WANG

VS/IIS

Supervisor's Procedures

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WANG

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PREFACE

The VS/IIS Supervisor's Procedures provides information for the administration and operation of word processing activities on the VS Integrated Information System (VS/IIS). The manual is directed to word processing supervisors and their lead operators.

Chapter 1 presents the types of activities a supervisor can perform at a VS/IIS installation. This chapter also suggests preparations the supervisor may want to make before the word processing group begins operations.

Chapter 2 explains how to log on to the system, create word processing libraries, and use the various word processing utilities and recovery functions. A section on system power-up and power-down procedures is also included.

Chapter 3 introduces functions of the VS Command Processor that are particularly helpful for the management of word processing groups. These functions enable the supervisor to view the status of devices attached to the system, view the contents of volumes and libraries, perform various operations on libraries and files, and mount and dismount volumes.

Chapter 4 presents the VS security system. Note that not all word processing supervisors are responsible for security at their installations. If the reader is a supervisor without security access, bypass this chapter, but bring it to the attention of the installation's system security administrator.

Chapter 5 contains instructions for using two word processing utilities and two VS utilities. These utilities enable the supervisor to copy, delete, rename, and reorganize word processing documents and libraries; convert word processing documents to data processing files and vice versa; generate document management reports that provide both detailed and summary information about the documents on the system; initialize or reformat disk volumes; and make reserve copies of information to ensure against possible loss of information.

Three appendices are included. Appendix A discusses functions of the VS Command Processor that were not dealt with in Chapter 3, but may sometimes be needed by the word processing supervisor. Appendix B contains a brief description of the typical equipment found in a VS/IIS installation. Appendix C explains how to set up a character set library, other than the default character sets of VS word processing.

The reader should be familiar with the VS word processing environment, as described in the Wang Word Processing Training Package (777-4002) and the Word Processing Reference Manual (700-7611). In addition, topics treated in the following manuals provide information that may be helpful to the word processing supervisor.

Word Processor System Security Option User's Manual (700-4673E)

VS System Operations (800-1102SO-06)

VS/IIS Advanced Functions Reference Guide (800-1122AR-01)

MAILWAY Level III Administrator's Manual (700-6518A)

Word Processing System Security Option User Manual (700-4673E)

VS Programmer's Introduction (800-1101PI-05)

VS Procedure Language Reference Manual (800-1205PR-04)

VS System Utilities Reference Manual (800-1301UA-01)

Data Communications User Guide (800-1302DC-02)

VS System Management Guide (800-1104SM-03)

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CHAPTER 1
SUPERVISING A WORD PROCESSING GROUP

1.1   INTRODUCTION

The word processing supervisor of a VS/IIS installation is a project coordinator, a people manager, a teacher, and, sometimes, an equipment overseer. The purpose of this chapter is to acquaint you with the VS Computer System, and the kinds of activities you will typically perform as a word processing supervisor. In addition, suggestions are given for preparing for word processing, before your group actually begins production.

1.2   THE SUPERVISOR'S RESPONSIBILITIES

Some VS/IIS installations are large, others small. In some installations, programmers and other data processing personnel use the system, along with word processing operators and secretaries. In such a case, your duties basically include coordinating and administering the activities of the word processing group. The data processing manager or system security administrator can help you with whatever data processing functions are needed for the proper administration of the word processing group. Matters such as system security and backup of files are probably handled by the data processing manager, although you may be asked to assist and/or share in these responsibilities. You should note those sections in the text that cover the data processing functions for which you are responsible.

Other VS/IIS installations are used primarily for word processing, with several programmers sharing the system. In some cases, there is no data processing personnel at an installation. At this type of installation you may be responsible for the entire system, performing backup, setting up system security, initializing disks, and handling other tasks relevant to the administration of word processing operations. You should not only pay particular attention to Chapter 2, you should also understand the sections of this manual concerning data processing functions. All data processing functions relevant to your job are included in the text. In addition, a number of VS manuals, as noted in the text, can be of assistance.

Word processing supervisors in all types of installations are generally responsible for the following tasks.

● Setting up workflow procedures and coordinating document production according to these standards

● Creating and managing the filing system into which all documents are organized

- Recruiting, training, and overseeing the activities of the word processing group

- Determining document security through password protection

- Keeping statistics to measure group production and estimating chargeback costs, if applicable

- Interacting with authors and educating them about the services of the word processing group

- Managing supplies and keeping an inventory of items, such as paper, printer ribbons, pens, etc.

Additionally, word processing supervisors may have the following responsibilities, depending upon the needs of the particular installation.

- Powering the system up and down

- Performing disk related operations, for instance, mounting, dismounting, and initializing disks

- Calling the Wang representative when equipment needs servicing, and keeping a record of these service calls

- Determining the method in which reserve, or backup, copies of information are to be stored

- Performing magnetic tape related activities, such as backing up information to magnetic tape

- Establishing a security system of several levels to protect the integrity of information on the system

The VS Computer System contains many features to aid you. Chapter 2 explains the functions that are directly related to word processing activities. The remaining four chapters describe other administrative functions that can be used to manage a word processing group.

1.3   PLANNING AHEAD FOR WORD PROCESSING

Prior to system installation, you should make a number of preparations before the word processing group actually begins production. You should familiarize yourself with the type of equipment comprising your system, and what each piece of equipment does. Before equipment is actually delivered, you should have some idea of how the system is to be arranged in the space allotted to it. Once the equipment is installed, you should become thoroughly familiar with word processing operations, in order to answer any questions and to help with any problems that operators might have.

Before production actually starts, you should get acquainted with the authors in the various departments to be serviced by the word processing group. By talking to managers and other prospective authors, you can determine the types of materials particular departments will be sending to the word processing group for production. Knowledge of the scope of these materials will enable you to set up an effective system for organizing libraries. (Refer to Chapter 2.) Knowledge of the extent of difficulty or ease to be expected in typing these materials will help you in determining the particular functions required of the operators. This information can aid you when hiring new operators or training current operators to perform whatever special skills are needed to produce a particular kind of document. Lastly, knowledge of the documentation generated by a particular group enables you to be sensitive to the security needs of that group, and to plan a security system accordingly.

In some installations, word processing personnel are hired from outside the company. In other installations, people from within the company, as well as new personnel, become word processing operators. When all operators for the initial word processing group have been assembled, you must then assist them in learning how to use the new equipment. The Wang Word Processing Training Package, which is enclosed with every VS/IIS system, provides an in-house training program that enables operators to learn word processing at their own pace. Once the system is operational, you can oversee the training of operators on the new equipment.

Depending on the size of the word processing group and installation policies, you may want to appoint a lead operator to assist in administrative activities. Typically, the lead operator assists you in such activities as backup procedures, mounting and dismounting disks, and organizing documents into libraries. Before the members of the word processing group are permitted to use the system, you should determine which operators are to perform word processing activities only. You should also determine the responsibilities of the lead operator. This information is important when you add word processing operators to the list of system users.

You should discuss document security requirements with each department to be serviced by the word processing group. You may or may not be responsible for the set up of the security system. If system security is administered by another person, you should make this person aware of the security requirements of the departments using the services of the word processing group. Together, you and the security administrator can plan security measures that accommodate the requirements of the departments to be serviced. If you are responsible for system security, refer to Chapter 4 for suggestions on planning a security system.

Another important planning consideration is the need for a system backup program. As in the case of security requirements, you may or may not be responsible for backup, depending on the policies of the particular installation.

When backup is performed, information is copied from one magnetic medium -- a magnetic disk, for example -- to another magnetic medium, which can also be a disk, diskette, or magnetic tape. The second magnetic medium, called a backup copy, is then removed from the system, or taken off line and stored in a safe place. Should a power failure or other accident occur causing information to be lost, the backup copy can then be used to retrieve lost information back onto the system. When designing a plan for backup, considerations include the type of medium to be used for backup, how often backup should be performed, and where backup copies will be stored for maximum security. The Backup section in Chapter 5 gives suggestions for planning backup.

The following list summarizes the preparations you should make prior to the first day of document production.

- Learn Wang word processing, if you are unfamiliar with it.

- Familiarize yourself with VS equipment, particularly if you are going to be in charge of system operations.

- Discuss production requirements with managers and authors of the departments to be serviced by the word processing group.

- Study samples of documents from these departments to determine the amount of difficulty involved in their production.

- After reading Chapter 2 of this manual, determine the organization of information into libraries to be used, keeping in mind the requirements of the departments using the services of the word processing group.

- Discuss security requirements for documents with department managers.

- Either work with system security administrators to set up security for word processing documents, or devise a security system yourself, after referring to Chapter 4.

- Recruit new operators. Become familiar with the word processing strengths and weaknesses of the operators, in order to train them more effectively.

- Determine which operators are to automatically access word processing upon Logon, and which, if any, are to access other aspects of the system. Appoint a lead operator, if applicable.

- Write Logon procedures for operators requiring them.

- Read Chapter 5 and devise backup procedures, depending on installation policies.

CHAPTER 2
WORD PROCESSING ON THE VS

2.1   INTRODUCTION

Word processing on the VS offers a variety of functions necessary for the daily operation of a word processing group. Word processing is used for document production, and enables users to perform the simplest of word processing applications, such as inserting and deleting words or phrases. Highly sophisticated processing functions, like Glossary or Decision Processing, are also available for automating repetitive activities and for performing special tasks. In addition to its text editing capabilities, VS word processing offers the word processing utilities and supervisory functions that are used to manage word processing operations.

This chapter explains to new supervisors how to power up the VS, log on to the system, and initially prepare for word processing activities. The word processing utilities and supervisory functions are also discussed in this chapter.

```
┌─────────────────────────── NOTE ───────────────────────────┐
│                                                             │
│  Supervisors who are not already familiar with Wang word    │
│  processing should read the Wang Word Processing Training    │
│  Package and the Word Processing Reference Manual, in order  │
│  to gain a full understanding of all text editing features  │
│  available with VS word processing.  Read Appendix B in this │
│  guide for an overview of hardware.  Refer to Part 2 of the  │
│  VS System Operations Guide for explanations of the hardware │
│  and the Operator's Console.                                 │
│                                                             │
└─────────────────────────────────────────────────────────────┘
```

2.2   POWER-UP PROCEDURES FOR THE VS/IIS

Before the VS can be used, it must be powered up using the correct procedures. The system should be powered up after it has been powered down for maintenance or power failure. Some installations power down their systems over the weekend or overnight and, therefore, require a subsequent power up. When a new system is installed, the Wang representative powers up the system. Some VS/IIS installations may assign the responsibility for powering up the system to a designated system operator, or other data processing personnel. In installations where the system is used primarily for word processing, the word processing supervisor is usually responsible for powering up, powering down, and special procedures in case of a power shortage.

2-1

```
┌──────────────────────── NOTE ────────────────────────┐
│                                                       │
│  If you are powering up the system for the first time, ask │
│  the Wang representative or data processing personnel for │
│  the device address of the system disk and whether the disk │
│  is fixed or removable.                               │
│                                                       │
└───────────────────────────────────────────────────────┘
```

To power up the system, perform the following required procedures.

1. Power up all printers and workstations, especially the Operator's Console. The Operator's Console is always located at Workstation #0, which is adjacent to the Central Processing Unit (CPU), disk and tape drives, and printers. The workstation ON/OFF switch is located on the lower right side of the rear panel.

2. Power up the CPU. The power supply switch is located on the lower left of the back panel of the VS 80 processor. For a VS-100 processor place the mainframe circuit-breaker switch, located at the lower right front panel, to the ON position. Press the POWER ON button located on the power panel.

3. Power up all disk drives, one at a time, by placing the ON/OFF switches on each drive to the ON position. The ON/OFF switches for the Model 2260V and 2280V disk drives are located in the rear of the units. To access the power switches for the 2265V disk drive, you must remove the back panel screw. First turn the AC POWER switch to the ON position, and then turn the POWER SUPPLY switch on.

4. If the system contains tape drives, power them up by pressing the POWER button located on the right of the control panel.

5. Load the read/write heads on all disk drives by pressing the START button on the front panel. Wait at least 5 seconds before pressing the START button of the next drive. Wait until the READY light of each drive is illuminated steadily, signifying that the read/write heads are loaded and the drive is operating at its proper speed, before going on to the next procedure.

    If the processor is a VS-100 model, you must first load the system microcode. Make certain that the system microcode diskette is in the mini-floppy drive. Then, push the Bootstrap button, which is the left most button on the upper right of the front-processor panel.

    The load is successful if the second light from the left on the indicator panel (lower right front of processor) is steadily lit. If that light is blinking, remove and reinsert the minidiskette that is located below the light indicator panel. (To get at this drive, you must open the processor front door.) If the light still blinks, call your local Wang Field Service representative.

6. Perform an Initial Program Load (IPL). To IPL, press the Control
    Mode button on the upper right front of the processor. Then press
    the Initialize button on the upper right front of the processor.
    Workstation 0 will display CONTROL MODE F 04 for a VS 80 processor,
    and CONTROL MODE R 00 for a VS-100 processor. The code displayed
    after the words CONTROL MODE indicates which device will be used by
    the IPL as the system volume. The letter F or R indicates whether
    the volume is fixed or removable. The hexadecimal digits indicate
    the device number. F 04 is the provided default for the VS 80, and
    R 00 is the provided default for the VS-100 processor.

    a. If the processor is a VS 80 model, either accept the default
        F 04 and press ENTER, or respecify the code. To respecify the
        code, press the BACKSPACE (or NEWLINE) key to reposition the
        cursor; type the correct number over F 04; and press ENTER. The
        device number must be less than 32.

    b. If the processor is a VS-100 model, you must indicate the Bus
        Adapter number, IOP number, and Port number of the device to be
        used. To calculate this information, the following format can
        be used.

              BIII   PPPP
              where: B = 0 for BA #1
                              1 for BA #2
                        III = 000 for IOP #0
                              001 for IOP #1
                              010 for IOP #2
                              011 for IOP #3
                              100 for IOP #4
                              101 for IOP #5
                              110 for IOP #6
                              111 for IOP #7
                       PPPP = 0000 - 1111 for device #0-15.

        For example, device #4 on IOP #3 on BA #2 would be:

                             BA2   IOP3   Port 4
                                BIII   PPPP
                   Binary: 1011   0100

                   Hex: B   4

        Thus, to indicate that the system volume to be used by IPL
        is the removable pack on BA #2, IOP #3, Device #4, enter R
        B4 and press ENTER.

7. The system then prompts you to set the date and time. Enter this
    information.

8. The system finally prompts you for the name of the configuration
    file to be used. Enter the configuration file information, and
    press ENTER. The system, after a temporary pause, is now up and
    running.

```
┌──────────────────────── NOTE ────────────────────────┐
│                                                       │
│  In situations where the system must be re-IPLed without │
│  powering down, first press the CTL mode button on the front │
│  of the CPU.  The Operator's Console will then display the │
│  message, CONTROL MODE W, at the top line of the screen. │
│  (If there is any text on the screen at the time, it will │
│  not be erased.)  Then complete the rest of the steps for an │
│  IPL, following system power-up procedures.           │
│                                                       │
└───────────────────────────────────────────────────────┘
```

Instructions for powering down the VS for standard system shutdown and for emergencies appear at the end of this chapter.

2.3   LOGGING ON TO THE SYSTEM

To use the VS/IIS, you must first log on to the system. Logon is performed at a workstation that currently displays the VS Logon screen (refer to Figure 2-1). Every user must enter an identification code (User ID) and password from the User List. Some installations have a VS system security administrator who places the word processing User IDs and passwords on the User List. In installations where the word processing supervisor is also in charge of system security, a User ID and password for initial logon should be obtained from the Wang representative.

2.3.1   The User ID

The User ID consists of up to three characters, the first of which must be alphabetic. The second and third optional characters can be alphanumeric characters and include the special characters @, #, and $. Spaces are not accepted within a User ID.

2.3.2   The Password

Passwords are optional, but recommended. Once a password is issued for a particular user, the user must always include it to log on. User passwords can be one to eight characters in length. These characters can be alphanumeric and special characters. The VS does accept spaces within a user password.

```
                    *** Wang VS Logon ***

Workstation  40  Ready          3:04 pm      Tuesday    September 22, 1979




                        Hello New User


       Please Identify Yourself by Supplying the Following Information


                    Your USERID  = ■ ■ ■
                    Your PASSWORD =
```
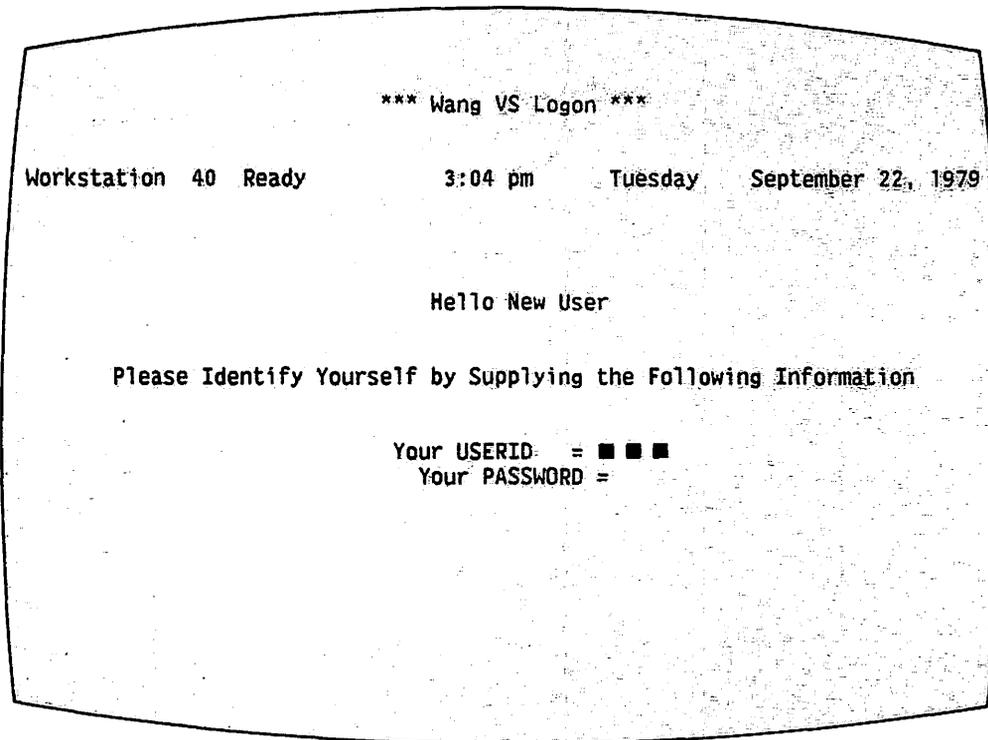
Figure 2-1.   The Wang VS Logon Screen

2.3.3   <u>Logging On</u>

To log on to the VS/IIS, follow these instructions.

1.   Type the User ID in the three highlighted blocks, or pseudoblanks,
     provided for it.   Notice the blinking cursor, resembling an
     underscore, that moves to the next available character position as
     characters are typed.   After a three-character User ID is entered,
     the cursor automatically moves to the empty space designated for the
     password.   If the User ID is less than three characters, press TAB
     once to move the cursor to the space for the password.

2.   If the User ID has a password, type it in.   Note that the characters
     do not appear on the screen as they are being typed, to ensure
     system security.

3.   After typing the password, press the RETURN/ENTER key.   If the User
     ID and password have been incorrectly entered, a blinking error
     message appears at the top of the screen, and prompts, SORRY-INVALID
     USER ID OR PASSWORD.   PLEASE TRY AGAIN.   If the User ID and password
     are correct, the supervisor is then given access to the VS/IIS.

```
┌────────────────────────────── NOTE ──────────────────────────────┐
│                                                                    │
│   A User ID can be logged on to only one workstation at a          │
│   time.  For example, if a person logs on to Workstation 40        │
│   with  the  User  ID,  CAT,  the  user  cannot  log  on  to       │
│   Workstation 41 with the same User ID before logging off          │
│   from Workstation 40.  The prompt,"SORRY - User CAT Already       │
│   Logged  On  At  Workstation  40,"  appears  whenever  a  user    │
│   attempts to log on with a User ID that is already logged on      │
│   to another workstation.                                          │
│                                                                    │
└────────────────────────────────────────────────────────────────────┘
```

2.4   ACCESSING THE WORD PROCESSING SOFTWARE

The VS Command Processor is now displayed on the workstation screen.
This screen is the main menu of the VS Computer System, and is described in
more detail in Chapter 3. At this point, the workstation is performing data
processing functions. All dual labelled keys perform the bottom function that
appears on their keyfaces.

To access VS word processing, you should run the Program WP, which is
the word processing software package. Press PF 9, Enter Word Processing, from
the Command Processor.

```
┌────────────────────────────── NOTE ──────────────────────────────┐
│                                                                    │
│   The  WP  software  can  only  be  run  on  2246C,  2256C,  2266C,│
│   2276C, and 2866C Workstations that have not been designated      │
│   as device #0 (the Operator's Console).                           │
│                                                                    │
└────────────────────────────────────────────────────────────────────┘
```

After word processing has been run, the screen momentarily displays a
message that the Integrated Information System Initialization is in progress,
and also indicates the release number of the word processing software and the
type of workstation being used. The system then displays the VS Word
Processing main menu, as shown in Figure 2.2.

```
                      WANG VS WORD PROCESSING SYSTEM


Please select next activity:               10/04/79 at 15:38

                    ■  Edit Old Document
                    .  Create New Document
                    .  Print Document
                    .  Special Print Functions
                    .  Document Index
                    .  Document Filing
                    .  Terminate Word Processing
                    .  Utilities
                    .  Glossary Functions


                    Creation Library is A
```
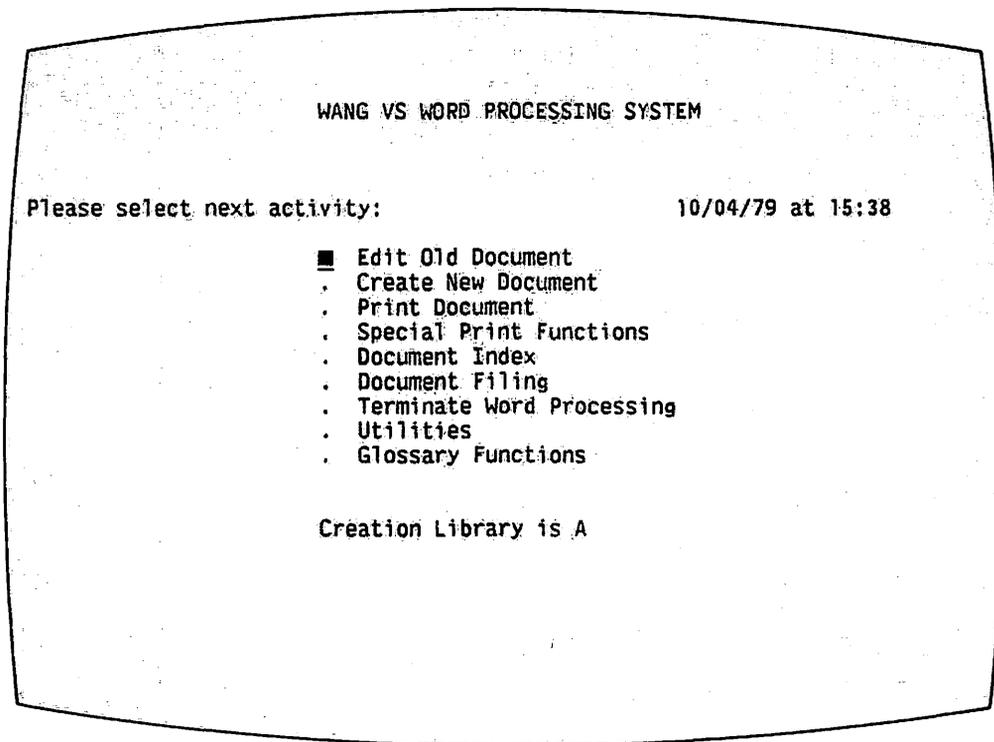
Figure 2-2.   VS Word Processing Main Menu

While running the word processing software, the combined workstation keyboard has the following distinguishing characteristics.

- All special keys perform their word processing functions.

- Dual labelled keys perform the operations of the top label.

- The HELP and HOME keys are dysfunctional, but the Glossary key (GL) and the numeric keypad are functional.

- Press EXECUTE/NEW LINE to convey information to the system.

- Press RETURN/ENTER or the Space Bar, depending upon the particular field, to move the cursor from the first position of one field to the first position of the next field.

Nine options are available through the Word Processing menu, as pictured in Figure 2-2. Most of these options are used for creating and editing documents and glossaries. However, some of the options are useful for file management and administrative purposes.

2.5 THE WORD PROCESSING UTILITIES AND SUPERVISORY FUNCTIONS

The Word Processing Utilities provide the functions that are the basis of the word processing group operations. To access these functions, select Utilities from the WP menu and press EXECUTE/NEW LINE. The workstation then displays the Utilities and Supervisory Functions main menu, as it appears on 2256C, 2266C, and 2276C workstations. The functions, Compare Documents, Super Global Replace, Index Generator, and Recover Damaged Document, do not appear on 2246C workstations.

```
          Wang VS Integrated Information Systems - Release 1.03.00

   ┌─────────────────────────────────────┬─────────────────────────────────┐
   │ Word Processing Utilities           │   Backup / Recovery Functions   │
   ├─────────────────────────────────────┼─────────────────────────────────┤
   │ __Document Filing and Conversion    │  __Backup / Restore             │
   │ __Document Index                    │    __Documents and Files        │
   │                                     │                                 │
   │ __Library Catalog                   │  __Duplicate Diskette           │
   │                                     │                                 │
   │ __Calculator                        │  __Clear In Use Condition       │
   │                                     │                                 │
   │ __Modify Format Lines               │  __Recover Archive Diskette     │
   │ __Make Paragraph File               │  __Recover Damaged Document     │
   │ __Sort Document                     ├─────────────────────────────────┤
   │ __Compare Documents                 │      Supervisory Functions      │
   │ __Super Global Replace              ├─────────────────────────────────┤
   │                                     │  __Create Library               │
   │ __Index Generator                   │  __Change Document Password     │
   │ __Paragraph Numbering and           │  __Set Workstation Defaults     │
   │ Table of Contents Generator         │                                 │
   │                                     ├─────────────────────────────────┤
   │ __MAILWAY Facilities                │  __Run Program or Procedure     │
   └─────────────────────────────────────┴─────────────────────────────────┘
```

Figure 2-3. Utilities and Supervisory Functions Menu

The functions appearing on the menu enable you to create libraries, administer information stored on the system, perform operations related to diskettes, run certain data processing programs, and perform various other tasks. For more information about each utility, position the Acceptance Block next to the utility and press the HELP key. After reading the displayed information, press any key to return to the Word Processing and Supervisory Functions menu.

The following functions are discussed in this chapter.

● Library Catalog
● Clear In Use Condition
● Create Library
● Recover Damaged Document
● Change Document Password
● Recover Archive Diskette
● Set Workstation Defaults
● Run Program or Procedure
● Duplicate Diskette

The remaining functions, namely, Backup/Restore Documents and Files, Document Filing and Conversion (COPYWP), and Document Index (LISTWP) are discussed in Chapter 5. Other functions, including Calculator, Modify Format Lines, Make Paragraph File, Sort Document, Compare Documents, Super Global Replace, Index Generator, and Automatic Paragraph Numbering and Table of Contents Generator are discussed in the VS/IIS Advanced Functions Reference Guide. For installations with MAILWAY facilities, please refer to MAILWAY Level III Administrator's Manual and accompanying MAILWAY user manuals.

To leave the Utilities and Supervisory Functions menu, press the CANCEL/RESET key. The workstation now displays the Word Processing menu.

2.6   LIBRARY CATALOG

When you prepare to use word processing on the VS/IIS, the first step after logging on to the system is the creation of libraries. Before documents can be created, the word processing libraries in which the documents are to reside must be created.

To become familiar with the method in which word processing libraries are organized on the VS/IIS, you should first view the library catalog. The library catalog is a list of all possible word processing libraries on the system and appears on the Utilities and Supervisory Functions menu. The library catalog is intended to help you in establishing a filing structure for documents, and in organizing the manner in which they are stored on the disks. You can observe the organization of libraries, but you cannot perform any operations on them from the library catalog screen.

From the Word Processing menu, press the Space Bar to move the Acceptance Block to Utilities, and then press EXECUTE/NEW LINE. The Utilities and Supervisory Functions menu appears on the screen, as illustrated in Figure 2-3.

The third entry on the menu is the Library Catalog utility. Move the Acceptance Block to this function by pressing the letter L or the Space Bar. Then press EXECUTE/NEW LINE to display the first screen of the library catalog, as illustrated in Figure 2-4.

```
                        Library Catalog
                        Release 2.2

        Press EXECUTE to display prototype
        of selected library


        Lib.  Vol.       Lib.  Vol.        Lib.  Vol.        Lib.  Vol.


        ■A               __N               __a               __n
        __B   WP         __O   WP          __b               __o   WP
        __C   VOL555     __P               __c   VOL555      __p   WP
        __D   WP         __Q   VOL555      __d   WP          __q
        __E              __R   WP          __e   VOL555      __r   WP
        __F   VOL555     __S   WP          __f   WP          __s   WP
        __G              __T   VOL555      __g   VOL555      __t   WP
        __H   WP         __U   WP          __h   WP          __u   WP
        __I   VOL555     __V               __i   WP          __v
        __J   WP         __W   WP          __j               __w   WP
        __K   VOL555     __X   VOL555      __k   WP          __x
        __L   WP         __Y   WP          __1   WP          __y   VOL555
        __M              __Z   WP          __m   WP          __z


        __Glossary WP
```
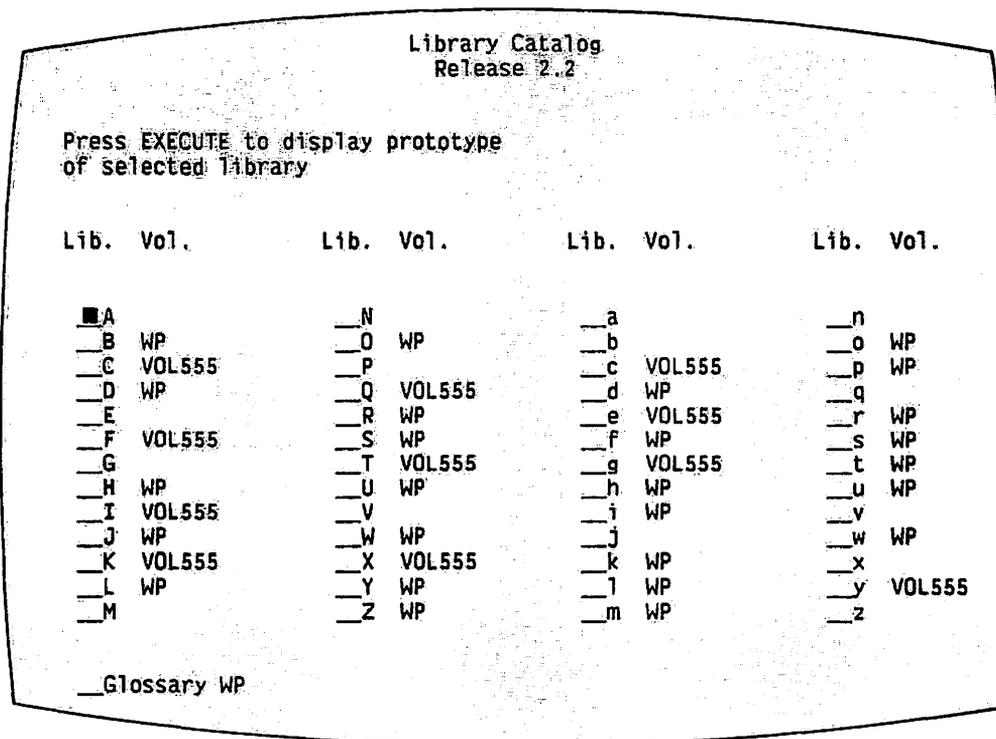
Figure 2-4.   Library Catalog -- First Screen

        The Create Library function creates and assigns word processing
libraries to volumes. As creation occurs, the system automatically generates
a prototype document that is used for setting up format standards for the
library. The system also updates the library catalog and places the name of
the assigned volume on the library list, next to its associated library. All
possible library letters are displayed, regardless of whether they actually
have been assigned to a volume.

        Move the Acceptance Block to any library letter by pressing the Space
Bar or the letter of the library to be viewed. Press EXECUTE/NEW LINE to view
the second screen of the Library Catalog utility shown in Figure 2-5. Always
check the second screen to see if the library in question has a prototype
document or other documents in existence.

        The first column of the second screen describes the library, its
assigned volume, and whether a prototype and other documents exist in the
library. If there is a prototype for the library, a second column appears
containing the identification information typed in the Document Summary of the
prototype document. It is possible to discern from the second screen whether
the prototype for the library has been deleted; if so the secondary screen
indicates that there are documents in the library, but no prototype exists.
As it is impossible to create word processing documents in a library without a
prototype, you must recreate the prototype.

                                    2-10

```
                        Library Catalog
                         Release 2.2


     Press CANCEL to return to catalog list

     Library : T                    Prototype name:  Prototype

     Volume name: VOL555            Author: Tech Pubs

     Prototype: Yes                 Operator:  Rita Mei

     Document(s): Yes               Comments:  Technical Manuals
```
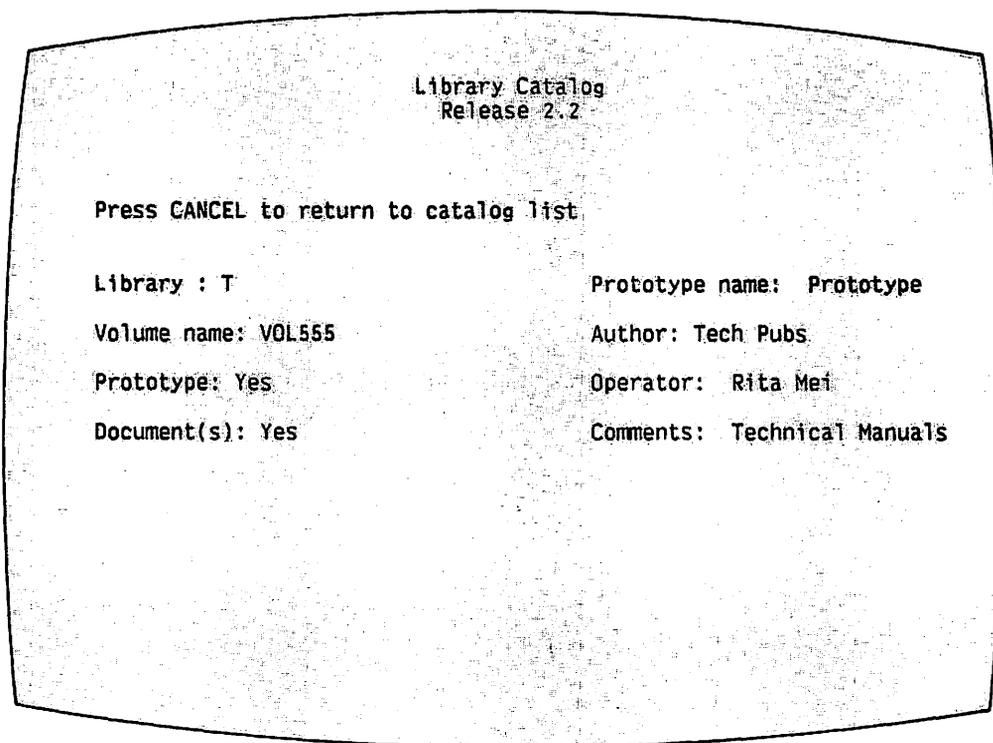
Figure 2-5. Library Catalog -- Second Screen

To leave the second screen, press CANCEL/RESET and return to the main Library Catalog. From the Library Catalog, press CANCEL/RESET to return to the Utilities and Supervisory Functions menu.

2.7 VS FILE ORGANIZATION

Before creating libraries, you should understand the concept of VS file organization. Information recorded by the VS on disks and tapes is organized on three levels: volumes, libraries, and files. This organization is illustrated in the following pyramid structure.


```
                          VOLUME
              LIBRARY              LIBRARY
          FILE     FILE        FILE     FILE
```
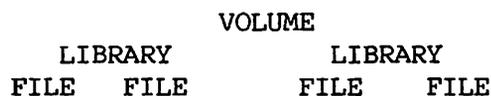

- A <u>file</u> is the smallest group in which information is stored. The VS/IIS supports four types of files. Each word processing document is a separate file. Other types of files include program files, data files, and print files.

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● A <u>library</u> is a group of files organized together for the purpose of identification and easy access by the computer. Libraries can contain one or more files. Files that are related, such as the files belonging to one department or files created by one author, can be assigned to the same library.

Each VS/IIS can have a maximum of 53 word processing libraries: 26 uppercase and 26 lowercase letters, plus the space library for storage of glossary documents. Ideally, the system you set up designates certain library letters to particular departments, individuals, or types of work. As examples, Library A is designated for Accounting Department documents; Library R is designated for all documents typed by Robert Brown; and Library w is designated for all proposals typed by the word processing group.

● A <u>volume</u> is the largest group into which data is organized and can contain one or more libraries. A volume is a unit of storage media. For example, each diskette or reel of tape is an individual volume. Each fixed disk or removable disk cartridge is also a volume. Disk packs containing more than one large disk platter collectively compose a single volume.

Every volume on the VS/IIS is assigned a unique name when it is initialized. (The disk initialization utility, DISKINIT, is discussed in Chapter 5.) Volume names can be up to six alphanumeric characters in length. Disks are always referenced by their volume names. Before beginning library creation, you should know the names of all volumes currently mounted on the system. This information can be obtained from the installation's data processing personnel or the Wang representative, if the system is newly installed.

2.8   CREATE LIBRARY

Before creating libraries, you should consider the types of documents to be created, and the departments to be serviced by the word processing group. With this information in mind, you should now determine the type of documents to be assigned to each library letter.

To create a library, use the Create Library function. To access Create Library from the Utilities and Supervisory Functions menu, select Create Library. Then press EXECUTE/NEW LINE to display the first screen of Create Libraries (refer to Figure 2-6).

```
              C R E A T E   L I B R A R Y   U T I L I T Y
                         Release 2.6

Select Library I.D.
Press EXECUTE



                         Library ID Letter:__
```
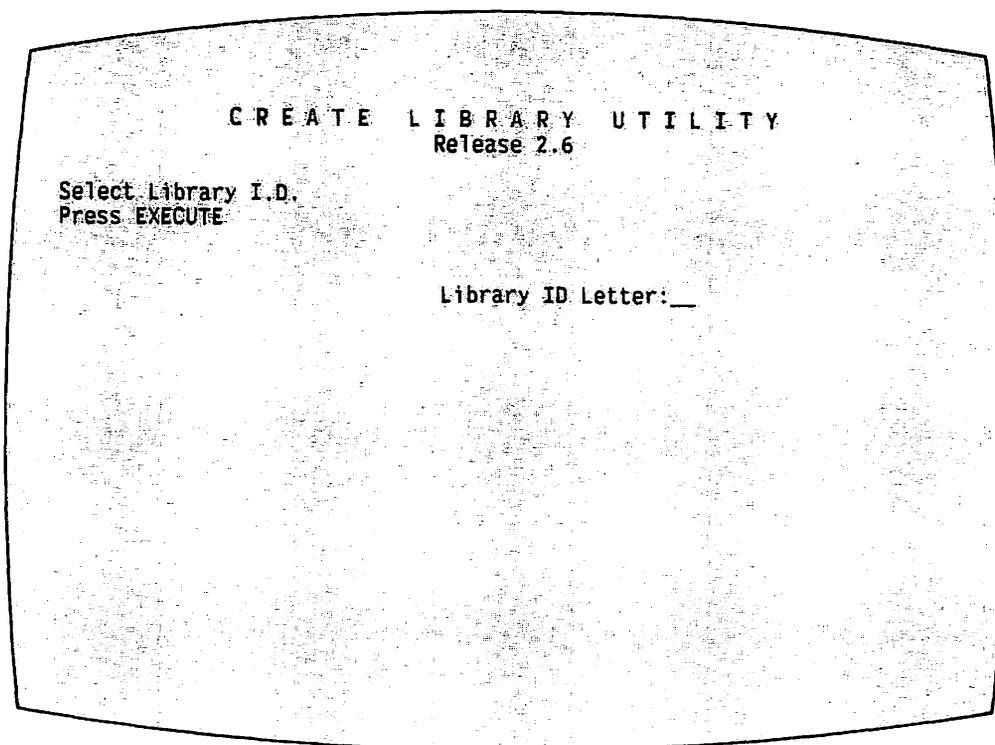
Figure 2-6.   Create Library Function -- First Screen

The fields to be filled in on the first screen are defined as follows.

- The Library ID Letter field is the new library letter, specified in the first display, that the system automatically inserts and highlights.

- The Next Document field ID is the ID number the system uses to begin the document numbering sequence for the new library. The document numbering sequence can begin at any point between 0001 and 9999. The default for this field is 0001. However, you can change the default to begin renumbering documents or to use the IDs of documents that have been deleted or filed off the system. For example, if you choose the next document to be 2000, the following documents will be numbered 2001, 2002, etc. When document renumbering occurs, the IDs of existing documents are ignored.

- The Next Archive ID field contains the number at which numbering of new archive diskettes should start.

- The Volume Name field can be the name of any disk volume currently attached to the VS/IIS. The default volume for this field is the system volume, which the system automatically fills in. When designating a library to a volume, you must consider the capacity of the volume (refer to the VS System Operations Guide, Part 2) and the number and size of the expected documents in the library.

```
┌─────────────────────────── NOTE ───────────────────────────┐
│                                                             │
│  Although the Volume Name field has eight spaces, a volume  │
│  name on the VS/IIS can only be up to six characters in     │
│  length.  Be careful not to specify a volume name of seven  │
│  or eight characters.                                       │
│                                                             │
└─────────────────────────────────────────────────────────────┘
```

● The Delete Library ID and Prototype field is used when you delete a library letter and prototype document from a volume. The field does not allow you to delete any documents from the library. "No" is the default when a library is being created.

When all pertinent information has been entered in these fields, press EXECUTE/NEW LINE. The system automatically generates the prototype document, which is given the Document ID 0000 plus the library letter. The prototype document is used to establish formatting conventions for the new library. The format line, number of lines per page, and the Print Document fields of all documents in a library can be standardized through the respective prototype documents.

The prototype document should not contain any text. To create a prototype for a document, perform the following steps.

1. From the Utilities and Supervisory Functions menu, select the Create Library function and press EXECUTE/NEW LINE to view the first display of the function.

2. Enter the library letter of the document to be created in the Creation Library field, and then press RETURN/ENTER.

3. When the second screen of Create Library (refer to Figure 2-7) is displayed, accept the defaults for Library ID and Next Document ID. Move the cursor to Volume Name, and type in the name of the volume to be used (if it is not the system volume). Make sure the volume name is typed in uppercase letters only. Press EXECUTE/NEW LINE. The prototype is now created.

4. To create another library, press EXECUTE/NEW LINE, enter the new library letter in its appropriate field and follow the instructions in Step 3. Otherwise, leave the second screen of Create Library by pressing CANCEL/RESET; the workstation now displays the Utilities and Supervisory Functions menu.

```
              C R E A T E    L I B R A R Y    U T I L I T Y
                          Release 2.6


Fill in Selections
Press EXECUTE or CANCEL


                    Library ID Letter:  1

                    Next Document ID:   0001

                    Next Archive ID:    0001

                    Volume Name:        _____



                    Delete Library I.D.
                    and Prototype:            ■ No    __Yes
```

Figure 2-7.   Create Library Function -- Second Screen

2.8.1   Setting Up Standards for the Prototype Document

After the new library and its prototype have been created, the next step is to enter the prototype document and set up its standards.

1.   From the Utilities and Supervisory Functions menu, press the CANCEL/RESET key.

2.   The Word Processing menu is now displayed. The Acceptance Block is positioned at Edit Old Document, the next function to be used.

3.   At the bottom of the menu is a field that prompts "Creation library is". This field enables the user to access the library in which the document to be edited resides. The system prompts "Please enter Document Id:" at the bottom of the menu and presents a highlighted document ID. Type in 0000 and the new library letter to access the prototype document. Press EXECUTE/NEW LINE. The system automatically displays the Document Summary (refer to Figure 2-8).

