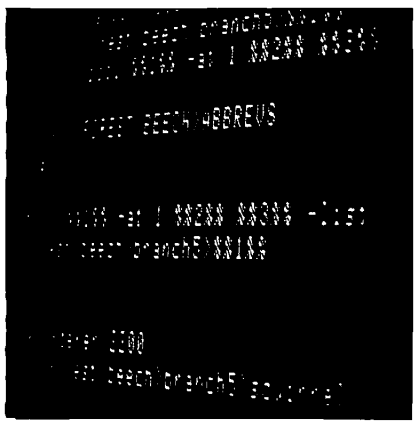
Prime Computer, Inc.

System Operator Rev. 19.2



FDR7812-192

SYSTEM OPERATOR'S COMPANION

REVISION 19.2

FDR7812-192

This document reflects the software as of Master Disk Revision 19 2

by

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Note

For more information on most of the commands in this book, see the **System Operator's Guide**

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TABLE OF CONTENTS

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COMMAND FORMAT CONVENTIONS

Uppercase: Identifies commands or keywords. Enter literally.

FETCH

Lowercase: Identifies arguments. Substitute an appropriate numerical or text value.

STEPU address

Abbreviations: Indicated via rust-colored letters.

SET_PRIORITY_ACCESS **diskname acl**

Braces { }: Indicate a choice of arguments and/or keywords. At least one choice must be selected.

BLOCK { **queuename** / ALL }

Square Brackets [ ]: Indicate an optional keyword or argument.

MAXUSR **[n]**

Hyphen –: Identifies a command line option. Must be entered literally.

USAGE **–DISK**

Ellipsis . . . : Indicates that the preceding argument may be repeated.

ADDISK diskname-1 [diskname-2] . . .

Angle brackets ⟨ ⟩: Used literally to separate the elements of a pathname.

⟨FOREST⟩BEECH⟩BRANCH537⟩TWIG43⟩LEAF4

Parentheses ( ): Must be entered literally.

ADDRESS site+server[(password)]

Option: Indicates that one or more optional arguments can be given and that a list of options for the particular command follows.

BATCH -START [options]

Spaces: Used literally to separate commands and arguments in command lines.

PROP PR0 -RESTART

TERMINOLOGY

Byte: 8 bits, 1 character.

Halfword: 16 bits, 2 bytes.

Fullword: 32 bits, 2 halfwords, 4 bytes.

PRIME 9950 OPERATION

STARTING THE 9950

Turn on the power in this order:

1. Supervisor terminal
2. CPU (using the SYSTEM POWER switch)
3. Disk drives
4. Other peripherals, such as tape drives and printers

When you turn on the SYSTEM POWER switch, an automated startup procedure begins that takes about 5 minutes.

When the automated startup procedure is done, the supervisor terminal displays the PRIMOS prompt, `OK,`. A prompt reminding you to allow other users on the system may also appear.

Type the MAXUSR command at the supervisor terminal to allow users to log in.

The 9950 automatically starts up PRIMOS. To start PRIMOS II or use alternate startup methods, refer to the **System Operator's Guide,** Vol. I.

SHUTTING DOWN THE PRIME 9950

Use the following procedure to shut down the 9950·

1 Warn all users that the system is being shut down (MESSAGE ALL -NOW) Make sure that all users have logged off before shutting down the system (LOGOUT ALL, STATUS USERS) Shut down Batch and other subsystems (BATCH -STOP, PROP -STOP, and so on)

2 Shut down PRIMOS by typing the command SHUTDN ALL and answering YES to the prompt REALLY?

3. When the CP) prompt appears, power down the equipment in the following order peripherals, communications gear, tape and disk drives (wait until they stop completely), CPU, supervisor terminal.

PRIME 2250 OPERATION

STARTING THE 2250

Turn on the power in this order:

1. Supervisor terminal
2. CPU (using the SYSTEM POWER switch)
3. Disk drives not in main cabinet, if any
4. Other peripherals, such as tape drives and printers

When you turn on the SYSTEM POWER switch, an automated startup procedure begins that takes about 2 minutes.

When the automated startup procedure is done, the supervisor terminal displays the PRIMOS prompt, `OK,`. A prompt reminding you to allow other users on the system may also appear.

Type the SETIME command at the supervisor terminal to set the system date and time.

Type the MAXUSR command at the supervisor terminal to allow users to log in.

The 2250 automatically starts up PRIMOS. To start PRIMOS II or use alternate startup methods, refer to the **System Operator's Guide,** Vol. I.

SHUTTING DOWN THE PRIME 2250

Use the following procedure to shut down the 2250

1 Warn all users that the system is being shut down (MESSAGE ALL -NOW) Make sure that all users have logged off before shutting down the system (LOGOUT ALL, STATUS USERS) Shut down Batch and other subsystems (BATCH -STOP, PROP -STOP, and so on).

2 Shut down PRIMOS by typing the command SHUTDN ALL and answering YES to the prompt `REALLY?`

3 When the `CP)` prompt appears, type the command SPINDOWN to shut down the disk drives. Wait until the disks are stopped completely before turning off the system power

4. Power down the equipment in the following order. system power, tape drives and printers, supervisor terminal.

PRIME 50 SERIES OPERATION

STARTING THE 50 SERIES

Turn on the power in the following order.

1. Supervisor terminal
2. CPU (using the SYSTEM POWER switch)
3. Disk drives
4. Other peripherals, such as tape drives and printers

When you turn on the SYSTEM POWER switch, the VCP automatically verifies and initializes VCP and CPU operation. This procedure takes about 5 seconds. When the procedure is done, the supervisor terminal displays the `CP>` prompt. Enter the appropriate BOOT command to start up PRIMOS (See the **System Operator's Guide,** Vol I for information on the BOOT command.) For example:

```
CP> BOOT 14114
```

When the startup procedure is done, the supervisor terminal displays the PRIMOS prompt, `OK,` A prompt reminding you to allow other users on the system may also appear.

Type the SETIME command at the supervisor terminal to set the system date and time.

Type the MAXUSR command at the supervisor terminal to allow users to log in.

To start PRIMOS II or use alternate startup methods, refer to the **System Operator's Guide,** Vol. I.

SHUTTING DOWN THE 50 SERIES

Use the following procedure to shut down the 50 Series:

1. Warn all users that the system is being shut down (MESSAGE ALL -NOW). Make sure that all users have logged off before shutting down the system (LOGOUT ALL, STATUS USERS). Shut down Batch and other subsystems (BATCH -STOP, PROP -STOP, and so on).
2. Shut down PRIMOS by typing the command SHUTDN ALL and answering YES to the prompt `REALLY?`.
3. When the `CP>` prompt appears, power down the equipment in the following order: peripherals, communications gear, tape and disk drives (wait until they stop completely), CPU, supervisor terminal.

PRIME 400 OPERATION

All procedures described in this section are also valid for the Prime 350 and Prime 500.

STARTING THE PRIME 400

Turn on power in the following order:

1. Supervisor terminal
2. CPU (using the SYSTEM POWER switch)
3. Disk drives
4. Other peripherals, such as tape drives and printers

When you turn on the SYSTEM POWER switch, the CPU is automatically verified and initialized. This procedure takes about one-half second to complete. After this procedure is done, the STOP light is on. Set the sense switches to the appropriate BOOT setting to start up PRIMOS For example, set sense switches 4, 5, 10, 13, and 14 in the UP position and all other switches in the down position.

After you have set the sense switches, set the rotary knob to the LOAD position, press the START switch

down, and release it This initiates the system startup procedure

Set the rotary knob to the RUN position

When the startup procedure is done, the supervisor terminal displays the PRIMOS prompt, `OK,` A prompt reminding you to allow other users on the system may also appear

Type the SETIME command at the supervisor terminal to set the system date and time

Type the MAXUSR command at the supervisor terminal to allow users to log in

To start PRIMOS II or use alternate startup methods, refer to the **System Operator's Guide,** Vol I

SHUTTING DOWN THE PRIME 400

Use the following procedure to shut down the 400

1 Warn all users that the system is being shut down (MESSAGE ALL -NOW) Make sure that all users have logged off before shutting down the system (LOGOUT ALL, STATUS USERS) Shut down Batch and other subsystems (BATCH -STOP, PROP -STOP, and so on)

2 Shut down PRIMOS by typing the command SHUTDN ALL and answering YES to the prompt `REALLY?`

3 When the STOP light goes on, power down the equipment in the following order peripherals, communications gear, tape and disk drives (wait until they stop completely), CPU, supervisor terminal

HALTS AND HANGS

This section refers specifically to the Prime 9950, but most of the material is also valid for other Prime computers Additional information on procedure is provided as needed

Halts are indicated by the following conditions:

- The STOP light on the front panel is ON, indicating that the CPU is not running
- The supervisor terminal displays a halt message For example

  ```
  HALTED AT 000004/000306: 003776
  ```

- The supervisor terminal is in control panel mode You see the `CP)` prompt.

If you have a halt on the Prime 400, you must determine the address at which the machine halted. Use this address to determine the cause of the halt

Hangs are indicated by the following conditions.

