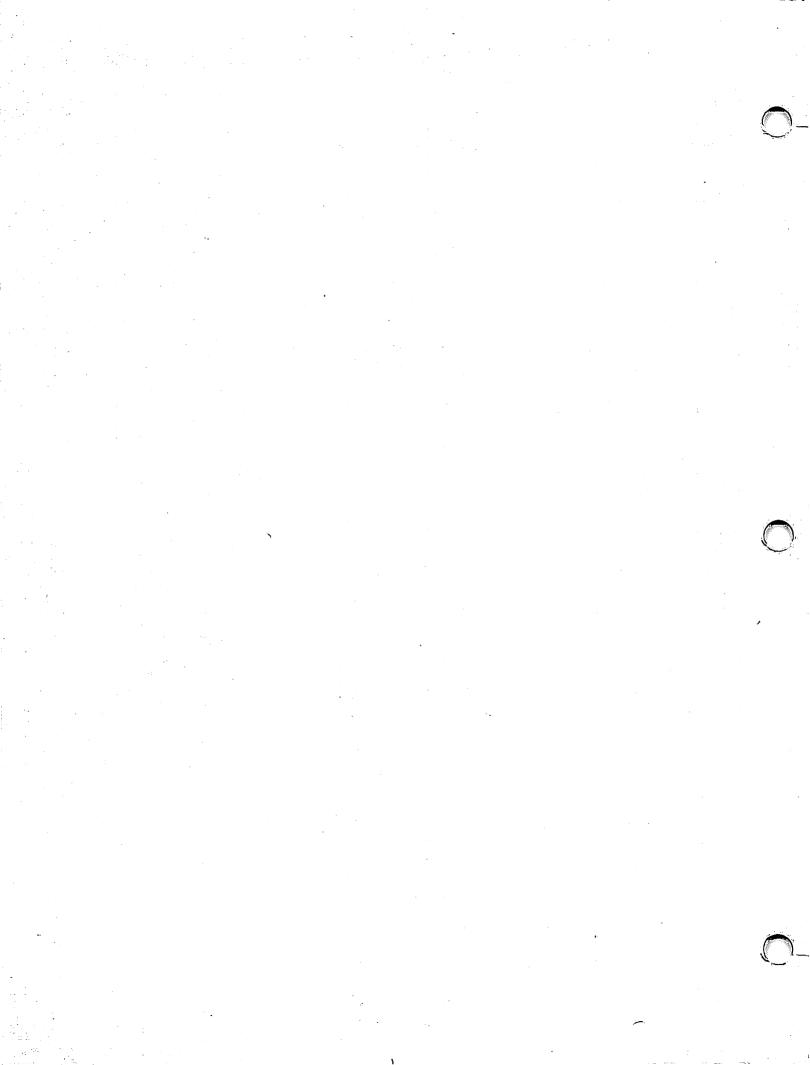
WANG

# Network

User Guide for VS Systems



# Network User Guide for VS Systems

4th Edition — June 1984 Copyright © Wang Laboratories, Inc., 1984 800-1316D



#### DISCLAIMER OF WARRANTIES AND LIMITATION OF LIABILITIES

The staff of Wang Laboratories, Inc., has taken due care in preparing this manual. However, nothing contained herein modifies or alters in any way the standard terms and conditions of the Wang purchase, lease, or license agreement by which the product was acquired, nor increases in any way Wang's liability to the customer. In no event shall Wang or its subsidiaries be liable for incidental or consequential damages in connection with or arising from the use of the product, the accompanying manual, or any related materials.

#### SOFTWARE NOTICE

All Wang Program Products (software) are licensed to customers in accordance with the terms and conditions of the Wang Standard Software License. No title or ownership of Wang software is transferred, and any use of the software beyond the terms of the aforesaid license, without the written authorization of Wang, is prohibited.

#### WARNING

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device, pursuant to Subpart J of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures may be required to correct the interference.

#### PREFACE

This manual describes the VS File Transfer service, the VS Terminal Emualtion (Remote Logon) service, and the VS Transmit and Retrieve Queues. The Virtual Terminal Interface (VTI) service of Wang Systems Networking is described in the VS Virtual Terminal Interface User's Guide.

This manual is intended for Wang VS users who want to log on to or exchange files with other Wang computer systems connected by Wang network equipment. The manual describes how to transfer files and "attach" workstations to other systems.

It is assumed that you are familiar with word processing and menu selections on your Wang system, but that you are not experienced with file/document transfer and remote system access.

A chapter is assigned to each network activity; thus you can use this manual without reading every chapter. However, you should read Chapter 1 as an introduction to networking concepts.

Most of the screens and menus have their own messages to help you with your logon and transfer requests. If these messages are not self-explanatory, refer to Appendix A for an alphabetical list of the error messages with an explanation for each message. The error messages for the Virtual Terminal Interface are included in this manual as well as the user's guide itself. There may be errors for which you should do nothing. In this case, seek help from your system administrator.

This manual refers to the following documents:

- Network Configuration and Operations Guide (800-1317RO-04)
- VS Programmer's Introduction (800-1101-06)
- VS System Management Guide (800-1104-03)
- VS System Operation Guide (800-1102SO-06)
- VS Release 6.20 Software Bulletin (800-3114-01)
- VS Virtual Terminal Interface User's Guide (700-8668)

ti den de la composition de la constante de la La constante de la constante d La constante de la constante d La constante de la constante de la constante del constante de la constante della constante de la constante de la constante della constante on figuration in the figure of the control of the c 

#### CONTENTS

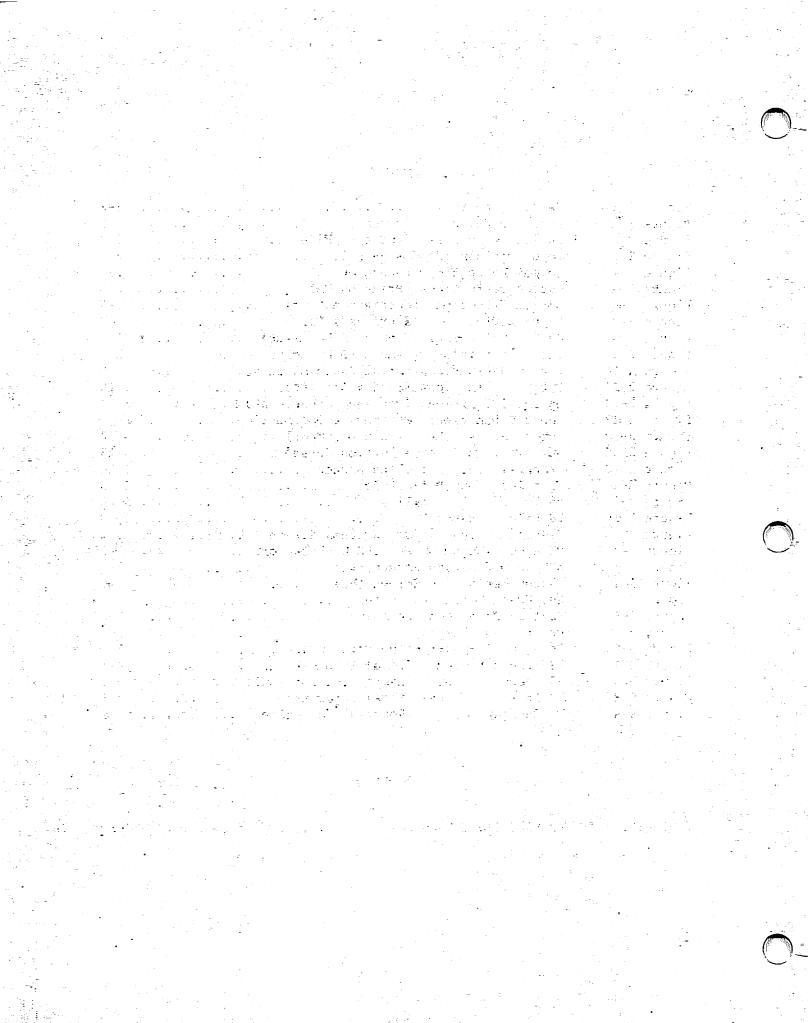
CHAPTER	1	INTRODUCTION	
	1.1	Sample Network	1-: 1-:
			1-2
	1.2		1-2
	1.3	Remote System Access	l-:
CHAPTER	2	VS FILE TRANSFER SERVICE	
	2.1	Introduction	2–:
	2.2		2-2
		Store File on Receiving VS	2-4
			2-5
		Print or Store File on OIS or Alliance	2-!
		Send File to 2200 or Wang PC	2-5
	2.3	Retrieve a File	2-6
	2.4		2-7
		Documents To Be Printed on Receiving VS 2	2-9
		Documents To Be Stored on Receiving System 2	2-9
	2.5	Retrieve a Document 2-	-1(
	2.6	Auxiliary Functions 2-	
		Manage Transfer Groups 2-	
		Transfer Log 2-	-18
CHAPTER	3	VS TERMINAL EMULATION SERVICE	
	3.1	VS Remote Logon and Attach 3	3-1
•	3.2	Attach Workstation 3	3-1
	3.3	Alternate Workstation Attach 3	3-3
	3.4		3-4
		Send Print Files to a Remote System 3	3-4
		Send Print Files Back to Your Physical System 3	3-6
		Remote Print Routing to Other Wang Systems 3	3–8
CHAPTER	4	VS TRANSMIT AND RETRIEVE QUEUES	
	4.1	VS Transmit Queue 4	<u>-1</u>
	4.2	VS Retrieve Queue	l-3
			_

#### CONTENTS (continued)

APPENDIX	A	VS USER	ERROR	MESSAGES	•••••	• • • • •	• • • • • •	• • • • • • •	••••	A-1
APPENDIX	В	GLOSSARY	••••		• • • • • •	• • • • • •	•••••	• • • • • • •	1	B-1
INDEX									Inde	x-1

#### FIGURES

Figure	1-1	Sample Network	1-2
Figure		Function Selection Screen	2-2
Figure		Option Selections (Send a VS File)	2-2
Figure		Input Options (Send a VS File)	2-3
Figure		Output Definitions (Store on VS)	2-4
Figure		Output Definitions (Print on VS)	2-5
Figure		Option Selections (Retrieve a File)	2-6
Figure		Input Definitions (Retrieve a File)	2-7
Figure		Option Selections (Send a VS Document)	2-8
Figure		Input Definitions (Send a VS Document)	2-8
Figure		Output Definitions (Print Document on VS)	2-9
Figure			2-10
Figure			2–11
Figure		Input Definitions (Retrieve a Document)	2–12
Figure		Output Screen (Retrieve a Document)	
Figure		Auxiliary Function Selection Screen	
Figure		Transfer Group Selection Screen	
Figure	2-17	Transfer Group Default Screen	
Figure		VS Transfer Log Utility	
Figure	2-19		2-20
Figure	3-1	Display Communications Systems Screen	3-1
Figure		VS Remote Logon Screen (VS Workstation)	3-2
Figure	3-3	Attach Definition Screen (VS)	3-3
Figure	3-4	System Definition Screen (VS)	3-4
Figure	3-5	Set Usage Constants Screen	3-5
Figure	3-6	Setting Print Mode Defaults	3-6
Figure	3-7	Print Queue Display	3-7
Figure	3-8	Changing Disposition on Print Queue	3-8
Figure	4-1	VS Transmit Queue (Local Information)	4-1
Figure	4-2	VS Transmit Queue (Remote Information)	4-2
Figure	4-3	VS Retrieve Queue (Local Information)	4-3
Figure	4-4	VS Retrieve Queue (Remote Information)	4-4
		TABLES	
Table 2	i <b>–1</b>	VS File Class Meanings 2	2–17



### CHAPTER 1 INTRODUCTION

#### 1.1 NETWORKS

The term "network" in this manual refers to a group of Wang computers interconnected by cables or telephone lines that function in a specific manner to access information and share resources. The group of Wang computers can consist of the VS, OIS, Alliance, 2200, and Wang Professional Computer (PC). The software functions that allow you to access information and share resources between Wang systems in a network are called services. The File Transfer and VS Terminal Emulation (Remote Logon) services are described in this manual. These services and the way the computers are connected are part of Wang Systems Networking (WSN).

In a typical WSN network, a VS computer at a company's central office can be connected to a VS or other Wang computer systems at other offices. Each of the computer systems must have its own unique system name. For example, a company with headquarters in Boston and offices in New York, Chicago, and Philadelphia might assign the name BOSTON to its central computer and the names NEWYORK, CHICAGO, and PHILLY to its computer systems in those locations.

The company might also connect its central office computers. For example, the systems that handle PAYROLL, PEOPLE, PROJECTS, PRODUCTS, and MANAGERS, if they are in the same building or grounds, might allow the users at each of the systems to access the data and word processing facilities of the other four local systems.

With Wang networks, your company's computers can be as close as the next office or as far as your phone can reach. You may work in Boston and print the pay checks in Philadelphia, or work on the second floor and check product inventories on the first. Wang networks let you and your office, department, or business determine your computer connections.

Depending on the computers to which your VS system is linked and the types of links between them, you can exchange files and documents with these systems. To allow this exchange, each system in the network provides a file transfer utility. You can also "attach" your workstation to another VS system for data processing by using a remote access utility.

#### 1.1.1 Sample Network

Since your system can be connected to other systems in a network in any number of ways, a simple network is used here as an example. Figure 1-1 illustrates some of the basic parts of a network that you must understand to make full use of your system's links. It also helps to make the menu items easy to understand.

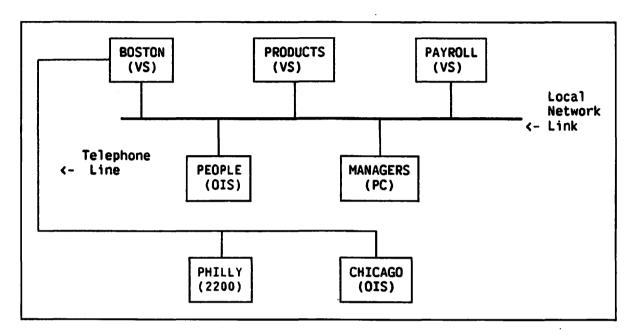


Figure 1-1. Sample Network

#### 1.1.2 Sample Activities

In the sample network, the VS in Boston can send print files to any of the company's other computers, exchange any sequential data files with other VS systems, and exchange documents with other Wang systems.

