HP 3000 Commercial Systems

HP 3000 FUNDAMENTAL OPERATING SYSTEM INSTALLATION MANUAL

Version G.03.05 of MPE V/E (V-Delta-5)

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CONVENTIONS USED IN THIS MANUAL

NOTATION	DESCRIPTION
nonitalics	Words in syntax statements which are not in italics must be entered exactly as shown. Punctuation characters other than brackets, braces and ellipses must also be entered exactly as shown. For example: EXIT;
italics	Words in syntax statements which are in italics denote a parameter which must be replaced by a user-supplied variable. For example: CLOSE *filename*
[ ]	An element inside brackets in a syntax statement is optional. Several elements stacked inside brackets means the user may select any one or none of these elements. For example: [A B] User *may* select A or B or neither.
{ }	When several elements are stacked within braces in a syntax statement, the user must select one of those elements. For example: {A B C} User *must* select A or B or C.
. . .	A horizontal ellipsis in a syntax statement indicates that a previous element may be repeated. For example: [,*itemname*]. . .;
	In addition, vertical and horizontal ellipses may be used in examples to indicate that portions of the example have been omitted.
,	A shaded delimiter preceding a parameter in a syntax statement indicates that the delimiter *must* be supplied whenever (a) that parameter is included or (b) that parameter is omitted and any *other* parameter which follows is included. For example: *itema*[,*itemb*] [,*itemc*] means that the following are allowed: *itema* *itema*,*itemb* *itema*,*itemb*,*itemc* *itema*,,*itemc*

CONVENTIONS (continued)

Δ — When necessary for clarity, the symbol Δ may be used in a syntax statement to indicate a required blank or an exact number of blanks. For example:

```
SET[(modifier)]Δ(variable);
```

underlining — When necessary for clarity in an example, user input may be underlined. For example:

```
NEW NAME? ALPHA
```

In addition, brackets, braces or ellipses appearing in syntax or format statements which must be entered as shown will be underlined. For example:

```
LET var[[subscript]] = value
```

shading — Shading represents the terminal's screen or key portions of an example.

[ ] — The symbol [ ] may be used to indicate a key on the terminal's keyboard. For example, [RETURN] indicates the carriage return key.

[CONTROL]*char* — Control characters are indicated by [CONTROL] followed by the character. For example, [CONTROL]Y means the user presses the control key and the character **Y** simultaneously.

CONTENTS

PREFACE

This manual contains the procedures required to install the Fundamental Operating Software (FOS), perform an initial system configuration, and create a coldload tape for a new HP 3000 computer.

The technical content of this manual is at a level of a HP 3000 Systems Engineer (SE) or Customer Engineer (CE).

RELOAD WITH THE FOS AND CONFIGURE THE SYSTEM

SECTION 1

This section provides the steps necessary to reload the Fundamental Operating Software (FOS) and perform an initial system configuration. The FOS tape contains the MPE Operating System, diagnostics, runtime libraries, and system utilities. Refer to the *System Operation and Resource Management Reference Manual* (P/N 32033-90005) for additional information on configuring system tables, volume tables, I/O devices, or virtual memory.

NOTE

During the system configuration, there are three types of questions asked:

- Those that require an affirmative response (Y) or a negative response (N or RETURN).
- Those that require a value; change an old value by entering a new one or retain the existing value by pressing RETURN.
- Those that require a name; change an old name by entering a new one or retain the existing name by pressing RETURN.

Always conclude the answer with a RETURN, this will transmit the response to MPE.

1. Turn the power on. (If Series 64 or 68, proceed to step 4.)
2. When the CONTROL B prompt appears, enter:

```
->IOMAP
```

3. Record the channel and device numbers for all connected peripherals.
4. Mount the FOS tape on the tape drive (coldload device), ensure the tape drive is online.
5. At the CONTROL B prompt, enter:

```
->LOAD[channel#],[device#]      ** Series 37, 37/XE, MICRO 3000, 3000/XE **
 or
->LOAD                          ** Series 39, 40, 42, 44, 48, 58 **
 or
->LOAD[IMB#,channel#,device#]   ** Series 64, 68, 70 **
```

NOTE

Depending on the type of system being initialized, some lines of dialog may not appear.