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```
                          DOCUMENT SUMMARY


Document Id:          0001s
Document Name:        Prototype Document
Operator:             New Administrator
Author:               New Administrator

Comments:             Do not delete


                          STATISTICS


OPERATION             DATE          TIME        WORKTIME        KEYSTROKES

Created               09/23/80      9:30           :
Last Revised           /  /          :            :
Last Printed           /  /          :            :
Last Archived          /  /          :         onto Diskette

Total Pages:                      Total Worktime:
Total Lines:                      Total Keystrokes:
```
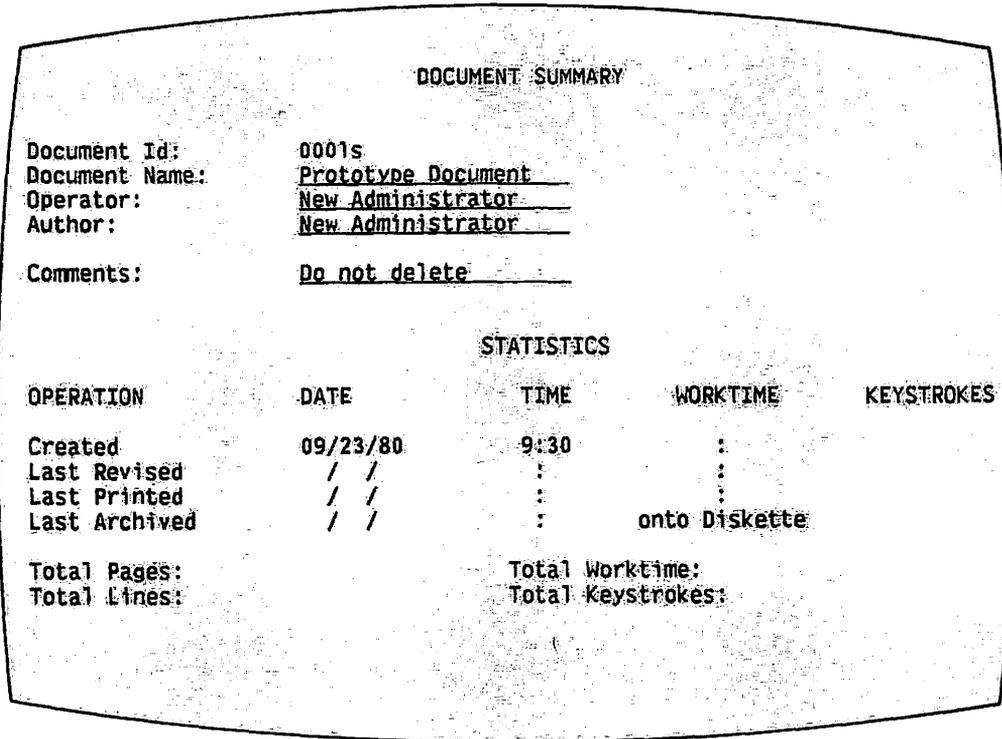
Figure 2-8. Document Summary Screen

4. Every document created by the system contains a Document Summary to
    provide the word processing group with identification and
    statistical information about the document. (Refer to the Word
    Processing Reference Manual for more information.)

    For identification purposes, type "Prototype" as the document name
    for the particular department, person, or type of document. Your
    name should be typed in the Operator and/or Author fields. The
    Comments field is optional, but you may want to type pertinent
    information about the library in this field. Press EXECUTE/NEW
    LINE. The workstation then displays the first page of the prototype
    document (refer to Figure 2-9).

```
 Document 0000s      Now on Page 1        Line 1           Position 1


1...............▶....▶...▶..........................▶........................◀



(Document End)
```
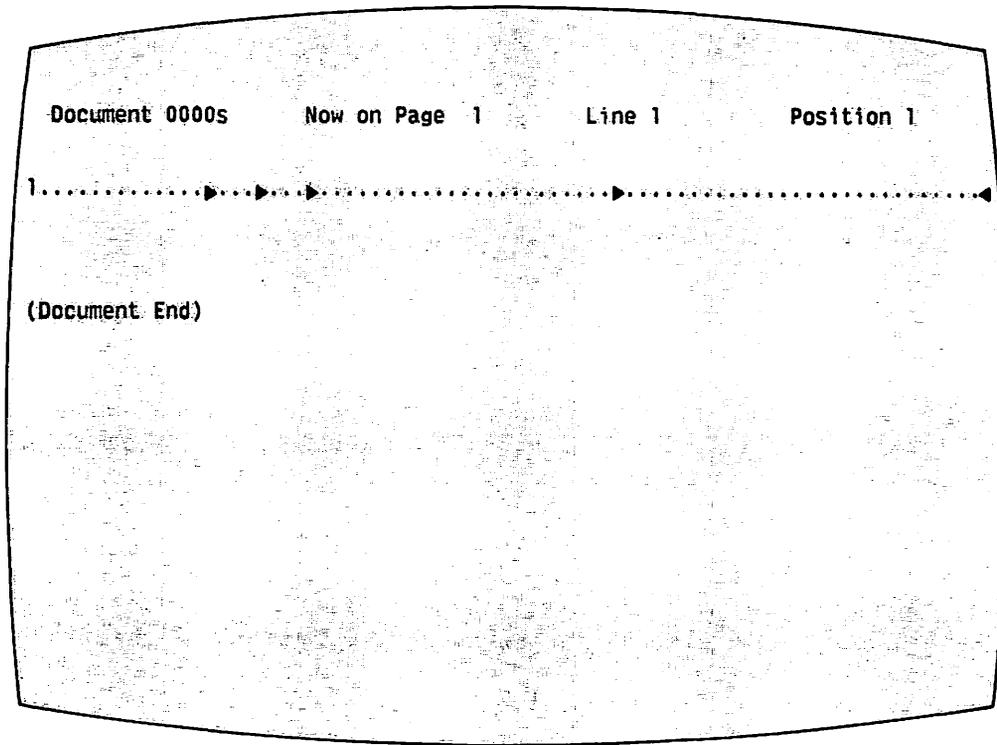
Figure 2-9. First Page of Prototype Document

5. The format line of the prototype should be set in the standard
    format to be used by all documents in the library. For example,
    assume that all documents in Library P are proposals with tabs at
    Positions 5, 10, and 15, as well as a right-hand margin of 65. You
    would create a format to reflect these specifications.

6. Press COMMAND and PAGE to designate the default number of lines per
    page for all documents in the library. The system prompts, "Page
    length." Type in the appropriate page length and press EXECUTE/NEW
    LINE. When the operator accesses the Print Document menu of any
    document in the library, the lines per page default designated in
    the prototype document appears as the default in the LINES PER PAGE
    field.

7. Press EXECUTE/NEW LINE and CANCEL/RESET to end format creation. The
    system prompts, "End of Edit?" Press EXECUTE/NEW LINE to terminate
    the editing function. The Word Processing Menu should now be on the
    screen.

```
┌──────────────────────── NOTE ────────────────────────┐
│                                                       │
│  The defaults established in a prototype document can be │
│  overridden, if a different format is required for a new │
│  document.  When the prototype is changed, all document │
│  formats created by the old prototype remain the same.  Only │
│  new documents reflect the revised prototype document. │
│                                                       │
└───────────────────────────────────────────────────────┘
```

At this point, you should also set up print standards for every document in the library through the prototype Print Document menu. To do this, perform the following steps.

1. From the Word Processing menu, move the Acceptance Block to Print Document and press EXECUTE/NEW LINE twice. The system displays the Print Document menu, as illustrated in Figure 2-10.

2. Notice that many of the fields have been filled in with defaults. Whether or not the fields need to be modified depends upon the type of document to be stored in the library. Move the cursor to the Paper Length field by pressing RETURN/ENTER. The default 66 represents the number of single typed lines on an 8 1/2 x 11 paper. If the documents in the library are to be printed on shorter or longer paper, change this field by typing in the proper line length. Otherwise, move to the Character Set field by pressing RETURN/ENTER.

3. Type in the character set number for the character set used on the default printer. Move the cursor to the Printer Number field.

4. Type in the printer number of a printer configured for word processing. If more than one printer is designated for word processing, type the number of the printer that is most commonly used for printing the documents in this particular library.

```
┌──────────────────────── NOTE ────────────────────────┐
│                                                       │
│  Both the character set and printer numbers must always be │
│  specified when you print a word processing document.  To │
│  avoid the possibility of an operator forgetting to fill in │
│  these fields, be sure to specify them in the prototype │
│  Print Document menu.  Make sure that the character set │
│  specified is a valid one for the printer specified.  You │
│  can check the validity of the character set number by │
│  accessing the VS/IIS Peripheral utility.  Refer to Appendix │
│  C for a full explanation of this utility.             │
│                                                       │
└───────────────────────────────────────────────────────┘
```

```
                    PRINT DOCUMENT

Document Id:        0000s                      ____
Document Name:      Prototype Document         _____


Print from Page:    001  Print thru Page:   001  Starting as Page No.:  0002
First Header Page:  002  First Footer Page:  002  Footer Begins on Line:  50

Paper Length:       66   No. of Originals:   01   Character Set Number:  03
Printer Number:     42   Left Margin:        010___


Please select one from each column:

            PITCH  FORMAT            FORMS         STYLE      SUMMARY    DELETE

         ■ 10   . Unjustified  ■ Continuous  ■ Final    ■ Print    ■ No
■        . 12   ■ Justified    . Standard    . Draft    . Omit     . Yes
         . PS   . With Notes   . Form 1
         . 15                  . Form 2      LINES PER INCH  ■ 6  . 8
```

Figure 2-10.   Print Document Menu

5. Use RETURN/ENTER to move to the next field, Left Margin. If you want to change the left margin, type the new left margin length.

6. Use the RETURN/ENTER key to move to Pitch. There are four options: 10-, 12- and 15-pitch, plus Proportional Spacing. Move the Acceptance Block within this field by pressing the Space Bar, until the Acceptance Block is positioned next to the appropriate pitch for the printer designated.

7. Use RETURN/ENTER to move to the Format field, and position the Acceptance Block next to the type of format desired.

8. The Forms, Style, Summary, and Delete fields can be modified in the same manner as the other fields, to reflect the standards being set up for the prototype document.

9. The document is printed at 6 or 8 lines per inch, vertically spaced, when the appropriate selection from the Lines Per Inch field is made. This option is only available for the daisy printers.

10. When all fields have been modified to reflect standards for the library, press EXECUTE/NEW LINE to return to the Word Processing menu. The printer specified in the Printer Number field then prints out a Document Summary (if specified on the Print Document menu) and a blank sheet of paper, representing the prototype document.

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2.8.2 Creating a New Prototype Document

Create Library is also used for purposes other than library creation. For example, the prototype document for a library may be accidentally deleted or damaged. If this problem occurs, new documents cannot be created and old documents cannot be edited in the library until a new prototype is created. To create a new prototype, access the Create Library display (refer to Figures 2-6 and 2-7). Enter the specifications for the new prototype, following the same instructions for creating the original prototype. Press EXECUTE/NEW LINE and the system creates the replacement prototype for the library.

2.8.3 Changing the Numbering Sequence of an Existing Library

The numbering sequence of a library can be changed through the Create Library function. For example, assume the numbering sequence for Library B begins with 0001B, 0002B, 0003B, etc. You can change the numbering sequence to begin with 2000B and create new standards for the prototype document. You enter the specifications on the Create Library display, following the same instructions for creating an original library. When you press EXECUTE/NEW LINE, the system changes the numbering system and preserves the original prototype, thereby giving you the option of keeping the original prototype or changing the format.

By returning the Next Document ID field of an existing library to 0001, you can reuse document IDs of old documents that have been deleted from the library. For example, suppose 400 documents have been created in Library c, and the next available document ID is 0401c. Next, assume 10 documents have been deleted from the library, including ID numbers 0030 through 0040. Using the Create Library function, the supervisor specifies the Next Document ID as 0001. The system then bypasses the IDs of documents that still exist in the library and begins numbering new documents at 0030c. When the document ID 0040c is used, the system once again bypasses all existing document IDs and continues numbering new documents beginning at 0401c.

2.8.4 Moving a Library to Another Volume

Occasionally, the contents of a library increases to the point where more storage space is required than is available on the present volume. You can move the library to another volume with more available storage space through the Create Library utility.

To move a library to another volume, perform the following three steps.

1. Move the library's prototype document to the new volume. Using the Create Library display, leave all fields as they are except for the Volume Name field. Type the new volume name in this field and press EXECUTE/NEW LINE. The system moves the prototype to the new volume, preserving its original format line, document ID numbering sequence, and Print Document menu. The system updates the library catalog to include the new volume name. At this point, all new documents created in the library reside on the new volume; the old documents in the library remain on the volume on which they were created.

2. To move existing documents from the old volume to the new volume, use the Copy Library functions of the Document Filing and Conversion (COPYWP) utility (refer to Chapter 5). This utility copies the documents.

3. After copying is completed, the Delete Library function of the Document Filing and Conversion utility (COPYWP) should be used to delete the originals on the old volume.

2.8.5 Deleting a Library from a Volume

To delete a library from a volume, use the Delete Library function in the Document Filing and Conversion utility. Refer to Chapter 5.

Press Cancel to leave the Create Library utility. Press EXECUTE/NEW LINE to return to the Word Processing menu.

2.9 CHANGE DOCUMENT PASSWORD

The Change Document Password function enables you to change document passwords. Changing document passwords is a form of security available through word processing only. Every document can be individually password protected through the system security feature of all Wang Word Processing Systems. This feature of security is discussed completely in the Word Processor System Security Option Operator's Instructions. The Change Document Password function enables you to change or remove the passwords for a single document, a range of documents in the same library, or all documents in a given library. Select Change Document Password from the Utilities and Supervisory Functions menu and press EXECUTE/NEW LINE. The workstation then displays the Change Document Password main menu, as pictured in Figure 2-11.

```
        C H A N G E   D O C U M E N T   P A S S W O R D
                        Release 1.1


Select Change Type and
Press EXECUTE

        ■Single Document

        __Range of Documents

        __All Documents in Library
```
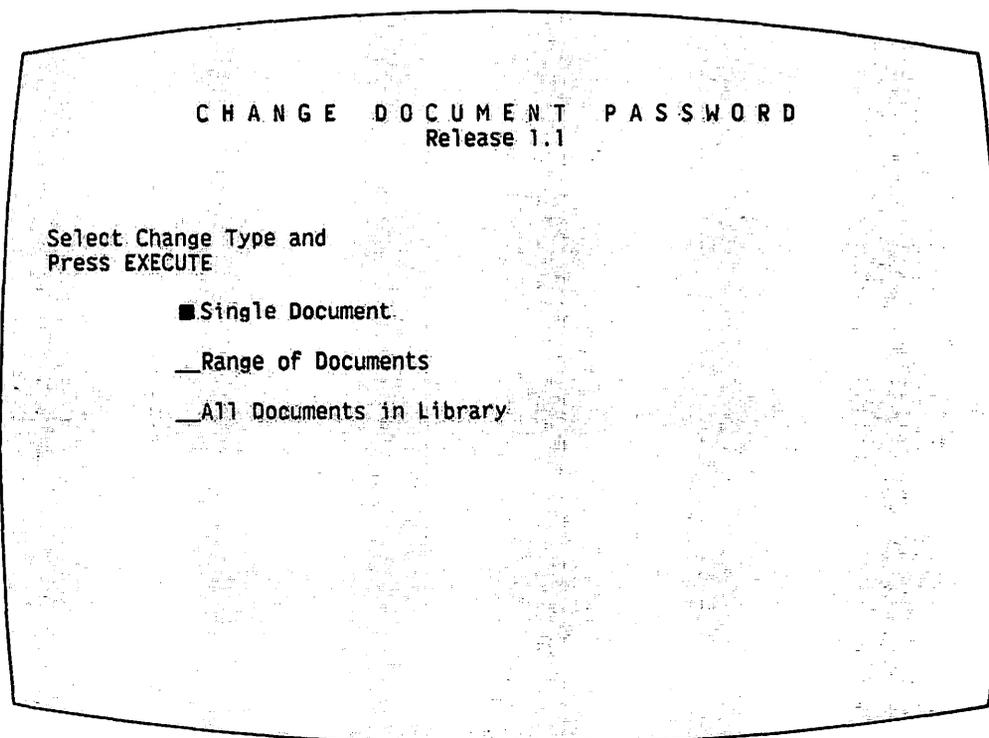
Figure 2-11. Change Document Password Main Menu

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2.9.1 Single Document Modification

To change or remove the password of a single document, move the Acceptance Block to Single Document and press EXECUTE/NEW LINE. When the Single Document function is selected, a second screen, illustrated in Figure 2-12, prompts for the document specifications.

```
          C H A N G E   D O C U M E N T   P A S S W O R D
                         Release 1.1


  Enter Parameters and
  Press EXECUTE


       Document ID:_ _ _ _

       Library Name:_

       New Password:_ _ _ _ _ _
```

Figure 2-12. Single Document Specifications Screen

Enter the document ID and library name of the document to be modified in the appropriate fields. The last field requests the new password. A maximum of six alphanumeric characters can be entered for the new password. (Special characters are not accepted in the password.) If the password is to be removed, this field should be left blank. After the specifications have been entered, press EXECUTE/NEW LINE. The password is changed or removed, and the workstation returns to the Single Document Specifications screen.

You can also change or remove the password of a single document while editing it. Press COMMAND and the And (&) key during document editing; this action causes the system to prompt, "Enter password." You can either enter the new password at this time, and then press EXECUTE/NEW LINE, or you can respond to the prompt simply by pressing EXECUTE/NEW LINE, thereby removing any password from the document.

From the Word Processing menu, you can add the same password to all documents created on the workstation by pressing COMMAND and the Asterisk (*) key. In response to the system prompt, you type in the desired password and press EXECUTE/NEW LINE. The system then prompts, "Password protected." To cancel a password attached to the workstation, you press COMMAND and the Asterisk (*) key from the Word Processing menu, and then EXECUTE/NEW LINE. The system then prompts, "Password removed."

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2.9.2 Modifying the Password for a Range of Documents

To change or remove the password from a range of documents, select Range of Documents from the Change Document Password menu. The workstation then requests the specifications for the range of documents. (Refer to Figure 2-13 for an illustration.)

```
          C H A N G E    D O C U M E N T    P A S S W O R D
                             Release 1.1


Enter Parameters and
Press EXECUTE


      Document ID Range:_ _ _ _   -  _ _ _ _

      Library Name:_

      New Password:_ _ _ _ _ _
```

Figure 2-13. Range of Documents Specifications Screen

The first field on this screen should contain two valid document IDs between 0000 and 9999, representing the range of documents whose passwords are to be changed. For example, you might specify that documents 0055 to 0073 comprise the range of documents. The second field requests the library letter of these documents. Only one library can be entered at a time. The third field, New Password, allows the supervisor to enter a maximum of six alphanumeric characters for the new password. Leave the field blank if the password is to be deleted.

After the specifications are entered into the display, press EXECUTE/NEW LINE. As the passwords are changed or removed, the system displays a message containing the ID of the document whose password is currently being changed. This process can be terminated at any time by pressing CANCEL/RESET and returning to the Range of Documents Specifications screen.

2.9.3 Modifying the Password for a Library

To change or remove the password from all the documents in a library, select the All Documents in a Library option from the Change Document Password menu. The resultant screen requests the library's specifications.

Two fields appear on the Library Specifications screen pictured in Figure 2-14. The first field requests the letter of the library to be modified. Only one library can be modified at a time. The second field, New Password, requires a new password of up to six alphanumeric characters. To remove the password, leave this field blank.

```
           C H A N G E    D O C U M E N T    P A S S W O R D
                          Release 1.1


  Enter Parameters and
  Press EXECUTE


          Library Name:_


          New Password:_ _ _ _ _ _
```

Figure 2-14. Change Library Specification Screen

When all the specifications are complete, press EXECUTE/NEW LINE. As each document in the library is modified, the system displays the respective document ID. As in Range of Documents, it is possible to terminate the Change Library procedure and return to the All Documents in Library menu by pressing CANCEL/RESET.

2.10 SET WORKSTATION DEFAULTS

The Set Workstation Defaults function automatically establishes a word processing running environment for each combined workstation. Access Set Workstation Defaults from the Utilities and Supervisory Functions menu. The workstation displays the screen illustrated in Figure 2-15.

```
        S E T   W O R K S T A T I O N   D E F A U L T S
                    Release 1.4

Fill in Selection
Press EXECUTE or CANCEL

                    Workstation Unit Number        043

                    Default Library                S

                    Default Glossary ID            0002
```
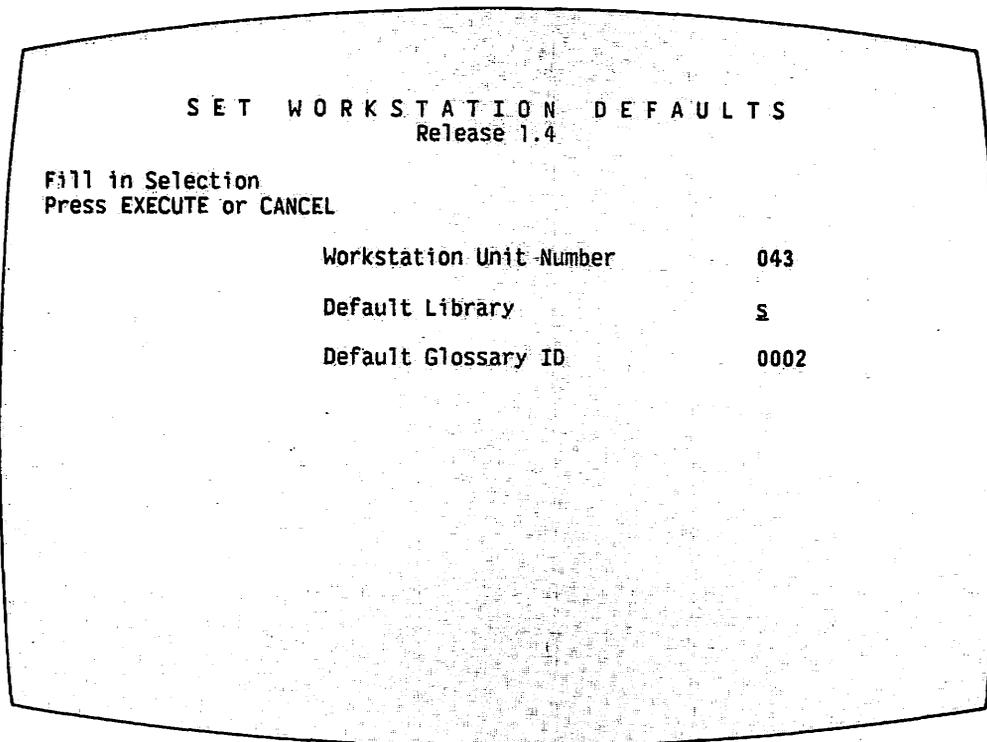
Figure 2-15.   Set Workstation Defaults Screen

The fields on the Set Workstation Defaults screen can be defined as follows.

- The Workstation Unit Number field always defaults to the unit, or device, number of the workstation you are using. This number cannot be changed.

- The Default Library field allows you to specify a default word processing library for the particular workstation. Whenever word processing is selected from this workstation, the "Creation Library is" field on the Word Processing menu automatically displays the library letter of the specified default library. If you leave the Default Library field blank, the "Creation Library is" field for the particular workstation defaults to library A.

- The Default Glossary ID field should contain the ID of the glossary document, if any, to be automatically attached whenever word processing is accessed by the workstation.

Word processing workstation defaults must be set individually, from the workstation to which they will pertain. These defaults remain from one workstation session to another unless you change them. From Set Workstation Defaults, press CANCEL/RESET to return to the Utilities and Supervisory Functions Main menu.

2.11   BACKUP/RECOVERY FUNCTIONS

The Backup/Recovery functions include Duplicate Diskette, Clear In Use Condition, Recover Damaged Document, and Recover Archive Diskette. The Duplicate Diskette utility copies all information on an archive diskette and duplicates the information on one or more additional diskettes. The Clear In Use utility clears erroneous In Use conditions from the system. The Recover Damaged Document utility recovers damaged documents on the system. The Recover Archive Diskette utility recovers documents from damaged archive diskettes. These Backup/Recovery functions are described in the following sections.

In addition, the Backup/Recovery functions include Backup/Restore Documents and Files, which is described in Chapter 5.

2.12   DUPLICATE DISKETTE

The Duplicate Diskette utility copies all information on an archive diskette and duplicates the information on one or more additional diskettes. To use the central archive drive for this operation, access Duplicate Diskette from a 2246C, 2256C, or 2866C workstation. To use the local archiver, access Duplicate Diskette from the archiving workstation associated with the archive drive.

Before using Duplicate Diskette, be sure to mount the diskette in the drive, following proper mount procedures. (Two methods can be used for mounting diskettes. The first method involves mounting a diskette through word processing and is described in the Word Processing Reference Manual. The second method, which allows you to mount a diskette through the Command Processor, is discussed in Subsection 3.8.2.) Select Utilities from the Word Processing menu and press EXECUTE/NEW LINE. From the Utilities and Supervisory Functions menu, press D to move the cursor to Duplicate Diskette. Press EXECUTE/NEW LINE to display the Duplicate Diskette screen, illustrated in Figure 2-16.

```
                D U P L I C A T E   D I S K E T T E   U T I L I T Y
                              Release 2.1

        Number of copies required:  001

        Do you wish to verify the duplication?  ■ Yes

                                                 _ No
```
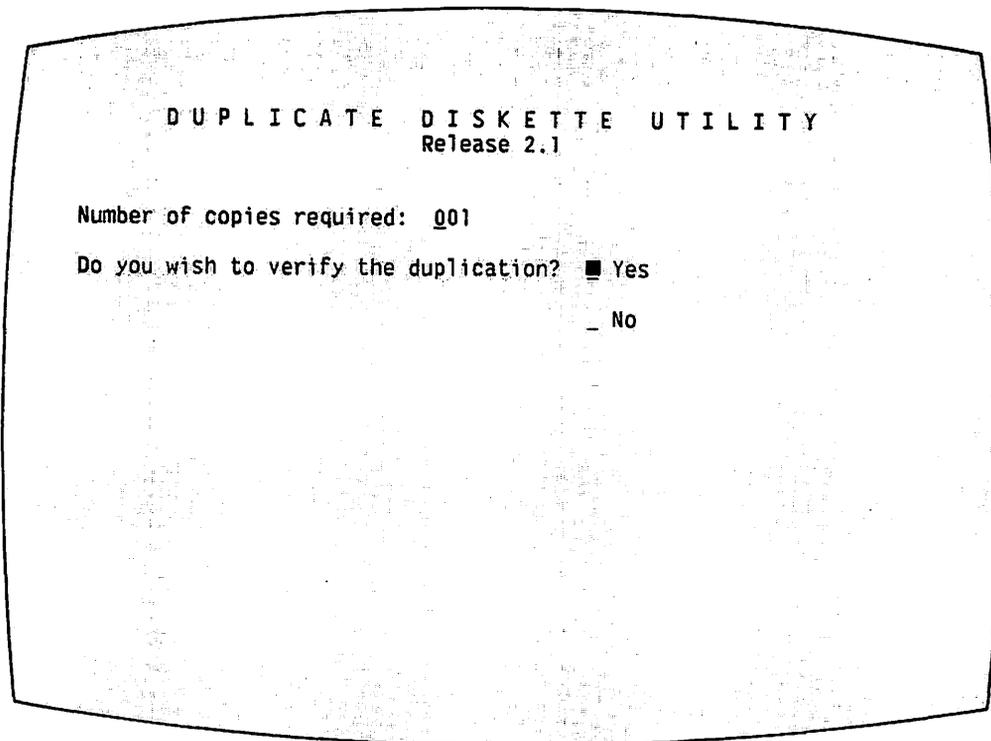
Figure 2-16. Duplicate Diskette Screen

To execute the duplicate diskette function, perform the following steps.

1. Press EXECUTE/NEW LINE to begin the duplication procedure.

2. The system prompts "Reading original diskette" in the upper portion
    of the screen. The following message appears on the lower portion
    of the screen:

        Reading   Track XX

    As   part   of   the   duplication   procedure,   the   system   reads   the
    information written on the diskette on a track-by-track basis,
    displaying the number of each track as it is read. The system holds
    the information in memory until duplication is completed.

3. When the reading process is complete, the system prompts "Replace
    original with another diskette. Press EXECUTE to make copy, CANCEL
    to copy another diskette."   On the bottom of the screen "This is
    copy 001" appears.

4. Place the diskette on which the information is to be copied, in the
    drive, and press EXECUTE/NEW LINE.   The system prompts, "Writing
    copy diskette (Copy 001)", in the upper portion of the screen. The
    system writes the information copied from the first diskette onto
    the new diskette and displays the following message:

        Writing   Track XX

5. When duplication is complete and all copies have been made, the system prompts, "Duplication complete. Press EXECUTE to make another copy, CANCEL to copy another diskette." If another copy is needed, press EXECUTE/NEW LINE to restart the copy process. If no more copies are needed or if you wish to copy another diskette, press CANCEL/RESET. The system prompts, "Place original diskette in drive. Press EXECUTE to begin, CANCEL to terminate utility."

6. Remove the diskette, following the appropriate dismount procedures for the central archive drive. Press CANCEL/RESET to return to the Utilities menu.

2.13 CLEAR IN USE CONDITION

If an operator tries to access another document currently being printed, filed, or used by another operator, the prompt, "In Use", ordinarily appears at the bottom of the workstation screen. Sometimes, however, "In Use" appears when an operator tries to access a document known to be idle. For example, if the system has started to print a document when a power failure occurs, attempts to access these documents once the system is working again may result in the In Use condition. An erroneous In Use condition may also occur when the system is re-IPLed while an operator is currently working on a document. After the IPL is complete, attempts to re-access the document may cause the prompt, "In Use", to appear on the workstation screen, although this document is no longer really in use.

The Clear In Use Condition function clears erroneous In Use conditions from the system. Select Clear In Use Condition from the Utilities and Supervisory Functions menu, and press EXECUTE/NEW LINE. The Clear In Use Condition display appears on the screen (Figure 2-17).

Perform the following actions to clear the erroneous In Use condition.

1. Enter the ID of the document erroneously placed in use. Press EXECUTE/NEW LINE.

```
         C L E A R   I N - U S E   C O N D I T I O N
                      Release 1.0




         Please Enter Document Id_ _ _ _
```
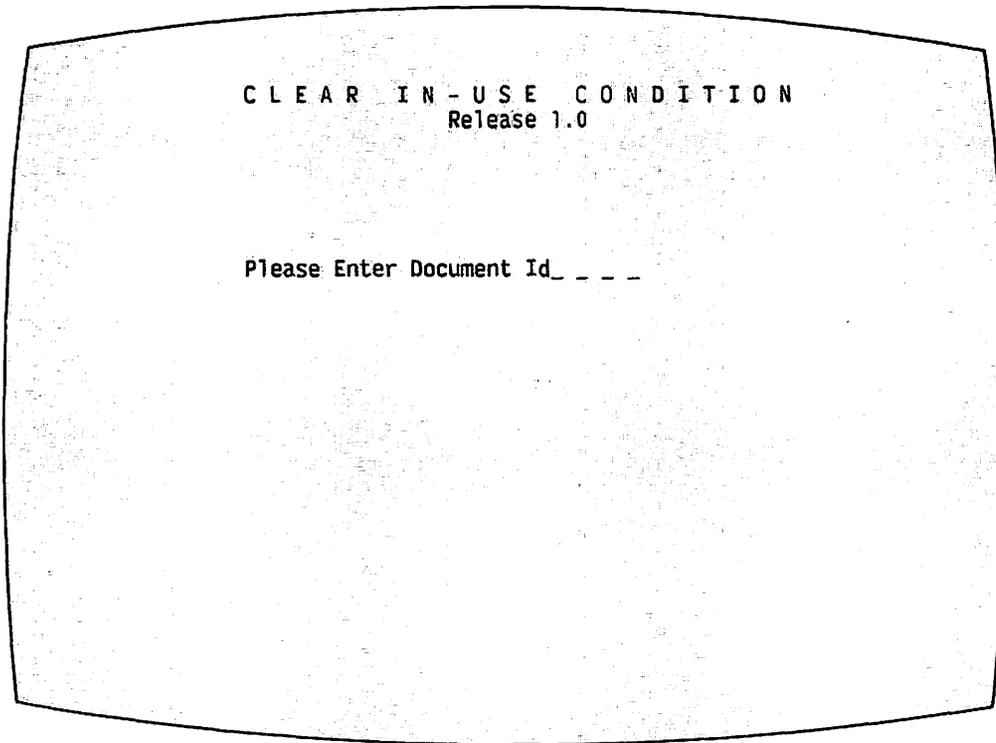
Figure 2-17.   Clear In Use Condition Screen

2. The system prompts, "WARNING: This document may be a secondary
    document queued to print or may be queued to Telecommunications."
    Since word processing telecommunications are not supported through
    the Word Processing menu, the latter condition cannot be true.   The
    former condition may exist, however.   If you are uncertain about the
    print status of the document in question, you should press
    CANCEL/RESET to leave the Clear In Use Condition screen and access
    the Word Processing menu.   You should then check the print queue
    available through the Document Index to make sure the document is
    not queued to print.

3. Press EXECUTE/NEW LINE to clear the In Use condition.   Now operators
    can once again access the document.

NOTE

The Clear In Use Condition utility should not be used for
documents that are legitimately in use.   If the In Use
prompt is valid and the supervisor clears the In Use
condition for a print job, the print job will be cancelled.

The Clear In Use function does not clear In Use conditions
for primary documents that are queued to print, or
glossaries that are attached to workstations.

2.14   RECOVER DAMAGED DOCUMENT

The VS/IIS has a built-in ability to automatically recover damaged word processing documents. If the system malfunctions, or if a workstation is powered down while a user is editing or creating a document, damage may be done to the document. The operator or supervisor can quickly and easily recover the document through the recovery procedures described in this section.

To recover a damaged document, select Edit Old Document from the Word Processing menu and enter the ID of the damaged document. The Recover Damaged Document utility automatically recovers the document. The system notifies the user that a recovery operation is in progress by displaying the message, "Recovering". Once the recovery is complete, the message, "Recovered", tells the user that the document is now recognized as a valid document that can be used in word processing operations. If the document still appears damaged, select the Recover Damaged Document utility directly.

Access Recover Damaged Document from the Backup/Recovery Functions menu. The Document Recovery menu containing three functions, as illustrated in Figure 2-18, appears. The Document and Baddoc functions are user functions; the third function is for Wang restricted use.

```
                    DOCUMENT RECOVERY

                      Release 2.5



   Please select file type:

        ■Document File

        __Baddoc File

        __Other
```
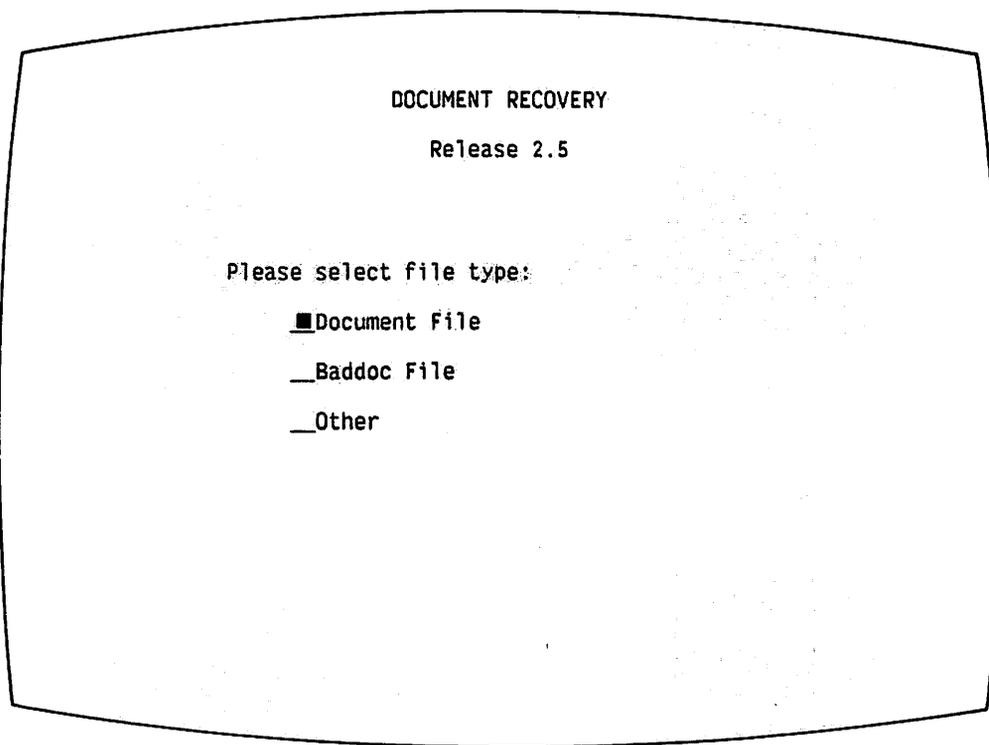
Figure 2-18.   Document Recovery Screen

2.14.1 Document Function

When directed to the Document function by an error message, position the cursor next to "Document" and press EXECUTE/NEW LINE. Then follow the system prompts by entering the document ID and pressing EXECUTE/NEW LINE.

During recovery, the utility displays the message "Recovering" in the upper right corner of the screen; when recovery is complete, the utility erases the message. You can now return to the Word Processing menu and access the document.

In some cases the system may respond with the message, "First Recovery successful. Press Execute for Additional Recovery Procedure." This recovery is a two part process. The first part of the recovery process produces a usable document: that is, the document can be edited and printed but may be missing text. The second part of the recovery process ensures that the document will be recovered as completely as possible.

2.14.2 Baddoc Function

When you are directed to the Baddoc function by an error message, position the cursor next to Baddoc and press EXECUTE/NEW LINE. Then follow the system prompts by entering the document ID and pressing EXECUTE/NEW LINE.

If the system cannot recover the document, the document remains inaccessible; you must then go through the Command Processor and delete any Baddoc library entries. In order to delete Baddoc entries, you must be able to recognize a Baddoc library within the Manage Files and Libraries listing. Baddoc libraries have the format of Baddocxx where xx represents the document's library letter: xx represents lowercase and x represents uppercase.

2.14.3 After Recovery

After a Document and Baddoc recovery, the recovered document might contain text that was not part of the original document. After recovery, you should edit the document, using word processing, and delete the unwanted text.

Depending on how badly damaged the document was prior to recovery, the document pages may or may not be in proper order. If text is missing from the document you can look in the document's Work Page (press GO-TO-PAGE W). Document Recovery stores text without page references in the Work Page.

Documents cannot contain more than 120 pages of text, excluding special pages, such as header and footer pages. If Document Recovery locates more than 120 pages in an unrecovered document, it appends all pages to the 120th page. If the message, "More than 120 pages in document", appears after recovery, you should look in the last page of the document (Page 120) for any pages that are missing.

The following table lists the error messages, the suggested recovery function, and, where appropriate, the condition of the document.

Table 2-1. Document Recovery Error Messages Table

MESSAGE	FUNCTION	CONDITION
May be damaged	Document	Usable document, possible internal inconsistencies.
Use document recovery	Document	Usable document with internal inconsistencies.
Unknown document	Baddoc	Routed to Baddoc Library associated with document's library, or does not exist.
Damaged Beyond Recovery	Baddoc	Routed to Baddoc library associated with document's library.

2.15 RECOVER ARCHIVE DISKETTE

Damage to archive diskettes, caused by a scratch on the inner disk or even by normal wear, makes the information on the damaged diskette impossible to retrieve through normal document filing procedures. Documents on these damaged diskettes can be retrieved by using the Recover Archive Diskette utility.

Before accessing the Recover Archive Diskette utility, mount the damaged archive diskette. Then select Utilities from the Word Processing menu. From the Utilities and Supervisory Functions menu, select Recover Archive Diskette. Press EXECUTE/NEW LINE. The next screen is the Recover Archive Diskette menu, pictured in Figure 2-19.

Diskette recovery is performed using the central archive or local archive drives. To use the local archive drive, first access Recover Archive Diskette from the Archiving Workstation. Workstations 2246C, 2256C, and 2866C can always access the central archive drive.

```
            A R C H I V E   D I S K   R E C O V E R Y
                       Release 2.5



                    ■Central Drive
                    __Local Archiver


                    ■Single Document Retrieval
                    __Multiple Document Retrieval
                    __Rename Disk
```
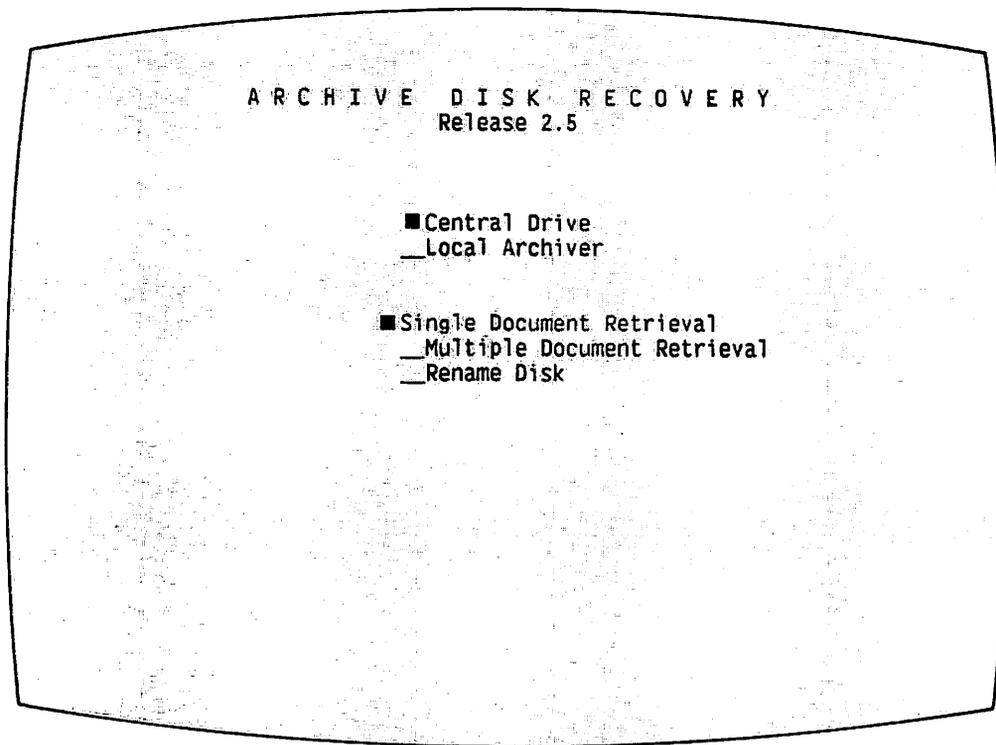
Figure 2-19. Recover Archive Diskette Menu

2.15.1 Single Document Recovery

     Use the following steps to retrieve a single document from a damaged
diskette.

    1. Select the drive to be used.

    2. Press RETURN/ENTER to move the cursor to Single Document and press
        EXECUTE/NEW LINE.

    3. The following prompts appear if information has been incorrectly
        specified.

        a. The prompt, "Terminal is not a Local Archiving Workstation",
            appears if you select the Local Archiver option from a 2246C,
            2256C, or 2866C workstation.

        b. The prompt, "Archive in Use", occurs if you specify the Central
            Drive from an archiving workstation.

        c. The prompt, "Drive Not Available", occurs if you forget to mount
            the diskette before beginning diskette recovery procedures.

    4. If information has been properly specified, the system prompts,
        "Please Put Archive Disk in Drive. Press EXECUTE to Mount Disk."
        Press EXECUTE/NEW LINE to continue with recovery operations.

5. The system then prompts, "Please Enter Document ID", and highlights the ID of the first document found in the Volume Table of Contents (VTOC) of the archive diskette. (The VTOC is a list of all files on a disk.) The message, "Archive ID: XXXXX", appears in the upper right portion of the screen. "XXXXX" represents the archive diskette ID.

6. To specify the document to be recovered, type over the given document ID, or press P SCR or N SCR, to search through the document IDs on the diskette. Pressing N SCR/ERASE displays the ID of the next document on the VTOC. Likewise, pressing P SCR/B TAB displays the previous document on the VTOC.

7. Press EXECUTE/NEW LINE. The system then tries to recover the document and displays the message, "Retrieving document XXXXX", with XXXXX representing the ID of the document specified for recovery.

8. When document recovery is complete, the message, "Document XXXXX successfully retrieved, Needs recovery", appears on the screen. Press CANCEL/RESET to leave diskette recovery and to display the Utilities and Supervisory Functions menu.

9. Recover the document by accessing the Word Processing menu and by selecting Edit Old Document. The system will then recover the document, using the procedures described in Section 2.13.

2.15.2 Multiple Document Recovery

Recover Archive Diskette is also used for recovering a group or all documents on an archive diskette. To specify multiple document recovery, first access Recover Archive Diskette from the Utilities and Supervisory Functions menu. Then, follow these instructions.

1. Select the appropriate drive for the workstation. Press RETURN/ENTER and the Space Bar to move the cursor to Multiple Document. Press EXECUTE/NEW LINE.

2. The system prompts, "Please Put Archive Disk in Drive. Press EXECUTE to Mount Disk." Press EXECUTE/NEW LINE in response. (Refer to the previous subsection, Single Document Recovery, for a list of possible error messages.)

3. The workstation displays the Archive Disk Recovery screen with the list of documents on the diskette, as illustrated in Figure 2-20. The message, "The following documents have been found on the disk. Press EXECUTE to search for additional documents.", appears at the top of the screen. Press EXECUTE/NEW LINE if all the documents on the diskette do not appear on this screen. The message, "Rebuilding VTOC", appears at the bottom of the screen. If the VTOC is damaged on the diskette, the system tries to fix it at this time.

2-34

```
┌──────────────────────────────────────────┐
│                                          │
│     A R C H I V E   D I S K   R E C O V E R Y │
│              Release 2.5                 │
│                                          │
│                                          │
│    The following documents have been found on the disk │
│    Press EXECUTE to search for additional documents │
│                                          │
│    __0001M                               │
│    __0109M                               │
│    __0110M                               │
│    __0165M                               │
│    __0166M                               │
│                                          │
│                                          │
│                                          │
│                                          │
│                                          │
│                                          │
│                                          │
│                                          │
│                                          │
└──────────────────────────────────────────┘
```
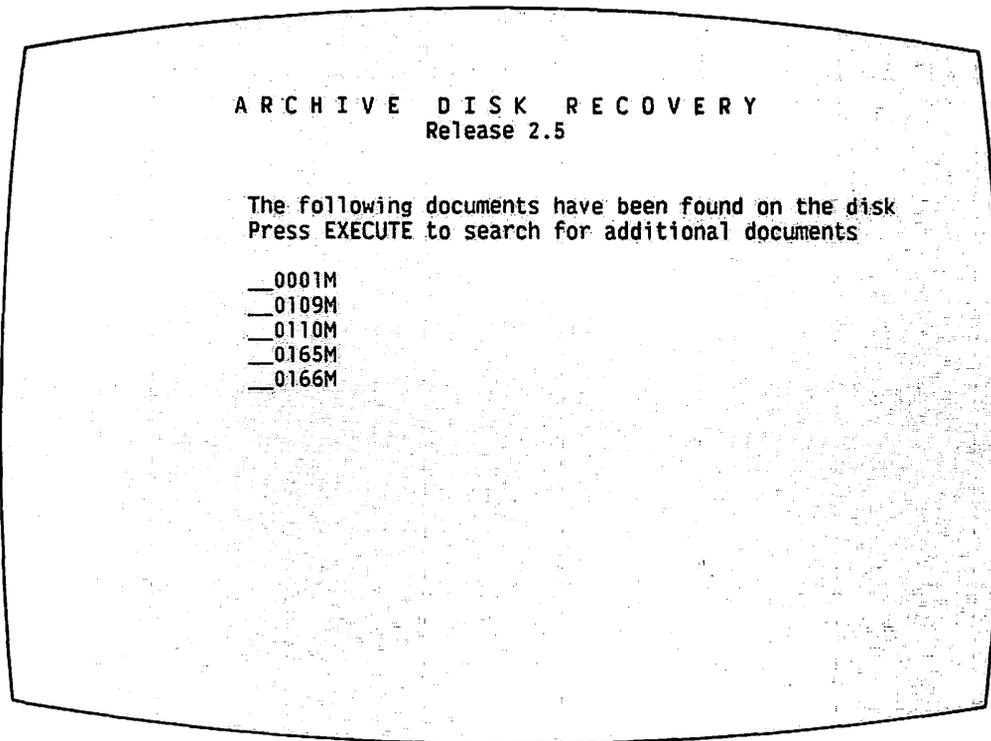
Figure 2-20.   Archive Disk Recovery Screen

4. The next screen shows a complete list of documents on the diskette.
    Select the documents to be retrieved by pressing the Space Bar, to
    move the cursor to the appropriate document ID.

5. Press INSERT to place an Acceptance Block beside the ID of each
    document to be retrieved. If you make a mistake and select the
    wrong document, return to the incorrect document and press DELETE to
    remove the Acceptance Block.

6. When all documents are selected, press EXECUTE/NEW LINE to begin
    document recovery. The system prompts, "Retrieving document XXXXX",
    for each document it tries to retrieve.

7. Should an error occur during document retrieval and more documents
    need to be retrieved, press EXECUTE/NEW LINE to go on to the next
    document, or press CANCEL/RESET to terminate recovery.

8. When document retrieval is complete, the system displays the
    message, "Document XXXXX (the ID of the last document to be
    retrieved) successfully retrieved. Needs recovery." Press
    CANCEL/RESET. The first screen of the Recover Archive Diskette
    Utility is displayed. Two additional options, Mount Current Disk
    and Change Disk, appear on the screen at this time. You have the
    choice of rerunning the utility using one of these new options or
    terminating the utility.

9. Press CANCEL/RESET to leave the Recover Archive Diskette utility and to return to the Utilities and Supervisory Functions menu.

10. Remember to recover each document from the damaged diskette, using the procedures described in Subsection 2.11.3.

Remember that although the documents have been recovered, the diskette on which they were stored still remains damaged. The damaged diskette should be discarded at this time. Note also that the documents retrieved from the diskette may still be damaged after recovery.

2.15.3 Rename Disk

The Rename Disk option allows you to change the ID number of the archive diskette.

1. Press both RETURN/ENTER and the Space Bar to position the Acceptance Block next to the Rename Disk option. Press EXECUTE/NEW LINE.

2. The system prompts, "Please Enter New Archive Disk ID. Press EXECUTE to Rename Disk." The message, "Archive ID: XXXXX", appears in the middle of the screen, with XXXXX representing the ID of the archive diskette.

3. Type the new archive ID over the given ID and press EXECUTE/NEW LINE.

4. The message, "Rename complete", appears at the bottom of the screen. Press CANCEL/RESET to return to the first menu.

5. Press CANCEL/RESET to leave the Recover Archive Diskette utility and return to the Utilities and Supervisory Functions menu.

2.16 RUN PROGRAM OR PROCEDURE

The Run Program or Procedure function allows you to run a VS program or procedure that is not otherwise available from the menu. From the Utilities and Supervisory Functions menu, press R or the Space Bar to move the Acceptance Block next to Run Program or Procedure. Press EXECUTE/NEW LINE. The workstation displays the screen illustrated in Figure 2-21.