#### 1.2 TRANSFER FUNCTIONS

The File Transfer service allows you to send and retrieve files and documents. When you send a file or document, you are transferring a copy of it from your (local) system to another (remote) system. When you retrieve a file or document, you are having a copy of it sent to your (local) system from another (remote) system.

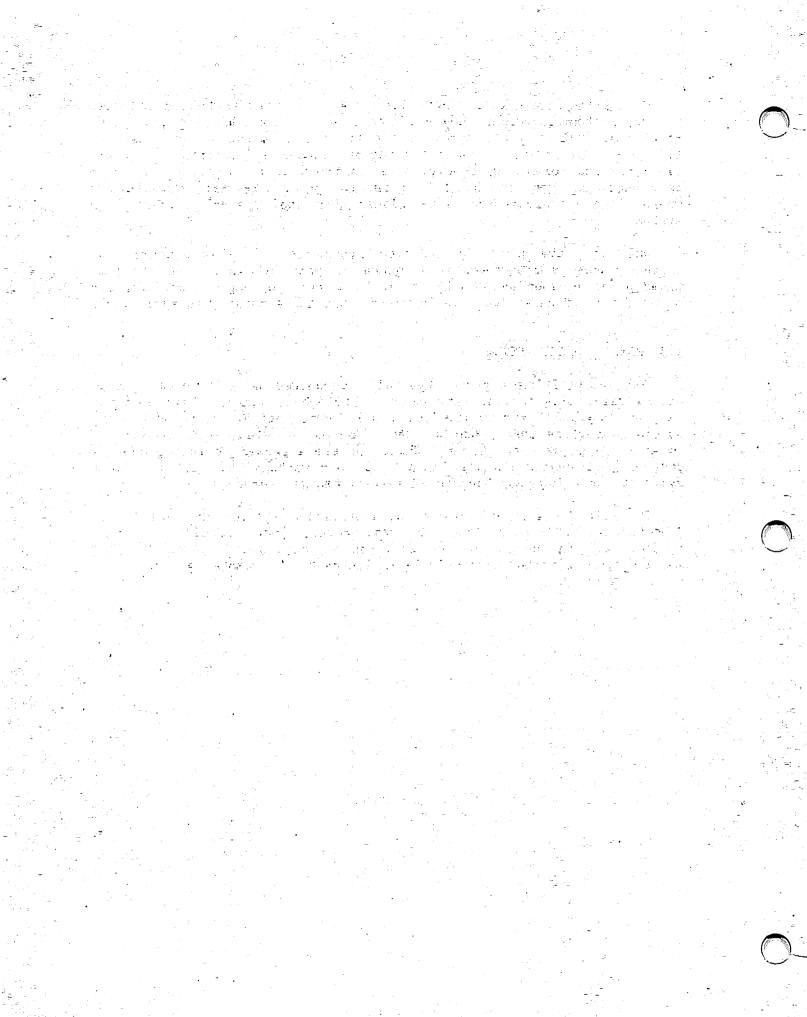
When transferring files to or from a VS, you need to select the name of the system to which they will be sent or from which they will be retrieved. You must also provide the file or document ID and password (if any). In addition, you can transfer files and documents to certain libraries and volumes by specifying a transfer group. A transfer group is a name that you can assign by using the program TRANSFER that defines where files and documents are be placed when they are received by your system.

When you have given the required information for the exchange, the system places your request in a queue or waiting list. The exchange takes place as soon as possible or is held until you approve it. You can print a file transfer log file to verify that the exchange was successful.

#### 1.3 REMOTE SYSTEM ACCESS

Your workstation may be physically connected to a computer system with local cables (or, in some cases, a telephone line). This computer is your "physical" system (or home base). Computers on the network use a special interface that connects them. You may be able to "attach" your workstation to another system. While you are attached or logged on to a system, that system becomes "local" to your workstation; and all other systems, including your "physical" system, become "remote."

The File Transfer and Remote Logon utilities ask you the name of the "remote" or "to" system and, in some cases, your "local" or "from" system. To use the correct utility, you may also want to know how your local system (attached or physical) is linked to the remote system.



CHAPTER 2 VS FILE TRANSFER SERVICE

#### 2.1 INTRODUCTION

To transfer documents or files from a VS system to another system on the network, use the VS TRANSFER utility. This utility allows you to

- Send any VS file to another VS
- Send VS print files to an OIS, Alliance, 2200, or Wang Professional Computer (PC)
- Retrieve VS files from a VS
- Send VS Word Processing documents to an OIS, 2200, or another VS
- Retrieve documents from an OIS or 2200 for use on the VS
- Manage transfer groups
- Print the File Transfer Log

When the Command Processor menu appears, press PF1 (RUN Program or Procedure). Enter the program name TRANSFER and press ENTER. The TRANSFER Function Selection screen then appears (see Figure 2-1).

```
MESSAGE XUOO BY TRNSFR
            INFORMATION REQUIRED BY PROGRAM TRANSFER
                       TO DEFINE FUNCTION
        Wang VS - File Transfer Utility - Version 5.04.01
TRANSFER is used to gueue files and documents for transfer between this
computer and another computer with compatible telecommunications
facilities.
Please press the appropriate PF key to select the desired function:
    PFKEY
               FUNCTION
               Send a file.
               Retrieve à file.
     (2)
               Send a document.
     (3)
               Rétrieve à document.
               Auxiliary functions.
    (16)
               End processing.
```

Figure 2-1. Function Selection Screen

#### 2.2 SEND A FILE

To send a file, press PF1 (Send a File) from the Function Selection screen. The Option Selections screen is displayed (see Figure 2-2). Enter the name of the receiving system in the field labeled LOCATION and press ENTER.

Figure 2-2. Option Selections (Send a VS File)

If you want to display the list of remote sites, press PF2. The Remote Site screen appears with the names of all the systems configured in your network to receive VS files or documents. The TAB key moves the cursor to the system names. Move the cursor to the system name you want and press ENTER. The Option Selections screen returns with the name of the site that you selected. (See your system administrator if no remote sites have been defined.)

The optional transfer group allows you to specify defaults for storage, name, and file protection on the receiving system (refer to Section 2.6.1). Enter the name of a transfer group in the field labeled GROUP. (DEFAULTXFGROUP is currently the only group available on OIS systems.)

Press the TAB key to move the cursor to the Status field. The VS system places an Active request in the Transmit Queue and transfers the file as soon as possible. A Hold request is retained in the queue until you release the transfer. The default for this field is A (Active).

Press ENTER to record the options and display the Input Options screen (Figure 2-3).

Figure 2-3. Input Options (Send a VS File)

On the Input Options screen, enter the file, library, and volume names for the file you want to send (see Figure 2-3). Use the TAB key to move the cursor to each field.

If the remote system is a VS and has been configured to accept OIS-formatted files, the OISFILE field (shown in Figure 2-3 within brackets) is displayed on the Input screen. To send a file with an OIS file name, use the system volume name, library name, and file name. For example, APPLIC: APPLSAVE.APPL0001 (from the example in Figure 2-3) is a valid OIS file specification for a file transfer.

If the remote system has been configured to store files, you can specify whether it should store (S) or print (P) the file you are sending.

If you want to delete the file from your VS after the transfer, type YES in the Scratch field to authorize the deletion. (File deletions are protected according to your system's security rights.) If you want to keep the copy of the file on your VS, type NO.

Press ENTER to display one of the three available output definition screens (depending on your request that the file be printed or stored).

When finished with the output definition screens, press ENTER to process the Send request. If the information that you have specified on the output screen is valid, the transfer request is placed on the Transmit Queue. You are returned to the main TRANSFER menu, and a message informs you that the request is in the queue.

#### 2.2.1 Store File on Receiving VS

If you want to store the file on the receiving VS, you must specify where it is to be stored (library and volume) and if it should replace a file, if one with the same name already exists on that VS. This information is entered on the VS Output Definitions screen (Figure 2-4).

Figure 2-4. Output Definitions (Store on VS)

Name which file, library, and volume the receiving VS will use to store the file; or name an OIS file name string for it to use to save the file (depending on which file name request appears on your screen).

Note that the transfer group selected on the Option Selections screen (Figure 2-2) might override your file, library, and volume specifications here.

#### 2.2.2 Print File on Receiving VS

If you specified the output to be printed on the receiving VS, you are asked to enter its print defaults (see Figure 2-5).

```
Please specify print mode options to be used on PRODUCTS and press
  S - Spool Print File H Hold print file
Print File Print Class ('A' thru ('Z')):
                                                          PRTMODE = H
                                                          PRTCLASS = Z
  Form Number (000 thru 254)
                                                          FORM# | = 000
  Copies (1 thru 99)
                                                          COPIES
                                                                   i=-01-
                                                          PRTDISP = 0
  Disposition after printing (D = Delete
                                     Save
                                     Requeue)
  Lines per Page
                                                          LINES
                                                                    = <u>055</u>
Or press: PF1 to return to the input selection screen.
```

Figure 2-5. Output Definitions (Print on VS)

Specify the print mode options and press ENTER. (The options are explained in the  ${\hbox{\tt VS}}$  Programmer's Introduction and the  ${\hbox{\tt VS}}$  System Management Guide.)

#### 2.2.3 Print or Store File on OIS or Alliance

If you send a VS print file to an OIS or Alliance, no Output Definitions screen is displayed. The OIS receives the print file and names it "VSPRINTF.Pnnnnnnn" (where nnnnnnn is a unique sequence number). If you specified the P (Print) disposition, the file is placed on the Print Queue and assigned system print defaults. After being printed, it is deleted from the OIS. If the disposition is S (Store), it is saved and not printed.

#### 2.2.4 Send File to 2200 or Wang PC

Sending a VS print file to a 2200 or Wang PC is similar to sending a file to the OIS. Again, no Output Definitions screens are displayed. However, a file received at either the 2200 or Wang PC is automatically stored on the receiving system. Once the file is stored, the user must then activate a utility that will print the file. On the 2200, the print file is automatically deleted after the file is printed. On the Wang PC, the file can be deleted or saved by the user after it is printed.

#### 2.3 RETRIEVE A FILE

To retrieve a file, press PF2 (Retrieve a File) from the Function Selection screen of TRANSFER. The option selections are then displayed (see Figure 2-6).

Figure 2-6. Option Selections (Retrieve a File)

Enter the name of the system from which the file is to be retrieved, or press PF2 to display the Remote Site screen. If you display the Remote Site screen and use the TAB key to move the cursor to the appropriate system name and then press ENTER, the Option Selections screen displays the name of the site that you selected.

Press PF3 to display the names of the transfer groups. If you want the file to be associated with a particular group, move the cursor to the appropriate transfer group name and press ENTER. The Option Selections screen retains the name of the transfer group that you selected. You can then display the defaults associated with that group by pressing PF4 (refer to Section 2.6.1).

Press the TAB key to move the cursor to the Status field. The VS system places an Active request in the Retrieve Queue and transfers the file as soon as possible. A Hold request is retained in the queue until you approve the transfer. The default for this field is A (Active).

Press ENTER to specify the input file (see Figure 2-7).

Or press PF), to return to the option selection screen.

Figure 2-7. Input Definitions (Retrieve a File)

On the Input Definitions screen, enter the file, library, and volume names for the file you want to retrieve. Use the TAB key to move the cursor to each field. If you want to retrieve the file with an OIS file name, use the field labeled OISFILE and follow the appropriate name string conventions (refer to Section 2.2).

Choose S or P to store or print the file on your VS. If you want to delete the file from its original system after the transfer, type YES in the Scratch field.

When you are satisfied with the input specifications, press ENTER for the Output Definition screen. If the file is to be stored, specify its name and indicate whether it should replace any existing file of the same name (refer to Section 2.2.1). If the file is to be printed, specify the print mode options (refer to Section 2.2.2).

To process the Retrieve request, press ENTER. If the information that you have specified is valid, the transfer request is placed in the Retrieve Queue. You are returned to the main TRANSFER menu, and a message informs you that the request is in the queue.

#### 2.4 SEND A DOCUMENT

This section discusses the steps you must take to prepare for sending documents to remote VS, OIS, and 2200 systems. Any differences in procedure for sending documents to one system as opposed to another are explained where appropriate.

To send a VS document to another system, press PF3 (Send a Document) from the main screen of the TRANSFER utility. The Option Selections screen appears (refer to Figure 2-8).

```
Please specify the following and press ENTER:

To what system is document being sent? LOCATION = PRODUCTS
[What is the transfer group name? GROUP = INVENTORYOUERY**]
Should the document be transmitted as STATUS = A A - Active soon as possible or held until released? H - Hold

Or press: PF1 to return to the function selection screen.

PF2 for a list of memble site names.
```

Figure 2-8. Option Selections (Send a VS Document)

Enter the name of the receiving system in the Location field or press PF2 to display the Remote Site screen. Use the TAB key to move the cursor to the appropriate site name and press ENTER. The location name appears on the Option Selections screen.

Specify a transfer group if appropriate (refer to Section 2.6.1). (Note that the 2200 does not have transfer groups. Therefore, the Group field remains blank in this and all subsequent screens when sending documents to a 2200.)

Use the TAB key to move the cursor to the Status field. The VS places an Active request in the Transmit Queue and transfers the document automatically. A Hold status keeps the request in the queue until you release it.

