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Operations Guide

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About This Guide

Purpose

The purpose of the *V Series Systems Operations Guide, Volume 1: Installation* is to provide you with the information necessary to start up and prepare your system to run your programs.

Scope

This guide includes all the procedures required to power on, configure, cold-start, and halt/load your Unisys V Series system.

Audience

The primary audience for this guide is the experienced user of Unisys V Series systems.

Prerequisites

Anyone using this guide should possess a basic knowledge of Unisys systems.

Using This Guide

This guide should be used in conjunction with the following volumes to aid you in operating your Unisys V Series system:

- *V Series Systems Operations Guide, Volume 2: System Commands*
- *V Series Systems Operations Guide, Volume 3: System Utilities*
- *V Series Systems Operations Guide, Volume 4: System Messages and Recovery*

These volumes are referred to in the text as Volume 2, Volume 3, and Volume 4, respectively.

Organization

This guide consists of the following sections:

System Configuration Worksheet

This worksheet should be completed by your system administrator or a Unisys customer service engineer (CSE) before you configure the system so that all the values required during the configuration process are available in one place.

Section 1. Overview

This section describes the central system components.

Section 2. Powering the System On and Off

This section provides information for powering on and off the system cabinets, as well as emergency power-off procedures written in both German and English.

Section 3. Initializing the System

This section includes step-by-step procedures for bringing up a system after the direct current (dc) power has been turned on.

Section 4. Using the CONFIG Utility

This section contains the instructions for using CONFIG, an interactive utility program that creates and updates the MCP configuration file. The MCP configuration file provides the values the system needs for a cold-start or a halt/load.

Section 5. MCP Configuration Record Formats

This section displays the record formats of the MCP configuration file as created by the CONFIG utility program.

Section 6. Example MCP Configuration Files

This section provides MCP configuration file examples created by the CONFIG utility program. These examples illustrate the format and use of the MCP configuration file.

Appendix A: Cross-Reference to MCP Configuration Records

This appendix provides a topical breakdown of the MCP configuration records described in Section 5.

Appendix B: CONFIG Utility Error Messages

This appendix explains the error messages returned by the CONFIG utility.

Appendix C: Understanding Railroad Diagrams

This appendix describes how to read railroad diagrams.

Glossary

The glossary defines terms used in this manual.

Index

The index is a complete cross-reference to this manual.

Results

By following this guide, you will be able to

- Power on the system.
- Load firmware.
- Create an MCP configuration file.
- Perform a cold-start and halt/load for the system.

Related Product Information

This guide is a companion text to the following documents:

V Series Systems Operations Guide, Volume 2: System Commands (4127 4994-000)

This guide provides detailed information about the use and syntax for each system command, and it also includes some basic information for the first time user and reference material for the experienced user.

V Series Systems Operations Guide, Volume 3: System Utilities (4127 0000-000)

This guide lists the system utilities that act as extensions of the master control program (MCP) to convert files from one medium to another, initialize disk pack units, create pseudo card decks, and so on.

V Series Systems Operations Guide, Volume 4: System Messages and Recovery (4127 0018-000)

This guide describes the messages that appear on the operator control station. This guide also describes recovery procedures.

V Series System Security Installation and Operations Reference Manual (4127 4804-000)

This manual describes the system security facilities that allow access control to the system and files.

Refer to the following guide for information on installing the V Series Communication System (VCS).

V Series VCS Installation and Migration Guide (4127 0075-000)

System Configuration Worksheet

The pertinent information on this worksheet is to be filled in by your system administrator or your Unisys customer service engineer (CSE) so that it can be used for reference when you install the MCP. Some of the information need not be filled in, depending on your system environment.

MCP Memory Limit: ______________________________

This limit is used by the MCP and user programs. It can be less than or equal to the physical limit.

QWIKDisk Base: ______________________________

If QWIKDisk is required, use this as the starting point (base) in memory. If DEFAULT appears here, you will use the default base; otherwise, write in the base in digits.

(The processor displays the number of sectors available for files as you work through the installation instructions. You can write down the base at that time. See the next item.)

QWIKDisk Available Sectors: ______________________________

This is the number of available sectors in QWIKDisk. The operating system cannot address more than 999999 sectors of QWIKDisk.

Input/Output Processors (IOPs): ______________________________

This is the number of IOPs on the system.

Memory Cards (V 300 Only): ______________________________

This is the number of memory cards on the system.

Channel and Unit Numbers of MCP Disk: ______________________________

These are the MCP disk channel and unit numbers.

Channel and Unit Numbers of Upper MMDD (V 300 Only): ____

These are the channel and unit numbers of the upper, or primary, microminidisk drive (MMDD).

continued

Channel and Unit Numbers of Lower MMDD (V 300 Only): ____

These are the channel and unit numbers of the lower, or secondary, MMDD.

OCS Channel Number: ____________________

This is the channel number for the operator control station (OCS).

ODT Channel Number: ____________________

If an OCS is not used, this is the channel number of the operator display terminal (ODT).

MP Channel Numbers (V 500 Only): ____________________

Note that channel numbers 82, 83, 84 and 85 are reserved for the maintenance processor (MP) contained in the system console.

Tape Drive (MCP Source): ____________________

If the MCP is to be loaded from tape, use this tape drive channel and unit number to load the MCP.

Disk Pack (MCP Source): ____________________

If the MCP is to be loaded from disk pack, use this disk pack channel and unit number and the family name to load the MCP.

MCP Configuration File: ____________________

Use this MCP configuration file to cold-start the system.

Disk Pack (Configuration File Source): ____________________

If the MCP configuration file is to be loaded from a disk pack, use this disk pack channel and unit number and the family name to load the file.

MMDD (Configuration File Source) (V 300 Only): ____________

If the MCP configuration file is to be loaded from a diskette, use both the label and volume name of the diskette to load the file.

If the diskette has a different volume name, also include it here.

continued

Uniline Firmware: ____________________

Load this firmware file to a Uniline data link processor (DLP).

SSP Firmware: ____________________

Load this firmware file to the shared system processor (SSP) DLP.

Disk Pack Controller Firmware: ____________________

Load this firmware file from pack or tape to the disk pack controllers.

Processor IDs: ____________________

These are the hardwired system numbers and the host names of each system of your configuration.

MCP Name: ____________________

This is the MCP you are using.

If your configuration includes a shared disk and you use separate MCPs, it is a good idea to incorporate the hardwired processor number of each system into the name of each MCP file.

Contents

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Tables

Section 1
Overview

This section provides an overview of the some of the important hardware components of V Series systems and briefly discusses the steps required to initialize a system.

Understanding the V Series Central System

All V Series central systems include the necessary components required to bring up and run that system. The central system does not include peripherals that are not essential for a cold-start.

V 300 Central System

The V 300 central system consists of at least two cabinets and an operator display terminal (ODT). You can place the ODT on top of the input/output (I/O) cabinet or away from the system.

The processor resides in the processor cabinet, which is the smaller of the two cabinets.

The I/O cabinet houses

- The maintenance processor (MP)
- Two microminidisk drives (MMDDs)
- The system control panel
- One to three data link processor (DLP) bases

V 500 Central System

The V 500 central system consists of

- A processor cabinet
- A power cabinet
- An independent input/output (IIO) cabinet
- A maintenance processor (MP)
- An operator control station (OCS)

The IIO cabinet houses two data link processor (DLP) bases that contain the DLPs. You can place the IIO cabinet as far as 25 feet from the processor cabinet. You can place the MP and OCS at locations that are convenient for the user.

Components of the V Series Central System

The following text describes the components of the V Series central system.

Processor

Each processor cabinet houses at least one processor. A processor consists of modules that control particular functions. Some of these modules require microcode, known as *firmware*, to make them operational. The firmware for the processor modules is loaded into random access memory (RAM). The RAM that contains the firmware is called the *control store.*

After you power on the system, you must load the into the control store under MP control because the contents of the RAM are lost with each power-off operation. For a complete description of how to load the firmware into the control store, refer to Section 3, "Initializing the System." The control store is automatically verified after it is loaded. Unisys issues new firmware to fix problems or to release improvements.

Note: *The V 500 control store verification is optional; however, the verification process is the default.*

Memory

The main memory is located on cards in each processor cabinet. The number of memory cards varies according to the style number of your system. In addition to storing the MCP and user programs, you can designate a portion of the memory as a memory disk, known as *QWIKDisk.* For a complete description of the QWIKDisk option, refer to Volume 3.

Maintenance Processor (MP)

The maintenance panel (MP) is primarily used by service personnel for maintenance purposes. However, system operators also use the MP to power on and initialize the system.

V 300 MP

The V 300 MP is a microprocessor-based subsystem that provides the operator and maintenance interfaces to the main processor. The V 300 MP contains the following:

- Data paths to the processor, ODT, and remote link
- Two MMDDs
- A console DLP
- The DLP test bus interface (TBI)

The main processor uses the console DLP data path to communicate with the MMDDs, ODT, TBI, and remote link.

The V 300 MP includes memory to store firmware. Before you initialize a V 300, you must load firmware from minidisks to make the MP operational.

V 500 MP

The V 500 MP consists of a B 27 workstation and a monitor. It is primarily for use by service personnel, but it is also used to power on the system. A cartridge tape reader is included for loading firmware and MP software to the B 27 disk.

I/O Subsystem

The I/O subsystem includes all the system components that handle data transfer between the main processor and peripherals.

V 300 I/O Subsystem

The V 300 I/O subsystem consists of

- One or two I/O processors (IOPs)
- DLP bases
- Individual DLPs

The IOP controls data flow between memory and the DLP. The DLP base contains logic that is used with the IOP to select a particular DLP. The DLP controls data flow to and from a type of peripheral device. For example, a magnetic tape DLP controls data flow to and from magnetic tape drives.

Through the maintenance card, the IOP also implements commands sent on the test bus to DLPs.

V 500 I/O Subsystem

The V 500 I/O subsystem consists of

- An I/O memory concentrator (IOMC)
- One or more data transfer modules (DTMs)
- DLP bases
- Individual DLPs

The IOMC and DTM control the flow of data between memory and the DLP. The DLP base contains logic that is used with the DTM to select a particular DLP and test bus. The DLP controls data flow to and from a type of peripheral device. For example, a magnetic tape DLP controls data flow to and from magnetic tape drives.

Control Panels

A control panel includes switches located on the central system cabinets. The switches are push buttons, which light when pressed.

Note: *The V 500 control panels are not normally used because you use the MP to power on or power off the system.*

V 300 System Control Panel

You can use the V 300 system control panel, located in the upper-left corner of the I/O cabinet, to perform the following tasks:

- Turn the system power on or off.
- Switch control of the ODT between the on-line and console modes.
- Initiate the MP.
- Observe the error conditions of the MMDD and MP.

Figure 1–1 represents the V 300 control panel.

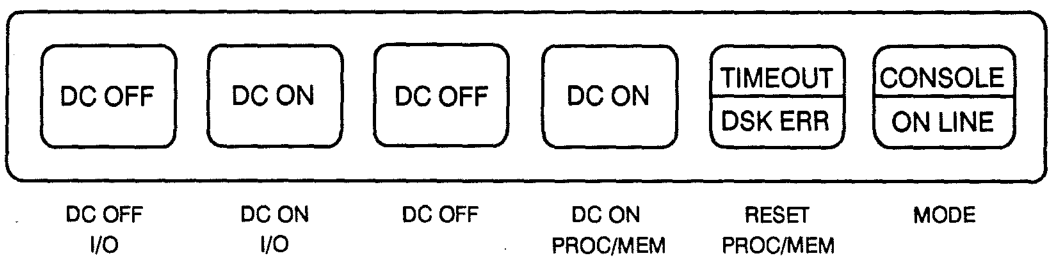


Figure 1–1. V 300 System Control Panel

Table 1–1 lists the functions of the V 300 control panel switches.

Table 1–1. V 300 Control Panel Switches

Switch	Function
V 300 DC OFF	Use the DC OFF switch to turn off the direct current (dc) in the I/O cabinet if the corresponding DC ON switch is lit. A lit DC OFF switch indicates that ac power is being applied to the cabinet. You can initiate a dc power-on sequence by pressing the DC ON switch. A flashing DC OFF switch indicates that a dc power failure has occurred in the I/O cabinet. *Note: The DC OFF switch also provides a reset function if a dc power failure occurs. The reset does not function if a catastrophic overvoltage caused the power failure.*
V 300 DC ON	Use the DC ON switch to turn on the I/O cabinet dc power. This indicator flashes during a normal power-on sequence and is lit when the power-on sequence is complete.
V 300 DC OFF	Use the DC OFF switch to turn off the dc power for the processor cabinet if the corresponding DC ON switch is lit. A lit DC OFF indicates that the cabinet is receiving power. You can initiate a dc power-on sequence by pressing the DC ON switch. When a power failure occurs in the processor cabinet, the DC OFF switch flashes. *Note: The DC OFF switch also provides a reset function if a DC power failure occurs. The reset does not function if a catastrophic overvoltage caused the power failure.*
V 300 DC ON	Use the DC ON switch to turn on the dc power to the processor cabinet. The indicator flashes during the normal power-on sequence and is lit at the completion of the power-on sequence.
V 300 DISK ERR/TIMEOUT	Use the DISK ERR/TIMEOUT to initiate the MP PROM-resident diagnostics. On completion of these diagnostic tests, the MP loads a program into memory from any diskette that is mounted and ready in the MMDD. Failure to find a suitable diskette causes the MP to go to a timeout. If this occurs, the TIMEOUT indicator is lit. If an I/O error occurs that cannot be recovered, the DISK ERR indicator is lit.
V 300 CONSOLE/ ON LINE	Use the CONSOLE/ON LINE switch to alternate ODT control between the console DLP (for MCP messages) and the MP. The ODT can display MCP messages when this switch is set to ON LINE. The indicator lights the name of the active mode.

WARNING

Do not reset a catastrophic overvoltage failure. The power subsystem must be reset only by Unisys service personnel. Otherwise, information about the cause of the failure will be lost.

V 300 Expansion Cabinet Control Panel

Each expansion cabinet has a control panel located in the upper-left corner of the cabinet. Figure 1–2 represents an expansion cabinet control panel.

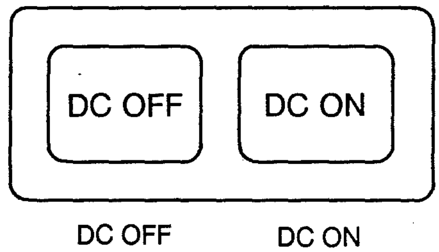


Figure 1–2. V 300 Expansion Cabinet Control Panel

Table 1–2 lists the function of each switch on the expansion cabinet control panel.

Table 1–2. V 300 Expansion Cabinet Control Panel Switches

Switch	Function
V 300 DC OFF	Use the DC OFF switch to turn off dc power for the expansion cabinet if the corresponding DC ON switch is lit. The DC OFF switch is lit at the end of a power-off sequence, which indicates that ac power is still being applied to the cabinet. You can initiate a dc power-on sequence by pressing the DC ON switch. A flashing DC OFF indicator indicates that a dc power failure occurred in the cabinet. *Note: The DC OFF switch also provides a reset function if a dc power failure occurs. The reset does not function if a catastrophic overvoltage caused the power failure.*
V 300 DC ON	Use the DC ON switch to turn on the expansion cabinet. This indicator flashes during normal power-on sequence and is lit at the completion of a power-on sequence. This indicator remains lit as long as the system is operational.

WARNING

Do not reset a catastrophic overvoltage failure. The power subsystem must be reset only by Unisys service personnel. Otherwise, information about the cause of the failure will be lost.

V 500 System Control Panel

The V 500 system control panel includes push button switches, indicators, and a keylock switch. This control panel is located in the upper-left corner of the processor cabinet and is used to perform the following:

- Turn the system power on or off.
- Switch control of the system between the cabinet (local mode) and the MP (remote mode).
- Indicate which switch is active.
- Enable off-site service center access to the system by way of a remote link.

Figure 1–3 represents a V 500 system control panel.

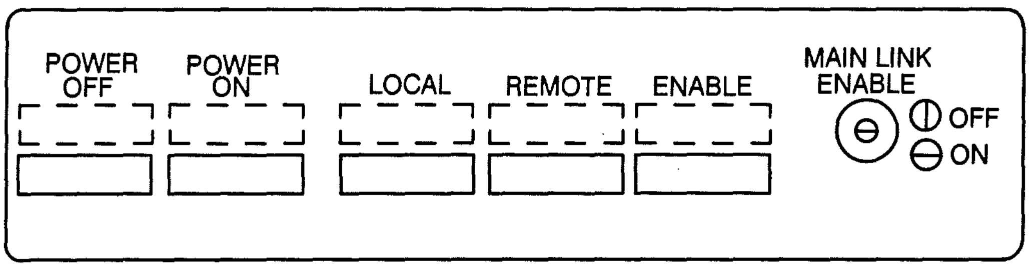


Figure 1–3. V 500 System Control Panel (Processor Cabinet)

Table 1–3 lists the functions of the V 500 control panel switches.

Table 1–3. V 500 Control Panel Switches

Switch	Function
V 500 ENABLE	This switch is always used in conjunction with one of the other switches. You must press the ENABLE switch and a function switch simultaneously for a function to occur. The ENABLE indicator is lit whenever you press the ENABLE switch and another switch simultaneously. The indicator remains lit until the selected function is completed. This ENABLE indicator is lit during power-on or power-off sequences, regardless of whether the system is in local or remote mode.

continued

Table 1–3. V 500 Control Panel Switches (cont.)

Switch	Function
V 500 POWER OFF	Use the POWER OFF and ENABLE switches to turn off dc power in the processor cabinet. When the dc power is off, the POWER OFF indicator is lit. There is ac power available at the processor cabinet when the POWER OFF indicator is lit. You must turn off the circuit breaker at your cite to remove all ac power from the processor cabinet. *Note: If the POWER OFF indicator is flashing, a catastrophic condition (such as air loss, over-temperature, overvoltage, and so on) has occurred.*
V 500 POWER ON	Use the POWER ON and ENABLE switches to turn on the ac power in the processor cabinet. During a power-on sequence, the POWER ON indicator flashes and the ENABLE indicator is lit. At the completion of the power-on sequence, the POWER ON indicator is fully lit and the ENABLE indicator is turned off.
V 500 LOCAL	Use the LOCAL and ENABLE switches to place the power control in the local mode. In local mode, you can control the power from the system control panel only. The LOCAL indicator is lit when the system is in local mode.
V 500 REMOTE	Use he REMOTE and ENABLE switches to place power control in the remote mode. In remote mode, you can control the power from the MP interface only. The REMOTE indicator is lit when the system is in remote mode. *Note: Remote is the default mode because the system is generally powered on from the MP.*
V 500 MAIN LINK ENABLE	Maintenance Link Enable. This keylock switch controls maintenance access to the system. If you switch it to the ON position, remote service center personnel can access the system through a maintenance link. When the keylock switch is in the OFF position, only local access is possible.

WARNING

Do not reset a catastrophic overvoltage failure. The power subsystem must be reset only by Unisys service personnel. Otherwise, information about the cause of the failure will be lost.

V 500 IIO Cabinet Control Panel

You control the dc power for the IIO cabinet from the control panel in the upper-right corner of the cabinet or from the MP. The control panel performs the following tasks:

- Turns the dc power on or off.
- Switches control of the cabinet between the cabinet and the system.
- Indicates failures.
- Indicates cabinet mode (CAB/SYS)

At least three indicators are lit at any time. If no indicators are lit, ac power might not be available.

Figure 1–4 represents the V 500 IIO cabinet control panel.

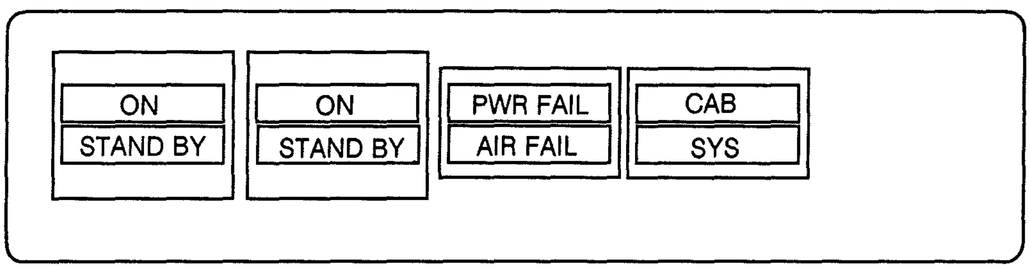


Figure 1–4. IIO Cabinet Control Panel

Table 1–4 lists the functions of the IIO cabinet control panel switches.

Table 1–4. IIO Cabinet Control Panel Switches

Switch	Function
V 500 ON/STAND BY	There are two ON/STAND BY switches on the control panel. The leftmost ON/STAND BY switch controls power to the upper DLP base. The rightmost ON/STAND BY switch controls power to the lower DLP base. When pressed, these switches toggle between ON (dc power is on) and STAND BY (dc power is off). The indicators for ON or STANDBY are lit to indicate the current state for each DLP base.
V 500 PWR FAIL/ AIR FAIL	The PWR FAIL indicator is lit when a power failure occurs in the IIO cabinet. The AIR FAIL indicator is lit when the IIO cabinet temperature rises above the normal operating range of the cabinet.
V 500 CAB/SYS	This switch puts the IIO cabinet in either local or remote mode. The CAB (cabinet) indicator indicates local mode and the SYS (system) indicator indicates remote mode. When the IIO cabinet is in the local mode, power can only be switched from the control panel. If the IIO cabinet is in the remote mode, power can only be switched through the MP.

WARNING

Do not reset a catastrophic overvoltage failure. The power subsystem must be reset only by Unisys service personnel. Otherwise, information about the cause of the failure will be lost.

Initializing the System

With all new system installations, you must power on the system and then load the following:

- Operating system (MCP)
- Control store
- System configuration file
- Firmware

The last step before loading and running your programs is the cold-start. A old-start brings up the MCP for the first time. If a new copy of the MCP is required subsequently, you can bring it up with a halt/load.

The following text gives a brief overview of these procedures. For a complete description, refer to Section 3, "Initializing the System."

Loading the Operating System (MCP)

An operating system (MCP) is required to control the processors and to allow multiple simultaneous users.

If you load the MCP from a version 2 disk pack family at cold-start, the MCP must reside as a single-area file on the base pack of the disk pack family. For a complete description of version 2 disk packs, refer to the discussion of pack subsystems in Volume 3.

Loading the Control Store

The control store is the random-access memory (RAM) that holds the firmware. The firmware serves as the MCP interface to the hardware and implements the processor instruction set. You load the control store from minidisks to the V 300 system and from the MP disk to the V 500 system.

Loading the System Configuration File

An MCP configuration file supplies the system with all the information required for the successful initialization of a system. This file provides information such as the memory limit, channel numbers, the required MCP options, and so on.

An MCP configuration file is usually created by the CONFIG utility when the system is cold-started for the first time. You can then place this file on a disk pack for all subsequent cold-starts. If you place the configuration file on a version 2 disk pack family, it must reside as a single-area file on the base pack of the family. For a complete description of version 2 disk packs, refer to the discussion of pack subsystems in Volume 3.

Loading the Firmware

Firmware supplies the information that makes the peripherals, DLPs, and central system work together. You load the firmware to the any peripherals that require it. If any firmware resides on a version 2 disk pack family, it must reside as a single-area file on the base pack of the family. For a complete description of version 2 disk packs, refer to the discussion of pack subsystems in Volume 3.

Performing a Cold-Start

The cold-start procedure brings up the MCP and enables the system to run programs. A cold-start purges the MCP disk.

Performing a Halt/Load

A halt/load procedure requires fewer steps than a cold-start. The halt/load uses files that are already on the MCP disk. A halt/load initializes a new copy of the MCP in memory and does not remove any files from disk.

Section 2
Powering the System On and Off

This section provides procedures for normal dc power-on and power-off routines. Emergency procedures and ac power-off routines are also provided.

Powering On the System

Before you can bring up the dc power, the ac power must be available. If any of the control panel indicators are lit, ac power is available at the cabinets.

Powering On the V 300 System

To power on a V 300 system, perform the following steps:

1. Locate the system control panel on the upperleft corner of the I/O cabinet.
2. Ensure that both DC OFF indicators are lit. This indicates that ac power is available to both cabinets.
3. Press both DC ON switches. The DC OFF indicators are turned off. The DC ON indicators flash on and off three or four times and then remain lit.
4. If the V 300 includes an expansion cabinet, repeat steps 1 through 3, but use the switches located on that expansion cabinet.

Powering on the V 500 System

You can power on a V 500 system in either local or remote mode. The preferred (default) method is to power on the system in remote mode, which requires the use of the MP.

Note: *If the POWER OFF indicator is flashing, a catastrophic condition such as air loss, over-temperature, or overvoltage has occurred.*

> **WARNING**
>
> Do not reset a catastrophic overvoltage failure. The power subsystem must be reset only by Unisys service personnel. Otherwise, information about the cause of the failure will be lost.

Powering On the Processor Cabinet in Local Mode

To power on the processor cabinet in the local mode, perform the following steps:

1. Locate the V 500 system control panel (refer to Figure 1–3) in the upperleft corner of the processor cabinet.
2. Ensure that the POWER OFF indicator is lit. If it and the other indicators are all turned off, check the site circuit breaker for this cabinet. If ac power is available to the cabinet and the indicators are still turned off, inform your Unisys CSE that there is a power problem.
3. Ensure that the LOCAL indicator is lit. If it is not, press the LOCAL and the ENABLE switches simultaneously to put the cabinet into the local mode.
4. Power on the cabinet by pressing the POWER ON and the ENABLE switches simultaneously. The POWER ON indicator flashes and the ENABLE indicator is lit until the power-on cycle is completed; at that time, the POWER ON indicator is fully lit and the ENABLE indicator is turned off. The cabinet is powered on.

Powering On the IIO Cabinet in Local Mode

To power on the IIO cabinet in local mode, perform the following steps:

1. Locate the control panel in the upperright corner of the IIO cabinet (refer to Figure 1–4).
2. Ensure that the STAND BY indicators are lit. If they and the other indicators are all turned off, check the site circuit breaker for this cabinet. If ac power is available to the cabinet and the indicators are still extinguished, inform your Unisys CSE that there is a power problem.
3. Press the CAB/SYS switch to set the IIO cabinet to CAB (local). As the switch is pressed, the SYS indicator turns off and the CAB indicator is lit; the cabinet is now in local mode.
4. Press the left ON/STAND BY switch and then the right one. As each switch is pressed, the STAND BY indicator turns off and the ON indicator is lit; the DLP bases are now powered on.

Powering On the Processor Cabinet in Remote Mode

To power on the processor cabinet in remote mode, perform the following steps:

1. Power on the MP. The MP automatically boots and displays the log-on screen.
2. Enter MP and press the Go key.

3. Press the F6 function key on the MP keyboard or enter ECM and press the Go key. The V500 ECM Command menu is displayed.

```
-------------------------------------------------------------------
                    ECM COMMAND MENU                    LEVEL 1
-------------------------------------------------------------------

       1-Turn System                On[ ]    Off[ ]
       2-Turn Processor Cabinet     On[ ]    Off[ ]
       3-Turn I/O Cabinets          On[ ]    Off[ ]
                                   ALL[ ]    ID [ ]
       4-Display I/O               ALL[ ]    ID [ ]

-------------------------------------------------------------------

       Power = Off/Remote           Mode = Protected
       Maint. K Switch = Disabled       Status = Normal

-------------------------------------------------------------------
       ENTER ANY CHARACTER TO SELECT AN OPTION; ENTER ID NUMBER
       FOR CABINET OPTION; SELECT ONE OPTION AT A TIME;
       TO PERFORM A COMMAND PRESS <GO> KEY; TO EXIT FROM THE
       PROGRAM PRESS <FINISH> KEY;
-------------------------------------------------------------------
       ***                                                  ***
-------------------------------------------------------------------
```

4. When the menu is displayed, do not press the Overtype key, which causes the program to terminate with a BTOS error.
5. Select any command options on the menu by using the up arrow, down arrow, Return, Next, Cancel, Finish, Next Page, or Prev Page keys. Type any character in the box ([ ]) and press the Go key to execute the function. Press any key to display the menu again and select another option. Press the Finish key to terminate the program.
6. While the menu is displayed, an incorrect value typed in any of the input boxes causes the MP to beep. If you choose an invalid option, an error message is displayed at the bottom of the menu.
7. Check the status fields in the middle portion of the menu for system status. If the **Power** status field indicates that the processor cabinet is in local mode, go to the cabinet and place it in remote mode. Also ensure that the IIO cabinet or cabinets are in SYS (remote) mode.

8. On the menu indicate your choice of options: 1, 2, 3, or 4. Follow the instructions on the lower portion of the Operator Form.
   - Command option 1 (Turn System) turns the processor and IIO cabinets on or off.
   - Command option 2 (Turn Processor Cabinet) turns only the processor cabinet on or off.
   - Command option 3 (Turn I/O Cabinets) turns only the IIO cabinet on or off. You can select one of the following options with this command:
     - The ALL option turns on or off all IIO cabinets.
     - The ID option requires that you enter the ID number of the IIO cabinet you want to turn on or off. A message appears at the bottom of the menu to indicate that an ID number is required. Valid IIO cabinet ID numbers are in the range 0 through 31.
   - Command option 4 (Display I/O Cab Status) displays the status of an IIO cabinet. You can select one of the following options with this command:
     - The ALL option displays the status of all online IIO cabinets in the system.
     - The ID option requires that you enter the ID number of the IIO cabinet for which you want to display the status. Valid IIO cabinet ID numbers are in the range 0 through 31.

Powering Off the System

Learn where your site circuit breakers are located. Typically, the circuit breakers are located in a power distribution unit, a UPS, a power conditioner, or a Unisys Modular Power System.

Powering Off the DC Power for the V 300

To power off the system, press the two DC OFF switches. When the DC OFF switches are lit, dc power is off; however, ac power is still on in the cabinet.

Powering Off the AC Power for the V 300

To remove ac power from the cabinets, turn off the appropriate circuit breaker or breakers at your site.

Powering Off the DC Power for the V 500 in Local Mode

Press the POWER OFF and the ENABLE switches simultaneously to turn off the dc power to the processor cabinet. It takes approximately 15 seconds for the cabinet to power off. During the power-off cycle, the POWER ON indicator flashes and the ENABLE indicator is lit. When the power-off sequence is completed, the POWER ON and ENABLE indicators are turned off, and the POWER OFF indicator is lit.

Press the ON/STAND BY switches to turn off the dc power to the DLP bases in the IIO cabinet.

Powering Off the AC Power for the V 500

To turn off the ac power to the cabinets, turn off the appropriate circuit breaker or breakers at your site.

Emergency Procedures

The following emergency procedures are written in both German and English.

Anlage Zugang Im Notfall (German/Deutsch)

Ein Notfall ist vorhanden wenn Rauch oder Flammen sichtbar sind, oder Rettung eines Verletzten das ausschalten der Anlage benoetigt.

Zugang zu allen Teilen der Anlage ist Unbefugten nicht gestattet. Zugang is nur fuer den Reparaturpersonal.

Die Anlage darf sowohl durch Reparaturpersonal als auch Bedien-ungspersonal an der Wandschalter ausgeschaltet werden.

Aus sicherheits Grunden wird die vordere Tuer des Netzteilge-haeuses als Zugang fuer Reparaturpersonal definiert. Die vordere Seite ist erkennbar durch das vorhanden sein des kleinen Ein - Aus Schaltpults.

Ein Werkzeug wird benoetigt, um den Hauptschalter CB1 im Notfall durch diese Tuer zu erreichen.

Die Tuer wird geoeffnet in dem man einen Hebel im unteren linken Ecke der Tuer nach oben drueckt. Der Hauptschalter CB1 findet man unten links hinter diese Tuer.

Der Hebel des Hauptschalters wird nach unten gedrueckt, um den gesamten Stromfluss zu der anlage zu unterbrechen.

Shutting Down the System in an Emergency (Englisch/English)

An emergency situation is one of the following:

- Smoke or fire is visible
- Someone has been injured and the power must be immediately shut down in order to safely remove that person.

Do not open any system cabinet doors.

In case of an emergency, shut off the system power at the site circuit breaker panel.

Section 3
Initializing the System

After powering on your system (refer to Section 2, "Powering the System On and Off"), follow the procedures in this section to install the MCP and to perform a cold-start or a halt/load for your V Series system.

Before initializing a system, do the following:

- Obtain the system configuration worksheet (located at the beginning of this guide), which was filled out by your system administrator or by a Unisys CSE. The worksheet contains information that is vital to the system initialization process and is used with the instructions in this section.
- If you are using an MCP configuration file, determine the input device that is to enter the file into the processor.
- If you are using a disk pack or minidisk drive, determine the channel and unit numbers for that device. When using a minidisk drive, ensure that you have the correct minidisk and that you know the name of the file to use. (This information should be on the system configuration worksheet.)
- Where appropriate, familiarize yourself with the minidisks (refer to Table 3-1). These minidisks contain the programs and files necessary to initialize the system. Depending on how you input the MCP configuration file, you use one or two minidisks for each system.
- Initialize the MCP disk and any other peripheral devices.
- Where appropriate, familiarize yourself with the switches on the processor cabinet and the location of the minidisk drives.

Should any problems occur, refer to Volume 4 for recovery procedures to use in case of failures or deviant operations.

System Initialization Overview

System initialization is divided into two parts

- Precold-start
- Cold-start

The following steps provide an overview of the precold-start and cold-start phases. For a detailed description, refer to "Initializing the V 300 System" or "Initializing the V 500 System" in this section.

To initiate a precold-start, perform the following steps:

1. Load firmware into the processor control store.
2. Input pertinent information from the system configuration worksheet. This information includes the MCP limit in memory and the location of the MCP disk and the ODT or OCS.
3. Load the firmware and format the various peripherals. These peripherals can include the MCP disk and the Uniline DLP, which connects the ODT or OCS to the processor.

The cold-start portion of the system initialization process requires that you perform the following steps:

1. Copy the MCP file from a tape or disk pack to MCP disk.
2. If you you have an MCP configuration file, load the MCP configuration file from a minidisk, disk pack, or card reader. If you do not have an MCP configuration file, execute the CONFIG utility and create the configuration file. Then, perform a cold-start again to initialize the MCP.

Note: *After you perform a cold-start on a system, you can use a halt/load procedure to initialize a fresh copy of the MCP in memory.*

Initializing the V 300 System

You must load firmware into the processor after powering on the processor and I/O cabinets. The hardware uses the firmware in the control store to implement the instruction set of the processor.

Firmware, utility programs, and configuration files reside on a number of minidisks. The minidisk drives are in the upper left corner of the V 300 processor cabinet.

Insert the minidisks with the label facing the lever used to close the minidisk drive.

Note: *All minidisks are referred to by name in this guide. For example, the minidisk PANDM3 is referred to as PANDM3.*

Table 3–1 describes the V 300 minidisks.

Table 3–1. V 300 Minidisks

Minidisk	Description
PANDM3	PANDM3 contains the control store firmware and the programs that perform the cold-start and halt/load routines. PANDM3 supports MDCOPV, the minidisk file maintenance utility, and CONFIG, the utility that creates and maintains the MCP configuration file on minidisk. Use PANDM3 to cold-start a system if the MCP configuration file is on a minidisk or if you load a minidisk-based MCP configuration file through a conversational halt/load. *Note:* Do not copy the MCP configuration file to the PANDM3 minidisk; there is little space available for it.
PANSM3	PANSM3 contains the programs that perform cold-start and halt/load routines, and memory access commands. Use PANSM3 to perform a cold-start if the MCP configuration file is on a disk pack or in the form of a card deck. You cannot use PANSM3 to perform a cold-start if the MCP configuration file is on a minidisk. PANSM3 does not support minidisk access from the host. However, PANDM3 can support minidisk access.
CV33nA	CV33nA contains the utility programs used to clear DLPs (DLPXCO), load firmware to peripherals and DLPs (LOADFW), and dump memory to tape (DMPMEM). CV33nA has sufficient space to contain most MCP configuration files.

Loading the MCP Configuration File from Minidisk

When you load the MCP configuration file from a minidisk, use the minidisk designated by your system administrator. If you want the file to be loaded automatically, name it *CONFIG*; otherwise, the file can have any name you choose.

You can perform a cold-start without an MCP configuration file by performing a cold-start and then creating the MCP configuration file. Then, perform a cold-start a second time to bring up a fully-configured MCP.

Note: *The MCP configuration file can reside on PANDM3, but this is not recommended because PANDM3 has little disk space available.*

> **Caution**
>
> Unisys is not responsible for the consequences if the MCP configuration file is placed on Unisys minidisks that were issued with the operating system or the MP.

Because PANDM3 and PANSM3 save the settings you enter, you must set and save the same configuration information on both minidisks. Failure to do so will lead to initialization procedure problems.

Be sure that PANDM3 is in the upper drive. As you enter the commands, the settings are stored on PANDM3. Therefore, when you finish entering these settings on PANDM3, repeat the steps using PANSM3.

At any time, you can enter the following TO (Test Option) command to see what configuration information is already set and stored on PANDM3 or PANSM3:

```
TO ALL
```

V 300 Precold-Start Procedure

To load firmware into the processor control store, perform the following steps for both PANDM3 and PANSM3. Be sure to input and save the same configuration information on both minidisks. Failure to do so will lead to initialization procedure problems.

1. Place the system in console mode by pressing the CONSOLE/ON LINE switch, which is on the system control panel. When the CONSOLE indicator is lit, the system is in console mode.
2. Many commands require that the processor be stopped before they can be entered; the LOAD CS command is one such command. You can stop the processor by pressing the Spcfy key or by entering the HALT command. Unisys recommends that you use the Spcfy key to stop the processor. However, the following procedure is also acceptable:

   ```
   HALT;CLEAR
   ```

   The processor is now in the stopped mode.

> **Caution**
>
> Do not use the TERM (terminate) command to stop the processor. The TERM command unconditionally stops all processors in the system. This includes the IOPs but not the MP. If an I/O operation is in progress at the time you enter the TERM command, the I/O is unconditionally terminated. In some cases, this will require reloading firmware or reinitializing the media.

3. Insert the minidisk (first PANDM3 and then PANSM3) into the primary minidisk drive (usually the top minidisk drive). The label on the minidisk should face the lever that is used to close the minidisk drive.
4. Press the RESET switch (located on the front of the processor cabinet) to load the minidisk. In about 20 seconds, a message similar to the following appears at the bottom of the ODT screen:

   ```
   Minidisk: PANDM3 1234 5898
   ```

5. Enter the following command to load the control store:

   ```
   LOAD CS
   ```

   After you enter the LOAD CS command, a number of messages appear one at a time as the various control store elements are loaded and verified. The dates and times in the messages you see will differ from the following example:

```
HALT; LOAD CS
  XM MICROCODE made 09/03/88, 14:36
  RAM loaded
  ECRAM verified
  FETCH MICROCODE & FLUT made 10/05/88, 16:47
  Module loaded
  FCRAM verified
  FLUT verified
  IOP MICROCODE made 10/05/88, 16:47
  Module loaded
  ICRAM1 verified
  ICRAM2 verified (Optional one IOP)
  System cleared (Indicates control store loaded)
```

6. After the message "System cleared" appears, enter the following command:

   ```
   MEM CARD XFER CLOBBER
   ```

   This command checks the status of the processor memory modules and stores the results on the minidisk.

   Note: *This step is necessary only when a system is first installed or when the amount of memory has been changed.*

After you enter the MEM CARD XFER CLOBBER command, messages similar to the following are displayed:

```
MEM CARD XFER CLOBBER

  MEMORY MODULE TYPE : 256K MEMORY
  PHYSICAL MEM MODULE # : 01234567
  ACTUAL MEM MOD ONLINE : XX
  ACTUAL MOD LOGICAL ID : 76
  VARIABLE ON LINE : XX
  VARIABLE LOGICAL ID: 76
```

Clearing Processor Memory

Enter the following to clear processor memory:

```
CLEAR MEM ALL CLOBBER
```

Note: *Entering the word CLOBBER with this command purges the QWIKDisk of all data. For a complete description of the QWIKDisk option, refer to Volume 3.*

After the message "Memory clear complete" appears, the processor preparation is complete.

Declaring the Minimum System Configuration

Declare the minimum system configuration using the following steps:

1. Enter the following to declare the channel and unit numbers for the MCP disk:

   ```
   SO MCP <channel number>/<unit number>
   ```

   The MCP disk is the drive on which the MCP file resides.

2. If you require an OCS to be attached to a Uniline DLP, declare a channel number for it as follows:

   ```
   SO OCS <channel number>
   ```

   Otherwise, if you are using an ODT, enter the channel number of the console ODT. This enables the console ODT to work as the system initialization OCS as well.

3. Enter the following to designate the amount of memory required by the MCP, independent runners (tasks), and user programs:

   ```
   SO LIMIT <MCP memory limit in digits>
   ```

   The V Series MCP requires at least 10 megabytes (20 million digits) of memory to operate efficiently. (You can assign extra memory to QWIKDisk. For more information on the QWIKDisk option, refer to Volume 3.)

   The MCP memory starts at zero and ends at the number designated in this command. This number must be an even multiple of 1000. Enter the number in digits; for example, if the MCP limit is the first 20 million digits (10 megabytes) of memory, enter *20000000*.

Loading Firmware to a Peripheral

If you need to load firmware to a peripheral, use the following procedure. If you do not need to load firmware, perform the cold-start procedure.

1. Put the system in console mode by pressing the CONSOLE/ON LINE switch, which is on the processor cabinet. When the CONSOLE indicator is lit, the system is in the console mode.
2. Insert CV33nA, which contains the LOADFW program, into the primary (top) minidisk drive.
3. Table 3–2 provides a list of firmware file names. The LOADFW utility prompts you for the name of the firmware file. For a complete description of the LOADFW utility, refer to Volume 3. To invoke the LOADFW utility, enter the following command:

   ```
   LOAD SYS LOADFW; RUN
   ```

Table 3–2. Firmware Files

Name	Description
HSTLAD	Loads firmware to B9389 controller to 680 or 682 disk pack through SEQ-HT.
HSTLKC	Loads firmware to B 9384, B 9385 controller to 225 disk pack through HT-DLP.
HSTLQH	Loads firmware to B 9387 controller to 206/207/677/659 disk pack through HT-DLP.
HSTLUD	Loads firmware to B 9387 controller to 206/207/677/659 disk pack through SEQ-HT. If controller is not correctly updated for the HSTLUD version, firmware is "changed" to HSTLUC version.
USP3BV	Loads Uniline SPO firmware.
UST2BH	Loads Uniline terminal firmware.
IPPFMW	Loads Loadable Operating System (LOS) firmware to an IPP.

Table 3–2. Firmware Files (cont.)

Name	Description
LSDIAG	Loads Loadable Diagnostics to an IPP.

V 300 Cold-Start Procedure

For the initial cold-start, you can use various commands to input information regarding the minimum system configuration. This information is on the system configuration worksheet found at the beginning of this manual.

You can cold-start without an MCP configuration file by entering the minimum system configuration information. Whether you choose to do so or not, you must enter the following:

- Channel and unit numbers for the MCP disk
- ODT or OCS channel number
- MCP memory limit

To perform a cold-start, use the following steps:

1. With the system in console mode, insert PANDM3 into the primary (top) minidisk drive. Press the RESET switch, which is located on the processor cabinet, to load the minidisk.

> **Caution**
>
> All files resident on disk prior to a cold-start are removed by a cold-start.

2. Enter the following command:

```
LOAD SYSTEM
```

This command loads the cold-start routines. The following response is displayed on the console ODT:

```
LOAD SYSTEM

  Code File = System Compile Date = 10/05/88
  LOAD Complete
  System set
```

3. After the message "RUNNING" appears on the console ODT, put the processor in the online mode by pressing the CONSOLE/ON LINE switch so that the ON LINE indicator is lit. If you declared an OCS, the Cold-Start screen appears on the OCS (refer to Figure 3–1); otherwise, the screen appears on the ODT when the console DLP comes online.

```
                         Source Information

Source Device Designation.   Channel  [06]  /  Unit [03]
Source MCP name                       [MCPVS          ]


                    Operational Characteristics

Maximum User Tasks (mix and schedule) [0099] (range 20 to 776)
Maximum Operating System Tasks        [0030] (range 20 to 100)

Options (RELOAD, BYPASS, CONVERSE et al.)

[                                                       ]
```

Figure 3–1. Cold-Start Screen

4. After the Cold-Start screen appears, load the MCP. The MCP may be on a disk pack; if not, load the MCP from a tape drive.

