finish on the brake drums should be 3.2 to 4.1 micrometers (125–160 microinches). For more information on brake drums see the Guidelines For Reusable Parts and salvage operations, Track-Type Tractor Brake Drums, Form No. SEBF8056.

The former CSM used a 6S9438 Plate Assembly and a 7D5289 Spring. See Illustration 4. It has been found that this spring and plate assembly are not necessary. The spring and plate assembly can be removed anytime work is done on the steering clutches and brakes without making any additional changes to the machines.

DESCRIPTION OF CHANGE: Water temperature regulators with a faster response are now used in many engine applications. See chart for part numbers of the former regulators. The new regulators listed will eventually be used in all applications of the former regulators.

The faster response regulator opens at a faster rate and closes faster. In some cases the opening temperature is raised 3°C (5°F).

ADAPTABLE TO: The new regulators are direct replacements for any of the former regulators as listed. Only the four new regulators are used in production and can be used in parts service to replace the listed regulators. This makes parts service easier.

Cont. on next page.

1

nl2col.data

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\PN 1

\HD1 SERVICE MAGAZINE
\HD2 \HR 42a,1p^
\HD2 \HR 42a,1p^
\HD3 \B^April 2, 1992

\CD 2, 3 \END

\HD4 Improvements Made To Custom Shop Modifications For Oil Cooled
Steering Clutches And Brakes

\HD5 4100

\HD6 D3B Tractors, 931B Loaders

\P1 \B^REFERENCE: \N^Custom Shop Modification, Supplementary
Product Support Literature for D3B Tractors and 931B Loaders Equipped
with 8Z7140 Custom Shop Modification \81^Oil Steering Clutches And
Brakes, Form No. SEBF0551 \81^02.

\P1 \B^DESCRIPTION OF CHANGE: \N^The new Custom Shop Modification
(CSM) for oil cooled steering clutches and brakes used on D3B Tractors
and 931B Loaders is easier to install and takes less pedal effort to operate
than the former CSM.

\P2 Tractor and loaders equipped with the new CSM can be updated to
the latest improvements to further reduce the pedal effort requirements
for turning and braking.

\P2 The former CSM had linkage interference with the battery box.
The new CSM eliminates notching of the battery box and prevents interference
with it. The new CSM takes less pedal effort to operate because the new
linkage provides a 19.7 to 1 mechanical advantage compared to the 18 to
1 mechanical advantage of the former linkage. Other changes that reduce
pedal effort include changing the control linkage return spring and changing
the rod ends on the brake rods.

\P2 A change has been made to the adjustment procedure for the brakes
and brake linkage.

\P1 \B^ADAPTABLE AS: \N^Chart A contains the effective product
identification numbers for the former 8Z7102 and the new 8Z7140 Custom
Shop Modification (Oil Steering Clutches And Brakes).

\P2 Special Instruction Form SMHS8543 gives complete instruction for
installing the 8Z7065 Field Conversion Group (Oil Steering Clutches And
Brakes) to convert a standard machine to the 8Z7140 Custom Shop Modification
(Oil Steering Clutches And Brakes).

\HD7 NOTE

\P3 The brakes must be in the release position when adjustments are made.

\P2 The procedure to adjust the brakes and brake linkage on all D3B
Tractors and 931B Loaders equipped with oil steering clutches and brakes
is as follows:

\P11 1. \END Disconnect rod (1) by removing the key and pin from
one end of the rod.

\P11 2. \END Make adjustments to the length of four rods (3) to
get a dimension of 422.0 mm (16.61") between centers of pins.

etc...
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Printed Sample

SERVICE MAGAZINE

April 2, 1992

Improvements Made To Custom Shop Modifications For Oil Cooled Steering Clutches And Brakes

4100

D3B Tractors, 931B Loaders

REFERENCE: Custom Shop Modification, Supplementary Product Support Literature for D3B Tractors and 931B Loaders Equipped with 8Z7140 Custom Shop Modification–Oil Steering Clutches And Brakes, Form No. SEBF0551–02.

DESCRIPTION OF CHANGE: The new Custom Shop Modification (CSM) for oil cooled steering clutches and brakes used on D3B Tractors and 931B Loaders is easier to install and takes less pedal effort to operate than the former CSM.

Tractor and loaders equipped with the new CSM can be updated to the latest improvements to further reduce the pedal effort requirements for turning and braking.

The former CSM had linkage interference with the battery box. The new CSM eliminates notching of the battery box and prevents interference with it. The new CSM takes less pedal effort to operate because the new linkage provides a 19.7 to 1 mechanical advantage compared to the 18 to 1 mechanical advantage of the former linkage. Other changes that reduce pedal effort include changing the control linkage return spring and changing the rod ends on the brake rods.

A change has been made to the adjustment procedure for the brakes and brake linkage.

ADAPTABLE AS: Chart A contains the effective product identification numbers for the former 8Z7102 and the new 8Z7140 Custom Shop Modification (Oil Steering Clutches And Brakes).

Special Instruction Form SMHS8543 gives complete instruction for installing the 8Z7065 Field Conversion Group (Oil Steering Clutches And Brakes) to convert a standard machine to the 8Z7140 Custom Shop Modification (Oil Steering Clutches And Brakes).

NOTE

The brakes must be in the release position when adjustments are made.

The procedure to adjust the brakes and brake linkage on all D3B Tractors and 931B Loaders equipped with oil steering clutches and brakes is as follows:

1. Disconnect rod (1) by removing the key and pin from one end of the rod.

2. Make adjustments to the length of four rods (3) to get a dimension of 422.0 mm (16.61") between centers of pins.

3. Make adjustments to the length of rod (5) to dimension (B) of 333.0 + 1.5 mm (13.11 + .06") between centers of pins.

4. ***Adjustments to the length of rod (1) she pin removed in Step 1 can be installed easily without moving the rest of the linkage. Install the pin and key. Dimension (A) will be about 996 mm (39.2") between the center of the pins.***

If complaints of high pedal effort are received after machines are updated to all the latest changes with all adjustments being correct and the linkage well lubricated, check the surface finish on the brake drums. The surface finish on the brake drums should be 3.2 to 4.1 micrometers (125–160 microinches). For more information on brake drums see the Guidelines For Reusable Parts and salvage operations, Track-Type Tractor Brake Drums, Form No. SEBF8056.

The former CSM used a 6S9438 Plate Assembly and a 7D5289 Spring. See Illustration 4. It has been found that this spring and plate assembly are not necessary. The spring and plate assembly can be removed anytime work is done on the steering clutches and brakes without making any additional changes to the machines.

DESCRIPTION OF CHANGE: Water temperature regulators with a faster response are now used in many engine applications. See chart for part numbers of the former regulators. The new regulators listed will eventually be used in all applications of the former regulators.

The faster response regulator opens at a faster rate and closes faster. In some cases the opening temperature is raised 3°C (5°F).

ADAPTABLE TO: The new regulators are direct replacements for any of the former regulators as listed. Only the four new regulators are used in production and can be used in parts service to replace the listed regulators. This makes parts service easier.

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\HYMA 3
\HYMC 2
\HYML 8
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Printed Sample

SERVICE MAGAZINE

April 2, 1992

Improvements Made To Custom Shop Modifications For Oil Cooled Steering Clutches And Brakes

4100

D3B Tractors, 931B Loaders

REFERENCE: Custom Shop Modification, Supplementary Product Support Literature for D3B Tractors and 931B Loaders Equipped with 8Z7140 Custom Shop Modification–Oil Steering Clutches And Brakes, Form No. SEBF0551–02.

DESCRIPTION OF CHANGE: The new Custom Shop Modification (CSM) for oil cooled steering clutches and brakes used on D3B Tractors and 931B Loaders is easier to install and takes less pedal effort to operate than the former CSM.

Tractor and loaders equipped with the new CSM can be updated to the latest improvements to further reduce the pedal effort requirements for turning and braking.

The former CSM had linkage interference with the battery box. The new CSM eliminates notching of the battery box and prevents interference with it. The new CSM takes less pedal effort to operate because the new linkage provides a 19.7 to 1 mechanical advantage compared to the 18 to 1 mechanical advantage of the former linkage. Other changes that reduce pedal effort include changing the control linkage return spring and changing the rod ends on the brake rods.

A change has been made to the adjustment procedure for the brakes and brake linkage.

ADAPTABLE AS: Chart A contains the effective product identification numbers for the former 8Z7102 and the new 8Z7140 Custom Shop Modification (Oil Steering Clutches And Brakes).

Special Instruction Form SMHS8543 gives complete instruction for installing the 8Z7065 Field Conversion Group (Oil Steering Clutches And Brakes) to convert a standard machine to the 8Z7140 Custom Shop Modification (Oil Steering Clutches And Brakes).

NOTE

The brakes must be in the release position when adjustments are made.

The procedure to adjust the brakes and brake linkage on all D3B Tractors and 931B Loaders equipped with oil steering clutches and brakes is as follows:

1. Disconnect rod (1) by removing the key and pin from one end of the rod.

2. Make adjustments to the length of four rods (3) to get a dimension of 422.0 mm (16.61") between centers of pins.

3. Make adjustments to the length of rod (5) to dimension (B) of 333.0 + 1.5 mm (13.11 + .06") between centers of pins.

4. ***Adjustments to the length of rod (1) she pin removed in Step 1 can be installed easily without moving the rest of the linkage. Install the pin and key. Dimension (A) will be about 996 mm (39.2") between the center of the pins.***

If complaints of high pedal effort are received after machines are updated to all the latest changes with all adjustments being correct and the linkage well lubricated, check the surface finish on the brake drums. The surface finish on the brake drums should be 3.2 to 4.1 micrometers (125–160 micro-inches). For more information on brake drums see the Guidelines For Reusable Parts and salvage operations, Track-Type Tractor Brake Drums, Form No. SEBF8056.

The former CSM used a 6S9438 Plate Assembly and a 7D5289 Spring. See Illustration 4. It has been found that this spring and plate assembly are not necessary. The spring and plate assembly can be removed anytime work is done on the steering clutches and brakes without making any additional changes to the machines.

DESCRIPTION OF CHANGE: Water temperature regulators with a faster response are now used in many engine applications. See chart for part numbers of the former regulators. The new regulators listed will eventually be used in all applications of the former regulators.

The faster response regulator opens at a faster rate and closes faster. In some cases the opening temperature is raised 3°C (5°F).

ADAPTABLE TO: The new regulators are direct replacements for any of the former regulators as listed. Only the four new regulators are used in production and can be used in parts service to replace the listed regulators. This makes parts service easier.

NOTE

The brakes must be in the release position when adjustments are made.

The procedure to adjust the brakes and brake linkage on all Tractors and Loaders follows:

Cont. on next page.

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\PFUT1 \I^Cont. on next page.\NL^ \N^#P
\PFUT6 \I^Cont. on next page.\NL^ \N^#P
\PN 1

\HD1 SERVICE MAGAZINE
\HD2 \HR 42a,1p^
\HD2 \HR 42a,1p^
\HD3 \B^April 2, 1992

\CD 2, 3, 4 \END

\HD4 Improvements Made To Custom Shop Modifications For Oil Cooled
Steering Clutches And Brakes

\HD5 4100

\HD6 D3B Tractors, 931B Loaders

\P1 \B^REFERENCE: \N^Custom Shop Modification, Supplementary
Product Support Literature for D3B Tractors and 931B Loaders Equipped
with 8Z7140 Custom Shop Modification \81^Oil Steering Clutches And
Brakes, Form No. SEBF0551 \81^02.

\P1 \B^DESCRIPTION OF CHANGE: \N^The new Custom Shop Modification
(CSM) for oil cooled steering clutches and brakes used on D3B Tractors
and 931B Loaders is easier to install and takes less pedal effort to operate
than the former CSM.

\P2 Tractor and loaders equipped with the new CSM can be updated to
the latest improvements to further reduce the pedal effort requirements
for turning and braking.

\P2 The former CSM had linkage interference with the battery box.
The new CSM eliminates notching of the battery box and prevents interference
with it. The new CSM takes less pedal effort to operate because the new
linkage provides a 19.7 to 1 mechanical advantage compared to the 18 to
1 mechanical advantage of the former linkage. Other changes that reduce
pedal effort include changing the control linkage return spring and changing
the rod ends on the brake rods.

\P2 A change has been made to the adjustment procedure for the brakes
and brake linkage.

\P1 \B^ADAPTABLE AS: \N^Chart A contains the effective product
identification numbers for the former 8Z7102 and the new 8Z7140 Custom
Shop Modification (Oil Steering Clutches And Brakes).

\P2 Special Instruction Form SMHS8543 gives complete instruction for
installing the 8Z7065 Field Conversion Group (Oil Steering Clutches And
Brakes) to convert a standard machine to the 8Z7140 Custom Shop Modification
(Oil Steering Clutches And Brakes).

\HD7 NOTE

\P3 The brakes must be in the release position when adjustments are made.

\P2 The procedure to adjust the brakes and brake linkage on all D3B
Tractors and 931B Loaders equipped with oil steering clutches and brakes
is as follows:

\P11 1. \END Disconnect rod (1) by removing the key and pin from
one end of the rod.

\P11 2. \END Make adjustments to the length of four rods (3) to
get a dimension of 422.0 mm (16.61") between centers of pins.

etc...
```

Printed Sample

SERVICE MAGAZINE

April 2, 1992

Improvements Made To Custom Shop Modifications For Oil Cooled Steering Clutches And Brakes

4100

D3B Tractors, 931B Loaders

REFERENCE: Custom Shop Modification, Supplementary Product Support Literature for D3B Tractors and 931B Loaders Equipped with 8Z7140 Custom Shop Modification–Oil Steering Clutches And Brakes, Form No. SEBF0551–02.

DESCRIPTION OF CHANGE: The new Custom Shop Modification (CSM) for oil cooled steering clutches and brakes used on D3B Tractors and 931B Loaders is easier to install and takes less pedal effort to operate than the former CSM.

Tractor and loaders equipped with the new CSM can be updated to the latest improvements to further reduce the pedal effort requirements for turning and braking.

The former CSM had linkage interference with the battery box. The new CSM eliminates notching of the battery box and prevents interference with it. The new CSM takes less pedal effort to operate because the new linkage provides a 19.7 to 1 mechanical advantage compared to the 18 to 1 mechanical advantage of the former linkage. Other changes that reduce pedal effort include changing the control linkage return spring and changing the rod ends on the brake rods.

A change has been made to the adjustment procedure for the brakes and brake linkage.

ADAPTABLE AS: Chart A contains the effective product identification numbers for the former 8Z7102 and the new 8Z7140 Custom Shop Modification (Oil Steering Clutches And Brakes).

Special Instruction Form SMHS8543 gives complete instruction for installing the 8Z7065 Field Conversion Group (Oil Steering Clutches And Brakes) to convert a standard machine to the 8Z7140 Custom Shop Modification (Oil Steering Clutches And Brakes).

NOTE

The brakes must be in the release position when adjustments are made.

The procedure to adjust the brakes and brake linkage on all D3B Tractors and 931B Loaders equipped with oil steering clutches and brakes is as follows:

1. Disconnect rod (1) by removing the key and pin from one end of the rod.

2. Make adjustments to the length of four rods (3) to get a dimension of 422.0 mm (16.61") between centers of pins.

3. Make adjustments to the length of rod (5) to dimension (B) of 333.0 + 1.5 mm (13.11 + .06") between centers of pins.

4. ***Adjustments to the length of rod (1) she pin removed in Step 1 can be installed easily without moving the rest of the linkage. Install the pin and key. Dimension (A) will be about 996 mm (39.2") between the center of the pins.***

If complaints of high pedal effort are received after machines are updated to all the latest changes with all adjustments being correct and the linkage well lubricated, check the surface finish on the brake drums. The surface finish on the brake drums should be 3.2 to 4.1 micrometers (125–160 micro-inches). For more information on brake drums see the Guidelines For Reusable Parts and salvage operations, Track-Type Tractor Brake Drums, Form No. SEBF8056.

The former CSM used a 6S9438 Plate Assembly and a 7D5289 Spring. See Illustration 4. It has been found that this spring and plate assembly are not necessary. The spring and plate assembly can be removed anytime work is done on the steering clutches and brakes without making any additional changes to the machines.

DESCRIPTION OF CHANGE: Water temperature regulators with a faster response are now used in many engine applications. See chart for part numbers of the former regulators. The new regulators listed will eventually be used in all applications of the former regulators.

The faster response regulator opens at a faster rate and closes faster. In some cases the opening temperature is raised 3°C (5°F).

ADAPTABLE TO: The new regulators are direct replacements for any of the former regulators as listed. Only the four new regulators are used in production and can be used in parts service to replace the listed regulators. This makes parts service easier.

NOTE

The brakes must be in the release position when adjustments are made.

The procedure to adjust the brakes and brake linkage on all Tractors and Loaders follows:

Cont. on next page.

1

nl4col.pfmt

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\* Format for Newsletter Four Column \*

\* Output Device \*
\LASER

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\COLX3 LM=11a RM=21a BOT=5a TOP=10.25i LB=32p \END \* Second Col. \*
\COLX4 LM=22a RM=32a BOT=5a TOP=10.25i LB=32p \END \* Third Col. \*
\COLX5 LM=33a RM=43a BOT=5a TOP=10.25i LB=32p \END \* Fourth Col. \*

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\TXT4 FONT=GE STYLE=B HSIZE=9p VSIZE=9p LEAD=9p \END  \* HD5 \*

\* Type Face For Paragraphs \*
\TXT5 FONT=GE STYLE=N HSIZE=10p VSIZE=10p LEAD=12p \END  \* P1-P4, P11 \*

\* Type Face For Page Heads & Feet \*
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\HDX3 TEXT=3 LM=0 RM=0 CM=FL LB=24p LA=0 \END   \* HD3 \*
\HDX4 TEXT=3 LM=0 RM=0 CM=FL LB=32p LA=0 \END   \* HD4 \*
\HDX5 TEXT=4 LM=0 RM=0 CM=FL LB=19p LA=0 \END   \* HD5 \*
\HDX6 TEXT=2 LM=0 RM=0 CM=FL LB=25p LA=8p \END  \* HD6 \*
\HDX7 TEXT=2 LM=0 RM=0 CM=CE LB=16p LA=2p \END  \* HD7 \*

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\PX2 TEXT=5 LM=0 RM=0 CM=FL LB=16p LA=0 \END \* P2-Body \*
\PX2 IL1=1a NLI=1 \END \*P2-1st Line Indent \*
\PX3 TEXT=5 LM=1.5a RM=8.5a CM=FL LB=16p LA=0 \END \* P3-Body \*
\PX4 TEXT=5 LM=0 RM=0 CM=FL LB=16p LA=0 \END \* P4-Body \*

\PX11 ETX=5 ELM=0 ERM=20p ECM=FR \END \* P11-Enumeration \*
\PX11 TEXT=5 LM=0 RM=0 CM=FL LB=16p LA=0 \END \* P11-Body \*
\PX11 IL1=2a NLI=1 \END \* P11-1st Line Indent \*

\* Page Feet Definitions \*
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\PFUTX6 TEXT=6 LM=4a RM=47a CM=FR YPOS=3.5a \END  \* PFUT6-Odd Pages \*

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\ULPOS -25
\ULSIZ 10

\* Hyphenation Definition \*
\HYMB 4
\HYMA 3
\HYMC 2
\HYML 8
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Printed Sample

SERVICE MAGAZINE

April 2, 1992

Improvements Made To Custom Shop Modifications For Oil Cooled Steering Clutches And Brakes

4160

D3B Tractors, 931B Loaders

REFERENCE: Custom Shop Modification, Supplementary Product Support Literature for D3B Tractors and 931B Loaders Equipped with 8Z7140 Custom Shop Modification-Oil Steering Clutches And Brakes, Form No. SEBF0551-02.

DESCRIPTION OF CHANGE: The new Custom Shop Modification (CSM) for oil cooled steering clutches and brakes used on D3B Tractors and 931B Loaders is easier to install and takes less pedal effort to operate than the former CSM.

Tractor and loaders equipped with the new CSM can be updated to the latest improvements to further reduce the pedal effort requirements for turning and braking.

The former CSM had linkage interference with the battery box. The new CSM eliminates notching of the battery box and prevents interference with it. The new CSM takes less pedal effort to operate because the new linkage provides a 19.7 to 1 mechanical advantage compared to the 18 to 1 mechanical advantage of the former linkage. Other changes that reduce pedal effort include changing the control linkage return spring and changing the rod ends on the brake rods.

A change has been made to the adjustment procedure for the brakes and brake linkage.

ADAPTABLE AS: Chart A contains the effective product identification numbers for the former 8Z7102 and the new 8Z7140 Custom Shop Modification (Oil Steering Clutches And Brakes).

Special Instruction Form SMHS8543 gives complete instruction for installing the 8Z7065 Field Conversion Group (Oil Steering Clutches And Brakes) to convert a standard machine to the 8Z7140 Custom Shop Modification (Oil Steering Clutches And Brakes).

NOTE

The brakes must be in the release position when adjustments are made.

The procedure to adjust the brakes and brake linkage on all D3B Tractors and 931B Loaders equipped with oil steering clutches and brakes is as follows:

1. Disconnect rod (1) by removing the key and pin from one end of the rod.

2. Make adjustments to the length of four rods (3) to get a dimension of 422.0 mm (16.61") between centers of pins.

3. Make adjustments to the length of rod (5) to dimension (B) of 333.0 + 1.5 mm (13.11 + .06") between centers of pins.

4. ***Adjustments to the length of rod (1) she pin removed in Step 1 can be installed easily without moving the rest of the linkage. Install the pin and key. Dimension (A) will be about 996 mm (39.2") between the center of the pins.***

If complaints of high pedal effort are received after machines are updated to all the latest changes with all adjustments being correct and the linkage well lubricated, check the surface finish on the brake drums. The surface finish on the brake drums should be 3.2 to 4.1 micrometers (125-160 microinches). For more information on brake drums see the Guidelines For Reusable Parts and salvage operations, Track-Type Tractor Brake Drums, Form No. SEBF8056.

The former CSM used a 6S9438 Plate Assembly and a 7D5289 Spring. See Illustration 4. It has been found that this spring and plate assembly are not necessary. The spring and plate assembly can be removed anytime work is done on the steering clutches and brakes without making any additional changes to the machines.

DESCRIPTION OF CHANGE: Water temperature regulators with a faster response are now used in many engine applications. See chart for part numbers of the former regulators. The new regulators listed will eventually be used in all applications of the former regulators.

The faster response regulator opens at a faster rate and closes faster. In some cases the opening temperature is raised 3°C (5°F).

ADAPTABLE TO: The new regulators are direct replacements for any of the former regulators as listed. Only the four new regulators are used in production and can be used in parts service to replace the listed regulators. This makes parts service easier.

Cont. on next page.

1

nl4col.data

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\PFUT6 \I^Cont. on next page.\NL^ \N^#P
\PN 1

\HD1 SERVICE MAGAZINE
\HD2  \HR 43a,1p^
\HD2  \HR 43a,1p^
\HD3  \B^April 2, 1992

\CD 2, 3, 4, 5  \END

\HD4 Improvements Made To Custom Shop Modifications For Oil Cooled
Steering Clutches And Brakes

\HD5 4100

\HD6 D3B Tractors, 931B Loaders

\P1 \B^REFERENCE: \N^Custom Shop Modification, Supplementary
Product Support Literature for D3B Tractors and 931B Loaders Equipped
with 8Z7140 Custom Shop Modification \81^Oil Steering Clutches And
Brakes, Form No. SEBF0551 \81^02.

\P1 \B^DESCRIPTION OF CHANGE: \N^The new Custom Shop Modification
(CSM) for oil cooled steering clutches and brakes used on D3B Tractors
and 931B Loaders is easier to install and takes less pedal effort to operate
than the former CSM.

\P2 Tractor and loaders equipped with the new CSM can be updated to
the latest improvements to further reduce the pedal effort requirements
for turning and braking.

\P2 The former CSM had linkage interference with the battery box.
The new CSM eliminates notching of the battery box and prevents interference
with it. The new CSM takes less pedal effort to operate because the new
linkage provides a 19.7 to 1 mechanical advantage compared to the 18 to
1 mechanical advantage of the former linkage. Other changes that reduce
pedal effort include changing the control linkage return spring and changing
the rod ends on the brake rods.

\P2 A change has been made to the adjustment procedure for the brakes
and brake linkage.

\P1 \B^ADAPTABLE AS: \N^Chart A contains the effective product
identification numbers for the former 8Z7102 and the new 8Z7140 Custom
Shop Modification (Oil Steering Clutches And Brakes).

\P2 Special Instruction Form SMHS8543 gives complete instruction for
installing the 8Z7065 Field Conversion Group (Oil Steering Clutches And
Brakes) to convert a standard machine to the 8Z7140 Custom Shop Modification
(Oil Steering Clutches And Brakes).

\HD7 NOTE

\P3 The brakes must be in the release position when adjustments are made.

\P2 The procedure to adjust the brakes and brake linkage on all D3B
Tractors and 931B Loaders equipped with oil steering clutches and brakes
is as follows:

\P11 1. \END Disconnect rod (1) by removing the key and pin from
one end of the rod.

\P11 2. \END Make adjustments to the length of four rods (3) to
get a dimension of 422.0 mm (16.61") between centers of pins.

etc...
```