Press ENTER to process the Option Selections screen and display the Input Definitions screen (Figure 2-9).

```
Please specify the document to be sent to PRODUCTS and press
ENTER:

DOCUMENT = 0001R
[ PASSWORD = ****** VOLUME = ****** ]

Should the document be stored or printed? DISP = P S - Store
P - Print
Scratch the document after the transfer? SCRATCH = NO* (YES or NO)

Or press PF1 to return to the option selection screen:
```

Figure 2-9. Input Definitions (Send a VS Document)

Enter a document ID; if the document has a password, enter it in the Password field. Enter a VS volume name if the document is not on your default word processing volume. If you are sending the document to a VS system, in the appropriate field enter the disposition (store or print) for the document when it is received at the remote system. (This field is not shown if the document is being sent to an OIS or 2200. The document is automatically stored at the receiving system.) If you want your VS to delete your document after its receipt by the remote system, type YES. Press ENTER to process the Input Definitions screen.

#### 2.4.1 Documents To Be Printed on Receiving VS

If you send a document to a VS with the P (Print) option, the screen illustrated in Figure 2-10 is displayed. Select the appropriate print options and press enter.

```
Please specify WP print options to be used at PRODUCTS and press ENTER
  Print from Page START = 001 Print thru Page Starting as Page NUMBER = 002 First Header Page First Footer Page FOOTER = 002 Footer Starting Page Length LENGTH = 66 Number of Copies
                                                                        FINISH = 120
                                              First Header Page
                                                                        HEADER = 002
                                              Footer Starting Line LINE = 050
                                                                        COPIES = 01
                                              Number of Copies
                          CHARSET = I
  Character Set
                                              Left Margin
                                                                        MARGIN = 010
                          PRINTER = **
  Printer no.
                                              FORMS = C C - Continuous
S - Standard
1 - Form 1
             = <u>10</u> (10,12,PS,15)
  PITCH
                      J - Justified
U - Unjustified
  FORMAT
             = U
                      N - Notes
                                                              2 - Form 2
  SUMMARY = P
                      P - Print
                                                             F - Final
                                              STYLE = E
                      O - Omit
                                                              D - Draft
  DELETE = N0^* (YES or NO)
                                              LINES = 6
                                                              (6,8 lines per inch)
 Or press: PF1 to return to the input selection screen.
```

Figure 2-10. Output Definitions (Print Document on VS)

#### 2.4.2 Documents To Be Stored on Receiving System

If the receiving system is a VS and you select the S (Store) option (refer to Figure 2-9), or if the receiving system is an OIS or 2200, you are asked to specify the document ID and volume for storage on the receiving system (see Figure 2-11). You can also specify whether the document being sent should replace any document already using the same ID and volume.

```
Please specify what the document is to be named on PRODUCTS and press

ENTER:

[ DOCUMENT = 0002R ]

[ VOLUME = ********* ]

If there is already a document with that name, should it be replaced? REPLACE = NO* (YES or NO)

If the document is to be replaced; what is the document password? PASSWORD = ******

Or press: PF1 to return to the input selection screen.

PF16 to terminate the operation.
```

Figure 2-11. Output Definitions (Send a Document)

If you assign a new ID to be used for the received document, the ID you specify will be used unless the transfer group does not allow you to override its assignment (refer to Section 2.6.1). If you leave the Document field blank, the document is placed in the library specified by the transfer group you request. If you request none, the default transfer group of the receiving system is used. (Your document retains its original ID on your system.)

Use the Password field only if you want the receiving system to replace an existing document with the one you are sending. In such a situation, enter the password of the document to be replaced.

The document is stored on the default volume for this document library or transfer group unless you specify another volume.

If you want to change any of the information that you previously specified on the Input screen, press PF1 to return to it. You can also press PF16 to clear the Input and Option Selections screens and return to the Function Selection menu.

To process the transfer request, press ENTER. If you have specified an existing VS document, the utility places the transfer request in the Transmit Queue and displays a message confirming its action.

#### 2.5 RETRIEVE A DOCUMENT

This section discusses the steps you must take to prepare for retrieving documents from remote VS, OIS, or 2200 systems. Any differences in procedure when retrieving documents from one system as opposed to another are explained where appropriate.

To retrieve a document, press PF4 (Retrieve a Document) from the TRANSFER Function Selection screen (Figure 2-1). The Option Definitions screen is displayed (see Figure 2-12).

```
Please specify the following and press ENTER:

On what system is document to be retrieved? LOCATION = PHILLY**

What is the transfer group, name?

Should the document request be sent as STATUS = A A - Active soon as possible or held until released?

Or press:

PF1 to return to the function selection screen.

PF2 for a list of remote site names

PF3 for a list of transfer group names.

PF4 to display defaults associated with specified transfer group.
```

Figure 2-12. Option Definitions (Retrieve a Document)

Enter the name of the system from which you are retrieving the document, or press PF2 to display the Remote Site screen. If you select the remote site list, use the TAB key to move the cursor to the appropriate site name, and press ENTER. The selected name appears in the Location field.

Use the Group field to assign the document you are retrieving to a transfer group. (If the document is being retrieved from a 2200, leave this field blank.) Transfer groups provide VS storage and protection defaults to help you organize the documents you retrieve. Depending on how the group is defined (refer to Section 2.6.1), you can override its defaults on the Input Definitions screen (refer Figure 2-13).

In naming a transfer group, you have three options: (1) enter a transfer group name, (2) leave it blank and use the default transfer group provided by your VS, or (3) press PF3 to display a list of transfer groups. If you press PF3, move the cursor to a group and then press ENTER. The Option Selections screen then displays the name that you selected.

When a transfer group name appears in the Group field of the Option Selections screen, you can press PF4 to display information about it. However, you cannot modify information about the transfer group at this time (refer to Section 2.6). Press PF1 to return to the Option Selections screen.

Use the Status field to select automatic or deferred retrieval of the specified document. The VS places a request with Active status in its Retrieve Queue to be processed automatically. A Hold status keeps the request in the queue until you release it.

Press ENTER to process the Option Selections screen and to display the Input Definitions screen (Figure 2-13).

The Input Definitions screen prompts you to indicate the ID of the document you are retrieving and to specify its volume if it is not on the default library volume. If the document has a password, you must enter it. You can also request that the document be scratched from the source system after it is retrieved by the VS.

```
Please specify the document which is on PHILLY and press

ENTER:

DOCUMENT = 0002R

[ PASSWORD = ****** VOLUME = ******** ]

Should the document be stored or printed? DISP = S S - Store

P - Print

Scratch the document after the transfer? SCRATCH = NO* (YES or NO)

Or press PF1 to return to the option selection screen.
```

Figure 2-13. Input Definitions (Retrieve a Document)

If you want to change information that you specified on the Option Selections screen, press PF1 to return to that screen. Make any changes before processing the Retrieve request. Press ENTER to process the Input screen and display the Output screen.

If you specified a P (Print) disposition, the Output screen discussed for Figure 2-10 is displayed. Enter the WP print options and press ENTER. The document is placed in the WP Print Queue.

If you specified an S (Store) disposition, the Output screen (Figure 2-14) allows you to assign a document ID on your VS. If there is currently a VS document with that ID, you can replace it with the received document.

```
Please specify where to put the document which will be retrieved from.

PHILLY and press ENTER.

[ DOCUMENT = 000]R ]

[ VOLUME = ********** ]

If there is already a document with that name, should it be replaced? REPLACE = NO* (YES or NO).

If the document is to be replaced, what is the document password? PASSWORD = ******

Or press: PF1 to return to the input selection screen.

PF16 to terminate the operation.
```

Figure 2-14. Output Screen (Retrieve a Document)

If you leave the Document field blank, the VS assigns an ID according to the transfer group that you specified on the Option Selections screen. If you did not specify a transfer group, your VS system assigns the default transfer group for the system from which you are retrieving the document. If no such group has been defined, your VS assigns its own transfer group.

The Volume field allows you to assign the document to a volume other than the transfer group's default volume. This assignment can occur only if the "User override" option of the appropriate transfer group is set to YES (refer to Section 2.6.1).

If you specify a document ID on this screen when a document with that ID already exists on your VS, you can choose to replace it with the retrieved document. To do this, type YES in the Replace field. You must then enter the password of the existing VS document, if it has one.

If you need to change any information that you specified on the Input screen, press PF1 to return to it. Make the changes before continuing. If you want to terminate the operation, press PF16. This step clears the current Input, Output, and Option Selections screens and displays the TRANSFER Function Selection screen.

To process the Retrieve a Document request, press ENTER. If the information that you indicated in the Output screen is valid, the Function Selection screen displays a message indicating that the transfer request has been entered in the VS Retrieve Queue.

#### 2.6 AUXILIARY FUNCTIONS

To print the Transfer Log or maintain transfer groups, press PF5 (Auxiliary Functions) from the TRANSFER Function Selection screen (Figure 2-1). The Auxiliary Function screen (Figure 2-15) is then displayed.

```
*** MESSAGE XU00 BY TRNSFR
INFORMATION REQUIRED BY PROGRAM TRANSFER
TO DEFINE AUXFUNC

*** Wang VS - File Transfer Utility - Version 5.04.01 ***

Please press the appropriate PF key to select the desired function:

PFKEY FUNCTION
(1) Return to main function screen.
(2) Maintain transfer groups.
(3) Print Transfer Log.
```

Figure 2-15. Auxiliary Function Selection Screen

#### 2.6.1 Manage Transfer Groups

A transfer group contains information that determines where a file or document received by your VS will be placed and how it will be protected. Your transfer groups apply only to files and documents received by your system.

The VS recognizes three classes of transfer groups:

- A default group that is applied when no group from Classes 2 or 3 (below) are specified
- 2. A default group that can be assigned to each of the other systems and used when no group from Class 3 is specified
- 3. A user-specified group that may or may not be the same as those in Classes 1 and 2

Unless the person issuing the transfer request understands these classes of transfer groups and the settings for a particular group, the transferred file or document might be difficult to find when received.

To modify, display, create, or scratch a transfer group, press PF2 (Maintain Transfer Groups) from the Auxiliary Function Selection screen. The Transfer Group Selection screen is then displayed (see Figure 2-16).

\*\*\* MESSAGE XUOO BY TRNSFR
INFORMATION REQUIRED BY PROGRAM TRANSFER
TO DEFINE GROUP

2 transfer groups have been defined.

To modify a group, position the cursor next to the group name, and press ENTER:

\* WEEKLYREPORT

\_ PROJMEMO

Or press: PF1 to return to the options selection screen.
PF2 to continue with the next screen of groups.
PF3 to SCRATCH the selected transfer group.
PF4 to ADD a new transfer group definition.

Figure 2-16. Transfer Group Selection Screen

You can perform the following activities from the Transfer Group Selection screen:

- Display the defaults of a transfer group
- Modify the defaults of a transfer group
- Scratch a selected transfer group
- Add a new transfer group

You may view, modify, or scratch a transfer group only if your user ID was used to create it or if you are a security administrator. However, all transfer groups are available for use by any system user.

#### Display or Modify the Defaults of a Transfer Group

Use the TAB key to move the cursor to the name of the transfer group you want to display or modify. Press ENTER to display the Transfer Group Default screen (Figure 2-17).

```
*** MESSAGE XUOO BY TRNSFR
                  INFORMATION REQUIRED BY PROGRAM TRANSFER
                              TO DEFINE DEFAULTS
The following default information is associated with transfer
group name = <u>WEEKLYREPORTS</u>:
                         File prefix = R001
in library = 03REPS
These describe where
                                                     User override = YES
 received files
                                                     User override = YES
                                      = <u>PRODUCTS</u> User override = <u>YES</u>
  will be placed
                         on volume
                   WP document library = x
                                                     User override = YES
                   OIS FILE = PRODUCTS:03REPS
                                                     User override = YES
                        in format Volume: Library. File prefix
                       File class
These describe how
                                                   A-Z, 0, #, $ or blank
                      Retention period = \overline{000} days
 received files
                     Owner of Record = AAA
 are protected
 Press ENTER to record the information or
       PF1 to return to the previous screen.
```

Figure 2-17. Transfer Group Default Screen

Note that each of the four placement fields has its own "User override" setting. If you set this to NO, the system ignores a user's input for the corresponding placement field.

The File Prefix and Library fields must contain at least one character. The prefix will be added to a unique sequence number to form the name of received files (but not documents) that will be stored in the specified library.

The Volume field enables you to assign a specific volume to all received files that use this transfer group. A valid volume name must be entered in this field; otherwise, transfers that use this group name will fail (unless a User Override is supplied).

The User Override allows a user of this group to assign a received file to any VS volume. Type YES in this field if you want the user of the group to be able to place the documents on any VS volume. If that user does not assign a volume at the time of the request, the system assigns the transfer group's volume specification. Type NO if you always want the volume to be assigned by this transfer group.

To assign a received document to a specific word processing library, enter the letter of a WP Document Library (e.g, WP Document Library A). A transfer request using this group selects the next unassigned ID in the library for the received document.

Type YES in the User Override field if you want the user of this group to be able to assign any ID to the received VS document. Type NO to automatically assign an ID in the library specified as the default. (If the user does not give an ID at the time of the request, the system uses the transfer group's Document library.)

The File Class field protects a file or document that is transferred to your VS using this transfer group. The file class options are the letters A through Z; the symbols @, #, and \$; or a blank. Table 2-1 explains these options.

Table 2-1. VS File Class Meanings

Symbol	Meaning
#	Private file. Only the owner can access this file
<u>@</u>	Execute-only file. Only the owner or system security administrator can read and modify files in this class. Any system user, however, can execute program or procedure files protected by this class.
\$	Read-only file. Only the owner or system security administrator can modify files in this class, but any user can read them.
Blank	Unprotected file. Any user can access files in this class (delete, read, write, or execute).
A through Z	Protected file. Such files can only be accessed by users assigned this class (e.g., "A") by the VS system security administrator.

(For more information, refer to the <u>VS Programmer's Introduction</u> and VS System Management Guide.)

The retention period specifies the number of days (0-999) that the received file is held before it can be replaced or deleted from the VS.

Specify a valid user ID to indicate the owner of the received file or document.

#### NOTE

File class, retention period, and owner of record for transferred files or documents are always assigned by a transfer group and cannot be overridden at the time of transfer. The particular transfer group that is used depends on the rules listed at the beginning of Section 2.6.1.

Press ENTER to process the Transfer Group Default screen. Press PF1 to return to the Transfer Group Selection screen.

