

2200/VS LCO User's Guide

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PREFACE

This guide provides information on operating and installing the 2200 Local Communications Option (LCO) software. The information contained in this guide is primarily for the experienced 2200 user with some exposure to the basic operations of the VS system.

Chapter 1 provides an overview of the entire 2200 LCO product. Chapter 2 provides information on 2200 and VS software requirements, software loading, and necessary equipment setup. Chapter 3 provides detailed instructions on the operations of the VS Workstation Emulation function of the 2200 LCO product. Chapter 4 provides detailed instructions on the operations of the VDISK/DMS function of the 2200 LCO product. Appendix A provides cross reference diagrams that correlate the 2200 function keys and keyboards with the corresponding VS function keys and keyboards.

The following 2200 and VS manuals can be used as reference for supplementary information:

2200/VS LCO Programmer's Reference Guide (715-0562)
2200 BASIC-2 Disk Reference Manual (700-4081)
2200 BASIC-2 Error Codes Booklet (700-7170)
2200 BASIC 2 Language Reference Manual (700-4080)
2200 Introductory Guide (700-4613)
VS Procedure Language Reference Manual (800-1205)
VS System Administrator's Reference (715-0420)
VS System User's Introduction (715-0418)
VS Operating System Release 7.10 Software Bulletin (715-0565)

CHAPTER 1 INTRODUCTION

1.1 OVERVIEW

The 2200/VS Local Communications Option (LCO) is a data communications hardware and software product that enables a Wang 2200MVP, 2200LVP, or 2200 Micro-VP system to communicate with a Wang VS system. Communications between the 2200 system and the VS system occur over dual coaxial cable facilities.

The 2200/VS LCO operates in 2200 system environments that have a local VS system (up to 2000 ft or 609.7 meters from the 2200) with an available Serial IOP port defined in the VS configuration file for a coaxial cable connection. The 2200/VS LCO provides access to additional VS disk storage, to the VS DMS applications, and to the VS Workstation Emulation facility.

Figure 1-1. 2200 LCO Functional Block Diagram

With the LCO hardware and software installed on a 2200, a coaxial connection to the VS, and an appropriately configured VS system, you can perform the following:

- Log on to the VS and run most of the available VS IIP applications. Among the available applications are:

All DP (DMS) applications

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Professional Application Creation Environment (PACE)

- Run 2200 application programs that store data to and retrieve data from the 2200 image files on the VS system's disk storage, without modifying the existing 2200 application programs. The 2200 files on the VS are created by utilities included with the 2200/VS LCO software.
- Run 2200 application programs that store data to and retrieve data from VS files, using subroutines provided by the LCO software. For example, you can run a 2200 program to update inventory and run another program to take the results and add them to a PACE database file on the VS.

1.2 HARDWARE/SOFTWARE FEATURES

As a hardware and software package, the 2200/VS LCO provides a new communications controller. The 2258 Communications Controller is an internal microprocessor-based controller mounted in an empty slot in the 2200 chassis. It supports up to four concurrent sessions (on four different 2200 workstations) between 2200 users and the VS, and there can be a total of four 2258 controllers in the 2200 system environment.

When the 2258 controller is installed in the 2200 chassis, the Wang Customer Engineer sets two addresses (refer to Section 2.? of this manual) on the board: a 2200 disk address (for VDISK requests) and a Communications address (for workstation emulation and VS Filing requests). After the 2258 controller is installed and the 2200 is powered on, the controller interrupts the VS. After the VS recognizes the controller, the controller receives microcode from the VS and initializes.

After the 2258 controller is initialized, you can run one of the three LCO software components:

- Workstation Emulation
- VDISK
- VS System and Filing Services

Workstation Emulation

The workstation emulation component of the 2200/VS LCO software allows you to log on to a VS system and access most of the VS applications from any workstation on the 2200. You invoke workstation emulation by logging onto the VS as a 2200 user.

Once you are in the workstation emulation mode, you provide the communications address of the 2258 controller to use and select one of the session controls. You can start a workstation emulation session, end a session, suspend a session, return to a suspended session, or restart the session (in case the connection between the 2200 and the VS is lost).

While in a workstation emulation session with the VS, a simple keystroke sequence enables you to exit temporarily from workstation emulation, suspend the emulation, and attach a 2200 BASIC-2 application program to the VS. The application can use disks connected to the 2200, virtual disks (VDISKS), or VS files and filing services.

The 2200/VS LCO workstation emulation has the following features:

- It can be run from any workstation on the 2200.
- Supports up to four workstation emulation sessions concurrently through a single 2258 controller. If your 2200 system use demands additional sessions, up to three additional 2258 controllers (a maximum of four) can be installed on the 2200.
- Emulation of a VS 2256C workstation (DP only).

The VDISK Component

The VDISK component of the 2200/VS LCO software allows you to create, edit, delete, and view 2200 image files stored on the VS system using the VDISK Utilities. A 2200 image file is a VS Data Management System (DMS) file that consists of 256-byte, fixed-length consecutive records. The VS DMS manages disk file space and services all file I/O requests on the VS system.

