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# Developing an Effective User Manual

Helen M. McClellan

DEVELOPING AN EFFECTIVE USER MANUAL

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## *ABSTRACT*

Providing effective computer-based support to end users by telephone can be quite a challenge. An enormous amount of information is needed by the employees of an information center (know as the Help Desk at ITT Commercial Finance) in order to assist end users with computer related problems and questions. In effect, a carefully prepared manual is a vital support tool for Help Desk employees.

The purpose of this project is to demonstrate how an effective user manual is developed. The Help Desk Information & Procedures Manual is assembled using several development methodologies and documentation standards. This study first outlines the need for documentation and defines a proposed course of development. Chapter II describes the documentation plan and several other development methodologies and documentation guidelines. Chapter III presents a statement of the problem and an intended execution. In Chapter IV, the actual development methodology and documentation standards that are used in the Help Desk Information & Procedures Manual are described. Chapter V displays the results of the project investigation. The discrepancies that were found between the intended and the actual project development are also presented in this chapter. Chapter VI presents the findings of the study in the form of the actual support manual. The project concludes with Chapter VII which is a discussion of suggestions for future manual development.

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In its completed form, the Help Desk Information & Procedures Manual serves two purposes. First, it demonstrates how the effective use of development methodologies and documentation standards can be used to create a useful user manual. Second, the manual will provide Help Desk employees at ITT Commercial Finance with a functional support tool.

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*A Culminating Project Presented to the Faculty of the Graduate School*
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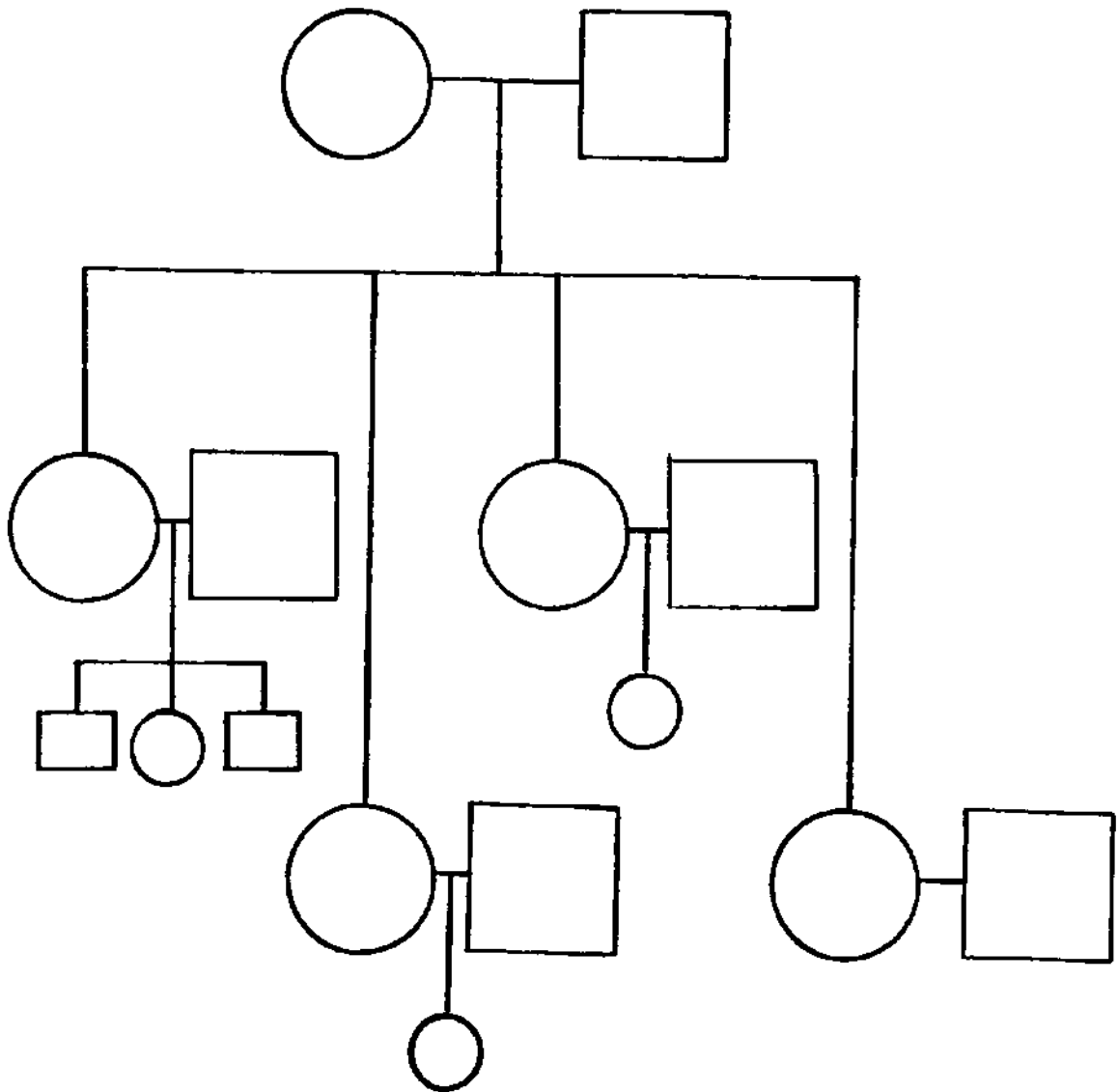COMMITTEE IN CHARGE OF CANDIDACY:


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# DEDICATION

**TO MY FAMILY:**

# DEVELOPING AN EFFECTIVE USER MANUAL
## TABLE OF CONTENTS

## CHAPTER

# CHAPTER 1

## INTRODUCTION

A technical user manual can be effectively written by utilizing a documentation plan and documentation standards. A user manual is a document that defines, explains, illustrates, and informs an audience on the use of computer equipment and software. A documentation plan acts as an overall flowchart that can be used to effectively deliver technical information to a specific group of users. Documentation standards help to provide consistency and quality control to user documentation. These standards determine the format, style, and appearance of the completed documentation (Perryman 35). A well developed documentation plan and accurate use of standards will enable the creation of an extremely important reference tool.

Through the use of a specific documentation plan and set of standards, I will develop an information and procedures manual. The manual will be used by information center personnel (also known as the Help Desk) at ITT Commercial Finance. The Help Desk is a centralized group of six individuals who are on-call to provide end users with computer related information and answers to user questions. The Help Desk supports over 1400 employees throughout four of ITT's operating divisions. Due to the wide range of activities performed, and the numerous hardware/software that is supported, an information and procedures manual is a necessary support tool.

The documentation that is currently being used is a conglomeration of notes rather than a consistent, organized support manual. I will use several development methodologies to incorporate both existing and new information and procedures into a useful support manual. The use of a documentation plan and standards will demonstrate how an effective user manual can be developed.

Several research methods will be used in gathering information pertaining to this topic. Information gathered from a library literature review will provide the methodology for the documentation plan and some standards (periodicals and texts). Intra company development manuals will be used to demonstrate two in-house documentation development methods (Spectrum and The Information Mapping Method). Several intra company interviews will be performed to gather internal information for manual content, distribution, and quality assurance. Two individuals from both the Systems and Programming and Technical Support departments will be interviewed to validate the accuracy of procedures that will be described in the manual. A departmental survey will be distributed to Help Desk personnel in order to extract information pertaining to the information and procedures that will be included in the manual. Some vital feedback regarding support analyst needs will be gathered from the survey question, "What type of information would you like to see included in the manual?"

The primary source of information, regarding manual content, will come from internal company interviews and literature. Periodicals and library reference books will provide the majority of information pertaining to the documentation plan and standards.

After some investigation, I found that a computer search would not be feasible for this topic. Recent technological advancements in computers and limited documentation sources eliminate the use of an online computer search as a possible research method.

The Help Desk Information and Procedures Manual will be developed as a two part manual. Part I will contain informative material regarding the responsibilities and the environment of the support center. Definitions, overviews, and constant information (addresses and telephone numbers) will be presented in Part I and in the appendices. Part II will illustrate and describe the purpose and steps needed to perform a wide range of support procedures. The narrative information in Part I will be of great value to newer Help Desk employees because it will contain information that describes the Help Desk function and a network overview. Part II will act as an instructional procedures manual for newer employees, and will be a reference section for more experienced personnel. The information and procedures manual should prove to be a very valuable support tool for both new and experienced support analysts.

# CHAPTER 2

## LITERATURE REVIEW

A user manual contains information that first introduces an audience to a particular task, system or environment and then assists that audience in taking specific actions to perform various tasks. Preparing a user manual is a necessary task because it provides users with concise information that they may have had to gather from numerous other sources. One method of assisting a writer in compiling a user manual is through the use of a documentation plan (Perryman 34). A documentation plan provides an overall roadmap that forces awareness from manual conception to completion. Perryman outlines a specific documentation plan in her article "Standards and Documentation" (31-37).

Perryman states that there are three steps that should be taken when designing a comprehensive documentation plan. The three steps include identifying the audience, determining what type of manual is needed, and creating documentation standards. The first step of the documentation plan involves audience identification. Identifying an audience is critical in focussing in on a particular group of user's needs. This definition will allow the development of a manual that will be useful to a specific audience. Because different readers have different backgrounds, certain information may confuse the audience unless it is explained at their level

of understanding. Information is only useful if it makes sense to a specific group of users (Lannon 17). John M. Lannon, the author of Technical Writing, states that "what is written (content) and how it is written (format and style) is guided by what the writer knows about the audience beforehand. A writer should learn as much about a selected audience before writing a piece of documentation" (18).

Perryman suggests that the three main elements to consider when identifying an audience are the person, the system, and the task (34). The person element refers to an individual's needs and technical understanding. The system element relates to an individual's previous experience with the particular type of system that the manual is written for. The third element, task, refers to the specific activities that the user manual will describe. In other words, the user manual should only identify tasks that will be used by the specific audience. Identifying an audience precisely is the most important step of the documentation plan. An inaccurate definition of the audience will lead to the development of an ineffective, unusuable manual.

The second step of Perryman's documentation plan is to determine what type of manual is needed. The six types of manuals to consider include installation manuals, data entry and procedure manuals, operations manuals, support manuals, tutorials, and quick reference guides (Perryman 34-35). The type of manual needed will depend upon the size of an organization and the audience's needs.

User manuals may be purely reflective of one of the previous manual types, or, they may be a combination of several manual formats. Larger organizations would probably utilize all of the six types of user manuals. Smaller organizations may not use all of the various types. Figure 1 shows Perryman's Checklist For Document Creation (35). This tool is designed to be used as a guideline in determining when a particular manual type or combination of types should be used.

The third step of Perryman's documentation plan entails the creation of document standards. According to Perryman, "standards help to provide quality control for user documentation. They also serve to show what the product should look like when it's finished" (35). Documentation should be standardized for content, organization, style, format, and appearance. Content standards specify volume, level of detail, illustrations, examples, and explanations or instructions. Organization standards provide a logical flow, continuity of exhibits, user and system task identification, and chapter separations. Style standards specify the level of language that will be used. Format standards describe how information will be arranged on a page. Appearance standards define how a manual will be bound, what type of paper will be used, and what font or pitch the type will be in. Figure 2 outlines Perryman's Documentation Standards Guidelines. Complete standards will provide a concise outline for compiling user information.

## CHECKLIST FOR DOCUMENT CREATION

Will the system user have to?

●Install the system without assistance?
___NO
___YES─────────────→    Provide Installation Manual

●Enter data to be processed?
___NO
___YES─────────────→    Provide Data Entry or Procedure Manual

●Perform activities beyond those expected of most users?
___NO
___YES─────────────→    Provide Operations Manual

●Modify the system in any way?
___NO
___YES─────────────→    Provide Support Manual

●Learn the system and its basic purpose?
___NO
___YES─────────────→    Provide Tutorial

●Memorize many commands or file names?
___NO
___YES─────────────→    Provide Quick Reference

Figure 1

| DOCUMENTATION STANDARDS | |
|---|---|
| **CATEGORY** | **INFORMATION TYPE** |
| Content Stand.<br>  Volume<br>  Level/Detail<br><br>  Illustrations<br>  Examples<br>  Explanations/<br>    Instructions | Maximum number of pages the document can be<br>Starting point for all explanations and<br>  descriptions based on audience identification<br>Comments about the use of charts, graphs, etc.<br>Qualifies the types of examples that are used<br>States the level of explanations and the type<br>  of instructions to be provided |
| Organization<br>  Logical flow<br>  Continuity of<br>    Exhibits<br>  User and<br>    System Task<br>    Ident.<br>  Chapter<br>    Separations | Order of chapters with a document<br>States the types of information that are<br>  consistently illustrated in the document<br>A description of how user actions are different<br>  from system responses<br><br>A description of the method used to separate<br>  each chapter (colored sheets, tabs, etc.) |
| Style<br>  Interpret. of<br>    System Func.<br>  Translation<br>    of Technical<br>    Terms<br>  Consistency<br><br>  Readability<br>    Level | A description of how add, change, inquire and<br>  delete functions are to be written<br>A statement describing formality of language and<br>  whether definitions will be provided in the<br>  document<br>A statement of how individual applications<br>  within a system are to be described<br>A description of sentence length and word<br>  usage appropriate for the audience |
| Format<br>  Page Design<br>  Placement of<br>    Illust.<br>  Headings and<br>    Labels | A statement of acceptable margins<br>A statement of where illustrations will be<br>  placed (near the text)<br>A description of headings and labels used<br>  within a document |
| Appearance<br>  Exterior<br>    Design<br>  Paper Quality<br><br>  Paper Size<br>  Typeface | A description of binder types used for this<br>  type of document<br>A definition of minimum and maximums paper<br>  quality for the final document<br>The physical dimensions of the paper to be used<br>A definition of print size and style |

Figure 2

Just as the documentation plan aids in the overall development of a user manual, the plan sheet is a tool that can be used to organize individual pieces of the manual (Cohen 13). Cohen emphasizes that one of the most important uses of the plan sheet is that it helps in gathering information from subject matter experts. When used in this mode, plan sheets act as blueprints for different parts of the manual. Cohen describes plan sheets as "labor saving devices" (13). Figure 3 outlines the various types of plan sheets.

<u>COHEN'S PLAN SHEETS</u>

| <u>PLAN SHEET</u> | <u>USE</u> |
|---|---|
| A. | Naming the Product or Procedure |
| B. | What the Product or Procedure Does |
| C. | Translating Technical Facts |
| D. | The Distinguishing Characteristics of the Product or Procedure |
| E. | The Old Product or Procedure |
| F. | The New Product or Procedure |
| G. | The Task Outline Sheet |
| H. | The Task Detail Sheet |
| I. | The Alternatives Sheet |
| J. | The Troubleshooting Table |

Figure 3.

Plan sheet A uses a combination of how it works, what it looks like, blending words, acronyms, and connotative words to assist a writer in accurately naming a product or procedure (Cohen 26). Plan sheet B is the easiest of all of the plan sheets to complete. This sheet merely asks for a brief explanation (one

or two sentences) of what the product or procedure does. Plan sheet C is formatted to aid in translating technical facts. The column on the left lists the facts while the column on the right signifies how the reader will be affected. Plan sheet D requires the completion of various defining elements in an attempt to identify distinguishing characteristics of the product or procedure (43). Plan sheets E and F are used to describe what the "old" product or procedure looks like and what the "new" product or procedure looks like. These two plan sheets should be displayed next to each other to enable a comparison/contrast analysis (49). Task outlining is accomplished through the use of plan sheet G. This plan sheet presents a flowchart format which allows subject matter experts to provide information in a flowing procedure. Extracting information from computer subject matter experts, in a familiar language (flowcharting), is much more effective that other narrative methods (58). Plan sheet H works in conjunction with plan sheet G. Plan sheet G formats the flow of a procedure while plan sheet H identifies the reason, the equipment, and the supplies needed to perform the task (68). Plan sheet I lists alternatives to be considered in addition to the materials that were identified in sheet H. The I plan sheet enables a writer to expand and weight the advantages and disadvantages before choosing the best method of achieving something (89). The J plan sheet is extremely useful when attempting to outline troubleshooting tasks. Four topic headings

are used to extract vital information including You Notice, This
May Mean, Caused By, and You Should. Accurately filling in this
information will assist a reader in following a specific process
aimed at identifying and resolving a particular problem situation
(96). Not all of the plan sheet types will be useful for the
development of all manuals. However, appropriate use of plan
sheets will provide an accurate and precise blueprint to follow
when writing a procedure, identifying a product, or describing a
process.

The documentation plan provides an overall method of
developing, organizing, and compiling a user manual. Plan sheets
offer assistance by aiding in the collecting of vital information
for task specific instructions, discussions, or procedures.
Information Mapping is a specialized method of actually
condensing, formatting, and presenting the written material. This
technique discourages the use of paragraphed, narrative writing.
The author does point out that this is sometimes unavoidable.

Information Mapping also focuses on scanning and quick
retrieval of information by using labels to highlight text
(Information Resources, Inc. 3). A blocked and well spaced format
is also suggested. Figure 4 is a typical procedures document.
Figure 5 is the same document reproduced using Information Mapping
techniques.

Typical Procedures Document-

## MARKETING ADMINISTRATION REPORTS AND HOW WE GET THEM

Many marketing personnel complain about the number of records they are
forced to keep and how strict the time period about turning in receipts,
expenses is. What most marketing people don't realize is that the
marketing reports that we are so vitally concerned with, that help in
business forecasting, budgeting, etc. are all based on submission of
expenses and sales.

Let us start with what happens when receipts are first turned in to
Accounting.

1.  Accounting is responsible for making sure that all documents,
    receipts are received from marketing. With all that data, then
    a weekly sales and expense report is completed. The weekly Sales
    and Expense report is the backbone of our marketing reports. The
    Sales Revenue Reports and Operating Expenses Year-to-Date versus
    Estimated Expenses as well as Comparison of Estimated Versus
    Actual Sales Revenues all are generated from the current as well
    as the previous Weekly reports, but more about that in the follow-
    ing steps. Once the report is complete and verified, Accounting
    sends the report to data entry for keytaping and from there to
    computer operations.

2.  Computer Operations submits the data tape and loads the program,
    entering all the necessary system information in order for the
    program to run. The Weekly Sales and Expense Report is only a
    small part of the total system. Once the data is entered, the
    key reports to our marketing efforts are generated. Computer
    Operations is then responsible for delivering the completed re-
    ports to Marketing.

As you can see, all the financial information we need to keep us
current is contained in just that Weekly Sales and Expense Report.
Hopefully, you can see that we in marketing must cooperate with all
the departments involved to keep this process going.

Figure 4

Procedures Document - Information Mapping Method

## HOW THE KEY MARKETING REPORTS ARE PRODUCED--OVERVIEW

| | |
|---|---|
| Definition | The key marketing reports are<br><br>• Sales Revenues<br>• Comparison of Estimated versus Actual Sales Revenues<br>• Operating Expenses Year-to-Date versus Estimated Expenses |
| Introduction | Key marketing reports tell us how well we are doing on a<br><br>• weekly basis and<br>• year-to-date basis<br><br>by using the raw data (expenses, sales, etc.) Marketing submits weekly to Accounting. |
| Source Document | Accounting creates the Weekly Sales and Expense Report from the data submitted by Marketing. |
| Process | |

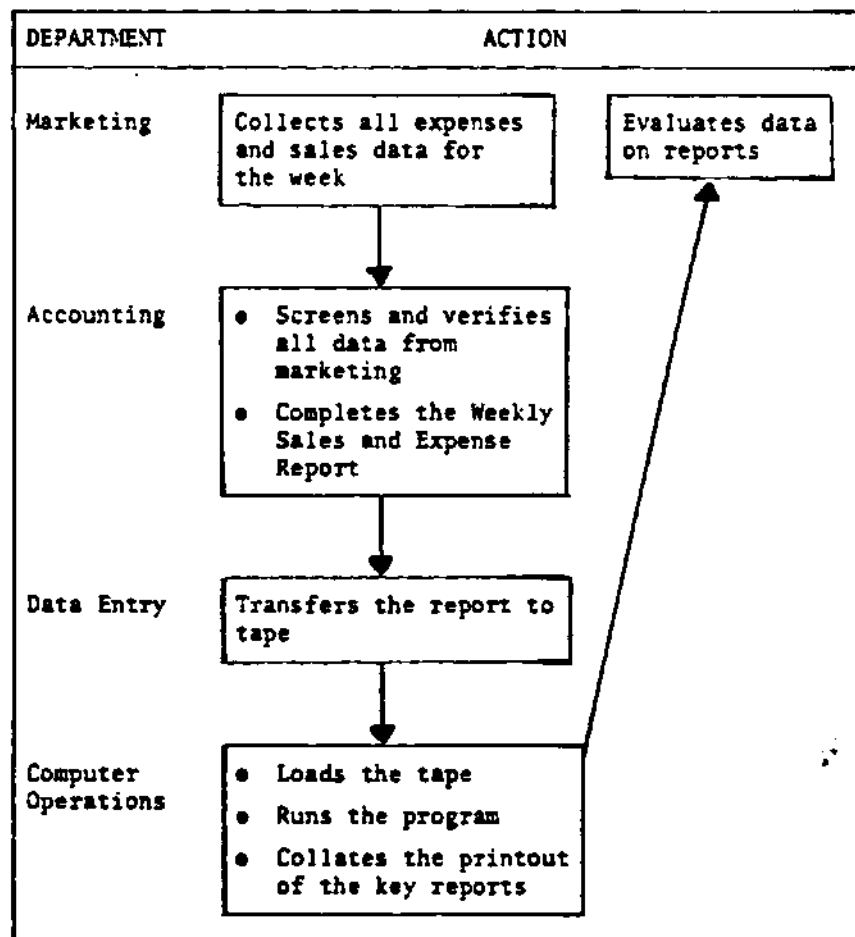| DEPARTMENT | ACTION |
|---|---|
| Marketing | Collects all expenses and sales data for the week |
| Accounting | • Screens and verifies all data from marketing<br><br>• Completes the Weekly Sales and Expense Report |
| Data Entry | Transfers the report to tape |
| Computer Operations | • Loads the tape<br>• Runs the program<br>• Collates the printout of the key reports |

Evaluates data on reports

Figure 5

Some of the advantages derived from using Information Mapping are outlined below.

- Employees will write faster and better
- The staff will spend less time reading reports
- The amount of time needed to analyze problems and make decisions will decrease due to improved written communications
- Fewer writing and typing errors will be made due to reduced use of text
- Cost effective- people will spend less time writing (faster to outline)

The Information Mapping technique is well suited for outlining procedures, memos, system definitions/set-up, reports, and statistical information.

In addition to the Information Mapping method, Grimm describes five other methods of presenting information. The five methods include prose, cookbook style, numbered instructions, playscript style, and the four step method. Prose refers to ordinary paragraphed writing. This method may cause some information to be lost in the paragraphs. It is ideal though for presenting introductions rather than instructions. The cookbook style means that instructions are written like a recipe. In this style, the verb is the first word in the sentence. This method allows you to give directions in short, concise phrases (e.g., Beat until smooth). Numbered instructions take the form of cookbook directions. The instructions are short and concise; however,

they are preceded by a capitalized heading and an instruction number (e.g., 1.   PURCHASE ORDER NUMBER  the number is preprinted on the form.).   This method is best used when preparing instructions for data entry or form preparation.   It presents directions that clearly state what must be done.   Documentation prepared using this format is easier to read and locate due to the numbers and capitalized headings.   The playscript style is helpful when instructions are to be used by more than one group of users. The instructions are grouped and sectioned off by the appropriate user who will perform the designated step(s).   By using this method, the different users can easily find and read only the instructions that apply to them.   The four step method should be used to present directions when one step does not necessarily follow another.   When the user must decide what to do and when to do it, the manual must provide the user with guidance in making these decisions.   The following four steps are utilized in this style.

1. Motivation or reasons.  What do the users want to do?
   Why do they want to do it?
2. Effect.  What will happen when users do this?
3. General steps.  What are the typical steps to accomplish
   the desired effect?
4. Example.


A user manual may utilize one or more of the above methods to present information.  The appropriate method to use will depend

entirely upon the various users that will reference the documentation, and the type of intervention that the user must take in order to complete the procedure or process (Grimm 50-54).

Another tool that can be used to develop any written material is known as the Spectrum system. Spectrum is a set of reference manuals that provide detailed and precise instructions on how to write a wide variety of business related documents. For each specific task, Spectrum outlines the purpose of the task, any policies that should be adhered to as a result of completing the task, any related materials that may be referenced while performing the task, any forms used, the procedures to follow, and any expected results of completing the task (Spectrum Preface 1). Figure 6 diagrams the first page of an example task. A referencing table of contents can be used to select one of many tasks to complete. Some example tasks include preparing a table of contents for a user manual, preparing data entry instructions, preparing data transmission instructions, and preparing a system flowchart. The Spectrum system can be used as a complete project management system and systems development methodology.

In addition to the various documentation methods, that were previously discussed, there are also numerous documentation guidelines that should be followed. These guidelines should be used, if appropriate, regardless of the method or mode used to prepare the manual. Documentation guidelines are used in different degrees of intensity, depending upon the type of manual

Spectrum Example-

Section 17
3.1.20

Page
1 of 2

Date
12/31/81

# RFORMANCE STANDARDS

PREPARE TABLE OF CONTENTS OF USER MANUALS

## rpose

e assembly of user manuals usually requires a substantial amount of time and
fort.  To assure that this time and effort is properly directed, and to
ure that the contents of the user manuals are complete and meaningful, the
st step in the preparation of the manuals is to compose the table of
ntents.  A draft of the table of contents should be reviewed with the user
ore detailed work on the manuals is started.  This task describes the
cedures to be followed in developing user manuals table of contents.

## lcy

les of contents for user manuals will be prepared and reviewed with the
r prior to the assembly of the user manuals, except where existing manuals
packaged software products are to be used.

## ted Materials

(1)  Strategy narrative prepared in 2.1.55
(2)  List Of Standard Tasks from Analyst/Programmer's Manual, section 4.1.2
(3)  Copies of user manuals from previous systems
(4)  User functions/transactions requirements prepared in 1.2.30
(5)  Overall system flowchart prepared in 2.1.10
(6)  Overall system narrative prepared in 2.1.30
(7)  Subsystem flowchart prepared in 2.1.34
(8)  Subsystem narrative prepared in 2.1.36
(9)  User error instructions prepared in 2.2.38
(10)  User input list and layouts prepared in 2.1.20 and 2.2.20
(11)  Report descriptions and layouts prepared in 2.2.10 and 2.2.13
(12)  Summary descriptions of user procedures prepared in 2.2.40
(13)  Screen descriptions and terminal instructions prepared in 2.2.12-OL
f Packaged Software Products Are Involved:
(14)  User manuals for any packaged software products

## Used

PC 104    Procedure Manual

## dures

ocedures are performed by the Systems Analyst.

1)  If all or part of the system functions are being performed by
    packaged software and if correct and complete vendors' manuals for
    the users are available, then review these manuals with the user.  If
    they appear satisfactory, use appropriate judgment in skipping the
    remaining steps in this task as well as tasks 3.1.21, 3.1.22, 3.1.23,
    3.1.24, and 3.1.25.  If the vendors' manuals are unsuitable or
    insufficient, use them as source material and proceed normally.

Figure 6

and its ultimate use. Another restriction to consider when using guidelines is in how accurately the audience was defined. If the audience has an advanced technical background, then the manual may not have to contain basic definitions (ie. what a CPU or disk drive is). Cohen describes eight guidelines that will make manuals easier to read and understand if properly implemented. These guidelines are shown in Figure 7 (Cohen 6).

---

**DOCUMENTATION GUIDELINES**

1. Don't waste the beginning of the manual  (Do not include lengthy introductions that are not necessary).

2. Write to get the reader productive as soon as possible.

3. Respect the reader's time. Ask yourself, Is the reader likely to know this information? (If yes, then leave the information out). Does the reader need to know this to get the job done? (Again, if not do not include it).

