North American Response Centers

HP 3000 APPLICATION NOTE #5

MPE SYSTEM LOGFILE

RECORD FORMATS

MPE SYSTEM LOGFILE RECORD FORMATS

This document describes the record formats for HP 3000 system log files for both MPE IV and V. The details of system logging are discussed in Chapter 5 of the *System Operation and Resource Management Reference Manual (P/N 32033-90005)* – for MPE V/E systems or Chapter 6 of the *MPE IV System Manager/System Supervisor Reference Manual (P/N 30000-90014)* – for MPE IV and V/P.

The formats of most type of records are the same under MPE IV and MPE V. However, beginning with MPE V/E, a few changes were made primarily to accomodate the new larger PIN and LDEV number fields. In addition, the TYPE 4 record was enhanced to include PIN and CPU TIME fields.

INTRODUCTION

Log records are written to log files by MPE. This is done by calls to an internal procedure by the process that requires the recording of a particular event. The log records can by subsequently accessed, manipulated, and displayed through user-supplied analysis routines.

There are 21 types of log records that can be generated:

TYPE	DESCRIPTION
0	Log Failure Record
1	System Up Record
2	Job Initiation Record
3	Job Termination Record
4	Process Termination Record
5	File Close Record
6	System Shutdown Record
7	Power Failure Record
8	Spoolfile Done Record
9	Line Disconnection Record
10	Line Close Record
11	I/O Error Record
12	Physical Mount/Dismount Record
13	Logical Mount/Dismount Record
14	Tape Labels Record
15	Console Log Record
16	Program File Event Record
17	Call Progress Signals Record
18	DCE Provided Info Record
46	MPE Maintenance Request Log Record
47	Diagnostic Control Unit Log Record

Log records, although different in format, length, and content, always have the same heading:

Field Length (words)   Contents

1	Record Type
1	Record Length
3	Time Stamp (As defined in the CLOCK and CALENDAR intrinsics)
1	0 Job Type 1 | 2 Job Number 15

RECORD TYPE   Defines the record as one of the 21 types listed before

RECORD LENGTH   Defines the number of words that the record contains

TIME STAMP   Date and time, in the same format used by the CLOCK and CALENDAR
                        intrinsics, as shown below

JOB TYPE   Type of main process being run, where bits 0 and 1 have the following
                        meaning:

                            00 = System
                            01 = Session
                            10 = Job

JOB NUMBER   Number defining the job/session under which the log record has been
                        output. If the last word is 0, this means that the record is related to the
                        system and was not output for a user.

The TIME STAMP field as described above looks like this:

0 Year(last 2 digits) 6 | 7   Day of Year   15
0   Hours   7 | 8   Minutes   15
0   Seconds   7 | 8   Tenth-of-Second   15

DETAILED RECORD FORMATS

The remainder of this document describes each of the different record formats. When the MPE V and
MPE IV formats differ, each is shown.

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LOG ERROR RECORD (TYPE 0)

Field Length (words)	Contents	Values Always Taken
1	Record Type	= 0
1	Record Length	= 10
3	Time Stamp	
1	0 Job Type 1 | 2 Job Number 15	= 0
2	Missing Log Records	
1	Missing Job Initiations	
1	Missing Job Terminations	

This record is issued after a recoverable logging error has occurred, and logging resumes.

JOB TYPE/JOB NUMBER
    (1 word)

Always set to 0.

MISSING LOG RECORDS
    (2 words)

Total number of Log Record events occurring while the Logging System was suspended

MISSING JOB INITIATIONS
    (1 word)

Number of jobs/sessions initiated while logging was suspended

MISSING JOB TERMINATIONS
    (1 word)

Number of jobs/sessions terminated while logging was suspended

Note: The last three fields correspond to log records that would have been emitted if logging had not been suspended.

SYSTEM UP RECORD (TYPE 1)

Field Length (words)	Contents	Values Always Taken
1	Record Type	= 1
1	Record Length	= 17
3	Time Stamp	
1	0 Job Type 1 │ 2 Job Number 15	= 0
1	Update Level	
1	Fix Level	
1	Core Size	
1	Available CST Size	
1	Available DST Size	
1	Available PCB Size	
1	IOQ Size	
1	TRL Size	
1	ICS Size	
1	reserved	
1	Max # of Concurrent Running Jobs/Sessions	

This record is issued after each cold-load or reload before the system is up.