Once a 2200 file is created on the VS, 2200 BASIC-2 application programs can write data to and read data from the VDISKS. The VDISKS can be shared with other 2200 systems that are equipped with the 2200/VS LCO software. However, the files stored on the VDISKS cannot be shared with any applications on the VS.

To run a VDISK session, you start a workstation emulation session, log on to the VS, start up the VS File Access program to handle filing requests, and attach to the VS. When the attachment is made to the VS, the workstation emulation is suspended. You can now run your application program. Since the application program specifies a 2200 disk address in its disk statements, the 2258 controller recognizes the address and automatically establishes a VDISK session.

When the application program is finished processing, the user can then terminate the VS File Access program on the VS and run another VS application, run another 2200 application, or terminate the VS File Access program and workstation emulation. When the user terminates workstation emulation, another 2200 user can use the 2258 to gain access to either VDISKs or VS DMS files.

The 2200/VS LCO VDISK has the following features:

- Supports 1 VDISK session per 2258 controller, provided no other VDISK session or DMS session is in progress.
- Supports up to 32 VDISKs for each 2258 controller. If additional VDISKs are required, additional 2258 controllers must be installed on the 2200 system.
- Supports VDISK maximum platter size of 64,000 sectors.
- Maintains a table containing each VDISK. Each disk is assigned a 2200 disk address, VS file name, platter size in sectors, mode (shared or exclusive).
- Requires no changes to the BASIC-2 application program unless the disk address in the program differs from the disk address assigned to the 2258 controller.
- Provides VDISK utilities to create, edit, view, or delete VDISKs.
- Supports the sharing of VDISKs with similarly equipped 2200 systems connected to a VS.
- Enables a 2200 user to copy a VDISK to a 2200 disk.

Figure 1-2. 2200 LCO Interface

VS Filing Services

The VS Filing Services component of the 2200/VS LCO software allows a 2200 BASIC-2 application program full access to VS DMS files on the VS system. An application can open DMS files, read, write, and delete records from DMS files, and close DMS files.

In order to gain access rights to DMS files, the 2200 BASIC-2 application program must address the 2258 controller as a communications device using the assigned communications address. All DMS file requests (e.g., open, read, write, and close) are handled by VS DMS File Access Subroutines provided with the LCO software or by \$GIO statements in the program. The DMS files can be shared with other VS systems and applications.

To start a DMS session, you start a workstation emulation session, log on to the VS, start up the VS File Access program to handle filing requests, and attach the VS to the 2200. You can then run an application program. Since the application program specifies a 2200 communications address in its I/O requests, the 2258 controller recognizes the address and automatically establishes a DMS session.

When the application program is finished processing, you can then terminate the VS File Access program on the VS and run another VS application, run another 2200 application, or terminate the VS File Access program and workstation emulation. When you terminate workstation emulation, another 2200 user can use the 2258 to gain access to either VDISKs or VS DMS files.

The 2200/VS LCO VS System and Filing component has the following features:

- Supports 1 DMS session per 2258 controller, provided no other DMS session or VDISK session is in progress.
- Requires the addition of File Access Subroutines or \$GIO statements to the BASIC-2 application program.
- Allows access to any currently defined VS DMS file type. For example, consecutive, relative, and multiple-indexed ISAM (Indexed Sequential Access Method) files are supported.
- Supports the sharing of DMS files with other VS applications and systems and with similarly equipped 2200 systems connected to a VS.

2200 System Requirements

To run the 2200/VS LCO, the following hardware and software are required for the 2200 system:

- MVP OS Release 2.6 or greater
- Requires a 28K memory partition to run the VDISK Utilities and Workstation Emulation
- Adding File Access Subroutines to a BASIC-2 application increases the program size by ???K
- Any 2336 DE, 2336 DW, or 2326DW workstation can be used to run Workstation Emulation

VS System Requirements

To run the 2200/VS LCO, the following hardware and software must be configured into the VS system:

- Operating System, Version 7.10.
- VS File Access software.
- One unused port on a Serial IOP. The Serial IOP port is configured for a 2258 MWS device using the VS GENEDIT program.

- A procedure 2200 users can use to start up the VS File Access software for processing the 2200 file requests (both VDISK and DMS).

**CHAPTER 2
INSTALLATION AND SETUP**

2.1 INTRODUCTION

The 2200/VS LCO software is shipped on diskette media in the following three versions:

Model Number	Description
2258-3	2258 Controller with software on 8" SSSD diskette
2258-5	2258 Controller with software on 8" DSDD diskette
2258-9	2258 Controller with software on 5 1/4" DSDD diskette

Before attempting to use the 2200/VS LCO software, perform the following checks and operations:

- 1) Ascertain that the VS system that the 2200 is going to be connected to is equipped with the appropriate supporting software (refer to Section 1.2 of this manual).
- 2) Ascertain that the VS is configured for a 2258 device using the GENEDIT program.
- 3) Ascertain that the 2258 Controller board is installed in the appropriate 2200 slot.
- 4) Ascertain that the disk address and the communications address have been set on the 2258 Controller board per Section 2.2.
- 5) Turn the 2200 system power on and boot the system as explained in Section 2.2.
- 6) Insert the diskette with the Read Me program, on it into the 2200 diskette drive and run the program per the instructions contained in the 2200/VS LCO CSRN (715-xxxx).
- 7) Insert the 2200/VS LCO software diskette into the 2200 system diskette drive.