6. Start the reload by responding to the dialog as follows:

```
WHICH OPTION <COLDSTART/RELOAD/UPDATE>? RELOAD
WHICH OPTION <SPREAD/COMPACT/RESTORE/ACCOUNTS/NULL>? ACCOUNTS
ANY CHANGES? Y
LOAD MAP? (RETURN)
MEMORY SIZE? = <XXXX> (MIN=256, MAX=8192)? (RETURN)
I/O CONFIGURATION CHANGES? Y
```

When the response to the above prompt is Y, the following dialog is displayed. Respond to the dialog as follows:

```
I/O MAP? Y  ** Series 64 or 68, record channel and device numbers **
LIST I/O DEVICES? Y  ** Lists the I/O devices **
```

When the response to the above prompt is Y, all I/O devices on the FOS tape will be displayed. This list includes all I/O devices read from the FOS tape. These may not match the system configuration you are creating. See Appendix A for a duplication of this display.

```
LIST CS DEVICES? (RETURN)  ** CS devices only **
LIST DEVICE DEFAULTS? (RETURN)
HIGHEST DRT = nn (MIN=8, MAX=511)? (RETURN)
```

To delete all extra logical device numbers, that are not physically connected to the system, enter the *logical device #* to be deleted and enter 0 at the DRT #? prompt as follows:

```
LOGICAL DEVICE #? nn  ** the logical device # to be deleted **
DEVICE NAME? (RETURN)
DRT #? 0
```

This dialog will loop until a (RETURN) is encountered at the LOGICAL DEVICE #? prompt.

7. Configure the maximum number of open spoolfiles, as applicable:

   10 = Series 37, Series 37/XE, MICRO 3000, or MICRO 3000/XE
   32 = Series 39, 40, 42, 44, 48, or 58
   72 = Series 64, 68, or 70.

```
MAX # OF OPEN SPOOLFILES = nn
```

8. List all devices still configured on the system, respond to the dialog as follows:

```
LIST I/O DEVICES? Y  ** List devices still configured **
LIST CS DEVICES? (RETURN)  ** CS devices only **
TERMINAL TYPE CHANGES? (RETURN)
CLASS CHANGES? (RETURN)
LIST I/O DEVICES? (RETURN)
I/O CONFIGURATION CHANGES? Y
I/O MAP? (RETURN)
LIST I/O DEVICES? (RETURN)
LIST CS DEVICES? (RETURN)
LIST DEVICE DEFAULTS? (RETURN)
HIGHEST DRT = nn(RETURN)  ** enter highest DRT# listed **
```

It is recommended that the following devices are configured as indicated, add additional devices as applicable:

- Configure LDEV1 with device classes DISC,SPOOL.
- Configure LDEV6 with device class LP.
- Configure LDEV7 as a backup device (tape drive) with device classes TAPE,DDUMP.
- Configure LDEV10 as a streams device (configure it the same as LDEV 7, using the same device name, except the output device should be LP, and it should accept jobs/sessions and accept data) with device class JOBTAPE.
- Configure LDEV20 as a terminal with device class CONSOLE. Note: When configuring a terminal, two additional lines of dialog will appear, they are denoted with an "*".

```
LOGICAL DEVICE #? nn
DEVICE NAME? HPnnnn  ** enter model#; terminal, enter [RETURN] **
DRT #? nn
UNIT #? nn  ** enter 0-99 **
SOFTWARE CHANNEL #? 0
TYPE? [RETURN]  ** terminal, enter 16 **
SUBTYPE? [RETURN]  ** terminal, enter 0 **
*ENTER [TERM TYPE#],[DESCRIPTOR FILENAME] ? 10  ** terminal only **
*SPEED IN CHARACTERS PER SECOND? nnn  ** terminal, enter baud rate **
RECORD WIDTH? [RETURN]  ** terminal, enter 40 **
OUTPUT DEVICE? [RETURN]  ** terminal, enter the logical device # **
ACCEPT JOBS/SESSIONS? [RETURN]  ** terminal/streams device, enter Y **
ACCEPT DATA? [RETURN]  ** terminal/streams device, enter Y **
INTERACTIVE? [RETURN]  ** terminal, enter Y **
DUPLICATIVE? [RETURN]  ** terminal, enter Y **
INITIALLY SPOOLED? [RETURN]  ** printer, enter Y **
AUTO REPLY? [RETURN]
DRIVER NAME? [RETURN]  ** terminal, enter HIOTERM1/ATP,HIOTERM2/ADCC **
DEVICE CLASSES? xxxx  ** (e.g. SYSDISC, SPOOL, DISC, etc.) **
```

This dialog will loop until a [RETURN] is encountered at the LOGICAL DEVICE #? prompt.