- The STOP light on the front panel is OFF, but the CPU does not respond to commands from user terminals or the supervisor terminal
- No halt message displays at the supervisor terminal
- The supervisor terminal may or may not function in control panel mode

HANDLING HALTS

Use the following procedure when a halt occurs:

1. Copy the halt message and the time and date of the halt in your system logbook. On the Prime 400, you will have to determine the address of the halt by the procedure outlined in the **System Operator's Guide,** Vol. I.
2. Look at the halt message and then consult Table 1 to determine the correct procedure for obtaining information about the halt and the proper recovery procedure. Table 2 summarizes each step in the procedures outlined in Table 1

TABLE 1
ACTION CODES FOR 9950 AND 50 SERIES HALTS

Halt Message	*Action Codes*
`DPM701: Machine check` (Halt Address 000004/000306)	R, D, then W
`DPM702: Missing Memory Module` (Halt Address 000004/000316)	D, then C
`DPM703: Memory Parity (ECCU)` (Halt Address 000004/000277)	X
None of the above	D, then W

TABLE 2
MEANINGS OF ACTION CODES

Action Code	*Meaning*
R	Record register settings
D	Dump to magnetic tape
C	Cold start
W	Warm start
X	Map out bad page

Each of these actions is explained in the **System Operator's Guide,** Vol. I.

HANDLING HANGS

Use the following procedure to handle hangs:

1. Record the time and date of the hang in your system logbook
2. Try to halt the CPU by setting the supervisor terminal to control panel mode and typing the STOP command. If this works, the front panel STOP indicator lights up and a halt message appears at the supervisor terminal.
3. If the STOP command does not work, press the MASTER CLEAR button on the system status panel.
4. If the MASTER CLEAR button does not stop the system, turn the system power off and then turn it on again. This automatically restarts the computer. If you turn the power off and then on again, skip the next step.
5. Perform a dump to magnetic tape.
6. Restart the operating system as explained for your particular model of Prime computer earlier in this Companion

VIRTUAL CONTROL PANEL OPERATION

On all machines except the Prime 2250 and 9950, the virtual control panel starts in control panel mode when the equipment is powered up. On the Prime 2250 and 9950, the virtual control panel is placed in supervisor terminal mode after an automatic startup procedure. Control panel mode is entered from supervisor or user terminal mode by typing ESC ESC (two escapes). Enter supervisor terminal mode with the command MO ST. User terminal mode is available only on the Prime 2250 and 9950. Enter user terminal mode by typing MO USER.

When **address** is required as part of a command, a sense-switch setting can be specified according to the following format.

[sense/]offset

offset is the number (in the current address representation mode) representing the halfword in memory to be accessed. **sense** is typically a segment number in mapped memory. See the **System Operator's Guide,** Vol. I for a description of **sense** and more information on sense-switch setting.

▶ A address [modes]

Accesses the contents of main memory at **address** (in the current address representation mode). **modes** is an optional specification of the data and address display modes. See Table 3 for a list of interactive commands and their meanings

▶ A register [modes]

Accesses the register file. See Table 3 for a list of interactive commands and their meanings

register is a mnemonic identifying which register in the current register set is to be accessed. See the section entitled VCP REGISTER FILE MNEMONICS for information on legal **register** mnemonics

modes is an optional specification of the data display mode.

TABLE 3
ACCESS COMMAND INTERACTION

Command	*Meaning*
CR (carriage return)	Access next memory location or register
^ (up arrow)	Access previous memory location or register
number	Modify memory location or half-register to value of **number.** (Last MODIFY command determines which half of a register is modified. The default at system power-on is MODIFY.)
/ (slash)	Exit and return to control panel mode

► AWARMOFF *(Prime 9950 only)*

Used only with UPS systems. Does not automatically set up the warmstart procedure on PRIMOS when main ac power returns to system after a power-down. Default: do not set up warmstart procedure.

► AWARMON *(Prime 9950 only)*

Used only with UPS systems. Automatically sets up the warmstart procedure on PRIMOS when main ac power returns to system after a power-down. The AWARMON command can be issued at any time. Default: AWARMOFF

▶ BOOT number

Boots the CPU. This command is necessary to start up PRIMOS or PRIMOS II. Type BOOT 14114 to start up PRIMOS. Type BOOT 10114 to start up PRIMOS II.

> WARNING
>
> The SYSCLR command must be issued just before the BOOT command

number specifies the sense-switch setting. **number** is interpreted only in octal so the data display mode should be set to octal (:O). (This is the initial default mode.)

On UPS systems, the BOOT command can be issued without **number.** When used in this way, the command places the VCP into automatic warmstart mode. If the main ac power is interrupted, the VCP automatically warmstarts PRIMOS upon resumption of ac power.

▶ BOOTD *(Prime 9950 only)*

Initiates a boot sequence that starts up PRIMOS II.

▶ BOOTP *(Prime 9950 only)*

Initiates a boot sequence that starts up PRIMOS.

► C start end to

Copies a block of memory from location **start** to location **end** starting at location **to** **to** should not fall between **start** and **end** or data will be lost

► D register [modes]

Prints the contents of a register **register** is a mnemonic identifying which register in the current register set is to be dumped See the section entitled VCP REGISTER FILE MNEMONICS for information on legal **register** mnemonics

modes is an optional specification of the data display mode

► D start end [modes]

Prints the contents of main memory beginning at address **start** and ending at address **end. modes** is an optional specification of the data and address display modes Remember that an address mode specification does not affect the way **start** and **end** are interpreted.

► DATE *(Prime 9950 only)*

Displays the date and time as maintained by the battery backed up clock on the Diagnostic Processor

▶ DIRECTORY [:0 / :1]

Displays the VCP floppy disk directory contents. The optional argument :0 or :1 specifies whether Drive 0 or Drive 1 is to be used. Default: the last drive number specified.

▶ DISPLAY address

Displays the contents of virtual memory at **address.** Operates only when PRIMOS is running.

▶ DISPLAYC address

Continuously displays the contents of **address,** updating the display whenever the contents change. Halt the operation with CONTROL-P. Operates only when PRIMOS is running.

▶ DOS *(Prime 9950 only)*

Restarts PRIMOS II after interruption. Does not reload PRIMOS II. On VCP machines that do not support the DOS command, the following command sequence accomplishes the same thing:

```
SYSCLR
RUN 170000
```

▶ F start end number

Fills a specified range of memory from location **start** to location **end** with the value of **number.**

▶ FETCH

Fetches data according to the previously set sense and data switches and displays the result

▶ HALT *(Prime 9950 only)*

Identical to the STOP command available on all other Prime machines that have a VCP.

▶ HELP *(Prime 9950 only)*

Displays the list of Diagnostic Processor commands available.

▶ LIGHTS

Displays the current value of the lights register. Can be abbreviated to L on the Prime 9950.

▶ LIGHTSC

Displays the current value of the lights register whenever it differs from the last value printed. Halt operation with CONTROL-P Can be abbreviated to LC on the Prime 9950.

▶ LISTREV *(Prime 9950 only)*

Lists the CPU type, part number, and the required revision level for each board in the CPU. Also lists the CPU type for which the floppy disk inserted in the default disk drive is intended.

▶ MO ABS

Causes the VCP to enter absolute addressing mode.

▶ MO BRIEF *(Prime 9950 only)*

Causes the Diagnostic Processor to enter limited diagnostic message mode. Power-on default: limited diagnostic mode.

▶ MO FULL *(Prime 9950 only)*

Causes the Diagnostic Processor to enter full diagnostic message mode.

▶ MO MAP

Causes the VCP to enter mapped addressing mode. Power-on default: enter mapped addressing mode.

▶ MO RFABS

Causes the VCP to enter absolute register set addressing mode.

▶ MO RFCRS

Causes the VCP to enter current register set addressing mode.

► MO RFH

Specifies that the high order half of an accessed register is to be modified. Used with the A register command to enter a new value into the high order halfword of the register. Power on default: MO RFL

► MO RFL

Specifies that the low order half of an accessed register is to be modified. Used with the A register command to enter a new value into the low order halfword of the register.

► MO ST

Places the supervisor terminal in supervisor terminal mode.

► MO USER *(Prime 2250 and 9950 only)*

Places the supervisor terminal in user terminal mode.

► RCP [address]

Starts the CPU running at **address** without entering supervisor terminal mode. If **address** is not specified, the CPU starts after the instruction most recently executed.

▶ REMPWD *(Prime 9950 only)*

Sets the password on a remote port to prevent unauthorized access to the Diagnostic Processor. The password can be no longer than 8 characters and can consist only of alphabetic characters and digits; the first character must be alphabetic. Lowercase characters are translated to uppercase

▶ RUN [address]

Starts the CPU running at **address** and enters supervisor terminal mode If **address** is not specified, the CPU starts after the instruction it most recently executed.

▶ SD number

Sets data switches to the value of **number.** On machines other than the Prime 9950, any command that accepts an address or register name destroys the value in the data switches as prepared by the SD command.

▶ SETIME –mmddyy –hhmmw [–D]

(Prime 9950 only)

Sets the date and time for the Diagnostic Processor battery backed-up clock. The fields have the following meanings:

Field	*Meaning*	*Range*
mm	Month of the year	01-12
dd	Day of the month	01-31
yy	Year minus 1900	00-99
hh	Hour of day	00-23
mm	Minute of hour	00-59
w	Day of week (1 Sunday)	1-7

The –D option specifies that the daylight-saving time option is to be enabled. This feature is implemented for the present United States implementation only, which adds one hour to the time at midnight on the last Sunday in April and subtracts an hour from the time at midnight on the last Sunday in October.