2.2 PRELIMINARY SETUP FOR THE 2200 SYSTEM

This subsection explains the necessary operations that must be performed on the 2200 system before you can run the 2200/VS LCO software. These operations include but are not limited to such operations as setting the communications and disk addresses, and booting the 2200 system.

Setting The Communications And Disk Addresses

Before you can use the 2200 LCO software, you must set the communications address and the disk address on the 2258 board. These addresses are set by positioning the switches (labelled 1 through 8) on switch SW1 located on the component side of the 2258 controller board (refer to Figure 2-1). Switches 8 through 3 (corresponding to bits 80 through 04 respectively) are used to set the communications address. The "up" position of the switch is on (binary 1 = low), conversely, the "down" position of the switch is off (binary 0 = high). Switches 2 and 1 (corresponding to bits 02 and 01 respectively) are used to set the disk address in the same manner.

Figure 2-1. Communications Address And Disk Address Switch Settings

The switch settings on the controller board comprise an eight-bit address (byte). The particular settings of the controller switches is a combination of a communication address used by the Terminal Emulation and DMS Access software, and a disk address used to access VDISK. The communications address setting for the controller can be any combination of the high-order six bits (bits 80 through 04) of the address byte that does not conflict with any address already used in your 2200 system.

The disk address setting for the controller can be any combination available using the two low-order bits of the address byte (bits 02 and 01 for a value of 1, 2, or 3). When using the disk part of the controller, the program command addresses the controller at either 10, 20, or 30 respectively. In addition, the chained bit (40) can be used to access drives 50, 60, or 70 respectively.

When you have determined the controller's communications address, add the following three addresses to the system's device table.

- 1) The controller's communications address plus a disk address of 1 (the 01 bit is on)
- 2) The controller's communications address plus a disk address of 2 (the 02 bit is on)
- 3) The controller's communications address plus a disk address of 2 (the 01 and 02 bits are on)

Example:

Controller Address Setting

X'7C'

Plus Disk Address of 1

X'7D'

Plus Disk Address of 2

X'7E'

Plus Disk Address of 3

X'7F'

Device Table entries = X'7D', X'7E', or X'7F' (as disk 310, 320, or 330 respectively)

Repeat this procedure for each 2258 controller board that you have in your 2200 system (up to a maximum of 4).

Booting The 2200 System

Before you can run the 2200/VS LCO software, the 2200 system must be booted in the normal manner as described in the applicable 2200 documentation (xx). For convenience, this process is summarized below.

- 1) Turn system power on.
- 2) Mount system diskette in diskette drive and press the Reset button on the 2200 terminal.
- 3) When the Key SF'1 prompt appears on the screen, press the PF1 key.
- 4) When the Partition Generation Program screen is displayed, press the SF'15 (Execute) key.
- 5) When the next screen is displayed, and the "Check configuration. OK to execute (Y or N)?" prompt is displayed, type in the letter Y for yes and press the RETURN key.
- 6) After step 5 is executed, the same screen is displayed again except for a different prompt. Press the RETURN key again.
- 7) After step 6 is executed, the "Ready" prompt should be displayed on the 2200 terminal screen. At this point, remove the system diskette and insert the 2200/VS LCO software diskette into the diskette drive.
- 8) Press the LOAD, RUN and RETURN keys in that order. The VS Services menu should be displayed on the terminal screen at this time.

At this point, you are ready to run the 2200/VS LCO software. If you are unsuccessful in attempting to run this software, reset the 2258 Controller board as outlined in the following subsection.

Resetting The 2258 Controller

The 2258 LCO Controller board is equipped with an LED and a Reset switch. The 2258 board also detects memory parity. The LED is turned on when the system is powered on to indicate that the power up diagnostic program is being executed. The LED is turned off upon successful completion of the program (approximately 15 seconds). The LED is not turned on again unless a parity error is detected.

When the Reset switch is pressed, it causes the VS to download the 2258 microcode file without turning the entire 2200 system off and on again. The Reset switch should be used when the system is up and the LED is on as a result of a parity error being detected. Pressing the Reset switch under these conditions causes the 2258 Controller to repeat the power up sequence without interrupting the non-2258 users on the 2200 system. This should be the only reason to use the Reset switch during normal operations. However, if the 2258 connection does not appear to be functioning properly, you can press the Reset switch under the following conditions:

- 1) After you have verified that the 2200/VS software is operating properly.
- 2) After you have verified that all users of this particular 2258 Controller is having the same problem.

2.3 PRELIMINARY SETUP FOR THE VS SYSTEM

The 2200/VS LCO software can be run on the VS5, VS6, VS15, VS25, VS45, VS80 and VS100 systems equipped with the 7.10 (or later) operating system. There are no special requirements for the VS other than configuring the 2200 port as described below. If there are any special or unique requirements peculiar to your particular installation, see your VS System Administrator for these details.

Configuring The 2200 Port Address

Before you can use the 2200 LCO software, the 2200 must be recognized as a valid device by the VS. This means that the 2200 must be assigned a port address and a device name (i.e., 2258 device) during the VS system generation procedure (GENEDIT process). Consult with your VS System Administrator and refer to the VS Operating System Release 7.10 Software Bulletin (715-0565) for details.