   The Cold-Start screen prompts you to enter the following information from the system configuration worksheet:

   - The channel and unit number of either the tape drive or disk pack from which the MCP can be loaded.
   - The name of the MCP to load as documented in the MCP release letter.
   - The maximum number of user tasks that can enter the mix and schedule.
   - The maximum number of operating system tasks (independent runners) that can execute simultaneously.

5. The Cold-Start screen also prompts you for the special type of halt/load procedure you want (refer to the **Options** field). For example, you can select an option to reload the MCP or to bypass the recovery of disk and disk pack files. These halt/load options are listed in Table 3–3. Do not put a command in the **Options** field if you want a normal cold-start or halt/load to take place.

   Table 3–3 list the halt/load options that are used for special and unusual circumstances.

Table 3–3. Halt/Load Options

Option	Description
BYPASS DISK	This option initiates a halt/load but bypasses the disk file cleanup operations that would otherwise take place. If you specify this option, the disk directory is not modified and the normal disk file maintenance functions of the halt/load are not performed.
BYPASS PACK	This option has the same function as BYPASS DISK, except that this option applies to disk pack files.
BYPASS BOTH	This option bypasses both the disk and the disk pack file cleanup operations. This option is a combination of the BYPASS DISK and BYPASS PACK options.
RELOAD	This option writes a new MCP to MCP disk and initializes it in memory. This option is similar to an MCPIX warm-start.
RELOAD OVER	This option causes a new MCP to be written over the current MCP, as long as the new MCP is smaller or equal in size to the current MCP.
CONVERSE	This option initiates a conversational halt/load. A conversational halt/load allows you to edit the current MCP configuration file or switch to a new one. Refer to "Performing a Conversational Halt/Load" in this section.

6. After you make the entries on the Cold-Start screen, press the Home key and then press the Xmit key. The screen displays the following message:

   ```
   Now loading <MCP name>.
   ```

   If there is an error, the screen displays the following message:

   ```
   Check configuration and retry.
   ```

Loading the MCP Configuration File

After you load the MCP, the MCP configuration file named CONFIG is loaded automatically from the minidisk mounted in the primary (top) minidisk drive. If no configuration file is available on the minidisk in the top drive, the bottom drive is checked automatically.

If a configuration file is available in the form of a card deck, and if any card reader is ready, the file is loaded automatically. Otherwise, the system prompts you for the name and location of the file. If this happens, transmit one of the following responses:

- If the minidisk is in the top drive but the name of that MCP configuration file is not CONFIG, transmit the file name.
- If the minidisk is in another drive, transmit the file name and the channel and unit numbers of the drive.
- If the file is on disk pack, transmit the file name and the channel and unit numbers of the disk pack.
- If a card reader is ready and contains the file in a card deck, transmit a space.

If there is no MCP configuration file, perform the following steps:

1. When the system prompts you for the name and location of the MCP configuration file, enter the following command:

   ```
   INITIALIZE
   ```

   This command brings up the system with a minimum configuration (MCP disk and OCS).

2. When the system is up, select a storage device on which to save the configuration file that you create. This is done by declaring a DLP and either a minidisk drive or a disk pack as follows:

   - Enter the following command to declare a minidisk drive:

     ```
     DLP <channel number> CONSOLE
     ```

     Then enter the following command:

     ```
     UNIT <cc/u> NST
     ```

   - Enter the following command to declare a disk pack:

     ```
     DLP <channel number> DSK
     ```

     Then enter the following command:

     ```
     PACK <cc/u>
     ```

     For additional information on the PACK command, refer to Volume 2.

3. Run the CONFIG utility to create an MCP configuration file. Save the file on the device you declared in step 2. For a complete description of the CONFIG utility, refer to Section 4, "Using the CONFIG Utility."
4. After you create and save the MCP configuration file, perform a cold-start again to bring up a fully-configured MCP.
5. After the MCP configuration file is read, the system prompts you for the date and time before it completes initialization.

Initializing the V 500 System

After you power on your system, you must ready it for running your programs by initializing it. System initialization requires that you load control store, clear the memory, and perform a cold-start.

V 500 Precold-Start Procedure

To ready your system for a cold-start, perform the following steps from your MP:

Note: *Should any problems occur, refer to Volume 4 for recovery procedures to use in case of failures or deviant operations.*

1. Enter the following command to initialize the system maintenance control (SMC):

   ```
   INIT SMC
   ```

   The SMC is initialized.

2. Enter the following command to configure the memory modules:

   ```
   CONFIG MEM
   ```

The following screen is displayed:

```
----------------------------------------------------------------------
              CONFIG MEMORY                       V0001M00
----------------------------------------------------------------------
            MDC CARD NUMBER         PRESENT?           ONLINE?
            ---------------         --------           -------
                  S0                                     [ ]
                  S1                                     [ ]
                  S2                                     [ ]
                  S3                                     [ ]
                  S4                                     [ ]
                  S5                PRESENT              [Y]
                  S6                PRESENT              [Y]
                  S7                                     [ ]

----------------------------------------------------------------------
      <CANCEL> RESTART  !  <FINISH> ABORT    !  <GO> START
               FORM     !           FORM     !       EXECUTION
----------------------------------------------------------------------
```

3. Enter *Y* in the **ONLINE?** field to indicate the memory data cards (MDC) that are to be used. An *N* or blank indicates that the MDC is not used.
4. Press the Go key. The MP then configures the system memory.
5. Enter the following command if the DTMs require reconfiguration due to the initial power-on cycle or to recabling:

   ```
   CONFIG DTM
   ```

The following screen is displayed:

```
        ConfigDTM           V0000M01
---------------------------------------------------------------- ---
     DTM  DLP RANGE        Status

     D0  [ ]0 -> [ ]7 : OFF-LINE
     D1  [0]0 -> [3]7 : ON-LINE
     D2  [ ]0 -> [ ]7 : OFF-LINE
     D3  [ ]0 -> [ ]7 : OFF-LINE
     D4  [ ]0 -> [ ]7 : ON-LINE
     D5  [ ]0 -> [ ]7 : OFF-LINE
```

The Config DTM screen displays the channel (DLP) range associated with each DTM. The values you enter on this screen must be consistent with the values in the configuration file. All DTMs that are online and present can be configured.

Channel numbers must be assigned contiguously for the DTMs and cannot end with an 8 or 9. The largest valid channel number is 77. The following are examples of channel number assignments:

	Channel Number Assignments		
	DTM 0	**DTM 1**	**DTM 2**
Example 1	00–27	30–37	40–77
Example 2	00–17	27–37	40–77
Example 3	00–37	40–67	70–77
Example 4	00–17	30–37	50–67

In Example 4, channels 20 through 27, 40 through 47 and 70 through 77 do not exist.

6. Perform one of the following steps:

   - If you are loading the control store for the first time, enter the following command and press the Go key:

     ```
     LOAD CS
     ```

     The control store is verified as it is loaded for all the appropriate modules.

   - If you are not loading the control store for the first time, enter the following command and press the Return key to load control store firmware into the system:

     ```
     LOAD CS
     ```

     The following screen is displayed:

```
LOAD CS

  [Verify? Y/N (Def. = Y)]
  [Module? E/F/M/DM] (Def = ALL)]
  [Proc ID or Sys (Def. = Ps)]
```

As the control store is loading, the name of the firmware and the compile date appear on the screen. When the load is completed, it will be indicated on the screen.

Note: You can reload the control store any time the V 500 processor is running, but you must enter the TERM command followed by the LOAD CS command.

Declaring the Minimum Peripheral Configuration

To declare the minimum peripheral configuration, you must indicate the channel and unit numbers of the MCP disk and the OCS. If required, you must also indicate the limit in memory of the MCP and QWIKDisk.

You can set these options one at a time or all at once. Enter the following command to set all system options at once:

```
SET OPTIONS
```

Then press the Go key to display the following screen:

```
                SYSTEM CONFIGURATION OPTIONS        V0006M00
-----------------------------------------------------------------------

MCP Channel & Unit  [14/03]      Release Level: MCP  [3]

OCS/ODT Channel     [12]         ALT Channel [01]

MCP Memory Limit    [0083830000]

QwikDisk Base       [0000000000]

System  Number      [0]
-----------------------------------------------------------------------
<CANCEL> Restart Form !  <FINISH> Abort Form  ! <GO> Start Execution
-----------------------------------------------------------------------
```

Use the Tab key to move from field to field and fill in the appropriate information as noted on your system configuration worksheet. Table 3–4 describes these system configuration options.

Press the Go key when you have completed your entries. When the command line reappears, you are ready to clear the processor memory modules.

Table 3–4. System Configuration Options

Option	Description
MCP Channel & Unit	Indicates the channel and unit numbers of the MCP disk. This 100-byte medium is where the MCP code file resides. Refer to your system configuration worksheet to verify the channel and unit numbers.
OCS/ODT Channel	Indicates the channel to which the OCS or ODT is connected.
MCP Memory Limit	Indicates the limit in memory for the MCP and user programs. The V Series MCP should have at least 10 megabytes (20 million digits) of memory to operate. You can assign any remaining system memory to QWIKDisk for high-performance file storage. The memory limit must be MOD 10000 and it must be at least 10000 digits less than the physical limit of memory. Refer to your system configuration worksheet for the correct MCP memory limit value.
QWIKDisk Base	If you use QWIKDisk, this option specifies the QWIKDisk base in memory. The value you enter here must be greater than or equal to the value of the MCP memory limit. Use 10 digits with leading zeros. Like the MCP memory limit, this value must be MOD 10000. The operating system cannot address more than 999999 sectors of QWIKDisk no matter how much memory is allocated. To convert memory to disk sectors, divide the amount of QWIKDisk memory in digits (not Kd or Md) by 200. Refer to your system configuration worksheet for the correct QWIKDisk base value. If you do not use QWIKDisk, leave this field blank.
System Number	Indicates the hardwired processor number.
Release Level	The MCP release level is always 3 for any release of level 3 (for example, 3.0, 3.0.1, 3.1, and so forth).
ALT Channel	Indicates an alternate channel for the LOAD ALT command. Generally, this channel leads to a card reader used to input the MCP configuration file.

Enter the following command to view the options that were set:

```
SHOW OPTIONS
```

Among other things, this command displays the number of QWIKDisk sectors that are available.

Clearing the Processor Memory Modules

To check the status of and clear the processor memory modules, enter the following command and press the Return key (not the Go key) to display the clear memory screen:

```
CLEAR MEM
```

The following screen is displayed:

```
CLEAR MEM

   [ABS/ALL/MCP]     ALL
   [Start Address (if Abs)]
   [End Address (if Abs)]
   [Pattern (8 hex chars expected)]
   [Enter CLOBBER (To include QwikDisk)]       CLOBBER
```

Fill in the screen and press the Go key.

Note: *Even though this screen gives you the option of clearing all or selected portions of memory, this screen clears all* memory.

The CLOBBER option clears memory used for QWIKDisk. Because it has no consequence for those systems that do not use QWIKDisk, the option is included on the screen.

After several minutes, depending on the number of memory modules, the following message is displayed on the screen along with a new command line:

```
Memory successfully cleared
```

Setting the Processor Offline

To set the processor offline, enter the following command:

```
SET OFFLINE ALL
```

Making the OCS Operational

The V 500 firmware is stored on the MP (that is, the B 27) hard disk. However, to load the V 500 firmware, the OCS must be operational. Therefore, the Uniline DLP attached to the OCS must first be loaded with firmware by the UVSFCO program. If you do not load the firmware, the OCS does not display the Cold-Start screen and initialization cannot occur. If the OCS is already operational, skip this procedure.

To make the OCS operational, enter the following command and press the Return key:

```
LOAD PROGRAM
```

The following screen is displayed:

```
Load Program

   File Name (Def Dir=[Sys] UVSFCO)
   [Load SYS? (Y/N, Def = N)]
   [ABS Mem Adr]
   [Proc Id (Def. = Ps)]
```

Enter the program file name UVSFCO on the screen and press the Go key.

After the program is loaded, press the F7 (Next Event) key to start the program.

Loading the Firmware

To load firmware to the rest of the system, enter the following and press the Return key:

```
LOAD PROGRAM
```

The following screen is displayed:

```
Load Program

   File Name (Def Dir=[Sys]) LOADFW
   [Load SYS? (Y/N, Def = N)]
   [ABS Mem Adr]
   [Proc Id (Def. = Ps)]
```

Perform the following steps to load the firmware:

1. Enter the program file name, *LOADFW.*
2. Enter a *Y* in response to the question on the screen and press the Go key.
3. After the program is loaded, press the F8 (Next Event) key to start the program. The processor changes from the stopped mode to the running mode and the LOADFW utility executes.
4. The LOADFW program displays prompts on the ODT screen. Enter the proper responses to these prompts.
   a. Enter the channel and unit number of the tape or disk pack that contains the firmware file.
   b. Enter the name of the firmware file to be loaded. Refer to Table 3-2 for a list of firmware file names.

   The LOADFW utility loads the firmware into memory and prompts you for the channel number of the device that is to receive the firmware.

   After the LOADFW utility has loaded the firmware into the device, you can perform one of the following optional steps:

   - To load the same firmware to another device of the same type, enter another channel number.
   - To load a different type of firmware to a different type of device, enter the name of another firmware file.
   - To use a different tape or disk pack firmware source, enter the channel and unit numbers.

5. After the firmware has been loaded, you can initialize or verify a LAK (look-alike) disk pack by entering one of the following commands:

   ```
   INIT <unit number>
   VER <unit number>
   ```

   The INIT command both initializes and verifies the disk pack. The VER command only verifies the disk pack.

   Note: *The INIT and VER commands apply to MCP disk types 206 or 207 only.*

6. To exit the LOADFW utility, enter the following:

   ```
   END
   ```

For more information on the LOADFW utility, refer to Volume 3.

V 500 Cold-Start Procedure

To initiate the cold-start process from the MP, enter the following command and press the Go key:

```
HALT; LOAD MCP
```

> **Caution**
>
> A cold-start removes all files that have not been allocated from disk.

The Cold-Start screen appears on the OCS (refer to Figure 3–1).

The Cold-Start screen prompts you to enter the following information from the system configuration worksheet:

- The channel and unit numbers of the tape drive or disk pack where the system can find the MCP code file.
- The name of the MCP file to load.
- The maximum number of user tasks that can enter the mix and schedule.
- The maximum number of operating system tasks (independent runners) that can execute simultaneously.

The Cold-Start screen also prompts you for the special type of halt/load you want (refer to the **Options** field). For example, you can select an option to reload the MCP or to bypass the recovery of disk and disk pack files. These halt/load options are listed in Table 3–3. Do not put a command in the **Options** field if you want a normal cold-start or halt/load to take place.

After you complete the Cold-Start screen, press the Home key and then the Xmit key. A screen message indicates that the MCP is being loaded. If there is an error, the system displays an error message.

The MCP configuration file is loaded automatically if the file is a card deck file in a card reader that is ready.

Otherwise, the system prompts you for the name and location of the file. If this happens, transmit one of the following responses:

- If the file is on disk pack, transmit the file name and the channel and unit numbers of the disk pack.
- If the card reader is now ready and contains the file in a card deck, transmit a space.

If you do not have an MCP configuration file, perform the following steps to bring up the system and create a file:

1. Enter the following command when the system prompts you for the name and location of the MCP configuration file:

   ```
   INITIALIZE
   ```

   This command brings up the system with a minimum configuration.

2. Enter the following to declare a DLP and a disk pack on which to save the MCP configuration file:

   ```
   DLP <channel number> DSK
   ```

3. Enter the following command to declare the disk pack:

   ```
   PACK <cc/u>
   ```

   For additional information about the PACK command, refer to Volume 2.

4. Run the CONFIG utility to create an MCP configuration file. Save the file on the disk pack you declared in step 3, or save the file on the hard disk of the MP (refer to "File Specification Screen" in Section 4, "Using the CONFIG Utility").

   As you create the MCP configuration file, be sure to declare channels 82, 83, and 84 as NST (nonstatus) devices. These channels are used by the MP for operating system maintenance and remote diagnostics.

5. After you create and save the MCP configuration file, repeat the cold-start procedure to bring up a fully configured MCP.

Performing a Cold-Start in a Multisystem Shared Environment

In a multisystem shared environment, all systems can use the same operating system code file. The released operating system code file can run on any V Series system, regardless of the hardware type. You can run different operating systems on different V Series systems, provided that the operating systems are of the same ASR release (for example, all 3.0 or all 3.1).

In an environment where only disk packs are shared, you must perform an independent cold-start for each system.

Unless you input the MCP configuration file in the form of a card deck, when you perform a cold-start for the primary system, each secondary system prompts you to input a separate MCP configuration file for that system, if it is needed.

When using card decks, all the MCP configuration files can be loaded at one time as a stacked deck. The primary system reads in the stacked deck during the cold-start process and then creates the MCP configuration files for all the systems. After you perform a cold-start for the primary system, you can then perform a halt/load for each secondary system.

You should ensure that the CONNECT record that appears in the MCP configuration file for each system indicates the hardwired system numbers of the other systems in the configuration. For more information, refer to "CONNECT" in Section 5, "MCP Configuration Record Formats" and the MCP configuration file examples in Section 6, "Example MCP Configuration Files."

Use the following procedure to cold-start a multisystem shared environment in which different systems use different operating systems. If the same operating system is used on all systems, perform only steps 5 and 6.

1. Use an appropriate MCP and MCP configuration file to cold-start the primary system.
2. After the primary system is up and running, enter the following command to copy the MCP files for each of the other systems to the MCP disk and rename them:

   ```
   COPY & COMPARE <MCP file name> AS <unique MCP file name> FROM <tape-id>
   (TAPE) TO DISK (ID 01)
   ```

   Be sure to give each MCP file a unique name.
3. After you copy and rename the MCP files, enter the following command for each of the MCP files you have copied and renamed:

   ```
   ALTER FILE <MCP file name>, LIBMAINT=OFF
   ```

   This command turns off library maintenance, thereby preventing the files from being removed from disk by normal library maintenance activities.

4. Enter the following MCP command to indicate the MCP that is to be used by each system. This association is based on the hardwired system number of each system.

```
ALTER SYSTEM <hardwired system number> <MCP file name>
```

5. Enter the following command from the MP of each secondary system:

```
HALT; LOAD MCP
```

6. Enter the name of the MCP configuration file, if necessary.

Performing a Cold-Start for a V 500 Multiple Processor System

Prepare the V 500 multiple processor system for a cold-start as you would a single V 500 processor system. Perform all the normal precold-start requirements on the first (default) processor (refer to "V 500 Precold-Start Procedure" earlier in this section). Next, perform the following steps:

1. Enter the following command and press the Go key:

   ```
   TERM
   ```

2. Enter the following command and press the Go key:

   ```
   SET OFFLINE ALL
   ```

3. Enter the following command and press the Go key:

   ```
   SET ONLINE ALL
   ```

4. Enter the following command and press the Go key:

   ```
   LOAD SYSTEM
   ```

5. Enter the following command and press the Go key:

   ```
   NEXT EVENT
   ```

6. Use the OCS (not the MP) to initialize the second processor by entering the following and pressing the Xmit key:

   ```
   ALTER PROCESSOR +2
   ```

Performing a Halt/Load

A halt/load initializes a fresh copy of the MCP in memory. The procedure requires that the proper files be on the MCP disk and that a cold-start has already been performed. Unlike a cold-start, a halt/load does not remove files from disk.

The two types of halt/load procedures are

- Conventional
- Conversational

A conversational halt/load enables you to edit the MCP configuration file or load a file from a different source. A conventional halt/load does not allow for changes.

Performing a Conventional Halt/Load on a V 300 System

To perform a conventional halt/load on a V 300 system, perform the following steps:

1. Press the CONSOLE/ON LINE switch, which is located on the processor cabinet, to put the processor in console mode. The CONSOLE indicator is lit to indicate that the system is in the console mode.
2. Enter the following command:

   ```
   HALT, CLEAR; LOAD MCP
   ```

3. This terminates processing and initializes a fresh copy of the MCP in memory. Various halt/load messages will appear on the terminal. To resume normal system operations, press the CONSOLE/ON LINE switch. The ON LINE indicator is lit to indicate that the system is in the online mode.

Performing a Conventional Halt/Load on a V 500 System

To perform a conventional halt/load on a V 500 system, perform the following steps:

1. Ensure that the MP or ODT is in the MP mode (that is, press Local and Finish, if necessary). On the MP, enter the following command:

   ```
   TERM
   ```

2. Enter the following command and press the Go key:

   ```
   HALT; LOAD MCP
   ```

3. This terminates processing and initializes a fresh copy of the MCP in memory. Various halt/load messages will appear on the terminal.To resume normal system operations, press the F3 function key located on the MP keyboard.

Performing a Conventional Halt/Load in a Multisystem Shared Environment

A shared system processor (SSP) controls shared file access for the different systems in a multisystem shared environment. During a halt/load to one of the systems, the SSP could hinder the process if the SSP contains address locks.

If the SSP contains address locks, the following screen is displayed before the halt/load completes:

```
BOJ Halt/Load
Channel 24 Shared System Processor Initialization.

All address locks and contentions have been cleared for this system.

However, the SSP contains address locks for other systems.
These locks could hinder the completion of the system
initialization, if the locking system is not running.
If it is running, you generally should not unlock its addresses.
You may enter either a blank to continue without action or enter the
processor number(s) of the other systems to clear (up to 3 digits).

Now enter a blank or the processor number.
```

Read the instructions displayed on the screen. Perform one of the following:

- Enter a blank to continue the halt/load without affecting the SSP
- Enter the number of the processor that has the address locks in the SSP. This option clears the address locks.

Typically, you should enter a blank. Enter the hardwired processor number only if the secondary system is stopped. After your entry, the following screen appears as the halt/load completes (the text might differ for your system configuration):

```
The Halt/Load OCS unit is: 0/04 since none was specified.
Waiting for initial disk and pack status to be completed.
Please stand by.
***************************Halt/Load*****************08/17/88 10:59
*** Start Halt/Load Directory Cleanup Operations
*** End Halt/Load Directory Cleanup Operations
The dump file is located on 4/03
EOJ Halt/load
```

Performing a Conversational Halt/Load

A conversational halt/load enables you to modify or switch the MCP configuration file used during a halt/load operation. You can perform the following functions before the halt/load completes:

- Edit (add, modify, or delete) the records in an MCP configuration file.
- Create a new MCP configuration file.
- Perform a halt/load using a different MCP configuration file.

To display the Cold-Start screen and initiate a conversational halt/load, perform the following steps for a V 300 or V 500 system.

1. Enter the following command:

   HALT

   Note: *Do not use the TERM (terminate) command unless a HALT command cannot stop the system.*

2. Enter the following command to view the Cold-Start screen (refer to Figure 3-1):

   LOAD SYSTEM

3. When the Cold-Start screen appears on the OCS, enter the following command on the last line (that is, in the **Options** field):

   ```
   CONVERSE
   ```

   Note: *Do not enter any additional information (for example, the MCP channel and unit numbers or the MCP name). All fields other than the* **Options** *field are ignored. You should leave these fields blank or fill them with zeros.*

The Conversational Halt/Load screen appears.

```
BOJ Halt/Load

Conversational Halt/Load

MCP: MCPVS Version: 3.00 Compiled: 8/11/88

Enter Request Please (HELP for aid)
```

To obtain help information for the Conversational Halt/Load screen, enter *HELP* in the home position on the screen. The following help screen is displayed:

```
HELP


Valid Commands are:
CLEAR - Clear configuration file to minimum configuration.
CONFIGURE - Rebuild configuration file.
CONTINUE - End Conversational mode.
EDIT - Edit Configuration file: CONFGO
HELP - Receive aid.

Enter Request Please (HELP for aid):
```

Table 3–5 describes the commands listed on the help screen.

Table 3–5. Conversational Halt/Load Commands

Command	Description
CLEAR	This command is similar to the INITIALIZE command in that it initializes the MCP with a minimum configuration. When you enter the CLEAR command, the screen prompts you for a 6-character file name. This file becomes the active MCP configuration file used to halt/load the system. If the file does not exist, it is created. When you enter an existing file name, the file is cleared of all MCP configuration records. Use the EDIT or CONFIGURE commands to enter new MCP configuration records into the file. If you perform a cold-start for a system with security, be sure to edit this file and enter the appropriate SECURITY record (refer to the description of the SECURITY record in Section 5, "MCP Configuration Record Formats"). Otherwise, the halt/load will fail (you can only change security with a cold-start). To proceed with the halt/load after you have cleared and edited the MCP configuration file, enter the CONTINUE command.
CONFIGURE	On receipt of this command, the active MCP configuration file is deleted and the processor searches for an MCP configuration file named CONFIG located on a minidisk, on the MCP disk, or on a card reader. If the CONFIG file is not found, the system displays a prompt for the name of the file and its location (it can be on disk pack). When the file is found, it is loaded into the active MCP configuration file. You can then edit the file or continue with the halt/load by entering the CONTINUE command. The SECURITY record in this file must match the SECURITY record in the MCP configuration file that was used to perform the cold-start for the system (refer to the description of the SECURITY record in Section 5, "MCP Configuration Record Formats"). Otherwise, the halt/load fails (security can only be altered at a cold-start).
CONTINUE	This command continues the halt/load process. The halt/load continues based on the active MCP configuration file, which is the last file you edited, cleared, or loaded.
EDIT	Enter this command to edit the MCP configuration file. After entering the command, select the records that you want to edit (refer to "Editing the MCP Configuration Records" in this section).

Editing the MCP Configuration Records

After you enter the EDIT command on the Conversational Halt/Load screen, the Edit Active Configuration File screen appears. Select the MCP configuration records (by record type) to edit.

For a detailed description of each record type, refer to Section 5, "MCP Configuration Record Formats."

```
EDIT ACTIVE CONFIGURATION FILE
      RECORD TYPE Number of Records
      [ ] BADMEM 0
      [x] CONNECT 1
      [ ] CONTROL 0
      [ ] DISK 4
      [ ] DLP 8
      [x] EXCHANGE 0
      [ ] LABEL1 0
      [ ] LIMIT 3
      [ ] PACK 2
      [x] UNIT 10
      [ ] USE 8
Type any non-blank character
next to the record types you want to edit.
Then press transmit.
```

Press the Tab key to move the cursor to the selection field next to the record type. To select a record type, put a character in the selection field and press the Xmit key. You can select more than one record type at a time.

After you select the records to edit, the records are displayed (refer to the following screen). All records of a certain type are displayed together; however, you can add any type of record to any screen.

```
EDIT DISK      RECORD

Action                 Record Image

[ ] > DISK 4/0 ID 01 SUBSYSTEM 1 SHARED VIA SSPAAA
[ ] > DISK 4/1 ID 02 SUBSYSTEM 2 DEFAULT SHARED VIA SSPAAA
[ ] > DISK 4/2 ID 03 SUBSYSTEM 2 DEFAULT SHARED VIA SSPAAA
[ ] > DISK 4/3 ID 04 SUBSYSTEM 2 DEFAULT SHARED VIA SSPAAA
[ ] >
[A] > DLP 82 NST
[A] > UNIT 82/0 NST
[ ] >
[ ] >

Action: A - Add, C - Change, D - Delete, blank - no change.
Any type of record may be Added.
```

To change a record, perform the following steps:

1. Press the Tab key until the cursor moves to the **Action** field of the required record.
2. In the **Action** field, enter *A* to add a new record, *C* to indicate a change, or *D* to delete a record. If you leave the field blank, the record is not changed.
3. Press the Xmit key to enter changes. If you indicated that more than one type of record needs editing, another screen appears with those records. Repeat steps 1 and 2 to enter changes to those records.
4. Enter any of the conversational halt/load commands (refer to Table 3–5). If you are done and want to continue the halt/load, enter the following command:

   ```
   CONTINUE
   ```

Using Maintenance Processor (MP) Commands

You can use the following maintenance processor (MP) commands for system initialization procedures. You enter these commands using one of the following methods:

- For V 300 systems, enter the command with parameters and press the Xmit key. For V 500 systems, enter the command with parameters and press the Go key.
- For V 500 systems, enter the command and press the Return key. A command form is displayed.

CLEAR MEMORY (CLEAR MEM) Command

The CLEAR MEM command clears all or portions of system memory to a zero state or to an 8-character pattern. The control store firmware must be loaded before you can use this command.

Using the CLEAR MEM Syntax

Figure 3–2 shows the CLEAR MEM command syntax.

```
- CLEAR MEM -┬- MCP -------------------------┬-┬---------------------┬-----------|
             ├- ALL CLOBBER -----------------┤ └- <hex pattern> -----┘
             └- ABS <start> <end> -┬---------┤
                                   └ CLOBBER ┘
```

Figure 3–2. CLEAR MEM Syntax

Use the options ALL CLOBBER or ABS CLOBBER to clear memory allocated to QWIKDisk. (For a complete description of the QWIKDisk option, refer to Volume 3.)

To clear memory to an 8-digit pattern, specify the pattern as an 8-character hexadecimal string.

The memory is cleared to zeros by default.

Using the CLEAR MEM Command Form

On a V 500, enter *CLEAR MEM* and press the Return key to display the following command form.

```
Clear Memory
   ABS/ALL/MCP ALL
   [Start Address (if Abs)]_____
   [End Address (if Abs))]_______
   [Pattern (8 Hex Chars Expected)]____
   [Enter CLOBBER (To include QwikDisk)]___________
```

These fields are described under "Using the CLEAR MEM Syntax."

HALT Command

The HALT command halts the processor at the next instruction point. The default stops only the default processor; the memory I/O subsystems and all other processors are left running.

To invoke a HALT command, you can use the Spcfy key, the HALT command syntax, or the HALT command form.

Using the HALT Syntax

Figure 3–3 shows the HALT command syntax.

```
— HALT ——┬———————————————————┬————————————————————————————————————————————————┤
         ├— <processor-id> —┤
         └— SYS ————————————┘
```

Figure 3–3. HALT Syntax

The <processor-id> and SYS options apply to V 500 systems only.

- To halt a specific V 500 processor, enter the <processor-id> in the form P*s*, where *s* is the processor number.
- To halt all processors on a V 500 system, enter *HALT SYS*.

Using the HALT Command Form

On a V 500, enter *HALT* and press the Return key to display the following command form.

```
Halt
   [Proc ID or SYSTEM]______________
```

This field is described under "Using the HALT Syntax."

LOAD CS Command

The LOAD CS command loads and verifies all or selected control store firmware. The control store firmware must be loaded to initialize the system and run the MCP.

This command also clears the system.

Using the LOAD CS Syntax

Figure 3–4 shows the LOAD CS command syntax.

```
- LOAD CS --+-----+--+--------------+--+----------------+--+-----+---------------|
            |- Y -|  |- <E/F/M/DM> -|  |- <processor-id> -|  |- Y -|
            |- N -|                    |- SYS ------------|  |- N -|
```

Figure 3–4. LOAD CS Syntax

Enter *LOAD CS* to load all control store firmware. If you enter *LOAD CS Y*, the verify option is set.

The E (ECRAM), F (FCRAM), M (MCACM), and DM (DTM) options enable you to load selected control store firmware.

The <processor-id> and SYS options apply to V 500 systems only.

- To load control store to a specific V 500 processor, enter the <processor-id> in the form P*s*, where *s* is the processor number.
- To load control store to all processors on a V 500 system, specify *LOAD CS SYS*.

The second Y/N option is the initialize option, which applies to V 500 systems only.

- A value of N indicates that the system is not initialized.
- A value of Y, which is the default, indicates that the system is initialized.

Using the LOAD CS Command Form

On a V 500, enter *LOAD CS* and press the Return key to display the following command form:

```
LOAD CS
   [Verify? Y/N (Def. = Y)]              ________
   [Module? E/F/M/DM (Def. = ALL)]       ________
   [PROC ID or SYS (Def. = Ps)]          ________
   [Initialize? (Default = Y)]           ________
```

These fields are described under "Using the LOAD CS Syntax."

LOAD MCP Command

The LOAD MCP command initiates a halt/load. Before you enter a LOAD MCP command, the processor must be halted or processing terminated.

Note: *On V 300 and V 500 systems, do not use the TERM (terminate) command to stop the processor. The TERM command unconditionally stops all processors in the system including the IOPs and DTMs (but not the MP).*

Using the LOAD MCP Syntax

Figure 3–5 shows the LOAD MCP command syntax.

```
- LOAD MCP -┬-----------------------------------┬-┬-------------------┬-┬-----┬-----|
            └- <channel number>/<unit number> -┘ ├- <processor-id> -┤ ├- Y -┤
                                                 └- SYS ------------┘ └- N -┘
```

Figure 3–5. LOAD MCP Syntax

The <processor-id> and SYS options apply to V 500 systems only.

- To perform a halt/load for a specific V 500 processor, enter the <processor-id> in the form P*s*, where *s* is the processor number.
- To perform a halt/load for all processors on a V 500 system, enter *LOAD MCP SYS*.

The second Y/N option is the initialize option, which applies to V 500 systems only.

- A value of N indicates that the system is not initialized.
- A value of Y, which is the default, indicates that the system is initialized.

Using the LOAD MCP Command Form

On a V 500, enter *LOAD MCP* and press the return key to display the following command form.

```
LOAD MCP
   [Channel/Unit: cc/uu]        ______
   [PROC ID (Def=Ps)]           ______
   [Halt Load? (def=Y)]         ______
```

These fields are described under "Using the LOAD MCP Syntax."

LOAD SYSTEM Command

The LOAD SYSTEM command displays the Cold-Start screen. When this screen is displayed, you can initiate a cold-start (the equivalent of an MCPIX warmstart) and a conversational halt/load. The system must be terminated or halted before you enter this command.

On the V 500 system, the LOAD SYSTEM command loads the MCP loader program from the MP hard disk into the system memory. The MCP loader program loads MCP code from a tape.

Using the LOAD SYSTEM Syntax

Figure 3–6 shows the LOAD SYSTEM command syntax.

```
– LOAD SYSTEM ─┬──────────────────┬─┬─────┬──────────────────────────────────┤
               ├─ <processor-id> ─┤ ├─ Y ─┤
               └─ SYS ────────────┘ └─ N ─┘
```

Figure 3–6. LOAD SYSTEM Syntax

The <processor-id> and SYS options apply to V 500 systems only.

- To load MCP code to a specific V 500 processor, enter the <processor-id> in the form Ps, where *s* is the processor number.
- To load MCP code to all processors on a V 500 system, enter *LOAD SYSTEM SYS*.

The second Y/N option is the initialize option, which applies to V 500 systems only.

- A value of N indicates that the system is not initialized.
- A value of Y, which is the default, indicates that the system is initialized.

Using the LOAD SYSTEM Command Form

On a V 500, enter *LOAD SYSTEM* and press the return key to display the following command form.

```
LOAD SYSTEM
   [PROC ID (Def=Ps)]        ______
   [ColdStart? (def=Y)]      ______
```

These fields are described under "Using the LOAD SYSTEM Syntax."

SET OPTIONS (SET O) Command

The SET OPTIONS (or SET O) command sets the preliminary system configuration options individually or through a form. The form bundles the action of individual SET OPTIONS commands.

Using the SET OPTIONS Syntax

Figure 3–7 shows the SET OPTIONS command syntax.

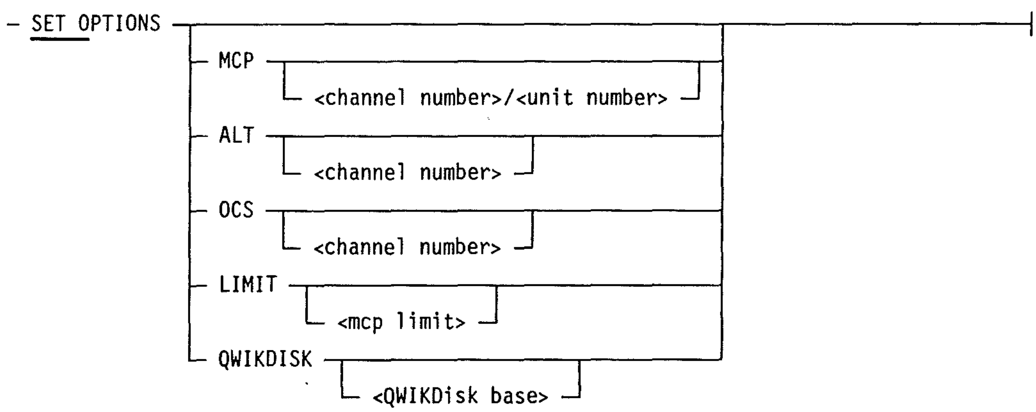


Figure 3–7. SET OPTIONS Syntax

For a description of these options, refer to Table 3–4.

Using the SET OPTIONS Command Form

On a V 500, enter *SET O* and press the return key to display the following command form:

```
Set Options
   [MCP/LIMIT/ALT/OCS/QWIKDISK]_______________
   [Data (if MCP option, enter cc/uu)]________
```

Press the Xmit or Go key to display the following additional command screen.

```
SYSTEM CONFIGURATION OPTIONS       V0003M00
MCP Channel and Unit [34/03]
OCS/ODT Channel      [00]        ALT Channel [99]
MCP Memory Limit     [0040000000]
QWIKDisk Base        [0040000000]
```

For a description of these options, refer to Table 3–4.

TERM Command

The TERM command unconditionally stops the processor and terminates any I/O operations in progress. Figure 3-8 shows the TERM command syntax.

Note: *Use this command only when the HALT command fails to stop the system.*

```
– TERM ————————————————————————————————————————————————————|
```

Figure 3–8. TERM Syntax

V 500 MP Function Keys

Use the V 500 MP function keys to execute commands. Function keys save you from typing specific commands. Some keys execute a program; others stop the processor. Table 3–6 lists the function keys and the commands they execute.

Table 3–6. V 500 Function Keys

Key	Command	Description
F1	REDO	Displays the last command that was input.
F2	REMOTE	Enables remote support link.
F3		Not a valid function key.
F4	MSGS	Displays messages from the environmental control module (ECM).
F5	M STAT	Displays a status summary of the maintenance subsystem components: MP cluster, SMC, ECM, and the remote link.
F6	ECM	Invokes the MP-to-ECM command interface. Select a function from the menu of ECM functions displayed.
F7	NE SYS	Next Event. Applies to all processors. Valid only when the system is stopped. Runs all system clocks without clearing maintenance chains. If stop logic is cleared, it is equivalent to the RUN SYS command. Single instruction bits are cleared if they were previously set.
F8	EVENT	Applies only to the specified processor. Valid only when the system is stopped. Runs all system clocks without clearing maintenance chains. If stop logic is cleared, it is equivalent to the RUN SYS command. Single instruction bits are cleared if they were previously set.
F9	INSTR	Valid only when the processor or system is stopped. On multiprocessor systems, this command is valid for the default processor only. All system clocks are running with the single instruction bits enabled to stop the processor at the end of the next instruction. Stop logic is cleared prior to execution due to the hardware implementation of the single instruction.
F10	CLOCK	Valid when the system is stopped; stops all system clocks with the TERM command. A single clock is issued to the system to advance processing one clock at a time when the processor is stopped but memory I/O clocks are running.

Section 4
Using the CONFIG Utility

An interactive utility bound to the MCP, the CONFIG utility, creates and updates the MCP configuration file. The MCP reads the records in this file at cold-start time to determine the peripherals to service and system options to use. The records that the CONFIG utility writes in the file are described in Section 5, "MCP Configuration Record Formats."

You can operate the CONFIG utility from the system console or any other terminal. This version of the program is stored on disk.

For V 300 systems, the CONFIG utility writes files to disk, disk pack, or minidisk, and reads files from disk, disk pack, minidisk, or card reader.

For V 500 systems, the CONFIG utility writes files to disk or disk pack, and reads files from disk, disk pack, console hard disk, or card reader.

CONFIG Utility Menus and Screens

All CONFIG utility menus and screens have the same basic format. The title and a list of action commands appear at the top. These action commands have various functions, including refreshing the screen, printing data, and displaying help information. The fields that are used to collect information appear in the body of the screen. Error messages are displayed at the bottom of the screen. There are three CONFIG utility menus. From these menus, you can access the CONFIG utility screens, which enable you to declare peripherals, set system options, and edit existing MCP configuration files.

Table 4–1 lists the CONFIG utility menus.

Table 4–1. CONFIG Utility Main Menus

Menu	Description
Master Selection	Displays screens to declare DLPs, disk units and disk pack units, and to set MCP limits and options.
Unit Selection	Displays screens to declare printers, data communication equipment, sorters, and nonstatus devices such as modems and minidisk drives (V 300 only).
Raw Editor	Displays screens for editing all records of a similar type at one time. A screen is displayed automatically when the CONFIG utility encounters an input file with errors. You must edit these errors before restarting the utility.

Action Commands

The action commands appear at the top of each menu. The uppercase letters designate the minimum entry required to execute the command. Table 4–2 lists the action commands in alphabetical order.

Table 4–2. Action Commands

Command	Description
ABort	Terminates the CONFIG utility immediately and returns you to the system environment. The work done during the session is lost.
ADd	Adds a record to the file (used with the Raw Editor menu).
CHange	Writes the text on the screen to the file. Use this command to delete text displayed by the CONFIG utility.
DELete	Deletes a record from the file (used with the Raw Editor menu).
ENd	Terminates the CONFIG utility and saves your input in the designated file. If the medium you select for the output file on the File Specification Screen is not available when you end the CONFIG utility session, the Redirect Output screen is displayed.
ERRor	Displays erroneous records in an MCP configuration file used as input to the CONFIG utility.
HElp	Explains how to fill in the screen.
HOme	Returns you to the Master Selection menu or the Other Devices (Unit Selection) menu. If you are editing records through the Raw Editor menu, HOme returns you to the Raw Editor menu.
MODify	Changes a record in the file (used with the Raw Editor menu)

continued

Table 4–2. Action Commands (cont.)

Command	Description
NExt	This action command has two functions. In situations where another screen is needed to display additional information, this command displays the additional screen. In other situations, the command refreshes the current screen. When used with the Raw Editor menu, for which the records are displayed one at a time according to type, this command displays the next record. If there are no more records, the command returns the Raw Editor menu.
PREvious	Displays the previous screen of the same type as the current screen. If there is no preceding screen, the current screen is redisplayed.
PRInt	Prints the MCP configuration file.
RAw	Invokes the Raw Editor menu, which enables you to view and edit records.
REFresh	Redisplays the current screen without retaining any data changed since the original display.
REStart	The CONFIG utility automatically displays the Raw Editor menu if it finds errors in a configuration file used for input. After you correct the errors, use this command to restart the CONFIG utility. The CONFIG utility parses the file, and if it finds any errors, the utility displays the Raw Editor menu again. Otherwise, the contents of the file are displayed.

Help Screens

Help screens are the primary form of documentation for the CONFIG utility. Each screen and menu has help screens that explain the data to type in each field and detail the relationship between each field and the system configuration. Optional fields are indicated. The text of each help screen appears in this section with the respective screen.

Use the action command HElp to access the help screens.

CONFIG Utility Operations

After you modify an existing MCP configuration file, the CONFIG utility reads the file into a buffer and checks the syntax to determine if there are errors.

- If the file is not set up correctly, the CONFIG utility displays the Raw Editor menu, which can be used to list and correct any file errors. You must correct all errors before the CONFIG utility can use the file as input.
- If the file does not contain errors, the information it contains is displayed on the relevant screens.

When you end the session, the CONFIG utility writes the information to a new file. Use the PRInt action command to print the file.

Executing the CONFIG Utility

Before executing the CONFIG utility, you must declare a storage device to store the MCP configuration file about to be created.

- A V 300 system requires a disk pack or a minidisk drive.
- A V 500 system requires a disk pack or MP hard disk.

A DLP must also be declared for the particular storage device chosen.

Executing the CONFIG Utility on a V 300

Perform the following steps to execute the CONFIG utility on a V 300 system:

1. Enter the following to declare a DLP for a minidisk drive:

   DLP <channel number> CONSOLE

2. Enter the following to declare the minidisk drive:

   UNIT <cc/u> NST

   For additional information on these commands, refer to Volume 2.

3. Use one of the following commands:

   - If you modify the configuration file when the system is not running, execute the CONFIG utility with the following command:

     EX CONFIG (<ccu>)

     Press the Go key. Include the channel, *cc*, and the unit number, *u*, of your ODT or OCS in the command syntax. For example, the following command executes the CONFIG utility and uses unit 0 on channel 14:

     EX CONFIG (140)

   - If you modify the configuration file after the system is running, execute the CONFIG utility through CANDE. Enter the following command:

     SYS CONFIG

   When you execute the utility, the program displays the CONFIG utility menus and screens.

Loading the MCP Configuration File on a V 300

You can load the V 300 MCP configuration file created by the CONFIG utility from a minidisk drive, disk pack, or a card reader.

Executing the CONFIG Utility on a V 500

Perform the following steps to execute the CONFIG utility on a V 500 system:

1. Enter the following to declare a DLP for a disk pack:

   DLP <channel number> DSK

2. Enter the following to declare the disk pack:

   PACK <cc/u>

   For additional information on these commands, refer to Volume 2.