▶ SPINDOWN

(Prime 2250 only)

Instructs the 68MB and 158MB disks to spin down in an orderly fashion. This command must be issued after the CPU is halted but before system power is turned off.

▶ SS number

Sets the sense switches to the value of **number.** On machines other than the Prime 9950, any command that accepts an address or register name destroys the value in the sense switches as prepared by the SS command.

▶ SSTEP number

Single steps the CPU through a specified number of instructions. **number,** interpreted according to the data display mode, is the number of instructions to be executed. On the Prime 9950, the **number** parameter is optional; if specified, the standard CPU halted message is displayed only after the final instruction (specified by **number**) is executed. Default: 1.

▶ STEPU address

Single steps the CPU through the instruction stream until it reaches **address.** On the Prime 9950, **address** is the last instruction executed. On all other machines, **address** is the first instruction not executed. Sense-switch settings of **address** and the PB register are ignored when the check is made to see if the addresses are equal.

▶ STOP

Halts the CPU and displays the address at which the CPU halted (the next instruction to be executed) and the contents of the address.

▶ STORE

Stores specified data according to the previously set sense and data switches.

▶ SYSCLR

Performs a limited Master Clear function. Only the CPU and I/O controller receive the signal, not the VCP. Can be abbreviated to S on the Prime 9950.

▶ SYSOUT { BUFF / IGN / INT }

Controls the disposition of supervisor terminal output from PRIMOS while the supervisor terminal is in control panel or user terminal mode.

BUFF stores output in a buffer until the supervisor terminal returns to supervisor terminal mode, at which point the stored output is displayed. (Default.)

IGN ignores and discards all output unless the supervisor terminal is in supervisor terminal mode.

INT causes output always to be displayed, even if output from control panel or user terminal mode is interleaved with supervisor terminal output.

▶ TAPEDUMP unit *(Prime 9950 only)*

Causes the CPU to do a memory dump to magnetic tape. **unit** is the tape unit on which to perform the tape dump (0-3). Used only when PRIMOS has halted. On machines other than the 9950, the TAPEDUMP command can be duplicated by using the following command sequence:

Drive 0	*Drive 1*
SYSCLR	SYSCLR
RUN 775	RUN 776

Drive 2	*Drive 3*
SYSCLR	SYSCLR
A 7	A 7
775	775
/	/
SS 2	SS 3
RUN	RUN

▶ TRACE [number] *(Prime 2250 and 9950 only)*

Single steps the CPU through a specified number of instructions. **number**, interpreted according to the data display mode, is the number of instructions to be executed. After each instruction is executed, the standard CPU halted message is displayed. The **number** parameter is optional on the Prime 9950; it is required on the Prime 2250. Default: 1.

▶ VIRY

Performs a complete system Master Clear. It resets the VCP, CPU, and I/O controller boards; performs verification procedures on the VCP and CPU; and (on the Prime 9950) sets the default floppy disk drive number to 0.

▶ VPSD *(Prime 2250 and 9950 only)*

Starts up the operating system debugger, VPSD, and places the supervisor terminal in supervisor terminal mode. To use this command, PRIMOS must have been up and running before halting and the VPSD directive must have been present in the coldstart configuration file when PRIMOS was started up. On all other VCP machines, use the following command sequence to duplicate the VPSD command:

```
SYSCLR
RUN 600
```

▶ WARMSTART *(Prime 9950 only)*

Attempts a warm start of PRIMOS Issued after PRIMOS has been unexpectedly or forcibly halted. On all other machines, the WARMSTART command can be duplicated using the following command sequence:

```
SYSCLR
RUN
RUN
```

VCP REGISTER FILE MNEMONICS

TABLE 4
REGISTER FILE MNEMONICS FOR 50 SERIES

Mnemonic	*Register description*
A	Accumulator
B	Double-precision and long accumulator extension
DSWPARITY	Diagnostic Status Word Parity
DSWPB	Diagnostic Status Word Procedure Base
DSWRMA	Diagnostic Status Word RMA
DSWSTAT	Diagnostic Status Word Status
DTAR0	Descriptor Table Address: segments 0 to '1777
DTAR1	Descriptor Table Address: segments '2000 to '3777
DTAR2	Descriptor Table Address: segments '4000 to '5777
DTAR3	Descriptor Table Address segments '6000 to '7776
E	Accumulator extension for MPL, DVL
FADDR	Fault Address
FAR0	Field Address Register 0
FAR1	Field Address Register 1
FCODE	Fault Code
FLR0	Field Length Register 0
FLR1	Field Length Register 1
GR0	General Register 0

Table 4 (Continued)

Mnemonic	Register description
GR1	General Register 1
GR2	General Register 2
GR3	General Register 3
GR4	General Register 4
GR5	General Register 5
GR6	General Register 6
GR7	General Register 7
KEYS	Process status information
L	Combined A and B registers
LB	Link Base
MODALS	Process status information
OWNER	Address of PCB of process owning register contents
PB	Procedure Base
PBSAVE	Saved return pointer when return pointer used elsewhere
PPA	Pointer to Process A
PPB	Pointer to Process B
PSWPB	Process Status Word Procedure Base
*RECC1	ECC Error Register 1
*RECC2	ECC Error Register 2
REOIV	Register End of Instruction Vector
RSAVPTR	Register Save Pointer location of register save after a halt
*RSGT1	Register Segmentation Trap SDW2/Address of page map
*RSGT2	Register Segmentation Trap contents of page map/SDW2

Table 4 (Continued)

Mnemonic	Register description
S	Stack
SB	Stack Base
TIMER	1 millisecond process timer (used for timeslice)
VSC	Visible Shift Counter
X	Index
XB	Temporary (auxiliary) Base
Y	Alternate index

Note

Asterisks (*) indicate register mnemonics not accepted by the Prime 9950 VCP

TABLE 5
ADDITIONAL REGISTER FILE MNENOMICS FOR 9950

CR31	TR5	CFF00/C00FF
CR32	TR6	RATMP
CR33	TR7	RMASAVE
TPB	TR8/FR032	PARREG1
TSB	TR9	PARREG2
TLB	FR0X	PARREG3
XEQPBL	TR10/FR132	INTVTR
TR0	FR1X	SYSREG1
TR1	TR11	PSWKEYS
TR2	UCSADDR	PLA/PCBA
TR3	RDSAVE	PLB/PCBB
TR4		

PRIMOS II COMMANDS

Many special restrictions apply to the use of PRIMOS II. PRIMOS II lacks the following.

- LOGIN and LOGOUT commands
- Pathnames on internal commands
- CPL, including global variables and command functions
- Wildcards, treewalking, iteration, and name generation
- User-defined abbreviations
- Multiple commands on a single line
- ACL and quota enforcement
- Network capabilities
- System clock (time and date)

Legal commands under PRIMOS II include ATTACH, BINARY, CLOSE, CNAME, COMINPUT, COPY_DISK, CREATE, DELETE, FIXRAT (not to be run on Rev. 19 disks), FUTIL, INPUT, LISTF, LISTING, LOGPRT, MAGRST, MAGSAV, MAKE, NETCFG, NSED, OPEN, PASSWD, PHYRST, PM, PRERR, PRIMOS, PROTEC, RESTORE, RESUME, SAVE, SHUTDN, START, STARTUP, and STATUS. Instead of ED, NSED should be used. Instead of DELETE, COPY, PROTECT, LD, and RWLOCK, FUTIL should be used.

Commands that function in the same way in both PRIMOS and PRIMOS II are COPY_DISK, LISTF, MAGRST, MAGSAV, MAKE, NETCFG, PASSWD, PHYRST, PM, and PRERR.

Commands that do not accept pathnames are ATTACH, BINARY, CNAME, INPUT, LISTING, OPEN, RESTORE, RESUME, and SAVE.

Commands that work much differently in PRIMOS II are ATTACH, CLOSE, COMINPUT, CREATE, DELETE, SHUTDN, and STATUS.

▶ ATTACH [directory [password]] [ldisk] [key]

Attaches to the specified directory. This form of the ATTACH command is required by PRIMOS II, as none of the PRIMOS II internal commands (ATTACH, BINARY, CLOSE, COMINPUT, DELETE, LISTING, INPUT, OPEN, RESUME, RESTORE, SAVE, CNAME, CREATE, PROTEC) permit the use of pathnames.

To attach to a top-level directory, specify **ldisk** as:

Value	*Meaning*
n	Attach to directory on logical disk **n.**
100000	Attach to directory on any logical disk. (Default.)
177777	Attach to directory on the disk to which you are currently attached.

Specify **key** as:

Value	*Meaning*
0	Set as the home (permanent) directory. (Default.)
177777	Do not set as the home directory.

To attach back to the home directory, use the ATTACH command with no arguments. To attach to a subdirectory of the current (vs. home) directory, specify **key** as:

Value	*Meaning*
2	Set as the home (permanent) directory.
1	Do not set as the home directory.

The value of **ldisk** is unimportant when you attach to a subdirectory.

▶ **CLOSE** { **ALL** / **[filename] [unit 1 . . . unit 8]** }

Closes all units when ALL is chosen or closes the indicated filename in the current directory and closes all specified unit numbers. Unit numbers, in octal only, range from '1 to '17 (15 decimal).

▶ COMINPUT { CONTINUE [unit] | PAUSE | filename [ufd] | TTY }

Switches command input between command input files and the terminal. The unit number is octal. Default: 6

COMINPUT COMMAND FORMAT

COMINPUT CONTINUE

Reads in subsequent commands from the command file that is open on the unit.