Printed Sample

SERVICE MAGAZINE

April 2, 1992

Improvements Made To Custom Shop Modifications For Oil Cooled Steering Clutches And Brakes

4160

D3B Tractors, 931B Loaders

REFERENCE: Custom Shop Modification, Supplementary Product Support Literature for D3B Tractors and 931B Loaders Equipped with 8Z7140 Custom Shop Modification-Oil Steering Clutches And Brakes, Form No. SEBF0551-02.

DESCRIPTION OF CHANGE: The new Custom Shop Modification (CSM) for oil cooled steering clutches and brakes used on D3B Tractors and 931B Loaders is easier to install and takes less pedal effort to operate than the former CSM.

Tractor and loaders equipped with the new CSM can be updated to the latest improvements to further reduce the pedal effort requirements for turning and braking.

The former CSM had linkage interference with the battery box. The new CSM eliminates notching of the battery box and prevents interference with it. The new CSM takes less pedal effort to operate because the new linkage provides a 19.7 to 1 mechanical advantage compared to the 18 to 1 mechanical advantage of the former linkage. Other changes that reduce pedal effort include changing the control linkage return spring and changing the rod ends on the brake rods.

A change has been made to the adjustment procedure for the brakes and brake linkage.

ADAPTABLE AS: Chart A contains the effective product identification numbers for the former 8Z7102 and the new 8Z7140 Custom Shop Modification (Oil Steering Clutches And Brakes).

Special Instruction Form SMHS8543 gives complete instruction for installing the 8Z7065 Field Conversion Group (Oil Steering Clutches And Brakes) to convert a standard machine to the 8Z7140 Custom Shop Modification (Oil Steering Clutches And Brakes).

NOTE

The brakes must be in the release position when adjustments are made.

The procedure to adjust the brakes and brake linkage on all D3B Tractors and 931B Loaders equipped with oil steering clutches and brakes is as follows:

1. Disconnect rod (1) by removing the key and pin from one end of the rod.

2. Make adjustments to the length of four rods (3) to get a dimension of 422.0 mm (16.61") between centers of pins.

3. Make adjustments to the length of rod (5) to dimension (B) of 333.0 + 1.5 mm (13.11 + .06") between centers of pins.

4. ***Adjustments to the length of rod (1) she pin removed in Step 1 can be installed easily without moving the rest of the linkage. Install the pin and key. Dimension (A) will be about 996 mm (39.2") between the center of the pins.***

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DESCRIPTION OF CHANGE: Water temperature regulators with a faster response are now used in many engine applications. See chart for part numbers of the former regulators. The new regulators listed will eventually be used in all applications of the former regulators.

The faster response regulator opens at a faster rate and closes faster. In some cases the opening temperature is raised 3°C (5°F).

ADAPTABLE TO: The new regulators are direct replacements for any of the former regulators as listed. Only the four new regulators are used in production and can be used in parts service to replace the listed regulators. This makes parts service easier.

Cont. on next page.

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backer.pfmt

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backer1.data

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\HD1 AGREEMENT AND DISCLOSURE STATEMENT\NL^
       HOME EQUITY LINE OF CREDIT

\P1 This Agreement governs your PACIFIC MOUNTAIN BANK Home Equity Line
of Credit Account ("Account"). The words "you" and "your" mean each
person (individually and jointly if more than one) who signs below. The
words "we", "us", "our", or "Bank" mean PACIFIC MOUNTAIN BANK.
You will be bound by the terms and conditions of this
Agreement from the time you sign below.

\HD3 NATURE OF YOUR ACCOUNT.

\P2 Your Account is an open-end revolving line of credit. You may request

etc...
```

Printed Sample

AGREEMENT AND DISCLOSURE STATEMENT
HOME EQUITY LINE OF CREDIT

The **backer.pfmt** is also used with the **backer2.data** and **backer3.data** files shown on the following pages. As you will see the only difference is the column callouts.

backer2.data

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\PFMT backer.pfmt \END

\HD1 AGREEMENT AND DISCLOSURE STATEMENT\NL^
       HOME EQUITY LINE OF CREDIT

\CD 2, 3, \END

\P1 This Agreement governs your PACIFIC MOUNTAIN BANK Home Equity Line
of Credit Account ("Account"). The words "you" and "your" mean each
person (individually and jointly if more than one) who signs below. The
words "we", "us", "our", or "Bank" mean PACIFIC MOUNTAIN BANK.
You will be bound by the terms and conditions of this
Agreement from the time you sign below.

\HD3 NATURE OF YOUR ACCOUNT.

\P2 Your Account is an open-end revolving line of credit. You may request
an advance of all or a part of your credit line at any time. By repaying

etc...
```

Printed Sample

AGREEMENT AND DISCLOSURE STATEMENT
HOME EQUITY LINE OF CREDIT

backer3.data

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\PFMT backer.pfmt \END

\HD1 AGREEMENT AND DISCLOSURE STATEMENT\NL^
       HOME EQUITY LINE OF CREDIT

\CD 4, 5, 6 \END

\P1 This Agreement governs your PACIFIC MOUNTAIN BANK Home Equity Line
of Credit Account ("Account"). The words "you" and "your" mean each
person (individually and jointly if more than one) who signs below. The
words "we", "us", "our", or "Bank" mean PACIFIC MOUNTAIN BANK.
You will be bound by the terms and conditions of this
Agreement from the time you sign below.

\HD3 NATURE OF YOUR ACCOUNT.

\P2 Your Account is an open-end revolving line of credit. You may request
an advance of all or a part of your credit line at any time. By repaying

etc...
```

Printed Sample

AGREEMENT AND DISCLOSURE STATEMENT
HOME EQUITY LINE OF CREDIT

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\* Output Device \*
\LASER

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\TXT2 FONT=GE STYLE=B  HSIZE=14p VSIZE=14p LEAD=16p \END  \* P2 \*
\TXT3 FONT=GE STYLE=B  HSIZE=12p VSIZE=12p LEAD=14p \END  \* P3 and P4 \*

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\PX4 TEXT=3 LM=0 RM=9.5a CM=FR LB=0 \END  \* Package Price \*

\* Prevent Hyphenation \*
\HYML 22

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\BLKX2 WIDTH=12.5a DEPTH=9a VCM=CE \END  \* Top Right Label \*
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\BLKX3 XPOS=4a YPOS=33.5a  \END

\BLKX4 WIDTH=12.5a DEPTH=9a VCM=CE \END  \* Second Right Label \*
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\BLKX5 WIDTH=12.5a DEPTH=9a VCM=CE \END  \* Third Left Label \*
\BLKX5 XPOS=4a YPOS=24.5a \END

\BLKX6 WIDTH=12.5a DEPTH=9a VCM=CE \END  \* Third Right Label \*
\BLKX6 XPOS=16.5a YPOS=24.5a \END

\BLKX7 WIDTH=12.5a DEPTH=9a VCM=CE \END  \* Fourth Left Label \*
\BLKX7 XPOS=4a YPOS=15.5a \END

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block.data

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\PFMT block.pfmt \END

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\P1 Fine Candies, Inc.
\P2 Assorted Chocolates
\P3 1 lb.  \P4 $4.95
\BLKE

\BLKB2
\P1 Fine Candies, Inc.
\P2 Assorted Chocolates
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```
\P3 2 lbs.  \P4 $9.95
\BLKE

\BLKB3
\P1 Fine Candies, Inc.
\P2 Assorted Creams
\P3 1 lb.  \P4 $4.95
\BLKE

\BLKB4
\P1 Fine Candies, Inc.
\P2 Assorted Creams
\P3 2 lb.  \P4 $9.95
\BLKE

\BLKB5
\P1 Fine Candies, Inc.
\P2 Dark Chocolates
\P3 1 lb.  \P4 $4.95
\BLKE

etc...
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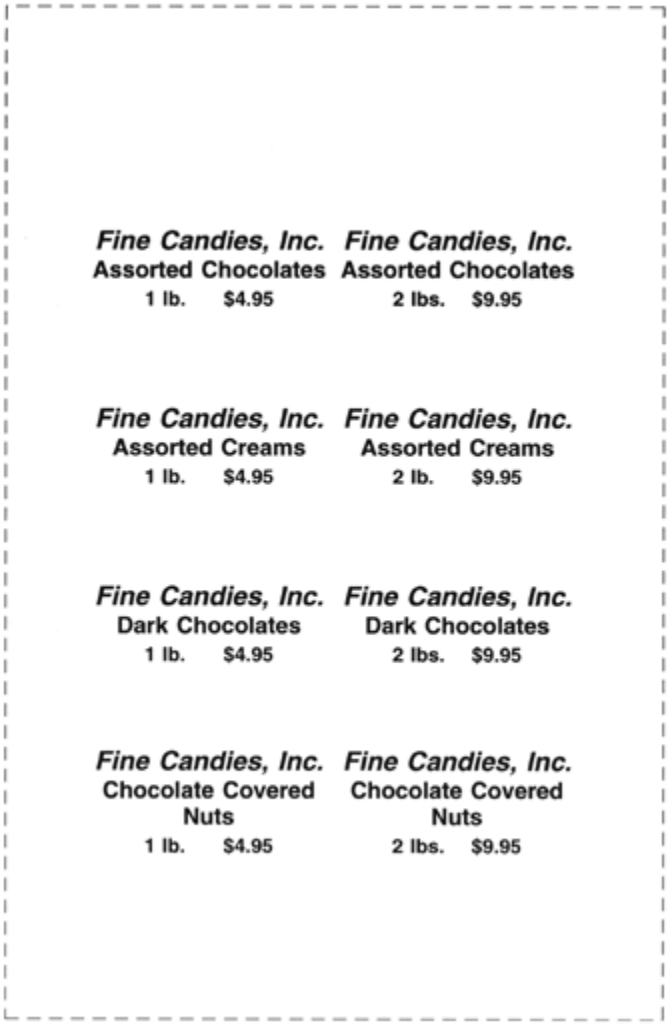
Printed Sample



blockrun.pfmt

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\* Format for Running Blocks \*

\* Output Device \*
\LASER

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\* Image Area \*
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\* Start Out with Full Column Type \*
\CD 1 \END

\* No Vertical Column Justification \*
\CVJ N

\* Fonts \*
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\TXT2 FONT=GE STYLE=B HSIZE=9.5p VSIZE=9.5p LEAD=11p \END \* BOLD BODY \*
\TXT3 FONT=GE STYLE=B HSIZE=9.5p VSIZE=9.5p LEAD=19p \END \* HRULES \*
\TXT4 FONT=GE STYLE=B HSIZE=8.5p VSIZE=8.5p LEAD=0 \END \* FOLIO \*

\* Paragraph Definitions \*
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\PX2 TEXT=2 CM=FL LM=0 RM=174p LB=0 LA=0 \END \* CO NAME \*

\PX3 TEXT=2 CM=FL LM=180p RM=4.5i LB=15p LA=0 \END \* ZIP CODE \*
\PX3 IL1=0 IL2=48p NLI=1 \END \* Hanging Indent \*

\PX4 ETX=2 ELM=0 ERM=42p ECM=FL \END \* P4-Enumeration \*
\PX4 TEXT=1 CM=FL LM=48p RM=174p LB=0 LA=0 \END \* ADDRESS \*

\PX5 TEXT=2 CM=JU LM=0 RM=4.5i LB=15p LA=0 \END \* DESCRIPTION \*
\PX6 TEXT=3 CM=CE LM=0 RM=4.5i LB=0 LA=0 \END \* HOR.RULE \*

\* Page Heading Definition \*
\PHEDX1 TEXT=04 YPOS=7.75i CM=FL LM=.5i RM=5i \END
\PHEDX6 TEXT=04 YPOS=7.75i CM=FR LM=.5i RM=5i \END
\PHED1 #P
\PHED6 #P

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\HYMA 3
\HYMB 3
\HYMC 3
\HYML 6

\* Block Definition \*
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blockrun.data

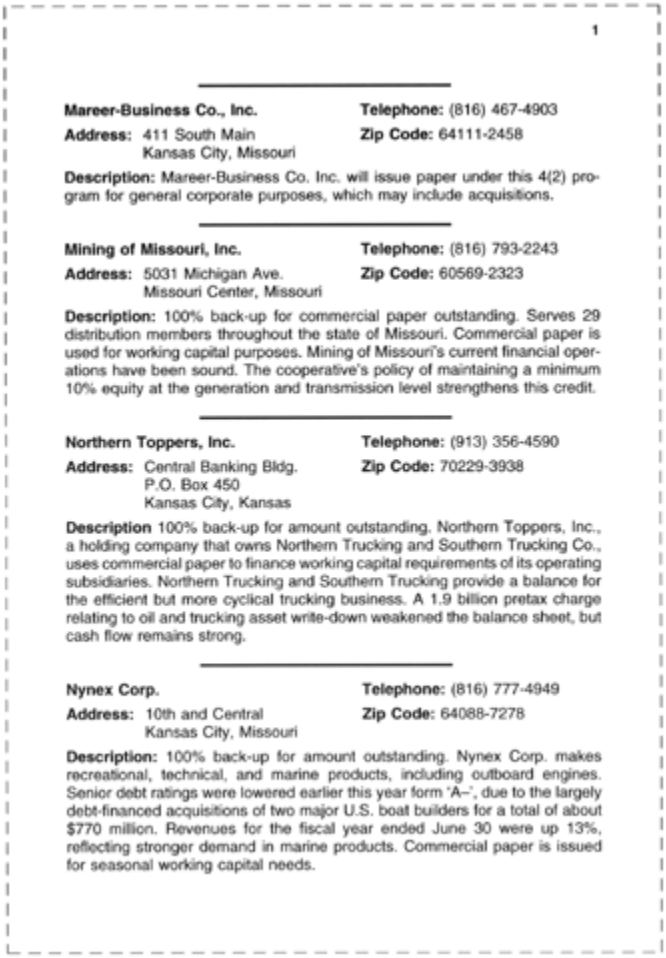
```
\PFMT blockrun.pfmt \END

\BLKB1
\P6 \HR 2i,1.5p^
\P1 Telephone: \N^(816) 467-4903
\P2 Mareer-Business Co., Inc.
\P3 Zip Code: \N^64111-2458
\P4 Address: \END 411 South Main\NL^ Kansas City, Missouri
\P5 Description: \N^Mareer-Business Co. Inc. will issue paper under
this 4(2) program for general corporate purposes, which may include
acquisitions.
\BLKE
```

```
\BLKB1
\P6 \HR 2i,1.5p^
\P1 Telephone: \N^(816) 793-2243
\P2 Mining of Missouri, Inc.
\P3 Zip Code: \N^60569-2323
\P4 Address: \END 5031 Michigan Ave.\NL^ Missouri Center, Missouri
\P5 Description: \N^100% back-up for commercial paper outstanding.
Serves 29 distribution members throughout the state of Missouri.
Commercial paper is used for working capital purposes.
Mining of Missouri's current financial operations have been sound.
The cooperative's policy of maintaining a minimum 10% equity at the
generation and transmission level strengthens this credit.
\BLKE

etc...
```

Printed Sample



1

Mareer-Business Co., Inc. **Telephone:** (816) 467-4903

Address: 411 South Main **Zip Code:** 64111-2458
Kansas City, Missouri

Description: Mareer-Business Co. Inc. will issue paper under this 4(2) program for general corporate purposes, which may include acquisitions.

Mining of Missouri, Inc. **Telephone:** (816) 793-2243

Address: 5031 Michigan Ave. **Zip Code:** 60569-2323
Missouri Center, Missouri

Description: 100% back-up for commercial paper outstanding. Serves 29 distribution members throughout the state of Missouri. Commercial paper is used for working capital purposes. Mining of Missouri's current financial operations have been sound. The cooperative's policy of maintaining a minimum 10% equity at the generation and transmission level strengthens this credit.

Northern Toppers, Inc. **Telephone:** (913) 356-4590

Address: Central Banking Bldg. **Zip Code:** 70229-3938
P.O. Box 450
Kansas City, Kansas

Description 100% back-up for amount outstanding. Northern Toppers, Inc., a holding company that owns Northern Trucking and Southern Trucking Co., uses commercial paper to finance working capital requirements of its operating subsidiaries. Northern Trucking and Southern Trucking provide a balance for the efficient but more cyclical trucking business. A 1.9 billion pretax charge relating to oil and trucking asset write-down weakened the balance sheet, but cash flow remains strong.

Nynex Corp. **Telephone:** (816) 777-4949

Address: 10th and Central **Zip Code:** 64088-7278
Kansas City, Missouri

Description: 100% back-up for amount outstanding. Nynex Corp. makes recreational, technical, and marine products, including outboard engines. Senior debt ratings were lowered earlier this year form 'A–', due to the largely debt-financed acquisitions of two major U.S. boat builders for a total of about $770 million. Revenues for the fiscal year ended June 30 were up 13%, reflecting stronger demand in marine products. Commercial paper is issued for seasonal working capital needs.

techcover.pfmt

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\* Format for Technical Report Cover \*

\* Output Device \*
\LASER

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\* Column Definition \*
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\* Start Out In Full Page Mode \*
\CD 1 \END

\* Type Faces For Headers \*
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\* Type Faces For Paragraphs \*
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\* Paragraph Definitions \*
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\PX2 TEXT=3 LM=0 RM=37a CM=FR LB=24p LA=0 \END  \* P2-Body  \*
\PX3 TEXT=4 LM=15a RM=37a CM=FL LB=34a LA=0 \END  \* P3-Body \*

\* Underline Definition Percentages \*
\ULPOS -25
\ULSIZ 10

\* Prevent Hyphenation \*
\HYML 22
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techcover.data