4. Remember that clear writing is good manners. Always make the manual as pleasant to read as possible.

5. Don't merely list technical facts. Technical information must be translated into an idea or a definition. Never leave the reader stranded.

6. Bridge from the old to the new, from the known to the unknown.  Don't drop the reader off in the middle.

7. In its organization, its presentation, and its language, make the manual instructional.  State specific instructions in command language.  However, don't confuse the language of discussion and description with the language of instruction.

8. Show a reader how to do something as well as tell the reader how to do something.  Curtailing either usually blurs communication

Figure 7

Providing the reader with definitions and explanations is a very important guideline to keep in mind when preparing a user manual. The degree of definition and explanation that is needed will depend upon the reader's technical background. Brockmann suggests that excessive jargon should not be used, no matter what level of detail that the manual is written in. He states that "by analyzing and knowing the audience from the beginning, you know what is, and what is not jargon" (Brockmann 153). If the documentation is written in a language that is compatible to the reader's level of knowledge, then the manual probably does not contain excessive jargon. However, definitions should be offered for terms that the reader may be slightly or not at all familiar with.

Defining a term or process may take one of many forms. Some terms will require only a parenthetical definition consisting of just a few words. Other terms will require an expanded definition containing one or more paragraphs (Lannon 89). It is not enough to list technical facts. Facts and/or terms must be translated so that they become meaningful to readers.

Some alternatives to the narrative definition include outlines, illustrations, graphs, and flowcharts. Outlining a procedure will provide the reader with a blueprint that highlights the primary stages or steps. Diagrams and graphs will provide visual definitions that help in translating a difficult term or procedure into an understandable concept. Diagrams and graphics

are extremely effective for several reasons. First, they can emphasize or clarify points in the text. Second, diagrams and graphs can make the reader more interested in the documentation. Third, one half of that brain is better able to take in large sweeps of information. Visual material enables the brain to scan and absorb information quickly. This ability is referred to as "spot art" (Brockmann 181). Several rules should be followed when using diagrams and graphs. Each visual should be labeled. Diagrams and graphs should be located as close as possible to the point in the text where the reference is made. Available resources should be utilized to prepare diagrams and graphs. Photographs, computer graphics, copies, or drawings are all good sources.

Flowcharts are also an effective means of visually displaying a concept or process. Flowcharts are important because they can precisely portray the flow of a process more accurately than text. Most readers can understand an illustration of a process better than they can a written description (Grimm 137). A flowchart is also a vital tool to use when interviewing a subject matter expert. Information in a flowchart format serves as a common means of communication because it can be understood by both a non-technical and technical person. The completed flowchart can be used to support written text (Cunningham 62). All of the

previously described guidelines should be considered when preparing a user manual. These guidelines will make the manual easier to read by providing clarity and consistency to the documentation.

## Chapter 3


## THEORETICAL ORIENTATION


The Help Desk is the primary communications interface between the field branch offices and the home office. Providing support to over 1400 employees, throughout four different operating divisions, for twelve or more hours a day and part-time on weekends is a very cumbersome job. All of this activity requires an enormous amount of interaction. Help Desk employees must be well-informed of all software and hardware on the system, both at the local and network levels. Each individual is cross-trained on all phases of support. However, each person does have their own area of specialization which is nurtured by supporting the majority of the calls in each of their specific areas. Help Desk personnel are required to be expert communicators, in a technical environment, while speaking and translating many different languages at the same time. Freedman and Marshall point out that "information center people regularly practice the art and science of effective interpersonal communications (34)."

With so much continuous interaction and activity occurring, a support manual is a necessary instrument. The reference manual that is currently being used is out of date, unorganized, inconsistent in format and style, and uses very few documentation guidelines. The present manual was developed in 1984 when the initial computer network was established. At that time, the Help Desk support manual was a sufficient support tool because substantially fewer users were being supported on a much less

complicated system. Today, the number of users being supported has grown significantly and the network and local systems have become increasingly sophisticated by technological advancements. The original Help Desk manual has been periodically updated; however, it has never received a much needed rewrite and complete reorganization. The question seems to be, "How to develop and maintain a support manual in a rapidly changing environment?" This study will examine and demonstrate the various development methodologies that can be used to combat the above problem.

Unfortunately, complete documentation is usually lacking in most companies. Resources are rarely provided for the sole purpose of keeping documentation current in all departments. A compounding effect is found in areas where information changes on a frequent basis. The Help Desk is a typical example of where documentation has not been accurately monitored due to a lack of resources and a rapidly changing environment.

A new Help Desk Information and Procedures Manual will be developed through the use of identified development methodologies and documentation standards. The manual will contain information that is both new and existing. Documentation standards and guidelines will provide consistency in format, style, and content. Standardized documentation will enable future manual updates to be quickly implemented. A recommended updating and distribution schedule will insure that the contents of the manual are current. The new Information and Procedures Manual will provide Help Desk employees with a consistently updated and organized support tool.

# CHAPTER 4

## DEVELOPMENT METHODOLOGY

Past documentation methodologies have changed a great deal compared to the methods and practices being used today. Several factors have brought about this change. One element is the changing audience over the years. The audience of today is more sophisticated and liberal. A poorly conceived manual is not accepted or tolerated. One reason for the change in audience attitude is that there is an increasing reluctancy to read. The life style of the average person has become very busy and paper oriented. A second reason is that people now blame their inability to understand written material on the writer instead of themselves. If a manual is not clear it is a reflection on the writer and the methods used to present the information. A third reason is tied to the increasing complexity of everyday life. More than ever, there is a need to get the reader productive as soon as possible (Cohen 1). Valuable time cannot be spent trying to understand a lengthy or unclear description of a product or procedure. A manual will not be used if it is perceived to have an overall look of inaccuracy, complexity, or irrelevant information.

In order to combat these barriers, development methodologies must be used to effectively gather and present information. Several of the researched development methodologies will be used to prepare the Help Desk Information and Procedures Manual.

As discussed in Chapter 2, the three steps of Perryman's documentation plan include identifying the audience, determining what type of manual is needed, and creating documentation standards. In an attempt to utilize this methodology a definition of the Help Desk audience has been developed.

The Help Desk is a centralized group of six people who assist end users with computer related problems and questions. Some of the support activities include monitoring data flow throughout the network, assisting users in performing a wide range of activities, taking action for reported hardware/software problems, and communicating information to people who have different levels of understanding. The Help Desk acts as an interface between end users in the field and the programming and technical support departments. This group is also the information provider to upper management. Help Desk personnel must have good communication skills and also be technically or applications oriented. This background typically comes in the form of education or past related experience.

In order to accurately define an audience, Perryman states that there are three elements to consider including the person, the system, and the task. For the Help Desk audience, the person element is defined as individuals who use their data processing and/or applications backgrounds to provide user support. The system element is defined as individuals who have had at least one year of education in data processing or an equivalent amount of

experience in a related field (either applications or a DP technical environment). The third element, task, is very abstract in this particular case. The task can best be defined by stating that Help Desk employees provide support regarding all hardware and software present on ITT's computer network. Combining all of the above elements, one final definition is derived. The Help Desk audience includes individuals with a data processing and/or an applications background and strong communication skills, who monitor and improve computer operations and provide end user satisfaction.

The second step of Perryman's documentation plan is to determine what type of manual is needed. The Help Desk Information and Procedures manual will use several manual types. Part I will contain informative data and will therefore reflect a support manual type. Part II will display actual procedures and references. This section will be typical of a procedures and reference manual. The Help Desk Information and Procedures manual will simulate various manual types due to the wide variety of information that will be presented.

The third step of the documentation plan entails the development of documentation standards. Perryman's documentation standards checklist will be used. Figure 8 is a reproduction of the checklist, including the standards that will be followed to prepare the Information and Procedures manual.

| DOCUMENTATION STANDARDS | |
|---|---|
| **CATEGORY** | **INFORMATION TYPE** |
| Content Stand.<br> Volume<br><br> Level/Detail<br><br> Illustrations<br> Examples<br> Explanations/<br> Instructions | Manual will contain a table of contents, 13<br> sections, and 14 appendices<br>Written for support analysts with at least one<br> year of DP education or related experience<br>Illus. & examples will be displayed as close as<br> possible to the reference in the text<br>Definitions will be provided within the text or<br> in the glossary of terms |
| Organization<br> Logical flow<br><br> Continuity of<br> Exhibits<br> User and<br> System Task<br> Ident.<br> Chapter<br> Separations | Part I will reference narrative descriptions –<br> Part II will describe actual procedures<br>All exhibits will be clearly marked and labeled<br><br>Each procedure will or task will be preceded by<br> a description and/or purpose<br><br>Sections will be clearly marked and separated |
| Style<br> Translation<br> of Technical<br> Terms<br> Readability<br> Level | Terms will be defined throughout the text or in<br> the glossary of terms<br><br>Level will be appropriate for individuals with<br> at least a basic knowledge of DP technical<br> terminology – Advanced terms will be defined |
| Format<br> Page Design<br><br> Placement of<br> Illust.<br> Headings and<br> Labels | Page design will follow both the Information<br> Mapping techniques and narrative methods<br>Will be displayed as close as possible to the<br> text reference<br>Each page will have a header that includes a<br> section number and title, a date, and a page # |
| Appearance<br> Exterior<br> Design<br> Paper Quality<br> Paper Size<br> Typeface | Manual will be bound, numbered, and labeled in<br> a hard-sided three ring binder<br>Printed on bond paper<br>Bond size is 8 1/2 X 11<br>Several fonts will be used including 12 pitch<br> final and Italics |

Figure 8

In addition to Perryman's documentation standards other standards will also be considered. A definition of technical terms will be provided in the text if appropriate or in the glossary of terms. Illustrations and flowcharts will be used to clarify narrative descriptions or will be used in lieu of text. A major portion of the manual will be written in general and specific computer terms. The Help Desk audience should have a working knowledge of basic terms from their education or experience. Knowledge of specific terminology is necessary in order to promote effective communications between Help Desk personnel and other departments (programming and technical support). According to Gildersleeve, using jargon is appropriate as long as it is familiar to the group that will use the documentation. Terms that are necessary to use, but unfamiliar to the audience, should always be defined (45). These unfamiliar terms will be defined through one of the methods outlined above.

Several of the other previously described documentation methods will also be used. Some of the Information Mapping techniques will be used to create an effective manual format and style. The boxed definitions, margin labels, and wide spacing will make items in the manual easier to locate and read. Some of Grimm's methods of presenting information will also be used. The prose style will be more appropriate for the informative part of the manual. The numbered instructions and the four step method will be very effective in presenting the procedures described in

Part II of the manual. All of these techniques should provide clarity and consistency to the manual format and style.

Both of the methods outlined in Chapter 2 will be used to collect the data that will be presented in the manual. Many of the plan sheets shown in Figure 3 will aid in both collecting and presenting information. When interviewing subject matter experts, the flowchart will be used to document the information. These two collection methodologies will ensure that the contents of the manual are accurate. Utilizing the previous collection and development methodologies should enable the creation of a well developed Information and Procedures manual.

Once the manual is prepared it must be tested for content accuracy and development effectiveness. There are numerous methods available for testing documentation. London suggests one method that can be used which he calls a post-implementation audit. This audit is completed before the documentation is distributed. In this type of audit, a list of anticipated benefits are compared with actual benefits to determine if the documentation fulfills the initial requirements. The review of the documentation benefits should cover workability, accuracy, legibility, and completeness (London 197). If the written material is lacking in any one of these ares it should be revised accordingly.

An Index of Usability is another method that can be used to measure the effectiveness of a publication. This index is

designed to be applied before the manual is written. As Weiss puts it, "the later in the life of a product, the more expensive it is to change, and therefore, the less likely it is to be changed." The Index of Usability refers to the number of times that the intended reader must skip material or reverse directions to use a publication (Weiss 30). These skips and interruptions are categorized into three groups including strategic errors, structural errors, and tactical errors. Figure 9 displays a table for measuring usability.

| CRITERION | ERROR | CONSEQUENCE |
|---|---|---|
| Availability | Strategic | •jumping from book to book<br>•needing two books for one task<br>•needing to ignore most of the pages |
| Suitability & Accessibility | Structural | •jumping from front to back<br>•never reading pages in sequence<br>•searching for exhibits, tables, etc. |
| Readability | Tactical | •stopping to notice mechanical errors<br>•getting stuck on inconsistent terminology<br>•rereading difficult passages |

Figure 9

Strategic errors are the most crucial type of errors. These errors create a situation where references are not aligned properly. The reader jumps from book to book to find what they need, or, they will just give up the search. Structural errors present moderate problems for readers. This type of error

produces frequent jumping from the front of the manual to the back and vice versa. This is especially common when text refers to charts that are located somewhere else in the manual. Weiss states that "the greatest single barrier to the usability of a manual is the separation of text from exhibits referred to in the text" (31). Tactical errors produce short jumps usually within a paragraph or page. Due to poor editing, a reader must chain unclear or unfinished sentences together. These type of errors also include grammatical and syntax errors (31). An effort should be made, before a manual is written, to avoid making the above errors. Reducing or eliminating these distractions will make a manual more usable to readers.

Another method of testing a manual for accuracy is by establishing review procedures. Several steps are involved when setting up a review of a user manual. The first step is to identify multiple levels of reviewers. A draft copy of the manual should be distributed to subject matter experts in order to verify the contents for accuracy. Another copy should be given to one of the actual users of the manual. One additional copy should be interrogated by an executive management person. Once the reviewers have made comments and suggestions, the manual is revised and a second draft copy is distributed. When the manual is signed off by all reviewers, it is ready for its final distribution.

Figure 10 diagrams a checklist for manual review (Grimm 165).

```
CHECKLIST FOR REVIEWING THE MANUAL
1.  Determine the reviewers
2.  Have review procedures
3.  Put the reviewer's name on the draft
4.  Ask for its return by a specific date
5.  Consolidate changes when all drafts are returned
6.  Mark changes with change bars (for ease of location)
7.  Return first draft with second draft to all reviewers
8.  Repeat the process until all are satisfied
9.  Sign-off on the manual
```

Figure 10

Testing and reviewing a manual for accuracy and usability is the most important step when designing a user manual. Failure to allow for reviewing could lead to the production of an unusable manual or a manual that contains information that is misleading. If the contents of a manual are not precise and clear, then the end result of an action may be the opposite of what was actually intended. Making provisions for a manual review will save time and effort when the manual is actually implemented and distributed.

# CHAPTER 5

## RESULTS

After investigating numerous sources, in an attempt to collect information for this project, two definite discrepancies surfaced. For the most part, my proposed course of action for studying the topic outlined in Chapter 1 was followed very closely. The majority of the theory pertaining to the documentation plan and standards was accumulated from a review of pertinent literature. The primary portion of the actual manual contents was derived from interviewing in-house subject matter experts and from existing documentation.

One of the discrepancies that I found between my intended study of the topic and my actual investigation involves one of the research methods used. Early in my investigation, I was informed by a trained source that a literature computer search would not be feasible for this project. Some of the reasons outlined included the fact that computers and technology are fairly new to the documentation world. Therefore, large amounts of accurately defined methodologies would probably not be available. A second reason dealt with the rapidly changing environment of technology. In other words, even if documentation on the topic was available it probably would not be very up to date.

Some further probing of my own revealed a situation exactly opposite of that described above. A literary search system known

as LUIS (Library User Information Service) was used to gather the majority of the information for the theory portion of this study. The computer search did in fact identify many documentation sources related to the investigated topic. The information presented in the literature is very accurate and updated when compared to user and reference manual that are currently being used at ITT Commercial Finance. After using the LUIS system, I found that a library computer search seems to be very appropriate for most any topic (relatively new or old). This method of source finding is a quick and easy approach compared to a manual literature browse.

The second discrepancy that I found in relation to my proposed course of action involves an appropriate manual number scheme. Originally, I had intended to use the Roman numeral system to label sections and pages. However, after reviewing some documentation on the topic I found a much more effective method.

The most flexible section numbering system is called the decimal system (Gildersleve 83). This system is beneficial because it helps in organizing the contents of a manual into several levels. This in turn helps the users of a manual in locating information faster and easier. Figure 11 presents an example of the decimal numbering system.

```
┌─────────────────────────────────────────────────────────┐
│                 DATA PROCESSING STANDARDS                 │
│                 AND PROCEDURES MANUAL                     │
│                                                           │
│   10      Documentation Standards                         │
│                                                           │
│   11      Documentation Requirements                      │
│           11.1-1  Documentation Library                   │
│           11.2-1  Project/Task document file              │
│           11.3-1  Procedures and responsibilities         │
│                                                           │
│   12      Systems Analysis and Design Documentation       │
│           12.1-1  Preliminary studies and proposals       │
│           12.2-1  General system design                   │
│           12.3-1  Input/Output description                 │
│                                                           │
│                                                           │
│                       Figure 11                           │
│                                                           │
└─────────────────────────────────────────────────────────┘
```

Figure 11

In this numbering scheme, the first number (11.1-1) indicates the section number. The second digit (11.1-1) reveals the chapter number within each section. The third number (11.1-1) indicates the starting page number. The decimal numbering scheme is particularly useful for user manuals that contain information that frequently changes. By using this system, the sections, chapters, or pages of a manual can be modified without affecting the numbering of any preceding or subsequent parts of the manual.

The preceding two discrepancies, the literature computer search and the manual numbering system, are the only variances that were identified. This chapter will be updated if necessary to include new findings once the Information and Procedures manual is completed.

The next chapter presents the findings of this study in the form of the Help Desk Information and Procedures manual. The manual will display many of the methodologies and techniques that

have been discussed thus far. In an attempt to control the length
of the manual for this project, some sections may contain filler
pages. These filler pages will specify an example of the text
that will ultimately appear in the user manual. The demographic
information (addresses and telephone numbers) will be displayed in
a partial form for this project, but will be expanded to its
complete form for the actual manual. Condensing this information
will eliminate numerous repetitive pages of text from the overall
project.

# CHAPTER 6

## FINDINGS/OUTPUT

PART II - HELP DESK FUNCTION

**APPENDICES -**

This manual is designed to be used by new and experienced Help Desk employees. The purpose of this manual is to provide Help Desk employees with both descriptive and reference information to promote efficient user support. The primary goal of the Help Desk is to support both home office and field end users in performing various computer based tasks. This goal is accomplished by keeping Help Desk employees knowledgeable about the overall computer network and by providing documented references.

The information presented in this manual is separated into two major parts. Part I provides narrative descriptions regarding the overall Help Desk function, the network, production flows, applications, support tools and forms, and problem reporting procedures. This section is helpful in providing an understanding of an overall process or flow of activity. Part II presents various procedures that are performed on a routine basis. Some of these procedures include system operations, maintenance procedures, transmission procedures, hardware/software support, and equipment diagrams. These procedures will provide guidelines and a list of corrective actions to take in an attempt to troubleshoot or remedy a problem. The key is to understand the overall procedures or process rather than memorizing which keys to press.

Throughout this manual, references will be made to a secondary group of manuals known as the Famis Guides (Floorplanning Automated Management Information System). The Famis Guides are prepared and distributed by ITT's inhouse training staff. Each Help Desk employee should have a set of these manuals. The Famis Guides are a three volume set that are distributed to both home office and field employees. These manuals are prepared for field users and are written from an end user perspective. The purpose of the Famis Guides are to provide end users with information regarding system operations, maintenance, and functionality. Basically, these guides describe the uses and limitations of the branch computer system. Another important function of the Famis Guides is that they provide users with an overall description of the communications that take place between the field and the Help Desk. The responsibilities of both the end users and the Help Desk support team are also described. These guides are vital to both Help Desk employees and end users because they provide a common referencing tool. The Famis Guides describe the uses and functions of ITT's computer system from a user's point of view. The Help Desk Information & Procedures manual provides information on similar and different topics, but from a troubleshooting and support standpoint. Utilizing both of these references will enable Help Desk employees to understand how something should work (Famis Guides) and what to do if it doesn't (Information & Procedures manual).

The Help Desk Information & Procedures manual will be
distributed to all Help Desk employees and the management of the
department.  Other key personnel in various departments will also
receive a copy.  This is beneficial for several reasons.  First,
the recipients can verify the sections appropriate to their
specialty for content.  Second, some of the information may be
useful to other departments.  The information on branch contact
personnel is especially useful for the Training department when
distributing materials to branches.  The list below indicates the
manual holders, their department, and the date issued.

HELP DESK MANUAL HOLDERS

| MANUAL NUMBER | NAME | DEPARTMENT | ISSUED |
|---|---|---|---|
| 01 | D. Bartin | Admin./Branch Systems | |
| 02 | G. Heerlein | Admin./Branch Systems | |
| 03 | C. Keppner | Systems & Programming | |
| 04 | G. Lotz | Operations | |
| 05 | S. McClellan | Admin./Branch Systems | |
| 06 | K. Morris | Admin./Branch Systems | |
| 07 | L. Noble | Admin./Branch Systems | |
| 08 | S. Orlich | Training & Procedures | |
| 09 | D. Potter | Training & Procedures | |
| 10 | M. Ross | Admin./Branch Systems | |
| 11 | P. Smiley | Admin./Branch Systems | |
| 12 | Offsite Copy | Clayton Facility | |

The Help Desk function encompasses a wide range of activities. The Help Desk is responsible for providing support and guidance regarding all Wang hardware and software on ITT's computer network. In addition to providing user support, the Help Desk also becomes involved when any hardware/software is installed or changed on any system. There are also several types of non-Wang hardware/software that is used in the field, but requires limited support on the part of the Help Desk. Some of the Help Desk functions are listed below. Activities and functions that require additional explanation will be discussed in their appropriate section throughout the manual.

GENERAL SUPPORT -

- Provide telephone assistance to users
- Receive and document user calls on problem log sheet
- Analyze problem calls for resolution
- Perform respools on missing or damaged reports and masterfiles
- Input and verify various home office transactions
- Coordinate new office opening schedules
- Coordinate automated transfer process of receivables from one office to another
- Perform analysis of user needs or functions and offer recommendations for system development
- Participate with MIS personnel and test user groups in the review and modification of existing system structure
- Produce and issue Famis processing schedules (ie daily, weekly monthly schedules)

## MAINTENANCE SUPPORT -

- Monitor disk utilization on branch systems
- Perform disk backup and restores to reduce fragmentation
- Monitor branch personnel on "housekeeping" system duties
- Perform "housekeeping" on branch systems beyond the ability and security of the local branch administrator
- Review branch activity and hardware environment and make recommendations to technical support and programming depts.
- Provide assistance in restoring a branch disk volume following data loss
- Report statistics regarding branch system usage to upper management

## NETWORK SUPPORT-

- Verify that files are transferring throughout the network
- Verify that branch and home office files are updated
- Monitor branch and home office transmissions
- Control and modify network communications to accommodate branch needs
- Support users passing through the network from system to system
- Take action for down circuits (digital lines)
- Assist company customers (manufacturers) in sending/retrieving data from ITT's systems.

## SOFTWARE SUPPORT-

- Research problems for potential system errors and document on work request for systems & programming resolution
- Review test results from processed work requests
- Perform software installations
- Provide assistance to end users regarding all Wang, Famis, and Accounts Receivable applications

## HARDWARE SUPPORT-

- Determine if a problem is hardware related
- Assist in new equipment installations
- Make system configuration file changes
- Schedule service/installation with numerous hardware vendors

•Assist in communicating workability of hardware at the time
     of installation
•Assist users in performing routine system operation procedures


LIMITED SUPPORT-

•Provide support to Lotus users (how to enter, exit, print,
     and display only)
•Suggest appropriate action for user to take regarding non-Wang
     equipment (Cihto and Juki printers)
•Place hardware calls for IBM PC configurations
     (troubleshooting of hardware problem is performed by the
     Technical Support department)




The above list represents the major responsibilities of the

Help Desk.  This list is not complete in any category.  New

functions and/or requirements will always arise based on  the

requests received from the user community.

The Help Desk is staffed and provides support sixty-five hours per week.  This number of hours per week is necessary to accommodate the needs of the ITT branches in both the eastern and western time zones.  The sixty-five hour work week includes Monday - Friday (7am - 7pm) and Saturday (10:30 - 3:30).  Each individual on the Help Desk covers a specific shift.  These shifts were designed to provide extra support during peak work hours and limited support during non-peak times.  The shifts are broken down below.

HELP DESK COVERAGE

| EMPLOYEE | SHIFT |
|----------|-------|
| 1 | 7:00am  - 3:30pm |
| 2 | 8:00am  - 4:30pm |
| 3 | 8:30am  - 5:00pm |
| 4 | 9:00am  - 5:30pm |
| 5 | 11:30am - 7:00pm (M - F) |
|   | 10:30am - 3:30pm (Sat.) |

The above shifts reflect "normal" work weeks.  On extended holiday weekends several employees may be needed to come in and verify that everything is running as expected.  This is necessary to insure that branch operations are not halted due to a network interruption or failure.

Each Help Desk employee has a specialty area and performs various unique or assigned duties on a daily basis. These projects are completed in addition to the daily flow of support calls received from the user community. The "early" (7:00 - 3:30) and the "late" (11:30 - 7:00) Help Desk persons also have specific duties to complete as a result of covering these two shifts. These specific tasks are outlined below.

EARLY SHIFT RESPONSIBILITIES-

1.  Determine the status of production files remaining on the HUB system. If files are remaining, but not transferring, then proceed to Step 2. If no files exist on the HUB system, then proceed to Step 3.

2.  Troubleshoot each branch that has files left on the HUB. (Is their system up?, Are communications allowed?) Attempt to regain file transfer.

3.  After confirming that there are no outstanding files on the HUB proceed with verifying branch masterfile updates. Check the home office branch masterfiles first, then proceed with checking the branch masterfiles.

4.  When checking masterfile updates, look for trends. (Are several branches not updated or just a few branches?) If numerous branches are experiencing a problem go to Step 5. If certain (few) branches are experiencing a problem refer to Step 6.

5.  Check the status of processing on the IBM mainframe (by calling Operations or checking distributed shift notes) Check for problems encountered during the night that may have delayed the production of masterfile updates and reports. If problems occurred verify that action has been taken. If production is complete and no delays were encountered then proceed to Step 7.

6. Once it has been determined that all branches are not
affected, then check for problems on each problem branchs'
remote system (Is the RPTTASK up?, Is there a damaged
file?, Has the correct number of updates been received?).
Take appropriate action.

7. If all files were processed off of the IBM mainframe, but
haven't reached the branch systems, then a problem must
exist on the HUB system. Troubleshoot and take
appropriate action (Are the HUBTASKS running?, Are there
numerous files in the #HUBHOLD library that do not appear
on the Transmit Queue?, Are there numerous broken files in
the #HUBDUMP library?)

8. All problem situations including down systems, production
delays, communications problems or home office system
problems should be noted on the "Crisis" board.


The Crisis board is a large display board that is located in

the Help Desk area. Recording information on this board is

important because Help Desk personnel arrive at different times

and verbal communication is not always possible. The Crisis board

also helps to keep upper management informed of current problems.


9. In addition to checking the morning status, the early
person also provides routine user support.


LATE SHIFT RESPONSIBILITIES-

1. The specialty "late" shift responsibilities begin daily
at approximately 3:00pm central time. At this time, the
branch transmissions will start being received on the IBM
mainframe. As each branch transmission is received, it
should be checked off on the "Transmission Checklist." A
transmission must be received from every branch before
production can begin.

2.  If a branch transmission is not received by 4:30 (branch
    local time) then check the status of the transmission with
    the branch system administrator (SA).  If a branch cannot
    transmit or chooses not to transmit, then proceed to Step
    3.  If the branch has transmitted, but the file has not
    been received on the IBM, then refer to Step 4.