9. When all devices are configured, respond to the dialog as follows:

```
MAX # OF OPEN SPOOLFILES = [RETURN]
LIST I/O DEVICES? [RETURN]
LIST CS DEVICES? [RETURN]  ** CS devices only **
TERMINAL TYPE CHANGES? [RETURN]
CLASS CHANGES? [RETURN]
LIST I/O DEVICES? [RETURN]
I/O CONFIGURATION CHANGES? [RETURN]

**WARNING** AFTER THIS POINT DO NOT INTERRUPT THE STARTUP PROCESS UNTIL
AFTER THE MESSAGE " *WELCOME* " APPEARS
```

10. Make Volume Table changes, respond to the dialog as follows:

```
DISC VOLUME CHANGES? Y
LIST VOLUME TABLE? Y
```

Two volumes will be listed, delete both volumes as indicated:

```
DELETE VOLUME? Y
ENTER VOLUME NAME? volumename
ENTER VOLUME NAME? volumename
ENTER VOLUME NAME? RETURN
```

Add volumes as appropriate (a minimum of one volume, LDEV1 (the system disc), must be added):

```
ADD VOLUME? Y
ENTER VOLUME NAME? volumename
ENTER VOLUME NAME? volumename or RETURN
LIST VOLUME TABLE? Y  ** the LDEV# will be 0 **
LIST DEFECTIVE TRACK/SECTOR INFORMATION? RETURN
DELETE TRACK? RETURN
LIST VOLUME TABLE? Y  ** the LDEV# will be listed correctly **
```

11. Allocate a minimum of 10K sectors of virtual memory on LDEV 1. Respond to the dialog:

```
LIST VIRTUAL MEMORY DEVICE ALLOCATION? Y
ENTER VOLUME NAME, SIZE IN KILOSECTORS? volumename,kilosectors
ENTER VOLUME NAME, SIZE IN KILOSECTORS? volumename,kilosectors or RETURN
VIRTUAL MEMORY CHANGES? RETURN
```

12. Do not disable logging process at this time:

```
DISABLE LOGGING? RETURN
```

13. Configure the following table sizes with the standard values defined:

```
SYSTEM TABLE CHANGES? Y
```

NOTE

The variables noted, in the dialog below, must be set to the values indicated (depending on the type of system being initialized).

A = Series 37, Series 37/XE, MICRO 3000, or MICRO 3000/XE
B = Series 39, 40, 42, 44, 48, or 58.
C = Series 64, 68, or 70.

```
CST = nnn                          ** A=192   B=192   C=224   **
EXTENDED CST = nnn                 ** A=160   B=200   C=255   **
DST = nnnn                         ** A=512   B=1024  C=1024  **
PCB = nnn                          ** A=48    B=90    C=150   **
I/O QUEUE = nnn                    ** A=36    B=96    C=256   **
DISC REQUEST QUEUE = nnn           ** A=128   B=255   C=512   **
TERMINAL BUFFERS PER PORT = 3
SYSTEM BUFFERS = 8
SWAP TABLE = nnnn                  ** A=512   B=1024  C=1024  **
PRIMARY MESSAGE TABLE = nn         ** A=25    B=32    C=64    **
SECONDARY MESSAGE TABLE = nn       ** A=25    B=32    C=64    **
SPECIAL REQUEST TABLE = 64
ICS = 1024
LOADER SEGMENT TABLE = 16384
UCOP REQUEST QUEUE = nnn           ** A=32    B=60    C=150   **
TIMER REQUEST QUEUE = nnn          ** A=32    B=60    C=150   **
BREAKPOINT TABLE = nn              ** A=16    B=32    C=32    **
MAX # OF SPOOLFILE KILOSECTORS = 128
# OF SECTORS PER SPOOLFILE EXTENT = 384

INITIALIZATION OF DISC FREE SPACE MAPS COMPLETED
LOADING OF SYSTEM FILES IN PROGRESS
LOADING OF SYSTEM FILES COMPLETED
PART 1 OF 6 COMPLETED - MEMORY RESIDENT TABLES SET UP
PART 2 OF 6 COMPLETED - SL BINDING
PART 3 OF 6 COMPLETED - SYSTEM I/O PROCESS CREATION
PART 4 OF 6 COMPLETED - DRIVER LOADING
PART 5 OF 6 COMPLETED - DISC RESIDENT TABLES SET UP
PART 6 OF 6 COMPLETED - SYSTEM PROCESS CREATION
BANK 0 DEPENDENT MEMORY USED - nnnnn
```