CHAPTER 3 VS WORKSTATION EMULATION

3.1 INTRODUCTION

This chapter provides step-by-step instructions on using the VS Workstation Emulation (VSWE) facility. This facility allows you to access the VS from the 2200 system, and use the VS DP (data processing) facilities. From VSWE, you can initiate a session with the VS in the standard application access method through a series of user-friendly Wang menus. During the session, you can transmit keystrokes and screens back and forth between the 2200 and the VS. It should be noted that any VS program that downloads microcode to a terminal is not supported by VSWE.

VSWE is also the gateway for activating the VS File Services since you use this software to logon to the VS and then attach to the VS File Services software.

3.2 LOGGING ONTO THE VS AS A DP USER

To use VSWE, you must log onto the VS as a DP user. This is accomplished by following the procedure outlined below.

- 1) Insert the 2200 LCO software distribution diskette into the disk drive.
- 2) Type in SELECT DISK XXX (XXX is the desired disk drive address).
- 3) Press the LOAD and RUN keys in that order.

When the software is successfully loaded, the VS Services screen is displayed. Select the 2258 Workstation Emulation option from the VS Services screen (refer to Figures 3-1 and 3-2) and press the RUN key.

(TO BE SUPPLIED)

Figure 3-1. The 2258 Workstation Emulation Menu Structure (Sheet 1 of 2)

Figure 3-1. The 2258 Workstation Emulation Menu Structure (Sheet 2 of 2)

***** VS SERVICES *****

Select Item with SPACE & BACKSPACE Partition x,xxK
Key RUN to execute, CLEAR or PREV SCRN for previous screen. Terminal x

- x 2258 workstation emulation
 - Attach DMS/VDISK
 - Detach DMS/VDISK
 - Change VDISK configuration
 - View DMS/VDISK status
 - Edit VDISK configuration file
 - Create VDISK
 - Delete VDISK
-

Figure 3-2. The VS Services Screen

Selection of this option causes the 2258 Workstation Emulation Controller Address screen to be displayed (see Figure 3-3). On this screen, you can enter the desired communications address or take the default address determined by the 2258 board (e.g., 07C on the example screen shown in Figure 3-3).

***** 2258 WORKSTATION EMULATION *****

Enter the Communications Address of the desired Controller
07C

Figure 3-3. The Address Screen

Pressing the RETURN key from the 2258 Workstation Emulation Controller Address screen causes the program to search for an emulation task associated with this currently active partition. At this point, the following conditions can occur:

- 1) If there is an active emulation task, the current VS screen is displayed.
- 2) If there is no active emulation task and you logged off the VS before terminating the last emulation, the VS logon screen (refer to Figure 3-4) is displayed.
- 3) If there is an emulation task present resulting from suspending the workstation emulation from the Exit From Emulation screen (refer to Figure 3-7), the Active Emulation Found screen (refer to Figure 3-6) is displayed.

In case 2, when the VS logon screen is displayed, a VS Procedure Language routine can be initiated by logging on with a specified user id. Alternatively, if there is no Procedure Language program incorporated in the VS software, you can supply your assigned user id and password in the appropriate fields on the logon screen (refer to Figure 3-4). When you log onto the VS system and press the RETURN key, the Command Processor screen is displayed (see Figure 3-5).

In case 3, when the Active Emulation Found screen (see Figure 3-6) is displayed, you can perform the following functions:

- Resume Workstation Emulation
- Terminate Workstation Emulation
- Restart Workstation Emulation

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

Workstation 12 Ready 2:01 pm Monday January 27, 1986

Hello New User

Welcome to Tech Writing VSJ

Please identify yourself by supplying the following information

Your userid = ____
Your password = _____

and press (ENTER) to logon

or press (PF11) to enter operator mode immediately

Figure 3-4. The Wang VS Logon Screen

***** Wang VS COMMAND PROCESSOR *****

Workstation 12 Ready 2:01 pm Monday January 27, 1986

Hello Bob Johnson

Welcome to Tech Writing VSJ

Use the Function Keys to Select a Command:

- | | |
|------------------------------------|-------------------------------|
| (1) RUN Program or Procedure | (9) Enter WORD PROCESSING |
| (2) SET Usage Constants | (11) Enter OPERATOR MODE |
| (3) SHOW Program Completion Report | (12) SUBMIT Procedure |
| (4) Manage QUEUES | |
| (5) Manage FILES/LIBRARIES | (13) Send MESSAGE To Operator |
| (6) Manage Devices | (15) PRINT COMMAND Screen |
| (8) Manage COMMUNICATIONS | (16) LOGOFF |
-

Figure 3-5. The VS Command Processor Screen

***** ACTIVE EMULATION FOUND MENU *****

Select Item SPACE & BACKSPACE Partition x,xxK
Key RUN to execute, CLEAR or PREV SCRN for previous screen. Terminal x

- Resume Workstation Emulation
- Terminate Workstation Emulation
- Restart Workstation Emulation

Figure 3-6. The Active Emulation Found Screen

3.3 RUNNING THE 2258 SESSION WITH THE VS

Once you are logged onto the VS and the Command Processor screen is displayed, you can use the VS DP functions as if you were using a VS terminal connected directly to the VS system. An exception to this rule is that no program or function can be used that downloads microcode to a terminal.