```
Wang VS Integrated Information System - Release 1.04.05

            Run Program or Procedure


        Supply the name of the Program or Procedure
              to be run and press EXECUTE:


    [Optional -  Designate a user library which includes]
            [the Program or Procedure to be run]




        Program or Procedure_ _ _ _ _ _ _

              [in Library_ _ _ _ _ _ _ _]
                 [on Volume_ _ _ _ _ _]




        Or press CANCEL to bypass this function
```
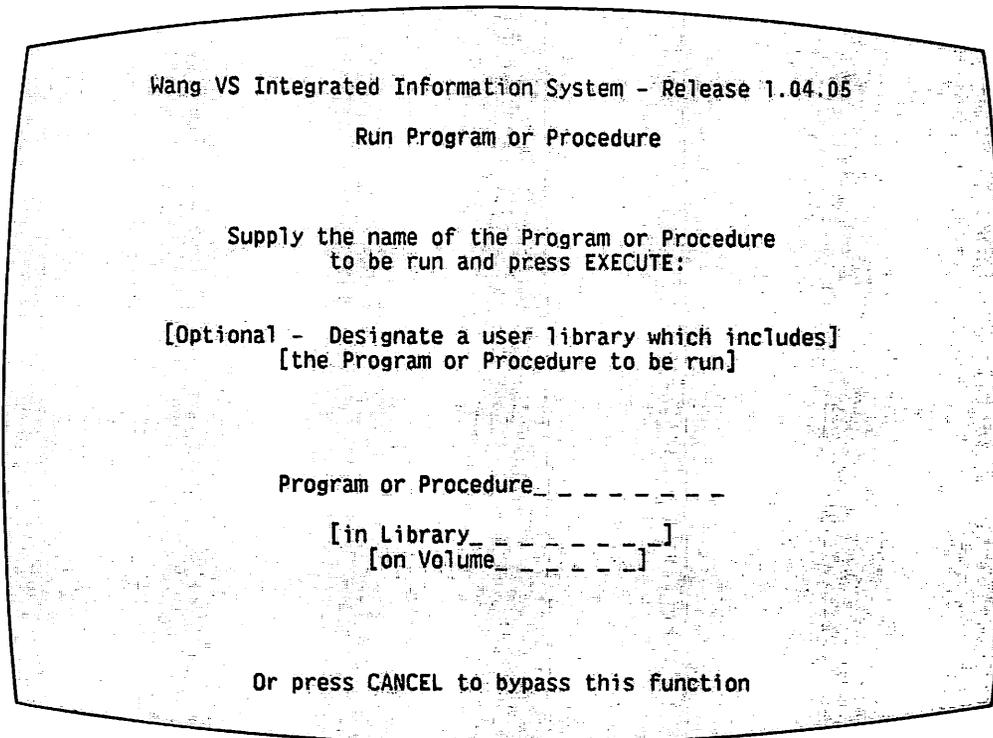
Figure 2-21. Run Program or Procedure Screen

The specification of library and volume names is optional. If you do
not specify the library and volume, the system program library is assumed.

2.17 EXITING FROM THE WORD PROCESSING PROGRAM

To leave the word processing program, perform the following steps.

1. Return to the Word Processing menu and select Terminate Word
    Processing. Press EXECUTE/NEW LINE.

2. The system automatically terminates the word processing software,
    and the workstation displays the VS Command Processor.

From the Command Processor, you can perform a number of data processing
functions, or log off the system entirely. Chapter 3 explains the various
data processing functions, including Logoff, available through the Command
Processor. The Logoff function explains how to terminate a workstation
session.

2.18 POWER-DOWN PROCEDURES FOR THE VS/IIS

The frequency of regular powering down of the VS/IIS will vary from installation to installation. Some systems will be powered down nightly, others over the weekend, and still others only on long holiday weekends. The following procedures should be followed completely to power down the system.

1. Inhibit further logons through PF 6 (INTERACTIVE Tasks) on the Operator's Console menu. Notify all users to logoff the system. Use PF 6 on the Operator's Console to verify that they have done so.

2. Press the Control Mode button on the upper right corner of the processor. Make sure that workstation 0 displays XXXXXXXX 87XXXXXX. (The Xs are of no consequence for this procedure.)

3. Press the LOAD button on the front of the CPU.

4. Press the START/STOP button on each disk drive. The read/write heads are unloaded when the READY light on each disk drive goes out.

5. Unload any tape drives on the system by pressing the ONLINE button, and then the REWIND button. After the tape has reached the load point, press REWIND again.

6. Power down the 2260V and 2280V disk drives, using their respective ON/OFF switches. To power down the 2265V disk drive, first place the POWER SUPPLY switch in the OFF position, and then place the AC POWER switch in the OFF position.

7. Power down any tape drives by pressing the POWER button.

8. Power down the CPU by placing the CPU POWER SUPPLY switch on the rear panel in the OFF position.

9. Power down all workstations and printers.

The following is a summary of general rules that must be followed when powering a system up or down.

1. Always power on the processor before powering on the disk and tape drives; conversely, always power off the processor after powering off the disk and tape drives.

2. Do not power the processor on or off while the disk Read/Write heads are loaded. Always unload the disk Read/Write heads before powering any part of the system off.

3. When loading disk Read/Write heads, wait at least 5 seconds before pressing the START button on the next drive.

4. Do not press the START button on a disk drive while a file on that drive is open.

CHAPTER 3
MANAGING WORD PROCESSING OPERATIONS ON THE VS

3.1 INTRODUCTION

In addition to the word processing functions explained in the last chapter, you can use a number of data processing functions, depending on the particular VS/IIS installation. In this chapter, all VS Command Processor functions that are particularly helpful to your duties are discussed. These functions are used for running programs, various disk and tape operations, handling of the data processing print queue, and observing equipment usage. Other functions of the Command Processor that do not directly apply to your usual duties are covered in Appendix A.

3.2 THE COMMAND PROCESSOR

The VS Command Processor is the main menu of the VS Computer System, and is illustrated in Figure 3-1. If you are currently using the word processing program, you should return to the Word Processing menu and select Terminate Processing. Then when you press EXECUTE/NEW LINE, the workstation displays the Command Processor. If the workstation is currently logged off, you need only log on to access the Command Processor.

Because numerous complex data processing activities can be performed from the Command Processor, you may want to restrict usage of the Command Processor to yourself and an assistant. This restriction is accomplished by assigning a Logon procedure to every operator restricted from using the Command Processor. Logon procedures are discussed fully in Chapter 4.

When you are performing data processing activities, the top row of keys on the workstation keyboard operate as Program Function (PF) keys; they are referenced by the numbers on the plastic strip beneath them. The various functions of the Command Processor are numbered according to the PF key that must be pressed to access each function.

You can move the cursor several ways when using data processing functions. The four directional Cursor Control keys move the cursor as indicated on the keyface: north, east, south, or west. Also, the Cursor Control keys move the cursor to any position on the screen, regardless of whether it is blank or occupied by characters. (In a word processing document, the cursor cannot be moved into a blank area of the screen past the prompt, "(Document End)".) Characters can only be entered where highlighted blocks, or pseudoblanks, are provided for them. If you try to enter a character in an area of the screen without pseudoblanks, an alarm sounds. An exception to this rule occurs when you press an appropriate PF key, RETURN/ENTER, or HELP, in response to a prompt appearing on a screen.

```
                  · *** Wang VS Command Processor ***

 Workstation  13  Ready            8:40 pm      Thursday    February 5, 1981

                             Hello Ken Worth


            Press (HELP) at Any Time to Interrupt Your Program or to Stop
                      Processing of the Current Command.



                 Use the Function Keys to Select a Command:

        (1) RUN Program or Procedure         (9) Enter WORD PROCESSING
        (2) SET Usage Constants
        (3) SHOW Program Completion Report   (12) SUBMIT Procedure

        (4) Manage PRINT/PROCEDURE Queues    (15) PRINT COMMAND Screen
        (5) Manage FILES/LIBRARIES
        (6) Manage DEVICES                   (16) LOGOFF
```

Figure 3-1.   The VS Command Processor

Groups of pseudoblanks are called fields. You type information into a field as requested on the screen. For example, a screen may contain the word, FILE, followed by a set of pseudoblanks. In this case, you would type the name of the file to be used in the field. Where pseudoblanks are provided, the cursor can be moved from the first character position of one field to the next by pressing the TAB key. The cursor can also be moved from the first position of one field to the first position of the previous field by pressing the P SCR/B TAB key. Finally, you can press the first position of the first field on the screen from anywhere on the screen by pressing HOME.

Any function performed and any program run on the system is generated through the Command Processor. When you press a PF key, the main menu for its corresponding function is displayed by the workstation. You then are guided through the function by screens that prompt you to press other PF keys to perform the necessary actions.

Other information included on the Command Processor menu is the workstation number, date, time, and user name. The workstation number is the exclusive device number of the particular workstation assigned when the system is first installed. Date and time are set whenever the system is powered up by an Initial Program Load (IPL). The user name is assigned whenever a new User ID is added to the system by the system security administrator or word processing supervisor.

The Command Processor also enables users to interrupt their running programs or functions by pressing the red HELP key. When you press HELP and processing is temporarily interrupted, the workstation leaves the function and displays the Modified Command Processor menu, shown in Figure 3-2. This action does not alter a program that is running in any way.

```
                    *** Wang VS Command Processor ***


                          Hello Ken Worth


Total Elapsed Time = 00:00:02 (HMS) Program Processor Time = 00:00:00 (HMS)



                          Program MAIL
                   Was Waiting for Workstation Attention



                Use the Function Keys to Select a Command:

        (1) CONTINUE Processing            (10) Enter DEBUG Processing
        (2) SET Usage Constants
        (3) SHOW Program Status            (12) SUBMIT Procedure

        (4) Manage PRINT/PROCEDURE Queues  (14) PRINT PROGRAM Screen
        (5) Manage FILES/LIBRARIES         (15) PRINT COMMAND Screen
        (6) Manage DEVICEs                 (16) CANCEL Processing
```

Figure 3-2.   The Modified Command Processor Menu

Five functions on the modified menu differ from the normal Command Processor menu; These five functions and their PF key numbers are:

- CONTINUE Processing (PF1)
- SHOW Program Status (PF3)
- Enter DEBUG Processing (PF10)
- PRINT PROGRAM Screen (PF 14)
- CANCEL Processing (PF16)

These functions enable you to examine the status of a program or procedure as it is running; they are described in detail in Section 3.12.

3.3   RUN PROGRAM OR PROCEDURE

Every system utility and user program you may need to use must first be run before it can be used. The first function of the Command Processor, Run Program or Procedure, enables you to run a system utility, user program, or procedure. To access the Run screen, as shown in Figure 3-3, press PF 1.

```
                          ***  Run  ***



    Supply the Name of the Program
    (or Procedure) to be Executed
    and Press (ENTER):                        PROGRAM  = COPY****

    Options -

       Designate a User Library which
       Includes Programs (or Procedures)
       to be Used During This Run:           LIBRARY  = ********
                                             VOLUME   = ******




         or Press (1) to Load Program for Interactive Debug



         Press (HELP) to Return to the Command Processor
```
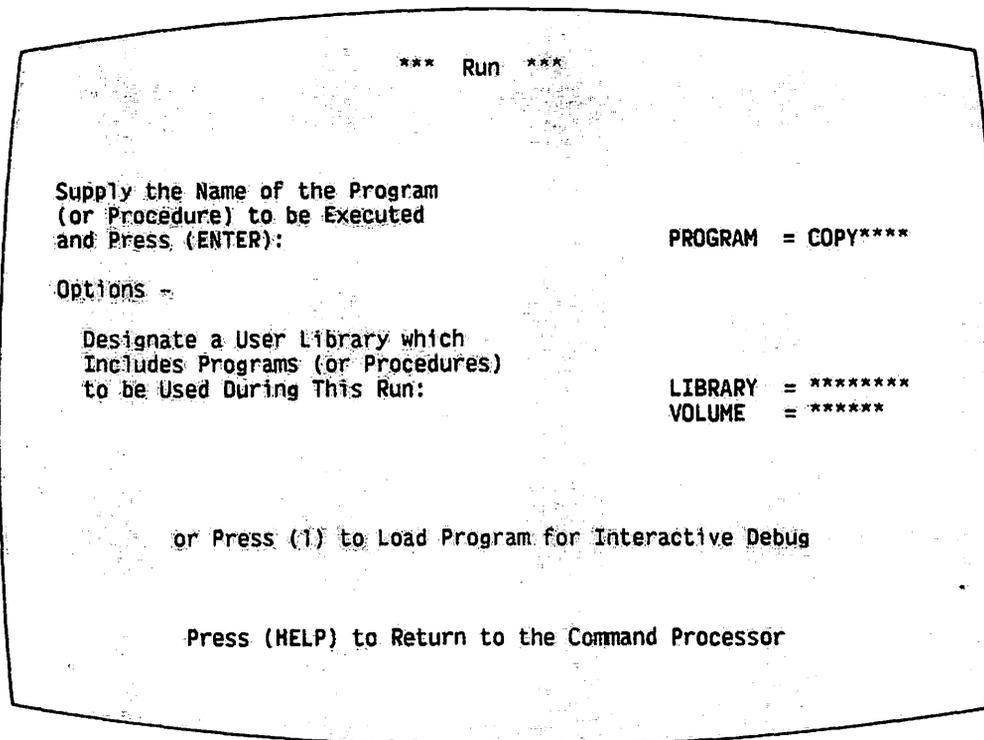
Figure 3-3.   The VS Run Screen

Three fields appear on the Run screen. You must enter the name of the
program to be run in the first field. Since most of the programs you will use
are system utilities (programs that are part of the VS System Program
Library), the library and volume fields can be left blank.   The VS
automatically knows this information. Press RETURN/ENTER to run the program.
If you run a program or procedure written by a programmer at your
installation, the programmer should supply you with both the library and
volume names. Type the library and volume names in their appropriate fields
and press RETURN/ENTER. The system now runs the program and displays the
first of its associated screens.

3.4   SET USAGE CONSTANTS

The Set Usage Constants function enables you to specify default names
for data processing libraries and volumes you intend to use for particular
operations. This function also allows you to assign default file protection
classes for data files and word processing documents. To access the Set Usage
Constants function, press PF 2. The workstation displays the first screen
associated with the function (refer to Figure 3-4).

3-4

```
                    ***  Set Common Usage Constants  ***


Default Location (Library and Volume) of Files Assuming that these Values are
not Parameterized via Procedure or Provided by the Program Itself:

        Input Files:              INLIB   = ********   INVOL    = ******
        Output Files:             OUTLIB  = ********   OUTVOL   = ******
        User Programs:            RUNLIB  = ********   RUNVOL   = ******
        Work/Temporary Files:     WORKLIB = #JTWORK    WORKVOL  = ******
        Spooled Print Files:      SPOOLIB = #JTPRT     SPOOLVOL = ******


Default File Protection Class for Output Files
(Use " ", "$", "@", "#", or "A" through "Z"):       FILECLAS = *


        Alter these Displayed Default Constants in Place and Press (ENTER)

        or Press  (1) Set Print Mode Defaults
                  (2) Set Procedure Submittal Defaults
                  (HELP) Return to the Command Processor
```

Figure 3-4. Set File Defaults Screen

Set Usage Constants allows you to set up defaults to be used when data
processing files are being created. Three menus are associated with this
function. The first menu, Set File Defaults (refer to Figure 3-4), enables
you to set defaults for libraries and volumes in which certain types of data
processing files are to reside. The second menu, Set Print Mode Defaults
(refer to Figure 3-5), provides for the specification of defaults for any data
processing (not word processing) print file. The third menu, Set Procedure
Submittal Defaults (Figure 3-6), is used for setting defaults for background
procedures.

```
                      ***  Set Common Usage Constants  ***

Current Print Mode Defaults for Spooled and Online Printing:

 S - Spool Printer Files    O - Online Printing            PRNTMODE = K
 H - Hold  Printer Files    K - Keep as File, Do Not Queue

 Default Spooled Print File Print Class  ("A" thru "Z"):   PRTCLASS = A
                           Form Number (000 thru 254):     FORM#    = 000

 Default Online Printer Device Number:                     PRINTER  = 026

 Default Lines per Page  (For Optional Program Use):       LINES    = 055


    Alter these Displayed Default Constants in Place and Press (ENTER)

    or Press  (2) Set Procedure Submittal Defaults
              (3) Set File Defaults
            (HELP) Return to the Command Processor
```

Figure 3-5. Set Print Mode Defaults Screen

```
                   ***  Set Common Usage Constants  ***



   Current Defaults for Procedure Submittal via the Command Processor
   "RUN" and "SUBMIT" Commands:

Default Submittal Status:
      R - Run,  Proc Eligible for Scheduling
      H - Hold, Do Not Run Proc Until Released
               by Submitter or Operator           JOBQUEUE = R

Default Proc Scheduling Class  ("A" thru "Z"):    JOBCLASS = A

Default Proc Execution Time Limit:
      Central Processor Time in Format HH:MM:SS
      - No Value (or Zero) Indicates "No Limit"    JOBLIMIT = 00 : 00 : 00


   Alter These Displayed Default Constants in Place and Press (ENTER)

   or Press    (1) Set Print Mode Defaults
               (3) Set File Defaults
             (HELP) Return to the Command Processor
```

Figure 3-6. Set Procedure Submittal Defaults Screen

Because supervisors generally have a limited need to use Set Usage Constants, this function is not described in detail here. A more complete explanation is given in Appendix A. However, one particular file default, FILECLAS, is important to you due to its value in setting up a security system. The FILECLAS default is found on the Set File Defaults screen, as shown in Figure 3-4.

The FILECLAS field should contain the file protection class to which all data and word processing files created during the current workstation session are to be assigned by default. The use of file protection classes provides a method of protecting documents from access by unauthorized users, and are discussed fully in Chapter 4. A file protection class can be A-Z, $, @, #, or blank, depending on the type of file. The selection of a default file protection class depends upon the way in which the installation's system security has been set up.

To assign a file protection class to a workstation session, type the appropriate letter in the FILECLAS field of the Set File Defaults screen. Then press RETURN/ENTER to have the system accept these defaults. All files created from this point on, until you log off, will have the file protection class assigned in the FILECLAS field. You can change the file class by using the Manage Files and Libraries function, discussed in Section 3.7.

You can write a Logon procedure that automatically assigns a file protection class for all files created by the operator for whom the procedure has been written. This subject is fully discussed in Chapter 4. You should not set file protection classes for yourself for workstation sessions during which you are creating files that word processing operators may need to access.

3.5   SHOW PROGRAM COMPLETION REPORT

The Show Program Completion Report function is generally outside the scope of activities of the typical word processing supervisor. Refer to Appendix A for more information about this function.

3.6   MANAGE PRINT/PROCEDURE QUEUES

The Manage Print/Procedure Queues function enables you to view a list of all data files queued to print and to perform certain operations on these files. The print queue available through this function includes data processing files only. (The word processing print queue can be observed by pressing PF 9 to enter Word Processing, and viewing the Document Index function of the Word Processing menu.) Manage Print/Procedure Queues also display a list of background procedures awaiting processing.

3.6.1   Printing Data Processing Files

When you request the printing of a data processing file, the output file can be handled in one of three ways.

● The file can be temporarily stored on disk and controlled for printing by the VS automatic print spooling system.

● The file can be indefinitely stored on a disk specified by the user.

● The file can be sent directly to the printer.

Any print output sent to a disk is stored in a print file. The VS automatic print spooling system assumes control of the print files, thereby freeing both the user and the workstation to perform other activities. Data processing print files are placed in a list of files known as the print queue. The print queue is accessible to all users and is also displayed on the Operator's Console. From the print queue screen, you can view the characteristics of a print file and manipulate the file, within certain limitations. (Remember, this queue does not include any word processing files waiting to be printed.)

Some printer models can be used for printing both word processing documents and data processing files. The status of data processing print files can be changed through the Manage Print/Procedure Queues function. Usually, the data processing print file status is Hold. On the other hand, printing of word processing files occurs automatically, with documents assigned to the printer on a first come, first served basis. If a word processing document and a data processing file are queued to the same printer at the same time, the word processing file is given first priority.

Through the associated displays of Manage Print/Procedure Queues, you can either release a print file for printing or run a background job. (Refer to Appendix A for information about setting defaults for print files, and an explanation of background procedures.)

To access the Manage Print/Procedure Queues function, press PF 4 from the Command Processor. The first screen to be viewed is the Display Print/Procedure Queues menu (Figure 3-7). Two functions are available through this menu: Print Queue and Procedure Queue. Since you are concerned mostly with the Print Queue, examine this screen first by pressing PF 2.

```
         ***  Display Print/Procedure Queues  ***
         8:47 pm      Thursday      February 5, 1981




              (2)  PRINT Queue

              (3)  PROCEDURE Queue







          Press (HELP) at Any Time to Return to the Command Processor
```
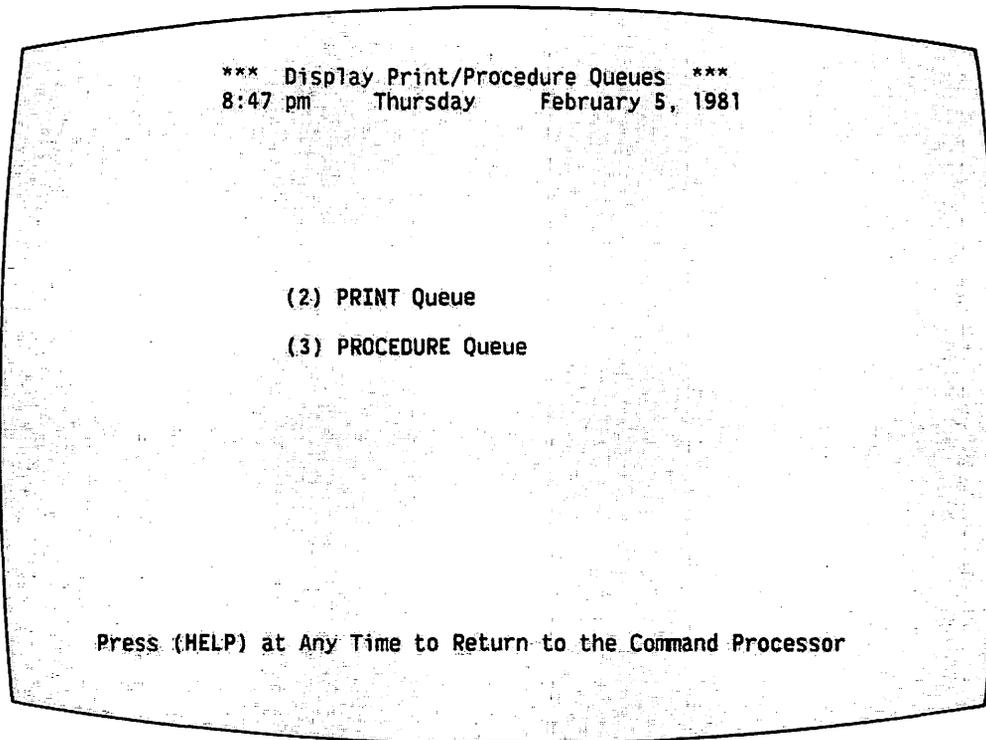
Figure 3-7. Print/Procedure Queues Menu

3.6.2 Print Queue Control

The Print Queue screen (Figure 3-8) presents various information
relevant to each print file in the queue, and enables you to manipulate these
files. At the top of the screen, the present date and time is given. The
current number of entries in the queue appears to the left above the table.
Each column in the table supplies the following information.

- Position of the file in the print queue

- File name, library, and volume

- User ID of the file originator

- Print class by which the system determines the priority of print
  files

- Print form number to be used in printing (varies from installation
  to installation and is used as a message to the console operator)

- Number of copies to be printed (between 1 and 32767)

- Number of lines to be printed

- Post-printing disposition (Blank, Save, or Requeue)

- Status (Blank, Hold, Conflict, or Printing)

3-9

In addition, the lower portion of the screen offers the user five choices of operations to perform on the print files. You can also use the PF keys to move from one screen of the print queue to the next, if the queue is more than one page long.

```
                        ***  Print Queue Display  ***
              8:48 pm       Thursday     February 5, 1981




     9 Entries in Print Queue

     File   Library  Volume User Class Form Copies Lines  Disposition Status
  1 LOG00011 #DPLPRT  NEWSYS DPL   A    000     3    36
  2 LOG00006 #KRTPRT  NEWSYS KRT   A    000     1    56   Requeue     Printed
  3 LOG00007 #AJDPRT  NEWSYS AJD   A    000     5     7               Hold
  4 LOG00009 #RATPRT  NEWSYS RAT   A    100     2    34               Hold
  5 LOG00010 #RATPRT  NEWSYS RAT   A    000     1   909               Hold
  6 LOG00005 #MCWPRT  NEWSYS MCW   A    254     1  1705   Save        Hold
  7 MAIL0001 #JMTPRT  NEWSYS JMT   A    000     1    43               Hold
  8 COPY0001 #JMTPRT  NEWSYS JMT   A    001     7     5               Hold
  9 LOG00006 #MCWPRT  NEWSYS MCW   A    000     1    28   Requeue     Hold

  Position Cursor to Indicate File(s) and Press PFkey to Perform Action:

              (7) Hold/Release (10) Change  (13) Change Disposition
              (8) Scratch      (12) Remove
```

Figure 3-8.   Print Queue Screen

The two final columns of the screen, Disposition and Status, determine the print status of the file before and after printing. The Disposition column indicates the action the system is to take upon the file after it is printed. A blank area in the Disposition column indicates that the file is to be deleted after printing. Save means the file is to be saved in the user's print file, but is to be removed from the queue. Requeue means the file is to be saved and retained in the queue.

Status determines whether or not the file is printed when it becomes first in the queue. A blank space in the Status column causes the file to be printed as soon as a printer becomes available. Hold causes the file to be held until released by the owner of record or a system operator. Printing indicates that the file is being printed.

The five different operations that can be performed upon print files are discussed in the following sections.

Hold/Release Print Queue Function

The Hold/Release Print Queue function changes the print status of a file. To use Hold/Release, move the cursor to the queue position of the file to be altered, and then press PF 7. If the file has a Release status, pressing PF 7 causes its status to be changed to Hold. The file remains in

3-10

the print queue until its status is altered by another function.

If the file has a Hold status, pressing PF 7 changes its status to Release. Thus, the file is released for printing when a printer becomes available, unless it is changed beforehand by another function.

Perform the following steps to release the file.

1. Move the cursor to the queue position of the appropriate file and press PF 7. The caption, "Release", replaces "Hold" in the Status column.

2. The number of the printer being used replaces the caption, "Release", in the Status column when the file is actually being printed.

Error messages:

● If the user does not have access rights to the file and tries to change its status, the system prompts, REFUSED – USER HAS INSUFFICIENT ACCESS RIGHTS.

● If the user tries to change the status of a file currently being printed to Hold, the system prompts, REFUSED–FILE IS PRINTING. It is possible to change the status of a file being printed to Hold, through the Operator's Console.

Scratch Print Queue Function

The Scratch Print Queue function deletes a print file from the print queue, depending on its file protection status. You can scratch a file only if the retention date of the file has expired, and you have access rights to the file.

To scratch a print file, perform the following steps.

1. Locate the cursor to the queue position of the file, and then press PF 8.

2. The system causes the file name to blink. Press RETURN/ENTER to scratch the file.

Error messages:

● If the user does not have access rights to the file, the system gives the message, REFUSED – USER HAS INSUFFICIENT ACCESS RIGHTS, and terminates the operation.

● If the assigned retention period is not over, the system displays the message, REFUSED – RETENTION PERIOD HAS NOT EXPIRED.

● If an attempt is made to scratch a file that is being printed, the system prompts, REFUSED – FILE IS PRINTING. You must use the Operator's Console to scratch a file while it is being printed.

Change Print Queue Function

The Change Print Queue subfunction enables only <u>system operators and owners of record</u> to change the state of the print file in several ways. These changes include:

- Moving the print file in the print queue. System operators can move the print file up or down in the queue; owners of record can only move a print file down.

- Respecifying the print class of the file (print priority).

- Changing the print form number.

- Changing the number of copies to be printed.

To use Change Print Queue, move the cursor to the file to be changed and press PF 10. The Print Queue screen is altered, as illustrated in Figure 3-9.

```
                        ***  Print Queue Display  ***
              8:52 pm     Thursday      February 5, 1981



     15 Entries in Print Queue

        File    Library  Volume User Class Form Copies Lines  Disposition  Status
   11 LOGO0014 #DPLPRT NEWSYS  DPL   M   200    2     42
   12 LOGO0012 #DPLPRT NEWSYS  DPL   A   000    1     36                    Hold
   13 LOGO0018 #SSMPRT NEWSYS  SSM   A   120    5     39                    Hold
   14 LOGO0008 #SSMPRT NEWSYS  SSM   B   000   11    125    Requeue         Hold
 **15 JMTL0037 #JMTPRT NEWSYS  JMT   A   000 ****1    36                    Hold






  Press (ENTER) to Effect Changes, or Press (1) to Return to Display
```

Figure 3-9. Print Queue Screen - Change Status

The system inserts pseudoblanks or highlights characters in the columns that can be changed. The first field enables you to enter a lower queue position for the file. The next column, Print Class, is highlighted and can be changed to any class (A-Z). The Form column is highlighted and can be typed over, to change the form. The last modifiable column, Copies, enables you to change the number of copies to be printed. After these columns are modified, press RETURN/ENTER to effect the changes.

Error messages:

- If you try to change the print class to anything other than A-Z, the system prompts, ERROR - CLASS MUST BE A-Z.

- If you try to change the form to a number higher than that accepted by the VS/IIS, the system prompts, ERROR - FORM MUST BE 0-254.

- If you try to change the number of copies to one that is higher than that accepted by the VS/IIS, the system prompts, ERROR - COPIES MUST BE 1-32767.

- If you do not have access rights, the system prompts, REFUSED - INSUFFICIENT ACCESS RIGHTS.

Remove Print Queue Function

When you select the Remove Print Queue function, the file entry is removed from the print queue and the file status is changed to Keep. The file itself remains on its designated disk, but the copy in the print queue is removed.

To remove a print file from the queue, perform the following steps.

1. Move the cursor to the file to be removed. Press PF 12. The system causes the file name to blink.

2. Press RETURN/ENTER. The file is removed from the print queue and the remaining files on the queue are repositioned.

Error message:

- If you do not have access rights to the file, any attempts to remove the file cause the system to display the message, REFUSED - USER HAS INSUFFICIENT ACCESS RIGHTS.

Change Disposition of Queue Function

When the Change Disposition of Queue function is selected, you can change the disposition of the file. Depending on the PF key pressed, a file can be saved, requeued, or scratched.

From the Print Queue display, move the cursor to the appropriate file name and press PF 13. The file name blinks and the system prompts you with the available options.

If the disposition is blank, meaning that the file is to be deleted after printing, you can choose PF 5 to requeue the file or PF 8 to save it. The system places whatever choice you make in the Disposition column, after you press the PF key.

If the disposition is Save, the options are Requeue and Scratch. Likewise, if Requeue is the present disposition, the options are Save and Scratch.

Error messages:

- If the file retention date has not expired, attempts to change its disposition to Scratch result in the message, REFUSED − RETENTION PERIOD HAS NOT EXPIRED.

- If you do not have access rights, the system prompts, REFUSED − USER HAS INSUFFICIENT ACCESS RIGHTS.

To exit the Print Queue screen, press HELP to return to the Command Processor.

3.6.3 Procedure Queue Control

The Procedure Queue Control function provides you with the status of background procedures, in addition to print jobs waiting to be run by the system. Since word processing supervisors do not usually need to access the procedure queue, this function is described in Appendix A, rather than in this chapter.

```
┌─────────────────────── NOTE ───────────────────────┐
│                                                     │
│   The   Manage   Print/Procedure   Queues  function  is  only     │
│   available   through  user  workstations.   Workstations  that    │
│   have  been  designated  to  use  Operator  mode  (including,  of  │
│   course,  the  Operator's  Console)  offer  Enter  Operator  mode │
│   as   the   option   available   through   PF   11   on   the   Command  │
│   Processor.   Enter   Operator   mode   presents   the   information │
│   available   through   the   Manage   Print/Procedure   Queues   │
│   function,   and   allows   the   user   to   perform   certain   │
│   supervisory   operations.    A   complete   description   of   this │
│   function  can  be  found  in  the  VS System Operations Guide.   │
│                                                     │
└─────────────────────────────────────────────────────┘
```

3.7 MANAGE FILES/LIBRARIES

The Manage Files/Libraries function presents a list of all disk volumes attached to the system, the libraries on these volumes, and all files in each library. Both word processing and data processing files are included in the list, enabling you to easily view all information currently stored on any disk on the system.

In addition, you can use Manage Files/Libraries to rename, delete, and protect libraries and files. This function is especially important when you are setting up or modifying system security. From Manage Files and Libraries, you can also view the amount of empty space available on each volume for recording information.

To access the Manage Files/Libraries function screen, press PF 5 from the Command Processor.

3.7.1 Volumes Screen

The first screen of the Manage Files/Libraries Function presents a list of all currently mounted disk volumes, which are the largest organized units of information. The Volumes screen also offers you a variety of options. You can view all libraries on a selected volume and the free extents on the volume, print the contents of the screen, or return to the Command Processor by pressing HELP.

Two methods can be used to view all libraries on a particular volume. The first method involves typing the requested information in the highlighted pseudoblanks. To briefly view the Libraries screen, fill in the field for Volume with the name of one of the volumes listed on the screen. Leave the Library and File fields blank. Press RETURN/ENTER. The first page of the Library screen appears on the screen. All libraries on the volume are listed in alphabetical order. Return to the Volumes screen (Figure 3-10) by pressing PF 1.

```
                    ***  Manage Files/Libraries  ***


  Use Direct Entry To Manage a Particular File or Library:

        VOLUME = ******  LIBRARY = ********  FILENAME = ********

  Or Select a Volume from the List of Currently Mounted Volumes
         by Positioning the Cursor at the associated Tabstop:


  * NEWSYS
  * TC1VOL
  * VOL555
  * ZENITH




  Then Select:        (ENTER) To Display Libraries on the Volume
                      (12)   Free Extents on the Volume
                      (15)   Print Screen
                     (HELP) Return to Command Menu
```

Figure 3-10. Volumes Screen

NOTE

If you supply both a volume name and a library name before pressing RETURN/ENTER, the first entry in the Library screen is the requested library name, followed by the remaining libraries, in alphabetical order. If you supply not only volume and library names, but also a file name, before pressing RETURN/ENTER, the Filenames screen appears, with the requested file as the first entry.

The second method of viewing the libraries in a volume is performed as follows.

1. From the Volumes screen, use the TAB key to move the cursor until it is beneath the Acceptance Block beside the volume to be viewed.

2. Press RETURN/ENTER. The Libraries screen is presented on the screen, with the libraries listed in alphabetical order.

```
┌─────────────────────────── NOTE ───────────────────────────┐
│                                                            │
│  To obtain a printout of the contents of a screen, you     │
│  can press PF 15 from any display in the Manage Files       │
│  and Libraries function.  You can leave this function       │
│  at any point by pressing HELP to return to the Command     │
│  Processor.                                                 │
│                                                            │
└────────────────────────────────────────────────────────────┘
```

3.7.2 Libraries Screen

The Libraries screen (Figure 3-11) lists all libraries on the designated volume, and includes the number of files in each library. You may find it useful to access this screen when copying libraries from one disk to another, deleting outdated libraries from the system, or generally viewing the usage of a particular volume.

At the top of the display is a caption containing the total number of files and libraries on the volume. Since the library list may include more than one screenload of information, you can move to other screenloads by pressing the appropriate PF key. PF 5 displays the next screenload, PF 4 the previous screenload, PF 3 the last screenload, and PF 2 the first screenload of the Libraries display. The prompt area at the bottom of the screen contains this PF key information, plus which PF keys to press for performing various operations, such as Rename, Scratch, or Protect.

```
/‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾\
|                    ***  LIBRARIES  ***               |
| VOLUME SYSTEM CONTAINS  2167 FILES IN   180 LIBRARIES. |
|                                                       |
|    LIBRARY  # FILES       LIBRARY  # FILES       LIBRARY  # FILES  |
|                                                       |
|  * DOCMNTBB     1      * DPLPRINT    2       * FMSDIR       1   |
|  * DOCMNTD      5      * DPLSAVE     1       * FMSMTRX      2   |
|  * DOCMNTE      1      * DPLSCRN     1       * FMSPROG     26   |
|  * DOCMNTGG     1      * DPLSMEG     1       * FMSRPT       2   |
|  * DOCMNTH     15      * DPLSRCE    17       * FMSSRCE      1   |
|  * DOCMNTR     26      * DRWSRCE1    3       * FMSSTRUC     3   |
|  * DOCMNTS      3      * EDSCTL      1       * FMSTEMP      1   |
|  * DOCMNTSS    24      * EDSDATA     3       * FMSTEXT      3   |
|  * DOCMNTT      1      * EDSOBJ      3       * GAMES       26   |
|  * DOCMNTX     32      * EDSSRC      1       * HRMSDATA    11   |
|  * DOCMNTXX     5      * EDSSRCE     3       * HRMSLOAD     3   |
|  * DPLOBJ      26      * ENTRSEL     1       * HRMSPROC     3   |
|                                                       |
| Position Cursor and Press (ENTER) to Display Filenames or Select: |
| (1) RETURN TO VOLUME DISPLAY          (7)  RENAME            |
| (2) FIRST      (4) PREVIOUS           (8)  SCRATCH          |
| (3) LAST       (5) NEXT               (9)  PROTECT    (15) PRINT SCREEN |
_____/
```

Figure 3-11. Libraries Screen

Both word processing and data processing libraries appear on the Libraries screen, providing the volume being viewed actually contains word processing documents. Remember, word processing libraries can only be created while you are running Word Processing, as described in Chapter 2. However, standard word processing libraries can easily be recognized on the Libraries screen.

As the word processing library is created, the system automatically gives the library a name by which it can be accessed and manipulated during data processing activities. This name consists of the prefix DOCMNT, followed by the character or characters representing the library letter assigned when the library was created. For example, to observe the Z library on the Libraries screen of Manage Files and Libraries, you would look for DOCMNTZ. If the library letter assigned during library creation is lowercase b, this library letter appears as two uppercase letters, DOCMNTBB, in the Libraries screen. When a Glossary library is created through Glossary functions on the Word Processing menu, this glossary library is represented as DOCMNTO (zero) in the Libraries screen.

---------------------------------- NOTE ----------------------------------

The prefix, DOCMNT, should never be assigned to any libraries you create while using data processing functions.

Data processing libraries can have identifying names created by the user, and be up to eight characters in length. Often, the name of a data processing library identifies the types of information it contains. For example, the library, @SYSTEM@, could contain system programs, or the library, CATPROG, could contain all programs created by the person with the User ID, CAT.

To view the file content of a particular library, move the cursor beneath the Acceptance Block preceding the library name. Press RETURN/ENTER. The Filenames screen then appears.

3.7.3 Filenames Screen

The Filenames screen (refer to Figure 3-12) presents the names of all files in a selected library, and has various uses. The Filenames screen can be used as a reference when copying files from one volume to another, in determining which files in a library are obsolete, or, in the case of a word processing library, discovering whether a prototype document exists for that library. The caption at the top of the Filenames screen gives the total number of files in the library. As in the Libraries screen, you can press the appropriate PF key to view another screenload of file names, if there is more than one screenload. It is also possible to perform limited operations, such as Rename, Scratch, or Protect, on the files from this screen. (Refer to the prompt area at the bottom of the screen.)

```
                         ***  Filenames  ***

        Library DOCMNTBB on Volume NEWSYS Contains      5 Files.

           Filename                  Filename                  Filename

         *  0000
         *  0001
         *  0002
         *  0003
         *  0004




        Position Cursor and Press (ENTER) to Display File Attributes or Select:

        (1) Return to Library Display      (7)  Rename
                                           (8)  Scratch
                                           (9)  Protect      (15) Print Screen
                                           (10) Print
```
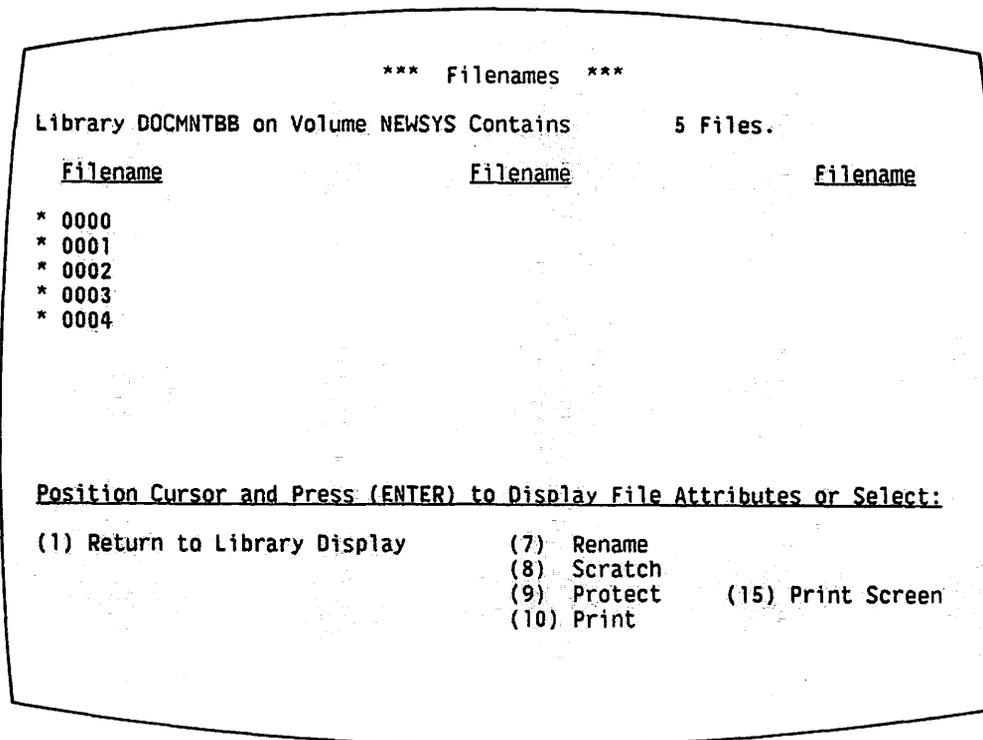
Figure 3-12. Filenames Screen

Figure 3-12 illustrates the files in the word processing library DOCMNTBB. Each file name is composed of a four digit number, corresponding to the ID assigned when the document (word processing file) is created. For example, you can access the file 0002 in the illustration by the document ID 0002b, while you are performing word processing functions. Data processing files can have alphanumeric names up to eight characters long.

3.7.4 File Attributes Screen

Notice how the screens discussed in this section have progressed from the largest unit of storage, the volume, to the libraries on the volume, and then to the files of a specified library. Stored information can also be broken down in the category of file attributes. To access the File Attributes screen, shown in Figure 3-13, move the cursor until it is beneath the Acceptance Block of the file to be examined on the Filenames screen. Press RETURN/ENTER.

Most of the information provided by the File Attributes screen is not crucial for word processing operations. However, the File Attributes screen (Figure 3-13) contains descriptions that may be helpful in identifying file types and characteristics.