COMINPUT PAUSE

Takes subsequent commands from the terminal but does not close the command input file. The unit number is ignored

COMINPUT filename [ufd]

Opens the file in the current directory (or in the UFD named **ufd**) on the designated unit, and reads in subsequent commands from that file

COMINPUT TTY

Takes subsequent commands from the terminal and closes the command input file that is open on the designated unit

▶ **CREATE ufd**

Creates the specified directory in the current directory as a password directory with null owner and nonowner passwords and with no quota.

▶ DELETE filename

Accepts neither options nor pathnames, unlike the PRIMOS DELETE command It deletes only SAM or DAM files or empty directories (file or segment). It never queries you concerning protected files, as does the PRIMOS DELETE command To delete non-empty directories or segment directories, use the FUTIL TREDEL command

▶ FUTIL [–NORM]

Invokes the interactive file manipulation utility. It responds with a right angle bracket (>) and waits for subcommands. It can also be used when running under PRIMOS, although it is obsolete. Specify –NORM if file sizes are to be reported in 880-byte records rather than 2048-byte records.

FUTIL SUBCOMMANDS

ATTACH pathname

Attaches to a new working directory Resets the FROM and TO directories to * if they specify relative attach points (that is, if they begin with >)

CLEAN prefix [level]

Deletes files beginning with **prefix** in FROM directory for indicated number of **levels.** Default 1

COPY { **from-name** / **(from-number)** } [**to-name** / **(to-number)**]

Copies the indicated SAM or DAM file from the FROM directory into the TO directory, replacing any existing file with the same name or number.

COPYDAM

Same as COPY but sets the file type of the destination file to DAM.

COPYSAM

Same as COPY but sets the file type of the destination file to SAM

CREATE directory [owner [nonowner]]

Creates **directory** in the TO directory with the indicated **owner** and **nonowner** passwords. Defaults: blank and null passwords.

DELETE { **file-name** / **(file-number)** }

Deletes the specified file from the FROM directory.

FORCE [ON / OFF]

ON forces read access rights in FROM directory when doing LISTF, LISTSAVE, SCAN, UFDCPY, and TRECPY. OFF does not force read access rights. Default: OFF.

FROM pathname

Defines the FROM directory.

LISTF [DATE / FIRST / LSTFIL / PASSWD / PROTEC / RWLOCK / SIZE / TYPE] [level]

Lists files in the FROM directory, and their attributes, at the terminal or into an optional file named LSTFIL in the working directory for the specified number of levels. Default: no attributes.

LISTSAVE filename [DATE / FIRST / PASSWD / PROTEC / RWLOCK / SIZE / TYPE] [level]

Same as LISTF with the LSTFIL option, but writes output to **filename** in the working directory.

PROTECT filename [owner [nonowner]]
Sets **owner** and **nonowner** protection attributes for **filename.** Default 1 0

QUIT
Returns to PRIMOS command mode

SCAN filename [DATE / FIRST / LSTFIL / PASSWD / PROTEC / RWLOCK / SIZE / TYPE] **[level]**
Same as LISTF but prints only objects with the name **filename.**

SRWLOC filename [lock]
Sets the per-file read/write lock for **filename** to **lock.** Default 0

TO pathname
Defines TO directory for subsequent commands such as CREATE and all copying commands

TRECPY {**from-name** / **(from-number)**} [**to-name** / **(to-number)**]
Copies the specified directory path from the FROM directory into the TO directory, only if the destination directory does not already exist

TREDEL {**name** / **(number)**}
Deletes the specified directory in the FROM directory

TREPRO directory [owner [nonowner]]
Sets **owner** and **nonowner** protection attributes for the directory path and its entire contents in the FROM directory Default 1 0

TRESRW directory [lock]
Sets the per-file read/write lock for the entire contents of the specified directory in the FROM directory. Default 0

UFDCPY
Copies the entire FROM directory into the TO directory

UFDDLL
Deletes the entire FROM directory, which cannot be a segment directory

UFDPRO [owner [nonowner [level]]]
Sets protection attributes for the contents of the FROM directory, for the specified number of levels Default 1 0, 1

UFDSRW [lock [level]]
Sets per file read/write locks for the contents of the FROM directory, for the specified number of levels Default 0, 1

▶ NSED [pathname]

Edits an existing or new file This command must be used instead of ED under PRIMOS II Under PRIMOS, NSED is generally less efficient than ED, otherwise, it is identical to ED Refer to the description of ED in the **PRIMOS Commands Companion** for a list of editor subcommands

▶ PRIMOS [pathname]

Begins the sequence of cold starting PRIMOS This command cannot be run under PRIMOS If **pathname** is specified, the version of PRIMOS residing in that directory is run Subsequent uses of the PRIMOS command without specifying **pathname** default to the same pathname specified The initial pathname, as released, is PRIRUN To run PRIMOS from a new directory without setting the default pathname to that directory, attach to the directory and type R PRIMOS

▶ STARTUP comdev [pdev-1] [pdev-2] [pdev-3]

Starts up the command disk (logical disk 0) and other disks specified by **pdev.** To start up only logical disk **n** (in octal), type STARTUP **n/pdev.**

▶ STATUS

Displays the current UFD name, the low address of PRIMOS II (DOSLO), the file units that are open, and the list of started up disks, including their logical and physical device numbers and their volume names.

PRIMOS COMMANDS

This section documents only those commands that are exclusively available to the System Operator or that behave differently when used by the System Operator

For more information on PRIMOS Commands, see the **PRIMOS Commands Companion** or the **PRIMOS Commands Reference Guide.** For more information about operator commands, see the **System Operator's Guide,** Vol II

► ADDISK { [PROTECT] pdev-1 [pdev-2] . . }
{ pdev –RENAME packname }

Starts up local disk partitions identified by physical device number **pdev.** If PROTECT is included, each disk partition is write-protected

–RENAME allows you to specify a new name for a disk when adding it to the system This is useful because two started-up disks cannot have the same name, later, when the disk is shut down, use the –RENAME option of the SHUTDN command to change the name of the disk back to the original name

▶ ADDISK diskname-1 [diskname-2] . . . –ON nodename

Makes disk partitions identified by **diskname** on the remote computer **nodename** available to local users. (FAM II only.)

▶ AMLC [protocol] line [configuration [lword]]

Sets async line characteristics, including line protocol and speed.

protocol specifies the async protocol to be used.

Protocol	*Meaning*
TTY	Uses normal (default) terminal protocol
TTYUPC	Translates lowercase alphabetic characters to uppercase for output, uses normal terminal protocol for input.
TRAN	Transparent (performs no character conversion).
TTYNOP	Ignores all traffic

line is the async line number in octal Minimum. 0. Maximum. '177 (127 decimal)

configuration is a 16-bit halfword (octal) used to set the line configuration. Sample values for **configuration:**

Configuration	*Baud Rate*
2213	300
2313	1200
2413	9600*

*Default for 2413 if AMLCLK is not set

lword should be 0 to designate **line** as an assignable line.

► ASSIGN DISK pdev

Assigns disk partitions. Used when backing up disks, when formatting disks, and when repairing disk partitions

pdev must be entered in the Assignable Disks Table using the DISKS command before the disk can be assigned.

► ASSIGN { MT**pdn** [–ALIAS MT**ldn**] / MTX –ALIAS MT**ldn** } [options]

Used to assign magnetic tape drives

MT**pdn** assigns tape drive unit number **pdn** and optionally sets a logical device number for the drive. Minimum: 0. Maximum 7.

MTX –ALIAS MT**ldn** assigns an available tape drive and sets a logical device number for the drive. Minimum: 0. Maximum. 7.

Option	*Function*
–7TRK	Forces your intervention by specifying that the tape is to be mounted on a 7-track drive
–9TRK	Forces your intervention by specifying that the tape is to be mounted on a 9-track drive
–ALIAS MT*ldn*	Sets a logical device number for the tape drive Minimum 0 Maximum 7
–DENSITY *bpi*	May force your intervention Specifies tape density in bpi (bits per inch) **bpi** can be 800, 1600, 3200, or 6250 Check the tape drive to be sure that it can operate at the specified density

Option	*Function*
-MOUNT	Forces your intervention and indicates that a new tape is to be mounted on the assigned drive
-RETENSION	Tells the tape drive to fast-forward to EOT (End of Tape) and then rewind to the beginning of the tape This stabilizes tape-to-head pressure and stacks the tape evenly on the reel (Cartridge tape drives only, version 5 controller)
-RINGOFF	Forces your intervention Tells you to mount the tape without a Write-Enable ring
-RINGON	Forces your intervention Tells you to mount the tape with a Write-Enable ring
-TPID id	Forces your intervention Requests that you locate and mount a specified reel of tape **id** is tape identifier, describing a reel identifier or tape drive type **id** cannot begin with a hyphen (-)
-WAIT	Suspends user process, if necessary, until tape request has been granted

▶ BATCH options

Controls and monitors the Batch monitor.