```
\PFMT techcover.pfmt \END

\HD1 Designing A\NL^ Multiplexer

\P1 A BASIC COURSE IN LIGHTWAVE DATA PROCESSING

\P2 PROVIDED BY PANDARUS MULTIPLEXER INSTITUTE

\P2 \HR 33a,6p^

\P3 HIBBING-MAPES PUBLICATIONS/NEW MEXICO\NL^
TANTALUS PUBLISHING/LONDON
```

Printed Sample

techconts.pfmt

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\* Format for Technical Report Table of Contents \*

\* Output Device \*
\LASER

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\* Column Definition \*
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\* Start Out In Full Page Mode \*
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\* Type Faces For Paragraphs \*
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\TXT3 FONT=GE STYLE=N HSIZE=10p VSIZE=10p LEAD=12p \END  \* P12 \*

\* Type Face For Page Heads \*
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\* Type Face For Page Feet \*
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\PX12 ETX=2 ELM=2a ERM=3270 ECM=FL \END \* P12-Enumeration \*
\PX12 TEXT=3 LM=4a RM=40a CM=JU LB=14p LA=0 \END  \* P12-Body  \*

\* Page Header Definitions \*
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\PHEDX5 TEXT=4 LM=5.5a RM=45.5a CM=FL YPOS=58.5a \END  \* PHED5 \*

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\* Prevent Hyphenation \*
\HYML 22
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techconts.data

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\PFMT techconts.pfmt \END

\PHED2 \HR 40a,1.5p^\NL^ \HR 40a,1.5p^
\PHED5 \HR 40a,1.5p^\NL^ \HR 40a,1.5p^
\PFUT2 PROPRIETARY \80^AUTHORIZED CLIENTS ONLY\NL^
\N^See proprietary restrictions on title page.
\PFUT5 PROPRIETARY \80^AUTHORIZED CLIENTS ONLY\NL^
\N^See proprietary restrictions on title page.

\HD1 GENERAL CONTENTS
```

```
\P11 Introduction \END Page

\P1 Lightwave Data Multiplexer
\P12 1. \END Features \FILL^~2
\P12 2. \END Description \FILL^~2
\P12 3. \END System Description \FILL^~2
\P12 4. \END Specifications \FILL^~2
\P12 5. \END Information \FILL^~3

\P1 Network Design and Configurations

etc...
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Printed Sample

GENERAL CONTENTS

techbody.pfmt

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\* Format for Technical Report Body \*

\* Output Device \*
\LASER

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\* Column Definition \*
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\* Start Out In Full Page Mode \*
\CD 1 \END

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\* Type Faces For Paragraphs \*
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\TXT3 FONT=GE STYLE=B HSIZE=10p VSIZE=10p LEAD=12p \END  \* PFUT2, PFUT5, P11 \*
\TXT4 FONT=GE STYLE=B HSIZE=10p VSIZE=10p LEAD=10p \END  \* P3, P5      \*
\TXT5 FONT=GE STYLE=I HSIZE=8p VSIZE=8p LEAD=10p \END  \* P4        \*

\* Type Faces For Page Heads \*
\TXT6 FONT=GE STYLE=N HSIZE=10p VSIZE=10p LEAD=12p \END  \* PHED1,PHED6 \*
\TXT7 FONT=GE STYLE=N HSIZE=5p VSIZE=5p LEAD=3p \END   \* PHED2,PHED5 \*
\TXT8 FONT=GE STYLE=B HSIZE=10p VSIZE=10p LEAD=12p \END  \* PHED3,PHED4 \*

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\* Paragraph Definitions \*
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\PX2 TEXT=2 LM=12.5a RM=39.5a CM=FL LB=24p LA=0 \END  \* P2-Indented Body   \*
\PX3 TEXT=4 LM=13.5a RM=39.5a CM=FL LB=18p LA=0 \END  \* P3-Asterisks     \*
\PX4 TEXT=5 LM=13.5a RM=39.5a CM=FL LB=11p LA=0 \END  \* P4-Special Comment \*
\PX5 TEXT=4 LM=13.5a RM=39.5a CM=FL LB=14p LA=0 \END  \* P4-Asterisks     \*
\PX6 TEXT=2 LM=12.5a RM=39.5a CM=FR LB=12p LA=0 \END  \* P6-Continued \*

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\PX12 ETX=2 ELM=12.5a ERM=13a ECM=FL \END \* P12-Enumeration \*
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\PX13 ETX=2 ELM=13.5a ERM=16a ECM=FL \END \* P13-Enumeration \*
\PX13 TEXT=2 LM=16a RM=39.5a CM=FL LB=24p LA=0 \END  \* P13-Body \*

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\PHEDX2 TEXT=7 LM=5.5a RM=45.5a CM=FL YPOS=58.5a \END  \* PHED2-Even Page \*
\PHEDX3 TEXT=8 LM=5.5a RM=45.5a CM=FR YPOS=61.5a \END  \* PHED3-Even Page \*
\PHEDX4 TEXT=8 LM=5.5a RM=45.5a CM=FL YPOS=61.5a \END  \* PHED4-Odd Page \*
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\* Page Feet Definitions \*
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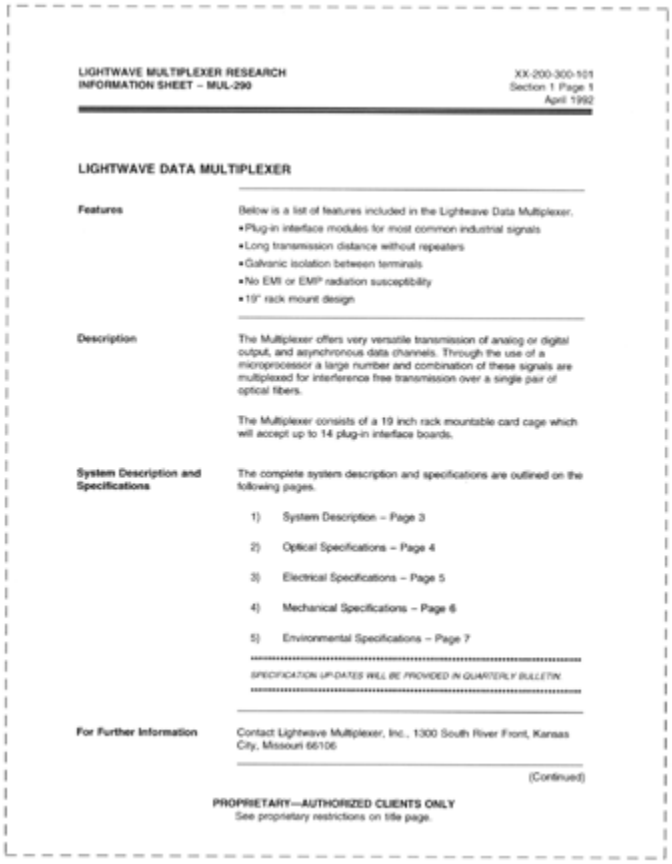
Printed Sample



LIGHTWAVE MULTIPLEXER RESEARCH
INFORMATION SHEET – MUL-290

XX-200-300-101
Section 1 Page 1
April 1992

LIGHTWAVE DATA MULTIPLEXER

Features

Below is a list of features included in the Lightwave Data Multiplexer.

- Plug-in interface modules for most common industrial signals
- Long transmission distance without repeaters
- Galvanic isolation between terminals
- No EMI or EMP radiation susceptibility
- 19" rack mount design

Description

The Multiplexer offers very versatile transmission of analog or digital output, and asynchronous data channels. Through the use of a microprocessor a large number and combination of these signals are multiplexed for interference free transmission over a single pair of optical fibers.

The Multiplexer consists of a 19 inch rack mountable card cage which will accept up to 14 plug-in interface boards.

System Description and Specifications

The complete system description and specifications are outlined on the following pages.

1) System Description – Page 3
2) Optical Specifications – Page 4
3) Electrical Specifications – Page 5
4) Mechanical Specifications – Page 6
5) Environmental Specifications – Page 7

SPECIFICATION UPDATES WILL BE PROVIDED IN QUARTERLY BULLETIN.

For Further Information

Contact Lightwave Multiplexer, Inc., 1300 South River Front, Kansas City, Missouri 66106

(Continued)

PROPRIETARY—AUTHORIZED CLIENTS ONLY
See proprietary restrictions on title page.

techbody.data

```
\PFMT techbody.pfmt \END

\PHED1 XX-200-300-101\NL^ Section 1 Page #P\NL^ April 1992
\PHED2 \HR 40a,1.5p^\NL^ \HR 40a,1.5p^
\PHED3 LIGHTWAVE MULTIPLEXER RESEARCH\NL^INFORMATION SHEET \81^ MUL-290

\PHED4 LIGHTWAVE MULTIPLEXER RESEARCH\NL^INFORMATION SHEET \81^ MUL-290
\PHED5 \HR 40a,1.5p^\NL^ \HR 40a,1.5p^
\PHED6 XX-200-300-101\NL^Section 1 Page #P\NL^ April 1992

\PFUT2 PROPRIETARY\80^AUTHORIZED CLIENTS ONLY\NL^
\N^See proprietary restrictions on title page.
\PFUT5 PROPRIETARY\80^AUTHORIZED CLIENTS ONLY\NL^
\N^See proprietary restrictions on title page.

\HD1 LIGHTWAVE DATA MULTIPLEXER

\P1 \HR 28a,.5p^

\P11 Features \END
Below is a list of features included in the
Lightwave Data Multiplexer.

\P12 \121^ \END
Plug-in interface modules for most common industrial signals

\P12 \121^ \END
Long transmission distance without repeaters

\P12 \121^ \END
Galvanic isolation between terminals

\P12 \121^ \END
No EMI or EMP radiation susceptibility

\P12 \121^ \END
19" rack mount design

\P1 \HR 28a,.5p^

\P11 Description \END
The Multiplexer offers very versatile transmission of
analog or digital output, and asynchronous data
channels. Through the use of a microprocessor a large
number and combination of these signals are
multiplexed for interference free transmission over
a single pair of optical fibers.

\P2 The Multiplexer consists of a 19 inch rack
mountable card cage which will accept up to 14
plug-in interface boards.

\P1 \HR 28a,.5p^

\P11 System Description and Specifications \END
The complete system description and specifications
are outlined on the following pages.

\P13 1) \END System Description \81^ Page 3
\P13 2) \END Optical Specifications \81^ Page 4
\P13 3) \END Electrical Specifications \81^ Page 5
\P13 4) \END Mechanical Specifications  \81^ Page 6
\P13 5) \END Environmental Specifications \81^ Page 7

\P3 ************************************************************************

\P4 \I^SPECIFICATION UP-DATES WILL BE PROVIDED IN QUARTERLY BULLETIN.

\P5 ************************************************************************

\P1 \HR 28a,.5p^

\P11 For Further Information \END Contact Lightwave
Multiplexer, Inc., 1300 South River Front,
```

```
Kansas City, Missouri 66106

\P1 \HR 28a,.5p^
\P6 (Continued)
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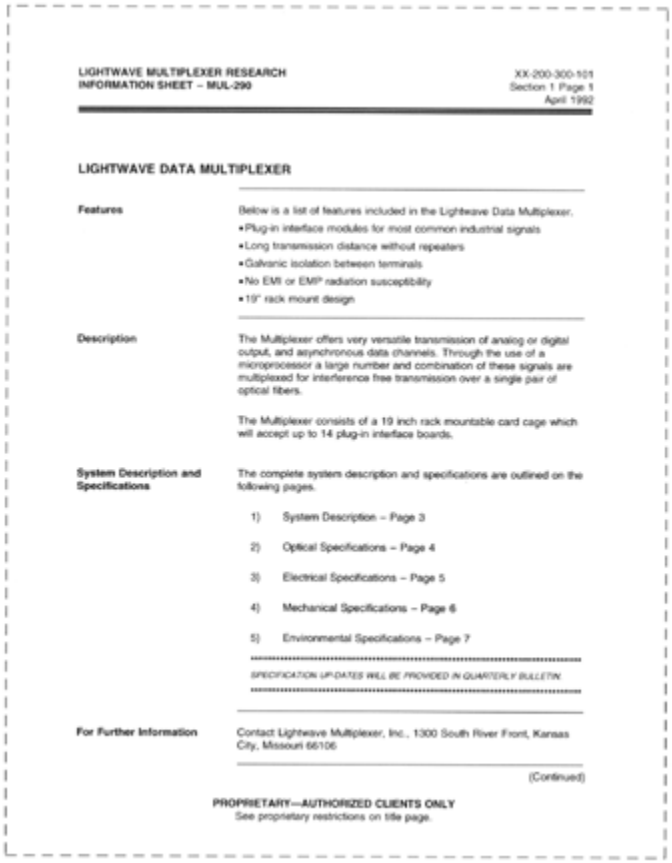
Printed Sample



LIGHTWAVE MULTIPLEXER RESEARCH
INFORMATION SHEET – MUL-290

XX-200-300-101
Section 1 Page 1
April 1992

LIGHTWAVE DATA MULTIPLEXER

Features

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- Galvanic isolation between terminals
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3) Electrical Specifications – Page 5
4) Mechanical Specifications – Page 6
5) Environmental Specifications – Page 7

SPECIFICATION UP-DATES WILL BE PROVIDED IN QUARTERLY BULLETIN.

For Further Information

Contact Lightwave Multiplexer, Inc., 1300 South River Front, Kansas City, Missouri 66106

(Continued)

PROPRIETARY—AUTHORIZED CLIENTS ONLY
See proprietary restrictions on title page.

techglos.pfmt

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\LASER

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\* Type Faces For Body Copy \*
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\* Type Faces For Page Heads \*
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\PHEDX4 TEXT=6 LM=5.5a RM=45.5a CM=FL YPOS=10.25i \END \* PHED4-Odd Page \*
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\PHEDX6 TEXT=4 LM=5.7a RM=45.5a CM=FR YPOS=10.25i \END \* PHED6-Odd Page \*

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\* Prevent Hyphenation \*
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techglos.data

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\PHED1 XX-200-300-101\NL^Section 8 Page #P\NL^ April 1992
\PHED2 \HR 40a,1.5p^\NL^ \HR 40a,1.5p^
\PHED3 LIGHTWAVE MULTIPLEXER RESEARCH\NL^INFORMATION SHEET \81^ MUL-290
\PHED4 LIGHTWAVE MULTIPLEXER RESEARCH\NL^INFORMATION SHEET \81^ MUL-290
\PHED5 \HR 40a,1.5p^\NL^ \HR 40a,1.5p^
\PHED6 XX-200-300-101\NL^Section 8 Page #P\NL^ April 1992
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\PFUT2 PROPRIETARY \80^AUTHORIZED CLIENTS ONLY\NL^
\N^See proprietary restrictions on title page.
\PFUT5 PROPRIETARY \80^AUTHORIZED CLIENTS ONLY\NL^
\N^See proprietary restrictions on title page.

\PN 1

\HD1 GLOSSARY OF TERMS-\NL^LIGHTWAVE DATA MULTIPLEXER

\P11 Analog \END
A continuously varying electrical waveform.  On analog telephone lines,
the current which flows is analogous to the sound waves spoken or tones
transmitted.

\P11 Analog Lines \END
Analog lines are base bandwidth (3KHz) customer lines served by Line
Units (LU).

\P11 Automatic Line Insulation Test (ALIT) \END
Circuit packs provided on the Modular Metallic Service Unit used to
provide