3.  When a branch cannot or chooses not to transmit, then a
    dummy transmission must be generated.  Take appropriate
    action.

4.  If a branch transmission has been executed, but has not
    been sent through the network to the IBM, then check each
    pass through system for the file (Are there communication
    problems on the branch system?, Is the HUB system up?, Are
    the CMFRJE background tasks that forward transmissions to
    the IBM running?).

5.  Once all branch transmissions have been received on the IBM
    and checked off on the Transmission Checklist, then daily
    production can begin.  A DFPDO20 job should appear on the
    IBM queue following the receipt of the last branch
    transmission.  This job is the front end job of the daily
    production cycle.  If this job does not appear on the queue
    then refer to Step 6.  If the job does appear then release
    the DFPDO20 job by calling Operations.  Output files should
    appear on the HUB's Transmit Queue within 15 minutes.

6.  If the DFPDO20 job does not pop out on the queue then
    reverify the receipt of all branch transmissions on the
    Transmission Checklist.  If all transmissions have been
    received, then have Operations load and run the DFPDO20
    job.  If the DFPDO20 job does not run to completion, a
    batch programmer should be contacted to analyze the
    problem.

7.  Verify that output production files are transferring from
    the HUB to the branch systems.  If any files do not
    transfer then attempt to find out what is wrong (e.g.,
    communications problems, down system, etc.).

8.  Record any outstanding problems on the Crisis board.  This
    information will be vital to the employee covering the
    early shift on the following morning.  Also, all Help Desk
    personnel should be notified of any outstanding problems
    via Wang Office.  The Operations department should be
    informed of any branch systems that will remain down
    overnight.

9.  Provide routine user support.

The previous activities briely outline the responsibilities and troubleshooting functions of the early and late shift employees. The overall data flow, transmission procedures, and troubleshooting techniques will be discussed in detail in subsequent sections.

The Help Desk functions as the central communications link between many different groups.  The Help Desk becomes involved when any branch problem is reported as well as when any actions are taken regarding modifications to branch systems.  Only limited communications regarding system related information should take place between other home office personnel and the branch offices.  The exceptions include inquiries by branch personnel regarding a branch move, or an interest in new hardware.

In addition to being the primary branch contact, the Help Desk also serves as the technical interface to hardware vendors that service branch equipment.  Help Desk personnel provide suggestions and/or confirm actions of vendors to insure that appropriate actions are being taken in pursuit of a problem resolution.

The Help Desk also communicates frequently with upper management and individuals in the Systems & Programming, Technical Support and Training & Procedures departments.  In this mode, the Help Desk keeps all interested parties aware of problems and resolutions occurring in the field offices.  This communication takes place in many forms including visual (Crisis board), verbal, memo, telephone, or by electronic mail.  Figure 3.1 diagrams the interaction that occurs between the Help Desk and other groups both in and outside of ITT.

## HELP DESK INTERACTION

```
                        ┌──────────────┐
                        │    Branch    │
                        └──────────────┘
                               ↕
┌──────────────┐        ┌──────────────┐        ┌──────────────┐
│    Other     │        │              │        │              │
│  Equipment   │ ←──→   │  Help Desk   │ ←──→   │     Wang     │
│   Vendors    │        │              │        │              │
└──────────────┘        └──────────────┘        └──────────────┘
                               ↕

┌──────────────┐     ┌──────────────┐              ┌──────────────┐
│    Upper     │     │   Systems    │              │  Operations  │
│    Mgmt.     │     │      &       │              │              │
└──────────────┘     │   Program.   │              └──────────────┘
                     └──────────────┘

      ┌──────────────┐              ┌──────────────┐
      │   Training   │              │  Technical   │
      │    Dept.     │              │   Support    │
      └──────────────┘              └──────────────┘
```

Figure 3.1
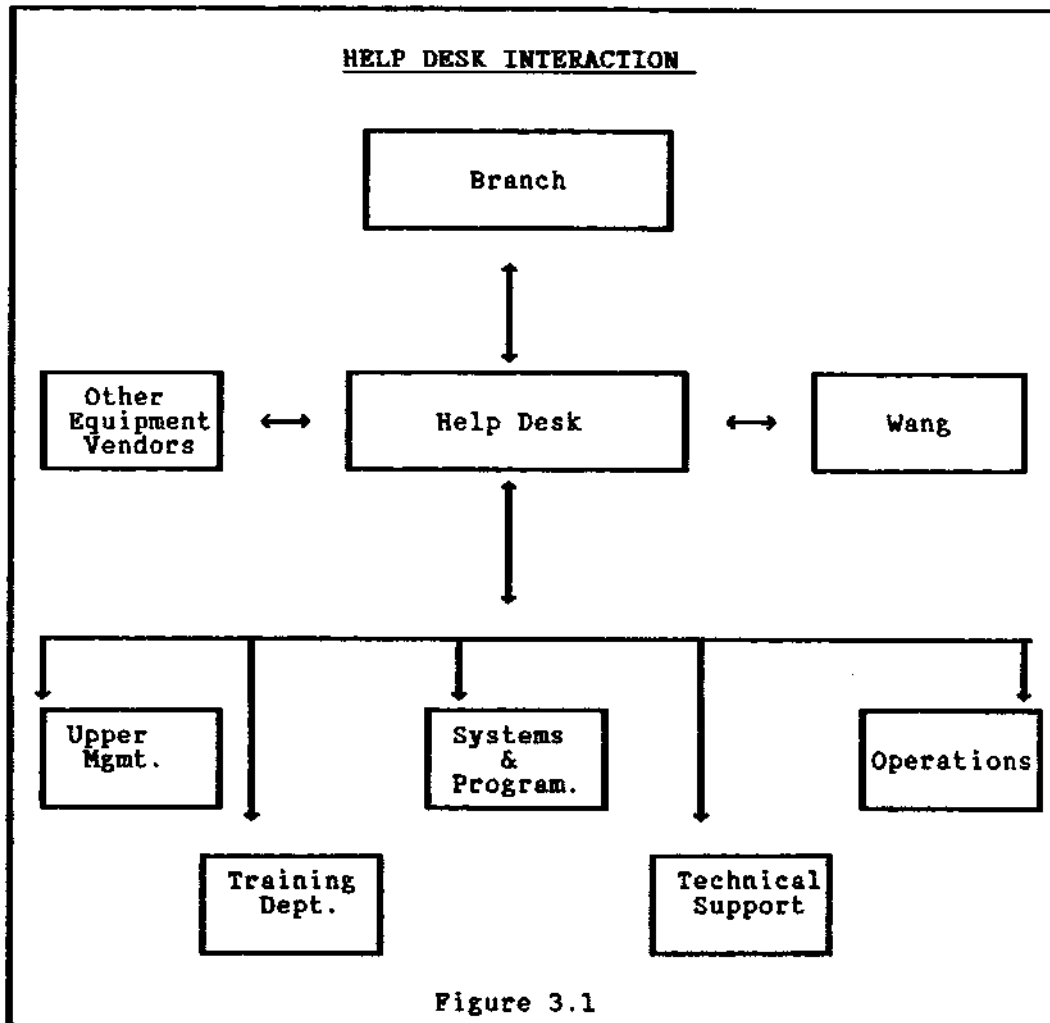
   With so much communications taking place continuously, good

communication skills are a prerequisite for Help Desk personnel.

The   lack  of  this  interacting  ability  could  result  in

misinformation, misinterpretation, or even worse, a disaster.
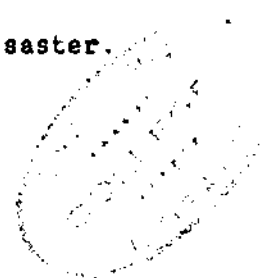
Just as the branch offices rely on the Help Desk for support, Help Desk personnel rely on key individuals in various other departments as supporting resources. When a problem is reported to the Help Desk, first try to solve the problem yourself. If you cannot solve the problem, the next step is to request help from the supervisor or another Help Desk employee. When these resources have been exhausted, the next step is to request assistance from one of the various supporting groups. Approximately 25 percent of the calls that come into the Help Desk will require additional information from another supporting source in order to solve or identify a problem. When a problem is determined to be beyond the scope of Help Desk personnel, it should be reported to the appropriate group. The guidelines below will help in determining who the contact should be.

| PROBLEM | CONTACT |
|---|---|
| •Wang Operating System<br>•Wang Utilities<br>•Wang Applications Software<br>•Line Problems<br>•System Usage/Response Questions<br>•System Maintenance<br>•Communications Problems/Hardware<br>•Communications Software Problems<br>•Advice for Hardware Problems | Technical Support |

| PROBLEM | CONTACT |
|---|---|
| •Inquiries on inhouse Training Classes | Training & Procedures |
| •Assistance on Ezquery/VS Report Problems | |
| •Assistance on Word Processing Problems | |
| •Inquiries on Training Materials | |
| •Inquiries about information in the Famis Guides | |

---

| | |
|---|---|
| •Requests for IPLs on Home Office Systems | Operations |
| •Requests for assistance in reloading microcode to TCPs (Telecommunications Processors) | |
| •Passing on calls from IBM mainframe users. | |

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| | |
|---|---|
| •Famis Applications Program Problems | Systems & Programming |
| •Famis generated error messages | |
| •Explanations of Program Flows | |
| •Referral of Work Requests | |
| •Inquiries about Test Results | |

Help Desk personnel are responsible for communicating information to various groups. When dealing with branch users, Help Desk personnel should lead the user towards finding the information that they are seeking. The users' primary resources are the Famis Guides, the Wholesale Finance Guides, the Plan Maintenance Guide, and the ACG (Automated Check Generation) Manual. The Famis Guides describe various uses, limitations, and routine procedures concerning their computer system. The Wholesale Finance Guides are company policy statements and procedures that describe how the business operates (Commercial Floorplanning) and how to perform various accounting functions. The Plan Maintenance Guide describes the elements of a plan and how to modify these elements to produce a desired result. The ACG Manual provides a detailed explanation of the Automated Check Generation application.

When users call the Help Desk you should direct them to a source instead of just giving them the answer. Giving users a direction, rather that the answer, will force them to use their sources first and then call the Help Desk if an answer cannot be obtained. The only time that you should walk a user through something is when a problem occurs that is not documented, is beyond their security access, or is beyond their level of technical expertise.

The Help Desk also has responsibilities in communicating information to various inhouse departments. If you perceive that a user is in need of training, or that a branch is using incorrect

instructions to perform a task, the Training & Procedures department must be informed.  The user may not realize their lack of training.  Even worse, a user may not realize that the documentation that they are using is incorrect.  Providing Training & Procedures with this information will increase the user's performance and, over the long run, reduce the number of calls to the Help Desk.

The Technical Support and Systems & Programming departments must also be provided with vital information that comes through the Help Desk.  In situations where a branch system is down the Technical Support department must be notified and given updates regarding the system status.  This escalation process is described in detail in Section 8.  The Technical Support department also needs to be informed of any problems occurring with the Wang Operating System, any Wang utilities, or problems with Wang user applications.  Once Technical Support is informed of these "bugs," they can report the problem to the Wang RSC (regional support center).  The RSC then analyzes a reported problem and takes action to produce a program patch.  If these Wang software problems are not reported to Technical Support, then the identification and resolution process may take a lot longer.

Likewise, the Systems & Programming department must be informed of Famis software problems.  When an applications problem is reported, and you suspect that there is a program problem, then a programmer must be notified.  Once the programmer has verified

that there is a software problem, you will probably be asked to write a work request. A work request is a tool that is used to track program fixes. A work request should be written any time that a programmer interrupts/changes a program to resolve a problem. This process is discussed in Section 6.

Passing vital information to the appropriate department is a very important task. Information that is masked or unreported can cause major complications with a branch's performance or functionality at some future time.

The ITT network begins at the IBM mainframe computer at the home office data center. The IBM mainframe is connected to a Wang VS 300, known as the HUB. The HUB acts as a central computer that links the IBM mainframe to the remote systems (branches) throughout the network. Very little processing takes place on the HUB. Its' major function is to pass data from one remote site to another, or from a remote site to the mainframe.

At each branch site there are one to five logical branch offices that share the same physical CPU (central processing unit). Each CPU is connected to the HUB via a digital telephone line. These digital lines carry data from the remote systems, through the HUB, to the IBM mainframe and vice versa. Each branch also communicates with other branches in the network through these digital lines. Digital lines are specifically designed to carry data rapidly with a low number of data transmission errors. ITT's network carries data at 9600 bps (bits per second). Eight bits, or one byte, is equivalent to one character (alpha or numeric). Data traveling at 9600 bps is equivalent to about 1K per second. On a digital line, data can travel in both directions simultaneously.

In addition to the digital lines connecting the VS systems, backup analog lines are also connected throughout the network. The analog lines serve as a precaution, should one of the digital lines go down. Analog lines are the same lines that carry

telephone conversations.  Because these lines are designed to
carry voice signals, instead of data, they are slower and
encounter more data errors than digital lines.  However, they do
provide an inexpensive, temporary avenue for data flow in an
emergency.

Figure 4.2 diagrams all of the physical CPUs that are
connected by the ITT network.  This topology shows the IBM
(mainframe), the HUB (central computer), and the remote branch
systems.  Each CPU symbol shows the remote Wangnet ID (the
abbreviated name that the HUB uses to identify which files are for
which branch), the type of CPU that each branch has, and the link
that each branch system is a part of.  Knowing what type of system
that a branch has is important when performing various routine
procedures or when placing down system service calls.  The Network
Topology diagram is a handy piece to use for link information, CPU
specifications, or network reorganization considerations.

ITT/CMF NETWORK TOPOLOGY AUGUST, 1987
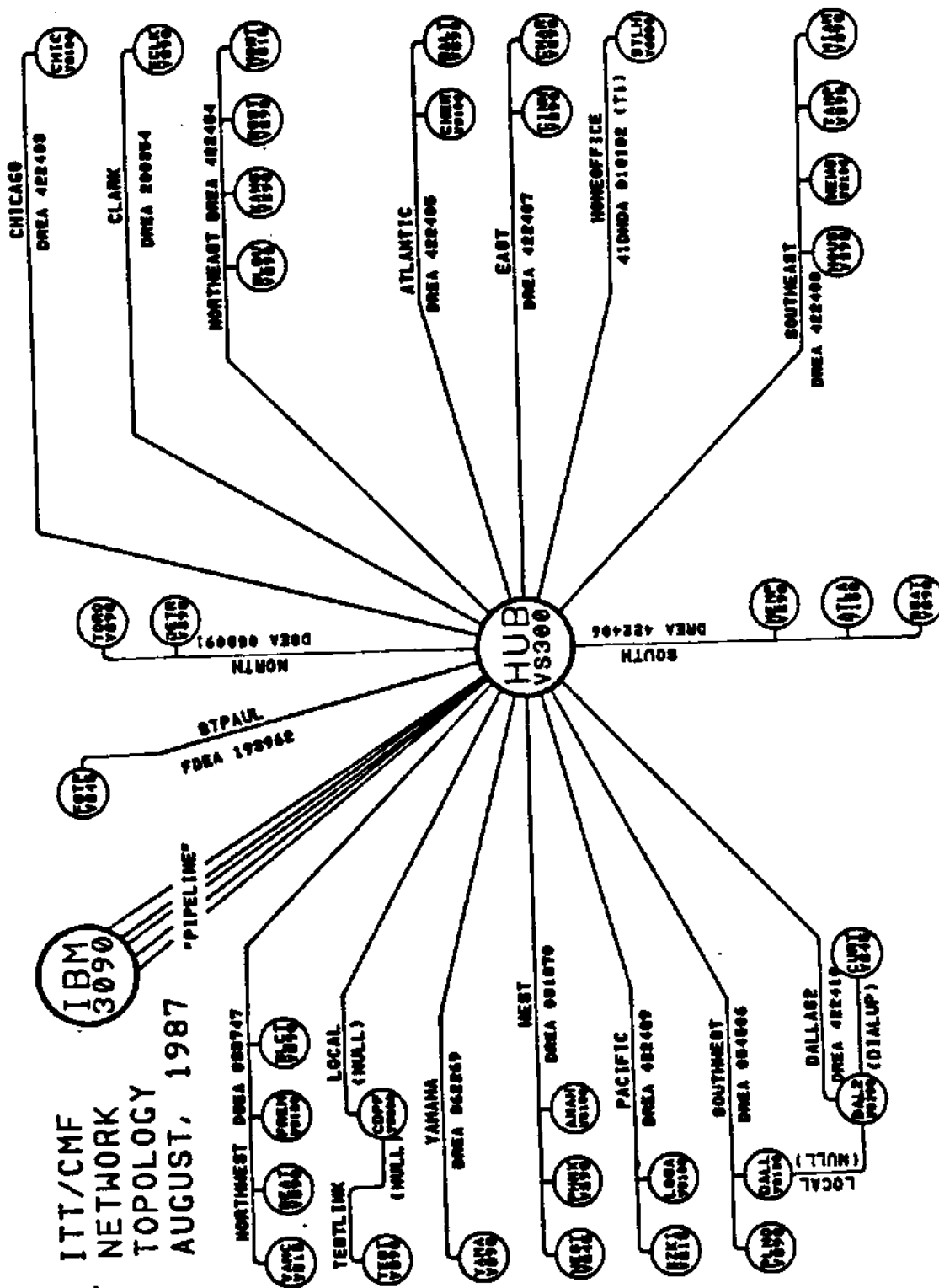
FIGURE 4.2

Because ITT's network is made up of semi off-line systems, the transmission of data to a mainframe for batch processing is essential. On a fully on-line system, data is input using a workstation and after pressing the 'Enter' key, the data automatically updates files out on disk. On ITT's semi off-line system, data is input daily at each of the remote branch sites and is stored in designated files (transaction files). ITT's daily production cycle begins at 4:00pm local time for each branch. At this time, the system administrator at each branch runs a procedure that transmits their transaction files to the IBM mainframe for processing. This process is known as a branch transmission. Figure 4.3 is a flowchart that diagrams the events that occur when a branch transmits.

Becoming familiar with the route that the branch transmission takes, in order to reach the mainframe, is essential for monitoring branch transmissions and file transfer. Occasionally, a problem will arise and the transmission file will have to be located anywhere between the branch and the IBM.

When the system administrator performs a branch transmission, the file takes a specific route to reach the IBM mainframe. After pressing the transmit key, the branch transmission is loaded into a file called CXMIT. A creation report is also produced at this time. The creation report tells the system administrator how many records are being transmitted to the IBM. Once all of the input

TRANSMISSION PROCESS

```
┌─────────────┐
│ Request     │ ────→   Executes a Procedure which performs the
│ Transmission│          following
└─────────────┘
       │
       ▼
┌─────────────────┐   ┌─────────────┐   ┌─────────────┐   ┌─────────────┐
│ Copies          │──→│ Creates     │──→│ Copies      │──→│ Creates     │
│ Transaction Files│   │ Xmit File   │   │ Xmit File   │   │ File For    │
└─────────────────┘   └─────────────┘   └─────────────┘   │ Transfer    │
       │                     │                             └─────────────┘
       ▼                     ▼                                    │
┌─────────────┐       ┌─────────────┐     File =                  │
│ Scratch     │       │ Creation    │   ┌─Branch #                │
│ Backup Files│       │ Report      │   │Record Lib =   RJEQUEUE ←┘
│ from WORK01 │       │ Produced    │   │ on    Volume = SYSTEM
│ volume      │       └─────────────┘   │ branch
└─────────────┘                         │ file transfer    │
       │                                │ log        TO HUB │
       ▼                                                    ▼
┌─────────────┐                              ┌─────────────┐
│ Copy TC files│                             │ Receive EOF │
│  from SYSTEM │                             │ Acknowledg. │
│ to WORK01   │                             │ From HUB    │
│ (new backup files)│                        └─────────────┘
└─────────────┘                                     │
       │                                            ▼
       ▼                                     ┌─────────────┐
┌─────────────┐                              │ Scratch     │
│ Scratch TC files│                          │ RJEQUEUE FILE│
│  from SYSTEM &│                            └─────────────┘
│ create new empty│
│ set         │                                (In Branch)
└─────────────┘
       │
       ▼
┌─────────────┐
│ Acknowledge &│
│ update on Famis│
│ and System  │
│ access logs │
└─────────────┘
```

FIGURE 4.3

records have been grouped together, the CXMIT file is loaded into

a file called RJEQUEUE.  The RJEQUEUE filename tells the system to

forward the file to the HUB.  Upon reaching the HUB, the

transmission is renamed from an RJEQUEUE filename to a CMFRJEx

filename.  From here, the CMFRJEx file is picked up by background

CMFRJEx tasks and forwarded to the IBM.

A layer of communications software resides on the HUB and the

IBM that is known as SNA/RJE (System Networking

Architecture/Remote Job Entry).  This software allows the HUB (a

Wang system) and the mainframe (an IBM system) to communicate with

each other.  As files are passed from the Wang system to the IBM

system, and vice versa, a conversion of the file format takes

place.  This conversion allows both systems to process and

manipulate a file in the format that it was designed to use.  The

two systems would not be compatible without the SNA/RJE software.

Once the transmission has reached the IBM, via the CMFRJE

pipelines, a confirmation report is produced and spooled back to

the branch.  Figure 4.3a maps the route of a branch transmission

from the branch to the IBM.  The confirmation report gives the

branch system administrator the total number of records that were

received on the IBM mainframe.  After the confirmation report is

received at the branch, the system administrator should make sure
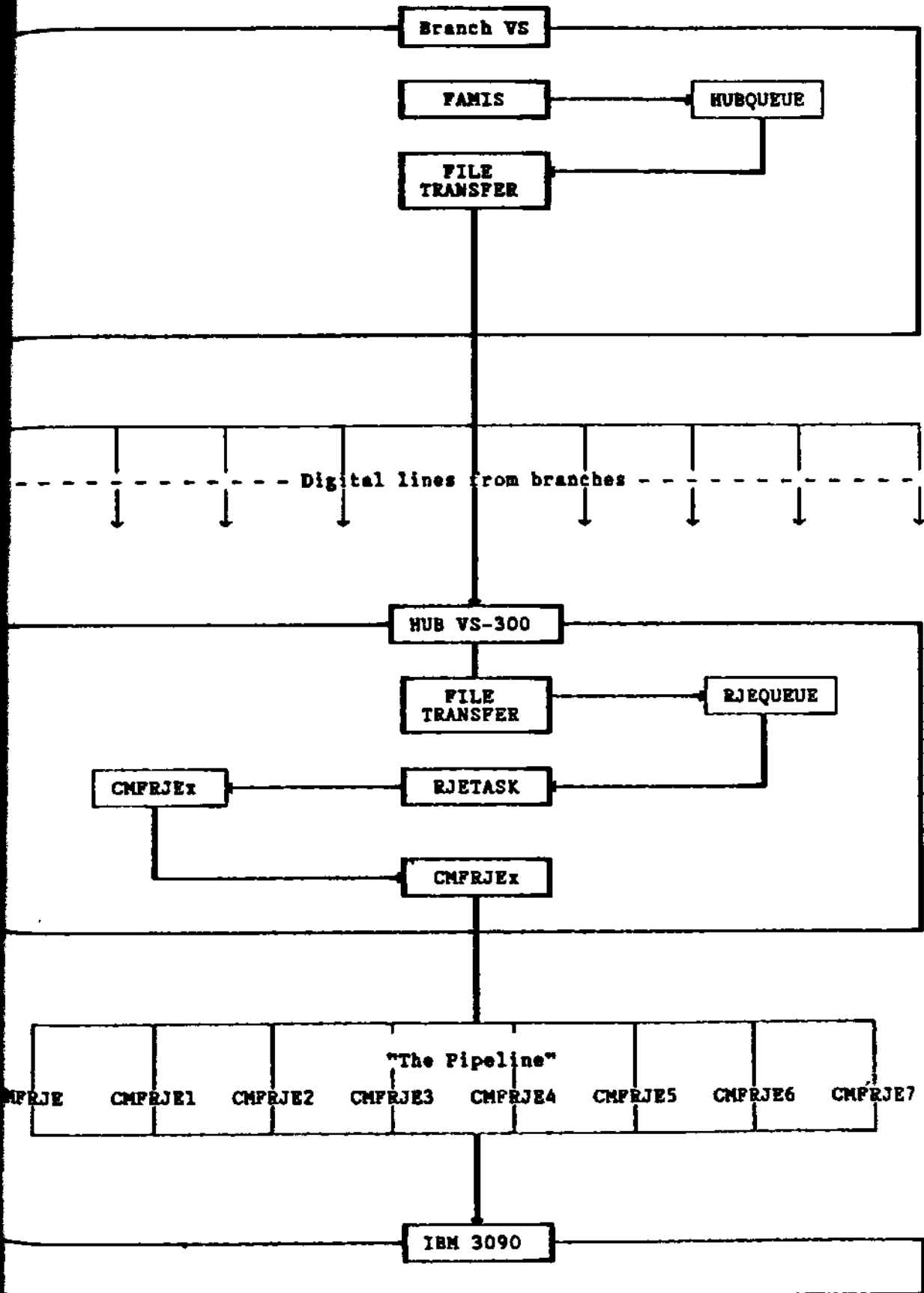
FIGURE 4.3a

that the record counts on the creation and the confirmation reports are equal.  This will insure that the amount of data that was intended to be transmitted was received on the IBM.  If the reports are not equal, the system administrator should contact the Help Desk for further information.

Once all of the branch transmissions have been received on the IBM, the late shift Help Desk person will have operations release a DFPD020 job.  This job gathers all of the transmissions and sorts the records into appropriate groupings for the production of daily branch reports and masterfile updates.  This job is usually released to run by 7:00pm every evening.  Within fifteen minutes after releasing DFPD020, branch reports begin to be produced and spooled back to the branches.   Figure 4.3b shows the flow of production files from the IBM to the branch systems.  The daily production cycle takes about six hours to complete.  A daily production cycle is generally ran every business day (except on holidays).