3. Execute the CONFIG utility using one of the following commands:

   - If you modify the configuration file when the system is not running, enter the following command:

     EX CONFIG <ccu>

     Press the Go key. Include the channel number, *cc*, and unit number, *u* of your ODT or OCS in the command syntax. For example, the following command executes the CONFIG utility and uses unit 0 on channel 14:

     EX CONFIG (140)

   - If you modify the configuration file after the system is running, execute the CONFIG utility through CANDE. Enter the following command:

     SYS CONFIG

   After the utility is running, the program displays the CONFIG utility menus and screens.

Loading the MCP Configuration File on a V 500

You can load the V 500 MCP configuration file from a disk pack or a card reader.

Using the CONFIG Utility Menus and Screens

The CONFIG utility menus and screens help you to configure your system.

- Enter text in uppercase letters except for file names, which can include lowercase letters. Return the cursor to the home position before you transmit the data.
- When using an ET Series workstation, do not use the scrolling feature. The scrolling feature changes the home position, and therefore, you cannot transmit the entire screen.
- The screens shown here might differ somewhat from the screens on your system.

Introduction Screen

```
                         Unisys Corporation


                     SYSTEM CONFIGURATION UTILITY

Copyright © 1988 Unisys Corporation, Detroit, Michigan 48232



Please set your terminal to uppercase only, no scrolling.
Either set terminal to full screen transmit or home the cursor
   before transmitting.
All data should be in uppercase (except file names where appropriate).

                                             Hit Xmit to continue.  [  ]
```

This is the first screen displayed.

Press the Xmit key to display the File Specification screen.

File Specification Screen

```
      File Specification Screen                                  CONFIG
Action:  [          ]
      HElp  REFresh  ABort


   Input File
         Floppy access? (Y/N):  [N]    Channel/Unit:  [  ]/[ ]
         File Id:               [      ] ON  [      ]

   Output File
         Floppy access? (Y/N):  [N]    Channel/Unit:  [  ]/[ ]
         File Id:               [      ] ON  [      ]

   For floppy, use <filename> on <volume id>.
   For hard disk, (V 500 only), use <family name> = 'HD'
   For disk/pack, use <filename> on <familyname>.
   For card, use <filename> = 'CARD'.                        (Input only)
   For in-use configuration file, use <filename> = 'ACTIVE'.  (Input only)
   If output file not specified, input file is default output file.
```

The File Specification screen is the second screen displayed. Use this screen to indicate the files that you are working with, and the location of those files. The CONFIG utility can read files from minidisk, disk, disk pack, or card reader. The utility can write files to minidisk (V 300 systems only), disk, or disk pack.

If you use an existing file for input, the CONFIG utility first checks the file to ensure that it does not contain errors.

- If there are no errors, the CONFIG utility displays the information for editing.
- If the file contains errors, the utility displays the Raw Editor menu. You must correct the errors before the utility can continue.

This screen is set up so that you can input information regarding two different files, an input file and output file.

Specifying an Input File

If you provide information for an input file, the CONFIG utility will read in that file, parse it for errors, and then display the records it contains. If you do not name an output file, the name of the input file will be used by default.

The source of this input file can be a 100-byte disk, 180-byte disk pack, or a card reader, a minidisk (V 300 only), or the hard disk of the system console (V 500 only).

If the input file is on 100-byte disk, enter the file name only. Otherwise, you must also enter the family name of the disk pack or the volume name of the minidisk. Oftentimes the label of a minidisk indicates its volume name. If you are using a minidisk, you must also indicate the channel number and unit number of the minidisk drive.

If you create a new file from scratch, do not indicate the name of an input file.

If you modify an existing file, indicate its name followed by the word ACTIVE.

If the input file is on a card reader, enter the name of the input file followed by the word CARD.

Specifying an Output File

The output file is the file you are creating. It can be based upon an input file or you can create it from scratch.

If the output file is on 100-byte disk, enter the file name only. Otherwise, you must also enter the family name of the disk pack or the volume name of the minidisk. Oftentimes the label of a minidisk indicates its volume name. If you are using a minidisk, you must also indicate the channel number and unit number of the minidisk drive.

If you do not specify an output file, the system uses the input file specification as the output file specification.

Transmitting the File Specification Screen

After you indicate the name of the files you are working on, press the Xmit key.

- If there are no errors, the CONFIG utility displays the Master Selection menu.
- If the medium you select for the output file on the File Specification Screen is not available when you end the CONFIG utility session, the Redirect Output screen is displayed.

Redirect Output Screen

```
     Redirect Output Screen                                   CONFIG
Action:  [          ]
         HElp  REFresh  ABort

    Output File
           Floppy access? (Y/N):  [N]   Channel/Unit: [  ]/[ ]
           File Id:               [      ] ON  [      ]

    For floppy, use <filename> on <volume id>
    For disk/pack, use <filename> on <familyname>.
```

After you use the ENd action command to end a CONFIG utility session, the CONFIG utility displays this screen if the medium you select for the output file on the File Specification Screen is not available. The Redirect Output screen enables you to route the file to another device such as a disk, disk pack, or minidisk.

This screen also enables you to change the name of your configuration file. If you do not enter a name in the **File Id** field, the file is named as you originally specified on the File Specification screen.

If you want to route the file to a minidisk of a V 300 system, enter *Y* in the **Floppy access?** field, and then enter the channel and unit numbers of the drive that contains the minidisk in the **Channel/Unit** field. Enter the filename and the volume ID in the **For floppy** field.

If you want to route the file to a disk or disk pack, enter the name of the file and, if disk pack, the family name of the disk pack in the **For disk/pack** field. Disk is the default medium.

Master Selection Menu

```
         Master Selection Menu (home screen)                   CONFIG
Action:  [          ]
         HElp  REFresh  PRInt  RAw  End  ABort

Peripheral Configuration      System Configuration      Various

( 1) Disk/Pack configs.        ( 9) Control options      (14) Allocate
( 2) Disk/Pack DLP options     (10) Limit options        (15) Misc.
( 3) Logical subsystems        (11) USE options          (16) BADMEM
( 4) Tape configurations       (12) MCP limits
( 5) Channel priorities        (13) Logging and dump options
( 6) Other devices menu
( 7) Inactive DLP              Selection Number:  [  ]
( 8) Disk sectioning
```

This is the main menu of the CONFIG utility. All the selections except for selection 6 display screens used to configure the system. To display a screen, type the corresponding number in the **Selection Number** field and press the Xmit key.

Selection 6 displays the Other Devices (Unit Selection) menu, which is used to access screens that declare reader-sorters, printers, data communication equipment, terminals, and other types of equipment.

If you enter the PRInt action command, the CONFIG utility creates a print file containing the entire configuration file. When you finish the session, the ID of that printer backup file is displayed.

Define a Disk/Pack Configuration Screen (Selection 1)

```
         Define a Disk/Pack Configuration                       CONFIG
Action:  [CHange    ]
         HElp  HOme  REFresh  ABort PREvious  NExt  CHange
Primary Channel:  [20]   Alternates: [21] [22] [  ] [  ] [  ] [  ] [  ]
           100-Byte Media                              180-Byte Media
Unit  ID#  Subsys  Beg Adr  End Adr   Res Save    Unit  ID#  SSP name Res Save
[  ] [   ]  [  ]  [      ] [      ]  [N]  [N]    [  ] [   ] [      ] [N]  [N]
[  ] [   ]  [  ]  [      ] [      ]  [N]  [N]    [  ] [   ] [      ] [N]  [N]
[  ] [   ]  [  ]  [      ] [      ]  [N]  [N]    [  ] [   ] [      ] [N]  [N]
[  ] [   ]  [  ]  [      ] [      ]  [N]  [N]    [  ] [   ] [      ] [N]  [N]
[  ] [   ]  [  ]  [      ] [      ]  [N]  [N]    [  ] [   ] [      ] [N]  [N]
[  ] [   ]  [  ]  [      ] [      ]  [N]  [N]    [  ] [   ] [      ] [N]  [N]
[  ] [   ]  [  ]  [      ] [      ]  [N]  [N]    [  ] [   ] [      ] [N]  [N]
[  ] [   ]  [  ]  [      ] [      ]  [N]  [N]    [  ] [   ] [      ] [N]  [N]
[  ] [   ]  [  ]  [      ] [      ]  [N]  [N]    [  ] [   ] [      ] [N]  [N]
[  ] [   ]  [  ]  [      ] [      ]  [N]  [N]    [  ] [   ] [      ] [N]  [N]
[  ] [   ]  [  ]  [      ] [      ]  [N]  [N]    [  ] [   ] [      ] [N]  [N]
[  ] [   ]  [  ]  [      ] [      ]  [N]  [N]    [  ] [   ] [      ] [N]  [N]
```

Select *1* on the Master Selection menu to access the Define a Disk/Pack Configuration screen.

Use the Define a Disk/Pack Configuration screen to declare disk and disk pack devices.

The left side of the screen is devoted to disks and the right is devoted to disk packs.

Use the NExt action command to display more columns or a fresh screen.

Declaring Disk Units

You can assign disk units to up to eight different logical subsystems. Use the Declare Logical Subsystems for 100-Byte Media screen to declare shared and default logical subsystems.

If the disk has bad sectors, use the beginning and ending address fields (**Beg Adr** and **End Adr**) to declare the first good sector. You can define the remaining good sectors using the Disk Sectioning (MOREDISK) screen.

Declaring Disk Pack Units

You can incorporate disk pack units into a multisystem shared system on an individual basis. You must indicate the name of a shared system processor (SSP) and an ID number on the screen.

Filling Out the Screen

The **Primary Channel** field is required when you define a disk or disk pack. In this field, enter the number of the primary channel the MCP is to use to access these devices.

The **Alternate Channel** field is optional. You can declare alternate channels to the devices in case the primary channel is busy or becomes inhibited. This improves throughput.

Once a channel is declared, you must not declare it as a primary or alternate channel for any other device.

Table 4–3 describes the rest of the fields on the Define A Disk/Pack Configuration screen.

Table 4–3. Define Disk/Pack Configuration Screen Fields

Field	Disk	Required	Disk Pack	Required
Unit	A unit number in the range 0 through 15.	Required	A unit number in the range 0 through 15.	Required
ID	An ID number in the range 1 through 89 (MCP disk is always 1).	Required	An ID number in the range 2 through 255 (MCP disk is always 1). If this is a shared disk pack, ensure that each processor uses the same ID number to refer to the drive.	Optional

continued

Table 4–3. Define Disk/Pack Configuration Screen Fields (cont.)

Field	Disk	Required	Disk Pack	Required
Subsys	The number of the logical subsystem in the range 1 through 8 to which this device is assigned.	Optional	Not applicable	Not applicable
Beg Adr	If the disk has bad sectors, use this and the **End Adr** field to declare the first good area of the disk. You can declare any remaining good areas on the Disk Sectioning (MOREDISK) screen.	Optional	Not applicable	Not applicable
End Adr	Use in conjunction with the **Beg Adr** field to indicate the ending address of the first good area on the disk.	Optional	Not applicable	Not applicable
SSP name	Not applicable	Not applicable	If this is a shared disk pack, use this field to name the SSP used to access the shared files on this disk pack. Leave this field blank is this disk pack is not shared.	Optional
Reserve	Enter *Y* in this field if you want the disk reserved after a cold-start.	Optional	Enter *Y* in this field if you want the disk pack reserved after a cold-start.	Optional
Save	Enter *Y* in this field if you want the disk saved after a cold-start.	Optional	Enter *Y* in this field if you want the disk pack saved after a cold-start.	Optional

Define DSK DLP Firmware-IDs and Inhibits Screen (Selection 2)

```
         Define DSK DLP Firmware-IDs and Inhibits          CONFIG
Action:  [CHange    ]
         HElp  HOme  REFresh  ABort PREvious  NExt  CHange

Channel  Firmware-ID  Inhibited (Y/N)  Channel  Firmware-ID  Inhibited (Y/N)
[  ]     [       ]         [ ]         [  ]     [       ]         [ ]
```

Select *2* on the Master Selection menu to access the Define DSK DLP Firmware-IDs and Inhibits screen.

Use the Define DSK DLP Firmware-IDs and Inhibits screen to indicate the firmware file to load to a disk or disk pack controller, and to inhibit any channels that you have already declared for a disk or disk pack.

If you have not yet declared any disk or disk pack devices, no channel numbers appear in the channel number column.

In the **Firmware-ID** field, enter the name of the firmware file to load to the disk pack controller on this channel. This firmware file can be on disk or disk pack. Refer to Table 3–2 for a list of firmware file names. This field is optional.

To inhibit a channel and make it unavailable to the system after a cold-start, enter *Y* in the **Inhibit** field. This field is optional.

Define Logical Subsystems for 100-Byte Media Screen (Selection 3)

```
        Define Logical Subsystems for 100-byte Media              CONFIG
Action: [CHange     ]
        HElp  HOme  REFresh  ABort CHange


  Subsystem   Default     Shared      Subsystem   Default    Shared
     nn         [ ]         [ ]          nn         [ ]        [ ]
```

Select *3* on the Master Selection menu to access the Define Logical Subsystems for 100-Byte Media screen.

Use the Define Logical Subsystems for 100-Byte Media screen to declare shared and default disk subsystems. Logical subsystems are made up of 100-byte disk devices and allow for programmatic file assignment. There can be up to eight of these subsystems.

If you do not declare any default logical subsystems, subsystem 1 becomes the default disk subsystem, as well as being the residence of the MCP code files; this is not recommended for performance reasons.

If you have not yet declared any disk devices, this screen is blank. You declare disk and disk pack units on the Define a Disk Pack Configuration screen.

If the subsystem is to be shared among the systems in a multisystem shared configuration, enter *Y* in the **Shared** field.

If a subsystem is used as a default medium, enter *Y* in the **Default** field.

Define a Tape Configuration Screen (Selection 4)

```
          Define a Tape Configuration                             CONFIG
 Action:  [CHange    ]
         HElp  HOme  REFresh  ABort PREvious  NExt  CHange
          Channel  Tape type  Inhibited         Channel  Inhibited
Primary     [  ]      [   ]      [N]    Secondary  [  ]     [ ]
Secondary   [  ]      [   ]      [N]    Secondary  [  ]     [ ]
Secondary   [  ]      [   ]      [N]    Secondary  [  ]     [ ]
Secondary   [  ]      [   ]      [N]    Secondary  [  ]     [ ]
Secondary   [  ]      [   ]      [N]    Secondary  [  ]     [ ]
SRM = Saved, Reserved, Mixed options (in order)
NSN = Named, Serial, Nameserial options (in order, MTC only)
UNIT    SRM  Retries  Shared  NSN  UNIT    SRM  Retries  Shared  NSN
[  ]   [NNN]   [  ]     [N]  [YNN] [  ]   [NNN]   [  ]     [N]  [   ]
[  ]   [NNN]   [  ]     [N]  [   ] [  ]   [NNN]   [  ]     [N]  [   ]
[  ]   [NNN]   [  ]     [N]  [   ] [  ]   [NNN]   [  ]     [N]  [   ]
[  ]   [NNN]   [  ]     [N]  [   ] [  ]   [NNN]   [  ]     [N]  [   ]
[  ]   [NNN]   [  ]     [N]  [   ] [  ]   [NNN]   [  ]     [N]  [   ]
[  ]   [NNN]   [  ]     [N]  [   ] [  ]   [NNN]   [  ]     [N]  [   ]
[  ]   [NNN]   [  ]     [N]  [   ] [  ]   [NNN]   [  ]     [N]  [   ]
[  ]   [NNN]   [  ]     [N]  [   ] [  ]   [NNN]   [  ]     [N]  [   ]
```

Select *4* on the Master Selection menu to access the Define a Tape Configuration screen.

The Define a Tape Configuration screen declares tape drives that support the following types of tape:

- GCR
- MPE
- MT9
- MTC

You can declare only one type of tape on each screen.

Table 4–4 describes the fields for the Define a Tape Configuration screen.

Table 4-4. Define a Tape Configuration Screen Fields

Field	Required	Description
Channel	Required	Indicates the primary channel to use to access the drives. You can declare up to three secondary channels.
Tape type	Required	Indicates the type of tape each drive supports. The tape types are MPE, GCR, MT9, and MTC. You can declare only one type of tape on each screen.
Inhibited	Required	If you want the unit saved after a cold-start, enter *Y* in this column. Otherwise, enter *N*.
UNIT	Required	Indicates the unit number for the drive.
SRM	Required	The **SRM** field indicates the saved, reserved, and mixed status of a tape drive. MIXED does not apply to GCR or MTC tapes. If you want the drive saved after a cold-start, enter *Y* in the S column. If you want the unit reserved after a cold-start, enter *Y* in the R column. If you want the drive to use both MT9 and MPE tape types, enter *Y* in the M (for Mixed) column. If you declare the drive mixed, you must declare the drive twice: declare it once as MT9 and a second time as MPE. Note that an MT9 tape is written in NRZ tape density and that an MPE tape is written in PE tape density.
Retries	Required	Indicate the number of times the system should retry an I/O to the drive. The system can retry an I/O up to 99 times.
Shared	Required	If the unit is a shared device, enter *Y*.
NSN	Optional	The **NSM** field specifies a NAME, SERIAL, or NAMESERIAL option for a tape drive. These options apply to MTC tape drives only. If you want the display panel of the unit to display the tape name, enter *Y* in the first N (NAME) column. If you want the display panel of the unit to display the serial number of the tape cartridge, enter *Y* in the S (SERIAL) column. If you want the display panel of the unit to alternate the tape name with the serial number of the tape cartridge, enter *Y* in the second N (NAMESERIAL) column.

Channel Priority Screen (Selection 5)

```
         Channel Priority Screen                              CONFIG
Action:  [CHange    ]
         HElp  HOme  REFresh  ABort PREvious  NExt  CHange

Channel Device Priority ¦ Channel Device Priority ¦ Channel Device Priority
 10     CONSOLE  [70]   ¦  13       PRN    [40]   ¦  16      GCR     [80]
```

Select *5* on the Master Selection menu to access the Channel Priority screen.

Use the Channel Priority screen to declare channel priorities. The number of channels displayed depends on the number of channels you have declared thus far.

Each DLP appears with a value in the **Priority** field. The default value displayed is the recommended priority for that type of device. You can change the value by entering the value you want. Priority values range from 0 through 99 (the number 99 is the highest priority).

Other Devices (Unit Selection) Menu (Selection 6)

```
          Unit Selection Menu                                      CONFIG
Action:   [CHange    ]
          HElp  HOme  REFresh  ABort


    Card     Printer   Terminal  Sorter   Data Comm    Other

   CRD       IPP        OCS       S4A       DCP        NST
   PCH       PRN        ODT       S4B       NCP        ISC
             TPR                            RJE        SSP
                                            TC5
                                            VDD
                                            TWX
                                            FEP

    Enter selection: [    ]
```

Select *6* on the Master Selection menu to access the Other Devices (Unit Selection) menu.

Use the Other Devices (Unit Selection) menu to access screens that enable you to declare reader-sorters, printers, data communication equipment, and terminals, as well as other types of equipment.

Enter the abbreviation of the device you want to declare in the **Enter selection** field and then press the Xmit key. For example, to display the Define a Unit Configuration screen, enter *CRD*, *PCH*, *S4A*, or *S4B* in the **Enter selection** field.

The CONFIG utility then displays the screen used to declare that type of device.

Define a Unit Configuration Screen

```
          Define a Unit Configuration                                 CONFIG
Action:   [CHange    ]
          HElp  HOme  REFresh  ABort PREvious  NExt  CHange
    Valid device selections for this screen are: CRD, PCH, S4A, S4B.
      Channel   Device     Unit-ID      Retry   Saved    Reserved
      number     type   (for S4A/S4B)  number   (Y/N)     (Y/N)
       [ ]      [ ]      [      ]      [ ]     [N]        [N]
       [ ]      [ ]      [      ]      [ ]     [N]        [N]
       [ ]      [ ]      [      ]      [ ]     [N]        [N]
       [ ]      [ ]      [      ]      [ ]     [N]        [N]
       [ ]      [ ]      [      ]      [ ]     [N]        [N]
       [ ]      [ ]      [      ]      [ ]     [N]        [N]
       [ ]      [ ]      [      ]      [ ]     [N]        [N]
       [ ]      [ ]      [      ]      [ ]     [N]        [N]
       [ ]      [ ]      [      ]      [ ]     [N]        [N]
       [ ]      [ ]      [      ]      [ ]     [N]        [N]
       [ ]      [ ]      [      ]      [ ]     [N]        [N]
       [ ]      [ ]      [      ]      [ ]     [N]        [N]
       [ ]      [ ]      [      ]      [ ]     [N]        [N]
```

To access the Define a Unit Configuration screen, enter *CRD*, *PCH*, *S4A*, or *S4B* in the **Enter selection** field of the Unit Selection menu. Use the Define a Unit Configuration screen to declare card readers, card punches, check sorters, and nonstatus devices (such as minidisk drives).

Indicate the type of device you are declaring by entering its hardware mnemonic in the **Device type** field as follows:

Mnemonic	Device
CRD	80-column card reader
PCH	80-column card punch
S4A	B 9137 reader-sorter on a 4A-type DLP
S4B	B 9138 reader-sorter on a 4A-type DLP

Table 4–5 describes the fields for the Define a Unit Configuration screen.

Table 4–5. Define a Unit Configuration Screen Fields

Field	Required	Description
Channel number	Required	Use this field to enter the channel number for the device.
Device type	Required	Use this field to indicate the type of device you are configuring by putting its hardware mnemonic in this column. Valid mnemonics are CRD (card reader), PCH (card punch), S4A (4A sorter), and S4B (4B sorter).
Unit-ID	Optional	Use this field to enter the unit ID of a reader-sorter.
Retry number	Optional	If you want the operating system to retry I/O operations to this unit, use this field to enter the number of retrys. The default is 0 (no retrys).
Saved	Required	If you want the unit saved after a cold-start, enter *Y* in this field.
Reserved	Required	If you want the unit reserved after a cold-start, enter *Y* in this field.

Printer Screen

```
      Printer Screen                                              CONFIG
Action:  [CHange    ]
      HElp  HOme  REFresh  ABort PREvious  NExt  CHange
    Valid device selections for this screen are: IPP, PRN, TPR.
      Channel  Device  Saved  Reserved    Unit     Retry
      number   type    (Y/N)  (Y/N)        ID      number
       [  ]    [  ]    [N]     [N]     [       ]   [  ]
       [  ]    [  ]    [N]     [N]     [       ]   [  ]
       [  ]    [  ]    [N]     [N]     [       ]   [  ]
       [  ]    [  ]    [N]     [N]     [       ]   [  ]
       [  ]    [  ]    [N]     [N]     [       ]   [  ]
       [  ]    [  ]    [N]     [N]     [       ]   [  ]
       [  ]    [  ]    [N]     [N]     [       ]   [  ]
       [  ]    [  ]    [N]     [N]     [       ]   [  ]
       [  ]    [  ]    [N]     [N]     [       ]   [  ]
       [  ]    [  ]    [N]     [N]     [       ]   [  ]
       [  ]    [  ]    [N]     [N]     [       ]   [  ]
       [  ]    [  ]    [N]     [N]     [       ]   [  ]
       [  ]    [  ]    [N]     [N]     [       ]   [  ]
```

To access the Printer screen, enter *IPP*, *PRN*, or *TPR* in the **Enter selection** field of the Unit Selection menu.

Use this screen to declare various printers, including the Unisys Image Laser Printing System (IPP), line printers (PRN), and train printers (TPR).

Indicate the type of device you are declaring by entering its hardware mnemonic in the **Device type** field as follows:

Mnemonic	Device
IPP	Image page printer
PRN	Buffered printer
TPR	Train printer

Table 4–6 describes the fields for the Printer screen.

Table 4–6. Printer Screen Fields

Field	Required	Description
Channel number	Required	Use this field to enter the channel number for the printer.
Device type	Required	Use this field to indicate the type of device you are configuring by putting its hardware mnemonic in this column. Valid mnemonics are IPP (image page printer), PRN (buffered printer), and TPR (train printer).
Saved	Required	If you want the printer saved after a cold-start, enter *Y* in this field.
Reserved	Required	If you want the printer reserved after a cold-start, enter *Y* in this field.
Unit-ID	Optional	Use this field to indicate the default train file or the translate table used by the printer, or to indicate the unit ID for an image page printer (IPP).
Retry number	Optional	If you want the operating system to retry I/O operations to this printer, use this field to enter the number of retrys. The default is 0 (no retrys).

OCS, ODT Screen

```
        OCS, ODT Screen                                          CONFIG
Action:  [CHange    ]
         HElp  HOme  REFresh  ABort PREvious  NExt  CHange
    Valid device selections for this screen are: OCS, ODT.
    Channel   Device  Unit-ID   Level  Saved  Reserved  Inhibited
    / Unit     type   (option)  (1-9)  (Y/N)   (Y/N)      (Y/N)
   [  ]/[ ]    [   ]  [      ]   [9]    [N]     [N]        [N]

    Uniline firmware (optional):      [      ]

    Halt/load SPO (optional - Y/N)?  [N]

    AD rules:
 [                                                                         ]
 [                                                                         ]
 [                                      ]
```

To access the OCS, ODT screen, enter *OCS* or *ODT* in the **Enter selection** field of the Unit Selection menu.

Use the OCS, ODT screen to declare an OCS or ODT.

You can declare only one OCS or ODT per screen.

Table 4–7 describes the fields for the OCS, ODT screen.

Table 4–7. OCS, ODT Screen Fields

Field	Required	Description
Channel number	Required	Use this field to enter the channel number for the device.
Device type	Required	If the terminal is attached to a Uniline DLP, enter *OCS*. Otherwise, enter *ODT*.
Unit-ID	Optional	Use this field to specify a 1- to 6-character identifier. The first character must be a letter; the following characters can be either letters or numbers.
Level	Required	Use this field to indicate the access level (1 through 9) of system commands that can be input from the terminal.
Saved	Required	If you want the terminal saved after a cold-start, enter *Y* in this field.
Reserved	Required	If you want the terminal reserved after a cold-start, enter *Y* in this field.
Inhibited	Optional	If you want the terminal inhibited after a cold-start, enter *Y* in this field.
Uniline firmware	Optional	Use this option only if you are setting up an OCS. Enter the name of the firmware file the system will download to the Uniline DLP in case the firmware in that DLP becomes corrupted. Refer to Table 3–2 for a list of firmware file names.
Halt/load SPO	Optional	Use this field to indicate that halt/load commands can be entered from this device. This device also displays messages if the MCP fails.
AD rules	Optional	Use these fields to indicate how to display system status tables on the ODT. For a description of system status tables, refer to "System Status Table Displays" in Section 5, "MCP Configuration Record Formats."

DCP Screen

```
         DCP Screen                                              CONFIG
Action:  [CHange    ]
         HElp  HOme  REFresh  ABort PREvious  NExt  CHange
    Device:  DCP.
    Channel    DCP     DCP Number  Reserved
    number     type     (0-99)      (Y/N)
     [  ]     [     ]   [  ]         [N]
     [  ]     [     ]   [  ]         [N]
     [  ]     [     ]   [  ]         [N]
     [  ]     [     ]   [  ]         [N]
     [  ]     [     ]   [  ]         [N]
     [  ]     [     ]   [  ]         [N]
     [  ]     [     ]   [  ]         [N]
     [  ]     [     ]   [  ]         [N]
     [  ]     [     ]   [  ]         [N]
     [  ]     [     ]   [  ]         [N]
     [  ]     [     ]   [  ]         [N]
     [  ]     [     ]   [  ]         [N]
     [  ]     [     ]   [  ]         [N]
```

To access the DCP screen, enter *DCP* in the **Enter selection** field of the Unit Selection menu.

Use the DCP screen to declare data communication processors (DCPs). The type of DCP is determined automatically; however, you can include the model types (B 874, B 974, and DCDLP) in the DCP type field for documentation purposes.

Table 4–8 describes the fields for the DCP screen.

Table 4–8. DCP Screen Fields

Field	Required	Description
Channel number	Required	Use this field to enter the channel number for the DCP.
DCP type	Optional	Use this field to indicate the type of DCP. Valid types are B 874, B 974, and DCDLP. B 974 is the default. This field is for documentation purposes only. The system automatically determines the type of DCP.
DCP number	Required	Use this field to specify the DCP number in the range 0 through 99.
Reserved	Required	If you want the DCP reserved after a cold-start, enter *Y* in this field.

NCP Screen

```
          NCP Screen                                        CONFIG
Action:   [CHange     ]
          HElp  HOme  REFresh  ABort  PREvious  NExt  CHange
    Device:  NCP.
    Channel       NCP     Reserved
    number     (1-9999)    (Y/N)
     [  ]      [     ]      [N]
     [  ]      [     ]      [N]
     [  ]      [     ]      [N]
     [  ]      [     ]      [N]
     [  ]      [     ]      [N]
     [  ]      [     ]      [N]
     [  ]      [     ]      [N]
     [  ]      [     ]      [N]
     [  ]      [     ]      [N]
     [  ]      [     ]      [N]
     [  ]      [     ]      [N]
     [  ]      [     ]      [N]
     [  ]      [     ]      [N]
```

To access the NCP screen, enter *NCP* in the **Enter selection** field of the Unit Selection menu.

Use the NCP screen to declare a network communication port (NCP). NCPs are used as part of the V Series Communication System (VCS).
For more information on VCS, refer to the *V Series VCS Installation and Migration Guide.*

Table 4–9 lists the fields for the NCP screen.

Table 4–9. NCP Screen Fields

Field	Required	Description
Channel number	Required	Use this field to enter the channel number for the NCP.
NCP	Required	Use this field to enter a unique NCP number in the range 1 through 9999.
Reserved	Required	If you want the NCP reserved after a cold-start, enter *Y* in this field.

Data Comm Screen

```
        Data Comm Screen                                         CONFIG
Action:  [CHange    ]
        HElp  HOme  REFresh  ABort PREvious  NExt  CHange
    Valid device selections for this screen are: TWX, TC5, VDD, RJE, FEP.
                                                          RJE only
    Channel    Device   Unit-ID    Saved  Reserved  DIAL    ASYNC  Firmware-id
    number      type               (Y/N)   (Y/N)    (Y/N)   (Y/N)  (option)
     [  ]      [   ]   [      ]    [N]      [N]      [N]     [N]   [      ]
     [  ]      [   ]   [      ]    [N]      [N]      [N]     [N]   [      ]
     [  ]      [   ]   [      ]    [N]      [N]      [N]     [N]   [      ]
     [  ]      [   ]   [      ]    [N]      [N]      [N]     [N]   [      ]
     [  ]      [   ]   [      ]    [N]      [N]      [N]     [N]   [      ]
     [  ]      [   ]   [      ]    [N]      [N]      [N]     [N]   [      ]
     [  ]      [   ]   [      ]    [N]      [N]      [N]     [N]   [      ]
     [  ]      [   ]   [      ]    [N]      [N]      [N]     [N]   [      ]
     [  ]      [   ]   [      ]    [N]      [N]      [N]     [N]   [      ]
     [  ]      [   ]   [      ]    [N]      [N]      [N]     [N]   [      ]
     [  ]      [   ]   [      ]    [N]      [N]      [N]     [N]   [      ]
     [  ]      [   ]   [      ]    [N]      [N]      [N]     [N]   [      ]
     [  ]      [   ]   [      ]    [N]      [N]      [N]     [N]   [      ]
```

To access the Data Comm screen, enter *TWX*, *TC5*, *VDD*, *RJE*, or *FEP* in the **Enter selection** field of the Unit Selection menu.

Use this screen to declare data communication devices. Enter the mnemonic for the device in the **Device type** field as follows:

Mnemonic	Device
TWX	Teletyprewriter on a Uniline DLP
TC5	TC 500
VDD	B 9352 or TD 800 series
RJE	Remote job entry (RJE) device
FEP	Front-end processor

Table 4–10 describes the fields for the Data Comm screen.

Table 4–10. Data Comm Screen Fields

Field	Required	Description
Channel number	Required	Use this field to enter the channel number for the device.
Device type	Required	Use this field to indicate the type of device. Valid entries are TWX, TC5, VDD, RJE, and FEP.
Unit-ID	Required	In order to be able to assign files to these devices by name, you must enter a name in this field.
Saved	Required	If you want the device saved after a cold-start, enter *Y* in this field.
Reserved	Required	If you want the device reserved after a cold-start, enter *Y* in this field.
DIAL	Optional	To indicate that the device is tied in with a switched line, enter *Y* in this field.
ASYNC	Optional	Use this field for RJE only. To declare an asynchronous line, enter *Y* in this field.
Firmware-id	Optional	Use this field to enter the name of the firmware file for this device.

NST Screen

```
        NST Screen                                          CONFIG
Action: [CHange    ]
        HElp  HOme  REFresh  ABort CHange

                 Channel     Unit     Via Universal Console (Y/N)?
                  [  ]       [  ]              [N]
                  [  ]       [  ]              [N]
                  [  ]       [  ]              [N]
                  [  ]       [  ]              [N]
                  [  ]       [  ]              [N]
                  [  ]       [  ]              [N]
```

To access the NST screen, enter *NST* in the **Enter selection** field of the Unit Selection menu.

Use the NST screen to declare a nonstatus (NST) device. These devices are used primarily for diagnostic purposes by a Unisys CSE.

Table 4–11 describes the fields for the NST screen.

Table 4–11. NST Screen Fields

Field	Required	Description
Channel	Required	Use this field to indicate the channel number of the device. For V 500 systems, you must declare channels 82, 83, and 84 as NSTs for use by the maintenance processor contained in the system console.
Unit	Required	Use this field to indicate the unit number of the device.
Via Universal Console	Required	If the NST device is connected to the system through a Universal Console DLP, enter *Y* in this field.

ISC Screen

```
        ISC Screen                                              CONFIG
Action:  [CHange    ]
        HElp  HOme  REFresh  ABort PREvious  NExt  CHange

    Device type:  ISC.
    Channel       ISC       Saved    Reserved   Exchange
    number        name      (Y/N)     (Y/N)     channel
     [  ]       [       ]    [N]       [N]       [  ]
     [  ]       [       ]    [N]       [N]       [  ]
     [  ]       [       ]    [N]       [N]       [  ]
     [  ]       [       ]    [N]       [N]       [  ]
     [  ]       [       ]    [N]       [N]       [  ]
     [  ]       [       ]    [N]       [N]       [  ]
     [  ]       [       ]    [N]       [N]       [  ]
     [  ]       [       ]    [N]       [N]       [  ]
     [  ]       [       ]    [N]       [N]       [  ]
     [  ]       [       ]    [N]       [N]       [  ]
     [  ]       [       ]    [N]       [N]       [  ]
     [  ]       [       ]    [N]       [N]       [  ]
     [  ]       [       ]    [N]       [N]       [  ]
```

To access the ISC screen, enter *ISC* in the **Enter selection** field of the Unit Selection menu.

Use the ISC screen to declare an intersystem connect (ISC).

Table 4–12 lists the fields for the ISC screen.

Table 4–12. ISC Screen Fields

Field	Required	Description
Channel number	Required	Use this field to enter the channel number for the ISC link.
ISC name	Required	Use this field to enter the first six characters of the BNA I/O station group name.
Saved	Optional	If you want the ISC saved after a cold-start, enter *Y* in this field.
Reserved	Required	If you want the ISC reserved after a cold-start, enter *Y* in this field.
Exchange channel	Required	Use this field to specify an alternate channel to the ISC.

SSP Screen

```
         SSP Screen                                            CONFIG
Action:  [CHange    ]
         HElp  HOme  REFresh  ABort PREvious  NExt  CHange

    Device: SSP.
     Channel   SSP      Firmware    Inhibit
     [  ]    [       ]  [       ]     [N]
     [  ]    [       ]  [       ]     [N]
     [  ]    [       ]  [       ]     [N]
     [  ]    [       ]  [       ]     [N]
     [  ]    [       ]  [       ]     [N]
     [  ]    [       ]  [       ]     [N]
     [  ]    [       ]  [       ]     [N]
     [  ]    [       ]  [       ]     [N]
     [  ]    [       ]  [       ]     [N]
     [  ]    [       ]  [       ]     [N]
     [  ]    [       ]  [       ]     [N]
     [  ]    [       ]  [       ]     [N]

    Channel  [  ] contains mailbox.  Channel  [  ] is shared disk SSP.
```

To access the SSP screen, enter *SSP* in the **Enter selection** field of the Unit Selection menu.

Use the SSP screen to declare a shared system processor (SSP).

Table 4–13 describes the fields for the SSP screen.

Table 4–13. SSP Screen Fields

Field	Required	Description
Channel number	Required	Use this field to enter the channel number for the SSP.
SSP	Required	Use this field to enter a name that identifies the SSP.
Firmware	Optional	Use this field to enter the firmware file name resident in the SSP. The name must match the name of the SSP firmware file bound to the operating system. Note that the firmware must be loaded to the SSP before it is used.
Inhibit	Optional	If you want the SSP inhibited after a cold-start, enter *Y* in this field.
Channel [ ] contains mailbox	Required	Use this field to enter the channel number of the SSP that handles intersystem communications for a multisystem shared configuration.
Channel [ ] is shared disk SSP	Required	Use this field to enter the channel number of the SSP that is a shared disk SSP.

Inactive DLP (Selection 7)

```
         Inactive DLP Screen                                    CONFIG
Action:  [CHange    ]
         HElp  HOme  REFresh  ABort PREvious  NExt  CHange

    DLPs not currently in use (channel number only).
     [ ]  [ ]  [ ]  [ ]  [ ]  [ ]  [ ] [ ]
     [ ]  [ ]  [ ]  [ ]  [ ]  [ ]  [ ] [ ]
     [ ]  [ ]  [ ]  [ ]  [ ]  [ ]  [ ] [ ]
     [ ]  [ ]  [ ]  [ ]  [ ]  [ ]  [ ] [ ]
     [ ]  [ ]  [ ]  [ ]  [ ]  [ ]  [ ] [ ]
```

Select *7* on the Master Selection menu to access the Inactive DLP screen.

Use the Inactive DLP screen to identify DLPs that are not in use immediately after a cold-start but that you want available for use later. Enter the channel number of the inactive DLP. Channel numbers are in the octal range 0 through 77 (that is, a channel number cannot end in an 8 or 9).

Disk Sectioning (MOREDISK) Screen (Selection 8)

```
         Disk Sectioning  (MOREDISK)                                      CONFIG
Action:  [CHange     ]
         HElp  HOme  REFresh  ABort PREvious  NExt  CHange

    Disk ID   Beginning  Ending          Disk ID   Beginning  Ending
    (1-255)    address    address        (1-255)    address    address
     [   ]    [       ] [       ]         [   ]    [       ] [       ]
     [   ]    [       ] [       ]         [   ]    [       ] [       ]
     [   ]    [       ] [       ]         [   ]    [       ] [       ]
     [   ]    [       ] [       ]         [   ]    [       ] [       ]
     [   ]    [       ] [       ]         [   ]    [       ] [       ]
     [   ]    [       ] [       ]         [   ]    [       ] [       ]
     [   ]    [       ] [       ]         [   ]    [       ] [       ]
     [   ]    [       ] [       ]         [   ]    [       ] [       ]
     [   ]    [       ] [       ]         [   ]    [       ] [       ]
     [   ]    [       ] [       ]         [   ]    [       ] [       ]
     [   ]    [       ] [       ]         [   ]    [       ] [       ]
     [   ]    [       ] [       ]         [   ]    [       ] [       ]
     [   ]    [       ] [       ]         [   ]    [       ] [       ]
     [   ]    [       ] [       ]         [   ]    [       ] [       ]
     [   ]    [       ] [       ]         [   ]    [       ] [       ]
```

Select *8* on the Master Selection menu to access the Disk Sectioning (MOREDISK) screen.

If a 100-byte disk has bad sectors, use the Disk Sectioning (MOREDISK) screen in conjunction with the Define a Disk Pack Configuration screen (Selection 1) to indicate the areas of the disk that are good and can be used.

You declare the first good sector of the disk on the Define a Disk Pack Configuration screen. Use the Disk Sectioning (MOREDISK) screen to declare any remaining good sectors.

In the **Disk ID** field, enter the ID number of the disk in the range 1 through 255.

In the **Beginning address** field, enter the beginning segment of the area to use. The number must be 0 or greater than 9.

In the **Ending address** field, enter the ending segment of the area you want to use.

Control Options Screen (Selection 9)

```
      Control Options Screen                              CONFIG
Action:  [CHange    ]
      HElp  HOme  REFresh  ABort CHange

    Subsystem for rollout files (1-8):       [ ]
    Default code file family:                [      ]
    DEBUG Mode (USER or MCP):                [      ]
    BACKUP packname: Primary [      ] Secondary  [      ]
    VCS (Y/N) [ ]    INITFILE name [      ]  ON [      ]
    MLSFAMILY:       [     ]
    LOADMP options:  max. disk segs. per record (10-30)        [ ]
    NOLOG [N]        ABORT [N]     NEWLIST [N]
    COMPARE [N]      DISKCHECK [N]
                     Default priorities of system utilities:
                          PR    OR:      PRS   PRM   PRP
    Backup functions      [ ]            [ ]   [ ]   [ ]
    LIBMAINT functions    [ ]            [ ]   [ ]   [ ]
    DMS                   [ ]            [ ]   [ ]   [ ]
    RJE                   [ ]            [ ]   [ ]   [ ]
    Workflow              [ ]            [ ]   [ ]   [ ]
    BNA                   [ ]            [ ]   [ ]   [ ]
```

Select *9* on the Master Selection menu to access the Control Options screen.

Use the Control Options screen to set various options for the MCP and the user-written utilities LOADMP and PACKUP.

Table 4–14 describes the fields for the Control Options screen. All fields are optional.

Table 4–14. Control Options Screen Fields

Field	Description
Subsystem for rollout files	Specifies the logical subsystem used for program rollout. A logical subsystem number is in the range 1 through 8.
Default code file family	Specifies the default family of disk packs where the MCP will find the file.
DEBUG Mode	Specifies if the interactive DEBUG utility is allowed to modify only memory within the task being debugged (USER) or to modify all operating system memory (MCP).
BACKUP packname	Specifies the primary and secondary disk pack families used to store printer and punch backup files. Entries can be restricted or unrestricted disk packs or the keyword PACK (indicating any available system resource disk pack).
VCS INITFILE	If you are using the V Series Communication System (VCS), enter *Y*, the 6-character name of the VCS initialization file, and the name of the disk pack family on which the initialization file resides.
LOADMP options	If you are using the user-written utility LOADMP and PACKUP, specify the maximum number of disk sectors per record.
NOLOG	If you want the utilities RLOG and MLOG to make a logging entry each time the utilities LOADMP, PACKUP or SYSTEM/COPY open and close a file, enter *N* in this field.
ABORT	If you want the user written utilities LOADMP or PACKUP to stop processing when it cannot find a file, enter *Y* in this field.
NEWLIST	Use this option to cause a default LIST option to be performed for LOADMP and PACKUP.
COMPARE	Use this option to cause the LOADMP utility to compare the file it copies to tape to the original file.
DISKCHECK	Use this option to have LOADMP check for parity errors.

continued

Table 4–14. Control Options Screen Fields (cont.)

Field	Description
Default priorities of system utilities	These options set processing priorities for various system utilities. Priorities range from 1 to 9, with 9 being the highest. You can set the various system priorities individually, or all at once. To set them individually, use the system priority (PRS column), the memory priority (PRM column), and the processing priority (PRP column). To set them all with the same priority, use the PR column only. If you type a value in the **PR** field and in the **PRS**, **PRM**, or **PRP** fields, the **PRS**, **PRM**, and **PRP** field values override the **PR** field value. Setting the priority of system utilities that perform LIBMAINT functions affects the priority of the following utility programs: SYSTEM/COPY, DSKOUT, DMPALL, DMPANL, DMPOUT, LOADMP, and PACKUP.