etc...
```

Printed Sample

LIGHTWAVE MULTIPLEXER RESEARCH
INFORMATION SHEET – MUL-290

XX-200-300-101
Section 8 Page 1
April 1992

GLOSSARY OF TERMS-
LIGHTWAVE DATA MULTIPLEXER

Analog	A continuously varying electrical waveform. On analog telephone lines, the current which flows is analogous to the sound waves spoken or tones transmitted.
Analog Lines	Analog lines are base bandwidth (3KHz) customer lines served by Line Units (LU).
Automatic Line Insulation Test (ALIT)	Circuit packs provided on the Modular Metallic Service Unit used to provide access to analog lines for an automatic testing system which looks for leakage or the presence of foreign potentials on subscriber loops.
Byte	A byte is a contiguous group of bits, generally eight bits, that are operated on as a unit.
Channel	A channel refers to that part of a Time Division Multiplexed bit stream that carries one voice message (i.e., a 64 Kbit/s channel). In usage, the term channel often implies two channels, one in each direction, between two points.
Channel Circuit	Circuits in the Line Unit (LU) that perform the A/D and D/A conversion, convert from 2-wire to 4-wire and vice-versa, perform supervision, and provide talking battery for analog lines.
Cluster	A group of two, three, or four Remote Switching Modules that is served as a single unit by the host office.
Concentrator	A solid state device that concentrates the access of 512, 384, or 256 lines to 64 channel units. This gives concentration ratios of 8:1, 6:1, or 4:1, respectively.
Concentrator Group (CG)	Another name for a Line Unit (LU), since a Line Unit consists of a group of concentrators.
Connector/Protector Frame	General term to specify the interconnection point between loop cable pairs and switching equipment, and the provision of protection against line overvoltage conditions.

PROPRIETARY—AUTHORIZED CLIENTS ONLY
See proprietary restrictions on title page.

oneclcvr.pfmt

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\TXT4 FONT=GE STYLE=B HSIZE=11p VSIZE=11p LEAD=14p \END  \* P3 \*

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oneclcvr.data

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\HD1 GLB399 Output Reports

\P2 \HR 42a,6p^

\P1 DESCRIPTION OF GOAL SEEKING OUTPUTS

\P2 \HR 42a,6p^

\P2 PROVIDED BY SUCCESS INC.

\P2 \HR 42a,6p^

\P3 BOCKER PUBLICATIONS/NEWARK, NJ.\NL^ NEYSID PUBLISHING/NEW YORK, NY.
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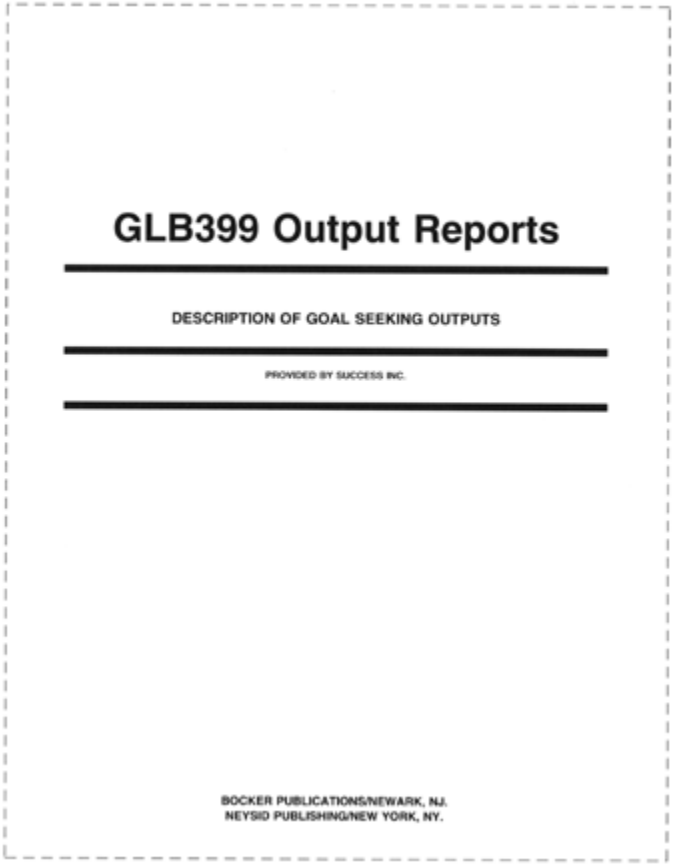
Printed Sample



GLB399 Output Reports

DESCRIPTION OF GOAL SEEKING OUTPUTS

PROVIDED BY SUCCESS INC.

BOCKER PUBLICATIONS/NEWARK, NJ.
NEYSID PUBLISHING/NEW YORK, NY.

onecltoc.pfmt

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\* Output Device \*
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\* Type Faces For Paragraphs \*
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\* Header Definitions \*
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\* Paragraph Definitions \*
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\HYML 8
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onecltoc.data

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\PHED6 GLB399 Output Reports\NL^ Table of Contents
\PFUT6 ii

\HD1 Table of Contents

\P1 Description

\P2 Page

\P3 1.0 Introduction \FILL^ \B^~4-0
```

```
\P3 2.0 Revenue & Usage \FILL^ \B^~4-1

\P4 Cumulative Discounted Cash Flow (CDCF) \FILL^ \B^~4-2
\P4 Net Cumulative Discounted Cash Flow \FILL^ \B^~4-3
\P4 Goal Seeking Outputs \FILL^ \B^~4-4
\P4 Calculation Guide \FILL^ \B^~4-5

\P3 3.0  Revenue & Usage \FILL^ \B^~4-6

\P4  Cumulative Discounted Cash Flow (CDCF) \FILL^ \B^~4-7
\P4  Net Cumulative Discounted Cash Flow \FILL^ \B^~4-8

etc...
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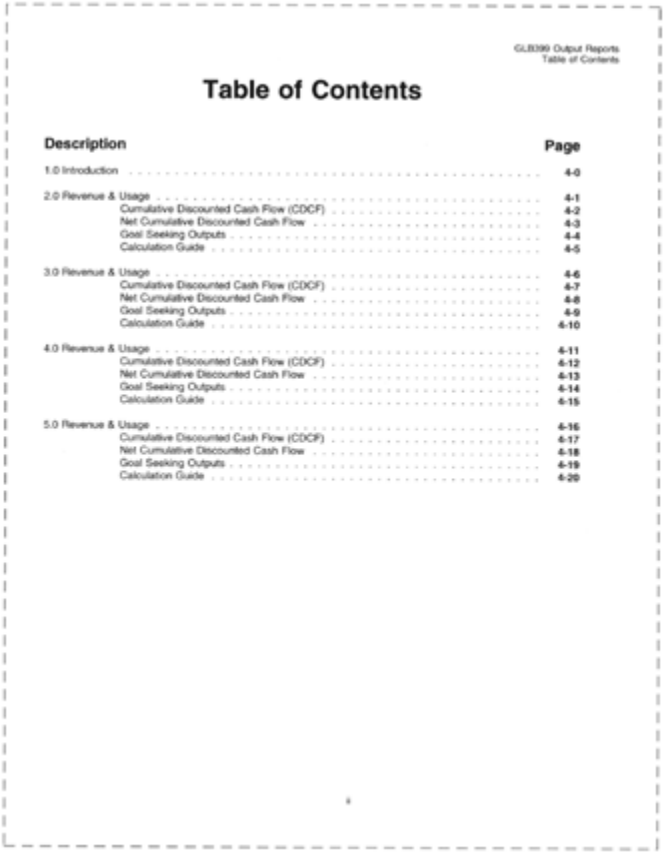
Printed Sample



GLB399 Output Reports
Table of Contents

Table of Contents

oneclbdy.pfmt

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\TXT2 FONT=GE STYLE=B HSIZE=10p VSIZE=10p LEAD=12p \END  \* HD3, HD4 \*

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\* Type Faces For Page Heads & Feet \*
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\PX13 ETX=3 ELM=5a ERM=6.5a ECM=FL \END \* P13-Enumeration \*
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\PFUTX6 TEXT=4 LM=6a RM=48a CM=FR YPOS=2a \END  \* PFUT6 \*

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\HYMC 2
\HYML 8
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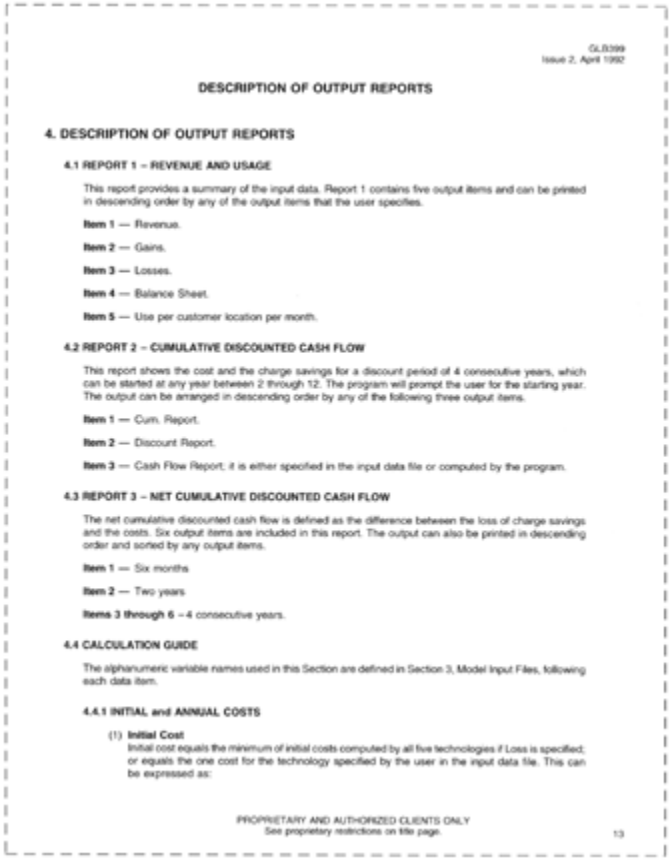
Printed Sample



GLB399
Issue 2, April 1992

DESCRIPTION OF OUTPUT REPORTS

4. DESCRIPTION OF OUTPUT REPORTS

4.1 REPORT 1 – REVENUE AND USAGE

This report provides a summary of the input data. Report 1 contains five output items and can be printed in descending order by any of the output items that the user specifies.

Item 1 — Revenue.

Item 2 — Gains.

Item 3 — Losses.

Item 4 — Balance Sheet.

Item 5 — Use per customer location per month.

4.2 REPORT 2 – CUMULATIVE DISCOUNTED CASH FLOW

This report shows the cost and the charge savings for a discount period of 4 consecutive years, which can be started at any year between 2 through 12. The program will prompt the user for the starting year. The output can be arranged in descending order by any of the following three output items.

Item 1 — Cum. Report.

Item 2 — Discount Report.

Item 3 — Cash Flow Report, it is either specified in the input data file or computed by the program.

4.3 REPORT 3 – NET CUMULATIVE DISCOUNTED CASH FLOW

The net cumulative discounted cash flow is defined as the difference between the loss of charge savings and the costs. Six output items are included in this report. The output can also be printed in descending order and sorted by any output items.

Item 1 — Six months

Item 2 — Two years

Items 3 through 6 – 4 consecutive years.

4.4 CALCULATION GUIDE

The alphanumeric variable names used in this Section are defined in Section 3, Model Input Files, following each data item.

4.4.1 INITIAL and ANNUAL COSTS

(1) **Initial Cost**
Initial cost equals the minimum of initial costs computed by all five technologies if Loss is specified, or equals the one cost for the technology specified by the user in the input data file. This can be expressed as:

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13

oneclbdy.data

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\PFMT oneclbdy.pfmt \END

\CVJ Y

\PHED1 GLB399 \NL^Issue 2, April 1992
\PHED6 GLB399 \NL^Issue 2, April 1992

\PFUT1 #P
\PFUT6 #P

\PFUT2 PROPRIETARY AND AUTHORIZED CLIENTS ONLY\NL^
See proprietary restrictions on title page.
\PFUT5 PROPRIETARY AND AUTHORIZED CLIENTS ONLY\NL^
See proprietary restrictions on title page.

\PN 13

\HD1 DESCRIPTION OF OUTPUT REPORTS

\HD2 4. DESCRIPTION OF OUTPUT REPORTS

\HD3 4.1 REPORT 1 \81^ REVENUE AND USAGE

\P1 This report provides a summary of the
input data. Report 1 contains five output items and can
be printed in descending order by any of the output
items that the user specifies.

\P11 \B^Item 1 \80^ \END \N^Revenue.
\P11 \B^Item 2 \80^ \END \N^Gains.
\P11 \B^Item 3 \80^ \END \N^Losses.
\P11 \B^Item 4 \80^ \END \N^Balance Sheet.
\P11 \B^Item 5 \80^ \END \N^Use per customer location per month.

\HD3 4.2 REPORT 2 \81^ CUMULATIVE DISCOUNTED CASH FLOW

\P1 This report shows the cost and the charge savings for a discount
period of 4 consecutive years, which can be started at any year between
2 through 12.  The  program will prompt the user for the starting year.
The output can be arranged in descending order by any of the following
three output items.

\P11 \B^Item 1 \80^ \END \N^Cum. Report.
\P11 \B^Item 2 \80^ \END \N^Discount Report.
\P11 \B^Item 3 \80^ \END \N^Cash Flow Report; it is either specified
in the input data file or computed by the program.

\HD3 4.3 REPORT 3 \81^ NET CUMULATIVE DISCOUNTED CASH FLOW

\P1 The net cumulative discounted cash flow is defined as the difference
between the loss of charge savings and the costs. Six output items are
included in this report. The output can also be printed in descending
order and sorted by any output items.

\P11 \B^Item 1 \80^ \END \N^Six months

\P11 \B^Item 2 \80^ \END \N^Two years

\P12 \B^Items 3 through 6 \81^ \END \N^4 consecutive years.

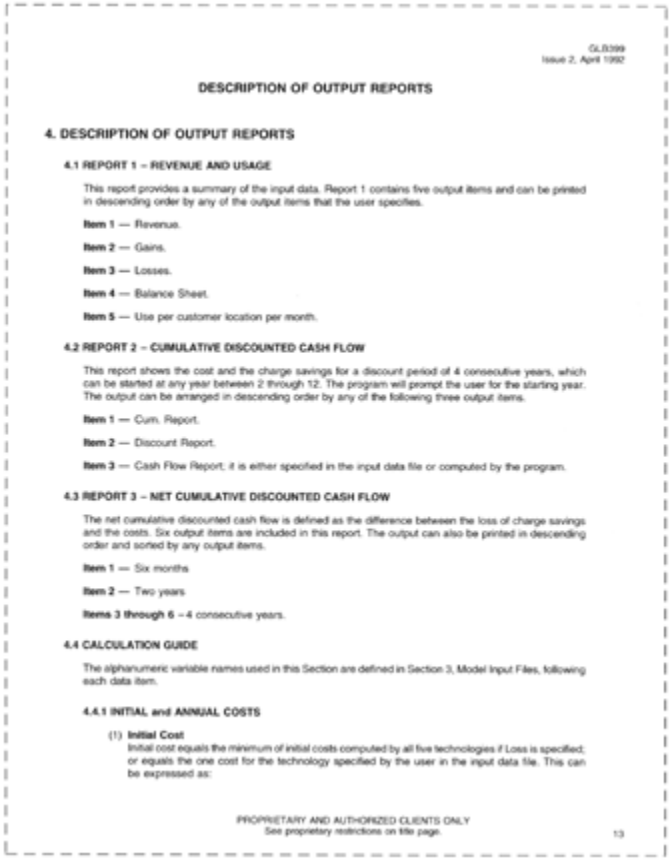
\HD3 4.4 CALCULATION GUIDE

\P1 The alphanumeric variable names used in this Section are defined
in Section 3, Model Input Files, following each data item.

\HD4 4.4.1 INITIAL and ANNUAL COSTS

\P13 (1) \END \B^Initial Cost\NL^
\N^Initial cost equals the minimum of initial costs computed by all
five technologies if Loss is specified; or equals the one cost for
the technology specified by the user in the input data file. This can
be expressed as:
```

Printed Sample



GLB399
Issue 2, April 1992

DESCRIPTION OF OUTPUT REPORTS

4. DESCRIPTION OF OUTPUT REPORTS

4.1 REPORT 1 – REVENUE AND USAGE

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Item 1 — Revenue.

Item 2 — Gains.

Item 3 — Losses.

Item 4 — Balance Sheet.

Item 5 — Use per customer location per month.

4.2 REPORT 2 – CUMULATIVE DISCOUNTED CASH FLOW

This report shows the cost and the charge savings for a discount period of 4 consecutive years, which can be started at any year between 2 through 12. The program will prompt the user for the starting year. The output can be arranged in descending order by any of the following three output items.

Item 1 — Cum. Report.

Item 2 — Discount Report.

Item 3 — Cash Flow Report, it is either specified in the input data file or computed by the program.

4.3 REPORT 3 – NET CUMULATIVE DISCOUNTED CASH FLOW

The net cumulative discounted cash flow is defined as the difference between the loss of charge savings and the costs. Six output items are included in this report. The output can also be printed in descending order and sorted by any output items.

Item 1 — Six months

Item 2 — Two years

Items 3 through 6 – 4 consecutive years.

4.4 CALCULATION GUIDE

The alphanumeric variable names used in this Section are defined in Section 3, Model Input Files, following each data item.

4.4.1 INITIAL and ANNUAL COSTS

(1) **Initial Cost**
Initial cost equals the minimum of initial costs computed by all five technologies if Loss is specified, or equals the one cost for the technology specified by the user in the input data file. This can be expressed as:

PROPRIETARY AND AUTHORIZED CLIENTS ONLY
See proprietary restrictions on title page.

13

oneclbib.pfmt

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oneclbib.data

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\PHED1 GLB399 Output Reports\NL^ Bibliography
\PHED6 GLB399 Output Reports\NL^ Bibliography

\HD1 Bibliography

\HD2 Section 1

\P1 Barber, L.R., and Gardner, W.E., "Effective Report Reading with
Accuracy and Speed." \I^Business Accountability Journal \N^(1963),
298-315.

\P1 Jackson, B.L., "Preparing Output Reports for Effective Readability."
\I^Accounting Journal \N^(1975), 35-98.

\HD2 Section 2
```

```
\P1 James, K.P., and Lyons, P.J., "Classifying Input Data Files for
Better Output Reports." \I^Accounting Journal \N^(1973), 110-135.

\P1 Michaels, L.A., "Using Input Efficiently."  \I^American Business
Journal \N^(1980), 5-55.

\HD2 Section 3

\P1 Weston, S.M., "Holding Reporting to Efficient Minimums."
\I^Computer Analyst Journal \N^(1979), 98-115.

etc...
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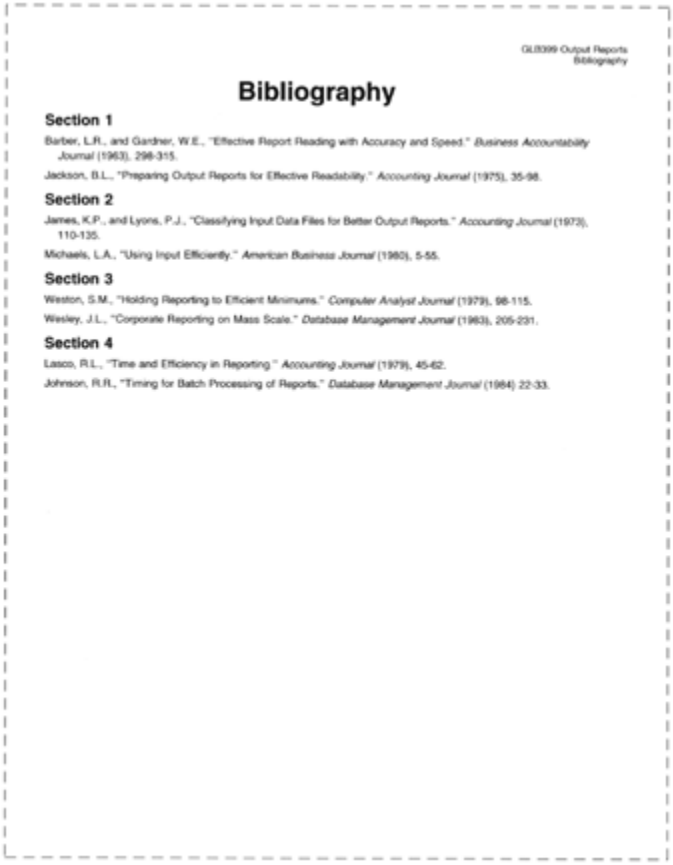
Printed Sample



GL8399 Output Reports
Bibliography

Bibliography

Section 1

Barber, L.R., and Gardner, W.E., "Effective Report Reading with Accuracy and Speed." *Business Accountability Journal* (1963), 298-315.

Jackson, B.L., "Preparing Output Reports for Effective Readability." *Accounting Journal* (1975), 35-98.

Section 2

James, K.P., and Lyons, P.J., "Classifying Input Data Files for Better Output Reports." *Accounting Journal* (1973), 110-135.

Michaels, L.A., "Using Input Efficiently." *American Business Journal* (1980), 5-55.

Section 3

Weston, S.M., "Holding Reporting to Efficient Minimums." *Computer Analyst Journal* (1979), 98-115.

Wesley, J.L., "Corporate Reporting on Mass Scale." *Database Management Journal* (1983), 205-231.

Section 4

Lasco, R.L., "Time and Efficiency in Reporting." *Accounting Journal* (1979), 45-62.

Johnson, R.R., "Timing for Batch Processing of Reports." *Database Management Journal* (1984) 22-33.

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\* Type Faces For Paragraphs \*
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\TXT4 FONT=GE STYLE=B HSIZE=11p VSIZE=11p LEAD=14p \END \* P3 \*

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\* Paragraph Definitions \*
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\PX2 TEXT=3 LM=0 RM=0 CM=FL LB=340p LA=0 \END \* P2 \*
\PX3 TEXT=4 LM=0 RM=0 CM=FR LB=24p LA=0 \END  \* P3 \*

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\HYMA 3
\HYMC 2
\HYML 8
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twoclcvr.data

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\HD1 THE \NL^TELEPHONE\NL^NETWORK

\P1 A BASIC COURSE IN TELEPHONE MAINTENANCE

\P1 \HR 42a,6p^

\P2 PROVIDED BY BEAVERTON INC.

\P3 LAWLER-SNYDER PUBLICATIONS/NEW YORK\NL^ KUPEINET PUBLISHING/NEW YORK
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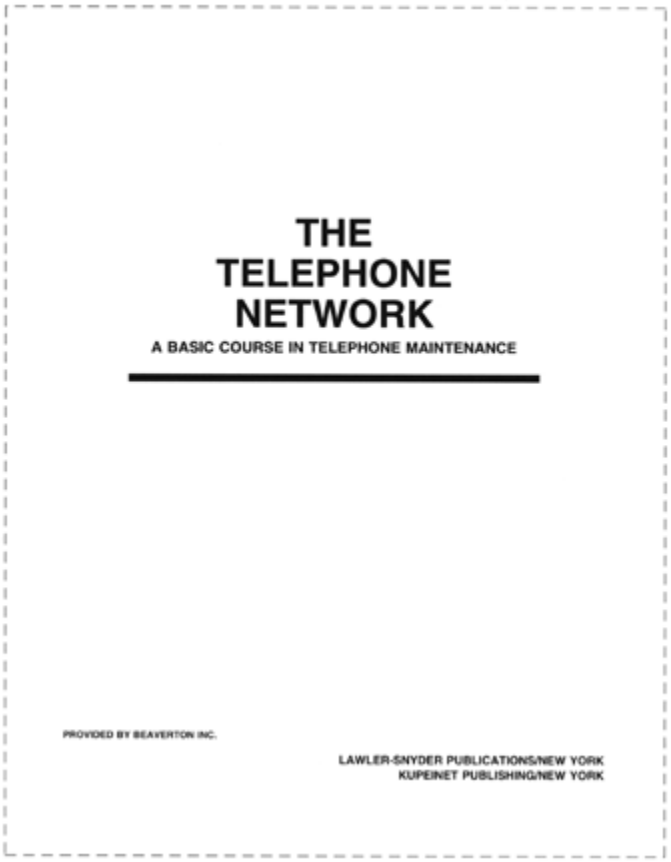
Printed Sample



twocltoc.pfmt

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\* Type Faces For Paragraphs \*
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\TXT3 FONT=GE STYLE=B HSIZE=12p VSIZE=12p LEAD=14p \END \* P1-P2   \*

\* Type Face For Page Heads \*
\TXT4 FONT=GE STYLE=B HSIZE=10p VSIZE=10p LEAD=12p \END \* PHED1, PHED6 \*

\* Header Definitions \*
\HDX1 TEXT=1 LM=0 RM=0 CM=CE LB=24p LA=0 \END \* HD1 \*

\* Paragraph Definitions \*
\PX1 TEXT=3 LM=0 RM=0 CM=CE LB=36p LA=0 \END \* P1-Body \*
\PX2 TEXT=3 LM=0 RM=0 CM=FR LB=0 LA=0 \END \* P2-Body \*

\PX11 ETX=2 ELM=0 ERM=2a ECM=FL \END  \* P11-Enumeration \*
\PX11 TEXT=2 LM=2a RM=0 CM=FL LB=24p LA=0 \END \* P11-Body \*

\PX12 ETX=2 ELM=2a ERM=3.5a ECM=FL \END \* P12-Enumeration \*
\PX12 TEXT=2 LM=3.5a RM=0 CM=FL LB=24p LA=0 \END \* P12-Body \*

\* Page Header Definitions \*
\PHEDX1 TEXT=4 LM=4.5a RM=46.5a CM=FL YPOS=10.75i \END \* PHED1 \*
\PHEDX6 TEXT=4 LM=4.5a RM=46.5a CM=FR YPOS=10.75i \END \* PHED6 \*

\* Underline Definition Percentages \*
\ULPOS -25
\ULSIZ 10

\* Hyphenation Definition \*
\HYMB 4
\HYMA 3
\HYMC 2
\HYML 8
```
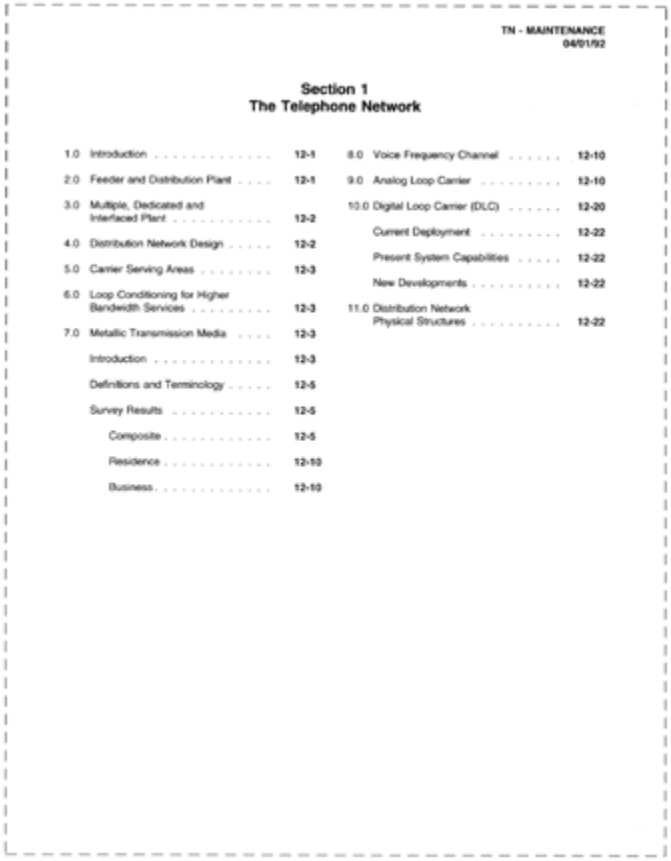

twocltoc.data

