System Library Supplement

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For Base Publication SY20-0884-3, *IBM Virtual Machine Facility/370: Data Areas and Control Block Logic,* Release 6 PLC 1

Prerequisites None

IBM Virtual Machine Facility/370
System Extensions
Program No. 5748-XE1

This supplement contains replacement pages for VM/370 Data Areas and Control Block Logic to support VM/370 System Extensions.

Before inserting any of the attached pages into VM/370 Data Areas and Control Block Logic, read carefully the instructions on this cover. They indicate when and how you should insert pages.

Do not insert the attached pages unless you install the program product.

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*If you are inserting pages from different Newsletters/Supplements and identical page numbers are involved, always use the pages with the latest date (shown in the slug at the top of the page). The page with the latest date contains the most complete information.

Changes or additions to the text or illustrations are indicated by a vertical line to the left of the change.

Summary of Amendments

This supplement contains, in addition to functions available in the initial release of VM/370 System Extensions, the following:

- Interactive Help Facility Under CMS
- CMS File System Extensions
- CMS Tape Command Performance Improvement
- CMS/DOS Uplevel to DOS/VSE
- CMS Use of CP Page Management Interfaces
- CP Performance Extensions
- APL/Text Support for the 3270
- Display Control for the 3270
- Support for the IBM 3289 Model 4 Printer
- Support for the IBM 8809 Tape Unit
- Support for the IBM 3310 and 3370 Direct Access Devices

For a complete list of publications that support VM/370 System Extensions, see IBM Virtual Machine Facility/370 System Extensions General Information Manual, GC20-1827.

Note: Please file this cover letter at the back of the base publication to provide a record of changes.

File No. S370-36
Order No. SY20-0884-2

Systems

IBM Virtual Machine Facility/370: Data Areas and Control Block Logic

Release 6 PLC 1

This publication, together with the *VM/370 System Logic and Problem Determination Guide, Volumes 1, 2, and 3,* is intended for use by system programmers responsible for updating VM/370. This publication contains descriptions of the major data areas and control blocks used by three of the components of VM/370, the Control Program (CP), the Conversational Monitor System (CMS), and the Remote Spooling Communciations Subsystem (RSCS).

To use this publication effectively and to understand it thoroughly, the following publications are prerequisite:

IBM System/370 Principles of Operation,
Order No. GA22-7000
IBM OS/VS, DOS/VS, and VM/370 Assembler Language,
Order No. GC33-4010

Fourth Edition (March 1979)

This is a major revision of, and obsoletes, SY20-0884-2 and Technical Newsletters SN25-0413, SN25-0453, and SN25-0466. This edition applies to Release 6 PLC 1 (Program Level Change) of the IBM Virtual Machine Facility/370, and to all subsequent releases unless otherwise indicated in new editions or Technical Newsletters.

Technical changes and additions to text and illustrations are indicated by a vertical bar to the left of the change.

Changes are periodically made to the information herein; before using this publication in connection with the operation of IBM systems, consult the latest IBM System/370 Bibliography, Order No. GC20-0001, for the editions that are applicable and current.

Publications are not stocked at the address given below; requests for copies of IBM publications should be made to your IBM representative or to the IBM branch office serving your locality.

A form for readers' comments is provided at the back of this publication. If the form has been removed, comments may be addressed to IBM Corporation, VM/370 Publications, Dept. D58, Bldg. 706-2, P.O. Box 390, Poughkeepsie, New York 12602. IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation whatever. You may, of course, continue to use the information you supply.

Preface

This publication contains descriptions of major data areas and control blocks used by the three major components of VM/370. The three components are:

- The Control Program (CP)
- The Conversational Monitor System (CMS)
- The Remote Spooling Communications Subsystem (RSCS)

There are three sections and five appendixes, as follows:

- "Section 1. CP Data Areas and Control Blocks" contains information about CP data areas and control blocks.
- "Section 2. CMS Data Areas and Control Blocks" contains information on CMS data areas and control blocks.
- "Section 3. RSCS Data Areas and Control Blocks" contains information on RSCS data areas and control blocks.
- "Appendix A. CP and RSCS Equate Symbols" contains assembler language equate symbols used by CP and RSCS to reference data.
- "Appendix B. RSCS Control Areas" contains RSCS control areas that define constants and variables used during execution.
- "Appendix C. RSCS Request Elements" contains RSCS request elements that are the tables used by RSCS for task-to-task communication.
- "Appendix D. CMS Equate Symbols" contains CMS equate symbols.
- "Appendix E. Data Areas and Control Block References" contains information on the modules that reference data areas and control blocks.

OTHER VM/370 DATA AREAS AND CONTROL BLOCKS

Some data areas and control blocks that affect VM/370 service and support programs are not included in this publication. Information on these data areas and control blocks can be found in the IBM Virtual Machine Facility/370: Service Routines Program Logic, Order No. SY20-0882.

RELATED PUBLICATIONS

This publication should be used in conjunction with:

IBM Virtual Machine Facility/370:

System Logic and Problem Determination Guide,

Volume 1 Control Program (CP), Order No. SY20-0886

Volume 2 Conversational Monitor System (CMS), Order No. Sy20-0887

Volume 3 Remote Spooling Communication Sybsystem (RSCS), Order No. SY20-0888

System Programmer's Guide, Order No. GC20-1807

Glossary and Master Index, Order No. GC20-1813.

For information on how to use the fourth component -- interactive problem control system -- and its facilities, the hardware and software support personnel or the installation system programmer should use:

IBM Virtual Machine Facility/370: Interactive Problem Control System (IPCS) User's Guide, Order No. GC20-1823.

HOW TO USE THIS PUBLICATION

This publication addresses and describes the major control blocks associated with CP, CMS, and RSCS. Generally, data areas, or scratch areas that are created and exist only during the execution of a particular module are not described in this publication. In this publication, the data areas and control blocks are arranged in alphabetical order by DSECT name.

The CMS and RSCS components operate under control of CP. Each component creates, updates, and erases its own control blocks and data areas.

Control blocks and data areas are blocks of related information applicable to one or more system functions. They are usually defined by the DSECT instruction. The blocks can reflect current status, history information, or combinations of both, applicable to VM/370 functions. Control blocks and data areas provide the linkage and information for the user, the hardware, and the programs to work as one entity for the successful execution of a job, task, or process.

For every data area or control block, a statement is given that defines the use of the data area or control block. This statement is followed by a formatted block showing the fields defined in the data area or control block and the displacement into the DSECT of that field.

The formatted blocks for CP and CMS control areas are 8 bytes wide, showing two fullwords per line. RSCS control blocks are 4 bytes wide.

Note: One exception to this width rule is the formatting for PSA, where the control areas are given in 16-byte width.

When the name of a field is too large to fit into the formatted line, a pointer to the definition of the field is used instead of the name of the field. This pointer usually takes the form A*1, A*2, etc. When there is a particularly large field (one that uses more than three or four lines of the formatted block), ellipses are used in the block to show that the displacement of this field is larger than can be shown in the block.

The use of slashes in a field indicates that the field is reserved for IBM's use.

The formatted block is followed by listing-related information such as the hexadecimal displacement of the field into the DSECT, the name of the field and its definition in the listing, and a brief description of the contents and meaning of the field.

The following terms in this publication, refer to the indicated support devices:

- "2305" refers to IBM 2305 Fixed Head Storage, Models 1 and 2.
- "270x" refers to IBM 2701, 2702, and 2703 Transmission Control Units or the Integrated Communications Adapter (ICA) on the System/370 Model 135.
- "2741" refers to the IBM 2741 and the 3767, unless otherwise specified.
- "3270" refers to a series of display devices, namely, the IBM 3275, 3276, 3277, and 3278 Display Stations. A specific device type is used only when a distinction is required between device types.

  Information about display terminal usage also applies to the IBM 3138, 3148, and 3158 Display Consoles when used in display mode, unless otherwise noted.

  Any information pertaining to the IBM 3284 or 3286 Printer also pertains to the IBM 3287, 3288, and 3289 printers, unless otherwise noted.
- "FB-512" refers to the IBM 3310 and 3370 Direct Access Storage Devices.
- "3330" refers to the IBM 3330 Disk Storage, Models 1, 2, or 11; the IBM 3333 Disk Storage and Control, Models 1 or 11; and the 3350 Direct Access Storage operating in 3330/3333 Model 1 or 3330/3333 Model 11 compatibility mode.
- "3340" refers to the IBM 3340 Disk Storage, Models A2, B1, and B2, and the 3344 Direct Access Storage Model B2.
- "3350" refers to the IBM 3350 Direct Access Storage Models A2 and B2 in native mode.
- "370x" refers to IBM 3704 and 3705 Communications Controllers.
- The term "3705" refers to the 3705 I and the 3705 II unless otherwise noted.

Contents

The entries in this Table of Contents are accumulative. They list additions to this publication by the following VM/370 System Control Program Products:

- VM/370 Basic System Extensions, Program Number 5748-XX8
- VM/370 System Extensions, Program Number 5748-XE1

However, the text within the publication is not accumulative; it only relates to the one SCP program product that is installed on your system. Therefore, there may be topics and references listed in this Table of Contents that are not contained in the body of this publication.

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Section 1. CP Data Areas and Control Blocks

This section contains descriptions of the major CP data areas and control blocks. Figure 1 shows the relationships of control blocks to each other.

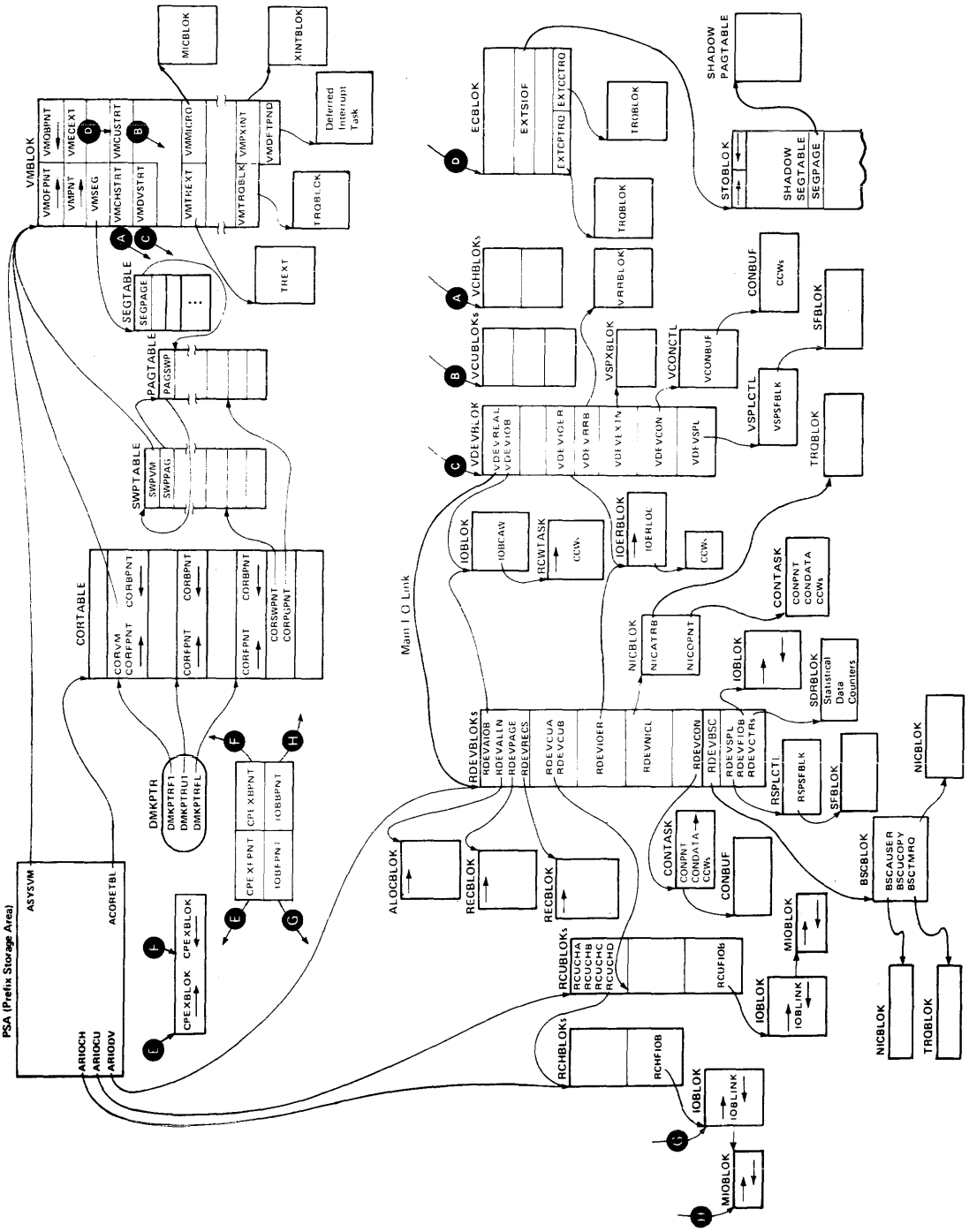
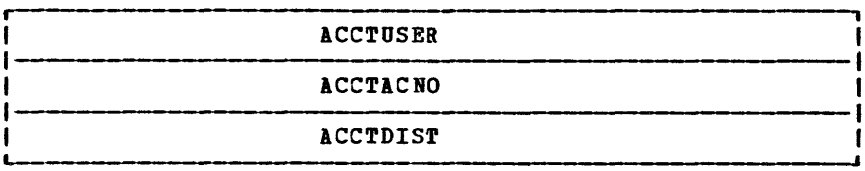


Figure 1. CP Control Block Relationships

ACCTBLOK: USER ACCOUNTING BLOCK

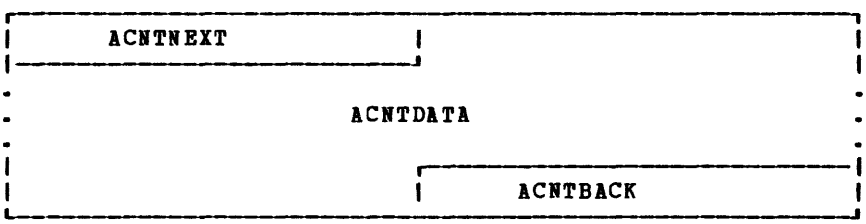
ACCTBLOK provides header information for spool files. The VMACOUNT field in the VMBLOK points to ACCTBLOK.



Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	ACCTUSER	DS	CL8	Virtual machine identification
8	ACCTACNO	DS	CL8	Virtual machine accounting number
10	ACCTDIST	DS	CL8	Virtual machine distribution number
	ACCTLENG	EQU	(*-ACCTBLOK)/8	Size of ACCTBLOK in doublewords (X'03')

ACNTBLOK: ACCOUNTING CARD BUFFER BLOCK

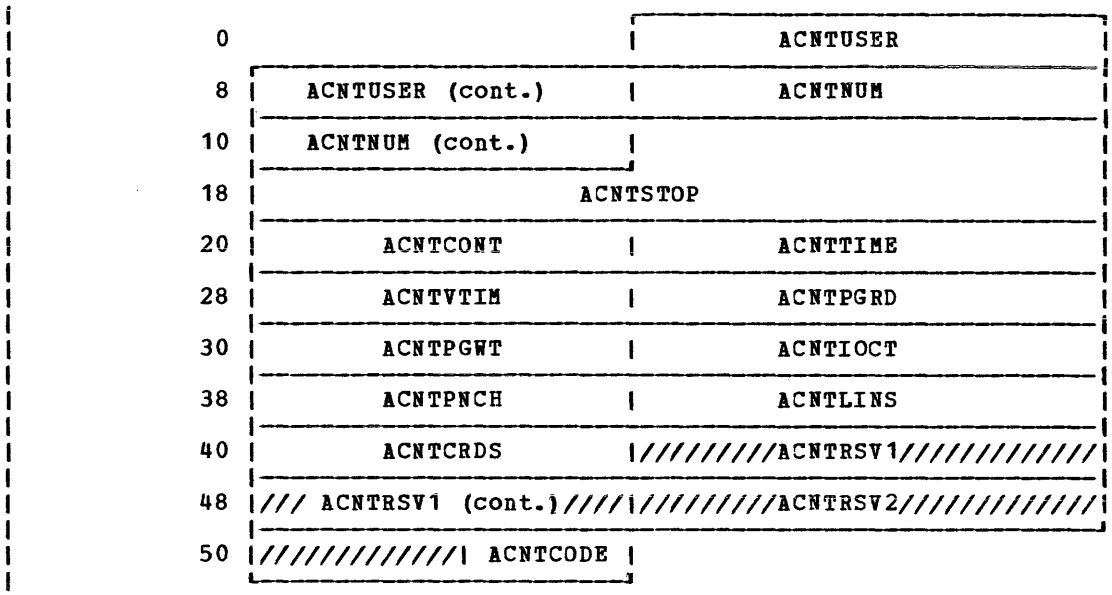
ACNTBLOK provides accounting and statistical information on each user that has used VM/370 facilities. The ARSPAC field in the Prefix Storage Area (PSA) points to the start of the chain of ACNTBLOKs.



Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	ACNTNEXT	DS	F	Address of next ACNTBLOK in chain
4	ACNTDATA	DS	CL80	Accounting information (see "Format for User Cards")
54	ACNTBACK	DS	F	Address of previous ACNTBLOK in chain
	ACNTSIZE	EQU	(*-ACNTBLOK)/8	Size of ACNTBLOK in doublewords (X'0C')

- Format for User Cards

The fields below represent the 80 bytes defined by ACNTDATA in the ACNTBLOK data area.



Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
		ORG	ACNTDATA	
4	ACNTUSER	DS	CL8	Virtual machine identification
C	ACNTNUM	DS	CL8	Virtual machine accounting number
14	ACNTSTOP	DS	CL12	Date and time of accounting mmddyyhhss
20	ACNTCONT	DS	1F	Number of seconds connected
24	ACNTTIME	DS	1F	Milliseconds of processor time used
28	ACNTVTIM	DS	1F	Milliseconds of virtual processor time used
		ORG	ACNTTIME	
24	ACNTDEVC	DS	XL4	Device code (CTFM); see the DEVTYPE copy file
28	ANCTNCYL	DS	1H	Number of cylinders of T-disk space
2C	ACNTPGRD	DS	1F	Total page reads
30	ACNTPGWT	DS	1F	Total page writes
34	ACNTIOCT	DS	1F	Virtual SIO count for nonspooled I/O
38	ACNTPNCH	DS	1F	Virtual card count for spooled punch
3C	ACNTLINS	DS	1F	Virtual line count for spooled printer
40	ACNTCRDS	DS	1F	Virtual card count for spooled reader
44	ACNTRSV1	DS	2F	Reserved for IBM use
4C	ACNTRSV2	DS	XL6	Reserved for IBM use
52	ACNTCODE	DS	1H	Accounting card identification code

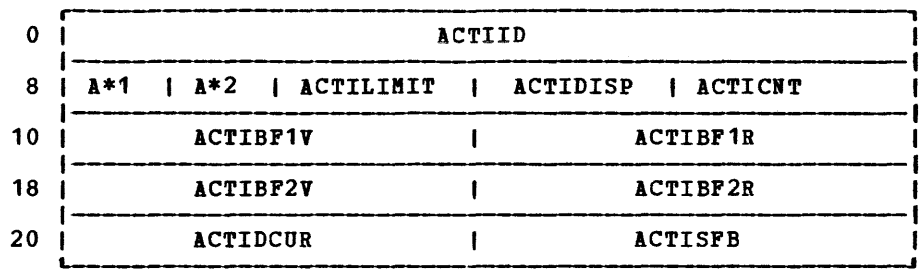
Card Codes for ACNTCODE

DC	C'C0'	User formatted accounting card
DC	C'x1'	User virtual machine accounting card
DC	C'x2'	User dedicated device accounting card
DC	C'x3'	User temporary disk space accounting card

where:
x = C if the card is initiated via a DIAGNOSE Code X'4C'
x = 0 if the card is initiated via CP command processing

ACTIBLOK: ACCOUNTING INFORMATION BLOCK

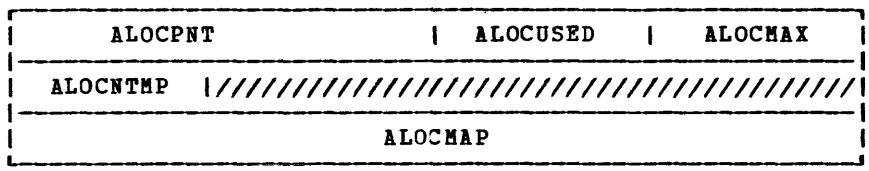
ACTIBLOK contains the user information specified in the SYSACNT macro as well as information about the current spool file that contains accounting records.



Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	ACTIID	DS	CL8		Virtual machine identification
8	ACTICLAS	DS	CL1	A*1	Class of output line
9	ACTIFLAG	DS	1X	A*2	Accounting status flag
	Bits defined in ACTIFLAG				
	ACTIPCH	EQU	X'80'		Indicates punch files
	ACTIAC	EQU	X'40'		Indicates active
	ACTICL	EQU	X'20'		Indicates file to be closed
	ACTISFCK	EQU	X'10'		Indicates checkpoint taken
A	ACTILIMT	DS	1H		Limit to close file
C	ACTIDISP	DS	1H		Displacement in buffer of next record
E	ACTICNT	DS	1H		Count of records in buffer
10	ACTIBF1V	DS	1F		Virtual address of buffer one
14	ACTIBF1R	DS	1F		Real address of buffer one
18	ACTIBF2V	DS	1F		Virtual address of buffer two
1C	ACTIBF2R	DS	1F		Real address of buffer two
20	ACTIDCUR	DS	1F		Current buffer DASD address
24	ACTISFB	DS	1F		Address of spool file block

ALOCBLOK: DASD CYLINDER ALLOCATION BLOCK

ALOCBLOK provides information on the temporary disk space available to a virtual machine. The RDEVALLN field in the RDEVBLOK points to the ALOCBLOK.



Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	ALOCPNT	DS	1F	Pointer to next ALOCBLOK on chain
4	ALOCUSED	DS	1H	Number of cylinders currently in use
6	ALOCMAX	DS	1H	Maximum number of cylinders available
8	ALOCNTMP	DS	1H	Number of nontemporary cylinders
A		DS	3H	Reserved for IBM use
10	ALOCMAP	DS	0F	Cylinder allocation bit map

Bits defined in ALOCMAP
0 = Cylinder is available
1 = Cylinder has been assigned

Note: The size of ALOCMAP is variable and depends upon the number of cylinders on the device. Generally, the size of the ALOCBLOK is determined by the following formula:

$$\text{ALOCSIZE(doublewords)} = \frac{\text{(ALOCMAX+63)}}{64} + 2 = \frac{\text{No. of Cylinder}}{\text{Bits per doubleword}} + \text{header}$$

where:

ALOCMAX for 2305-1 = 48 cylinders
for 2305-2 = 96 cylinders
for 2314 = 203 cylinders
for 3330-1 = 404 cylinders
for 3330-2 = 404 cylinders
for 3330-11 = 808 cylinders
for 3333-1 = 404 cylinders
for 3333-11 = 808 cylinders
for 3340-35 = 349 cylinders
for 3340-70 = 698 cylinders
for 3350 = 555 cylinders
for all others = 1 cylinder

Note that any bits in the map that represent cylinders not present on the device are set to 1.

For Temporary Disk Allocation Blocks

		ORG	ALOCUSED	
4	ALOCCYL1	DS	1H	First cylinder of T-disk area
6	ALOCCYL2	DS	1H	Last cylinder of T-disk area

Bytes defined in ALOCMAP
X'00' = Cylinder is available

X'AA' = Cylinder has been allocated

Note: The size of the T-disk ALOCMAP is variable and depends upon the number of cylinders in the range ALOCCYL1 to ALOCCYL2. Generally, the size of a given block is determined by the following formula:

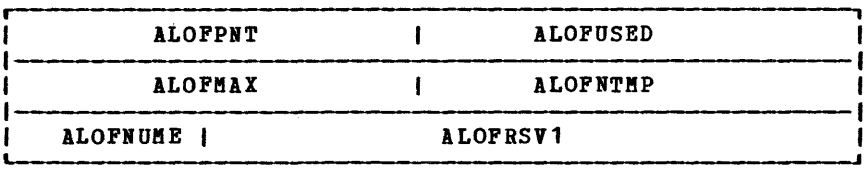
$$\text{ALOCSIZE(doublewords)} = \left\{\frac{(\text{ALOCCYL2}-\text{ALOCCYL1}+1+7)}{8}\right\} +2 =$$

$$\left\{\frac{\text{Number of Cylinder (inclusive)}}{\text{Bytes per doubleword}}\right\} + \text{header}$$

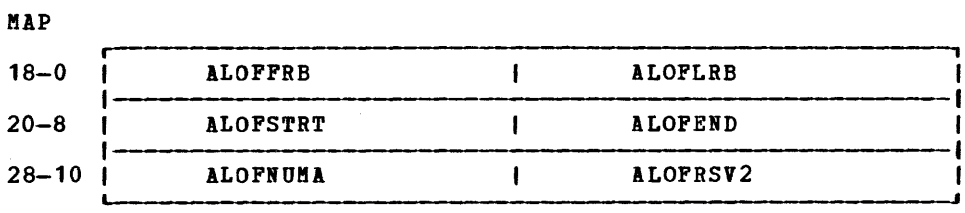
Note that bytes for cylinders that are not available are marked assigned.

ALOFBLOK: FB-512 EXTENT ALLOCATION BLOCK

The ALOFBLOK is used to control the allocation of temporary (TEMP) space on FB-512 devices. The ALOFBLOK also serves as the anchor (ALOFPNT) for ALOTBLOKs that describe temporary disk allocations. The RDEVALLN field of FB-512 RDEVBLOKs points to the ALOFBLOK.



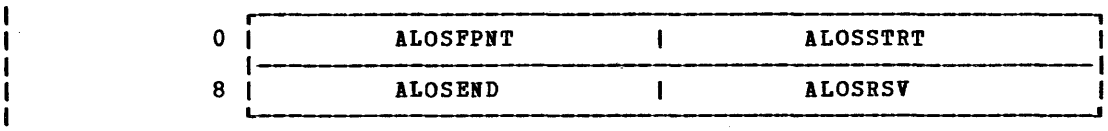
One MAP entry per temporary space extent



Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	ALOFPNT	DS	1F	Pointer to first TDSK ALOTBLOK
4	ALOFUSED	DS	1F	Number of pages currently in use
8	ALOFMAX	DS	1F	Maximum number of pages available
C	ALOFNTMP	DS	1F	Number of nontemporary pages originally allocated
10	ALOFNUME	DS	1H	Number of extents reflected in map
12	ALOFRSV1	DS	3H	Reserved for IBM use
18	ALOFMAP	DS	0D	Extent map -- each 20 byte entry reflects a contiguous group of pages (extent) that were allocated as temporary space
	ALOFRTZ	EQU	(*-ALOFBLOK)/8	ALOFBLOK "root" size in doublewords
18-0	ALOFFRB	DS	1F	Pointer to first FB-512 RECBLOK for extent -- points to itself if no RECBLOKs exist
1C-4	ALOFBRB	DS	1F	Pointer to last FB-512 RECBLOK for extent -- points to ALOFFRB if no RECBLOKs exist
20-8	ALOFSTRT	DS	1F	Page number of first page in this extent
24-C	ALOFEND	DS	1F	Page number of last page in this extent
28-10	ALOFNUMA	DS	1F	Number of available pages in this extent
2C-14	ALOFRSV2	DS	1F	Reserved for IBM use
	ALOFEXTZ	EQU	(*-ALOFFRB)/8	Extent map-entry size in doublewords

ALOSBLOK: FREE TDSK SPACE EXTENT BLOCK

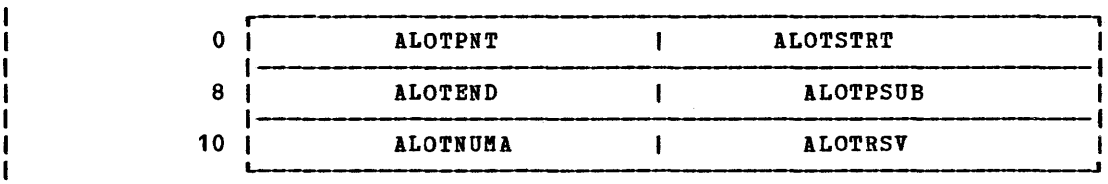
The ALOSBLOK is used to describe unused TDSK space on FB-512 devices. Space represented by this control block is available for allocation as TDSK space. The ALOTPSUB field of the ALOTBLOK points to the ALOSBLOK.



Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	ALOSFPNT	DS	1F	Pointer to next ALOSBLOK
4	ALOSSTRT	DS	1F	Page number of first page of free extent
8	ALOSEND	DS	1F	Page number of last page of free extent
C	ALOSRSV	DS	1F	Reserved for IBM use
	ALOSSZ	EQU	(*-ALOSBLOK)/8	ALOSBLOK size in doublewords

ALOTBLOK: FB-512 TDSK ALLOCATION BLOCK

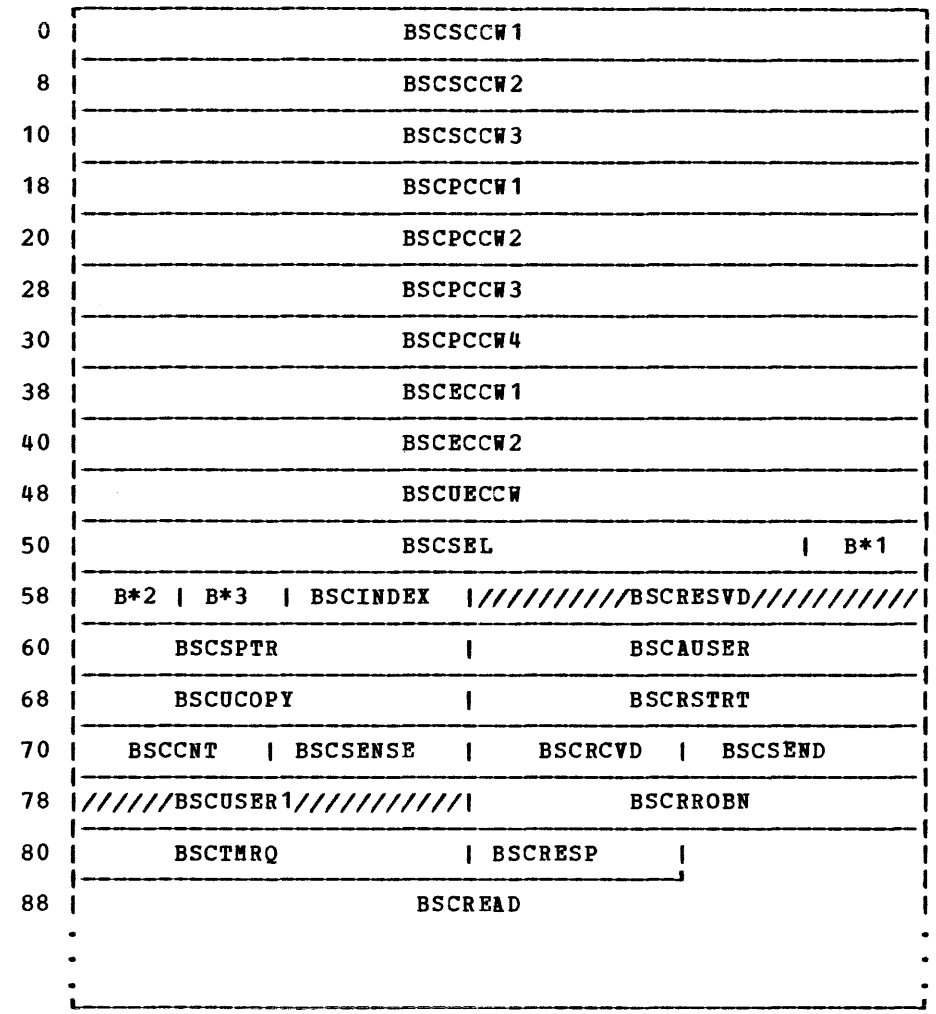
The ALOTBLOK describes the original allocation of TDSk space on FB-512 devices. ALOSBLOKs that map free space within the original extent are chained from the ALOTBLOK.



Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	ALOTPNT	DS	1F	Pointer to next ALOTBLOK
4	ALOTSTRT	DS	1F	Page number of first page of extent
8	ALOTEND	DS	1F	Page number of last page of extent
C	ALOTPSUB	DS	1F	Pointer to first ALOSBLOK
10	ALOTNUMA	DS	1F	Number of available TDSK blocks
14	ALOTRSV	DS	1F	Reserved for IBM use
	ALOSSZ	EQU	(*-ALOTBLOK)/8	ALOTBLOK size in doublewords

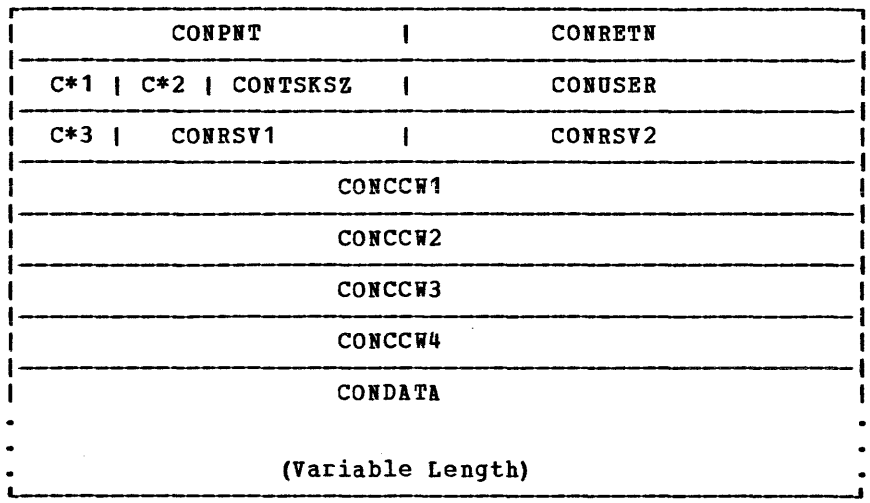
BSCBLOK: BINARY SYNCHRONOUS COMMUNICATION CONTROL BLOCK

BSCBLOK provides status, control information buffers (necessary for polling and addressing), and channel programs for 3270 remote equipment. The RDEVBSC field in the RDEVBLOK points to the BSCBLOK.



CONTASK: CONSOLE I/O PACKAGE

CONTASK contains data and control information pertinent to the control and communication between virtual and real terminal console tasks and command streams. The RDEVCON field of the RDEVBLOK and the NICQPNT field of the NICBLOK point to CONTASK.

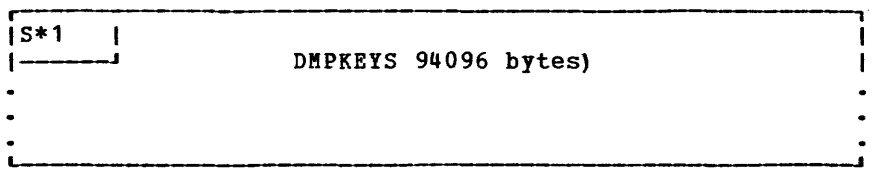


Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	CONPNT	DS	1F		Pointer to next CONTASK
4	CONRETN	DS	1F		Pointer to SAVEAREA for return
8	CONSTAT	DS	1X	C*1	CONTASK status control flags
	Bits defined in CONSTAT				
	CONOUTPT	EQU	X'80'		Generate CONTASK output
	CONRESP	EQU	X'40'		Response expected from this CONTASK
	CONACTV	EQU	X'20'		CONTASK is active on real device
	CONCNTL	EQU	X'10'		This is a control CONTASK only
	CONESCP	EQU	X'08'		CONTASK contains device dependent data
	CONRTRY	EQU	X'04'		Retry operation in progress
	CONSPLT	EQU	X'02'		Output data being split via RDEVLLEN
	CONSYNC	EQU	X'01'		CONTASK for synchronization only
9	CONPARM	DS	1X	C*2	DMKQCN parameter flags (see "Appendix A. CP and RSCS Equate Symbols")
A	CONTSKSZ	DS	1H		CONTASK size in doublewords
C	CONUSER	DS	1F		Address of VMBLOK for destination user
10	CONFSS	DS	1X	C*3	Flags for full screen support
	Bits defined in CONFSS				
	CONALT	EQU	X'08'		Set to 1 when ERASE/WRITE ALTERNATE operation
	CONMOD	EQU	X'04'		Set to 1 when modified operation
	CONRD	EQU	X'02'		Full screen read
	CONWRT	EQU	X'01'		Full screen write
	CONFSOP	EQU	X'0F'		Any full screen operation
	CONEWA	EQU	X'0D'		ERASE/WRITE ALTERNATE operation
	CONRMOD	EQU	X'06'		Read modified operation
	CONEWRT	EQU	X'05'		ERASE/WRITE operation

Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
18	CONCCW1	DS	1D	First console I/O CCW
		ORG	CONCCW1	
18	CONADDR	DS	1F	CCW data address
22	CONFLAG	DS	1X	CCW flag bits
23	CONDCW	DS	1X	Diagnose write control
24	CONCNT	DS	1H	CCW byte count
		ORG	CONADDR	
18	CONCOMND	DS	1X	CCW command code
20	CONCCW2	DS	1D	Second console I/O CCW
28	CONCCW3	DS	1D	Third console I/O CCW
30	CONCCW4	DS	1D	Fourth console I/O CCW
38	CONDATA	DS	0C	Output data area (variable length)
	CONTSIZE	EQU	(*-CONTASK)/8	CONTASK size in doublewords
	Bits redefined in CONCCW for 370x Network Control Program			
		ORG	CONCCW3+2	
2A	CONSRID	DS	1H	Source identifier
2C	CONDEST	DS	1H	Destination resource ID
2E	CONRTAG	DS	1H	Request tag for this CONTASK
30	CONSYSR	DS	1X	370x system response byte
31	CONEXTR	DS	1X	370x extended response byte
32	CONTCMD	DS	1H	Bisynchronous terminal command modifier
34	CONFUNC	DS	1X	Basic device function control flags
35	CONDFLG	DS	1X	Basic device data control flags
36	CONDCNT	DS	1H	Text data length
	Bits redefined for 3270 Remote Support			
		ORG	CONCCW4	
30	CONLABEL	DS	1X	Return index value
31	CONSTX	DS	1X	Start text character
33	CONESC	DS	1X	Escape character
33	CONCMD	DS	1X	Command code for remote station
34	CONWCC	DS	1X	Write control character
35	CONSBA	DS	1X	Start buffer address
36		DS	1H	Buffer address

DMPKYREC: DUMP FILE KEY STORAGE RECORD

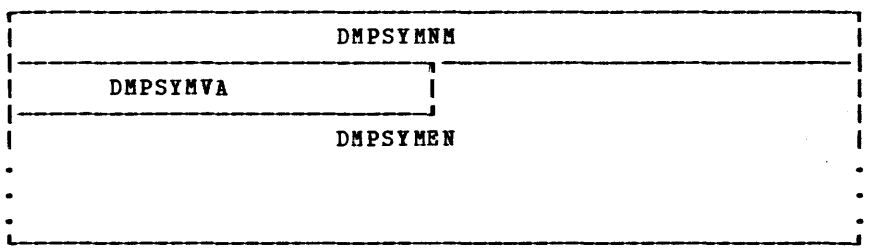
DMPKYREC contains the storage keys of each 2K block of main storage at the time of SVC 0 or a PSW restart condition. DMPKYREC and DMPINREC are used for debugging operations.



Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	DMPKEYS	DS	4096X		Main storage keys
		ORG	DMPKEYS		
0	DMPKEY	DS	1X	S*1	Storage key for each 2K block

DMPTBREC: DUMP FILE SYMBOL TABLE RECORD

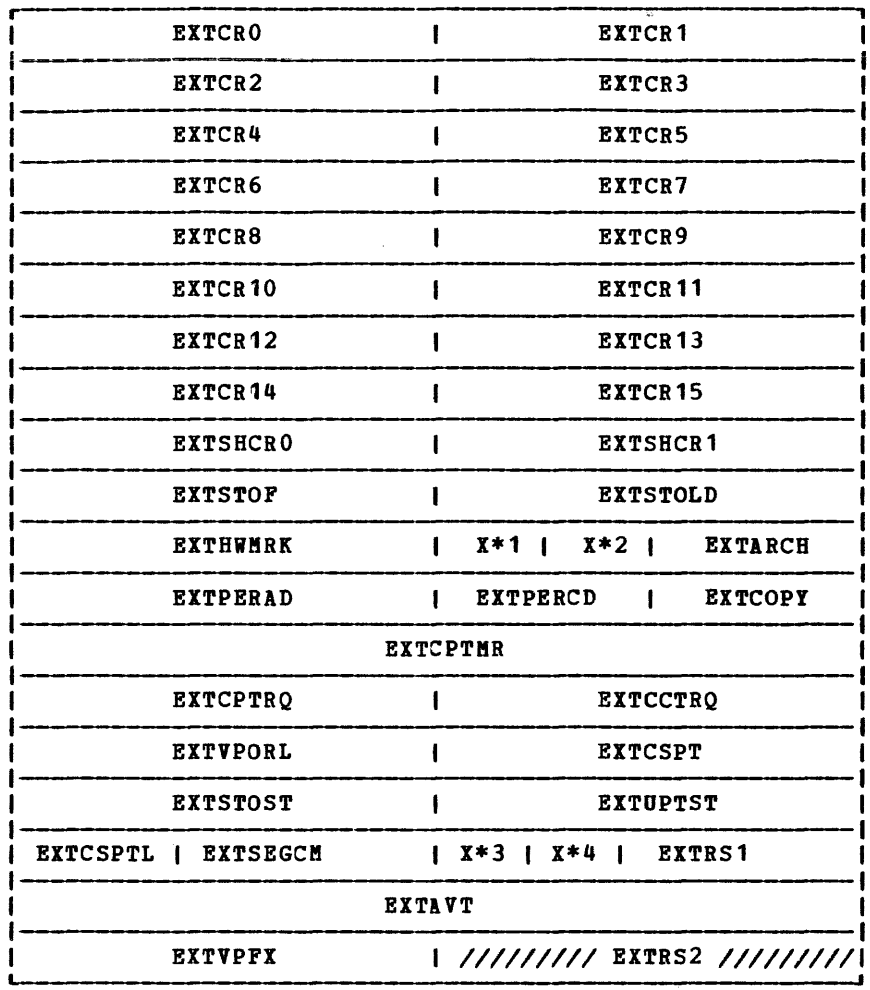
DMPTBREC is a listing of all entry points in the system and their locations.



Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
C	DMPSYMEN	DS	341XL12	Symbol table entries
		ORG	DMPSYMEN	
0	DMPSYMNM	DS	CL8	CSECT or entry point name
8	DMPSYMVA	DS	A	Location in main storage of this symbol

ECBLOK: EXTENSION TO VMBLOK FOR VIRTUAL MACHINE WITH RELOCATE

ECBLOK provides an extension to the VMBLOK for virtual machine operation in System/370 extended control mode. The VMECEXT field of the VMBLOK points to ECBLOK.