```
                          ***  File Attributes  ***



Filename is       0001
Library   is      DOCMNTJ
Volume    is      NEWSYS

Organization  is WORD PROCESSING
Record Length is FIXED
Records       are NOT COMPRESSED

File Was Created     on    1/22/81  by JMT
     Was Last Modified     1/30/81
     Expiration     is     1/22/81
     Protect Class  is     BLANK
     Consists of           8 Records, of Length  256, in  1 Extents
                           1 Blocks                (1 Blocks Allocated)

Press PFkey to Perform Action:


(1) Return to Filename Display                      (15) Print Screen
```

Figure 3-13. File Attributes Screen

At the top of the screen, the file name, library, and volume of the file being described are presented. The next item, Organization, refers to the type of file under examination. There are four types of files on the VS/IIS: data processing program files, identified by Program; word processing

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documents, identified by WP; print files, identified by Print; and data files, identified by Data. Program files, print files, and data files are considered data processing files.

Files often are divided into smaller sections called records. For data processing files, the user can decide whether all records in the file should occupy the same amount of storage space (fixed length), or occupy varying amounts of space (variable length). The Record Length portion of the File Attributes screen indicates whether the records in the examined file are fixed length or variable. In the case of a word processing file, the system automatically assigns a fixed record length to each document created.

The next item on the File Attributes screen, Records are (not) Compressed, refers to the way a file is recorded into the space allocated to it. Compression is a method of compacting recorded data into a smaller area of space on a volume. Programmers can elect to compress the records composing a data file; the system automatically selects the Records are (not) Compressed option for word processing files. Because both the Record Length and Records are (not) Compressed options are totally transparent to anyone using the word processing software, they are not normally a concern of the word processing supervisor.

The creation dates, last modification date, and expiration date of files are shown, along with the User ID of the creator. Then, the protection class of the file is given. Finally, the File Attributes screen presents the number of records in the file, the length of the individual records represented in bytes, the number of extents, and the number of blocks of storage the file takes up.

```
┌──────────────────────── NOTE ────────────────────────┐
│                                                       │
│  Word processing documents are automatically divided into  │
│  records by the system. A record cannot contain more than  │
│  one page of a document; however, a page may consist of more  │
│  than one record. Information on extents, bytes, and blocks  │
│  is discussed in the next subsection.                 │
│                                                       │
└───────────────────────────────────────────────────────┘
```

To return to the Filenames screen, press PF 1. From this point, you can either perform one of the operations offered, namely, you can return to the Libraries screen by pressing PF 1 and then return to the Volumes screen by pressing PF 1 again, or you can exit from the Manage Files and Libraries function by pressing HELP.

3.7.5 Free Extents Screen

To access the Free Extents screen (refer to Figure 3-14), perform this procedure. First return to the Volumes screen, next move the cursor by pressing TAB until it is beneath the Acceptance Block of the volume to be viewed, and then press PF 12.

```
                        ***  Free Extents  ***

    Volume ZENITH Contains       27 Free Extents, Totalling     22011 Blocks.
            The Largest 20 Free Extents are Listed Below.

        Size        First/Last Block         Size        First/Last Block

        5623        31370     36992          323        14119       14441
        3340        14443     17782          162        13433       13594
        2646        19066     21711          114        22345       22458
        2438        27899     30336           94         8418        8511
        1209        12212     13420           90        10839       10928
        1023        26824     27846           85         8892        8976
         612        25281     25892           72        10765       10836
         558        25895     26452           52        10006       10057
         484        21713     22196           49        18929       18977


    Press Pfkey to Perform Action:


    (1) Return to Volume Display                (15) Print Screen
```

Figure 3-14. Free Extents Screen

The Free Extents screen enables you to determine how much storage space
is available on the requested volume. You should also refer to this screen
when backing up a volume.

A free extent is a portion of unused space on a volume, measured in
terms of blocks. Blocks are sections of space on a disk or tape into which
information can be recorded. Each block holds 2048 bytes of information. A
byte is a unit of storage representing one alphanumeric character. In word
processing terms, 2048 characters can be recorded into one block of space on a
volume. If a free extent contains 20 blocks, this means it can store up to
40,960 characters of information (20 x 2048).

At the top of the Free Extents screen, a caption gives the name of the
volume under consideration, the number of free extents available, and the
total number of blocks in each extent. Below the caption a table provides
information about the 20 largest free extents and the blocks that compose them.

You should not allow the number of Free Extents on a disk to get too
high. Reorganization of the disk should be performed using the Backup utility.

To leave the Free Extents screen, press HELP to return to the Command
Processor, or press PF 1 to return to the Volumes screen.

3-21

3.7.6 Rename Library

In addition to viewing storage contents, the Manage Files and Libraries function allows you to perform a number of limited operations upon libraries and files. Three types of operations can be performed: Scratch, Rename, and Protect. Rename should be performed <u>only on data processing files and libraries</u>. Similar rename operations on word processing libraries and files are performed using the functions provided through WP.

The Rename Library function is accessed through the Libraries screen (Figure 3-15). This operation is used whenever you need to change the name of a data processing library.

```
                         ***  Rename Library  ***

Volume NEWSYS Contains 2527 Files in   216 Libraries.

    Library  # Files        Library  # Files        Library  # Files

  * MCWPROG  ********      * OFF          1        * QT400        3
  * MEGLIB        2        * OLDMAC40   113        * RATLIB       1
  * MJD1          1        * OLDMAC@     19        * RELATIN      1
  * MJDCTL        1        * OLDMJSLI     5        * RMSLIB       1
  * MJSOBJ        1        * PAULA        1        * RODLIB      33
  * MLHCOND       2        * PJADATA      2        * SAMPLE       2
  * MLHLIB       11        * PJJPLIB      1        * SELASMBL     1
  * MLHOBJ        2        * PJJPOBJ      1        * SFKCTL       3
  * MSLIB         1        * PNMSRCE      1        * SFKDATA      1
  * MSOBJ         1        * PRTSCRE      1        * SFKPROC      8
  * OBJ          10        * PUTILITY     2        * SMBJUNK      1

  Press (ENTER) to RENAME              or Select:
```

Figure 3-15.   Rename Library Screen

To rename a data processing library, you must first access the Libraries screen, and then perform the following steps.

1. Position the cursor key beneath the Acceptance Block of the library to be renamed either by using the TAB key to move the cursor within a screen, or by using the PF keys 2, 3, 4, and 5 to display another screen.

2. Press PF 7. A field containing eight pseudoblanks appears to the right of the current library name. Type the new name in the field, and then press RETURN/ENTER. The newly renamed library is now entered into the Libraries screen in alphabetical order.

Possible errors:

- If the library has been given a retention date that has not yet expired, the message, REFUSED - RETENTION PERIOD HAS NOT EXPIRED, appears in the upper right-hand corner of the screen.

- If the library has been protected by its current owner and you are not the owner of record, the message, REFUSED - USER HAS INSUFFICIENT ACCESS RIGHTS, is displayed.

- If there are currently any open files in the library, the message, REFUSED - USER HAS INSUFFICIENT ACCESS RIGHTS, is displayed.

3.7.7 Scratch Library

The Scratch Library function can be used to delete an entire library, thus eliminating the need to delete files one by one. To scratch a library, you should perform the following steps.

1. From the Libraries screen, move the cursor to the appropriate library name either by using TAB or the PF keys 2, 3, 4, and 5.

2. When the cursor is properly positioned, press PF 8. The library name is highlighted, and it blinks.

3. Press RETURN/ENTER. The library is automatically deleted from the list, and the system is able to use disk space once allocated to the old library for the storage of new information.

Possible error:

- If any of the files on the library are protected, unexpired, or in use, the system flashes this message at the top of the screen: WARNING - PROTECTED, UNEXPIRED, AND IN USE FILES HAVE NOT BEEN SCRATCHED.

```
┌──────────────────────── CAUTION ────────────────────────┐
│                                                          │
│  Scratch can be used for both data processing and word   │
│  processing libraries.  However, when scratching a word  │
│  processing library, you should first run the word       │
│  processing software and delete the library's prototype. │
│  Refer to Section 5.2.8 for complete information on       │
│  deleting a word processing library.                     │
│                                                          │
└──────────────────────────────────────────────────────────┘
```

3.7.8 Protect Library

The Protect Library function enables you to change the protection status of a library. Library security is discussed in full in Chapter 4.

When a library is given a protection class, all files contained in it are protected. Only one file protection class should be assigned to each <u>word processing</u> library. New files created after the file protection class is assigned are not protected unless the person creating them either has a default protection class assigned to his or her Logon procedure, or a default has been specified in the FILECLAS field, available through Set Usage Constants. If the library is to have a single owner, specify the owner's User ID in the Owner of Record field.

To access the Protect Library screen from the Libraries screen, move the cursor beneath the Acceptance Block of the library to be protected, and press PF 9. Figure 3-16 illustrates the Protect Library screen. This screen gives both the library and volume names, and offers you three categories of modification: Protection Class, Owner of Record, and Expiration Date.

```
                      ***  Protect Library  ***




   Library  is  GAMES
   Volume   is  NEWSYS

                       Protection Class:  *

                       Owner of Record:  ***

                       Expiration Date:
                                Month **
                                Day   **
                                Year  **


   Press Pfkey to Perform Action:
   (1) Return to Library Display
   (2) Modify Protection Class
   (3) Modify Owner of Record                (15) Print Screen
   (4) Modify Expiration Date
```

Figure 3-16. Protect Library Screen

To modify the protection class of the library, perform the following steps.

1. Type the new, one-character, protection class in the appropriate field.

2. Press PF 2, MODIFY PROTECTION CLASS. At the top right-hand corner of the screen, the message, PROTECTION CLASS SUCCESSFULLY UPDATED appears.

3-24

Possible error:

- If the library is protected by another User ID or any files are in use, the message, WARNING - OPEN OR PROTECTED FILES BYPASSED, appears at the top of the screen, preventing you from changing the protection class.

To change the owner of record:

1. Type in the User ID of the new owner in the appropriate field. Press PF 3, MODIFY OWNER OF RECORD.

2. If the library is unprotected, the system changes the owner of record to the User ID typed in the field when PF 3 is pressed. The message, OWNER OF RECORD SUCCESSFULLY CHANGED, is then displayed at the top of the screen.

Possible error:

- If the library has been protected and you are not the owner of record, the message, WARNING - OPEN OR PROTECTED FILES BYPASSED, appears at the top of the screen, and the operation is terminated.

To modify the expiration date of the library:

1. Type in the month, date, and year to indicate precisely when the library can be deleted. Press PF 4, MODIFY EXPIRATION DATE.

2. If the library is unprotected, the system changes the expiration date and displays the message, EXPIRATION DATE SUCCESSFULLY UPDATED, in the top right-hand corner of the screen.

Possible error:

- If the library is protected, the message, WARNING - OPEN OR PROTECTED FILES BYPASSED, appears in the top right-hand corner of the screen.

3.7.9 Rename File

The Filenames screen allows you to perform three different operations on files, as well as to observe the names of all files on a particular volume. These operations -- Rename, Scratch, and Protect -- are similar in nature to the same operations on libraries. Rename should be used for data processing files only.

To rename a file, perform the following operations.

1. From the Filenames screen, position the cursor beside the file to be renamed, and press PF 7. The Rename File screen appears (refer to Figure 3-17).

2. Type the new file name in the appropriate field, and then press RETURN/ENTER. If the file is not protected by its owner, the system automatically changes the file name.

```
                    ***  Rename File  ***

Library JMTPROG  on Volume NEWSYS Contains   16 Files.

     Filename                 Filename                 Filename

   * COPY37WP  ********      * TIMECALC
   * DEBUGIT                 * WHO
   * DISMOUNT                * WOW
   * EDIT                    * WPLIST
   * FILEDISP
   * GAMES
   * HACK
   * JMTLOGON
   * MENU
   * PHONE
   * SCRNS2WP

   Press (ENTER) to RENAME              or Select:


   (1) Return to Filename Display              (15) Print Screen
```
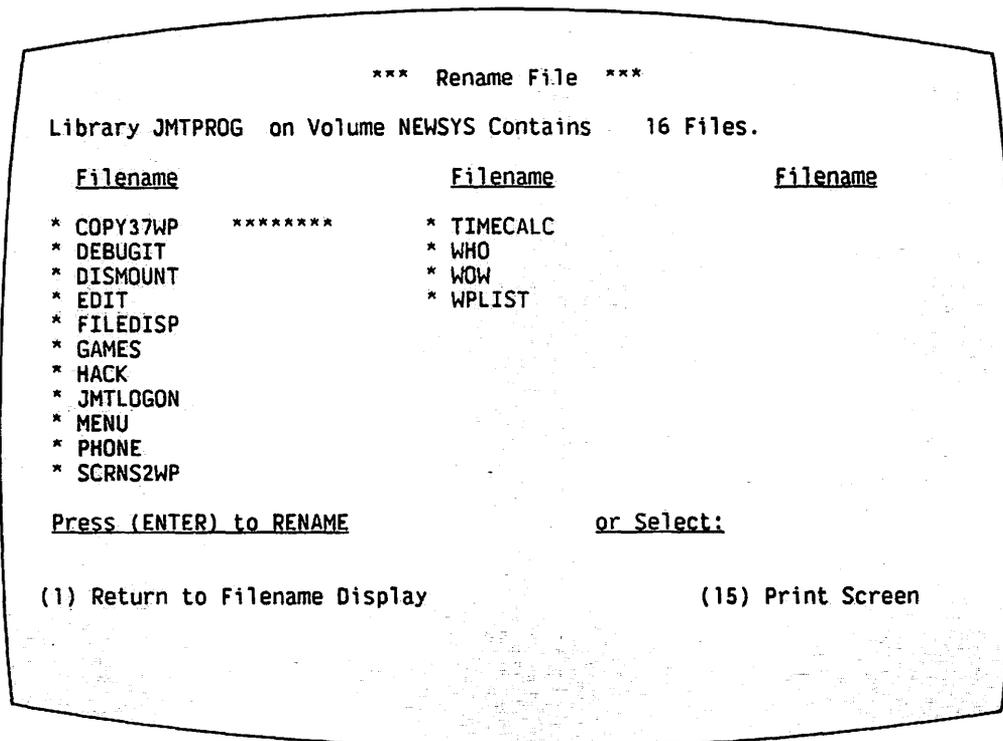
Figure 3-17.   Rename File Screen

Possible errors:

● If the retention period of the file has not expired, the system
  displays the message, REFUSED – RETENTION PERIOD HAS NOT EXPIRED, at
  the top right-hand corner of the screen.

● If the file is protected and you are not the owner of record, the
  message, REFUSED – USER HAS INSUFFICIENT ACCESS RIGHTS, appears on
  the screen.

3.7.10   Scratch File

    The Scratch File function enables you to delete a file from the library
in which it resides. The steps listed below explain how the Scratch operation
is performed.

    1. From the Filenames screen, position the cursor at the file to be
        scratched. Press PF 8.

    2. The system highlights and blinks the file name, while prompting you
        to press ENTER to scratch it. Press RETURN/ENTER. The file is
        deleted from the Filenames screen.

Possible errors:

● If the file has been protected and you are not the owner of record,
  the system displays the message, REFUSED – USER HAS INSUFFICIENT
  ACCESS RIGHTS, and terminates the operation.

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- If the retention date of the file has not yet been reached, the system displays the message, REFUSED - RETENTION PERIOD HAS NOT EXPIRED.

3.7.11 Protect File

The Protect File function enables you to protect a file. Word processing documents should not be assigned individual file protection classes; they are protected by the protection class assigned to the library in which they reside. However, Protect File can be used for protecting data files you create using the COPYWP utility. The three forms of protection offered by the Protect File screen are Protection Class, Owner of Record, and Expiration Date, as shown in the Protect Library screen. (Refer to Figure 3-18.)

To access the Protect File screen, press PF 9 from the Filenames screen, after positioning the cursor beneath the Acceptance Block of the file to be protected. In the top right-hand corner, the names of the file, library, and volume appear. Type the appropriate information into the pseudoblanks provided.

```
                        *** Protect File ***



 Filename is WOW
 Library  is JMTPROG
 Volume   is NEWSYS

              Protection Class: @

              Owner of Record:  JMT

              Expiration Date:
                       Month   07
                       Day     04
                       Year    81


 Press (ENTER) to MODIFY Protection Attributes, or Select:
 (1) Return to Filename Display

                                        (15) Print Screen
```

Figure 3-18.   Protect File Screen

To change the protection class of a file:

1. Type the desired one-character protection class into the field. Press RETURN/ENTER. The protection class is automatically changed, and the workstation displays the Filenames screen.

3-27

Possible error:

● If the file has been protected and you are not the owner of record, any attempt to change the protection class causes the system to display the message, REFUSED - USER HAS INSUFFICIENT ACCESS RIGHTS, and to terminate the operation.

To change the owner of record:

1. Type the User ID of the new owner in the appropriate field. Press RETURN/ENTER.

2. If the file has not been protected by the owner of record or is being modified by the current owner of record, the system accepts the change and returns the workstation to the Filenames screen.

Possible error:

● If the file is protected and a user other than the owner of record tries to change the Owner of Record category, the message, REFUSED - USER HAS INSUFFICIENT ACCESS RIGHTS, is displayed and the operation is terminated.

To change the expiration date of a file:

1. Type in the new date in the appropriate field for month, day, and year. Press RETURN/ENTER.

2. If you are the owner of record, the system changes the expiration date and returns the workstation to the Filenames screen.

Possible error:

● If the file is protected and you are not the owner of record, the system presents the message, REFUSED - USER HAS INSUFFICIENT ACCESS RIGHTS, and terminates the operation.

Press HELP to leave Manage Files and Libraries and return to the Command Processor, or continue examining the function by pressing the PF keys, as prompted at the bottom of the screen.

3.8   MANAGE DEVICES

The Manage Devices function provides information concerning the status of all currently mounted volumes and peripheral devices attached to the system.   For example, whenever you need to know the device number of a printer or disk drive, Manage Devices can provide this information.   Manage Devices can assist you in managing daily equipment availability, determining who is on the system at back up time, and powering off the system.   Manage Devices allows you to perform system operations, such as mounting disks and activating telecommunications devices.   To access this function, press PF 6 from the Command Processor screen.

The first menu displayed is the Display Devices menu (refer to Figure 3-19). This menu gives you the option of displaying the status of one of five device types. Each of these devices is discussed in the following subsections.

```
                    ***  Display Devices  ***
            11:27 am       Friday       February 6, 1981




            (2) PRINTERs

            (3) DISKs

            (4) TAPES

            (5) TELECOMMUNICATIONS

            (6) WORKSTATIONs



      Press (HELP) at Any Time to Return to the Command Processor
```
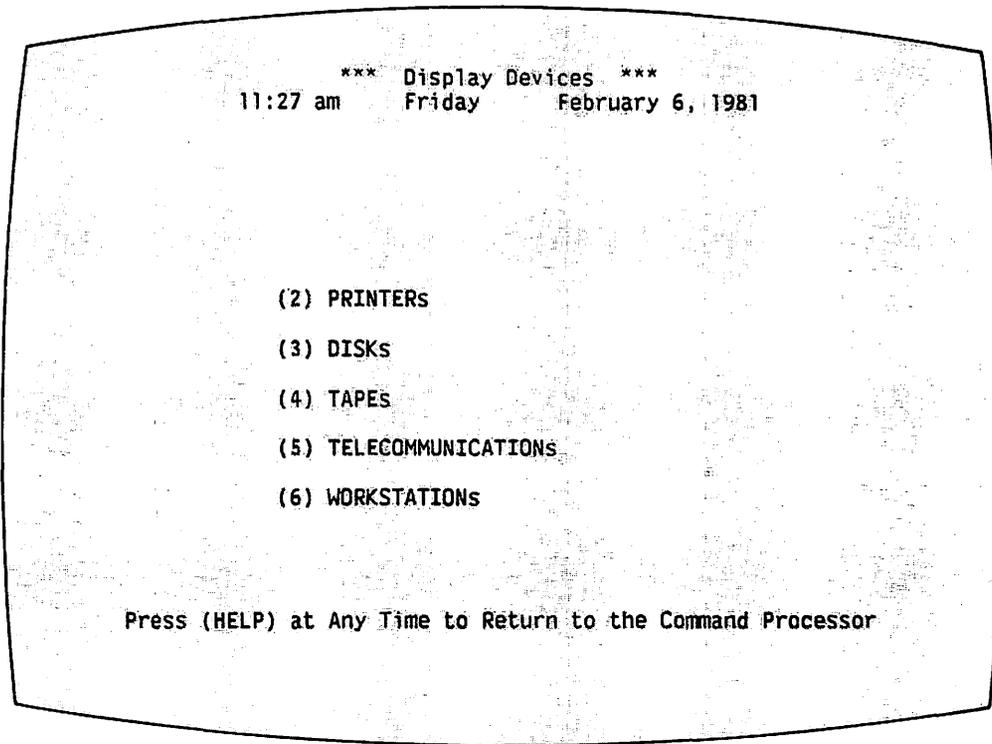
Figure 3-19. Display Devices Menu

3.8.1 Managing Printers

The Display Printers screen (refer to Figure 3-20) presents the status of all printers attached to the system. This screen can be accessed by pressing PF 2 from the Display Devices menu.

```
                        ***  Display Printers  ***
                 11:28 am      Friday      February 6, 1981




Unit  Device  Form  Type              Status
 26   5571          Chain       Printing COPY0001 in #JTPRT on NEWSYS for JT
 45   6581-WC       Daisy       Waiting for Print File
 47   5548Z         Typesetter  Detached





                  Position Cursor To Indicate Device and Select:
 (1) Menu


         (7) Display Scheduling
```
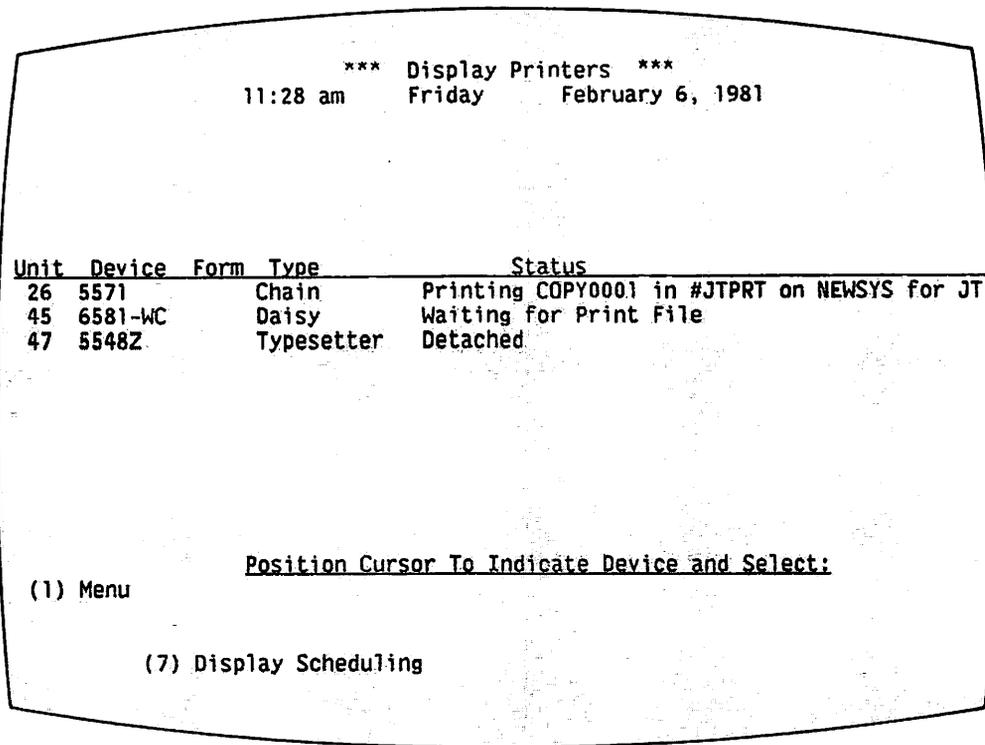
Figure 3-20.   Display Printers Screen

The different categories in the Display Printers screen can be defined as follows.

- **Unit** -- Contains the pre-assigned number of the drive. Note that a VS may contain more than one printer of the same model. These printers are distinguished from one another by their unit numbers.

- **Device** -- Gives the model number of each printer on the system.

- **Form** -- Gives the number of the type of paper or forms mounted on the printer.

- **Type** -- Describes the printer (for example, matrix, chain, band, daisy, or typesetter).

- **Status** -- Tells whether the particular printer is available for printing.

Display Printers gives you an overall view of the activities of each printer attached to the system. Printer unit numbers must be specified on the Print Document menu used for printing word processing documents. If you do not know the number of a particular printer, it can be found on the Display Printers screen.

At the bottom of the Display Printers screen, you have the option to display scheduling information by pressing PF 7. For more information on scheduling, please refer to the VS System Operation Guide.

Press PF 1 to return to the Display Devices menu.

3.8.2 Managing Disks

The Control Disks screen gives the current status of all disk drives currently attached to the system. To access the Control Disks screen (refer to Figure 3-21), press PF 3 from the Display Devices menu.

```
                        ***  Control Disks  ***
                  11:28 am      Friday        February 6, 1981




Unit Device  Capacity Type   Volume Restrictions Open Files     Status
  4  2265V-1  75 Mb   Rem    NEWSYS                 30
  5  2265V-1  75 Mb   Rem    ZENITH                 36
  8  2260V    5.0 Mb  Rem    TC1VOL                  0
           5.0 Mb  Fixed  VOL555                  0
 11  2270V    315 Kb  Dsket  ARCHIV  Exclusive       0         Mounted as NL




           Position Cursor To Indicate Device and Select:
(1) Menu
              (6) Mount                   (10) Change Restrictions
              (7) Dismount                (11) Owner Information
```

Figure 3-21. Control Disks Screen

The different columns in this screen can be defined as follows.

● Unit -- Contains the pre-assigned number of the drive. Note that a VS can contain more that one disk drive of the same model. These drives are distinguished from one another by their unit numbers.

● Device -- Contains the model numbers of each disk drive on the system.

● Capacity -- Indicates the maximum amount of information the disk can contain. For example, a disk with a capacity of 75 Mb can hold 75 megabytes of data.

● Type -- Indicates the type of disk mounted. For example, "Rem" is a removable disk. "Dsket" indicates a small floppy disk.

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- <u>Volume</u> -- Gives the volume name of the disk mounted at each drive.

- <u>Restrictions</u> -- Displays one of four possible restrictions designated for a particular volume: Shared, Exclusive, Protected, or Removal. Restrictions can be changed or entered by pressing PF 10.

- <u>Open Files</u> -- Lists the number of files currently in use on each mounted volume.

- <u>Status</u> -- Gives the status of the particular disk.

Mount Disks

The Mount Disk function enables you to logically mount a disk or diskette on the system. A logical mount informs the system that a volume is about to be placed on a drive. The physical mount, which must always accompany the logical mount, is the physical process of mounting a volume on a drive.

When the volume is logically and physically mounted on the appropriate device, the system reads the contents of the volume, searching for its label. The label is an area on the disk containing the volume name and special formatting information. The system then adds the volume name to the various volume lists available through the Command Processor, thereby enabling you to view the volume contents, use the volume for on-line storage purposes, and access already existing information.

Previously initialized volumes are the only types of volumes that can be mounted using the Mount function. New volumes are logically mounted when they are initialized through the DISKINIT utility. Volumes used for backup can be automatically mounted through the Backup utility. (Refer to Chapter 5 for more information.)

To mount a volume, you must first access the Mount Disk function. From the Control Disks menu, position the cursor next to the unit number where the disk is to be mounted, and press PF 6. The workstation then displays the Mount Disk screen, as illustrated in Figure 3-22.

```
                   ***  Mount Disk  ***
          2:50 pm      Friday      February 6, 1981


Device  11
Removable Platter


          VOLUME = ******

          LABEL  = SL    (SL = Standard,  NL = No Label)

          MODE   = SH    (SH = Shared,    RR = Restricted Removal)
                         (PR = Protected, EX = Exclusive)


          Allow Work Files?    WORK  = NO*

          Allow Spool Files?   SPOOL = NO*



       Press (ENTER) to Mount, or Press (1) to Return to Display
```
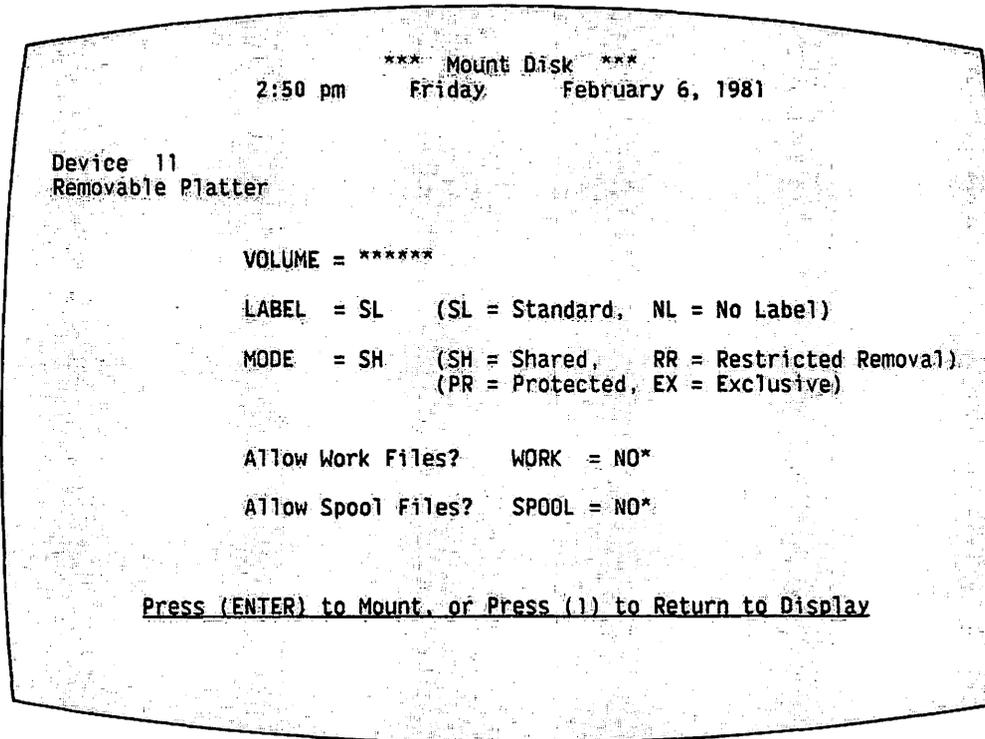
Figure 3-22. Mount Disk Screen

The Mount Disk screen displays the device number and type in the upper left corner. You must enter information into several fields on the screen. Defaults appear for some of the fields. These fields and their options can be defined as follows.

- VOLUME -- The volume name given to the disk when it was initialized should be typed into this field.

- LABEL -- This field requests the type of label and format area contained on the volume (information determined when the volume is initialized). The two label types are:

    - NL -- No label
      Volumes described as NL have no identifying label. NL is normally used for a volume that is used on another system. For example, diskettes used for word processing purposes on the system are unlabelled since they are most often used for transferring documents to and from the VS/IIS to a WPS or an OIS.

    - SL -- Standard Disk Label
      SL volumes are disks containing a standard Wang label. SL is the default type automatically filled in by the Mount Disk function.

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- <u>MODE</u> -- This field enables you to set usage restrictions for the volume, thereby protecting it from unauthorized attempts to read, write, or dismount it. To read a volume means to look at its contents by means of the workstation. To write to a volume means to store new information or edit information that already exists on the volume. Four different types of usage restrictions can be assigned to a volume.

    - <u>SH -- Shared Use</u>
      The Shared Use classification allows all users to read, write, or dismount a disk volume. Since most volumes on the system are shared by all users, SH is the default for Mode.

    - <u>RR -- Restricted Removal</u>
      The Restricted Removal classification allows all users to read and write to the volume. However, the dismount function is restricted to the workstation that originally mounted the volume.

    - <u>PR -- Protected Use</u>
      The Protected Use classification allows all users to read information contained on the disk; however, only the person who mounted the disk can write to the volume or dismount it.

    - <u>EX -- Exclusive Use</u>
      The Exclusive Use classification reserves a disk volume solely for the use of the person who originally mounted it. All other users are prevented from accessing information or dismounting the volume.

- <u>WORK</u> -- The "Allow Work Files?" field enables you to indicate whether work files can be stored on this volume. The default is NO.

- <u>SPOOL</u> -- The "Allow Spool Files?" field enables the user to indicate whether spool files can be stored on this volume. The default is NO.

After all information is entered, press RETURN/ENTER. The Mount Assistance Required screen (refer to Figure 3-23) appears, requesting assistance at the particular device. If a volume needs to be removed from the device, the system prompts you to perform this action. Otherwise, the system prompts you to mount the particular volume on the device specified. The HELP key of the workstation performing the mount is disabled until the physical mount operation is completed.

At this point, perform the physical mount. Since instructions for mounting a volume differ for each type of device, consult the <u>VS System Operations Guide</u> before mounting ·disks onto the system.

```
MESSAGE 0001 BY MOUNT


                           ASSISTANCE REQUIRED
                           AT DEVICE NUMBER  11




           PLEASE MOUNT DISK VOLUME X     ON UNIT  11,
                   WAIT FOR THE UNIT TO BE READY




           (HELP) WILL NOT BE PROCESSED BEFORE MOUNT COMPLETION
```
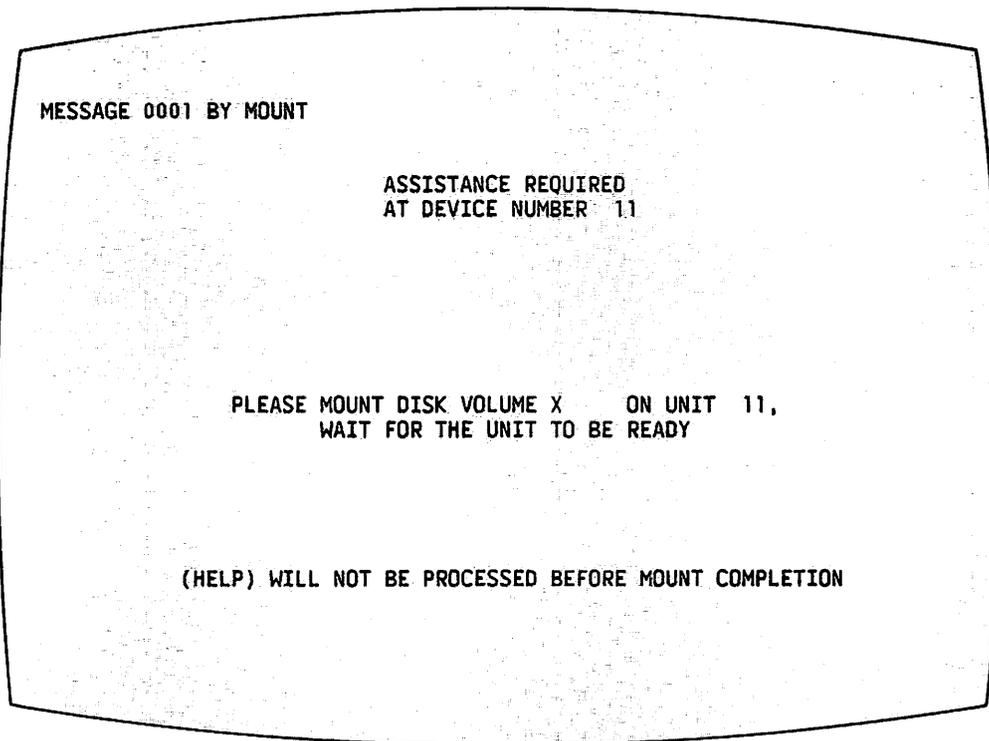
Figure 3-23.   Mount Assistance Required Screen

Because the models 2260V and 2280V disk drives do not operate without a removable cartridge, the currently mounted cartridge cannot be logically removed until you logically mount another cartridge. This activity is called a dismount within a mount (refer to Figure 3-24). It is unnecessary to logically dismount the old volume because this action is handled through the logical mount process. The system fully prompts you through this process.

```
                    ***  Mount Disk  ***
         2:50 pm      Friday       February 6, 1981

Device  11
Removable Platter


        VOLUME = X*****

        LABEL  = NL    (SL = Standard,  NL = No Label)

        MODE   = SH    (SH = Shared,    RR = Restricted Removal)
                       (PR = Protected, EX = Exclusive)


        Allow Work Files?    WORK  = NO*

        Allow Spool Files?   SPOOL = NO*



    Press (ENTER) to Mount, or Press (1) to Return to Display
```

Figure 3-24. Dismount Within a Mount Screen

When the physical mount is completed, the workstation returns to the Command Processor, if the mount is successful. If problems occur, the system prompts you with an error message that describes the situation.

There are several occasions when the system refuses to logically dismount a volume during the dismount within a mount process. These occasions are:

1. When the volume mode is EX (exclusive use), PR (protected use), or RR (restricted removal), and the user performing the mount is not the one who originally mounted the old volume.

2. When the volume to be dismounted is in use, meaning that one or more files on the volume are being used. A volume cannot be dismounted until all of its files are inactive.

Dismount Disk

When the system is informed of a logical dismount, the CPU curtails any operations involving the volume and prepares it for a physical dismount.

```
┌─────────────────────────── CAUTION ────────────────────────────┐
│                                                                 │
│   Any attempts to physically dismount the volume before a       │
│   logical dismount may result in damage to both the volume      │
│   and any data being processed at the time.                     │
│                                                                 │
└─────────────────────────────────────────────────────────────────┘
```

After a logical dismount, the volume name is removed from the list of currently mounted volumes. The volume can actually sit in its drive, but cannot be accessed by users because the system thinks the volume is no longer there.

In order to perform a logical and physical dismount, you must access the Dismount function by positioning the cursor next to the appropriate device and pressing PF 7 from the Control Disks screen. This causes the device description to blink. Press RETURN/ENTER. The Dismount Assistance Required screen (refer to Figure 3-25) appears, and prompts for the physical dismount.

```
*** MESSAGE 0000 BY WV41


                        ASSISTANCE REQUIRED
                           AT DISK 11



            REMOVE DISK VOLUME SIDEMO MOUNTED ON UNIT  11
                   BY USER JMT AT WORKSTATION 16




                              THEN



            PRESS (ENTER) TO RETURN TO YOUR PROGRAM
            (HELP) WILL NOT BE PROCESSED AT THIS TIME
```

Figure 3-25. Dismount Assistance Required Screen

At this point, physically dismount the volume if it does not have restricted usage rights, and press RETURN/ENTER. If errors occur during the physical dismount, they appear on the workstation screen. Otherwise, the system returns to the Control Disks screen after a successful dismount.

Change Restrictions

The Change Restrictions command modifies the restrictions attached to the volume when it was mounted. To change these restrictions, position the cursor next to the appropriate device and press PF 10 from the Control Disks screen. The system highlights the Restrictions column, allowing the user to enter a new restriction. The four possible values for this field are: Shared, Removal (restricted removal), Protected, and Exclusive. If the field is left blank, the system inserts the default value (Shared). Press RETURN/ENTER to make the change.

Owner Information

Press PF 11 to receive information about the volume owners. A volume owner is the person who mounted the volume. The Owner Information screen (refer to Figure 3-26) replaces the Restrictions, Open Files, and Status columns on the Control Disks screen (Figure 3-21) with the following columns of information.

- User -- Displays the volume owner's User ID. This column is blank if the volume has not been initialized, or is an unlabelled (NL) volume.

- Proc-ID -- May display the name of the procedure used to mount the volume.

- Spool -- Indicates whether or not spool files are allowed on this volume.

- Work -- Indicates whether or not work files are allowed on this volume.

```
                      ***  Control Disks  ***
              11:28 am      Friday      February 6, 1981




Unit Device  Capacity Type    Volume    User     Proc-ID     Spool Work
   4  2265V-1  75 Mb   Rem     NEWSYS    SYSTEM                YES   YES
   5  2265V-1  75 Mb   Rem     ZENITH    SYSTEM                NO    NO
   8  2260V    5.0 Mb  Rem     TC1VOL                          NO    NO
               5.0 Mb  Fixed   VOL555                          NO    NO
  11  2270V    315 Kb  Dsket   ARCHIV    JMT                   NO    NO




             Position Cursor To Indicate Device and Select:
(1) Menu
                       (6) Mount                (10) Change Restrictions
                       (7) Dismount             (11) Owner Information
```

Figure 3-26. Owner Information Screen

In addition to Mount and Dismount, the two additional commands available from the Owner Information screen are Change and Status Information.

Change

The Change command allows you to modify the Spool and Work fields. To change these fields, position the cursor next to the appropriate device and press PF 10 from the Owner Information screen. Type YES or NO in the appropriate field(s), and press RETURN/ENTER to make the change.

Status Information

By pressing PF 11 from the Owner Information screen, you can again view the Status Information screen. The Status Information screen is the original Control Disks screen. The right-hand columns of the screen contain the headings: Restrictions, Open Files, and Status.

Press PF 1 to return to the Display Devices menu.

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3.8.3 Managing Tapes

The Control Tapes screen displays the status of all tape drives attached and tape volumes mounted on the system. To access this screen, press PF 4 from the Display Devices menu.

The different columns on this screen (refer to Figure 3-27) contain the following information.

- Unit -- Presents the pre-assigned unit number of each tape drive

- Device -- Contains the model of each tape drive currently attached to the system. For example, 2209V is the model number for a nine-track magnetic tape drive.

- Type -- Gives the device type, for example, a 9-track or 7-track drive.

- Volume -- Shows the volume name assigned to the tape reel when it was initialized.

- Label -- Shows the label type assigned to the tape when it was initialized. AL indicates an ANSI label; IL indicates an IBM label, and NL indicates the tape is not labelled.

- Density -- Gives the density of the tape mounted in the tape drive. For example, 1600 BPI is a tape with a recording density of 1600 bits per inch.

- Status -- Gives the status of a particular tape.

```
                      ***  Control Tapes  ***
              1:56 pm      Monday      February 9, 1981




      Unit Device      Type      Volume  Label    Density         Status
        28  2209V-2  9-Track-DD
        29  2209V-2  9-Track-DD
        30  2209V-3  7-Track




                  Position Cursor To Indicate Device and Select:
  (1) Menu
                      (6) Mount
                      (7) Dismount                (11) Owner Information
```

Figure 3-27. Control Tapes Screen

```
┌────────────────────────── NOTE ──────────────────────────┐
│                                                          │
│   When a VS/IIS installation does not include a tape drive, │
│   the Tape option is not included on the Display Devices menu. │
│                                                          │
└──────────────────────────────────────────────────────────┘
```

Control Tapes should be used as a reference whenever you perform operations involving tape, such as mounting and dismounting tapes, and backing up files where tape is the storage medium.

Mount Tapes

The Mount Tape function enables you to logically mount a tape on the system. A logical mount informs the system that a volume is about to be placed on a drive. The physical mount, which must always accompany the logical mount, is the physical process of mounting a volume on a drive.

When the volume is logically and physically mounted on the appropriate device, the system reads the contents of the volume, searching for its label. The label is an area on the tape containing the volume name and special formatting information. The volume name is then added to the various volume lists available through the Command Processor, thereby enabling users to view the volume contents, use the volume for on-line storage purposes, and access already existing information.

Previously initialized volumes are the only types of volumes that can be mounted using the Mount function. New volumes are logically mounted when they are initialized through the TAPEINIT utility. Volumes used for backup can be automatically mounted through the BACKUP utility. (Refer to Chapter 5.)

To mount a volume, you must first access the Mount Tape function. At the Control Tapes menu, position the cursor next to the unit number where the tape is to be mounted, and press PF 6. The workstation then displays the Mount Tape screen as illustrated in Figure 3-28.