The internal initialization of the system is processing. Do not interrupt this process until the date and time prompts appear (approximately 5 minutes).

14. Respond to the date and time prompts as follows:

```
DATE (M/D/Y)? mm/dd/yy
TIME (H:M)? hh:mm  ** use 24 hour time **
day, mon day, year, time? (Y/N) x  ** is the date and time correct? **
```

15. The system will log on as MANAGER.SYS and the following message will be displayed:

NOTE

Do not run AUTOINST at this time (this program automatically installs subsystems). This is an initial FOS installation for setting up and testing system configuration only. There will be instructions to run AUTOINST in the *HP 3000 Software Installation Manual* (P/N 32033-90039) which will be delivered with the SUBSYS tape to the installation site.

```
THE MPE OPERATING SYSTEM HAS JUST BEEN INSTALLED.
TO BEGIN THE INSTALLATION OF HP-SUPPORTED SOFTWARE,
ENTER:

        :RUN AUTOINST.PUB.SYS
```

Proceed to Section 2.

RESTORE THE FOS FILES AND CREATE THE COLDLOAD TAPE

SECTION 2

Perform the following steps to restore the files from the FOS tape and create the coldload tape:

1. Enter the following equation:

```
:FILE T;DEV=TAPE  ** For magnetic tapes **
  or
:FILE T;DEV=CTAPE  ** For cartridge tapes **
```

2. Put the tape drive (containing the FOS tape) online and enter:

```
:RESTORE *T;@.@.@;SHOW;CREATE
```

   Respond to the system prompt:

```
?time/job/pin#/LDEV# FOR "T" ON TAPE (NUM)?

(CONTROL)A
=REPLY pin#,ldev#
```

   The FOS restore will take approximately 15 minutes to complete.

   If Native Language Support (NLS) is being installed on the system, refer to the *Native Language Support Reference Manual* (P/N 32414-90001) for installation instructions.

3. Stream the following job to create the necessary accounting structure. Ensure that the jobs completes successfully.

```
:STREAM SUPPACCT.PUB.SYS
```

4. Mount a blank tape (write enabled) on the tape drive (coldload device). Ensure the tape drive is online and enter:

```
:SYSDUMP *T
```

Respond to the dialog as follows:

```
time/pin/Vol (unlabeled) mounted on LDEV# 7

ANY CHANGES? (RETURN)
ENTER DUMP DATE? 9/9/99
ENTER DUMP FILE SUBSET(S)? (RETURN)
LIST FILES DUMPED? (RETURN)

?time/job/pin#/LDEV# FOR "T" ON TAPE (NUM)?

(CONTROL)A
=REPLY pin#,ldev#
```

A coldload tape will be created containing the current system files and configuration only (no user files are dumped with an entry of 9/9/99).

5. When the coldload tape is complete, the following message will appear (approximately 5 minutes):

```
NO FILES WERE FOUND TO STORE (S/R 47)

END OF SUBSYSTEM
:
```

CAUTION

Label and archive the coldload tape. Use it only if system problems require another reload before the installation is complete. When a second coldload tape has been created this coldload tape is no longer needed.

6. Perform online diagnostics to ensure all peripherals are operational.

I/O CONFIGURATION EXAMPLES

APPENDIX A

The following are the I/O devices as they are read from the two different types of FOS media; cartridge and magnetic tape.