#### Scratch a Transfer Group

To delete a transfer group from the VS, position the cursor at the name of the group on the Transfer Group Selection screen (Figure 2-16). Press PF3 to display the transfer group's settings and verify that you have selected the correct group. The screen displays a warning message requesting you to press ENTER to actually delete the group. You can also press PF1 to cancel the delete request and return to the Transfer Group Selection screen.

#### Add a Transfer Group to the System

To add a transfer group to the system, press PF4 from the Transfer Group Selection screen (Figure 2-16).

Enter the name of the group you are creating. Then enter or modify the other fields as explained earlier for Figure 2-17 (refer to Section 2.6.1). (You can also press PF1 at any time to cancel your entries and return to the previous screen.)

When you have indicated all the information that you want to include in the transfer group, press ENTER. You must press ENTER before returning to the Transfer Group Selection screen or the transfer group will not be added to the system. After you press ENTER, the name of the newly created transfer group appears on one of the Transfer Group Selection screens.

Press PF1 from the Transfer Group Selection screen to return to the TRANSFER Utility Option Selection screen without creating a new transfer group.

#### 2.6.2 Transfer Log

The VS logs all transfer requests in a file available from the Auxiliary Functions of the TRANSFER program. When that option is selected, the screen in Figure 2-18 is displayed.

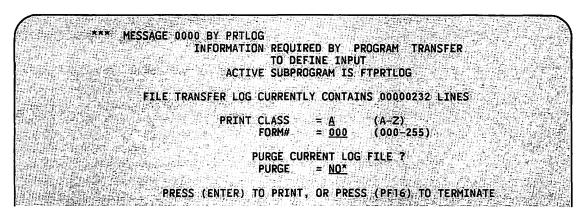


Figure 2-18. VS Transfer Log Utility

The VS File Transfer Log records the date, time, local file name, remote file name, user, remote site, transfer group, transfer type, and record count for all file transfer requests that have entered the transmit or retrieve queues.

The Print Class and Form Number fields for the Transfer Log are set in SET Usage Constants (PF2). For a description of these fields, refer to the Wang publications <u>VS System Operation Guide</u> and the <u>VS Programmer's Introduction</u>.

Do not change the purge default setting of NO unless you are in charge of maintaining the log file. If you only want to print the file, use the NO setting; otherwise the current log will be reinitialized.

The status and final result of each transfer request appears in the Transfer Log (refer to Figure 2-19).

#### Disposition

The following messages are examples of Disposition messages that may be found on the Transfer Log:

- Request removed from queue
- Request held on queue
- Initiated by remote user

#### **Status**

The following messages are examples of Status messages that may be found on the Transfer Log:

- Transfer completed successfully
- Transfer operation aborted by a local operator
- Transfer operation aborted by a remote operator
- I/O error occurred while accessing document file for password verification
- Document password is not correct -- document transfer operation rejected
- Input volume not mounted -- transfer request not processed
- Input file possession conflict -- transfer request not processed

Refer to the <u>VS Configuration and Operations Guide</u> for more detailed information concerning Transfer Log Disposition and Status messages.

#### WANG FILE TRANSFER FACILITY LOG FILE

SYSTEM RCF#2 PAGE 01 USER REMOTE SITE TRANSFER GROUP TRANSFER TYPE RC DATE TIME LOCAL FILE NAME REMOTE FILE NAME 10/16/83 08:51:36 ELOGO003 #PRT SYSTEM T:JBHPRINT.JPRT0063 ART CLUSTR11 TRANSMIT (S) \*\*\* TRANSFER COMPLETED SUCCESSFULLY \*\*\* \*\* REQUEST REMOVED FROM QUEUE \*\* 000 10/16/83 12:25:01 2010J SYSTEM 0010J CLUSTR11 GROUP11 RECEIVE (U) \*\*\* TRANSFER COMPLETED SUCCESSFULLY \*\*\* \*\* INITIATED BY REMOTE USER \*\* 10/16/83 12:25:16 ELOGO003 #PRT SYSTEM T:JBHPRINT.JPRT0064 DM CLUSTRII TRANSMIT (S) 000 \*\*\* TRANSFER COMPLETED SUCCESSFULLY \*\*\* \*\* REQUEST REMOVED FROM QUEUE \*\* 10/19/83 13:54:52 COPY0007 #APBPRT SYSTEM 028 APB CLUSTR11 TRANSMIT (S) \*\* REQUEST HELD ON QUEUE \*\* \*\*\* TRANSFER OPERATION ABORTED BY A LOCAL OPERATOR \*\*\* 028 10/19/83 16:10:19 00025 SYSTEM 0002S FLOPPY CLUSTR11 RETRIEVE (S) \*\*\* TRANSFER OPERATION ABORTED BY A LOCAL OPERATOR \*\*\* \*\* REQUEST HELD ON QUEUE \*\* CLUSTRII TRANSMIT (S) 10/21/83 14:45:51 2001r SYSTEM 1001r ART \*\*\* I/O ERROR OCCURRED WHILE ACCESSING DOCUMENT FILE FOR PASSWORD VERIFICATION\*\*REQUEST REMOVED FROM QUEUE\*\* FT5 10/30/83 14:51:00 0001b SYSTEM 2001b CLUSTR12 TRANSMIT (S) 172 \*\*\* DOCUMENT PASSWORD IS NOT CORRECT - DOCUMENT TRANSFER OPERATION REJECTED \*\*\* \*\* REQUEST REMOVED FROM QUEUE 10/30/83 15:51:44 0001b SYSTEM 2001b CLUSTR12 TRANSMIT (S) FT5 \*\*\* INPUT VOLUME NOT MOUNTED - TRANSFER REQUEST NOT PROCESSED \*\*\* \*\* REQUEST HELD ON QUEUE \*\* CLUSTR12 TRANSMIT (S) 10/30/83 16:01:19 00016 SYSTEM 2001b \*\*\* INPUT FILE POSSESSION CONFLICT - TRANSFER REQUEST NOT PROCESSED \*\*\* \*\* REQUEST HELD ON QUEUE \*\* 10/30/83 16:26:25 0001b SYSTEM 2001b CLUSTR12 TRANSMIT (S) 004 \*\* REQUEST HELD ON QUEUE \*\* \*\*\* INPUT VOLUME NOT MOUNTED - TRANSFER REQUEST NOT PROCESSED \*\*\*

Figure 2-19: VS File Transfer Log

## CHAPTER 3 VS TERMINAL EMULATION SERVICE

#### 3.1 VS REMOTE LOGON AND ATTACH

The Manage Communications option (PF8 on the Command Processor menu) allows you to attach or log on to VS systems that are physically separate (remote) from your workstation's computer. VS remote logon allows you interactive access to shared peripheral devices and data processing facilities at remote sites.

#### 3.2 ATTACH WORKSTATION

To attach your workstation to a remote VS, press PF8 (Manage COMMUNICATIONS) from the VS Command Processor. The Display Communications screen is displayed. Press PF5 (Communications SYSTEMS) to access the Display Communications Systems screen (Figure 3-1).

		na and the second of the property of the second of the sec	
System	Link	Service	Status
BOSTON	EASTERN	Logen - Inbound	
		File-Transfer	No transfers in progress
PRUDUCIS	LOCAL CABLE	-Fille-Transfer	1 transfers in progress 5 users logged on
		Logon - Outbound	
PAYROLL	LOCAL CABLE	Logon - Inbound	
		- File-Transfer	-2 transfers in progress
(1) Menu		to Indicate System a tach Workstation	and Select:  (11) Session Information

Figure 3-1. Display Communications Systems Screen

PF11 displays more information about a specified system. PF1 returns you to the Display Communications outer menu.

Position the cursor next to the name of the system to which you want to attach your workstation. Press PF8 to display the VS Remote Logon screen, which displays the name of the system to which you are attaching your workstation (see Figure 3-2).

\*\*\* Wang VS Remote Logon \*\*\*

Hello new User
Welcome to Remote System VS1

Please identify yourself by supplying the following information?

Your USERID = SSM
Your Password = \*\*\*\*\*\*\*\*\*

Press (ENTER) to logon
-orpress (PF16) to return to local processing

Figure 3-2. VS Remote Logon Screen (VS Workstation)

Enter your user ID and your password. Without a valid ID and password, which are assigned by the system security administrator of the remote VS, you cannot gain access to the VS.

Press ENTER. If the specified VS system recognizes your user ID and password, the VS Command Processor menu appears or a program begins to run, depending on the logon procedure assigned to your ID by the VS system security administrator.

If your ID and password are not correct, you are denied access. If the VS system you want to access is unavailable, the Remote Logon request cannot be processed. Pressing PF16 (Logoff) while attached to the remote system returns you to the Display Communications Systems screen (Figure 3-1) on your local system.

Unexpected hardware or networking software problems may occur while you are logged on to the remote VS, causing a communications failure between your system and the remote VS. If the problem is at the local VS, the activity you are performing on the remote VS at the time of the failure will not be affected. If the problem is at your workstation, you can log back on to the VS from another workstation. If the problem is a system failure or a (local) hardware problem, it must first be corrected. When you log back on to the remote VS, you will resume at the point where the problem first occurred or at the point where the activity you were engaged in at the time of the failure had naturally concluded. This remains true until the remote VS is IPLed. (This situation also applies to @ATTACH@, which is described in the next section.)

#### 3.3 ALTERNATE WORKSTATION ATTACH

The program @ATTACH@ provides another method of attaching your workstation to remote VS systems. The advantage of this method is that @ATTACH@ can be easily called from another program or a VS procedure. Press PF1, enter the program name "@ATTACH@", and press ENTER. The Attach Definition screen is displayed (see Figure 3-3).

\*\*\* MESSAGE 0000 BY ATT
INFORMATION REQUIRED BY PROGRAM @ATTACH@
TO DEFINE ATTACH

Please select the desired function and press the appropriate PF key

(1) - VS Attach
(2) - 3270 Attach

press PF16 to terminate Attach program

Figure 3-3. Attach Definition Screen (VS)

Press PF1 (VS Attach) and then press ENTER. The System Definition screen is displayed (see Figure 3-4). Type the name of the system to which you are attaching your workstation and press ENTER.

#### \*\*\* MESSAGE 0000 BY ATT

## INFORMATION REQUIRED BY PROGRAM GATTACHO TO DEFINE SYSTEM

Please enter the system name that you wish to Attach to and press ENTER

SYSTEM = \*\*\*\*\*\*

or, press PF1 to return to main menu press PF16 to terminate Attach program

Figure 3-4. System Definition Screen (VS)

The next screen that appears is the logon screen of the remote VS. If your ID and password are not correct, you are denied access. If the VS system you want to access is unavailable, an error message is displayed. (Refer to Appendix A for a list of error messages and corrective actions.)

Press PF1 to return to the Attach program menu (Figure 3-3). Pressing PF16 (Logoff) while attached to the remote system returns you to the System Definition screen (Figure 3-4) on your local system.

#### 3.4 REMOTE PRINT ROUTING

The Remote Print Routing function allows you to create a print file on your physical system and send it automatically to a remote system. (This function saves you the steps described in Section 2.2 for sending a print file to a remote system.) The Remote Print Routing function also allows you to log on to a remote VS system, create a print file there, and send it back to your physical system automatically.

#### 3.4.1 Send Print Files to a Remote System

In order to send print files to a remote system, the name of the remote system must be entered in the SPOOLSYS field of the Remote Print Routing function on your physical system. The Remote Print Routing function can be accessed through Set Usage Constants (PF2) from the VS Command Processor (see Figure 3-5).

```
*** 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:
                             INLIB
                                                  TNVOL
    Input Files:
                             OUTLIB = ******
    Output Files:
                                                  OUTVOL
    User Programs
                             RUNLIB = ******
                                                  RUNVOL
                                                  SP00LV0L = ****
                             SPOOLIB = #PSWPRT*
    Spooled Print Files
                                                  WORKVOL = ****
    Work/Temporary Files
                             WORKLIB = #PSWWORK
                                                  SPOOLSYS = ******
    System for Remote Print Routing:
Default File Protection Class for Output Files (Use " ", "$", "@", "#", or "A" through "Z"):
                                                      FILECLAS = *
    Alter these Displayed Default Constants in Place and Press (ENTER)
                    Set Print Mode Defaults
                 (2) Set Procedure Submittal Defaults
             (HELP) Return to the Command Processor
```

Figure 3-5. Set Usage Constants Screen

When a remote system is specified in the Remote Print Routing function, any print files that are created by your user ID on your physical system are placed in the Transmit Queue. File transfer to that remote system takes place automatically as soon as the following two conditions are met:

- File Transfer communications are established between the two systems
- Any previous file transfer requests that are active have been satisfied

The Remote Print Routing function on your system can also be set by using the SET command in a Procedure Language program. Procedure Language programs are run by pressing PF12 from the VS Command Processor screen. The SET command in a Procedure Language program is described in the VS Release 6.20 Software Bulletin.

#### 3.4.2 Send Print Files Back to Your Physical System

When you log on to a remote system, that system's Remote Print Routing function is set by default to your physical (or local) system. (Note that users at a remote system who log on to your system can also use this function. Their systems as well are set automatically as the default system for print routing.)

When you create a print file on a remote system, the file is placed in the Transmit Queue and sent back to your physical system. Once the file has been transferred, it is under the control of your physical system's print queue.

However, the name of the print file is controlled by the transfer group on the receiving system in all cases. There is currently no way for systems that are sending files to affect the name of a print file transferred automatically.