```
                    ***  Mount Tape  ***
              1:56 pm      Monday          February 9,
1981


     Device  28



         VOLUME = ******

         LABEL  = AL    (AL =    ANSI,  NL = No Label,  IL = IBM)

         MODE   = EX    (EX =    Exclusive,   SH = Shared)





     Press (ENTER) to Mount, or Press (1) to Return to Display
```

Figure 3-28.   Mount Tape Screen

The Mount Tape screen displays the device number and type in the upper left corner. You must enter information into several fields on the screen. Defaults appear for some of the fields. These fields and their options can be defined as follows.

● VOLUME -- The volume name given to the tape when it was initialized is typed into this field.

● LABEL -- This field requests the type of label and format area contained on the volume (information determined when the volume is initialized). There are three label types used for tape volumes on the VS Computer System.

  - AL -- ANSI Tape Label
    AL tapes have a label in the format designated by the American National Standards Institute.

  - NL -- No label
    Volumes described as NL have no identifying label. NL is normally used for a volume that will be used on another system.

  - IL -- IBM Tape Label
    IL volumes are tapes with a label in the format used by IBM systems. These are tapes set up to conform to the standards of another computer system.

3-42

● <u>MODE</u> -- This field enables you to set usage restrictions for the volume, and to protect it from unauthorized attempts to read, write, or dismount it. To read a volume means to look at its contents by means of the workstation. To write to a volume means to store new information or edit information that already exists on the volume. Two different types of usage restrictions can be assigned to a volume.

- <u>SH</u> -- <u>Shared Use</u>
  The Shared Use classification allows all users to read, write, or dismount a tape volume. Unlike disk volumes, however, only one user can access a tape volume at one time. Since most volumes on the system are shared by all users, SH is the default for Mode.

- <u>EX</u> -- <u>Exclusive Use</u>
  The Exclusive Use classification reserves a tape volume solely for the use of the person who originally mounted it. All other users are prevented from accessing information or dismounting the volume.

After all information is entered, press RETURN/ENTER. The Mount Assistance Required screen (refer to Figure 3-29) appears, requesting assistance at the particular device. If a volume needs to be removed from the device, the system prompts for this action. Otherwise, the system prompts you to mount the particular volume on the device specified. The HELP key of the workstation performing the mount is disabled until the physical mount operation is completed.

At this point, perform the physical mount. Since instructions for mounting a volume differ for each type of device, consult the <u>VS System Operations Guide</u> before mounting tapes onto the system.

```
MESSAGE 0001 BY MOUNT


                        ASSISTANCE REQUIRED
                        AT DEVICE NUMBER  30




           PLEASE MOUNT TAPE VOLUME TAPE01 ON UNIT  30,
                   WAIT FOR THE UNIT TO BE READY




      (HELP) WILL NOT BE PROCESSED BEFORE MOUNT COMPLETION
```

Figure 3-29. Mount Assistance Required Screen

If you wish to mount a tape on a drive that is in use, it is unnecessary to dismount the original tape. This type of mount is called a dismount within a mount (refer to Figure 3-30). The system logically dismounts the old volume through the logical mount process. The system fully prompts you through this operation.

```
                    ***  Mount Tape  ***
        1:56 pm      Monday       February 9, 1981


Device  28



       VOLUME  = TAPE01

       LABEL   = AL     (AL = ANSI,   NL = No Label,   IL = IBM)

       MODE    = EX     (EX = Exclusive,    SH = Shared)




    Press (ENTER) to Mount, or Press (1) to Return to Display
```

Figure 3-30.   Dismount Within a Mount Screen

When the physical mount is completed, the workstation returns to the
Command Processor screen, if the mount is successful. If problems occur, the
system prompts you with an error message describing the situation.

There are two occasions when the system refuses to logically dismount a
volume during the dismount within a mount process. These occasions are:

●   When the volume mode is EX (exclusive use), and the user performing
     the mount is not the one who originally mounted the old volume.

●   When the volume to be dismounted is in use, that is to say when one
     or more files on the volume are being used. A volume cannot be
     dismounted until all of its files are inactive.

Dismount Tape

When the system is informed of a logical dismount, the CPU curtails any
operations involving the volume, and prepares it for a physical dismount.

───────────────────────── CAUTION ─────────────────────────

Any attempts to physically dismount the volume before a
logical dismount may result in damage to both the volume
and any data being processed at the time.

After a logical dismount, the volume name is removed from the list of currently mounted volumes. The volume can actually sit in its drive, but cannot be accessed by users because the system thinks the volume is no longer there.

In order to perform a logical and physical dismount, you must access the Dismount function by positioning the cursor next to the appropriate device, and then pressing PF 7 from the Control Tapes screen. This procedure causes the device description to blink. Press RETURN/ENTER. The Dismount Assistance Required screen (refer to Figure 3-31) appears, and prompts you for the physical dismount.

```
*** MESSAGE 0000 BY WV41



                          ASSISTANCE REQUIRED
                             AT TAPE 30




        REMOVE TAPE VOLUME TAPE01 MOUNTED ON UNIT  30
             BY USER JMT AT WORKSTATION 16




                               THEN




             PRESS (ENTER) TO RETURN TO YOUR PROGRAM
             (HELP) WILL NOT BE PROCESSED AT THIS TIME
```
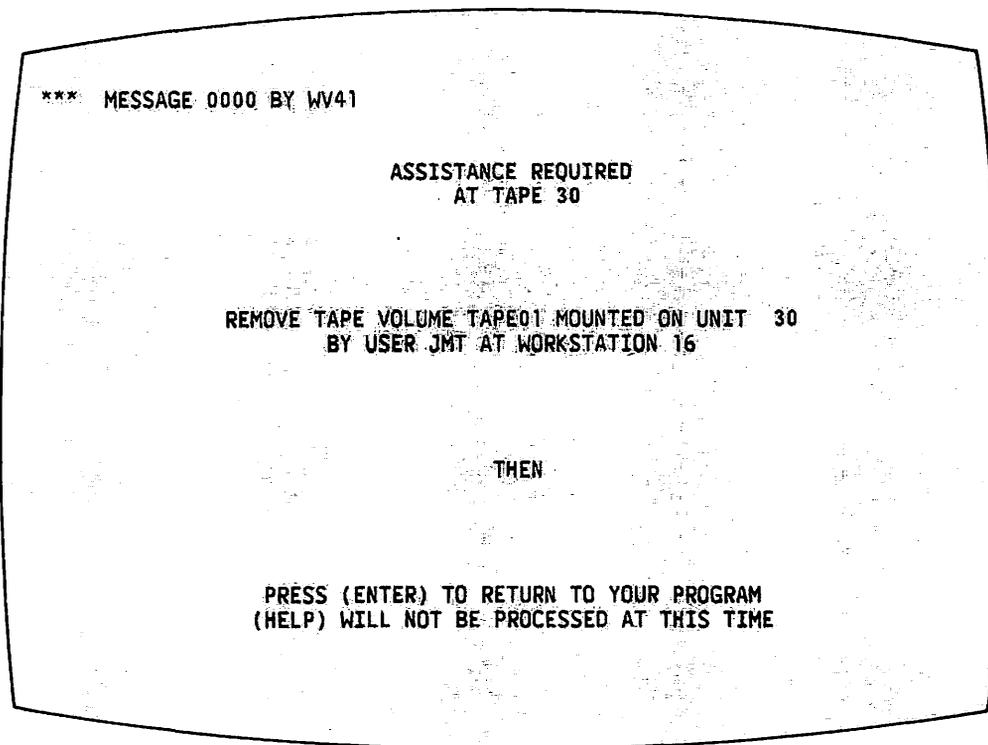
Figure 3-31. Dismount Assistance Required Screen

At this point, physically dismount the volume if it does not have exclusive usage rights, and press RETURN/ENTER. If errors occur during the physical dismount, they appear on the workstation screen. Otherwise, the system returns to the Control Tapes screen after a successful dismount.

Owner Information

Press PF 11 to receive information about the volume owners. A volume owner is the person who mounted the volume. The Owner Information screen (refer to Figure 3-32) replaces the Label, Density, and Status columns on the Control Tapes screen (Figure 3-27) with the following columns of information.

● Restriction -- Displays the restriction attached to the volume when it was mounted. The possible values are Shared and Exclusive.

● <u>User</u> -- Displays the volume owner's User ID. This column is blank if the volume has not been initialized or is an unlabelled (NL) volume.

● <u>Proc-ID</u> -- May display the name of the procedure used to mount the volume.

```
                         ***  Control Tapes  ***
                  1:57 pm      Monday      February 9, 1981



      Unit Device      Type     Volume   Restrictions    User      Proc-ID
       28  2209V-2   9-Track-DD  TAPE01   Exclusive       DAV
       29  2209V-2   9-Track-DD
       30  2209V-3   7-Track




                   Position Cursor To Indicate Device and Select:
      (1) Menu
                         (6) Mount              (10) Change Restriction
                         (7) Dismount           (11) Status Information
```

Figure 3-32.   Owner Information Screen

In addition to Mount and Dismount, two additional commands are available from the Owner Information screen, namely, Change Restriction and Status Information.

Change Restriction

The Change Restriction command modifies the restriction attached to the volume when it was mounted. To change the restriction, position the cursor next to the appropriate device and press PF 10 from the Owner Information screen. The system highlights the Restrictions column, thereby allowing the user to enter a new restriction. The two possible values for this field are: Shared and Exclusive. If the field is left blank, the system inserts the default value (Shared). Press RETURN/ENTER to make the change.

Status Information

By pressing PF 11 from the Owner Information screen, you can again view the Status Information screen. The Status Information screen is the original Control Tapes screen. The right-hand columns of the screen contain the headings Label, Density, and Status. Press PF 1 to return to the Display Devices menu.

3.8.4 Managing Telecommunications Devices

The Control Telecommunications screen provides you with information concerning the telecommunications devices attached to the system. The Control Telecommunications screen can be accessed by pressing PF 5 from the Display Devices menu.

```
*** Control Telecommunications Devices ***
    11:29 am      Friday      February 6, 1981


                           Routing
Unit     Type      Line     Address              Status

 64     2246R     REMOTE     1            Activated Workstation
 65     Available
 66     Available
 67     Available
 68     Available
 69     Available
 70     Available
 71     Available
 72     Available

                Position Cursor To Indicate Device and Select:
(1) Menu
                    (6) Activate              (10) Change
                    (7) De-Activate
```

Figure 3-33.   Control Telecommunications Screen

The five columns appearing on the Control Telecommunications screen can be defined as follows.

- Unit -- Gives the pre-assigned unit number for each telecommunications device.

- Type -- Mentions the type of the telecommunications device attached. For example, 2246R indicates a remote workstation.

- Line -- Gives the name of the telecommunications line (if any).

- Routing Address -- Displays the destination code for the telecommunications information.

- Status -- Informs you if the workstation is not ready for processing. If a workstation is in use, the Status column contains the User ID of the person currently using the device.

The Control Telecommunications screen offers you an overall picture of the activities of the telecommunications devices, and provides unit numbers for reference when they are needed.

Activate

Before a remote workstation or printer can be used, you must activate the line connecting it. To activate a workstation or printer, position the cursor next to the appropriate device and press PF 6. The screen flashes the device information, and you must now press either RETURN/ENTER to activate the device, or PF 1 to return to the Control Telecommunications screen. Once the device is activated, the screen displays a message in the Status column.

De-Activate

The De-Activate option returns an activated workstation or printer to inactive status. Devices cannot be deactivated while they are still in use. Printers should always be deactivated before the associated workstation. To deactivate a device, position the cursor next to the appropriate device and press PF 7. The screen flashes the device information, and you must now press either RETURN/ENTER to deactivate the device, or PF 1 to maintain the device's active status.

Change

The Change command allows you to modify the device model numbers, line names, and routing addresses of inactive devices. To change this information, position the cursor next to the appropriate device and press PF 10. The screen highlights the Type, Line, and Routing Address columns. Type in the new information over the old entries. Press RETURN/ENTER to make the changes or press PF 1 to cancel the Change command. Press PF 1 to return to the Display Devices menu.

3.8.5 Managing Workstations

The Display Workstations screen informs you of the status of all workstations currently attached to the system. The Display Workstations screen, illustrated in Figure 3-34, can be accessed by pressing PF 6 from the Display Devices menu.

```
                ***  Display Workstations  ***
         11:30 am      Friday      February 6, 1981




 Unit    Device            User       Name            Status
   0     2246P             CSG    Customer Engineering  Operator
   1     2246P                                          Disconnected
   2     2246P                                          Disconnected
  12     2246P             KW     Ken Worth
  13     2246P                                          Disconnected
  14     2246P                                          Disconnected
  15     2246P             OPS    System Operator       Operator

            Position Cursor To Indicate Device and Select:
 (1) Menu

 (3) Last    (5) Next
```

Figure 3-34.   Display Workstations Screen

Five columns appear on the screen.   They can be defined as follows.

●   Unit -- Gives the pre-assigned unit number of each workstation.

●   Device -- Presents the model number of each workstation attached to
    the system. Notice that these models include the 2246C, 2256C and
    2866C Combined Workstation; the 2246S and 2866S Serial Workstation;
    and, in some installations, the 2246P Parallel, 2246R and 2866R
    Remote Workstation, and 2266C, 2276C, 2860 and 2266S Archiving
    Workstations.

●   User -- Gives the User ID of the person currently using the
    workstation.

●   Name -- Gives the name of the person currently using the workstation.

●   Status -- Informs you if the workstation is not ready for processing.

The Display Workstations screen offers you one way to observe who is
currently on the system. This screen is especially helpful when backup needs
to be performed, and when the system must be re-IPLed. For these two
procedures, it is important to know if anyone is using the system. Press PF 1
to return to the Display Devices screen, or press HELP to return to the
Command Processor screen.

3.9   SUBMIT PROCEDURE

The Submit Procedure function is used to submit a background procedure and to define the conditions for running the procedure. Background procedures are not normally within the scope of the word processing supervisor's responsibilities. Therefore, the Submit Procedure function is not discussed here, but is explained fully in Appendix A.

3.10   PRINT COMMAND SCREEN

The Print Command Screen function enables you to obtain a printed copy of the contents of any screen displayed during the execution of a system command, simply by pressing PF 15. The Command Processor screen need not be displayed in order to use this function.

```
┌──────────────────────── NOTE ────────────────────────┐
│                                                       │
│  Only  data  processing  screens  can  be  printed by using the  │
│  Print  Command  Screen  function.   This  function  cannot  be  │
│  used  to  print  the  word  processing  screens  that  appear on  │
│  the screen after WP is run.                          │
│                                                       │
└───────────────────────────────────────────────────────┘
```

When PF 15 is pressed during the execution of a command, the system immediately attempts to print the current screen. An individual print file is created for the screen and assigned to a library on a volume that can be used for print files, unless on-line printing has been specified through Set Usage Constants. The workstation audio alarm sounds, acknowledging the print command.

You can view the status of the new print file on the Print Queue screen, which is accessible by pressing PF 11. The Print Queue screen allows you either to release the print file for printing or to scratch it.

If you are running a utility such as BACKUP or COPYWP, a printed copy of a screen can be obtained by accessing the Modified Command Processor.

3.11   LOGOFF

The Logoff function is used to terminate a workstation session. You can log off through the Command Processor or through a previously written procedure. It is advisable to have word processing operators log off by means of a procedure, making it unnecessary for them to view the Command Processor. Since you must use the functions of the Command Processor, you can log off in the following manner.

1.   Press PF 16 from the Command Processor. The Logoff screen (refer to Figure 3-35) appears. If you press the Logoff key (PF 16) by mistake, or if you decide to continue using the workstation, press HELP to return to the Command Processor.

2. Press RETURN/ENTER. This action terminates the workstation session, freeing the workstation for use by another User ID.

```
                        ***  Logoff  ***




             The LOGOFF Command is used to Terminate
              Your Current Session with the Computer
              and Allow Another User to LOG ON.




                     Press (ENTER) to LOGOFF,
                              or
              Press (HELP) to Return to the Command Menu.
```
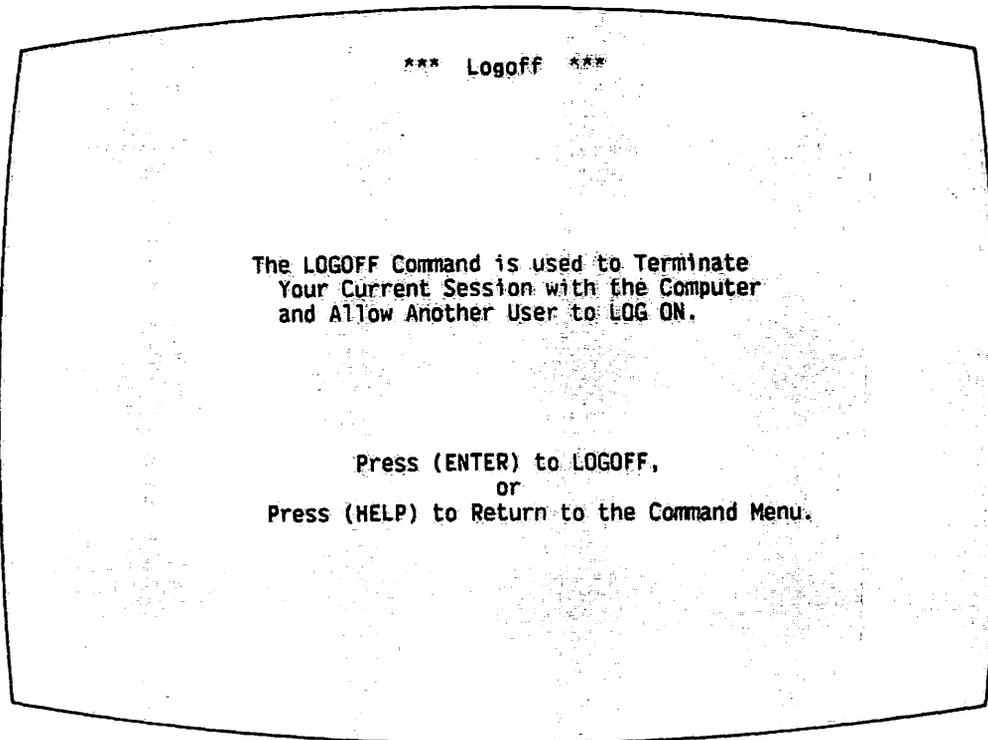
Figure 3-35. Logoff Screen

3.12 MODIFIED COMMAND PROCESSOR

The Modified Command Processor is displayed whenever a user presses the HELP key (see Figure 3-36). Some of the program functions available on the Modified Command Processor differ from those available on the normal Command Processor. These functions and their PF keys include:

- CONTINUE Processing PF(1)
- SHOW Program Status PF(3)
- Enter DEBUG Processing PF(10)
- PRINT PROGRAM Screen PF(14)
- CANCEL Processing PF(16)

```
                  ***  Wang VS Command Processor  ***

                           Hello Ken Worth

Total Elapsed Time =  00:00:02 (HMS)  Program Processor Time = 00:00:00 (HMS)


                           Program MAIL
                  Was Waiting for Workstation Attention



                Use the Function Keys to Select a Command:

     (1) CONTINUE Processing               (10) Enter DEBUG Processing
     (2) SET Usage Constants
     (3) SHOW Program Status               (12) SUBMIT Procedure

     (4) Manage PRINT/PROCEDURE Queues     (14) PRINT PROGRAM Screen
     (5) Manage FILES/LIBRARIES            (15) PRINT COMMAND Screen
     (6) Manage DEVICES                    (16) CANCEL Processing
```

Figure 3-36. Modified Command Processor Screen

3.12.1 Continue Processing

        The Continue Processing function replaces Run Program or Procedure on
the normal Command Processor. After a program has been interrupted by
pressing HELP, program execution can be resumed by pressing PF 1. The
workstation returns to the program at its point of interruption, without
altering or damaging the program in any way. The Modified Command Processor
makes it impossible to run another program until the interrupted program runs
to completion or is cancelled.

3.12.2 Show Program Status

        The Show Program Status function, intended for use by a systems
programmer/analyst, gives information about the interrupted program or
procedure.

3.12.3 Enter Debug Processing

        The Enter Debug Processing function enables a programmer to begin debug
processing. This function allows you to view the program, its associated
data, and status information and to manipulate the data to correct errors
incurred while the program was running. Word processing supervisors usually
do not have to debug a program. The VS Programmer's Introduction contains
more information on debug processing for those who may have to use it, or who
are curious about this aspect of data processing.

                                  3-53
```

## 3.12.4 Print Program

The Print Program function enables you to obtain a printed copy of a program screen by interrupting the program and using the Modified Command Processor. As the program is running, press HELP while viewing the screen to be printed. The Modified Command Processor appears on the screen. Press PF 14 to obtain a printed copy of the desired program screen. The audio alarm sounds to acknowledge the print command. You should then press PF 1, CONTINUE PROCESSING, to return to the program at the point of interruption. If it has not been printed, the print file containing the program screen can be released through CONTROL PRINT/JOB QUEUES (PF 11) on the Command Processor.

## 3.12.5 Cancel Processing

The Cancel Processing function of the Modified Command Processor replaces the Logoff function of the normal Command Processor, and reflects the fact that a user cannot log off the system until the current program is terminated. Cancel Processing is used in the following manner.

1. Press PF 16 from the Modified Command Processor. The Cancel Processing screen (refer to Figure 3-37) appears. From the three functions provided, you can either cancel processing, return to debug processing by pressing PF 1, or return to the Modified Command Processor by pressing HELP.

2. Press RETURN/ENTER to cancel processing. The normal Command Processor is displayed, with the message, PROGRAM XXXX CANCELLED BY USER.

```
                       ***  Cancel  ***




      WARNING -
          Cancel is used to terminate your current program
          and return all resources to the system. It will
          attempt to complete any outstanding file I/O and
          then close all files opened by the program.



      SELECT:

          (ENTER)  to Begin Cancel Processing

          (1)      to Return to Debug Processing
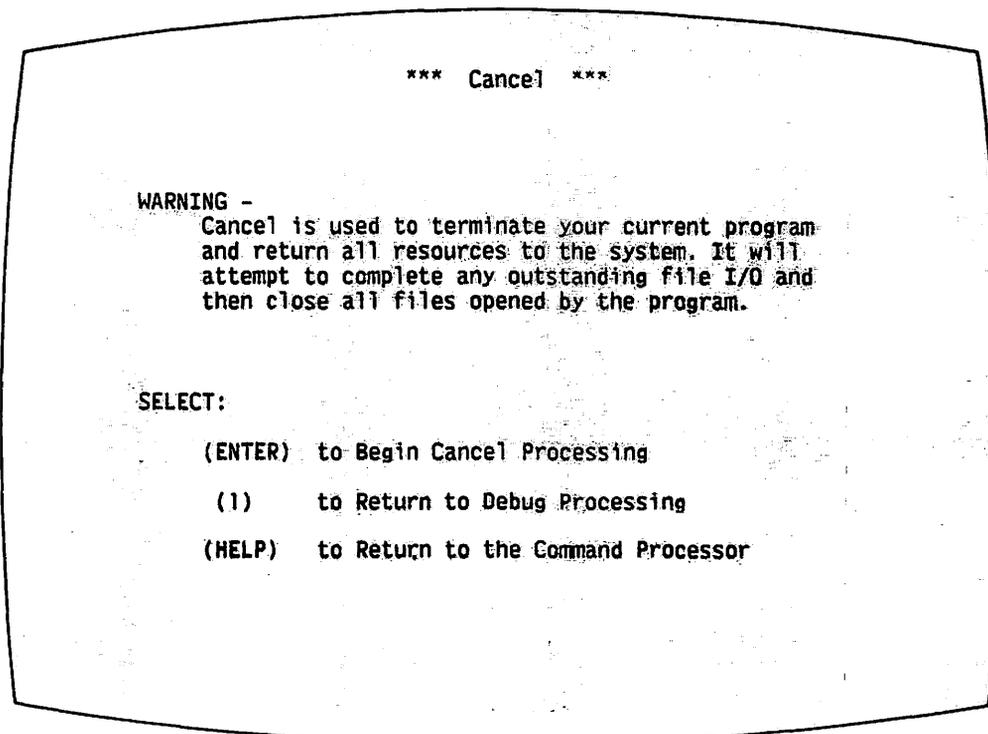
          (HELP)   to Return to the Command Processor
```

Figure 3-37.   Cancel Processing Screen

CHAPTER 4
ESTABLISHING A SECURITY SYSTEM

4.1   INTRODUCTION

The importance of establishing an efficient security system for a VS word processing installation cannot be stressed enough. Properly administered, system security for the VS ensures not only the protection of classified documents, but also the security of the system itself from unauthorized users.

Two levels of protection are available through VS security: user level and file level. User restrictions are maintained through the Security utility. File restrictions are determined when a file is created and are modified through the Protect command accessed through the Manage Files and Libraries function of the Command Processor.

```
┌──────────────────────────── NOTE ────────────────────────────┐
│                                                               │
│  When security at a VS/IIS installation is managed by a       │
│  security administrator instead of the word processing        │
│  supervisor, the contents of this chapter do not pertain to   │
│  the responsibilities of the word processing supervisor.      │
│                                                               │
└───────────────────────────────────────────────────────────────┘
```

4.2   ESTABLISHING SECURITY ON THE USER LEVEL

User level security actually means the protection of the system from use by unauthorized people. This form of security is managed through the Security utility. Security protects resources on three levels.

● The system level -- Only users with User IDs and passwords currently existing on the User List can log on to the system. Users can also be restricted to or from using certain workstations.

● The file level -- Only files belonging to the file protection classes to which a User ID has been granted access rights, can be accessed by that user.

● The access level -- Only certain types of operations can be performed on files, depending upon the access privileges granted to the user. Access rights, along with file protection classes, determine which files can be accessed by which users.

The Security utility establishes these three security levels by enabling you to define the User ID, password, user name, security administrator classification, file access rights, Logon procedure, HELP processor classification, and workstation logon restriction for each user.

The User List contains the User IDs, names, and access rights of all who are permitted to use the system. The User List is maintained and updated by the use of the Security utility. Security, the User List, and associated screens are discussed in the next section.

4.3   ADDING NEW USERS TO THE VS/IIS THROUGH SECURITY

The following instructions explain how to add users to a newly installed VS/IIS. However, with the exception of the logon using the User ID, CSG, these instructions can also be used for adding new users to previously existing systems.

When the VS/IIS is first installed, only one valid User ID, namely, CSG, is resident on the User List. This User ID is the one the Wang Representative uses to log on to the system. In order to establish the User List, the Wang representative must first place a preferred ID and password on the User List. You can then log on to the system and proceed to add new users to the list.

```
┌──────────────────────────── NOTE ────────────────────────────┐
│                                                              │
│  After the initial User List is generated, ask the Wang      │
│  representative for a new User ID for future use on service  │
│  calls.  Add this new User ID to the User List, and delete   │
│  the CSG User ID.  Deleting CSG prevents unauthorized users  │
│  from accessing the User List and other documents available  │
│  to the CSG ID.                                              │
│                                                              │
│  The User List should be given a file protection class of #  │
│  (signifying a private file), with a security administrator  │
│  as the owner of record.  This measure ensures that only     │
│  security administrators can access the list.                │
│                                                              │
└──────────────────────────────────────────────────────────────┘
```

Before actually using the Security utility, you should compile a list of preferred User IDs and passwords for all word processing personnel. Often the User ID is the individual's initials, though this is not necessarily a safe practice, since the User ID is displayed as the user types it. The password, however, does not appear on the screen as it is typed, offering greater protection against access of the system by unauthorized users.

After obtaining User IDs and passwords from all word processing personnel, you should log on to the system and access the Command Processor. From the Command Processor, press PF 1, RUN PROGRAM OR PROCEDURE. When the Run screen appears, type "Security" for the program name. Since Security is a system utility, it is unnecessary to supply library or volume names. Press RETURN/ENTER to run the utility. The system momentarily flashes PROGRAM SECURITY NOW IN PROGRESS, and then displays the Security main menu (refer to Figure 4-1).

```
*** WANG VS SECURITY SYSTEM ADMINISTRATION UTILITY VERSION  3.02.00***



        PRESS the PFKEY Corresponding to the Desired Function:


(1)    REVIEW (Optional  MODIFY  or  DELETE)  System  Access  Privileges
       Starting with USER        (If Blank, First User is Assumed).

(2)    ADD a New User to the System.

(9)    REVIEW (Optional MODIFY) Program Special Access Privileges
       for Program          in Library           on Volume

(13)   INSTRUCTIONS.

(15)   PRINT Listing of Users.

(16)   END PROCESSING.
```

Figure 4-1.   Security Main Menu

4.3.1 Security Options

Six options are available through the Security Main menu. PF keys 1, 2, and 9, allow you to add and to modify privileges. PF 13 contains detailed explanations of the options available through the other PF keys on the menu. PF 15 automatically prints a current list of users (which should be kept in a safe spot), and PF 16 terminates the program.

To add new users to the system, press PF 2. The Add New User screen (refer to Figure 4-2) appears with empty pseudoblanks highlighted.

```
+--------------------------------------------------------------+
|                                                              |
|   USER  ***  -  PASSWORD  ********  -  NAME  *********************************  |
|                                                              |
|            USER'S FILE ACCESS PRIVILEGES (by File Class)      |
|                                                              |
|            Security Administrator  ........  N               |
|                                                              |
| A  B  C  D  E  F  G  H  I  J  K  L  M  N  O  P  Q  R  S  T  U  V  W  X  Y  Z |
| *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  * |
|                                                              |
|                                                              |
| Logon Procedure (Program) is ********  in Library ********  on Volume ****** |
|                                                              |
|                HELP Processor Disabled  ........  N          |
|                                                              |
|            LOGON RESTRICTED FROM WORKSTATION(s)              |
|                                                              |
| *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** |
| *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** |
| *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** |
|                                                              |
|        PRESS (ENTER) TO ADD THIS USER TO THE SYSTEM  OR SELECT: |
|           (1) RETURN to MENU    (13) INSTRUCTIONS           |
|                                                              |
+--------------------------------------------------------------+
```

Figure 4-2. Add New User Screen

New users are added to the system by typing in the appropriate information in the fields provided. Each category on the Add New User screen is described below.

User

The first category, User, requests the unique User ID by which the new user will be accessing the system. The User ID can be up to three characters in length. The first character of the ID must be alphabetic; the remaining characters can be alphanumeric or the special symbols @, #, or $.

When the screen first appears, the cursor is located in the field for the User category. Begin by typing in the User ID of an operator on the staff. After typing the User ID, press TAB to move to the Password field.

Password

Passwords are optional but recommended for maximum security. Passwords can be up to eight alphanumeric characters in length and include symbols and spaces. The password is not displayed when it is typed as part of the logon process. When used as part of a logon, the password should be one that the user can easily remember. Type in the password, if one is being used, and then tab over to the next field.

Name

The Name field provides up to 24 alphanumeric characters, special symbols, and spaces for the user's name. The user's name is treated as a comment and is displayed on the Command Processor after the word, "Hello". You are not required to have a user name associated with a particular logon. However, since the user's name does appear on the Command Processor and the Operator's Console, it can be useful in identifying the present user of a workstation. Type in the user name, if applicable, and tab over to the next field.

Security Administrator

The Security Administrator field defines whether or not the user is granted the access rights accorded to a security administrator. Security administrators alone have access to the Security utility and associated private files. The default for the Security Administrator field is N. Using the default means that the user is not a security administrator, and that access rights are defined by the values given in the file protection class fields.

To set yourself up as a security administrator:

1. Type Y in the security administrator category.

2. The pseudoblanks, representing the file protection class fields, automatically are filled with Ws when RETURN/ENTER is pressed. (Do not press RETURN/ENTER at this time.) The W means that you are given write access (or the ability to edit) to all files in all protection classes.

3. Skip the file protection class fields and, using EXECUTE/NEW LINE, move the cursor to the Logon Procedure field.

For users who are not designated as security administrators, leave the N default for this field and tab over to the file protection class fields.

File Protection Classes

The letters A through Z can be assigned as file protection classes. Individual installations can determine the manner in which each file protection class is assigned (refer to Section 4.5). Twenty-six installation-defined file protection classes may be established through system security on the VS, each class corresponding to the letters of the alphabet.

Within each file protection class, certain file access privileges can be set up for each User ID. These access rights are typed in the pseudoblank representing each file protection class field on the screen. For any installation-defined file protection class, four levels of access rights, as listed in Table 4-1, can be defined.

Table 4-1.   File Protection Class Table

Access Right	Explanation
Blank	No access rights. If a field for a particular file protection class contains a space character, the user has no access rights to files in this file protection class. A word processing operator with blank access rights to a particular file protection class could not edit any documents in that particular file protection class.
E	Execute only access rights. This classification of access rights usually applies to data processing files only. A user with E access rights to a certain file protection class can run a program file in that class, but cannot examine or modify it.
R	Read and execute access rights. R access rights are normally given to data processing files only. In this case, the user with R access rights to a particular file protection class may read a file and run a program in this class, but cannot modify any information.
W	Write, read, and execute access rights. This access privilege allows the user to modify, rename, scratch, protect, and debug files. In word processing terms, the operator with W access rights to a file protection class can edit and print all documents in that particular class.

Set up a system to define file protection classes, before you assign access to files to each user. You should have write access to every file protection class assigned to word processing libraries, so that you can alter any file.

After the file access rights have been assigned, type in the appropriate file access rights for the User ID being created. Using the TAB key, move the cursor to the next field, Logon Procedure.

Logon Procedure

The Logon procedure enables you to determine the individual user's running environment, by having the system invoke a Logon procedure upon receipt of the User ID. The Logon procedure enables you to restrict users to certain areas of the system only. Logon can also set the same defaults that are available for the operator or supervisor, through Set Usage Constants on the Command Processor.

For word processing operators with limited access rights, the logon procedure should first be created and then entered in this field, along with the names of the library and volume wherein the procedure resides. Section 4.4 explains how to write a Logon procedure that restricts word processing operators to the word processing software. Supply the appropriate information and tab over to the next field.

```
┌──────────────────── NOTE ────────────────────┐
│                                               │
│  The procedure must be stored in a library    │
│  on a mounted volume, which is accessible at   │
│  logon time, in order for the procedure to     │
│  run.  If the procedure is on a volume that is  │
│  not mounted,  an error message is displayed   │
│  and the user must press HELP to return to     │
│  the Command Processor.  (Even those users     │
│  whose HELP key has been disabled can use HELP  │
│  in the event of such an error message.)       │
│                                               │
└───────────────────────────────────────────────┘
```

Help Processor Disabled

The default for the Help Processor Disabled field is N (No). Accepting the default allows the user to press the HELP key, as needed, to interrupt data processing activities. When Y (Yes) is selected for this category, the user cannot access the Command Processor. The HELP processor should not be disabled for word processing supervisors who need to access the Command Processor. However, operators with Logon procedures and limited access to the data processing functions of the system should have the HELP processor disabled. Alter the Help Processor Disabled field, if applicable, and tab to the next field.

Logon Restricted from Workstations

Individual users can be restricted from logging on to particular workstations. Sixty fields are provided for the workstations' device numbers. (Refer to Show Device Status on the Command Processor for these device numbers.) To restrict a user from using certain workstations, enter the number of each restricted workstation in the pseudoblanks provided.

You can also restrict users to certain specified workstations by changing the highlighted "From" to "To", and then typing the device numbers of the applicable workstations. This field cannot be left at "To" if a workstation number has not been entered. You should have unlimited access to the use of workstations. After all information has been entered in the fields, press RETURN/ENTER.

Helpful Hints

Supply the following information in the appropriate fields to initially add yourself to the User List.

- User

- Password (if desired)

- User name

- Security Administrator (Y)

- HELP Processor Disabled (N) (unless you have limited access rights to the system's data processing capabilities)

All other fields should be left blank. Press RETURN/ENTER to inform the system of these additions.

For word processing operators restricted to word processing activities and key operators with limited access rights, the following fields should be entered.

- User

- Password (if desired)

- Security Administrator (N)

- File protection classes (as determined by the particular installation)

- Logon procedure

- HELP Processor Disabled (Y)

- Logon Restricted to/from workstation (according to the particular installation's needs)

Press RETURN/ENTER. After all users are entered, press PF 1 to return to the main menu; then press PF 16 to end processing and return to the Command Processor.

4.4   WRITING LOGON PROCEDURES

Procedures are sets of instructions, similar to computer programs, that enable the system to automate certain sequences of operation. These procedures are normally used to invoke system functions, to automatically fill information into screen fields without user interaction, and to limit access to certain functions by certain users. For example, a procedure can be written that automatically establishes usage constants for a particular User ID, making it unnecessary to use Set Usage Constants on the Command Processor every time the user logs on. Other procedures can be written to automatically supply necessary program information into fields. These subjects are covered completely in the VS Procedure Language Reference Manual.

In a VS word processing environment, the most commonly used procedures are designed to give operators immediate access to the word processing software as soon as they have successfully logged on. These procedures are simple to write. By following the instructions in this section, you can write a procedure that limits word processing operators to word processing activities only.

The first step in writing a procedure is to return to the Command Processor and to press PF 1, RUN PROGRAM OR PROCEDURE. On the Run screen, type "Editor" for the program name, and press RETURN/ENTER. (Editor is a system program.) The system flashes, PROGRAM EDITOR IN PROGRESS, and then displays the Define Input Parameters screen (refer to Figure 4-3).

```
***  MESSAGE 0001 BY EDITOR

          INFORMATION REQUIRED BY  PROGRAM  EDITOR
                    TO DEFINE INPUT
               ACTIVE SUBPROGRAM IS WE1EDIT

          ***  Wang VS Source Text Editor - Version  5.03.00  ***

Please specify the source program language being used:

     LANGUAGE = P********  Options: ASSEMBLER, BASIC, COBOL, PROCEDURE, RPGII

If creating a new file, leave file name blank. To edit an existing file,
please specify:
     FILE      = ******** in LIBRARY  = ******** on VOLUME   = ******

Options:
     LINES     = *****          (Needed only if adding many lines to file)
```

Figure 4-3. Define Input Parameters Screen

When using the Editor, you must specify in which programming language the new file is to be written. Since a procedure is going to be created, you should type P, or PROCEDURE, in the Language field. Because this is a new file, the other fields are left empty. When editing an existing procedure, the file name, etc., should be entered. Press RETURN/ENTER.

The system flashes the message, PROGRAM EDITOR NOW IN PROGRESS, and displays the Source Text Editor main menu (refer to Figure 4-4). At the top of the screen, the message, "The Editor work file is being created", is momentarily highlighted.

```
WORKSTATION 43 - USER SMB - Steffie!!!
              *** Wang VS Source Text Editor - Version 5.03.00 ***
There is no current input file.
There are        0 lines in the edited text.

Press one of the following program function keys to request a desired
function:
(1) DISP  - Return to display mode and resume text editing
(2) FIRST - Display the first 20 lines in the file
(3) LAST  - Display the last 5 lines in the file
(4) PREV  - Move the display back 15 lines
(5) NEXT  - Advance the display 15 lines
(6) DOWN  - Move the display back 1 line
(7) UP    - Advance the display 1 line
(8) FIND  - Find the next occurrence of a specified text
(9) MOD   - Allow modification of displayed lines, or add lines if at end
(10) CHA  - Change all occurrences of a text string within a specified range
(11) INS  - Insert a new line after the cursor line
(12) DEL  - Delete a specified range of lines
(13) MOVE - Move a specified range of lines to after the cursor line
(14) COPY - Copy a specified range of lines to after the cursor line
(15) COL  - Show Cursor column position
(16) MENU - Activate special menu (Set, Restart, Create, Replace, Renum,
            XCOPY, Run, Print, EOJ)
Press ENTER for a description of RANGE, TARGET, and FIND specifications.
```

Figure 4-4.   Source Text Editor Main Menu

The text editor enables you to create and modify programs in a variety of ways.   For procedure writing purposes, you should press PF 1 (DISP) to allow new or old text to be entered.

The workstation is now in Display mode (refer to Figure 4-5), enabling you to write the procedure.   The cursor is located where the procedure is to start.   Type the following information, ending each line with a return.

    PROCEDURE
    RUN WP
    LOGOFF

Each time you press RETURN/ENTER after a phrase, the phrase is highlighted and the system replaces "Add" with a number, starting at 100.

4-10

```
Make modifications and press ENTER. Press PF15 to show cursor col. Modify Mode
Press PF1 to return to display mode without saving modifications.
         1         2         3         4         5         6         7
       12345678901234567890123456789012345678901234567890123456789012345678901 2
000100 PROCEDURE
000200 RUN WP
000300 LOGOFF
   ADD -
   ADD -
   ADD -
   ADD -
   ADD -
   ADD -
   ADD -
   ADD -
   ADD -
   ADD -
   ADD -
   ADD -
   ADD -
   ADD -
   ADD -
   ADD -
   ADD -
```

Figure 4-5.   Editor Display Mode (Part 1) Screen

The word, "Procedure", tells the system that the following program file is a procedure. Run WP tells the system to automatically run the program WP. This instruction replaces the need for manually pressing PF 9, Enter Word Processing, on the Command Processor. Logoff tells the system to automatically log the user off, when Terminate Processing is selected from the IIS Menu. The Logoff instruction replaces the need for manually logging off from the Command Processor. The Logon procedure not only restricts word processing operators to word processing activities, but also saves many keystrokes.

After completing the procedure, press RETURN/ENTER again. The system de-highlights the newly created procedure, and displays the Editor Display Mode (Part 2) screen (refer to Figure 4-6). This screen is identical to the previous screen, except for different options. Exit from Display mode by pressing PF 16. The next screen viewed is the Editor Special menu (refer to Figure 4-7).

```
(1)Disp (2)First (3)Last (4)Prev (5)Next (6)Down (7)Up (8)Find Display Mode
(9)Mod (10)Cha  (11)Ins (12)Del (13)Move (14)Copy (15)Col (16)Menu
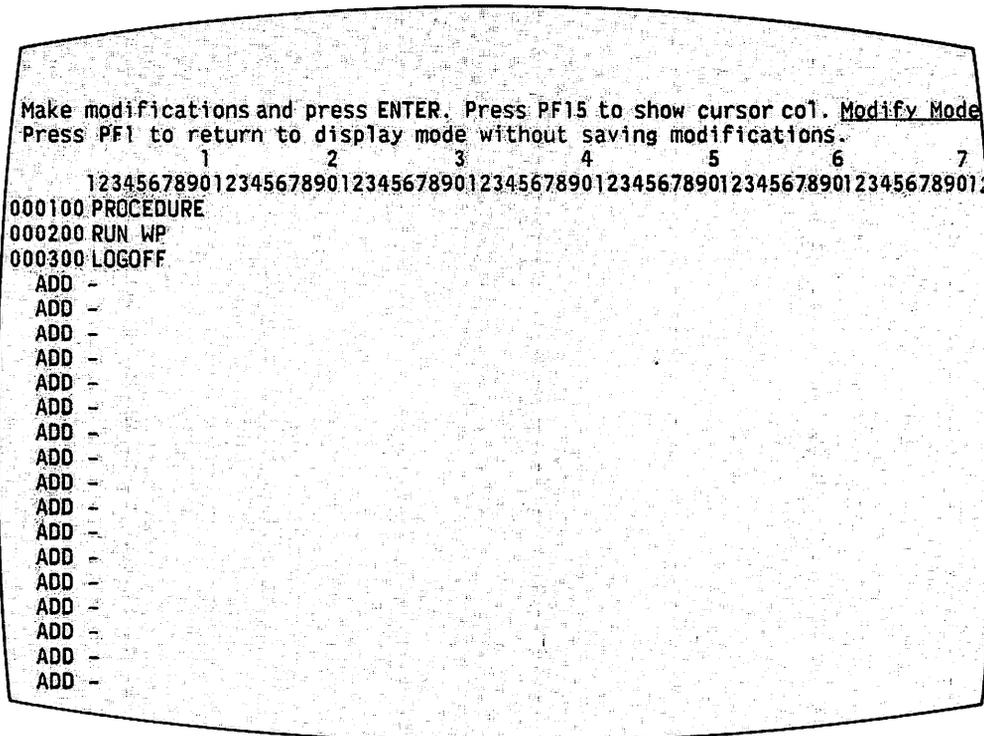

000100 PROCEDURE
000200 RUN WP
000300 LOGOFF
 ADD -
 ADD -
 ADD -
 ADD -
 ADD -
 ADD -
 ADD -
 ADD -
 ADD -
 ADD -
 ADD -
 ADD -
 ADD -
 ADD -
 ADD -
 ADD -
 ADD -
```

Figure 4-6.   Editor Display Mode (Part 2) Screen

```
            ***  Wang VS Source Text Editor - Version  5.03.00  ***
There is no current input file.
There are        3 lines in the edited text.

Press one of the following program function keys to request a desired
function:
 (1) DISPLAY  - Start text editing
 (2) SET      - Set EDITOR defaults
 (3) MENU     - Activate the normal menu
 (4) RESTART  - Edit another file
 (5) CREATE   - Create a new file of the edited text

 (7) RENUMBER - Generate new line numbers for the edited text
 (8) XCOPY    - Copy a range of lines from another file to the work file
 (9) RUN      - Run the procedure


(15) PRINT    - Print the edited text
(16) EOJ      - End EDITOR processing
```

Figure 4-7.   Editor Special Menu

The Editor Special menu informs you that there are three lines in the edited text, and that no file has been created. At this point, the procedure must be stored in a new file. To accomplish this, press PF 5 to display the Output Parameter screen (refer to Figure 4-8).

```
*** MESSAGE 0500 BY EDITOR

                    INFORMATION REQUIRED BY  PROGRAM  EDITOR
                              TO DEFINE OUTPUT
                         ACTIVE SUBPROGRAM IS WE1EDIT

Fill in the information below to create a new file of the edited text.
Press PF1 to return to the special menu.


Please specify:

    FILE      = USERLOG* in LIBRARY  = LOGON*** on VOLUME   = SYSTEM
    RETAIN    = *** days
    FILECLAS  = *             (File Protection Class)

Options:

    COMPRESS = YES       (Enter YES to create compressed records)
    NUMBER   = YES       (Enter YES to include line numbers in output)
```

Figure 4-8. Output Parameters Screen

To create the new file, you must enter information into the appropriate fields. For File, type USERLOG; for Library, type LOGON; and for Volume, type the name of the installation's system volume. Press RETURN/ENTER to create the file and to return to the Special menu.

If the file you specify duplicates an existing file, the system prompts, THE FILE SPECIFIED ALREADY EXISTS. USE PF 3 IF YOU WISH TO SCRATCH THE EXISTING FILE AND CONTINUE. OTHERWISE, PLEASE SPECIFY ANOTHER FILE. USE PF1 TO RETURN TO THE SPECIAL COMMAND MENU.

The Editor Special menu is displayed again, with the new message, "File USERLOG in library LOGON on volume SYSTEM created with 3 records", displayed near the top of the screen. To test the newly created procedure, press PF 9, RUN, to display the Editor Test screen (refer to Figure 4-9).