Limit Options Value Override Screen (Selection 10)

```
         Limit Options Value Override Screen                  CONFIG
 Action:  [CHange     ]
         HElp  HOme  REFresh  ABort. CHange
      Description                              Keyword     Range      Value
Max. allowed disks and packs                   DISK PACKS  1-1000     [     ]
Maximum allowed units                          UNITS       3-1000     [     ]
Max. active DMS2 databases                     DMSDBP      0-98       [ ]
DMS2 status interval (in 10 sec. units)        DMSTATUS    1-90       [  ]
Max. number active DMS users                   DMSUSERS    0-97       [  ]
Printer backup tape blocking factor.           PBTBLK      6-30       [  ]
Printer backup disk records per block          PRNRPB      10-100     [   ]
Printer backup disk records per area           PRNRPA      1000-90000 [      ]
I/O queueing centerpoint priority              PRIORITYQ   1-9        [ ]
Number of KD for MCP in memory overlays        QWKMEM      20-999     [   ]
Memory size in KD in QWIK buffer pool          QWIKPOOL    1-9999     [      ]
Max. number pseudo card readers (SD value)     READERS     1-80       [  ]
STOQUE queue memory (multiple of 5 KD)         STOQBLOCKS  100-10000  [      ]
Max. number simul. unique STOQUE queue names   STOQNAMES   10-999     [   ]
STOQUE memory block size (in KD)               STOQSIZE    100-1000   [  ]
Min. memory for STOQUE entries.                STOQMINBLK  0-10000    [    ]
Max number of tasks executed simul.            MIX         4-776      [   ]
```

Select *10* on the Master Selection menu to access the Limit Options Value Override screen.

The Limit Options Value Override screen sets limits for Data Management System II (DMSII), buffer memory allocation, centerpoint priorities, overlays, and other system services.

Use this screen to change the default value of the MCP LIMIT specifications. All these fields are optional. To change the default value, enter the value you want. Table 4–15 describes the fields for the Limit Options Value Override screen.

Table 4–15. Limit Options Value Override Screen Fields

Keyword	Range	Description
DISK PACKS	1–1000	Sets the maximum number of disk and disk pack units that can be declared on the system. This figure can be greater than the actual number of units on the system. The actual number of units on the system serves as the default setting.
UNITS	3–1000	Sets the maximum number of units other than disk or disk pack that can be declared on the system. This record is ignored if the value is less that the actual number of units declared. The default setting is the actual number of units declared.
DMSDBP	0–98	Sets the maximum number of databases that can be active at any one time. The default is 0.
DMSTATUS	1–90	Sets the period of time that is to pass between DMSII DBP status evaluations. The time is set in multiples of 10. The default value is 30, which is 300 seconds, or 5 minutes. The maximum value you can use is 90, which is 900 seconds or 15 minutes.
DMSUSERS	0–97	Sets the number of users that can access a DMSII database at one time. The default is 1.
PBTBLK	6–30	Sets the blocking factor for printer backup tapes. The default is 12 blocks.
PRNRPB	10–100	Sets the blocking factor (records per block) of printer backup files. This value must be a multiple of 10. The default is 10.
PRNRPA	1000–90000	Sets the number of records per area of printer backup files. This value must be a multiple of 10 and must be a multiple of the value of PRNRPB; if it is not, the operating system adjusts the value of PRNRPA up to the nearest multiple.
PRIORITYQ	1–9	Sets the centerpoint priority of I/O queuing. Tasks with processing priorities greater than this receive corresponding priority for their I/Os. All others have equal queuing priority. The default priority is 4. The highest priority is 9.
QWKMEM	20–999	Sets the amount of memory to be reserved for overlays. The amount is set in kilodigits (Kd). The default is 0 Kd.
QWIKPOOL	1–9999	Sets the amount of memory used by the QWIKPOOL. The amount is set in kilodigits (Kd). The default setting is 400 Kd.

continued

Table 4–15. Limit Options Value Override Screen Fields (cont.)

Keyword	Range	Description
READERS	1–80	Sets the maximum number of pseudo card readers available to the system at one time. The default is 80. You can use the SD system command to modify this setting when the system is running.
STOQBLOCKS	100–1000	Sets the maximum amount of memory that can be used by STOQUE queue entries. The amount is set in kilodigits (Kd). The default is 1000 Kd.
STOQNAMES	10–999	Sets the maximum number of unique queue names that can be stored in STOQUE simultaneously. The default is 10 Kd.
STOQSIZE	100–1000	Sets the size of each STOQUE memory block. The amount is set in kilodigits (Kd). The MCP STOQUE routine allocates memory for queue entries in the size set by this record. The memory is allocated when needed. The default setting is 100 Kd.
STOQMINBLK	0–10000	Sets the minimum amount of memory used for STOQUE entries. The amount is set in kilodigits (Kd). The value used must be a multiple of 5. The default setting is 0 Kd.
MIX	4–776	Sets the maximum number of tasks that can execute simultaneously. The difference between this value and the maximum number of tasks value entered at a cold-start is the maximum size of the schedule. The figure entered here must be less than or equal to the figure entered for the maximum number of tasks. The default value for this option is the same as the maximum number of tasks value entered at a cold-start.

USE Options Screen (Selection 11)

```
        USE Options Screen                                          CONFIG
 Action:  [CHange     ]
        HElp  HOme  REFresh  ABort CHange
Remove After    (AFTR) [N] Print to Disk   (PBD ) [N] Processor SNAP (SNAP) [N]
AutoPrint Disk  (APBD) [N] Print to Pack   (PBP ) [N] Stop/Go Message(STGO) [N]
AutoRun PCR     (APCR) [N] Print one Pack  (PBPS) [N] AutoRun Sysup  (SYUP) [N]
AutoHalt/Load   (AUHL) [N] Print to Tape   (PBT ) [N] AutoDS Term Job(TERM) [N]
AutoRemove Deck(AURD) [N] Punch to Disk   (PCD ) [N] Temporary Halt (THLT) [N]
Boj Message     (BOJ ) [N] Route to Punch  (PCH ) [N] Request Time   (TIME) [N]
Close Message   (CLOS) [N] Punch to Pack   (PCP ) [N] MTP Message    (TPLB) [N]
Copy Message    (COPY) [N] PCR Message     (PCRM) [N] Tape Mark Save (TPMK) [N]
Request Date    (DATE) [N] Route to PRN    (PRN ) [N] Tape Serial #  (TPNO) [N]
Eoj Message     (EOJ ) [N] AutoRemove File(RMOV) [N] AutoDump Job   (TRMD) [N]
Trace to Disk   (GTDK) [N] Short/Long Recs(RTSL) [N] Pack workfiles (WRKP) [N]
Lib Message     (LIB ) [N] Schd. Message   (SCHM) [N] Zip Message    (ZIPM) [N]
Open Message    (OPEN) [N]
                                Module Options
     DBUG [N]     DCP  [N]     MICR [N]     RJE  [N]     SYST [N]
     DCOM [N]     DMS2 [N]     QWIK [N]     STOQ [N]     TRAK [N]
```

Select *11* on the Master Selection menu to access the USE Options screen.

Use the USE Options screen to set the status of various MCP options, including the following:

- The disposition of printer backup files
- The disposition of pseudocard reader backup files
- The types of messages to display
- The loading of various modules into memory

Table 4–16 describes the options for the USE Options screen. All these fields are optional. If you want to use an option, enter *Y* in the appropriate field.

There are several help screens. Use the HElp action command to access these menus.

Table 4–16. USE Options Screen Options

Option (Keyword)	Description
AFTR	Automatically removes programs from the schedule that are associated with another job that has been removed from the schedule or has terminated abnormally. Such jobs must be associated with the MCP command AFTER.
APBD	Indicates that when a printer backup file that has an AUTO option in its file-equate statement is closed, it is to be printed automatically.
APCR	Directs the MCP to automatically place pseudo card decks into pseudo card readers as the decks are closed or appear on disk or disk pack. If this option is not set, you must use the RN or RNP system commands to accomplish this action.
AUHL	Automatically initiates a halt/load in the event of a system failure, unless that failure originated during a halt/load.
AURD	Automatically removes pseudo reader decks from disk if those files contain erroneous control instructions. If the AURD option is reset, any decks containing erroneous control instructions must be removed by the system operator.
BOJ	Displays beginning-of-job (BOJ) messages each time a job enters the active mix.
CLOS	Displays a file-closed message each time a program closes a file.
COPY	Displays a message each time the SYSTEM/COPY utility transfers or compares a file. If this option is not set, the messages are not displayed.
DATE	Requires that a date be entered during a halt/load.
EOJ	Displays end-of-job (EOJ) message each time a program comes to a end of job.
GTDK	Forces program trace requests to backup disk. If this option is not set and the trace request does not specify backup or originates from a time-sharing job, the trace goes to a line printer, if one is available.
LIB	Displays a message each time a file is change or removed.
OPEN	Displays a file open message each time a program opens file.
PBD	Routes printer backup files to disk.
PBP	Routes printer backup files to disk pack.
PBPS	Directs all areas of printer and punch backup files to a single disk pack, if disk pack is the selected medium.
PBT	Routes printer backup files to tape. The tape must be a scratch tape or a tape already in use as a PBT, and the drive must be ready. If more than one of the printer backup options is set, the system uses the following priority for printer backup files: printer, tape, pack, and disk.
PCD	Builds punch card backup files on disk.
PCH	Directs punch files to the punch. No backup file is created.

continued

Table 4–16. USE Options Screen Options (cont.)

Option (Keyword)	Description
PCP	Builds punch card backup files on disk pack. The master disk pack of the disk pack family named BACKUP must not be restricted.
PCRM	Displays the location and contents of the first control card and each DATA(B) in a control card group as they are processed from pseudo card decks. This option provides data used primarily with the CONTROL option of the RN system command.
PRN	Directs printer files to the printer. No printer backup file is made.
RMOV	Automatically resolves duplicate file conditions on disk or disk pack by removing the old file. If the LIB option is set, the system displays the message "DUP LIB REMOVED" to confirm that the situation has been resolved. If the LIB option is not set, no message is displayed.
RTSL	Indicates that short or long tape block reads that are not multiples of the logical record size are to be treated as I/O errors, unless indicated otherwise by the program using the file.
SCHM	Displays a message informing you when a program is scheduled for execution.
SNAP	Produces a SNAP picture that captures the state of memory when certain processor errors occur. When this option is set, a certain amount of memory is kept in reserve for the SNAP picture.
STGO	Displays a message when an executing program is stopped by an ST command , a STOP command, or a crash-out mechanism. If memory is needed, the system will roll out the file, in which case the system informs you when the program is brought back into memory.
SYUP	Causes a program called SYSUP to be executed automatically after a halt/load.
TERM	Automatically terminates programs that encounter irrecoverable errors. If this option is not set and the TRMD option is not set, you must terminate the job with the DS or DP system commands.
THLT	Halts the processing of a task and displays a fault screen if it encounters MCP errors. The fault screen gives you the option to continue processing the task or to perform a halt/load for the MCP. If this option is not set, the task is terminated.
TIME	Requires that the time be entered in order to complete a halt/load.
TPLB	Displays a message each time a tape file is made available.
TPMK	Directs the halt/load routine to save all tape units that contain nonrewound reels with a write ring so that tape marks can be written to the tapes using the TM system command.
TPNO	Requires that all tapes have serial numbers. However, tapes being read need not have serial numbers. You can only set this option at cold-start time.

continued

Table 4–16. USE Options Screen Options (cont.)

Option (Keyword)	Description
TRMD	Automatically dumps any job that has an abnormal termination unless the termination is due to a memory parity error. If both this option and the TERM options are set, the TRMD option takes precedence.
WRKP	When the MEMORY branch communicate (BCT) is invoked, this passes a flag to compilers indicating that they should allocate work files to unrestricted system resource disk packs.
ZIPM	Displays the message "<job-id> ZIP <control-information message>" each time an object program passes control information to the MCP for execution. The START and STOP system commands are not displayed when the ZIPM option is set.
	Module Options
DBUG	Indicates that you will be using the MCP and user debug facility, and loads the DBUG module into memory.
DCOM	Indicates that a data communication module should be loaded into memory whenever a data communication device is activated.
DCP	Indicates that a data communication processor (DCP) module should be loaded into memory when needed. This module must be present for a DCP used on the system.
DMS2	Enables the DMS2 extension module to be loaded into memory. The DMS2 module is required in order to use the Data Management II (DMSII) facilities available in the COBOL—74, RPG, and Pascal programming languages.
MICR	Enables a reader-sorter module to be loaded into memory. This module must be in memory for reader-sorters to function.
QWIK	Stores and retrieves user program overlays from memory instead of disk. When this option is set, an MCP extension module named QWIK is brought into memory to manage this feature.
RJE	Executes an RJE handler when a remote job entry (RJE) station becomes active. The DCOM or DCP options must also be set in order to use this option.
STOQ	Indicates that the STOQ option is used. This is a method of using memory for asynchronous interprogram communications.
SYST	Loads the SYST extension module into memory, and thereby provides the interface for system performance monitoring (FLAME). This module must be present to utilize FLAME.
TRAK	Loads the tracking module TRAK into memory and allocates buffer space for tracking information.

continued

MCP Limits Screen (Section 12)

```
        MCP Limits Screen                                          CONFIG
Action:  [CHange    ]
         HElp  HOme  REFresh  ABort CHange
      Description                           Keyword      Range        Value
Max. number of simultaneous
block lockout entries                       BLT          20-999       [   ]

Min. time in seconds before
contention considered stalemate             DELAY        10-990       [   ]

Seconds between MCP status runs             STDSTATUS    1-10         [  ]

Number of input messages queued
per MCS result pool                         DCPBUF       1-99         [  ]

Max. output messages per station            DCPQUE       1-99         [  ]

Size in KD of MCP TRAK buffer               TRAKBUFFER   1-999        [   ]
Time sharing area limit (in KD)             TSMFENCE     0-80000      [     ]
Host time out limit (in minutes)            HSTIMEOUT    0-99         [  ]
```

Select *12* on the Master Selection menu to access the MCP Limits screen.

These limit specification values are provided primarily to override sensitive MCP parameters in the event of an MCP failure, unusual program activity, or diagnostic problem.

Caution

These values should only be changed under the direction of a Unisys CSE.

Table 4–17 describes the options for the MCP Limits screen.

Table 4–17. MCP Limits Screen Options

Option (Keyword)	Range	Description
BLT	20–999	Sets the maximum number of block lockout (BLT) entries for shared file access.
DELAY	10–990	Indicates the minimum number of seconds that must pass before a contention becomes a stalemate. The default setting is 10.
STDSTATUS	1–10	Sets the number of seconds to wait between MCP status runs. The default is 5 seconds.
DCPBUF	1–99	Indicates the number of input messages that can be queued for each MCS result pool. The default setting is 5.
DCPQUE	1–99	Sets the maximum number of outstanding output messages for any one station on a data communication processor (DCP). The default setting is 10.
TRAKBUFFER	1–999	Sets the amount of memory used by the MCP TRAK option. The amount is in kilodigits (Kd). The default setting is 20 Kd.
TSMFENCE	0–80000	Guarantees that the set amount of memory remains available for use by timesharing tasks. A setting of 0 means the timesharing tasks are treated like all other tasks. This setting is important when the processor is running out of memory. If this is the case, the tasks that are stopped are rolled out. If that does not yield enough memory, the active timesharing tasks are rolled out until the amount of memory they use is less than the TSMFENCE value. Set the amount of memory in kilodigits (Kd).
HSTIMEOUT	0–99	Sets the time-out period in minutes for the BNA host services programs BNAODT and BNAHDL. If these programs remain idle (that is, if they do not handle any BNA messages for this period of time) they will go to EOJ. These programs are reexecuted by the BNA system automatically when needed. The value is set in minutes. A value of 0 indicates no time-out.

Logging and Dump Options Screen (Selection 13)

```
         Logging and Dump Options Screen                        CONFIG
 Action:  [CHange    ]
         HElp  HOme  REFresh  ABort CHange

             Log    Log size   Wrap    Auto   Buffered
             Y/N   (segments)         process
Net logging  [N]    [     ]    [N]      [N]      [N]
Run logging  [N]    [     ]    [N]      [N]      [N]
SPO logging  [N]    [     ]    [N]      [N]      [N]
Maint logging       [     ]    [N]      [N]      [N]

Log call/return records?    [N]  Disk Subsystem for log files (1-8):  [  ]
Log stop/go records?        [N]  Force log transfer at (0000-2359):  [    ]

Charging option?            [N]   Default charge number (or 'ALL') [      ]

System Dump to:  Disk      [N]      OR  Pack      [N]      OR  Tape [Y]
                 Subsystem [  ]         Family    [      ]
```

Select *13* on the Master Selection menu to access the Logging and Dump Options screen.

Use the Logging and Dump Options screen to indicate where the Run Log (RLOG), the SPO Log (SLOG), Network Log (NLOG), and the Maintenance Log (MLOG) reside. You can also use this screen to indicate where the MCP should store the dump file if the system fails. Unisys recommends that you always set the system dump option.

Table 4–18 lists the fields for the Logging and Dump Options screen.

Table 4–18. Logging and Dump Options Screen Fields

Field	Description
Log Y/N	If you want the MCP to maintain a log, enter *Y* in this field.
Log size	Use this column if you want to override the default log size of 1000 disk sectors.
Wrap	Use this column to indicate if you want the names of log files to change at log transfer time. If the names do not change, the new log file overwrites the old log file at log transfer time. For example, if you use the wrap feature, the names of the Run Logs are assigned in sequence from RLOG*p*1 to RLOG*p*9 and then "wrap" around to RLOG*p*1 again. If these names did not wrap, one file would overwrite the other. In this example, the *p* is the processor number.
Auto process	If you set this option, the MCP automatically processes the logs after they transfer.
Buffered	If you enter *N* in this field, the MCP does not buffer the log. If you enter *Y*, the MCP buffers the log. Buffering cuts down the number of I/Os to the log.
Log call/return records	Use this option to indicate that you want program-call and return messages entered in the Run Log (RLOG).
Log stop/go records	Use this option to indicate that you want job-stopped and job-resumed messages entered in the Run Log (RLOG).
Disk subsystem for log files	Use this option to specify the disk subsystem used to store log files. The disk subsystem number is in the range 1 to 8.
Force log transfer at	Use this option to specify the time at which the logs are to transfer. If you do not specify a time, the logs are transferred only when full. Enter a time in a 24-hour format (0000 to 2359).
Charging option	Use this option to specify whether or not it is mandatory to use charge numbers for all jobs.
Default charge number	Use this option to specify the default charge number to use when executing system utilities. If you do not specify a charge number, 999999 is used by default. If you enter the keyword ALL, charge numbers are required for utilities for which charge numbers can be specified.
System Dump to	Use this option to specify where the MCP should place the dump file. The MCP can place the dump file on a disk subsystem, a disk pack family, or a tape. The default location is on a tape. If the MCP places the dump file on tape, you cannot use the O DM command. Instead, you must use the DMPMEM facility while the operating system is halted.

Allocate Screen (Selection 14)

```
        Allocate Screen                                          CONFIG
Action: [CHange    ]
        HElp  HOme  REFresh  ABort PREvious  NExt  CHange

    Filename:                                [       ]
    Disk subsystem:                       [  ]
    Library maintenance (Y/N):     [Y]
    Logical record size:                   [        ]
    Records per block:                   [   ]
    Maximum number of areas:      [   ]
    EOF pointer:                             [       ]
    Records in area:                       [        1]
    Security user code:                   [         ]
    Security File Use
        (PUBlic, PRIvate, NONe):     [   ]
    Security File Access
        ( IO, IN, OUt, SEcured ):      [IO]
    Sensitive data: (Y/N)              [N]
    Security guard filename:         [       ]
    Display space allocation screen?  [Y]
```

Select *13* on the Master Selection menu to access the Allocate screen.

Use the Allocate screen to reserve space on disk where certain files are to reside. After a cold-start, you can copy the file to the designated areas using the SYSTEM/COPY command.

Use this screen to indicate the name of the file, size, and security status as well as other characteristics. You can use an optional second screen, the Preallocated Disk Space screen, to designate the specific sectors to reserve. To access the Preallocated Disk Space screen, enter *Y* in the **Display space allocation screen** field.

You must use a fresh screen for each file you allocate. Use the REFresh command to obtain a fresh screen.

The allocated file can be assigned to an individual logical subsystems or to specific disk devices. Part of the file can be on one disk, while the remaining parts are on other disks. The default storage medium is the default logical disk subsystem.

There are two ways to assign security attributes

- You can specify them here.
- You can name a guard file.

The guard file exists as a separate disk file and contains the security assignments for the allocated file. You can also declare it PRIVATE, in which case you must always use the same usercode/password combination to access the file.

You can also designate the type of read/write operations that can be performed on the file:

- Read-only
- Read/write
- Secured

Table 4–19 describes the fields for the Allocate screen.

Table 4–19. Allocate Screen Fields

Field	Required	Description
Filename	Required	Indicates the name of the file.
Disk subsystem	Optional	If you want the file allocated to a specific logical disk subsystem, enter the disk subsystem number here. Logical subsystems numbers are in range from 1 to 8. This applies only to file areas not specifically overridden in an AREA declaration of the Preallocate Disk Space screen. If you do not use this option, the file is allocated to the default logical disk subsystem.
Library maintenance	Optional	If the file is to be marked NO LIBRARY MAINTENANCE in order to prevent inadvertent or deliberate removal, changing, or updating of the file, enter an *N* in this field. Otherwise, if the file is to be subject to normal file maintenance procedures, enter *Y* in this field.
Logical record size	Required	Indicates the logical record size in digits. This value must be in the range 4 to 39996 and must be an even number.

continued

Table 4–19. Allocate Screen Fields (cont.)

Field	Required	Description
Records per block	Required	Indicates the number of records per block. The size of a block (the number of records per block times the logical record size) is restricted only by the amount of available memory. The value must be in the range 1 to 999.
Maximum number of areas	Required	Indicates the number of areas the file can have. The maximum file size (the number of areas times the number of records per area) cannot exceed 99999999. The number of areas must be in the range 1 to 100.
EOF pointer	Required	Indicates the end-of-file (EOF) pointer. The EOF value should match the number of records. The value must fall within one of the areas allocated through an AREA specification or it must be zero. The EOF point must be in the range 0 to 99999999.
Records in area	Required	Indicates the number of records per area. The value can range from 1 to 99999999 and must be a multiple of the block size.
Security user code	Optional	Indicates the user code of the authorized user.
Security File Use	Optional	This indicates the security attribute of the file. Valid entries are PUB (public), PRI (private), and NON (none). The default is PUB

continued

Table 4–19. Allocate Screen Fields (cont.)

Field	Required	Description
Security File Access	Optional	Indicates the type of read and write operations that can be performed on the file. Valid entries are IO, IN, OU (out), and SE (secured). The default value is IO. IO indicates that data can be read and written to the file. IN indicates that data can be read from the file but not written to it. OUt indicates that data can be written to the file but not read from it. SEcured indicates that the file is a program and can only be executed. Data cannot be read from or written to this file. Refer to the description of the FILE command in Volume 2 for more information about file security.
Sensitive data	Optional	Indicates that the file contains sensitive data. When the file is removed, it is overwritten with random data.
Security guard filename	Optional	Indicates the name of a special file that must be accessed before this file can be accessed. The guard file is on disk.
Display space allocation screen?	Optional	If you want to access the Preallocated Disk Space screen to reserve space for the files you declared on this screen, enter *Y* in this field.

Preallocated Disk Space Screen

```
         Pre Allocated Disk Space Screen                              CONFIG
Action:  [CHange    ]
         HElp  HOme  REFresh  ABort PREvious  NExt  CHange

  Area    ID    Address    | Area    ID    Address    | Area    ID    Address
  [   ] [    ] [        ] | [   ] [    ] [        ] | [   ] [    ] [        ]
  [   ] [    ] [        ] | [   ] [    ] [        ] | [   ] [    ] [        ]
  [   ] [    ] [        ] | [   ] [    ] [        ] | [   ] [    ] [        ]
  [   ] [    ] [        ] | [   ] [    ] [        ] | [   ] [    ] [        ]
  [   ] [    ] [        ] | [   ] [    ] [        ] | [   ] [    ] [        ]
  [   ] [    ] [        ] | [   ] [    ] [        ] | [   ] [    ] [        ]
  [   ] [    ] [        ] | [   ] [    ] [        ] | [   ] [    ] [        ]
  [   ] [    ] [        ] | [   ] [    ] [        ] | [   ] [    ] [        ]
  [   ] [    ] [        ] | [   ] [    ] [        ] | [   ] [    ] [        ]
  [   ] [    ] [        ] | [   ] [    ] [        ] | [   ] [    ] [        ]
  [   ] [    ] [        ] | [   ] [    ] [        ] | [   ] [    ] [        ]
  [   ] [    ] [        ] | [   ] [    ] [        ] | [   ] [    ] [        ]
  [   ] [    ] [        ] | [   ] [    ] [        ] | [   ] [    ] [        ]
  [   ] [    ] [        ] | [   ] [    ] [        ] | [   ] [    ] [        ]
  [   ] [    ] [        ] | [   ] [    ] [        ] | [   ] [    ] [        ]
```

To access the Preallocated Disk Space screen, enter *Y* in the **Display space allocation screen** field on the Allocate screen and transmit the screen. Use the Preallocated Disk Space screen to reserve space for the files allocated on the Allocate screen.

Table 4–20 describes the fields for the Preallocated Disk Space screen. These fields are optional.

Table 4–20. Preallocated Disk Space Screen Fields

Field	Description
AREA	Use this field to assign areas of a file to specific disk devices. You can assign different areas to different disks. If you specify AREA, the file can be changed or removed, but it cannot be programmatically closed with a PURGE or with a REMOVE option. Files with AREA specifications that include actual addresses are not squashed.
ID	Use this field to indicate the ID number of the disk device to which the file or areas of the file are to be allocated.
Address	Use this field to indicate the address at which the allocated file is to begin.

Security, Hostname, Connect, Label (Misc.) Screen (Selection 15)

```
        Security, Hostname, Connect, Label                             CONFIG
Action:  [CHange    ]
         HElp  HOme  REFresh  ABort CHange


  Security option:   UC/PW/CG  [          ] / [          ] / [      ]
                     MEDIA      [      ]
                     DFSC (Y/N) [ ]

  Hostname option:   hostname      [                 ]


  If loosely coupled shared, enter other processor numbers (0-3): [ ] [ ] [ ]

  Enter Label option, if desired:
  10-67   [                                                        ]
           1         2         3         4         5         6
          01234567890123456789012357890123456789012345678901234567
```

Select *15 (Misc.)* on the Master Selection menu to access the Security, Hostname, Connect, Label screen.

Use this screen to do the following:

- Run security on the system.
- Define a hostname used for general system identification and for BNA applications. The hostname can be up to 17 characters long.
- Indicate the other processors that are part of the multisystem shared systems configuration.
- Customize the tape labels used at your facility.

Table 4–21 describes the fields for the Security, Hostname, Connect, Label screen. All these fields are optional.

Table 4–21. Security, Hostname, Connect, Label Screen Fields

Field	Description
UC / PW / CG	Use this field to specify the usercode, password, and charge number that can set and alter system security.
MEDIA	Use this field to specify the name of the disk pack on which the mirror-image backup security file is stored. The disk pack name must be a valid disk pack name.
DFSC	Use this field to specify whether or not disk file security (that is, the DFSC option) is used on the system along with system access security. The default is no.
Hostname option	Use this option to cause the MCP to place the name of the indicated system in each log file. The hostname can be any combination of letters and numbers, except that if the name starts with a number, the rest of the name must be numbers, too.
If loosely coupled shared	Use this field to enter the processor numbers of the other processors that comprise a multisystem shared system configuration.
Enter label option	If you want to customize your tape labels, use this field to enter 57 characters of the label according to the format described under "LABEL1 Record" in Section 5, "MCP Configuration Record Formats."

Badmem Screen (Selection 16)

```
         Badmem Screen                                              CONFIG
 Action: [CHange     ]
         HElp  HOme  REFresh  ABort  PREvious  NExt  CHange
Starting address (KD)     Size (KD)        Starting address (KD)    Size (KD)
    [         ]        [         ]          [         ]         [         ]
    [         ]        [         ]          [         ]         [         ]
    [         ]        [         ]          [         ]         [         ]
    [         ]        [         ]          [         ]         [         ]
    [         ]        [         ]          [         ]         [         ]
    [         ]        [         ]          [         ]         [         ]
    [         ]        [         ]          [         ]         [         ]
    [         ]        [         ]          [         ]         [         ]
    [         ]        [         ]          [         ]         [         ]
    [         ]        [         ]          [         ]         [         ]
    [         ]        [         ]          [         ]         [         ]
    [         ]        [         ]          [         ]         [         ]
    [         ]        [         ]          [         ]         [         ]
    [         ]        [         ]          [         ]         [         ]
    [         ]        [         ]          [         ]         [         ]
    [         ]        [         ]          [         ]         [         ]
```

Select *16* on the Master Selection menu to access the Badmem screen.

Use the Badmem screen to specify the areas of memory that are unavailable to the operating system. Usually, you do this to lock out the areas of memory that have exhibited double bit parity errors.

To use this feature, you need to indicate the starting point and size of the bad memory to be locked out. Both figures must be given in kilodigits (Kd).

Raw Editor Menu

```
        Raw Editor Menu                                          CONFIG
Action:  [           ]
         HElp  REFresh  End  ABort RESTart  ERRor

                       CONFIGURATION FILE PARAMETER RECORDS

( 1) Allocate      ( 7) Hostname       (13) SSP            (19) Unit-Sorter

( 2) Connect       ( 8) Label          (14) Unit-Card      (20) Unit-Tape

( 3) Control       ( 9) Limit          (15) Unit-Datacomm  (21) Unit-Terminal

( 4) Disk          (10) Moredisk       (16) Unit-ISC       (22) Use

( 5) DLP           (11) Pack           (17) Unit-NST       (23) Badmem

( 6) Exchange      (12) Security       (18) Unit-Printer
                            Selection Number:    [  ]
```

The Raw Editor menu is displayed when you invoke RAw action command or when the CONFIG utility finds errors while checking an input MCP configuration file.

Refer to Table 4–2 for a description of the Raw Editor menu action commands (REFresh, ENd and so forth).

On this menu, indicate the type of records you want to edit and transmit. The records are then displayed for editing.

If the CONFIG utility displays this menu because it has found errors in a file used for input, enter the ERRor action command to list the errors that you must correct before the file can be accepted for input. After you correct the errors, enter the RESTart action command to restart the CONFIG utility.

Section 5
MCP Configuration Record Formats

The MCP configuration records are located in an MCP configuration file. These records

- Store information about the peripherals and MCP options available to the system.
- Set processing priorities.
- Enable modules for loading into memory.
- Cause the status messages to display.

You must load the required MCP configuration file onto the MCP disk during a cold-start. If the MCP configuration records do not adhere to the syntax documented in this section, system initialization is not successfully completed.

The syntax of the records appear in alphabetical order with syntax diagrams and examples of their usage. Refer to Section 6, "Example MCP Configuration Files," for examples of complete MCP configuration files.

ALLOCATE Record

This record contains the parameters used to allocate disk space for files. It is loaded by the ALLOCATE feature of the SYSTEM/COPY command.

You can assign the files to individual logical subsystems and to particular disk devices. The default medium is the default logical disk subsystem.

You can assign security attributes to a file by using the ALLOCATE record or by naming a guard file. A guard file exists as a separate disk file and contains the security assignments for the file.

You can designate the type of read/write operations that can be performed on the file. You can declare the file to be read-only, read/write, or secured. If the file is a program, you can indicate that it is to be executed only.

You must create one ALLOCATE record for each file allocated.

Figure 5–1 illustrates the ALLOCATE record syntax.

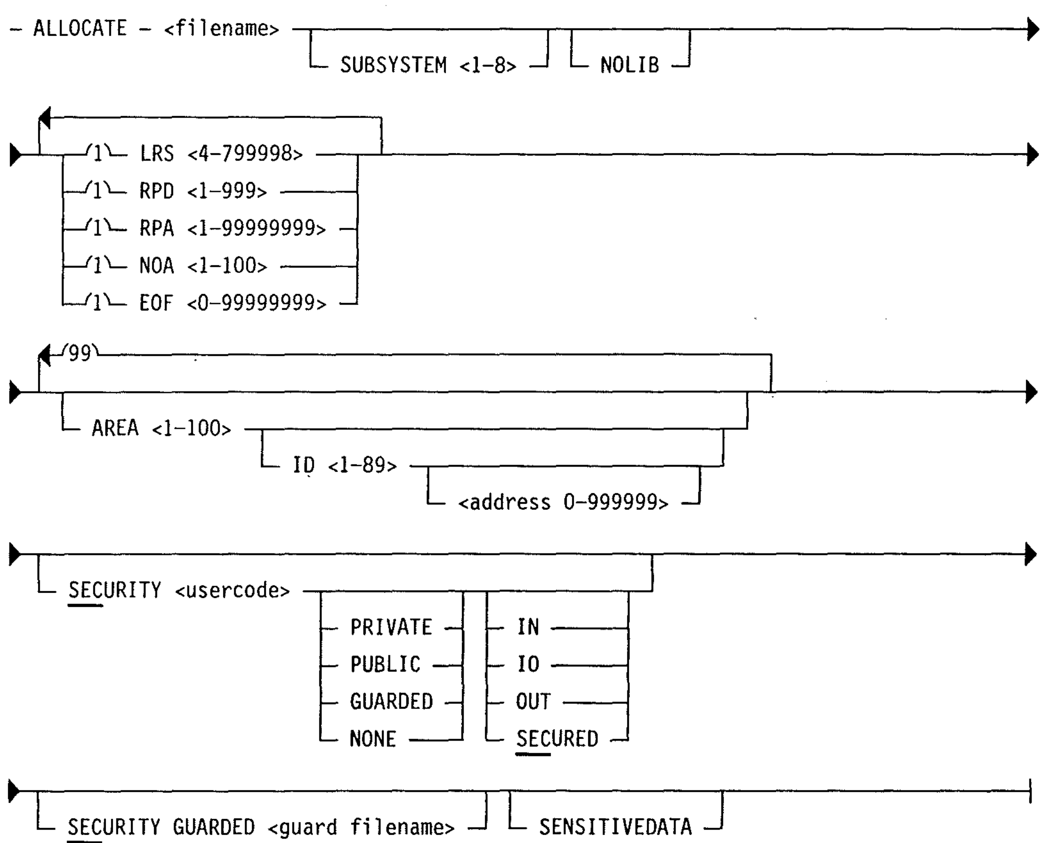


Figure 5–1. ALLOCATE Record Syntax

Table 5–1 describes the syntax elements for the ALLOCATE record.

Table 5-1. Syntax Elements for ALLOCATE Record

Attribute	Description
<file name>	Identifies the name of the file.
SUBSYSTEM	Allocates the file to a specific logical disk subsystem. Logical subsystems numbers range from 1 to 8. This option applies to all areas not specifically overridden in an AREA declaration. If this option is not used, the file is allocated to the default logical disk subsystem.
NOLIB	Prevents any library maintenance action from occurring to the file.
* LRS	Identifies the logical record size in digits. This value must be in the range 4 to 799998 and must be an even number.
* RPB	Identifies the number of records in each block. The size of a block (the number of records in each block multiplied by the logical record size) is restricted only by the amount of available memory. The value must be in the range 1 to 999.
* RPA	Specifies the number of records in each area. The value must be in the range from 1 to 99999999.
* NOA	Identifies the number of file areas. The maximum file size (the number of areas multiplied by the number of records per area) cannot exceed 99,999,999. The value must be in the range from 1 to 100.
* EOF	Identifies the end of the file pointer. The value must fall within one of the areas allocated through an AREA designation, or it must be zero.
AREA	Assigns areas of the file to specific disk devices and. addresses. If AREA is specified, the file can be changed or removed, but it cannot be programmatically closed with a PURGE command or with a REMOVE command. Files with AREA specifications that include addresses are not squashed.
ID	Identifies a disk device for which the area of the file is allocated. If an address is used with this option, the allocated area starts at that address.
<address 0-999999>	Designates the beginning address on the specified disk device of the file or sector.
SECURITY <user code>	Inserts a user code that must be used to access the file. This user code can be up to 10 characters in length.

continued

Table 5–1. Syntax Elements for ALLOCATE Record (cont.)

Attribute	Description
PRIVATE	Makes the file available only to the file creator. This is the default security setting for allocated files.
PUBLIC	Makes the file available to any user.
GUARDED	Indicates that file access privileges are contained in the guard file named in the SECURITY GUARDED clause.
NONE	Indicates that the file has no security assignment.
IN	Indicates that data can only be read from the file.
IO	Indicates that data can be read and written to the file.
OUT	Indicates that data can only be written to the file.
SECURED	Indicates that the file is a program and can be executed only. Data cannot be read from or written to this file. (See the MCP command FILE in Volume 3 for additional information about the security of this file.)
SECURITY GUARDED <guard file name>	Indicates that a special file must be accessed before this file can be accessed. The guard file resides on disk.
SENSITIVEDATA	Indicates that the file contains sensitive data. When the file is removed, the data is replaced with random data.

* The LRS, RPB, NOA, EOF, and RPA attributes define the physical and logical characteristics of the file. These attributes are required and you can enter them in any order.

Examples

```
ALLOCATE FILEX LRS 200 RPB 1 RPA 500 NOA 20 EOF 1000 AREA 2 ID 1 150000.

ALLOCATE FILEY SUBSYSTEM1 LRS 150 RPB 2 NOA 100 EOF 1541 RPA 1000 AREA 1
AREA 2.
```

CONNECT Record

The CONNECT record declares the systems, other than the one being initialized, that are part of a multisystem shared configuration. To declare these systems, you only need to declare the numbers of the processors in the multisystem shared configuration.

This declaration takes effect at cold-start. It cannot be set by a halt/load.

Figure 5–2 illustrates the CONNECT record syntax.

```
                ┌─/2\──────────────────────┐
— CONNECT ──┴─ <processor number 0-3> ─┴──────────────────────────────────────┤
```

Figure 5–2. CONNECT Record Syntax

Example

```
CONNECT 0 1 3
```

This example declares that four V Series systems are linked together in a multisystem shared configuration. The syntax does not use the number of the system being initialized.

CONTROL Records

The CONTROL records assign and override various MCP parameters.

Figure 5-3 illustrates the basic syntax of the CONTROL records. CONTROL records differing from the basic syntax are illustrated in Figures 5-4, 5-5, and 5-6.

```
- CONTROL - <keyword> - <value> ------------------------------------------|
```

Figure 5-3. CONTROL Record Syntax

CONTROL BACKUP Record

This record determines the disk packs that store printer backup files and punch backup files.

Figure 5-4 illustrates the CONTROL BACKUP record syntax.

```
- CONTROL BACKUP - <disk pack family name> -T-----------------------------T---------|
                                            L- ELSE <disk pack family name> -J
```

Figure 5-4. CONTROL BACKUP Record Syntax

The disk pack family name designates the family name of the disk packs on which the operating system stores backup files. The disk pack family name contains up to six characters.

The first disk pack family declared in the record is called the primary backup family. The primary backup disk pack can be a restricted or unrestricted disk pack.

The ELSE clause identifies the optional disk pack family, called the secondary or backup disk pack family. This optional disk pack family is where the operating system stores backup files if the primary backup family does not have sufficient space or is unavailable. If you do not declare a secondary backup family, the operating system stores backup files on any available system resource disk pack.

CONTROL CODEPACK Record

This record indicates the disk pack family that stores code files. The disk pack family name contains up to six characters. The MCP searches the designated disk pack family when an instruction to execute a code file does not include any information as to where that code file resides.

If this record is not used, the MCP searches all disks and unrestricted disk packs for the code file.

CONTROL DEBUG MCP Record

This record enables the use of the interactive debugger with the MCP and user programs. If you use this record, do not use the CONTROL DEBUG USER record.

CONTROL DEBUG USER Record

This record enables the use of the interactive debugger with the user programs. If you use this record, do not use the CONTROL DEBUG MCP record.

CONTROL LOGSUBSYS Record

This record indicates the logical disk subsystem that stores the Run Logs (RLOGs), SPO logs (SLOGs), and the Maintenance Logs (MLOGs). Indicate a logical subsystem number in the range 1 through 8. The default logical subsystem is logical subsystem 1, the subsystem of the MCP.

Unless you use the default subsystem, the drives that form that logical subsystem must be ready at all times during processing.

Specifying any subsystem other than logical subsystem 1 increases the probability that a disk or subsystem failure will result in a logging system failure condition.

CONTROL LOGXFRTIME Record

This record indicates the time at which log transfers take place. If the AUTO option is set on the USE RLOG, USE MLOG, USE NLOG and USE SLOG records, the logs are analyzed automatically. These USE records indicate the logs to use and also set the size of the log files.

Specify the time in the 24-hour format by using values in the range 0000 through 2359.

A log file is also transferred automatically when the file becomes full, regardless of the log transfer time.

CONTROL PRIORITY Record

This record assigns memory, processing, and schedule priorities for various categories of system utilities.

You can set priorities for each category individually or all at once. Priority values range from 1 to 9; the highest priority is 9. The default priority value is 4, except for BNA and DMS, which have a default priority of 7.

Figure 5-6 illustrates the syntax for the CONTROL PRIORITY record. You must use a separate CONTROL PRIORITY record for each category (for example, one record for BACKUP, one record for LIBMAINT, and so forth).

```
                                    ┌<──────────────────────────┐
- CONTROL PRIORITY ─┬─ BACKUP ───┬──┴─┬─ PR <priority setting> ──┬┴──────────────┤
                    ├─ LIBMAINT ─┤    ├─ PRM <priority setting> ─┤
                    ├─ DMS ──────┤    ├─ PRP <priority setting> ─┤
                    ├─ RJE ──────┤    └─ PRS <priority setting> ─┘
                    ├─ WORKFLOW ─┤
                    └─ BNA ──────┘
```

Figure 5-6. CONTROL PRIORITY Record Syntax

Table 5-2 lists the categories of system utilities that you can affect with the CONTROL PRIORITY record. For a complete description of these utilities, refer to Volume 3.

Table 5–2. Utilties Affected by CONTROL PRIORITY Record

Utility Category	Description
BACKUP	Includes the PBDPRN and LDCNTL utilities, and the automatic log transfer functions.
LIBMAINT	Includes the utilities SYSTEM/COPY, DSKOUT, DMPALL, DMPANL, DMPOUT, and the user-written utilities LOADMP and PACKUP.
DMS	Includes the DMSII database program (DBP). This option does not affect user programs accessing databases.
RJE	Includes all RJE handlers. This option does not include any programs initiated through RJE.
WORKFLOW	Includes all Work Flow Language (WFL) jobs or handlers. This option does not include any tasks initiated by the WFL jobs.
BNA	Includes all BNA jobs or handlers. This option does not include any applications using BNA.

Table 5–3 lists the priority settings that you can make for each utility category listed in Table 5–2.

The priority settings range from 1 to 9; the highest priority is 9. The default priority value for all utility categories is 4, except for BNA and DMS, which have a default value of 7.

Table 5–3. Priority Settings for CONTROL PRIORITY Record

Utility Category	Description
PR <priority setting>	Assigns the same priority to the memory, processing, and schedule priorities.
PRM <priority setting>	Assigns memory priority.
PRS <priority setting>	Assigns schedule priority.
PRP <priority setting>	Assigns processing priority.

CONTROL STOPSUBSYS Record

This record indicates the subsystem used to store roll-out files and program memory dumps. The programs in these dumps are stopped because the memory they use is required by jobs with a higher priority.

Indicate the subsystem with a subsystem number in the range 1 through 8.

CONTROL VCS INITFILE Record

This record indicates the name of the V Series Communication System (VCS) initialization file and the name of the disk pack family on which the file resides.

For more information on VCS, refer to the *V Series VCS Installation and Migration Guide.*

DISK Record

One of these records must be used to declare each disk or disk pack on the system.diskconfiguration record

This record designates a disk as a member of the default disk subsystem, the logical disk subsystem, or both. The record can also designate a shared disk.

Disk devices can be grouped into logical subsystems. If one disk spindle in a subsystem is declared SHARED, all disk spindles belonging to that logical subsystem must also be declared SHARED.

A maximum of eighty-nine 100-byte disks are allowed on a system.

Figure 5–7 illustrates the DISK record syntax.

```
                                       ┌◄──────────────────────────────────────────┐
- DISK <channel number/unit number> ───┴─┬─────────────────────────────────────────┬┴──┤
                                         ├─ ID <1-89> ─────────────────────────────┤
                                         ├─ SUBSYSTEM <1-8> ───────────────────────┤
                                         ├─ DEFAULT ───────────────────────────────┤
                                         ├─ SHARED ─┬───────┬─ <SSP name> ─────────┤
                                         │          └─ VIA ─┘                      │
                                         ├─ RESERVED ──────────────────────────────┤
                                         ├─ SAVED ─────────────────────────────────┤
                                         └─ <beginning address> <ending address> ──┘
```

Figure 5–7. DISK Record Syntax

Table 5–4 describes the syntax elements for the DISK record.