A.1 FOS CARTRIDGE I/O CONFIGURATION

The following example shows the I/O configuration, read in by the FOS cartridge tape:

LOG DEV #	DRT #	UNIT	CHAN	TYPE	SUB TYPE	TERMINAL TYPE	TERMINAL SPEED	REC WIDTH	OUTPUT DEV	MODE	DRIVER NAME	DEVICE CLASSES
1	33	0	0	0	9			128	0		HIOMDSC2	SYSDISC DISC SPOOL
7	35	0	0	3	3			128	0		HIOCTAP1	TAPE CTAPE SDISC DDUMP
10	37	3	0	3	3			128		JA	HIOCTAP1	JOBTAPE
20	8	0	0	16	0	10	960	40	20	JAID	HIOTERM1	TERM CONSOLE
21	8	1	0	16	0	10	960	40	21	JAID	HIOTERM1	TERM
22	8	2	0	16	0	10	960	40	22	JAID	HIOTERM1	TERM
23	8	3	0	16	0	10	960	40	23	JAID	HIOTERM1	TERM
24	8	4	0	16	0	10	960	40	24	JAID	HIOTERM1	TERM
26	8	6	0	16	0	10	960	40	26	JAID	HIOTERM1	TERM
27	8	7	0	16	0	10	960	40	27	JAID	HIOTERM1	TERM

A.2 FOS TAPE I/O CONFIGURATION

The following example shows the I/O configuration, read in by the FOS magnetic tape:

LOG DEV #	DRT #	UNIT	CHAN	TYPE	SUB TYPE	TERMINAL TYPE	SPEED	REC WIDTH	OUTPUT DEV	MODE	DRIVER NAME	DEVICE CLASSES
1	25	0	0	3	8			128	0		HIOMDSC2	DISC SPOOL
2	26	0	0	3	8			128	0		HIOMDSC2	DISC SPOOL
5	33	0	0	24	3			128	0		HIOTAPE2	TAPE
6	34	0	0	32	4			66	0	S	HIOLPRT2	LP LP19
7	17	0	0	24	0			128	0		HIOTAPE0	TAPE DDUMP
8	17	1	0	24	0			128	0		HIOTAPE0	TAPE
9	17	2	0	24	0			128	0		HIOTAPE0	TAPE
10	17	3	0	24	0			128	LP	JA	HIOTAPE0	JOBTAPE
12	35	0	0	24	1			128	0		HIOTAPE1	TAPE
15	36	0	0	17	1			0	0		IOINP0	INP1
16	37	0	0	17	1			0	0		IOINP0	INP2
17	38	0	0	17	1			0	0		IOINP0	INP3
18	39	0	0	17	1			0	0		IOINP0	INP4
20	8	0	0	16	0	10	960	40	20	JAID	HIOTERM1	CONSOLE
21	8	1	0	16	0	10	960	40	21	JAID	HIOTERM1	TERM
22	8	2	0	16	0	10	960	40	22	JAID	HIOTERM1	TERM
23	8	3	0	16	0	10	960	40	23	JAID	HIOTERM1	TERM
24	8	4	0	16	0	10	960	40	24	JAID	HIOTERM1	TERM
25	8	5	0	16	0	10	960	40	25	JAID	HIOTERM1	TERM
26	8	6	0	16	0	10	960	40	26	JAID	HIOTERM1	TERM
27	8	7	0	16	0	10	960	40	27	JAID	HIOTERM1	TERM
28	8	8	0	16	0	10	960	40	28	JAID	HIOTERM1	TERM
29	8	9	0	16	0	10	960	40	29	JAID	HIOTERM1	TERM
30	8	10	0	16	0	10	960	40	30	JAID	HIOTERM1	TERM
31	8	11	0	16	0	10	960	40	31	JAID	HIOTERM1	TERM
32	8	12	0	16	0	10	960	40	32	JAID	HIOTERM1	TERM
33	8	13	0	16	0	10	960	40	33	JAID	HIOTERM1	TERM
34	8	14	0	16	0	10	960	40	34	JAID	HIOTERM1	TERM
35	8	15	0	16	0	10	960	40	35	JAID	HIOTERM1	TERM
36	8	16	0	16	0	10	960	40	36	JAID	HIOTERM1	TERM
37	8	17	0	16	0	10	960	40	37	JAID	HIOTERM1	TERM
38	8	18	0	16	0	10	960	40	38	JAID	HIOTERM1	TERM
39	8	19	0	16	0	10	960	40	39	JAID	HIOTERM1	TERM
40	8	20	0	16	0	10	960	40	40	JAID	HIOTERM1	TERM