NOTE

You should not attempt to use word processing (WP) or any communications emulators because this practice results in destroying the 2258 microcode in the controller.

Equivalent VS function keys on the 2200 DE and DW terminals when operating in the 2258 mode can be found on the 2200/2258 Function Strip (refer to Appendix A).

Resuming The Workstation Emulation

If you decide that you are not finished with the VS session after pressing the EDIT key, and you want to continue with the emulation; position the acceptance block to the Resume Workstation Emulation option on the Exit From Emulation screen. Press the RUN key and you are returned to the emulation at the same place you exited.

Suspending The Workstation Emulation

If you desire to get out of the VS mode and return to the 2258 emulation at some later time, you should use the Suspend Workstation Emulation option. To use this option, position the acceptance block to the Suspend Workstation Emulation option on the Exit From Emulation screen and press the RUN key. Now, the system displays the VS Services screen (refer to Figure 3-2). If you want to return to the emulation after suspension, select the 2258 Workstation Emulation option on the VS Services screen. When you select the 2258 Workstation Emulation option after suspending the emulation, the Active Emulation Found screen is displayed (refer to Figure 3-6).

The Attach VS File Services option on the Exit From Emulation screen is only active in the VDISK/DMS operations (refer to Chapter 4 for complete details).

The Active Emulation Found Screen

The Active Emulation Found screen (refer to Figure 3-6) is displayed when the 2258 contains an emulation session that was suspended before exiting the emulation software. From this screen, you can choose the Resume Workstation Emulation option which causes the VS Logon screen (refer to Figure 3-4) to be displayed (if you are not logged onto the VS), or the last displayed VS screen to be displayed if you are still logged onto the VS.

From the Active Emulation Found screen, you can also select the Terminate Workstation Emulation option that terminates the emulation session and returns you to the VS Services screen (refer to Figure 3-2). This option should only be exercised after you have logged off the VS.

The Restart Workstation Emulation option on the Active Emulation Found screen is active only in the VDISK/DMS operations (refer to Chapter 4 for complete details).

Terminating The Workstation Emulation

The workstation emulation can be terminated at two different points in the emulation software: from the Active Emulation Found screen (refer to Figure 3-6) and from the Exit From Emulation screen (refer to Figure 3-7). When this option is selected from either of these two screens, you are returned to the VS Services screen. To terminate the workstation emulation from the Active Emulation Found screen, log off the VS system first and execute the following procedure.

- 1) Select the Terminate Workstation Emulation option on the displayed screen.
- 2) Press the RUN key.

To terminate the workstation emulation immediately after completing a VS session (from the Exit From Emulation screen), execute the following procedure.

- 1) Log off the VS system.
- 2) Press the EDIT key to display the Exit From Emulation screen.
- 3) Select the Terminate Workstation Emulation option on the displayed screen.
- 4) Press the RUN key.

THIS SECTION HAS NOT BEEN VERIFIED AGAINST SOFTWARE
I AM STILL WAITING FOR THE VDISK SOFTWARE

CHAPTER 4 DISK OPERATIONS

4.1 INTRODUCTION

The 2200 LCO software includes support for disk operations. These disk operations are divided into two functions: the VDISK operations and the DMS operations. Both of these functions use the same menus and utility programs. The VDISK operations allow you to store 2200 disk images on the VS while the DMS operations allow you to access DMS files on the VS and perform file services. Before you can use any of these functions, you must attach the VS to the 2200 through the Attach utility.

The DMS/VDISK functions are further divided into two groups according to where the functions are capable of being executed. The first group of functions is the Console only group. These functions are limited access functions, and can only be executed from Terminal 1 (defined as the console). However, the Console can perform all DMS/VDISK functions including those in the second group. The second group of functions (Console/Terminal) is a more general user group that can be executed from any terminal assigned to a particular controller (i.e., terminals 1, 2, 3, or 4). The Console only and Console/Terminal functions are as follows:

Console Only Functions

- 1) Attach DMS/VDISK
- 2) Detach DMS/VDISK
- 3) Change VDISK configuration
- 4) Delete VDISK

Console/Terminal Functions

- 1) View DMS/VDISK status
- 2) Edit VDISK configuration file
- 3) Create VDISK

4.2 CONSOLE ONLY FUNCTIONS

To run the DMS/VDISK facility, you must first attach the 2200 to the VS from the console by selecting the Attach DMS/VDISK option from the VS Services screen (refer to Figure 3-2). After you have selected the Attach DMS/VDISK option, press the RUN key and the address screen (refer to Figure 3-3) is displayed. On this screen, you are prompted for the communications address. Type in the desired communications address or use the default address displayed on the screen and press the RETURN key. When the address is entered and accepted by the VS, the VS logon screen is displayed (refer to Figure 3-4) if all DMS/VDISK sessions were detached before logging off the VS.