JOB TYPE/JOB NUMBER (1 word)	Always set to 0
UPDATE LEVEL (1 word)	Update level of the system, composed of two ASCII characters
FIX LEVEL (1 word)	Fix level of the system, composed of two ASCII characters
CORE SIZE (1 word)	Main-memory size in K (1024) words of memory
AVAILABLE CST SIZE (1 word)	Number of entries in the Code Segment Table
AVAILABLE DST SIZE (1 word)	Number of entries in the Data Segment Table
AVAILABLE PCB SIZE (1 word)	Number of entries in the Process Control Block
IOQ SIZE (1 word)	Number of entries in the Input/Output Queue
TRL SIZE (1 word)	Number of entries in the Timer Request List
ICS SIZE (1 word)	Number of words in the Interrupt Control Stack
MAX # OF RUNNING JOBS (1 word)	Maximum number of running jobs/sessions allowed in execution

JOB INITIATION RECORD (TYPE 2)

Field Length (words)	Contents	Values Always Taken
1	Record Type	= 2
1	Record Length	= 30
3	Time Stamp	
1	0 Job Type 1 | 2 Job Number 15	
4	User Name	
4	Account Name	
4	Job Name	
4	Logon Group Name	
1	Input Logical Device Number	
1	Output Logical Device Number	
1	reserved	
1	0 reserved 7 | 8 Logon Queue 15	
2	CPU Time Limit	
1	0 INPRI 7 | 8 OUTPRI 15	
1	reserved	

This record is issued by the MPE Command Interpreter following a successful logon to MPE.

JOB TYPE/JOB NUMBER (1 word)	Type and number of job/session
USER NAME (4 words)	User name as specified in the :JOB or :HELLO command, left-justified, blank-padded
ACCOUNT NAME (4 words)	Account name as specified in the :JOB or :HELLO command, left-justified, blank-padded
JOB NAME (4 words)	Job name as specified in the :JOB command, or the session name as specified in the :HELLO command, left-justified, blank-padded. If *jobname* or *sessionname* was omitted, the words are filled with blanks.
LOGON GROUP NAME (4 words)	Group name under which the logon was performed, left-justified, blank-padded

INPUT LOGICAL DEVICE NUMBER (1 word)	Logical device number of the standard input device for the job/session
OUTPUT LOGICAL DEVICE NUMBER (1 word)	Logical device number of the standard listing device for the job/session
LOGON QUEUE (1 byte, right-justified)	Single ASCII character representing the subqueue in which the job/session will execute; i.e. "B", "C", "D", or "E"
CPU TIME LIMIT (2 words)	Double-word showing the central processor time limit as specified in the :JOB or :HELLO command. If no limit applied, the field contains −1. If omitted, the field contains 0.
INPRI (1 byte)	Job selection priority as defined in the :JOB command, or the default value if no priority specified.
OUTPRI (1 byte)	Job output priority as specified in the OUTCLASS parameter of the :JOB command, or 0 if no priority is specified or the job type is a session.

JOB TERMINATION RECORD (TYPE 3)

Field Length (words)	Contents	Values Always Taken
1	Record Type	= 3
1	Record Length	= 12
3	Time Stamp	
1	0 Job Type 1 | 2 Job Number 15	
1	Maximum Priority	
1	Number of Creations	
2	CPU Time in Seconds	
2	Elapsed Time in Minutes	

This record is issued at the end of a job or session, regardless of the cause of the termination.

JOB TYPE/JOB NUMBER
(1 word)

Type and number of the job/session

MAXIMUM PRIORITY
(1 word)

Lowest priority number (highest priority) ever run under by any process of the job/session. This value can range from 0 to 255.