Table 5–4. Syntax Elements for DISK Record

Syntax Element	Description
<channel number/unit number>	Indicates the channel number and unit number of the disk spindle.
SUBSYSTEM	Indicates the number of the logical subsystem to which this disk belongs. Up to eight logical subsystems can be declared. The logical subsystem number must be in the range 1 to 8.
DEFAULT	Declares this disk spindle as a default disk. If the number of a logical subsystem appears in the record, then that logical subsystem is also declared DEFAULT. If a disk spindle on a logical subsystem is specified as default, then all the disk spindles on that subsystem must be declared DEFAULT. More than one logical subsystem can be declared DEFAULT. If no subsystem has been declared DEFAULT, logical subsystem 1 becomes the default subsystem and the residence of the MCP code file. This is not recommended for performance reasons.
SHARED <SSP name> SHARED VIA <SSP name>	Indicates the name of the SSP that controls the concurrent file access between the systems. Names are assigned to SSPs with the DLP SSP record. Use this option if you are declaring a multisystem shared configuration and want to share a disk among the different systems. If the files on this disk spindle are to be used by programs running on the other systems in the shared configuration, this disk spindle must be declared SHARED in the configuration file of each system. You must also declare this disk spindle with the same ID number and as part of the same logical subsystem. If one disk drive on a logical subsystem is declared shared, all disks on that logical subsystem must be declared shared. All disk spindles must be shared through the same SSP.

continued

Table 5–4. Syntax Elements for DISK Record (cont.)

Syntax Element	Description
RESERVED	Reserves the unit after a cold-start or a halt/load. The drive remains reserved, unavailable to the system until made ready with the UR system command. The MCP disk cannot be reserved.
SAVED	Puts the drive in a saved state after a cold-start or a halt/load. The MCP disk cannot be saved. Refer to the description of the SV system command in Volume 2.
<beginning address> <ending address>	Defines the beginning and ending addresses of the disk spindle. These parameters indicate the amount of space the disk has for data storage. If the entire disk is used, the MCP automatically determines the proper capacity. The maximum address ranges possible for various types of disk and disk pack spindles are listed in Table 5–5.

Table 5–5. Maximum Disk Address Ranges

Disk Spindle Type	Beginning	Ending
5N 5 ms disk (4 DSs)	0	221183
235 disk pack as LAK	0	969144
206I disk pack as LAK	0	565729
206S disk pack as LAK	0	476189
207I disk pack as LAK	0	998854
207S disk pack as LAK	0	998854
677I disk pack as LAK	0	999999
677S disk pack as LAK	0	999999
MD4 disk pack as LAK	0	682259
MD8 disk pack as LAK	0	999999
QWIKDisk (Maximum limit is listed. Practical limit depends on memory available to system.)	0	999999
M9710 disk	0	999999

Examples

```
DISK 3/0 ID 1 SUBSYSTEM 1 0 110591
```

This record declares a disk as part of logical subsystem 1 and gives the beginning and ending addresses for the disk spindle.

```
DISK 4/0 ID 2 SUBSYSTEM 3 DEFAULT
DISK 4/1 ID 3 SUBSYSTEM 3 DEFAULT
DISK 4/2 ID 4 SUBSYSTEM 3 DEFAULT
DISK 4/3 ID 5 SUBSYSTEM 3 DEFAULT
```

These records declare disk devices as part of logical subsystem 3. Logical subsystem 3 is declared as the default subsystem, and the individual disk spindles are declared as the default disk.

```
DISK 4/5
```

This record declares a spare disk.

```
DISK 40/0 ID 88 SUBSYSTEM 8 0 259999
```

This record declares 260,000 QWIKDisk sectors on logical subsystem 8.

DLP Record

A data link processor (DLP) manages data transfers between peripherals and the central system. Each type of peripheral device is supported by its own type of DLP record. A DLP SSP record is required to declare an SSP DLP. Refer to "DLP SSP Record" in this section.

All active channels must be declared with a DLP record. The channel to the MCP disk is automatically given the highest possible processing and I/O priority.

Figure 5–8 illustrates the DLP record syntax.

```
— DLP <channel number> ─┬─────────────┬─┬─ CONSOLE ──────────────┬──────────►
                        └─ INHIBITED ─┘ ├─ UNILINE ──────────────┤
                                        ├─ <hardware mnemonic> ──┤
                                        ├─ DSK ──────────────────┤
                                        ├─ DISK ─────────────────┤
                                        ├─ PACK ─────────────────┤
                                        └─ TAPE ─────────────────┘

►─┬──────────────────────────┬─┬──────────────────────┬──────────────────────┤
  └─ <firmware file name> ───┘ └─ PRIORITY <0-99> ────┘
```

Figure 5–8. DLP Record Syntax

Table 5–6 describes the syntax elements for the DLP record.

Table 5–6. Syntax Elements for the DLP Record

<channel number>	Indicates the channel that is connected to the DLP.
INHIBITED	Inhibits the channel after a cold-start, making it unavailable for use. This is often done to have channels available for later use. The channel remains inhibited until made available with the XC system command.
CONSOLE	Indicates that the channel is connected to a universal console. If you use this option, do not declare a firmware file name.
UNILINE	Indicates that the channel is connected to a Uniline device.

continued

Table 5-6. Syntax Elements for the DLP Record (cont.)

<hardware mnemonic>	Indicates the hardware mnemonic of a device other than a disk, disk pack, SSP, or a universal console. Hardware mnemonics are listed in Table 5-7. If you identify a DLP for the V 500 maintenance processor (MP), use the hardware mnemonic NST and declare the MP on channels 82, 83, or 84.
DSK or DISK	Indicates that the channel supports disk and disk pack devices. If you identify a DLP for QWIKDisk, declare it on channel 40.
PACK	Indicates that the channel supports disk pack devices.
TAPE	Indicates that the channel supports tape devices.
<firmware file name>	Identifies the default firmware file for the DLP. You can use the LH system command to load firmware files to controllers, data communication processors, and Uniline DLPs. This firmware tailors the I/Os to match the needs of the device. If you do not specify a name in the LH command, the system uses the firmware file indicated here. Refer to Table 3-2 for a list of firmware file names. The firmware files are included on the MCP release tape.
PRIORITY	Assigns a processing priority to a channel so that when I/Os complete simultaneously, the system knows which one to process first. In such a case, the channel with the highest priority gets processed first. The priority values range from 0 to 99; the highest priority value is 99. If one or more channels have the same priority, the channel declared first is serviced first. If you do not assign priorities to the channels, they are serviced in the order in which they are declared; that is, the channel declared first in the MCP configuration file is serviced first. Note that this record does not affect the centerpoint priority for I/O queuing, which is set with the LIMIT PRIORITYQ record. Also, the priorities for various categories of system utilities are set with the CONTROL PRIORITY record. Table 5-8 lists the recommended priority settings for various devices.

Table 5–7 lists hardware mnemonics.

Table 5–7. Hardware Mnemonics

Mnemonic	Device
CRD	80-column card reader
DCP	Data communication processor
FEP	Front-end processor
GCR	Group-coded recording (GCR) magnetic tape drive
IPP	Image page printer
ISC	Intersystem connect
MPE	Phase-encoded (PE) magnetic tape drive
MT9	9-track (NRZ) magnetic tape drive
MTC	Magnetic cartridge tape drive
NCP	Network communications port
NST	Nonstatus device
OCS	Operator control station (OCS) on a Uniline DLP
ODT	Operator display terminal (ODT) on a universal console DLP.
PCH	80-column card punch
PRN	Buffered printer
RJE	Remote job entry (RJE) device
S4A	B 9137 reader/sorter on a 4A-type DLP
S4B	B 9138 reader/sorter on a 4A-type DLP
SPO	Supervisory printer on a Uniline DLP; one for each system
TC5	TC 500
TPR	Train printer
TWX	Teletypewriter on a Uniline DLP
VDD	B 9352 or TD 800 series

Table 5–8 lists the recommended priority settings for various devices.

Table 5–8. Recommended Channel Priorities

Hardware Type	Priority Range
FEP	85–95
SSP	98 (see DLP SSP syntax)
DCP, ISC, DC-DLP, NCP	96–97
Disk and disk pack	90–95
Magnetic tape	80–89
Console DLP	70
Uniline DLP	60–69
Printer devices	40–49
Card devices	20–29

Examples

```
DLP 01 DSK HSTLQG PRIORITY 92
```

This example declares an I/O path to a physical disk, to a disk pack subsystem, or to both. If the controller is not ready or an LH command is issued for this channel, the firmware file HSTLQG is loaded to the controller. The channel has a priority of 92.

```
DLP 06 MPE PRIORITY 83
```

This example declares a phase-encoded (MPE) magnetic tape DLP on channel 5. The channel has a priority of 83.

```
DLP 12 UNILINE USP2LH
```

This example declares that channel 12 supports a Uniline DLP, and that the firmware file used for that device is named USP2LH.

DLP SSP Record

This record declares a shared system processor (SSP) DLP. An SSP DLP controls concurrent file access and keeps track of the systems that are accessing the files. There is an SSP DLP for each multisystem shared configuration. Shared systems and shared file access are described in detail in Volume 3.

Figure 5–9 illustrates the syntax used to declare SSP DLPs.

```
– DLP <channel> ─┬─────────────┬─ SSP <name> ─┬──────────────────────┬──────────►
                 └─ INHIBITED ─┘              └─ <firmware file name> ─┘

►┬───────────┬┬──────────────────┬────────────────────────────────────────────────┤
 └─ MAILBOX ─┘└─ PRIORITY <0-99> ─┘
```

Figure 5–9. DLP SSP Record Syntax

Table 5–9 lists the options for the DLP SSP record syntax.

Table 5–9. Syntax Elements for DLP SSP Record

<channel>	Indicates the channel to which the SSP is connected. Each system in a multisystem shared configuration should use the same channel to access the SSP. There can be only one SSP for each multisystems shared configuration.
INHIBITED	Inhibits the channel after a cold-start, making it unavailable for use. The DLP remains inhibited until made available with an XC keyboard command.
SSP <name>	Identifies the SSP. Unisys recommends that all the systems in a multisystem shared configuration use the same name for the same SSP.
<firmware file name>	For documentation purposes, the firmware file name identifies the name of the firmware file used by the SSP. If you enter a name, it must match the name of the SSP firmware file that is bound to the operating system. Note that loading firmware to an SSP clears out all its lock entries. Load firmware to an SSP only when all the processors in the configuration are in the preinitialized state (that is, when the MCP is not running and before a cold-start or halt/load has been performed). A halt/load must be performed for all processors in the configuration after the SSP is loaded.

continued

Table 5-9. Syntax Elements for DLP SSP Record (cont.)

MAILBOX	Indicates that the SSP contains a mailbox, which is used for communication between systems in a multisystem shared environment. Within the multisystem shared configuration, you must designate one SSP as containing the mailbox. No other SSPs can contain a mailbox. All systems within the environment must designate the same SSP as the mailbox SSP.
PRIORITY	Assigns the I/O priority. The recommended priority setting for an SSP is 98. Priority settings range from 0 to 99; the highest priority value is 99.

Example

```
DLP 77 SSP IDIDID SSP302 MAILBOX PRIORITY 98
```

This example declares that a SSP named IDIDID is linked to channel 77. This SSP controls all the disk or disk pack devices that use the identification IDIDID on their configuration record. This SSP also contains the interprocessor communications mailbox, and it is set with the recommended priority of 98.

EXCHANGE Record

This record declares an exchange, which connects one or more channels to the same set of peripheral devices, thus enabling the system to perform simultaneous I/Os to the same set of devices.

You must declare one channel as the primary channel. Depending on the type of exchange, you can then declare up to seven alternate channels that can be used when the primary channel is busy. Each channel must be connected to a separate DLP. All DLPs connected to the same exchange must be of the same type.

Figure 5–10 illustrates the EXCHANGE record syntax.

```
                                      ┌<───────────────────────────────┐
— EXCHANGE <primary channel number> ──┴─ <alternative channel number> ─┴──────────┤
```

Figure 5–10. EXCHANGE Record Syntax

The number of alternate channels permitted depends on the type of exchange (refer to Table 5–10).

Table 5–10. Number of Alternate Channels Permitted for Each Device Type

Device Type	Maximum Alternate Channels
Disk or disk pack	8 channels to 16 units
Magnetic tape DL-1 MEC	4 channels to 16 units
Magnetic tape DL-2 MEC	2 channels to 8 units
GCR (Standard Terminal Control)	2 channels to 8 units
MEMOREX (FIPS Tape)	4 channels to 16 units
FIPS-3 (Federal Information Processing Standard) Magnetic Tape Cartridge (MTC)	8 channels to 16 units
ISC (Intersystem Connect)	2 channels

Examples

```
EXCHANGE 04 14 24 27
```

This example declares that the primary channel to the exchange is channel number 4. The alternate channels are numbers 14, 24, and 27.

HOSTNAME Record

This record identifies the processor in the Run Log (RLOG), the SPO Log (SLOG), the Maintenance Log (MLOG), and in various BNA applications.

Figure 5–11 illustrates the HOSTNAME record syntax.

```
— HOSTNAME <processor name> ————————————————————————————————————|
```

Figure 5–11. HOSTNAME Record Syntax

The processor name identifies the processor. The name can be 1 to 17 characters long and can be in the following formats:

- A number followed by more numbers
- A letter followed by numbers, or by uppercase and lowercase letters

Examples

```
HOSTNAME UPTO17CHARACTERS
```

This processor is named UPTO17CHARACTERS.

```
HOSTNAME HOSTA
```

This processor is named HOSTA.

LABEL1 Record

This 67-column record enables you to customize tape labels (refer to Table 5–11). The LABEL1 record contains fields in which you indicate your requirements. Each field is expressed in characters.

In some cases, a 0 (zero) can be used to omit something from the label.

If you specify multifile identifiers (MFIDs), the length of the file identifier must be 6 characters or less. However, if the length of the MFID is 0 (zero), the length file identifier can be up to 12. Specify a 10-, 11-, or 12-character file identifier by the using the letters A, B, and C, respectively.

Table 5–11. Tape Label Format

Columns	Contents	Description
1–8	LABEL1	If the label is less than 8 characters, it can appear anywhere in the field.
9	Blank	Skip this column.
10–19	1–10 characters	Text of beginning-of-file (BOF) label identifier.
20–21	0–99	Position of BOF label identifier field.
22–23	1–10	Length of BOF label identifier field.
24–25	0–99	Position of MFID field.
26	0–6	Length of MFID field (0 = none).
27–28	0–99	Position of file ID field.
29	1-C (C =12)	Length of file ID field.
30–31	0–99	Position of reel number field.
32	1–9	Length of reel number field.
33–34	0–99	Position of creation date field.
35–36	0–99	Position of purge date field.
37	3–9	Length of purge date field. (A value of less than 5 implies a retention period instead of a purge date.)
38–39	0–99	Position of volume ID field.
40	1–9	Length of physical volume ID field.
41–42	0–99	Position of end-of-reel or end-of-file (EOF) identifier.
43	1–5	Length of end-of-reel or EOF label identifier.

continued

Table 5–11. Tape Label Format (cont.)

Columns	Contents	Description
44–48	1–5 characters	Text of end-of-reel label ID.
49–53	1–5 characters	Text of EOF label ID.
54–56	20–998	Minimum length of label record.
57–58	0–99	Number of label records (0 = variable).
59	0 or 1	1 equals tape mark after end labels.
60	0 or 1	1 equals tape mark after beginning labels.
61–62	0–99	Position of block count field.
63	0–9	Length of block count field (0 = none).
64–65	0–99	Position of record count field (end labels only).
66–67	0–12	Length of record count field (0 = none).

LIMIT Records

The LIMIT records set the size of certain MCP tables and values for other system parameters. Figure 5–12 illustrates the LIMIT record syntax.

```
        ┌──────────────────────────┐
– LIMIT ┴─ <keyword> <integer> ────┴──────────────────────────────────────┤
```

Figure 5–12. LIMIT Record Syntax

Table 5–12 describes the values for the <keyword> and <integer> elements of the LIMIT record.

Table 5–12. LIMIT Records

Keyword	Integer (Range)	Description
DISKPACKS	1–1000	This record sets the maximum number of disk and disk pack units on the system. This value can be greater than the number of units. The actual number of units on the system serves as the default setting.
DMSDBP	0–98	This record indicates the maximum number of DMSII databases that can be active at one time. The default is 1.
DMSTATUS	1–90	This record determines the period of time that is to pass between DMSII DBP status evaluations. The time is set in increments of 10 seconds. The default value is 30, which is 300 seconds or 5 minutes. The maximum amount of time is 900 seconds, or 15 minutes. During these status evaluations, the processor gathers statistics and flags buffers. At every other evaluation, the unused buffers are deallocated and their memory is returned to the system. If the database program exceeds the ALLOWEDCORE size specified in the DASDL definition, the memory is returned more frequently.
DMSUSERS	0–97	This record sets the maximum number of users that can access a DMSII database at one time. The default setting is 0 (zero).

continued

Table 5–12. LIMIT Records (cont.)

Keyword	Integer (Range)	Description
HSTIMEOUT	0–99	This record sets the timeout period for the BNA host services programs BNAODT and BNAHDL. If these programs remain idle (that is, do not handle any BNA messages for this period of time), the programs go to EOJ. The host services program must be reexecuted automatically by the BNA system when needed again. The value is set in minutes. A value of 0 (zero) indicates no timeout period.
LANGUAGES	1–99	This record specifies the maximum number of message files that can be active simultaneously.
MIX	4–776	This record designates the maximum number of tasks that can execute simultaneously. The number you enter for the LIMIT MIX record must be less than or equal to the number entered for the maximum user tasks value. (The maximum user tasks value is entered as the initial steps of a cold-start; refer to Section 3, "Initializing the System.") The default value for the LIMIT MIX record is the same as the maximum user tasks value entered during a cold-start. The difference between the LIMIT MIX value and the maximum user tasks value is equal to the size of the schedule.
PRNRPA	1000–90000	This record sets the number of records in each area of printer backup files. The default is 3150 records in each area. This value must be a multiple of 10 and a multiple of the PRNRPB value. If the PRNRPA value is not an even multiple of PRNRPB, the operating system adjusts PRNRPA upward to the nearest multiple.
PRNRPB	10–100	This record sets the blocking factor for printer backup files. The default is 10 records a block. This value must be a multiple of 10.
PBTBLK	6–30	This record sets the blocking factor for printer backup tapes. The default is 12 records a block.

continued

Table 5–12. LIMIT Records (cont.)

Keyword	Integer (Range)	Description
PRIORITYQ	1-9	This record sets the centerpoint used to set priorities for I/O queuing. I/Os that enter the I/O queue with processing priorities greater than the centerpoint are processed according to their priority. Tasks with a priority less than or equal to the centerpoint are processed on a first-in, first-out basis. The default is 4; the highest priority is 9. The lower you set the centerpoint, the more system overhead is required to set the priorities for and process the I/Os. If you assign centerpoint to a value of 9, it stops all priority queuing. Timeshare processes are given a queuing priority of 7, regardless of their processing priority.
QWKMEM	20–999	This record sets the amount of memory assigned for use by MCP overlays. The value is set in kilodigits (Kd). The default is 0 Kd. This value is adjusted by the MCP to an integral multiple of the MCP overlay size. The value is rounded down and nevers exceeds the value specified.
QWIKPOOL	1–9999	This record sets the amount of memory assigned to the QWIKPOOL for the use of program overlays. The amount is set in kilodigits (Kd). The default setting is 400 Kd.
READERS	1–80	This record sets the maximum number of pseudo card readers available to the system at one time. The default is 80. Use the SD system command to modify this setting when the system is running.
STOQBLOCKS	100–10000 (must be a multiple of 5)	This record sets the maximum amount of memory that can be used by STOQUE for queue entries. The amount is set in kilodigits and must be a multiple of 5. The default is 1000 Kd.
STOQMINBLK	0–10000	This record sets the minimum amount of memory used for STOQUE entries. The amount is set in kilodigits and must be a multiple of 5. The default is 0 (zero).

continued

Table 5–12. LIMIT Records (cont.)

Keyword	Integer (Range)	Description
STOQNAMES	10–999	This record sets the maximum number of unique queue names that can be stored in STOQUE simultaneously. The default value is 10.
STOQSIZE	100–1000	This record sets the size in kilodigits of each STOQUE memory block. The MCP STOQUE routine allocates memory for queue entries in the size set by this record. The memory is allocated only when needed and is returned to the system as soon as possible. The default setting is 100 Kd.
UNITS	3–1000	This record sets the size of the physical unit table in memory. This record is ignored if the specified value is less than the number of UNIT records used. The default setting is the number of UNIT records in the configuration file. Ten units are always added to the specified or the default value. This value is rounded up to take full advantage of the memory allocated for the specified number of units. The memory is allocated in 1 Kd pages. If there is unused space in the last page, it is filled with additional unit entries.

LIMIT Records for Special Diagnostic Tasks

Special LIMIT records are used to compensate for MCP failure, for diagnosis, or for unusual program activities. These records override MCP parameters that, in all but a few unusual conditions, apply to all systems.

Table 5–13 lists these special diagnostic LIMIT records.

Note: These specifications should be set only with the direction of a Unisys CSE.

Table 5–13. Special Diagnostic LIMIT Records

Keyword	Integer (Range)	Description
BLT	20–999	This record sets the maximum number of block lockout entries for shared file access. The size of the block lockout table (BLT) is determined by many different factors. If you do not use a LIMIT BLT record, the MCP constructs a BLT according to the number of systems in the shared configuration and the maximum number of tasks declared (determined through the use of the cold-start screen or the ALTER SYSTEM, MAX TASKS command.) For single-system shared configurations, the number of BLT entries is equal to the maximum number of tasks permitted on the system. This value can be increased to use additional memory to the next Kd boundary. For multisystem shared configurations, the number of BLT entries is equal to 256 divided by the number of shared systems (128 for 2 systems, 85 for 3 systems, 64 for 4 systems, and so forth). Because the SSP has a maximum of 256 entries, this formula apportions the SSP to each system equally. You can use the BLT record to override these defaults. For multisystem shared configurations, the sum of all the BLT declarations should not exceed 256; the allocation to each system need not be equal. Given the number of BLT entries from either the default calculation or the BLT declaration, the amount of entries available to user programs equals 90 percent of the number. This enables the MCP locks that can be required to terminate a task (for example, a rogue task that has filled up the BLT).
DCPBUF	1–99	This record sets the number of input messages that can be queued for each MCS result pool. The default is 5.

continued

Table 5-13. Special Diagnostic LIMIT Records (cont.)

Keyword	Integer (Range)	Description
DCPQUE	1–99	This record sets the maximum number of outstanding output messages that can be queued for any one station on a DCP. The default is 10.
DELAY	10–990	This record sets the minimum number of seconds that must pass before contention for a shared file record becomes a stalemate. The default is 10.
STDSTATUS	1–10	This record sets the number of seconds to wait between MCP status runs. The default is 5.
TRAKBUFFER	1–999	This record determines the amount of memory to be used by the MCP TRAK option. The amount is set in kilodigits (Kd); the default is 20 Kd.
TSMFENCE	0–80000	This record guarantees that a set amount of memory remains available for use by timesharing tasks. A value of 0 (zero) means the timesharing tasks are treated just like all other tasks. The TSMFENCE record is necessary when the system is running out of memory and the tasks that are stopped are rolled out. If the rolling out of the stopped tasks does not yield enough memory, the active timesharing tasks are rolled out until the amount of memory they use is less than the TSMFENCE record value. The value is in kilodigits (Kd).

MOREDISK Record

This record is used in conjunction with the DISK record to prevent the MCP from using disk sectors that are bad. Using bad disk sectors can result in corrupted data.

Instead of declaring an entire disk unit, use these records to indicate the good disk on an area-by-area basis. Declare only the good areas and omit the bad areas.

The DISK record declares the first good area. The rest are declared with the MOREDISK record.

Do not overlap declarations.

Table 5–5 lists the maximum address ranges of the various 100-byte disks.

Figure 5–13 illustrates the MOREDISK record syntax.

```
– MOREDISK – ID <1-89> <beginning address> <ending address> ——————————————————|
```

Figure 5–13. MOREDISK Record Syntax

The ID is the disk identification number in the range 1 through 89.

The beginning address defines the beginning of a good area of disk.

The ending address defines the end of a good area of disk.

Example

```
DISK9 4/3 ID 72 0 133254 MOREDISK ID 72 133260 565729
```

A disk has a bad spot located in an area that includes five sectors. The bad spot falls between sectors 133254 and 133260. The bad sectors include those from 133255 to 133259, inclusive. Because of its location, the disk can be split into two useful regions.

The first good region is declared on the DISK record. The second good region is declared with a MOREDISK record. Declaring these records omits the five sectors of bad disk.

PACK Record

This record designates 180-byte disk pack spindles for the system. The PACK record also declares whether or not the disk pack is shared; if it is shared, the record declares the SSP and ID number used.

There can be a maximum of 255 disk pack devices on the system.

Figure 5–14 illustrates the PACK record syntax.

```
— PACK <channel number/unit number> ─┬──────────────────────────────────────────────┬─►
                                     └─ SHARED ─┬───────┬─ <SSP name> ID <1-255> ─┘
                                                └─ VIA ─┘

►─┬──────────────┬─┬───────────┬──────────────────────────────────────────────────┤
  └─ RESERVED ───┘ └─ SAVED ───┘
```

Figure 5–14. PACK Record Syntax

Table 5–14 describes the syntax elements for the PACK record.

Table 5–14. Elements of PACK Record

<channel number/ unit number>	Indicates the channel and unit numbers of a disk pack. In a multisystem shared configuration, each processor uses the same channel and unit numbers to access the disk pack.
<SSP name>	Indicates the name of the SSP that connects the processor to a multisystem shared configuration. The DLP SSP record assigns names to shared system processors.
ID	Assigns the disk pack ID number in the range 1 to 255. Do not use the same ID number twice. Be sure each system in a shared configuration uses the same ID number to reference the disk pack.
SAVED	Saves the disk pack after a cold-start or a halt/load. The unit remains saved until it is made available with the RY keyboard RY.
RESERVED	Reserves the disk pack after a cold-start or a halt/load. The unit remains reserved until it is made available with the UR system command.

Examples

```
PACK 3/0 ID 11 SHARED VIA SSPA
PACK 3/1 ID 12 SHARED VIA SSPA
PACK 7/0
PACK 7/1
PACK 7/2 ID 15 SHARED VIA SSPA
```

These records declare that there are three disk pack units on channel 7 and two disk pack units on channel 3.

PATCH

This record applies patches to the MCP and its utilities.

Patches might not be immediately effective. You must perform a halt/load in order to bring the new code into memory.

Patches to the cold-start code must be resident in the MCP before they can be used for performing a cold-start; such patches must be applied to the MCP code file while under the control of an operational MCP. The patched code file can then be used for a cold-start.

Figure 5-15 illustrates the PATCH record syntax.

```
- PATCH - <running MCP name> - <release number> -┬──────────────────────┬──────►
                                                 └─ / <intrinsic name> ─┘

►─ &lt;segment number&gt; - <address> - text size> ─┬──────┬─ <text> ──────────────┤
                                              ├─ UN ─┤
                                              └─ UA ─┘
```

Figure 5-15. PATCH Record Syntax

Table 5-15 describes the elements of the PATCH record syntax.

Table 5-15. Elements of the PATCH Record Syntax

<running MCP name>	Identifies the MCP being patched.
<release number>	Identifies the release number of the MCP being patched.
/<intrinsic name>	Used only when the patch applies to an MCP utility.
<segment number>	Identifies an intrinsic or MCP segment number.
<address>	Specifies address in MCP or utility where patch begins.
<text size>	Defines the text length in the range 1 through 30.
UN UA	Identifies the text type: numeric (UN) or alphanumeric (UA). The default is UN.
<text>	Lists the text placed at the specified point in the code file. The text can be from 1 to 30 digits or bytes long.

PROCESSOR Record

This record is used only when a single card deck or stacked deck is used to initialize all the processors in a multisystem shared configuration. It is used to separate the configuration records of the second, third, and fourth processors in the stacked deck.

Refer Section 6, "Example MCP Configuration Files," for a detailed example of a configuration file composed of a stacked deck.

Figure 5-16 illustrates the PROCESSOR record syntax.

```
– PROCESSOR – <processor number> ————————————————————————————————————|
```

Figure 5-16. PROCESSOR Record Syntax

The processor number is a hardwired processor number in the range 0 to 3.

SECURITY Record

This record specifies the usercode, password, and charge number combination that must be used for system access and disk file security (DFSC) functions.

This usercode, password, and charge number must be used to execute the system security programs USERHO or USERLS. The file USERFL contains the usercode, password, and charge number specified here.

The SECURITY record takes effect at a cold-start. Refer to the *V Series System Security Installation and Operations Guide* for additional information.

Figure 5–17 illustrates the SECURITY record syntax.

```
— SECURITY — <usercode>/<password>/<charge number> ——————————————————►

►┬————————————————————————————————┬┬————————┬——————————————————————————┤
 └ MEDIA <disk pack family name> ─┘└ DFSC ─┘
```

Figure 5–17. SECURITY Record Syntax

Table 5–16 describes the elements of the SECURITY record syntax.

Table 5–16. Syntax Elements for SECURITY Record

<usercode>	Specifies a valid user code, which can start with a letter followed by one to nine numbers or letters, or it can begin with a number followed by one to nine numbers.
/	Identifies an optional separator.
<password>	Specifies a valid password, which can begin with a letter followed by one to nine numbers or letters, or a number followed by one to nine numbers.
<charge number>	Specifies a 1- to 6-digit charge number.
MEDIA <disk pack family name>	Designates the name of a disk pack family in which the operating system stores a duplicate copy of the security file USERFL. This duplicate file, also known as the "mirrored" version of USERFL, is used for recovery purposes.
DFSC	Determines whether disk file security is enabled on the system along with system access security. The default syntax of the SECURITY record does not enable DFSC.

Example

```
SECURITY S9188 PASSWORD 67073 MEDIA ADMIN DFSC
```

The usercode is S9188, the password is PASSWORD, and the charge number is 67073. The duplicate copy of USERFL is stored on a disk pack named ADMIN, and DFSC is enabled along with system access security.

STOP Record

This record marks the end of an MCP configuration file.

The configuration files used to perform a cold-start on a multisystem shared configuration can be stacked. The file for each processor must be preceded by a PROCESSOR record, and the entire deck must be terminated by a STOP record.

Figure 5–18 illustrates the STOP record syntax.

```
— STOP ————————————————————————————————————————————————————————————|
```

Figure 5–18. STOP Record Syntax

UNIT Records

Unit records declare peripherals, including card readers, printers, tape drives, and so on.

UNIT CRD Record

This record declares an 80-column card reader.

Figure 5–19 illustrates the UNIT CRD record syntax.

```
- UNIT <channel number>/0 ─┬─────┬─ CRD ─┬──────────────────┬─┬─────────┬──────────►
                           └─ = ─┘       └─ RETRY <0-99> ───┘ └─ SAVED ─┘

►─┬──────────────┬──────────────────────────────────────────────────────────────────┤
  └─ RESERVED ───┘
```

Figure 5–19. UNIT CRD Record Syntax

Table 5–17 describes the syntax elements for the UNIT CRD record.

Table 5–17. Syntax Elements for UNIT CRD Record

< channel number>/0	Indicates the channel for this device. Note that the unit number must be 0. When you declare the DLP for this channel, indicate that it interfaces with a card reader.
=	For documentation purposes only.
RETRY	Indicates the number of times the MCP attempts to complete an I/O to the card reader. This value must be in the range 0 to 99. The default value is 10. A value of 0 (zero) prevents any I/O retries.
SAVED	Saves the card reader after a cold-start. The card reader remains saved until it is made available with an RY system command.
RESERVED	Reserves the card reader after a cold-start. The card reader remains reserved until it is made available with a UR system command.

Example

```
UNIT 10/0 = CRD RETRY 15 SAVED
```

The unit on channel 10 is a card reader. The I/O retry value is 15, and the unit is saved after a cold-start.

UNIT Record for Devices Connected to Uniline DLP

This record declares various types of data communication devices that connect to the system through a Uniline DLP.

Figure 5–20 illustrates the UNIT record syntax for devices connected to a Uniline DLP.

```
— UNIT <channel number>/0 <unit-id> ─┬───┬─┬─ RJE ─┬─┬──────┬─┬──────┬──────┤
                                     └ = ┘ ├─ TC5 ─┤ └ DIAL ┘ └ ASYN ┘
                                           ├─ VDD ─┤
                                           ├─ TWX ─┤
                                           └─ FEP ─┘
```

Figure 5–20. UNIT Record Syntax for Devices Connected to Uniline DLP

Table 5–18 describes the syntax elements of the UNIT record for devices connected to a Uniline DLP.

Table 5–18. Syntax Elements for UNIT Record for Devices Connected to a Uniline DLP

< channel number>/0	Indicates the channel and unit numbers. The unit number must be 0.
<unit-id>	Specifies a 1- to 6-character name. The first character must be alphabetic; the remaining characters can be alphabetic or numeric. A data communication line has no label or other physical identifier. To permit programmatic assignment by name, each line is assigned a unit ID. The unit ID for the device doubles as its adapter ID.
=	For documentation purposes only.
RJE	Indicates that the unit is a remote job entry (RJE) device.
TC5	Indicates that the unit is for a TC 500 device.
VDD	Indicates that the unit is for a B 2x Series or ET Series workstation, or for a B 9352 or TD800 Series terminal.
TWX	Indicates that the unit is for a teletypewriter connected through a Uniline DLP.

continued

Table 5–18. Syntax Elements for UNIT Record for Devices Connected to a Uniline DLP (cont.)

FEP	Indicates that the unit is for a CP 3680 front-end processor.
DIAL	Indicates the device is linked to a switched line.
ASYN	Declares the line asynchronous. This attribute is used only with RJE devices.

Examples

```
UNIT 3/0 TDLINE VDD
```

The device VDD on channel 3 is unit number 0, and its unit ID is TDLINE.

```
UNIT 8/0 RJERJE = RJE ASYN
```

The remote job entry device on channel 8 is unit number 0, its unit ID is RJERJE, and its line is declared as asynchronous.

UNIT DCP Record

This record declares a data communication processor (DCP). The DCP model is determined automatically or can be specified for documentation purposes.

Figure 5–21 illustrates the UNIT DCP record syntax.

```
- UNIT <channel number>/0 <unit-id> ─┬─────┬─ DCP ─┬──────────┬─ <DCP number> ────────┤
                                     └─ = ─┘        ├─ DCDLP ──┤
                                                    ├─ B8974 ──┤
                                                    ├─ B974 ───┤
                                                    └─ ICPV ───┘
```

Figure 5–21. UNIT DCP Record Syntax

Table 5–19 describes the syntax elements for the UNIT DCP record.

Table 5–19. Syntax Elements for UNIT DCP Record

< channel number>/0	Indicates the channel and unit numbers. Note that the unit number must be 0. When you declare a DLP record for this channel, be sure to indicate that it is connected to a DCP.
=	For documentation purposes only.
DCDLP B 874 B 974 ICPV	For documentation purposes only. The model of the DCP is determined automatically.
<DCP number>	Specifies the logical DCP that is being declared. The number must be in the range from 1 to 9. This number is used to match each DCP specified in the NDL to a physical channel.

Examples

```
UNIT 66/0 = DCP B874 1
```

A B874 DCP is on channel 66; the unit number is 0, and the DCP number is 1.

```
UNIT 2/0 = DCP B974 0
```

A B974 DCP is on channel 2; the unit number is 0, and the DCP number is 0.

UNIT IPP Record

This record declares an image page printer.

Figure 5–22 illustrates the UNIT IPP record syntax.

```
– UNIT ─┬─ <channel number>/0 ─────────────┬─┬──────────────┬─┬─────┬─ IPP ────────►
        └─ <channel number>/<unit number> ─┘ └─ <unit-id> ──┘ └─ = ─┘

►─┬────────────────┬─┬─────────┬─┬────────────┬──────────────────────────────────────┤
  └─ RETRY <0-99> ─┘ └─ SAVED ─┘ └─ RESERVED ─┘
```

Figure 5–22. UNIT IPP Record Syntax

Table 5–20 describes the syntax elements for the UNIT IPP record.

Table 5–20. Syntax Elements for UNIT IPP Record

< channel number>/0	Indicates the channel and unit numbers for the IPP. The unit number must be 0 for a 9290–30 printer.
< channel number/ <unit number>	Indicates the channel and unit numbers for the IPP. When you declare the DLP for this channel, indicate that it supports an IPP.
<unit-id>	Specifies a 6-character IPP name. Unisys recommends that the unit have the same name as its default printer control file (PCF). This arrangement makes the automatic printing of printer backup files easier.
=	For documentation purposes only.
RETRY	Indicates the number of times to retry an I/O to the device. This value must be in the range 0 to 99. The default value is 10. A value of 0 (zero) prevents any retry attempts.
SAVED	Saves the IPP after a cold-start. The IPP remains saved until it is made available with the MCP command RY.
RESERVED	Reserves the IPP after a cold-start. The IPP remains reserved until it is made available with a UR system command.

Example

`UNIT 12/0 IPP An IPP is connected to channel 12.`

UNIT ISC Record

This record declares an intersystem connect (ISC).

Figure 5–23 illustrates the UNIT ISC record syntax.

```
– UNIT <channel number>/0 ─┬───┬─ <ISC name> ISC ─┬─────────┬┬────────────┬──────┤
                           └ = ┘                   └ SAVED ──┘└ RESERVED ──┘
```

Figure 5–23. UNIT ISC Record Syntax

Table 5–21 describes the syntax elements for the UNIT ISC record.

Table 5–21. Syntax Elements for UNIT ISC Record

< channel number>/0	Indicates the channel and unit numbers of the device. The unit number must be 0. When you declare the DLP for this channel, indicate that it supports an ISC.
=	For documentation purposes only.
<ISC name>	Specifies the 1 to 6-character name of the ISC. In BNA, this parameter is the first six characters of the IO_STATION_GROUP name; therefore, it is the external name of the ISC file through which the station group is communicating.
SAVED	Saves the IPP after a cold-start. The IPP remains saved until it is made available with the MCP command RY.
RESERVED	Reserves the IPP after a cold-start. The IPP remains reserved until it is made available with a UR system command.

Example

```
UNIT 11/9 = THEISC ISC
```

The ISC is on channel 11, the unit number is 0 (zero), and the unit is named THEISC.

UNIT NCP Record

This record declares a network communication port (NCP).

Figure 5–24 illustrates the UNIT NCP record syntax.

```
– UNIT <channel number>/0 ─┬───┬─ NCP <NCP number> ─┬─────────┬─┬────────────┬──────┤
                           └ = ┘                    └ SAVED ──┘ └ RESERVED ──┘
```

Figure 5–24. UNIT NCP Record Syntax

Table 5–22 describes the syntax elements for the UNIT NCP record.

Table 5–22. Syntax Elements for UNIT NCP Record

< channel number>/0	Indicates the channel and unit numbers for the NCP. The unit number must be 0. When you declare the DLP for this channel, indicate that it is connected to an NCP.
=	For documentation purposes only.
<NCP number>	Identifies the NCP; the number must be in the range from 1 to 9999.
SAVED	Saves the NCP after a cold-start. The NCP remains saved until it is made available with an RY system command.
RESERVED	Reserves the NCP after a cold-start. The NCP remains reserved until it is made available with a UR system command.

Example

```
UNIT 13/8 NSP 4
```

This declares NSP 4 on channel 13 with a unit number of 8.

UNIT NST Record

This record declares a nonstatus (NST) device. NSTs include micro minidisk drives (MMDD) and other devices used for maintenance or diagnostic purposes. Figure 5–25 illustrates the UNIT NST record syntax.

```
– UNIT <channel number/unit number> NST ————————————————————————————————|
```

Figure 5–25. UNIT NST Record Syntax

The channel number/unit number indicates the channel and unit numbers of the NST device.

For V 500 systems, channels 82, 83, and 84 must be declared as NSTs to serve the MP contained in the system console.

Example

```
UNIT 13/8 NST
```

This declares an NST on channel 13 with a unit number of 8.

UNIT Records for OCS and ODT

These records declare terminals that communicate with the MCP.

You can set up these terminals to display system status tables that monitor the status of peripheral devices, jobs in the mix, and jobs in the schedule.

You can limit the level of commands input to the MCP from the terminal, and you can declare different types of devices as terminals, including the Unisys B 2x and ET Series workstations.

Figure 5-26 illustrates the UNIT OCS record syntax.

```
- UNIT ─┬─ <channel number>/0 ─┬─ <unit-id> ─┬─────┬─┬─ OCS ─┬─ LEVEL <1-9> ──────►
        └─ <channel number>/4 ─┘             └─ = ─┘ └─ ODT ─┘

►─┬─────────┬─┬──────────────────────────────┬─┬───────────────────────┬──────────┤
  └─ HLSPO ─┘ └─ <uniline firmware file name> ─┘ └─ AD <ad specification> ─┘
```

Figure 5-26. UNIT OCS Record Syntax

Table 5-23 describes the syntax elements for the UNIT OCS and ODT record.

Table 5-23. Syntax Elements for UNIT OCS and ODT Record

< channel number>/0 < channel number>/4	Indicates the channel and unit numbers of the terminal. The unit number must be 0 for an OCS and 4 for an ODT.
<unit-id>	Assigns a 1- to 6-character terminal name. The first character must be alphabetic; the remaining characters can be alphabetic or numeric.
=	For documentation purposes only.
OCS	Indicates that the unit is supported by a Uniline DLP. The unit number is always 0.
ODT	Indicates that the unit is supported by a universal console DLP. The unit number is always 4.
LEVEL	Sets the access level of MCP commands that can be input from the terminal. MCP commands are organized into several access levels in the range 1 to 9. For a complete description of access levels, refer to Volume 2.

continued

Table 5–23. Syntax Elements for UNIT OCS and ODT Record (cont.)

HLSPO	Indicates that this is the terminal that displays halt/load messages and reports system failures. Also, when there is a critical disk space shortage, this terminal prompts you to delete files. The process by which the MCP seeks required file space is called AUTO KX. If this option is not used, the terminal linked to the universal console DLP is used for AUTO KX. If the HLSPO option is not used and no terminal is linked to a universal console DLP, the first terminal declared in the configuration file is used for AUTO KX.
<uniline firmware file name>	Indicates the name of the file that contains the Uniline firmware for an OCS. The firmware in this file is loaded if it is not already loaded or if the firmware in that Uniline DLP develops a parity error. If either of these circumstances develops, the system displays a message and the host loads the firmware to the Uniline DLP. You can specify a unique file name for each Uniline DLP.
AD <ad specification>	Refer to "System Status Table Displays" in this section.

UNIT PCH Record

This record declares an 80-column card punch.

Figure 5–27 illustrates the syntax of this UNIT PCH record.

```
– UNIT <channel number>/0 ─┬───┬─ PCH ─┬─────────────┬┬───────┬──────────►
                           └ = ┘       └ RETRY <0-99>┘└ SAVED ┘

►┬──────────┬──────────────────────────────────────────────────────────────┤
 └ RESERVED ┘
```

Figure 5–27. UNIT PCH Record Syntax

Table 5–24 describes the syntax elements for the UNIT PCH record.

Table 5–24. Syntax Elements for UNIT PCH Record

< channel number>/0	Indicates the channel and unit numbers for a card punch. The unit number must be 0. When you declare the DLP for this channel, indicate that it interfaces with a card punch.
=	For documentation purposes only.
RETRY	Indicates the number of times the system should attempt to complete an I/O to this device before the I/O is considered irrecoverable. This value must be in the range 0 to 9. The default is 10 retries. A value of 0 (zero) stops error recovery attempts because any error is considered fatal.
SAVED	Saves the card punch after a cold-start. The card punch remains saved until made available with an RY system command.
RESERVED	Reserves the card punch after a cold-start. The card punch remains reserved until it is made available with a UR system command.

Example

```
UNIT 23/0 = PCH RETRY 15 SAVED
```

This declares an 80-column card punch on channel 23 with the unit number 0. The MCP retries an I/O up to 15 times, and the unit is saved after a cold-start.

UNIT PRN Record

This record declares a buffered printer.

Figure 5–28 illustrates the UNIT PRN record syntax.

```
– UNIT <channel number>/0 <unit-id> ─┬───┬─ PRN ─┬───────┬─┬──────────┬─────────┤
                                     └ = ┘       └ SAVED ┘ └ RESERVED ┘
```

Figure 5–28. UNIT PRN Record Syntax

Table 5–25 describes the syntax elements for the UNIT PRN record.

Table 5–25. Syntax Elements for UNIT PRN Record

< channel number>/0	Indicates the channel and unit numbers for the buffered printer. The unit number must be 0. When you declare the DLP for this channel, indicate that it interfaces with a buffered printer.
<unit-id>	Identifies the name of the train image file that is loaded to this printer. Use the file named PRN256 for the 2000 lines per minute (LPM) printer, the 1050-to-1250 LPM printer, and the 600 LPM printer. If you do not want to use the name PRN256 here, copy the file with the name you want, such as SPEC or PRINT, and load that copy of the file instead of PRN256.
=	For documentation purposes only.
SAVED	Saves the buffered printer after a cold-start or a halt/load. The buffered printer remains saved until it is made available with an RY system command.
RESERVED	This reserves the buffered printer after a cold-start or a halt/load. The buffered printer remains reserved until it is made available with a UR system command.