4-13

```
               ***  Wang VS Source Text Editor - Version 5.03.00  ***
         Input file is USERLOG   in library LOGON     on volume SYSTEM
         There are       3 lines in the edited text.

                                       Run Command
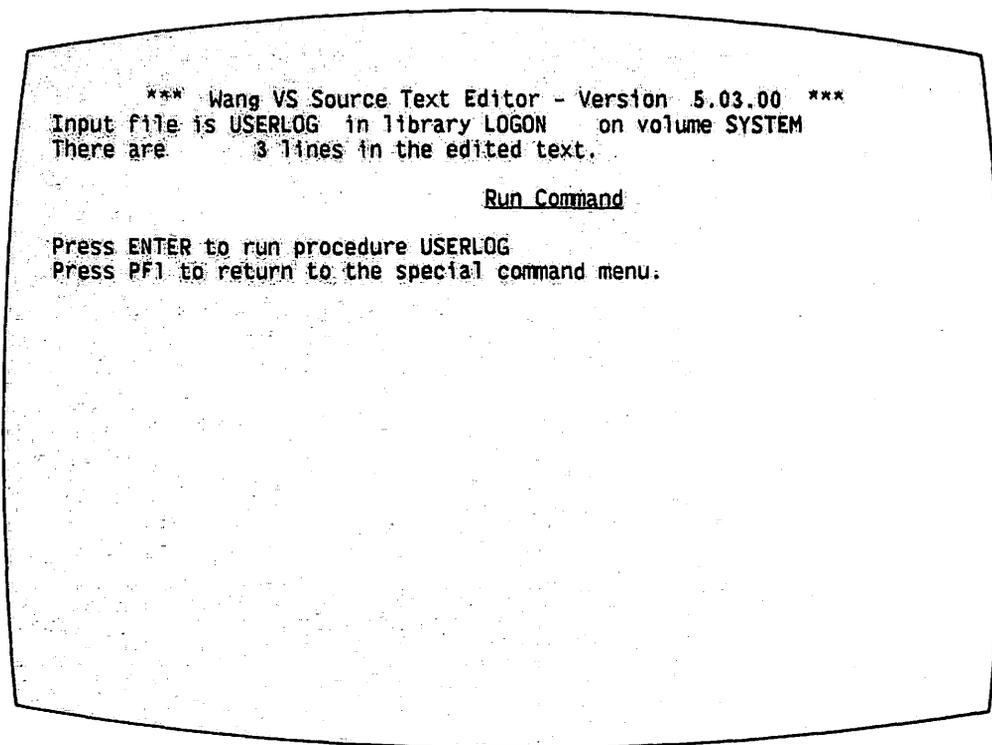
         Press ENTER to run procedure USERLOG
         Press PF1 to return to the special command menu.
```

Figure 4-9. Editor Test Screen

     To test the accuracy of the procedure, press RETURN/ENTER.   If the
procedure has been entered correctly, the workstation flashes the message,
PROCEDURE   USERLOG   IN   PROGRESS,   and   the   system   runs   the   word   processing
software, displaying the IIS menu.   From the IIS menu, move the cursor to
Terminate Word Processing, and then press EXECUTE/NEW LINE.   The workstation
returns to the Editor Special menu, which has the message, "Procedure USERLOG
cancelled", displayed near the top of the screen.   To end procedure creation,
press PF 16, EOJ, to return to the Command Processor.

4.4.1 Modifying the User List

     After the Logon procedure is created, you should assign it to the
operators who are to be restricted to word processing on the system.   In order
to do this, you must modify the User List.

     First, run Security from the Run screen of the Command Processor.
(Refer to Figure 4-1.)   Option 1 allows the user to review already created
user entries.   If only one operator is to receive a Logon procedure, type the
operator's User ID in the pseudoblanks.   Otherwise, leave the pseudoblanks
empty and press PF 1.

The workstation presents the first entry on the User List. This screen is similar to the Add New User screen, except that the information previously entered for each user now appears in the fields, instead of the empty, highlighted pseudoblanks. At the bottom of the screen, you are given a choice of operations to perform, including moving from one user to the next, modifying the security privileges of the user currently viewed, or deleting the user. Any of the fields in the entry can be modified to reflect whatever changes may have been made to the installation's security system.

Users appear on the system User List in alphabetical order. Move through the list, pressing the appropriate PF keys, until reaching the User ID of the first operator to receive the logon. Press PF 9 to modify the record. Pseudoblanks will be displayed for every category, except User. Use the TAB key to move the cursor to the appropriate fields. In the field for Logon procedure, type the name of the procedure (USERLOG), its library (LOGON), and volume name (the installation's system disk). Press RETURN/ENTER to modify the record.

4.4.2 Deleting a User

To delete a user, access the Security Main menu and type the User ID of the user to be deleted, in the field for option 1. (If the User ID is unknown, leave the field empty.) Press PF 1 to access the User List. When the User ID to be deleted is found, press PF 12. The system highlights the User ID of the record. Press RETURN/ENTER to delete the user.

After the system User List is created, you should use this deletion method to delete the User ID, CSG, from the list. However, be sure the customer engineer has been assigned another User ID to log on to the system.

4.5 ESTABLISHING SECURITY ON THE FILE LEVEL

File security represents the second level of security available on the system. Each file is assigned to a file protection class upon creation, even by default. Along with access rights, the file protection class determines which files can be accessed by which users, and whether a user can read, execute, or write to these files.

4.5.1 File Protection Classes

Two types of file protection classes exist: system defined and user defined. System defined file protection classes include Owner-Access, Read-Only, and Execute-Only, as defined in Table 4-2. These classes are indicated by a one-character file class code. File protection classes are assigned by the defaults established in Set Usage Constants, or by Manage Files/Libraries on the Command Processor.

Table 4-2. System Defined File Protection Classes

Code	File Type	Definition
' ' (blank)	Unprotected File	Files in this class can be accessed by any user. If a file is not assigned a protection class, it is assigned a blank protection class.
'#'	Private File	Files in this class can only be accessed by the person who created the file (or the security administrator).
'@'	Execute-only File	Files in this class can be executed by any user, but only security administrators and the owner of record can read and modify them.
'$'	Read-only File	Files in this class can be read or executed by any user, but only security administrators and the owner of record can modify them.

The person who initially created the file is recognized as the owner of record by the system. However, the owner of record can be changed through the use of Manage Files and Libraries, as noted in Chapter 3. A file can always be accessed by its owner of record, regardless of the file's protection class and the user's access privileges.

The second type of file protection class is defined by the installation. An installation can have up to 26 file protection classes defined by the security administrator. Each file protection class is identified by a letter of the alphabet. File protection classes can be assigned according to department, type of work, or any category necessary for the installation. Note the following examples.

    Class "A" can be Accounting.
    Class "C" can be customer files.
    Class "B" can be all documents generated by an individual
    whose name begins with B.

In the previous example, only users with class A privileges can have any kind of access to files created by the Accounting Department. Among the users with these privileges, there can be different types of access rights. One person may be able to modify the files in class A; another person may only be able to run a program with an A classification.

File protection classes should not be confused with library names that are assigned when word processing files are created. Though each is designated by a single letter of the alphabet, their respective purposes are entirely different. Table 4-3 shows the differences between file protection classes and library letters.

Table 4-3. Comparison of File Protection Classes to Library Letters

File Protection Classes	WP Library Names
Installation-defined file protection classes can be identified by the letters A-Z.	Word processing libraries may be identified by the letters A-Z, a-z, or space for the glossary library created through the Glossary functions on the Word Processing menu.
File protection classes protect a file or library from unauthorized use, regardless of whether the user is performing data processing or word processing activities.	Library letters are used for identification purposes when using the word processing software only. (When using data processing functions, a word processing library is identified as DOCMNTX, with X representing the library letter.) Because a library is named A, this does not necessarily mean that only operators with A access rights can use its contents.
Every document in a particular word processing library should be protected by the same file protection class.	A library does not necessarily have to have a file protection class that corresponds to its library letter. For example, library r could have a protection class of G, R, or any letter decided upon by the supervisor.

Each installation should set up a security system that is best suited to handle the needs of its company. This security system should be fully documented for reference purposes. Both data and word processing security must be considered, and the fact that word processing files have only two access rights, W or No Access, should be taken into account. Setting up a security system from the data processing end is covered in the VS System Management Guide; included in this document is a Security Administration Worksheet, useful for both data processing and word processing security needs.

4.5.2 Use of the Protect Command to Modify File Protection Classes

When a new file is created, its creator becomes the owner of record. If it is a data processing file, the system prompts, FILECLAS__, allowing you to designate the file protection class, or leave it blank. Furthermore, you can set up a default file protection class for all files created in the workstation session, through Set Usage Constants on the Command Processor.

The Protect command, however, is not applicable to word processing documents. Unless a default file protection class is previously specified, all newly created documents receive a blank file protection class. However, it is possible to assign a default file protection class for word processing documents at the time they are created, through Set Usage Constants. You, and any operators using data processing functions, can use Set Usage Constants to assign a file protection class to all documents created during the workstation session. Furthermore, you can assign a default file protection class to an operator using word processing only, as part of the operator's Logon procedure (refer to Subsection 4.5.3).

Previously created file protection classes can be examined and modified, using the Protect command, which is available through Manage Files and Libraries on the Command Processor. (Refer to Section 3.7 for a review of this function.) It is not recommended that individual word processing documents be protected through the Protect File command. However, the Protect File command can be used to protect any data files you may have to create. Enter Manage Files and Libraries from the Command Processor; access the Filenames screen; move the cursor to the file to be protected; and then press PF 9 to view the Protect screen. The Protection Class, Owner of Record, and Expiration Date can be modified by pressing RETURN/ENTER. These three categories can be defined as follows.

- File Protection Class — Reserved for the file protection class of the file. It can only be changed by the owner of record or a security administrator (possibly the word processing supervisor).

- Current Owner of Record — The User ID of the person who created the file, which can only be modified by this User ID or a security administrator. The owner of record always has access to the file.

- Expiration Date — Sets up the retention date for a file, and should only be filled in if you have a clear idea of the time period during which the file will be active. When an expiration date is specified, the file cannot be scratched or renamed by means of the Command Processor until the expiration date has passed.

Suppose you have given a data file, containing accounting tables, the file protection class A. After completing modifications, you should run Security and modify the system User List. Modification is done by typing a W in file protection class A for those User IDs allowed access to the data file, and a space for those denied access. Thus, only qualified users would be able to edit the accounting tables.

Entire libraries can also be protected by using the protect command, which is the method recommended for protecting word processing documents. Access the Library screen in Manage Files and Libraries; move the cursor to the library to be protected; and press PF 9 to view the Protect screen. As in the Protect screen for files, the categories, Protection Class, Owner of Record, and Expiration Date, appear on the Library screen. These categories have the same meaning as in Protect for files. To protect the library, type in the file protection class and press PF 2. If the owner of record and expiration date of the file are being modified, press PF 3 and PF 4 to make these changes. You then run Security and access the User List, giving the persons allowed access to the library a W in the library's file protection class, and giving all others a space in that protection class.

```
┌────────────────────── NOTE ──────────────────────┐
│                                                   │
│   The  following  restrictions  should  be  observed  for   │
│   protecting word processing libraries.           │
│                                                   │
│   ●   If you are going to be creating libraries, a default   │
│       file protection class should not be used, since it    │
│       excludes operators from accessing the libraries you   │
│       have created.                               │
│                                                   │
│   ●   Word processing documents in a particular library     │
│       should always have the same file protection class.    │
│                                                   │
└───────────────────────────────────────────────────┘
```

4.5.3 Automatically Assigned Protection Classes for Word Processing Operators

File protection classes can be automatically assigned to word processing operators through their Logon procedures. In this way, every document an operator creates is automatically assigned a previously determined file protection class.

As an example, suppose you want to assign a file protection class of B to every document created by operators in the Bids and Proposals Department. You would perform the following steps.

1. Run the Editor program, and follow the steps outlined in Section 4.4 to create a Logon procedure.

2. When the workstation screen is in Display mode, type the following procedure.

        PROCEDURE
        SET FILECLAS =B
        RUN WP
        LOGOFF

    The only difference between this procedure and the one created in Section 4.4 is the phrase, SET FILECLAS =B. This phrase tells the system to automatically access the Set Usage Constants function, and then to enter B in the File Class field. Then the system runs the WP software and automatically logs off the user, when Terminate Word Processing is selected from the IIS menu.

3. Return to the instructions in Section 4.4 to create the new procedure. Give the new procedure the filename, AUTOLOG, and assign it to the library, LOGON, on the installation's system disk.

4. After leaving Editor, run Security and assign the AUTOLOG procedure to all operators in the Bids and Proposals Department.

As a result of the preceding steps, all documents created by operators in the Bids and Proposals Department are automatically assigned file protection class B, upon creation. Operators in other departments, who are allowed to access bids and proposals documents, should be given W access to file protection class B by means of the User List.

Password Protection

A third method of document protection, namely, password protection, is available for word processing documents only. Password protection is a feature of word processing document security that is completely different from the VS logon password, and is managed entirely through the word processing software. Refer to Chapter 2 for more information on password protected documents.

CHAPTER 5
VS UTILITIES

5.1   INTRODUCTION

Utilities are programs that perform commonly used functions for purposes of system maintenance and program development. Four system utilities, Document Filing and Conversion (COPYWP), Document Index (LISTWP), DISKINIT, and BACKUP are described in detail in this chapter.

COPYWP converts VS word processing documents to VS files and converts VS files to VS word processing documents. In addition, COPYWP performs filing functions for VS word processing documents.

LISTWP generates document management reports. These reports provide both detailed and summary information about the documents on the system, including: title, author, operator, comments, page count, work time, keystrokes, and disk space allocation and use.

DISKINIT initializes a disk or diskette so that it can be used for storing data on the VS. This utility also performs read and write verification, reformatting, relabelling, and bad block replacement.

BACKUP creates backup copies of a file, library, or volume, as protection in case the originals are destroyed. BACKUP also performs restoration.

These utilities enable you to maintain on-line and off-line storage of documents in an efficient manner. Other utilities are used during program development or data entry. For information on the entire range of VS System utilities, consult the VS System Utilities Reference Manual.

5.2   THE DOCUMENT FILING AND CONVERSION UTILITY (COPYWP)

The Document Filing and Conversion utility (COPYWP) allows you to perform the following document management functions.

- Copy, delete, rename, and reorganize word processing documents and/or libraries

- Convert VS files to word processing documents

- Convert word processing documents to VS files

- Merge information from two word processing documents into a third word processing document

5-1

To use Document Filing and Conversion, position the Acceptance Block next to Document Filing and Conversion from the Word Processing Utilities menu, and press EXECUTE. The Document Filing and Conversion (COPYWP) main menu is displayed, as shown in Figure 5-1.

```
*** MESSAGE 0001 BY COPYWP

                RESPONSE REQUIRED BY PROCEDURE JMTLOGON
                          TO SELECT FUNCTION
                        ACTIVE PROGRAM IS COPYWP



          *** Wang VS COPYWP Utility Program - Version 2.01.01 ***


                 Press PFKey Corresponding To Desired Function

        (1) Copy Single Document          (10) Reorganize Single Document
        (3) Copy Document Library         (12) Reorganize Document Library

        (4) Delete Single Document        (13) Convert Document to VS File
        (6) Delete Document Library       (14) Convert VS File to Document
                                          (15) Document Merge
        (7) Rename Single Document
        (9) Rename Document Library       (16) Terminate Processing
```

Figure 5-1. Document Filing and Conversion Main Menu

NOTE

Except during the actual copying process, you can cancel all Document Filing and Conversion functions by pressing PF 1. To return to the Word Processing Utilities menu, press PF 16 from the Document Filing and Conversion main menu.

5.2.1 Password Protected Documents

To access a password protected input document when using the word processing utilities, perform the following steps.

1. Enter the document ID and press EXECUTE. The system displays the message, "Document _____ is password protected. Please enter password _____."

2. Enter the document's password. The cursor moves as the password is entered; however, the password is not displayed on the screen. Press EXECUTE and continue performing the selected word processing utility.

```
*** MESSAGE 0010 BY COPYWP

            INFORMATION REQUIRED BY PROCEDURE JMTLOGON
                       TO DEFINE PASSWORD
                   ACTIVE PROGRAM IS COPYWP




        Provide Password For Document 0050W on Volume NEWSYS



                        PASSWORD = ******
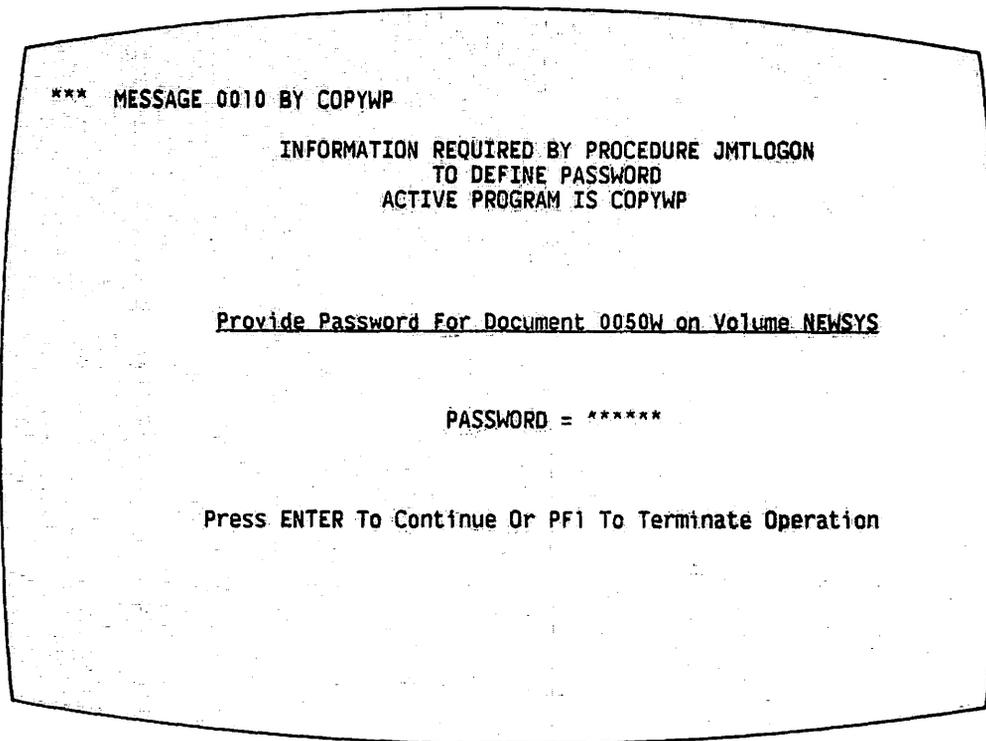


        Press ENTER To Continue Or PF1 To Terminate Operation
```

Figure 5-2. COPYWP Password Specification Screen

5.2.2 Copy Single Document (PF 1)

The Copy Single Document function copies a word processing document to another document in the same library, or to a document in another library. You can use this option to copy any document, including prototype documents. All information in the document is copied, including format lines. To copy a single document, perform the following steps.

1. Press PF 1 (Copy Single Document) from the Document Filing and Conversion main menu. The system displays the Input Definition screen, illustrated in Figure 5-3, and requests information about the document to be copied.

2. Type in the ID of the document to be copied. The library letter is preset at the workstation's default. To copy a document from another library, simply type over the letter. Press the TAB key.

```
*** MESSAGE 0003 BY COPYWP

            INFORMATION REQUIRED BY PROCEDURE JMTLOGON
                        TO DEFINE INPUT
                    ACTIVE PROGRAM IS COPYWP


                    Identify Document To Be Copied

    DOCUMENT = ****W        [  VOLUME   = ******                        ]
                            [  Optional - Volume Other Than Document    ]
                            [                Library's Standard Volume   ]
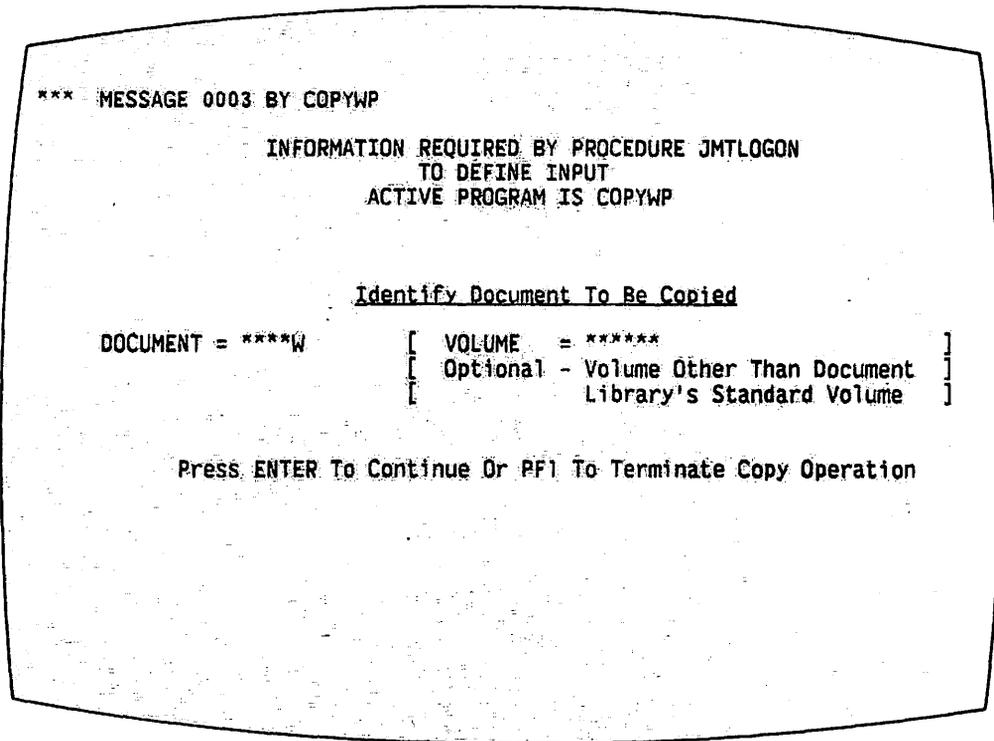

          Press ENTER To Continue Or PF1 To Terminate Copy Operation
```

Figure 5-3. Input Definition Screen

3. Type in the name of the volume where the document library resides,
    unless the volume is the one listed in the library catalog. Press
    ENTER. The Output Definition screen appears, requesting information
    about the new document to be created. Refer to Figure 5-4.

4. Type in the ID of the output document to be created. To use the
    next available document ID, type in the word "Next" and the library
    letter. Press the TAB key.

5. Type in the name of the volume where the output document library
    resides, unless the volume is the one listed in the library catalog.

```
*** MESSAGE 0003 BY COPYWP

          INFORMATION REQUIRED BY PROCEDURE JMTLOGON
                     TO DEFINE OUTPUT
               ACTIVE PROGRAM IS COPYWP

           Input Document is 0050W on Volume NEWSYS

               Identify Document To Be Created

   DOCUMENT = *****      [  VOLUME   = ******                      ]
                         [  Optional - Volume Other Than Document  ]
                         [              Library's Standard Volume   ]
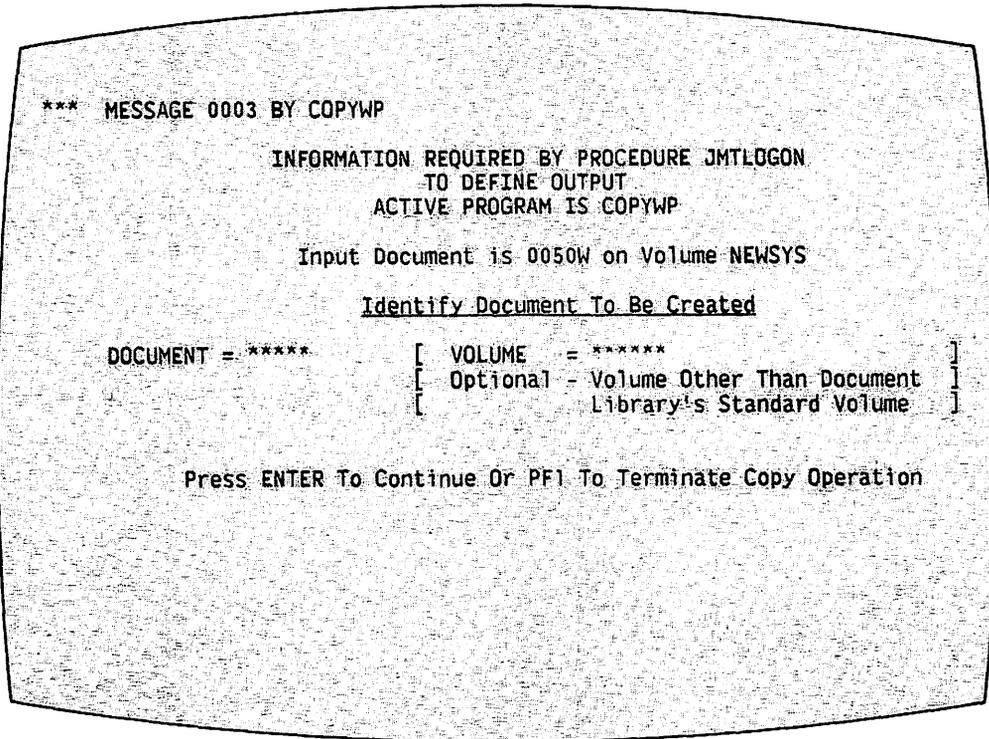

   Press ENTER To Continue Or PF1 To Terminate Copy Operation
```

Figure 5-4. Output Definition Screen

6. Press ENTER. A message flashes briefly on the screen stating that
    the document is being copied. When the process is completed, the
    system returns to the COPYWP main menu, and displays a message
    stating that the input document has been copied to the output
    document (refer to Figure 5-5).

```
*** MESSAGE 0003 BY COPYWP

                    RESPONSE REQUIRED BY PROCEDURE JMTLOGON
                             TO SELECT FUNCTION
                          ACTIVE PROGRAM IS COPYWP

   Document 0050W on Volume NEWSYS Copied To Document 0002J on Volume NEWSYS


        *** Wang VS COPYWP Utility Program - Version 2.01.01 ***


             Press PFKey Corresponding To Desired Function

   (1) Copy Single Document          (10) Reorganize Single Document
   (3) Copy Document Library         (12) Reorganize Document Library

   (4) Delete Single Document        (13) Convert Document to VS File
   (6) Delete Document Library       (14) Convert VS File to Document
                                     (15) Document Merge
   (7) Rename Single Document
   (9) Rename Document Library       (16) Terminate Processing
```

Figure 5-5. COPYWP Completion Screen

5.2.3 Copy Document Library (PF 3)

Copy Document Library allows you to make a duplicate copy of an entire word processing library. The system copies everything in the library, including passwords. To copy a library, perform the following steps.

1. Press PF 3 (Copy Document Library) from the Document Filing and Conversion main menu. The Input Definition screen appears, requesting information about the library to be copied. (Refer to Figure 5-3.)

2. In the Library field, type in the name of the library to be copied. The field is preset at the workstation's default library. To copy a different library, simply type over the letter. Press the TAB key.

3. Type in the name of the volume where the library resides, unless the volume is the one listed in the library catalog. Press ENTER.

4. The Output Document Library Definition screen that appears requests information about the output library. (Refer to Figure 5-6.) Type in the letter of the library to be created, or the library in which the duplicate information is to be merged. Press TAB.

```
***  MESSAGE 0003 BY COPYWP

            INFORMATION REQUIRED BY PROCEDURE JMTLOGON
                        TO DEFINE OUTPUT
                    ACTIVE PROGRAM IS COPYWP

              Input Library is W on Volume NEWSYS

           Identify Library To Be Created Or Merged Into

   LIBRARY = J        [  VOLUME   = ******                       ]
                      [  Optional - For Output to Volume Other   ]
                      [            Than Library's Standard Volume ]

   RENUMBER = NO*        YES To Resequence All Document IDs Within
                         the Library Starting with DOCUMENT = 0001

                      For Document Name Conflicts

   DUPFILES = PROMPT     PROMPT To Handle Documents On An Individual Basis
                         NOCOPY To Skip Copying Of All Such Documents
                         DELETE To Delete All Such Documents
```

Figure 5-6. Output Document Library Definition Screen

5. Type in the name of the volume where the library resides, unless the volume is the one listed in the library catalog. Press TAB.

6. The Renumber field gives you the option of resequencing the documents in the output library. Enter "No" (the default) if the document IDs are to remain the same in the new library; enter "Yes" to renumber the new documents. Press TAB.

7. Type in the document ID number you wish to assign to the first document. The Document field is preset at 0001. Press TAB.

8. The Dupfiles field gives you the following three options. Select one of these options, if the system discovers duplicate files when it copies documents from one library to another existing library.

    PROMPT -- This is the default option for the field. The system prompts you each time it discovers duplicate files.

    NOCOPY -- When you select this option, the system does not copy the document from the original library if it finds duplicate IDs. The duplicate ID in the output document library remains unchanged.

    DELETE -- When you select this option, the system deletes the duplicate ID in the output library, and copies the document from the input library. No warning message appears on the screen.

9. When you have filled in all fields, press ENTER to begin the copy operation. Progress messages appear on the screen, indicating the status of the libraries.

10. If you entered the word, "Prompt", in the Dupfiles field, the workstation displays the Document Conflict Resolution screen, shown in Figure 5-7, each time the system encounters a duplicate ID number. To resolve this conflict, you can choose from the following four options.

> N -- Do not copy the original document.
>
> D -- Delete the document in the receiving library.
>
> R -- Rename the document in the receiving library.
>
> C -- Copy the document in the original library, using a new document ID.

```
*** MESSAGE 1038 BY COPYWP

        INFORMATION REQUIRED BY PROCEDURE JMTLOGON
                    TO DEFINE SAMEFILE
                ACTIVE PROGRAM IS COPYWP

SORRY - Document 0000 already exists in Document Library J on Volume NEWSYS

                Specify The Option Desired

                    OPTION  = N

        N - No copy will take place for this document
        D - Delete the existing document before copying
        R - Rename the existing document
        C - Copy the document using a new Document Id


        Specify The Document Id If Option "R" Or "C" Is Selected

                    NEWDOCID = ****
```

Figure 5-7   Document Conflict Resolution Screen

11. If you select option R or C, fill in the new document ID in the NEWDOCID field, and press ENTER.

12. When copying is complete, a message appears on the screen indicating the number of documents copied to the new library, as well as the number of documents not copied.

5.2.4 Delete Single Document (PF 4)

Delete Single Document allows you to delete a word processing document whose expiration date has passed. This function frees the disk space occupied by the document. To delete a single document, perform the following steps.

1. Press PF 4 (Delete Single Document) from the Document Filing and Conversion main menu. The Input Definition screen appears. (Refer to Figure 5-3.)

2. Type the ID of the document to be deleted in the Document field. The library letter is preset at the workstation's default. To delete a document in another library, simply type over the letter. Press TAB.

3. Type in the name of the volume where the document resides, unless the volume is the one listed in the library catalog. Press TAB.

4. Type "Yes" to use Security Erase on this document. The Security Erase feature overwrites the text of the document to be deleted in order to ensure confidentiality. Because Security Erase takes more time than ordinary document deletion, the default is "No".

5. When you have completed all fields, press ENTER to start the deletion process. When the document has been deleted, the system returns to the Document Filing and Conversion main menu, and displays a message indicating that the document has been deleted.

5.2.5 Delete Document Library (PF 6)

The Delete Document Library function deletes an entire document library from a volume, if the expiration dates of the documents have all passed. To delete a library, perform the following steps.

1. Press PF 6 (Delete Document Library) from the Document Filing and Conversion main menu. The Input Definition screen appears. (Refer to Figure 5-3.)

2. Type the letter of the library to be deleted in the Library field. Type a space to delete the Glossary library. The library letter is preset at the workstation's default. To delete a different library, simply type over the letter. Press TAB.

3. Type in the name of the volume where the library resides, unless the volume is the one listed in the library catalog. Press TAB.

4. Type "Yes" to use Security Erase on this library. The Security Erase feature overwrites the text of the documents in the library to be deleted in order to ensure confidentiality. Because Security Erase takes more time than ordinary library deletion, the default is "No".

5. When you have completed all fields, press ENTER to start the deletion process. When the library has been deleted, the system returns to the Document Filing and Conversion main menu. A message is displayed on the screen indicating the number of documents deleted from the library, as well as any documents that were not deleted.

5.2.6 Rename Single Document (PF 7)

The Rename Single Document function allows you to assign a new document ID to a word processing document. You can also assign the renamed document to a new library. To rename a document, perform the following steps.

1. Press PF 7 (Rename Single Document) from the Document Filing and Conversion main menu. The Input Definition screen appears. (Refer to Figure 5-3.)

2. Type the ID of the document to be renamed in the Document field. The library letter is preset at the workstation's default. To rename a document in another library, simply type over the letter. Press TAB.

3. Type the name of the volume where the document resides, unless the volume listed is the one in the library catalog. Press ENTER. The Output Definition screen appears. (Refer to Figure 5-4.)

4. Type the new document ID and library indicator in the Document field. Press TAB.

5. Type the name of the volume where the renamed document is to reside, unless the volume is the one listed in the library catalog. Press ENTER. The screen flashes a message stating that the document is being renamed.

6. When the renaming process is complete, the system returns to the Document Filing and Conversion main menu. A message is displayed on the screen indicating the original document ID and volume, as well as the new document ID and volume.

5.2.7 Rename Document Library (PF 9)

The Rename Document Library function allows you to change all document IDs in a library. This function also gives you the option of resequencing the IDs in the new library. To rename a library, perform the following steps.

1. Press PF 9 (Rename Document Library) from the Document Filing and Conversion main menu. The Input Definition screen appears. (Refer to Figure 5-3.)

2. Type in the letter of the library to be renamed. This field is preset at the workstation's default library. To rename a different library, simply type over the letter. To rename the Glossary library, type a space. Press TAB.

3. Type in the name of the volume where the library resides, unless the volume is the one listed in the library catalog. Press ENTER. The Output Definition screen appears. (Refer to Figure 5-4.)

4. Type the new library letter in the Library field,. Press TAB. Type in the volume name for the output library, unless the volume is the one listed in the Library Catalog. Press TAB.

5. To renumber the library, type "Yes" in the Renumber field. Press TAB.

6. In the Document field, type the first document ID number that should appear in the renamed library. Press TAB.

7. If the new library ID duplicates an existing one, the Dupfiles field provides the options, Prompt, Nocopy, and Delete. Refer to the explanation of this field in section 5.2.3.

8. When all the fields have been completed, press ENTER to begin the renaming process. When renaming is complete, the system returns to the Document Filing and Conversion main menu, and displays a message indicating that the library has been renamed.

5.2.8 Reorganize Single Document (PF 10)

The Reorganize Single Document function allows you to eliminate unused space that accumulates in a document after it has been edited. To reorganize a document, perform the following steps.

1. Press PF 10 (Reorganize Single Document) from the Document Filing and Conversion main menu. The Input Definition screen appears. (Refer to Figure 5-3.)

2. Type the ID of the document to be reorganized in the Document field. The library letter is preset at the workstation's default. To reorganize a document in another library, simply type over the letter. Press TAB.

3. Type in the name of the volume where the document resides, unless the volume is the one listed in the library catalog. Press ENTER.

4. The screen flashes a message stating that the document is being reorganized. When the process is complete, the system returns to the Document Filing and Conversion main menu, and displays a message that the document has been reorganized.

5.2.9 Reorganize Document Library (PF 12)

The Reorganize Document Library function eliminates unused disk space within all documents in a library. This function also allows you to resequence the document IDs within the library. To reorganize a library, perform the following steps.

1. Press PF 12 (Reorganize Document Library) from the Document Filing and Conversion main menu. The Input Specification screen appears. (Refer to Figure 5-3.)

2. In the Library field, type the letter of the library to be reorganized. The Library field is preset to the workstation's default library. To reorganize a different library, simply type over the letter. Press TAB.

3. Type in the name of the volume where the library resides, unless the volume is the one listed in the library catalog. Press TAB.

4. If the documents in the library are to be renumbered, type "Yes" in the Renumber field. Press TAB.

5. In the Document field, type in the document ID you wish to assign to the first document in the library. This field is preset at 0001.

6. When you have completed all fields, press ENTER to begin reorganizing the library. The screen displays a message stating that the library is being reorganized.

7. When the reorganization is complete, the system returns to the Document Filing and Conversion main menu. A message is displayed on the screen indicating the number of documents that were reorganized, as well as the number of documents that were not reorganized.

5.2.10 Convert Document to VS File (PF 13).

This function allows you to convert a word processing document into a VS data processing file, which can be referenced, sorted, calculated, and manipulated by the VS File Management utilities. To convert a word processing document to a VS file, perform the following steps.

1. Press PF 13 (Convert Document to VS File) from the Document Filing and Conversion main menu. The Input Definition screen appears. (Refer to Figure 5-3.)

2. In the Document field, type the ID of the document to be converted. The library letter is preset at the workstation's default. To convert a document from another library, simply type over the letter. Press TAB.

3. In the Volume field, type the name of the volume where the document resides, unless the volume is the one listed in the library catalog. Press ENTER. The Convert Document to VS File Output Definition screen appears, as shown in Figure 5-8.

```
*** MESSAGE 0003 BY COPYWP

             INFORMATION REQUIRED BY PROCEDURE JMTLOGON
                         TO DEFINE OUTPUT
                     ACTIVE PROGRAM IS COPYWP

            Input Document is 0050W on Volume NEWSYS


                    Identify The File To Be Created

   FILE      = ********   in   LIBRARY  = JMTPROG*   on   VOLUME   = NEWSYS


   Conversion TYPE      = ******   DATA   To produce a VS Program Accessible File
                                   PRINT  To produce a VS Print File
                                   SOURCE To produce a VS Program Source File
                                   TC     To produce a 2780 Transmittable File


          Press ENTER To Continue Or PF1 To Terminate Conversion Operation
```

Figure 5.8. Convert Document to VS File Output Definition Screen

4. In the File field, type the name of the new data file to be converted from the document. Press TAB.

5. In the Library field, type the name of the VS library where the file will be stored. Press TAB.

6. In the Volume field, type the name of the volume where the library resides. Press TAB.

7. The Conversion Type field requests the type of file to which the document is to be converted. The following options are provided for this field.

    DATA -- This file type can be accessed by a BASIC, COBOL, or Assembler program.

    PRINT -- This is a VS print file containing a line-formatted version of the original document. This file can be manipulated through Manage Print/Procedure Queues and/or Manage Files/Libraries on the Command Processor. Note that if your default Print Mode is K, the converted file is not automatically queued to print.

SOURCE -- This is a VS program source file that can be accessed by the VS Editor and language compilers.

TC -- This is a data file suitable for 2780 telecommunications. (Telecommunications on the VS are discussed in the Data Communications User's Guide.)

Choose an option and press ENTER. The Convert Document to VS File Print Options screen appears. (Refer to Figure 5-9.)

8. The Print File Options screen closely resembles the Word Processing Print Document menu. (Refer to the Word Processing Reference Manual.) Press ENTER when you have completed the fields, to start the conversion process.

```
*** MESSAGE 0004 BY COPYWP

           INFORMATION REQUIRED BY PROCEDURE JMTLOGON
                      TO DEFINE PRINT
                  ACTIVE PROGRAM IS COPYWP


           Specify Print Options for Document 0050W on Volume NEWSYS

Print from Page   START    = 001    Print thru Page     FINISH  = 001
Starting as Page  NUMBER   = 0002   First Header Page   HEADER  = 002
First Footer Page FOOTER   = 002    Footer Starting Line LINE   = 50
Left Margin       MARGIN   = 010

FORMAT   = JUSTIFIED**    JUSTIFIED   for Justified output
                         UNJUSTIFIED for Unjustified output
                         NOTES       for output With Notes

STYLE    = FINAL    FINAL Style    SUMMARY  = PRINT  PRINT Summary
                    DRAFT Style                      OMIT  Summary

           Press ENTER To Continue Or PF1 To Terminate Operation
```

Figure 5.9. Convert Document to VS File Print File Options Screen

9. When the conversion is complete the system returns to the Document Filing and Conversion main menu, and displays a message indicating the ID of the document and its new VS file name.

5.2.11 Convert VS File to Document (PF 14)

The Convert VS File to Document function allows you to convert certain types of VS data files to word processing documents. To convert a VS file to a document, perform the following steps.

1. Press PF 14 (Convert VS File to Document) from the Document Filing and Conversion main menu. The Input Definitions screen appears. (Refer to Figure 5-3.)

2. Type the name of the file to be converted in the File field. Press TAB.

3. Type in the name of the library where the VS file is stored. Press TAB.

4. Type in the name of the volume where the VS library is stored, unless it is the system volume. Press ENTER. The Convert VS File to Document Output Definition screen appears. (Refer to Figure 5-10.)

```
***   MESSAGE 0003 BY COPYWP

          INFORMATION REQUIRED BY PROCEDURE JMTLOGON
                       TO DEFINE OUTPUT
                   ACTIVE PROGRAM IS COPYWP

      Input File is COPY37WP in Library JMTPROG  on Volume NEWSYS

                   Identify Document To Be Created

    DOCUMENT = ****J         [   VOLUME  = ******                    ]
                             [   Optional - Volume Other Than Document ]
                             [             Library's Standard Volume   ]

    TITLE   = **************************    OPERATOR = ********************
    AUTHOR  = ********************          COMMENTS = ********************

      Conversion TYPE     = SOURCE     SOURCE  -  VS Source Program File
                                       IMAGE   -  Data File

      For SOURCE Conversion:        Automatic Insertion of TABS     = YES
                                    Lines per PAGE     = 055 (255 maximum)
```

Figure 5.10. Convert VS File to Document Output Definition Screen

5. Type the ID of the document to be created in the Document field. Press TAB.

6. Type in the name of the volume where the library is stored, unless the volume is the one listed in the library catalog. Press TAB.

7. The next four fields define the information that appears on the Document Summary page of the new word processing document. Fill in these fields, pressing the TAB key to move from one field to another.

8. Press TAB. The TABS field is preset at Yes. If the document should not contain any tabs at all, change the value to "No."

This field does not appear on the screen when the system is converting a TC file to a document. To convert a VS Source or Image file, fill in the Type field. When converting a Source file, type in the number of lines that should appear on each page of the new document. When converting an Image file, skip the Tabs and Lines Per Page fields.

9. Press ENTER. The screen flashes a message indicating that the file is being converted. When the process is complete, the system returns to the Document Filing and Conversion main menu and displays a message indicating the file name and the new document ID.

5.2.12 Document Merge (PF 15)

The Document Merge function allows you to merge a primary document with a secondary document, producing a final output document that can be edited and printed. The primary document consists of permanent information, and the secondary document contains variable information. Document Merge is useful for letters with variable information, such as names and addresses.

To format the primary and secondary documents, perform the following steps.

1. Prepare the primary document by entering one MERGE symbol ( ]) for each variable entry.

2. In the primary document, enter punctuation marks, spaces, and RETURNs that precede or follow the variable information.

3. In the primary document, enter all the formatting instructions and necessary page breaks for the final output document.

4. Prepare the secondary document by entering a MERGE symbol after each variable entry. Each variable entry contains only the punctuation marks, spaces, and RETURNs that are needed within the entry. There should be no punctuation or spacing between a variable entry and a MERGE symbol, since these characters should be contained in the primary document.

5. Between sets of variables, enter a Don't Merge symbol ( ]) by holding down SHIFT and pressing MERGE.

6. Press CANCEL and EXECUTE, after you have typed the last MERGE symbol. The last line should not end with a RETURN.

To merge primary and secondary documents, perform the following steps.

1. Press PF 15 (Document Merge) from the Document Filing and Conversion main menu. The Define Primary Document screen appears (Refer to Figure 5-11).

```
*** MESSAGE 0003 BY COPYWP

          INFORMATION REQUIRED BY PROCEDURE JMTLOGON
                     TO DEFINE PRIMARY
                 ACTIVE PROGRAM IS COPYWP



            Identify Primary Document to be Merged

  DOCUMENT = ****W      [  VOLUME   = ******                        ]
                        [  Optional - Volume Other Than Document    ]
                        [                Library's Standard Volume   ]
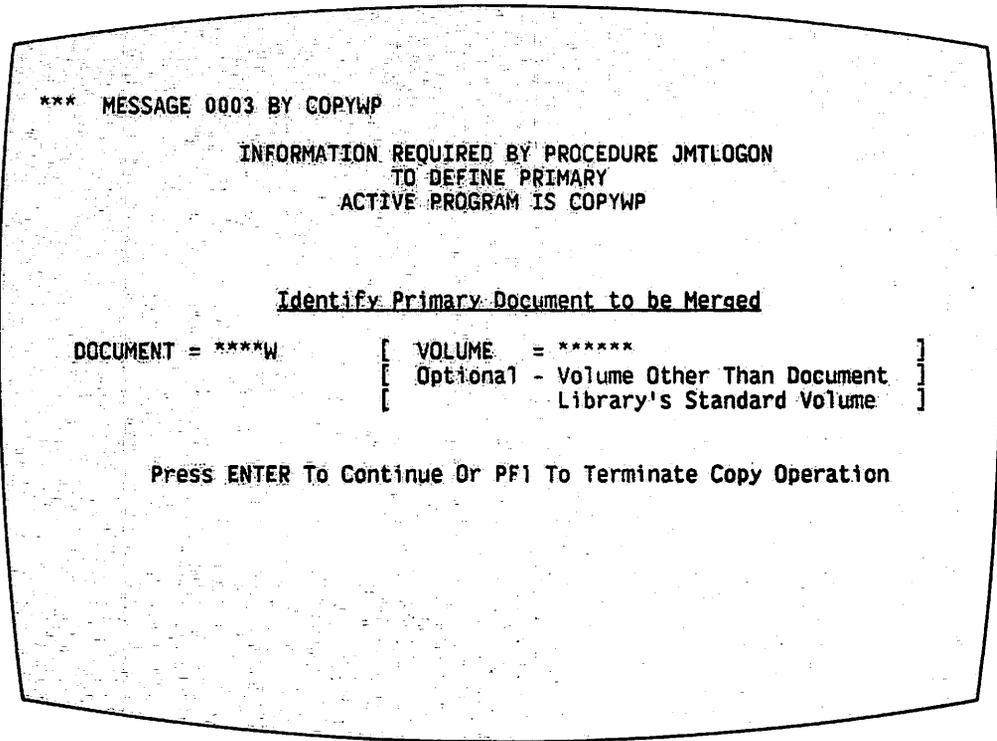

     Press ENTER To Continue Or PF1 To Terminate Copy Operation
```

Figure 5-11. Define Primary Document Screen

2. Type the ID of the primary document in the Document field. The
    library letter is preset at the workstation's default. To merge a
    document from another library, simply type over the letter. Press
    TAB.