The weekly and monthly production cycles follow the daily cycle.  These two jobstreams produce masterfile updates and branch reports.  The reports that are generated are different from those produced during the daily cycle.  A weekly cycle is usually run every Friday (except on holidays - it will run on the last business day of the week).  The monthly jobstream runs after the weekly cycle on the last working day of the month.
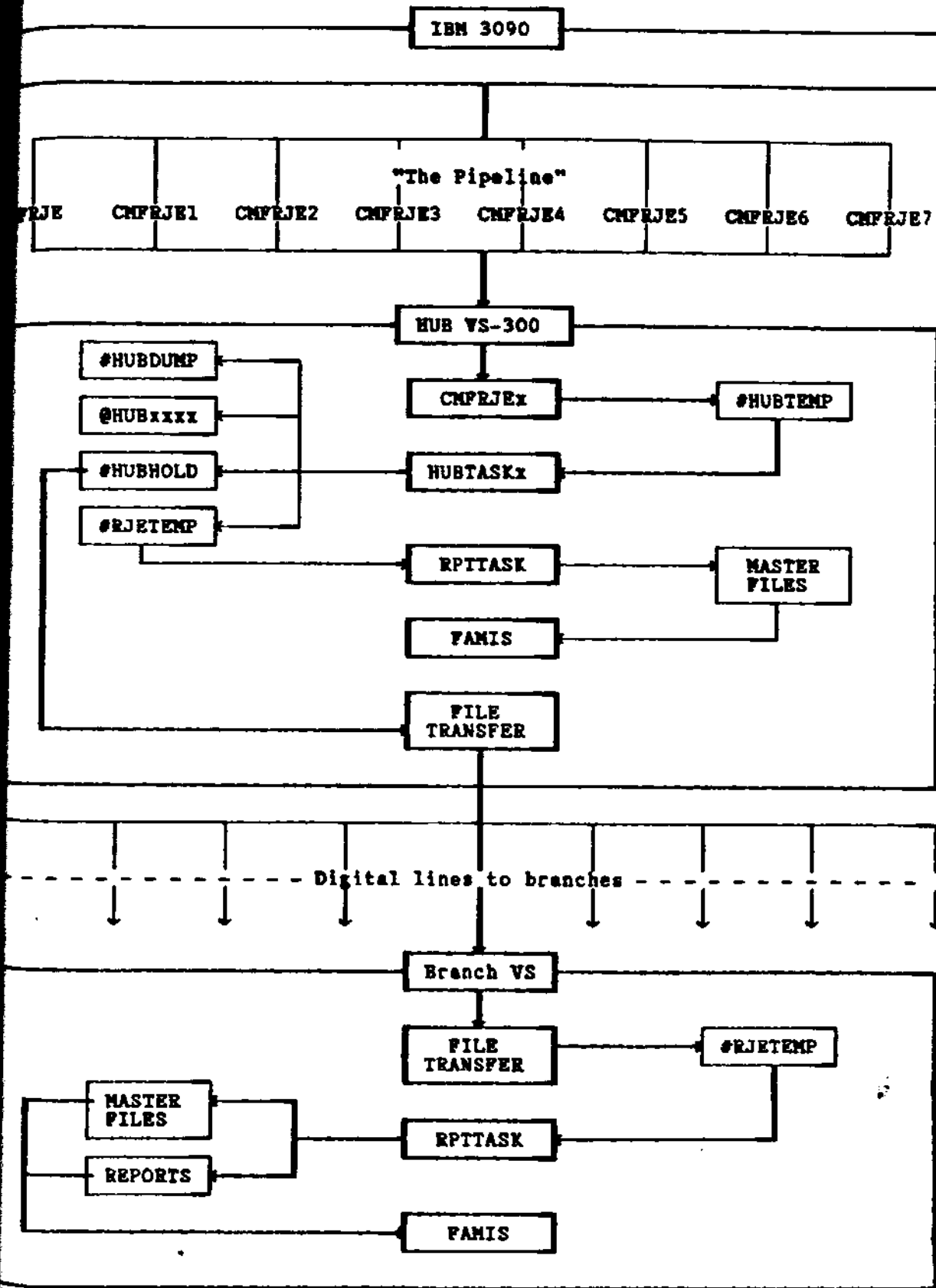
FIGURE 4.3b

Masterfiles contain the records and updated data that the branches input and transmit on a daily basis.  When a branch transmits they are sending all of the data that they input since the last transmission.  This information is processed and returned to the branch in the form of journal slices (updates).  Various types of transactions feed and update different masterfiles.

Each branch has 14 routinely updated masterfiles which include Office, Distributor, Invoice, Vendor, Plan, Dealer, Checkreg, Ckhold, Table, Suspense, Dsum, Osap, Mfg, and Item.  Some of these masterfiles are scratched and recreated with each daily processing cycle.  Other masterfiles are scratched and recreated on a monthly basis following the monthly production cycle.  These files are just updated on a daily basis.

The monthly replaced masterfiles include the Item, Invoice, Plan, and Table.  The remaining masterfiles are created daily. Regardless of the frequency that a file is created they all spool from the IBM to the branch, and are built using the same process. Figure 4.4 is a flowchart that shows the masterfile journal slices as they travel from the IBM to the branch systems.  This flowchart is a bit more detailed than Figure 4.3b.

Once all of the expected journal slices are received at the branch system, a program called RJRNL assembles the slices and

### BATCH FILES - (From the IBM to the Branch)

```
┌─────────────┐
│ From the    │
│ IBM         │
└─────────────┘
       │
       ▼
┌─────────────┐
│ To the HUB  │
│ System      │
└─────────────┘
       │
       ▼
┌─────────────┐      ┌────────┐      Yes    ┌─────────────┐  A   (see valid
│ Input file= │─────▶│ Pass   │─────────────▶│ Passes to   │ ─      conditions
│ #HUBTEMP    │      │ Tests? │              │ #HUBHOLD    │        on next
└─────────────┘      └────────┘      No      └─────────────┘        page)
   A   │                           ─────────▶┌─────────────┐
   ─   ▼                                     │ Passes to   │
┌─────────────┐                              │ #HUBDUMP    │
│ #HUBHOLD    │                              └─────────────┘
│ (Transmit   │
│ Queue)      │
└─────────────┘
       │
       ▼
┌─────────────┐
│ To the      │
│ Branch System│
└─────────────┘
       │
       ▼
┌─────────────┐
│ Input file =│
│ #RJETEMP    │
└─────────────┘
       │
       ▼
┌─────────────┐      ┌────────────┐   Journal  ┌─────────────┐  B
│ File passes │      │ Is file    │───────────▶│ Processed   │ ─
│ through     │─────▶│ Journal or │            │ by          │
│ RPTTASK     │      │ Report?    │            │ RJRNL       │
└─────────────┘      └────────────┘            └─────────────┘
                                     Report    ┌─────────────┐  C
                                   ───────────▶│ Processed   │ ─
                                               │ by          │
                                               │ RPROCESS    │
                                               └─────────────┘
```

FIGURE 4.4

## BATCH FILES - Continued

B  RJRNL                              C  RPROCESS

Processes                               Processes
files into                              files into
J(Branch #)                             R(Branch #)
library                                 library

Updates          (see masterfile       Reports
Masterfiles on     updating)            available
Disk                                    for viewing
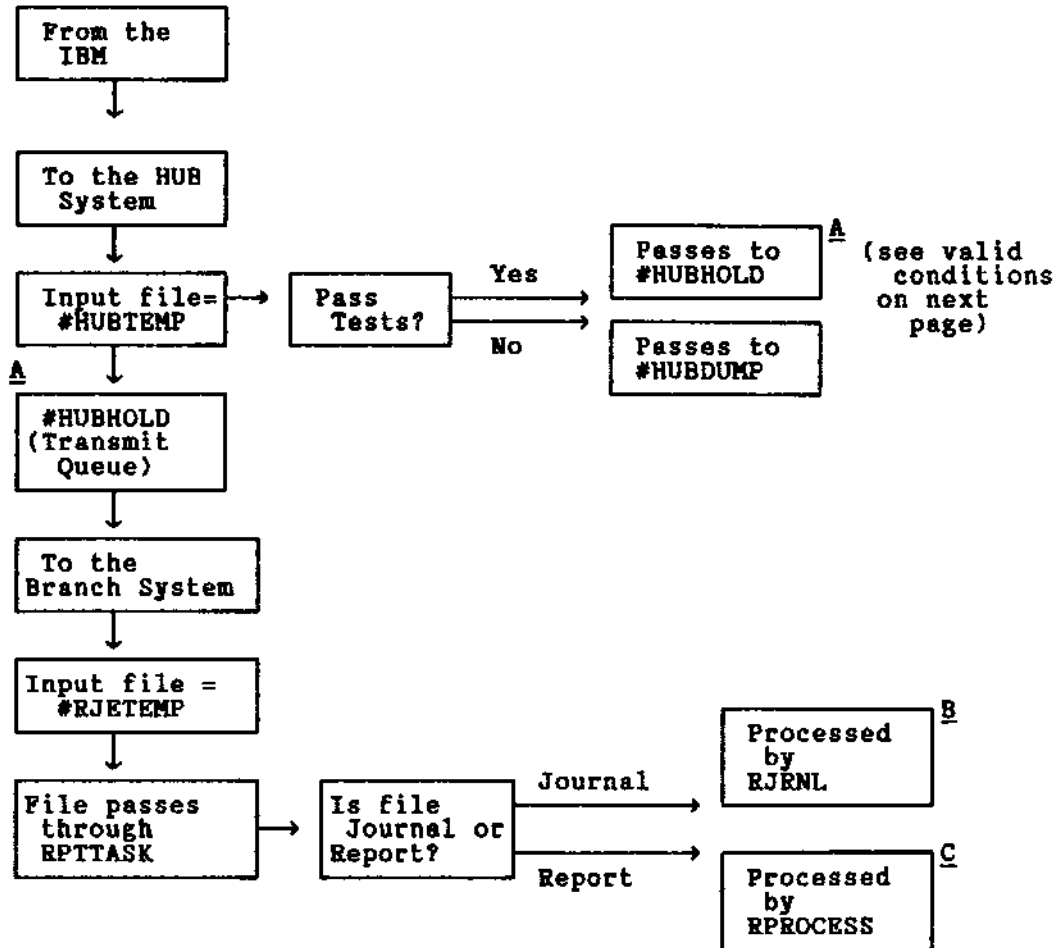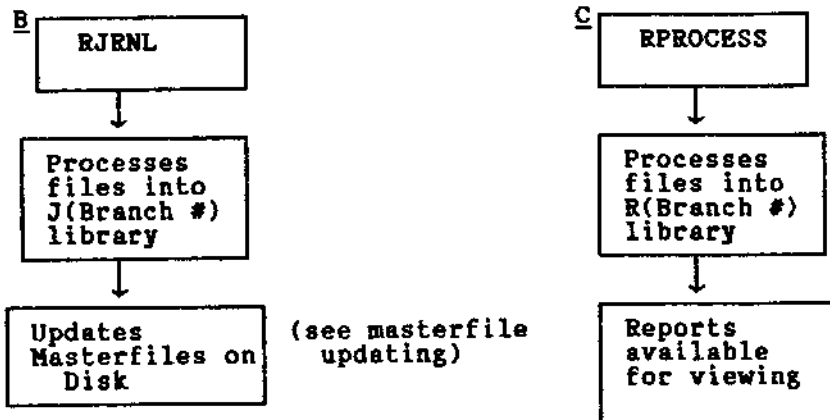
FIGURE 4.4 cont.


****In order for HPROCESS to submit a file to the HUB's
Transfer Queue, all of the following tests must be met.


1.  The file must have a recognizable header for determination
    of a file type.

2.  If the file is a report or journal slice, it must have a
    trailer record at the end so that HPROCESS will know that
    it is complete.

3.  The branch number in the header must be defined in the
    Branch Number Cross Reference file on the HUB.

4.  All of the variable routing and copy parameterrs from the
    HUBTASKS's internal tables and from the data file itself
    must resolve together to produce at least 1 valid
    destination.

5.  The system ID of the destination must be defined in the
    Communications Configuration for the network.

builds or updates the appropriate masterfile.  The number of slices per masterfile is determined on the IBM according to the size of the file.  Figure 4.4a diagrams the masterfile building process.

If journal slices are missing or damaged in transit the building process cannot take be completed.  Every slice must be accounted for.  In those instances where a file is missing or damaged, the file must be respooled.  This process is covered in Section 4.5-1.
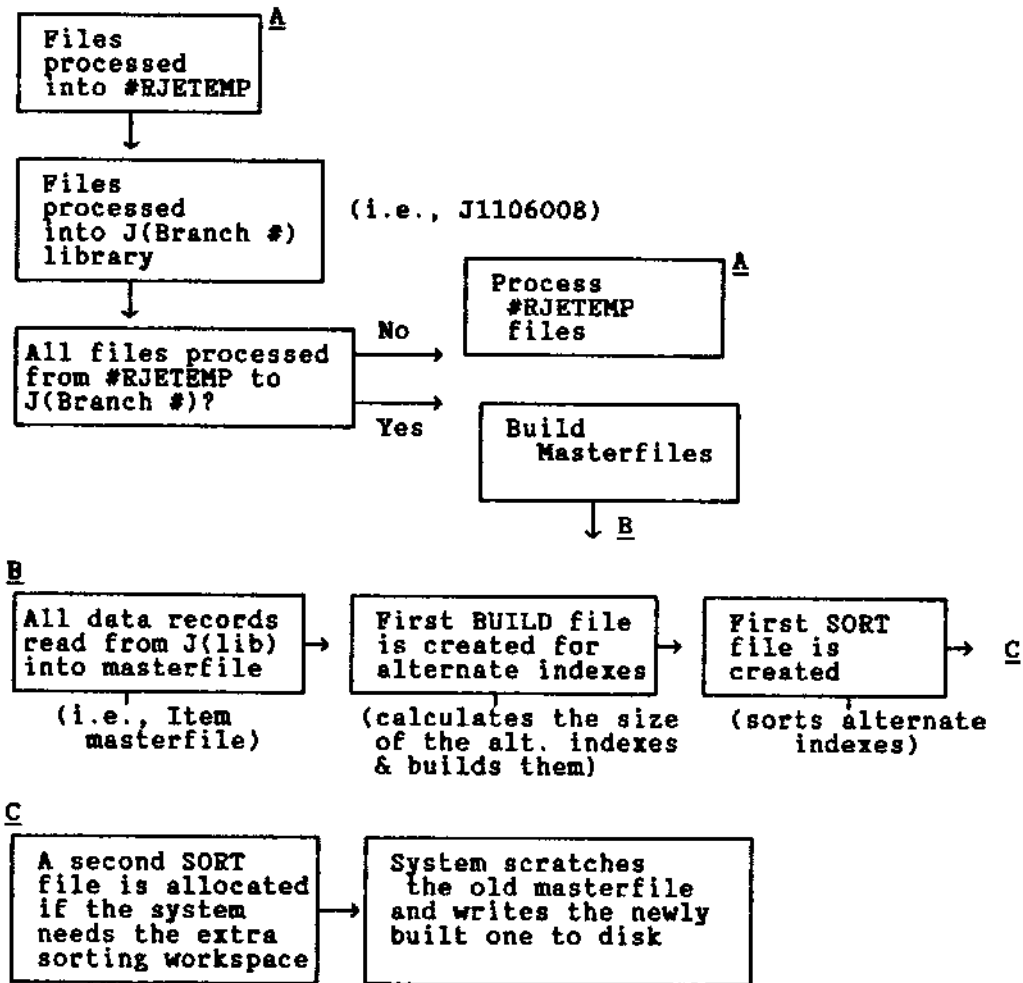
## MASTERFILE BUILDING IN A BRANCH

```
┌─────────────┐ A
│ Files       │
│ processed   │
│ into #RJETEMP│
└─────────────┘
      │
      ▼
┌─────────────┐
│ Files       │
│ processed   │        (i.e., J1106008)
│ into J(Branch #)│
│ library     │
└─────────────┘                    ┌─────────────┐ A
      │                            │ Process     │
      ▼                    No      │ #RJETEMP    │
┌─────────────────┐ ───────────▶   │ files       │
│ All files processed │            └─────────────┘
│ from #RJETEMP to │
│ J(Branch #)?    │ ───────────▶   ┌─────────────┐
└─────────────────┘      Yes       │ Build       │
                                   │ Masterfiles │
                                   └─────────────┘
                                          │ B
                                          ▼
```

```
B
┌─────────────┐      ┌─────────────┐      ┌─────────────┐
│ All data records│   │ First BUILD file│   │ First SORT  │
│ read from J(lib)│ ▶ │ is created for │ ▶ │ file is     │ ▶  C
│ into masterfile │   │ alternate indexes│  │ created     │
└─────────────┘      └─────────────┘      └─────────────┘
  (i.e., Item          (calculates the size   (sorts alternate
   masterfile)          of the alt. indexes        indexes)
                        & builds them)
```

```
C
┌─────────────┐      ┌─────────────┐
│ A second SORT │    │ System scratches│
│ file is allocated│ │ the old masterfile│
│ if the system │ ▶  │ and writes the newly│
│ needs the extra │  │ built one to disk │
│ sorting workspace│ └─────────────┘
└─────────────┘
```

FIGURE 4.4a

PURPOSE:  The Respool program is ran from the CDPF (Creve

Coeur Data Processing Facility) system.  Through this

procedure, two types of files can be respooled including batch

production reports and masterfiles.


REPORT RESPOOL:  The respooling of batch reports is a somewhat

simple process.  Figure 4.5 is a print of the screen where

report respools are performed from.


```
DATE:  11/25/87                  ITT COMMERCIAL FINANCE              USER:    SM1
                                 RESPOOL REPORT MENU

     Report    Daily     Cycle             Report      For
     Number    Weekly                      Destination Branch
               Monthly

     *****     *         *                 ********     ********
     *****     *         *                             ********
     *****     *         *                             ********
     *****     *         *                             ********
                                                       ********
                                                       ********
                                                       ********
                                                       ********
                                                       ********
                                                       ********


     (ENTER) - PERFORM EDIT                            (13) - HELP
                                  (12)    - TRANSMIT   (14) - PRINT
                                                       (16) - RETURN
```


FIGURE 4.5

The following information describes the optional and required

fields on the Respool screen.


1.  REPORT NUMBER- The report number can be any of the valid
    numbers listed in the Report Cross Reference in Appendix
    N.

2.  D/W/M- This indicator must be set to the appropriate
    frequency of the report (D-daily, W-weekly, M-monthly).

3.  CYCLE- The cycle is a required field.  This field specifies
    which production cycle that the report will be recreated
    from (i.e., most recent, second, third, fourth, etc.).
    A request using a cycle 0 would produce the report from the
    most recently run production jobstream.  A 1 would produce
    a reportfrom the second most recent production cycle (a 2
    from the third, and so on).


The following are limitations to the number of cycles that you

can retrieve a file from.

        Daily Report -      Can retrieve 3 cycles back.
        Weekly Report -     Can retrieve 3 cycles back.
        Monthly Report -    Can retrieve 2 cycles back.


Reports that are needed beyond these limitations will require

special assistance from the Systems & Programming staff.   Check

with the Help Desk Supervisor or Manager before you make a special

request to make sure that there is not another method of

retrieving the desired information.


4.  REPORT DESTINATION-  This field should be filled in if
    the branch that will receive the report is different than
     the branch number that the report was requested for
    (i.e., if you wanted one of Cherry Hill's reports to go to
    Atlanta you would fill in REPORT DESTINATION with Atlanta's
    branch number and FOR BRANCH with Cherry Hill's branch
    number).

5.   FOR BRANCH-  This field is required and should contain the
     branch number that the desired report should be produced
     for.  If the REPORT DESTINATION field is left blank, then
     the report will be generated for and spooled to the branch
     number indicated in the FOR BRANCH bucket.

Once the desired and/or required values have been filled in
you should press ENTER.  At this time, the system performs edits
against your selection criteria.  If the values are valid, your
cursor will reappear a the top of the screen.  If all edits are
passed, then you should press PF Key 12 to Transmit the respool
request.  If the edits are not passed, the cursor will reappear
under the blinking field that contains the invalid information.
At this time, you will have to fill in the correct information and
press ENTER again to validate the request.  The system will not
let you transmit the request until all fields contain valid
information.

When the request is Transmitted, it passes from the CDPF
system (via the Transmit Queue) to the HUB system.  From here, the
request is passed to the IBM mainframe (via the CMFRJEx lines).
Once the catalogued (on-line) request is located, the output is
spooled to the requested branch.

From the Respool screen, PF Key 13 will allow you to access
the HELP SCREENS.  These screens provide on-line instructions for
performing a report respool.

MASTERFILE RESPOOL: An entire masterfile or a masterfile slice may need to be respooled for numerous reasons (i.e., damaged or missing slice or file). Respooling an entire masterfile is not very difficult as long as you are aware of the type of masterfile and the timing of the respool request. You would treat the respooling of the Item, Invoice, Plan, and Table (monthly built masterfiles) differently than the respooling of all other masterfiles (daily built masterfiles). The time of day that respools are performed is also important. Consult your supervisor before respooling an entire masterfile (unless you are aware of the total impact that may occur).

As previously stated, the respooling of an entire masterfile is not very hard. On the other hand, respooling a missing slice requires more planning and thought. The two processes are outlined below. Figure 4.5a on the next page is a screen print of the Masterfile Respool screen.

```
Date:  11/25/87            ITT Commercial Finance           User:  SMM1
                        Data Center Master File Respool
                        For Branch Number  ********

    Process Type  *          'A'- spool all slices  'S'- spool single slice

    Slice Number  **         Slice Count **       Record Count ********


    Master File   ******     Chose from List below
                  ******     FP108  FP110  FP111  FP112  FP113  FP114  FP120
                  ******     FP127T FP127V FP133  FP176  FP179  FP180  FP181
                  ******     FP187  [* FP120X & FP176X unconverted Branch *]


More Branches ********       ********       ********       ********
              ********       ********       ********       ********

Consolidated Offices        ********       ******** '  Only  *
Do you want consolidated office updated with slice only?       ***


    [Enter]-Edit  [12]-Transmit  [13]-Help  [14]-Print  [16]-Return
```

**FIGURE 4.5a**

## MASTERFILE RESPOOLS-

## TO RESPOOL A FULL MASTERFILE-

1.  For Item, Invoice, Plan and Table:

•Divide the number of records in the existing masterfile by
the number of desired records per slice (use 1500) to
determine the number of slices to be requested (the number of
records in the existing masterfile can be found on the Show
System Status screen on the branch system).  Add two to your
answer to accommodate for overhead slices.  The slice number
will be 01, the slice count will be determined from the above,
and the record count is 1500.

Example:  You want to respool the Item Master for the New
Orleans branch.  Their total Item record count is 44,908.
Divide by 1500 records per slice
        44,908 / 1500 = 22 + 2(overhead) =   24.

SLICE NUMBER     SLICE COUNT          RECORD COUNT

01               24                   1500


2.   For all other Masterfiles:

•Slice number and slice count can be 01.  The record count
should be filled in with 9's.  This request will produce one
slice with all records in the single slice.


SLICE NUMBER     SLICE COUNT          RECORD COUNT

01               01                   99999999

After the branch number, A (all/full) or S (single slice), and
the slice count are established choose one of the following for
the equated value of the Masterfile that you are respooling.

FP108  = Office    FP110  = Plan      FP111  = Table
FP113  = Distrib   FP114  = Dealer    FP120  = Suspense
FP127V = Invoice   FP133  = Checkreg  FP176  = Dsum
FP180  = Vendor    FP181  = Ckhold    FP189  = Osapibm
FP112  = Mfg.      FP127T = Item      FP179  = Osap

These are the primary fields needed to perform a masterfile

respool.  The remaining fields on the respool screen are optional

and can be used to perform various "customized" respool requests.

These functions are described on the HELP SCREENS (PF Key 13).


•*******If a respool needs to be performed on a single slice,

consult the Help Desk supervisor.  There are many variables to

consider when taking this type of action.  Also, for respools

against consolidated masterfiles (the HUB or Yamaha Cypress

system) ask your supervisor for assistance.  These unique types

of respools are not performed in the usual manner.

The following transmission guidelines were created to control the number of branch transmissions that are received by the IBM at any one time.  If these guidelines were not in place, a great inflow of many transmissions at the same time would affect the performance of both the HUB and the IBM systems.  With 88 branch transmissions being received (one per branch) daily, a transmission schedule is necessary.

These guidelines should be followed by branch personnel on a daily basis.  The Help Desk must monitor these transmissions to insure that each branch is transmitting on a timely basis.  Occasional exceptions will be made when a branch gives proper notification or in an emergency.

### TRANSMISSION GUIDELINES

****Requests for late transmissions must be received by the Help Desk no later than 4:00pm local time.

A branch transmission may not take place:

| | Pacific | Mountain | Central | Eastern |
|---|---|---|---|---|
| Before or | 11:00am | 12:00pm | 1:00pm | 2:00pm |
| After | 4:00pm | 4:00pm | 4:00pm | 4:00pm |

The equipment that a branch is set up with differs from branch to branch.  The models and capabilities are tailored to meet the needs of a branch's activity.  Even though the configurations are different, all of the equipment performs basically the same function from one branch site to another.  A VS system consists of several pieces of equipment that are interconnected with coaxial cable.  These pieces include a central processing unit, and several auxiliary (peripheral) devices.  The number of peripheral devices on a VS system depends upon the size of a branch.  The peripheral equipment includes workstations, disk drives, printers, a telecommunications processor (TCP), modems, and possibly a tape drive.

Except for user workstations and word processing printers, computer equipment is located in a secure computer room.  The computer room is protected against unauthorized access by an electronic lock.  A special workstation is located in the computer room.  This workstation, known as the Operator's console, is used to control the VS system.  Operator console functions will be discussed in a separate section of this manual.

The CPU is the electronic heart of the computer system, but it is not the only place where processing takes place.  Processing also occurs at workstations, increasing the system's capabilities.  The cabinet containing the CPU also holds the system's main memory and various input/output (I/O) controllers. Main memory capacity is measured in kilobytes or megabytes.  A

kilobyte (K) equals 1024 characters.  A megabyte (meg) is equal to
1024K (1024 X 1024) which is more than a million characters.  The
I/O controllers are the interface devices that connect the CPU to
all of the peripheral equipment.  Several types of I/O controllers
are used by the VS system including input/output processors and
controllers (IOPs & IOCs), and device and buss adapters.
Depending upon the type of peripheral device, one of the above
controllers or adaptors will be used to connect a device to the
CPU.

The VS CPU cabinet contains an internal 5 1/4" mini diskette
drive that is only accessible to the system operator.  The
diskette drive is used to load microcode into memory when powering
up the system.  Because this diskette drive is not accessible to
users, a separate archiving workstation is connected to the VS.
This workstation, known as an archiver, consists of a master unit
and a unit that looks like an ordinary workstation, but lacks
various electronic parts.  The archiving workstation can be used
to down load files from the VS to floppy diskettes.

Each branch is equipped with several disk drives.  These
drives holds all of the data, programs, and files that the system
and users need to access.  Disk drives are also used to extend the
CPU's main memory using a technique called virtual storage.  These
disks come in the form of both fixed and removable volumes.
Frequently it is necessary to dismount and mount the removable
volumes.  There are two steps in the mounting process.  The first

step is to let the system know that you want to mount a disk on a particular drive (logical mount).  The second step is to actually mount the pack on the drive (physical mount).  The same steps are followed when a disk is dismounted, the logical step must precede the physical one.

A disk drive rotates a mounted disk at high speeds, while the read/write heads float a few microns above each disk surface.  The process of bringing the disk up to speed, and positioning the heads, is called loading the heads.  Any direct physical contact between the heads and the disk platters is known as a head crash. This usually results from a dust particle being lodged between the heads and the disk surface.  When a head crash occurs, the disk pack is totally unusable.  All data on the pack is destroyed and must be restored from a backup volume.

A workstation is made up of a keyboard, a video display screen, and a power unit.  Many variations of workstations exist out in the branch offices.  Some workstations can be used for word processing and data processing functions, and others have graphic capabilities.

A variety of printers are used in each branch including a Daisy, a Matrix, a Laser, and a Band printer.  Each printer has unique capabilities designed to perform various printing tasks. The Daisy, Laser, and Matrix are typically used to print word processing documents, while the Band is usually used to print DP files.

The Telecommunications Processor (TCP) is used to relieve the CPU of some of the telecommunications chores. The TCP is actually a small computer that is connected to the CPU. The TCP has four ports, however, in most locations only two are active. Port 1 is traditionally connected to the analog line, which is used as a backup method. Port 2 is connected to the lease line (digital line) that runs from the branch to the HUB. As files are received at the branch, they pass from the digital line to the TCP. The TCP converts the files from a data format into a machine code format. After the conversion, files are then passed to the CPU for processing. The TCP also performs a reformatting process on files that are transferred from the branch to the HUB.

A modem is used to translate electronic signals for sending and receiving data. A modem makes it possible for various systems on a network to communicate with each other. The modem in the branch receives data from the TCP and translates the data into digital or analog telephone signals (outbound). The receiving modem retranslates the telephone signals into a data format. Each branch site has a combination of all of the previous equipment types. This equipment is discussed and diagrammed in further detail in the Famis Guides (Vol. 1, Section 1).

There are basically two primary types of software running on all of ITT's systems. These two software categories include Wang and Famis software. Wang software consists of numerous undocumented programs and procedures that have been purchased from Wang, and are modified and revised by Wang. The Famis (Floorplanning Automated Management Information System) software is developed, controlled, and modified by ITT's inhouse Systems & Programming staff.