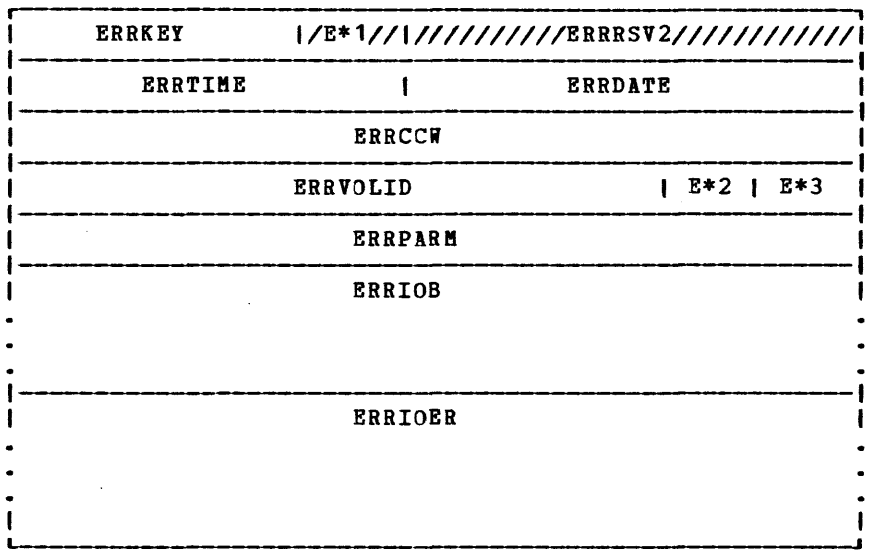


Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	EXTCR0	DS	1F	Virtual control register 0; architecture controls
4	EXTCR1	DS	1F	Virtual control register 1; segment table pointer
8	EXTCR2	DS	1F }	
C	EXTCR3	DS	1F }	
10	EXTCR4	DS	1F }	
14	EXTCR5	DS	1F }	
18	EXTCR6	DS	1F }	
1C	EXTCR7	DS	1F }	
20	EXTCR8	DS	1F }	Virtual control registers 2 through 15
24	EXTCR9	DS	1F }	
28	EXTCR10	DS	1F }	
2C	EXTCR11	DS	1F }	
30	EXTCR12	DS	1F }	
34	EXTCR13	DS	1F }	
38	EXTCR14	DS	1F }	
3C	EXTCR15	DS	1F }	

Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
40	EXTSHCR0	DS	1F		Shadow control register 0
44	EXTSHCR1	DS	1F		Shadow control register 1
48	EXTSTOF	DS	1F		Pointer to first STOBLOK on chain
4C	EXTSTOLD	DS	1F		Control register 1 value corresponding to tables
50	EXTHWMRK	DS	1F		Virtual machine VV=VR high-water mark
		ORG	EXTHWMRK		
	EXTP0REL	DS	1F		Relocated page table add for V=R user when STBYPASS is active
54	EXTSTOMX	DS	1X	X*1	Maximum number of STOBLOKs
55	EXTSTOCT	DS	1X	X*2	Current number of STOBLOKs
56	EXTARCH	DS	1H		Architecture control index
58	EXTPERAD	DS	1F		Address of instruction PER interrupt
5C	EXTPERCD	DS	1H		PER code to be reflected
5E	EXTCOPY	DS	1H		Length code from active SEGTABLE entry
60	EXTCPTMR	DS	1D		Virtual processor timer
68	EXTCPTRQ	DS	1F		Address of TRQBLOK for processor timer
6C	EXTCCTRQ	DS	1F		Address of TRQBLOK for clock comparator
70	EXTVP0RL	DS	1F		Relocated virtual page (diagnose code '6C')
74	EXTCSPT	DS	1F		Pointer to common area for shadow page tables
78	EXTSTOST	DS	1F		Number of STO (segment table origin) steals
7C	EXTUPTST	DS	1F		Number of page table steals
80	EXTCSPTL	DS	1H		Length of common area for shadow table extension
82	EXTSEGCM	DS	1H		Displacement of common area for shadow table extension
84	EXTCSCT	DS	1X	X*3	Number of segments in common area
85	EXTUSCT	DS	1X	X*4	Size of user area shadow page table placement
86	EXTRS1	DS	1H		Reserved for IBM use
88	EXTAVT	DS	1D		Accumulated virtual machine time for VMAIP
90	EXTVPFX	DS	1F		Virtual prefix value
94	EXTRS2	DS	1F		Reserved for IBM use
	EXTSIZE	EQU	(*-ECBLOK)/8		ECBLOK size in doublewords (X'0E')

ERRBLOK: ERROR BLOCK USED TO BUILD OBR/MDR

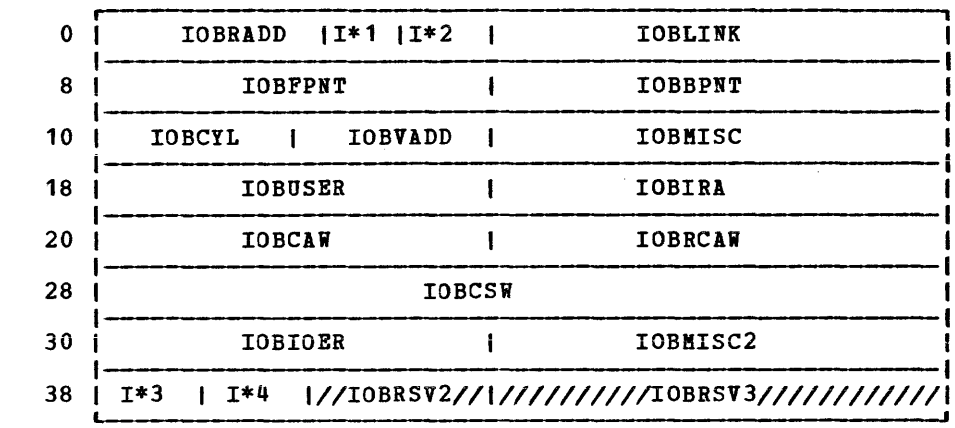
ERRBLOK contains data describing an error condition such as a channel failure or a device failure.



Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	ERRKEY	DS	3X		Key used to determine OBR/MDR processing
3	ERRSV1	DS	1X	E*1	Reserved for IBM use
4	ERRRSV2	DS	1F		Reserved for IBM use
8	ERRTIME	DS	1F		Time record was built
C	ERRDATE	DS	1F		Date record was built
	ERRHEADR	EQU	(*-ERRBLOK)		Size of header in bytes
10	ERRCCW	DS	1D		Failing CCW
		ORG	ERRCCW		
10	ERRMIOB	DS	(IOBSIZE)D		Copied IOBLOK
	ERRMIOER	DS	(IOBRSIZE)D		Copied IOERBLOK
		ORG	ERRCCW		
10	ERRCCNT	DS	2X		Size of CONTASK data buffer
10	ERRCONT	DS	0C		CONTASK data buffer (variable length)
18	ERRVOLID	DS	6X		Volid of failing device
1E	ERRSDR	DS	1X	E*2	SDRFLAGS from SDRBLOK
1F	ERRCORR	DS	1X	E*3	Correlation count for MDR record
20	ERRPARM	DS	2D		Device dependent parameter string
30	ERRIOB	DS	(IOBSIZE)D		Copied IOBLOK, see IOBLOK for details
70	ERRIOER	DS	(IOERSIZE)D		Copied IOERBLOK, see IOERBLOK for details
	ERRSIZE	EQU	(*-ERRSIZE)/8		ERRBLOK size in doublewords

IOBLOK: I/O TASK CONTROL BLOCK

IOBLOK contains information required to perform I/O operations. The I/O request initiator for the I/O operation is either a CP-initiated or virtual machine-initiated event. There are five pointers to the IOBLOK: RCHFIOB field of the RCHBLOK, RCHFIOB field of the RCUBLOK, RDEVAIOB field of the RDEVBLOK, VDEVFIOB field of the VDEVBLOK, RDEVFIOB field of the RDEVBLOK.

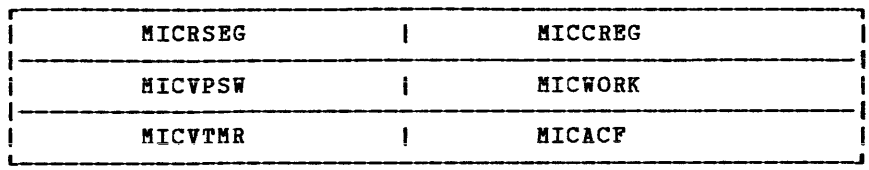


Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	IOBRADD	DS	1H		Real device address for SIO
2	IOBFLAG	DS	1X	I*1	IOBLOK flags
	Bits defined in IOBFLAG				
	IOBCP	EQU	X'80'		CP-generated I/O operation
	IOBRSTRT	EQU	X'40'		Restarted operation - IOBRCAW
	IOBSPLT	EQU	X'20'		DASD - CP split seek operation
	IOBPAG	EQU	X'10'		IOBLOK created for paging I/O
	IOBRELCU	EQU	X'08'		Control unit released at initiation
	IOBERP	EQU	X'04'		I/O task is under control of ERP
	IOBRES	EQU	X'02'		I/O task has been reset
	IOBHVC	EQU	X'01'		I/O initiated via DIAGNOSE instruction
3	IOBSTAT	DS	1X	I*2	IOBLOK status
	Bits defined in IOBSTAT				
	IOBFATAL	EQU	X'80'		Unrecoverable error in this I/O operation
	IOBFLT	EQU	X'40'		IOBLOK queued pending completion of a MSS cylinder fault
	IOBPATHF	EQU	X'20'		Path is fixed, use IOBRADD value
	IOBMINI	EQU	X'08'		This is a mini-IOBLOK
	IOBALTSK	EQU	X'04'		DASD channel program has seek to alternate track
	IOBCC3	EQU	X'03'		Processing CC 3, not available
	IOBCC2	EQU	X'02'		Processing CC 2, channel busy
	IOBCC1	EQU	X'01'		Processing CC 1, CSW stored
	IOBCC0	EQU	X'00'		Processing I/O interrupt

Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
4	IOBLINK	DS	1F		Pointer for multipath IOBLOK chain
8	IOBFPNT	DS	1F		Pointer to next IOBLOK in queue
C	IOBBPNT	DS	1F		Pointer to previous IOBLOK in queue
	IOBMSIZE	EQU	(*-IOBLOK)/8		Multiple path IOBLOK size in doublewords (X'02')
10	IOBCYL	DS	1H		DASD - seek cylinder for this IOBLOK
12	IOBVADD	DS	1H		Virtual device address
14	IOBMISC	DS	1F		Use varies according to caller
18	IOBUSER	DS	1F		Pointer to VMBLOK of user
1C	IOBIRA	DS	1F		IOBLOK interrupt return address
20	IOBCAW	DS	1F		Pointer to CCW chain
24	IOBRCAW	DS	1F		Pointer to restart CCW chain
28	IOBCSW	DS	1D		Real CSW for I/O operation
30	IOBIOER	DS	1F		Pointer to IOERBLOK with sense byte
34	IOBMISC2	DS	1F		Use varies according to caller
38	IOBSPEC	DS	1X	I*3	IOBLOK special requests flag
	Bits defined in IOBSPEC				
	IOBTIO	EQU	X'80'		IOBLOK request for a TIO
	IOBHIO	EQU	X'40'		IOBLOK request for a HIO
	IOBSIOF	EQU	X'20'		Virtual SIO fast release
	IOBIMSTK	EQU	X'10'		Shut down SDR function
	IOBUNSL	EQU	X'08'		IOBLOK resulting from unsolicited interrupt
	IOBCOPY	EQU	X'04'		I/O block associated with a COPY request
	IOBSENS	EQU	X'02'		Sense operation for COPY request
	IOBTRPND	EQU	X'01'		Virtual trace pending on this I/O block
39	IOBSPEC2	DS	1X	I*4	IOBLOK special requests flag second byte
	Bits defined in IOBSPEC2				
	IOBWRAP	EQU	X'80'		Input/output task for AUTOPOLL wrap list
	IOBCLN	EQU	X'40'		VDEVBLOK locked when CCW got control
	IOBUNREL	EQU	X'20'		Input/output task contains release, DMKUNT must process
	IOBUC	EQU	X'10'		Unit check status
	IOBSNSIO	EQU	X'08'		Normal sense operation in progress
	IOBREL	EQU	X'04'		Channel program contains CP release
	IOBRETRY	EQU	X'02'		CPEXBLOK stacked for retry
3A	IOBRSV2	DS	1H		Reserved for IBM use
3C	IOBRSV3	DS	1F		Reserved for IBM use
	IOBSIZE	EQU	(*-IOBLOK)/8		IOBLOK size in doublewords (X'08')
	For CP IOBLOKs				
		ORG	IOBVADD		
12	IOBRCNT	DS	1H		Retry count

MICBLOK: VIRTUAL MACHINE POINTER LIST FOR VM/370 HARDWARE ASSIST

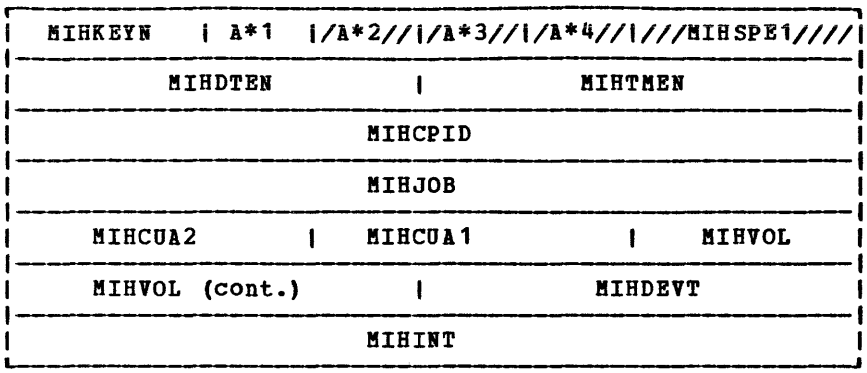
MICBLOK contains pointers to control registers, the segment table, and other values required by the virtual machine assist feature and the VM/370 Extended Control-Program Support (ECPS). This information is needed for the handling of certain instructions and privileged operations requested by the virtual machine. The VMMICRO field of the VMBLOK points to MICBLOK.



Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	MICRSEG	DS	1F	Real segment table pointer
4	MICCREG	DS	1F	Virtual control register pointer
8	MICVPSW	DS	1F	Virtual PSW pointer
		ORG	MICVPSW	
8	MICVIP	DS	1X	Virtual interrupt pending bit
	Bits defined in MICVIP			
	MICPEND	EQU	X'80'	Virtual interrupt is pending; therefore, the virtual machine assist feature is not to handle change of PSW channel masks or external mask from disabled to enabled. All other bits in this byte must be 0.
9		DS	3X	Address of virtual PSW
C	MICWORK	DS	1F	Workspace pointer
10	MICVTMR	DS	1F	Location to be decremented when the virtual interval timer assist feature of VM/370 ECPS is being used
14	MICACF	DS	1F	Assist controls
		ORG	MICACF	
14	MICEVMA	DS	1X	Expanded virtual machine assist control bits
	Bits defined in MICEVMA			
	MICLPSW	EQU	X'80'	LPSW simulation
	MICPTLB	EQU	X'40'	PTLB simulation
	MICSCSP	EQU	X'20'	SCKC, SPT simulation
	MICSIO	EQU	X'10'	SIO simulation
	MICSTSM	EQU	X'08'	STNSM, STOSM, and SSM simulation
	MICSTPT	EQU	X'04'	STPT simulation
	MICTCH	EQU	X'02'	TCH simulation
	MICDIAG	EQU	X'01'	Diagnose simulation
15		DS	3X	Reserved for IBM Use
	MICSIZE	EQU	(*-MICBLOK)/8	Size of DSECT in doublewords (X'03')

MIHREC: MISSING INTERRRUPT HANDLER ERROR RECORD

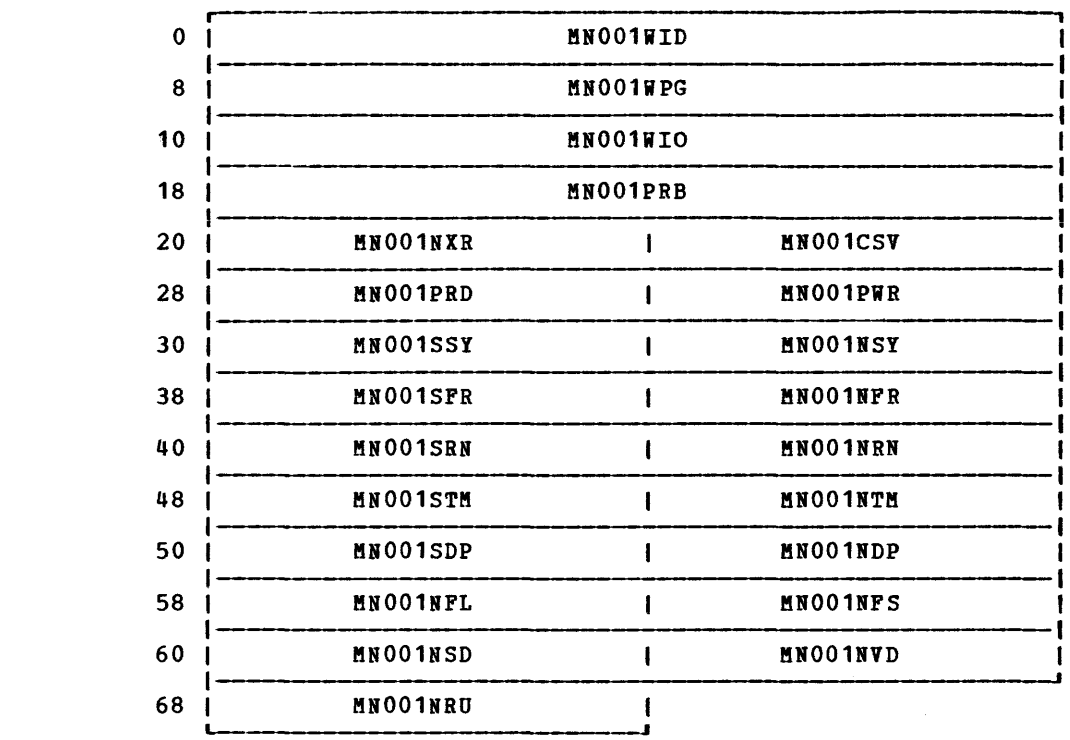
MIHREC is used in the SVC 76-initiated error recording process of type 70 MIH (Missing Interrupt Handler) records.



Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
	24-Byte Header				
0	MIHKEYN	DS	1H		Type and operating system
2	MIHSWS1	DS	1C	A*1	Switch byte 0
3	MIHSWS2	DS	1C	A*2	Reserved for IBM use
4	MIHSWS3	DS	1C	A*3	Reserved for IBM use
5	MIHRECNT	DS	1C	A*4	Reserved for IBM use
6	MIHSPE1	DS	1H		Reserved for IBM use
8	MIHDTEN	DS	1F		Date
C	MIHTMEN	DS	1F		Time
10	MIHCPID	DS	2F		Processor identification and model number
	Device Dependent Data				
18	MIHJOB	DS	8X		Job whose I/O request is pending
20	MIHCUA2	DS	3X		CUA used to address the device
23	MIHCUA1	DS	3X		Primary device address
26	MIHVOL	DS	6X		Volume serial number of device
2C	MIHDEVT	DS	4X		Device type
30	MIHINT	DS	8X		Time interval used to check pending interrupt
	MIHSIZE	EQU	(*-MIHREC)		MIH record size in doublewords (X'07')

MN001: VM/370 MONITOR PERFORM CLASS RECORD

MN001 gives information on the performance of the Attached Processor.



Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	MN001WID	DS		L8 Attached processor idle wait time
8	MN001WPG	DS		L8 Attached processor page wait time
10	MN001WIO	DS		L8 Attached processor I/O wait time
18	MN001PRB	DS		L8 Attached processor problem state time
20	MN001NR	DS	1F	Number of external interrupts to the attached processor
24	MN001CSV	DS	1F	Number of SVCs reflected by the attached processor
28	MN001PRD	DS	1F	Number of page reads by attached processor
2C	MN001PWR	DS	1F	Number of page writes by the attached processor
30	MN001SSY	DS	1F	Total time spin on system lock
34	MN001NSY	DS	1F	Total number of spins for system lock
38	MN001SFR	DS	1F	Total time spin on DMKFRE lock
3C	MN001NFR	DS	1F	Total number of spins for DMKFRE lock
40	MN001SRN	DS	1F	Total time spin on RUNLIST lock
44	MN001NRN	DS	1F	Total number of spins for RUNLIST lock
48	MN001STM	DS	1F	Total time spin on timer request lock
4C	MN001NTM	DS	1F	Total number of spins for timer request lock
50	MN001SDP	DS	1F	Total time spin on displacement lock
54	MN001NDP	DS	1F	Total number of spins for displacement lock
58	MN001NFL	DS	1F	Number of times CPFRELK set
5C	MN001NFS	DS	1F	Number of times CPFRESW set
60	MN001NSD	DS	1F	Number of times system lock request deferred
64	MN001NVD	DS	1F	Number of times VMBLOK lock deferred
68	MN001NRU	DS	1F	Number of DMKDSPRU entries
	MN001LEN	EQU	*-MN001	Length of record

MN002: RESOURCE MANAGEMENT DATA

MN002 is used to get information on Resource Management during processing.