#### Print File Status

The status of a file in the print queue can either be S (Spool) or H (Hold). It determines if a file is printed automatically or held in the queue. Select the status as part of the Print Mode Defaults by pressing PF1 from the Set Usage Constants screen shown in Figure 3-5. The screen in Figure 3-6 appears.

```
*** Set Common Usage Constants ***
Current Print Mode Defaults for Spooled Online Printing:
    S - Spool Printer Files
                               0 - Online Printing
                                                       PRNTMODE = S
                               K - Keep as File, Do Not Queue
    H - Hold Printer Files
Default Spooled Print File Print Class ("A" thru "Z"): PRTCLASS = A
Default Printer Device Number:
                                                       PRINTER = 000
Zero - Any eligible printer, non-zero - Selected printer only
Default Lines per page (For Optional Program Use):
                                                      LINES = 055
Default File Class for Print Files:
                                                       PRTFCLAS = #
    Alter these Displayed Default Constants in Place and Press (ENTER)
                (2) Set Procedure Submittal Defaults
    or Press
                (3) Set File Defaults
             (HELP) Return to the Command Processor
```

Figure 3-6. Setting Print Mode Defaults

The default is S (Spool). If the print mode option is changed to Hold, then the operator of the receiving system must release the file for printing. As an alternative, you can attach your system to the receiving system and release the file yourself. If the print mode option is left at Spool, then the file is printed in its turn.

#### Print File Disposition

The disposition of the print file can be Scratch, Save, or Requeue. (You can also requeue a file by using the SUBMIT SVC in a Procedure Language program.) It determines what happens to the print file after printing. You must log on to the receiving system in order to change the print disposition on the queue to Scratch, Save, or Requeue. The Remote Print Routing function does not pass the parameters for Print File Disposition to the receiving system.

The print file disposition can be accessed through the Print Queue Display. Press PF4 (Manage Queues) from the VS Command Processor; then Press PF2 (Print Queue). The screen in Figure 3-7 appears.

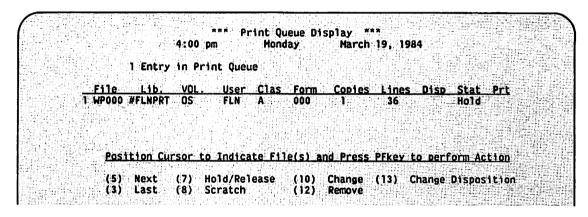


Figure 3-7. Print Queue Display

To change the disposition of the print file, move the cursor to the file you want to change and press PF13 (Change Disposition). The screen in Figure 3-8 appears.

Figure 3-8. Changing Disposition on Print Queue

#### 3.4.2 Remote Print Routing to Other Wang Systems

If the receiving system is an Alliance, OIS, 2200, or Wang PC, the file is printed on the printer specified in the defaults for the File Transfer Handler (Manager) of the receiving system. The file is scratched from the receiving system after printing.

# CHAPTER 4 VS TRANSMIT AND RETRIEVE QUEUES

#### 4.1 VS TRANSMIT QUEUE

The VS Transmit Queue contains information about files or documents being sent from your VS to another location. The queue displays only those requests that are submitted by the users on your VS system.

You can access the queue either by pressing PF4 (Manage Queues) and then PF5 (Transmit Queue) from the Command Processor menu, or by pressing PF4 (Transmit Queue) from the Operator's Console menu.

The queue displays two types of information about transfer requests: local and remote. The local information (Figure 4-1) identifies the file or document as it is recognized by the sending VS.

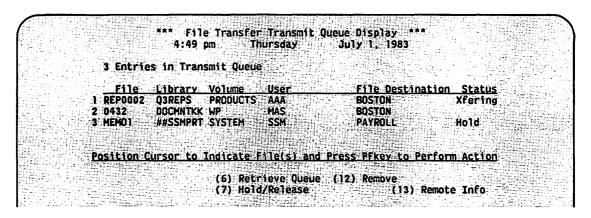


Figure 4-1. VS Transmit Queue (Local Information)

The remote information (Figure 4-2) identifies the file or document as it is known to the receiving system. Press PF13 to move from one screen to the next.

To stop a transfer that is in progress, you must use the VS Operator's Console queue control.

To remove one of your requests, position the cursor and press PF12. To change the status of a request, press PF7.

File Transfer Transmit Queue Display \*\*\* 5:14 pm .... Thursday July 1, 1983 3 Entries in Transmit Queue Remote Remote Remote User Transfer Group File Destination Disp AAA WEEKLYREPORT BOSTON P Library Volume <PRINT> 2 0432k MAS DOCUMENTATION PROBUCTS 3 (PRINT) PHILLY Position Cursor to Indicate File(s) and Press PFkey to Perform Action: (6) Retrieve Queue (7) Hold/Release (12) Remove

Figure 4-2. VS Transmit Queue (Remote Information)

The Transmit Queue displays the following information:

File The file name or document ID of the VS file/document being sent (or waiting to be sent).

Remote The file name or document ID that the file/document will ssume when it is transferred to the receiving system. "<PRINT>" identifies a print file that will be queued for printing by the receiving system.

Library The name of the VS library that contains the transfer file. (No library is specified for a document request.)

Remote The name of the library on the receiving system that will Library store the transferred file.

Volume The name of the VS volume that stores the file/document being sent.

Remote The name of the volume on the receiving system that will store Volume the transferred file/document.

Status The status can be "Hold," blank, or "Xfering." "Hold" indicates a request held in the queue until you change its status to Active. Blank indicates an active request waiting its turn to be transmitted automatically. "Xfering" appears when the transfer is in progress.

Disp The disposition of the file or document on the receiving system: P (Print) or (S) Store.

User The ID of the VS user who requested the transfer.

File The name of the system that will receive the file/document. Destination

Transfer The name of the transfer group assigned to the Group file/documenttransfer request. (This is not the transfer group on your VS system.)

#### 4.2 VS RETRIEVE QUEUE

The VS Retrieve Queue displays information about all files or documents being retrieved by your VS system from a remote location. The queue displays only those retrieval requests that have been issued by your VS. There are two ways to access the Retrieve Queue: (1) Press PF4, Manage Queues, from the Command Processor menu and then press PF4, Retrieve Queue, or (2) press PF5, Retrieve Queue, from the Operator's Console menu.

The VS Retrieve Queue (Local Information) screen (Figure 4-3) shows how the file or document is identified when received by your VS. The VS Retrieve Queue (Remote Information) screen (Figure 4-4) identifies the document or file on the system from which it is being retrieved. Press PF13 to move from one screen to the next.

Use the TAB key to move the cursor to the request you want to act on; press PF7 to change its status, or PF12 to remove it from the queue.

If you press PF7 and the request is Active (i.e., the status column is blank), the system puts it on hold. If the request is on hold when you press PF7, the system makes it Active (the status column appears blank) and transfers it in its turn.

You can remove your request from the queue unless the transfer is in progress. In this case, you must use the VS Operator's Console menu.

#\*\* File Transfer Retrieve Queue Display \*\*\*
4:49 pm Thursday July 1, 1983

1 Entry in Retrieve Queue

File Library Volume User Transfer Group File Origin Disp
REP0002 Q3REPS PRODUCTS AAA WEEKLYREPORT BOSTON S

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

(6) Transmit Queue (12) Remove
(7) Hold/Release (13) Remote Info

Figure 4-3. VS Retrieve Queue (Local Information)

\*\*\* File Transfer Retrieve Queue Display \*\*\*
4:49 pm Thursday July 1, 1982

1 Entry in Retrieve Queue

Remote Remote Remote

File Library Volume User
REP0002 Q3REPS PRODUCTS AAA

File Origin Status
BOSTON Xfering

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

(6) Transmit Queue

(13) Local Info

(7) Hold Release

(12) Remove

Figure 4-4. VS Retrieve Queue (Remote Information)

The Retrieve Queue displays the following information:

File The file name or document ID to be assigned by the VS when it receives the file. This field is blank if not specified by the user.

Remote The file or document ID as it is known by the system from File which it is being retrieved.

Library The library designated to store the retrieved file. This column remains blank for retrieval of documents.

Remote The name of the library on the other system that contains the Library file to be retrieved. This is blank for a document transfer request.

Volume The VS volume that stores the file or document.

Remote The name of the volume on the other system that contains the Volume file or document to be retrieved.

User The ID of the user who requested the transfer.

File The name of the other system from which the VS retrieves the Origen file or document.

Status "Hold" indicates a request that is held in the queue until you change its status to Active. Blank indicates a request waiting its turn to be retrieved automatically. "Xfering" appears when a retrieval request is under way and the transfer is in progress.

Transfer The name of a VS transfer group on your system assigned to the Group file/document transfer request.

Disp Indicates a disposition of S (Store) or P (Print).

APPENDIX A
VS USER ERROR MESSAGES

This appendix contains error messages associated with the VS File Transfer, VS Terminal Emulation (Remote Logon) and Virtual Terminal Interface (VTI) services of Wang Systems Networking. The messages appear as they do on the screen and are listed in alphabetical order. The entries try to explain where and why an error message occurs and how to correct the problem associated with it. (Note that many messages begin with the word "sorry," which has been omitted from this listing.)

All virtual circuits are busy (Remote Logon) — Appears when you attempt to log on to a remote VS. The remote VS is presently engaged in a maximum number of communications sessions and is therefore unavailable for remote logon activities. Try to log on to the remote VS later.

An invalid AID byte (PFkey) was sent in VTSND calling list (VTI) -- Check Appendix D in the <u>Virtual Terminal Interface User Guide</u> (700-8668) for a list of valid AID bytes using the VTSND sunbroutine.

An invalid buffer address has been sent to VTI (VTI) -- One of the parameters sent to VTI is in error. Check program.

An invalid handle was sent in the VTI calling list (VTI) -- The integrity of the handle argument must be preserved in VTI sunbroutine calling sequence.

An NL volume was mounted; an SL volume is required (File Transfer) -Appears when you identify and then mount a volume. An NL (non-labeled)
volume (probably for WP) has been mounted. Remount with an SL
(standard-labeled) volume.

A non-disk volume was specified (File Transfer) -- Appears when you identify a tape rather than a disk volume. You must specify a disk volume.

Attachment is not supported by a remote device (Remote Logon and VTI) — Appears when you attempt to log on to a remote system while you are already logged on to a remote system. Once you are logged on to a remote system, you cannot log on to a second remote system until you have logged off from the first.

ATTACH SVC cannot create privileged message port (Remote Logon and VTI)
-- Another task activated the specified port, or the same task has already activated the specified port. Try again later, or ask your system administrator for assistance.

ATTACH SVC cannot release workstation (Remote Logon and VTI) — Appears when you attempt to log on to a remote VS. Indicates a problem with logically releasing your physical workstation from your local system. This is an operating system problem or a problem with the ATTACH SVC subroutine. Ask your system administrator for assistance.

ATTACH SVC cannot reserve workstation at completion of Attach (Remote Logon and VTI) -- Appears after you have logged off from a remote VS. Indicates a problem with logically reattaching your physical workstation to your local system. This is an operating system problem. Ask your system administrator for assistance.

ATTACH SVC cannot transmit message to Remote Access Task (Remote Logon) — This probably indicates that program RATTSK is not operating. Ask your system administrator for assistance.

Cannot attach from Workstation zero (Remote Logon) -- Appears when you attempt to log on to a remote system from workstation zero. Workstation zero is the primary operator's console and cannot be used for attaching to a remote system.

Cannot open a TC data path on remote (VS) DLP (Remote Logon and VTI) -- This message may indicate that the remote DLP is being used by other telecommunication applications.

Cannot transmit message to Remote Access Task (ATTACH SVC) (Remote Logon and VTI) -- This probably indicates that program RATTSK is not operating. Ask your system administrator for assistance.

<u>Communications have been lost</u> (Remote Logon and VTI) -- There is a problem with the communications line. Try to log on to the remote VS later.

Communications to the remote system are lost (Remote Logon and VTI) -- There is a problem with the communications line. Try to log on to the remote VS later.

<u>Data Link Processor (DLP) has crashed</u> (Remote Logon and VTI) — A hardware or software error has caused the local DLP to shut down. Ask your system administrator for assistance.

Data Link Processor (DLP) has issued Deactivate command (Remote Logon and VTI) -- Appears when your remote logon session has been unexpectedly cancelled. May indicate a hardware problem with the remote or local DLP. Ask your system administrator for assistance.

Data Link Processor (DLP) has issued Deactivate - Time Out (Remote Logon and VTI) -- Appears when the DLP times out because of problems with the communication line, or the remote DLP did not properly respond to a message. The remote logon session is then cancelled. Log back on to the remote system and try again.

<u>Data Link Processor (DLP) is not running</u> (Remote Logon and VTI) — Indicates that either the remote or local DLP is not operating. The system administrator will have to activate the DLP to correct this situation.

<u>Device is reserved by another user</u> (Transfer) -- Appears when you identify a volume mounted by another user. The device you have requested is reserved for exclusive use by another user. You must specify another device.

<u>DLP</u> has maximum number of active sessions (Remote Logon and VTI) -- Appears when you attempt to log on to a remote VS. The local DLP is presently conducting its maximum number of communications sessions. Try to log on to the remote VS later.

Document cannot be accessed to set the print options (Transfer) -- Appears on the Send a Document screen. Document is currently in use, is queued to print, or is otherwise unavailable. You must wait until the document is available to set print options.

Document must be four digits, then an alphabetic character (or blank) (Transfer) -- Appears on the Send a Document Output, Retrieve a Document Input, and Retrieve a Document Output screens. You have incorrectly typed the document ID in the Document field. Move the cursor to this field and retype the ID.

Expiration date has not passed, file cannot be scratched or replaced (Transfer) -- Appears on the Send a File and Retrieve a File screens. The file cannot be scratched or replaced until its expiration date has passed.

File is not a print file (Transfer) -- Appears on the Send a File screen. Only print files can be sent to another system that is not a VS.

FTGLIST is not compatible with this version of TRANSFER (Transfer) — Appears on the Manage Transfer Groups screen. If the current version of the @FTMTSK@ is the correct one, you only need to run the correct version of TRANSFER to create a new FTGLIST. FTGLIST is the file containing all Transfer Groups.

Hardware error encountered during device initialization (Transfer) -- Appears when you attempt to initialize an unmounted volume. See your system adminstrator.

<u>Invalid disposition</u> (Transfer) -- Appears on the Retrieve a File and Retrieve a Document screens. A valid disposition is S (Store) or P (Print).

<u>Invalid file organization - must be WP</u> (Transfer) -- Appears on the Send a Document and Retrieve a Document screens. Only WP documents can be specified for this activity.