3. Type in the name of the volume where the document resides, unless
    the volume is the one listed in the library catalog. Press ENTER.
    The Define Secondary Document screen appears (Refer to Figure 5-10).

4. Type the ID of the secondary document in the Document field. The
    library letter is preset at the workstation's default. To merge a
    document from another library, simply type over the letter. Press
    TAB.

```
*** MESSAGE 0003 BY COPYWP

           INFORMATION REQUIRED BY PROCEDURE JMTLOGON
                      TO DEFINE SECONDARY
                  ACTIVE PROGRAM IS COPYWP


            Primary Document is 0069W on Volume NEWSYS

            Identify Secondary Document to be Merged

  DOCUMENT = ****W      [  VOLUME   = ******                        ]
                        [  Optional - Volume Other Than Document    ]
                        [                Library's Standard Volume   ]
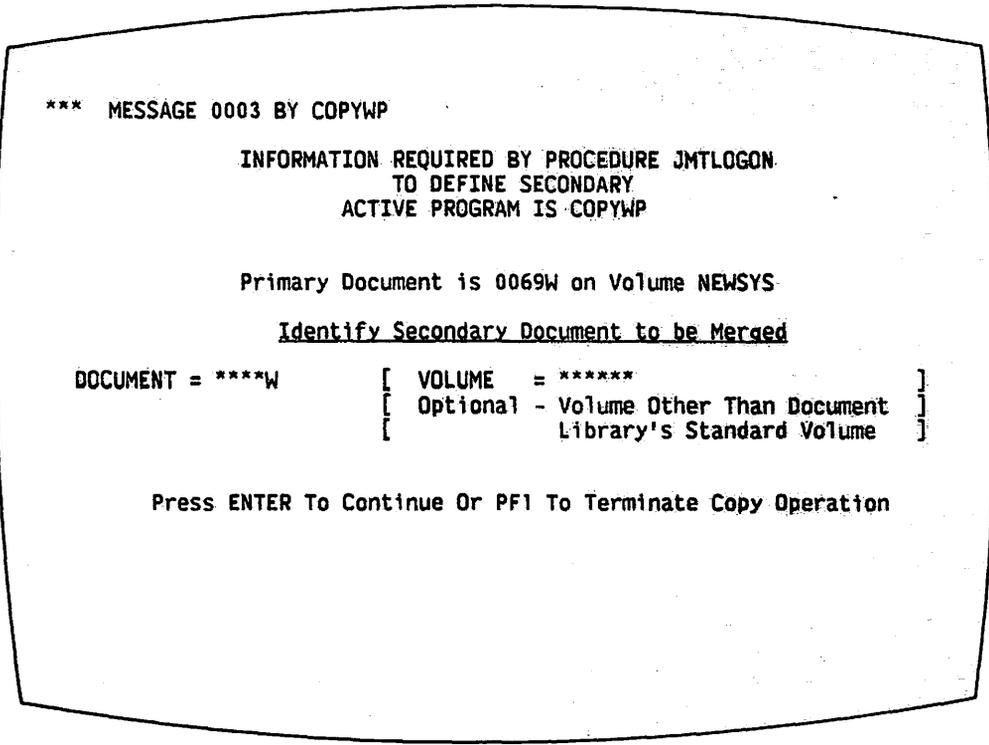

       Press ENTER To Continue Or PF1 To Terminate Copy Operation
```

Figure 5-12. Define Secondary Document Screen

5. Type in the name of the volume where the document resides, unless
    the volume is the one listed in the library catalog. Press ENTER.
    The Define Output Document screen appears. (Refer to Figure 5-4.)

6. Type in the ID of the document that is to contain the merged
    information, or enter the word "Next" and the library letter, to use
    the next available document ID in the specified library. Press TAB.

7. Type in the name of the volume where the output document will
    reside, unless the volume is the one listed in the library catalog.

8. Press ENTER. The screen flashes a message stating that the
    documents are being merged. When the process is complete, the
    system returns to the Document Filing and Conversion main menu and
    displays a list indicating the primary, secondary, and output
    document IDs. The output document can now be edited, filed, and
    printed through Word Processing.

5.3 THE DOCUMENT INDEX UTILITY (LISTWP)

The Document Index utility (LISTWP) generates document management reports. These reports provide both detailed and summary information about the documents on the system, including: title, author, operator, comments, page count, work time, keystrokes, and disk space allocation. You can customize these reports to provide information about operator productivity, disk space utilization, storage management, work time statistics, and job accounting.

5.3.1 Running Document Index

To use the Document Index utility, select Document Index from the Word Processing Utilities menu and press EXECUTE. The Document Index main menu appears on the screen as shown in Figure 5-13.

```
***  MESSAGE 0001 BY LISTWP

              INFORMATION REQUIRED BY PROCEDURE JMTLOGON
                         TO DEFINE FUNCTION
                      ACTIVE PROGRAM IS LISTWP

       *** Wang VS  Document Library Summary - Version 1.00.02 ***


   This utility produces a summary report of the documents selected below.
   Documents may be sorted or selected by any of the fields in the report.



       Press the PFkey corresponding to the desired operation:

       (1) All Document Libraries        (4) Single Library
       (2) All Libraries on a Volume     (5) Single Document

       (3) Selected Libraries            (16) Terminate Processing
```

Figure 5-13. Document Index Main Menu

NOTE

Except during the actual report generation, all Document Index functions can be cancelled by pressing PF 1. To return to the Word Processing Utilities menu from the Document Index main menu, press PF 16.

The Document Index utility gives you the following options, shown on the Define Options Screen in Figure 5-14, for producing reports.

```
*** MESSAGE OPTS BY LISTWP

         INFORMATION REQUIRED BY PROCEDURE JMTLOGON
                    TO DEFINE OPTIONS
                 ACTIVE PROGRAM IS LISTWP



         Please modify the report options as desired:

Do you wish to select specific input documents?    SELECT = NO*    (YES / NO)
If not, all documents in the selected libraries
will be included in the summary report.

Do you wish to sort the summary report?            SORT   = NO*    (YES / NO)
If not, the report is sorted by Document Id.

How many lines per page in the summary report?     LINES  = 055    (16 - 255)

Report desired? (BRIEF, DETAIL or SUMMARY)         REPORT = DETAIL*
SUMMARY shows only the Library and Volume totals.
BRIEF shows the Document Id, Title, Author, and Comments.
```

Figure 5-14. Define Options Screen

SELECT -- Asks you to decide whether to print information about all the documents in the selected libraries, or to print information only about selected documents. If you enter "Yes" in the Select field, the Select Criteria Screen appears, as illustrated in Figure 5-15, asking you to enter specific selection criteria.

SORT -- Allows you to specify fields on which the document summary information should be sorted. If you select "Yes", a screen appears requesting specific sort criteria. (Refer to Figure 5-16.)

```
*** MESSAGE SEL1 BY LISTWP

             INFORMATION REQUIRED BY PROCEDURE JMTLOGON
                          TO DEFINE SELECT
                     ACTIVE PROGRAM IS LISTWP

Please specify the criteria by which you wish to select input documents.
Press PF1 to return to the previous screen, or PF13 for more information.

Document Administrative Information    Creation           Revision

[1] Library             [4] Author     [8] Date           [18] Date
[2] Document            [5] Operator   [9] Time           [19] Time
[3] Name                [6] Comments  [10] Work time      [20] Work time
                        [7] Total pages [11] Keystrokes   [21] Keystrokes


Selection Criterion 1                  File Information    Last Printed

SELECT   = **  (1 - 25)               [12] Creation date  [22] Date
RELATION = **  (=, <>, <, >, <=, >=)  [13] Modification date [23] Time
VALUE    = ****************************  [14] Expiration date
 or                                    [15] Disk volume    Disk Space

FIELD    = **  (1 - 25)               [16] Owner id       [24] Used
```

Figure 5-15.   Select Criteria Screen

```
*** MESSAGE SORT BY LISTWP

             INFORMATION REQUIRED BY PROCEDURE JMTLOGON
                          TO DEFINE SORT
                     ACTIVE PROGRAM IS LISTWP

To sort the summary report, enter the number of each desired field into the
KEY fields below, followed by "A" for Ascending or "D" for descending sort.

Sort keys/order    Document        Creation           Revision

KEY1  = 1* A       [1] Library     [8] Date           [18] Date
KEY2  = 2* A       [2] Document    [9] Time           [19] Time
KEY3  = ** *                      [10] Work time      [20] Work time
KEY4  = ** *       [3] Name       [11] Key strokes    [21] Key strokes
KEY5  = ** *       [4] Author
KEY6  = ** *       [5] Operator   File information    Last printed

KEY7  = ** *       [6] Comments   [12] Creation date  [22] Date
KEY8  = ** *                      [13] Modification date [23] Time
                   [7] Total pages [14] Expiration date
                                  [15] Disk volume    Disk space

                                  [16] Owner id       [24] Used
```

Figure 5-16.   Sort Criteria Screen

LINES -- Allows you to specify how many lines will be printed on each page of the report. The number of lines must be between 16 and 255. This value is preset to the user's default.

REPORT -- Allows you to choose the type of report to be printed. If you type in the word "Detail", your report will include all information for each document. If you type in the word "Summary", the report will include only the library and volume totals. If you type in the word "Brief", only the document ID, title, author, and comments will appear in the report.

5.3.2 Report for All Document Libraries (PF 1)

To produce a report for all the document libraries currently on the system, perform the following steps.

1. Press PF 1 (All Document Libraries). The Define Options screen appears (Figure 5-14).

2. Enter "Yes" or "No" in the Select field. Press TAB.

3. Enter "Yes" or "No" in the Sort field. Press TAB.

4. Enter a number between 16 and 255 in the Lines field. Press TAB.

5. In the Report field, enter either Detail, Summary, or Brief. Press ENTER to continue, or PF 1 to cancel and return to the Document Index main menu.

6. If you selected "Yes" for the Select field and/or the Sort field, fill in the appropriate criteria on those screens and press ENTER.

7. The screen displays the message, "Preparing summary report for all Document Libraries."

8. When the report is ready, the system returns to the Document Index main menu. The screen displays the name of the newly created file containing the report, and the library in which the file resides. Press PF 14 to display the report on the screen. Use the PF keys listed at the top of the screen to view the report.

    Note that if your default Print Mode is S, the file containing the report is sent directly to the printer. Thus, especially in the case of a short report, the report may already have been printed and deleted when you press PF 14. If this is the case, the screen displays an explanatory message.

9. To print the report, press PF 15 while displaying the report. The default for starting record number is ALL. Press ENTER to print the report. A beep indicates that the report has been sent to print. Note that if your default Print Mode is other than K, pressing PF 15 may result in multiple reports being queued and/or printed.

10. Press PF 16 to return to the Document Index main menu. Choose another function from the menu, or press PF 16 again to return to the Word Processing Utilities menu.

5.3.3 Report for All Libraries on a Volume (PF 2)

To produce a report for all of the libraries on a single volume, perform the following steps.

1. Press PF 2 (All Libraries on a Volume). The system displays the Define Volume screen as shown in Figure 5-17.

```
***  MESSAGE 0003 BY COPYWP
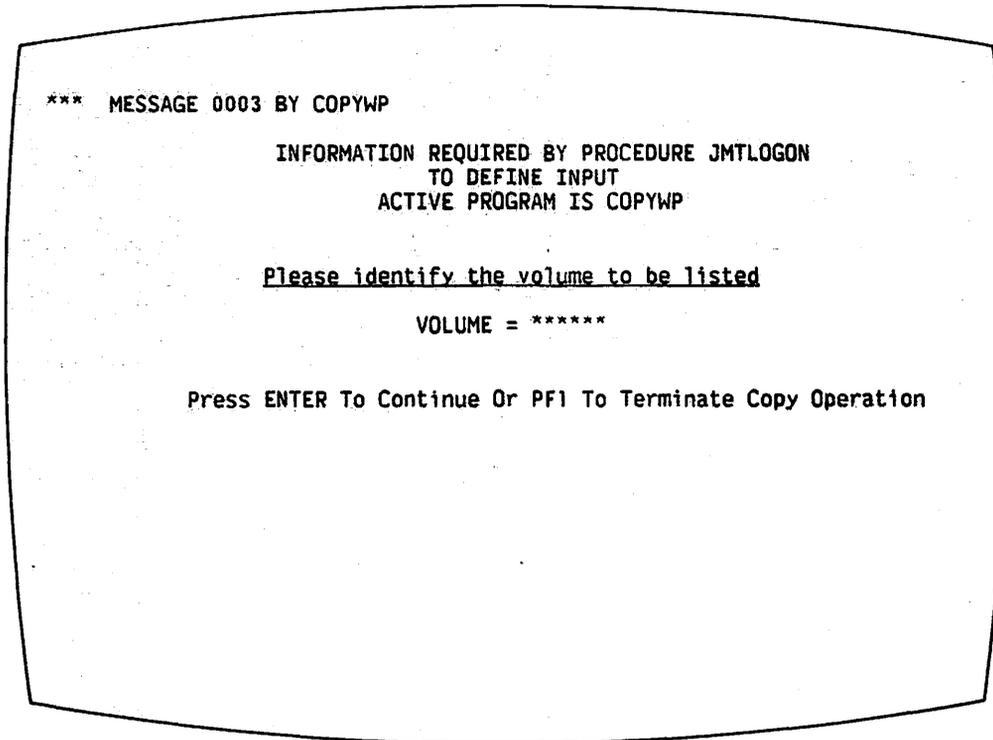
         INFORMATION REQUIRED BY PROCEDURE JMTLOGON
                      TO DEFINE INPUT
                 ACTIVE PROGRAM IS COPYWP


            Please identify the volume to be listed

                     VOLUME = ******


   Press ENTER To Continue Or PF1 To Terminate Copy Operation
```

Figure 5-17. Define Volume Screen

2. Type the volume name into the Volume field and press ENTER. The Define Options screen appears (Refer to Figure 5-14).

3. Enter "Yes" or "No" in the Select field. Press the TAB key.

4. Enter "Yes" or "No" in the Sort field. Press the TAB key.

5. Enter a number between 16 and 255 in the Lines field. Press the TAB key.

6. In the Report field enter Detail, Summary, or Brief. Press ENTER to continue, or PF 1 to cancel and return to the Document Index main menu.

7. If you selected "Yes" for the Select field and/or the Sort field, fill in the appropriate criteria on those screens. Press ENTER.

8. The screen displays the message, "Preparing summary report for Document Libraries on Volume _____."

9. When the report is ready, the system returns to the Document Index main menu. The screen displays the name of the newly created file containing the report, and the library in which it resides. Press PF 14 to display the report on the screen. Use the PF keys listed at the top of the screen to view the report.

   Note that if your default Print Mode is S, the file containing the report is sent directly to the printer. Thus, especially in the case of a short report, the report may already have been printed and deleted when you press PF 14. If this is the case, the screen displays an explanatory message.

10. To print the report, press PF 15 while the report is being displayed on the screen. The default for the starting record number is ALL. Press ENTER to print the report. A beep indicates that the report has been sent to print.

┌──────────────────────── NOTE ────────────────────────┐
│   │
│ Note that if your default Print Mode is other than K,│
│ pressing PF 15 may result in multiple reports being queued │
│ and/or printed.   │
│   │
└───┘

11. Press PF 16 to return to the Document Index main menu. Choose another function from the menu, or press PF 16 again to return to the Word Processing Utilities menu.

5.3.4 Report for Selected Libraries (PF 3)

To produce a report for selected word processing libraries on the system, perform the following steps.

1. Press PF 3 (Selected Libraries). The system displays the Define Libraries screen pictured in Figure 5-18.

```
*** MESSAGE 0004 BY LISTWP

              INFORMATION REQUIRED BY PROCEDURE JMTLOGON
                        TO DEFINE INPUT
                    ACTIVE PROGRAM IS LISTWP


              Please identify the libraries to be listed

        Enter any letter (A-Z, or a-z).  Spaces and commas are ignored.
                    Example:  LIBRARY  = AC,nF z,p

        LIBRARY  = *******************************************************

        Should the glossary library be listed?   GLOSSARY = NO*   (YES / NO)
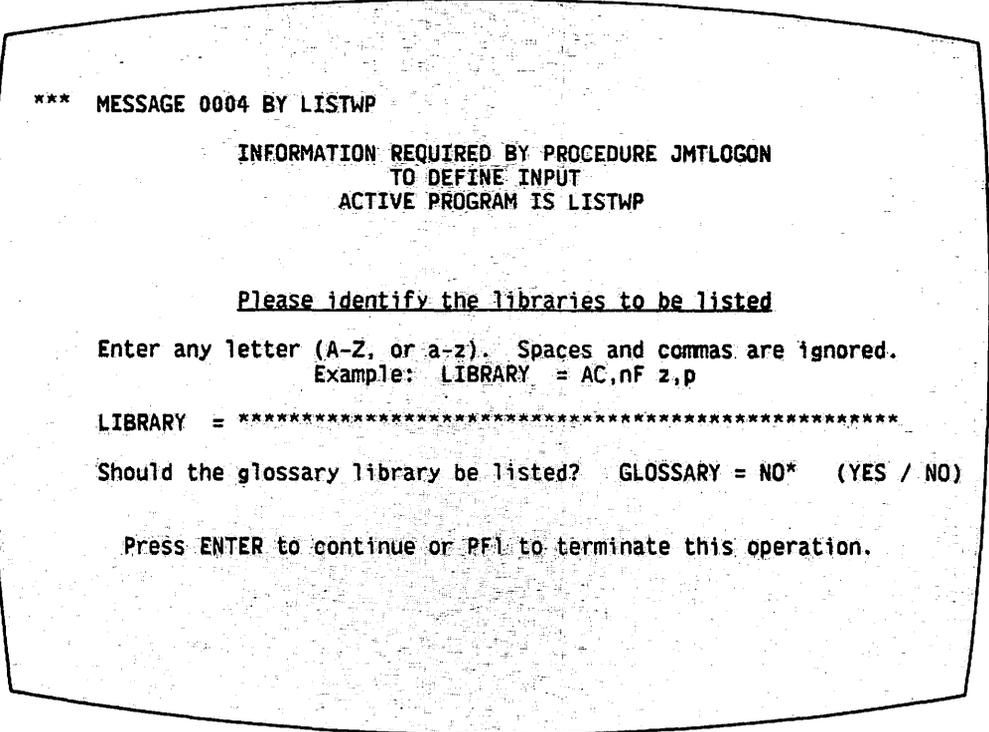

          Press ENTER to continue or PF1 to terminate this operation.
```

Figure 5-18. Define Libraries Screen

2. Type the library letters into the Library field. To include the Glossary library, press the TAB key and type "Yes" into the glossary field. Press ENTER. The Define Options screen appears (Figure 5-14).

3. Enter "Yes" or "No" in the Select field. Press the TAB key.

4. Enter Yes or No in the Sort field. Press the TAB key.

5. Enter a number between 16 and 255 in the Lines field. Press the TAB key.

6. In the Report field, enter either Detail, Summary, or Brief. Press ENTER to continue, or PF 1 to cancel and return to the Document Index main menu.

7. If you selected "Yes" for the Select field and/or the Sort field, fill in the appropriate criteria on those screens, and press ENTER.

8. The screen displays the message "Preparing summary report for Selected Document Libraries."

9. When the report is ready, the system returns to the Document Index main menu. The screen displays the name of the newly created file containing the report, and the library in which it resides. Press PF 14 to display the report on the screen. Use the PF keys listed at the top of the screen to view the report.

Note that if your default Print Mode is S, the file containing the report is sent directly to the printer. Thus, especially in the case of a short report, the report may already have been printed and deleted when you press PF 14. If this is the case, the screen displays an explanatory message.

10. To print the report, press PF 15 while the report is being displayed on the screen. The default for starting record number is ALL. Press ENTER to print the report. A beep indicates that the report has been sent to print.

```
┌──────────────────── NOTE ─────────────────────┐
│                                                │
│ If your default Print Mode is other than K, pressing PF 15 │
│ may result in multiple reports being queued and/or printed. │
│                                                │
└────────────────────────────────────────────────┘
```

11. Press PF 16 to return to the Document Index main menu. Choose another function from the menu, or press PF 16 again to return to the Word Processing Utilities menu.

5.3.5 Report for Single Library (PF 4)

To produce a report for one library, perform the following steps.

1. Press PF 4 (Single Library). The system displays the Define Library screen illustrated in Figure 5-19.

```
*** MESSAGE 0003 BY LISTWP

          INFORMATION REQUIRED BY PROCEDURE JMTLOGON
                     TO DEFINE INPUT
                  ACTIVE PROGRAM IS LISTWP


              Please identify the library to be listed

  LIBRARY = *        [ VOLUME   = ******                        ]
                     [ Optional - Volume other than library's   ]
                     [                  standard volume          ]
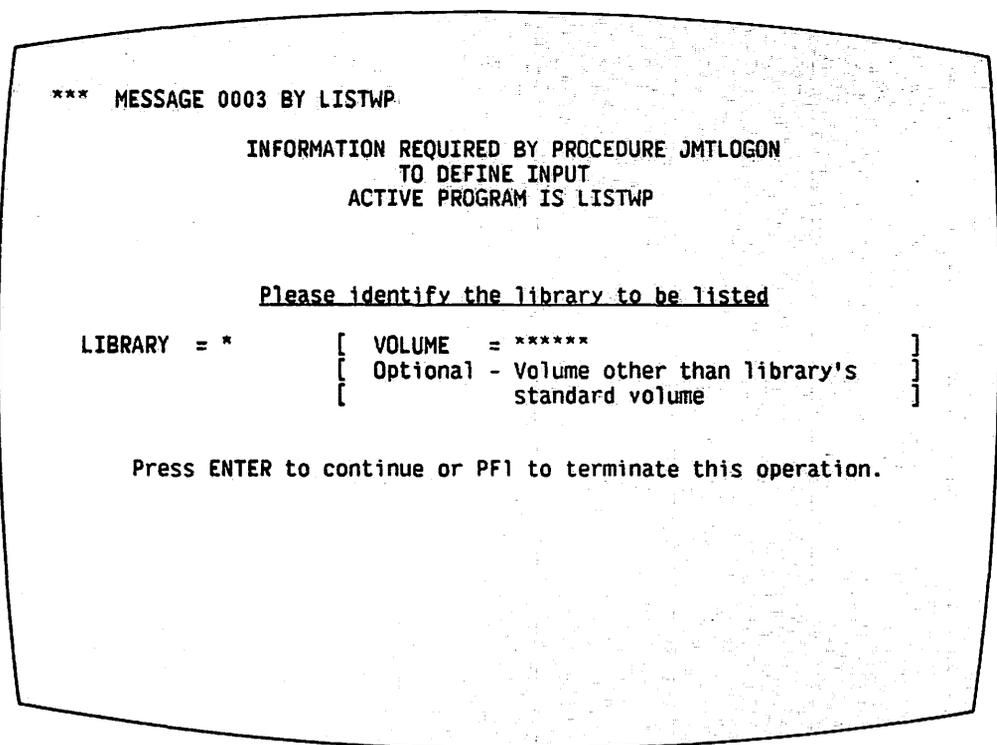

     Press ENTER to continue or PF1 to terminate this operation.
```

Figure 5-19. Define Library Screen

2. Type the library letter into the Library field. If the library does
    not reside on the volume listed in the library catalog, press the
    TAB key and type in the volume name. Press ENTER. The Define
    Options screen appears. (Refer to Figure 5-14.)

3. Enter "Yes" or "No" in the Select field. Press the TAB key.

4. Enter "Yes" or "No" in the Sort field. Press the TAB key.

5. Enter a number between 16 and 255 in the Lines field. Press the TAB
    key.

6. In the Report field, enter either Detail, Summary, or Brief. Press
    ENTER to continue, or PF 1 to cancel and return to the Document
    Index main menu.

7. If you selected Yes for the Select field and/or the Sort field, fill
    in the appropriate criteria on those screens, and press ENTER.

8. The screen displays the message, "Preparing summary report for
    Document Library X."

9. When the report is ready, the system returns to the Document Index main menu. The screen displays the name of the newly created file containing the report, and the library in which the file resides. Press PF 14 to display the report on the screen. Use the PF keys, listed at the top of the screen, to view the report.

   Note that if your default Print Mode is S, the file containing the report is sent directly to the printer. Thus, especially in the case of a short report, the report may already have been printed and deleted when you press PF 14. If this is the case, the screen displays an explanatory message.

10. To print the report, press PF 15 while the report is being displayed on the screen. The default for starting record number is ALL. Press ENTER to print the report. A beep indicates that the report has been sent to print.

```
┌───────────────────────── NOTE ─────────────────────────┐
│                                                         │
│  If your default Print Mode is other than K, pressing PF 15  │
│  may result in multiple reports being queued and/or printed. │
│                                                         │
└─────────────────────────────────────────────────────────┘
```

11. Press PF 16 to return to the Document Index main menu. Choose another function from the menu, or press PF 16 again to return to the Word Processing Utilities menu.

5.3.6 Report for Single Document (PF 5)

To produce a report for a single word processing document, perform the following steps.

1. Press PF 5 (Single Document). The system displays the Define Document screen shown in Figure 5-20.

```
*** MESSAGE 0003 BY LISTWP

              INFORMATION REQUIRED BY PROCEDURE JMTLOGON
                          TO DEFINE INPUT
                       ACTIVE PROGRAM IS LISTWP


              Please identify the document to be listed

DOCUMENT = *****      [  VOLUME   = ******                          ]
                      [  Optional - Volume other than library's     ]
                      [                standard volume               ]
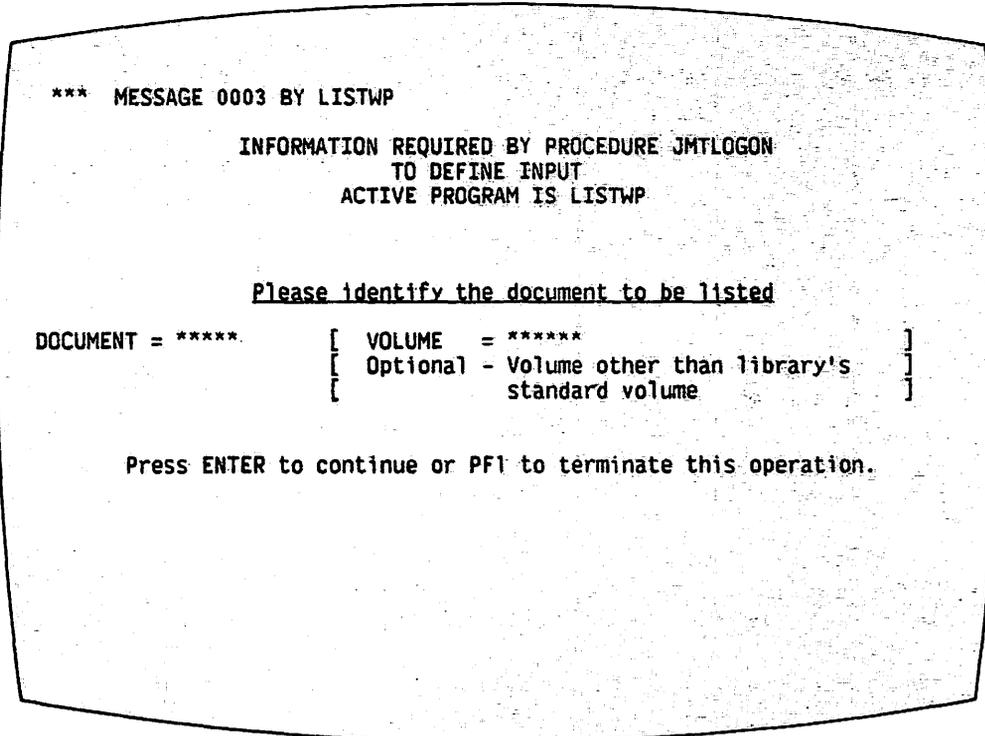

     Press ENTER to continue or PF1 to terminate this operation.
```

Figure 5-20. Define Document Screen

2. Type the document ID into the Document field. If the document's library does not reside on the standard word processing volume, press the TAB key and type in the volume name.

3. Press ENTER. The screen displays the message, "Preparing summary report for Document ____."

4. When the report is ready, the system returns to the Document Index main menu. The screen displays the name of the newly created file containing the report, and the library in which the file resides. Press PF 14 to display the report on the screen. Use the PF keys listed at the top of the screen to view the report.

    Note that if your default Print Mode is S, the file containing the report is sent directly to the printer. Thus, especially in the case of a short report, the report may already have been printed and deleted when you press PF 14. If this is the case, the screen displays an explanatory message.

5. To print the report, press PF 15 while the report is being displayed on the screen. The default for starting record number is ALL. Press ENTER to print the report. A beep indicates that the report has been sent to print.

```
┌─────────────────────────── NOTE ───────────────────────────┐
│                                                             │
│  If your default Print Mode is other than K, pressing PF 15 │
│  may result in multiple reports being queued and/or printed.│
│                                                             │
└─────────────────────────────────────────────────────────────┘
```

6. Press PF 16 to return to the Document Index main menu. Choose
   another function from the menu, or press PF 16 again to return to
   the Word Processing Utilities menu.

5.4   THE DISKINIT UTILITY

DISKINIT is used to initialize, reformat, or relabel a disk or
diskette. Every disk must be initialized before it can be used for file
storage. If you suspect a mounted disk may be damaged, DISKINIT can also be
used to verify the readability of the blocks on the volume.

To use DISKINIT, access the Utilities and Supervisory Functions menu.
Select Run Program, or Procedure, and press EXECUTE. The Run screen is
displayed. For this screen, type DISKINIT for the Program Name, and press
RETURN/ENTER to run the utility. It is unnecessary to specify the Library or
Volume name, because DISKINIT is a system utility. The DISKINIT main menu
(refer to Figure 5-17) appears on the screen.

The options available from the menu are described as follows.

● INITIALIZE -- Initializes a new disk volume and, optionally, creates
  a Volume Table of Contents (VTOC). The VTOC is a list of all files
  and their location on a volume; the VTOC serves much the same
  purpose as the table of contents in a book. When a volume is
  initialized, all existing information is destroyed.

● REFORMAT -- Creates a new volume label and VTOC on an initialized
  volume. This action also destroys all existing information.

● RELABEL -- Changes the name of a disk or diskette without affecting
  the information already on the disk.

● VERIFY -- Verifies that all blocks on an initialized volume may be
  accessed. This action does not affect already existing information.

● REMOVE -- Removes the number of a bad block from the VTOC and marks
  the block so that it will not be used.

To use DISKINIT, you must supply the Function and On Volume names,
requested at the bottom of the screen.

5.4.1 Initializing a Disk or Diskette

Before a disk or diskette can be used on the system, it must be initialized. The following procedure illustrates how to initialize a disk.

1. Type INITIALIZE in the Function field of the DISKINIT main menu; tab over to the On Volume field and type the name of the new volume. Press RETURN/ENTER.

```
*** MESSAGE 001  BY WT1M00

                    RESPONSE REQUIRED BY  PROGRAM  DISKINIT
                              TO SELECT FUNCTION


PLEASE SELECT ONE OF THE FUNCTIONS AND SPECIFY VOLUME TO BE PROCESSED.

WANG VS DISK INITIALIZE UTILITY PROGRAM - VERSION  5.00

THE FOLLOWING FUNCTIONS ARE PROVIDED BY THIS UTILITY PROGRAM:
INITIALIZE - TO INITIALIZE A NEW DISK VOLUME BY ANALYSING THE DISK SURFACES
             FOR RELIABLE DATA STORAGE AND OPTIONALLY CREATING A STANDARD
             VOLUME TABLE OF CONTENTS AND VOLUME SERIAL NUMBER FOR IT.
REFORMAT   - TO RECONSTRUCT A STANDARD VOLUME TABLE OF CONTENTS ON A
             DISK VOLUME.
RELABEL    - TO CHANGE THE VOLUME SERIAL NUMBER OF A DISK VOLUME.
VERIFY     - TO SCAN THE SURFACES OF A GIVEN DISK VOLUME TO MAKE SURE THAT
             ALL BLOCKS ARE READABLE AND REPORT ANY BAD BLOCKS THAT EXIST.
REMOVE     - TO REMOVE AN UNRELIABLE BLOCK FROM VOLUME AND REPLACE IT
             WITH A RESERVED BLOCK IF AVAILABLE ON THE SPECIFIED VOLUME.


FUNCTION = VERIFY****   ON   VOLUME   = ******
```

Figure 5-21. DISKINIT Main Menu

2. At the top of the menu, the system displays the message, SPECIFIED VOLUME IS NOT MOUNTED. PLEASE RESPECIFY VOLUME OR PRESS "PF 5" KEY TO INITIATE A MOUNT OPERATION. Press PF 5 to mount the disk or diskette. The next display (refer to Figure 5-22) prompts for information to define the mount.

```
*** MESSAGE 005 BY WT1M00

                Information Required By  Program  DISKINIT
                           To Define MOUNT


Please Enter The Device Number And Platter Specification Of
The Disk Drive On Which The Specified Volume Is To Be Mounted:

Selected Function Is INITIALIZE On Volume SMBVOL.

You May Skip The Mount Operation And Return To Function Selection
By Pressing "PF1" Key.

    DEVICE  = ***      PLATTER  = REMOVABLE     (REMOVABLE OR FIXED)
```

Figure 5-22. DISKINIT Mount Definition Screen

3. Type in the device number of the drive on which the volume is to be
    mounted. (If the device number is unknown perform the following
    steps to view the device number of all disk drives currently
    attached to the VS/IIS. Interrupt DISKINIT by pressing HELP; access
    Show Device Status from the Modified Command Processor; and then
    press PF 3, SHOW DISKS.)

4. The Platter field should indicate whether the mounted volume is
    removable or fixed. Diskettes, for example, are removable. After
    supplying the required information, press RETURN/ENTER.

5. In response to the system's prompt for assistance, physically mount
    the disk into the appropriate drive. When the physical mount is
    complete, the system prompts the user to select a particular
    action. If you want to terminate DISKINIT at this time, press PF
    1. Otherwise, press RETURN/ENTER to begin actual initialization.

6. The next display (Figure 5-23) asks for input definitions.

```
*** MESSAGE 013 BY WT1M00

              INFORMATION REQUIRED BY  PROGRAM  DISKINIT
                        TO DEFINE INPUT


PLEASE ENTER THE FOLLOWING INPUT PARAMETERS FOR THIS FUNCTION:

FUNCTION "INITIALIZE" READY TO PROCESS:

SPECIFIED VOLUME IS SMBVOL ON DEVICE 011  REMOVABLE PLATTER.

CAUTION:  INITIALIZE FUNCTION DESTROYS ALL PREVIOUS DATA ON THE VOLUME.
          YOU MAY TERMINATE THIS FUNCTION RIGHT NOW BY PRESSING "PF1" KEY.

     NEWVOL   = SMBVOL          (VOLUME SERIAL NUMBER FOR INITIALIZED VOLUME)
     LABEL    = SL              (SL - STANDARD LABEL, NL - NO LABEL)
     VTOCSIZE = 005             (MINIMUM OF 4 PAGESIZE BLOCKS)
     OWNER    = ************    (OWNER IDENTIFICATION FOR VOL1 LABEL)
     PASSES   = BRIEF*          (BRIEF  - ONLY 1 PATTERN FOR QUICK INITIALIZE)
                                (NORMAL - ALL PATTERNS FOR THOROUGH INITIALIZE)
```

Figure 5-23. DISKINIT Input Definition Screen

7. The volume name you have specified appears as a default for NEWVOL.
    If this is not the proper name, change it. Otherwise, tab over to
    Label. The default for this field is SL, and is the appropriate
    selection for a standard disk volume. NL is used for word
    processing archive diskettes. Change this field if an archive
    diskette is being used.

8. In the Passes field, change Brief to Normal. Press RETURN/ENTER.

9. The next display allows you to restart DISKINIT by pressing PF 1, or
    terminate processing by pressing PF 16.

5.4.2 Reformatting a Disk

The Reformat function should be used to reformat a previously
initialized disk. On the DISKINIT main menu, select Reformat in the Function
field, and type the name of the volume to be reformatted in the On Volume
field. Press RETURN/ENTER. The following three fields appear.

● NEWVOL -- Defaults to the volume name specified. This field can be
   changed, if necessary.

● VTOCSIZE -- The default for VTOCSIZE is the largest size the system
   permits for a volume table of contents. You should accept the
   default for VTOCSIZE.

● <u>Owner</u> -- If an owner is specified for the disk, this information is recorded in the volume label. Disks to be used for word processing do not require specific owners.

When new information has been entered or defaults accepted, press RETURN/ENTER. At this point, the system creates a new label and volume table of contents, thereby wiping out all previously recorded information on the disk.

5.4.3 Relabeling a Disk

The relabel function is used to rename a previously initialized disk, without erasing any of its contents. To use this function, specify RELABEL as the function, from the DISKINIT main menu, and type the current volume name in the On Volume field. Press RETURN/ENTER.

The system displays the current volume name and device address. To rename the volume, enter the desired new name in the NEWVOL field. (If an error occurs, the function can be terminated without renaming the volume by pressing PF 1.)

The last two functions of DISKINIT, Verify and Remove, should be used if you suspect the disk or diskette may be damaged. If this is the case, refer to the <u>VS System Utilities Reference Manual</u> for information about the usage of the DISKINIT's Verify and Remove functions.

```
┌──────────────────────── NOTE ────────────────────────┐
│                                                       │
│  Many VS/IIS installations use magnetic tape for      │
│  backup and storage purposes.  As in the case of      │
│  disks, tape must be initialized before it can be     │
│  used.  The VS System Utilities Reference Manual      │
│  explains how a tape is initialized.                  │
│                                                       │
└───────────────────────────────────────────────────────┘
```

5.5   THE BACKUP UTILITY

Every data processing and word processing installation runs the risk of partial or total loss of information, due to system problems, power failure, and human error. The practice of backing up a system acts as a safeguard against such a loss. Backup is a term applied to the method of creating a copy of information stored on-line on a particular volume, and placing this new copy on an off-line storage medium to be kept in a safe place. Should loss or damage occur to the original, the backup copy is available for restoring the information. Only files created since the last backup are lost. Backup is also used to copy and store inactive information that may later be scratched from on-line volumes.

The BACKUP utility is specifically designed to provide a fast, efficient, and controlled method of backing up a volume. When BACKUP is run, the system copies the files, libraries, or volume requested on the input volume to a designated output volume. In the process, BACKUP creates three files: a Backup Record file on the output volume if that volume is a disk, the Backup work file, and the Backup log. Either magnetic disks or tapes can be used as output volumes.

5.5.1 Designing a Backup Procedure

Before a new VS/IIS is installed, a plan for managing and supervising the system should be devised by management. The Backup procedure should be part of this plan. When devising a plan for backup, the management group (perhaps including the prospective word processing supervisor) should consider the following questions. Each of these questions is discussed in detail in the five sub-subsections that follow.

- What information needs to be backed up?
- Who should perform backup?
- When and how often should the system be backed up?
- How should backup disks be rotated and maintained?
- What medium will be used for the backup copy?

What Types of Information Should Be Backed up?

Management should conduct an analysis to determine the type of information that will be used on the VS/IIS. The following points should be considered when the analysis is completed.

- System software and special programs need to be backed up only once, either at the time of installation, or when the software or programs are upgraded.

- Backup is usually performed by volume, particularly if tape is the backup medium.

- If all information resides on a single disk or disk pack, and the system software and special programs have been backed up and stored, the user can choose to backup by library to a disk, rather than to backup the entire volume.

- If information resides on more than one disk, you can backup the system disk by library to a disk. Other disks can be backed up by volume.

The simplest approach is to backup an entire volume. Libraries or files that can be deleted should be removed from the volume before it is backed up.

```
┌──────────────────────── NOTE ────────────────────────┐
│                                                       │
│  Each operator or owner of record should be responsible for │
│  deleting libraries or files that are no longer active. │
│  Inactive files and libraries should be permanently removed, │
│  and filed away periodically through the Backup utility. A │
│  record should be maintained of these operations.     │
│                                                       │
└───────────────────────────────────────────────────────┘
```

Who Should Have Backup Responsibility?

A security administrator should assign responsibility for backup to a reliable and competent person. This person and an assistant should be the only people given access rights to the BACKUP utility. If the system is used exclusively for word processing, backup should be performed by the word processing supervisor, or a key operator. If the system is used in a combined word processing and data processing environment, backup should be performed by the data processing system supervisor, or an assistant (possibly the word processing supervisor).

Backup can also be performed through the use of a procedure. This procedure should consist of all the steps in the backup operation. An operator does not need to have access rights to the BACKUP utility to run the procedure.

When Should Backup Occur?

How often backup is performed depends on the value of the information being stored, and the volume of work being created and edited. The management of the particular installation is best able to determine this matter.

If information entered daily is too valuable to risk losing, then volumes should be backed up every day, or even more frequently. Daily backup is recommended for most VS/IIS installations.

The time of day that backup is performed depends upon the flexibility of the people who will be using the system. Ideally, backup should be performed when the system is not in use, usually before the start, or at the end, of a work day.

It is possible to backup when the system is in use; however, those files in use during backup will not be copied. From the Operator's Console, the supervisor or system operator can inhibit logon, or force logoff. Files in use during backup will need to be copied separately, if they are valuable. (Refer to the VS System Operations Guide for more information on forcing logoff and inhibiting logon.) When the system disk is being backed up, all word processing printing should be discontinued. Workstations that are logged on, but not in actual use, should be logged off.

Once backup has begun, the BACKUP utility assumes exclusive and protected use of both the input and output volumes. Neither can be accessed by other users, once backup operations are under way.

How Should Backup Operations Be Organized?

Three elements should be considered when organizing backup procedures. These elements are: methods of disk rotation, identification and labelling of the original and copies, and design of the Backup procedure and its documentation.

● Disk Rotation -- A common method of disk rotation is called the grandfather, father, son method. This method involves three disks: one for the original and two for the backup copies. For example, on Monday afternoon, the input volume, called the son, is backed up, and the backup disk, Volume A, is removed and stored. On Tuesday afternoon, the same input volume, with information created during the day, is backed up onto a disk called Volume B. Volume B, which contains the most recent copy, is called the father. Volume A, containing the previous day's copy, is now less current and is called the grandfather. Since the information on the grandfather disk, Volume A, is less current, it is used on Wednesday afternoon to backup the input volume. As a result, Volume A becomes the father and Volume B becomes the grandfather.

There are more elaborate methods of this system, all created for the purpose of added protection. If the information to be stored is extremely valuable, the backup disk can be kept in a safe place that is far removed from the VS/IIS site. Copies of frequently updated disks can be made each day, and each day's copy can be retained for a five day period. More than one or two copies of the same disk can also be made and kept in separate places.

If more than two volumes are systematically backed up each day, an order of volumes should be established and strictly followed. Such organization reduces the possibility of error or confusion.

● Identification and Labelling of the Original and Copies -- The original disk, and its copies, should always be clearly named and labelled. For example, the original is called VOL111, and its most recent copy is labelled BAK111, with the date of backup. The less recent copy is labelled BAK111, with its date of backup. It is also possible to color code the labels of backup disks, for quick identification.

● Design of the Backup Procedure and its Documentation -- The Backup procedure should be clearly defined and documented. Instructions for performing backup for the specific needs of the user should be concisely documented.

What Medium Will Be Used for the Backup Copy?

Either a disk or tape can be used for backup purposes. Not every VS/IIS includes a tape drive. If there is a tape drive at your installation, you should be aware that tape is less expensive than a magnetic disk, and is faster to backup. Tapes are physically smaller than disks and are easier to store or transport, although a reel of tape may not be able to hold all the information stored on a disk volume. If you choose tape as the backup medium, you should not label a tape reel as an SL volume.

5.5.2 Preparing the System for Backup

Backup should take place at a regularly scheduled time. All system users should be informed beforehand of the schedule. If it is necessary for certain users to remain on the system, backup can proceed, but the Backup utility cannot assume exclusive and protected use of the volume. This means that the documents being worked on while backup is in progress may not be copied to the backup volume. If one file is open as backup begins, then other files can be accessed and modified while backup is in progress. An incomplete backup copy results.

When the system or new software is installed, the system software and related programs should be backed up. It is unnecessary to backup the system software again, unless new software is installed. Backup of the other files on the system disk is performed on a library-by-library basis.

If multiple volumes are to be backed up, determine a backup order for all the volumes. Prepare a log and enter the names of the volumes for each operation.

Prior to the actual Backup procedure, make sure that the output volume to be used is one that is dedicated for backup. In other words, make sure that the information currently resident on the volume can be destroyed. If the output volume is a new disk, initialize and label it. If the output volume is a tape, initialize it for backup, but designate that it is NL – not labelled. As a final step, mount the input and output volumes, if they are not already mounted. Make note of the names on the volumes.

5.5.3 Procedures for Running Backup

In order to backup a volume, you must run the BACKUP utility. The following steps explain the Backup procedure.

1. Access BACKUP from the Utilities and Supervisory Functions menu. The BACKUP Input Definitions screen (Figure 5-24) is displayed.

2. Enter in the first field on the screen the range of information to be covered in the backup. Ideally, the range has been determined beforehand. If you want to back up all information on the disk, accept the default volume. If the input volume is the system disk and you do not want to copy the operating system, or if a single library is being backed up, type "Library". If only a single file is being backed up, type "File". Tab over to the next field.