```
\PFMT twocltoc.pfmt \END
\PHED1 TN - MAINTENANCE\NL^04/01/92
\PHED6 TN - MAINTENANCE\NL^04/01/92

\HD1 Section 1\NL^ The Telephone Network

\CD 1, 2 \END

\P11 1.0 \END Introduction \FILL^ \B^12-1~
\P11 2.0 \END Feeder and Distribution Plant \FILL^ \B^12-1~
\P11 3.0 \END Multiple, Dedicated and\NL^ Interfaced Plant \FILL^ \B^12-2~
\P11 4.0 \END Distribution Network Design \FILL^ \B^12-2~
\P11 5.0 \END Carrier Serving Areas \FILL^ \B^12-3~
```

```
\P11 6.0 \END Loop Conditioning for Higher\NL^
 Bandwidth Services \FILL^ \B^12-3~
\P11 7.0 \END Metallic Transmission Media \FILL^ \B^12-3~
\P11 Introduction \FILL^ \B^12-3~
\P11 Definitions and Terminology \FILL^ \B^12-5~
\P11 Survey Results \FILL^ \B^12-5~

\P12 Composite \FILL^ \B^12-5~
\P12 Residence \FILL^ \B^12-10
\P12 Business \FILL^ \B^12-10

\NC^

\P11 8.0 \END Voice Frequency Channel \FILL^ \B^12-10
etc...
```

Printed Sample



TN - MAINTENANCE
04/01/92

Section 1
The Telephone Network

twoclbdy.pfmt

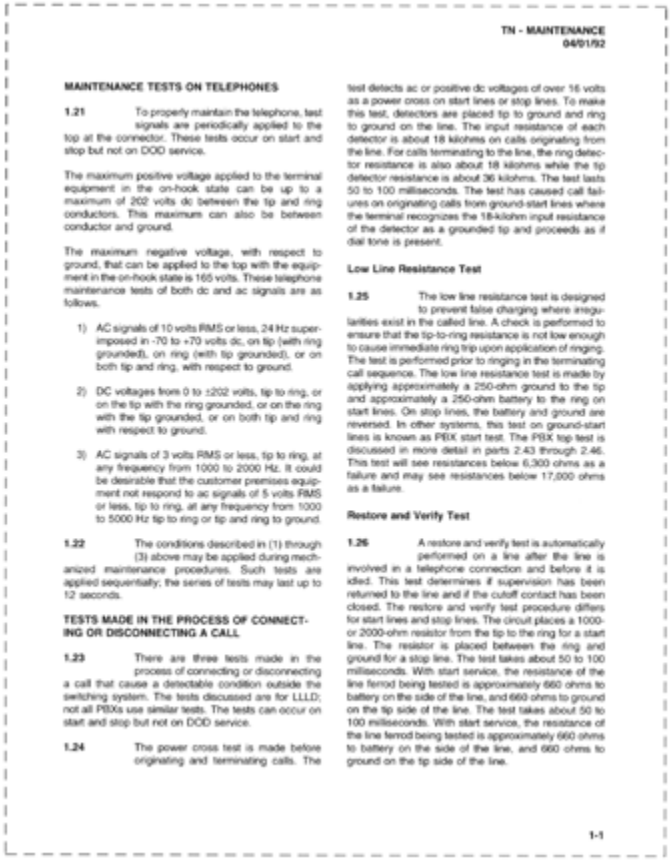
```
\* Format for Two Column Body \*

\* Output Device \*
\LASER^

\* Page Definition \*
\PDEF WIDTH=8.5i DEPTH=11i LM=4.5a RM=4.5a DUPLEX=N \END

\* Column Definitions \*
\COLX1 LM=0 RM=20a BOT=1i TOP=10i LB=36p \END \* Left Col.  \*
\COLX2 LM=22a RM=42a BOT=1i TOP=10i LB=36p \END \* Right Col. \*
\COLX3 LM=0 RM=42a BOT=1i TOP=10i LB=0 \END \* Full Page  \*

\* Start Out In Full Page Mode \*
\CD 3 \END

\* Type Faces For Document \*
\TXT1 FONT=GE STYLE=B HSIZE=10p VSIZE=10p LEAD=12p \END \* HD1, P11 \*
\TXT2 FONT=GE STYLE=N HSIZE=10p VSIZE=10p LEAD=12p \END \* P1,P11-P12 \*
\TXT3 FONT=GE STYLE=B HSIZE=10p VSIZE=10p LEAD=12p \END \* PHED1-6,PFUT1-6 \*

\* Header Definitions \*
\HDX1 TEXT=1 LM=0 RM=0 CM=FL LB=24p LA=0 \END \* HD1 \*

\* Paragraph Definitions \*
\PX1 TEXT=2 LM=0 RM=0 CM=JU LB=24p LA=0 \END \* P1-Body \*

\PX11 ETX=1 ELM=0 ERM=3a ECM=FL \END \* P11-Enumeration \*
\PX11 TEXT=2 LM=0 RM=0 CM=JU LB=24p LA=0 \END \* P11-Body \*
\PX11 IL1=5.5a NLI=2\END \*P11-Indent First Two Lines \*

\PX12 ETX=2 ELM=1a ERM=2.5a ECM=FL \END  \* P12-Enumeration \*
\PX12 TEXT=2 LM=2.5a RM=0 CM=JU LB=24p LA=0 \END \* P12-Body \*

\PX13 ETX=1 ELM=0 ERM=3a ECM=FL \END \* P13-Enumeration \*
\PX13 TEXT=2 LM=0 RM=0 CM=JU LB=24p LA=0 \END \* P13-Body \*
\PX13 IL1=5.5a NLI=1\END \*P13-1st Line Indent \*

\* Page Header Definitions \*
\PHEDX1 TEXT=3 LM=4.5a RM=46.5a CM=FL YPOS=10.75i \END \* PHED1 \*
\PHEDX6 TEXT=3 LM=4.5a RM=46.5a CM=FR YPOS=10.75i \END \* PHED6 \*

\* Page Feet Definitions \*
\PFUTX1 TEXT=3 LM=4.5a RM=46.5a CM=FL YPOS=2a \END \* PFUT1 \*
\PFUTX6 TEXT=3 LM=4.5a RM=46.5a CM=FR YPOS=2a \END \* PFUT6 \*

\* Underline Definition Percentages \*
\ULPOS -25
\ULSIZ 10

\* Hyphenation Definition \*
\HYMB 4
\HYMA 3
\HYMC 2
\HYML 8
```

twoclbdy.data

```
\PFMT twoclbdy.pfmt \END
\PHED1 TN - MAINTENANCE\NL^ 04/01/92
\PHED6 TN - MAINTENANCE\NL^ 04/01/92
\PFUT6 1-#P
\PN 1

\CD 1, 2 \END
```

```
\HD1 MAINTENANCE TESTS ON TELEPHONES

\P11 1.21 \END To properly maintain the telephone, test signals
are periodically applied to the top at the connector. These tests occur
on start and stop but not on DOD service.

\P1 The maximum positive voltage applied to the terminal equipment
in the on-hook state can be up to a maximum of 202 volts dc between the
tip and ring conductors. This maximum can also be between conductor and ground.

\P1 The maximum negative voltage, with respect to ground, that can

etc...
```

Printed Sample



TN - MAINTENANCE
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MAINTENANCE TESTS ON TELEPHONES

1.21 To properly maintain the telephone, test signals are periodically applied to the top at the connector. These tests occur on start and stop but not on DOD service.

The maximum positive voltage applied to the terminal equipment in the on-hook state can be up to a maximum of 202 volts dc between the tip and ring conductors. This maximum can also be between conductor and ground.

The maximum negative voltage, with respect to ground, that can be applied to the top with the equipment in the on-hook state is 165 volts. These telephone maintenance tests of both dc and ac signals are as follows.

1) AC signals of 10 volts RMS or less, 24 Hz superimposed in -70 to +70 volts dc, on tip (with ring grounded), on ring (with tip grounded), or on both tip and ring, with respect to ground.

2) DC voltages from 0 to ±202 volts, tip to ring, or on the tip with the ring grounded, or on the ring with the tip grounded, or on both tip and ring with respect to ground.

3) AC signals of 3 volts RMS or less, tip to ring, at any frequency from 1000 to 2000 Hz. It could be desirable that the customer premises equipment not respond to ac signals of 5 volts RMS or less, tip to ring, at any frequency from 1000 to 5000 Hz tip to ring or tip and ring to ground.

1.22 The conditions described in (1) through (3) above may be applied during mechanized maintenance procedures. Such tests are applied sequentially; the series of tests may last up to 12 seconds.

TESTS MADE IN THE PROCESS OF CONNECTING OR DISCONNECTING A CALL

1.23 There are three tests made in the process of connecting or disconnecting a call that cause a detectable condition outside the switching system. The tests discussed are for LLLD; not all PBXs use similar tests. The tests can occur on start and stop but not on DOD service.

1.24 The power cross test is made before originating and terminating calls. The test detects ac or positive dc voltages of over 16 volts as a power cross on start lines or stop lines. To make this test, detectors are placed tip to ground and ring to ground on the line. The input resistance of each detector is about 18 kilohms on calls originating from the line. For calls terminating to the line, the ring detector resistance is also about 18 kilohms while the tip detector resistance is about 36 kilohms. The test lasts 50 to 100 milliseconds. The test has caused call failures on originating calls from ground-start lines where the terminal recognizes the 18-kilohm input resistance of the detector as a grounded tip and proceeds as if dial tone is present.

Low Line Resistance Test

1.25 The low line resistance test is designed to prevent false charging where irregularities exist in the called line. A check is performed to ensure that the tip-to-ring resistance is not low enough to cause immediate ring trip upon application of ringing. The test is performed prior to ringing in the terminating call sequence. The low line resistance test is made by applying approximately a 250-ohm ground to the tip and approximately a 250-ohm battery to the ring on start lines. On stop lines, the battery and ground are reversed. In other systems, this test on ground-start lines is known as PBX start test. The PBX top test is discussed in more detail in parts 2.43 through 2.46. This test will see resistances below 6,300 ohms as a failure and may see resistances below 17,000 ohms as a failure.

Restore and Verify Test

1.26 A restore and verify test is automatically performed on a line after the line is involved in a telephone connection and before it is idled. This test determines if supervision has been returned to the line and if the cutoff contact has been closed. The restore and verify test procedure differs for start lines and stop lines. The circuit places a 1000- or 2000-ohm resistor from the tip to the ring for a start line. The resistor is placed between the ring and ground for a stop line. The test takes about 50 to 100 milliseconds. With start service, the resistance of the line ferrod being tested is approximately 660 ohms to battery on the side of the line, and 660 ohms to ground on the tip side of the line. The test takes about 50 to 100 milliseconds. With start service, the resistance of the line ferrod being tested is approximately 660 ohms to battery on the side of the line, and 660 ohms to ground on the tip side of the line.

1-1

twoclidx.pfmt

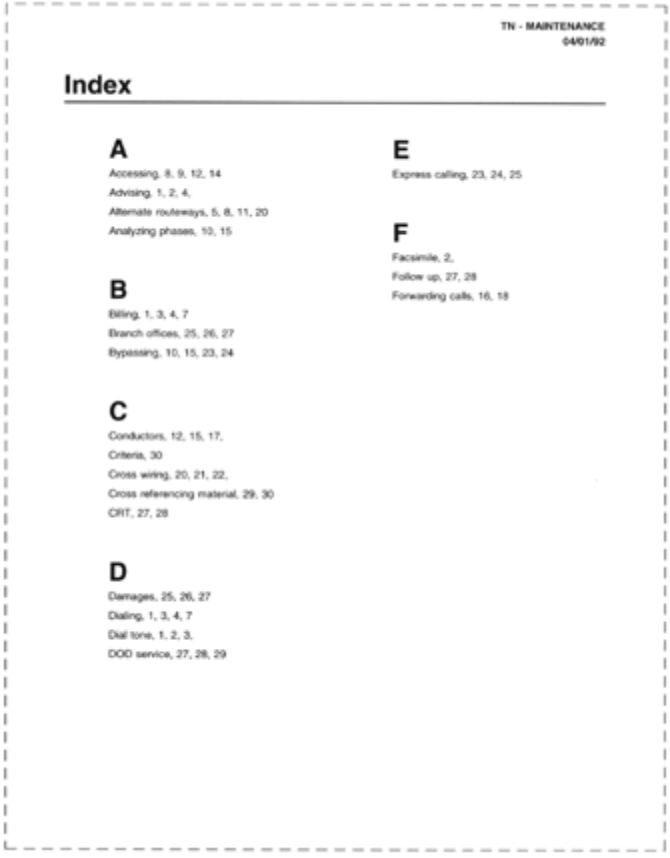
```
\* Format for Two Column Index \*

\* Output Device \*
\LASER

\* Page Definition \*
\PDEF WIDTH=8.5i DEPTH=11i LM=4.5a RM=4.5a DUPLEX=N \END

\* Column Definitions \*
\COLX1 LM=0 RM=20a BOT=1i TOP=10i LB=36p \END \* Left Col.  \*
\COLX2 LM=22a RM=42a BOT=1i TOP=10i LB=36p \END \* Right Col. \*
\COLX3 LM=0 RM=42a BOT=1i TOP=10i LB=0 \END \* Full Page  \*

\* Start Out In Full Page Mode \*
\CD 3 \END

\* Type Faces For Paragraphs \*
\TXT1 FONT=GE STYLE=B HSIZE=24p VSIZE=24p LEAD=24p \END \* P1 \*
\TXT2 FONT=GE STYLE=N HSIZE=10p VSIZE=10p LEAD=16p \END \* P2 \*

\* Type Faces For Page Heads \*
\TXT3 FONT=GE STYLE=B HSIZE=10p VSIZE=10p LEAD=14p \END \* PHED1-6 \*

\* Header Definitions \*
\HDX1 TEXT=1 LM=0 RM=0 CM=FL LB=24p LA=0 \END \* HD1 \*
\HDX2 TEXT=1 LM=0 RM=0 CM=FL LB=8p LA=0 \END \* HD2 \*
\HDX3 TEXT=1 LM=3.5a RM=0 CM=FL LB=60p LA=0 \END \* HD3 \*

\* Paragraph Definition \*
\PX1 TEXT=2 LM=3.5a RM=0 CM=FL LB=18p LA=0 \END \* P1-Body \*

\* Page Header Definitions \*
\PHEDX1 TEXT=3 LM=4.5a RM=46.5a CM=FL YPOS=10.75i \END \* PHED1 \*
\PHEDX6 TEXT=3 LM=4.5a RM=46.5a CM=FR YPOS=10.75i \END \* PHED6 \*

\* Underline Definition Percentages \*
\ULPOS -25
\ULSIZ 10

\* Hyphenation Definition \*
\HYMB 4
\HYMA 3
\HYMC 2
\HYML 8
```

twoclidx.data

```
\PFMT twoclidx.pfmt \END

\PHED1 TN - MAINTENANCE\NL^ 04/01/92
\PHED6 TN - MAINTENANCE\NL^ 04/01/92

\HD1 Index
\HD2  \HR 42a,1p^

\CD 1, 2 \END

\HD3 A
\P1 Accessing, 8, 9, 12, 14
\P1 Advising, 1, 2, 4,
\P1 Alternate routeways, 5, 8, 11, 20
\P1 Analyzing phases, 10, 15

\HD3 B
\P1 Billing, 1, 3, 4, 7
\P1 Branch offices, 25, 26, 27
```

```
\P1 Bypassing, 10, 15, 23, 24

\HD3 C

\P1 Conductors, 12, 15, 17,
\P1 Criteria, 30
\P1 Cross wiring, 20, 21, 22,
\P1 Cross referencing material, 29, 30
\P1 CRT, 27, 28

\HD3 D
\P1 Damages, 25, 26, 27

etc...
```

Printed Sample



TN - MAINTENANCE
04/01/92

Index

A
Accessing, 8, 9, 12, 14
Advising, 1, 2, 4,
Alternate routeways, 5, 8, 11, 20
Analyzing phases, 10, 15

B
Billing, 1, 3, 4, 7
Branch offices, 25, 26, 27
Bypassing, 10, 15, 23, 24

C
Conductors, 12, 15, 17,
Criteria, 30
Cross wiring, 20, 21, 22,
Cross referencing material, 29, 30
CRT, 27, 28

D
Damages, 25, 26, 27
Dialing, 1, 3, 4, 7
Dial tone, 1, 2, 3,
DOD service, 27, 28, 29

E
Express calling, 23, 24, 25

F
Facsimile, 2,
Follow up, 27, 28
Forwarding calls, 16, 18

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Chapter 14: "Canned" Table Formats

The following examples of the formats and data files that exist on your system the the directory */usr/amgraf/formats.* The "canned" formats range from a simple two column table to a six column table with staggered heads.

Using the exisiting formats allows you to get started in tables right away by copying a format and customizing it to your liking. if you want, you can use a "canned" format just the way it is, by placing the "canned" format name at the top of your text file, and composing. For ease, you can even copy over the data file and type over the existing text with your own. This way you can be sure the table markup is correct.

Main Format - tbl.pfmt

```
\* Main Format for Tables \*

\* Output Device \*
\LASER

\* Page Definition \*
\PDEF WIDTH=8.5i DEPTH=11i LM=4.5a RM=4.5a DUPLEX=N \END

\* Column Definition \*
\COLX1 LM=0 RM=42a BOT=1i TOP=10i LB=0 \END

\* Start Out In Full Page Mode \*
\CD 1 \END

\* Type Faces For Table \*
\TXT1 FONT=GE STYLE=B HSIZE=8p VSIZE=8p LEAD=10p \END \* Table Head \*
\TXT2 FONT=GE STYLE=N HSIZE=10p VSIZE=10p LEAD=12p \END \* Body Copy \*

\* Type Face For Header \*
\TXT3 FONT=GE STYLE=B HSIZE=10p VSIZE=10p LEAD=12p \END \* HD1 \*

\* Header Definition \*
\HDX1 TEXT=3 LM=2a RM=42a CM=CE LB=24p LA=0 \END

\* Underline Definition \*
\ULPOS -20
\ULSIZ 10

\* Prevent Hyphenation \*
\HYML 22
```

tbl2.pfmt

```
\* tbl2.pfmt  \*

\* Tab Position Definitions  \*
\TBX1 TEXT=1 LM=0 RM=21a CM=CE GUTL=0 GUTR=0  \END
\TBX2 TEXT=1 LM=21a RM=42a CM=CE GUTL=0 GUTR=0  \END
\TBX3 TEXT=2 LM=0 RM=21a CM=FL GUTL=16p GUTR=0  \END
\TBX4 TEXT=2 LM=21a RM=42a CM=FL GUTL=16p GUTR=0  \END

\* Table Setup Definition  \*
\TSX1 COMP=LINE ROWDEPTH=VAR LB=24p LA=0 RULES=TBLR  \END
```

tbl2.data

```
\* Two Column Table  \*

\PFMT tbl.pfmt  \END
\PFMT tbl2.pfmt  \END

\HD1 CONNECT TIMING\NL
CALLING PERSON HANGS UP, CALLED PERSON HOLDS

\TS1
\STPSV
#1    3                                                    4

\STP
      1                                                    2
                                                           |TIMED DELAY IN DISCONNECTING
                                                           |MAIN OFFICE FROM INCOMING CALL
       CONNECTING MAIN OFFICE                              |TO RESTORAL OF CALLED
_      SWITCHING SYSTEM                                    |LINE TO IDLE STATE
1      No. 1 left switch at junction 1                     |1 to 3 seconds, underground cable
                                                           |
       No. 2 left switch at junction 2                     |4 to 7 seconds, underground cable
                                                           |
       No. 3 left switch at junction 3                     |8 to 10 seconds, underground cable
                                                           |
       No. 4 left switch at junction 1                     |11 to 15 seconds, underground cable
                                                           |
       No. 1 center switch at junction 1                   |1 to 3 seconds, underground cable
                                                           |
       No. 2 center switch at junction 2                   |4 to 7 seconds, underground cable
                                                           |
       No. 3 center switch at junction 3                   |8 to 10 seconds, underground cable
                                                           |
       No. 4 center switch at junction 4                   |11 to 15 seconds, underground cable
                                                           |
       No. 1 right switch at junction 1                    |1 to 3 seconds, underground cable
                                                           |
       No. 2 right switch at junction 2                    |4 to 7 seconds, underground cable
                                                           |
       No. 3 right switch at junction 3                    |8 to 10 seconds, underground cable
                                                           |
       No. 4 right switch at junction 4                    |11 to 15 seconds, underground cable
\ETP
\TE
```

CONNECT TIMING
CALLING PERSON HANGS UP, CALLED PERSON HOLDS

CONNECTING MAIN OFFICE SWITCHING SYSTEM	TIMED DELAY IN DISCONNECTING MAIN OFFICE FROM INCOMING CALL TO RESTORAL OF CALLED LINE TO IDLE STATE
No. 1 left switch at junction 1	1 to 3 seconds, underground cable
No. 2 left switch at junction 2	4 to 7 seconds, underground cable
No. 3 left switch at junction 3	8 to 10 seconds, underground cable
No. 4 left switch at junction 1	11 to 15 seconds, underground cable
No. 1 center switch at junction 1	1 to 3 seconds, underground cable
No. 2 center switch at junction 2	4 to 7 seconds, underground cable
No. 3 center switch at junction 3	8 to 10 seconds, underground cable
No. 4 center switch at junction 4	11 to 15 seconds, underground cable
No. 1 right switch at junction 1	1 to 3 seconds, underground cable
No. 2 right switch at junction 2	4 to 7 seconds, underground cable
No. 3 right switch at junction 3	8 to 10 seconds, underground cable
No. 4 right switch at junction 4	11 to 15 seconds, underground cable

tbl2a.pfmt