All screens, regardless if they're Wang or Famis, are menu driven. This means that pressing a PF (Program Function) Key will elicit a preprogramed response. Menu driven systems are cumbersome for the experienced computer professional; however, they're very user friendly for the amature. A Go-To function exists that allows you to move quickly through the various layers of menus. This function, and a menu number cross reference, are described in detail in the Famis Guides (vol. 1, section 5.1).

It is important for Help Desk personnel to be aware of which menus are driven by Wang or Famis software. This distinction is vital in determining what software is responsible when a software problem arises.

The Wang software consists of the Operating System, various system administrator utilities and menus, and procedures other than those found on the Master Menu in user mode. The Wang software primarily controls the operations, functionality, and configurations of the system itself. Menus that are Wang driven include the Operator's Console, the Command Processor, the HUB Control Menu, and the Electronic Mail Menu. The first three menus will be discussed in section 5.5. Three user applications that are Wang driven, but are accessed from the user Master Menu, include Ezquery, VS Report, and Word Processing. The first two applications allow users to create customized reports (generated from branch masterfiles). The Word Processing utility enables the creation of automated memos, charts, and letters.

The Famis software drives most of the functions that are accessed from the user Master Menu (except those described in section 5.2-1). Figure 5.3 is a screen print of the user Master Menu. This menu is primarily used by branch personnel to input transactions, generate inhouse branch reports, view and print reports generated both inhouse and on the IBM, enter Word Processing, run Security, and perform a wide variety of other functions. This menu contains many layers of sub-menus. All of these menus and their functions are described in the Famis Guides (vol. 1, chapter 5).

Most branch personnel have access to some of the functions on this menu. They also have access to the Electronic Mail Menu.

```
OFFICE                       ITT COMMERCIAL FINANCE          MENU        1
01216011                     MASTER MENU   RELEASE 11.2

                             Hello SEC HOME OFFICE

                  (1)        FAMIS System
                  (2)        Comptroller's System
                  (3)        Business Services System
                  (4)        Word Processing
                  (5)        System Control Functions
                  (6)        Report Printing and Viewing
                  (7)        EZQUERY
                  (8)        VS/Report
                  (9)        Attach to Mainframe
                  (10)       Miscellaneous Functions
                  (11)       Home Office Special Functions
                  (12)       Programmer Menu

                  (17)       Asset Based Lending (WSA)

TO SELECT A FUNCTION, PRESS THE APPROPRIATE KEY
                                  (13)-Help info      (14)-Print Screen
    (ENTER)-Go to **************  (15)-Status         (16/^16)-Return/Exit
```

FIGURE 5.3

In addition to being familiar with Wang and Famis software functions, Help Desk personnel should also have a moderate understanding of various other software packages. The majority of these packages are run in PC mode (stand alone system), rather than at the VS level (shared system). The extent to which Help Desk personnel should be familiar with this software is very limited. Knowing how to get in/out, print, and save files is the level of knowleged required. These PC appliations include Lotus, Multiplan, and PC Word Processing. The first two applications enable users to produce electronic spreadsheets. The latter is similar to the VS version of Word Processing. On-line tutorials and user reference manuals are available in the Help Desk area.

Help Desk personnel utilize three different systems in order to accomplish daily tasks.  The IBM mainframe is used to verify the receiving or dispersing of branch transmissions and production files.  The CDPF (Creve Coeur Data Processing Facility) system is used to support users in the local facility as well as to perform functions as a user.  Help Desk personnel access user functions like Word Processing, Electronic Mail, and functions similiar to those accessed by branch personnel from the user Master Menu.

The HUB system is the primary system of Help Desk personnel. This system is used to log into branch systems remotely and to control and monitor the flow of data and users throughout the network.

Access to various menus differs from branch personnel and Help Desk personnel.  Most branch personnel have access to the user Master Menu and the Electronic Mail Menu.  The branch system administrator, the backup branch system administrator, and a few other key branch personnel will also have access to the Operator's Console.  Help Desk personnel have access to the above three menus and two additional ones.  The Master Menu functions are discussed in the Pamis Guides (vol 1, chapters 5 - 8).

Figure 5.5 is a screen print of the Operator's Console.  This menu can be used by both Help Desk personnel and key branch personnel to manage system operations.

The functions and uses of the Operator's Console are discussed

in detail in the Famis Guides (vol 1, chapter 4).

```
            ***  Wang VS Operator's Console - BOST  ***                1
            8:10 am     Wednesday     November 25, 1987

     Position to (*) and press (ENTER) to provide immediate operator service:
   * Assistance Required For Printer   7 ............................... 8:0




                    Press (1) to return to user mode,
                              - or -
                    Use the function keys to manage:

            (2) PRINT queue                 (9) PRINTERs
            (3) PROCEDURE queue             (10) DISKs
            (4) TRANSMIT queue
            (5) RETRIEVE queue             (12) TELECOMMUNICATIONs
                                           (13) WORKSTATIONs
            (6) INTERACTIVE tasks
            (7) NON-INTERACTIVE tasks      (14) SYSTEM options

        Press (HELP) at any time to return to the operator console menu
```

FIGURE 5.5

Help Desk personnel (and other branch support department personnel) have access to two additional menus that are transparent to branch users. These include the System Administration Menu (SA) and the Command Processor Menu. The SA menu contains a number of programs and procedures that can be accessed to perform system analysis, network analysis, file manipulation activities, and a variety of other functions on a branch system. The SA menu offers some of the same functions that can be performed from the HUB Selection Menu. The HUB Selection Menu is the first screen that is observed by Help Desk personnel when logging onto the HUB system. The SA menu is the first screen observed by the Help Desk when logging on remotely to a branch system. The SA menu is used only by the Help Desk, Technical Support, and the Systems & Programming personnel to monitor and control branch systems. Figure 5.5a is a screen print of the SA menu. Most of these functions will be discussed briefly because they all have many capabilities that would entail a lengthy description. The capabilities of these utilities, for our purposes, will be referenced in each procedure that is discussed throught this manual.

### SYSTEM ADMINISTRATION MENU

- **BACKUP-** The Backup utility is used to backup data between disk volumes or other storage media. The Backup utility is used to perform backups on branch systems every 75 days as well as in an emergency situation.

```
ITT Commercial Finance -- System Administration Menu -- Version 2 for OS 7.10 1
=============================================== BOST ==========================
CP Micro: 0400   O/S Rel: 071019   IPL Vol: SYSTEM   Date: 11/25/87   Time: 08:37

 1 - Backup     Wang Backup Utility        17 - Copy       Wang Copy Utility
 2 - Copywp     Document Conversion        18 - Office     Wang Office
 3 - Datentry   Data Entry Utility         19 - Sam        Sys Activity Monitor
 4 - Diskinit   Disk Init/Reformat         20 - Security   Wang Security Utility
 5 - Ioelog     Error Log Anal/Print       21 - Verify     Verify Indexed Files
 6 - Fraganal   Disk Fragmentation Anal.   22 - Versions   Display Version #'s
 7 - Formcntl   Logical Form Define        23 - Fastlink   Open Program List Maint.
 8 - Liblist    Library Size Utility       24 - Wpcontrl   WP Control Utility
 9 - Listlabl   File Attribute Display     25 - Wsnmon     Network Monitor
10 - Listvtoc   Check VTOC Utility         26 - Poolstat   Page Pool Monitor
11 - Listwp     List WP Documents Util     27 - Shrstat    Sharer Status
12 - Display    Display Utility            28 - Scratchf   File Scratch Aid
13 - Ldisplay   File Search/Display Aid    29 - Genedit    Sys. Configuration Edit
14 - Transfer   File Transfer Utility      30 - Wsnedit    Comm. Configuration Edit
15 - Xfer       Selective File Transfer    31 - Ezpatch    Modify Disk Direct Util.
16 - Exit                                  32 - Logoff

[enter]  RUN  File . Library . Volume     ******** . ******** . ******
```

## FIGURE 5.5a

- **COPYWP**-  This function is used to perform a wide variety of
WP document filing and conversion tasks.  A document may be
copied into another document, deleted, renamed, or
reorganized through this utility.  Similiar functions can be
performed at the library level.

- **DATENTRY**-  This utility allows you to modify, add, or delete
records from a system's configuration file.  Both control
files and data files can be manipulated.  The system
configuration file contains "pointers" that tell the system
what library and on what volume that every created or
received file should go to.

- **DISKINIT**-  This utility is used to perform various functions
on a disk volume.  A volume may be initialized, reformatted,
relabeled, or verified to determine the number of bad blocks
that exist on a volume.

- **IOELOG**-  This function allows you to examine the contents of
the I/O error log.  The Operating system records each
occurance of an error on the I/O error log, along with the
date and time.  The I/O error log is used primarily to detect
hardware and software malfunctions.

- **FRAGANAL**-  FRAGANAL (Disk Fragmentation Analysis Utility) is
used to monitor and determine the usage and fragmentation
present on each disk that is mounted on a system.

- **LIBSIZE**-  This utility lists the WP files, in a specified
library, along with the number of blocks used by each and the
total blocks used by each WP library.

- **LISTLABL**-  This function displays the label attributes of a
specified file.  Some of the attributes shown include the
creation date of the file, the expiration date, and the last
modified date.

- **LISTVTOC**-  This utility is used to check for bad blocks
within the VTOC (volume table of contents) on a specified
disk volume.

- **LISTWP**-  This function produces a summary report of word
processing documents according to requested specifications.
The documents may be sorted by any field on the report.

- **DISPLAY**-  Refer to the Hub Selection Menu discussion.

●**LDISPLAY**- Refer to the HUB Selection Menu discussion.

●**TRANSFER**- Refer to the HUB Selection Menu discussion.

●**XFER**- Refer to the HUB Selection Menu discussion.

●**EXIT**- This selection will return you to the Command Processor Menu.

●**COPY**- Refer to the HUB Selection Menu discussion.

●**OFFICE**- (Wang Office) Refer to the HUB Selection Menu discussion.

●**SAM**- The System Activity Monitor is used to monitor usage and performance of a VS system.  SAM can be used to determine why a system's response time is slower than usual.

●**SECURITY**- Through this utility, you can modify, delete, or add users to Wang security.  Special access privledges can be assigned to users or programs through this function.

●**VERIFY**- This utility can be used to perform a comprehensive check on indexed files.  This function checks for open files and detects any file damage.

●**VERSIONS**- This function lists what versions of software are used by particular programs and microcode files.

●**FASTLINK**- This utility is used to add, delete, or modify the availability status of programs.  System programs that are fastlinked have a permanently available status, unless they've been modified.  Fastlinking programs allows better utilization of system resources and speeds system response time.

●**WPCONTRL**- This utility is used to force load microdoce to a Word Processing printer.  When a printer looses microcode, it is unable to communicate with the CPU.  Wpcontrl reloads the microcode needed to drive a WP printer.

●**WSNMON**- (Wang System Networking Monitor) Refer to the HUB Selection Menu discussion.

●**POOLSTAT**- This enables you to monitor the utilization of page pools.  Page pools are the designated workspace that is set up on each disk volume.  A piece of the pool is allocated to each user when they log onto the system.

•SHRSTAT- This utility shows information regarding sharer
statistics (a dedicated system tasks).  Information about
buffer and memory pools is displayed through this function.

•SCRATCHF- The Scratchf utility is a file scratching aid that
allows purging (deleting) of an entire library, selected files
on a library, or selected libraries on a volume.

•GENEDIT- This program is used to add, delete, or modify
hardware devices on a VS system.  Each device is defined
to the system by assigning it a particular port on the back
of the CPU.  This utility is used to define these ports and
other hardware pieces to the CPU.

•WSNEDIT- This utility is used to add, modify, or delete
systems in the communications configuration on a system.
This function defines all of the other VS systems on the
network that the local system can communicate with.

•EZPATCH- This function is used to modify records within
a particular file.  Ezpatch is used primarily by Systems &
Programming personnel to manipulate records within a file.

•LOGOFF- This function will log you out of a branch system
and return you to the Remote Attach Menu on the HUB system.


    Functions on the System Administrator Menu should only be used

by experienced Help Desk personnel.  Irresponsible use of this

menu could result in system failure, shutdown, or loss of data.

## COMMAND PROCESSOR

The Command Processor Menu is accessed only by Help Desk personnel, Technical Support, and Systems and Programming personnel. This menu is transparent to branch users. Access to the Command Processor Menu is not given to branch personnel because this menu allows total manipulation of data on the VS system. Figure 5.5b is a screen print of the Command Processor Menu.

```
              ***  Wang VS Command Processor  ***                    1
           Copyright, Wang Laboratories, Inc. 1985

                        Hello SEC HOME OFFICE
                    Welcome to ITT/CMF Boston (BOST)

Total Elapsed Time = 00:00:07 (HMS)    Program Processor Time = 00:00:00 (HMS

                  Program ADMMENUO in procedure ADMMENU
                  was waiting for workstation attention




              Use the function keys to select a command:

       (1) CONTINUE processing            (10) Enter DEBUG processing
       (2) SET usage constants            (11) Enter OPERATOR mode
       (3) SHOW program status            (12) SUBMIT procedure

       (4) Manage QUEUES                  (13) Send MESSAGE to operator
       (5) Manage FILES/LIBRARIES         (14) PRINT PROGRAM screen
       (6) Manage DEVICES                 (15) PRINT COMMAND screen
       (8) Manage COMMUNICATIONS          (16) Return to ADMMENU
```

## FIGURE 5.5b

The following functions can be performed from this menu.


●CONTINUE PROCESSING- Pressing PF Key 1 will return you to
the HUB Selection Menu on the HUB system or to the SA menu
while logged into a branch system.

●Set Usage Constants- This function defines various defaults
regarding where a print file will go if a file is printed
using your logon.  The default tells a print file to go to
a particular library on disk, as well as to which system it
should spool to (remote users).  For example, if a file is
requested to print while logged on remotely to a system, the
file will transfer back to the HUB system to be printed unless
the usage constants are modified to retain the file on the
remote system.

●SHOW PROGRAM STATUS- This function will display programs
currently being ran by each specific user.  Occasionally it is
necessary to determine which programs are in use before
performing various tasks.

●MANAGE QUEUES- This function will allow you to view all of
the queues in the Operator's Console.  Queues can be viewed
from this menu, but cannot be manipulated.  Operator queues
can only be modified by entering through Operator mode.

●MANAGE FILES AND LIBRARIES- This function is used frequently
by Help Desk personnel to access the mounted volumes on a
system.  This menu gives you access to the actual files,
libraries, and volumes that exist on a VS system.  Files and
libraries can be renamed, deleted, or viewed through this
menu.

●MANAGE DEVICES- This menu can be used to view the printers,
disks, and workstations on a system.  From this menu, a
device's status is displayed.  Unlike the Manage Queues
function, devices can be manipulated from this menu as well
as through the Operator's Console.

●MANAGE COMMUNICATIONS- This menu provides the same access as
the Telecommunications Menu on the Operator's Console.
Communications can be inhibited and/or allowed to any or all
systems throughout the network.

•**ENTER DEBUG PROCESSING**-  This function is only used by Systems
and Programming personnel.

•**ENTER OPERATOR MODE**-  This function will provide entry to the
Operator's Console.

•**SUBMIT PROCEDURE**-  This function enables a procedure to be
submitted for background processing in the Procedure Queue.

•**SEND MESSAGE TO OPERATOR**-  This function allows you to send
a message to all workstations that are set up a Operator's
Consoles.  The message will appear at the top of the screen.

•**PRINT PROGRAM SCREEN**-  This selection will allow you to make a
screen print of a program while you're running it
interactively with your workstation.

•**PRINT COMMAND SCREEN**-  This will produce a screen print of the
Command Processor Menu.

•**TERMINATE CHECK**-  This function is used to interrupt and
cancel a program currently running interactively with your
workstation.


    The Command Processor Menu is very useful for investigating

and  correcting  programming  (software)  problems.   However,

functions  on  this  menu  should  be  used  with  caution  to  avoid

interrupting  system  operations  or  data  loss  due  to  inexperienced

Help Desk personnel.

## HUB SELECTION MENU

The HUB Selection Menu is accessed only by Help Desk personnel and Technical Support personnel.  This menu is also not accessible to branch users because it is used for the sole purpose of controlling and monitoring activities on the HUB system.  Figure 5.5c is a screen print of this menu.

```
CMF Network Hub                                    Wednesday, 11/25/87 07:33   1

User: SMM - Shelly McClellan                                        WS#: 009
                    ITT Commercial Finance Network Hub Support System
                              Main System Menu
       Position cursor and press [return]:

       * Remote Attach Menu        * Library Size Utility    * Change Logon Password
       * Pipeline Control          * Send Test Files
       * Hubtask Control Menu      * Connect Test
       * Display Current FT Log    * Transfer
       * Requeue File              * Install Utility
       * File Transfer             * Fastlink Utility
       * Backup                    * List VTOC
       * Copy                      * Scratch Files
       * Copymany                  * Disk Initialization
       * Rename File               * Analyze I/O Error Log
       * Fraganal                  * CNS Network Monitor
       * Libcount                  * Page Pool Monitor
       * Display File Attributes   * Edit MWS "personality"
       * Submit Jobs to Queue      * Wang Office
                      Run: ******** . ******** . ******
       (13) Reload MWS       (14) File Manager    (15) Messages      (16) Return
       (29) Show PF keys     (30) Display         (31) Run           (32) Logoff
```

**FIGURE 5.5c**

The following functions can be performed from this menu.

• **REMOTE ATTACH MENU**- This menu displays a list of all of the branches connected to the ITT network. Remote logon to a branch system is accomplished through this menu.

• **PIPELINE CONTROL**- This menu is used to control the lines (CMFRJEx pipelines) that connect the HUB to the IBM mainframe. Through this menu, all lines or a particular line can be re-activated or deactivated.

• **HUBTASK CONTROL MENU**- This menu is used to perform various advanced functions. This menu should only be used by experienced personnel. This menu allows you to modify records on the HUB's configuration file. This file contains many definitions regarding the systems that are a part of the ITT network.

• **DISPLAY CURRENT FTLOG**- From this menu, the file transfer log can be viewed. As files pass through the HUB system, and entry is made on the file transfer log. This log can be helpful in locating the whereabouts of a file that passed through the HUB system.

• **REQUEUE FILE**- This procedure can be used to submit a production file to the Transfer Queue, with all of its network parameters already set. The network parameters tell the system what type of file is transferring, where the file is to go on the receiving system, and how it is to be processed by the receiving system.

• **FILE TRANSFER**- This function is used to queue a file for transfer to a remote system. This function allows more flexibility in setting parameters that the REQUEUE utility.

• **BACKUP**- This utility is the same utility as the backup function on the SA menu. It is used to backup data from one storage medium to another.

• **COPY**- This utility is used to copy a file or library from one location to another on the same local system.

• **COPYMANY**- This function is used to copy and transfer single or numerous files and libraries to multiple locations throughout the network.

•**RENAME FILE**- This is used to change the name of a file out on disk.

•**PRAGANAL**- This is the same utility as the one on the SA menu. It is used to analyze disk usage and fragmentation.

•**LIBCOUNT**- This procedure displays the number of files that exist on the HUB, at any specific time, in each of the following libraries. The Libcount proc can be helpful in monitoring data flow.

> #HUBTEMP- This is the <u>input</u> library where files are stored while they're waiting to be processed by HPROCESS. Files in this library include files received for the mainframe, or files received from branches that are to be redistributed to other branches. After passing through HPROCESS, #HUBTEMP files will go into the #HUBHOLD or the #HUBDUMP library.

> #HUBHOLD- This is the main <u>output</u> library where files are placed while they're waiting on the HUB's Transmit Queue for transmission to a branch.

> #HUBDUMP- This is the library where files are placed that meet one of the following conditions.
> > •a broken or partial file
> > •the destination of a file could not be determined
> > •the specified destination is invalid
> > •the file's destination is not defined on the HUB
> > •the file's header or trailer record is missing

> RJEQUEUE- This library contains files that were received from the branches and are to be forwarded to the IBM mainframe.

•**DISPLAY FILE ATTRIBUTES**- This utility will allow you to view the attributes of a file such as (indexed or nonindexed, print or data file, condensed, etc.)

•**SUBMIT JOBS TO QUEUE**- This is the same utility as the Submit function on the Command Processor menu. It allows you to submit procedures to be executed in background.

* **LIBRARY SIZE UTILITY**- This utility enables you to specify
a library and determine the number of blocks that the library
uses on a disk volume.

* **SEND TEST FILES**- This is used to queue a one record Test file
to transfer to a branch system. It is used to send a dummy
file to a branch system to verify if communications are up.

* **CONNECT TEST**- This test is similiar to sending a test file.
For this test an actual file is not sent, rather, the
communications software sends a signal to see if the local
system can "talk" to a remote site.

* **TRANSFER**- This is basically the same utility as the File
Transfer utility. A few minor selection criteria are allowed
from this utility.

* **INSTALL UTILITY**- This is used to perform software
installs. It is a procedure that enables quick replacement
of files and automatically scratches the old version.

* **FASTLINK UTILITY**- This utility is the same as the Fastlink
utility on the SA menu.

* **LIST VTOC**- This utility is the same as the Listvtoc
utility on the SA menu.

* **SCRATCH FILES**- This utility is the same as the Scratchf
utility on the SA menu.

* **DISK INITIALIZATION**- This utility is the same as the Diskinit
utility on the SA menu.

* **ANALYZE I/O ERROR LOG**- This utility is the same as the
IOELOG utility on the SA menu.

* **CNS NETWORK MONITOR**- This utility is the same as the
WNSMON utility on the SA menu.

* **PAGE POOL MONITOR**- This utility is the same as the
Poolstat utility on the SA menu.

* **EDIT MWS PERSONALITY**- This is used to edit the personality of
a multiworkstation. The personality file defines what keys
will perform what functions, controls the key clicker, the
beeper sound, etc.

* **WANG OFFICE**- This procedure enables you to enter the
Electronic Mail feature on the HUB system.

On the HUB and branch systems, Help Desk personnel use all of
the previously mentioned menus to control and monitor the
operations of the network, branch systems, and the central
computer (the HUB).

Help Desk personnel use several forms to record support information and data to be used both by the Help Desk department and by other departments. On a daily basis, the early shift Help Desk person uses a Checklist For Branch Office Updates. Figure 6.1 displays this form. This checklist is used by the early shift person to check the status of branch masterfiles each morning. As each branch is checked, an X is placed next to each branch that has updated masterfiles. If a branch is not updated, a notation is made under PROBLEM and the situation is then analyzed. This form also comes in handy to use as a checklist when performing maintenance or verifying conditions in all branches.

Two other forms that are used daily by all Help Desk personnel include the Problem Log and the Telephone Checklist. The Problem Log is a support tool that is used to document problems and resolutions as they are called into the Help Desk. The Problem Log is displayed and discussed in detail in section 6.2. The Telephone Checklist is used by all Help Desk personnel as a tracking device. Figure 6.1a diagrams the Telephone Checklist. This checklist is used to record the number of calls that come into the Help Desk each week. This figure is totaled on a weekly basis and provides a good picture of the high and low support weeks. As a call comes into the Help Desk the individual that

CHECKLIST FOR BRANCH OFFICE UPDATE (3211y)     PROCESSING DATE: _____

| BRANCH | UPDATED | PROBLEM | LOG # |
|---|---|---|---|
| ANNO/YANO/NISM NAT'L OFFICES | / / / | | |
| ANAH/ANAY/ANAB | / / / | | |
| ATLA/ATLY/ATLB/ATLS/ATLL | / / / / / | | |
| BOST/BOSB/BOSS | / / / | | |
| CHAR/CHAB | / / | | |
| BALT/BALB | / / | | |
| CHER/CHRY/CHEB/CHES/CATT | / / / / | | |
| CHIC/CHIY/CHIB/CHIS/CPSR | / / / / / | | |
| CINN/CINB/CINS/CINL | / / / / | | |
| DALL/DALB/DALS/DLIO | / / / / / | | |
| DACM | / | | |
| DALY/HADA | / / | | |
| DETR/DETB | / / | | |
| HOUS/HOUB/HLIO | / / / | | |
| FREM/FREB/FEMS/FREL/FMIS | / / / / / | | |
| KANS/KANB | / / | | |
| LOSA/LOSB/LOSS/SAFB/SAFV | / / / / / | | |
| MEMP/MEMB | / / | | |
| MIAM/MIAB/MIAS | / / / | | |
| NEWO/NEWB/NEWS | / / / | | |
| PHNX/PHNB/PHNS | / / / | | |
| SLCT/SLCB/SLCS | / / / | | |
| SEAT/SEAB/SEAS/BATL | / / / | | |
| SLOU/SLOB/SLMR/SLES | / / / / | | |
| TAMP/TAMB/TAMS | / / / | | |
| TORO/MONT/VANC | / / / | | |
| YAMA | / | | |
| SUZUKI | / | | |
| HUB | / | | |

FIGURE 6.1

PHONE CHECKLIST FOR BRANCH OFFICE (3211y)     PROCESSING WEEK:_____

| BRANCH | MON | TUES | WED | THURS | FRI |
|---|---|---|---|---|---|
| ANNO/YANO/NIBM NAT'L OFFICES | | | | | |
| ANAH/ANAY/ANAB | | | | | |
| ATLA/ATLY/ATLB/ATLE/ATLL | | | | | |
| BOST/BOSB/BOSS | | | | | |
| CHAR/CHAB | | | | | |
| BALT/BALB | | | | | |
| CHER/CHRY/CHEB/CHES/CATT | | | | | |
| CHIC/CHIY/CHIB/CHIS/CPGR | | | | | |
| CINN/CINB/CINS/CINL | | | | | |
| DALL/DALB/DALS/DLIO | | | | | |
| DACM | | | | | |
| DALY/BADA | | | | | |
| DETR/DETB | | | | | |
| HOUS/HOUB/HLIO | | | | | |
| FREM/FREB/FEMS/FREL/FMIS | | | | | |
| KANS/KANB | | | | | |
| LOSA/LOSB/LOSS/SAFB/SAFV | | | | | |
| MEMP/MEMB | | | | | |
| MIAM/MIAB/MIAS | | | | | |
| NEWO/NEWB/NEWS | | | | | |
| PHNX/PHNB/PHNS | | | | | |
| SLCT/SLCB/SLCS | | | | | |
| SEAT/SEAB/SEAS/BATL | | | | | |
| SLOU/SLOB/SLMR/SLES | | | | | |
| TAMP/TAMB/TAMS | | | | | |
| TORO/MONT/VANC | | | | | |
| YAMA | | | | | |
| SUZUKI | | | | | |
| CDPF/STLH | | | | | |

FIGURE 6.1a

answers the call places a hash mark (11111) under the appropriate date and next to the calling branch.  This type of information is useful in performing analysis on calls taken by the day, week, month, or branch.  Each Help Desk person uses one checklist per week and then starts with a new checklist on the first business day of the next week.  The completed checklists are given to the department supervisor at the end of the last business day of the week.

A Work Request is another form that is used by Help Desk personnel on a frequent basis.  The Work Request is filled out and forwarded to the Systems & Programming department whenever a Famis system programming change is needed.  This form is described in section 6.4 .

PURPOSE:   The Problem Log is the Help Desk's primary tool for documenting and analyzing problems that are called in by the branch offices.

The Help Desk averages 650 - 700 calls per week.  Due to this amount of activity, it would be impossible to write a problem log for every call that is received.  In effect, some calls are logged and others are not.  The general rule is to prepare a log only if the problem cannot be resolved with an immediate answer, or by performing a basic on-line task.  If there is a chance that the problem may have repercussions then a log should be prepared. Some common sense and experience will play a role in making this determination.