•
•
•

```
41   8    21 0 16 0     10    960     40     41    JAID    HIOTERM1 TERM
42   8    22 0 16 0     10    960     40     42    JAID    HIOTERM1 TERM
43   8    23 0 16 0     10    960     40     43    JAID    HIOTERM1 TERM
44   8    24 0 16 0     10    960     40     44    JAID    HIOTERM1 TERM
45   8    25 0 16 0     10    960     40     45    JAID    HIOTERM1 TERM
46   8    26 0 16 0     10    960     40     46    JAID    HIOTERM1 TERM
47   8    27 0 16 0     10    960     40     47    JAID    HIOTERM1 TERM
48   8    28 0 16 0     10    960     40     48    JAID    HIOTERM1 TERM
49   8    29 0 16 0     10    960     40     49    JAID    HIOTERM1 TERM
50   8    30 0 16 0     10    960     40     50    JAID    HIOTERM1 TERM
51   8    31 0 16 0     10    960     40     51    JAID    HIOTERM1 TERM
52   8    32 0 16 0     10    960     40     52    JAID    HIOTERM1 TERM
53   8    33 0 16 0     10    960     40     53    JAID    HIOTERM1 TERM
54   8    34 0 16 0     10    960     40     54    JAID    HIOTERM1 TERM
55   8    35 0 16 0     10    960     40     55    JAID    HIOTERM1 TERM
56   8    36 0 16 0     10    960     40     56    JAID    HIOTERM1 TERM
57   8    37 0 16 0     10    960     40     57    JAID    HIOTERM1 TERM
58   8    38 0 16 0     10    960     40     58    JAID    HIOTERM1 TERM
59   8    39 0 16 0     10    960     40     59    JAID    HIOTERM1 TERM
60   8    40 0 16 0     10    960     40     60    JAID    HIOTERM1 TERM
61   8    41 0 16 0     10    960     40     61    JAID    HIOTERM1 TERM
62   8    42 0 16 0     10    960     40     62    JAID    HIOTERM1 TERM
63   8    43 0 16 0     10    960     40     63    JAID    HIOTERM1 TERM
64   8    44 0 16 0     10    960     40     64    JAID    HIOTERM1 TERM
65   8    45 0 16 0     10    960     40     65    JAID    HIOTERM1 TERM
66   8    46 0 16 0     10    960     40     66    JAID    HIOTERM1 TERM
67   8    47 0 16 0     10    960     40     67    JAID    HIOTERM1 TERM
82 #17    0  0 16 0     14    240     40     82    JAID    IOMPSO   MPSUPER
83 #17    11 0 16 0     14    240     40     83    JAID    IOMPTRMO MPTERM
90 #15    0  0 41 0                   128    0             IODSO    IDS1
91 #16    0  0 41 0                   128    0             IODSO    IDS2
92 #15    0  0 16 0     ??    240     36     92    J ID    IODSTRMO DSTERM
93 #16    0  0 16 0     ??    240     36     93    J ID    IODSTRMO DSTERM
95 #18    0  0 22 1                   128    0             IOM3270
120#16    0  0 22 0                   40     0             IOMRJE0  MRJE1
121#16    1  0 22 0                   40     0             IOMRJE1  MRJE1
122#16    2  0 22 0                   67     0             IOMCONS0 MCONS
123#16    3  0 22 0                   67     0             IOMPNLP0 MLP1
130#16    10 0 22 0                   40     0             IOMPNLP0 MPNCH1
137#16    17 0 22 0                   40     0             IOMRDR0  MRDR1
138#17    21 0 32 9                   66     138           IOMPLP0  MPLP
```

READER COMMENT SHEET

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