NOTE

You must Detach all DMS/VDISK sessions from the 2258 Controller, and then log off the VS from the VS Workstation Emulation function to prevent the VS from hanging up.

When the VS Logon screen is displayed, enter your logon id and password and press the RETURN key. Now, the Command Processor screen (refer to Figure 3-5) is displayed. Press the PF1 key, and the VS Run screen (refer to figure 4-1) is displayed.

*** RUN ***

Supply the Name of the Program
(or procedure) to be executed
and Press (ENTER):

PROGRAM = _____

Options

Designated User Library which
Includes Programs (or Procedures)
to be Used During This Run:

LIBRARY = _____
VOLUME = _____

or Press (1) to load Program for Interactive Debug

Press (HELP) to Return to the Command Processor

Figure 4-1. The VS Run Screen

Enter the name of the VS Access program in the PROGRAM field on the VS Run screen. Also, enter the names of the Library and Volume in the LIBRARY and VOLUME fields respectively where the VS Access program resides. Press the ENTER key, and a momentary VS Access program screen is displayed. At this point, the VS Workstation Emulation is interrupted, and the VS Services screen is again displayed.

The Attach DMS/VDISK Operation

When the VS Services screen is redisplayed after activating the VS access program, select the Attach DMS/VDISK option and press the RUN key. Now, the system displays the Attach DMS/VDISK screen (refer to Figure 4-2).

***** ATTACH DMS/VDISK *****
Revision 0.02

Communications address: 07C
Primary VDISK platter address: D11
VDISK configuration file: TEST1

'9 - Replace configuration file
EXECUTE - Attach to VS
CANCEL - Exit

Figure 4-2. The Attach DMS/VDISK Screen

The Attach DMS/VDISK screen is dynamically and automatically updated. It displays the communications address of the attached controller, the VDISK platter address, and the VDISK configuration file. The system always defaults to the first active file in the VDISK configuration. From this screen, you can attach the 2200 to the VS by pressing the RUN key, or you can replace the current VDISK configuration file by pressing the PF'9 key. If you do not want to attach to the VS or replace the current configuration file, press the CANCEL key to exit this screen and return to the VS Services screen.

If you want to replace the current configuration file, press the PF'9 key and the Modified Attach screen 1 (refer to Figure 4-3) is displayed. On this screen, enter the new configuration file name in the designated field and press the RETURN key. At this point, the system displays the same screen as illustrated in Figure 4-3 except there is a momentary message (Configuration file replaced) at the lower left hand side of the screen.

***** ATTACH DMS/VDISK *****
Revision 0.02

Communications address: 07C
Primary VDISK platter address: D11
VDISK configuration file: TEST1

EXECUTE - Attach to VS
CANCEL - Exit

Enter new configuration file name: _____

Figure 4-3. The Modified Attach Screen 1

If you want to attach the 2258 controller to the VS system, press the EXECUTE key on the Attach DMS/VDISK screen (refer to Figure 4-2). Now, the system displays the Modified Attach screen 2.

***** ATTACH DMS/VDISK *****
Revision 0.02

Communications address: 07C
Primary VDISK platter address: D11
VDISK configuration file: TEST1

EXECUTE - Attach to VS
CANCEL - Exit

Is attached allowed ? (Y/N) __

Figure 4-4. The Modified Attach Screen 2

On the Modified Attach screen 2, type in a Y for yes and press the RETURN key. The system now displays the same screen as shown in Figure 4-4 with a momentary message (Attaching DMS/VDISK) in the message area. After this, a series of messages is displayed on the screen shown in Figure 4-4. This series of messages is as follows:

- 1) Opening VDISK1 (press the RETURN key and the next message appears)
- 2) Opening VDISK3 (press the RETURN key and the next message appears)
- 3) Opening VDISK2 (press the RETURN key and the next message appears)
- 4) Controller attached, TEST1 activated - Press any key to exit

Pressing any key at this point returns you to the VS Services main screen.

If you do not want to replace the current configuration file or attach to the controller, you can press the CANCEL key to exit from this screen. Pressing the CANCEL key displays the same screen as shown in Figure 4-4 with a momentary message (Attach DMS/VDISK utility cancelled - Press any key to exit). Pressing any key at this point causes another momentary message (Returning to Workstation Emulation) to be displayed on the screen shown in Figure 4-4. After this message is displayed, the system returns you to the VS Services screen.

The Detach DMS/VDISK Operation

The Detach DMS/VDISK operation closes all open files and notifies the 2258 that the DMS/VDISK task is no longer active. The Detach operation is equivalent to a dismount disk function and must be performed before powering down the system when the 2200 has been attached to the VS for use with either DMS or VDISK. When the Detach operation is performed, you must log off the VS from the Workstation Emulation mode. It is recommended that you set up a procedure that will automatically log you off the VS as the 2200 access program is exited.

The Detach operation is activated by selecting the Detach DMS/VDISK option from the VS Services screen. When this option is selected and the RUN key is pressed, the system displays a momentary message (Loading VDETACH); and then displays the Detach DMS/VDISK screen (refer to Figure 4-5).