DO NOT PREPARE A LOG FOR CALLS THAT INVOLVE:

- Inquiries for information
- How to/What if/Can I? type questions
- Requests to set up new users in Wang Office
- Requests for non-hardware assistance with
   printers/troubleshooting

DO PREPARE A LOG FOR CALLS THAT INVOLVE:

- Microfiche copy requests
- Down systems
- All hardware service from a vendor
- Software problems
- Repeated problems of any kind
- Situations where you request assistance from another
   supporting department
- Line problems
- Security assistance for logons or protected WP documents
   (make sure that you inform your supervisor before providing
   this type of assistance)

Once a problem Log is prepared, you should take as much immediate action as possible and note your actions on the log. The log is then filed in one of two "Open Problems" binders. The two binders include the Hardware Binder and the Other Binder. All hardware calls are placed in the Hardware Binder, separated by branch, and all other logs are filed in the same manner in the Other Binder. As new information is found, the log should be updated.

On a weekly basis, these binders are emptied and the logs are either closed or updated with new information. The closed logs are then filed by the department secreatary.

Figure 6.2 shows an example of the Problem Log sheet. The Problem Log sheet provides buckets for both optional and required information depending upon the type of problem that is logged. The following describes each section and its purpose. These guidelines should be used when preparing a Problem Log.

| SECTION | DESCRIPTION |
|---|---|
| 1.  Log No. | The Log No. field is an optional field. It was once used as a counting mechanism, but is no longer in use. |
| 2.  Date | The Date is a required field. This field should contain the date that the problem was called into the Help Desk. |

ITT COMMERICAL FINANCE CORP.                    ①

HELP DESK PROBLEM LOG                LOG NO._____

②                        ③                    ④                    ⑤
DATE___/___/___   TIME_____   WANGNET ID_____   CONTACT_____

PROBLEM DESCRIPTION/QUESTION_____

_____⑥_____

_____

_____

_____

_____

_____

PROBLEM RESOLUTION_____

_____

_____⑦_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

PROBLEM TYPE _____SOFTWARE          _____HUB          _____MICRO FICHE

        ⑧   _____WANG OFFICE        _____COMMUNICATIONS    _____MAINTENANCE

            _____WORD PROCESSING    _____TRN & PROCEDURES  _____SECURITY

            _____ENVIRONMENT        _____OTHER/UNKNOWN     _____P/C SUPPORT

PROBLEM RESOLUTION/HARDWARE

    ⑨   Device Model No._____   Device Serial No._____

        Contact Time  _____     Dispatch Number  _____

PROBLEM CLOSED BY _____HELP DESK        _____WORK REQUEST   FORWARD TO_____

        ⑩              ⑪
            LOGGED BY _____

            CLOSED BY _____  ⑫ DATE ___/___/___

FIGURE 6.2

|      SECTION      |      DESCRIPTION      |

3.  Time   The Time field is a required field.  This field should contain the actual time that the call was received at the Help Desk.

4.  Wangnet ID   The Wangnet ID field is a required field. One of the valid IDs from Appendix G should be selected and entered in this field.

5.  Contact   The contact field is a required field. This field should contain the name of the requesting caller.

6.  Problem Det./   This section is required and should contain
    Question   a description of the problem or question.

7.  Problem Res.   This section is required and should contain the action that was taken in order to solve the reported problem/question.

8.  Problem Type   This field is required for all calls except hardware/installation calls.  One of these categories should be checked to indicate the problem type.  Definitions for these problem types are provided on the following page.

9.  Problem Res.   This section pertains to Hardware calls
    Hardware   only.  Each field in this section is used based on the vendor being called.  The Device Model number should be filled in when service is required on an IBM PC or a Courier terminal.  The Device Serial Number is generally used when placing calls on IBM or Wang perpherial equipment.  The Contact Time is required if it is different than the time specified in section 3.  The Dispatch Number is filled in when placing hardware calls to Wang only.

10.  Prob. Closed   This section is used to designate if a reported problem was closed by Help Desk personnel, or, if a Work Request was needed

| SECTION | DESCRIPTION |
|---|---|
| 10. contd. | to close a call. If a Work Request is not needed, then the Help Desk field should be checked. If a Work Request was submitted then the Work Request field should be checked and the name of the person that it was referred to should be written in the Forward To field. |
| 11. Logged By | This field is required and should contain the initials or name of the Help Desk person that received the reported call. |
| 12. Closed By | This field is required and should contain the initials or name of the Help Desk person that closed a reported call. The date that the problem was closed should also be entered. |

## PROBLEM CATEGORY DEFINITION/DETERMINATION:

•Software- A problem should be coded as software whenever the reported problem indicates that a Wang or Famis software error has occurred. This problem may involve the Operating System, any applications software, or administrative utilities.

•Wang Office- A problem should be coded as Wang Office whenever the reported problem involves a problem with the Electronic Mail function.

•Word Processing- A problem should be coded as Word Processing whenever the reported problem involves a user question regarding any Word Processing functions or activities (including archiving).

•Environment- A problem should be coded as Environment whenever the reported problem is a direct result of the natural environment (power outages, earthquake, storms, construction, etc.)

•HUB- A problem should be coded as HUB whenever the reported problem involves or is a direct result of conditions encountered with the HUB system.

•Communications-   A problem should be coded as communicaitons whenever the reported problem is a result of a communication failure (line problems).

•Training and Procedures-   A problem should be coded as Training and Procedures whenever the reported problem is an inquiry on how to perform a function or how a procedure works. This category should only be used if the user has access to documentation that could have provided them with the answer.

•Other/Unknown-   A problem should be coded as other whenever the reported problem is a mere inquiry for information that does not alter the Wang system, communications, or procedures.  This category would also include situations where a problem exists or occurred but the cause is sporatic or cannot be definately determined.

•Microfiche-   A problem should be coded as microfiche whenever the reported problem is a request for reproduction of actual microfiche or is a request for hardcopies of microfiched reports.

•Maintenance-   A problem should be coded as maintenance whenever the reported problem required routine maintenance to remedy the situation (disk backups, volume initializes, branch disk cleaning).

•Security-   A problem should be coded as security whenever the reported problem is an inquiry about security and/or requires a security function to be performed.

•P/C Support-   A problem should be coded as security whenever the reported problem deals with any PC based application questions.

The department secretary files all of the closed Problem Logs and Call Reports.  A Call Report is a document that is prepared by the Wang technician each time that a call is reported to Wang. This document contains numerous pieces of information, but basically it tells what piece of equipment was down and what actions were taken by the Wang technician to fix the problem.  As the Call Reports are mailed from the branch offices to the department secretary, they are matched and attached to the appropriate hardware Problem Log.  The matched sets are then filed by branch.  Hardware Problem Logs are kept indefinately.  All other Problem Logs are also filed by branch, however, they are only retained for 90 days.

Hopefully in the near future, an automated tracking system will replace the current manual documenting and filing process.

PURPOSE: A Work Request is a document that is used to document and refer a Famis system programming problem to the Systems & Programming department. The Work Request is generated after investigating a problem and identifying a system "bug." Work Requests are also written when programming changes are needed to programs that are performing as designed or for system enhancements.

The following three steps should be taken when a Work Request is prepared.

1. Complete the Work Request form.

2. Submit the Work Request to the Help Desk or department manager for review and approval.

3. Forward the Work Request and supporting documentation (if any) to the Systems & Programming department.

Figure 6.4 displays the Work Request form. The following steps should be used to complete this document.

| | SECTION | DESCRIPTION |
| --- | --- | --- |
| 1. | Requestor's Company | Check the DCC box |
| 2. | Request Number | This is assigned by the S & P manager |
| 3. | Requested Completion Date | This is the desired date that the request should be performed or resolved by |

## ITT — WORK REQUEST



THIS SECTION FOR D.P. USE ONLY

FIGURE 6.4

| SECTION | DESCRIPTION |
|---|---|
| 4.  Request Title | A short descriptive name that can be used to identify the problem |
| 5.  Attach-ments | Check the appropriate box for supporting documentation |
| 6.  Requestor | Name of person completing the Work Request |
| 7.  Company | Name of requestor's company (CMP) |
| 8.  Department | Department name of the requestor (Help Desk) |
| 9.  Date | Date that the requestor submits the Work Request |
| 10. Request-or's Manager | Help Desk or department manager |
| 11. Authorized Executive | Not required |
| 12. Other Approval | Not required |
| 13. Objectives Require-ments | Enter a description of the problem or the work to be performed |
| 14. Reason | Optional field - Enter benefits of taking action requested |

Help Desk personnel place service calls to numerous vendors
for a wide variety of hardware equipment.  Because ITT's network
consists of primarily Wang equipment, the majority of the service
calls placed are for Wang equipment (75%).  Service calls are also
placed to other vendors including Standard Register, Leibert, ITT
Courier, IBM service centers, AT & T, and EMC.  The procedures for
handling calls to these service centers varies from vendor to
vendor.

For Wang, Standard Register, or Leibert calls, an equipment
problem is reported to the Help Desk by the branch system
administrator or the backup.  A call is then placed to the
appropriate vendor.  Once the equipment is repaired or parts are
ordered, the branch system administrator should notify the Help
Desk.  The receiving Help Desk person should then update or close
the Problem Log.  The procedures for placing service calls to each
of these hardware support centers are discussed separately in the
following sections.

A service call should be placed to Wang for any hardware that was purchased/leased from Wang.  ITT pays an annual blanket fee to Wang to cover servicing of all Wang equipment.  Therefore, you should never be refused service or told that a call will be billable (except in cases of user abuse or situations where the Wang equipment is definately not at fault).  If the above situation arises, the Technical Support department should be notified so that they can discuss the issue with the local Wang sales group.  The following steps should be taken when placing a call to Wang.

1.  Call the appropriate Wang Call Control Center for the ITT branch that reported the hardware problem (see Appendix B).

2.  Give the Wang operator the appropriate customer ID number (also from Appendix B).

3.  The operator will repeat some demographic information about the branch and will ask for verification (usually company name, branch address, branch telephone number, and branch contact name).  This information can be verified from Appendix C - Branch Office Directory.

4.  Next, you should provide the operator with a brief description of the problem (i.e., PC - keyboard is not functioning properly).

5.  The operator should then read off a dispatch number to you.  The dispatch number is used as a tracking device and should be noted on the Problem Log.  You should ask for a dispatch number if the operator does not offer one.

6.  The operator will then page the technician (also known as a CE - customer engineer) and make him/her aware of the call.

7.  The Problem Log should be filed in the "Open" problems
hardware binder.


There are two types of response categories for Wang service
calls including Priority 1 and Priority 2.  Priority 1 calls
include situations where operations are halted until the reported
piece of equipment is repaired (i.e., down CPU, disk drive, or
TCP).  The Wang CE should respond to the branch system
administrator, either by phone or in person, within two hours
after the call is placed.  Priority 2 calls include situations
where a piece of equipment is down, but another piece of equipment
can be used as a substitute (i.e., a down workstation or
printer).  The Wang CE should respond to these calls within four
hours after the call is placed.  If these guidelines are not being
followed, refer to Section 8 - Problem Escalation Procedures.

Service calls should be placed to Standard Register for problems with two pieces of branch equipment including the burster or the decolator. The burster is a piece of equipment that is used to burst or separate continuous form paper at its perforated edges. The decolator is used to separate multi-part continuous forms. These two pieces of equipment generally require infrequent service. The following steps should be taken when placing a trouble call to Standard Register.

1. Call the appropriate service center for the branch reporting the problem (see Appendix I).

2. Identify yourself and provide the operator with the company name, the branch address and telephone number, and the branch system administrator's name.

3. Provide the servicing operator with a brief description of the problem

Once this information is validated, the operator will pass the call to one of the Standard Register technicians. The repairperson should contact the ITT system administrator within 24 hours after the call is placed. If the branch is not contacted within this period, a second call should be placed to the service center that was originally contacted.

The Leibert unit is a device that is placed in each branch's computer room and acts as an environmental control unit.  There are actually two parts to the Leibert unit.  The top portion is the air conditioner/humidifier portion and the bottom part is the power conditioner.  The top of the Leibert unit is equipped with both and A/C and a humidifier.  These two parts regulate both the temperature and the humidity in the computer room.  The bottom portion acts as a power regulator for the CPU and disk drives.  If a surge in power occurs, the power conditioner disperses the electrical surge to protect the CPU and disk drives from an overload.  If a drop in power occurs, the power conditioner should bring the entire system down until a normal power level is restored.

If a problem is experienced with the Leibert unit, a service call should be place to the local Leibert servicing dealer by the branch system administrator not the Help Desk.  Help Desk personnel should document a Leibert problem on a Problem Log and monitor the service of the equipment through the branch system administrator.  Leibert technicians usually respond to trouble calls within two hours.

Requests for service on ITT Courier equipment should always come from the Operations department. The following steps should be taken when a request for service on ITT Courier equipment is received at the Help Desk.

1. Call the appropriate call control center for the site needing service (see Appendix J).

2. Give the operator the appropriate customer ID (see Appendix J).

3. Give the operator a brief description of the problem.

4. The operator will then ask for the model and serial number of the unit. This information should be filled out on the Problem Log that was forwarded by the Operations department.

5. The operator should be given the name and number of the day Operations supervisor as the contact person.

6. The Problem Log should be immediately closed and filed in the "Open" problems hardware binder.

Help Desk personnel do not monitor the progress or completion of ITT Courier hardware calls.

Service calls for IBM PC Configurations are not as clear cut and easy as placing Wang service calls. The Technical Support department should be contacted if you have any questions or problems when placing this type of call. The following steps should be followed when placing a service call on any piece of an IBM Configuration setup.

1. Determine which piece of equipment is having a problem (i.e., the monitor, keyboard, logic box, or printer).

2. Determine the model or type of the equipment (i.e., IBM, NEC, CIHTO, etc).

3. If a problem exists with a St. Louis based monitor, logic box, keyboard, or printer select a service center from Appendix L.

4. If a problem exists with a non-local Cihto printer select an appropriate service center from Appendix M. There should not be any IBM PC configurations that are not located locally.

5. Once the call is placed, the log should be closed and filed in the PC support tray in the Help Desk area.

The Help Desk does not monitor the completion of calls placed on any IBM PC configuration. For any questions about billing information contact the Technical Support department.

Occasionally, it is necessary to contact AT & T to report a
possible line problem.  If the problem occurs during normal
working hours (8:30 - 5:00) then the problem should be referred to
the Technical Support department.  If the line problem occurs
outside of normal working hours, then the trouble call will have
to be placed to AT & T by the Help Desk.  Help Desk personnel
should only place trouble calls on digital circuits since these
are the active network lease lines.  After hours problems detected
with analog lines can be referred to Technical Support the next
morning.  We are not so concerned about these lines because they
are only backup lines that are used in the absence of the lease
line.  The following steps should be followed when placing a
trouble call to AT & T.

1.  Refer to Appendix H for the appropriate trouble number and
the branch circuit number.

2.  The AT & T technician will need the lease line circuit
number, the branch telephone number, and the name of the
branch contact.

3.  The AT & T representative should give you a ticket number
which is a reference number for the call.

4.  Once the circuit has been tested, the AT & T
representative will call the Help Desk and give a description
of the problem and an estimated time that the line will be
up.

5.  If a line remains down overnight, all Help Desk personnel,
the Operations department, and the individuals on the
Escalation distribution (see Section 8) should be notified via
Wang Office.

Most ITT branch sites have between 4 and 6 megabytes of main memory in their CPUs.  This memory comes in the form of several CPU boards.  Some of the boards are Wang manufactured and some are from a third party vendor known as EMC.  Although is seldom happens, a problem may occur with EMC memory boards (which are not supported by Wang).  If a problem is detected with the EMC boards the following steps should be taken.

1.  Call 800-222-3622 and ask for Tom Cataya or Steve Brazeau.

2.  The current branch system status should be relayed to one of these two individuals.  You should get a confirmed date and time of when an EMC technician will be on site at the branch.

3.  Give the EMC technician the location, telephone number, and branch contact name.  Also, give him your name and the number here at the Help Desk.

4.  The EMC technician should notify the Help Desk when he/she arrives on site.  At this time, he/she will usually replace the EMC memory boards.  A coordination effort with Wang will have to take place to make sure that the Wang CE is on site at the same time as the EMC tech.  Once the EMC boards are replaced and tested, the Wang CE will run CPU diagnostics to determine if the original problem is corrected.

Both internal and external problem escalation procedures have been developed by ITT and Wang. Because the majority of ITT's network consists of Wang equipment, these escalation procedures are necessary to make sure that all ITT branch sites are receiving the contractually agreed upon service from Wang. These procedures also insure that internal and external key management figures are aware of critical problem situations. These escalation procedures are defined in the next few sections.

The following steps should be taken when a branch or home office system has been down for two consecutive hours.

1.  When any system has been down for two consecutive hours (excluding scheduled system backups, or preventative maintenance from a vendor) the following individuals should be notified via Wang Office.

>  R. Bradley
>  B. Barstad
>  S. Borgwardt
>  S. Martin
>  D. Bartin
>  K. Graham
>  T. Huang
>  M. Ross
>  All Help Desk personnel

•Also, call R. Pool at Wang (966-1211)

2.  State in the memo the cause of the down time (hardware malfunction, communications problems, software, environment, etc.). Next, give a brief description of the actions that have been taken so far. Also, provide an estimated time of when the system should be up (if possible).

3.  Repeat the above steps giving an update of the situation every two hours until the system is up and operating normally.

This section outlines the escalation procedures that should be followed by both ITT and Wang personnel. Part 1 defines the responsibilities of Wang personnel. Part II describes the required actions by ITT personnel. Any questions or comments regarding these procedures should be directed to R. Pool at Wang (966-1211).

## PART I -
## ESCALATION PROCEDURES FOR WANG PERSONNEL

1. <u>System down situations</u>:

   a. CE notifies Wang Branch Manager (BM) of receipt of a system down call from ITT

   b. CE contacts the ITT Help Desk upon arrival on site

   c. BM monitors initial repair plan, provides resources and assistance as needed and notifies Wang District level of management of the call

   d. After 3 hours on site with no resolution, District dispatches a second level of support and notifies the Regional level of management of the call

   e. After 5 hours on site with no resolution, Region dispatches additional technical support to the site

   f. If the system is down awaiting parts, the BM ensures that resource sharing efforts are made and ensures the same day or next day delivery of the needed part based on ITT's stated needs. If next day delivery cannot be confirmed in advance, the BM will escalate as above to the District.

2. <u>Intermittent Problem Situations</u>:

   a. CE escalates as above on the third occurrence of an unresolved problem

3.  Software problems:

  a.  Will be handled in the same manner as items 1 & 2

  b.  The following priority method has been established by the Wang Support Centers:

    Priority 1 - System down
    Priority 2 - Operations disrupted
    Priority 3 - Operations not disrupted, technical or
                 operational questions

4.  Although ITT has trained their local system administrator to perform required functions on site, the Help Desk performs all possible functions remotely. The local administrator performs their regular jobs (Accounting function) and work on the Wang system only as necessary (IPLs, pack mounting, etc). Wang CEs or Branch Managers should call the Help Desk directly if assistance is needed.

5.  The assigned Wang Branch Manager and the ITT Help Desk will be the primary contacts for problem status and overall coordination.


## PART II -
## ESCALATION PROCEDURES FOR ITT PERSONNEL


1.  All problem calls, both software and hardware, go through the ITT Help Desk in St. Louis. Hardware service calls are opened and closed by the Help Desk. Operational and software problems are escalated by the Help Desk to ITT's Technical Support department. The Technical Support department will then refer the software problem to the Wang RSC (regional support center).

2.  System down situations:

The Wang CE should be requested to contact the ITT Help Desk upon arriving on site for further information on the problem. The Help Desk will provide operational assistance to the ITT site as needed and will monitor system status to have updates available for ITT and Wang personnel.

3.  Intermittent Problem Situations:

The Help Desk will escalate to the Wang Branch Manager on the third occurrence of an unresolved problem.

4.  **In Priority 1 Situations**:

If the system is down awaiting parts, the Help Desk will contact the Wang Branch Manager to verify status of the parts ordered. If the system is not down awaiting parts, the Help Desk will escalate as above on the second day.

5.  **Software Problems**:

Software problems will be handled on a similiar basis to steps 2 & 3 on the previous page.

6.  The assigned Wang Branch Manager and the ITT Help Desk will be the primary contacts for problem status and overall coordination in system down situations.

Every Wang VS system is brought up and down for numerous reasons.  There are various terms that are used to describe this activity.  Bringing a system to a Warm Stop means that all of the activity (both interactive and non-interactive) on the system is halted, while the disk drives and CPU remain up.  A Cold Stop refers to the act of actually turning off the power to the disk drives and the CPU.  Performing an IPL (Initial Program Load) refers to the act of reinitializing the system and loading microcode to all of the peripheral devices.  Each of these procedures, or a combination of the above procedures, may have to be performed by the branch system administrator in order to remedy certain system problems.

The concept of performing a Warm/Cold Stop or Start and an IPL are the same from system to system.  However, because many of the ITT branch sites have different VS systems, the actual hands-on procedures will differ.  In any case, all of these procedures for each system type are referenced in the Famis Guides.  See the chapter and appendices below for the various Warm/Cold Stop/Start and IPL instructions.

| CHAPTER/APPENDIX | VS SYSTEM | BRANCHES |
|---|---|---|
| Chapter 3 | VS90 or VS100 | WFD Sites, Business Service |
| Appendix R | VS15 | Montreal, Vancouv., Suzuki |
| Appendix S | VS45 | Curtis Mathes Mfg, St. Paul Southern Calif. Area |
| Appendix T | VS65 | ITT Financial |
| Appendix U | VS300 | Clayton |
| Appendix V | VS7100 Series | WFD Branches |

This document provides several possible errors that may occur when a branch administrator performs a Warm Stop and IPL or is bringing the system up following a power outage.

In each of the error conditions, a description of the situation is provided. Next, the error message is reproduced. A probable cause of the problem is then supplied. A suggested recovery is provided and should be used to correct the error condition. This section also gives a list of other error program return codes and their meanings for error conditions that are not covered in the example situations.

The Technical Support department should be contacted if needed for assistance in troubleshooting or correcting errors encountered when IPLing a VS system.

SITUATION: The following error appears during the recovery section of the "Perform IPL" procedure. If the IPL Procedure determines that the system did not come down cleanly, it will attempt to reorganize several critical files including, @DIRECT@ in @SYSDIR@ on (volume varies). The reorganize procedure is as follows: Rename @DIRECT@ into library WSNREORG on the same volume. Copy @DIRECT@, using the reorganization option, back into the original library. Scratch @DIRECT@ in WSNREORG.

The screen below will appear if the RENAME of the file fails for any reason.

```
                    ***WARNING***
              A fatal error has occurred.
    Error:  Initial rename of directory file failed.
         Return code from RENAME command was: (XXX)
       Contact the HELP DESK in St. Louis immediately.
       DO NOT allow users to log onto the system.
        Press ENTER to acknowledge this message.
```

**CAUSE:** The procedure attempted to RENAME the file @DIRECT@ in @SYSDIR@ on (volume varies) to @DIRECT@ in WSNREORG on the same volume. The return code was not 0. See the table below for valid return codes from failure in processing the RENAME command.

**STATUS OF SYSTEM:** A Warm Stop was performed before the IPL. The directory file is still in @SYSDIR@ and still must be reorganized. No other files have been reorganized. CNS is not running.

**RECOVERY:** Depending on the return code, the system operator should acknowledge the error and use the "Submit @RATTASK@" function from the "Perform IPL" menu so that Help Desk personnel may log in via @ATTACH@ and diagnose the problem. If the problem can be resolved so that the file could now be renamed, the "Perform IPL" function should be initiated by the local operator.

| TABLE 1 - RETURN CODE FROM RENAME COMMAND |
|---|

| | |
|---|---|
| 4 | Volume is not mounted |
| 8 | Volume is in exclusive use by another user |
| 12 | All buffers were in use, rename was not attempted |
| 16 | Library could not be found |
| 20 | File could not be found |
| 24 | Insufficient access rights |
| 32 | File is protected or in use |
| 36 | VTOC error |
| 40 | VTOC error |
| 44 | Invalid argument list address |
| 48 | I/O error on volume, VTOC is unreliable |
| 52 | New filename already exists |
| 56 | New filename is invalid |
| 60 | VTOC is full, no room for new filename |
| 64 | Parameters are invalid |

**The above represents a sample of the information that will be included in this section. This section will be reproduced in its entirety for the actual manual. It is abbreviated for this project to eliminate redundant information and to control the length of this project.

This document lists all of the devices and the user on the HUB
system. Knowing which device is assigned to which user is
necessary in troubleshooting workstation problems. This list will
also be helpful in analyzing printer problems. This diagram shows
which CPU ports are in use and which ports are available.

| HUB DEVICE DIAGRAM | | | | | | |
|---|---|---|---|---|---|---|
| DEV | IOC | PT | TYPE | DLP | CABLE NO. | USER |
| 0 | 3 | 0 | 2256MWS | | None | System Master Con. |
| 1 | 3 | 1 | TCB1 | 000B | RJE0 | CMPRJE |
| 2 | 3 | 2 | 5574 | | HPR1 | System printer |
| 3 | 3 | 3 | TCB1 | 000D | NW | Northwest |
| 4 | 3 | 4 | 2246S | | (25foot) | 2nd Ops. Console |
| 5 | 3 | 5 | TCB1 | 000F | Y | Yamaha |

**The above represents a sample of the information that will
be included in this section. This section will be reproduced in
its entirety for the actual manual. It is abbreviated for this
project to eliminate redundant information and to control the
length of this project.

This document lists all of the devices and the user on the CDPF system. Knowing which device is assigned to which user is necessary in troubleshooting workstation problems. This list will also be helpful in analyzing printer problems. This diagram shows which CPU ports are in use and which ports are available.

| DEV | TYPE | IOC | PT | CABLE | DEPT. | USER | PHONE |
|---|---|---|---|---|---|---|---|
| 0 | W56M | 3 | 00 | none | Oper. | System Console | 216 |
| 1 | W66C | 3 | 01 | 309 | B -3F | General Access | 363 |
| 2 | DFL8 | 3 | 01 | 309 | B -3F | General Access | 363 |
| 3 | W46S | 3 | 02 | PR1 | Printer | Console | 266 |
| 4 | W46S | 3 | 03 | TC4 | Oper. | Console | 265 |
| 5 | PD20 | 3 | 04 | 402 | DFC | Deschler | 401 |
| 6 | W56M | 3 | 05 | 339 | S & P | Lewis | 374 |

**CDPF DEVICE DIAGRAM**

**The above represents a sample of the information that will be included in this section. This section will be reproduced in its entirety for the actual manual. It is abbreviated for this project to eliminate redundant information and to control the length of this project.

A branch system requires maintenance in order to continuously operate at expected capacity and to meet the operational needs of the branch.  Both the branch system administrator and the Help Desk are required to monitor and provide "housekeeping" functions to branch systems.  One of the most space consuming items on a branch system are branch reports.  These reports should be reviewed and maintained by the branch system administrator.  The procedures for report purging are outlined in the Famis Guide (vol. 1, section 6.2).  The branch system administrator should also review Ezqueries, VS Reports, and Word Processing documents (at least once a month) to determine what files are actually being used.  Files that are not in use can be permanently deleted, or archived to floppy diskettes for future use.

The Help Desk should also monitor branch disk usage and take appropriate action when volumes become too full or get fragmented.  Fragmentation is a condition that will eventually affect every disk volume that is heavily used.  A highly fragmented volume is one that has a lot of little "chunks" of free space, instead of a few large "chunks" (also known as free extents) of free space.  This free space is measured in blocks on disk.