BATCH OPTIONS

-CONTINUE
Takes the monitor out of a paused state and allows it to initiate jobs again

-DISPLAY
Lists waiting, held, and executing job information by queue

-PAUSE
Allows currently executing jobs to finish, but prevents start of new jobs

-START [options]
Brings up the Batch monitor

Option	*Function*
-RLEVEL rlv	Sets monitor priority and highest batch job priority to **rlv.** Minimum 0 Maximum 3 Default 1
-TIMESLICE ts	Sets monitor timeslice and highest batch job timeslice to **ts** (tenths of seconds) Minimum 1 Maximum 99 Default 20 (2 seconds)

-STATUS
Summarizes waiting, held, and executing job information

-STOP
Shuts down the Batch monitor in an orderly manner

▶ BATGEN pathname

Defines, modifies, and monitors the Batch environment **pathname** specifies the Batch definition file, usually this is BATCHQ⟩BATDEF Batch Administrator command only

BATGEN SUBCOMMANDS

Subcommand	*Function*
BLOCK {**queue** / ALL}	Tells an existing queue or all queues to disallow submission of further jobs to the queue
DELETE {**queue** / ALL}	Flags an existing queue or all queues for deletion The queue accepts no more jobs and is deleted when all currently pending jobs have been run
DISPLAY [**queue** / ALL]	Lists queue characteristics
FILE [pathname]	Writes new Batch environments to file named **pathname** Default pathname specified on BATGEN command line
QUIT	Terminates session without changing file If anything was modified during the session, BATGEN prompts `Environment modified, OK to quit?` Type Y or ⟨CR⟩ to quit
STATUS	Summarizes queue status
UNBLOCK {**queue** / ALL}	Resets a previously blocked queue or all queues, allowing job submissions to be made Initial status is unblocked

▶ BOOT_CREATE [pathname] [options]

Makes boot tape (useful for booting system in the event of system disk failure) Takes input from **pathname,** a file containing pathnames of all directories and files that your system needs BOOT_CREATE reads **pathname** twice, first checking on whether the files listed are present and accessible, then calling MAGSAV to write the files to the boot tape (UFDs are saved without ACLs)

Option	*Function*
-HELP	Explains use of BOOT_CREATE
-MT [n]	Suppresses prompt for device number of tape drive Default 0
-NO_QUERY	Suppresses prompt for **pathname** parent directory password

Each line in **pathname** has the format

savename [option]

savename is the pathname of the file or directory to be saved on the boot tape Embedded passwords are not allowed

Option	*Function*
-CHECK	Does not save **savename,** just makes certain it exists
-NO	If **savename** does not exist, displays warning message and continues processing
-YES	If **savename** does not exist, displays error message and aborts processing (Default)

▶ CHAP {-userno / ALL} [priority [timeslice]]

Changes priority level and/or timeslice (in tenths of seconds) for a specified user or for all users

priority is the user priority Higher values usually result in more favorable scheduling for the user Minimum 0 Maximum 3 Default 1

timeslice is the user timeslice in tenths of seconds, specified in octal Minimum 1 Maximum '177777 (infinite timeslice) Default '24 (20 decimal or 2 seconds)

▶ CLOSE pathname

Closes all file units open to **pathname** for all users when issued from supervisor terminal **pathname** must specify a file on a local partition

▶ COPY_DISK [options]

Copies one disk to another

Option	*Function*
-DO_VERIFY	Causes verification of the copy
-LOWEND	Used with machines other than Prime 750, 850, or 9950 to speed up performance
-NO_BADS	Turns off badspot handling Use this if the source disk is full
-NOCHECKSUM	Turns off checking of checksums Intended for use on a 4000 controller

Option	*Function*
-NOVERIFY	Omits verification of the copy (Default)
-TTY	Accepts answers to prompts from user terminal rather than from command or CPL file

▶ **DISKS pdev-0 [pdev-1] . . . [pdev-7]**

Adds physical disks to the Assignable Disks Table.

▶ **DISKS NOT pdev-0 [pdev-1] . . [pdev-7]**

Removes physical disks from the Assignable Disks Table.

▶ EVENT_LOG [-NET] [-ON / -OFF]

Enables or disables event logging for the system or for PRIMENET. -NET specifies PRIMENET logging. Use -ON to initiate logging, -OFF to terminate logging System log files are stored in UFD LOGREC*, PRIMENET log files are stored in UFD PRIMENET*. Default: -ON.

▶ FIX_DISK -DISK pdev [options]

Invokes the PRIMOS disk repairing utility.

FIX_DISK OPTIONS

-AUTO_TRUNCATION
Truncates directories that are nested too deeply If omitted, FIX_DISK aborts if the maximum depth is reached. Use -MAX_NESTED_LEVEL to set the maximum depth.

-COMMAND_DEVICE
Must be used if the disk partition specified via -DISK is the command device. Can be used only at the supervisor terminal. No users, phantoms, or batch jobs should be running.

-CONVERT_19
Converts the specified disk partition to Rev 19 format -FIX must also be specified.

-DUFE
Deletes all inconsistent or unrecognized file entries

-FIX
Fixes any inconsistencies encountered If omitted, no disk modifications are performed.

-INTERACTIVE
If DSKRAT is defective or missing, interrogates you so that it can construct a consistent DSKRAT Otherwise, if there are DSKRAT problems, FIX_DISK aborts

-LEVEL [n]
Sets the lowest level in the path structure to be printed to **n**. Default 1 (MFD and top-level UFDs only).

-LIST_FILE
Prints filenames in all directories.

-MAX_NESTED_LEVEL [n]
Sets maximum depth that directories are allowed to be nested Default 99

-NO_QUOTA
Disables quota checking

-UFD_COMPRESSION
Compresses UFDs by eliminating empty file system entries -FIX must also be specified

▶ FIXBAT [options]

Handles startup protocol for the Batch monitor, fixes broken pointers in the queue files, and deletes inactive jobs specified by age FIXBAT is supplied as BATCHQ>FIXBAT SAVE, not as a command in CMDNC0 It runs every time the Batch monitor is started with BATCH -START Batch Administrator command only

FIXBAT OPTIONS

-DAYS n
Removes all canceled, completed or aborted jobs which are **n** or more days old from the Batch queues Minimum 0 Maximum 60 Default no jobs removed

-QUIET
Does not send a message to the terminal when FIXBAT removes a job from a queue (Useful only if DAYS is also specified)

-STARTUP argument
Starts the BATCH monitor specified only in the file BATCHQ>START_BATCH_MONITOR COMI

Takes one of four arguments (SAVE SPOOL, DELETE or NOLOG) to tell FIXBAT what to do with the Batch COMOUTPUT file

Argument	*Meaning*
SAVE	Renames current COMOUTPUT log to OLDLOG, deleting any existing OLDLOG Creates new COMOUTPUT file O_LOG
SPOOL	Spools current COMOUTPUT file, calling it BATCH LOG Creates and opens a new O_LOG file
DELETE	Opens O_LOG as COMOUTPUT file
NOLOG	Takes no action with regard to COMOUT PUT files

▶ FTOP option

Starts, stops, and monitors file transfer servers. Starts up the file transfer manager, YTSMAN.

FTOP OPTIONS

–ABND_SRVR server-name
Abandons the server, placing all transfers in progress on hold and logging out server **server-name.**

–ABRT_SRVR_LINK server-name link-number
Aborts a server link The file transfer in progress on link **link-number** (1 to 8) of server **server-name** is placed on hold

–LIST_SRVR_STS [server-name]
Lists the status of server **server-name** or of all servers if **server-name** is not specified Identifies transfers in progress with their server link numbers

–START_MNGR [manager-name]
Starts the FTS manager process, YTSMAN If **manager-name** is specified, it overrides the name YTSMAN as the login name of the process

–START_SRVR server-name
Starts a server process named **server-name** if it is not already running

–STOP_SRVR server-name
Stops the server process named **server-name.** It logs out when it has completed all transfers in progress but does not begin new transfers

▶ FTR option

Monitors or controls all file transfer requests User SYSTEM command only

FTR OPTIONS

–ABORT request-name
Aborts a file transfer request, placing it on hold

–CANCEL request-name
Drops a request from the queue, unless it is already in progress

–DISPLAY [request-name]
Displays request information in detail Default display all requests

–HOLD request-name
Puts a request on hold, unless it is already in progress

–MODIFY request-name submit-options
Modifies the characteristics of a submitted request **submit-options** cannot include QUEUE, –NO_COPY, –COPY, –DSTN_SITE, –SRC_SITE, or –HOLD

–RELEASE request-name
Releases a request that was previously held

–STATUS [request-name]
Displays request information in summary form Default display all requests

▶ JOB [job-id] option

Monitors and controls jobs in Batch queues You must be logged in as SYSTEM, BATCH_SERVICE, or a Batch Administrator, to perform aborts or restarts you must be logged in at the supervisor terminal

Option	*Function*
-ABORT	Aborts a running, held, or waiting job
-CANCEL	Cancels a held or waiting job
-DISPLAY	Displays status and parameters of a job
-HOLD	Holds a job in the queue
-RELEASE	Releases a held job so that it can run
-RESTART	Terminates, then restarts a job
-STATUS	Displays the status of a job

If the -DISPLAY or -STATUS options are given without **job-id,** the information for all active jobs is printed For all other options, **job-id** is required

▶ LIST_PRIORITY_ACCESS partition-name

Allows listing of the priority ACL on any partition at any time.