NUMBER OF CREATIONS
(1 word)

Total number of processes created under the main process during the job/session

CPU TIME (2 words)

Double-word containing the total central processor time used (in seconds) by all processes of the job/session

ELAPSED TIME (2 words)

Double-word containing the wall clock time (in minutes) during which the job/session has existed in the system. For a session, this time is called *connect time*

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PROCESS TERMINATION RECORD (TYPE 4) – MPE V

Field Length (words)	Contents	Values Always Taken

Field Length (words)	Contents				Values Always Taken
1	Record Type				= 4
1	Record Length				= 14
3	Time Stamp				
1	0 Job Type 1	2	Job Number	15	
1	# of Program File Segments				
1	# of SL Segments (Non-MPE)				
1	Maximum Stack Size Ever				
1	Maximum Data Segment Size Ever				
1	Cumulative Total of Virtual Storage				
1	PIN of Process				
2	CPU Time in Seconds				

PROCESS TERMINATION RECORD (TYPE 4) – MPE IV

Field Length (words)	Contents				Values Always Taken
1	Record Type				= 4
1	Record Length				= 11
3	Time Stamp				
1	0 Job Type 1	2	Job Number	15	
1	# of Program File Segments				
1	# of SL Segments (Non-MPE)				
1	Maximum Stack Size Ever				
1	Maximum Data Segment Size Ever				
1	Cumulative Total of Virtual Storage				

This record is issued when a user process other than a Main Process terminates.

JOB TYPE/NUMBER (1 word)

Type and number of the job/session

OF PROGRAM FILE SEGMENTS
(1 word)

Number of segments contained in the program file loaded on behalf of the process

OF NON-MPE SL SEGMENTS
(1 word)

Number of segments from the segmented library (excluding MPE), loaded on behalf of the process

MAXIMUM STACK SIZE EVER
      (1 word)

Largest size (in words) ever attained by the stack during process life

MAXIMUM DATA SEGMENT SIZE EVER
      (1 word)

Largest size (in sectors) ever attained by an extra data segment during process life

CUMULATIVE TOTAL OF VIRTUAL STORAGE
      (1 word)

Total amount of disc space (in sectors) requested for data (stack and extra data segments) during process life

The following two fields are also generated on MPE V systems:

PIN OF PROCESS (1 word)

Process Identification Number of the process

CPU TIME (2 words)

Double-word containing the central processor time used (in seconds) by the process

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FILE CLOSE RECORD (TYPE 5) - MPE V

Field Length (words)	Contents	Values Always Taken

Field Length (words)	Contents	Values Always Taken
1	Record Type	= 5
1	Record Length	= 29
3	Time Stamp	
1	0 Job Type 1 │ 2 Job Number 15	
14	File Name	
1	0 Disposition 7│8 Domain 15 (reserved)	
2	# of Sectors Allocated	
1	0 Device Type 7	
2	# of Records Processed	
2	# of Blocks Processed	
1	Device Number	

FILE CLOSE RECORD (TYPE 5) — MPE IV

Field Length (words)	Contents	Values Always Taken
1	Record Type	= 5
1	Record Length	= 28
3	Time Stamp	
1	0 Job Type 1	2 Job Number 15	
14	File Name	
1	0 Disposition 7	8 reserved Domain 15	
2	# of Sectors Allocated	
1	0 Device Type 7	8 Device Number 15	
2	# of Records Processed	
2	# of Blocks Processed	

This record is issued whenever a file is closed.

JOB TYPE/JOB NUMBER (1 word)	Type and number of the job/session
FILENAME (27 bytes)	The *filename.groupname.accountname* of the file; each name is eight bytes long, left-justified with trailing blanks, with the 27th byte undefined
DISPOSITION (1 byte)	File disposition as specified in the FCLOSE intrinsic
DOMAIN (1 byte)	File domain, as specified in the FOPEN intrinsic
# OF SECTORS ALLOCATED (2 words)	Physical space (in sectors) actually reserved on disc for the file. When the file does not reside on disc, this value is 0.
DEVICE TYPE (1 byte)	Device type of the device on which the file resides, as returned by the FGETINFO intrinsic

RECORDS PROCESSED   Number of records processed since the last FOPEN on the file by the
    (2 words)   process

BLOCKS PROCESSED   Number of blocks written to and read from the file since the last FOPEN
    (2 words)   on the file by the process

DEVICE NUMBER   Logical device number of the device on which the file resides

Note: The DEVICE NUMBER field is 1 word long on MPE V systems, but only 1 byte long on MPE IV systems.

SYSTEM SHUTDOWN RECORD (TYPE 6)

Field Length (words)	Contents	Values Always Taken
1	Record Type	= 6
1	Record Length	= 9
3	Time Stamp	
1	0 Job Type 1 | 2 Job Number 15	= 0
1	# of Jobs	
1	# of Sessions	
1	reserved	= 0

This record is issued when the system is shutdown (by the =SHUTDOWN console command).