<u>Invalid function code for ATTACH SVC</u> (Remote Logon and VTI) -- Indicates that an invalid function code has been detected by the ATTACH SVC subroutine. Ask your system administrator for assistance.

<u>Invalid TC device number</u> (Remote Logon and VTI) — Appears when you are attempting to access a TC device. This may indicate that the device is improperly identified in GENEDIT. Ask your system administrator for assistance.

<u>Invalid User ID or Password</u> (Remote Logon and VTI) -- Appears when you attempt to log on to a remote VS system. Reenter with your correct user ID or correct password.

Invalid VS device number (Session Manager) (Transfer) — Appears when you attempt to log on to a remote VS system. This error message probably indicates a problem with COMMFIG or GENEDIT. Ask your system administrator for assistance.

<u>Invalid VS print mode option</u> (Transfer) — Appears on the Send a File and Retrieve a File screens. You have selected an invalid print option.

<u>Invalid WP print mode option</u> (Transfer) -- Appears on the Send a Document and Retrieve a Document screens. You have selected an invalid print option.

Location cannot be this local system (Transfer) -- You have incorrectly identified the system to which you are sending or from which you are retrieving a document or file as your own. Choose a remote system.

Logon is inhibited by the remote VS (Remote Logon and VTI) -- Appears when you attempt to log on to a remote VS system. Remote VS system administrator has temporarily prohibited logons to the system. Try to log on to the remote VS later.

<u>Maximum sessions allowed by RAT exceeded</u> (Remote Logon and VTI) — Appears when you attempt to log on to a remote VS. Program RATTSK is presently conducting a maximum number of communications sessions. Try to log on to the remote VS later.

Maximum VTI attachments have been exceeded (VTI) -- Appears when you attempt to log on to a remote VS through a Virtual Terminal Interface program. Program RATTSK is presently conducting a maximum number of communications sessions. Try to run the program later.

Node not in current configuration (Remote Logon and VTI) — Appears when you attempt to log on to a remote system that is not configured in COMMFIG. Ask your system administrator for assistance.

<u>Node service inhibited by Operator</u> (Remote Logon and VTI) — Appears when you attempt to log on to a remote system. Your system administrator has temporarily inhibited remote logon activities.

Node service not active (Remote Logon and VTI) -- Appears when you attempt to log on to a remote system. Indicates that remote communications is not properly configured (COMMFIG). Ask your system administrator for assistance.

OISFILE not found (Transfer) — Appears on the Send a File screen. The OIS-formatted file you have identified cannot be found.

<u>PF16 was hit during mount</u> (Transfer) -- Appears when you are initializing an unmounted volume. You must start over.

Previous session cancelation is still pending (Remote Logon and VTI) — Appears when you attempt to log on to a remote VS system. It is most likely that you canceled your connection while logging on to a remote VS, or that you logged off and then back on again too quickly. The effect is that the remote system believes you are still logged on to it. Try again later. It may be necessary to IPL your system to clear this condition.

<u>Printing of an OIS-type file is not supported</u> (Transfer) -- Appears on the Send a File or Retrieve a File screen. Wang does not support the printing of OIS-type files on a VS system.

<u>@RATTSK@ are incompatible versions</u> (Remote Logon and VTI) — The Remote Access Task on one system is incompatible with the Virtual Terminal Interface task on the other. The version of @RATTSK@ must be 7.10 or greater.

Remote Access Task cannot create a message port (Remote Logon and VTI) -- All the communication ports are used; system is full.

Remote Access Task has maximum number of sessions (Remote Logon and VTI) — Appears when you attempt to log on to remote VS. The remote accessing task is presently conducting a maximum number of communications sessions. Try to log on to the remote VS later.

Remote printing of a non-print file and SCRATCH = YES are incompatible (Transfer) -- Appears on the Send a File screen. You have identified a non-print file to scratch. A print file is created by the Transfer utility out of the original non-print file you have identified. You must enter the file name of the print file to perform your planned activity.

REPLACE cannot be YES unless document name is defined (Transfer) -- Appears on Send a Document Output screen. You must supply the complete document ID before the document you are sending can replace an existing document on the receiving system.

REPLACE cannot be YES unless document name is explicitly defined (Transfer) -- Appears on the Send a Document and Retrieve a Document Output screens. You cannot authorize your VS system to delete an unspecified document. Specify the exact ID of the document you want to replace. Type the ID in the Document field or specify NO in the Replace field.

REPLACE cannot be YES unless file, library, and volume name are explicitly defined (Transfer) -- Appears on the Send a File screen. You must include additional information before the file can replace an existing file on the receiving system.

REPLACE must be YES or NO (Transfer) -- Appears on the Send a Document Output, Retrieve a File Output, and Retrieve a Document Output screens. The Replace field is empty or it contains an option other than YES or NO. Move the cursor to the Replace field and type YES or NO.

Requested device is not a workstation (Remote Logon) -- Appears when you attempt to access a remote system on a device that is not a workstation. Probably indicates a problem with COMMFIG or GENEDIT. Ask your system administrator for assistance.

Requested device is not the task's primary workstation (Remote Logon) — Appears when you attempt to access a remote system on a device that is not the primary workstation of the task you are attempting to run. Indicates a configuration problem. Ask your system administrator for assistance.

Requested system for Attach is the local system (Remote Logon and VTI) -- Appears when you have incorrectly identified your local (i.e., physical) system as the remote system to which you wish to attach. Reenter with appropriate name of remote system.

Requested workstation is workstation zero (Remote Logon) -- Appears when you try to do a remote log on from workstation zero (0). Since workstation zero is the operator's console, this workstation cannot be attached.

SCRATCH must be YES or NO (Transfer) -- Appears on the Send a File Input, Send a Document Input, Retrieve a File Input, and Retrieve a Document Input screens. The Scratch field is empty or contains an option other than YES or NO. Move the cursor to the Scratch field and type YES or NO.

Server is not ready (Remote Logon and VTI) -- Appears when you attempt to log on to a remote VS. The remote access task is in the process of initialization and is therefore not currently prepared to engage in networking activity. Try again later, or ask your system administrator for assistance.

Session has been canceled by Operator (Remote Logon) -- Appears when your remote logon session is suddenly canceled. Either the local system administrator or the remote system's administrator has canceled your session.

<u>Session has been canceled by User</u> (Remote Logon) -- Appears when you are in the process of logging on to a remote VS and then have canceled the connection.

Session terminated due to user logoff - via VTI LOGOFF (VTI) -- The user program was logged off the remote system when you sent the correct logoff sequence through a VTI Send subroutine.

Session will shut down other node for its guaranteed sessions (Remote Logon and VTI) -- Appears when you attempt to log on to a remote VS system. You cannot continue with your present activity. Wait and try to log on again later.

<u>Specified document password is incorrect</u> (Transfer) — Appears on the Send a Document and Retrieve a Document screens. You have incorrectly identified the document password. Reenter using correct password.

Specify one file name or the other (Transfer) — Appears on the Send a File and Retrieve a File screens. You have incorrectly entered both a VS file name and an OIS file name. Only one file name may be specified at a time.

Sufficient buffer space to perform the mount cannot be obtained (Transfer) -- Appears when you attempt to mount a volume. All of the system's resources have been temporarily allocated. You must wait until additional memory becomes available.

<u>System failure - software problem</u> (Remote Logon) -- A fatal error. Indicates that your system must be re-IPLed to continue logon activities. Ask your system administrator for assistance.

System Name is Not in Network Configuration File (Remote Logon and VTI) — The system name was not found in the configuration file. Check the spelling, use PF8 (Manage Communications) to check the list of configured systems, or run COMMFIG with the active file as input.

<u>System requested for Attach is the local system</u> (Remote Logon) -- Appears when you identify your local system as the system to which you are attempting to remotely log on.

(TC) Telecommunications Close error (Remote Logon) -- Appears when you attempt to log off from the remote system. Usually indicates a (non-fatal) software problem. Continue attempting to log on again.

Telecommunications I/O error (local) (Remote Logon and VTI) -- Appears while you are logged on to a remote VS system. Could indicate a local-system software or hardware problem. Ask your system administrator for assistance.

Telecommunications IOSW error (Remote Logon and VTI) -- Appears while you are logged on to a remote VS system. This error could be caused by a hardware or a software problem that indicates an I/O error has been detected by the local DLP. (This message also appears if you power off your workstation while logged on to a remote VS.) Your workstation will return to local mode.

The device is detached and cannot be used (Transfer) --- Appears when you identify a device to mount. Identify another device to use, or ask your system administrator for assistance.

The device number is not a disk or a diskette (Transfer) -- Appears when you attempt to mount a volume. You must identify a device number associated with a disk or diskette.

The device number must be non-blank (Transfer) — Appears when you attempt to mount a volume. You must enter the number of the appropriate disk drive.

The device supports only soft-sectored volumes. The volume inserted was <a href="hard-sectored">hard-sectored</a> (Transfer) -- Appears when you attempt to mount a volume. The volume must be soft-sectored. See your system administrator.

The DLP has a maximum number of sessions (Remote Logon and VTI) -- Appears when you attempt to log on to a remote VS. The local DLP is presently conducting a maximum number of communications sessions. Try to log on to the remote VS later.

The DLP was powered off (Remote Logon and VTI) -- Appears when you are logged onto a remote VS. The DLP is a device that controls the communication session. Therefore, you cannot proceed until the DLP is powered on again. Ask your system administrator for assistance.

The document name is incomplete (Transfer) -- Appears on the Send a Document Input and the Retrieve a Document Input screens. You must indicate a valid document ID in the Document field before the screen can be processed.

The document name is incomplete (Transfer) -- Also appears on the Transfer Group Default screen. The Next Document field is mandatory, so you must specify a document ID. Move the cursor to this field and type an ID to be used as a default for document transfer purposes.

The file class must be A-Z, @, #, or blank (Transfer) -- Appears on the Transfer Group Default screen. The File Class field is empty or it contains an option other than A-Z, @, #, or blank. Move the cursor to the File Class field and type a valid option.

The file name is incomplete (Transfer) -- Appears on the Send a File Input and the Retrieve a File Input screens. You must indicate a valid file name in the File field before the screen can be processed. Move the cursor to this field and type the name of the file you want to send or retrieve.

The file prefix is incomplete (Transfer) -- Appears on the Transfer Group Default screen. The File Prefix field is mandatory, so you must specify a file prefix. Move the cursor to this field. Type a sequence of up to four characters that the transfer group can assign as the first four characters of a default file name for file transfer purposes.

The library name is incomplete (Transfer) -- Appears on the Send a File Input screen. You must indicate a valid library name in the Library field before the screen can be processed. Move the cursor to this field and type the name of the library that contains the specified file. Also appears on the Transfer Group Default screen. The Library field is mandatory, so you must indicate a library name. Move the cursor to this field. Type a sequence of up to eight characters that the transfer group can assign as a default library name for file transfer purposes.

The location name is incomplete (Transfer) -- Appears on the Send a File Options, Send a Document Options, Retrieve a File Options, and Retrieve a Document Options screens. You did not indicate a system name in the Location field. You must supply this information to process a transfer request.

The logon service to the system is inhibited by the Operator (Remote Logon and VTI) -- Appears when you attempt to log on to a remote system. Your system administrator has temporarily inhibited remote logon activities.

The next document name contains an invalid character (Transfer) -- Appears on the Transfer Group Default screen. The document ID contained in the Next Document field must be four digits, followed by a letter of the alphabet or a space character. Move the cursor to the Next Document field and type a valid document ID.

The OIS file name is invalid (Transfer) -- Appears on the Send a File and Retrieve a File Input screens.

The owner of record is incomplete (Transfer) -- Appears on the Transfer Group Default screen. The owner of record must be specified in the 3-character field. Move the cursor to this field and type a sequence of up to three characters to identify the owner of record.

There is already a transfer group with the same name (Transfer) -- Appears on the Transfer Group Default screen when you add a transfer group to the system. Move the cursor to the Group Name field and type a unique transfer group name. You can also return to the Transfer Group Selection screen and delete the original group before creating the new transfer group.

There is an error in the VTOC (Transfer) -- Appears on the Send a File Input and Send a Document Input screens. At this time, you cannot access the file that you specified. Cancel the request and contact your supervisor or system manager.

The remote system cannot support word processing (Transfer) -- Appears on the Send a Document Options and Retrieve a Document Options screens. Cancel the request and contact your supervisor or system manager for assistance.

The retention period is incomplete (Transfer) -- Appears on the Transfer Group Default screen. The Retention Period field is mandatory, so you must specify a retention period. Move the cursor to this field and type a sequence of up to three digits to indicate the number of days that the file or document should be protected from deletion.

The session was canceled by the Operator (Remote Logon and VTI) -- Appears when your remote logon session is suddenly canceled. Either the local system's administrator or the remote system's administrator has canceled your session.

The session was canceled by the User (Remote Logon) — Appears when, in the process of logging on to a remote VS, you have canceled the connection.

The session was canceled due to a deactivate (Remote Logon and VTI) -- Appears when your remote logon session has been unexpectedly canceled. May indicate a hardware problem with the remote or local DLP. Ask your system administrator for assistance.

The session was canceled due to a DLP crash (Remote Logon and VTI) -- A fatal hardware or software error has caused the local DLP to cease operations. Ask your system administrator for assistance.

The session was canceled due to DLP timeout - deactivate (Remote Logon and VTI) -- Appears when the DLP times out because of problems with the communication line, or the remote DLP did not properly respond to a message. The remote logon session is then canceled. Log back on to the remote system and try again.

The session was canceled due to heavy system load (Remote Logon and VTI)

-- Appears when you are logged onto a remote VS. Either your local system or the remote system was in such heavy use that it caused a cancelation of remote logon sessions. Try to log back on to the remote system later.

The session was canceled due to a TC IOSW error (Remote Logon and VTI) -- Appears while you are logged on to a remote VS system. This error could be caused by a hardware or a software problem that indicates an I/O error has been detected by the local VS. Your workstation will return to local mode.