▶ LOGOUT {-usernumber / ALL}

Logs out the process specified by **usernumber** or logs out ALL users connected to the system, except NETMAN if it is running LOGOUT ALL also performs an implicit MAXUSR 0 command

▶ LOOK [-userno [segno [access [mapseg]]]]

Maps any user's segment into a supervisor terminal segment with the specified access rights. The `REALLY?` query is issued if the command seems dangerous to the system. See the SHARE command for a description of **access.**

userno is the user number. Default: 1.

segno is the user's segment to be mapped. Default: '6000 (decimal 3072).

access is the access to be given to the map segment. Default: '200 (128 decimal).

mapseg is the segment number of the map segment. Default: '4001 (2049 decimal).

▶ MAGRST [options]

Restores a file, directory, or partition from a magnetic tape written by MAGSAV.

Option	*Function*
-7TRK	Specifies 7-track format for the tape. Default: 9-track
-TTY	Takes the tape unit number from your terminal input. All other information is taken from the current input stream. You use this option with CPL files and command input files.

After you invoke MAGRST, MAGRST requests the tape unit and logical tape numbers. MAGRST then

reads and displays the tape label. Then MAGRST prompts:

```
Ready to restore:
```

Respond to the prompt with the following commands:

MAGRST RESPONSES

$A pathname
Changes your current directory to the directory specified by **pathname.**

$I [pathname] [n]
Causes MAGRST to produce an index of the tape as it restores the tape. Exits to PRIMOS when restore is done. The `Ready to restore:` prompt is then repeated. The index is sent either to your terminal or to the file **pathname.**

n (octal) indicates the number of directory levels to be included in the index. Default: 2.

NO
Prevents restore of the tape and prompts you again for the tape unit and logical tape number.

NW [filename] [n]
Reads the entire tape and produces an index without restoring any files to disk. Exits to PRIMOS when index is done. The index is sent either to your terminal or to the file **filename** in your current directory.

n (octal) specifies the number of directory levels to be included in the index. Default: 2.

PA
Does partial restore. Restores specified files and directories. After you type PA, MAGRST prompts:

```
Tree name:
```

Enter the pathname of the file or directory that you want to restore and press the carriage return. End

the list of files or directories to be restored by pressing carriage return after a blank line The maximum number of files or directories is 10 After the restore is complete, MAGRST exits to PRIMOS

YES

Restores the entire tape When restore is finished, returns you to PRIMOS

▶ MAGSAV [options]

Writes a file, directory, or partition to magnetic tape

Option	*Function*
-7TRK	Specifies 7 track format Default 9-track format
-INC	Specifies an incremental save Only files and directories with a reset (= 0) dumped bit are saved All files are saved if you do not specify this option
-LONG	Specifies a 2048-byte record size. Default 4096 byte variable length records
-NO_ACL	Tells MAGSAV not to save any ACLs or ACL references Tapes saved with the -NO_ACL option can be restored by Rev 18 versions of MAGRST onto a Rev 18 system If you do not specify this option, then ACL information is saved to tape
-P300	Specifies 1024 byte records Also suppresses ACLs
-SAVE_UID	Saves directory headers, whether modified or not Only used with the -INC option

Option	*Function*
-TTY	Takes the tape unit number from your terminal. All other information is taken from the current input stream. Used with CPL files and COMINPUT files.
-UPDT	Specifies an update. The dumped bit in the UFD entry is set for files and directories that are saved from disk onto tape. The dumped bit is not set if you do not specify this option.
-VAR	Writes variable-length records up to 4096 bytes. Useful for large files, as it decreases the amount of tape used for record headers. (Default.)

After typing MAGSAV, you are prompted for the tape unit, logical tape numbers, and tape label information. MAGSAV then prompts:

```
Name or command:
```

Respond to the prompt with the following commands:

MAGSAV RESPONSES

*****

Saves all files and directories in your current directory.

$A pathname

Changes your current directory to the directory specified by **pathname.**

filename

Saves specified file or directory in your current directory.

$I [pathname] [n]

Produces index as files and directories are saved. The index is sent either to your terminal or to the file **pathname.**

n (octal) sets the number of directory levels to be included in the index. Default 2.

$INC OFF

Turns off incremental dump mode This overrides any -INC option on the command line that you originally type to start MAGSAV Files are saved regardless of the setting of their DUMPED switches

$INC ON

Turns on incremental dump mode Only files that have their DUMPED switch not set are saved.

MFD

Saves the entire partition You must be attached to the MFD of a partition to use this command

$Q

Terminates the logical tape and returns to PRIMOS Does not rewind the tape If you run MAGSAV again on the same tape unit, specify 0 as the logical tape number.

$R

Terminates the logical tape, rewinds the tape, and returns to PRIMOS. If you run MAGSAV again on the same tape unit, specify a logical tape number of one more than that of the logical tape number in the session that you have just completed

$UPDT OFF

Turns off update mode This overrides any -UPDT option on the command line that you originally type to start MAGSAV Files that are saved will not have the DUMPED switch set

$UPDT ON

Turns on update mode Files that are saved will have the DUMPED switch set

▶ MAKE -DISK pdev -PARTITION name [options]

Creates a structure for any PRIMOS supported disk pack or partition **pdev** is the physical device number of the disk to be created, and **name** is the disk's new name

Note that only the -DISK_TYPE, -BAUD_RATE, and -NO_INIT options apply to floppy disks

MAKE OPTIONS

-BADSPOT_LEVEL [n]
Specifies the level of verification to be employed in checking for badspots The larger **n** is, the more verification is performed Normally, **n** is 1 for SMD and CMD disks and 4 for FMD disks Default prompt for **n.**

-BAUD_RATE [bps]
Sets the initial baud rate of the supervisor terminal for the disk The baud rate takes effect when the disk being made is used to boot the system **bps** can be 110, 300, 1200, or 9600 Normally, 300 baud is used Default prompt for **bps**

-DISK_TYPE [type]
Specifies the type of disk Legal types are SMD, CMD, 68MB, 158MB, 160MB, 600MB, and FLOPPY Normally, SMD is assumed Default prompt for **type**

-FORMAT
Specifies that formatting must be performed on the disk before any other operations are attempted Must be specified if the disk has never before been used on a Prime system

-MAP_UNCORR
Specifies that records with correctable errors are not mapped out as badspots Normally, records with correctable or uncorrectable errors are mapped out as badspots

-NO_INIT
Specifies that MAKE is not to initialize the file system part of the disk (Rarely used)

-PRE_REV19
Required if the partition to be made is going to be used under versions of PRIMOS earlier than Rev 19

-QUERY_BADSPOTS
Causes MAKE to ask you for known badspots on the disk

-SPLIT [recs]
Specifies that the partition is to be split between file storage and paging storage **recs** specifies the number of records to be reserved for paging storage Normally, all space is used for storage Default prompt for **recs.**

▶ MAXUSR [n]

Sets the maximum numbers of users (terminal, phantom, remote) allowed to be logged in If the number of users on the system is greater than **n,** none are logged out, but no logins are allowed until the number of users is less than **n.** Phantoms can always be started up from the supervisor terminal **n** must be specified in octal This command is ignored if it is issued before time and date are set Default configured number of users.

▶ MESSAGE ALL [-NOW] [-FORCE] **text of message**

Sends a one-line message (80-character maximum) to all users Can be used only from the supervisor terminal

If -NOW is specified, the message is immediately displayed on each receiving user's terminal Other

wise, users see the message when returning to PRIMOS command level or at next login

If -FORCE is specified, all logged-in users receive the message regardless of their message state Otherwise, the usernumber of any user who is rejecting this type of message is displayed on the supervisor terminal as the messages are distributed

▶ MESSAGE { **username** / **-usernum** } [**-FORCE** / **-NOW** / **-ON node**]

text of message

Works like the user's MESSAGE command with the additional ability to override the receiving user's message state from the supervisor terminal by using -FORCE See the **PRIMOS Commands Companion.**

▶ **NET option**

Activates and deactivates half-duplex (HDX) PRIMENET connections on SMLC/MDLC lines configured with NETCFG Use the HDXSTAT command to determine node and line status For the options listed below, **nn** specifies a logical synchronous line number defined by the configuration directive SMLC SMLCnn.

–ASSIGN SMLCnn

Reserves a configured HDX synchronous line for HDX operation only

–START SMLCnn [–SITE nodename]

Activates a reserved HDX line, optionally initiating a call to **nodename** on the line if –SITE is specified.

–STOP {**SMLCnn** / **nodename**}

Disconnects an activated HDX line, identified by either its line number or the name of the node to which the line is currently connected.

–UNASSIGN SMLCnn

Unassigns a disconnected line, removing it from its reserved state

► OPRPRI [0 / 1]

Enables or disables use of the SHARE command from the supervisor terminal. 1: Allow SHARE command to be used, 0: Do not allow SHARE command to be used. Default: 0.

▶ PHYRST [options]

Restores partitions to disk that have been saved by PHYSAV on magnetic tape.

Option	*Function*
-NO_BADS	Disables the badspot handling. Badspot handling occurs on Rev. 19 disks only.
-TTY	Makes PHYRST request its magnetic tape user number from the terminal, even if the utility is being run from a CPL or COMINPUT file.
-UNMOD	Prevents system hangs due to incorrect recovery from DMX overruns. Use this option only if your equipment has one of these early model controllers: wire wrap controller boards without ECR 3748 or etched boards without ECRs 3062 and 3342.

▶ PHYSAV [options]

Writes one or more assigned disk partitions to magnetic tape. The copy is made track by track in physical order.

Option	*Function*
-LOWEND	Is used with machines other than a Prime 750, 850, or 9950.
-TTY	Forces PHYSAV to ask for the magnetic tape unit number at the terminal, even if it is running from a CPL or COMINPUT file.