JOB TYPE/JOB NUMBER   Always set to 0
    (1 word)

OF JOBS (1 word)   Number of jobs on the system when the command took effect

OF SESSIONS (1 word)   Number of sessions on the system when the command took effect

POWER FAILURE RECORD (TYPE 7)

Field Length (words)	Contents	Values Always Taken
1	Record Type	= 7
1	Record Length	= 7
3	Time Stamp	
1	0 Job Type 1 2 Job Number 15	
1	Auto Restart Flag	= 0

This record is issued when a restart occurs following a power failure.

JOB TYPE/JOB NUMBER   Type and number of job/session
    (1 word)

AUTO RESTART FLAG   Logical value representing the state of the restart flag
    (1 word)

SPOOLFILE DONE RECORD (TYPE 8)

Field Length (words)	Contents	Values Always Taken
1	Record Type	= 8
1	Record Length	= 34
3	Time Stamp	
1	Job Type/Job Number	= 0
4	User Name	
4	Account Name	
4	Job Name	
4	File Name	
1	0 Job Type 1 | 2 Job Number 15	
1	0 I/O 1 Device File ID 15	
1	0 Device Type 7 | 8 Spoolee # 15	
1	NUMCOPIES | OUTPRI	
2	# Records Processed	
2	# Sectors Used	
1	0 Subtype 7 | reserved |12 FUNC 15	
1	reserved |10 #LP/PP 15	
2	# Physical Pages	

This record is issued when a spooler completes loading a spoolfile.

JOB TYPE (2 bits)	00 = SESSION'	– Spoolfile originally created on another system by a session
	01 = SESSION	– Spoolfile created for a session on this system
	10 = JOB	– Spoolfile created for a job on this system
	11 = JOB'	– Spoolfile originally created on another system by a job

Note: For job types 00 and 11, SPOOK was used to create the spoolfile on this system.

JOB NUMBER (14 bits)	Number of job/session which originally created the spoolfile
I/O (1 bit)	0 = Input
	1 = Output

DEVICE TYPE (1 byte)
For Input spoolfiles - 0
For Output spoolfiles - 32 (device type of a lineprinter)

SPOOLEE # (1 byte)
For Input spoolfiles - the logical device number of the disc on which the spoolfile resided
For Output spoolfiles - the logical device number of the printer used

NUMCOPIES (1 byte)
Number of copies that are yet to be printed for this spoolfile. For multiple copy spoolfiles, this number is decremented after each copy has been printed and a different spooling logging record exists for each copy printed. If there is only one copy to be printed, the field is 0.

RECORDS PROCESSED
(2 words)
For Input spoolfiles - the number of lines in the Input spoolfile
For Output spoolfiles - the number of lines printed for this spoolfile

SECTORS USED
(2 words)
Number of disc sectors that the spoolfile occupied on disc

SUBTYPE (1 byte)
For Input spoolfiles - 0
For Output spoolfiles - the subtype of the lineprinter used

If the SUBTYPE is that of the 2680A, subtype 8, then the following two fields will be non-zero. For any other lineprinter, the fields will contain zeros.

PHYSICAL PAGES
(2 words)
Total number of physical pages printed

LP/PP (6 bits)
If the spoolfile is using a LPX type environment file, this field is defined as the number of logical pages per physical page when the spoolfile ended. NOTE: THIS VALUE CAN CHANGE WHILE THE SPOOLFILE IS PRINTING.

FUNC (4 bits)
The last operation the spooler performs on the spoolfile:
    0 = normal completion
    1 = delete spoolfile
    2 = defer spoolfile
    3 = relink spoolfile

LINE DISCONNECTION RECORD (TYPE 9)

Field Length (words)	Contents	Values Always Taken
1	Record Type	= 9
1	Record Length	= 43
3	Time Stamp	
1	0 Job Type 1 | 2 Job Number 15	
1	Logical Device Number	
2	Time of Connection or Open	
2	# Output Data Transfers	
2	# Input Data Transfers	
1	# Recoverable Line Errors (Modulo 2**16)	
1	# Irrecoverable Line Errors (Modulo 2**16)	
9	Local ID Sequence	
9	Remote ID Sequence	
10	Phone Number of Remote	

This record is issued when a data communication line is disconnected from the system either intentionally or due to an error.