***** DETACH DMS/VDISK *****
Revision 0.02

Enter communications address: 07C

EXEC - Detach from VS
CANCEL - Exit

Figure 4-5. The Detach DMS/VDISK Screen

When the Detach DMS/VDISK screen is displayed, enter the desired communications address and press the RUN key. Now the same screen is displayed as shown in Figure 4-5 with the following message prompt:

Is detach allowed (Y/N)?
Detaching DMS/VDISK

Enter the letter Y in the indicated field and press the RETURN key. At this time, the system displays a message (Control]er detached) on the screen shown in Figure 4-5.

Press the CANCEL key to exit this screen and return to the VS Services screen. The system displays the following message:

Detaching DMS/VDISK
Loading VS Services Menu

The Change VDISK Configuration Operation

The Change VDISK Configuration operation allows you to select and change the default VDISK configuration file stored in the VDISKMAP. It also gives you the option of activating the configuration file. Note that all VDISKS must have previously been created by the Create VDISK operation.

When you activate the configuration file, the Change VDISK utility program opens all new (added) VDISKS and closes those that have been deleted by the Delete VDISK utility. When this operation is performed, the 2258 configuration matches the configuration file. If the description of a VDISK is unchanged i.e., it was previously opened in the same mode and associated with the same 2200 platter; it is not affected.

To activate the Change VDISK Configuration operation, select the Change VDISK Configuration option from the VS Services screen and press the RUN key. When the RUN key is pressed, the Change VDISK Configuration screen (refer to Figure 4-6) is displayed.

***** CHANGE VDISK CONFIGURATION *****
Revision 0.02

Enter communications address: 07C
Enter configuration file name: TEST1

EXEC - Change configuration
CANCEL - Exit

Figure 4-6. The Change VDISK Configuration Screen

When the Change VDISK Configuration screen is displayed, enter the desired communications address and the VDISK file name (or take the default address and VDISK name supplied by the Change VDISK utility program) and press the RUN key. Now, the system displays the same screen as shown in Figure 4-6 with a momentary message (VDISK configuration changed) in the lower left hand portion of the screen indicating that the default VDISK configuration has been changed.

To exit from the Change VDISK Configuration screen, press the CANCEL key. When the CANCEL key is pressed, the following momentary messages are displayed on the screen shown in Figure 4-6; then the VS Services screen is displayed.

Change VDISK configuration cancelled
Loading VS Services Menu

The Delete VDISK Operation

The Delete VDISK operation allows you to delete a VDISK from the VS. VDISKs that are deleted by the VDISK utility program must have previously been created by the Create VDISK utility. To delete a VDISK, you must specify the VDISK name and the desired communications address, or use the default address supplied by the Delete VDISK utility. The default communications address is the first address in the VDISKMAP.

To activate the Delete VDISK operation, select the Delete VDISK option from the VS Services screen and press the RUN key. When this option is selected, the Delete VDISK screen (refer to Figure 4-7) is displayed if the 2258 is attached. If the 2258 is not attached, the following messages are displayed on the VS Services screen:

Loading VDELETE
No controller attached - Press CANCEL to exit

When these messages appear, press the CANCEL key to return to the VS Services screen.

***** DELETE VDISK *****
Revision 0.02

Enter communications address: _____
Enter VDISK Name: _____
(Volume: Library: FileName)

EXEC - Delete VDISK
CANCEL - Exit

Figure 4-7. The Delete VDISK Screen

When the Delete VDISK screen is displayed, enter the communications address and the name of the VDISK to be deleted, and press the RUN key. When the RUN key is pressed, appropriate messages are displayed on the Delete VDISK screen indicating the success or failure of the delete VDISK operation. When all desired VDISKS have been deleted, press the CANCEL to exit this screen and return to the VS Services screen.

4.3 CONSOLE/TERMINAL FUNCTIONS

The Console/Terminal functions include the Emulate VS Workstation function already discussed in Chapter 3 in addition to the View DMS/VDISK Status, the Edit VDISK Configuration File, and the Create VDISK functions. The latter three functions are discussed in the following subsections.

The View DMS/VDISK Status Operation

The View DMS/VDISK operation is activated by selecting the View DMS/VDISK Status option from the VS Services screen. When this option is selected and the RUN key is pressed, the system displays the View DMS/VDISK Status screen (refer to Figure 4-8). The View DMS/VDISK operation displays the status of all currently open VDISKS on the specified 2258 address. It also displays the name of the configuration file used to open the VDISKS. If no VDISKS are open, but DMS/VDISK is available; a message is displayed to indicate this condition. The View DMS/VDISK utility defaults to the first 2258 address in the VDISK map. By entering a different address, and pressing the RETURN key; you can examine the status of DMS/VDISK files on other controllers.

When the View DMS/VDISK Status screen is displayed, enter the platter size for the first VDISK and press RETURN, and the next VDISK file appears. Repeat this procedure until all VDISKS are displayed on the screen. If the View DMS/VDISK operation is run from the Console (terminal 1), you can re-enter workstation emulation and perform diagnostic operations. Under these conditions, you can read the offending message from the VS Command Processor screen and take appropriate action. If no action needs to be taken, you can log off the emulation.

If more than eight VDISKS are open, the NEXT SCRIN and PREV SCRIN keys allow you to page through the other screens. Pressing the CANCEL key causes a momentary message to appear, and returns you to the VS Services screen .