3. Supply the name of the input volume and, if applicable, the library and file names for the next three fields. Tab to the next field.

```
*** MESSAGE 0001 BY BACKUP

               Information Required By Program BACKUP
                        To Define Input


            ***  WANG VS BACKUP PROGRAM - VERSION  3.09.00  ***

Please Specify The Following Information And Press (ENTER),
Or Press (PF4) To Mount The Input Volume

        RANGE    = VOLUME*    ( Volume / Library / File )

        VOLUME   = ******    LIBRARY  = ********    FILE     = ********

        FUNCTION = BACKUP*    ( Backup / Restore )
        ERRDISP  = YES        ( YES To Display Errors / NO )
        DEVICE   = DISK       ( DISK / TAPE )
        FILESEQ  = ****       ( For Device = Tape Only)
```

Figure 5-24.   BACKUP Input Definition Screen

4. Specify in the Function field whether a backup or a restore is to be
   performed.   Since BACKUP is underway, accept the BACKUP default.
   (Refer to the <u>VS System Utilities Reference Manual</u> for information
   about the Restore option of BACKUP.)   Tab to the next field.

5. Select the ERRDISP function, if you want the system to display error
   messages when any problems arise during backup.   An error message
   halts the backup process and prompts you for acknowledgment.   In
   most cases, BACKUP resumes when you press the RETURN/ENTER key.   If
   you wish to view error messages on the screen, the default, Yes,
   should remain.

   If you do not wish to receive error messages during backup, select
   the No option.   Selecting "No" results in the running of backup
   without any halt in processing.   Any errors are printed in the
   backup log.   The No option allows BACKUP to proceed unattended.   If
   it is not possible to produce a printed BACKUP log, due to lack of
   space on the disk, the error messages are displayed on the screen,
   regardless of whether Yes or No was specified for ERRDISP.

6. Enter in the Device field the type of input volume that is being backed up. In most cases, this is the default, DISK.

7. Fill in the next field, FILESEQ, if the input volume is a tape.

8. If the input volume is not already mounted, press PF 4 to proceed with the logical and physical mount. If the volume is mounted, press RETURN/ENTER. The next display (Figure 5-25) prompts for Output Definitions.

9. Enter the requested information about the output volume on the Output Definition Screen. The field for Volume should be the name of the output volume. An output volume should begin with an alphabetic character, and can be up to six alphanumeric characters long. If a previously used tape is the output volume, enter a name for the tape as the Volume field, even though the tape is unlabelled.

10. Tab to Device, and accept the default field, if the output volume is a disk, or type "Tape", if applicable. If more than one disk or tape is used, BACKUP stops and requests the user to mount the output volume.

```
***  MESSAGE 0001 BY BACKUP

          INFORMATION REQUIRED BY  PROGRAM  BACKUP
                     TO DEFINE OUTPUT


       ***  WANG VS BACKUP PROGRAM - VERSION  3.14  ***

   PLEASE SPECIFY THE FOLLOWING OUTPUT PARAMETERS AND PRESS (ENTER),
   PRESS (PF1) TO RESPECIFY THE INPUT, OR
   PRESS (PF4) TO MOUNT THE OUTPUT VOLUME.

       VOLUME   = XXXXXX

       DEVICE   = DISK    ( DISK / TAPE )

       CLEAR    = NO*     ( "YES" WILL CLEAR THE OUTPUT VOLUME FIRST )
```

Figure 5-25. BACKUP Output Definition Screen

11. Either enter "Yes" in the Clear field to clear the output volume before the backup copy is made, or accept the default, No. If No is chosen, the new backup copy is added to whatever is present on the output volume.

12. Press PF 4, if the output volume is not mounted, to begin the mount process. Press RETURN/ENTER if the volume is mounted.

13. Press RETURN/ENTER, if BACKUP needs to be terminated before the actual backup copy is made. (Refer to Figure 5-26 BACKUP Acknowledge Screen.) The BACKUP utility then prompts for a new volume name, thereby requiring you to mount a new volume. If BACKUP is to proceed, you should type "Yes" in the Proceed field.

14. Either enter the size of the volume table of contents on the output volume in the VTOC size field, or accept the default. The default is the VTOC size of the input volume. If the output volume VTOC is smaller, an appropriate default size is provided by the system.

```
***   MESSAGE  0002  BY BACKUP

            RESPONSE REQUIRED BY  PROGRAM  BACKUP
                  TO ACKNOWLEDGE BACKUP


INPUT  VOLUME = SYSTEM

OUTPUT VOLUME = BAKPAK   VOLUME SYSTEM WILL BE COPIED TO VOLUME BAKPAK
                        AFTER THE PREVIOUS CONTENTS OF VOLUME BAKPAK
                        ARE DESTROYED.

    PROCEED  = ***      TYPE YES TO PROCEED WITH THE BACKUP COPY.
                        ANY OTHER RESPONSE WILL RESTART THE PROGRAM
                        WITHOUT PERFORMING THE COPY.


    VTOCSIZE = 250      (VTOC SIZE OF OUTPUT VOLUME, IN BLOCKS)
```

Figure 5-26.   BACKUP Acknowledge Screen

15. Press RETURN/ENTER to begin the BACKUP procedures. The screen then clears and the message, "BACKUP in Progress", is displayed. If a file is in use during backup and Yes was specified for ERRDISP, the BACKUP utility stops and displays an error message, each time it tries to copy a file that is open. You should make a note of these open files, so they can be individually copied at a later time.

When BACKUP is complete, the End of Job message is displayed (refer to Figure 5-27), along with the number of errors encountered by the BACKUP utility. You are also informed that a BACKUP log will be printed, unless there was not enough room for it on the input volume. The Lines per Page option is preset to 55 lines, but can be changed. At this point, you can either press PF 1 to backup another volume, press ENTER to print the BACKUP log, or press PF 16 to return to the Command Processor.

```
***  MESSAGE 0040 BY BACKUP

                 RESPONSE REQUIRED BY  PROGRAM  BACKUP
                         TO SELECT EOJ


VOLUME           COPIED TO VOLUME

NO   ERRORS WERE ENCOUNTERED DURING BACKUP.
A BACKUP LOG WILL BE PRINTED. LINES PER PAGE     = 55
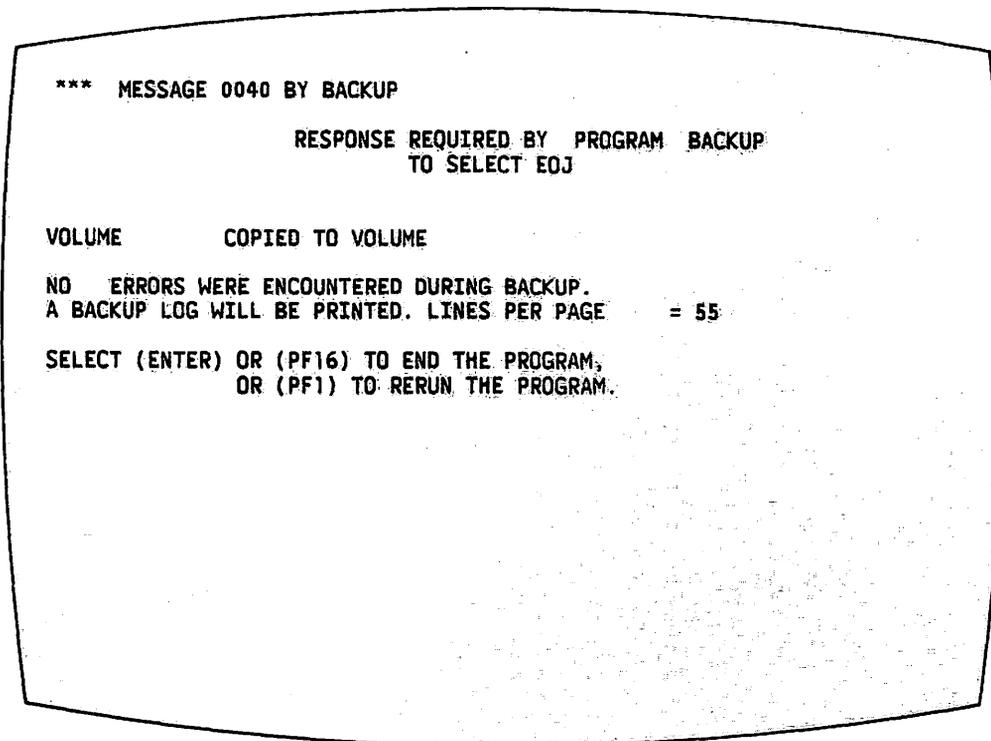
SELECT (ENTER) OR (PF16) TO END THE PROGRAM,
               OR (PF1) TO RERUN THE PROGRAM.
```

Figure 5-27.   BACKUP End of Job Message Screen

The BACKUP log is a list of all files copied. When BACKUP proceeds, the BACKUP log is written on the input volume. Consequently, if the input volume is nearly full, there may not be enough room on it for the BACKUP log. It is not essential to have a BACKUP log to complete BACKUP proceedings. The VTOC is copied automatically during BACKUP, and can be used in place of the BACKUP log. The contents of a particular volume can also be displayed through Manage Files and Libraries on the Command Processor.

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```
┌─────────────────────────── NOTE ───────────────────────────┐
│                                                             │
│  As a recommendation, disk storage should not exceed 90     │
│  percent of capacity.  Inactive files should be deleted     │
│  systematically to free space on the disk.                  │
│                                                             │
│  You can write procedures to automatically run the BACKUP   │
│  utility without user intervention.  Section 2.5 of the VS  │
│  System Management Guide gives a sample backup procedure,   │
│  and the VS Procedure Language Reference Manual explains the │
│  parameters used in this example.                           │
│                                                             │
└─────────────────────────────────────────────────────────────┘
```

5.5.4 BACKUP File, Storage and Maintenance

As space on a disk is used up, housekeeping procedures need to be implemented to make space available. Several approaches are possible using BACKUP. Inactive, but valuable, files or libraries should be copied to another disk, and then deleted from the original. For additional safety, two or more copies of this information can be made.

Selective copying of files and libraries can be performed by using BACKUP. The resultant file, or library, preserves the access rights and dates of creation and modification of the original. In addition, the BACKUP utility can be used to consolidate all free extents, and to release unused space; this use of BACKUP is an efficient way of organizing information on the output volume. However, BACKUP can only be used by a person with access rights to the utility. Furthermore, the BACKUP procedure should only be performed when both the input and output volumes are not in use.

Procedures for filing and storing inactive, but valuable information, should be decided upon by management. A well planned and diversified filing and storage system should be created at the time the system is installed. Such a system should be organized in a manner that allows stored information to be retrieved quickly and easily.

As an example, the following system for using BACKUP can be set up to store inactive information.

● The owner of a file or manager of a department decides that a file is inactive, and should be removed from the system and stored. A system of filing is chosen. All work dealing with one subject can be stored on one disk; all work dealing with another subject can be stored on another disk. Several different filing methods can be used at one time, such as filing by different categories, e.g., operator, author, subject, etc.

● These inactive files are then backed up by the supervisor or assistant in a specific order, and later deleted from the system. Responsibility for this stored information rests with the supervisor. A second backup copy can then be made for the owner of the information or department head. Responsibility for the stored information is then shared by the supervisor and the owner of the second backup copy.

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APPENDIX A
SELECTED FUNCTIONS OF THE COMMAND PROCESSOR

Appendix A provides descriptions of a number of functions of the VS Command Processor that were not within the scope of Chapter 3. Functions that are used strictly for data processing activities are briefly mentioned. Refer to the appropriate VS text when you require more information on any function.

A.1   SET USAGE CONSTANTS

The Set Usage Constants function enables you to specify default names for data processing libraries and volumes for particular operations, and to assign default file protection classes for data files and word processing documents. To access Set Usage Constants, press PF 2 from the Command Processor menu. The first screen of this function, Set File Defaults, is illustrated in Figure A-1.

```
                    ***  SET COMMON USAGE CONSTANTS  ***
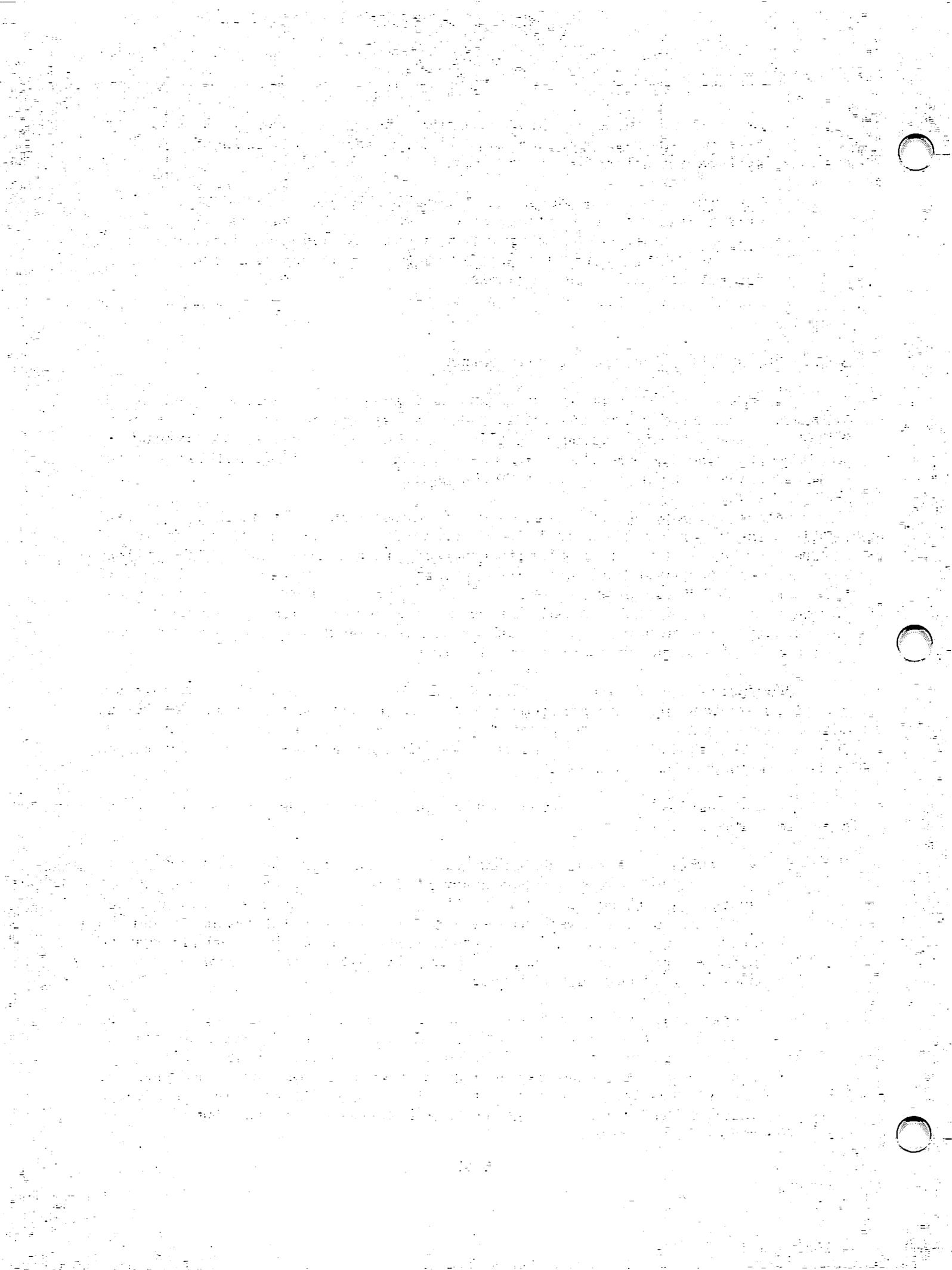


DEFAULT LOCATION (LIBRARY AND VOLUME) OF FILES, ASSUMING THAT THESE VALUES ARE
NOT PARAMETERIZED VIA PROCEDURE OR PROVIDED BY THE PROGRAM ITSELF:

        INPUT FILES:            INLIB   = ********    INVOL    = ******
        OUTPUT FILES:           OUTLIB  = ********    OUTVOL   = ******
        USER PROGRAMS:          RUNLIB  = ********    RUNVOL   = ******
        WORK/TEMPORARY FILES:   WORKLIB = #SMBWORK    WORKVOL  = ******
        SPOOLED PRINT FILES:    SPOOLIB = #SMBPRT     SPOOLVOL = ******


DEFAULT FILE PROTECTION CLASS FOR OUTPUT FILES
(USE " ", "$", "@", "#", OR "A" THROUGH "Z"):           FILECLAS = *


      ALTER THESE DISPLAYED DEFAULT CONSTANTS IN PLACE AND PRESS (ENTER)

      OR PRESS  (PFK-1)  TO SET PRINT MODE DEFAULTS
                (PFK-2)  TO SET JOB SUBMITTAL DEFAULTS
                (HELP)   TO RETURN TO THE COMMAND PROCESSOR
```

Figure A-1. Set File Defaults Screen

To access the Set Usage Constants function, press PF 2. Set Usage Constants allows you to set up defaults to be used when data processing files are being created. The Set File Defaults menu (Figure A-1) enables you to set defaults for libraries and volumes in which certain types of files are to reside. These defaults are automatically supplied in fields of a running program that prompt for a particular kind of information, such as a volume name. The defaults remain for the duration of the current workstation session, unless the supervisor wishes to change them. Whenever a library name, for example, is requested while a program is running, the system automatically fills in the library name specified on the Set Usage Constants screen.

A.1.1 Set File Defaults

The different file defaults that you can set by using this subfunction are shown in the following list. You may want to assign default libraries and volumes to a workstation session as a time saver.

- INLIB -- The name of the library that appears as a default whenever an input file is opened.

- INVOL -- The name of the volume that appears as a default whenever an input file is opened.

- OUTLIB -- The library name that appears as a default whenever an output file is specified.

- OUTVOL -- The volume name that appears as a default whenever an output file is specified.

- RUNLIB -- The library name that appears as the default program library, whenever a program or procedure is executed through the Run Program or Procedure function.

- RUNVOL -- The volume name that appears as a default, whenever a file is run by means of Run Program or Procedure.

- WORKVOL -- The name of the default volume on which work files are to be located. These files are temporary files, used by programs for internal processing only. They are created, named, and deleted after use by the operating system. Work files are stored in each user's work library, and their existence is usually transparent to the user. Work files are created on the specified default volume only if sufficient space exists.

- SPOOLVOL -- The name of the default volume on which spool files (print files created by the system) are to be located. Spool files are created on the specified default volume only if sufficient space exists on the designated disk. (The system automatically assigns spool files to a library with a name consisting of a pound sign, the User ID, and the suffix PRT, for print.)

- FILECLAS -- The file protection class to which all data and word processing files created during the current workstation session are assigned by default. The class can be A-Z, $, @, #, or blank, depending on the type of file. You can change the file class by means of the Manage Files and Libraries function.

A.1.2 Set Print Mode Defaults

The Set Print Mode Defaults function and its associated screen, pictured in Figure A-2, allows you to specify defaults for any data processing print file. Set Print Mode Defaults is useful in cases where you are asked by data processing personnel to print data files. These print mode defaults do not apply to word processing documents. As with file defaults, print mode defaults are set only for the duration of the workstation session.

```
***  SET COMMON USAGE CONSTANTS  ***


CURRENT PRINT MODE DEFAULTS FOR SPOOLED AND ONLINE PRINTING:

  S - SPOOL PRINTER FILES    O - ONLINE PRINTING           PRNTMODE = H
  H - HOLD PRINTER FILES      K - KEEP AS FILE, DO NOT QUEUE

  DEFAULT SPOOLED PRINT FILE PRINT CLASS  ("A" THRU "Z"):    PRTCLASS = A
                           FORM NUMBER  (000 THRU 254):      FORM#    = 000

  DEFAULT ONLINE PRINTER DEVICE NUMBER:                     PRINTER  = 003

  DEFAULT LINES PER PAGE  (FOR OPTIONAL PROGRAM USE):       LINES    = 055


     ALTER THESE DISPLAYED DEFAULT CONSTANTS IN PLACE AND PRESS (ENTER)

     OR PRESS  (PFK-2)  TO SET JOB SUBMITTAL DEFAULTS
               (PFK-3)  TO SET FILE DEFAULTS
               (HELP)   TO RETURN TO THE COMMAND PROCESSOR
```

Figure A-2. Set Print Mode Defaults Screen

Print mode defaults enable you to specify beforehand the manner in which printed information is to be treated. One of four modes can be selected as the default.

- S - Spool Print Files -- When this print mode is selected, output files are stored in a print file in the user's print library. At the same time, an entry is placed in the print queue on a first come, first served basis. The file is automatically printed when it becomes first in the queue.

A-3

- **H - Hold Printer Files** -- When this print mode is selected, output is stored in a print file in the user's print library, and an entry is placed on the print queue. No further action is taken until the user releases the file through use of PF 11, MANAGE PRINT/JOB QUEUES, on the Command Processor.

- **O - On-line Printing** -- Output is sent directly to a printer. A print file is not created by the system.

- **K - Keep as File, Do Not Queue** -- Stores print output in a print file in the user's print library, but does not place an entry on the print queue.

Several other defaults can be established through this screen.

- **PRTCLASS** -- Because individual printers are assigned certain print classes, the print class assigned to a file determines which printers may be used to print the file. If responsible for backup, the supervisor should specify a default for PRTCLASS, using the print class for the printer assigned to print the Backup Log. The VS System Operation Guide further explains the use of print classes.

- **Form#** -- Allows you to specify beforehand the type of form to be used for printing a particular file. Each installation will have different form numbers for the type of forms being used.

- **Printer** -- Used to specify the device number of the printer on which the file is to print. This device number can be specified for on-line printing, spooled files, and for files on hold. If the printer is in use, the file goes to the next available printer. If Hold is the print mode and a default printer is specified, the print file goes to the specified printer when the file is released, regardless of whether or not the printer is in use.

- **Lines per Page** -- Determines the length of output per page. Pages may range from 16 to 255 lines in length. This default can be used only with user programs and certain system utilities.

From the Set Print Mode Defaults screen, you can either return to the Set File Defaults menu, to the Command Processor, or view the Set Job Submittal Defaults menu.

A.1.3 Set Job Submittal Defaults

In addition to communicating with the user while a program is running, the system is capable of running programs that require little or no user intervention. These programs are referred to as background jobs. Every workstation can process a program interactively while running another program in the background. Defaults for background jobs can be established through the Set Job Submittal Defaults screen (refer to Figure A-3).

```
***  SET COMMON USAGE CONSTANTS  ***


CURRENT DEFAULTS FOR JOB SUBMITTAL VIA THE COMMAND PROCESSOR
"RUN" AND "SUBMIT" COMMANDS:

    DEFAULT SUBMITTAL STATUS:
         R - RUN,  JOB ELIGIBLE FOR SCHEDULING
         H - HOLD, DO NOT RUN JOB UNTIL RELEASED
                   BY SUBMITTER OR OPERATOR        JOBQUEUE = R

    DEFAULT JOB SCHEDULING CLASS  ("A" THRU "Z"):   JOBCLASS = A

    DEFAULT JOB EXECUTION TIME LIMIT:
         CENTRAL PROCESSOR TIME IN FORMAT HH:MM:SS
         - NO VALUE (OR ZERO) INDICATES "NO LIMIT"  JOBLIMIT = ** : ** : **


    ALTER THESE DISPLAYED DEFAULT CONSTANTS IN PLACE AND PRESS (ENTER)

    OR PRESS  (PFK-1)  TO SET PRINT MODE DEFAULTS
              (PFK-3)  TO SET FILE DEFAULTS
              (HELP)   TO RETURN TO THE COMMAND PROCESSOR
```

Figure A-3.   Set Job Submittal Defaults Screen

Running a background job is a data processing activity. Since the system software necessary for operating and managing a word processing group operates in the foreground, you may have little need to establish defaults for background jobs. If it is ever necessary to run a background job, you can consult the VS Programmer's Introduction for a full explanation of the Set Job Submittal Defaults display.

A.2   SHOW PROGRAM COMPLETION REPORT

The Show Program Completion Report function displays various information that assists system programmers/analysts in assessing the total resource requirements of a previously run program (refer to Figure A-4). This function also helps in assessing how efficiently the program is, using the system's memory. To access this function, press PF 3.

```
                    ***  SHOW PROGRAM COMPLETION REPORT  ***

WORKSTATION  43  READY              12:51 AM          SATURDAY    APRIL 26, 1980

                    PROGRAM WP        PROCESSING COMPLETED



TOTAL ELAPSED TIME =  00:02:20 (HMS) PROGRAM PROCESSOR TIME =  00:00:06 (HMS)

          TOTAL WORKSTATION I/O       =   1192 OPERATIONS
          TOTAL PRINTER I/O           =      0 OPERATIONS
          TOTAL TAPE I/O              =      0 OPERATIONS
          TOTAL NON-PAGING DISK I/O   =    125 OPERATIONS
          TOTAL PAGE-INS     =    126 (SYSTEM)  =     24 (PROGRAM)
          TOTAL PAGE-OUTS    =     41 (SYSTEM)  =     12 (PROGRAM)

          SEGMENT 2 ADDRESS SPACE     =    256 K


          PRESS (HELP) TO RETURN TO THE COMMAND PROCESSOR
```

Figure A-4. Show Program Completion Report Screen

Information provided by the Show Program Completion Report screen includes:

- The name of the program just completed;

- The total elapsed time in hours, minutes, and seconds;

- Total CPU time used by the program in hours, minutes, and seconds;

- Total input/output operations performed by the program, including workstation, printer, tape, and non-paging disk operations;

- Total page-ins and page-outs required by both the system and the program.

Although this type of information does not directly relate to the daily operation of a word processing group, Show Program Completion Report does give all the statistics for the program WP after it is completed.

A.3 JOB QUEUE CONTROL

The Job Queue Control subfunction of the Control Print/Job Queues function presents the status of background jobs in addition to print jobs waiting to be run by the system. To access the job queue, select PF 11 from the Command Processor. This action results in the Job Queue menu being displayed. Press PF 4 to view the job queue entries.

The Job Queue screen, illustrated in Figure A-5, presents the name of each job waiting to be run by the system, and supplies identifying information about the job. This information includes the name of the user running the job, the library and volume in which it is located, status, protection class, etc. You can perform various operations upon the display, such as releasing the job so the system can run it, or removing the job from the queue entirely.

```
                    ***  JOB QUEUE DISPLAY  ***
              11:54 PM      SATURDAY        APRIL 26, 1980



 1 JOBS IN QUEUE

 USER JOBNAME PROCEDURE LIBRARY VOLUME CLASS    LIMIT DUMP DISPOSITION STATUS
 1 TDP GRADES    TDPPROC3 TDPTORY  SYSTEM  A  P  0:00:10 P  HOLD      COMPLETED








       POSITION CURSOR TO INDICATE JOB AND PRESS PFKEY TO PERFORM ACTION:
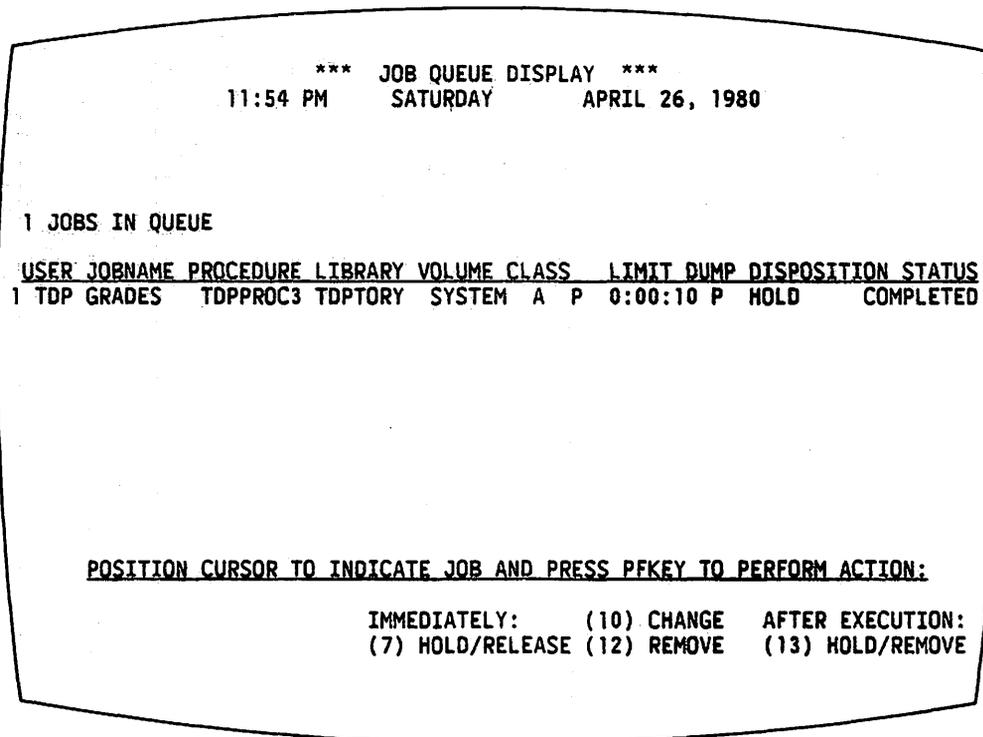
                   IMMEDIATELY:      (10) CHANGE   AFTER EXECUTION:
                   (7) HOLD/RELEASE (12) REMOVE    (13) HOLD/REMOVE
```

Figure A-5.   Job Queue Screen

Since the running of background jobs is not normally within the scope of a word processing supervisor's job, detailed instructions for this subfunction are not given. Complete information on the Job Queue Control subfunction can be found in the VS Programmer's Introduction.

A.4 SUBMIT PROCEDURE

The Submit Procedure function is used to submit a background procedure, and to define the conditions for running the procedure. To access this function, press PF 12 from the Command Processor. The Submit Procedure screen (refer to Figure A-6) appears.

```
                    ***  SUBMIT PROCEDURE  ***


         IDENTIFY THE PROCEDURE TO BE RUN AND PRESS (ENTER):

    FILE    = ********  IN LIBRARY = ********  ON VOLUME  = ******


SCHEDULING OPTIONS:    JOB NAME   = ********         OPTIONAL
                       CLASS      = A               ("A" THRU "Z")
                       STATUS     = R               (R-RUN / H-HOLD)


EXECUTION OPTIONS:     ON ABNORMAL TERMINATION,
                       DUMP       = P   (Y-YES / N-NO / P-PROGRAM DEFAULT)

                       CPU LIMIT  = ** : ** : **     OPTIONAL (HH:MM:SS)

                       IF CPU LIMIT EXCEEDED,
                       ACTION     = *        (C-CANCEL / W-WARN / P-PAUSE)


         OR PRESS (HELP) TO RETURN TO THE COMMAND PROCESSOR
```

Figure A-6. Submit Procedure Screen

Background procedures run independently of the user and do not interfere with the normal operations of the workstation. If an occasion arises where you are asked to run a background procedure, the VS Programmer's Introduction can supply full information concerning the Submit Procedure Display, and other functions necessary for background processing.

A.5   PRINT COMMAND SCREEN

The Print Command Screen function enables you to obtain a printed copy of the contents of any screen displayed during the execution of a system command, simply by pressing PF 15. The Command Processor need not be displayed in order to use this function.

```
┌──────────────────────── NOTE ────────────────────────┐
│                                                       │
│  Only data processing screens can be printed by using the │
│  Print Command Screen function.  This function cannot be  │
│  used to print the word processing displays that appear on │
│  the workstation screen while the WP program is running.  │
│                                                       │
└───────────────────────────────────────────────────────┘
```

When you press PF 15 during the execution of a command, the system immediately attempts to print the current screen display. An individual print file is created for the display and assigned to a library on a volume that can be used for print files, unless on-line printing has been specified through Set Usage Constants. The workstation audio alarm sounds, acknowledging the print command.

You can view the status of the new print file on the Print Queue display, accessible through PF 11. You can release the print file for printing or scratch the file, through this display.

If you are running a utility such as BACKUP or COPYWP, you can obtain a printed copy of a screen by accessing the Modified Command Processor.

APPENDIX B
VS/IIS HARDWARE

B.1   INTRODUCTION

The actual equipment composing a computer system is referred to as hardware. Since each VS/IIS installation has its own unique requirements, companies are offered a choice of many different hardware devices when they purchase their systems. Some of the devices typically composing a VS/IIS are the Central Processing Unit (CPU), Input/Output Processors (IOPs), main memory, workstations, printers, disks and disk drives, and tapes and tape drives.

B.2   THE CENTRAL PROCESSING UNIT AND INPUT/OUTPUT PROCESSORS

The Central Processing Unit (CPU) and a number of Input/Output Processors (IOPs) together control all actions of the system, and handle processing requirements of all users, whether data processing or word processing. In addition, the IOPs control the operations of the printers, workstations, disk drives, tape drives, and communications devices. The CPU, IOPs, and main memory are housed in a large cabinet that also contains the system diskette drive.

B.3   WORKSTATIONS

Workstations are the primary means of communication between the user and the system. Like printers, disk and tape drives, and telecommunications devices, workstations are called peripherals. Peripherals are units of computer equipment attached to the CPU, but distinct from it.

Several different models of the VS Computer System are available to suit a variety of user needs. The VS-25, the smallest VS System, supports up to 10 workstations; the largest VS System, the VS-100, supports up to 128 workstations. The VS-45 supports up to 20 workstations; the VS-80 supports up to 32 workstations; and the VS-90 supports up to 48 workstations. VS/IIS installations typically use the combined workstations, which support both word processing and data processing functions. The serial and remote workstations, which support data processing activities only, can also be used by some installations. Archiving workstations, which are used for local storage and retrieval, are also supported by the VS/IIS. All models of workstations consist of a typewriter-like keyboard and Cathode Ray Tube (CRT) screen, thereby facilitating easy communication between users and the system.

B.3.1 The 2246C, 2256C, and 2866C Combined Workstation

The combined workstations contain a keyboard that supports both word processing and data processing functions. This keyboard is pictured in Figure B-1. In addition to the standard typewriter keys and calculator-like numeric keypad, the combined workstations have a number of special keys that perform specific functions, depending on the activity currently being performed by the workstation.

When the combined workstation is performing data processing functions, the top row of keys operates as Program Function (PF) keys. The workstation screen refers you to a particular PF key(s) that must be pressed to perform a certain operation. The plastic strip beneath the top row of keys contains their PF numbers. The numeric keypad to the right of the standard keyboard can be used for data processing.

Two keys, HELP and HOME, are active <u>only</u> during data processing activities. The GL (Glossary) key is deactivated at this time. Several keys have two titles on their keyfaces. The word processing function is the top label; the data processing function is the lower label. These keys are: RETURN/ENTER, EXECUTE/NEW LINE, CANCEL/RESET, P SCR/B TAB, and N SCR/ERASE.

When the combined workstation performs word processing functions, the top row of keys are used for the text editing functions printed on their keyfaces. The HELP and HOME keys are disabled; the GL key is activated. The numeric keypad can be used for word processing activities, as well as data processing activities.

Figure B-1. The Combined Workstation Keyboard

B.3.2 The 2246S, 2866S, 2246R, and 2866R Workstations

The 2246S, 2866S, 2246R, and 2866R workstations perform solely data processing functions. The 2246S and 2866S Serial Workstations are most commonly used. The 2246R and 2866R are remote workstations, which means they can be located at some distance from the CPU.

The keyboard of the serial workstations are pictured in Figure B-2. The keyboards of the Remote workstations are identical to it. Functions keys, such as ERASE, RESET, etc., appear on the Serial Workstations, but in different locations from the corresponding keys on the Combined Workstations.

Figure B-2. The Serial Workstation Keyboard

B.3.3 The 2266C, 2276C, 2266S and 2860 Archiving Workstations

The Archiving Workstation is used particularly for performing operations involving diskettes. Archiving Workstations 2266C, 2276C and 2860 Models 1 and 2 have the same keyboard as the Combined Workstations and can be used for word processing as well as data processing activities. The 2266S and 2860 Models 3, 4, and 5 Archiving Workstations have the same keyboard as the Serial Workstations, and perform data processing functions only.

B.3.4 The Operator's Console

The Operator's Console is a workstation used particularly to handle system operations. When the system is first installed, the Operator's Console is given the device number 0 (zero), and located in close proximity to the Central Processing Unit. Any VS workstation, including the Combined Workstations, can be used as a VS/IIS Operator's Console. (A Combined Workstation or Combined Archiving Workstation, when used as the Operator's Console, cannot perform word processing functions.)

When the Operator's Console is in Operator mode, it displays all system messages, such as printer or disk error messages. (Other workstations, as well as the Operator's Console, can be designated to access operator mode.) Additionally, the Operator's Console is used in the power-up and power-down procedures for the system. In some installations, an assigned system operator performs all operations relative to the Operator's Console. In other installations, particularly those using the VS/IIS primarily for word processing, the word processing supervisor is responsible for the Operator's Console. For complete information on the Operator's Console and its functions, you should refer to the VS System Operations Guide.

B.4 DISKS AND DISK DRIVES

Every VS Computer System includes at least one large magnetic disk platter for storing information. Each installation has a system disk containing the VS operating system, without which the system would be unable to function. Files created by word processing operators and programmers can be stored on the system disk or other disks, thereby allowing you to create a filing system that best utilizes available disk space.

In order to operate the system, a disk pack must be logically mounted through the VS Command Processor, and physically mounted in a disk drive. Some disk drives can hold one or more fixed disk platters that cannot be removed from the drive, and one removable disk cartridge that contains one or more platters. Other drives store information on disk packs that contain as many as ten platters.

The VS/IIS also accommodates the use of floppy diskettes for copying and retrieving word processing documents, as well as data processing files and programs. These diskettes must be both logically and physically mounted in the drive, located in the cabinet housing the CPU. Installations with an archiving workstation can also mount diskettes in the drive accompanying the workstation. Diskettes can be used for transferring word processing documents from the VS/IIS to a Wang Office Information System (OIS) or Word Processing System (WPS), and vice versa.

B.5 TAPE AND TAPE DRIVES

Certain VS/IIS installations can use magnetic tape for storage and backup purposes. A reel of tape must be logically and physically mounted in a tape drive, before information can be copied to it or retrieved from it.

B.6 PRINTERS

Any printer that prints both uppercase and lowercase letters and is supported by the VS/IIS, can be used for printing word processing documents, as well as data processing files. Some of these printers include the matrix, line, and daisy printers.

APPENDIX C
ACCESSING THE WANG VS/IIS PERIPHERAL UTILITY

C.1   INTRODUCTION

This appendix contains instructions for using the Wang VS/IIS Peripheral Utilities. These utilities can be used to:

- Assign character set numbers
- Modify existing character sets
- Create new character sets.

This appendix contains only instructions that pertain to assignment of character set numbers. You should consult the Word Processing Reference Manual for instructions on document printing, and the appropriate printer user manual for operating instructions, prior to running the VS/IIS Peripheral Utilities.

The VS/IIS Peripheral utility is provided so that users can utilize all available Wang Character sets. Each character set is represented by a single digit number from 1 to 9 inclusive. More character sets are available than character set numbers.

Only a maximum of nine character sets can be assigned character set numbers at any given time. The remaining character sets are available; however, they can only be accessed by assignment of character set numbers, through the use of the VS/IIS Peripheral Utilities.

The system administrator or supervisor should keep a list of character set assignments. This list helps avoid confusion and mistakes each time the Peripheral Utility is accessed to assign new character set numbers.

```
┌──────────────────────── NOTES ────────────────────────┐
│                                                        │
│  You should consult with your Wang representative or   │
│  local sales office for instructions involving         │
│  modification of existing character sets, and the      │
│  creation of new ones.                                 │
│                                                        │
│  You should not change character sets on any type of   │
│  line printer, until you have consulted with your      │
│  Wang representative.                                   │
│                                                        │
└────────────────────────────────────────────────────────┘
```

```
┌─────────────────────────── CAUTION ───────────────────────────┐
│                                                                │
│  Use of the Wang Peripheral Utilities should be limited to     │
│  experienced personnel.  Careless and unauthorized use of      │
│  this utility can result in costly damage to the printer       │
│  hardware, the software, or the documents.                     │
│                                                                │
└────────────────────────────────────────────────────────────────┘
```

C.2   ACCESSING THE PERIPHERAL UTILITY PROGRAM

The following steps provide instructions for changing Daisy Printer Character Sets. The same sequence of steps can be performed for other types of printers.

1. Access the Run Program or Procedure screen from the Utilities and Supervisory Functions menu.

2. Supply the following parameters and press EXECUTE/NEW LINE.

    Program = CHAR
    Library = PUTILTY
    Volume = If PUTILITY is located on the system volume, it is unnecessary to type the name of the system volume in the Volume field.

3. The Printer Character Set Utilities menu is displayed as shown in Figure C-1.

```
                    Office Information System
              P E R I P H E R A L   U T I L I T I E S
                    Printer Character Set Utilities


Press Execute to
Select Indicated Choice



     ■Display/Selection              ■Daisy
     __Width/Sequence Alteration     __Line
     __Create New Table              __Image
                                     __Font Loadable Matrix
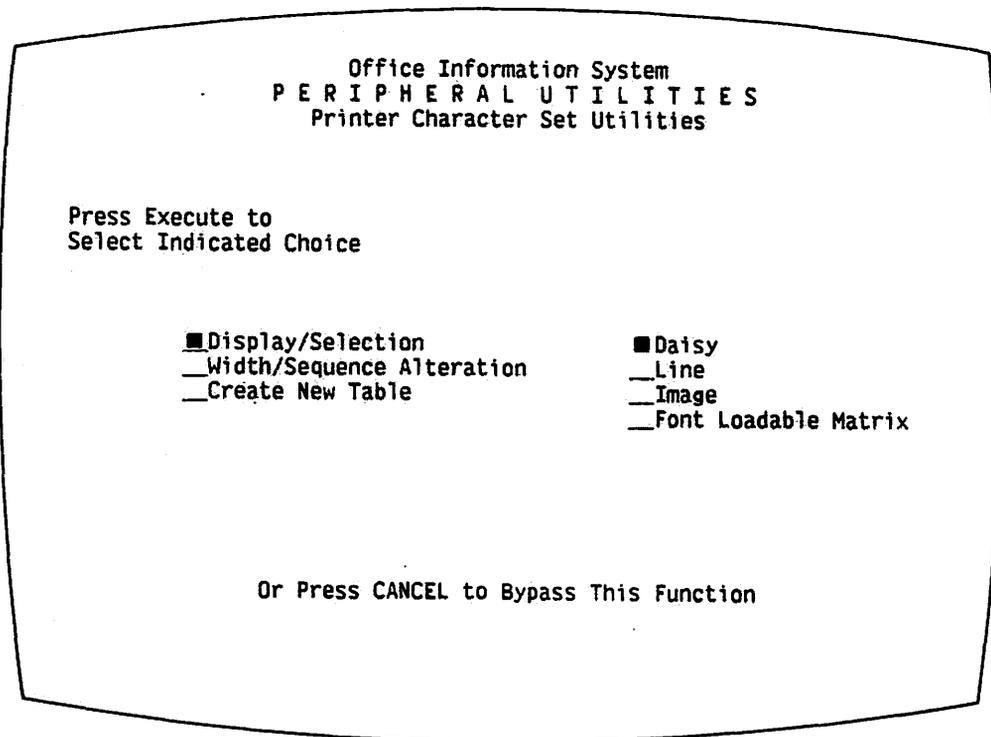



              Or Press CANCEL to Bypass This Function
```

Figure C-1. Printer Character Set Utilities Screen

4. Position the Acceptance Block next to the Display/Selection and the Daisy entry. Press EXECUTE/NEW LINE. The Display/Selection screen for the Daisy Printer Character Sets is displayed, as shown in Figure C-2.

```
         Office Information System
   P E R I P H E R A L   U T I L I T I E S
         Daisy Printer Character Sets
              Display/Selection


      Press Execute to
      Record All Changes


   01 Standard U.S. Diablo          __ Wang 02 Canadian
   __ U.S. Legal                    __ Wang 05 W.H.O. Fr/Eng
   __ Great Britain                 __ Wang 05 W.H.O. Sp/Eng
   __ Canadian Diablo               05 Wang 05 Multilingual
   __ French                        __ Flemish
   __ German                        __ GTE-Camwil trilingual
   __ L. Amer Span-Camwil Trilingual __ GTE-Wang 05
   __ Diablo Trilingual             __ Diablo triling.
   __ Netherlands                   __ Wang 05 mod. triling.
   __ Italian                       __ Wang 05 L. Amer. Spanish
   __ Swedish                       __ Wang 05 U. N. without hacek
   __ Wang 08(modified scientific)  __ Swedish/Finland
   __ Full scientific--Symbol 10/12 __ Wang 02 Canadian auto


        Or Press CANCEL to Terminate This Function
```

Figure C-2. Display/Selection Screen for Daisy Printer Character Sets

You can now change the numbering of existing character sets, or you can specify new character sets by assigning a number to that character set. If an established character set number, eg., character set 01, is assigned to another character set, the new character set is accessed by that number.

For example, a Swedish or Finnish user probably does not have a great demand for the Standard U.S. Diablo Character Set. Such users might perform the following steps to assign character set number 01 to the Swedish/Finish Character Set.

1. Move the cursor to the position preceding Swedish/Finish.

2. Enter 01 in the blank space.

3. Press RETURN/ENTER to record this change.

4. Press EXECUTE/NEW LINE.

5. The prompt, "Press EXECUTE to Rewrite or CANCEL to Continue", appears at the bottom of the screen. Press EXECUTE/NEW LINE again.

6. The Printer Character Set Utilities menu is displayed again. Press CANCEL to terminate this utility.

C-3

Character set 01 will no longer access the U.S. Diablo character set; character set 01 now accesses the Swedish/Finish character set. Unless you assign another number to the U.S. Diablo character set, it cannot be accessed at all. Therefore, it is advisable to assign unique, unused, character set numbers to new character sets, unless an established character set number is no longer in use.

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