ID sequences are significant for both switched and non-switched lines. The first byte is the length of the sequence. The remainder is the actual ID sequence (up to 16 bytes, left-justified with trailing blanks).

The phone number is significant only if the local system (MPE) performed the dialing for an outgoing call (up to 20 characters, left-justified with trailing blanks).

LINE CLOSE RECORD (TYPE 10)

Field Length (words)	Contents	Values Always Taken
1	Record Type	= 10
1	Record Length	= 14
3	Time Stamp	
1	0 Job Type 1 | 2 Job Number 15	
1	Logical Device Number	
3	Time Stamp of Open	
4	Driver Name	

This record is issued when a data communication line is closed.

The driver name may be up to eight ASCII characters in length, left-justified with trailing blanks.

I/O ERROR RECORD (TYPE 11) – MPE V

Field Length (words)	Contents	Values Always Taken

Field Length (words)	Contents													Values Always Taken
1	Record Type													= 11
1	Record Length													
3	Time Stamp													
1	0 Job Type 1	2 Job Number 15												
1	Error Index Word													
1	A	S	D	Y	W	B	C	F	M	P	L	R	T	G
1	Queue LDEV Number													
1	Miscellaneous (Driver Defined) Data													
1	Target Data Segment													
1	Target Data Address													
1	Unit	Function												
1	Transmission Count (Negative if Bytes)													
1	Driver Defined Parameter = 1													
1	Driver Defined Parameter = 1													
1	8 Stat Qualifier 12 13 Stat 15													
1	Process PCB Number													
1	4 Subtype 7 8 Device Type 15													
1	Hardware Unit Number													
1	DRT Number													
n	Status Words Logged													

I/O ERROR RECORD (TYPE 11) — MPE IV

Field Length (words)	Contents	Values Always Taken
1	Record Type	= 11
1	Record Length	
3	Time Stamp	
1	0 Job Type 1 | 2 Job Number 15	
1	Error Index Word	
1	A | S | D | Y | W | B | C | F | M | P | L | R | T | | G	
1	0 Unit 7 | 8 Logical Device 15	
1	Miscellaneous (Driver Defined) Data	
1	Target Data Segment	
1	Target Data Address	
1	Driver Function Code	
1	Transmission Count (Negative if Bytes)	
1	Driver Defined Parameter = 1	
1	Driver Defined Parameter = 1	
1	0 Process PCB Number 7 | 8 Stat Qualifier 12 | 13 Stat 15	
1	4 Subtype 7 | 8 Device Type 15	
1	0 Unit Number 7 | 8 DRT 15	
n	Status Words Logged	

This record is issued each time an I/O error occurs on the system.

JOB TYPE/JOB NUMBER (1 word)	Type and number of job/session
ERROR INDEX WORD (1 word)	First byte is number of error status words logged. Second byte is Device Information Table relative index to words logged.

Description of bit flags in Word 8. All are single bit fields (except T, which is 2 bits long). A '1' in any single bit field indicates:

A	(ABORT)	Request has been aborted externally
S	(SPECIAL)	Special handling is to be applied to this request; for disc this indicates a Memory Management request
D	(DIAG)	Diagnostic request (not used)
Y	(SYSBUFR)	Indicates the target data segment is irrelevant; the target data address is the absolute main memory address of the buffer
W	(IOWAKE)	Wake caller on completion of request

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B	(BLOCKED)	Blocked I/O; caller is waited until request is completed
C	(COMPLETED)	Request has been completed and caller is awake if he had so specified
F	(DATAFRZN)	Data segment has been made present and is frozen
M	(MEMERRORD)	MAM error on data segment make-present
P	(PREQ)	This request has been started but was preempted by a MAM request
L	(SFAIL)	Start SIO failure in General Interrupt Processor
R	(PFAIL)	The I/O has been aborted because of a power failure
T	(PREEMPT)	Preemptive type code: 1=soft, 2=hard
G	(MSGDONE)	A message request reply has been completed
DRIVER FUNCTION CODE		Generally a number indicating a particular driver action, such as: 0 = read; 1= write
TRANSMISSION COUNT (1 word)		Final transfer count (if any) for this I/O request. If positive, it indicates words; if negative, it indicates a byte count
DRIVER PARAMETER 1 (1 word)		Defined within the I/O system for various drivers
DRIVER PARAMETER 2 (1 word)		Defined within the I/O system for various drivers
PROCESS PCB NUMBER		Is zero if not associated with a user process
STAT (3 bits)		Indicates current and resultant state of the request:

STAT (3 bits) Indicates current and resultant state of the request:
- 0 = Not started, or awaiting completion
- 1 = Successful completion
- 2 = End of file detected
- 3 = Unusual condition (normally recoverable)
- 4 = Irrecoverable error

Note: The PROCESS PCB NUMBER, HARDWARE UNIT NUMBER, and DRT NUMBER fields are 1 word long on MPE V systems, but only 1 byte on MPE IV systems. Likewise, the DRIVER FUNCTION CODE is only 1 byte long on MPE V systems, but 1 word long on MPE IV systems.

Therefore, the record length is (21 + the number of status words logged) – *on MPE V systems* or (19 + the number of status words logged) – *on MPE IV systems.*

PHYSICAL MOUNT/DISMOUNT RECORD (TYPE 12)

Field Length (words)	Contents	Values Always Taken
1	Record Type	= 12
1	Record Length	= 24
3	Time Stamp	
1	0 Job Type 1 | 2 Job Number 15	
1	0 Volume Table Index 7| 8 Type/Stat 11| |13CL|14MD	
1	|4 Device Subtype 7| 8 Logical Device # 15	
4	Volume Name	
4	Volume Set Name	
4	Volume Set Group	
4	Volume Set Account	

This record is issued each time a volume is physically mounted or dismounted on the system.

JOB TYPE/JOB NUMBER
(1 word)
    Type and number of job/session

VOLUME TABLE INDEX
(8 bits)
    Index into the volume table for this volume

TYPE/STAT (4 bits)

0 = Valid Private Volume	4 = Unreadable Volume
1 = Scratch Volume	5 = Serial Disc Volume
2 = System Volume	6 = Foreign Volume
3 = Unformatted Volume	

CL (1 bit)

0 = Mount/Dismount detected by auto recognition
1 = Volume mounted at Coldload time

MD (2 bits)

0 = Mount
1 = Dismount
2 = New volume created by INIT function

Note: VOLUME NAME, VOLUME SET NAME, VOLUME SET GROUP, VOLUME SET ACCOUNT fields are meaningful only if MD is 0 or 2.

LOGICAL MOUNT/DISMOUNT RECORD (TYPE 13) – MPE V

Field Length (words)	Contents	Values Always Taken
1	Record Type	= 13
1	Record Length	= 41
3	Time Stamp	
1	0 Job Type 1 | 2 Job Number 15	
1	0 No. of Accessors 11 |12 TR 14| MD	
1	PIN of Accessor	
4	User Name	
4	Group Name	
4	Account Name	
4	Volume Set Name	
4	Volume Set Group	
4	Volume Set Account	
1	# Volumes Mounted/Dismounted	
1	Device Subtype	1st Volume LDEV	
1	Device Subtype	2nd Volume LDEV	
1	Device Subtype	3rd Volume LDEV	
1	Device Subtype	4th Volume LDEV	
1	Device Subtype	5th Volume LDEV	
1	Device Subtype	6th Volume LDEV	
1	Device Subtype	7th Volume LDEV	
1	Device Subtype	8th Volume LDEV	

LOGICAL MOUNT/DISMOUNT RECORD (TYPE 13) – MPE IV

Field Length (words)	Contents	Values Always Taken
1	Record Type	= 13
1	Record Length	= 41
3	Time Stamp	
1	0 Job Type 1 | 2 Job Number 15	
1	12 TR 14| MD	
1	0 No. of Accessors 7 |8 PIN of Accessor 15	
4	User Name	
4	Group Name	
4	Account Name	
4	Volume Set Name	
4	Volume Set Group	
4	Volume Set Account	
1	# Volumes Mounted/Dismounted	
1	Device Subtype | 1st Volume LDEV	
1	Device Subtype | 2nd Volume LDEV	
1	Device Subtype | 3rd Volume LDEV	
1	Device Subtype | 4th Volume LDEV	
1	Device Subtype | 5th Volume LDEV	
1	Device Subtype | 6th Volume LDEV	
1	Device Subtype | 7th Volume LDEV	
1	Device Subtype | 8th Volume LDEV	

This record is issued when a disc volume is logically mounted or dismounted.