Option	*Function*
-UNMOD	Prevents system hangs due to incorrect recovery from DMX overruns. Use this option if your equipment has one of these early model controllers: wire wrap controller boards without ECR 3748 or etched boards without ECRs 3062 and 3342.

▶ PRINT_NETLOG {[output-file] / TTY} [options]

Analyzes PRIMENET event log file and produces a formatted output file. Default output file is called NETLST and resides in current directory. Default input is the most recent log file in the UFD named PRIMENET*. If PRINT_NETLOG finds no log files, it prompts for the name of an input file. The log file name is in the format NET_LOG mm/dd/yy.

PRINT_NETLOG OPTIONS

-CENSUS
Totals the entries for each event and writes totals to the output file or TTY.

-CONTINUE
Goes on after a bad entry is found. Default: stop after bad entry.

-DEBUG
Reads entries from terminal. Use this to test formatting for entry types.

-DELETE
Deletes output file when done. Use only with -SPOOL option.

-DUMP
Displays each entry processed in octal.

-FROM {**mmddyy** [**hhmm**] / **TODAY**}

Specifies entries beginning on given date or TODAY as entries to be processed.

-HELP

Prints a list of options.

-INPUT pathname

Specifies the pathname of the input file to be processed.

-PURGE

Empties but does not delete the event log file.

-REMARK text

Enters operator remark directly into the input file.

-SPOOL

Spools output file when done.

-TYPE type type . . .

Processes entries of the specified types only. Otherwise, processes all entries.

Type	*Meaning*
BADSEQ	Packets out of sequence
COLD	Cold start
HOSTDN	Level III protocol down
INCREQ	Incoming call requests
LPE	Local procedure errors
NETDMP	NETDMP calls
NPXCLR	NPX master circuit cleared
NPXCON	NPX unknown circuit status
NPXRCV	NPX unexpected receive status
NPXRLS	NPX bad virtual circuit clearing
NPXSEQ	NPX message out of sequence
NPXTHR	NPX throttled on transmit or receive
OUCREQ	Outgoing call requests
OVERFL	NETBUF overflow entries
PWFAIL	Power fail checks
REMARK	Operator remark
RESETS	Circuit resets
RING1	Tokens inserted in ring
RING2	Ring dim out of receive blocks
RING3	Ring nodes not accepting transmits
RNGHRD	PNC hardware failure
RNGRCV	PNC spurious receive interrupt
RNGRES	PNC resource failure
SMLC1	SMLC status errors
SMLC2	No STX preceding ETX
SMLC3	No system blocks for SMLC protocol messages
SMLC4	SMLC resets
TIMDAT	Time/date entries
WARM	Warm starts

▶ PRINT_SYSLOG {[output file] / TTY} [options]

Analyzes system event log file and produces a formatted output file Default output file is called LOGLST and resides in the current directory Default input is the most recent log file in the UFD named LOGREC* If PRINT_SYSLOG finds no log files, it prompts for the name of an input file The log file name is in the format LOG mm/dd/yy

PRINT_SYSLOG OPTIONS

-CENSUS
Totals the entries for each event and writes totals to output file or TTY

-CONTINUE
Goes on after a bad entry Normally stops

-DEBUG
Reads entries from terminal Used to test formatting for entry types

-DELETE
Deletes output file when done Use only with -SPOOL option

-DUMP
Displays each entry processed in octal

-FROM {mmddyy [hhmm] / TODAY}
Specifies entries beginning on given date or TODAY as entries to be processed

-HELP
Prints list of options

-INPUT pathname
Specifies the pathname of the input file to be processed

-PURGE
Empties but does not delete event log input file

-REMARK text
Enters operator remark directly into the input file

-SPOOL
Spools output file when done.

-TYPE type type . . .
Processes entries of the specified types only. Otherwise, processes all entries

Type	*Meaning*
CHECKS	Machine checks or parity errors
CHK300	P300 machine checks
COLD	Cold start
DISK	Disk errors
DSKNAM	ADDISK errors
MOD300	P300 missing memory module checks
OVERFL	LOGBUF overflow entries
PACL	Priority ACL set
PAR300	P300 parity checks
POWERF	Power fail checks
QUIET	Machine check mode now quiet
REMARK	Operator remark
SENSOR	Sensor check
SETIME	Operator issued a SETIME command
SHUTDN	Operator shutdowns
TIMDAT	Time/date entries
TYPE10	Entry for type 10
TYPE11	Entry for type 11
TYPE12	Entry for type 12
TYPE13	Entry for type 13
TYPE14	Entry for type 14
TYPE15	Entry for type 15
WARM	Warm start

▶ PROP { name [option] / -STATUS }

Monitors and controls the actions of the spooler phantoms -STATUS prints the status of all defined spoolers **name** is a unique (1 16 character) name identifying the spooler phantom

PROP OPTIONS

-ABORT
Causes spooler to stop printing the current file, but leaves file in the spool queue (unlike -DROP) Also forces a previously requested paper change to occur

-BACK
Restarts printing of current file 128 256 lines prior to the current line The spooler does not necessarily restart on an even page boundary

-CONTINUE
Continues printing/scanning Takes spooler out of hang mode (-HANG)

-DELETE
Deletes spooler environment named in the PROP command

-DISPLAY
Prints a detailed description of the spooler environment

-DROP
Causes spooler to stop printing the current file and to delete this file from the spool queue (unlike -ABORT)

-HANG [NOW / FINISH / IDLE]
Causes spooler to stop printing and scanning the queue Spooler stops sometime after command is issued NOW immediately FINISH after current file is printed IDLE when spooler has no more work to do Use -CONTINUE to restart spooler Default FINISH

-LINEUP [lines]

Functions like -RESTART, except that spooler does an implied -HANG after printing **lines** number of lines If alignment is correct, use -CONTINUE option Otherwise, realign paper and repeat -LINEUP option Can be used with the -START option Default 3

-RESTART

Restarts current file from beginning Used after printer has been halted by running out of paper, a paper jam, or similar cause

-START

Starts up spooler initially or after use of -STOP

-STOP [NOW / FINISH / IDLE]

Causes spooler to log out Spooler logs out sometime after command is issued NOW immediately FINISH after current file is printed IDLE when spooler has no more work to do Use -START to restart spooler Default FINISH

▶ REMOVE_PRIORITY_ACCESS
partition-name

Removes priority access from partition System Administrator or supervisor terminal command only

▶ REPLY –userno –TAPE { pdn | GO | ABORT | RESEND }

Responds to a user's ASSIGN requests.

REPLY COMMAND FORMATS

pdn
Assigns physical drive **pdn** to the requesting user, allowing the user to proceed. Used only when MTX is requested by user. Minimum: 0. Maximum: 7

ABORT
Aborts the user's request for a tape drive for whatever reason: no drive available, tape not found, and so on

GO
Assigns requested drive to the requesting user, allowing the user to proceed. Not used when MTX is requested by user. You okay the request; the message displayed at the user terminal indicates that the desired tape drive has been assigned. GO is used to answer all requests that did not specify the MTX –ALIAS MT ldn option.

RESEND
Redisplays the most recently sent assignment request

▶ REPLY [**–userno** | –ALL | –TAPE] –RESEND

Repeats outstanding requests.

–userno is the number of the user whose requests you want to see again. –ALL repeats all the outstanding requests –TAPE repeats only the last assignment request issued.

▶ REPLY -REPEAT seconds

Alters message repeat frequency. **seconds** is a decimal number. Default: 180.

▶ SET_PRIORITY_ACCESS partition-name acl

Sets priority access for any partition. System Administrator or supervisor terminal command only. The format of **acl** is:

id:rights [. . .]

id is a username, groupname, or $REST.

rights are any combination of P (Protect), D (Delete), A (Add), L (List), U (Use), R (Read), or W (Write). **rights** may also be ALL to indicate PDALURW rights, or NONE to indicate no rights

Unlike regular access control lists, priority access does not include an implicit $REST.NONE

▶ SET_QUOTA pathname -MAX number

Sets maximum storage quota on a directory or subdirectory.

pathname is the pathname of the directory having its quota set.

number is the maximum number of records a directory can use. If the **number** is 0, the quota is removed. 0 gives the directory unlimited records subject only to total disk space

▶ SETIME -date -time

Sets the system **date** (mmddyy) and **time** (hhmm). On systems without a battery backed-up clock, the SETIME command must be issued before the MAX-USR command can be used.

▶ SETMOD { -OPERATOR / -USER / -NOASSIGN }

Given from the supervisor terminal to set the mode for magnetic tape assignments.

Option	*Function*
-OPERATOR	All mag tape assignments must be made by you, using the REPLY command
-USER	Users can assign tape drives at their own terminals (Default.)
-NOASSIGN	Tape drives cannot be assigned.

▶ SHARE [pathname] segment-number [access]

Incorporates **pathname** into segment **segment-number** with **access** access rights. If **pathname** is omitted, the access rights of **segment-number** are changed.

Access	*Allows Users*
0	No access
200	Read access
600	Read and execute access (Default)
700	Read, write, and execute access

▶ SHUTDN **diskname-1 [diskname-2] . . . –ON nodename**

Makes disk partitions identified by **diskname** on the remote computer **nodename** unavailable to local users. (FAM II only.)