Example

```
UNIT 23/0 PRN256 PRN SAVED
```

A printer is on channel 23 with the unit number 0. The unit ID is PRN256, and it is saved after a cold-start.

UNIT S4A and S4B Records

These records declare a reader-sorter that is connected to a system through a 4A or 4B DLP. Figure 5–29 illustrates the UNIT S4A and S4B record syntax.

```
- UNIT <channel number>/0 <unit ID> ─┬───┬─┬─ S4A ─┬─┬──────────────┬─┬───────┬─►
                                     └ = ┘ └─ S4B ─┘ └ RETRY <0-99> ┘ └ SAVED ┘

►┬────────────┬──────────────────────────────────────────────────────────────────┤
 └ RESERVED ──┘
```

Figure 5–29. UNIT S4A, S4B Record Syntax

Table 5–26 describes the syntax elements for the UNIT S4A and S4B records.

Table 5–26. Syntax Elements for UNIT S4A and S4B Records

< channel unit>/0	Indicates the channel and unit numbers. The unit number must be 0 (zero). When you declare the DLP for this channel, use either S4A or S4B.
<unit-id>	Indicates the 1- to 6-character name of the reader-sorter. The first character must be alphabetic. The remaining characters can be alphabetic or numeric. The unit ID is required for reader-sorters connected to a 4A DLP. For reader-sorters connected to a 4B DLP, the parameter is optional.
=	For documentation purposes only.
S4A	Indicates the devices for a model 9137 reader-sorter. This reader-sorter is connected to the system through a 4A DLP.
S4B	Indicates the devices for a model 9138 reader-sorter. This reader-sorter is connected to the system through a 4B DLP.
RETRY	Indicates the number of times the MCP attempts to complete an I/O. This value must be in the range 0 to 9. The default setting is 10 retries. A value of 0 (zero) prevents any error recovery attempts.
SAVED	Saves the reader-sorter after a cold-start or a halt/load. The reader-sorter remains saved until made available with an RY system command.
RESERVED	Reserves the reader-sorter after a cold-start or a halt/load. The reader-sorter remains reserved until made available with a UR system command.

Example

```
UNIT 02/0 SORT01 = S4A
```

The reader-sorter model 9137 on channel 2 is unit number 0, and the unit ID is SORT01.

Unit Records for Tape Drives and Front-End Processors

These records declare tape drives and front-end processors (FEPs).

The following tape formats are supported by the MCP:

Density (bpi)	Industry name	Mnemonic
800	NRZ	MT9
1600	PE	MPE
6250	GCR	GCR
38000	3480 Cartridge	MTC

Figure 5–30 illustrates the syntax for these UNIT records.

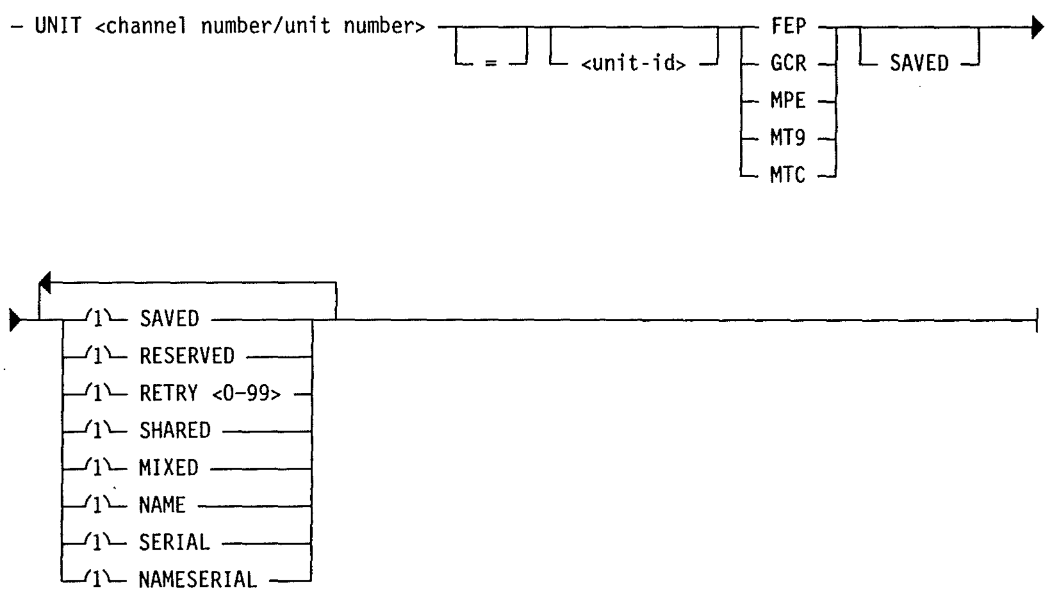


Figure 5–30. UNIT Record Syntax for Tape Drives and Front-End Processors

Table 5–27 describes the syntax elements for the UNIT record for tape drives and front-end processors.

Table 5–27. Syntax Elements for UNIT Record for Tape Drives and Front-End Processors

<channel number/unit number>	Indicates the channel and unit number.
<unit-id>	Indicates the unit ID.
=	For documentation purposes only.
FEP	Declares a front-end processor (FEP).
GCR	Indicates a tape drive that supports group-coded recording (GCR) tapes.
MPE	Indicates a tape drive that supports magnetic phase encoded (MPE) tapes.
MT9	Indicates a tape drive that supports 9-track (MT9) tapes.
MTC	Indicates a tape drive that supports magnetic tape cartridges (MTC).
SAVED	Saves the drive after a cold-start or a halt/load. The drive remains saved until it is made available with an RY system command.
RESERVED	Reserves the drive after a cold-start or a halt/load. The drive remains reserved until it is made available with a UR system command.
RETRY	Indicates the maximum number of times the MCP attempts to complete an I/O to a drive. A value of 0 (zero) prevents any retries; the default value is 10.
SHARED	Saves the drive each time a program closes a tape file with a LOCK or RELEASE command. This function becomes useful when more than one system has access to the drive. The drive is also automatically saved after a halt/load.
MIXED	Indicates that a drive supports both MT9 and MPE tape types. Neither GCR nor MTC drives can be declared as MIXED to support any other tape types. The MIXED configuration requires the use of two UNIT records. One UNIT record declares the MT9 drive. A second UNIT record declares the MPE drive. Each record declares a different DLP channel, but both records must use the same unit number. In addition, you must use two DLP records. One DLP supports MT9 tapes and the other DLP supports MPE tapes (refer to examples following this table).

continued

Table 5–27. Syntax Elements for UNIT Record for Tape Drives and Front-End Processors (cont.)

NAME	Displays the tape name on the unit display panel for MTC tape drives only.
SERIAL	Displays the tape serial number on unit display panel for MTC tape drives only.
NAMESERIAL	Alternately displays the tape name and serial number on the unit display panel for MTC tape drives only.

Examples

```
UNIT 16/0 FEPIN FEP
```

This record declares an FEP on channel 16.

```
DLP 42 MT9 PRIORITY 84
DLP 24 MPE PRIORITY 84
UNIT 42/1 MT9 RETRY 25 SHARED MIXED
UNIT 24/1 MPE RETRY 15 SHARED MIXED
UNIT 56/8 MTC NAME SHARED
```

This example declares a mixed tape drive. Unit number 1 can support both MT9 and MPE tapes. Note that two DLPs have also been declared, one for each tape type.

UNIT TPR Record

This record declares a train printer.

Figure 5-31 illustrates the UNIT TPR record syntax.

```
— UNIT <channnel number>/0 <unit-id> ─┬─────┬─ TPR ─┬─────────┬┬────────────┬───────┤
                                      └─ = ─┘       └─ SAVED ─┘└─ RESERVED ─┘
```

Figure 5–31. UNIT TPR Record Syntax

Table 5–28 describes the syntax elements for the UNIT TPR record.

Table 5–28. Syntax Elements for UNIT TPR Record

<channel number>/0	Indicates the channel and unit numbers for the train printer on the system. The unit number must be 0. When you declare the DLP for this channel, indicate that it supports a train printer.
<unit ID>	Specifies the name of the default train printer image file.
=	For documentation purposes only.
SAVED	Saves the train printer after a cold-start or a halt/load. The train printer remains saved until it is made available with an RY system command.
RESERVED	Reserves the train printer after a cold-start or a halt/load. The device remains reserved until it is made available with a UR system command. This option can be used to declare a nonfunctioning device to the system.

Example

```
UNIT 12/0 FUL96 TPR
```

The train printer on channel 12 is unit number 0, and the unit ID is FUL96.

USE Records

USE records indicate the MCP options that are to be used.

Most of these MCP options need not be set in the MCP configuration file. You can use the SO and RO system commands to set and reset, respectively, most of these options when the MCP is operational.

The TO === system command lists the status of these options. The TO = system command lists those options that can be set or reset when the MCP is running.

A cold-start resets all USE system options to those specified in the MCP configuration file. A halt/load returns the system to any settings that might have been changed since a cold-start.

Figure 5–32 illustrates the basic USE record syntax.

```
— USE <option> ─┬──────────────────────────┬──────────────────────────┤
                └─ <additional parameters> ─┘
```

Figure 5–32. USE Record Syntax

USE AFTR Record

The AFTR record automatically removes programs from the schedule that are associated with another job that either has been removed from the schedule or has been terminated abnormally. Such jobs must be associated with the AFTER command.

USE APBD Record

The APBD record indicates that when a printer backup file with an AUTO record in its file-equate statement is closed, the file is to be printed automatically.

USE APCR Record

The APCR record directs the MCP to automatically place pseudo card decks into pseudo card readers as the decks are closed or as they appear on disk or disk pack. If this record is not set, you must use the RN system command to accomplish this action (refer to the description of the RN and RNP commands in Volume 2).

USE AUHL Record

The AUHL record automatically initiates a halt/load in the event of a system failure, unless that failure originates during a halt/load.

USE AURD Record

The AURD record automatically removes pseudo-reader decks from disk if those files contain erroneous control instructions. If the AURD record is reset, any decks containing erroneous control instructions must be removed manually.

USE BOJ Record

The BOJ record displays beginning-of-job (BOJ) messages each time a job enters the active mix.

USE CHRG Record

The CHRG record specifies that all programs must have a charge number in order to execute. For security purposes, this record can be set only at a cold-start.

If you use a ZIP command to initiate a program but the command syntax does not supply a charge number for that program, the system uses the assigned charge number of the program.

Figure 5–33 illustrates the basic USE CHRG record syntax.

```
— USE CHRG ─┬──────────────────┬──────────────────────────────────────┤
            ├─ <charge number> ─┤
            └─ ALL ─────────────┘
```

Figure 5–33. USE CHRG Record Syntax

The charge number is a 6-digit number that must be used when initiating system utilities. If you do not designate a charge number, 999999 is used by default.

The keyword ALL declares that charge numbers are required for all MCP utilities in which charge numbers can be specified.

USE CLOS Record

The CLOS record displays a file-closed message each time a program closes a file.

USE COPY Record

The COPY record displays a message each time the SYSTEM/COPY utility transfers or compares a file. If the COPY record is not set, the messages are not displayed.

USE DATE Record

The DATE record requires that a date be entered during a halt/load.

USE DBUG Record

The DBUG record indicates that you use the MCP and user debug facility, and causes the DBUG module to be loaded into memory.

When a fault in the MCP occurs, the following statements apply:

- If the USE DBUG record is used, a memory dump is taken if no memory dump has occurred in the last five minutes. If a dump has occurred, a prompt is given that allows to take another memory dump or to preserve the original. If the CONTROL DEBUG MCP record is used, the system halts temporarily. If you press the SPCFY key, the system resumes operating and terminates the task.
- If the USE DBUG record is not used, no memory dump or temporary halt occurs.

USE DCOM Record

The DCOM record causes a data communication module to be loaded into memory when a data communication device is activated.

USE DCP Record

The DCP record causes a DCP to be loaded into memory. This module must be present for a DCP to be used on the system.

Because an MCP network information file (MCPNIF) must be on the system disk of the processor when the USE DCP record is used, this record should not be present in the MCP configuration file. Using this record automatically initiates a load host (LH) command to all DCPs declared in the MCPNIF.

USE DMS2 Record

The DMS2 record causes the DMS2 extension module to be loaded into memory. The DMS2 module is required in order to use the data management facilities available in the COBOL—74, RPG, and Pascal programming languages.

USE DUMP Record

The DUMP record directs the MCP dump file to a specific disk or disk pack medium. The MCP file name is *$p0001*, where *p* represents the processor number.

The dump file can be directed to tape, disk, or disk pack. You must use the DMPMEM utility to dump the MCP dump file to tape. The I/O path information to those disk or disk pack dump files is stored in memory during system operation. Because of this, the physical path to the medium (that is, the channel and unit designation) cannot be changed without performing a halt/load.

Figure 5–34 illustrates USE DUMP record syntax.

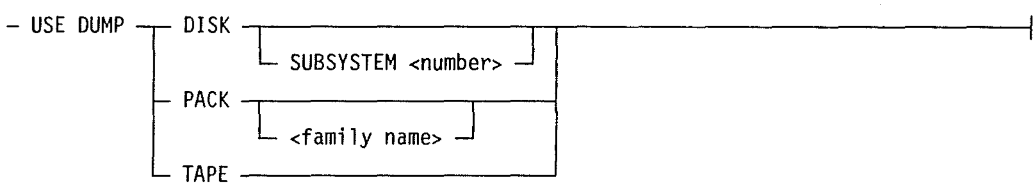


Figure 5–34. USE DUMP Record Syntax

If you specify DISK, the system dumps the file to disk. The optional subsystem number specifies the logical disk subsystem to which to dump the file. The logical subsystem number is in the range 1 to 8.

If you specify PACK, the system dumps the file to an unrestricted disk pack. The optional family name specifies a particular disk pack family to which to dump the file. Specifying TAPE indicates that the dump is not to reside on disk or disk pack. You must use the DMPMEM utility to manually dump the file if specify TAPE. The TAPE record invalidates the 0 DM command (refer to the description of the DM command in Volume 2).

Examples

```
USE DUMP DISK
USE DUMP DISK SUBSYSTEM 14
USE DUMP PACK
USE DUMP PACK NAMEOF
USE DUMP PACK BACKUP
USE DUMP TAPE
```

USE EOJ Record

The EOJ record displays an end-of-job (EOJ) message each time a program comes to an end of a job.

USE GTDK Record

The GTDK record forces program trace requests to a backup disk. If this record is not used, the trace request goes to an available line printer. The trace request does not specify a backup disk or originate from a timesharing job.

USE LIB Record

The LIB record causes a message to be displayed each time a file is removed or changed.

USE Logging Records

These records indicate whether you want the system to maintain the Run Log (RLOG), the SPO Log (SLOG), the Network Log (NLOG) and the Maintenance Log (MLOG). You must declare one record for each log you want to use. The syntax for these records is illustrated in Figures 5-35 and 5-36. The NOSTGO and NOCALL options apply to the Run Log (RLOG) only.

Note: *By default, the MLOG is maintained. Use the USE MLOG record to change the options for MLOG.*

Figures 5–35 and 5–36 illustrate the USE logging records syntax.

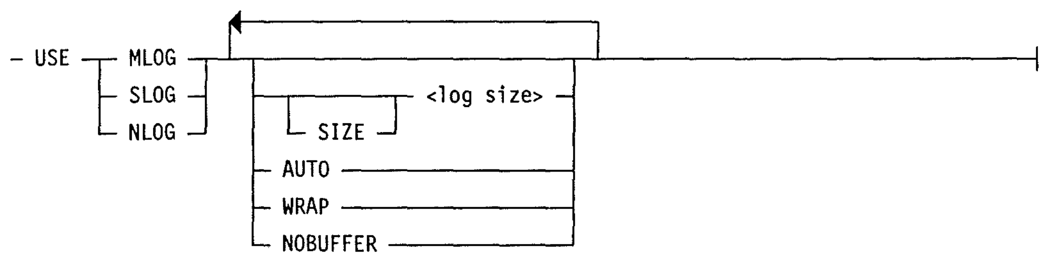


Figure 5–35. USE MLOG, SLOG, and NLOG Records Syntax

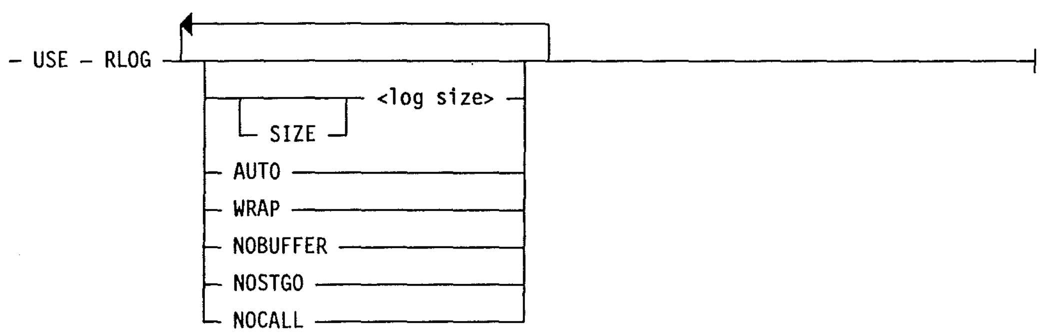


Figure 5–36. USE RLOG Record Syntax

Table 5–29 describes the syntax elements for the USE logging records.

Table 5–29. Syntax Elements for USE Logging Records

SIZE <log size>	Sets the size of the log file. The size must be in the range from 100 to 10000 sectors, rounded to the closest 100. If you do not specify a log file size, the system uses 1000 sectors by default. The log is transferred and renamed automatically when the file is full. Otherwise, the log transfers when it is the specified time of day for the log transfer to take place or when the LN or TL system commands force the transfer. Log transfer time is set with the LOGXFRTIME control record.
AUTO	Automatically processes the log after it is transferred (refer to the description of the LOGXFRTIME control record for more information).
WRAP	Renames the log files before each transfer by incrementing a number in the file name from 0 to 9. For example, the name of the Maintenance Log (MLOG) can change from MLOG#1 to MLOG#9, where # is the processor number. If you do not use this option, the file names do not change and a log file overwrites the previous file at log transfer time. If you do not use the option, the MLOG files are named MLOG#0 and MLOG#1.
NOBUFFER	Prevents the operating system from buffering log records. The operating system attempts to buffer these records in order to reduce the frequency of I/O requests against the log file. You should specify this option only when there is no active system dump file.
NOSTGO	Indicates that job-stopped and job-resumed records are not to be logged. The option is valid only for the Run Log (RLOG).
NOCALL	Indicates that program-call and program-return records are not to be logged. The option is valid only for the Run Log (RLOG).

Examples

```
USE MLOG AUTO 2000
USE RLOG AUTO SIZE 1600 WRAP
USE SLOG 2000 NOBUFFER WRAP
```

USE MICR Record

The MICR record causes a reader-sorter module to be loaded into memory. This module must be in memory for reader-sorters to function.

USE OPEN Record

The OPEN record displays a file-open message each time a program opens a file.

USE PBD Record

The PBD record routes printer backup files to disk. If you use more than one of the printer backup routing records, the system uses the following priority order to route the files: printer, tape, disk pack, and disk.

USE PBP Record

The PBP record routes printer backup files to disk pack. If you use more than one of the printer backup routing records, the system uses the following priority order to route the files: printer, tape, disk pack, and disk.

USE PBPS Record

The PBPS record directs all areas of printer and punch backup files to a single disk pack, if disk pack is the selected medium. This record is used in conjunction with the USE PBP record.

USE PBT Record

The PBT record routes printer backup files to a scratch tape on a readied drive. As long as the drive remains ready, the tape can be used by one program after another, until it fills up with files.

If the drive is not ready, the tape remains a printer backup tape. The printing mechanisms stop and wait to resume printing when the drive becomes ready again.

Printer backup files can be routed to other places besides tape. If you use more than one of the printer backup routing records, the system uses the following priority order to route the files: printer, tape, disk pack, and disk.

USE PCD Record

The PCD record indicates that punch card backup files are to be built on disk. Punch card backup files can be routed to other places besides disk. If you use more than one of the backup routing records, the system uses the following priority order to route the files: card punch, printer, disk pack, and disk.

USE PCH Record

The PCH record directs punch files to the card punch. If you use more than one of the punch backup routing records, the system uses the following priority order to route the files: disk pack and disk.

USE PCP Record

The PCP record routes card backup files to disk pack. The master of the disk pack family, named BACKUP, must not be restricted.

If you use more than one of the punch backup routing records, the system uses the following priority order to route the files: disk pack and disk.

USE PCRM Record

The PCRM record indicates that the location and contents of the first control card and each DATA(B) card is to be displayed as they are processed from pseudo card decks. This record provides data used primarily with the CONTROL option of the RN system command.

USE PRN Record

The PRN record directs the printer file to the printer.

USE QWIK Record

The QWIK record indicates that user program overlays are to be stored and retrieved from a memory buffer pool, a feature that is managed by a module named QWIK.

When an overlay request is made, the MCP checks the buffer pool for the requested overlay. If the MCP finds the overlay, the MCP transfers the overlay from the buffer into the overlay area of the program. If MCP does not find the overlay in the buffer pool, the MCP retrieves the overlay from disk and copies it into the buffer. If the overlay is used again, the MCP retrieves it from the buffer.

The size of the buffer pool is set by the LIMIT QWIKPOOL record.

USE RJE Record

The RJE record indicates that an RJE handler is to be executed when a remote job entry (RJE) station becomes active.

USE RMOV Record

The RMOV record automatically resolves duplicate file conditions on disk or disk pack by indicating that the old file is to be removed.

If you use the USE LIB record, the system displays the message "DUP LIB REMOVED" to confirm that a file has been deleted. If you do not use the USE LIB record, no message is displayed.

USE RTSL Record

The RTSL record indicates that short- or long-tape-block read operations that are not multiples of the logical record size are to be treated as I/O errors, unless the program using the file indicates otherwise.

USE SCHM Record

The SCHM record indicates that a message is to be displayed each time a program is scheduled for execution.

USE SNAP Record

The SNAP record enables SNAP, a useful debugging tool that captures the state of the memory when certain processor errors occur. When you use the SNAP record, a certain amount of memory is reserved for the SNAP picture.

USE STGO Record

The STGO record displays a message when an executing program is stopped by an ST command, a STOP command, or a crash-out mechanism. If memory is needed, STGO rolls out the file and also informs you when the program is brought back into memory.

USE STOQ Record

The STOQ record indicates that the system can use the storage queue method of interprogram communication.

USE SYST Record

The SYST record causes a module to be loaded into memory in order to run the software package named Functional and Logical Analysis of Machine Efficiency (FLAME) that monitors system performance.

USE SYUP Record

The SYUP record executes a program named SYSUP after a cold-start or a halt/load. The SYSUP program is a user-written program that performs site-specific functions, such as starting up the various programs that comprise the normal operating environment.

The bound version of the SYSUP program causes the MCP to perform a DMPALL (ZIP 0 DM MIX <mix number>) before going to EOJ. If the system fails, the mix number is the number of the job being worked on at the point of system failure. Refer to Volume 3 for additional information about the SYSUP program.

USE TERM Record

The TERM record causes programs that encounter irrecoverable errors to be terminated. Otherwise, you must terminate the job yourself by using the DS or DP system commands.

USE THLT Record

The THLT record halts the processing of a task and displays a fault screen if the system encounters MCP errors. The fault screen gives you the option to continue processing the task or to perform a halt/load for the MCP. If you do not use the USE THLT record, the task is terminated automatically.

USE TIME Record

The TIME record requires that the time be entered before a cold-start or a halt/load is completed.

However, automatic emergency halt/loads performed because of the USE AUHL record do not require that the time be entered.

USE TPLB Record

The TPLB record causes a message to be displayed each time a tape file is made available.

USE TPMK Record

The TPMK record indicates that any tape containing a nonrewound reel with a write-enable ring be saved in the event of a halt/load.

USE TPNO Record

The TPNO record indicates that each tape must have a serial number before the tape can be written to. A tape need not have a serial number to be read.

USE TRAK Record

The TRAK record causes a TRAK module to be loaded into memory and allocates a buffer for tracking information. For more information, refer to the discussion of the LIMIT TRAKBUFFER record in this section.

USE TRMD Record

The TRMD record indicates that jobs that terminate abnormally are to be dumped, unless termination was due to a memory parity error.

If you use both the USE TRMD record and the USE TERM record, the USE TRMD record takes precedence.

USE WRKP Record

The WRKP record causes work files to be directed to unrestricted system resource disk packs.

USE ZIPM Record

The ZIPM record indicates that the following message is to be displayed each time a program passes an instruction to the MCP:

```
<job-id> ZIP <control information message>
```

The START and STOP commands are not displayed when this record is used.

System Status Table Displays

The AD specifications indicate the system status tables that an OCS or ODT is to display (refer to the description of the UNIT OCS record). The AD specifications also determine the amount of time the tables are displayed and the table format used.

For more information regarding these table displays, refer to the description of the AD system command in Volume 2.

Figure 5–37 illustrates the AD specification syntax.

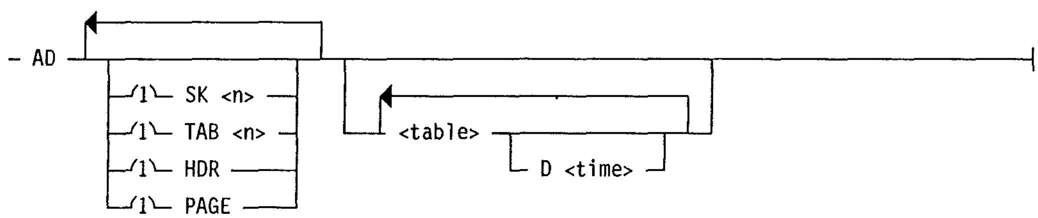


Figure 5–37. AD Specification Syntax

Table 5–30 describes the options for the AD specification syntax.

Table 5–30. AD Specification Options

Option	Description
SK <n>	This sets the number of lines skipped before text is displayed. The lines are skipped starting from the header, or from the top of the screen if there is no header text. The value of <n> can be any number from 1 to 9. If you do not specify SK, the display of text starts on line 3 or on the line immediately following the header line.
TAB <n>	This sets the left margin of the table display, where <n> represents a column number and must be a multiple of 8. The maximum value for <n> is 40. The default value is 24.
HDR	This causes the following information to be displayed on line 3: host name, available memory, available CPU, date, and time.

continued

Table 5–30. AD Specification Options (cont.)

Option	Description
PAGE	This enables a display to exceed one screen if there are more lines to display than will fit on one screen. If you do not specify PAGE, all table displays (except responses to operator inquiries) are truncated to one screen. If you specify PAGE, you can display the extra information by transmitting a blank space to the system (press the space bar and then the transmit or SPCFY key). The message "More Data" indicates that more information is available. When two tables are displayed simultaneously, the table on the left can overflow to the right. This can happen whether or not this option is set. After all the extra information has been displayed, normal table display resumes automatically.
D <time>	This specifies the time interval in seconds between updates to the display, where <time> can be any value from 1 through 99. The default for <time> is 10 seconds. Time intervals less than 3 to 5 seconds are not recommended due to excessive system overhead. If entries on a page have conflicting delay values, the value of the last entry is used.
<table>	This option specifies which table or tables are to be displayed. If multiple tables are to be displayed together, you must enclose the table names in parentheses. The available table displays are defined in Table 5–31. The optional parameter <n> indicates the number of lines of information to display.

Table 5–31 describes the available table displays.

Table 5–31. System Status Table Displays

Option	Meaning
AM	This option displays information on active jobs. The AM table selection is discussed "AM, MX, and WM Tables" in this section.
DPK <n>	This option displays the status for all or <n> disk packs on the system.
DSK <n>	This option displays the status for all or <n> disks on the system.
MSG <n>	This option displays the most recent commands received by the MCP, along with any message the MCP might have issued. No more than 22 commands or responses can be displayed at one time. If you want to display less than 22 lines of text, indicate the number of lines you want by entering the number following MSG. Because this table is 80 characters wide, it cannot be displayed simultaneously with any other table.
MTP <n>	This option displays the status for all or <n> magnetic tape drives on the system.
MX	This option displays information on both active and waiting jobs. The MX table selection is discussed "AM, MX, and WM Tables" in this section.
PRN <n>	This option displays the status for all or <n> printers on the system.
S <n>	This option displays information about scheduled jobs. This information includes the processor and memory priorities, the amount of memory in use, the length of time a job has been in the schedule queue, and the after-mix number for each job.
WM	This option displays information on waiting jobs. The WM table selection is discussed under "AM, MX, and WM Tables" in this section.

AM, MX, and WM Tables

Special syntax is used for the table selections AM, MX, and WM. These tables display information about jobs in the mix. Figure 5–38 shows the syntax for these table selections.

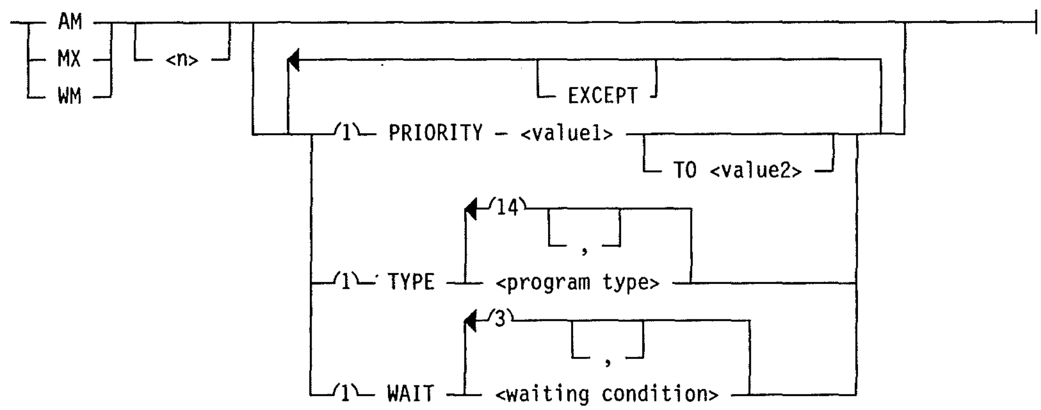


Figure 5–38. AM, MX, and WM Table Selection Syntax

The AM, MX, and WM commands display information about jobs in the mix.

- AM displays jobs in the active mix, including the task number, the processor priority, the memory priority, and the amount of memory in use for each job.
- WM displays jobs in the mix that are waiting for a condition to be satisfied before processing resumes. The information displayed for each waiting job includes the processor and memory priorities and the amount of memory in use.
- MX displays the status of the active mix and waiting mix at the same time.

Table 5–32 describes the elements of the AM, MX, and WM table selection sytnax.

Table 5–32. AM, MX, and WM Table Selection Syntax Elements

<n>	Limits the lines of information, and consequently, the number of jobs displayed on the screen. The value of <n> can range from 1 to 22; the default is 19.
PRIORITY <value1> TO <value2>	Selects jobs based on processor priority. You have the option of selecting a single priority or a range of priorities. The values of <value1> and the optional <value2> must be in the range 1 through 9. The value of <value1> must be less than or equal to <value2>. The abbreviation P is accepted for PRIORITY.
TYPE <program type>	Selects jobs based on the type of program. The abbreviation T is accepted for TYPE. You can enter a maximum of 14 type selections. The available program types are listed in Table 5–33.
WAIT <waiting condition>	Selects jobs that are waiting for a specific condition to be satisfied (for example, waiting hardware, waiting memory and so forth). You can enter as many as three waiting conditions and three waiting condition exceptions. The abbreviation W is accepted for WAIT. The available types of waiting conditions are listed in Table 5–34.
EXCEPT	All text that follows the keyword EXCEPT is treated as exceptions to the selections entered previously. All of the exceptions must be grouped together after the keyword EXCEPT; you cannot enter a selection and an exception followed by another selection.

Table 5–33 lists the program types. Underlining indicates the minimum required syntax.

Table 5–33. Program Types

Program Type	Description
EXECUTE	Program is executing.
COMPILER	Program generates object code.
DMPALL	Program is a DMPALL intrinsic.
LOADMP	Program is a LOADMP intrinsic.
PACKUP	Program is a PACKUP intrinsic.
DSKOUT	Program is a DSKOUT intrinsic or a diskpack SQUASH intrinsic.
MCS	Program is a Message Control System.
TIMESHARE	Program is executed as a timesharing task.
SHAREHNDL	Program is a timesharing handler program (for example, CANDE).
HANDLERS	Program is any type of handler (BNA, WFL, timesharing).
COMPSHAR	Program generates object code, and is executed as a timesharing task.
DMSPROG	Program is a DMSII control program (for example, DBP).
WFLHNDL	Program is a Work Flow Language (WFL) handler.
BNAHNDL	Program is a BNA network architecture handler.
COPY	Program is a SYSTEM/COPY intrinsic.
SORT	Program is a SORT: or a SORT. intrinsic.
UTILITY	Program is any type of intrinsic (DMPALL, LOADMP, PACKUP, DSKOUT, SYSTEM/COPY).

Table 5-34 lists the waiting conditions. Underlining indicates the minimum required syntax.

Table 5-34. Waiting Conditions

Waiting Condition	Description
SPACE	Waiting for memory, disk space or diskpack space.
DEVICE	Waiting for a hardware device to become available.
OPERATOR	Waiting for an operator to perform an action.
EVENT	Waiting for a software event to be signaled (for example, STOQUE, CRCR and so forth).

Displaying the System Status Tables

All but one of the system status tables are 40 columns wide. Because of the table size, the screen can be split to display two or more of these tables simultaneously. One or more tables can appear on one side of the screen, while one or more tables appear on the other side of the screen. Since the tables displayed by the MSG option are 80 columns wide, they require the entire screen.

When setting up the table displays, it is important to consider the amount of information the system has to display. For an open, readable display, group together the tables that have a limited amount of information. You could also limit the amount of information in that table.

To display more than one table at a time on the same half of the screen, enclose the options for those tables in parentheses. If the options are not in parentheses, the status tables are displayed one at a time.

Example

```
AD 6/3 RPL HDR (AM WM) (DSK DPK MTP)
```

This AD specification replaces the current automatic display of the system status information for the OCS on channel number 6/unit number 3 with the following rules. There is a header on line three. The active and waiting mix tables appear on one half of the screen, while the disk, diskpack, and tape status tables appear on the other half.

Connecting an ODT to a Console DLP

You can connect an ODT to a universal console DLP. In this case, the unit number for the ODT must be 4 or 5 (refer to Figure 5–39).

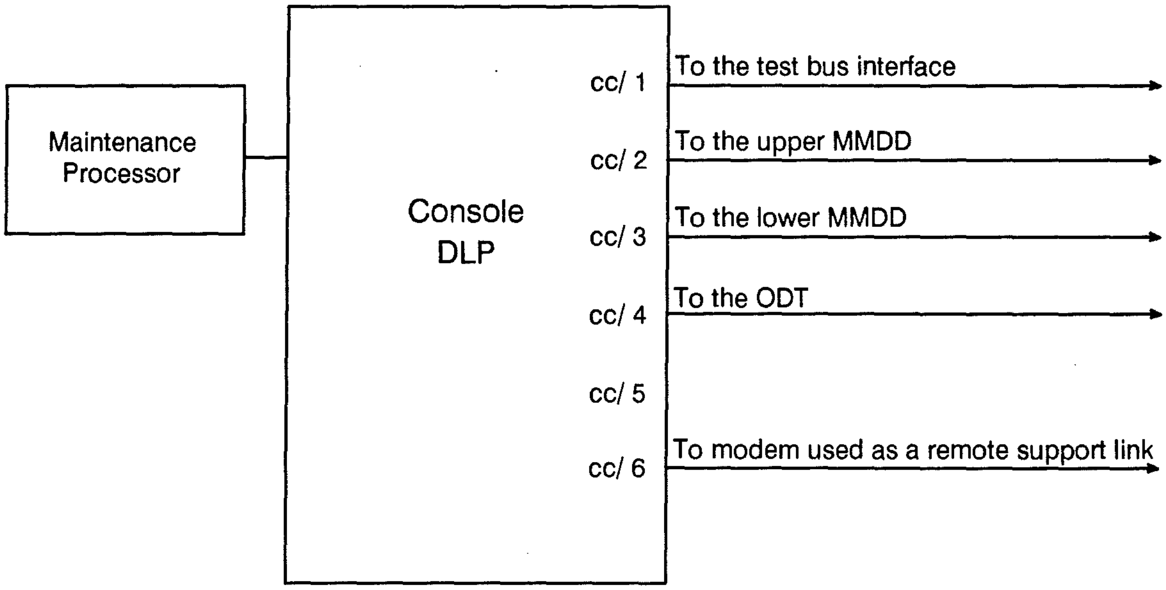


Figure 5–39. Connecting an ODT to a Universal Console DLP

Examples

The following are syntax examples for DLP and UNIT records used to connect an ODT to a universal console DLP and to connect the DLP to the respective units.

```
DLP 5 CONSOLE - To the console DLP

UNIT 05/1 NST - To test bus interface

UNIT 05/2 NST - To the upper MMDD

UNIT 05/3 NST - To the lower MMDD

UNIT 05/4 TOMMYS ODT - To the ODT

UNIT 05/6 NST - To remote support link
```

Section 6
Example MCP Configuration Files

The MCP reads the MCP configuration file at cold-start to determine the peripherals that are on the system and the options that are required. This section contains two examples of MCP configuration files:

- A configuration file created through the CONFIG utility
- A configuration file created through card reader input

Example 1: MCP Configuration File Created by CONFIG Utility

If the MCP configuration files are created by the CONFIG utility, each processor in a pack-based multisystem shared configuration must be initialized individually (that is, independently of any other processor). Each MCP configuration file is also loaded to disk independently. The order of the records in the file does not matter, except that the STOP record must come last. (The CONFIG utility automatically generates the STOP record.)

The multisystem shared configuration in the following example consists of two single processors systems with disks, disk packs, card readers, card punches, tape drives, ODTs, and OCSs. Each system includes a minidisk drive that is declared as a nonstatus device (NST).

An explanation of each record follows the example.

```
CONNECT 2
HOSTNAME LSHARED
DLP 34 SSP SSPAAA SSP302 MAILBOX
DLP 27 DSK HSTLQH
DISK 27/0 ID 01 SUBSYSTEM 1 DEFAULT SHARED SSPAAA
DISK 27/1 ID 02 SUBSYSTEM 1 DEFAULT SHARED SSPAAA
PACK 27/2 ID 03 SHARED SSPAAA
PACK 27/3 ID 04 SHARED SSPAAA
DLP 16 GCR
UNIT 16/0 GCR
UNIT 16/1 GCR
DLP 06 MPE
UNIT 6/1 MPE SHARED
UNIT 6/2 MPE SHARED
DLP 5 PCH
UNIT 5/0 PCH
DLP 10 CONSOLE
UNIT 10/2 NST
UNIT 10/3 NST
UNIT 10/4 SPOB ODT LEVEL 9 AD HDR MSG
DLP 01 CRD
UNIT 1/0 CRD
DLP 13 PRN
UNIT 13/0 PRN256 PRN
DLP 12 UNILINE
UNIT 12/0 A OCS LEVEL 9 AD HDR (WM AM) (MTP DSK DPK PRN)
USE STOQ
USE BOJ
USE EOJ
USE DUMP DISK
USE PBD
USE SLOG AUTO 10000 WRAP
USE ZIPM
STOP
```

The following text describes the records shown in Example 1.

CONNECT 2

This record identifies the system number of the other system in the multisystem shared configuration.

HOSTNAME LSHARED

The name *LSHARED* identifies the first system in the various log files and BNA applications.

```
DLP 34 SSP SSPAAA SSP302 MAILBOX
```

This record declares the SSP that connects the systems to form the multisystem shared configuration. The SSP is named *SSPAAA*.

```
DLP 27 DSK HSTLQH
DISK 27/0 ID 01 SUBSYSTEM 1 DEFAULT SHARED SSPAAA
DISK 27/1 ID 02 SUBSYSTEM 1 DEFAULT SHARED SSPAAA
PACK 27/2 ID 03 SHARED SSPAAA
PACK 27/3 ID 04 SHARED SSPAAA
```

The first record of this set declares the DLP on channel 27 as supporting disk and disk pack, and identifies the default firmware file as *HSTLQH*.

The remaining records declare the parameters for each disk and pack spindle connected to the designated DLP. The records assign unit numbers, IDs, and logical disk subsystems numbers. These records also indicate that the devices are incorporated into the multisystem shared configuration by way of an SSP. The name *SSPAAA* identifies this SSP in the following deck.

```
DLP 16 GCR
UNIT 16/0 GCR
UNIT 16/1 GCR
```

The first record in this set declares a GCR tape DLP on channel 16. The other records declare that two tape drives, units 0 and 1, are connected to the DLP.

```
DLP 06 MPE
UNIT 6/1 MPE SHARED
UNIT 6/2 MPE SHARED
```

The first record in this set declares an MPE tape DLP on channel 6. The other records declare that two tape drives, units 1 and 2, are connected to the DLP.

```
DLP 5 PCH
UNIT 5/0 PCH
```

The first record in this set declares a card punch DLP on channel 5. The second record declares that a card punch, unit 0, is connected to the DLP.

```
DLP 10 CONSOLE
UNIT 10/2 NST
UNIT 10/3 NST
UNIT 10/4 SPOB ODT LEVEL 9 AD HDR MSG
```

The first record in this set declares a universal console DLP on channel 10. The remaining records declare that the DLP is connected to the following devices: two nonstatus devices (minidisk drives), units 2 and 3, and an ODT, unit 4. The ODT is identified as *SPOB* with an access level of 9. The ODT is set to display system status information at regular intervals.

```
DLP 01 CRD
UNIT 1/0 CRD
```

The first record in this set declares a card reader DLP on channel 1. The second record declares that a card reader, unit 0, is connected to the DLP.

```
DLP 13 PRN
UNIT 13/0 PRN256 PRN
```

The first record in this set declares a buffered printer DLP on channel 13. The firmware file is loaded into the DLP when the LH command is used without naming a firmware file. The second record declares that a printer, unit 0, is connected to the DLP. The printer unit ID is *PRN256*.

```
DLP 12 UNILINE
UNIT 12/0 A OCS LEVEL 9 AD HDR (WM AM) (MTP DSK DPK PRN)
```

The first record in this set declares a Uniline DLP on channel 12. The second record indicates that an OCS is connected to the Uniline DLP. The OCS is identified as *A* with an access level of 9. The OCS is set to display system status information at regular intervals.

```
USE STOQ
```

This record indicates that the system can use the storage queue (STOQUE) method of interprogram communication.

```
USE BOJ
USE EOJ
```

This set of records causes the system to display messages each time a task begins and ends execution.

```
USE DUMP DISK
```

This record causes an automatic MCP dump from memory to disk if the system fails.

```
USE PBD
```

This record causes any printer backup file to go to disk, which is the default destination.

```
USE SLOG AUTO 10000 WRAP
```

This record causes the system to maintain an ODT log, which is a record of all the messages input to and displayed by the MCP. The maximum size of the log file is 10000 sectors.

When the log file is full, it is automatically closed and a new log file is opened. When a new file is opened, the old log file is automatically analyzed. As log files are closed, they are assigned names that "wrap," so that up to 10 log files can accumulate before the files start overwriting each other. For more information on log file names, refer to "USE Logging Records" in Section 5, "MCP Configuration Record Format."

```
USE ZIPM
```

This record causes the system to display a message each time a program sends information to the MCP using the ZIP mechanism.

```
STOP
```

This record indicates the end of the configuration file. The CONFIG utility automatically generates the STOP record.

Example 2: Multisystem Shared Configuration File for Card Reader Input

All configuration files for a multisystem shared configuration can be input through a card reader in the form of a stacked deck. The stacked deck is a deck of cards containing the MCP configuration files for each system in the multisystem shared configuration. In this case, one processor reads the entire deck and creates all the CONFIG files for the multisystem. You then initialize each processor independently.

In a stacked deck, the file for the processor for which the cold-start is performed must appear first, followed by a PROCESSOR record. The files for the second and subsequent processors follow in no particular order. A PROCESSOR record must separate each configuration file. A single STOP record signals the end of the stacked deck.

The position of the first record of the first configuration file is important. This is the only time that the position of a record is critical. In all other circumstances, the configuration records can appear in any order.

In the following example, *HOSTNAME LSHARED* is the first record of the first configuration file. This configuration file initializes the first processor.