TR (3 bits)　　　　　　Type of request –
　　　　　　　　0 = :MOUNT/:DISMOUNT with directory binding
　　　　　　　　1 = :MOUNT/:DISMOUNT without directory binding
　　　　　　　　2 = Unconditional implicit mount
　　　　　　　　3 = Conditional implicit mount
　　　　　　　　4 = :LMOUNT/:LDISMOUNT
　　　　　　　　5 = Dismount due to job/session termination

MD (1 bit)　　　　　　0 = Mount
　　　　　　　　1 = Dismount

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Note: The NO. OF ACCESSORS field is 12 bits long on MPE V systems, but only 8 bits long on MPE IV systems. Likewise, the PIN OF ACCESSOR field is 1 word long on MPE V systems, but only 1 byte long on MPE IV systems.

TAPE LABELS LOG RECORD (TYPE 14) – MPE V

Field Length (words)	Contents	Values Always Taken

Field Length	Contents	Values
1	Record Type	= 14
1	Record Length	= 31
3	Time Stamp	
1	0 Job Type 1 | 2 Job Number 15	
1	Logical Device Number	
1	0 FT | | 2 File Sequence Number	
1	0 File Number 7 | Seq Type | Type | TM | A | L | W	
1	Volume Seq. Num.	
1	Expiration Date	
9	File Name Reserved	
4	Lockword	
3	Volume Set ID	
3	Volume ID	
1	PIN Number	

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TAPE LABELS LOG RECORD (TYPE 14) – MPE IV

Field Length (words)	Contents	Values Always Taken
1	Record Type	= 14
1	Record Length	= 30
3	Time Stamp	
1	0 Job Type 1 | 2 Job Number 15	
1	8 Logical Device Number 15	
1	0 FT | 2 File Sequence Number	
1	0 File Number 7 | Seq Type | Type | TM | A | L | W	
1	0 PIN Number 7 | 8 Volume Seq. Num. 15	
1	Expiration Date	
9	File Name / Reserved	
4	Lockword	
3	Volume Set ID	
3	Volume ID	

This record is issued when a labelled tape is mounted.

FT (1 bit)   1 = At least one read/write completed

SEQ TYPE (2 bits)
- 0 = Search for match on file name
- 1 = Next or default
- 2 = Add file to end of volume set
- 3 = Specified file sequence number

TYPE (2 bits)
- 2 = ANSI standard label
- 3 = IBM standard label

TM (1 bit)   User trailer label

A (1 bit)   User header label

L (1 bit)   Job entry linked to logical device

W (1 bit)   Wait for mount

Note: The LOGICAL DEVICE NUMBER and PIN NUMBER fields are 1 word long on MPE V systems, but only 1 byte long on MPE IV systems.

CONSOLE LOG RECORD (TYPE 15)

Field Length (words)	Contents	Values Always Taken
1	Record Type	= 15
1	Record Length	
3	Time Stamp	
1	0 Job Type 1 │ 2 Job Number 15	
1	Byte Length of Console Line (<0 if input, >0 if output)	
. . . .	Console Input or Output Line length dependent on byte length of console line	

This record is issued when a line is output to the console or any console command is entered, from any device. This does not include other MPE commands or their output, even on the console terminal.

NOTE: The length of the console line found in word 7 of the log record is the actual number of characters transmitted to the console. This value may be greater that the number of characters found in the log record because the maximum size of the log record is currently set at 99 words.

PROGRAM FILE EVENT RECORD (TYPE 16)

Field Length (words)	Contents	Values Always Taken
1	Record Type	= 16
1	Record Length	= 23
3	Time Stamp	
1	0 Job Type 1 │ 2 Job Number 15	
1	Event Type	
1	Delta P	
1	Status	
14	Program File Name	

This record is issued when a program file event occurs.

Note: If EVENT TYPE = 0 (Stack Underflow Recovery), DELTA P and STATUS are not applicable.