▶ SHUTDN ALL

Shuts down the entire system. The prompt REALLY? is displayed. A YES response continues shutdown; any other response does not. Wait for the STOP light on the system status panel to turn on before removing system power.

▶ SHUTDN { **pdev-1 [pdev-2] . . .** / **pdev –RENAME packname** }

Shuts down local disk partitions identified by physical device number **pdev.** –RENAME allows you to specify a new name for a disk when removing it from the system.

▶ SPOOL **–CANCEL prtid [prtid] . . .**

Cancels the specified spool files. If you are logged in as SYSTEM, you can cancel any user's spool request. **prtid** is of the form PRTnnn or just nnn. To determine the print request id number, use SPOOL –LIST.

► STATUS [options]

Prints information about system status at the supervisor terminal. The information is slightly different from that printed at user terminal by the STATUS command.

Option	*Displays*
none	Same as ALL. (This is different from the usage at a user terminal.)
ALL	Prints all information displayed by other options (except COMM) plus paging and command device information.
COMM	Prints information on communications controllers present on a system, excluding Prime Node Controller.
DEVICES	Lists mag tape devices assigned, including physical device number, username, user number, and logical device number.
DISKS	Lists started up logical disks, volume names, logical number, physical device number, and local system names.
ME	Prints information for all processes with user's login name. Prints information for all users when command is given at supervisor terminal.
NETWORK	Prints type(s) of network, nodenames of all nodes on the network, and status of each node (UP or DOWN).
PROJECTS	Lists user information: login name, project status, user number.
SEM	Prints current value of all numbered semaphores and the supervisor user's named semaphores.

Option	*Displays*
SYSTEM	Prints PRIMOS version currently running
UNITS	Lists file units open and local nodename
USERS	Lists user information login name, user number, line number, physical disks used, assigned peripherals, priority, system logged into or from

▶ UNASSIGN device

Unassigns (releases) any device assigned to any user when used at the supervisor terminal

▶ USAGE [option]

Displays system metering information Unless -FREQ is specified, USAGE simply collects metering information and exits to PRIMOS without displaying it Use the PRIMOS START command after at least 30 seconds have passed to cause USAGE to display a summary of system metering activity since the last time USAGE was started Do repeatedly an indefinite number of times for manual sampling mode Use the FREQ option for automatic sampling Default USER

Option	*Function*
-ALL	Displays system, per user, and disk-metering information
-BRIEF	Specifies that a short form of output is to be produced
-DISK	Displays system and disk metering information

Option	*Function*
–FREQ n	Sets automatic sampling to occur every **n** seconds
–TIMES n	If used with –FREQ, specifies the total number of sets of data to be printed If –TIMES **n** is not specified but –FREQ is specified, sampling continues indefinitely
–USER	Displays system and per-user metering information (Default)

USAGE SYSTEM METERS

Display	*Definition*
DTIME	Elapsed time in seconds since last sample
CPTOT	CPU seconds charged to user processes since coldstart
IOTOT	Disk seconds charged to user processes since coldstart
CP	CPU seconds charged to user processes since last sample
I/O	Disk seconds charged to user processes since last sample
%CPU	CPU seconds vs DTIME
%IDL1	Idle CPU or master ISU time vs DTIME
%IDL2	Idle slave ISU time vs DTIME (always zero if not P850)
%ERR	CPU seconds not accounted for vs DTIME
%IO	I/O vs DTIME
%OVLP	Estimate of I/O time overlapping non-idle time vs DTIME
IO/S	Disk I/O request rate per second (vs DTIME)
PF/S	Page faults per second (vs DTIME)
%CLK	CPU seconds used for realtime clock servicing vs DTIME

Display	*Definition*
%FNT	CPU seconds used by slave ISU frontstop process vs DTIME
%AML	CPU seconds used by the AMLC server process vs DTIME
%MPC	CPU seconds used by the MPC server processes vs DTIME
%PNC	CPU seconds used by the PNC server process vs DTIME
%SLC	CPU seconds used by the SMLC server process vs DTIME
%GPPI	CPU seconds used by the GPPI server processes vs DTIME
%DSK	CPU seconds used by the disk driver processes vs DTIME
%ASYNC	CPU seconds used by ICS1 asynchronous support process vs DTIME
%SYNC	CPU seconds used by ICS1 synchronous support process vs DTIME
%ICS	CPU seconds used for ICS1 interface support process vs DTIME
LOCATE	Requests to access physical disk records
%MISS	Requests requiring physical disk accesses vs LOCATE, or "locate misses"
%FND	Requests finding disk records already in memory vs LOCATE, or "locate finds"
%SAME	Requests for same disk record just used by the process vs LOCATE, or "locate sames"
%SHARE	Requests for records in use by another process vs LOCATE, or "locate shares"
LOC/S	LOCATE vs DTIME
LM/S	Requests requiring physical disk reads vs DTIME
DISK	Disk operations since last sample

Display	*Definition*
QWAITS	Number of waits to get onto the disk request queue
%QWAIT	QWAITS vs DISK
DMAOVR	Number of disk operations resulting in DMA overrun errors
%DMAOV	DMAOVR vs DISK
HANGS	Number of disk operations causing controller hangs
%HANG	HANGS vs DISK

USAGE USER METERS

Display	*Definition*
USR	Usernumber
USERID	First six characters of login name
MEM	Number of physical pages resident in memory
CPTIME	CPU seconds since login
DCP	CPU seconds since last sample
%CP	DCP vs CP
IOTIME	Disk seconds since login
DIO	Disk seconds since last sample
%IO	DIO vs IO

USAGE DISK METERS

Display	*Definition*
DISK	Controller address and disk drive unit number
I/O	Disk operations for controller or drive
%I/O	I/O vs system meter DISK
TIME	Disk seconds on controller or driver
%TIME	TIME vs system meter I/O

▶ USERS

Displays the total number of users logged into the system. Does not include the supervisor terminal user or users logged in remotely from or through the system.

▶ USRASR userno

Allows the supervisor terminal to act as a user terminal with the specified user number.

OCTAL TO DECIMAL AND DECIMAL TO OCTAL CONVERSION CHARTS

Use the chart on the right, the decimal-to-octal conversion, only if you know how to add/subtract in octal.

Octal	*Decimal*
1 to 7	1 to 7
10	8
11	9
12	10
13	11
14	12
15	13
16	14
17	15
20	16
30	24
40	32
50	40
60	48
70	56
100	64
200	128
300	192
400	256
500	320
600	384

Decimal	*Octal*
1 to 7	1 to 7
8	10
9	11
10	12
11	13
12	14
13	15
14	16
15	17
16	20
17	21
18	22
19	23
20	24
30	36
40	50
50	62
60	74
70	106
80	120
90	132

Octal	*Decimal*
700	448
1000	512
2000	1024
3000	1536
4000	2048
5000	2560
6000	3072
7000	3584
10000	4096
20000	8192
30000	12288
40000	16384
50000	20480
60000	24576
70000	28672
100000	32768*
177777	65535*

Decimal	*Octal*
100	144
200	310
300	454
400	620
500	764
600	1130
700	1274
800	1440
900	1604
1000	1750
2000	3720
3000	5670
4000	7640
5000	11610
6000	13560
7000	15530
8000	17500
9000	21450
10000	23420
20000	47040
30000	72460
*40000	116100
*50000	141520
*60000	165140
*65535	177777

*Indicates negative numbers when signed

SERIAL INTERFACE CONTROLLER

The table below shows the values for the B, X, and Keys register settings of the BOOT program on disk for various supervisor terminal speed settings (bits per second). To change the supervisor terminal speed of the BOOT program, use the following command sequence:

```
ATTACH MFD
RESTORE BOOT
SAVE BOOT 4/b-reg x-reg keys-reg
```

Speed	*B-reg*	*X reg*	*Keys reg*
110	*110*	*27*	*74006*
300	*1010*	*76*	*74006*
1200	*2010*	*373*	*34006*
4800	*3010*	*1756*	*34006*
9600	*3410*	*3735*	*34006*

DISK ERROR CODES

Disk read/write errors generate an error message in the following format:

DISK xx ER pdev recno actrec status retries

x is RD (read error) or WT (write error); **pdev** is the physical device number of the disk partition; **recno** is the target record number for the operation (two halfwords); **actrec** is the actual record number retrieved during a read operation (two halfwords); **status** is the controller status; **retries** is the number of times the operation was attempted unsuccessfully up to '12 (10 decimal) times. **retries** is not reported when running PRIMOS II.

This section summarizes the displayed **status** values and their meanings for both fully-supported disks and floppy disks.

FULLY-SUPPORTED DISKS

Fully-supported disks include storage module devices (SMD), Cartridge Module Disks (CMD), and Fixed-Media Devices (FMD).

Status Word	*Meaning*
177777	Bad record identifier
177776	Device not ready
100000	Always set by disk controller hardware (no error if only bit set)
040000	DMX overrun
020000	Write protect violation
010000	Check error
004000	Checksum error
002000	Header check failure
000010	Disk drive seeking
000004	Illegal seek
000002	Select error
000001	Not available or not ready

FLOPPY DISKS

Floppy disks are also referred to as diskettes.

Status Word	*Meaning*
177777	Bad record identifier
177776	Device not ready
100000	Normal end of instruction (good if present)
040000	Sector not found
020000	Checksum error on sector ID
010000	Track error, head is mispositioned
002000	Deleted data mark read
001000	DMX overrun
000400	Checksum error, write protect violation of file inoperable on write or format