The record labeled *PROCESSOR 2* marks the beginning of the configuration file for the second processor.

This example of a stacked deck is not followed by an explanation of the records.

```
HOSTNAME LSHARED
CONNECT 2
DLP 34 SSP SSPAAA SSP302 MAILBOX
DLP 27 DSK HSTLQH
DISK 27/0 ID 01 SUBSYSTEM 1 DEFAULT SHARED VIA SSPAAA
DISK 27/1 ID 02 SUBSYSTEM 1 DEFAULT SHARED VIA SSPAAA
PACK 27/2 ID 03 SHARED VIA SSPAAA
PACK 27/3 ID 04 SHARED VIA SSPAAA
DLP 16 GCR
UNIT 16/0 GCR
UNIT 16/1 GCR
DLP 06 MPE
UNIT 6/1 MPE SHARED
UNIT 6/2 MPE SHARED
DLP 03 TPR
UNIT 3/0 FUL96 TPR
DLP 5 PCH
UNIT 5/0 PCH
DLP 10 CONSOLE
UNIT 10/2 NST
UNIT 10/3 NST
```

```
UNIT 10/4 SPOB ODT LEVEL 9 AD HDR MSG D 4
DLP 01 CRD
UNIT 1/0 CRD
DLP 13 PRN
UNIT 13/0 PRN256 PRN
DLP 12 UNILINE
UNIT 12/0 A OCS LEVEL 9 AD HDR (WM AM) (MTP DSK DPK PRN) D 5
USE SLOG AUTO 10000 WRAP
USE STOQ
USE BOJ
USE EOJ
USE ZIPM
USE PBD
USE DUMPTODISK
PROCESSOR 2
CONNECT 1
HOSTNAME NSHARED
DLP 34 SSP SSPAAA SSP302 MAILBOX
DLP 04 DSK HSTLQH
DISK 4/0 ID 01 SUBSYSTEM 1 DEFAULT SHARED VIA SSPAAA
DISK 4/1 ID 02 SUBSYSTEM 1 DEFAULT SHARED VIA SSPAAA
PACK 4/2 ID 03 SHARED VIA SSPAAA
PACK 4/3 ID 04 SHARED VIA SSPAAA
DLP 06 MPE
UNIT 6/1 MPE
UNIT 6/2 MPE
UNIT 6/3 MPE
UNIT 6/4 MPE
DLP 13PRN
UNIT 13/0 PRN256 PRN
DLP 01 CRD
UNIT 1/0 CRD
DLP 10 CONSOLE
UNIT 10/4 SPOB ODT LEVEL 9 AD HDR MSG D 4
DLP 12 UNILINE
UNIT 12/0 SPOC OCS LEVEL 9 AD HDR (WM AM) (MTP DSK DPK PRN)
USE SLOG AUTO 10000 WRAP
USE STOQ
USE BOJ
USE EOJ
USE ZIPM
USE PBD
USE DUMP DISK
STOP
```

Appendix A
Cross-Reference to MCP Configuration Records

This appendix provides a topical breakdown of the MCP configuration records documented in this volume. The topics are listed in alphabetical order.

Card Reader and Card Punch

Two different records declare card readers and card punches:

- The UNIT CRD record declares an 80-column card reader.
- The UNIT PCH record declares an 80-column card punch.

Other records indicate what the system does with punch backup files. For more information, refer to "Pseudo Card Deck File Management" in this appendix.

The LIMIT READERS record sets the maximum number of pseudo card readers on the system.

Card Deck for MCP Configuration File

Use the CONFIG utility (refer to Section 4, "Using the CONFIG Utility" to create a card deck for the MCP configuration file. Load the file from an MMDD (microminidisk drive) or from a disk pack.

You can also input the MCP configuration file from a card reader. If you do this, the card deck must be terminated by a STOP record. There must never be more than one STOP record.

If you use a "stacked deck" for a multisystem shared configuration, the first card in the deck must indicate which system is to be cold-started. In a stacked deck, the records for each subsequent system must be preceded by a PROCESSOR record. In a stacked deck, there is only one STOP record to indicate the end of the deck.

For more information, refer to Section 6, "Example MCP Configuration Files."

Channels

A channel is a single data path (I/O path) from the central system to one or more peripheral devices. Each channel is associated with a slot in the I/O cabinet or the expansion cabinet.

Generally, a data link processor (DLP) resides in each of these slots. (Some DLPs service two channels and take up two slots.) DLPs are connected to communication lines and the lines are connected to peripheral devices. Depending on the situation, there can be a controller, an exchange, a data communication processor (DCP), or nothing between the DLP and the peripheral.

A channel is designated by a number in the range 1 to 8.

Cold-Start

A cold-start is the process by which the operating system is loaded from tape or disk pack onto system disk. This process involves rewriting the disk directory, so all disk files are lost in a cold-start. Pack files are not affected.

Controllers

Controllers provide an interface between peripherals (disk, disk pack, and magnetic tape units) and a DLP. A controller stands between a DLP and an exchange or a peripheral device (refer to "Data Link Processor Channel Assignments" and "Exchange" in this appendix).

The controller and the DLP must support the same hardware device type. For example, if the controller supports disk, the DLP must support disk, and if the controller supports tape, the DLP must support tape. All the devices connected to one controller must be of the same type.

A disk controller can enable the I/O of up to two channels to be routed to up to eight spindles of disk or disk pack, or both. Depending on the model, up to four disk controllers can be linked to a disk exchange so that up to eight channels can be routed to up to 16 spindles of disk.

Data Link Processor Channel Assignments

A data link processors (DLP) is a circuit board that manages data transfer between peripherals and the central system. The DLP record tells the MCP that a certain type of DLP is in the slot associated with a particular channel. A V 340 system has 32 channels. A V 380 system has 64 channels.

Every peripheral must be supported by a DLP.

Unless a controller is incorporated into the I/O path, a single DLP supports a single peripheral. If a controller is used, a single DLP can support more that one peripheral device of the same type.

Some types of DLPs (the PT-DLP, for example) use two channels and support two or more devices.

Data Communication

A number of different UNIT records declare different types of data communication devices. The device types range from data communication processors (DCPs) to remote job entry devices. Other types of records indicate that certain modules of the operating system are to be loaded into memory to manage these devices when they are activated for the first time. Still other records set parameters for use with DCPs.

The following records affect data communication:

- The UNIT DCP record declares the B 974 and B 874 DCPs, the ORS-DLP, and the TELCOM DLP.
- The USE DCP record indicates that the DCP module is to be loaded into memory. This module is required if you use a B 874 or a B 974 DCP, an ORS-DLP, or a TELCOM DLP. Because this record requires certain files on disk, Unisys does not recommend its use at a cold-start. Instead, set this option when the MCP is running and after you put the files on disk. Do not confuse the USE DCP record with the USE DCOM record.
- The USE RJE record indicates that the remote job entry module of the operating system is to be loaded into memory. This module executes whenever a remote job entry station activates. The USE DCOM and USE DCP records must be present in order to use this type of device.
- The USE DCOM record indicates that the data communication module of the operating system is to be loaded into memory. This module manages certain kinds of data communication. It must be in memory for certain data communication devices (such as remote job entry devices) to function. Do not confuse the USE DCOM record with the USE DCP record.
- The UNIT RJE record declares a remote job entry device.
- The UNIT TC500 record declares a TC5 device.
- The UNIT VDD UNIT record declares a B 9352 or TD 800 device.

- The UNIT TWX record declares a teletypewriter.
- The LIMIT DCPBUF record indicates the number of input messages that can be queued in an MCS result pool in communication with a DCP. This value should be changed only by the person in charge of data communication.
- The LIMIT DCPQUE record sets the maximum number of outstanding output messages going to any one station on a DCP. This value should be changed only by the person in charge of data communications.

For a complete description of USE, UNIT, and LIMIT records, refer to Section 5, "MCP Configuration Record Formats."

Data Management System II (DMSII)

The following initialization records support the DMSII software disk package:

- The LIMIT DMSDBP record indicates the maximum number of databases that can be active at one time.
- The LIMIT DMSTATUS record sets the period of time that passes between DMSII database program (DBP) status evaluations.
- The LIMIT DMSUSERS record sets the maximum number of users that can access a DMSII database at one time.
- The USE DMS2 record indicates that the DMS2 extension module of the operating system is to be loaded into memory when required. This module is required for using DMSII.

For a complete description of USE and LIMIT records, refer to Section 5, "MCP Configuration Record Formats."

Direct I/O Nonstatus Device

The UNIT NST record declares a device that is accessed only by direct I/O. An example of a nonstatus (NST) device is the MMDD of the V Series processor.

For a complete description of the UNIT NST record, refer to Section 5, "MCP Configuration Record Formats."

Disk Drives and LAK Disk Packs

Disk drives and disk pack units initialized in look-alike (LAK) mode store files in 100-byte format. These devices can be grouped into logical subsystems using the DISK record. Logical subsystems are similar in concept to disk pack families. A particular file may have areas on more than one spindle within a logical subsystem, but is never spread across two logical subsystems. There can be up to eight logical subsystems.

A single I/O path (one DLP channel) can support one disk controller, which in turn can support up to eight spindles of disk, depending on the model. An exchange can be added to the I/O path to allow more spindles to be accessed.

The DISK record

- Declares disk units and LAK disk pack units.
- Groups individual disk units into logical subsystems
- Declares a default disk.
- Declares that the disk is shared by two or more systems.

Use the MOREDISK record with the DISK record to indicate which disk areas are bad and cannot be used.

For a complete description of the MOREDISK and DISK records, refer to Section 5, "MCP Configuration Record Formats."

Disk Pack

Disk pack spindles store files in 180-byte format. Some types of disk packs can be initialized in 100-byte look-alike (LAK) format. Disk pack units initialized in LAK format are declared with the DISK record and they are used like disk.

Disk packs that have been assigned the same family name constitute a disk pack family. A file that is placed on a particular disk pack family may have areas on any of the spindles that belong to that family. Pack families are similar in concept to logical disk subsystems.

There are two versions of disk packs and disk pack families: version 1 (for MCP/VS release 3.0 and earlier) and version 2 (for MCP/VS release 3.1 and later). Disk pack families of different versions can coexist on the same system; however, all members of the same family must be of the same version.

The procedures for creating and maintaining disk pack families are different for the two versions. For a complete description of version 1 and version 2 disk pack families, refer to the discussion of pack subsystems in Volume 3.

The following records affect disk pack management:

- The PACK record declares 180-byte disk packs on the system, indicates whether disk pack units are shared or not shared, and specifies other attributes such as SAVED and RESERVED.
- The CONTROL CODEPACK record indicates which disk pack family is searched to find an executable code file when an operator enters an EXECUTE command that does not include any information about where the code file resides.
- The LIMIT PACKS record sets the maximum number of disk and disk pack units allowed on the system. The figure can be greater than the actual number of devices declared.

For a complete description of the PACK record and the LIMIT and CONTROL records, refer to Section 5, "MCP Configuration Record Formats."

Dumps

Because of the large amount of memory available on V Series systems, MCP memory dumps and application program memory dumps can be very large. The following records control when dumps take place and where the results are directed:

- The CONTROL STOPSUBSYS record indicates which logical disk subsystem stores program roll-out files and application program memory dumps.
- The USE DUMP record automatically initiates an MCP memory dump if the operating system fails. MCP dumps can be directed to tape, disk, or disk pack. You must use the DMPMEM utility to dump the MCP to tape.
- The USE SNAP record produces a SNAP picture, a "snapshot" that captures the state of memory when certain processor errors occur. When this option is set, a certain amount of memory is kept in reserve for the SNAP picture.
- The USE TRMD record automatically produces a memory dump of any job that terminates abnormally, unless the termination is due to a memory parity error.

For a complete description of CONTROL and USE records, refer to Section 5, "MCP Configuration Record Formats."

Exchange

Each exchange is declared with one primary channel and up to seven alternate channels. The alternate channels are used when the primary channel is busy.

Refer to Table 5–10 for a list of the number of alternate channels that can be declared for each exchange, depending on the type of exchange and the type of peripherals it supports.

File Management

Several records can be used to designate the disposition of files. Refer to "Printer Backup File Management" and "Pseudo Card Deck File Management" in this appendix for information regarding these types of files.

The ALLOCATE record reserves areas on disk where designated files are to reside after a cold-start. After a cold-start, you may use the SYSTEM/COPY utility to put the files in their reserved areas.

The USE RMOV record automatically resolves duplicate file conditions on disk or disk pack by removing the old file.

For a complete description of the ALLOCATE records and the USE RMOV record, refer to Section 5, "MCP Configuration Record Formats."

FLAME

FLAME, the Functional and Logical Analysis of Machine Efficiency program, monitors and diagnoses system performance.

The USE SYST record causes an operating system module to be loaded into memory that enables FLAME to run on the system.

For a complete description of the USE SYST record, refer to Section 5, "MCP Configuration Record Formats."

Halt/Load

A halt/load is the name of the process that loads an MCP from system disk into memory. A halt/load can be performed to resolve error conditions, including the corruption of operating system code in memory.

The following records indicate whether or not you want specific functions performed when the halt/load process:

- The USE AUHL record automatically initiates a halt/load in the event the system fails, unless the failure occurs during a halt/load.
- The USE DATE record requires that the operator enter a date in order to complete a halt/load.
- The USE SYUP record automatically executes the SYSUP program after a halt/load completes. The SYSUP program is a user-written program that performs initialization-related tasks that are specific to an installation.
- The USE TIME record requires that the operator enter a time of day in order to complete a cold-start or a halt/load. The time is not required if a halt/load is performed automatically. (A halt/load is performed automatically if the the AUHL option is set.)
- After a halt/load, the USE TPMK record automatically saves all tape units that contain nonrewound reels with a write ring. This enables tape marks to be written to the tapes using the TM system command. Otherwise, the tapes rewind. If you write tapes when the system fails, this allows the tape files to be properly closed, salvaging tapes that might otherwise be unreadable.

  The USE TPMK record applies to tape drives declared by UNIT records, not those declared in the initial phases of a cold-start. Any tape unit that is declared SHARED in its UNIT record is saved in the event of a halt/load, regardless of the USE TPMK setting.

For a complete description of USE and UNIT records, refer to Section 5, "MCP Configuration Record Formats."

For a complete description of halt/load procedures, refer to Section 3, "Initializing the System."

Intersystem Connect (ISC)

The UNIT ISC record declares that the processor is connected to an intersystem connect (ISC) hub. Other types of processors may be connected to the same hub allowing intersystem communication in a star network configuration. You can utilize the ISC connection through a user-written program or through BNA.

For a complete description of USE ISC record, refer to Section 5, "MCP Configuration Record Formats."

Logical Disk Subsystems

The DISK record groups individual disk drives into a logical subsystem. A logical subsystem is similar to the disk pack family concept. For more information, refer to "Disk Drives and LAK Disk Packs" in this appendix.

Logging

The V Series MCP provides various types of logs that track and analyze system events, workload, and performance. These logs are the Run Log (RLOG), the SPO Log (SLOG), and the Maintenance Log (MLOG). The Run Log tracks system events such as job execution and file use. The SPO Log contains all the messages that were displayed on the ODT. The Maintenance Log tracks events such as I/O errors.

Use the following records to set up the logging function on your system:

- The USE records indicate which logs you want to use. These records have a WRAP option that lets you designate the number of log files that accumulate before the files are replaced. If the wrap option is set, log files accumulate. If the wrap option is not set, only two log files accumulate. This record also indicates whether or not you want the system to automatically analyze each log file when it closes.
- The CONTROL LOGSUBSYS record indicates which logical disk subsystem stores the various logging files.
- The CONTROL LOGXFRTIME record specifies a time at which a log file is closed and a new one is opened. Many systems use 0000 hours (12 midnight) because that is often not a busy time in the use of the system. When a log file fills up, it is closed and a new one is opened regardless of the LOGXRFTIME setting.
- The name designated by the HOSTNAME record is used to identify the processor in the various logs.

For a complete description of USE and CONTROL records and the HOSTNAME record, refer to Section 5, "MCP Configuration Record Formats."

For more information on logging and log file names, refer to "USE Logging Records" in Section 5, "MCP Configuration Record Formats."

MCP Diagnostic Limit Specifications

The following records are used only in special circumstances to override certain system functions that, otherwise, should not be changed. These functions should be changed only under the direction of a Unisys CSE.

- The LIMIT BLT record sets the maximum number of block lockout entries in the block lockout table (BLT). The block lockout table controls access to shared files.
- The LIMIT DELAY record sets the number of seconds that must pass before contention for a block of a shared file becomes a stalemate.
- The LIMIT STDSTATUS record sets the number of seconds to wait between MCP status runs. When this time expires, the MCP performs certain "housekeeping" tasks.
- The LIMIT TRAKBUFFER record sets the amount of memory to be used by the MCP TRAK option.

For a complete description of these LIMIT records, refer to Section 5, "MCP Configuration Record Formats."

MCP Patching

Minor enhancements and modifications are made to the operating system by patching the MCP. The PATCH record indicates that the MCP is being patched.

For a complete description of the PATCH record, refer to Section 5, "MCP Configuration Record Formats."

Mix Management

The LIMIT MIX record sets the maximum number of jobs that can simultaneously consume system resources, including the CPU, memory, and other resources. This number must be less than or equal to the maximum number of tasks, a value that you enter during the initial phases of a cold-start or with the ALTER command.

For a complete description of the LIMIT MIX record, refer to Section 5, "MCP Configuration Record Formats."

Multisystem Shared Configuration

A multisystem shared configuration is one in which several V Series systems share peripherals and perform concurrent disk and disk pack file access. Refer to Section 3, "Initializing the System," for information regarding the MCP initialization files used for this type of configuration.

Overlay Management

Certain amounts of memory can be devoted to program and MCP overlays. Doing overlays from memory instead of disk usually speeds up processing and may increase system performance.

Use the following records to manage overlays:

- The LIMIT QWKMEM record sets the amount of memory set aside exclusively for the storage of MCP overlays.
- The LIMIT QWIKPOOL record allocates the total amount of memory used by the QWIKPOOL buffer. This area of memory is subdivided for the use of application program overlays. The areas vary in size.
- The USE QWIK record indicates that user (application) program overlays can be stored in main memory. User program overlays are initially stored on disk. If you include the USE QWIK record in the MCP configuration file, the overlay is retained in a special buffer in memory after it is called. This special buffer is called the *QWIKPool.*

  The overlay stays in memory until it is "bumped" by other user program overlays. If it is needed again while it is in the QWIKPOOL, it is retrieved from the QWIKPOOL in memory rather than from disk. This reduces disk I/Os for retrieving overlays and improves performance.

For a complete description of USE and LIMIT records, refer to Section 5, "MCP Configuration Record Formats."

Peripheral Limit

The LIMIT UNITS record limits the total number of peripheral units on the system. The figure entered can be greater than the actual number of units on the system.

For a complete description of the LIMIT UNITS record, refer to Section 5, "MCP Configuration Record Formats."

Printer Backup File Management

There are a number of different records that indicate the disposition of printer backup files. These records indicate whether the backup files should be built on disk, disk pack, or tape, or output directly to a printer. These are defaults that can be overridden programmatically.

The following records affect printer backup files:

- The USE PBD record builds printer backup files on disk.
- The USE PBP record builds printer backup files on disk pack.
- The CONTROL BACKUP record specifies the family of disk packs used to store backup files.
- The USE PBPS record directs all areas of printer and punch backup files to a single disk pack, if disk pack is the selected medium.
- The USE PBT record builds printer backup files on tape.
- The USE PRN record causes output to go directly to a printer. No backup file is made.
- The LIMIT PBTBLK record indicates the blocking factor to use for printer backup tapes.
- The USE APBD record automatically prints and saves printer backup files after they are created. The control instructions in the source file that creates the printer backup file must contain a file-equate statement that triggers the automatic printing.

If you use more than one of these records in the MCP configuration file, the system uses the following priority to route the files:

1. Printer
2. Tape
3. Disk pack
4. Disk

Printers

You can use the following records to declare printers:

- The UNIT TPR record declares a train printer.
- The UNIT PRN record declares a buffered printer.
- The UNIT IPP record declares an Intelligent Laser Printing System.

For a complete description of these UNIT records, refer to Section 5, "MCP Configuration Record Formats."

Priorities

To set system priorities, use the following records:

- The CONTROL PRIORITY record sets the processing, memory, and schedule priorities for the various categories of system utilities.
- The LIMIT PRIORITYQ record sets the centerpoint priority of I/O queueing.
- The DLP record sets the I/O priority for the device it supports. This includes the DLP SSP record for a shared system processor (SSP).

For a complete description of CONTROL and LIMIT records and the DLP record, refer to Section 5, "MCP Configuration Record Formats."

Processor Identification

The HOSTNAME record designates the name used to identify the processor. This name is used in the Run Log (RLOG), the SPO Log (SLOG), the Maintenance Log (MLOG), the headers for system status tables, and various BNA applications.

For a complete description of the HOSTNAME record, refer to Section 5, "MCP Configuration Record Formats."

Pseudo Card Deck File Management

The following USE records affect pseudo card deck processing:

- The USE APCR record directs the MCP to automatically place pseudo card decks into pseudo card readers (PCR) as the decks become present on disk or disk pack. If you do not include this record in the MCP configuration file, you must use the RN system command to activate the pseudo card decks.
- The USE AURD record automatically removes pseudo card decks from disk if the files contain erroneous control instructions. Otherwise, any decks containing erroneous control instructions must be removed by the system operator.
- The USE PCRM record displays the location and contents of the first control card and each DATA(B) statement in a control card group encountered during the processing of pseudo card decks.
- The USE PBPS record directs all punch backup files to a single disk pack, if disk pack is the selected medium.
- The USE PCD record builds punch card backup files on disk.
- The USE PCH record directly punches punch card files. No backup file is created.
- The USE PCP record builds punch card backup files on disk pack.

If you include more than one of these records in the MCP configuration file, the system uses the following priority to decide where to build the backup files:

1. Directly punch out the file
2. Send to disk pack
3. Send to disk

For a complete description of these USE records, refer to Section 5, "MCP Configuration Record Formats."

RJE

The USE RJE record indicates that the remote job entry module of the operating system is to be loaded into memory. This module executes whenever a remote job entry station activates. The USE DCOM and USE DCP records must be present in order to use this type of device.

For a complete description of these USE records, refer to Section 5, "MCP Configuration Record Formats."

Roll Out

The CONTROL STOPSUBSYS record indicates which logical disk subsystem stores program roll-out files and program memory dumps. If memory becomes full, the memory used for an application program can be "rolled out" to disk until sufficient memory becomes available to reinstate it. The order of program roll out is through the PRIORITY and PRM commands.

For a complete description of CONTROL STOPSUBSYS record, refer to Section 5, "MCP Configuration Record Formats."

For a complete description of the PRIORITY and PRM commands, refer to Volume 2.

Shared Systems

The CONNECT record indicates the processors, other than the one being cold-started with this configuration file, that comprise a multiprocessor shared system.

The DLP SSP record declares and sets the I/O priority for a shared system processor.

For a complete description of CONNECT and DLP SSP records, refer to Section 5, "MCP Configuration Record Formats."

For more information on shared systems, refer to "Multisystem Shared Configuration" in this appendix.

STOQUE Management

The following LIMIT records affect the storage queue (STOQUE) method of interprogram communication:

- The LIMIT STOQBLOCKS record sets the maximum amount of memory used for a storage queue.
- The LIMIT STOQMINBLK record sets the minimum amount of memory used for storage queue functions.
- The LIMIT STOQNAMES record sets the maximum number of unique storage queue names that can exist simultaneously.
- The LIMIT STOQSIZE record sets the size of each storage queue memory block.

For a complete description of these LIMIT records, refer to Section 5, "MCP Configuration Record Formats."

System Consoles

The UNIT ODT record declares the system consoles used to communicate with and to monitor the MCP. The ODT is connected to the system through the console DLP.

This record also allows you assign an access level to limit the type of commands that can be input from each console. This record also declares the types of system status tables a console displays.

For a complete description of the UNIT ODT record, refer to Section 5, "MCP Configuration Record Formats."

Security

The SECURITY record sets the usercode, password, and charge number combination that must be used in order to execute the system security programs USERHO or USERLS. Users with this code can change the security access to the system.

The USE CHRG record specifies that all programs must have a charge number to execute. The charge number must be included in the command that starts the program (for example, EXECUTE or COMPILE).

For a complete description of the SECURITY and USE CHRG records, refer to Section 5, "MCP Configuration Record Formats."

System Status Information

An ODT can be set up to display tables containing information about jobs in the mix and schedule, the status of peripherals, and other types of information that reflect system performance.

You can specify which of these system status tables to display or you can use the default setting. The tables can be displayed for varying lengths of time, on one side of the screen or the other, and they can be displayed in a group or individually.

Use the AD SPECS clause in the UNIT ODT record to determine if and how a table is displayed. Use the UNIT ODT record to declare terminals on which tables are displayed.

For a complete description of UNIT ODT record, refer to Section 5, "MCP Configuration Record Formats."

For a complete description of system status tables and the AD SPECS clause, refer to "System Status Table Displays" in Section 5, "MCP Configuration Record Formats."

Tape Drives

There are four different recording densities and techniques for tape drives:

- Group-coded recording (GCR)
- Phase-encoded (PE)
- Nonreturn-to-zero (NRZ)
- Magnetic tape cartridge (MTC)

You can declare some tape drives as MIXED to support both the NRZ and MPE tape types. If you declare a tape drive as MIXED, it must be supported by two DLPs, one for NRZ tape types and the other for MPE tape types.

Use the following UNIT records to declare tape drives:

- The UNIT GCR record declares a tape drive that supports the group-coded recording (GCR) recording density (6250 bpi).
- The UNIT MPE record declares that a tape drive is on the system that supports the phase-encoded (PE) recording density (1600 bpi).
- The UNIT MT9 record declares that a tape drive is on the system that supports the nonreturn-to-zero (NRZ) recording density (800 bpi).
- The UNIT MTC record declares a magnetic cartridge tape drive. An MTC drive supports GCR recording at a density of 38000 bpi. Unlike other GCR drives, an MTC drive does not support dual densities. MTC tape drives cannot be MIXED.

For a complete description of UNIT records, refer to Section 5, "MCP Configuration Record Formats."

Tape Labels

You can customize tape labels to suit the needs of your installation. For example, you can require that tape labels have serial numbers.

Use the following records to customize tape labels:

- The INSTALLATION LABEL1 record enables you to customize the tape labels used at your installation.
- The USE TPNO record requires that there must be a serial number on all tapes to which the system writes. The system operator can assign a serial number when the tape is placed on the drive by using the SN or AC system commands. This only has to be done the first time the tape is used. Tapes being read need not have a serial number. The USE TPNO option can be set only at cold-start time and cannot be reset.

For a complete description of the INSTALLATION LABEL1 and USE TPNO records, refer to Section 5, "MCP Configuration Record Formats."

Tape Blocking

The USE RTSL record indicates that short or long tape-block read operations that are not multiples of the logical record size are treated as I/O errors, unless the program using the tape file indicates otherwise.

For a complete description of the USE RSTL record, refer to Section 5, "MCP Configuration Record Formats."

Tracing Programs

The MCP has various options for tracing programs that load operating system modules into memory to manage the tracing. These options also select whether the results of a trace are sent to backup disk or to a printer.

The USE GTDK record forces program trace results to backup disk. If you do not use this record and the trace request does not specify backup or originate from a timesharing job, the traces are sent to a line printer.

For a complete description of the USE GTDK record, refer to Section 5, "MCP Configuration Record Formats."

TRAK

The following records affect the TRAK facility:

- The USE TRAK record causes an operating system module that manages tracking to be loaded into memory. This record also allocates buffer space for tracking information. The TRAK facility can be useful for debugging, for diagnosing problems, and for analyzing system performance.
- The LIMIT TRAK BUFFER record sets the amount of memory used by the MCP TRACK option.

Note: The TRAK facility consumes system resources and should be used only when needed.

For a complete description of USE TRAK and LIMIT TRAK BUFFER records, refer to Section 5, "MCP Configuration Record Formats."

User Program Management

One job can be associated with another at job initiation time by using the AFTER command. The AFTER command creates a linkage between one job and another, so that the second job will begin when the first job finished. If a program is removed from the schedule or terminates abnormally, the USE AFTER record automatically removes programs linked to the one that has been terminated.

The USE TERM record automatically terminates programs that encounter irrecoverable errors. If you do not use this record, the system displays a message when it encounters an irrecoverable error. You must then terminate the job with either a DS or DP system command.

For a complete description of USE records, refer to Section 5, "MCP Configuration Record Formats."

Appendix B
CONFIG Utility Error Messages

The CONFIG utility displays two types of error messages:

- Messages caused by data you entered on the screens in an improper fashion
- Messages returned when the parser validates the MCP configuration file you create

Error Messages Caused by Data Entered on Screens

ERROR: <duplicate item>.

Cause: The data displayed in the error message has already been input.

Response: Delete the duplicate entry or display the screen where the data was entered and modify it there.

error in next action selection

Cause: The action command you entered is not recognized by the CONFIG utility.

Response: Enter a valid action command (refer to Table 4–2 for a list of valid action commands).

<screen number> I don't understand <action command>

Cause: The action command you entered is not recognized by the CONFIG utility.

Response: Enter a valid action command (refer to Table 4–2 for a list of valid action commands).

ERROR: file size exceeded

Cause: No more data can be stored in the file you are working with.

Response: Quit the program and print the output. Examine the contents to determine if there are items that can be removed. Start the next CONFIG session on that file by removing those items.

Error Messages Returned by Parser

The following messages are listed in alphabetical order and are the result of the parser reading the input file:

***** ALLOCATE option (except access mode) expected**

Response: Enter SENSITIVEDATA, SECURITY, AREA, ID, or <address>.

***** ALLOCATE option (except PRI, or PUB) expected**

Response: Enter IN, IO, OUT, SECURED, SENSITIVEDATA, SECURITY, AREA, ID, or <address>.

***** ALLOCATE option (except sensitive) expected**

Response: Enter IN, IO, OUT, SECURED, PRIVATE, PUBLIC, SECURITY, AREA, ID, or <address>.

***** DATA COMM option (except 'ASYN') expected**

Response: Enter DIAL, SAVED, or RESERVED.

***** device expected**

Response: Enter CRD, PCH, S4A, S4B, NST, PRN, or TPR.

***** device, or '=' expected**

Response: The device mnemonic must be one of the following: CRD, PCH, S4A, S4B, NST, PRN, or TPR.

***** device, unit id, or '=' expected**

Response: The device mnemonic must be one of the following: CRD, PCH, S4A, S4B, NST, PRN, or TPR.

***** DISK option (except <begin addr>) expected**

Response: Enter DEFAULT, SHARED, RESERVED, or SAVED.

***** DLP keyword (except 'CONSOLE') expected**

Response: Enter INHIBITED, DSK, UNILINE, or SSP.

***** DLP keyword (except 'DSK') expected**

Response: Enter INHIBITED, CONSOLE, UNILINE, or SSP.

***** DLP keyword (except 'INHIBITED') expected**

Response: Enter CONSOLE, DSK, UNILINE, or SSP.

***** invalid ALLOCATE option**

Response: Enter one of the following: IN, IO, OUT, SECURED, PRIVATE, PUBLIC, SENSITIVEDATA, SECURITY, AREA, ID, or <address>.

***** invalid channel number**

Response: Number must be an octal number between 0 and 77 (that is, the number cannot end in an 8 or 9).

***** invalid CONTROL keyword**

Response: Enter LOGSUBSYS, STOPSUBSYS, LOGXFRTIME, CODEPACK, or PRIORITY.

***** invalid CONTROL LOADMP option**

Response: Enter NOLOG, ABORT, NEWLIST, COMPARE, or DISKCHECK.

***** invalid DATA COMM device**

Response: Enter DCP, RJE, TC5, VDD, or TWX.

***** invalid DATA COMM option**

Response: Enter DIAL, ASYN, SAVED, or RESERVED.

***** invalid DCP option**

Response: Enter DCDLP, B874, or B974.

***** invalid DISK option**

Response: Enter (<begin address> <end address>), DEFAULT SHARED, RESERVED, or SAVED.

***** invalid DLP keyword**

Response: Enter a valid hardware mnemonic.

***** invalid exchange number**

Response: Number must be an octal number between 0 and 77 (that is, the number cannot end in an 8 or 9).

***** invalid LIMIT keyword**

Response: Correct the invalid word used in the LIMIT record.

***** invalid LOG option**

Response: Enter <integer>, SIZE, AUTO, WRAP, or NOBUFFER.

***** invalid OCS option**

Response: Enter HLSPO, TD800, TD820,<uniline firmware>, or AD.

***** invalid PACK option**

Response: Enter <logical ID number>, SHARED, RESERVED, or SAVED.

***** invalid PRIORITY keyword**

Response: Enter BACKUP, LIBMAINT, DMS, RJE, WORKFLOW, or BNA.

***** invalid record type**

Response: The system does not recognize this record type. Check the record type.

***** invalid RLOG option**

Response: Enter <integer>, SIZE, AUTO, WRAP, NOBUFFER, NOSTGO, or NOCALL.

***** invalid SSP option**

Response: Enter firmware_id, DISK, MAILBOX, or PRIORITY.

***** invalid TAPE device, or '=' expected**

Response: The mnemonic for this tape device must be one of the following: MT9, GCR, or MPE.

***** invalid TAPE option**

Response: Enter RETRY, SHARED, MIXED, SAVED, or RESERVED.

***** invalid USE keyword**

Response: Enter one of the following keywords: CHRG, DUMP, RLOG, SLOG, or MLOG.

***** no valid UNIT device found**

Response: Enter a valid UNIT device.

***** OCS option (except 'HLSPO') expected**

Response: Enter TD800, TD820, <uniline firmware>, or AD.

***** OCS option (except 'TD800','TD820') expected**

Response: Enter HLSPO, <uniline firmware>, or AD.

***** parsing suspended here**

Response: Parsing stopped because of unrecognizable format. Check the format of the file.

***** tape device, unit id, or '=' expected**

Response: The device mnemonic must be one of the following MT9, GCR, or MPE.

***** value out of range**

Response: Enter a value in the valid range for the field.

Other Parser Messages

The following messages can also be returned by the parser. These messages are self-explanatory.

***** 'CONNECT' expected**
***** 'HOSTNAME' expected**
***** 'DLP' expected**
***** 'EXCHANGE' expected**
***** 'PACK' expected**
***** 'MOREDISK' expected**
***** 'UNIT' expected**
***** 'SECURITY' expected**
***** 'LABEL1' expected**
***** 'LIMIT' expected**
***** 'CONTROL' expected**
***** 'USE' expected**
***** 'ALLOCATE' expected**
***** 'BADMEM' expected**
***** 'ISC' expected**
***** 'IPP' expected**
***** 'DCP' expected**
***** 'ID' expected**
***** 'PRIORITY' expected**
***** 'LRS' expected**
***** 'RPB' expected**
***** 'NOA' expected**
***** 'EOF' expected**
***** 'RPA' expected**
***** 'AREA' expected**
***** 'AD' expected**
***** 'SUBSYSTEM' expected**
***** 'LEVEL' expected**

*** 'SHARED', 'RESERVED', or 'SAVED' expected
*** 'RESERVED', or 'SAVED' expected
*** 'SAVED' expected
*** 'DISK' 'MAILBOX', or 'PRIORITY' expected
*** 'MAILBOX', or 'PRIORITY' expected
*** 'DSKn', 'NOLIB', or 'LRS' expected
*** 'NOLIB', or 'LRS' expected
*** 'GUARDED' expected
*** 'PACK', 'TAPE', or 'DISK' expected
*** 'MT9', 'GCR', or 'MPE' expected
*** 'PR' 'PRM' 'PRP', or 'PRS' expected
*** 'IPP', '=', or unit_id expected
*** '=', or 'IPP' expected
*** 'RESERVED' expected
*** '=', 'OCS', or 'ODT' expected
*** '=', or 'DCP' expected
*** 'AD', AVED', or 'RESERVED' expected
*** more data expected
*** numeric expected
*** alphanumeric expected
*** SHARED name expected
*** slash '/' expected
*** <=17 digits expected
*** <=17 characters expected
*** firmware id expected
*** 'ALL', or numeric expected
*** 'AREA', or address expected
*** '=', or unit_id expected
*** no more than 7 channels allowed
*** value must be between 1 and 255
*** first char must be a letter A-Z
*** too many digits
*** too many characters
*** invalid cc/u
*** unit number must be 0
*** number must be between 0 and 99
*** letters, or digits expected

Appendix C
Understanding Railroad Diagrams

Introduction

Railroad diagrams show you the rules for putting words and symbols together into commands and statements that the computer can understand. These diagrams consist of a series of paths that show the allowable structure, constants, and variables for a command or a statement. Paths, which are represented by horizontal and vertical lines, show the order in which the command or statement is constructed. Many railroad diagrams have a number of different paths.

Example

```
— REMOVE ─┬──────────┬──────────────────────────────────────┤
          ├─ SOURCE ─┤
          └─ OBJECT ─┘
```

If you follow this railroad diagram from left to right, you will discover three acceptable commands. These commands are

```
REMOVE

REMOVE SOURCE

REMOVE OBJECT
```

Some of the actual railroad diagrams you will encounter might be more complex. Regardless of the level of complexity, all railroad diagrams are visual representations of commands and statements. Railroad diagrams are intended to:

- Show the mandatory items.
- Show the user-selected items.
- Present the order in which the items must appear.
- Show the number of times an item can be repeated.
- Show the necessary punctuation.

This appendix describes the elements of the diagrams and provides examples.

Constants and Variables

A constant is an item that cannot be altered. You must enter the constant as it appears in the diagram. If a constant is partially underlined, you can abbreviate the constant by entering only the underlined letters. In addition to the underlined letters, any of the remaining letters can be entered. If no part of the constant is underlined, the constant cannot be abbreviated. Constants can be recognized by the fact that they are never enclosed in angle brackets (< >) and are in uppercase letters.

A variable is an item that represents data. You can replace the variable with data that meets the requirements of the particular command or statement. When you replace a variable with data, you must follow the rules defined for the particular command or statement. All variables in railroad diagrams are enclosed in angle brackets (< >).

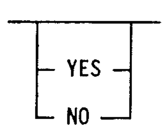
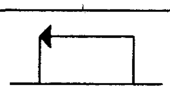
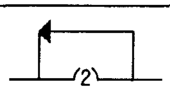
In the following example, BEGIN and END are constants and <statement list> is a variable. The constant BEGIN can be abbreviated because it is partially underlined. Valid abbreviations for BEGIN are BE, BEG, and BEGI.

```
— BEGIN —<statement list>— END ———————————————————————————|
```

Constraints

Constraints are used in a railroad diagram to control progression through the diagram. Constraints consist of symbols and unique railroad diagram line paths.

The following figure illustrates the constraints used in railroad diagrams.

Symbol	Explanation
———————|	Vertical bar. Indicates that the command or statement can be followed by another command or statement.
	Right arrow. Indicates that the diagram occupies more than one line.
—<required>—	Required item. Indicates the constants, variables, and punctuation that must be entered in a command or statement.
	User-selected items. You select the item or items to include.
	Loop. Indicates that an item or group of items can be repeated.
	Bridge. Indicates the maximum number of times a loop can be repeated.

The following paragraphs describe the constraints.

Vertical Bar

The vertical bar symbol (|) represents the end of a railroad diagram and indicates the command or statement can be followed by another command or statement.

```
— SECONDWORD — ( —<arithmetic expression>— ) ——————————————————|
```

Right Arrow

The right arrow symbol (>) is used when the railroad diagram is too long to fit on one line and must continue on the next. A right arrow appears at the end of the first line and another right arrow appears at the beginning of the next line.

```
— SCALERIGHT — ( —<arithmetic expression>— , ——————————————————>

>—<arithmetic expression>— ) ———————————————————————————————————|
```

Required Items

A required item can be either a constant, a variable, or punctuation. A required item appears as a single entry, by itself or with other items, on a horizontal line. Required items can also exist on horizontal lines within alternate paths or nested (lower-level) diagrams. If the path you are following contains a required item, you <u>must</u> enter the item in the command or statement.

In the following example, the word EVENT is a required constant and <identifier> is a required variable:

```
— EVENT —<identifier>——————————————————————————————————————————|
```

User-Selected Items

User-selected items appear one below the other in a vertical list. You can choose any one of the items from the list. If the list also contains an empty path (solid line), none of the choices are required. A user-selected item can be either a constant, a variable, or punctuation. In the following railroad diagram, either the plus sign (+) or minus sign (-) can be entered before the required variable <arithmetic expression>, or the symbols can be disregarded because the diagram also contains an empty path.

```
——┬—————┬—<arithmetic expression>——————————————————————————————|
  ├— + —┤
  └— - —┘
```

Loop

A loop represents an item or group of items that you can repeat. A loop can span all or part of a railroad diagram. It always consists of at least two horizontal lines, one below the other, connected on both sides by vertical lines. The top line is a right-to-left path that contains information about repeating the loop.

Some loops include a return character. A return character is a character (often a comma or semicolon) required before each repetition of a loop. If there is no return character, the items must be separated by one or more blank spaces.

```
  ┌◄───── ; ───┐
──┴<field value>┴──────────────────────────────────────────┤
```

Bridge

Sometimes a loop also includes a bridge, which is used to show the maximum number of times the loop can be repeated. The bridge can precede the contents of the loop, or it can precede the return character (if any) on the upper line of the loop.

The bridge determines the number of times you can cross that point in the diagram. The bridge is an integer enclosed in sloping lines (/ \). Not all loops have bridges. Those that do not can be repeated any number of times until all valid entries have been used.

```
  ┌◄─────── , ────┐
──┴/2\─┬─ LINKAGE ─┬┴──────────────────────────────────────┤
       └─ RUNTIME ─┘
```

or

```
  ┌◄─/2\──────────┐
──┴─┬─ LINKAGE ─┬─┴────────────────────────────────────────┤
    └─ RUNTIME ─┘
```

In the first bridge example, you can enter LINKAGE or RUNTIME no more than two times. In the second bridge example, you can enter LINKAGE or RUNTIME no more than three times.

Following the Paths of a Railroad Diagram

The paths of a railroad diagram lead you through the command or statement from beginning to end. Some railroad diagrams have only one path, while others have several alternate paths. The following railroad diagram indicates there is only one path, which requires the constant LINKAGE and the variable <linkage mnemonic>:

```
— LINKAGE —<linkage mnemonic>————————————————————————————————————————|
```

Alternate paths provide choices in the construction of commands and statements. Alternate paths are provided by loops, user selected items, or a combination of both. More complex railroad diagrams can consist of many alternate paths, or nested (lower-level) diagrams, that show a further level of detail.

For example, the following railroad diagram consists of a top path and two alternate paths. The top path includes an ampersand (&) and the constants (that are user-selected items) in the vertical list. These constants are within a loop that can be repeated any number of times until all options have been selected. The first alternate path requires the ampersand (&) and the required constant ADDRESS. The second alternate path requires the ampersand (&) followed by the required constant ALTER and the required variable <new value>.

```
            ┌←——————— , ————┐
— & ——┬—————┴—┬— TYPE ——————┤——————┬————————————————————————————————————|
      │       ├— ASCII —————┤      │
      │       ├— BCL ———————┤      │
      │       ├— DECIMAL ———┤      │
      │       ├— EBCDIC ————┤      │
      │       ├— HEX ———————┤      │
      │       └— OCTAL —————┘      │
      ├— ADDRESS ——————————————————┤
      └— ALTER —<new value>————————┘
```

Railroad Diagram Examples

The following examples show five railroad diagrams and possible command and statement constructions based on the paths of these diagrams.

Example 1

```
<lock statement>
— LOCK — ( — <file identifier> — ) ——————————————————————————————|
```

Sample Input

```
LOCK (F1)

LOCK (FILE4)
```

Explanation

LOCK is a constant and cannot be altered. Because no part of the word is underlined, the entire word must be entered. The parentheses are required punctuation and F1 and FILE4 are examples of values for the variable <file identifier>.

Example 2

```
<open  statement>
— OPEN ─┬─────────┬─<database name>──────────────────────────┤
        ├─ INQUIRY ┤
        └─ UPDATE ─┘
```

Sample Input

```
OPEN DATABASE1

OPEN INQUIRY DATABASE1

OPEN UPDATE DATABASE1
```

Explanation

The first sample input shows the constant OPEN followed by the variable DATABASE1, which is a database name. The railroad diagram shows two user-selected items, INQUIRY and UPDATE. However, because there is an empty path (solid line), these entries are not required.

The second sample input shows the constant OPEN followed by the user-selected constant INQUIRY and the variable DATABASE1.

The third sample input shows the constant OPEN followed by the user-selected constant UPDATE and the variable DATABASE1.