The session was canceled due to a Workstation IO error (Remote Logon and VTI) -- Appears while you are logged on to a remote VS system. Could indicate a local-system software or hardware problem. Ask your system administrator for assistance.

The session was canceled due to a Workstation IOSW error (Remote Logon and VTI) -- Indicates that microcode has been loaded into your workstation that is not appropriate for remote logon activities. Could indicate a software or hardware problem. Ask your system administrator for assistance.

The session was terminated due to a TC I/O error (Remote Logon and VTI)

-- Appears while you are logged on to a remote VS system. Could indicate
a local-system software or hardware problem. Ask your system
administrator for assistance.

The session was terminated due to user logoff (Remote Logon) -- Appears when you log off from a remote VS. This is a normal terminating message.

The session was terminated due to a Workstation I/O error (Remote Logon and VTI) -- Indicates that a workstation error occurred while you were logged on to a remote system. Continue with your present activity. If the problem persists, ask your system administrator for assistance.

The specified document already exists (Transfer) — Appears on the Send a Document Output screen. The system cannot process the transfer request because the document ID entered in the Document field already exists on the receiving system. Move the cursor to the Document field and type a different document ID. You can also move the cursor to the Replace field and type YES to authorize the remote system to replace its existing document with the transferred document.

The specified document already exists and REPLACE = NO (Transfer) -- Appears on the Retrieve a Document Output screen. The system cannot process the retrieve request because the document ID already exists on the receiving system and you specified NO for the Replace option. Move the cursor to the Document field and type a different ID for the received document. You can also move the cursor to the Replace field and type YES to authorize the receiving system to replace the existing document with the transferred document.

The specified document was not found (Transfer) -- Appears on the Send a Document Input screen. The specified document ID is not assigned to a document. Move the cursor to the Document field and enter another document ID or cancel the request.

The specified document was not found at the sending site (Transfer) -- Appears on the Retrieve a Document Input screen. The document ID that appears in the Document field does not exist on the remote system. Specify another document ID or cancel the request.

The specified file already exists and REPLACE = NO (Transfer) -- Appears on the Retrieve a File screen. Since the specified file already exists, it must be replaced (i.e., REPLACE = YES) or the file you are retrieving must be renamed.

The specified file is empty (Transfer) — Appears on the Send a File Input screen when the file that you requested for transfer contains no records. Move the cursor to the File field and specify another file name or cancel the request.

The specified file was not found in the library (Transfer) — Appears on the Send a File Input screen. The file name you specified in the File field is not stored in the library identified in the Library field. Press the HELP key to interrupt the TRANSFER utility and use the Manage Files and Libraries command (PF5) to check the file and library names. Return to the Modified Command Processor and press PF1 to return to the TRANSFER utility. Respecify the file and/or library before processing the screen.

The specified library was not found on the volume (Transfer) -- Appears on the Send a File Input screen. The library name you specified in the Library field is not stored on the volume identified in the Volume field. Press the HELP key to interrupt the TRANSFER utility and use the Manage Files and Libraries command (PF5) to check the library and volume names. Return to the Modified Command Processor and press PF1 to return to the TRANSFER utility. Respecify the library and/or volume before processing the screen.

The specified location has not been defined (Transfer) — Appears on the Send a File Option, Send a Document Option, Retrieve a File Option, and Retrieve a Document Option screens. The name of the other system specified in the Location field is not currently recognized by your VS. Move the cursor to the Location field and enter another location name or contact your supervisor.

The specified remote system does not support retrieval of files (Transfer) -- Appears on the Retrieve a File screen. The remote system you have identified is not configured with a File Transfer Handler (Manager) to allow file/document transfer.

The specified remote system does not support transfer groups (Transfer) — Appears on the Send a File Option and Send a Document Option screens. Move the cursor to the Transfer Group field and type blanks over any information that appears in it.

The specified System is not configured for communications (Remote Logon and VTI) -- Appears when you attempt to log on to a system that is not configured in COMMFIG (or GENEDIT). Ask your system administrator for assistance.

The specified transfer group has not been defined (Transfer) — Appears on the Retrieve a Document Option screen. The transfer group name that appears in the Group field is invalid. Press PF3 to display the available transfer groups. Move the cursor to the transfer group you want to use and press ENTER. The Retrieve a File Option screen appears with the selected transfer group name in the Group field.

The STATUS must be A (Active) or H (Hold) (Transfer) -- Appears on the Send a File Options, Send a Document Options, Retrieve a File Options, and Retrieve a Document Options screens. The Status field is empty or contains a character other than A or H. Move the cursor to the Status field and type A or H.

The system's Logon Service is not active (Remote Logon and VTI) -- The Logon Service has been inhibited by the operator, or the remote system is not running.

The transfer group name contains an invalid character (Transfer) -- Appears on the Transfer Group Default screen. A transfer group name can contain only letters and numbers. Move the cursor to the Group Name field and type a valid transfer group name.

The transfer group name is incomplete (Transfer) -- Appears on the Transfer Group Default screen when you add a transfer group to the system but do not specify a group name. Move the cursor to the Group Name field and type a transfer group name that contains up to 16 alphanumeric characters.

The volume currently on the device is in use (Transfer) -- Appears when you attempt to dismount a volume. Identify another device to use or wait until the device you have identified is not in use.

The volume is already mounted on device (Transfer) -- Appears when you attempt to mount a volume. The device you have identified already has the volume you wish to mount.

The volume name is incomplete (Transfer) -- Appears on the Send a File Input screen. You must indicate a valid volume name in this field before the screen can be processed. Move the cursor to the Volume field and type the name of the volume that contains the file you want to transfer.

The volume name is incomplete (Transfer) -- Also appears on the Transfer Group Default screen. The Volume field is mandatory, so you must specify a volume name. Move the cursor to this field. Type a sequence of up to six characters that the transfer group can assign as a default volume for file transfer purposes.

The volume was not initialized in a standard Wang format (Transfer) -- Appears when you attempt to mount a volume. See your system administrator to initialize the volume in a Wang format.

The WP document library contains an invalid character (Transfer) -- Appears on the Manage Transfer Groups screen. You have entered an invalid character in the document library field. Reenter with a blank or a letter of the alphabet.

This node does not support either VS- or OIS-type names (Transfer) -- Appears on the Send a File screen. The receiving system is not configured to accept VS or OIS file names.

This workstation is already attached (Remote Logon) -- Indicates that your workstation is already logically attached to a remote system.

Too many Requests For Read from Data Link Processor (Remote Logon) — Appears while you are logged on to a remote VS system. This is a non-fatal error. Try to log on again.

Transmit to Remote Access Task failed (Remote Logon and VTI) -- The Remote Access Task function (RATTSK) is not running.

Transmit to Session Manager failed (Remote Logon and VTI) -- Appears when you attempt to log on to a remote VS. Indicates an Intertask Message problem with the portname of the attach program's Session Manager. Ask your system administrator for assistance.

<u>Unable to access the remote VS System User List</u> (Remote Logon) — Appears when you are attempting to log on to a remote VS system. This indicates that your user ID cannot be used at this time. Ask your system administrator for assistance.

<u>Unable to access user list on the host system</u> (Remote Logon) — Appears when you are attempting to log on to a remote VS system. This indicates that your user ID cannot be used at this time.

<u>Unable to allocate local system blocks</u> (Remote Logon) — Indicates that the Session Manager on your local system does not have enough user memory, or is currently in such heavy use that it is unable to allocate enough system blocks for your remote logon activities.

<u>Unable to allocate remote system blocks</u> (Remote Logon) — Indicates that the remote system does not have enough user memory, or is too busy, to allocate enough system blocks for your remote logon activities.

<u>Unable to attach - pending previous session cancelation</u> (Remote Logon) -- Appears when you attempt to log on to a remote VS system. It is most likely that you had pressed CANCEL while logging on to a remote VS, or that you logged off and then back on again too quickly. The effect is that the remote system believes you are still logged on to it. Try again later, or -- if unsuccessful -- wait until your system is re-IPLed.

<u>Unable to create privileged port (ATTACH SVC)</u> (Remote Logon) — Another task activated the specified port, or the same task has already activated the specified port. Try again later, or ask your system administrator for assistance.

<u>Unable to establish a session - Communications are down</u> (Remote Logon and VTI) -- Appears when you are attempting to log on to a remote VS. This message may indicate a number of hardware or software problems, such as an inactive DLP. Try again later, or ask your system administrator for assistance.

<u>Unable to load workstation microcode (local)</u> (Remote Logon and VTI) — Indicates a problem at the operating system level. The operating system unsuccessfully attempted to load microcode to your workstation. Ask your system administrator for assistance.

Unable to open FTGLIST (the file of defined File Transfer Groups) (Transfer) -- Appears on the Manage Transfer Groups screen. You must cancel processing and consult your system administrator.

<u>Unable to open TC data path</u> (Remote Logon and VTI) — Appears when you are attempting to log on to a remote VS. This message may indicate a problem with local or remote software. Ask your system administrator for assistance.

<u>Unable to open workstation</u> (Remote Logon) -- Indicates a software problem, or that the workstation is already in use.

<u>Unable to release Workstation</u> (Remote Logon) — Indicates that your workstation is still logically attached to the remote system, even though you have attempted to log off from it. You must wait until your system is re-IPLed.

<u>Unable to reserve workstation</u> (Remote Logon) — Indicates a problem at the operating system level. Software received bad return code when it attempted to reserve your workstation. Ask your system administrator for assistance.

<u>Unable to transmit message to Session Manager</u> (Remote Logon) -- Indicates a problem with the local networking software.

<u>Unable to Validate System Name: System Memory Buffer Temporarily Full</u> (Remote Logon) — The name cannot be validated because of a GETMEM failure in SET. Try again.

<u>Unable to Validate System Name: System Task Not Running</u> (Remote Logon) —— The system name cannot be validated because the System Task is not running. Your system should be re-IPLed.

<u>Undefined error</u> -- An undefined error has occurred. Ask your system administrator for assistance.

<u>Unexpected Mount SVC return code</u> (Transfer) — Appears when the system fails to place a file or document into the Transmit or Retrieve queues. Refer to <u>Operating System Services</u> manual for description of return codes.

<u>User access rights cannot be validated</u> (Transfer) -- Appears on the Send/Retrieve a File/Document screens. Possible error conditions include lack of security privilege for the user or for the Transfer program, problems with the user list, or incorrectly entered user ID. See your system administrator for assistance.

<u>User already logged on to the remote system</u> (Remote Logon) -- Appears when you attempt to log on to a remote VS. This message indicates that your user ID is already in use on the remote system.

<u>User cannot use this workstation</u> (Remote Logon) -- User is prohibited from using this workstation by program SECURITY.

<u>User has insufficient access rights</u> (Transfer) — Appears on the Transfer Group Selection screen. You are not authorized to access the selected transfer group. Select another transfer group or contact your supervisor or system manager.

<u>User has insufficient access rights to replace the file</u> (Transfer) — Appears on the Send a File and Retrieve a File screens. You must have write access to a file to replace it. Cancel the transfer request and contact your supervisor or system manager.

User has insufficient access rights to scratch the file (Transfer) -- Appears on the Send a File and Retrieve a File screens. You must have write access to scratch the file you have identified. Cancel the transfer request and contact your supervisor or system manager.

<u>User has insufficient access rights to send the file</u> (Transfer) -- Appears on the Send a File screen. You must have write access to send the file you have identified. Cancel the transfer request and contact your supervisor or system manager.

<u>User is already logged on</u> (Remote Logon) -- Appears when you attempt to log on to a remote VS system. Indicates that your user ID is presently in use.

<u>User override must be YES or NO</u> (Transfer) -- Appears on the Transfer Group Default screen. The User Override field is empty or it contains an option other than YES or NO. Move the cursor to this field and type YES or NO.

<u>User was denied document access</u> (Transfer) -- Appears on the Send a Document Output and Retrieve a Document Input screens. The document specified in the Document field is either password protected or is assigned a protection class that prohibits you from accessing it. Type the correct password into the Password field or cancel the request.

<u>Virtual Terminal Task cannot create a message port</u> (VTI) -- All the communication ports are used; system is full

Will shut down other system's guaranteed sessions (Remote Logon and VTI)

-- Appears when you attempt to log on to a remote VS system. You cannot continue with your present activity. Wait and try to log on again later.

<u>Workstation error</u> (Remote Logon and VTI) -- Indicates a hardware or a software problem with your workstation. Ask your system administrator for assistance.

Workstation I/O error (local) (Remote Logon and VTI) -- Indicates that a workstation error occurred while you were logged on to a remote system. Try to log on again, or ask your system administrator for assistance.

<u>Workstation IOSW error (local)</u> (Remote Logon and VTI) — Indicates that microcode has been loaded into your workstation that is not appropriate for remote logon activities. Most commonly, this is Type-ahead microcode. Could also indicate that an error has been detected in data being read from, or written to, your workstation. Ask your system administrator for assistance.