***** VIEW DMS/VDISK STATUS *****
Revision 0.02

Enter communications address: 07C
Enter Configuration file name: TEST1

2200 <u>Platter</u>	-- VDISK Name on VS System -- <u>Volume Library FileName</u>	Platter <u>Size (sectors)</u>	<u>VDISK Status</u>
<u>310</u>	<u>VDISK1</u>	_____	<u>Not Ready</u>
<u>350</u>	<u>VDISK3</u>	_____	<u>Not Ready</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

PREV SCRN - Previous screen
NEXT SCRN - Next screen
EXEC - New controller
CANCEL - Exit

Figure 4-8. The View DMS/VDISK Status Screen

The Edit VDISK Configuration File Operation

The Edit VDISK Configuration File operation allows you to edit the VDISK configuration file. The VDISK configuration file specifies which VDISKS are to be opened, which 2200 platter addresses are to be associated with the VDISKS, and whether the VDISK is opened in Exclusive or Shared mode. For this operation, the 2200 does not have to be attached to DMS/VDISK. It should be noted, however that the edit operation only edits the configuration file and does not activate it. The configuration file is not activated until the Attach operation is performed as previously described in this chapter.

The Edit VDISK Configuration File operation is activated by selecting the Edit VDISK Configuration File option from the VS Services screen. When this option is selected, the system displays the Edit VDISK Configuration File screen (refer to Figure 4-9).

***** EDIT VDISK CONFIGURATION FILE *****
Revision 0.02

Load from configuration file: TEST1
Save to configuration file: TEST1

2200 <u>Platter</u>	-- VDISK Name on VS System -- <u>Volume Library FileName</u>	Exclusive or Shared?
_____	_____	_ E _ S
_____	_____	_ E _ S
_____	_____	_ E _ S
_____	_____	_ E _ S
_____	_____	_ E _ S
_____	_____	_ E _ S
_____	_____	_ E _ S
_____	_____	_ E _ S
_____	_____	_ E _ S
_____	_____	_ E _ S

PREV SCR N - Previous screen
NEXT SCR N - Next screen
EXEC - Save file
CANCEL - Exit

Figure 4-9. The Edit VDISK Configuration File Screen

When the Edit VDISK Configuration File screen is displayed, you can enter the desired 2200 platter address, the VDISK name, and the VDISK file mode (E for exclusive or S for shared). The system defaults to the first file in the VDISK map for the file name in the Load from configuration file and the Save to configuration file fields. When editing is complete, press the RETURN key to save the new or edited contents to the file indicated in the Save to configuration file field.

The Edit VDISK Configuration File Utility can display a total of 32 files. Pressing the NEXT SCR N key displays the next file to be edited and pressing the PREV SCR N key returns you to the previous screen. When editing is complete, and there are no more files to be edited; press the CANCEL key to leave this screen and return to the VS Services screen.

The Create VDISK Operation

The Create VDISK operation provides a means of communication between the 2200 and the VS systems. The Create VDISK utility creates a 2200 disk image within a user named VS file. A single 2258 Controller can control up to 32 of these disk images at any one time. Through this utility program, the individual disk images are mapped to individual 2200 platters. The application software then addresses the disk image just as if it were a real disk platter on the 2200 system. The disk images may be addressed as Dx0 through Dx7 and Dy0 through Dy7, where x can be 1, 2 or 3 and y can be 5, 6, or 7; respectively (i.e., if x = 1, then y must be 5; if x = 2, then y must be 6; and if x = 3, then y must be 7).

The Create VDISK operation is activated by selecting the Create VDISK option from the VS Services screen (refer to Figure 3-2) and pressing the RUN key. When the RUN key is pressed, the system displays the Create VDISK screen (refer to Figure 4-10).

***** CREATE VDISK *****
Revision 0.02

Enter communications address: 07C

<u>VDISK Name on VS System</u> <u>(Volume: Library: File Name)</u>	<u>Platter</u> <u>size (sectors)</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

PREV SCRN - Previous screen
NEXT SCRN - Next screen
EXEC - Create VDISK file(s)
CANCEL - Exit

Figure 4-10. The Create VDISK Screen

When the Create VDISK screen is displayed, enter the names of the volume and library where you want the VDISK file to reside in the VS system, and enter the name of the file in the designated fields. Also, enter the desired size (in sectors) of the file in the designated field. After you have entered this information, press the RETURN key and this file is created on the VS system as indicated by a momentary message in the lower left hand corner of the Create VDISK screen (refer to Figure 4-10). Repeat this procedure for as many VDISK files that you want to create on the VS system (up to a maximum of 32). When you have created all of the desired VDISK files, press the CANCEL key to exit this screen and return to the VS Services screen.

APPENDIX A KEYBOARDS AND FUNCTION STRIPS

This Appendix illustrates the various keyboards and function strips used with the 2200/VS LCO software. Figure A-? is applicable for all 2200 DE keyboards and Figure A-? is valid for all 2200 DW keyboards. The applicable function strip is the standard VS function strip (Part No. xxxxxxx).

Figure A-1. The 2200 DE Keyboard

Figure A-2. The 2200 DW Keyboard