```
\* 2 Column Table with Centered Head  \*

\* Tab Position Definitions \*
\TBX1 TEXT=1 LM=0 RM=21a CM=CE GUTL=0 GUTR=0  \END
\TBX2 TEXT=1 LM=21a RM=42a CM=CE GUTL=0 GUTR=0  \END
\TBX3 TEXT=2 LM=0 RM=21a CM=FL GUTL=16p GUTR=0  \END
\TBX4 TEXT=2 LM=21a RM=42a CM=FL GUTL=16p GUTR=0  \END
\TBX5 TEXT=1 LM=0 RM=21a CM=CE GUTL=0 GUTR=0  \END

\* Table Setup Definition  \*
\TSX1 COMP=LINE ROWDEPTH=VAR LB=24p LA=0 RULES=TBLR  \END
```

tbl2a.data

```
\* Two Column Table A  \*

\PFMT tbl.pfmt  \END
\PFMT tbl2a.pfmt  \END

\HD1 CONNECT TIMING\NL
CALLING PERSON HANGS UP, CALLED PERSON HOLDS

\TS1
\STPSV
#1   3                                                    4
\STPSV
#2   1                                                    2
\STP
     5
_     CONNECTING AND DISCONNECTING SWITCHES
2                                                        |TIMED DELAY IN DISCONNECTING
                                                         |MAIN OFFICE FROM INCOMING CALL
      CONNECTING MAIN OFFICE                             |TO RESTORAL OF CALLED
_     SWITCHING SYSTEM                                   |LINE TO IDLE STATE
1     No. 1 left switch at junction 1                    |1 to 3 seconds, underground cable
                                                         |
      No. 2 left switch at junction 2                    |4 to 7 seconds, underground cable
                                                         |
      No. 3 left switch at junction 3                    |8 to 10 seconds, underground cable
                                                         |
      No. 4 left switch at junction 1                    |11 to 15 seconds, underground cable
                                                         |
      No. 1 center switch at junction 1                  |1 to 3 seconds, underground cable
                                                         |
      No. 2 center switch at junction 2                  |4 to 7 seconds, underground cable
                                                         |
      No. 3 center switch at junction 3                  |8 to 10 seconds, underground cable
                                                         |
      No. 4 center switch at junction 4                  |11 to 15 seconds, underground cable
                                                         |
      No. 1 right switch at junction 1                   |1 to 3 seconds, underground cable
                                                         |
      No. 2 right switch at junction 2                   |4 to 7 seconds, underground cable
                                                         |
      No. 3 right switch at junction 3                   |8 to 10 seconds, underground cable
                                                         |
      No. 4 right switch at junction 4                   |11 to 15 seconds, underground cable
\ETP
\TE
```

CONNECT TIMING
CALLING PERSON HANGS UP, CALLED PERSON HOLDS

CONNECTING AND DISCONNECTING SWITCHES	
CONNECTING MAIN OFFICE SWITCHING SYSTEM	**TIMED DELAY IN DISCONNECTING MAIN OFFICE FROM INCOMING CALL TO RESTORAL OF CALLED LINE TO IDLE STATE**
No. 1 left switch at junction 1	1 to 3 seconds, underground cable
No. 2 left switch at junction 2	4 to 7 seconds, underground cable
No. 3 left switch at junction 3	8 to 10 seconds, underground cable
No. 4 left switch at junction 1	11 to 15 seconds, underground cable
No. 1 center switch at junction 1	1 to 3 seconds, underground cable
No. 2 center switch at junction 2	4 to 7 seconds, underground cable
No. 3 center switch at junction 3	8 to 10 seconds, underground cable
No. 4 center switch at junction 4	11 to 15 seconds, underground cable
No. 1 right switch at junction 1	1 to 3 seconds, underground cable
No. 2 right switch at junction 2	4 to 7 seconds, underground cable
No. 3 right switch at junction 3	8 to 10 seconds, underground cable
No. 4 right switch at junction 4	11 to 15 seconds, underground cable

tbl2b.pfmt

```
\* tbl2b.pfmt  \*
\* TYPE FACES FOR FOOTNOTES  \*
\TXT4 FONT=GE STYLE=N HSIZE=6p VSIZE=6p LEAD=7p  \END

\* Tab Position Definitions\*
\TBX1 TEXT=1 LM=0 RM=21a CM=CE GUTL=0 GUTR=0  \END
\TBX2 TEXT=1 LM=21a RM=42a CM=CE GUTL=0 GUTR=0  \END
\TBX3 TEXT=2 LM=0 RM=21a CM=FL GUTL=16p GUTR=0  \END
\TBX4 TEXT=2 LM=21a RM=42a CM=FL GUTL=16p GUTR=0  \END
\TBX5 TEXT=4 LM=0 RM=42a CM=CE GUTL=0 GUTR=0  \END
\TBX6 TEXT=4 LM=0 RM=42a CM=FL GUTL=8p GUTR=0  \END

\* Table Setup Definition  \*
\TSX1 COMP=LINE ROWDEPTH=VAR LB=24p LA=0 RULES=TBLR  \END
```

tbl2b.data

```
\* Two Column Table B  \*
\PFMT tbl.pfmt  \END
\PFMT tbl2b.pfmt  \END

\HD1 CONNECT TIMING\NL
CALLING PERSON HANGS UP, CALLED PERSON HOLDS

\TS1
\STPSV
#1    3                                                    4
\STPSV
#2    1                                                    2
\STPSV
#3    6
\STP
      5
_      CONNECTING AND DISCONNECTING SWITCHES
2                                                          |TIMED DELAY IN DISCONNECTING
                                                           |MAIN OFFICE FROM INCOMING CALL
       CONNECTING MAIN OFFICE                              |TO RESTORAL OF CALLED
_      SWITCHING SYSTEM                                    |LINE TO IDLE STATE
1      No. 1 left switch at junction 1                     |1 to 3 seconds, underground cable
                                                           |
       No. 2 left switch at junction 2                     |4 to 7 seconds, underground cable
                                                           |
       No. 3 left switch at junction 3                     |8 to 10 seconds, underground cable
                                                           |
       No. 4 left switch at junction 1                     |11 to 15 seconds, underground cable
                                                           |
       No. 1 center switch at junction 1                   |1 to 3 seconds, underground cable
                                                           |
       No. 2 center switch at junction 2                   |4 to 7 seconds, underground cable
                                                           |
       No. 3 center switch at junction 3                   |8 to 10 seconds, underground cable
                                                           |
       No. 4 center switch at junction 4                   |11 to 15 seconds, underground cable
                                                           |
       No. 1 right switch at junction 1                    |1 to 3 seconds, underground cable
                                                           |
       No. 2 right switch at junction 2                    |4 to 7 seconds, underground cable
                                                           |
       No. 3 right switch at junction 3                    |8 to 10 seconds, underground cable
                                                           |
       No. 4 right switch at junction 4                    |11 to 15 seconds, underground cable
3      NOTE:  Seconds may vary from 2 to 3 seconds depending on which junction is being used.
\ETP
\TE
```

CONNECT TIMING
CALLING PERSON HANGS UP, CALLED PERSON HOLDS

CONNECTING AND DISCONNECTING SWITCHES	
CONNECTING MAIN OFFICE SWITCHING SYSTEM	**TIMED DELAY IN DISCONNECTING MAIN OFFICE FROM INCOMING CALL TO RESTORAL OF CALLED LINE TO IDLE STATE**
No. 1 left switch at junction 1	1 to 3 seconds, underground cable
No. 2 left switch at junction 2	4 to 7 seconds, underground cable
No. 3 left switch at junction 3	8 to 10 seconds, underground cable
No. 4 left switch at junction 1	11 to 15 seconds, underground cable
No. 1 center switch at junction 1	1 to 3 seconds, underground cable
No. 2 center switch at junction 2	4 to 7 seconds, underground cable
No. 3 center switch at junction 3	8 to 10 seconds, underground cable
No. 4 center switch at junction 4	11 to 15 seconds, underground cable
No. 1 right switch at junction 1	1 to 3 seconds, underground cable
No. 2 right switch at junction 2	4 to 7 seconds, underground cable
No. 3 right switch at junction 3	8 to 10 seconds, underground cable
No. 4 right switch at junction 4	11 to 15 seconds, underground cable
NOTE: Seconds may vary from 2 to 3 seconds depending on which junction is being used.	

tbl3.pfmt

```
\* Three Column Table  \*

\* Tab Position Definitions  \*
\TBX1 TEXT=1 LM=0 RM=14a CM=CE GUTL=0 GUTR=0  \END
\TBX2 TEXT=1 LM=14a RM=28a CM=CE GUTL=0 GUTR=0  \END
\TBX3 TEXT=1 LM=28a RM=42a CM=CE GUTL=16p GUTR=0  \END
\TBX4 TEXT=2 LM=0 RM=14a CM=FL GUTL=16p GUTR=0  \END
\TBX5 TEXT=2 LM=14a RM=28a CM=FL GUTL=16p GUTR=0  \END
\TBX6 TEXT=2 LM=28a RM=42a CM=FL GUTL=16p GUTR=0  \END

\* Table Setup Definition  \*
\TSX1 COMP=LINE ROWDEPTH=VAR LB=24p LA=0 RULES=TBLR  \END
```

tbl3.data

```
\* Three Column Table  \*

\PFMT tbl.pfmt  \END
\PFMT tbl3.pfmt  \END

\HD1 CONNECT TIMING\NL
CALLING PERSON HANGS UP, CALLED PERSON HOLDS

\TS1
\STPSV
#1   4                                    5                              6

\STP
     1                                    2                              3
      NUMBER OF                           |                              |
_     SWITCHING SYSTEM                    |LOCATION                      |CONNECTING TIME
1     No. 1 left switch, red              |Nashville, Tennessee          |1 to 3 seconds, underground
                                          |                              |
      No. 2 left switch, green            |Oklahoma City, Oklahoma       |4 to 7 seconds, underground
                                          |                              |
      No. 3 left switch, yellow           |Kansas City, Kansas           |8 to 10 seconds, underground
                                          |                              |
      No. 4 left switch, blue             |Kansas City, Missouri         |11 to 15 seconds, underground
                                          |                              |
      No. 1 center switch, red            |Nashville, Tennessee          |1 to 3 seconds, underground
                                          |                              |
      No. 2 center switch, green          |Oklahoma City, Oklahoma       |4 to 7 seconds, underground
                                          |                              |
      No. 3 center switch, yellow         |Kansas City, Kansas           |8 to 10 seconds, underground
                                          |                              |
      No. 4 center switch, blue           |Kansas City, Missouri         |11 to 15 seconds, underground
                                          |                              |
      No. 1 right switch, red             |Nashville, Tennessee          |1 to 3 seconds, underground
                                          |                              |
      No. 2 right switch, green           |Oklahoma City, Oklahoma       |4 to 7 seconds, underground
                                          |                              |
      No. 3 right switch, yellow          |Kansas City, Kansas           |8 to 10 seconds, underground
                                          |                              |
      No. 4 right switch, blue            |Kansas City, Missouri         |11 to 15 seconds, underground
\ETP
\TE
```

CONNECT TIMING
CALLING PERSON HANGS UP, CALLED PERSON HOLDS

NUMBER OF SWITCHING SYSTEM	LOCATION	CONNECTING TIME
No. 1 left switch, red	Nashville, Tennessee	1 to 3 seconds, underground
No. 2 left switch, green	Oklahoma City, Oklahoma	4 to 7 seconds, underground
No. 3 left switch, yellow	Kansas City, Kansas	8 to 10 seconds, underground
No. 4 left switch, blue	Kansas City, Missouri	11 to 15 seconds, underground
No. 1 center switch, red	Nashville, Tennessee	1 to 3 seconds, underground
No. 2 center switch, green	Oklahoma City, Oklahoma	4 to 7 seconds, underground
No. 3 center switch, yellow	Kansas City, Kansas	8 to 10 seconds, underground
No. 4 center switch, blue	Kansas City, Missouri	11 to 15 seconds, underground
No. 1 right switch, red	Nashville, Tennessee	1 to 3 seconds, underground
No. 2 right switch, green	Oklahoma City, Oklahoma	4 to 7 seconds, underground
No. 3 right switch, yellow	Kansas City, Kansas	8 to 10 seconds, underground
No. 4 right switch, blue	Kansas City, Missouri	11 to 15 seconds, underground

tbl4.pfmt

```
\* 4 column table  \*

\* Tab Position Definitions  \*
\TBX1 TEXT=1 LM=0 RM=10.5a CM=CE GUTL=0 GUTR=0  \END
\TBX2 TEXT=1 LM=10.5a RM=21a CM=CE GUTL=0 GUTR=0  \END
\TBX3 TEXT=1 LM=21a RM=31.5a CM=CE GUTL=0 GUTR=0  \END
\TBX4 TEXT=1 LM=31.5a RM=42a CM=CE GUTL=0 GUTR=0  \END
\TBX5 TEXT=2 LM=0 RM=10.5a CM=FL GUTL=6p GUTR=0  \END
\TBX6 TEXT=2 LM=10.5a RM=21a CM=FL GUTL=6p GUTR=0  \END
\TBX7 TEXT=2 LM=21a RM=31.5a CM=FL GUTL=6p GUTR=0  \END
\TBX8 TEXT=2 LM=31.5a RM=42a CM=FL GUTL=6p GUTR=0  \END

\* Table Setup Definition  \*
\TSX1 COMP=LINE ROWDEPTH=VAR LB=24p LA=0 RULES=TBLR  \END
```

tbl4.data

```
\* Four Column Table  \*

\PFMT tbl.pfmt  \END
\PFMT tbl4.pfmt  \END

\HD1 CONNECT TIMING\NL
CALLING PERSON HANGS UP, CALLED PERSON HOLDS

\TS1
\STPSV
#1    5                         6                         7                         8
\STP
     1                         2                         3                         4
      NUMBER OF                |                         |CONNECT                  |DISCONNECT
_     SWITCHING SYSTEM         |LOCATION                 |TIME                     |TIME
1     No. 1 red switch         |Nashville, TN            |1 to 3 seconds           |1 to 3 seconds
                               |                         |                         |
      No. 2 green switch       |Oklahoma City, OK        |4 to 7 seconds           |4 to 7 seconds
                               |                         |                         |
      No. 3 yellow switch      |Kansas City, KS          |8 to 10 seconds          |8 to 10 seconds
                               |                         |                         |
      No. 4 blue switch        |Kansas City, MO          |11 to 15 seconds         |11 to 15 seconds
                               |                         |                         |
      No. 1 red switch         |Nashville, TN            |1 to 3 seconds           |1 to 3 seconds
                               |                         |                         |
      No. 2 green switch       |Oklahoma City, OK        |4 to 7 seconds           |4 to 7 seconds
                               |                         |                         |
      No. 3 yellow switch      |Kansas City, KS          |8 to 10 seconds          |8 to 10 seconds
                               |                         |                         |
      No. 4 blue switch        |Kansas City, MO          |11 to 15 seconds         |11 to 15 seconds
                               |                         |                         |
      No. 1 red switch         |Nashville, TN            |1 to 3 seconds           |1 to 3 seconds
                               |                         |                         |
      No. 2 green switch       |Oklahoma City, OK        |4 to 7 seconds           |4 to 7 seconds
                               |                         |                         |
      No. 3 yellow switch      |Kansas City, KS          |8 to 10 seconds          |8 to 10 seconds
                               |                         |                         |
      No. 4 blue switch        |Kansas City, MO          |11 to 15 seconds         |11 to 15 seconds
\ETP
\TE
```

CONNECT TIMING
CALLING PERSON HANGS UP, CALLED PERSON HOLDS

NUMBER OF SWITCHING SYSTEM	LOCATION	CONNECT TIME	DISCONNECT TIME
No. 1 red switch	Nashville, TN	1 to 3 seconds	1 to 3 seconds
No. 2 green switch	Oklahoma City, OK	4 to 7 seconds	4 to 7 seconds
No. 3 yellow switch	Kansas City, KS	8 to 10 seconds	8 to 10 seconds
No. 4 blue switch	Kansas City, MO	11 to 15 seconds	11 to 15 seconds
No. 1 red switch	Nashville, TN	1 to 3 seconds	1 to 3 seconds
No. 2 green switch	Oklahoma City, OK	4 to 7 seconds	4 to 7 seconds
No. 3 yellow switch	Kansas City, KS	8 to 10 seconds	8 to 10 seconds
No. 4 blue switch	Kansas City, MO	11 to 15 seconds	11 to 15 seconds
No. 1 red switch	Nashville, TN	1 to 3 seconds	1 to 3 seconds
No. 2 green switch	Oklahoma City, OK	4 to 7 seconds	4 to 7 seconds
No. 3 yellow switch	Kansas City, KS	8 to 10 seconds	8 to 10 seconds
No. 4 blue switch	Kansas City, MO	11 to 15 seconds	11 to 15 seconds

tbl6.pfmt

```
\* 6 column table  \*

\* Tab Position Definitions  \*
\TBX1 TEXT=1 LM=0 RM=7a CM=CE GUTL=0 GUTR=0  \END
\TBX2 TEXT=1 LM=7a RM=14a CM=CE GUTL=0 GUTR=0  \END
\TBX3 TEXT=1 LM=14a RM=21a CM=CE GUTL=0 GUTR=0  \END
\TBX4 TEXT=1 LM=21a RM=28a CM=CE GUTL=0 GUTR=0  \END
\TBX5 TEXT=1 LM=28a RM=35a CM=CE GUTL=0 GUTR=0  \END
\TBX6 TEXT=1 LM=35a RM=42a CM=CE GUTL=0 GUTR=0  \END
\TBX7 TEXT=2 LM=0 RM=7a CM=CE GUTL=0 GUTR=0  \END
\TBX8 TEXT=2 LM=7a RM=14a CM=CE GUTL=0 GUTR=0  \END
\TBX9 TEXT=2 LM=14a RM=21a CM=CE GUTL=0 GUTR=0  \END
\TBX10 TEXT=2 LM=21a RM=28a CM=CE GUTL=0 GUTR=0  \END
\TBX11 TEXT=2 LM=28a RM=35a CM=CE GUTL=0 GUTR=0  \END
\TBX12 TEXT=2 LM=35a RM=42a CM=CE GUTL=0 GUTR=0  \END

\* Table Setup Definition  \*
\TSX1 COMP=LINE ROWDEPTH=VAR LB=24p LA=0 RULES=TBLR  \END
```

tbl6.data

```
\* Six Column Table  \*

\PFMT tbl.pfmt  \END
\PFMT tbl6.pfmt  \END

\HD1 6 COLUMN TABLE

\TS1
\STPSV
#1    7                  8                  9                  10                 11                 12
\STP
      1                  2                  3                  4                  5                  6
_      OPEN               |DIRECT            |COPPER            |CLOSED            |ALTERNATE         |ALUMINUM
1      No                 |Yes               |No                |Yes               |No                |Yes
       Yes                |No                |Yes               |No                |Yes               |No
       No                 |No                |No                |Yes               |Yes               |Yes
       Yes                |Yes               |No                |No                |No                |Yes
       Yes                |Yes               |Yes               |No                |No                |No
       No                 |Yes               |No                |Yes               |No                |Yes
       Yes                |No                |Yes               |No                |Yes               |No
       No                 |No                |No                |Yes               |Yes               |Yes
       Yes                |Yes               |Yes               |No                |No                |No
\ETP
\TE
```

6 COLUMN TABLE

OPEN	DIRECT	COPPER	CLOSED	ALTERNATE	ALUMINUM
No	Yes	No	Yes	No	Yes
Yes	No	Yes	No	Yes	No
No	No	No	Yes	Yes	Yes
Yes	Yes	No	No	No	Yes
Yes	Yes	Yes	No	No	No
No	Yes	No	Yes	No	Yes
Yes	No	Yes	No	Yes	No
No	No	No	Yes	Yes	Yes
Yes	Yes	Yes	No	No	No

tbl6a.pfmt