Example 3

```
<generate statement>
— GENERATE —<subset>— = —┬— NULL ——————————————————————————————————————┤
                         └—<subset>——————————————————┐
                                     ├— AND —┬—<subset>—┘
                                     ├— OR ——┤
                                     ├— + ———┤
                                     └— – ———┘
```

Sample Input

```
GENERATE Z = NULL

GENERATE Z = X

GENERATE Z = X AND B

GENERATE Z = X + B
```

Explanation

The first sample input shows the GENERATE constant followed by the variable Z, an equal sign, and the user-selected constant NULL.

The second sample input shows the GENERATE constant followed by the variable Z, an equal sign, and the user-selected variable X.

The third sample input shows the GENERATE constant followed by the variable Z, an equal sign, the user-selected variable X, the AND command (from the list of user-selected items in the nested path), and a third variable, B.

The fourth sample input shows the GENERATE constant followed by the variable Z, an equal sign, the user-selected variable X, the plus sign (from the list of user-selected items in the nested path), and a third variable, B.

Example 4

<entity reference declaration>

```
                   ┌←──────────────── , ──────────────┐
— ENTITY REFERENCE ┴─<entity ref ID>— ( —<class ID>— ) ┴──────────┤
```

Sample Input

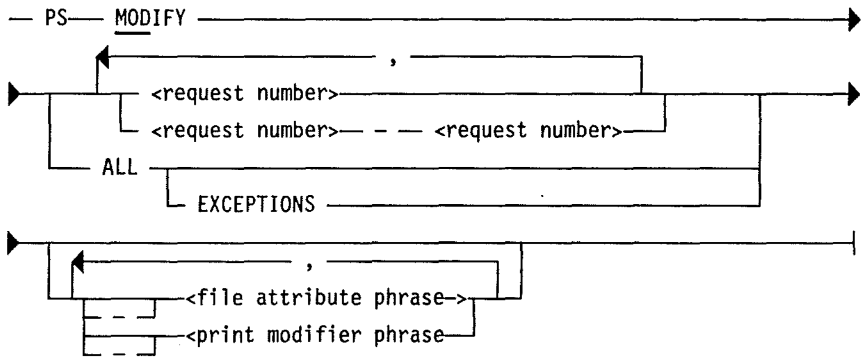
```
ENTITY REFERENCE ADVISOR1 (INSTRUCTOR)

ENTITY REFERENCE ADVISOR1 (INSTRUCTOR), ADVISOR2,  (ASST_INSTRUCTOR)
```

Explanation

The first sample input shows the required item ENTITY REFERENCE followed by the variable ADVISOR1 and the variable INSTRUCTOR. The parentheses are required.

The second sample input illustrates the use of a loop by showing the same input as in the first sample followed by a comma, the variable ADVISOR2, and the variable ASST_INSTRUCTOR. The parentheses are required.

Example 5



Sample Input

```
PS MODIFY 11159

PS MODIFY 11159,11160,11163

PS MODIFY 11159-11161 DESTINATION = "LP7"

PS MOD ALL EXCEPTIONS
```

Explanation

The first sample input shows the constants PS and MODIFY followed by the variable 11159, which is a <request number>.

The second sample input illustrates the use of a loop by showing the same input as in the first sample followed by a comma, the variable 11160, another comma, and the final variable 11163.

The third sample input shows the constants PS and MODIFY followed by the user-selected variables 11159–11161, which are <request number>s, and the user-selected variable DESTINATION = "LP7 ", which is a <file attribute phrase>.

The fourth sample input shows the constants PS and MODIFY followed by the user-selected constant ALL, followed by the user-selected constant EXCEPTIONS. Note that in this sample input, the constant MODIFY has been abbreviated.

Glossary

#

As the first character in a file name, identifies a pseudo card deck (control deck).

$

As the first character in a file name, identifies a dump file.

*****

As the first character in a file name, identifies a punch backup file.

@

As the first character in a file name, identifies a printer backup file.

=

See masking character.

5N disk

A head-per-track storage medium that has a capacity of 5.5 megabytes.

A

access code

An identification code consisting of a usercode, a password, and a charge number that a user enters when logging on, or when entering a job initiation command. Normally used only on systems that have System Security. *See also* user code, password, charge number.

access level

A security level established for each remote terminal and/or access code. In CANDE, the access level for each station is selected in the USERHO deck. Each system command can be entered only from a terminal with a particular access level (or with a higher access level).

active mix

Those jobs in the mix that are not waiting.

ACU

See automatic calling unit.

adapter ID

A name used to identify a data communication line connected to the system with a Uniline data link processor (DLP).

after-linkage
A condition in which a specified task is scheduled to start only after another specified task has been completed.

alphanumeric
Any character in the system's character set.

APCR
Refers to the automatic pseudo card reader option.

area
The smallest amount of disk space occupied by a file. The size of an area is defined by the user.

ASCII (American Standard Code for Information Interchange)
A coded character set of 128 control and graphic characters in which each character is represented by a 7-bit code (8 bits plus parity). ASCII is defined by American National Standard X3.4–1967.

asynchronous
Transmission at an arbitrary rate. A character, or block of characters, is surrounded by start and stop bits from which a receiver derives the necessary timing.

asynchronous process
A procedure initiated by a program that runs independently of the initiating program.

audit
In DMSII, to keep track of each transaction in order to ease recovery from a failure.

AUHL option
See automatic halt/load option.

automatic calling unit (ACU)
A device that permits a modem or terminal to dial calls automatically, and thereby establish a link over a communications network.

automatic halt/load (AUHL) option
An option that causes an automatic halt/load when a system failure occurs, unless the failure occurs during a halt/load.

available table
A table maintained by the MCP that keeps track of the space available on each disk or disk pack in the system.

B

backup

(1) A copy of a file that can be used if the original becomes corrupted. (2) A description of a file temporarily stored on disk or disk pack that is output to a unit-record device (printer, card punch).

back up

To create a backup file.

bad spots

Unusable sectors on a disk or disk pack.

base area

The first area of a disk pack file. The base areas for all files of a disk pack family are on the master disk pack.

base disk pack

See master disk pack.

base relative address

An address within a program that is an offset from the beginning of the program rather than an absolute memory address.

BCL

A Unisys common character set in which each character is represented by a 6-bit code.

BCT

See branch communicate.

BDLC data link control

A bit-oriented data link control protocol that is compatible with the high-level data link control (HDLC) protocol defined by the International Standards Organization. BDLC stations support two-way simultaneous operation over dedicated, full-duplex lines, and two-way alternate operation over switched, half-duplex lines.

beginning of job (BOJ)

The start of job processing.

beginning of tape (BOT)

A location (indicated by a reflective marker) that indicates the beginning of the usable portion of the tape. The reflective marker is placed 15 to 25 feet from the physical beginning of the tape. Contrast with end of tape (EOT).

binary configuration

Binary addressing of sectors on disk or disk pack.

bisync

Unisys Binary Synchronous Communication protocol, a character-oriented data link control protocol similar to the IBM® BSC protocol. Bisync is designed for two-way alternate operation over either point-to-point or multipoint links. Contrast with BDLC.

bit

Binary digit. A bit is the most basic unit of computer information. A bit can have one of two values: 0 (off or false) or 1 (on or true).

bits per inch (bpi)

(1) The information-packing density of magnetic tape. (2) The density at which a magnetic tape unit can read and write.

blackout feature

A security feature that inhibits the display of an access code as it is entered during the log-in procedure.

block

(1) Physically-adjacent records that are transferred to or from a device as a group. (2) In data communications, a group of characters or bits sent as a unit.

blocking factor

The number of records per block.

block lockout table (BLT)

A table that keeps track of which file blocks are locked by which programs. The BLT resides in memory and is updated by the MCP every time a program locks or unlocks a file block. The BLT LIMIT record sets the maximum number of entries this table can have.

BLOCKSIZE

A file attribute that gives the length of a block.

BLT

See block lockout table.

BLT contention

A condition that occurs when one program wants to access a file block that is locked by another program running on the same processor. *See also* contention.

BNA

An overall set of design principles (that is, an architecture) under which Unisys systems can be joined into data communications networks. Each Unisys system that can be incorporated into a network has specific hardware and/or software conforming to this architecture.

BOF

beginning of file.

BOJ

See beginning of job.

BOT
See beginning of tape.

bpi
See bits per inch.

BPL programming language
An ALGOL-like language for V Series.

branch communicate (BCT)
A V Series machine instruction that causes control to be transferred from a user program to the MCP.

branch reinstate virtual (BRV)
An instruction used to reinstate a user task. It is executed only by the MCP's dispatching routine in the MCP kernel.

BRV
See branch reinstate virtual.

buffer
An area in which data is stored temporarily for transfer from one storage medium to another.

byte
Eight consecutive bits.

C

CANDE
See Command and Edit system.

CANDE Editor files
Files of the Editor program, which is a part of the Command and Edit (CANDE) system.

card
(1) A punched card used with a card reader to input the system configuration files. (2) Synonym for record when describing configuration records and control commands. *See also* card deck, card reader.

card deck
A set of punched card. This term usually refers to a number of cards comprising the data input to a program.

cardless system
A system that uses flexible disk operations instead of card reader operations for system initialization.

card reader
An input device that reads data from punched cards. *See also* card, card deck.

CCITT

See International Telegraph and Telephone Consultative Committee.

cc/uu

Represents the channel and unit address of a peripheral device. The *cc* is a 1- or 2-digit channel designation, and the *uu* is a 1- or 2-digit unit designation. The slash is required; spaces are not permitted. Tape drive unit numbers generally begin with 1; all other device designations usually begin with 0.

central processor unit (CPU)

The hardware unit that executes instructions.

channel

(1) In data communication, a communication path used to transmit signals between two or more points. (2) The data link processor (DLP) in the processor cabinet or standalone I/O cabinet that handles communication along a path. *See also* data link processor.

chargeable time

An amount calculated from direct time, input/output (I/O) time, and the current job's share of system overhead.

charge number

Charges for system use are assigned to this number. The charge number is assigned by the system administrator. *See also* access code.

clobber

A condition when a file is overwritten, destroyed, or otherwise made unuseable.

code file

A file produced by a compiler when a program is compiled. The file contains instructions in machine code. A code file is also referred to as an object code file.

cold-start

The process by which the MCP is loaded to system disk. A cold-start reinitializes all data structures on a disk, causing any information about existing files on that disk to be lost.

Command and Edit (CANDE) system

CANDE is a timesharing system that provides generalized file preparation and updating capabilities and task control in an interactive, terminal-oriented environment.

compile-and-go operation

A compile operation that does not produce a permanent code file.

concurrent file access

The ability of two or more programs to simultaneously read and update the same file.

CONFG#

The name of the system configuration file. The pound sign (#) represents the system number.

CONFIG

See Configuration File utility (CONFIG).

Configuration File utility (CONFIG)

CONFIG is an interactive utility that allows you to create and modify a system configuration file, which is used to cold-start a system.

console DLP

A data link processor (DLP) used by the system to access the ODT, flexible disk drive, DLP test bus, and remote links.

contention

(1) A situation that occurs when multiple tasks compete for exclusive use of a resource, such as an I/O device or a record in a file. (2) In data communications, a situation in which multiple users vie for the right to use a transmission channel. (3) A situation that occurs when two or more tasks attempt to lock the same block in a file.

contention mode

In data communications, a line condition in which no station is designated as a master station, and each station on the line must monitor signals on the line and wait for an idle condition before bidding for master status.

contention overtime

The period of time a program can contend for a file block. *See also* stalemate.

contiguous items

In COBOL, items that are described by consecutive entries in the DATA DIVISION and that have a definite hierarchical relationship to each other.

continuation area

An area in a disk pack file that is allocated on a disk pack other than the disk pack on which the base area was originally located.

control command

(1) A Command and Edit (CANDE) input message that begins with a specific character, usually a question mark, and is used to control or interrogate the CANDE operating environment. A control command can be entered from any attached CANDE station. (2) An MCP control instruction.

control deck

A disk or disk pack file that contains 96 bytes per record, and six or eight records per block; a control deck generally contains the information needed to compile or execute a program.

control instruction

See MCP control instruction.

controller

Provides the interface between the data link processor (DLP) in the host and the mass storage units (such as disk, disk pack, and tape units).

control point

In DMSII, a time at which no user program is in a transaction state, and all buffers are written to disk pack.

control store

The random-access memory (RAM) that contains the firmware.

core-to-core transfer (CRCR)

A method of transferring information between executing programs. Each programming language has its own syntax for the CRCR feature. CRCR transfer is synchronous; one program offers information in a core-to-core transfer and waits until another program retrieves it. The first program cannot continue processing until the information is retrieved.

CPU

See central processor unit.

CRCR

See core-to-core transfer.

CSE

Customer Service Engineer.

CTLDCK

Control deck. A reserved file identifier. CTLDCK is the name of the physical card deck used by the LDCNTL utility to build a pseudo card deck.

cylinder

All the tracks on all the platters of a disk or disk pack that are at the same radius.

D

DASDL

See Data and Structure Definition Language.

Data and Structure Definition Language (DASDL)

A language used by a database administrator to describe the physical and logical characteristics of a data base, and the criteria to be used to ensure the integrity and security of the data contained within it.

data circuit terminating equipment (DCE)

A device connected to data terminal equipment (DTE) on one end and to an X.25 network on the other end. The DCE serves as the entry point to the X.25 network, similar to a modem.

data comm

Synonym for data communication.

data communication

The bidirectional transfer of data between one or more devices and a central computer.

data communication device

(1) A device that routes information between the computer and peripheral devices, such as data communication processors, DLPs, and Uniline controllers. (2) A terminal.

data communication processor (DCP)

A front-end processor that controls a data communication network, reducing the workload of the central processor.

data link processor (DLP)

A processor that serves as the system interface to a peripheral device, a peripheral controller, or data communication lines.

data terminal equipment (DTE)

(1) In X.25, the functional unit of a data station that establishes, maintains, and releases a connection and provides code and signal conversion between the data station and the transmission line. (2) User equipment, such as a host computer, front-end processor, concentrator, cluster controller, intelligent terminal, or any network entry access point. (3) An end-user device that connects to the data circuit terminating equipment (DCE), which either generates or receives data carried by the network.

database

An integrated, centralized system of data files that several applications can access and update concurrently. *See also* Database Management System II.

Database Management System II (DMSII)

DMSII is a network type database system with hierarchical features, and with features that can mimic attributes of a relational database.

database program (DBP)
A part of the DMSII that performs all functions necessary for accessing and updating the database to which it is attached. *See also* production DBP.

DBP
See database program.

DCE
See data circuit terminating equipment.

DCOM
(1) The data communication system option. (2) The name of the module that carries out data communication functions.

DCP
See data communication processor.

DCP code file
A file containing microcode loaded into a data communications processor (DCP).

deck number
(1) The last four digits of a pseudo card reader file identifier. (2) The full 5-digit portion of the file identifier used to refer to a deck created on a specified system of a multiple system configuration.

default
The value automatically given to a variable when no other value has been assigned.

device
A hardware device, such as a disk drive, that writes data to or reads data from a medium. *See also* medium.

device dependent port (DDP)
The physical connection of the controller to the drives and the host system.

DFHDR
Disk file header.

diagnostics
A test used to detect malfunctions and specify their causes.

digit
(1) An integer from 0 to 9, inclusive. (2) A grouping of four consecutive bits, representing decimal 0 to 9 and hexadecimal A to F.

directory
A table of contents listing the files contained on a device. The device is usually a disk, a disk pack, or a tape.

direct processor time
See processor time.

direct time

See processor time.

disk

A mass storage unit consisting of 100 bytes per sector. *Contrast with*disk pack.

disk file

A file stored on 100-byte-per-sector disk media. The characters per record and records per block (blocking factor) can be set by the programmer.

disk file name

See file identifier.

disk pack

A mass storage unit consisting of 180 bytes per sector. *Contrast with* disk.

disk pack configuration

An arrangement of disk pack units. A naming convention is used when discussing disk packs. Such terms as *2×8* (two-by-eight) or *4×16* (four-by-sixteen) are used to refer to controllers and exchanges and the number of disk pack units on a subsystem. The first number refers to the number of I/O paths (DLPs) coming from the host system to the controller. The second number refers to the number of spindles (not drives) linked to that controller. The maximum number of spindles on a single subsystem is 16. The maximum number of paths to a single subsystem is dependent on the model.

disk pack controller

A standalone unit that controls data flow between the DLP in the host system and the individual disk pack spindles.

disk pack directory

See directory.

disk pack drive

A cabinet containing one or two disk pack spindles. *See also* disk pack spindle.

disk pack family

Two or more disk packs that have the same name. *Also see* family name.

disk pack file

A file stored on a disk pack.

disk pack firmware

Special firmware required by the disk pack controller.

disk pack initialization

A process that makes disk packs usable. Disk packs are initialized by the DISPKV or PTD utilities.

disk pack label
Data written on the disk pack at initialization to identify the disk pack. Label fields include the serial number, system access code, disk pack name, system interchange code, and the ID of the owner.

disk pack spindle
The hardware device on which a disk pack is mounted.

disk pack unit
A disk pack spindle.

DLP
See data link processor.

DMPMEM
A program used to create a raw memory dump on magnetic tape. *See* dump file.

DMSII
See Database Management System II.

drive
The hardware device on which a disk or tape is mounted.

DTE
See data terminal equipment.

DTM
Data transfer module.

dual host
A disk controller feature that allows two DLPs to access a device (but not simultaneously).

dual port
A device that links a disk or disk pack unit to two separate controllers, providing path redundancy.

dump file
A file containing the contents of memory, often created for analysis at the time of a failure.

E

EBCDIC
See Extended Binary Coded Decimal Interchange Code.

ECM log
A system log file maintained on Unisys V 500 systems. The ECM log contains information about temperature, voltage, and other conditions on the system. The data in the ECM log originates in the Environmental Control Module (ECM). The

ECM log is maintained on the hard disk of the system console and is transferred to the host system by system commands.

end of file (EOF)
The physical limit of a data file.

end of job (EOJ)
(1) A message that a job has finished executing. (2) In X.25, a control code that tells the receiver that a job is completed.

end of tape (EOT)
A reflective strip of tape placed on the inside edge of the backing side of the magnetic tape that indicates to the system that the tape is near the end of the reel. The reflective tape is placed no less than 25 feet from the physical end of the tape.

end-of-text character (ETX)
A character used to signal the end of input (EBCDIC "03").

EOF
See end of file.

EOJ
See end of job.

EOT
See end of tape.

EPROM
eraseable programmable read-only memory.

ETX character
See end-of-text character.

exchange
A device that enables multiple DLPs to be routed to multiple units (usually disk, disk pack, or tape).

execution time
The time required for a task to run to completion. Execution time is also referred to as run time, or in COBOL, as object time.

Extended Binary Coded Decimal Interchange Code (EBCDIC)
A coded character set in which each character is represented by an 8-bit code.

extension module
A part of the operating system that carries out a specialized function and that can be called into memory by the user when this function is needed.

F

family name

A name that identifies a set of mass storage volumes (especially disk pack). *See also* volume, disk pack family.

fault tolerance

The ability of a system to continue processing despite minor errors or failures.

FIB

See file information block.

file block contention

A situation where one program attempts to lock a block that is already locked by another program. The former program is suspended and must wait until the block is unlocked. The suspended program is said to be contending.

file header

A collection of file attributes on disk or disk pack that contains the physical characteristics of a file, such as the name of the file and the number of records per block.

file identifier

The filename. The name contained in the directory for a device. A file identifier is six characters long (with trailing blanks provided), but cannot be made up of all nulls, all blanks, or all zeros.

file information block (FIB)

A block of data generated by a compiler that describes a file to the MCP. The FIB contains flags, counters, addresses, and sizes used by the MCP during all phases of file processing.

file name

(1) A synonym for file identifier. (2) In Report Program Generator (RPG), a name or word that designates a set of data items. (3) In COBOL, a user-defined word that names a file described in a file description entry or in a sort-merge file description entry within the FILE SECTION of the DATA DIVISION. *See also* file identifier.

file number

(1) The last 4 digits of the identifier of a printer or punch backup file, or of a memory dump. (2) The full 5-digit portion of the file identifier used to reference a file created on a system in a multi-system shared configuration.

firmware

Microcode stored in a hardware device; used to control its operation.

FLAME

Functional Logical Analysis of Machine Efficiency. A program that reports on V Series performance.

forms mode

A mode of operation for a terminal in which the screen is divided into data fields (where user input is allowed) and display fields (where input is not allowed).

frame

(1) In bit-oriented protocols, the sequence of contiguous bits bracketed by and including opening and closing flag sequences (01111110). (2) A group of bits sent over a communications channel; generally a logical transmission unit sent between data-link-layer entities that contains its own control information for addressing and error checking.

front end processor (FEP)

Refers to a device that controls peripherals or that handles data communications. *See also* controller, data communication processor, data link processor.

full duplex

Two-way, simultaneous transmission.

G

GCR density

See group-coded recording (GCR) density.

GEMCOS

See Generalized Message Control System.

Generalized Message Control System (GEMCOS)

A message control system that can run on Unisys V Series systems to provide generalized file preparation and updating capabilities and task control from an ODT.

Gregorian date

The standard method of expressing the date (month/day/year or day/month/year). *Contrast with* Julian date.

group-coded recording (GCR) density

6250 bpi. GCR tapes can be written and read only by a tape drive that is GCR-capable.

group ID

A file identifier that can have terminating or embedded equal signs as masking characters to indicate a group of files. *See also* masking character.

guard file

A disk or disk pack file that contains information on the security access rights of another disk or disk pack file.

H

half-duplex
Two-way transmission that occurs in only one direction at a time.

halt/load
A system-initialization procedure that temporarily halts the system and loads the MCP from disk or disk pack to main memory. A halt/load is used to start the machine and to recover from failures. During the halt/load process, the tables and lists used by the operating system are built in memory.

halt/load supervisory printer operator display terminal (HLSPO)
An ODT that displays halt/load messages and fail codes in the event of system failure. The HLSPO can be declared in the UNIT ODT record of the system configuation file, and serves as the terminal for system initialization and the fault handler.

HC2-DLP
See intersystem control.

header link
The pointer to a file header from the directory entry for the file.

hit rate
The percentage of times that a user program overlay was called and found in the user QWIK pool (that is, did not have to be retrieved from disk or disk pack).

H/L
See halt/load.

HLSPO
See halt/load supervisory printer operator display terminal.

host
The central mainframe computer in a data communications network. The host is the computer system containing the message control system (MCS) to which a given station is connected.

host attributes
Those attributes that are not common across a network but are applied on a host-by-host basis.

host components
Those components that are not common across a network, but rather, are applied on a host-by-host basis.

hostname
The logical name of a system. The hostname identifies the processor in the Run Log, the ODT Log, the Maintenance Log, and in a BNA network.

host transfer data link processor (HT-DLP)
A data link processor that connects the host to the controller for disk and disk pack drives.

I

ICMD
See industry compatible minidisk.

ID
(1) An identifier, usually a name or number, of a file or storage device. (2) The unit designation that specifies the logical number of the disk pack or disk device. *See also* identifier.

identifier
In COBOL, a data-name followed by the syntactically correct combination of qualifiers, subscripts, and indexes necessary to make unique reference to a data item.

ILPS
See Intelligent Laser Printing System.

independent runner (IR)
An independent runner is a special task initiated by the operating system to perform services for user tasks or for the operating system itself.

industry compatible minidisk (ICMD)
A flexible disk that conforms to industry standards. A floppy.

initialize, verify, and relocate (IVR)
A complete disk pack initialization process in which the disk pack controller performs the following: writes sector addresses and gaps in all sectors on the disk pack (initialization); reads and checks all of the addressable sectors on the disk pack for address errors and protection code errors (verification); for any errors found, writes the error sector's address into a spare sector address field, and writes the predefined data pattern into the sector's data area (relocation).

input/output (I/O)
An operation in which the system reads data from or writes data to a file on a peripheral device such as a disk.

input/output processor (IOP)
An asynchronous processor that controls the data flow between main memory and peripherals.

Intelligent Laser Printing System (ILPS)
A software system that controls an image (laser) printer.

interface
(1) A communication path between two units. (2) A set of conventions for passing data and/or information. (3) In Pascal, the name for a list of program elements

that a module proposes to share with other modules or programs. Each interface is defined in the module in which its elements are declared and invoked in the program unit that will share the elements.

interlaced file storage

A disk or disk pack format in which the physical sectors on the storage medium are arranged in nonsequential order.

International Telegraph and Telephone Consultative Committee (CCITT)

A committee of the International Telecommunications Union (ITU) that has generated such international standards as Recommendation X.25 for packet-switching networks and Recommendation X.3 for packet assembler-disassemblers.

intersystem connect (ISC)

A system that provides local communication between Unisys processors. ISC provides a high-speed data transfer rate between systems through a DLP connection.

intrinsic

A utility program bound to the MCP. An intrinsic is usually initiated by the MCP, system commands, or user programs. In many cases, the user can provide a program of the same name that is invoked instead of the MCP-intrinsic program.

IOAT

I/O assignment table.

I/O base module

A frame or that houses DLPs. The I/O base module contains the logic used to provide priority-resolution among requesting DLPs.

IOMC

I/O memory concentrator.

I/O path

(1) The code in the MCP executed when an I/O is requested. (2) The route I/O operations takes to or from a peripheral device through a channel, a DLP, or any controllers or exchanges that lead to and from the peripheral.

IOP

See I/O processor.

I/O subsystem

(1) The portion of the MCP and other system facilities that are primarily concerned with physical and logical I/O operations. (2) The hardware and software that manages all transfers of information between the MCP and peripheral devices.

I/O wait time

The accumulated time spent waiting for I/O operations to finish.

IOP
: *See* I/O processor.

IPP
: Image page printer. A laser printer.

IR
: *See* independent runner.

ISC
: *See* intersystem connect.

IVR
: *See* initialize, verify, and relocate.

J

job
: A program initiated by an EXECUTE, COMPILE, or other initiation command. A job can be in the job mix or the schedule, and can be executing, waiting, or stopped. Each job has its own task number. *Synonymous with* task.

job control command
: System commands such as FILE, MEMORY, or PRIORITY that specify the execution attribute of a job.

job initiation command
: A system command that starts the execution of a job or causes a job to enter the schedule for execution, such as COMPILE, DEBUG, or EXECUTE.

job mix
: *Synonymous with* mix.

job schedule
: *See* schedule.

job status
: The status of a job in the mix. The status of a job at a given time could be EXECUTING, WAITING, TERMINATING, or SCHEDULED.

job transfer
: A BNA function that allows a job to be transferred across a network, from one system to another.

Julian date
: The method for expressing the date in which the days in a year are numbered consecutively. For example, January 1 is Julian date 001, January 2 is Julian date 002, and so forth. *Contrast with* Gregorian date.

K

kb
See kilobyte.

kd
See kilodigit.

kernel
The dispatcher and interrupt-handler of the MCP.

keyboard input message
One of the two types of MCP system commands that allow an operator to interface to the MCP. The other type of command is called an MCP control instruction. Keyboard input messages have a wide range of functions, such as inquiry and system maintenance. *See also* MCP control instruction.

keyword
A reserved word that must be present when the syntax in which the word appears is used.

kilobyte (kb)
One thousand bytes (2000 digits).

kilodigit (kd)
One thousand digits (500 bytes).

L

label
The beginning or ending record of a mass storage volume or unit record device file.

LAK
See look-alike disk pack.

LDCNTL
A system utility that builds pseudo card decks from physical card decks.

library tape
A tape created by the SYSTEM/COPY program with format and labels suitable for storing files.

LINC
Logic Information Network Compiler. A fourth generation compiler for a language that defines complete data processing systems.

link
A physical connection between two hosts, or between a host and a communications device.

lock

(1) A shared file I/O operation that locks a block, preventing other programs that are using shared I/O operations from updating it. The block remains locked until it is unlocked. (2) A program locked by the LOCK (Lock Program) command or the LP (Lock Program) command when the program is executed. A locked program cannot be discontinued. This prevents unauthorized or inadvertent interference. A program is unlocked by the UP (Unlock Program) command. (3) In DMSII, the LOCK or MODIFY statement in the host language. The LOCK or MODIFY statement reads a record from a data set and locks the record to prevent concurrent modification by another user.

log transfer

The process of closing one log file and opening a new log file.

logical channel

See virtual circuit.

logical channel address

In data communications, either the logical channel number (LCN), the data terminal equipment (DTE) address, or the Network Definition Language (NDL) station used to refer to the logical channel.

logical record size

The amount of data accessed in the execution of one read or write statement in a program.

logical subsystem

A group of one or more 100-byte disk devices from one or more physical subsystems.

look-alike disk pack

A disk pack with a format of 100 bytes per sector.

M

magnetic ink character recognition (MICR)
A check encoding system that automates check handling. Checks are imprinted with magnetic ink characters of a specific typeface and dimension.

Maintenance Log (MLOG)
A file maintained by the MCP that contains a record of hardware and activity failures.

maintenance panel
A "soft" panel consisting of screens displayed on the ODT. The panel is used by Unisys support personnel to load, display, and otherwise manipulate machine state, hardware registers, memory, index registers, and so forth.

maintenance processor (MP)
A device that provides operator and maintenance interfaces to a V Series system. The maintenance processor allows local or remote field engineering personnel to run various levels of diagnostic programs.

masked file name
A string of characters used to select or list one or more files. An equal sign (=) is used as a masking (wildcard) character. For example, the specification A= searches for all files beginning with A.

masking character (=)
An equal sign used as a masking character. The equal sign stands for any character. For example, the specification FIL=2 is relevant to all of the following: FIL02, FIL12, FILA2, FILB2.

MAST
See memory area status table.

master available table (MAT)
A special disk or disk pack file created at initialization time that contains a list of all usable space on the disk or disk pack.

master clear
An electronic signal used to initialize a DLP and associated hardware. Contrast with base clear.

Master Control Program (MCP)
The V Series operating system. The MCP is the heart of the V Series system. It is designed to make optimum use of all system resources to maximize productivity and processing efficiency.

master disk pack
The disk pack which contains the base areas for all files of a disk pack family.

MAT
See master available table.

MB
See megabyte.

MCP
See Master Control Program.

MCP control instruction
Along with keyboard input messages, one of the two types of system commands that allows you to interface with the MCP. The MCP control instructions generally affect only a program in the mix, in that they either initiate or modify a job.

MCP QWIK memory
Memory reserved for MCP overlays. The most recently used MCP overlays are kept in QWIK memory so that they do not have to be accessed from disk when they are needed.

MCP tables
A set of arrays, maintained by the MCP, that assists in controlling job execution and allocating system resources.

MCP/VS
MCP/V Series.

MCS
See message control system.

MDC
memory data card.

medium
A piece of hardware, such as a disk, capable of storing data. A device writes data to or reads data from a medium. *See* device.

Medium Systems Network Definition Language (MSNDL)
A Unisys program that generates MCS or data communication handler programs that run on the host and handle data communication functions.

megabyte (MB)
One million bytes.

memory area status table
Data maintained by the manager of the MCP to record the state of allocated memory.

memory dump
A copy of the contents of memory, sometimes referred to as a memory image. The system produces a memory dump when a problem occurs so that the problem can be analyzed.

menu
A formatted screen that presents the user with a set of selections.

message control system (MCS)

An MCS is a program that controls the local data communications network consisting of the host, the terminals, and possibly a network controller such as a DCP. The purpose of the MCS is to protect user programs from having to perform data communication tasks. The MCS routes each message between a specific terminal and a specific user program. More than one MCS can be on a host, performing different functions. GEMCOS is an example of a V Series MCS.

MICR

See magnetic ink character recognition (MICR).

microcode

See firmware.

microminidisk drive (MMDD)

A drive that is used to read and write to 3.5 inch disks.

minidisk

See industry compatible minidisk.

minidisk image file

A disk file containing the exact data as resident on the flexible disk.

mix

The jobs or tasks that are currently executing. A list maintained by the MCP of all jobs that have begun execution. *Contrast with* schedule.

MIX table

A table used by the MCP to maintain information about all programs in the mix or schedule. The type of information includes wait indicators (that is, reasons a program cannot continue), various time calculations (such as stopped and average RUN/WAIT time and time waiting I/O), and program status.

mix time

The length of time a job is in the mix.

MIXED

An option on UNIT NRZ and UNIT MPE indicating that the two unit declarations actually refer to the same physical drive, accessed in a mutually exclusive manner.

MFID

See multifile identifier.

MLOG

See Maintenance Log.

MMDD

See microminidisk drive.

mnemonic
An easy-to-remember abbreviation, usually of a computer command or type of device.

MP
See maintenance processor.

MPE
See phase-encoded magnetic tape.

MT9
A 9-track ASCII-encoded magnetic tape. *See* nonreturn-to-zero.

MTC
A hardware mnemonic representing magnetic cartridge tape devices.

multifile identifier
Synonym for familyname.

N

NCP
See network communications port.

network communications port (NCP)
A logical entry point into a host system. NCPs are part of the V Series Communication System (VCS).

NDL
Network Definition Language.

Network Log (NLOG)
A system log file maintained on V Series systems that use the V Series Communication System (VCS). The network log contains information about errors and security violations that occur within the VCS data communication network.

NLOG
See Network Log.

nonreturn-to-zero (NRZ)
A tape recording mode; the density is 800 bpi.

nonstatus device (NST)
A device or unit that can be handled only by specialized programs, not by the MCP.

not ready
A hardware state recognized by the MCP. A not ready device cannot be used for I/O operations.

NRZ
See nonreturn-to-zero.

NST
See nonstatus device.

numeric
Comprised of the digits 0 through 9.

O

object code file
See code file.

OCS
See operator control station.

ODT
See operator display terminal.

ODT Log (SLOG)
A file maintained by the MCP that contains all the messages that are displayed on the ODT. *Synonymous with* SPO Log (SLOG).

operator control station (OCS)
This type of terminal is supported by a Uniline DLP. *Contrast with* operator display terminal.

operator display terminal (ODT)
The video terminal through which the operator enters system commands and receives system messages. *Contrast with* operator control station.

overlay
Logical divisions of a program that occupy the same memory area at different periods during the execution.

P

pack

See disk pack.

packet

In data communication, a unit of data routed from one packet switching exchange to another by transmission line. A packet consists of data surrounded by packet-level headers and trailers. A message can be broken down into packets at one side of the network and reassembled into the original message at the other end.

packet assembler/disassembler (PAD)

Software that allows a teletypewriter-like terminal to send and receive data on a packet-switching network such as an X.25 network.

packet switching exchange (PSE)

In data communications, the switching nodes in a public data network.

packet switching network (PSN)

A data communication network that transmits data by dividing messages into smaller units (packets), transmitting the packets separately to their destinations, and reassembling the message at the receiving end.

parallel transmission

A technique used to send an entire character at one time by using separate channels or lines, or separate frequencies on one channel. *Contrast with* serial transmission.

parameter

A quantity or item that can be given a different value each time a process is repeated. A variable.

password

Normally used only on systems that have system security. A group of characters by which the system determines the legality of a user when a user logs on to the system or enters a job initiation command. The password is assigned by the system administrator.

patch file

A file containing the replacement, insertion, or deletion records that are used to update an existing source file.

path

See I/O path.

PCF

pseudo card reader file.

PCR

pseudo card reader.

PDN

See public data network.

phase-encoded magnetic tape (MPE)

A method of encoding information on a tape at 1600 bytes per inch (bpi). Some tape drives can read and write tapes only in phase-encoded mode.

physical subsystem

The disk drives, disk pack drives, or combination of disk and disk pack drives that are connected to the system through the same DLPs. This arrangement is also referred to as a disk subsystem or a disk pack subsystem.

physical tape number

A serial number that identifies a particular magnetic tape. The number is part of the tape label.

pool size

The amount of memory available for user QWIK memory.

port

A point of data entry into a computer, network, or other electronic device.

printer backup file

A printer file stored on disk, disk pack, or tape for later use.

priority

(1) A characteristic associated with a job that determines its precedence in the use of system resources. The MCP pulls jobs from the schedule into the mix according to priority. (2) In X.25, the sequence in which various entries and tasks are processed by the analysis of action codes and other priority real-time systems.

privileged mode

A program execution mode in which the processor allows the execution of privileged instructions. Usually reserved for the operating system.

processor name

A name given to a processor by the HOSTNAME record in the system configuration file.

processor number

A number given to each processor in a multiprocessor system. This number is used to make certain file names (for example, printer backup files) unique in a mutli-system environment.

processor time

The accumulated time a processor has spent working on a job. *Synonym for* direct processor time, direct time.

production DBP

A database program that binds a COBOL program into the DBP, allowing the DBP to access internal file information and record areas without involving the MCP.

Other host language programs can access the database through the production DBP.

program name
The name of the object code file. A program name can have up to six characters; no punctuation is allowed. The first character must be a letter of the alphabet.

programmatic switch
A feature in some languages, such as COBOL, that allows commands to be given to a program during execution.

PSE
See packet switching exchange.

pseudo card deck
See control deck.

PSN
See packet switching network.

public data network (PDN)
A packet-switched network defined as a common carrier by government regulation.

punch backup file
A file containing the same information as a punch file, but held on disk or disk pack. *See* punch file.

punch file
A file of the type required for output on a card punch.

Q

queue
A list of tasks awaiting processing.

QWIK disk
A feature that allows part of system memory to used like a disk, greatly speeding up access time.

QWIK memory
Memory that is reserved for rapid access to overlays.

QWIK pool
Memory available for user QWIK memory.

R

railroad syntax diagram
A graphic representation of the syntax of a command, utility, or program.

RAM
See random access memory.

random access memory (RAM)
A type of memory that allows the reading and writing of memory without regard to the location of the preceding read or write operation.

R/D
See result descriptor.

ready
A state of a peripheral device in which it can act on read and write commands.

record
(1) A group of logically related items within a file that are treated as a unit. (2) The minimum amount of data read from or written to a file on one execution of a read or write statement in a program.

release
(1) A method of closing a file. (2) A term used to indicate that a file is no longer being used by the program. (3) A particular version of a software package.

release level
A number assigned to a particular version of the MCP.

remote job entry (RJE)
A software package that allows jobs, data, and control commands to be sent from a remote terminal to a central system, and that allows output of data from the central system to be sent to remote peripherals.

restricted disk pack
A disk pack restricted in access to programs having a multifile ID identical to the label name of the disk pack.

restricted master disk pack
A master (base) disk pack that contains only files having a multifile ID identical to the label name of the disk pack.

result descriptor (R/D)
A coded description of the results of an I/O operation.

RJE
See remote job entry.

RLOG
See Run Log.

roll out
An action that occurs if insufficient memory is available for a particular job. In this case, the code file for the job can be moved to disk. The code file is stored on disk and the space it was using in memory is relinquished. Jobs with lower memory priorities are rolled out first. When memory becomes available again, the code file is moved into memory.

Run Log (RLOG)
A file maintained by the MCP that contains a record of all job and file activity on the system.

S

saved
A state in which a peripheral device is reserved for use by a particular program. No other program can use the saved device.

schedule
A list of jobs that are waiting , but have not yet started executing.

SCSI
See small computer systems interface.

sector
A sector is the minimum addressable area on a disk pack or disk. A disk sector is 100 bytes; a disk pack sector is 180 bytes. Sectors are also referred to as segments.

sector address
The logical address of a sector on a given disk or disk pack.

segment
See sector.

SENSITIVEDATA

A file security attribute that indicates that a file contains confidential or sensitive data. When the file is removed, its name is removed from the directory, and the data area will be overwritten with random data. Normally, the file name is removed from the directory, but the data area is not changed, thus allowing the possibility of file recovery.

sequential organization

The logical file structure in which a record is identified by a predecessor-to-successor relationship established when the record is placed in the file.

serial transmission

A technique of sending data one bit at a time, one after the other. *Contrast with* parallel transmission.

shared disk pack

A disk pack shared between multiple systems. The PACK record in the system initialization file can declare a shared disk pack. A shared disk pack must be declared with the same logical ID number and the same shared system processor (SSP) name for each processor.

shared file I/O operations

Multiple systems that access the same files. Shared (concurrent) file access is regulated by a set of shared file I/O operations. By using these I/O operations, programs can lock, read, seek, and write file blocks in a way that prevents data corruption by other programs that are using the same I/O operations.

shared system - disk and disk pack

Two to four V Series systems linked together in such a way that they share all disk devices and one or more disk pack devices.

shared system - disk only

Two to four V Series systems that share disk but do not share disk pack devices.

shared system - disk pack

Two to four V-Series systems linked together in such a way that they can share disk packs but they do not share disk devices. Each system runs its own copy of the same MCP.

shared system initialization records

Records to be included in the system initialization file for shared systems. These initialization records, such as the CONNECT, DLP, and SSP records, are used at cold-start time. They enable the MCP and other programs to perform concurrent file access and to share peripherals.

shared system processor (SSP)

A DLP that links up to four V Series systems so that they can share files on common disk and disk pack units. The systems can run common software and use conventional file structures (with the exception of DMSII files).

signed numeric
A numeric field that contains an algebraic sign (or a default sign).

small computer systems interface (SCSI)
A communications protocol used to communicate with peripheral devices, including magnetic tape devices and disk drives.

SMC
system maintenance control.

SN
See signed numeric.

snap
See snapshot.

snapshot
(1) The creation of a file that describes machine state at the time of a failure. (2) The file thus created.

soft device
Any device that requires a special code (firmware) to be loaded before the device can become operational.

SPO
See operator display terminal.

SPOM
See SPOMESSAGE BCT.

SPOMESSAGE BCT
A programmatic branch communicate that passes keyboard input messages to the MCP and requests that the response be returned to the requestor. Contrast with ZIP and ZIPSPO.

SSP
See shared system processor.

SSP contention
A condition that occurs when a program running on one V Series system wants to access a file block that is locked by a program running on another V Series system.

stacked deck
A condition that occurs when the system configuration files for a shared system are loaded from the same card reader, and the card deck that is put into the card reader contains the system configuration files for more than one system.

stalemate
A situation in which two or more programs cannot continue processing because they have locked and are contending for mutually exclusive records.

start bit

Indicates the beginning of a character, or block of characters, in an asynchronous transmission. *See* asynchronous.

start/stop transmission

See asynchronous.

station

(1) The combination of functional units constituting the data terminal equipment (DTE), data circuit terminating equipment (DCE), and their common interface. (2) In the interactive datacomm configurator (IDC), a data structure that describes the attributes of a physical terminal. (3) The logical representation for definition (1).

statistics

In DMSII, a feature that keeps track of database use.

stop bit

Indicates the end of a character, or block of characters, in an asynchronous transmission. *See* asynchronous.

STOQ

See storage queue.

STOQUE

See storage queue.

storage queue

A storage queue, abbreviated to STOQ or STOQUE, is a buffer in memory used to transfer information from one program to another. It provides asynchronous inter-program communication. This means that if a program sends a message to another program not ready to accept the message, the message waits in the storage queue until it is accepted. Contrast with core-to-core.

string

A connected sequence or group of characters.

switch

See programmatic switch.

T

task

See job.

TBI

test bus interface.

U

user code

The user code is a number that identifies a user to the system when a user logs on to the system or enters a job initiation command.

user QWIK memory

Memory dedicated to storing the most recently used user program overlays so that they will not have to be accessed from disk if they are needed again. *See also* MCP QWIK memory.

utility

A standard program that helps computer operation, such as initializing floppies, or converting files from one medium to another.

V

V Series Communication System (VCS)

Data communication software that connects a V Series system with data communication terminals. VCS software resides and executes on a V Series system. *See also* network communications port, Network Log.

version date

The date a program was compiled.

virtual circuit

A path between two devices in a packet switching network.

virtual static imaging device (VSID)

A device that produces high-speed, high-quality printouts (for example, a laser printer).

volume

A named medium that the MCP can recognize regardless of the device on which the medium resides.

VSID

See virtual static imaging device.

W

WFL

See Work Flow Language.

Work Flow Language (WFL)

The Unisys language used for constructing jobs that compile and run programs. WFL includes variables, expressions, and flow-of-control statements that offer the programmer a range of task control capabilities.

working available table

A file maintained by the MCP that records space available on disk or disk pack. There is one table for all disks. Each disk pack maintains its own table.

writeahead

In DMSII, a feature that causes buffers to be written to disk pack ahead of the point where the expected write is necessary.

X

X.25

An international, standard packet-switching network interface, designed to allow different computers to communicate.

Z

ZIP

A facility that allows user programs to send system commands. The commands that are sent with the ZIP facility are handled as if they had been entered at the operator display terminal (ODT). The ZIP facility is invoked by constructs in the programming languages.

ZIPSPO

A facility that gives a user program the ability to pass control information to the MCP and to determine if any errors occurred during the processing. If there is an error, a response will be displayed and returned to the program.

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