In situations where a volume becomes too full a procedure called PCLEANUP can be submitted to background processing.  This procedure goes out to all disk volumes on a system and scratches old files based on the retention periods on the next page.

| PCLEANUP | | | | |
|---|---|---|---|---|
| **FILE** | **LIBRARY** | **VOLUME** | **DAYS** | **DESCRIPTION** |
| ? | #XXXWORK | ? | 2 | Work Files |
| ? | #XXXPRT | ? | 4 | Print Files |
| ? | $RWNLIB | ? | 4 | Files transferred in DEFAULT |
| ? | $PGMLIB | ? | 4 | Files transferred in PGMQUEUE with no output filename |
| ? | @LOG@ | ? | 4 | CNS Logs |
| ? | @FTLOG@ | ? | 8 | File transfer logs |
| ? | BADDOCX | ? | 32 | Damaged WP Files |
| ? | DUMPXXX | SYSTEM | 0 | TCP dumps |
| ? | SESTRACE | SYSTEM | 0 | TCP trace logs |
| ? | $TESTLIB | ? | 0 | Received test files |
| ? | PXXXXXXX | ? | 5 | Print files from Report Printing |

In addition, PCLEANUP also cycles the current File Transfer log and keeps it from reaching 13 extents (largest allocated file size), and releases over allocated free space from ENVLIB files (Wang Office mail items) and Personal Phonebook files.

Another measure that can be taken to reduce the usage of a volume is to simply call the branch system administrator and have them go through a "housekeeping" session. Sometimes the branch administrators are not proficient in keeping their systems clean.

When a disk volume becomes heavily fragmented normal system operations will begin to deteriorate. A procedure used by Help Desk personnel to temporarily reduce or eliminate fragmentation is known as a reformat. When a reformat is performed, a disk volume is completely cleared and the pack's VTOC (volume table of contents) is rewritten. Before a reformat can be performed, the data on the volume will have to be backed up to a backup disk pack. This backup, reformat, and restore process is described in the next section.

A routine backup session is scheduled with each branch site every 60-75 days. This session is necessary to clean up disk volumes. A backup is also necessary to take copies of data that exists on branch system but could not be restored to its original form if it were destroyed.

At some point, a backup, reformat, and restore may be needed to one or all of a branch's disk volumes. During each backup session, a minimum of two volumes are backed up. The SYSTEM volume, the DCC001 volume, and WP (Word Processing) documents will always be backed up at each scheduled session. Reformats and restores may be needed based on the degree of fragmentation on the disk volumes.

There are basically three major steps to prepare for and perform a complete backup session. These include:

1. Decide what needs to be done using the FRAGANAL program.
2. Make sure that you have sufficient back up packs.
3. Execute the planned activities.

RUNNING FRAGANAL (disk fragmentation utility)-

Figure 10.2 is a screen print of the results of the Fraganal program. This program displays several statistics regarding disk usage and fragmentation. As a general rule, a volume is fragmented and should be reformatted when the FREE EXTNTS are > 500 and the PCT IN TOP 3 is < 50%. Many other factors should be

considered beyond these two groundrules.   Consult the Help Desk

supervisor for clarification of this decision.   Experience will

eventually enable you to consider all factors and make the

decision yourself.

```
FRAGANAL  1.5          Disk Fragmentation Analysis - ST H          15:23:14 11/11/87 1

Volume     Avail.      Free       Pct.      Free       Ave Free    Top 3 Free    Pct in
Name       Blocks      Blocks     Used      Extnts     Ext Size    Extnts        Top 3

DCC001     219107      42769      80.5%      682        62.7        11173         26.1%
DCC003     219108      85073      61.2%      124        686.1       74435         87.5%
SYSTEM     73088       9381       87.2%      42         223.4       9116          97.2%
WORK01     36738       20670      43.7%      9          2296.7      19797         95.8%

Total:     548041      157893     71.2%

Press RETURN to exit.
STOP
```

### FIGURE 10.2

Based on the fragmentation analysis, DCC001 is the only volume

that would require a reformat and restore.   In this case, the FREE

EXTNTS is 682 and the PCT IN TOP 3 is 26.1%.


### VERIFYING DISK PACKS-


In every branch there are 1 or 2 disk packs reserved for the

backup of the SYSTEM volume.   These packs are used only for

backing up the SYSTEM volume and are never used as scratch packs.

Initially, there were also X number of packs (depending upon the

type of drives that a branch has) distributed to each branch for

the purpose of backing up volumes other than the SYSTEM volume.

There should be a sufficient amount of work packs to perform any

combination of backups and restores that are needed.  However, it

is always safer to calculate the needed amount and verify them

before you begin.  According to Figure 10.2, 5 (76mb.) removable

packs will be needed to perform the backup of the DCC001 volume.

The following calculation was used to verify the needed packs.


    Calculation:

    Total AVAIL BLOCKS - FREE BLOCKS = Total number of used blocks
    219107 - 42769 = 176338 (used)

    Because you are backing up to 76mb. packs (which only have
    36738) available blocks you will need to calculate how many
    will be needed.

    Take 176338 (used) / 36738 (avail. on a 76mb.) = 4.79 or 5
    packs.


The situation described above (backing up to several removable

volumes) is the most difficult.  In other branches, you will

backup data from one removable 288mb. pack to another 288mb.

pack.  In these branches, there is no calculation to perform since

the capacity of both packs is equal.

The next few examples explain the procedures for performing a
backup and restore on the SYSTEM volume for each different branch
configuration.  Remember that the concept is the same, only the
hardware is different.

I.   SYSTEM volume backup on systems with a DSM (Data Storage
     Module — removable cartridges) and no other disk drives.

     A.   PREPARATION:  Have the system administrator insure that
     everyone is logged off (by putting the logon inhibits on) of
     the system and that no background jobs are running.  The disk
     settings for Work, Spool, and Page should be turned to NO for
     the input and the output drives.  Also, the Print Queue should
     be empty.  Have the administrator logon as user IPL and press
     PF 1 to perform a Warm Stop.  When the message "Warm Stop
     Complete" appears at the top of the screen, have the
     administrator press PF 8 to submit RATTASK.

     B.   Log into the branch and make sure that there are 0 open
     files on the WORK01 volume (through PF Key 10 on the
     Operator's Console).

     C.   BACK UP:  The input volume is the SYSTEM volume.  The
     output disk consists of two 76mg. removable cartridges.  The
     two backup packs are called S710V1 and S710V2.

          1.   Issue a mount command and mount S710V1 in place of
          WORK01.
          2.   Run Backup and press ENTER on the first screen to
          perform a normal DMS backup.
          3.   On the input screen, enter the following:

               VOLUME = SYSTEM in LIBRARY = @+
               Morefile = NO

          •This request will copy all libraries with a prefix of
          @XXXXXX.

4.  Acknowledge the next message screen concerning open files on the SYSTEM volume.  You will get these errors because the system is IPLed from this volume.

5.  On the output screen, enter the following:

     VOLUME = S710V1
     CLEAR = YES

6.  Be prepared to acknowledge open files for (@SYSLOG@, QUEUE, and BACKXXXX.  Again, this is because the system is IPLed from the SYSTEM volume.

7.  When the backup is complete, respond NO to the messages about printing the backup log.  Exit the backup program.

8.  Run Diskinit.  At the first screen, enter the following:

     FUNCTION = Relabel         VOLUME = S710V1
     •Take the defaults on all remaining screens.

9.  Exit Diskinit, remove S710V1 and load S710V2.

10.  Rerun the Backup program and press ENTER on the first screen.

11.  On the input screen, enter the following:

     VOLUME = SYSTEM
     Morefile = YES

12.  A second screen will appear.  You should fill in as:

     LIBRARY2 = @+

13.  On the output screen, enter the following:

     VOLUME = S710V2
     CLEAR = YES

14.  When the backup is complete, respond NO to the messages about printing the backup log.

15.  Remove S710V2 and mount WORK01 if no other volumes are to be backed up.  Have the system administrator finish the IPL and allow logons.

D.  **RESTORE:**  Both S710V1 and S710V2 will be remounted as a
part of the restoring process of the SYSTEM volume.  Because
you cannot perform a reformat on a volume that the system is
IPLed from, this operation will require IPLing the system
under an alternate pack.

1.  IPL the system from the S710V1 backup pack.

2.  Run Backup and press ENTER at the first screen.

3.  At the input screen, enter the following:

   VOLUME = S710V1

4.  On the output screen, enter the following:

   VOLUME = SYSTEM
   CLEAR = YES
   •Take all defaults at the next screen and press
    ENTER.

6.  Be prepared to acknowledge open files for (@SYSLOG@,
QUEUE, and BACKXXXX.  Again, this is because the system
is IPLed from the S710V1 volume.

7.  When the backup is complete, respond NO to the
messages about printing the backup log.  Exit the backup
program.

8.  Run Diskinit.  At the first screen, enter the
following:

   FUNCTION = Relabel          VOLUME = SYSTEM
   •Take the defaults on all remaining screens.

9.  Exit the Diskinit program.  Have the system
administrator re-IPL from the SYSTEM pack.

10.  Mount S710V2 in place of S710V1 and run Backup.

11.  At the input screen, enter the following:

   VOLUME = S710V2

12.  On the output screen, enter the following:

VOLUME = SYSTEM
CLEAR = NO
•Take all defaults at the next screen and press
 ENTER.

13.  When the backup is complete, respond NO to the
messages about printing the backup log.  Exit the backup
program.

14.  The Restore process is now complete.  Mount WORK01
in place of S710V2 and have the system administrator
finish the IPL and allow logons.


I.  SYSTEM volume backup on systems with 2 or 3 288mb. Drives.

   Steps A & B are the same as those outlined on page 138 for
the Preparation of a DSM backup.

C.  **BACK UP:**  The input volume is the SYSTEM volume.  The
output disk consists of a 288mb. removable pack.  The backup
pack is called S710V1.

1.  Issue a mount command and mount S710V1 in place of
DCC001 (for 2-288mb branches) or DCC002 (for 3-288mb
branches).

2.  Run Backup and press ENTER on the first screen to
perform a normal DMS backup.

3.  On the input screen, enter the following:

VOLUME = SYSTEM
Morefile = NO

4.  Acknowledge the message about open files on SYSTEM by
pressing ENTER.

5.  On the output screen, enter the following:

VOLUME = S710V1
CLEAR = YES

6.  Be prepared to acknowledge open files for (@SYSLOG@,
QUEUE, and BACKXXXX.  Again, this is because the system
is IPLed from the S710V1 volume.

7.  When the backup is complete, respond NO to the
messages about printing the backup log.  Exit the backup
program.

8.  Run Diskinit.  At the first screen, enter the
following:

    FUNCTION = Relabel          VOLUME = SYSTEM
    •Take the defaults on all remaining screens.

9.  Exit the Diskinit program.

10.  Remove the S710V1 pack and replace it with the
original pack if a restore is not necessary.  Have the
system administrator finish the IPL and allow logons.

D.  RESTORE:

1.  IPL the system from the S710V1 backup pack.

2.  Run Backup and press ENTER at the first screen.

3.  At the input screen, enter the following:

    VOLUME = S710V1

4.  On the output screen, enter the following:

    VOLUME = SYSTEM
    CLEAR = YES
    •Take all defaults at the next screen and press
    ENTER.

6.  Be prepared to acknowledge open files for (@SYSLOG@,
QUEUE, and BACKXXXX.  Again, this is because the system
is IPLed from the S710V1 volume.

7.  When the backup is complete, respond NO to the
messages about printing the backup log.  Exit the backup
program.

8.   Run Diskinit.   At the first screen, enter the
following:

    FUNCTION = Relabel            VOLUME = SYSTEM
    •Take the defaults on all remaining screens.

9.   Exit the Diskinit program.   Have the system
administrator re-IPL from the SYSTEM pack.

10.   Have the system administrator replace S710V1 with
the original pack and allow logons.

Occasionally, it may be useful to view the I/O Error Log (IOELOG) in a branch to detect hard and soft errors to peripheral equipment and system software. The IOELOG can be viewed by following the steps below.

1. Log into the branch as Security Administrator.

2. Press the HELP key, PF Key 11 (Operator Mode), and PF Key 14 (System Options).

3. Select PF Key 9 to copy the IOELOG. Copy the log into a file with today's date and a library name of IOELOG. By doing so, someone else can easily recognize and view your copy of the log also.

   FILE = 111187   LIBRARY = IOELOG   VOLUME = SYSTEM

4. Press HELP, PF Key 1 and PF Key 1 again. You should now be at the System Administration Menu. Press PF Key 5 for the IOELOG viewing/printing screen. Fill in the File, Library, and Volume with the filename that you created in Step 3.

   FILE = 111187   LIBRARY = IOELOG   VOLUME = SYSTEM

5. Press PF Key 1 to analyze the log.

The first screen will allow you to specify a range of the log that you wish to view. Fill in the starting time and date and the ending time and date. Press ENTER and the log will be displayed.

By using the PF Keys at the bottom of the screen, and positioning the cursor next to the device class that you wish to view, you can gather statistics related to hard and soft errors

against any devices.  PF Key 15, when logged in remotely, will
print the IOELOG and spool it back to the HUB system (it will
reside in $RWNLIB on WORK01).

After you have gathered the statistics that you need you
should   purge   your   copied   version   of   the   IOELOG
(111187/IOELOG/SYSTEM).  Consult the Help Desk supervisor or the
Technical Support department for questions regarding the IOELOG.

I.  SECURITY:  Help Desk personnel do not perform routing security functions.  Security assistance is only provided in emergency situations.  Each Branch Manager (or Regional Vice President) should be set up with a sufficient amount of security to handle the needs of the branch employees.

If a problem with the security program is reported, then it should be analyzed and a Work Request written.  If you are asked to modify a branch person's security record do not do so without consulting the Help Desk manager or supervisor.

If questions regarding how to perform security functions are received from branch offices, then you should try to assist the user.  However, make sure that they have read the section on Security in the Famis Guide (vol 1, section 2.1).  The adding, modifying, and deleting of security records is discussed in detail in this section.


II.  WANG OFFICE SET UP:  When a new user is added to the system through Famis security, they will also need to be set up in the Wang Office directory.  This directory record enables the user to not only log onto the system, but also allows them access to the Electronic Mail function.

While the Famis security record is set up and controlled by the branch, the Wang Office directory record is set up and controlled by the Wang Office administrator at the Help Desk.  Any calls regarding a Wang Office directory set up should be directed to the Wang Office Administrator.

When a branch submits their daily transmission, a part of that procedure is to create a new set of transaction files. This new set of transaction files will hold all of the data input until the next transmission occurs. The process is repeated each time that a branch transmits. For numerous reasons, you may need to use the following procedure to create a set of transaction file (i.e., a branch had a power outage while running the transmission procedure, or the library of Transaction files (TC files) is damaged due to a VTOC problem, etc.).

1. Log into the branch. Follow step 2 if a partial set of TC files may exist. Skip to Step 3 is you are sure that a full set of TC files need to be created. A full set consists of 62 files.

2. Scratch the partial set of TC files.
   a. Press HELP (Command Processor Menu)
   b. Press PF Key 5 (Manage Files and Lib.)
   c. Move the cursor next to the SYSTEM volume and press ENTER.
   d. Locate the library containing the TC files (represented by the branch number - 01106008)
   e. Position the cursor next to the TC library and press PF Key 8 to scratch the partial set of TC files

3. Press HELP to return to the Command Processor Menu.

4. Press PF Key 2 Set Usage Constants. Set the constants according to the following:

   INLIB  = 01106008 (Branch #)        INVOL  = SYSTEM
   RUNLIB = CMFRUN                      RUNVOL = SYSTEM
   *Press ENTER to accept the changes.

5. Press HELP and then PF Key 1 to get to the SA Menu.

6. From the SA Menu, fill in the Run Program values with the following:

   CCRALLDE       CMFRUN          SYSTEM

   The program will now run and create a new set of transaction files.

On occasion, a file will reside in the branch that was
intended to transfer to the HUB, but was removed from the Transmit
Queue.  The REQUEUE utility can be used to send the file to its
proper destination.  This program is similar to the Transfer
program, except that REQUEUE displays the transfer groups for
you.  Based on the chosen transfer group, a file will be sent to a
predetermined output file on the specified output system.  For the
most part, this utility is used to REQUEUE a transmission file to
a branch's Transmit Queue.  A transmission file will be used to
demonstrate the REQUEUE utility below.

1.  Log into the branch as Security Administrator.

2.  From the SA Menu, select the REQUEUE option from the menu.

3.  Fill in as follows:

    FILE  = 01106008   LIBRARY  =  RJEQUEUE  VOLUME  =  SYSTEM
    DESTINATION = HUB  (or receiving system)

4.  The next screen will display the various transfer groups,
which will determine the output file on the receiving system.
The following lists examples of files using different transfer
groups that you may select.
    •HUBQUEUE – Use for a file to be forwarded to the IBM
      (i.e. branch transmission).
    •HUBDATA – Use this group for files that should pass
      through RPROCESS when it arrives at the receiving system.
    •DISTRIBUTION – Use for reports to be rerouted by the HUB
      to a branch system (a floorcheck created by one branch
      being sent to another branch).
    •ABLGROUP – Use for Accounts receivable data to be
      forwarded to the STLH branch.
    •TEST – Use for test files to be sent to any branch.

5.   Move the cursor next to the desired transfer group and press ENTER.  A message will appear at the top of the screen saying that the file has been submitted to the Transmit Queue.

6.   Go to the Transmit Queue, from the Operator's Console and verify that the file shows an "Xferring" status.

When a lease line goes down, a backup system is available to use as an alternate communications link between the CDPF system and the branch system.  Because the dial backup line is an analog line, it is much slower than the digital lease line.  For this reason, the dial backup system is generally only used to retrieve a branch transmission in the absence of the lease line.  The following procedure should be used to initiate a backup connection.

1.  Log onto the CDPF system.

2.  Go to a "Run Program" screen and run @ATTACH@.

3.  Press PF Key 1 for File transfer.

4.  Type in the branch Wangnet ID (i.e., ATLA) and attempt to log into the branch.

5.  The autodialer (located in the print room) should begin to automatically dial the branchs' backup analog number.  When the branch modem answers, you will hear a high pitched tone.

6.  When you hear this tone, you should press the data button located on the center of the faceplate on our 2224 modem in the print room.

7.  After doing this, the connection should be secured.  If the green data light remains steady, the system is attempting to make a connection.

8.  Once you are logged into the system, check the branchs' Transmit Queue to make sure that the transmission is "Xferring."

9.  Once the needed file is retrieved, log out of the branch and press the green data button on the 2224 modem to disconnect the circuit.

A branch's transaction files may have to be backed up for

several reasons (i.e., if the branch transmitted but wasn't

supposed to, or if a branch transmitted and then a line problem

was discovered which prevented their transmission from leaving the

branch system, etc.).  When a branch's transaction files are

backed up, the branch files are restored to look like they did

prior to transmitting.  If this action was not taken, the branch

would lose the data that was transmitted, but never reached the

IBM.  The following steps will enable you to backup branch

transaction files.

   1.  Log into the branch as security administrator.  If a line
   problem prevents you from taking this action immediately, have
   the branch administrator remove the RJEQUEUE file (branch
   transmission) from their Transmit Queue.  This will prevent
   the transmission from coming into the IBM when the line
   recovers.  Follow the steps below when the line problem is
   resolved.

   2.  Determine how many logical branches were transmitted and
   perform the following steps for only those branches that were
   transmitted.  Make sure that no transaction entry is being
   performed by branch users.

   3.  Go to the branchs' Transmit Queue and remove the RJEQUEUE
   file, unless you instructed the system administrator to do so
   earlier.

   4.  Go to the SYSTEM volume in Manage Files & Libraries and
   locate the RJEQUEUE library.  Position your cursor next to
   this library and press PF Key 8 to scratch.

   5.  Find the transaction file library (represented by the
   branch number – 01106008), also on the SYSTEM volume and use
   PF 8 to scratch.

6.  Locate the Branch backup library (represented by a B and
the branch number - B1106008), located on either the WORK01 or
the DCC001 volumes and press ENTER to view the files in the
library.  Use PF 8 to scratch the last three files in the
library (including XMIT, XDAY___, and XMITRPT).

7.  Return to the SA menu.  Use PF Key 17 to access the COPY
program.  Fill in the input libraries as follows:

      COPY = LIBRARY   (level)

                    LIBRARY = B(office #)    on VOLUME = WORK01
                         (B1106008            or alternate vol.)

8.  Fill in the output libraries as follows:

                    LIBRARY = (office #)     on VOLUME = SYSTEM
                         (01106008            always on SYSTEM)

9.  The branch's OSAP key will also have to be reset from
TRANSMIT to blank.  This key tells the system whether or not
to update the OSAP masterfile.  If the key is set incorrectly,
the update slices will be scratched instead of applied.  See
section 11.6 for instructions on how to reset the OSAP key.

10.  The transmitted data has now been restored from the
backup library to the live Transaction file library.

In the event that a branch cannot transmit, a dummy transmission will have to be done by the Help Desk. A dummy transmission is required to "bump" the Apex count on the IBM. The IBM mainframe counts the daily branch transmissions. When it reaches a predetermined number (88) it submits a job that is the front end job for the daily production cycle. If this count is not reached (due to branch not transmitting) the front end job is never submitted. The dummy transmission sends an empty dataset through to the IBM which increases the Apex count, but does not include any transactions. The following steps should be taken to submit a dummy transmission.

1. Log onto the CDPF system and pass through Wang Office. Go to the Master Menu in the Home Office branch. Press PF Key 11 for Home Office Special Functions. PF Key 7 will bring up the dummy transmission selection screen.

2. From the available PF Keys select the category that the branch is in (i.e., if you're doing a dummy for an IBM branch, select PF Key 6).

    PF Key 1 = Company 01 (AMNO - PREM)
    PF Key 2 = Company 01 (HADA - TAMP)
    PF Key 3 = Company 02 (Canadian Branches)
    PF Key 4 = Company 03 (Yamaha Branches)
    PF Key 5 = Yamaha Flip Branches
    PF Key 6 = Company 04 (IBM Branches)
    PF Key 7 = Special Transmission
    PF Key 8 = Suzuki Transmissions

3. Select the desired branch that you wish to transmit by pressing the appropriate PF Key.

4.   After the desired PF Key is selected, a message will
appear at the bottom of the screen to confirm the branch for
transmission.

5.   If you agree with the selection, press ENTER.   If not,
press PF Key 1 to return to the previous menu.

6.   The system will check for data entry and then prompt you
to press PF Key 25 to continue, or PF Key 16 to cancel.

7.   After the transmission process is complete, the file will
transfer from the CDPF system, through the HUB system, to the
IBM system.   Press PF Key 16 to exit the procedure.

On occasion a branch system will come down or lock up in the middle of the transmitting procedure. When this happens, sometimes a "TRANSMIT" key (which is part of the configuration file) will not get set properly. If the procedure is interrupted at "just the right moment" the switch setting on the TRANSMIT Key may remain turned on (YES), even after the transmission process completes. When this happens, it prevents branch personnel from accessing data entry. The following steps should be used to manually reset the TRANSMIT Key to NO.

## RESETTING THE TRANSMIT KEY:

1. Log into the branch as security administrator.

2. Use PF Key 3 from the SA menu to access the DATENTRY utility. Fill in the control and data files with the following information:

```
FILE = CONFIG      LIBRARY = ITTCTL     VOLUME = SYSTEM
FILE = CONFIG      LIBRARY = CMFDICT     VOLUME = SYSTEM
        •Press ENTER
```

3. Use PF Key 4 to Modify Records on the Data File.

4. Fill in KEYNAME = TRANSMIT and use PF Key 6 to view the key setting for the file.

5. The key setting should be changed from YES to NO. Press ENTER to accept the change.

6. Press PF Key 16 to exit the procedure. Branch personnel should now be able to access transaction entry.

## RESETTING THE OSAP KEY:

The OSAP Key may have to be modified at times to produce a specific desired response. One particular reason for resetting this key is when a branch's transaction files are backed up. When the branch transmits, the OSAP Key is flipped from one status (blank) to another (transmit). When a branch mistakenly transmits, the OSAP key must be reset to reflect the proper status of the system. The following steps should be followed to modify the OSAP Key.

1.  Log into the branch as security administrator.

2.  Use PF Key 3 from the SA menu to access the DATENTRY utility. Fill in the control and data files with the following information:

    | | | |
    | --- | --- | --- |
    | FILE = CONFIG | LIBRARY = ITTCTL | VOLUME = SYSTEM |
    | FILE = CONFIG | LIBRARY = CMFDICT | VOLUME = SYSTEM |
    | ●Press ENTER | | |

3.  Use PF Key 4 to Modify Records on the Data File.

4.  Fill in KEYNAME = <u>XMIT</u> (this is the OSAP XMIT Key) and use PF Key 6 to view the key setting for the file.

5.  In the example above, the key setting should be changed from TRANSMIT to blank. Press ENTER to accept the change.

6.  The following lists the valid settings of the OSAP key. In other cases, the OSAP key will have to be modified to reflect one of the following settings.
    ●BLANK - OSAP file updates have been completed; no transmission has occurred. Additional spoolings of the OSAP file will result in the OSAP file being updated.

- **NOTRANS** - An OSAP file has been received since the last OSAP file was updated but no transmission has occurred.

- **TRANSMIT** - A transmission has occurred; all updates to the OSAP masterfile will be saved.  No updates have been applied yet.

- **UPDATED** - Updates have been saved on the OSAPU file and will be processed by RJRNL when the next OSAP file is respooled.

It is often necessary to view, modify, and/or print a hard
copy of a branch System Gen.  A branch Gen is a configuration file
that holds the definitions (device types and location) for all of
the hardware on a branch system.  When branches move existing
equipment or set up new equipment, Help Desk personnel will have
to access the branch Gen to make the needed changes.  A hardcopy
of the Gen file can also be printed for both our files and the
branch system administrator.  The following steps will get you
into the branch Gen file.


1.  Log into the branch as security administrator and press PF
Key 29 to run the GENEDIT utility.

2.  A screen will appear requesting the configuration
filename.  Fill in the blank with the branch configuration
file (represented by @CON branch abbrev. (i.e., @CONATLA).

3.  The following screen will appear.


```
GENEDIT                                       Main Menu          1
 @CONHOST in @SYSTEM@ on SYSTEM                Model VS90


Select the function you wish to perform by pressing the corresponding PFkey:


        (2) Examine/Modify System options

        (3) Examine/Modify the IOP and device configurations

        (4) Display summary and Save/Create/Print the modified
            CONFIG file




        PRESS: (16) to edit a new CONFIG file
               (32) to exit GENEDIT
```

4. Press PF Key 3 if you wish to view or modify the device types on the System Gen file. After pressing this Key you will enter a screen that allows you to view or modify the individual devices on the system.

5. Press PF Key 4 if you wish to print a hardcopy of the branch System Gen file. If you're printing a copy for the branch, remember to reset your Usage Constants so that the file will spool to the branchs' printer instead of back to the HUB. If you're printing a copy for our files, do not modify the Usage Constants and the file will spool back to the HUB in the $RWNLIB library on WORK01.