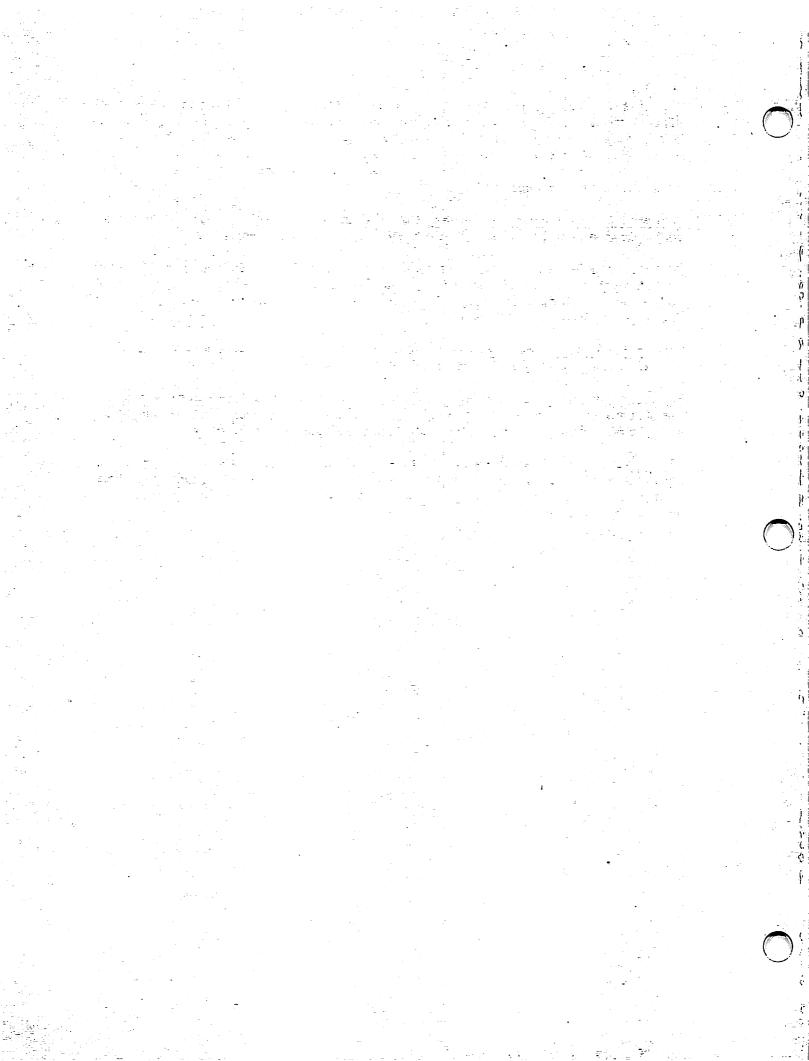
Workstation is already attached (Remote Logon and VTI) -- Indicates that your workstation is already logically attached to a remote VS system.

Workstation release failed (Remote Logon and VTI) -- Indicates that your workstation is still logically attached to the remote system, even though you have attempted to log off from the remote system. You must wait until your system is re-IPLed.

Workstation successfully reattached to local system (Remote Logon) -- Appears when you log off from the remote VS system.

Workstation will not support remote device protocol (Remote Logon) — Appears when you attempt to log on to a remote system. Indicates that your workstation cannot be used for remote logon activities.

<u>WS release failed</u> (Remote Logon) — Indicates that your workstation is still logically attached to the remote system, even though you have attempted to log off from the remote system. You must wait until your system is re-IPLed.



# APPENDIX B GLOSSARY

acceptance block -- The square symbol on an OIS screen that indicates a choice has been made or an item(s) selected. When one choice is possible, acceptance blocks are moved from field to field by means of the space bar or the RETURN key.

<u>Active</u> -- An active transfer request has a status of A. When placed in the Transmit or Retrieve queue, the request is processed automatically when its turn comes up.

<u>attached system</u> -- The system to which your workstation is logically connected through Attach to System.X). The attached system is distinct from the physical system, i.e., the system to which your workstation is physically cabled.

<u>Command Processor menu</u> — The main VS menu. Its networking functions include VS Transfer Queue management and control of the TRANSFER utility. Refer to the <u>VS Programmer's Introduction</u> for additional information.

<u>cursor</u> -- The rectangular symbol that indicates where the next character will appear on the workstation screen.

<u>default</u> -- When you do not specify certain information, the system or transfer group provides it automatically, i.e., by default.

document ID -- Wang word processing documents are identified by four digits followed by a letter or blank.

<u>file class</u> -- All files on the VS are assigned to a protection class by a symbol that determines who can read, execute, modify, or delete them.

<u>file destination</u> -- The location to which files and documents are queued for transfer to your (or another) computer system.

<u>file origin</u> -- Files queued for transfer to another computer system have their origin on your system. If you retrieve them from another system, that is their system of origin.

<u>file prefix</u> -- Files retrieved by or sent to a VS system can have the first four letters of the received name set by the VS transfer group.

File Transfer facility -- On the VS, documents and files can be sent to an OIS or retrieved from it by by means of the TRANSFER utility program. On the OIS, this is a "facility" and is selected from the Transfer Files option on the OIS main menu.

 $\underline{\text{Hold}}$  -- A transfer request can be placed in a Transfer Queue with a status of H (or Hold) until the status is changed to Active by the person who made the request.

<u>local document</u> -- A document on the computer system to which your workstation is attached or logged on.

logon -- A user ID and password that must be entered on a VS before the system gives access to its services.

Operator's Console menu -- The main menu provided by the VS for special operational functions at workstations called operator consoles. These workstations display the Operator's Console menu.

password -- Word processing documents can be protected from access by people who do not know the password for the document. A password can be set by the person who creates a new document.

physical system -- The system to which your workstation is physically cabled. The "physical system" is distinct from the "attached system," i.e., the system to which your workstation is tied through a logical and transitory connection.

<u>program function key</u> -- You can choose a menu option by pressing one of the keys along the top row of the VS workstation. These are also called PF keys.

<u>queue</u> -- A waiting line where transfer requests must wait their turn before the document or file they request is transferred.

<u>release</u> -- Transfer requests that have a Hold status on the queue must be released by the user before they can be acted on by the system.

<u>remote document</u> -- A document on a computer system other than the one to which your workstation is attached or logged on.

<u>remove</u> -- To take a transfer request off a Transfer Queue. The document or file is not transferred until you submit a new request.

retention period -- The number of days (0 to 999) during which the VS prevents a file from being replaced, modified, or deleted without special permission from the file's owner or a system security administrator.

<u>retrieve</u> -- When a document or file you want is on a different system, it can be copied or retrieved to your current system.

Retrieve Queue -- Documents and files that you request for retrieval from another system have their IDs or names in the Retrieve Queue until they are transferred or the request is removed from the queue.

<u>scratch</u> -- When a file or document is scratched it is removed from the computer system library.

<u>supervisor</u> -- A person responsible for the administrative details of running an OIS.

system manager -- A person responsible for the administrative details of running a VS.

system security administrator -- On the VS, a person who controls the list of allowed users and other matters of security involving file protection.

<u>transfer</u> -- The transfer utilities <u>copy</u> transferred files. The original remains on its system of origin until you request its removal.

transfer group -- Documents and files can be stored, named, and protected by default values according to the transfer group chosen when they are transferred. Transfer groups belong to the computer system that receives the document or file.

transfer log -- All transfer requests and executed transfers are recorded in a transfer log.

<u>Transfer Queue</u> -- The IDs of word processing documents and the names of files requested for transfer to another system are placed in a waiting line or Transfer Queue until the transfer can be performed.

transfer requests -- The document ID or file name of the document or file that you have selected for transfer to or from another system.

transfer status -- Your transfer request can be waiting for automatic transfer (Active), waiting for transfer when you request it (Hold), or in the process of being granted.

<u>transmission</u> — The movement of a document or file from one system to another. The document or file is transmitted by one and received by the other.

Transmit Queue -- A waiting line of requests for files or documents to be transmitted.

user ID -- A three-letter code that identifies a user to the VS.

<u>user override</u> -- Transfer group default settings that can be changed by the user of the transfer group have a user override setting of YES.

-:

#### **INDEX**

Alliance, 1-1, 2-1, 2-5, 3-8 Remote logon, 1-1, 1-3, 3-1, Attach workstation, 3-1 3-2, A-1 to A-17 @ATTACH@, 3-3, A-2, A-14 Remote print routing, 3-4 to 3-8 Auxiliary functions, 2-13, 2-18 Retrieve queue, 2-6, 2-7, 2-11, 2-13, 4-3, 4-4, B-1, B-2 File transfer utility, 1-1 retrieve a document, 2-10 to Transfer groups, 2-1, 2-6, 2-8, 2-13, A-3, A-4, A-6 to 2-11, 2-13 to 2-15, A-3, A-13, A-16A-12, A-13, A-15, B-3 retrieve a file, 1-2, 2-6, 2-7, Transfer log, 1-3, 2-1, 2-13, A-3 to A-9, A-11 to A-13, 2-18 to 2-20, B-3 Transmit queue, 2-3, 2-4, 2-8, A-15, A-16send a document, 2-7, 2-9, 2-10, 3-5, 3-6, 4-1, 4-2, 2-10, B-3 A-3 to A-13, A-16 send a file, 1-2, 2-2, 2-3, A-3 to A-9, A-12, A-13, A-16 Wang PC, 2-1, 2-5, 3-8 Function selection, 2-1, 2-2, 2-6, 2-10, 2-11, 2-13, 2-14 2200 2200, 1-1, 2-1, 2-5, 2-7 to 2-11, 3-8 OIS, 1-1, 2-1, 2-3 to 2-5, 2-7, 2-9, 2-10, 3-8, A-5, A-7, A-9, A-13, B-1 to B-3

OIS file name, 2-3, 2-4, 2-7,

A-7, A-9







# WANG

### **Customer Comment Form**

Publication Number \_\_\_\_\_

800-1316D

Title\_

**NETWORK USER GUIDE FOR VS SYSTEMS** 

Help	Us	Help	You		
------	----	------	-----	--	--

We've worked hard to make this document useful, readable, and technically accurate. Did we succeed? Only you can tell us! Your comments and suggestions will help us improve our technical communications. Please take a few minutes to let us know how you feel.

How did you receive this publication?	How did	you use this D	hlica			
□ Support or □ Don't know Sales Rep □ Wang Supplies □ Other Division □ From another user □ Enclosed with equipment	Intr to to t	roduction the subject ssroom text udent) ssroom text acher) f-study	Publication?  Aid to advanced knowledge Guide to operating instructions As a reference manual Other		rating	
Please rate the quality of this publication in each of the following Technical Accuracy — Does the system work the way the ma		EXCELLENT Des?	GOO	D FAIR	POOR	VERY POOR
Readability — Is the manual easy to read and understand?						
Clarity — Are the instructions easy to follow?						
Examples — Were they helpful, realistic? Were there enough	of them?					
Organization — Was it logical? Was it easy to find what you n	eeded to knov	v? 🗆				
Illustrations — Were they clear and useful?						
Physical Attractiveness — What did you think of the printing	, binding, etc?					
Were there any terms or concepts that were not defined prope	rly? 🗆 Y 🗆	N If so, what v	vere th	ney?		
After reading this document do you feel that you will be able to What errors or faults did you find in the manual? (Please include	·		C	Yes, with	oractice	
Do you have any other comments or suggestions?						
Name	Street					
Title	City					
Dept/Mail Stop	State/Cour	ntry				
Company	Zip Code _	Te	lepho	ne		<del></del>

Thank you for your help.



**BUSINESS REPLY CARD** 

FIRST CLASS

PERMIT NO. 16

LOWELL, MA

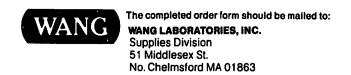
POSTAGE WILL BE PAID BY ADDRESSEE

WANG LABORATORIES, INC.
TECHNICAL PUBLICATIONS
ONE INDUSTRIAL AVENUE
LOWELL, MASSACHUSETTS 01851

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES



Fold



To Order by Phone, Call: (800)225-0234
From Mass., Hawaii, and Alaska (617)256-1400
TELEX 951-743

## **Order Form for Wang Manuals and Documentation**

① Customer Number (I	f Known)					
② Bill To:			Ship To	<b>)</b> :		
		· · · · · · · · · · · · · · · · · · ·				
③ Customer Contact:	)		Date	Purch	ase Order Numb	per
Phone	Nar					
⑤ Taxable ⑥ Tax Exe Yes □	mpt Number	⑦ Credit This Order t A Wang Salespers				
No 🗆		Please Complete		sperson's Name	e Employee	No. RDB No.
Document Number		Description		Quantity	Unit Price	Total Price
<b>@</b>					Sub Total	
Authorized Signature  Date  Check this box if you would like a free copy of the  Corporate Publications Literature Catalog (700-5294)				te	Less Any Applicable Discount	
		Sub Total				
Corporate Pu	DIICATION	is Literature Ca	italog	(700-5294)	LocalStateTax	
					Total Amount	

## Ordering Instructions

- If you have purchased supplies from Wang before, and know your Customer Number, please write it here.
- Provide appropriate Billing Address and Shipping Address.
   Please provide a phone number and name, should it be
- necessary for WANG to contact you about your order.
- 4. Your purchase order number and date.
- 5. Show whether order is taxable or not.
- 6. If tax exempt, please provide your exemption number.
- If you wish credit for this order to be given to a WANG salesperson, please complete.
- Show part numbers, description and quantity for each product ordered.
- Pricing extensions and totaling can be completed at your option; Wang will refigure these prices and add freight on your invoice.
- 10. Signature of authorized buyer and date.

## Wang Supplies Division Terms and Conditions

- TAXES Prices are exclusive of all sales, use, and like taxes
- 2. DELIVERY Delivery will be F.O.B. Wang's plant. Customer will be billed for freight charges; and unless customer specifies otherwise, all shipments will go best way surface as determined by Wang. Wang shall not assume any liability in connection with the shipment nor shall the carrier be construed to be an agent of Wang. If the customer requests that Wang arrange for insurance the customer will be billed for the insurance charges.
- PAYMENT Terms are net 30 days from date of invoice.
   Unless otherwise stated by customer, partial shipments will generate partial invoices.
- PRICES The prices shown are subject to change without notice. Individual document prices may be found in the Corporate Publications Literature Catalog (700-5294)
- LIMITATION OF LIABILITY In no event shall Wang be liable for loss of data or for special, incidental or consequential damages in connection with or arising out of the use of or information contained in any manuals or documentation furnished hereunder.

Printed in U.S.A. 14-3141 7-83-5C

Fold



**BUSINESS REPLY CARD** 

FIRST CLAS

PERMIT NO. 16

NO. CHELSMFORD, MA.

POSTAGE WILL BE PAID BY ADDRESSEE

WANG LABORATORIES, INC. Supplies Division c/o Order Entry Dept. M/S 1711 800 Chelmsford Street Lowell, MA 01851 NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES





ONE INDUSTRIAL AVENUE LOWELL, MASSACHUSETTS 01851 TEL. (617) 459-5000 TWX 710-343-6769, TELEX 94-7421