```
\* 6 column table with centered head  \*

\* Tab Position Definitions  \*
\TBX1 TEXT=1 LM=0 RM=7a CM=CE GUTL=0 GUTR=0  \END
\TBX2 TEXT=1 LM=7a RM=14a CM=CE GUTL=0 GUTR=0  \END
\TBX3 TEXT=1 LM=14a RM=21a CM=CE GUTL=0 GUTR=0  \END
\TBX4 TEXT=1 LM=21a RM=28a CM=CE GUTL=0 GUTR=0  \END
\TBX5 TEXT=1 LM=28a RM=35a CM=CE GUTL=0 GUTR=0  \END
\TBX6 TEXT=1 LM=35a RM=42a CM=CE GUTL=0 GUTR=0  \END
\TBX7 TEXT=2 LM=0 RM=7a CM=CE GUTL=0 GUTR=0  \END
\TBX8 TEXT=2 LM=7a RM=14a CM=CE GUTL=0 GUTR=0  \END
\TBX9 TEXT=2 LM=14a RM=21a CM=CE GUTL=0 GUTR=0  \END
\TBX10 TEXT=2 LM=21a RM=28a CM=CE GUTL=0 GUTR=0  \END
\TBX11 TEXT=2 LM=28a RM=35a CM=CE GUTL=0 GUTR=0  \END
\TBX12 TEXT=2 LM=35a RM=42a CM=CE GUTL=0 GUTR=0  \END
\TBX13 TEXT=1 LM=0 RM=42a CM=CE GUTL=0 GUTR=0  \END

\* Table Setup Definition  \*
\TSX1 COMP=LINE ROWDEPTH=VAR LB=24p LA=0 RULES=TBLR  \END
```

tbl6a.data

```
\* Six Column Table  \*

\PFMT tbl.pfmt  \END
\PFMT tbl6a.pfmt  \END

\HD1 6 COLUMN TABLE

\TS1
\STPSV
#1    1                   2                   3                   4                   5                   6
\STPSV
#2    7                   8                   9                   10                  11                  12
\STP
     13
_     UNDERGROUND CABLE CHART TO DETERMINE TYPE
1    _OPEN                +DIRECT             +COPPER             +CLOSED             +ALTERNATE          +ALUMINUM
2     No                  |Yes                |No                 |Yes                |No                 |Yes
      Yes                 |No                 |Yes                |No                 |Yes                |No
      No                  |No                 |No                 |Yes                |Yes                |Yes
      Yes                 |Yes                |No                 |No                 |No                 |Yes
      Yes                 |Yes                |Yes                |No                 |No                 |No
      No                  |Yes                |No                 |Yes                |No                 |Yes
      Yes                 |No                 |Yes                |No                 |Yes                |No
      No                  |No                 |No                 |Yes                |Yes                |Yes
      Yes                 |Yes                |Yes                |No                 |No                 |No
\ETP
\TE
```

6 COLUMN TABLE

UNDERGROUND CABLE CHART TO DETERMINE TYPE					
OPEN	DIRECT	COPPER	CLOSED	ALTERNATE	ALUMINUM
No	Yes	No	Yes	No	Yes
Yes	No	Yes	No	Yes	No
No	No	No	Yes	Yes	Yes
Yes	Yes	No	No	No	Yes
Yes	Yes	Yes	No	No	No
No	Yes	No	Yes	No	Yes
Yes	No	Yes	No	Yes	No
No	No	No	Yes	Yes	Yes
Yes	Yes	Yes	No	No	No

tbl6b.pfmt

```
\* 6 column table with split head  \*

\* Tab Position Definitions  \*
\TBX1 TEXT=1 LM=0 RM=7a CM=CE GUTL=0 GUTR=0  \END
\TBX2 TEXT=1 LM=7a RM=14a CM=CE GUTL=0 GUTR=0  \END
\TBX3 TEXT=1 LM=14a RM=21a CM=CE GUTL=0 GUTR=0  \END
\TBX4 TEXT=1 LM=21a RM=28a CM=CE GUTL=0 GUTR=0  \END
\TBX5 TEXT=1 LM=28a RM=35a CM=CE GUTL=0 GUTR=0  \END
\TBX6 TEXT=1 LM=35a RM=42a CM=CE GUTL=0 GUTR=0  \END
\TBX7 TEXT=2 LM=0 RM=7a CM=CE GUTL=0 GUTR=0  \END
\TBX8 TEXT=2 LM=7a RM=14a CM=CE GUTL=0 GUTR=0  \END
\TBX9 TEXT=2 LM=14a RM=21a CM=CE GUTL=0 GUTR=0  \END
\TBX10 TEXT=2 LM=21a RM=28a CM=CE GUTL=0 GUTR=0  \END
\TBX11 TEXT=2 LM=28a RM=35a CM=CE GUTL=0 GUTR=0  \END
\TBX12 TEXT=2 LM=35a RM=42a CM=CE GUTL=0 GUTR=0  \END
\TBX13 TEXT=1 LM=0 RM=42a CM=CE GUTL=0 GUTR=0  \END
\TBX14 TEXT=1 LM=0 RM=21a CM=CE GUTL=0 GUTR=0  \END
\TBX15 TEXT=1 LM=21a RM=42a CM=CE GUTL=0 GUTR=0  \END

\* Table Setup Definition  \*
\TSX1 COMP=LINE ROWDEPTH=VAR LB=24p LA=0 RULES=TBLR  \END
```

tbl6b.data

```
\* Six Column Table  \*

\PFMT tbl.pfmt  \END
\PFMT tbl6b.pfmt  \END

\HD1 6 COLUMN TABLE

\TS1
\STPSV
#1    1                   2                   3                   4                   5                   6
\STPSV
#2    7                   8                   9                   10                  11                  12
\STPSV
#3    14                                                                                15
\STP
      13
_      UNDERGROUND CABLE CHART TO DETERMINE TYPE
3     _CIRCUIT TYPE 1                                                                   +CIRCUIT TYPE 2
1     _OPEN               +DIRECT             +COPPER             +CLOSED             +ALTERNATE          +ALUMINUM
2      No                 |Yes                |No                 |Yes                |No                 |Yes
       Yes                |No                 |Yes                |No                 |Yes                |No
       No                 |No                 |No                 |Yes                |Yes                |Yes
       Yes                |Yes                |No                 |No                 |No                 |Yes
       Yes                |Yes                |Yes                |No                 |No                 |No
       No                 |Yes                |No                 |Yes                |No                 |Yes
       Yes                |No                 |Yes                |No                 |Yes                |No
       No                 |No                 |No                 |Yes                |Yes                |Yes
       Yes                |Yes                |Yes                |No                 |No                 |No
\ETP
\TE
```

6 COLUMN TABLE

UNDERGROUND CABLE CHART TO DETERMINE TYPE					
CIRCUIT TYPE 1			CIRCUIT TYPE 2		
OPEN	DIRECT	COPPER	CLOSED	ALTERNATE	ALUMINUM
No	Yes	No	Yes	No	Yes
Yes	No	Yes	No	Yes	No
No	No	No	Yes	Yes	Yes
Yes	Yes	No	No	No	Yes
Yes	Yes	Yes	No	No	No
No	Yes	No	Yes	No	Yes
Yes	No	Yes	No	Yes	No
No	No	No	Yes	Yes	Yes
Yes	Yes	Yes	No	No	No

tbl6c.pfmt

```
\* tbl6c.pfmt  \*

\* Tab Position Definitions  \*
\TBX1 TEXT=1 LM=1i RM=2i CM=CE GUTL=0 GUTR=0  \END
\TBX2 TEXT=1 LM=2i RM=3i CM=CE GUTL=0 GUTR=0  \END
\TBX3 TEXT=1 LM=3i RM=4i CM=CE GUTL=0 GUTR=0  \END
\TBX4 TEXT=1 LM=4i RM=5i CM=CE GUTL=0 GUTR=0  \END
\TBX5 TEXT=1 LM=5i RM=6i CM=CE GUTL=0 GUTR=0  \END
\TBX6 TEXT=1 LM=6i RM=7i CM=CE GUTL=0 GUTR=0  \END
\TBX7 TEXT=2 LM=1i RM=2i CM=CE GUTL=0 GUTR=0  \END
\TBX8 TEXT=2 LM=2i RM=3i CM=CE GUTL=0 GUTR=0  \END
\TBX9 TEXT=2 LM=3i RM=4i CM=CE GUTL=0 GUTR=0  \END
\TBX10 TEXT=2 LM=4i RM=5i CM=CE GUTL=0 GUTR=0  \END
\TBX11 TEXT=2 LM=5i RM=6i CM=CE GUTL=0 GUTR=0  \END
\TBX12 TEXT=2 LM=6i RM=7i CM=CE GUTL=0 GUTR=0  \END
\TBX13 TEXT=1 LM=0 RM=7i CM=CE GUTL=0 GUTR=0  \END
\TBX14 TEXT=1 LM=1i RM=4i CM=CE GUTL=0 GUTR=0  \END
\TBX15 TEXT=1 LM=4i RM=7i CM=CE GUTL=0 GUTR=0  \END
\TBX16 TEXT=1 LM=0 RM=1i CM=CE GUTL=0 GUTR=0  \END
\TBX17 TEXT=2 LM=0 RM=1i CM=CE GUTL=0 GUTR=0  \END

\* Table Setup Definition  \*
\TSX1 COMP=LINE ROWDEPTH=VAR LB=24p LA=0 RULES=TBLR  \END
```

tbl6c.data

```
\* Seven Column Table  \*

\PFMT tbl.pfmt  \END
\PFMT tbl6c.pfmt  \END

\HD1 ADDING A COLUMN TO THE 6 COLUMN TABLE

\TS1
\STPSV
#1    16                    1             2             3             4              5             6
\STPSV
#2    17                    7             8             9             10             11            12
\STPSV
#3    14                                                              15
\STP
      13
_      UNDERGROUND CABLE CHART TO DETERMINE TYPE
3     +CIRCUIT TYPE 1                                                 +CIRCUIT TYPE 2
1     _COLOR                +OPEN         +DIRECT       +COPPER       +CLOSED        +ALTERNATE    +ALUMINUM
2      RED                  |No           |Yes          |No           |Yes           |No           |Yes
       GREEN                |Yes          |No           |Yes          |No            |Yes          |No
       BLUE                 |No           |No           |No           |Yes           |Yes          |Yes
       YELLOW               |Yes          |Yes          |No           |No            |No           |Yes
       BLACK                |Yes          |Yes          |Yes          |No            |No           |No
       BROWN                |No           |Yes          |No           |Yes           |No           |Yes
       ORANGE               |Yes          |No           |Yes          |No            |Yes          |No
       PURPLE               |No           |No           |No           |Yes           |Yes          |Yes
       WHITE                |Yes          |Yes          |Yes          |No            |No           |No
       GRAY                 |Yes          |Yes          |Yes          |No            |No           |No
\ETP
\TE
```

ADDING A COLUMN TO THE 6 COLUMN TABLE

UNDERGROUND CABLE CHART TO DETERMINE TYPE						
	CIRCUIT TYPE 1			CIRCUIT TYPE 2		
COLOR	OPEN	DIRECT	COPPER	CLOSED	ALTERNATE	ALUMINUM
RED	No	Yes	No	Yes	No	Yes
GREEN	Yes	No	Yes	No	Yes	No
BLUE	No	No	No	Yes	Yes	Yes
YELLOW	Yes	Yes	No	No	No	Yes
BLACK	Yes	Yes	Yes	No	No	No
BROWN	No	Yes	No	Yes	No	Yes
ORANGE	Yes	No	Yes	No	Yes	No
PURPLE	No	No	No	Yes	Yes	Yes
WHITE	Yes	Yes	Yes	No	No	No
GRAY	Yes	Yes	Yes	No	No	No

tbl7.pfmt

```
\* Format For Table 7  \*

\* Page Definition  \*
\PDEF WIDTH=8.5i DEPTH=11i LM=4.5a RM=4.5a DUPLEX=N  \END

\* Column Definition  \*
\COLX1 LM=0 RM=42a BOT=1i TOP=10i LB=0  \END
\* Start Out In Full Page Mode  \*
\CD 1  \END

\* Type Faces For Table  \*
\TXT1 FONT=GE STYLE=B HSIZE=7p VSIZE=8p LEAD=10p  \END  \* Table Head  \*
\TXT2 FONT=GE STYLE=N HSIZE=7p VSIZE=8p LEAD=10p  \END  \* Body Copy  \*

\* Type Face For Header\*
\TXT3 FONT=GE STYLE=B HSIZE=10p VSIZE=10p LEAD=12p  \END  \* HD1  \*

\* Header Definition  \*
\HDX1 TEXT=3 LM=2a RM=42a CM=CE LB=24p LA=0  \END

\* Underline Definition  \*
\ULPOS -20
\ULSIZ 10

\* Tab Position Definitions  \*
\TBX1 TEXT=2 LM=0 RM=14a CM=FL GUTL=0 GUTR=0  \END
\TBX2 TEXT=2 LM=0 RM=14.5a CM=FR GUTL=0 GUTR=40  \END
\TBX3 TEXT=2 LM=14.5a RM=16a CM=CE GUTL=0 GUTR=0  \END
\TBX4 TEXT=2 LM=16a RM=19a CM=CE GUTL=0 GUTR=0  \END
\TBX5 TEXT=2 LM=19a RM=28.5a CM=CE GUTL=0 GUTR=0  \END
\TBX6 TEXT=2 LM=28.5a RM=35a CM=FL GUTL=0 GUTR=0  \END
\TBX7 TEXT=2 LM=35a RM=40a CM=FR GUTL=0 GUTR=0  \END
\TBX8 TEXT=1 LM=0 RM=14a CM=FL GUTL=0 GUTR=0  \END
\TBX9 TEXT=2 LM=14a RM=16a CM=CE GUTL=0 GUTR=0  \END
\TBX10 TEXT=1 LM=16a RM=19a CM=CE GUTL=0 GUTR=0  \END
\TBX11 TEXT=2 LM=19.5a RM=28.5a CM=FL GUTL=0 GUTR=0  \END
\TBX12 TEXT=2 LM=28.5a RM=40a CM=FL GUTL=0 GUTR=0  \END

\* Table Setup Definition  \*
\TSX1 COMP=LINE ROWDEPTH=VAR LB=24p LA=0 RULES=NONE  \END
```

tbl7.data

```
\PFMT tbl7.pfmt  \END

\HD1 SAMPLE TABLE OF DATA BASE MARKED UP

\TS1
\STPSV
#1   8                                    9    10              11                                12
\STP
     1        2         3         4          5        6                  7
                EXT. OR   KEY                                          MAIL
_      NAME     TEL. NO.  CODE      VMX        TITLE    OFFICE/DEPARTMENT   CODE
^
1      \psz100^R
^
       Roland,  \N^Denise M. \Fill^ \B^5831    (RI)         8508636    AVP                          \Fill^  Inland Div. Hq.          \Fill^ 7-309
       Romami,  \N^Robert    \Fill^ \B^9962    (OB)                    Infor. Syst. Off.            \Fill^  Unv. Min. Automation Co. \Fill^ A1-90
       Rordal,  \N^Dan C.    \Fill^ \B^8466    (LA)                    SVP & Assoc. Gen'l. Counsel \Fill^  Off. of Gen'l. Counsel   \Fill^ H28-30
       Rounza,  \N^Sara \Fill^ \B^555-750-3129 (GL)                    Asst. Mgr.                   \Fill^  Ck. & Dep. Serv.         \Fill^ 3-888
       etc...
\ETP
\TE
```

SAMPLE TABLE OF DATA BASE MARKED UP

NAME	EXT. OR TEL. NO.	KEY CODE	VMX	TITLE	OFFICE/DEPARTMENT	MAIL CODE
R						
Roland, Denise M.	**5831**	(RI)	**8508636**	AVP.	Inland Div. Hq.	7-309
Romami, Robert	**9962**	(OB)		Infor. Syst. Off.	Unv. Min. Automation Co.	A1-90
Rordal, Dan C.	**8466**	(LA)		SVP & Assoc. Gen'l. Counsel	Off. of Gen'l. Counsel	H28-30
Rounza, Sara	**555-750-3129**	(GL)		Asst. Mgr.	Ck. & Dep. Serv.	3-888
Roland, Denise M.	**5831**	(RI)	**8508636**	AVP.	Inland Div. Hq.	7-309
Romami, Robert	**9962**	(OB)		Infor. Syst. Off.	Unv. Min. Automation Co.	A1-90
Rordal, Dan C.	**8466**	(LA)		SVP & Assoc. Gen'l. Counsel	Off. of Gen'l. Counsel	H28-30
Rounza, Sara	**555-750-3129**	(GL)		Asst. Mgr.	Ck. & Dep. Serv.	3-888
Roland, Denise M.	**5831**	(RI)	**8508636**	AVP.	Inland Div. Hq.	7-309
Romami, Robert	**9962**	(OB)		Infor. Syst. Off.	Unv. Min. Automation Co.	A1-90
Rordal, Dan C.	**8466**	(LA)		SVP & Assoc. Gen'l. Counsel	Off. of Gen'l. Counsel	H28-30
Rounza, Sara	**555-750-3129**	(GL)		Asst. Mgr.	Ck. & Dep. Serv.	3-888
Roland, Denise M.	**5831**	(RI)	**8508636**	AVP.	Inland Div. Hq.	7-309
Romami, Robert	**9962**	(OB)		Infor. Syst. Off.	Unv. Min. Automation Co.	A1-90
Rordal, Dan C.	**8466**	(LA)		SVP & Assoc. Gen'l. Counsel	Off. of Gen'l. Counsel	H28-30
Rounza, Sara	**555-750-3129**	(GL)		Asst. Mgr.	Ck. & Dep. Serv.	3-888
Roland, Denise M.	**5831**	(RI)	**8508636**	AVP.	Inland Div. Hq.	7-309
Romami, Robert	**9962**	(OB)		Infor. Syst. Off.	Unv. Min. Automation Co.	A1-90
Rordal, Dan C.	**8466**	(LA)		SVP & Assoc. Gen'l. Counsel	Off. of Gen'l. Counsel	H28-30
Rounza, Sara	**555-750-3129**	(GL)		Asst. Mgr.	Ck. & Dep. Serv.	3-888
Roland, Denise M.	**5831**	(RI)	**8508636**	AVP.	Inland Div. Hq.	7-309
Romami, Robert	**9962**	(OB)		Infor. Syst. Off.	Unv. Min. Automation Co.	A1-90
Rordal, Dan C.	**8466**	(LA)		SVP & Assoc. Gen'l. Counsel	Off. of Gen'l. Counsel	H28-30
Rounza, Sara	**555-750-3129**	(GL)		Asst. Mgr.	Ck. & Dep. Serv.	3-888
Roland, Denise M.	**5831**	(RI)	**8508636**	AVP.	Inland Div. Hq.	7-309
Romami, Robert	**9962**	(OB)		Infor. Syst. Off.	Unv. Min. Automation Co.	A1-90
Rordal, Dan C.	**8466**	(LA)		SVP & Assoc. Gen'l. Counsel	Off. of Gen'l. Counsel	H28-30
Rounza, Sara	**555-750-3129**	(GL)		Asst. Mgr.	Ck. & Dep. Serv.	3-888
Roland, Denise M.	**5831**	(RI)	**8508636**	AVP.	Inland Div. Hq.	7-309
Romami, Robert	**9962**	(OB)		Infor. Syst. Off.	Unv. Min. Automation Co.	A1-90
Rordal, Dan C.	**8466**	(LA)		SVP & Assoc. Gen'l. Counsel	Off. of Gen'l. Counsel	H28-30
Rounza, Sara	**555-750-3129**	(GL)		Asst. Mgr.	Ck. & Dep. Serv.	3-888
Roland, Denise M.	**5831**	(RI)	**8508636**	AVP.	Inland Div. Hq.	7-309
Romami, Robert	**9962**	(OB)		Infor. Syst. Off.	Unv. Min. Automation Co.	A1-90
Rordal, Dan C.	**8466**	(LA)		SVP & Assoc. Gen'l. Counsel	Off. of Gen'l. Counsel	H28-30
Rounza, Sara	**555-750-3129**	(GL)		Asst. Mgr.	Ck. & Dep. Serv.	3-888
Roland, Denise M.	**5831**	(RI)	**8508636**	AVP.	Inland Div. Hq.	7-309
Romami, Robert	**9962**	(OB)		Infor. Syst. Off.	Unv. Min. Automation Co.	A1-90
Rordal, Dan C.	**8466**	(LA)		SVP & Assoc. Gen'l. Counsel	Off. of Gen'l. Counsel	H28-30
Rounza, Sara	**555-750-3129**	(GL)		Asst. Mgr.	Ck. & Dep. Serv.	3-888
Roland, Denise M.	**5831**	(RI)	**8508636**	AVP.	Inland Div. Hq.	7-309
Romami, Robert	**9962**	(OB)		Infor. Syst. Off.	Unv. Min. Automation Co.	A1-90
Rordal, Dan C.	**8466**	(LA)		SVP & Assoc. Gen'l. Counsel	Off. of Gen'l. Counsel	H28-30
Rounza, Sara	**555-750-3129**	(GL)		Asst. Mgr.	Ck. & Dep. Serv.	3-888

Justify Mode

tbl8.pfmt