Currently, the only defined Program File Event is 0, Stack Underflow Recovery. In general, this occurs because a program uses outmoded constructs, emitted by earlier versions of compilers, which are trapped and "manually" executed by system software. Recompiling such a program with a current compiler will correct the problem.

CALL PROGRESS SIGNALS LOG RECORD (TYPE 17) – MPE V

Field Length (words)	Contents	Values Always Taken
1	Record Type	= 17
1	Record Length	= 8
3	Time Stamp	
1	0 Job Type 1 | 2 Job Number 15	
1	CPS Message Number	
1	DS LDEV Number	

CALL PROGRESS SIGNALS LOG RECORD (TYPE 17) – MPE IV

Field Length (words)	Contents	Values Always Taken
1	Record Type	= 17
1	Record Length	= 7
3	Time Stamp	
1	0 Job Type 1 | 2 Job Number 15	
1	0 DS LDEV Number 7 | 8 CPS Message Number 15	

This record is issued when a call over a X.21 line fails.

Note: The CPS MESSAGE NUMBER and DS LDEV NUMBER fields are 1 word long on MPE V systems, but only 1 byte long on MPE IV systems.

DCE PROVIDED INFORMATION RECORD (TYPE 18) – MPE V

Field Length (words)	Contents	Values Always Taken

Field Length (words)	Contents	Values Always Taken
1	Record Type	= 18
1	Record Length	= 10
3	Time Stamp	
1	0 Job Type 1 | 2 Job Number 15	
1	CPS Message Number	
1	DS LDEV Number	
2	CPS Message Number Dependent Info (shown below)	

DCE PROVIDED INFORMATION RECORD (TYPE 18) – MPE IV

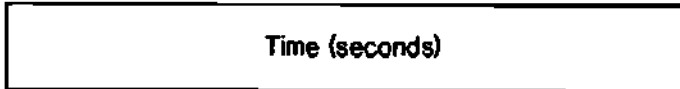| Field Length (words)	Contents	Values Always Taken
1	Record Type	= 18
1	Record Length	= 9
3	Time Stamp	
1	0 Job Type 1 | 2 Job Number 15	
1	0 DS LDEV Number 7 | 8 CPS Message Number 15	
2	CPS Message Number Dependent Info (shown below)	

CPS Message Number Dependent Info Field:
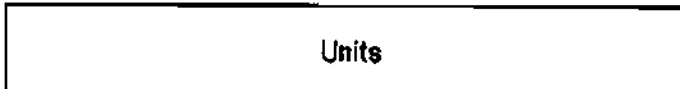
If CPS message number = 1 (Charge info type 1) –

0	Monetary Charge (no fraction)

If CPS message number = 2 (Charge info type 2) –

1	fraction	
Monetary Charge (w/fraction)		

If CPS message number = 3 (Charge info type 3) –

Time (seconds)

If CPS message number = 10 (Line ID signal) –

Units

If CPS message number is not one of the above –

0	International Data Number

or

1	National Number or Network Terminal Number

This record is issued at the end of a call over a X.21 line.

Note: The CPS MESSAGE NUMBER and DS LDEV NUMBER fields are 1 word long on MPE V systems, but only 1 byte long on MPE IV systems.

MPE MAINTENANCE REQUEST LOG RECORD (TYPE 46)

Field Length (words)	Contents	Values Always Taken
1	Record Type	= 46
1	Record Length	
3	Time Stamp	
1	0 Job Type 1 | 2 Job Number 15	
1	Logical Device Number	
1	Device Type	
1	Device Subtype	
1	Maintenance Request Type (Device Dependent)	
1	Parameter (E.G. Head Number)	
1	Record Number (In Sequence of Sub-Records)	
1	Total Number of Bytes to be Logged	
1	Bytes Logged in this Record	
n	Logged Data	

This record is issued when MPE needs to log maintenance information for one of the system's devices.

DIAGNOSTIC CONTROL UNIT LOG RECORD (TYPE 47)

Field Length (words)	Contents	Values Always Taken
1	Record Type	= 47
1	Record Length	
3	Time Stamp	
1	0 Job Type 1 │ 2 Job Number 15	
1	Record Number (In Sequence of Sub-Records)	
1	Total Number of Bytes to be Logged	
1	Bytes Logged in this Record	
n	Logged ASCII Data	

This record is issued (only on Series 6x systems) when the DCU needs to log information.