A list of troubleshooting suggestions exists that was
developed by the Training & Procedures and Help Desk departments.
This list, which is known as the "Troubleshooting Checklist," was
developed to aid branch system administrators in resolving problem
situations. The checklist presents several problem situations,
and provides numerous tasks that can be performed in an attempt to
remedy the situation. If the problem cannot be resolved, a
checklist is provided and should be completed by the system
administrator before calling the Help Desk. The Troubleshooting
Checklist covers problem situations including power outages,
system lockups, printer problems, communications problems,
workstations, disk drives, and the Leibert Unit. The
Troubleshooting Checklist may also be useful to Help Desk
employees when analyzing problem situations. Refer to the Famis
Guide (vol 1, chapter 9) for the Troubleshooting Checklist.
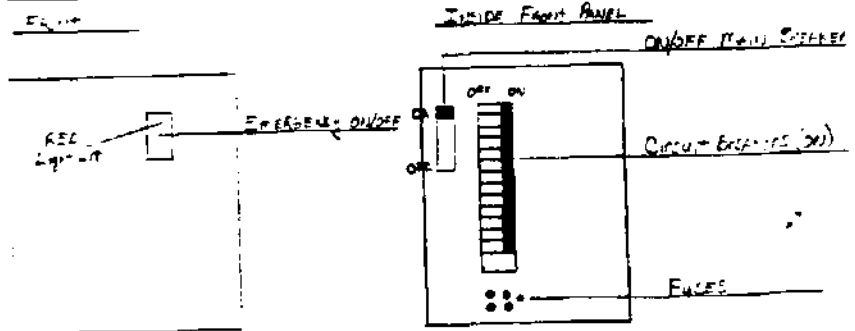
This section will contain any diagrams/pictures displaying the hardware used on branch and home office systems. These diagrams will be helpful to view when dealing with branch users on the telelphone. The format of this section will be inconsistent because the contents will be displayed in their original format. The Famis Guide covers some of the hardware types (vol. 1, chapter 1), but in a more generic sense.

The following diagram is a rough sketch of the front and side
view of the Leibert unit.  This diagram includes the A/C portion
and the power conditioner.
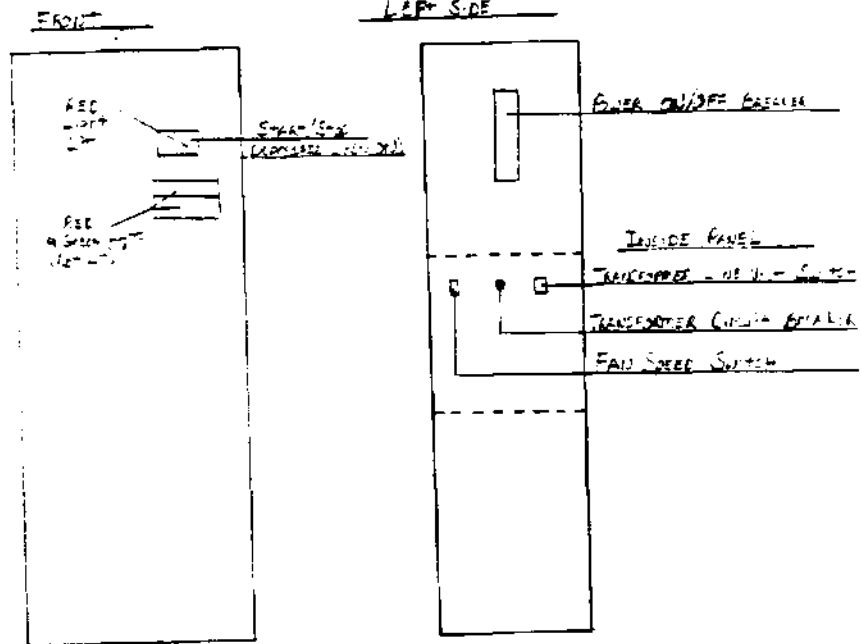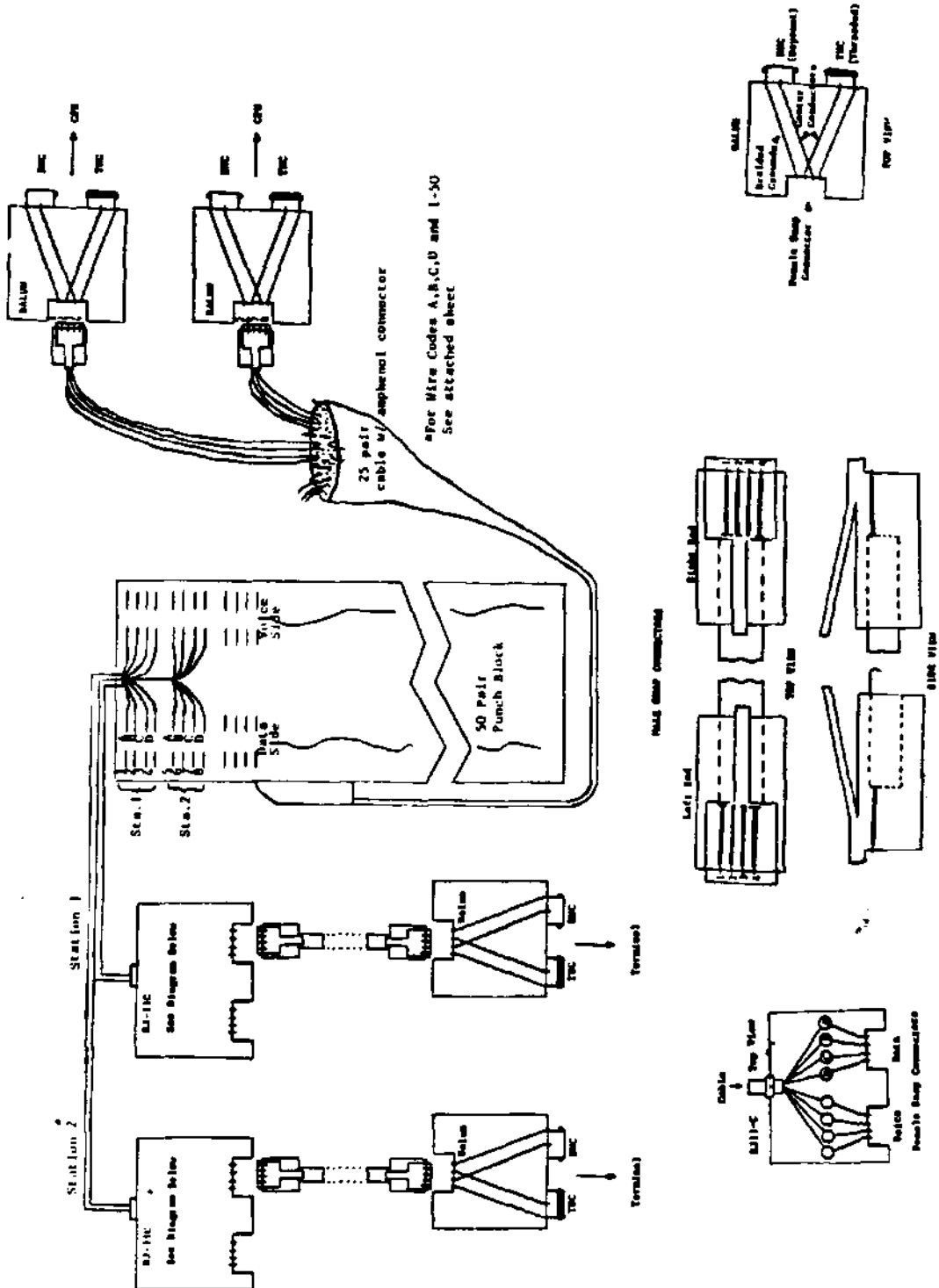
This section will contain diagrams of the various types of
disk units and drives that are used on the branch and home office
systems.

The following diagram shows how hardware devices are connected

to the CPU using twisted pair wiring instead of using coaxial

cable.  Twisted pair wiring is used in some branch offices while

coaxial cabiling is used in others.

This section will contain the sales brochures on the various

types of Wang VS systems.

**BATCH PROCESSING** - A computer system designed to be given batches of jobs from many users and see that they're all ran.

**BAUD** - A unit of speed, for data communication, that represents bits per second (bps).  For example, 300 baud equals 300 bps.

**BIT** - A single character (0 or 1) in a binary number, Thus, the number 11011, which represents 26, is 5 bits long.

**BOOTSTRAP** - A program that starts a computer.  Generally, "booting" clears the machine memory, loads the operating system, and sets up the machine to begin work on a particular application.

**BUFFER** - A temporary, intermediate storage device between data handling units.  Once a user sends a file to a printer's buffer, for instance, he or she can then move to a new program or file if desired, even while the printer is still in action.

**BYTE, KBYTE, MBYTE** - A string of 8 bits, usually representing one character.  A kbyte (kilobyte) is 1000 bytes or 1000 characters (about half a page of doublespaced typed text).  A mbyte (megabyte) is 1000K (1000 X 1000).

**CHARACTER** - One symbol, a number or letter.

**CMFRJEx** - These are the pipelines that pass data between the HUB and the IBM systems.

**COMMAND** - An instruction word that specifies an operation.

**COLD STOP** - This refers to the procedures for bringing a system completely down (including powering off all of the system units - drives, and CPU).

**CPU** - Central Processing Unit, the computer.

**CRT** - Cathode Ray Tube, terminal with a screen.

**CURSOR** - Highlighted indicator of the position on a CRT at which the next keyed character will appear.

**DATA BASE** - A collection of data organized to suit a particular application.  The term applies to both personal and private information banks as well as commercial data services such as Compuserve.

DATA DICTIONARY - A listing of all of the data that enters a
system or is produced by it. The dictionary usually provides a
list of the data elements and their definition.

DEFAULT - Data supplied automatically by the computer system when
the user's data is missing or unacceptable.

DISK - A flat magnetic plate for storing computer data on.

DOS - Disk operating system - used for PC's.

DOWNLOAD - To call for, and receive, a file from another computer.

DSU - Data Storage Unit, a cabinet that is capable of housing a
combination of fixed and removable disk volumes.

FIELD - A category of information in a data file, or a prompt on a
data entry screen. Fields in an employee file might include name,
address, and employee number.

FILE - A collection of related records treated as a unit.

FILE DESCRIPTION - A technical description of the format and
layout of the file.

FORMAT - As a verb, the act of selecting margin placements, page
numbering, tabs, and line spacing. As a noun, the actual layout
structure of a page or design.

HARD COPY - A paper printout.

HARDWARE - The physical computer equipment.

INTERFACE - A connection between devices, systems, and users that
allows power or data transmission. A keyboard is a
user-to-machine interface.

INPUT - Data to be transferred to the computer.

I/O PORT - Input/output port. A device connected to a central
processing unit that allows the input or output of data or
instructions. I/O refers to the data or the act of entering data
into, or receiving it from, a computer or peripheral.

IPL - Initial Program Load. Refers to the act of pressing
designated buttons on a CPU to initialize and load microcode to
system devices.

**JCL** - Job control language, a language used by programmers to give the computer hardware operating system the specifications and instructions for executing a job.

**MASTERFILE** - A file of information that is updated regularly and used as a main reference.

**MEMORY** - One of the essential components of a computer's central processing unit, memory is the area where information and programs are actively stored and processed. Memory contains both ROM (permanent memory) and RAM (temporary memory - the contents of which can be modified at will).

**MODEM** - Data communications hardware that links a processor and/or terminal to a communications network.

**MOTHERBOARD** - The main board inside a computer's system unit on which all other functions and adaptor boards are connected.

**NETWORK** - A system of pathways that allow computers and peripherals to communicate with each other.

**OPERATING SYSTEM** - A program or collection of programs that manage the hardware, input/output, logic operations, and a variety of "management" functions within the machine. It provides a link between the application software and the computer's internal language.

**PROMPT** - A character or message from the software requiring a user response.

**RECOVERY** - Restores files or data to a usable condision after system failure.

**REMOTE** - When a terminal is used to contact another processor that is far enough away that it requires telecommunications equipment to make the connection.

**RPTTASK** - A background procedure that runs continuously on every ITT system, and executes several programs to perform numerous tasks. Its primary function is to process incoming files that were sent using the #HUBDATA file transfer group.

**SCROLLING** - Moving, with directional keys, the content of a CRT display up or down by one or more lines.

**SOFTWARE** - A set of computer programs and procedures that are concerned with the operation of a data processing system.

**SNA** - System Networking Architecture, a layer of software that resides on the HUB system that allows the HUB and the IBM to communicate (enables Wang users, files, and procedures to emmulate an IBM format.

**STORAGE** - A device or medium (disk) for the saving and storing of files for later retrieval of data.

**TCP** - Telecommunications Processor, a mini-computer that assists the CPU in receiving and transmitting data.

**TELECOMMUNICATIONS** - The transmitting of data and messages between remote points.

**UPLOAD** - To send a file from one computer to another.

**WARM STOP** - The act of pressing a preprogramed function key to bring down the communications background procedures on any ITT system.

**WINCHESTER DISK** - A fixed rigid disk that is sealed within the computer or within a separate peripheral. This type of disk is more expensive than a floppy disk, but offers greater storage capacity and more rapid data access (generally used in PCs).

| WANG CALL CONTROL CENTERS | | |
| WFD BRANCHES - (Wholesale Finance Division) | | |
| BRANCH | TELEPHONE NUMBER | CUSTOMER NUMBER |
|--------|------------------|------------------|
| Anaheim | 800-626-9264 | W27-22 |
| Atlanta | 800-433-9264 | S27-9 |
| Boston | 800-247-9264 | E27-11 |
| Charlotte | 800-433-9264 | S27-11 |
| Cherry Hill | 800-325-9264 | J27-67 |
| Chicago | 800-227-9264 | C-2885-3 |
| Cincinnati | 800-227-9264 | C-2883-2 |

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## WFD DIVISION
### (Wholesale Finance Division)

| ANAHEIM | CHARLOTTE |
| --- | --- |
| 2401 W. Katella<br>Suite 200 (Zip:  92667)<br>P.O. Box 5940<br>Orange, CA  92613-5940<br>Office #:  714-938-0404<br><br>System Admin. – Donna Busch<br>Backup Admin. – Marie Carney | 9401 Arrow Point Blvd.<br>Suite 280 (Zip:  28210)<br>P.O. Box 241165<br>Charlotte, NC  28224<br>Office #:  704-525-7951<br><br>System Admin. –  Larry Frye<br>Backup Admin. –  Madeline<br>Fierle |
| ATLANTA | CHERRY HILL |
| 1240 Winchester Pkwy.<br>Suite 101 (Zip:  30080)<br>P.O. Box 1226<br>Smyrna, GA  30081<br>Office #:  404-434-4801<br><br>System Admin. –  Beverly<br>McManus<br>Backup Admin. –  Ron Daniel | 1020 Laurel Oak Corp. Center<br>Suite 301 (Zip:  08043)<br>P.O. Box 140<br>Voorhees, NJ  08043<br>Office #:  609-435-5600<br><br>System Admin. – Dale Troy<br><br>Backup Admin. – Kathy Fearn |

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| WANG DISTRICT/BRANCH MANAGERS | | |
|---|---|---|
| **LOCATION** | **DISTRICT** | **BRANCH** |
| Anaheim | Tom Hammer<br>714-955-9264 | Heidi Kramer<br>714-978-3620 |
| Atlanta | Dennis Musheno<br>404-392-5815 | Tom Collier<br>404-392-5914 |
| Baltimore | Tom Powell<br>301-657-5805 | Linda Pollock<br>301-859-5688 |
| Boston | John Harris<br>617-423-2588 | Pat Fournier<br>617-238-7993 |

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| BRANCH PERSONNEL EMERGENCY CALL LIST | | |
|---|---|---|
| BRANCH | NAME | HOME PHONE # |
| Anaheim | Donna Busch - (AM/SA)<br>Marie Carney - (BSA)<br>Kathy Clary - (BSA)<br>Mike Smith - (BM)<br>Paul Hanson - (RVP) | 714-821-0327<br>714-827-4834<br>714-772-5366<br>714-551-8208<br>714-993-3189 |
| Atlanta | Beverly McManus - (AM/<br>SA)<br>Ron Daniel - (BM/BSA)<br>Linda East - (AS/BSA) | 404-943-2894<br><br>404-425-9160<br>404-944-1513 |
| Boston | Debbie Flynn - (AS/SA)<br>Linda Wagner - (AM/BSA)<br>Paul Carey - (BM)<br>William Baptiste (RVP) | 617-543-5193<br>617-586-2564<br>617-588-3098<br>617-528-6654 |

```
AM  =    Accounting Manager
AS  =    Accounting Supervisor
SA  =    System Administrator
BSA =    Backup System Administrator
BM  =    Branch Manager
RVP =    Regional Vice President
```

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| BRANCH SYSTEM SET-UP | | | |
|---|---|---|---|
| BRANCH | OPERATING SYSTEM | VS SYSTEM TYPE | DISK DRIVES (in Megabytes) |
| Anaheim | 7.10 | VS100 | F - 314, 314, 150 R - 76 |
| Atlanta | 7.13 | VS7150 | F - 314, 314, 150 R - 76 |
| Boston | 7.10 | VS90 | F - 314, 314, 150 R - 76 |
| Charlotte | 7.10 | VS90 | F - 0 R - 288, 288, 288 |
| Clayton | 7.13 | VS300 | F - 454, 454, 150 R - 76 |

**F = Fixed volume
**R = Removable volume


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## BRANCH OFFICE NUMBERING SCHEME

| BRANCH | BRANCH ABBREVIATION | OFFICE NUMBER |
|---|---|---|
| Anaheim | ANAH | 01 05 6002 |
| Anaheim/Y | ANAY | 03 05 8080 |
| Ahaneim/B | ANAB | 04 05 6060 |
| Atlanta | ATLA | 01 10 6008 |
| Atlanta/Y | ATLY | 03 10 8081 |
| Atlanta/B | ATLB | 04 10 6041 |
| Atlanta/S | ATLS | 01 10 6079 |
| Atlanta/L | ATLL | 01 10 6076 |
| Boston | BOST | 01 21 6011 |
| Boston/B | BOSB | 04 21 6042 |
| Boston/S | BOSS | 01 21 6085 |
| Charlotte | CHAR | 01 33 6019 |
| Charlotte/B | CHAB | 04 33 6043 |

```
Y =     Yamaha Branch
B =     IBM Branch
S =     Suzuki Branch
L =     Liquidating Branch
```

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| BRANCH CIRCUITS | | |
|---|---|---|
| **BRANCH** | **LINE TYPE** | **CIRCUIT NUMBER** |
| Anaheim | Digital<br>Analog | DREA 031870<br>714-633-0380 |
| Atlanta | Digital<br>Analog | DREA 422406<br>404-432-8492 |
| Boston | Digital<br>Analog | DREA 422404<br>617-821-1038 |
| Charlotte | Digital<br>Analog | DREA 422407<br>704-527-9454 |

## FOR SERVICE CALLS ON DIGITAL LINES/EQUIPMENT:

Line Problems:  800-527-2530
Equip. Problems:  800-527-2123

## FOR SERVICE ON ANALOG LINES/EQUIPMENT:

Line Problems:  371-1230
Equip. Problems:  242-2121


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| STANDARD REGISTER CALL CENTERS | |
| --- | --- |
| **BRANCH** | **STANDARD REGISTER SERVICE** |
| Anaheim | 1010 Slater Ave.<br>Suite 132<br>Fountain Valley, CA   92708<br>Dean Fox<br>213-725-7215 |
| Atlanta | 5575-C Peachtree Dunwoody Rd.<br>Room 150<br>Atlanta, GA<br>Rick Croteau<br>404-252-1550 |
| Boston | 2000 Commonwealth Ave.<br>Auburndale, MA   02181<br>Harry Ward<br>617-239-0290 |

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| ITT COURIER CALL CENTERS | | |
|---|---|---|
| **BRANCH** | **CALL CENTER** | **CUSTOMER ID** |
| Financial | 800-528-6457 | I70230301 |
| Clayton | 800-528-6457 | I70230201 |
| Creve Coeur | 800-52806457 | I70310201 |
| Dallas/EFL | 800-528-6457 | I70310109 |

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## EMERGENCY SUPPORT NUMBERS

| SUPPORT | NAME | HOME PHONE # |
|---|---|---|
| Help Desk | D. Bartin<br>M. Ross<br>S. McClellan<br>P. Smiley<br>L. Noble<br>K. Morris<br>G. Heerlein | 353-3730<br>677-3595<br>928-0773<br>351-8076<br>427-1265<br>849-3372<br>441-0488 |
| Famis | C. Keppner<br>F. Shahzad<br>J. Perks<br>A. Joseph<br>P. Rassmussen<br>G. Duffner<br>M. Newberry | 618-345-8693<br>296-1181<br>481-1676<br>432-8409<br>644-1250<br>993-1019<br>297-2231 |
| Batch System | A. Paradise<br>D. Lewis | 842-2561<br>225-9562 |
| Tech Support & Operations | K. Graham<br>S. Borgwardt<br>S. Martin<br>M. Elbaz<br>G. Lotz | 227-5542<br>441-7665<br>928-4086<br>576-9982<br>291-0750 |
| Other | G. Solovich<br>R. Bradley | 487-2413<br>469-5932 |

HELP DESK INFORMATION & PROCEDURES MANUAL

APPENDIX L:  IBM PC Configuration Call Centers
Rev:   12/1/87                                              L.1.

## SERVICE LIST FOR
## IBM PC CONFIGURATIONS

1.  IBM PS/2 SYSTEM-
    All of the configurations are located in Steve
    Culp's group in Clayton.  These units are covered
    on an on-site warranty for one year after purchase
    (these expire 7/88).

    CALL - 800-IBM-SERV

2.  IBM PC, XT & AT SYSTEMS-
    All of these units are serviced on a time and
    materials basis.  Prices valid as of August 20,
    1987.

    Sorbus - Services all IBM configurations, NEC
    monitors, HP printers and plotters.
    Cost - 106.00 an hour (labor) + .30 an hour
    travel time (1 1/2 hour minimum).

    CALL - 432-0425


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| CIHTO SERVICE CENTERS | | | |
|---|---|---|---|
| STATE | CITY | NAME | NUMBER |
| AK | Anchorage | Planu, Inc. | 907-561-4818 |
| AK | Anchorage | Matrax, Inc. | 907-563-5794 |
| AL | Birmingham | Village Computers | 205-870-4215 |
| AL | Dothan | Computer Solutions | 205-793-0049 |
| AR | Gassville | Devco Electronics | 501-435-2255 |

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| REPORT CROSS REFERENCE | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| REPORT | NAME | FREQUENCY CODE | WANG SYSTEM | | FICHE REFERENCE | |
| | | | Branch | H/O | Branch | H/O |
| H020A | Discount Notes Analysis | M | | X | | DNA |
| H020B | Negative Items Report | M | | X | | DNA |
| H040A | Dealers Over 100M O/S | M | | X | | MR |
| H045A | Bulk Insurance Rate Change | R | | X | | |
| H050A | Bulk Rate Change List | D | X | X | | |

Freq. Code Key–    M  =  Monthly Report
                   W  =  Weekly Report
                   D  =  Daily Report
                   R  =  On Request Report (special request)

Fiche Reference Key–  DNA  =  Discounts Notes Receivable
                      MR   =  Master Reference
                      DR   =  Daily Reports

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# CHAPTER 7

## RECOMMENDATIONS

The Help Desk Information & Procedures Manual is not complete by any means. The example manual that was presented in Chapter 6 represents a skeleton of the information that will ultimately appear in the support manual.

In the next revision of the Help Desk Information & Procedures Manual, some additional sections will be developed to house information pertaining to other areas of support. In particular, a section titled "Disaster Recovery Procedures" will be added. This section will describe the immediate actions that should be taken by Help Desk personnel when notified that a branch has been exposed to a natural disaster or other force that has left the branch inoperable. This plan will describe the tasks that should be completed by Help Desk and branch personnel in an emergency. The plan will also suggest alternatives for enabiling branch personnel to carry on with their daily operations.

The Help Desk Information & Procedures Manual will be reviewed every three months to check for out of date material. Following the review of the manual, the revised information will be published on a quarterly basis. These updates will be distributed to the manual holders along with a transmittal page. The transmittal page

will contain a transmittal number (revision number), the date, and a section that describes which pages in the manual are to be deleted, added, or replaced.

The updating process of this manual will be revised if additional resources are allocated within the Help Desk department. Ideally, the Help Desk Information & Procedures Manual should be reviewed every 1 1/2 to 2 months at most. In such a fast paced environment, information changes rapidly. Providing effective support is dependent upon the availability of current information. For this reason, a part-time resource should be designated for future manual modifications so that they can be distributed more frequently that every 3 months.

Numerous additional sections including Software Installations, IBM Transmission Monitors, and Production Jobstreams, will also be incorporated into the manual. The Help Desk Information & Procedures Manual will gradually expand until an adequate supply of information is gathered regarding all phases of Help Desk support. In doing so, the manual will become an irreplacable support tool. The manual will fill a documentation void by combining information from all of the supporting departments into one document. An updated, informative manual will promote concise and effective user support regardless of the affects of changes in personnel or employee turnover.

## WORKS CONSULTED

Brockmann, R. John. *Writing Better Computer User Documentation*. New York: A Wiley - Interscience Publication, 1986.

Cohen, Gerald and Donald H. Cunningham. *Creating Technical Manuals*. McGraw-Hill Inc., 1984.

Collins, Sarah H. and Frederick B. Tuttle Jr. *Technical and Scientific Writing*. Washington D.C.: National Education Association, 1979.

Famis Guides. Floorplanning Automated Management Information System Guides. St. Louis: ITT Commercial Finance, 1984.

Freedman, Lucy and Lisa Marshall. "Learning to Speak End-user Painlessly." Information Center. March 1986: 34-36.

Gildersleve, Thomas R. *Organizing and Documenting Data Processing Information*. New Jersey: Hayden Book Company, Inc., 1977.

Grimm, Susan J. *How to Write Computer Manuals for Users*. Belmont, CA: Wadsworth, Inc., 1982.

Information Resources, Inc. *Information Mapping*. Lexington: Information Resources, Inc., 1978.

ITT Commercial Finance, personal interviews, 1987.
   ●Elbaz, Mary. Title - Systems Programmer, October 1987.

   ●Keppner, Cindy. Title - Systems Analyst, October 1987.

   ●Martin, Scott. Title - Systems Programmer, September 1987.

   ●Orlich, Steve. Title - Supervisor of Training & Procedures, September/October 1987.

   ●Paradise, Alan. Title - Systems Analyst, October 1987.

ITT Commercial Finance, cont.
*Potter, Debbie.  Title – Training & Procedures
Analyst, September 1987.

*Roland, Marsha.  Title – Systems Analyst/Database,
October 1987.

Lannon, John M.  *Technical Writing*.  Boston:  Little, Brown
and Company, 1979.

London, Keith R.  *Documentation Standards*.  New York:  Mason
and Lipscomb Publishers, Inc., 1974.

Long, Larry.  *Data Processing Documentation Standards*, 2nd
edition.  Reston, 1976.

Mills, Gordon H. and John A. Walter.  *Technical Writing*.
New York:  Holt, Rinehart, and Winston, Inc., 1970.

Perryman, Polly.  "Standards and Documentation."
Information Center.  August 1986:  31–37.

Schoff, G. and P. Robinson.  *Writing and Designing Operator
Manuals*.  Life-Time Learning, 1984.

Sides, Charles H.  *How to Write Papers and Reports About
Computer Technology*.  ISI Press, 1985.

Spectrum Project Management System.  Spectrum International
Inc.  Culver City, CA:  1985.

Weiss, Edmond H.  *How to Write a Usable User Manual*.
Philadelphia:  ISI Press, 1985.

## *VITA AUCTORIS*

*Helen Michelle Schwend McClellan was born in Eldorado, Arkansas on December 13, 1961. She attended public schools in St. Louis, Missouri from 1968 to 1980. Through a special 'early out' program, sponsored by the National Honor Society, she was granted permission to be excused from her senior year of high school. This arrangement was with the stipulation that she would attend college and pass at least 12 college hours per semester. After successful completion of her first year of college, she graduated from Hazelwood East High School in May of 1980. She attended Southeast Missouri State University from September 1979 to May 1982. She then transferred to the University of Missouri – St. Louis for two additional years. In May of 1984, she graduated from UMSL with a Bachelor of General Business Degree with an emphasis in Data Processing and Writing.*

*She was employed by ITT Commercial Finance in July 1984. She began working on her Master of Science Degree in January 1986. At present, she is still employed at ITT as the supervisor of Help Desk operations and is pursuing her Master's degree. She resides in St. Peters, MO.*