```
\* Three Column Table Using Compose Justify for Word Wrap  \*

\* Tab Position Definitions  \*
\TBX1 TEXT=1 LM=0 RM=14a CM=CE GUTL=0 GUTR=0  \END
\TBX2 TEXT=1 LM=14a RM=28a CM=CE GUTL=0 GUTR=0  \END
\TBX3 TEXT=1 LM=28a RM=42a CM=CE GUTL=16p GUTR=0  \END
\TBX4 TEXT=2 LM=0 RM=14a CM=FL VCM=FT GUTL=16p GUTR=0  \END
\TBX5 TEXT=2 LM=14a RM=28a CM=FL VCM=FT GUTL=16p GUTR=0  \END
\TBX6 TEXT=2 LM=28a RM=42a CM=CE VCM=FB GUTL=0 GUTR=0  \END

\* Table Setup Definition  \*
\TSX1 COMP=JUST ROWDEPTH=VAR LB=24p LA=0 RULES=TBLR  \END
```

tbl8.data

```
   \* Three Column Table A  \*
   \PFMT tbl.pfmt  \END
   \PFMT tbl8.pfmt  \END

   \HD1 CONNECT TIMING\NL
   CALLING PERSON HANGS UP, CALLED PERSON HOLDS

   \TS1
   \STPSV
   #1    4                                    5                          6
   \STP
        1                                    2                          3
         NUMBER OF                           |                          |
   _     SWITCHING SYSTEM                    |LOCATION                  |CONNECTING TIME
   1                                         |                          |
         No. 1 left switch, red              |When locating a number      |8 to 10 seconds.
                                             |one switch, look for        |
                                             |a locator number that       |
                                             |is an eight digit           |
                                             |alpha numeric starting      |
                                             |with an alpha R.            |

                                             |                          |

         No. 2 left switch, blue             |When locating a number      |8 to 10 seconds.
                                             |two switch, look for        |
                                             |a locator number that       |
                                             |is an eight digit           |
                                             |alpha numeric starting      |
                                             |with an alpha B.            |

                                             |                          |

         No. 3 left switch, green            |When locating a number      |8 to 10 seconds.
                                             |three switch, look for      |
                                             |a locator number that       |
                                             |is an eight digit           |
                                             |alpha numeric starting      |
                                             |with an alpha G.            |

   \ETP
   \TE
```

CONNECT TIMING
CALLING PERSON HANGS UP, CALLED PERSON HOLDS

NUMBER OF SWITCHING SYSTEM	LOCATION	CONNECTING TIME
No. 1 left switch, red	When locating a number one switch, look for a locator number that is an eight digit alpha numeric starting with an alpha R.	8 to 10 seconds.
No. 2 left switch, blue	When locating a number two switch, look for a locator number that is an eight digit alpha numeric starting with an alpha B.	8 to 10 seconds.
No. 3 left switch, green	When locating a number three switch, look for a locator number that is an eight digit alpha numeric starting with an alpha G.	8 to 10 seconds.

Financial Table

financial.pfmt

```
\* FINANCIAL TABLE  \*

\* Output Device  \*
\LASER

\TBX1 TEXT=2 LM=28a RM=39.5a CM=CE VCM=FB GUTB=10  \END
\TBX2 TEXT=2 LM=0 RM=39.5a CM=FL VCM=FB GUTB=10  \END
\TBX3 TEXT=2 LM=27a RM=31.5a CM=FR VCM=FB GUTB=10  \END
\TBX4 TEXT=2 LM=27a RM=39a CM=FR VCM=FB GUTB=10  \END
\TBX5 TEXT=2 LM=1.5a RM=39a CM=FL VCM=FB GUTB=10  \END
\TBX6 TEXT=2 LM=2.5a RM=39a CM=FL VCM=FB GUTB=10  \END
\TBX7 TEXT=3 LM=0 RM=26.5a CM=CE VCM=FB GUTB=10  \END
\TBX8 TEXT=2 LM=32a RM=39a CM=FL VCM=FB GUTB=10  \END
\TBX9 TEXT=2 LM=39a RM=39.5a CM=FL VCM=FB GUTB=10  \END
\TBX10 TEXT=2 LM=27a RM=32a CM=FL VCM=FB GUTB=0  \END
\TBX11 TEXT=2 LM=34.5a RM=39a CM=FL VCM=FB GUTB=0  \END

\TSX1 ROWLEAD=11p ROWDEPTH=VAR COMP=LINE RULES=NONE LB=20p  \END
```

financial.data

```
\PFMT tbl.pfmt  \END
\PFMT financial.pfmt  \END

\HD1 ABCD\80^STATEMENTS OF CHANGES IN FINANCIAL POSITION

\TS1
\STPSV
#1  2                                                          3            4          11 10
\STPSV
#2  5                                                          3            4          11 10
\STPSV
#3  6                                                          3           84          1991 10
\STPSV
#4  7                                                          3            4          11 10
\STPSV
#5  5                                                          3           84          1991 10
\STP
    1
     Year Ended May 31
     \hsa200^1991\hsa690^1990

1    Cash and temporary investments\80^beginning of year                $ 4,398,062  $ 2,639,361

     Sources of funds:

2    From operations:

3    Excess of revenues over expenses                                     709,690    1,104,374
     Add back depreciation not requiring outlay of funds                  120,027      114,387 _  _
                                                                          829,717    1,218,761

2    Proceeds from sale of land, less gain of $87,867 included in revenues     \81      375,198
     Proceeds from sale of securities, less gain of $80,636

3    included in revenues                                                 188,612          \81

2    Increase (decrease) in liabilities and deferred revenues:

3    Accounts payable and other liabilities                               219,621        8,594
     Accrued taxes                                                       (148,015)    (125,645)
     Unearned dues and fees                                               265,192      431,986
     Unearned publication income                                         (130,761)     147,279 _  _
                                                                        1,224,366    2,056,173 _  _

1    Uses of funds:

2    Purchase of land not used in operations                            1,100,000          \81
     Additions to property and equipment                                   60,922      113,829
     Increase in securities                                                78,814      116,425
     Increase (decrease) in other assets:

3    Receivables                                                          (86,599)     (99,064)
     Inventory of publication materials                                    13,300       36,390
     Prepaid expenses                                                      67,984      129,892 _  _
                                                                        1,234,421      297,472 _  _

1    Increase (decrease) in funds:
5    Temporary investments                                                 45,697       32,949 _  _
                                                                          (55,752)   1,725,752 _  _
4    CASH AND TEMPORARY INVESTMENTS\81^END OF YEAR                    $ 4,388,007  $ 4,398,062 =  =

1    See notes to financial statements on Page 41.
\ETP
\TE
```

ABCD—STATEMENTS OF CHANGES IN FINANCIAL POSITION

	Year Ended May 31 1991	1990
Cash and temporary investments—beginning of year	$ 4,398,062	$ 2,639,361
Sources of funds:		
From operations:		
Excess of revenues over expenses	709,690	1,104,374
Add back depreciation not requiring outlay of funds	120,027	114,387
	829,717	1,218,761
Proceeds from sale of land, less gain of $87,867 included in revenues	–	375,198
Proceeds from sale of securities, less gain of $80,636 included in revenues	188,612	–
Increase (decrease) in liabilities and deferred revenues:		
Accounts payable and other liabilities	219,621	8,594
Accrued taxes	(148,015)	(125,645)
Unearned dues and fees	265,192	431,986
Unearned publication income	(130,761)	147,279
	1,224,366	2,056,173
Uses of funds:		
Purchase of land not used in operations	1,100,000	–
Additions to property and equipment	60,922	113,829
Increase in securities	78,814	116,425
Increase (decrease) in other assets:		
Receivables	(86,599)	(99,064)
Inventory of publication materials	13,300	36,390
Prepaid expenses	67,984	129,892
	1,234,421	297,472
Increase (decrease) in funds:		
Temporary investments	45,697	32,949
	(55,752)	1,725,752
CASH AND TEMPORARY INVESTMENTS–END OF YEAR	$ 4,388,007	$ 4,398,062

See notes to financial statements on Page 41.

Chapter 15: International Characters

In this chapter are the keyboarding specifications for accented characters.

Supported Characters

Á
System Name: Aacute
Descriptive Name: Capital A with acute
IBM Ascii value (hex): c1
PostScript value: \390^ or A\bc^\3^
Keyboard Sequence: @'A

á
System Name: aacute
Descriptive Name: Lower a with acute
IBM Ascii value (hex): e1
PostScript value: \391^ or a\bc^\4^
Keyboard Sequence: @'a

Â
System Name: Acircumflex
Descriptive Name: Capital A with circumflex
IBM Ascii value (hex): c2
PostScript value: \392^ or A\bc^\7^
Keyboard Sequence: @^A

â
System Name: acircumflex
Descriptive Name: Lower a with circumflex
IBM Ascii value (hex): e2
PostScript value: \393^ or a\bc^\8^
Keyboard Sequence: @^a

Ä
System Name: Adieresis
Descriptive Name: Capital A with dieresis
IBM Ascii value (hex): c4
PostScript value: \394^ or A\bc^\9^
Keyboard Sequence: @"A

ä
System Name: adieresis
Descriptive Name: Lower a with dieresis
IBM Ascii value (hex): e4
PostScript value: \395^ or a\bc^\10^
Keyboard Sequence: @"a

À
System Name: Agrave
Descriptive Name: Capital A with grave
IBM Ascii value (hex): c0
PostScript value: \396^ or A\bc^\5^
Keyboard Sequence: @`A

à
System Name: agrave
Descriptive Name: Lower a with grave
IBM Ascii value (hex): e0
PostScript value: \397^ or a\bc^\6^
Keyboard Sequence: @`a

Å
System Name: Aring
Descriptive Name: Capital A with ring
IBM Ascii value (hex): c5
PostScript value: \398^ or A\bc^\1^
Keyboard Sequence: @*A

å
System Name: aring
Descriptive Name: Lower a with ring
IBM Ascii value (hex): e5
PostScript value: \399^ or a\bc^\2^
Keyboard Sequence: @*a

Ã
System Name: Atilde
Descriptive Name: Capital A with tilde
IBM Ascii value (hex): c3
PostScript value: \400^ or A\bc^\11^
Keyboard Sequence: @\248^A

ã
System Name: atilde
Descriptive Name: Lower a with tilde
IBM Ascii value (hex): e3
PostScript value: \401^ or a\bc^\12^
Keyboard Sequence: @\248^a

Ç
System Name: Ccedilla
Descriptive Name: Capital C with cedilla
IBM Ascii value (hex): c7
PostScript value: \402^ or C\bc^\13^
Keyboard Sequence: @,C

ç
System Name: ccedilla
Descriptive Name: Lower c with cedilla
IBM Ascii value (hex): e7
PostScript value: \403^ or c\bc^\14^
Keyboard Sequence: @,c

É
System Name: Eacute
Descriptive Name: Capital E with acute
IBM Ascii value (hex): c9
PostScript value: \404^ or E\bc^\3^
Keyboard Sequence: @'E

é
System Name: eacute
Descriptive Name: Lower e with acute
IBM Ascii value (hex): e9
PostScript value: \405^ or e\bc^\4^
Keyboard Sequence: @'e

Ê
System Name: Ecircumflex
Descriptive Name: Capital E w circumflex
IBM Ascii value (hex): ca
PostScript value: \406^ or E\bc^\7^
Keyboard Sequence: @^E

ê
System Name: ecircumflex
Descriptive Name: Lower e w circumflex
IBM Ascii value (hex): ea
PostScript value: \407^ or e\bc^\8^
Keyboard Sequence: @^e

Ë
System Name: Edieresis
Descriptive Name: Capital E with dieresis
IBM Ascii value (hex): cb
PostScript value: \408^ or E\bc^\9^
Keyboard Sequence: @"E

ë
System Name: edieresis
Descriptive Name: Lower e with dieresis
IBM Ascii value (hex): eb
PostScript value: \409^ or e\bc^\10^
Keyboard Sequence: @"e

È
System Name: Egrave
Descriptive Name: Capital E with grave
IBM Ascii value (hex): c8
PostScript value: \410^ or E\bc^\5^
Keyboard Sequence: @`E

è
System Name: egrave
Descriptive Name: Lower e with grave
IBM Ascii value (hex): e8
PostScript value: \411^ or e\bc^\6^
Keyboard Sequence: @`e

Í
System Name: Iacute
Descriptive Name: Capital I with acute
IBM Ascii value (hex): cd
PostScript value: \412^ or I\bc^\3^
Keyboard Sequence: @'I

í
System Name: iacute
Descriptive Name: Lower i with acute
IBM Ascii value (hex): ed
PostScript value: \413^ or i\bc^\4^
Keyboard Sequence: @'i

Î
System Name: Icircumflex
Descriptive Name: Capital I w circumflex
IBM Ascii value (hex): ce
PostScript value: \414^ or I\bc^\7^
Keyboard Sequence: @^I

î
System Name: icircumflex
Descriptive Name: Lower i w circumflex
IBM Ascii value (hex): ee
PostScript value: \415^ or i\bc^\8^
Keyboard Sequence: @^i

Ï
System Name: Idieresis
Descriptive Name: Capital I w dieresis
IBM Ascii value (hex): cf
PostScript value: \416^ or I\bc^\9^
Keyboard Sequence: @"I

ï
System Name: idieresis
Descriptive Name: Lower i with dieresis
IBM Ascii value (hex): ef
PostScript value: \417^ or i\bc^\10^
Keyboard Sequence: @"i

Ì
System Name: Igrave
Descriptive Name: Capital I with grave
IBM Ascii value (hex): cc
PostScript value: \418^ or I\bc^\5^
Keyboard Sequence: @`I

ì
System Name: igrave
Descriptive Name: Lower i with grave
IBM Ascii value (hex): ec
PostScript value: \419^ or i\bc^\6^
Keyboard Sequence: @`i

Ñ
System Name: Ntilde
Descriptive Name: Capital N with tilde
IBM Ascii value (hex): d1
PostScript value: \420^ or N\bc^\11^
Keyboard Sequence: @\248^N

ñ
System Name: ntilde
Descriptive Name: Lower n with tilde
IBM Ascii value (hex): f1
PostScript value: \421^ or n\bc^\12^
Keyboard Sequence: @\248^n

Ó
System Name: Oacute
Descriptive Name: Capital O with acute
IBM Ascii value (hex): d3
PostScript value: \442^ or O\bc^\3^
Keyboard Sequence: @'O

ó
System Name: oacute
Descriptive Name: Lower o with acute
IBM Ascii value (hex): f3
PostScript value: \443^ or o\bc^\4^
Keyboard Sequence: @'o

Ô
System Name: Ocircumflex
Descriptive Name: Capital O w circumflex
IBM Ascii value (hex): d4
PostScript value: \444^ or O\bc^\7^
Keyboard Sequence: @^O

ô
System Name: ocircumflex
Descriptive Name: Lower o w circumflex
IBM Ascii value (hex): f4
PostScript value: \445^ or o\bc^\8^
Keyboard Sequence: @^o

Ö
System Name: Odieresis
Descriptive Name: Capital O with dieresis
IBM Ascii value (hex): d6
PostScript value: \446^ or O\bc^\9^
Keyboard Sequence: @"O

ö
System Name: odieresis
Descriptive Name: Lower o with dieresis
IBM Ascii value (hex): f6
PostScript value: \447^ or o\bc^\10^
Keyboard Sequence: @"o

Ò
System Name: Ograve
Descriptive Name: Capital O with grave
IBM Ascii value (hex): d2
PostScript value: \448^ or O\bc^\5^
Keyboard Sequence: @`O

ò
System Name: ograve
Descriptive Name: Lower o with grave
IBM Ascii value (hex): f2
PostScript value: \449^ or o\bc^\6^
Keyboard Sequence: @`o

Õ
System Name: Otilde
Descriptive Name: Capital O with tilde
IBM Ascii value (hex): d5
PostScript value: \450^ or O\bc^\11^
Keyboard Sequence: @\248^O

õ
System Name: otilde
Descriptive Name: Lower o with tilde
IBM Ascii value (hex): f5
PostScript value: \451^ or o\bc^\12^
Keyboard Sequence: @\248^o

Š
System Name: Scaron
Descriptive Name: Capital S with caron
IBM Ascii value (hex): 80
PostScript value: \452^
Keyboard Sequence: @vS

š
System Name: scaron
Descriptive Name: Lower s with caron
IBM Ascii value (hex): 81
PostScript value: \453^
Keyboard Sequence: @vs

Ú
System Name: Uacute
Descriptive Name: Capital U with acute
IBM Ascii value (hex): da
PostScript value: \454^ or U\bc^\3^
Keyboard Sequence: @'U

ú
System Name: uacute
Descriptive Name: Lower u with acute
IBM Ascii value (hex): fa
PostScript value: \455^ or u\bc^\4^
Keyboard Sequence: @'u

Û
System Name: Ucircumflex
Descriptive Name: Capital U with circumflex
IBM Ascii value (hex): db
PostScript value: \456^ or U\bc^\7^
Keyboard Sequence: @^U

û
System Name: ucircumflex
Descriptive Name: Lower u with circumflex
IBM Ascii value (hex): fb
PostScript value: \457^ or u\bc^\8^
Keyboard Sequence: @^u

Ü
System Name: Udieresis
Descriptive Name: Capital U with dieresis
IBM Ascii value (hex): dc
PostScript value: \458^ or U\bc^\9^
Keyboard Sequence: @"U

ü
System Name: udieresis
Descriptive Name: Lower u with dieresis
IBM Ascii value (hex): fc
PostScript value: \459^ or u\bc^\10^
Keyboard Sequence: @"u

Ù
System Name: Ugrave
Descriptive Name: Capital U with grave
IBM Ascii value (hex): d9
PostScript value: \460^ or U\bc^\5^
Keyboard Sequence: @`U

ù
System Name: ugrave
Descriptive Name: Lower u with grave
IBM Ascii value (hex): f9
PostScript value: \461^ or u\bc^\6^
Keyboard Sequence: @`u

Ÿ
System Name: Ydieresis
Descriptive Name: Capital Y with dieresis
IBM Ascii value (hex): dd
PostScript value: \462^ or Y\bc^\9^
Keyboard Sequence: @"Y

ÿ
System Name: ydieresis
Descriptive Name: Lower y with dieresis
IBM Ascii value (hex): ff
PostScript value: \463^ or y\bc^\10^
Keyboard Sequence: @"y

Ž
System Name: Zcaron
Descriptive Name: Capital Z with caron
IBM Ascii value (hex): 82
PostScript value: \464^
Keyboard Sequence: @vZ

ž
System Name: zcaron
Descriptive Name: Lower z with caron
IBM Ascii value (hex): 83
PostScript value: \465^
Keyboard Sequence: @vz

¡
System Name: exclamdown
Descriptive Name: Inverted exclamation
IBM Ascii value (hex): a1
PostScript value:
Keyboard Sequence: @!!

¿
System Name: questiondown
Descriptive Name: Inverted question mark
IBM Ascii value (hex): bf
PostScript value: \471^
Keyboard Sequence: @??

¢
System Name: cent
Descriptive Name: Cent sign
IBM Ascii value (hex): a2
PostScript value: \64^
Keyboard Sequence: @C/

£
System Name: sterling
Descriptive Name: Pound Sterling
IBM Ascii value (hex): a3
PostScript value:
Keyboard Sequence: @-L

¤
System Name: currency
Descriptive Name: General currency symbol
IBM Ascii value (hex): a4
PostScript value: \505^
Keyboard Sequence: @XO

¥
System Name: yen
Descriptive Name: Yen
IBM Ascii value (hex): a5
PostScript value:
Keyboard Sequence: @=Y

§
System Name: section
Descriptive Name: Section mark
IBM Ascii value (hex): a6
PostScript value: \126^
Keyboard Sequence: @S!

Æ
System Name: AE
Descriptive Name: Capital AE dipthong
IBM Ascii value (hex): c6
PostScript value: \483^ or \16^
Keyboard Sequence: @AE

æ
System Name: ae
Descriptive Name: Lower ae dipthong
IBM Ascii value (hex): e6
PostScript value: \487^ or \18^
Keyboard Sequence: @ae

Œ
System Name: OE
Descriptive Name: Capital OE dipthong
IBM Ascii value (hex): 84
PostScript value: \486^ or \17^
Keyboard Sequence: @OE

œ
System Name: oe
Descriptive Name: Lower oe dipthong
IBM Ascii value (hex): 85
PostScript value: \480^ or \19^
Keyboard Sequence: @oe

‰
System Name: perthousand
Descriptive Name: Per mill, per thousand
IBM Ascii value (hex): 86
PostScript value:
Keyboard Sequence: @%o

ß
System Name: germandbls
Descriptive Name: German double s
IBM Ascii value (hex): df
PostScript value: \481^ or \15^
Keyboard Sequence: @ss

Ø
System Name: Oslash
Descriptive Name: Capital O with slash
IBM Ascii value (hex): d8
PostScript value: \485^
Keyboard Sequence: @O/

ø
System Name: oslash
Descriptive Name: Lower o with slash
IBM Ascii value (hex): f8
PostScript value: \479^
Keyboard Sequence: @o/

«
System Name: guillemotleft
Descriptive Name: Left guillemet\nl^ (Angle quote)
IBM Ascii value (hex): ab
PostScript value: \467^
Keyboard Sequence: @<<

»
System Name: guillemotright
Descriptive Name: Right guillemet\nl^ (Angle quote)
IBM Ascii value (hex): bb
PostScript value: \468^
Keyboard Sequence: @>>

•
System Name: bullet
Descriptive Name: Bullet
IBM Ascii value (hex): b7
PostScript value: \122^
Keyboard Sequence: @^.

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