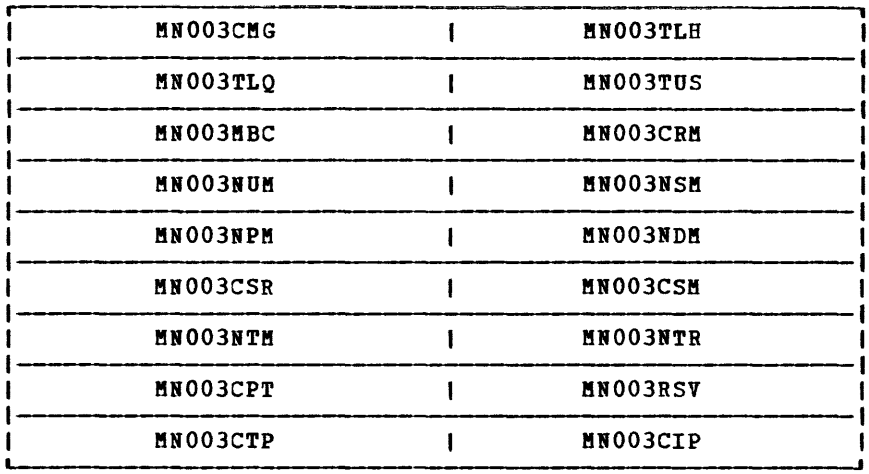
0	MN002SQT	MN002SET
8	MN002SFS	MN002SAP
10	MN002SKA	MN002SUC
18	MN002SPB	
20	MN002SIB	MN002SQ3
28	MN002Q11	
30	MN002Q12	
38	MN002Q13	
40	MN002Q14	
48	MN002Q15	
50	MN002Q16	MN002Q17
58	MN002Q18	RESERVED
60	MN002Q21	
68	MN002Q22	
70	MN002Q23	
78	MN002Q24	
80	MN002Q25	
88	MN002Q26	MN002Q27
90	MN002Q28	RESERVED

Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	MN002SQT	DS	F	DMKSCHQT average queue wait time
4	MN002SET	DS	F	DMKSCHET average wait time for eligible list
8	MN002SFS	DS	F	DMKSCHFS average utilization
C	MN002SAP	DS	F	DMKSCHAP average resident page request
10	MN002SKA	DS	F	DMKSCHKA average desired processor and/or page re
14	MN002SUC	DS	F	DMKSCHUC average processor overhead and/or page read
18	MN002SPB	DS	2F	DMKSCHPB processor use and paging bias
20	MN002SIB	DS	F	DMKSCHIB interactive bias
24	MN002SQ3	DS	F	DMKSCHQ3 count of queue 3 users
28	MN002Q11	DS	D	VMQTOD in-queue time stamp
30	MN002Q12	DS	D	VMQELP in-queue time
38	MN002Q13	DS	D	VMQWT eligible list wait time
40	MN002Q14	DS	D	VMQCPU in-queue processor use
48	MN002Q15	DS	D	VMQPGS estimated average page wait time in seconds
50	MN002Q16	DS	F	VMQCNT count of dropouts from queue
54	MN002Q17	DS	F	VMQPRD in-queue page reads
58	MN002Q18	DS	F	VMQSTL in-queue page steals

Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
5C	RESERVD2	DS	F	Reserved for IBM use
60	MN002Q21	DS	D	VMQTOD in-queue time stamp
68	MN002Q22	DS	D	VMQELP in-queue time
70	MN002Q23	DS	D	VMQWT eligible list wait time
78	MN002Q24	DS	D	VMQCPU in-queue processor use
80	MN002Q25	DS	D	VMQPGS estimated average page wait time in seconds
88	MN002Q26	DS	F	VMQCNT count of droputs from queue
8C	MN002Q27	DS	F	VMQPRD in-queue page reads
90	MN002Q28	DS	F	VMQSTL in-queue stolen pages
94	RESERVD3	DS	F	Reserved for IBM use
	MN002LEN	EQU	*-MN002	Length of record

MN003: VM/370 SYSTEM EXTENSION EXCLUSIVE MIGRATION DATA

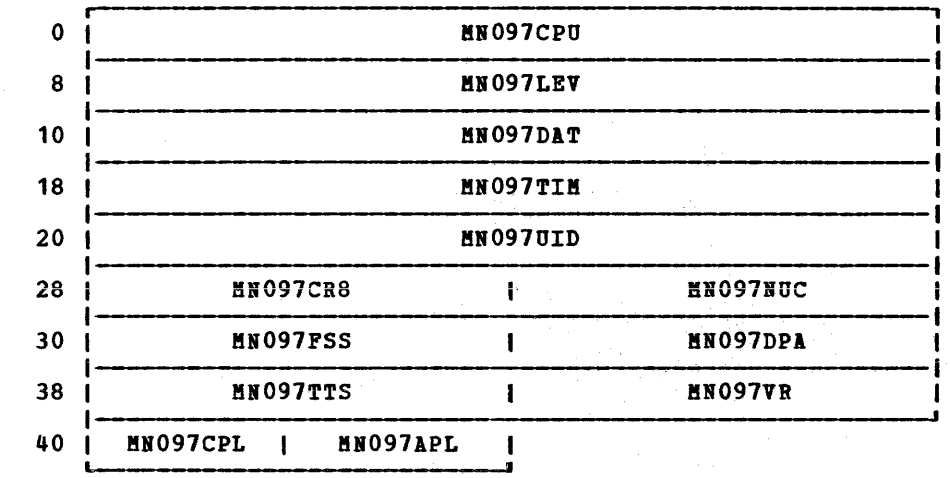
MN003 contains page and swaptable migration data as well as the count of 370E privilege operations.



Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	MN003CMG	DS	1F	Number of calls to migrate
4	MN003TLH	DS	1F	Number of times migration limit halved
8	MN003TLQ	DS	1F	Number of times limit was quartered
C	MN003TUS	DS	1F	Number of times a user was selected
10	MN003MBC	DS	1F	Number of migrations by command
14	MN003CRM	DS	1F	Number of calls resulting in migration
18	MN003NUM	DS	1F	Number of users moved
1C	MN003NSM	DS	1F	Number of segments moved
20	MN003NPM	DS	1F	Number of pages moved
24	MN003NDM	DS	1F	Number of full disks moved
28	MN003CSR	DS	1F	Total segment exception
2C	MN003CSM	DS	1F	Calls to migrate swap table
30	MN003NTM	DS	1F	Number of tables migrated
34	MN003NTR	DS	1F	Number of tables restored
38	MN003CPT	DS	1F	Calls to pseudo translator
3C	MN003RSV	DS	1F	Reserved for IBM use
40	MN003CTP	DS	1F	Total test protect instructions simulated
44	MN003CIP	DS	1F	Total IPTE instructions simulated
	MN003LEN	EQU	*-MN003	Length of record

MN097: VM/370 MONITOR HEADER RECORD

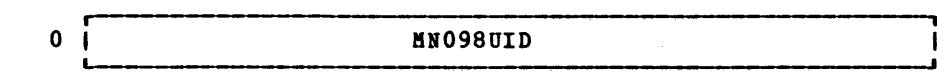
MN097 provides header information for a file that contains data accumulated by VM/370 Monitor. This is the first record of the file.



Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	MN097CPU	DS	XL8	Processor serial number and model number
8	MN097LEV	DS	CL8	Program level change
10	MN097DAT	DS	CL8	Current date
18	MN097TIM	DS	CL8	Current time
20	MN097UID	DS	CL8	Userid of user who invoked MONITOR
28	MN097CR8	DS	1F	Value of control register 8
2C	MN097NUC	DS	1F	Size of nucleus
30	MN097FSS	DS	1F	Size of free storage
34	MN097DPA	DS	1F	Size of dynamic paging area
38	MN097TTS	DS	1F	Size of trace table
3C	MN097VR	DS	1F	Size of V=R area
40	MN097CPL	DS	1H	Logical address of main processor
42	MN097APL	DS	1H	Logical address of alternate processor
	MN097LEN	EQU	*-MN097	Length of header record

MN098: VM/370 MONITOR TRAILER RECORD

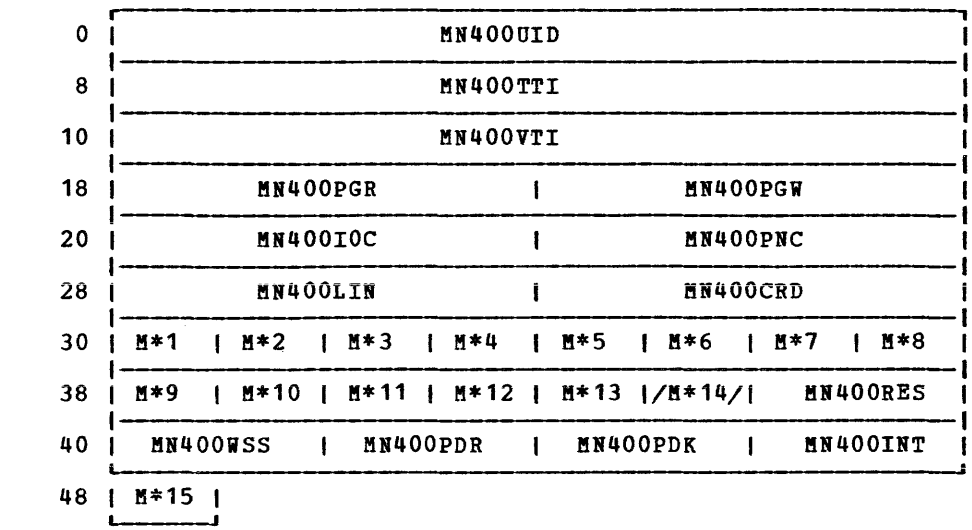
MN098 contains the userid of the user who has terminated current VM/370 Monitor activity. This is the last record of the file.



Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	MN098UID	DS	CL8	ID of user stopping the VM/370 Monitor
	MN098LEN	EQU	*-MN098	Length of trailer record

MN400: VM/370 MONITOR USER CLASS RECORD

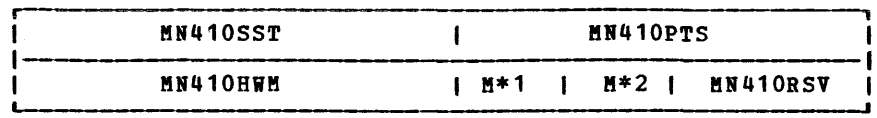
MN400 provides user virtual machine statistics.



Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	MN400UID	DS	CL8		Userid
8	MN400TTI	DS	XL8		Current VMTTIME (in VMBLOK); CP simulation time
10	MN400VTI	DS	XL8		Current VMVTIME (in VMBLOK); user virtual time
18	MN400PGR	DS	1F		Total page reads for this user
1C	MN400PGW	DS	1F		Total page writes for this user
20	MN400IOC	DS	1F		Virtual nonspooled SIO count
24	MN400PNC	DS	1F		Virtual cards punched
28	MN400LIN	DS	1F		Virtual lines printed
2C	MN400CRD	DS	1F		Virtual cards read
30	MN400RST	DS	1X	M*1	User running status
31	MN400DST	DS	1X	M*2	User dispatch status
32	MN400OST	DS	1X	M*3	User operating status
33	MN400QST	DS	1X	M*4	User queuing status
34	MN400PST	DS	1X	M*5	User processing status
35	MN400EST	DS	1X	M*6	User execution status
36	MN400TST	DS	1X	M*7	User tracing control status
37	MN400MLV	DS	1X	M*8	User message level
38	MN400QLV	DS	1X	M*9	User queue level
39	MN400CLV	DS	1X	M*10	User command level
3A	MN400TLV	DS	1X	M*11	User timer level
3B	MN400PND	DS	1X	M*12	Interrupt pending status
3C	MN400UPR	DS	1X	M*13	Directory or SET priority
3D	MN4RSV1	DS	1X	M*14	Reserved for IBM use
3E	MN400RES	DS	1H		Number of pages resident
40	MN400WSS	DS	1H		Estimated working set size
42	MN400PDR	DS	1H		Drum allocated page frames
44	MN400PDK	DS	1H		Disk allocated page frames
46	MN400INT	DS	1H		Monitor sampling interval (in seconds)
48	MN400LPR	DS	1X	M*15	Last processor on which execution took place
	MN400LEN	EQU	*-MN400		Length of class 4 code 0 record

MN410: MONITOR SHADOW TABLE MAINTENANCE USER RECORD

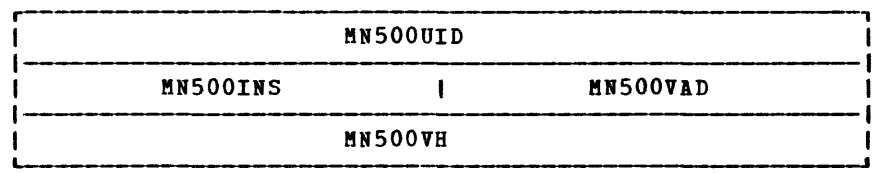
MN410 provides user shadow table maintenance data including number of steals and actual blocks in use.



0	MN410SST	DS	1F		Total number of STO steals
4	MN410PTS	DS	1F		Total number of page table steals
8	MN410HWM	DS	1F		Address of high-water mark
C	MN410NSB	DS	1X	M*1	Maximum number of STO blocks
D	MN410SBU	DS	1X	M*2	Actual number of STO blocks in use
E	MN410RSV	DS	1H		Reserved for IBM use
	MN410LEN	EQU	*-MN410		Length of class 4 code 1 record

MN500: VM/370 MONITOR INSTRUCTION SIMULATION CLASS RECORD

MN500 provides data on instructions simulated by CP.

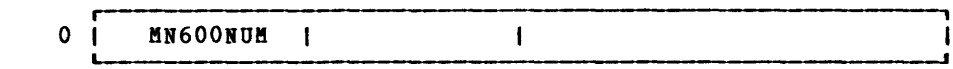


Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	MN500UID	DS	CL8	Userid
8	MN500INS	DS	1F	Privileged instruction
C	MN500VAD	DS	1F	Virtual storage address of the instruction
10	MN500OVH	DS	XL8	Current total of CP simulation time
	MN500LEN	EQU	*-MN500	Length of class 4 code 0 record

MN600: VM/370 MONITOR DASTAP I/O COUNT RECORD

- Header Record

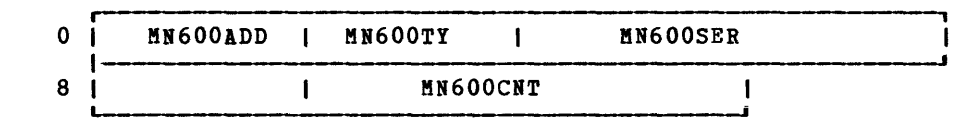
MN600HDR header record provides the number of device data packages.



Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	MN600NUM	DS	1H	Number of device data packages that follow length of header
	MN600HLN	EQU	*-MN600HDR	Length of header

- I/O Count Record

MN600DEV input/output count record provides information for each device in the device data packages. For FB-512 devices, the block number is converted to a cylinder number.

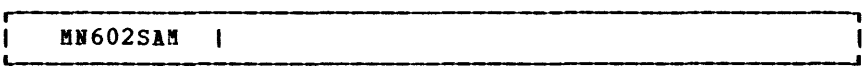


Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	MN600ADD	DS	1H	Device address
2	MN600TY	DS	1H	VM/370 device type and/or codes
4	MN600SER	DS	CL6	Volume serial number of device
A	MN600CNT	DS	XL4	Device accumulated I/O count
	MN600DLN	EQU	*-MN600DEV	Length of each data record
	MN600MAX	EQU	(4096-MNBHDLEN-MNHDRLEN-MN600HLN)/MN600DLN	Maximum device count

MN602: VM/370 MONITOR DASTAP UTILIZATION RECORD

- Header Record

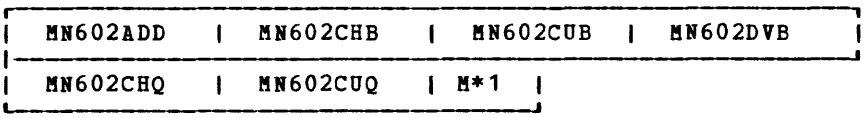
MN602HDR provides the number of samples for intervals of device packages.



Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	MN602SAM	DS 1H		Number of samples for interval

- Utilization Record

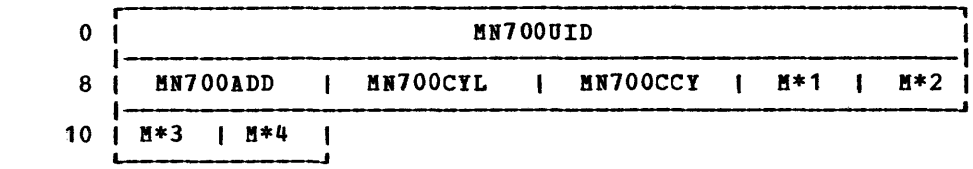
MN602 provides, via CP MONITOR command, utilization data for DASD and tape devices. There is one record for each device.



Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	MN602ADD	DS 1H		Address of the device
2	MN602CHB	DS 1H		Number of times channel is busy
4	MN602CUB	DS 1H		Number of times control unit is busy
6	MN602DVB	DS 1H		Number of times device is busy
8	MN602CHQ	DS 1H		Input/output tasks queued on channel
A	MN602CUQ	DS 1H		Input/output tasks queued on the control unit
C	MN602DVQ	DS 1C	M*1	Input/output tasks queued on device
	MN602DLN	EQU *-MN602DEV		Length of device portion in doublewords

MN700: VM/370 MONITOR SEEKS CLASS RECORD

MN700 provides, via CP MONITOR, the I/O tasks and cylinder seek activity of a specified DASD. For FB-512 devices, the block number is converted to a cylinder number.

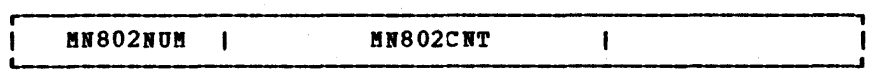


Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	MN700UID DS	CL8		Userid
8	MN700ADD DS	1H		Device address
A	MN700CYL DS	1H		Cylinder being sought
C	MN700CCY DS	1H		Current cylinder
E	MN700QDV DS	1X	M*1	I/O tasks queued on the device
F	MN700QCU DS	1X	M*2	I/O tasks queued on the control unit
10	MN700QCH DS	1X	M*3	I/O tasks queued on the channel
11	MN700DIR DS	1X	M*4	Seek direction: 00=lower, 01=higher
	MN700LEN EQU	*-MN700		Length of class 7 code 0 record

MN802: VM/370 MONITOR SYSTEM PROFILE CLASS

- Header Record

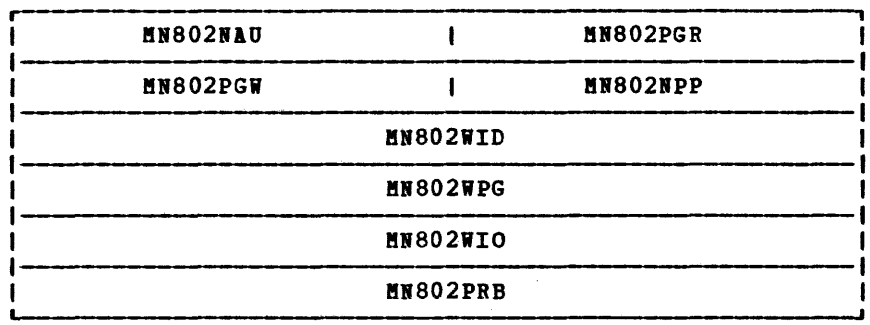
MN802HDR provides the number of device block counters.



Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	MN802NUM	DS	1H	Number of device block counters that follow
2	MN802CNT	DS	XL4	Device I/O count
	MN802DLN	EQU	*-MN802CTR	Length of the header

- System Profile Data

MN802CTR provides, via CP MONITOR command, additional system profile data. The monitor data includes: the I/O activity for each device, the number of logged on users, number of page read/writes, and the total system I/O, page wait, and problem state times.



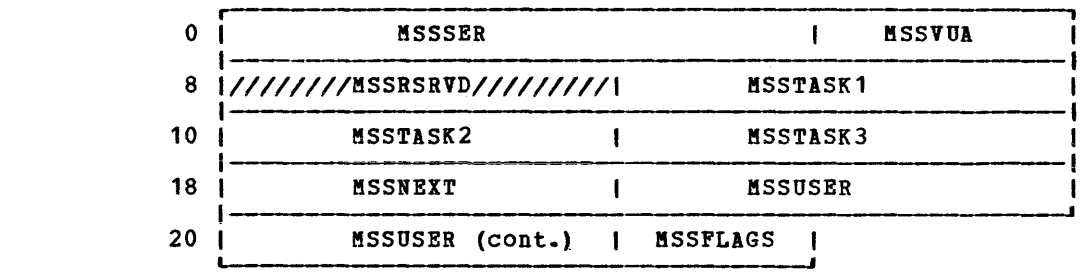
Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	MN802NAU	DS	1F	No. of logged on users
4	MN802PGR	DS	1F	Total system page reads
8	MN802PGW	DS	1F	Total system page writes
C	MN802NPP	DS	1F	No. of system pageable pages
10	MN802WID	DS	XL8	Total system idle wait time
18	MN802WPG	DS	XL8	Total system page wait time
20	MN802WIO	DS	XL8	Total system I/O wait time
28	MN802PRB	DS	XL8	Total system problem time
	MN802CLN	EQU	*-MN802CTR	Length of each data entry

Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	MONARDB	DS	1F		Address of monitor tape real device block
4	MONFLAG1	DS	1X	M*1	Monitor flag
	Bits defined in MONFLAG1				
	MONSYSVM	EQU	X'80'		Flag used by user class routine
	CFSTOP	EQU	X'20'		MONITOR STOP command has been issued
	TRUN	EQU	X'10'		Tape rewind-unload CCW has been scheduled
	ERROR	EQU	X'08'		Tape error has occurred -- stop VM/370 monitor
	MONTIINT	EQU	X'04'		Handling timer interruption
	MONLSTBK	EQU	X'02'		Handling the last block
	MONIBUF	EQU	X'01'		Only one buffer for VM/370 monitoring
5	MONFLAG2	DS	1X	M*2	Work byte
	Bits defined in MONFLAG2				
	SUSPEND	EQU	X'80'		VM/370 monitor has been suspended
	MONMIAPG	EQU	X'40'		Pageable module being made resident
6	MONDVNUM	DS	1H		Number of entries in real device list
8	MONDVLST	DS	1F		Address of the real device list
C	MONRSV1	DS	1F		Reserved for IBM use
10	MONAIOB	DS	1F		Address of monitor tape I/O block
14	MONATRB	DS	1F		Address of monitor timer request block
18	MONCLOCK	DS	1D		TOD clock stamp for each record
20	MONSUSCK	DS	1D		TOD clock value at last suspension
28	MONSUSCT	DS	1F		Suspension count
2C	MONRSVD1	DS	1F		Reserved for IBM use
30	MONSAVE1	DS	16F		Monitor internal save area for main processor
70	MONSAVE2	DS	16F		Monitor internal save area for attached processor
B0	MONUSER	DS	8C		User starting/stopping the VM/370 monitor
B8	MONSPLCT	DS	1F		Number of records on spool file
BC	MONSFB	DS	1F		Address of SFBLOK for spool file
C0	MONCURV	DS	1F		Virtual address of first virtual buffer
C4	MONNXTV	DS	1F		Virtual address of second virtual buffer
C8	MONCURR	DS	1F		Real address of first virtual buffer
CC	MONNXTR	DS	1F		Real address of second virtual buffer
D0	MONDASA	DS	1F		Address of next DASD buffer
D4	MONDASB	DS	1F		Address of previous DASD buffer
D8	MONDAS	DS	1F		Address of DASD buffer for the spool file
DC	MONEX	DS	1C	M*3	Flag byte
	Bits defined in MONEX				
	CLCMD	EQU	X'80'		Spool file closed by command
DD	MONFLAG3	DS	1C	M*4	Flag byte
	Bits defined in MONFLAG3				
	CLSUS	EQU	X'80'		Suspend during close
	EXHAUST	EQU	X'40'		Spool DASD slots exhausted
	CL	EQU	X'20'		Suspension necessary
	SPOOLED	EQU	X'10'		Monitor to spool active
DE	MONBUFNO	DS	1H		Reserved for IBM use
E0	MONCURBF	DS	1F		Address of current VM/370 monitor buffer
E4	MONCRSLT	DS	1F		Corresponding slot address
E8	MONIOBF	DS	1F		Address of VM/370 monitor buffer going to tape
EC	MONIOSLT	DS	1F		Corresponding slot address
F0	MONSKLST	DS	1F		Address for device list seeks
F4	MONSACT	DS	1F		Limit count for real time monitor
F8	MONCHPTR	DS	1F		Address of channel sampling data
FC	MONUTRB	DS	1F		Address of I/O utilization
100	MONBUF1	DS	1F		First VM/370 monitor buffer address

Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
104	MONBUF1V	EQU	MONBUF1+4	First buffer address of remaining variable number of buffers. There is one 4-byte entry for each monitor buffer. The last field contains X'FFFFFFFF'
	MONSIZE	EQU	(*-MONCOM)/8	Size of DSECT in doublewords
	Associated Monitor Control Flags			
	Flags in DMKSYSAT			
	AUTOGO	EQU	X'80'	SYSMON setting for AUTODISK on
	AUTOSPL	EQU	X'40'	Stop monitor when spool file record limit is reached
	MONSLMT	EQU	X'20'	Sampling for real time Monitor
	Monitor Buffer Control Flag in Byte 3 of Buffer for Tape and in Byte 9 of Buffer for Spool			
	MONBUFIO	EQU	X'00'	Not collecting; being used for output
	MONBUFAV	EQU	X'01'	Available for use
	MONBUFAC	EQU	X'03'	Current active collector
	Monitor Buffer Control Flag in Byte 10 of Spool Buffer			
	TRAP	EQU	X'80'	Last buffer queued for I/O
	UNFIN	EQU	X'40'	Close occurred before the buffer was full
	Flag in Spool File Control Block (SFBFLAG2)			
	SFBMON	EQU	X'01'	Monitor spool file identifier

MSSCOM: MSS COMMUNICATIONS CONTROL BLOCK

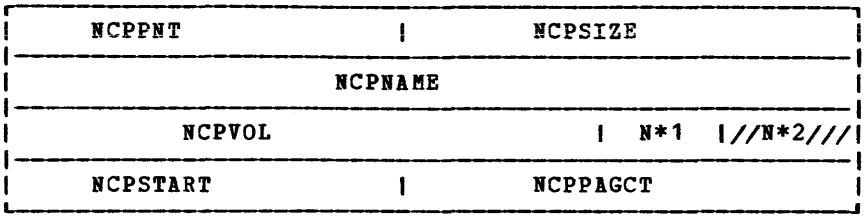
MSSCOM contains information necessary to request a MSS volume mount, request a MSS volume demount, or complete processing when a pack change interrupt is received on a MSS device. The MSSCOM blocks are chained from location DMKSSSMQ in module DMKSSS.



Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	MSSSER	DS	CL6	Volume serial number of the MSS volume to be mounted or demounted
6	MSSVUA	DS	XL2	Device address for the volume
8	MSSRSRVD	DS	1F	Reserved for IBM use
C	MSSTASK1	DS	1F	Pointer to a CPEXBLOK for a pending MSS pack change interrupt
10	MSSTASK2	DS	1F	Pointer to a CPEXBLOK for a pending MSC return on mount or demount
14	MSSTASK3	DS	1F	Pointer to a CPEXBLOK for an I/O request to a volume being mounted
18	MSSNEXT	DS	1F	Next entry in the chain, or zero
1C	MSSUSER	DS	CL8	Name of the virtual machine that requires the MSS activity
24	MSSFLAGS	DS	X12	Binary flags representing the status of the request
	Bits defined in MSSFLAGS			
	MOUNT	EQU	X'8000'	Mount volume MSSSER on address MSSVUA
	DEMOUNT	EQU	X'2000'	Demount MSSSER from MSSVUA
	MSSERR	EQU	X'400'	The MSC detected an error while attempting the requested action
	RQENT	EQU	X'80'	This request is waiting to be passed to the MSC
	MQENT	EQU	X'40'	This request has been passed to the MSC, and is awaiting a pack change interrupt
	INPROC	EQU	X'20'	This request being processed by the MSC
	MSGPROC	EQU	X'10'	The MSC has completed for this request and message DMKSSS088I is being sent
	MSSSIZE	EQU	(*-MSSSER)/8	MSSCOM size in doublewords

NCPTBL: NAMED 370X CONTROL PROGRAM TABLE

NCPTBL entries provide description information on 370x control program images saved on CP-owned volumes.

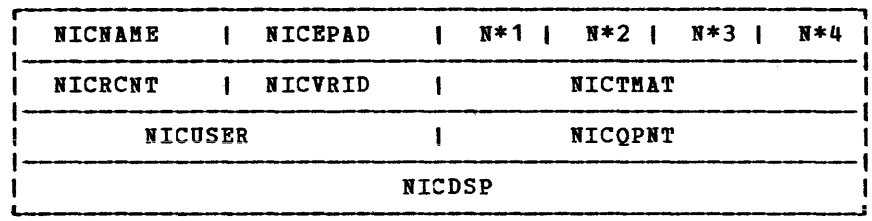


Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	NCPPNT	DS	1F		Displacement to next entry
4	NCPSIZE	DS	1F		370x storage size required for load
8	NCPNAME	DS	CL8		Control program reference name
10	NCPVOL	DS	CL6		Volume identification of DASD containing saved image
16	NCPFLAG	DS	1X	N*1	CPTYPE flag byte
	Bits defined in NCPFLAG				
	NCPTNCP	EQU	X'01'		Network Control Program
	NCPTCEP	EQU	X'02'		270x Emulation Control Program
	NCPTPEP	EQU	X'03'		Partitioned Emulation Program
17	NCPRSV1	DS	1X	N*2	Reserved for IBM use
18	NCPSTART	DS	1F		Pointer to first page (CCPD or PPPD) on NCPVOL of saved NCP
1C	NCPPAGCT	DS	1F		Total number of pages saved
	NCPSIZE	EQU	(*-NCPSIZE)/8		NCPTBL size in doublewords (X'04')

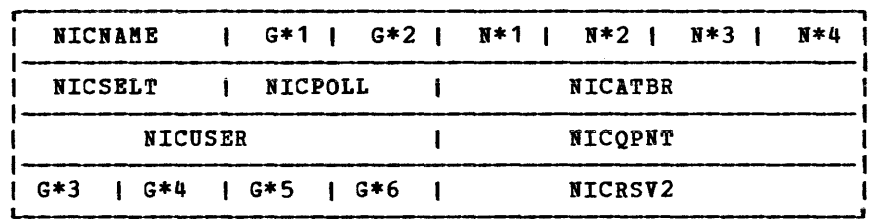
NICBLOK: NETWORK INTERFACE CONTROL BLOCK

NICBLOK contains control information related to 3704/3705 resources, teleprocessing lines, and display screen status information. The RDEVNICL field of RDEVBLOK points to NICBLOK.

- Network Interface Control



- Remote Graphic Device Support



Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	NICNAME	DS	1H		370x NCP resource name
2	NICEPAD	DS	1H		Subchannel address when in EP mode
4	NICSTAT	DS	1X	N*1	Resource status flags
	Bits defined in NICSTAT				
	NICERLK	EQU	X'80'		Device error lock is set
	NICNTRL	EQU	X'40'		Control operation is active
	NICDISA	EQU	X'20'		Resource inactive (offline)
	NICSWEP	EQU	X'10'		Resource is switchable to EP mode
	NICEPMD	EQU	X'08'		Resource now in emulator mode
	NICLTRC	EQU	X'02'		NCP line trace active
	NICDED	EQU	X'01'		Resource is dedicated
	NICTRQ	EQU	X'80'		Graphic device - timer request pending
	NICHOLD	EQU	X'10'		Graphic device - screen full; in HOLD status
	NICMORE	EQU	X'08'		Graphic device - screen full; in MORE status
	NICRUNN	EQU	X'04'		Graphic device - screen in running status
	NICREAD	EQU	X'02'		Graphic device - read pending for screen input
	NICCPNA	EQU	X'01'		Graphic device - last input not accepted
5	NICFLAG	DS	1X	N*2	Interface control flags
	Bits defined in NICFLAG				
	NICSESN	EQU	X'80'		Session is active for this device
	NICATTN	EQU	X'40'		Attention handling in progress
	NICPSUP	EQU	X'20'		Resource has print suppress feature
	NICATOF	EQU	X'10'		Suppress attention signal character
	NICENAB	EQU	X'08'		Resource is active and enabled
	NICDISB	EQU	X'02'		Resource to be disabled as soon as possible
	NICMTA	EQU	X'01'		Multiple terminal access resource
	NICFMT	EQU	X'80'		Graphic device - screen formatted VM/370 online
	NICDIAG	EQU	X'40'		Graphic device - screen written with DIAGNOSE
	NICALRM	EQU	X'10'		Graphic device - screen has an alarm message
	NICCARD	EQU	X'04'		Graphic device - data from card reader
	NICPROCN	EQU	X'01'		Graphic device - process control task now

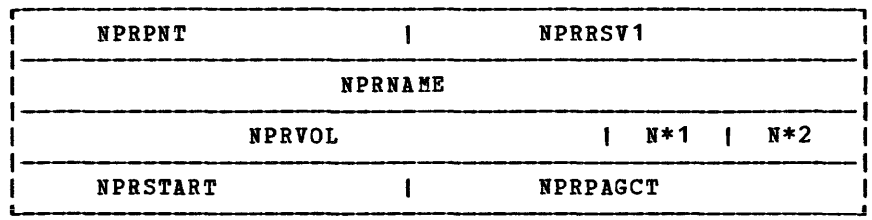
Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
6	NICLLEN	DS	1X	N*3	Terminal output line length
7	NICTYPE	DS	1X	N*4	Resource type and/or features
	Bits defined in NICTYPE				
	NICCTLR	EQU	X'00'		Resource is the 370x
	NICLINE	EQU	X'80'		Resource is a teleprocessing line
	NICTERM	EQU	X'40'		Resource is a terminal device
	NICLGRP	EQU	X'20'		Resource is a logical line group

Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
	Bits defined in NICTYPE (cont.)				
	NICSDLC	EQU	X'08'		LINE - Synchronous data link control
	NICLBSC	EQU	X'04'		LINE - Binary synchronous line control
	NICSWCH	EQU	X'02'		LINE - Switched line interface
	NICMLTP	EQU	X'01'		LINE - Multiple-drop leased line
	NICTELE	EQU	X'10'		TERM - Telegraph line adapter
	NICCIBM	EQU	X'08'		TERM - Selectric-based terminal
	NICRCPU	EQU	X'04'		TERM - Bisynch remote computer
	NICRSPL	EQU	X'02'		TERM - Bisynch remote spool device
	NICGRAF	EQU	X'01'		TERM - Bisynch remote graphics
	3270 Control Unit Type				
	NIC3271	EQU	X'08'		Graphic device - 3271 control unit
	NIC3274	EQU	X'10'		Graphic device - 3274 control unit
	NIC3275	EQU	X'04'		Graphic device - 3275 standalone display station
	NIC3276	EQU	X'18'		Graphic device - 3276 display station/control unit
	NICOPRDR	EQU	X'10'		Graphic device - card reader feature
8	NICRCNT	DS	1H		Retry count for BTU errors
A	NICVRID	DS	1H		Virtual resource ID when dedicated
C	NICTMAT	DS	1F		TOD clock value when attached
10	NICUSER	DS	1F		VMBLOK address of associated user
14	NICQPNT	DS	1F		Pointer to input BTU chain
18	NICDSP	DS	1D		Remote 3270 information
		ORG	NICDSP		
	NICRSV1	DS	1X		Reserved for IBM use
	NICDTYPE	DS	1X		Display station type
	Bits define in NICDTYPE				
	NICD3277	EQU	X'04'		3277 display station
	NICD3275	EQU	X'02'		3275 display station
	NICMDL	DS	1X		Display station model
	NICRSV2	DS	1X		Reserved for IBM use
	NICRSV3	DS	1X		Reserved for IBM use
	NICSIZE	EQU	(*-NICBLOK)/8		Size of block in doublewords (X'03')
	Remote Graphic Device Support - 3270 on Binary Synchronous Lines				
		ORG	NICEPAD		
2	NICCORD	DS	1X	G*1	Current line coordinates
3	NICTMCD	DS	1X	G*2	Terminal mode
	Bits defined in NICTMCD				
	NICUSEWA	EQU	X'80'		Use ERASE/WRITE ALTERNATE or ERASE/WRITE
	NICSIO	EQU	X'40'		DIAGNOSE issued to input area
	NICAPL	EQU	X'20'		APL on for 3270 remote
	NICTEXT	EQU	X'10'		Text feature on for 3270 remote
		ORG	NICRCNT		
8	NICSELT	DS	1H		Remote station selection characters
A	NICPOLL	DS	1H		Remote station polling characters
D	NICATRB	DS	1F		Timer request block address
		ORG	NICDSP		
18	NICGRTY	DS	1X	G*3	Display screen size index value

Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
19	NICDTYPE	DS	1X	G*4	Display station type
	Bits define in NICDTYPE				
	NICD3277	EQU	X'04'		3277 display station
	NICD3276	EQU	X'03'		3276 display station
	NICD3275	EQU	X'02'		3275 display station
	NICD3278	EQU	X'01'		3278 display station
1A	NICMDL	DS	1X	G*5	Display station model
1B	NICRSV1	DS	1X	G*6	Reserved for IBM use
1C	NICRSV2	DS	1F		Reserved for IBM use
	Equate Symbols for VM/370 Support of the 370x				
	WRITBRK	EQU	X'09'		Write break CCW operation code
	RDBUFLN	EQU	96		Length of host read buffers
	RDBUFNO	EQU	6		Number of host read buffers
	Sense Bits (sense byte 0) Peculiar to the 370x				
	IPLREQ	EQU	X'02'		IPL required--3705 inactive
	ABORT	EQU	X'01'		Buffer depletion--transfer terminated

NPRTBL: NAMED 3800 IMAGE LIBRARY TABLE

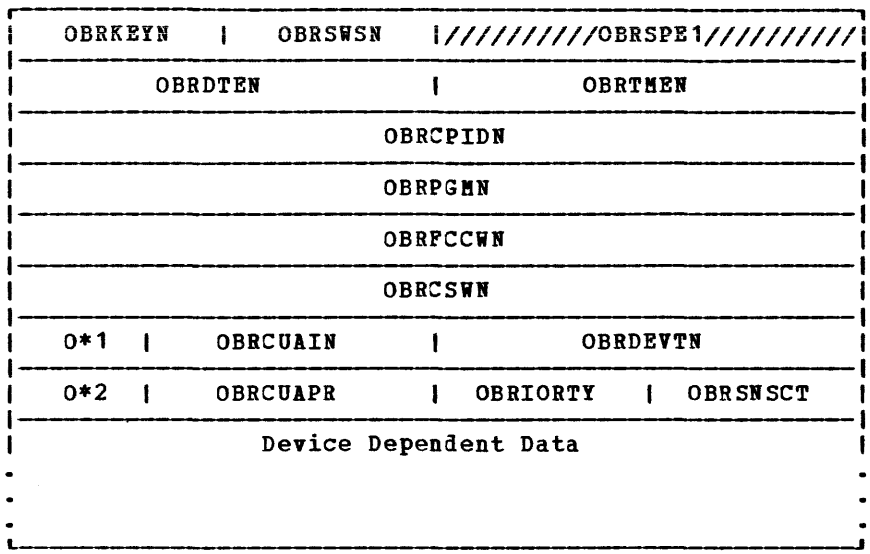
NPRTBL lists by name all pages saved and indicates the DASD volume that contains the saved image.



Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	NPRPNT	DS	1F		Chain pointer to next entry
4	NPRRSV1	DS	1F		Reserved for IBM use
8	NPRNAME	DS	CL8		Reference name for image library
10	NPRVOL	DS	CL6		Volume of DASD containing the saved image
16	NPRCNT	DS	1X	N*1	Number of 3800s active on this image
17	NPRRSV2	DS	1X	N*2	Reserved for IBM use
18	NPRSTART	DS	1F		CCPD of first page on NPRVOL
1C	NPRPAGCT	DS	1F		Number of pages saved

OBRRECN: UNIT CHECK ERROR RECORD (LONG OUTBOARD RECORD)

OBRRECN provides error, sense, and other statistical data needed for error recording on a specified channel-attached I/O device.



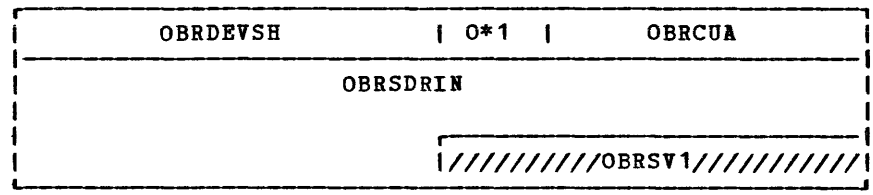
Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
	24-Byte Header Record				
0	OBRKEYN	DS	1H		Record type
2	OBRSWSN	DS	1H		Switches
	Bits defined in OBRSWSN				
Byte 0					
	OBRMORE	EQU	X'80'		More records to follow
	OBRTOD	EQU	X'40'		TOD clock instruction issued
	Bits defined in OBRSWSN				
Byte 1					
	OBREOD	EQU	X'80'		SDR counters dumped at EOD
	OBRTEMP	EQU	X'40'		Temporary error
	OBRSHOBR	EQU	X'20'		Short record
	OBRDEMNT	EQU	X'04'		Volume demounted
4	OBRSPE1	DS	1F		Reserved for IBM use
8	OBRDTEN	DS	1F		Date
C	OBRTMEN	DS	1F		Time
10	OBRCPIDN	DS	2F		Processor identifier and serial number
	OBRHSIZE	EQU	(*-OBRRECN)		Size of OBR header
	End of 24-Byte Header Record				
18	OBRPGMN	DS	2F		Job identification
20	OBRFCCWN	DS	2F		Failing CCW
28	OBRCSWN	DS	2F		Failing CSW
30	OBRDDCNT	DS	1X	O*1	Number of doublewords in device-dependent extension
31	OBRCUAIN	DS	3C		Address of failing device

Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
34	OBRDEVTN	DS	1F		Device type
38	OBRSDRCT	DS	1X	0*2	Number of SDR work area bytes
39	OBRCUAPR	DS	3C		Primary unit address
3C	OBRIORTY	DS	2X		Number of retries
3E	OBRSNSCT	DS	2X		Number of sense bytes
	OBR1SIZE	EQU	(*-OBRRECN)		Size of long OBR record base
	Format of Device Dependent Data				
	All DASD Units				
40	OBRVOLN	DS	8C		Volume identification
48	OBRLSKN	DS	8X		Last seek address
50	OBRHAN	DS	8X		Home address
	2314/2319 Format				
58	OBRSDRWK	DS	10X		SDR work area
62	OBRSENSN	DS	6C		Sense data
	OBR2SIZE	EQU	(*-OBRRECN)		Maximum size of 2314/2319 record
	3350/3340/3330/2305 Format				
		ORG	OBRSDRWK		
58	OBR33SNS	DS	24C		3350/3340/3330/2305 sense data
	OBR3SIZE	EQU	(*-OBRRECN)		Maximum size of 3330/3340/2305 record
	FB-512 Format				
		ORG	OBRVOLN+6		
46	OBRRSV1	DS	6X		Reserved for IBM use
4C	OBRPBN	DS	4X		Physical block number
50	OBRRSV2	DS	2X		Reserved for IBM use
52	OBRCCHS	DS	4X		Address of a data field (CCHS) on disk
56	OBRRSV3	DS	2X		Reserved for IBM use
58	OBRFBSNS	DS	24X		Sense data for FB-512
70	OBRRSV4	DS	4X		Reserved for IBM use
	Unit Record Format				
		ORG	OBRVOLN		
40	OBRURST	DS	10X		SDR work area
4A	OBRURSNS	DS	1C		Unit record sense data
	3505/3525 Format				
		ORG	OBRVOLN		
40	OBR3505S	DS	1C		3505/3525 sense data
	3203 Format				
		ORG	OBRVOLN		
40	OBRCORRL	DS	1X		Correlation number
41		DS	7X		Reserved for IBM use
48	OBRSDR03	DS	10X		SDR work area
52	OBR3203S	DS	24C		3203 sense data
	3211 Format				
		ORG	OBRVOLN		
40	OBRCORL	DS	1X		Correlation number
41		DS	7X		Reserved for IBM use
48	OBRSDR32	DS	10X		SDR work area
52	OBR3211S	DS	6C		3211 sense data
	2400 Tape Format				
		ORG	OBRLSKN		
48	OBRTAPST	DS	10X		SDR work area
52	OBRTAPSN	DS	24C		Tape sense data

Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
	3420/3410 Tape Format			
		ORG	OBRLSKN	
48	OBRDVDEP	DS	16C	Device dependent data
58	OBR342ST	DS	20X	SDR work area
6C	OBR3420S	DS	24C	3420 sense data
	8809 Tape Format			
		ORG	OBRVOLN+6	
46	OBRBLKLN	DS	2X	Block length
48	OBR8809S	DS	32X	Sense data for 8809

OBRREC: UNIT CHECK ERROR RECORD (SHORT OUTBOARD RECORD)

OBRRECN provides error, sense, and other statistical data needed for error recording on a specified channel-attached I/O device.



Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
	24-Byte Header Record				
	Note: The 24-byte Header Record for the SHORT OBR is identical to that of the Long OBR, the description of which precedes this block.				
18	OBRDEVSH	DS	1F		Device type
1C	OBRSDRSH	DS	1X	O*1	Number of SDR work area bytes
	OBRSIZE	EQU	(*-OBRRECN)		Size of short OBR record base
	OBRSIZE1	EQU	(*-OBRRECN+7)/8		Size in doublewords (X'04')
1D	OBRCUA	DS	3X		Channel and unit address
20	OBRSDRIN	DS	20X		SDR work area
		ORG	OBRSDRIN		
20	OBRSSDR1	DS	10X		SDR work area
2A	OBRSSDR2	DS	10X		SDR work area
34	OBRSV1	DS	1F		Reserved for IBM use
	OBRSIZE2	EQU	(*-OBRRECN+7)/8		Size in doublewords (X'07')

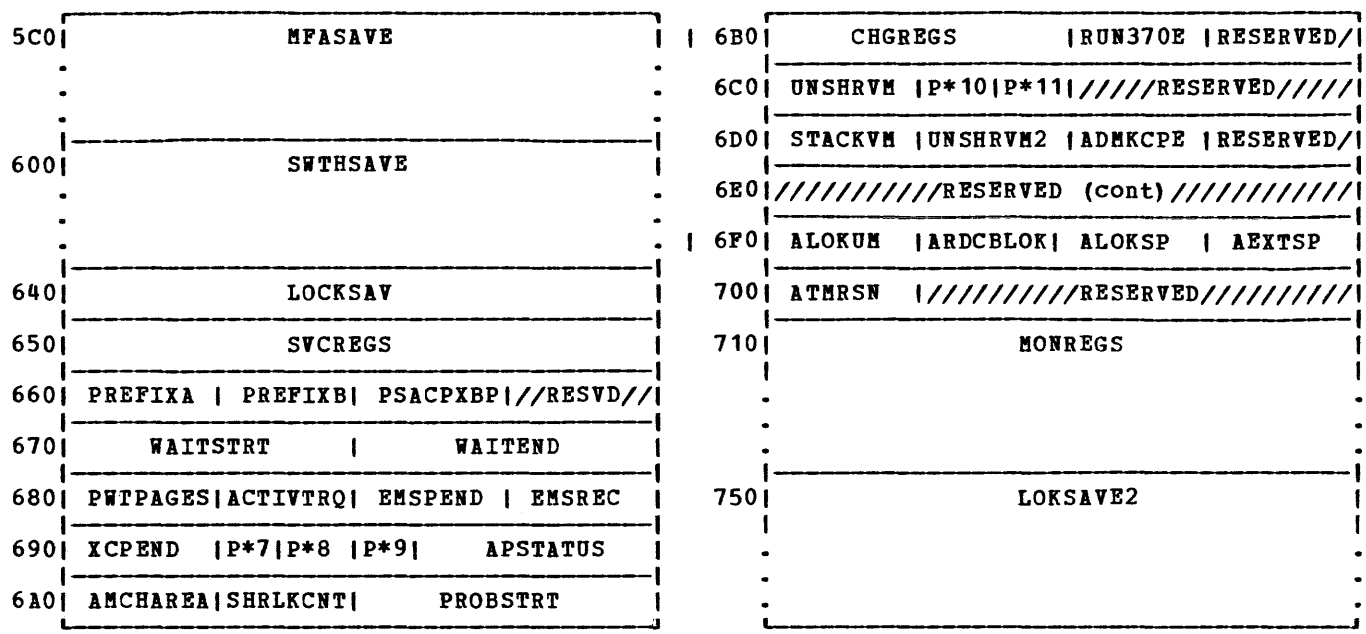
PSA: PREFIX STORAGE AREA (LOW STORAGE LOCATIONS)

PSA is the primary control block for controlling CP and virtual machine activity. This control block contains the normal low core IPL, logout, and PSW information; the processor model and type and features of the processor; and save areas used by BALR and FREE. This block also contains monitor and trace data and the necessary linkages to virtual machines, real devices, and spool files.

Note: All fields reside in real PSA unless otherwise specified. Fields residing in absolute PSA are specifically identified. For uniprocessor operation, real PSA equals absolute PSA (or 0). If the system was running in AP mode when a catastrophic error occurred, the Attached Processor will no longer be running. System recovery is in uniprocessor mode and the real PSA will no longer be zero.

Page 0, Machine Usage

0	IPLPSW		IPLCCW1	
10	IPLCCW2		EXOPSW	
20	SVCOPSW		PROPSW	
30	MCOPSW		IOOPSW	
40	CSW		CAW	QUANTUMR
50	TIMER	QUANTUM	EXNPSW	
60	SVCNPSW		PRNPSW	
70	MCNPSW		IONPSW	
80	CPULOG			
100	FXDLOG			
160	FPRLOG			
180	GPRLOG			
1C0	CRLOG			
200	TEMPSAVE			
240	BALRSAVE			
280	FREESAVE			
2C0	FREEWORK			
2F0	DATE		TODATE	
300	STARTIME		CPUID	
310	IDLEWAIT		PAGEWAIT	
320	IONTWAIT		PROBTIME	
330	RUNPSW		RUNUSER	DSPLPSW
340	RUNCR0	RUNCR1	CPSTAT	CPRESTRT
350	PGREAD	PGWRITE	PGWAITIM	
360	////PGWAITPG///////		PSASVCCT	P*1 P*2
370	CPID	CPABEND	P*3 P*4	ASYSVM
380	ARSPPR	ARSPPU	ARSPRD	ARIOPU
390	ARIOPR	ARIORD	P*5 P*6	ARSPAC
3A0	AVMREAL	ASYSABND	ASYSLC	ASYSOP
3B0	ARIOCT	ARIOCH	ARIOCU	ARIODV
3C0	ARIOCC	ARIOUC	ARIODC	ACORETBL
3D0	APAGCP	CPCREG0	CPCREG6	CPCREG8
3E0	TIMEDISP	ASVCLIST	AVMALIST	LASTUSER
3F0	PAGECUR	MONNEXT	PAGEND	PAGENXT
400	TRACEFLG	TTSEGCNT	//////PSARSV15////	
410	/////////PSARSV15 (cont.) ////			ACSHN
420	VRSVUID		ASFBACO	ARSPTA
430	INSTWRD1	INSTWRD2	INSTWRD3	INSTWRD4
440	Constants Pool			
4D0	APTRLK	NOADD	X40FFS	XRIGHT24
4E0	XPAGNUM	XRIGHT16	AFREE	AFRET
4F0	AQCNWT	ADSPCH	APTRAN	X2048BND
500	DUMPSAVE			
540	SIGSAVE			
580	LOKSAVE			



Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
	Machine Usage			
0	IPLPSW	DS	1D	IPL start PSW
		ORG	IPLPSW	
	RSRTNPSW	DS	1D	Restart new PSW
	RSRTOPSW	DS	1D	Restart old PSW
8	IPLCCW1	DS	1D	IPL CCW
		ORG	IPLCCW1	
8	PSARSV3	DS	1F	Reserved for IBM use
C	TRACSTRT	DS	1F	Address of start of trace table. Note that TRACSTRT is in absolute PSA
10	TRACEND	DS	1F	Address of end of trace table. Note that TRACEND is in absolute PSA
14	TRACCURR	DS	1F	Address of next available trace table entry. Note that TRACCURR is in absolute PSA
10	IPLCCW2	DS	1D	IPL CCW
18	EXOPSW	DS	1D	External old PSW
20	SVCOPSW	DS	1D	SVC old PSW
28	PROPSW	DS	1D	Program old PSW
30	MCOPSW	DS	1D	Machine check old PSW
38	IOOPSW	DS	1D	I/O old PSW
40	CSW	DS	1D	Channel status word
48	CAW	DS	1F	Channel address word
4C	QUANTUMR	DS	1F	Interval timer value at last interrupt
50	TIMER	DS	1F	13-microsecond interval timer
54	QUANTUM	DS	1F	Interval timer value at last dispatch
58	EXNPSW	DS	1D	External new PSW
60	SVCNPSW	DS	1D	SVC new PSW
68	PRNPSW	DS	1D	Program new PSW
70	MCNPSW	DS	1D	Machine check new PSW
78	IONPSW	DS	1D	I/O new PSW

Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
80	CPULOG	DS	16D	Processor and storage logout area
		ORG	CPULOG	
80		DS	1F	Reserved for IBM use
84	INTEXF	DS	1F	External interrupt code (fullword)
	Bits defined in INTEXF			
86	INTEX	EQU	INTEXF+2	External interrupt code (halfword)
88	INTSVCL	DS	1H	SVC instruction length code (ILC)
8A	INTSVC	DS	1H	SVC interrupt code
8C	INTPRL	DS	1H	Program instruction length code (ILC)
8E	INTPR	DS	1H	Program interrupt code
90	TREXADD	DS	1F	Translation exception address
94	MONCLASS	DS	1H	Monitor class
96	PERCODE	DS	1H	PER code to be reflected
98	PERADD	DS	1F	Address of instruction causing PER interrupt
9C	MONCODE	DS	1F	Monitor code
A0		DS	1D	Reserved for IBM use
A8	CHANID	DS	1F	Channel ID
AC	IOELPNTR	DS	1F	I/O extended logout (IOEL) pointer
B0	ECSWLOG	DS	1F	Limited channel logout (ECSW)
B4		DS	1F	Reserved for IBM use
B8	INTKFLIN	DS	1F	I/O interrupt key, flags, and interface address
	Bits defined in INTKFLIN			
BA	INTTIO	EQU	INTKFLIN+2	I/O interrupt device address (halfword)
BC		DS	11F	Reserved for IBM use
E8	INTMC	DS	1D	Machine check interrupt code
F0		DS	1F	Reserved for IBM use
F4	INTRC	DS	1X	External damage reason code
	Bits defined in INTRC			
	EXDRESVD	EQU	X'80'	Reserved for IBM use
	EXDCNO	EQU	X'10'	Channel not operational
	EXDCCF	EQU	X'08'	Channel control failure
F5		DS	3X	Reserved for IBM use
F8	FAILSTAD	DS	1F	Failing storage address
FC	REGNCODE	DS	1F	Region code
100	FXDLOG	DS	12D	Fixed logout area
160	FPRLOG	DS	4D	Floating-point register logout area
180	GRLOG	DS	16F	General register logout area
1C0	CRLOG	DS	16F	Control register logout area
200	CPUSAGE	DS	0H	End of machine usage; start of CP usage
		ORG	CPUSAGE	
200	TEMPSAVE	DS	16F	Temporary save area
		ORG	TEMPSAVE	
200	TEMPR0	DS	1F	Registers 0-15
204	TEMPR1	DS	1F	
208	TEMPR2	DS	1F	
20C	TEMPR3	DS	1F	
210	TEMPR4	DS	1F	
214	TEMPR5	DS	1F	
218	TEMPR6	DS	1F	
21C	TEMPR7	DS	1F	
220	TEMPR8	DS	1F	
224	TEMPR9	DS	1F	
228	TEMPR10	DS	1F	
22C	TEMPR11	DS	1F	

Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
230	TEMPR12	DS	1F	
234	TEMPR13	DS	1F	
238	TEMPR14	DS	1F	
23C	TEMPR15	DS	1F	
240	BALRSAVE	DS	16F	BALR linkage save area
		ORG	BALRSAVE	
240	BALR0	DS	1F	Registers 0-15
244	BALR1	DS	1F	
248	BALR2	DS	1F	
24C	BALR3	DS	1F	
250	BALR4	DS	1F	
254	BALR5	DS	1F	
258	BALR6	DS	1F	
25C	BALR7	DS	1F	
260	BALR8	DS	1F	
264	BALR9	DS	1F	
268	BALR10	DS	1F	
26C	BALR11	DS	1F	
270	BALR12	DS	1F	
274	BALR13	DS	1F	
278	BALR14	DS	1F	
27C	BALR15	DS	1F	
280	FREESAVE	DS	16F	DMKFRE save area
		ORG	FREESAVE	
280	FREER0	DS	1F	Registers 0-15
284	FREER1	DS	1F	
288	FREER2	DS	1F	
28C	FREER3	DS	1F	
290	FREER4	DS	1F	
294	FREER5	DS	1F	
298	FREER6	DS	1F	
29C	FREER7	DS	1F	
2A0	FREER8	DS	1F	
2A4	FREER9	DS	1F	
2A8	FREER10	DS	1F	
2AC	FREER11	DS	1F	
2B0	FREER12	DS	1F	
2B4	FREER13	DS	1F	
2B8	FREER14	DS	1F	
2BC	FREER15	DS	1F	
2C0	FREEWORK	DS	12F	DMKFRE work area
2F0	DATE	DS	CL8	Date - mm/dd/yy - edited EBCDIC
2F8	TODATE	DS	1D	TOD clock at hh.mm.ss today - local time
300	STARTIME	DS	1D	Date and time started - TOD clock value
308	CPUID	DS	1D	Processor identification field
		ORG	CPUID	
308	CPUVERSN	DS	1X	Version code
309	CPUSER	DS	3X	Processor serial number - packed unsigned
30C	CPUMODEL	DS	2X	Processor model number
30E	CPUMCELL	DS	1H	Maximum length in bytes of MCEL
310	IDLEWAIT	DC	X'7FFFFFFFFFFFF000'	Total system idle wait time
318	PAGEWAIT	DC	X'7FFFFFFFFFFFF000'	Total system page wait time
320	IONTWAIT	DC	X'7FFFFFFFFFFFF000'	Total system I/O wait time
328	PROBTIME	DC	X'7FFFFFFFFFFFF000'	Total system problem state time
330	RUNPSW	DS	1D	PSW last loaded by dispatcher
338	RUNUSER	DS	1F	Address of dispatched VMBLOK
33C	DSPLPSW	DS	1F	Load PSW instruction used to dispatch
340	RUNCR0	DS	1F	Control register 0 at dispatch
344	RUNCR1	DS	1F	Control register 1 at dispatch

Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
348	CPSTAT	DS	1F		CP running status
		ORG	CPSTAT		
348	CPSTATUS	DS	1X		CP running status
	Bits defined in CPSTATUS				
	CPWAIT	EQU	X'80'		CP in wait state
	CPRUN	EQU	X'40'		CP running user in RUNUSER
	CPEX	EQU	X'20'		CP executing stacked request
	CPFVRUN	EQU	X'10'		Reserved for IBM use
	CPSUPER	EQU	X'08'		Processor is executing in supervisor state
349	XTNDLOCK	DC	1X		System extending free storage if it is equal to X'FF'. Note that XTNDLOCK is in absolute PSA.
34A	CPSTAT2	DC	1X		Flag byte
	Bits defined in CPSTAT2				
	CPMICAVL	EQU	X'80'		Virtual machine assist available on processor
	CPMICON	EQU	X'40'		Virtual machine assist is on for system
	CPSHRLK	EQU	X'20'		CP processing shared named system page
	CPSPMODE	EQU	X'10'		CP is in single processor mode
	CPASTAVL	EQU	X'08'		CP assist available on processor
	CPASTON	EQU	X'04'		CP assist is on for system
	CP370EAV	EQU	X'02'		370E is available for the processor
	CP370EON	EQU	X'01'		370E is enabled for use by all virtual machines
34B	CPSTAT3	DS	1X		Wait time accounting flag
	Bits defined in CPSTAT3				
	CPTIDLE	EQU	X'80'		Timer contains idle time
	CPTPAGE	EQU	X'40'		Timer contains page wait time
	CPTIONT	EQU	X'20'		Timer contains I/O wait time
34C	CPRESTRT	DS	1F		Restart address if external interrupt marks page invalid
350	PGREAD	DS	1F		Total number of page reads
354	PGWRITE	DS	1F		Total number of page writes
358	PGWAITIM	DS	1D		Time spent in page wait, multiplied by number of pages waiting
360	PGWAITPG	DS	1D		Reserved for IBM use
368	PSASVCCT	DS	1F		Total number of user SVCs
36C	PAGELOAD	DS	1H	P*1	Page wait percent, last measurement
36E	PAGERATE	DS	1H	P*2	Paging rate, pages per second Note that PAGERATE is in absolute PSA.
370	PSENDCLR	DS	0F		End of area cleared by DMKCPINT
370	CPID	DS	1F		CP running identifier. Note that CPID is in absolute PSA.
374	CPABEND	DS	1F		CP abend code
378	PSTARTSV	DS	0F		Start of save/restored code
378	SYSIPLDV	DS	1H	P*3	Device address of system IPL device
37A	PGSRATIO	DC	H'0'	P*4	Page steals/total replenished
37C	ASYSVM	DC	V(DMKSYSVM)		Address of system VMBLOK
380	ARSPPR	DC	V(DMKRSPPR)		Address of system printer file chain.
384	ARSPPU	DC	V(DMKRSPPU)		Address of system punch file chain.
388	ARSPRD	DC	V(DMKRSPRD)		Address of system reader file chain.
38C	ARIOPU	DC	V(DMKRIOPU)		Address of system punch table.
390	ARIOPR	DC	V(DMKRIOPR)		Address of system printer table.
394	ARIORD	DC	V(DMKRIORD)		Address of system reader table.
398	IPUADDR	DS	1H	P*5	Instruction processing address

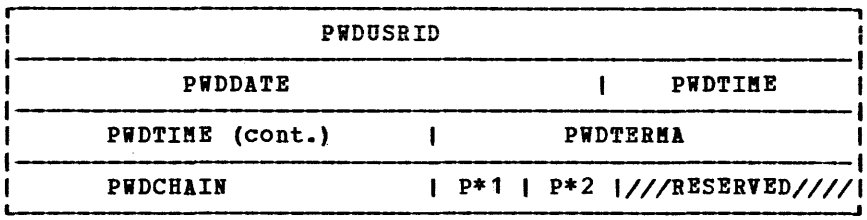
Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
39A	PSAMSS	DS	1H	P*6	Address of MSS volume
	Bits defined in PSAMSS				
	MSSPRES	EQU	X'80'		The MSS is online and the MSS communicator has been initialized
39C	ARSPAC	DC	V(DMKRSPAC)		Address of system accounting chain
3A0	AVMREAL	DC	A(0)		VMBLOK address of virtual=real user. Note that AVMREAL is maintained in both PSAs
3A4	ASYSABND	DC	A(0)		Address of system abend printer
3A8	ASYSLC	DC	V(DMKSYSLC)		Address of SYSLOCS information
3AC	ASYSOP	DC	V(DMKSYSOP)		Address of system operator VMBLOK
3B0	ARIOCT	DC	V(DMKRIOCT)		Address of real channel index table
3B4	ARIOCH	DC	V(DMKRIOCH)		Address of first RCHBLOK
3B8	ARIOCU	DC	V(DMKRIOCU)		Address of first RCUBLOK
3BC	ARIODV	DC	V(DMKRIODV)		Address of first RDEVBLOK
3C0	ARIOCC	DC	V(DMKRIOCC)		Address of count of real system channels
3C4	ARIOUC	DC	V(DMKRIOUC)		Address of count of real system control units
3C8	ARIODC	DC	V(DMKRIODC)		Address of count of real system devices
3CC	ACORETBL	DC	V(DMKSYSCS)		Address of system CORTABLE
3D0	APAGCP	DC	A(X'FFFFFF')		Address of first pageable program
3D4	CPCREG0	DC	X'808008C0'		CP architecture control and external mask
3D8	CPCREG6	DC	F'0'		CP assist and virtual machine assist mask
3DC	CPCREG8	DC	F'0'		MONITOR CALL enable mask
3E0	TIMEDISP	DS	1F		Timer displacement for charge
3E4	ASVCLIST	DC	V(DMKSVCNS)		Address of CP assist pointer list
3E8	AVMALIST	DC	V(DMKPRVMA)		Address of expanded virtual machine assist pointer list
3EC	LASTUSER	DC	V(DMKSYSVM)		Last user to be dispatched
3F0	PAGECUR	DS	1F		Current monitor buffer page address. Note that PAGECUR is in absolute PSA.
3F4	MONNEXT	DS	1F		Next available address in monitor buffer. Note that MONNEXT is in absolute PSA.
3F8	PAGEND	DS	1F		Last address in current monitor buffer page. Note that PAGEND is in absolute PSA.
3FC	PAGENXT	DS	1F		Alternate monitor buffer page address. Note that PAGENXT is in absolute PSA.
400	TRACEFLG	DS	1F		Trace table flags
		ORG	TRACEFLG		
400	TRACFLG1	DS	1X		Trace table flag
	Bits defined in TRACFLG1				
	TRAC01	EQU	X'80'		External interrupt tracing on
	TRAC02	EQU	X'40'		SVC interrupt tracing on
	TRAC03	EQU	X'20'		Program interrupt tracing on
	TRAC04	EQU	X'10'		Machine check tracing on
	TRAC05	EQU	X'08'		I/O interrupt tracing on
	TRAC67	EQU	X'04'		FREE/FRET call tracing on
	TRAC08	EQU	X'02'		Enter dispatch tracing on
	TRAC09	EQU	X'01'		Queue drop tracing on
401	TRACFLG2	DS	1X		Trace table flag
	Bits defined in TRACFLG2				
	TRAC0A	EQU	X'80'		Run user tracing on
	TRAC0C	EQU	X'40'		Unstack I/O interrupt tracing on
	TRAC0D	EQU	X'20'		Virtual CSW stored tracing on
	TRACBEF	EQU	X'10'		SIO, TIO, and HDV tracing on
	TRAC10	EQU	X'08'		Unstack IOBLOK or TRQBLOK tracing on
	TRAC11	EQU	X'04'		Trace BTU activity for 370x NCP
	TRAC12	EQU	X'02'		Lock spin tracing active
	TRAC13	EQU	X'01'		Signal processor tracing active
402	TRACFLG3	DS	1H		Reserved for IBM use

Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
404	TTSEGCNT	DS	1F	Count of total page/swap tables in system. Note that TTSEGCNT is in absolute PSA.
408	PSARSV15	DS	5D	Reserved for IBM use
41C	ASCHN	DC	F'0'	Chain of users enabled for VMSAVE
420	VRSVUID	DC	XL8'0'	Userid of V=R user before abend
428	AFSBACO	DC	V(DMKSYSAC)	Address of account information block
42C	ARSPTA	DC	V(DMKRSPSP)	Address of DMKSPT Spool File chain
430	INSTWRD1	DC	F'0'	Reserved for installation use

Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
6B0	CHGREGS	DS	2F		Save area for charge synchronization
6B8	RUN370E	DS	1F		370 STBYPASS V=R VMBLOK
6BC	RESERVED	DS	1F		Reserved for IBM use
6C0	UNSHRVM	DC	A(0)		VMBLOK for pending DMKVMAPs call (attached processor only)
6C4	TRACPROC	DC	X'00'	P*10	Processor identifier for CP trace table entries
6C5	APSTAT	DS	3X		More attached processor status flag bytes
		ORG	APSTAT		
6C5	APSTAT3	DC	X'00'		Third attached processor status flag byte
	Bits defined in APSTAT3				
	CPSYSLK	EQU	X'80'		Other processor is spinning on lock
		ORG	APSTAT		
6C6	APSTAT4	DC	X'00'	P*11	Fourth attached processor status flag byte
	Bits defined in APSTAT4				
	CPLOKFL	EQU	X'80'		DMKLOK enabled for external interrupts
	RECMODE	EQU	X'40'		Processor will record soft machine checks
	CPMCHSE	EQU	X'20'		Machine check processing pending (CPMCHSE is the replacement of CPMCHLK in APSTAT2)
	PROCSCHK	EQU	X'10'		TOD synchronous check received
	CPAPRPND	EQU	X'08'		Automatic processor recovery pending
	POFFLINE	EQU	X'04'		Vary processor function in use
6C8	RESERVE	DS	2F		Reserved for IBM use
6D0	STACKVM	DC	A(0)		R11 for dispatcher unstacking
6D4	UNSHRVM2	DC	A(0)		R2 value for pending VMAPs call (attached processor only)
6D8	ADMKCPE	DC	V(DMKCPE)		Address of DMKCPE for IPCS use
6DC	RESERVED	DS	5F		Reserved for IBM use
	PSECLR2	DS	0F		End of second area cleared by CP initialization (DMKCPI)
6F0	ALOKVM	DC	V(DMKLOKVM)		Entry to lock VMBLOK
6F4	ARDCBLOK	DC	F'0'		Pointer to first RDCBLOK (FB-512)
6F8	ALOKSP	DC	V(DMKLOKSP)		Entry to spin on lock
6FA	AEXTSP	DC	V(DMKEXTSP)		Entry to signal processor routine
700	ATMRSN	DC	V(DMKTMRSN)		Entry to charge synchronization routine
704	RESERVED	DC	3F'0'		Reserved for IBM use
710	MONREGS	DC	16F		Register save area for Monitor call
750	LOKSAVE2	DC	16F		Save area for switching to virtual machine in DMKLOK
	PSAEND	DS	0D		End of page 0 usage

PWDIBLOK: PASSWORD INVALID BLOCK

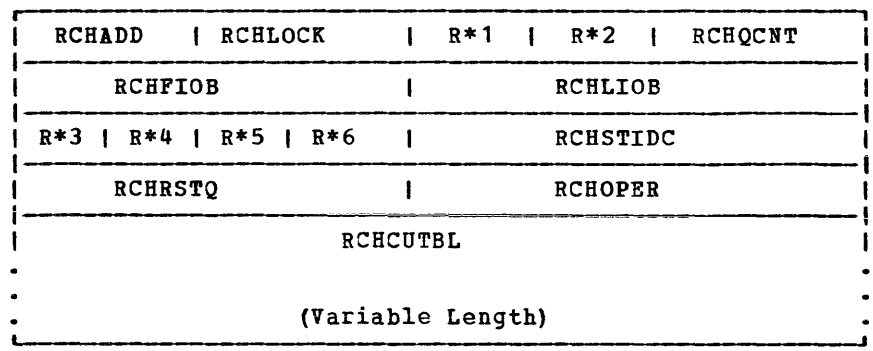
The PWDIBLOK is used to retain information about invalid passwords supplied with LOGON and AUTOLOG commands.



Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	PWDUSRID	DS	CL8		Userid attempting LOGON or AUTOLOG
8	PWDDATE	DS	CL6		Date (mmddyy)
E	PWDTIME	DS	CL8		Time (hh:mm:ss)
14	PWDTERMA	DS	CL4		Terminal address
18	PWDCHAIN	DS	F		Address of next PWDIBLOK
1C	PWDINVCT	DS	1X	P*1	Invalid password count
1D	PWDFLAGS	DS	1X	P*2	Flags
	Bits defined in PWDFLAGS				
	PWDLOG	EQU	X'80'		This block for LOGON
	PWDALOG	EQU	X'40'		This block for AUTOLOG
1E		DS	XL2		Reserved for IBM use

RCHBLOK: REAL CHANNEL BLOCK

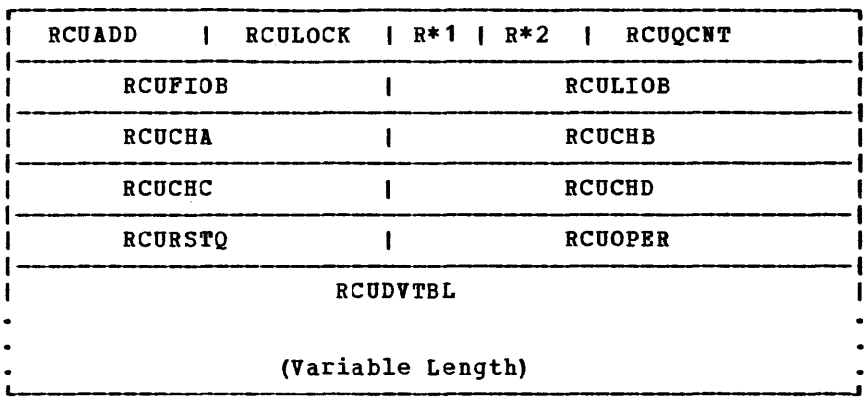
RCHBLOK contains status and type information for the specified channel. The linkage to I/O tasks operated on by that channel and to the control units attached to that channel is also maintained. The ARIOCH field of the PSA points to the first RCHBLOK, which is generated in contiguous storage.



Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	RCHADD	DS	1H		Channel address
2	RCHLOCK	DS	1H		Channel lock
4	RCHSTAT	DS	1X	R*1	Channel status
	Bits defined in RCHSTAT				
	RCHBUSY	EQU	X'80'		Channel busy
	RCHSCED	EQU	X'40'		IOB scheduled on channel
	RCHDED	EQU	X'01'		Channel dedicated
5	RCHTYPE	DS	1X	R*2	Channel type
	Bits defined in RCHTYPE				
	RCHSEL	EQU	X'80'		Selector channel
	RCHBMX	EQU	X'40'		Block multiplexer channel
	RCHMPX	EQU	X'20'		Byte multiplexer channel
	RCHFTA	EQU	RCHBMX		File tape adapter "channel"
6	RCHQCNT	DS	1H		Number of IOBLOKs queued off channel
8	RCHFIOB	DS	1F		Pointer to first IOBLOK queued
C	RCHLIOB	DS	1F		Pointer to last IOBLOK queued
10	RCHDTCK	DS	1X	R*3	Channel data check count
11	RCHCCCK	DS	1X	R*4	Channel control check count
12	RCHIFCC	DS	1X	R*5	Interface control check count
13	RCHCHCK	DS	1X	R*6	Channel chaining check count
14	RCHSTIDC	DS	1F		Result of STIDC instruction issued at CP initialization; if cc = 3, the content is X'FFFFFFFF'
18	RCHRSTQ	DS	1F		Address of channel to be restarted
1C	RCHOPER	DS	1F		IOBLOK operational on channel time
20	RCHCUTBL	DS	32H		Control units attached - RCUSTART index (The index values must be multiplied by 8 and added to the beginning of the RDEVBLOK table (ARIODV).)
	RCHSIZE	EQU	(*-RCHBLOK)/8		RCHBLOK size in doublewords (X'0D')

RCUBLOK: REAL CONTROL UNIT BLOCK

RCUBLOK provides control and status information on a defined real control unit. Linkages are provided to queued IOBLOKs. The ARIOCU field of the PSA points to the first RCUBLOK, which is generated in contiguous storage.

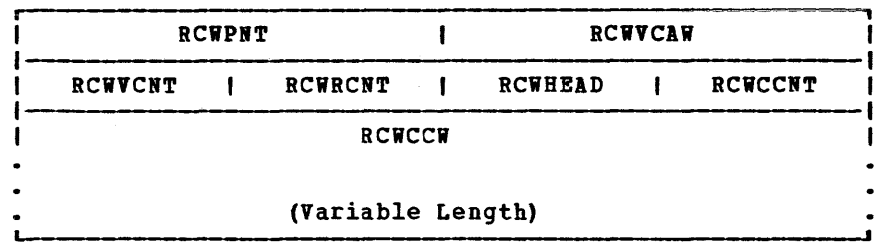


Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	RCUADD	DS	1H		Control unit address
2	RCULOCK	DS	1H		Control unit lock
4	RCUSTAT	DS	1X	R*1	Control unit status
	Bits defined in RCUSTAT				
	RCUBUSY	EQU	X'80'		Control unit busy
	RCUSCED	EQU	X'40'		IOB scheduled on control unit
	RCUDISA	EQU	X'20'		Control unit disabled
	RCUCHAOF	EQU	X'08'		RCUCHA to RCHBLOK path is not available
	RCUCHBOK	EQU	X'04'		RCUCHB to RCHBLOK path is not available
	RCUCHCOF	EQU	X'02'		RCUCHC to RCHBLOK path is not available
	RCUCHDOF	EQU	X'01'		RCUCHD to RCHBLOK path is not available
5	RCUTYPE	DS	1X	R*2	Control unit type
	Bits defined in RCUTYPE				
	RCUSHRD	EQU	X'80'		This control unit can be attached to only one subchannel
	RCUSUB	EQU	X'40'		This is a subordinate control unit
	RCU2703	EQU	X'03'		TCU is a 2703
	RCU2702	EQU	X'02'		TCU is a 2702
	RCU2701	EQU	X'01'		TCU is a 2701
6	RCUQCNT	DS	1H		Number of IOBLOKs queued off control unit
8	RCUFIOB	DS	1F		Pointer to first IOBLOK queued
C	RCULIOB	DS	1F		Pointer to last IOBLOK queued
10	RCUCHA	DS	1F		Pointer to RCHBLOK - path A
		ORG	RCUCHA		
10	RCUPRIME	DS	1F		Pointer to the primary control unit

Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
14	RCUCHB	DS	1F	Pointer to RCHBLOK - path B
18	RCUCHC	DS	1F	Pointer to RCHBLOK - path C
1C	RCUCHD	DS	1F	Pointer to RCHBLOK - path D
20	RCURSTQ	DS	1F	Address of control unit to be restarted
24	RCUOPER	DS	1F	IOBLOK operational on control unit time
28	RCUDVTBL	DS	16H	Devices attached - RDVSTART index (The index values must be multiplied by 8 and added to the beginning of the RDEVBLOK table (ARIODV).)
	RCUSIZE	EQU	(*-RCUBLOK)/8	RCUBLOK size in doublewords (X'08')

RCWTASK: TRANSLATED VIRTUAL I/O CCW

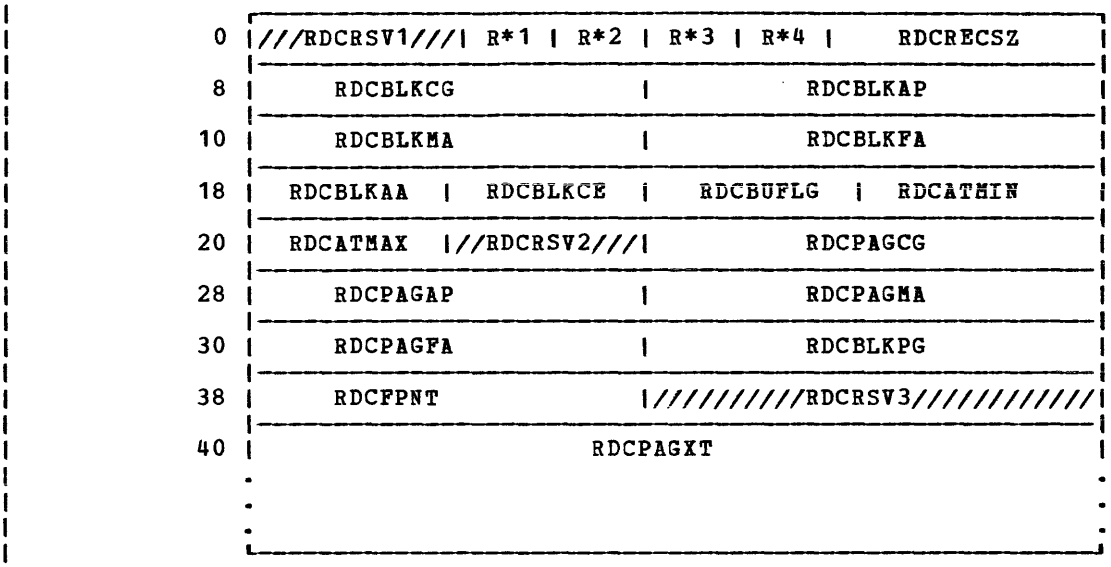
RCWTASK contains the virtual-to-real CCW translation and other data related to a virtual machine's I/O operation. A pointer is maintained to the virtual CCW operation. The first CCW-16 points to the beginning of RCWTASK.



Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	RCWPNT	DS	1F	Pointer to next RCWTASK
4	RCWVCAW	DS	1F	Virtual address of CCW chain
8	RCWVCNT	DS	1H	Virtual CCW count
A	RCWRCNT	DS	1H	Real CCW count
C	RCWHEAD	DS	1H	RCWTASK header mark X'FFFF'
E	RCWCCNT	DS	1H	RCWTASK control word count
10	RCWCCW	DS	1D	One or more CCWs for device I/O
		ORG	RCWCCW	
10	RCWADDR	DS	1F	CCW data address
14	RCWFLAG	DS	1X	CCW flag bits
15	RCWCTL	DS	1X	CCW CP-control bits
	Bits defined in RCWCTL			
	RCWIO	EQU	X'80'	I/O data page locked
	RCWGEN	EQU	X'40'	CP-generated CCW
	RCWHMR	EQU	X'20'	DMKUNT must relocate home address/record R0 and/or the block number
	RCWREL	EQU	X'10'	CCW address relocatable if CCWs moved
	RCWISAM	EQU	X'08'	ISAM modifying CCW
	RCW2311	EQU	X'04'	TYP2311T-B pseudo 2311 on 2314
	RCWINVL	EQU	X'02'	CCW operation code or address is invalid
	RCWSHR	EQU	X'01'	Shared user page was copied
16	RCWCNT	DS	1H	CCW byte count
		ORG	RCWADDR	
10	RCWCOMND	DS	1X	CCW command code

RDCBLOK: REAL DEVICE CHARACTERISTICS FOR FB-512 DEVICES

The RDCBLOK is built dynamically at initial program load (IPL) time, or when a device is varied online and contains FB-512 device-dependent characteristics. The RDEVRDC field of the RDEVBLOK for each FB-512 device points to the RDCBLOK. RDCBLOKs are chained via RDCFPNT. ARDCBLOK in PSA points to the first RDCBLOK built.

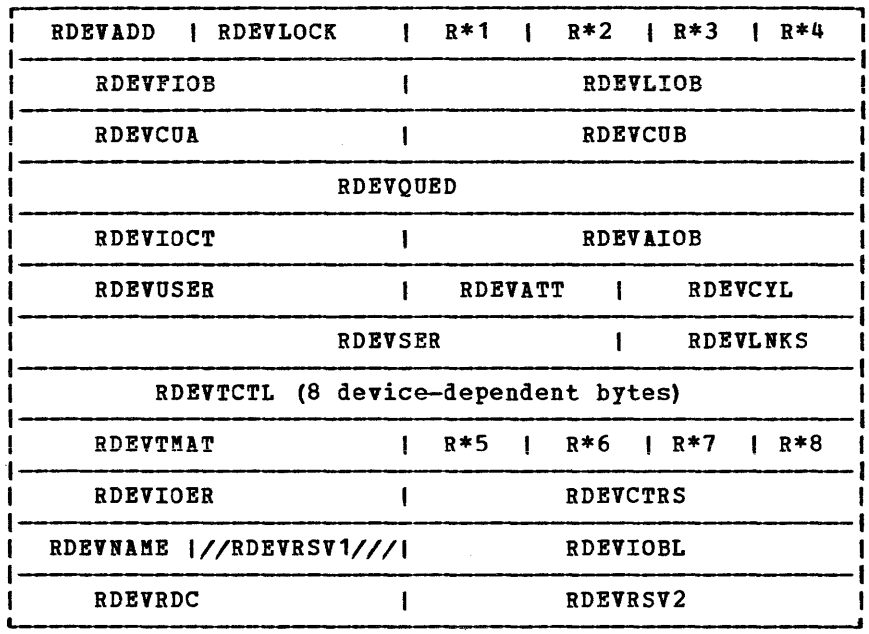


Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	RDCRSV1	DS	1H		Reserved for IBM use
2	RDCOPER	DS	1X	R*1	Device operation modes
	Bits defined in RDCOPER				
	RDCOVRRN	EQU	X'40'		Overrunnable device
	RDCBURST	EQU	X'20'		Burst mode device
	RDCDATCH	EQU	X'10'		Data chaining support
3	RDCFEAT	DS	1X	R*2	Device features
	Bits defined in RDCFEAT				
	RDCREMOV	EQU	X'40'		Removable media feature
	RDCRRLSE	EQU	X'20'		Reserve/release feature
	RDCMOVAM	EQU	X'08'		Movable access mechanism
	RDCFIXAM	EQU	X'04'		Fixed access mechanism
4	RDCCLAS	DS	1X	R*3	Device class
5	RDCTYPE	DS	1X	R*4	Device type
6	RDCRECSZ	DS	1H		Physical record size
8	RDCBLKCG	DS	1F		Blocks per cyclical group (track)
C	RDEBLKAP	DS	1F		Blocks per access position (cylinder)
10	RDCBLKMA	DS	1F		Blocks under movable access
14	RDCBLKFA	DS	1F		Blocks under fixed access
18	RDCBLKAA	DS	1H		Blocks in alternate area
1A	RDCBLKCE	DS	1H		Reserved for IBM customer engineer
1C	RDCBUFLG	DS	1H		Number of buffered log bytes
1E	RDCATMIN	DS	1H		Minimum access time
20	RDCATMAX	DS	1H		Maximum access time

Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
22	RDCRSV2	DS	1H	Reserved for IBM use
24	RDCPAGCG	DS	1H	Pages per cyclical group (track)
28	RDCPAGAP	DS	1F	Pages per access position (cylinder)
2C	RDCPAGMA	DS	1F	Pages under movable access
30	RDCPAGFA	DS	1F	Pages under fixed access
34	RDCBLKPG	DS	1F	Blocks per page
38	RDCFPNT	DS	1F	Pointer to next RDCBLOK
3C	RDCRSV3	DS	1F	Reserved for IBM use
40	RDCPAGXT	DS	4F	Define extent data for page supervisor
		ORG	RDCPAGXT+12	
4C	RDCBLKMX	DS	1F	Maximum block number on volume
	RDCSIZE	EQU	(*-RDCBLOK)/8	RDCBLOK size in doublewords (X'09')

RDEVBLOK: REAL DEVICE BLOCK

RDEVBLOK is generated by the RDEV macro at system generation. There is one RDEVBLOK for each real device and one for each binary synchronous line. The block contains status and device parameters applicable to I/O instruction processing. The ARIODV field of the PSA and the VDEVREAL field of the VDEVBLOK point to the first RDEVBLOK, which is generated in contiguous storage.



Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	RDEVADD	DS	1H		Device address
2	RDEVLOCK	DS	1H		Device lock
4	RDEVSTAT	DS	1X	R*1	Device status
	Bits defined in RDEVSTAT				
	RDEVBUSY	EQU	X'80'		Device busy
	RDEVSCED	EQU	X'40'		IOB scheduled on device
	RDEVDISA	EQU	X'20'		Device disabled (offline)
	RDEVRSVD	EQU	X'10'		Device reserved
	RDEVIRM	EQU	X'08'		Device in intensive error recording mode
	RDEVNRDY	EQU	X'04'		Device intervention required
	RDEVWAII	EQU	X'02'		GRAF - IOBLOK pending, queue requests
	RDEVDED	EQU	X'01'		Dedicated device (attached to a virtual machine)

Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
5	RDEVFLAG	DS	1X	R*2	Device flags, device dependent
	Bits defined in RDEVFLAG				
	RDEVSKUP	EQU	X'80'		DASD - ascending order seek queuing
	RDEVPREF	EQU	X'40'		DASD - volume preferred for paging
	RDEVSYS	EQU	X'20'		DASD - volume attached to system
	RDEVOWN	EQU	X'10'		DASD - CP-owned volume
	RDEVMOUT	EQU	X'08'		DASD - volume mounted, not attached
	RDEV333V	EQU	X'04'		DASD - volume dedicated as 3330V
	RDEVSEL	EQU	X'02'		DASD - device selected for MSS mount
	RDEVPSUP	EQU	X'80'		Console - terminal has print suppress
	RDEVPREP	EQU	X'40'		Console - terminal executing PREPARE command
	RDEVACTV	EQU	X'20'		Console - IOBLOK pending; queue request
	RDEVIDNT	EQU	X'10'		Console - 2741 terminal code identified
	RDEVENAB	EQU	X'08'		Console - device is enabled
	RDEVHIO	EQU	X'04'		Console - next interrupt from a Halt I/O
	RDEVDISB	EQU	X'02'		Console - device is to be disabled
	RDEVEPMD	EQU	X'01'		Console - 370x NCP resource in EP mode
	RDEVDRAN	EQU	X'80'		Spooling - device output drained
	RDEVTERM	EQU	X'40'		Spooling - device output terminated
		EQU	X'20'		Reserved for IBM use
	RDEVSPAC	EQU	X'10'		Spooling - force printer to single space
	RDEVRSTR	EQU	X'08'		Spooling - restart current file
	RDEVBACK	EQU	X'04'		Spooling - backspace the current file
	RDEVSEP	EQU	X'02'		Spooling - print/punch job separator
	RDEVLOAD	EQU	X'01'		Spooling - UCS buffer verified
	RDEVLNCP	EQU	X'80'		Special - network control program active
	RDEVLCEP	EQU	X'40'		Special - 270x Emulation program active
	RDEVSLOW	EQU	X'20'		Special - 370x in buffer slowdown mode
	RDEVAUTO	EQU	X'10'		Special - automatic dump/load enabled
	RDEVWAIT	EQU	X'08'		Special - IOBLOK pending; queue requests
	RDEVEPLN	EQU	X'04'		Special - emulator lines in use by system
	RDEVRCVY	EQU	X'02'		Special - automatic dump/load process active
	RDEVTBTU	EQU	X'01'		Special - BTU trace requested
6	RDEVTYPC	DS	1X	R*3	Device type class (see "Appendix A. CP and RSCS Equate Symbols")
7	RDEVTYPE	DS	1X	R*4	Device type (see "Appendix A. CP and RSCS Equate Symbols")
8	RDEVFIOB	DS	1F		Pointer to first IOBLOK queued
C	RDEVLIOB	DS	1F		Pointer to last IOBLOK queued
10	RDEVCUA	DS	1F		Pointer to RCUBLOK - interface A
14	RDEVCUB	DS	1F		Pointer to RCUBLOK - interface B
18	RDEVQUED	DS	1D		IOBLOK queued time - TOD clock units
20	RDEVIOCT	DS	1F		Device I/O count
24	RDEVAIOB	DS	1F		Active IOBLOK
28	RDEVUSER	DS	1F		Pointer to VMBLOK of dedicated user
2C	RDEVATT	DS	1H		Attached virtual address
2E	RDEVCYL	DS	1H		DASD - current cylinder location
30	RDEVSER	DS	CL6		Device volume serial number
36	RDEVLNKS	DS	1H		DASD - number of links to this disk
38	RDEVTCTL	DS	8X		8 device-dependent terminal control bytes
40	RDEVTMAT	DS	1F		Device attached time - TOD clock word 0
44	RDEVQCNT	DS	1X	R*5	Number of queued IOBLOKs

```
Hexadecimal   Field
Displacement  Name                          Field Description, Contents, Meaning
------------  -----                         ------------------------------------
    45        RDEVSTA2 DS    1X      R*6    Device status (byte 2)

              Bits defined in RDEVSTA2
              RDEVRACT EQU   X'80'          Active device is being reset
              RDEVBUCH EQU   X'40'          Device is busy with the channel
              RDEVCONC EQU   X'20'          Contingent connection present
              RDEVDROP EQU   X'10'          Logdrop or loghold indicated
              RDEVALT  EQU   X'08'          Alternate path device
              RDEVSYBC EQU   X'04'          Attention signal during active I/O
              RDEVPURG EQU   X'02'          3800 - Purge files in error
              RETRYSW  EQU   X'01'          Retry count switch

    46        RDEVMDL  DS    1X      R*7    Device model number
    47        RDEVFTR  DS    1X      R*8    Device feature code
    48        RDEVIOER DS    1F             Pointer to IOERBLOK for last CP error
    4C        RDEVCTRS DS    1F             Pointer to error counter control block
    50        RDEVNAME DS    1H             Real device name
    52        RDEVRSV1 DS    1H             Reserved for IBM use
    54        RDEVIOBL DS    1F             IOBLOK queue lock
|   58        RDEVRDC  DS    1F             Pointer to RDCBLOK (FB-512 only)
|   5C        RDEVRSV2 DS    1F             Reserved for IBM use

              RDEVSIZE EQU   (*-RDEVBLOK)/8 RDEVBLOK size in doublewords (X'0B')

              For CP-owned Devices
                       ORG   RDEVUSER
    28        RDEVALLN DS    1F             Anchor for ALOCBLOK chain for this device
    2C        RDEVCODE DS    1H             Device code - SYSOWNED index
                       ORG   RDEVTCTL
    38        RDEVPAGE DS    1F             Anchor for RECBLOK chain for paging
    3C        RDEVRECS DS    1F             Anchor for RECBLOK chain for spooling
    40        RDEVPNT  DS    1F             Pointer to next RDEVBLOK for allocation

              For Slotted 2301 Paging Drums
                       ORG   RDEVRECS
    3C        RDEVDCTL DS    1F             Pointer to DRUMTABL control block

              For Graphic Devices
                       ORG   RDEVCYL
    2E        RDEVCORD DS    1H             Current line coordinates
    30        RDEVGRTB DS    1F             Address of table of CCWs and data streams
    30        RDEVTMCD DS    1X             Terminal code

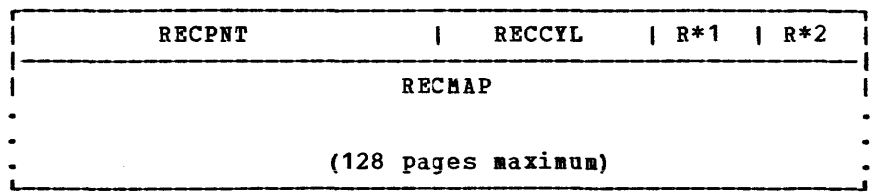
              Bits defined in RDEVTMCD
              RDEVTEXT EQU   X'20'          3270 text character set
              RDEVUSC8 EQU   X'10'          ASCII-8 level
              RDEVAPLC EQU   X'0C'          APL Correspondence
              RDEVAPLP EQU   X'08'          APL PTTC/EBCD
              RDEVCORR EQU   X'04'          Correspondence
              RDEVPTTC EQU   X'00'          PTTC/EBCD

              For Spooling Unit Record Devices
                       ORG   RDEVQUED
    18        RDEVSPL  DS    1F             Pointer to active RSPLCTL block
    1C        RDEVCLAS DS    4C             Device class(es)
                       ORG   RDEVUSER
    28        RDEVDELP DS    A              Anchor for delay purge queue
    2C        RDEVCURP DS    1X             Current page length in half inches
    2D                 DS    1X             Reserved for IBM use
    2E        RDEVMAXP DS    1X             Maximum number of entries in delay purge queue
    2F        RDEVFSEP DS    1X             Function control block for separator
                                              page (6, 8, or 12)
    30        RDEVXSEP DS    CL4            Name of character arrangement table for the
                                              separator page
```

Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
34	RDEVEXTN	DS	1A	Pointer to the 3800 extension
38	RDEVIMAG	DS	CL8	Name of current image library
40	RDEVOVLY	DS	CL4	Name of current forms overlay
	For Terminal Devices			
		ORG	RDEVQUED	
18	RDEVCON	DS	1F	Pointer to CONTASK list
1C	RDEVAIRA	DS	1F	Attention interrupt return address
		ORG	RDEVTCTL	
38	RDEVRCNT	DS	1H	Start/stop line retry count
3A	RDEVTFLG	DS	1X	Additional terminal flags
	Bits defined in RDEVTFLG			
	RDEVLOG	EQU	X'80'	TERM and GRAF - Logon process has been initiated
	RDEVREST	EQU	X'40'	TERM - Terminal in reset process
	RDEVATOF	EQU	X'20'	TERM - Suppress attention signal
	RDEVLOG	EQU	X'80'	GRAF - Logon process has been initiated
	RDEVMORE	EQU	X'40'	GRAF - Screen full; more data waiting
	RDEVRUN	EQU	X'20'	GRAF - Screen in running status
	RDEVREAD	EQU	X'10'	GRAF - Read pending for screen input
	RDEVCPNA	EQU	X'08'	GRAF - Last input not accepted
	RDEVTRQ	EQU	X'04'	GRAF - Timer request pending
	RDEVCTL	EQU	X'02'	GRAF - Control function interrupt pending
	RDEVHOLD	EQU	X'01'	GRAF - Screen full; in hold status
3B	RDEVGRTY	DS	1X	Display alternate screen size index
3C	RDEVLLEN	DS	1X	Device line length
3D	RDEVATNC	DS	1X	Device attention count
3E	RDEVBASE	DS	1H	370x base address for emulator line
3F	RDEVRSV3	DS	1X	Reserved for IBM use
		ORG	RDEVMDL	
46	RDEVTMCD	DS	1X	Terminal code
	Bits defined in RDEVTMCD			
	RDEVTEXT	EQU	X'20'	3270 Text character set
	RDEVUSC8	EQU	X'10'	ASCII-8 level keyboard
	RDEVAPLC	EQU	X'0C'	APL Correspondence keyboard
	RDEVAPLP	EQU	X'08'	APL PTTC/EBCD keyboard
	RDEVCORR	EQU	X'04'	Correspondence keyboard
	RDEVPTTC	EQU	X'00'	PTTC/EBCD keyboard
		ORG	RDEVFTR	
47	RDEVSADN	DS	1X	Terminal set-address number
	For Real 3705 Communications Controller			
		ORG	RDEVAIRA	
1C	RDEVEPDV	DS	1F	Start of free RDEVBLOK list for EP line
		ORG	RDEVCYL	
2E	RDEVMAX	DS	1H	Highest valid NCP resource name
30	RDEVNCP	DS	CL8	Reference name of active 3704 NCP
38	RDEVNICL	DS	1F	Pointer to network control list
3C	RDEVCKPT	DS	1F	Pointer to CKPBLOK for re-enable
	For 3270 Remote Support			
		ORG	RDEVNCP	
30	RDEVBSC	DS	1F	Pointer to binary synchronous control block
34	RDEVPDLY	DS	1F	Poll delay timer interval
	For Spooling to Tape			
		ORG	RDEVSER	
30	RDEVSPT	DS	1F	Pointer to spool files to tape block

RECBLOK: DASD PAGE (SLOT) ALLOCATION BLOCK

RECBLOK maintains the correlation of DASD storage pages to a specific cylinder location. Also maintained is a bit map to indicate the page slots available for data page storage. The RDEVRECS field and the RDEVPAGE field of the RDEVBLOK point to RECBLOK.



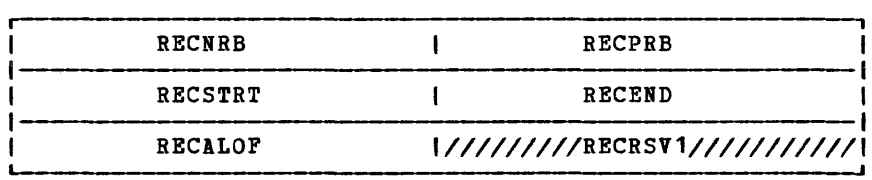
Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	RECPNT	DS	1F		Pointer to next RECBLOK on chain
4	RECCYL	DS	1H		Cylinder address for pages in this block
6	RECUSED	DS	1X	R*1	Number of pages currently in use
7	RECMAX	DS	1X	R*2	Maximum number of pages available
8	RECMAP	DS	1L		Page allocation bit map (128 pages maximum)

Bits defined in RECMAP
0 - Page is available
1 - Page has been assigned

Note: Although the size of RECMAP is fixed, the maximum number of pages available on a cylinder is device dependent. Bits corresponding to pages not physically present on a cylinder are set to 1.

```
RECSIZE  EQU   (*-RECBLOK)/8  RECBLOK size in doublewords
```

- RECBLOK Extension for FB-512 Devices

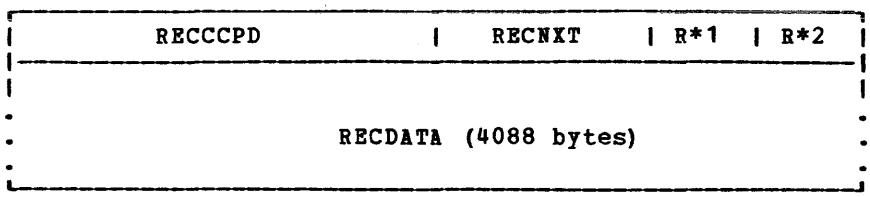


Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
18	RECNRB	DS	1F	Pointer to next RECBLOK on ALOFBLOK chain
	RECFORPT	EQU	0	Displacement to forward pointer
1C	RCPRB	DS	1F	Pointer to previous RECBLOK on ALOFBLOK chain
	RECBAKPT	EQU	4	Displacement to backward pointer
20	RCSTRT	DS	1F	Page number of first page in this extent
24	RECEND	DS	1F	Page number of last page in this extent
28	RECALOF	DS	1F	Pointer to ALOFBLOK
2C	RECRSV1	DS	1F	Reserved for IBM use

```
RECFSZ   EQU   (*-RECBLOK)/8  FB-512 RECBLOK size in doublewords
```

RECPAG: ERROR RECORDING PAGE RECORD

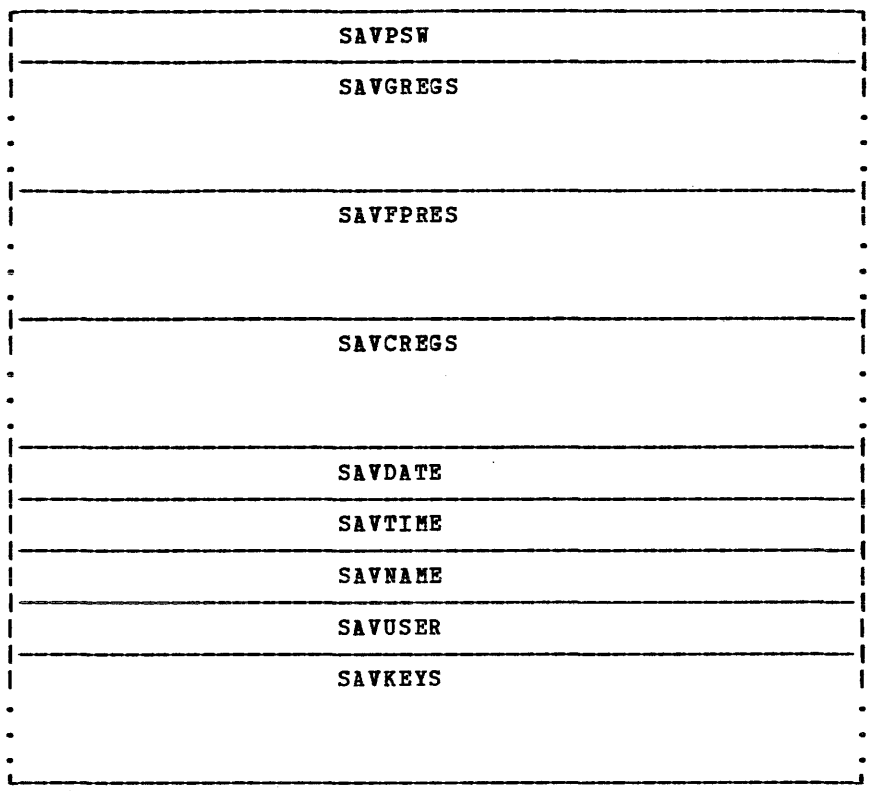
RECPAG retains up to 4K bytes of error recording data for eventual placement on the specified error recording cylinder.



Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	RECCCPD	DS	4X		CCPD of the record
4	RECNXT	DS	2X		Displacement to next error record
6	RECFLAG1	DS	1X	R*1	Record usage flags
	Bits defined in RECFLAG1				
	RECPAGIU	EQU	X'80'		Page contains valid data
	RECPAGFR	EQU	X'40'		Page is cleared
	RECPAGFL	EQU	X'20'		Page is full of error records
	RECPAGER	EQU	X'10'		Next page is unreadable (I/O error)
	RECPAGFA	EQU	X'08'		Page contains page frame records
7	RECFLAG2	DS	1X	R*2	Record format flag
	Bits defined in RECFLAG2				
	RECPAGFM	EQU	X'80'		Set in page 1 of a recording cylinder when the cylinder is being formatted. This flag bit is reset when all pages are cleared.
	RECPAGDN	EQU	X'00'		Cylinder formatted
8	RECDATA	DS	4088C		Data area
	RECPAGSZ	EQU	(*-RECPAG)/8		Size of page in doublewords (X'512')

SAVTABLE: FIRST PAGE ON SAVED SYSTEM DASD

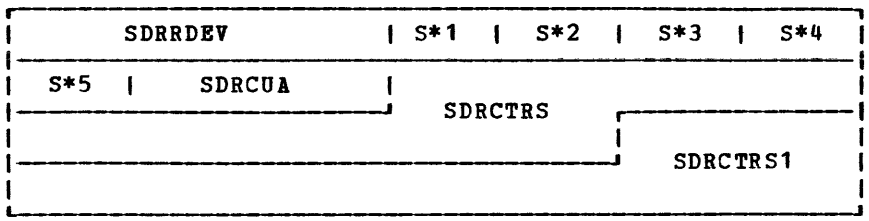
SAVTABLE is used in the initial program loading of saved virtual machine named systems. It is created by the name system generation process (SAVESYS macro/SAVESYS command).



Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	SAVPSW	DS	1D	PSW of virtual machine at SAVESYS time
8	SAVGREGS	DS	16F	General registers
48	SAVFPRES	DS	4D	Floating-point registers
68	SAVCREGS	DS	16F	Control registers
A8	SAVDATE	DS	CL8	Date VMSAVE system was stored
B0	SAVTIME	DS	CL8	Time VMSAVE system was stored
B8	SAVNAME	DS	CL8	Name under which VMSAVE system was saved
C0	SAVUSER	DS	CL8	Userid of user who stored the VMSAVE system
C8	SAVKEYS	DS	1H	Two-byte entry for each saved page containing storage keys for each page

SDRBLOK: STATISTICAL DATA RECORDING BLOCK

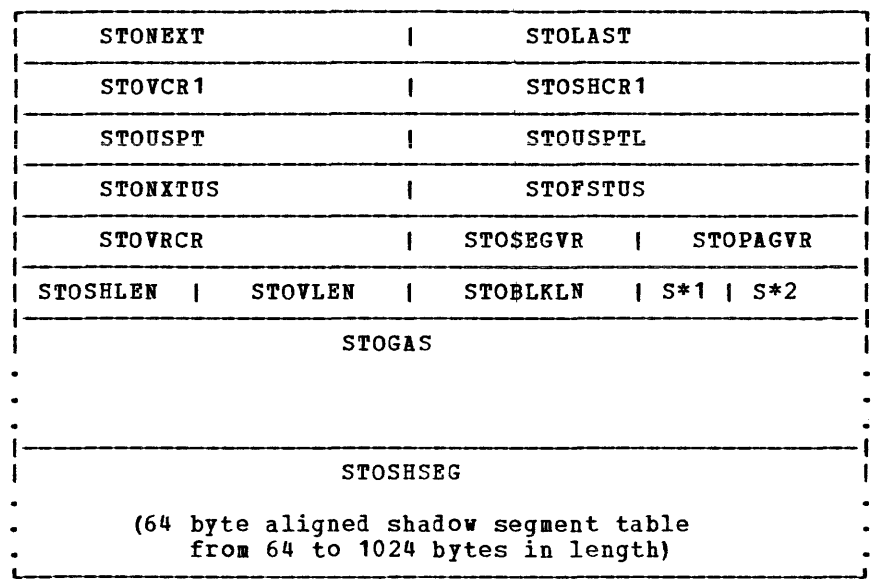
Contains counters to record temporary errors on a given I/O device.



Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	SDRRDEV	DS	1F		Address of associated RDEVBLOK
4	SDRFLAGS	DS	1X	S*1	SDRBLOK flags
	Bits defined in SDRFLAGS				
	SDRSHRT	EQU	X'80'		Short OBRRECN to be written
	SDRRECD	EQU	X'40'		Long OBRRECN to be recorded on counter overflow
	SDRMAX	EQU	X'20'		Maximum numbers of SDR counters handled
5	SDRPRMCT	DS	1X	S*2	Parameter list counter
6	SDRFLCT	DS	1X	S*3	Full byte counter
7	SDROVFWK	DS	1X	S*4	Statistical update work byte
8	SDRLNGTH	DS	1X	S*5	Length (bytes) of SDR counters
9	SDRCUA	DS	3X		Primary CUA of device being used
	SDRBSIZE	EQU	(*-SDRBLOK)		SDRBLOK base size, in bytes
C	SDRCTRS	DS	10X		SDR error counters
	SDRSIZE	EQU	(*-SDRBLOK+7)/8		Size in doublewords (X'03')
16	SDRCTRS1	DS	10X		Additional SDR error counters for devices that use more than 10 SDR counters.
	SDRSIZE1	EQU	(*-SDRBLOK)/8		Size in doublewords (X'04')

STOBLOK: SEGMENT TABLE ORIGIN CONTROL BLOCK

STOBLOK contains information pertaining to the "shadow segment table" as well as the "shadow segment table" itself. The EXTSTOP field of the ECBLOK points to the first STOBLOK on a chain.

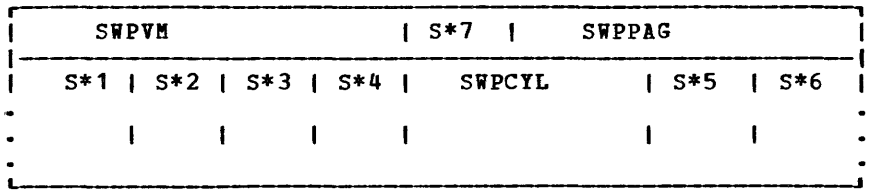


Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	STONEXT	DS	1F	Pointer to the next STOBLOK
4	STOLAST	DS	1F	Pointer to the last shadow table origin in the chain
8	STOVCR1	DS	1F	Virtual control register 1; segment table pointer
C	STOSHCR1	DS	1F	Shadow control register 1
10	STOUSPT	DS	1F	Pointer to user area shadow page table pool
14	STOUSPTL	DS	1F	Length of user area shadow table pool
18	STONXTUS	DS	1F	Pointer to next entry for user area shadow page table pool
		ORG	STONXTUS	For V=R virtual machine in single processor mode
	STOVPSG	DS	1H	Displacement to segment table entry for virtual prefix page
	STOVPPG	DS	1H	Displacement to page table entry for virtual prefix page
1C	STOFSTUS	DS	1F	Pointer to first entry for user area shadow page table pool
		ORG	STOFSTUS	For V=R virtual machine in single processor mode
	STO6CSG	DS	1H	Displacement to segment table entry for DIAGNOSE 6C address
	STO6CPG	DS	1H	Displacement to page table entry for DIAGNOSE 6C address
20	STOVRCR	DS	1F	Reserved for IBM use
24	STOSEGVR	DS	1H	Size of VV=VR area in the segment table

Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
26	STOPAGVR	DS	1H		Size of VV=VR area, last VV=VR page table
28	STOSHLEN	DS	1H		Length of shadow segment table (SEGTABLE) in bytes
2A	STOVLEN	DS	1H		Length of virtual segment table (SEGTABLE) in bytes
2C	STOBLKLN	DS	1H		Length of shadow table origin block (STOBLOK) in doublewords
2E	STOFLAG	DS	1X	S*1	Shadow table origin (STO) flag byte
	Bits defined in STOFLAG				
	PURGESTO	EQU	X'80'		Purge shadow SEGTABLE
	NOPTLB	EQU	X'40'		Do not purge real table
2F	STOSEGCT	DS	1X	S*2	Count of SEGTABLEs above high-water mark
30	STOGAS	DS	7D		Unused area to allow the SEGTABLE to be aligned on a 64-byte boundary
58	STOSHSEG	DS	0D		Segment table will start between STOGAS and STOSHSEG when aligned
	STOSIZE	EQU	(*-STOBLOK)/8		STOBLOK size minus SEGTABLE size in doublewords

SWPTABLE: SWAP TABLE FOR VIRTUAL MACHINE PAGING

SWPTABLE is used in conjunction with the page table (PAGTABLE) and the segment table (SEGTABLE) by the CP page management routines for relating the virtual storage to DASD slots and real storage. The PAGSWP field of the PAGTABLE points to SWPTABLE.

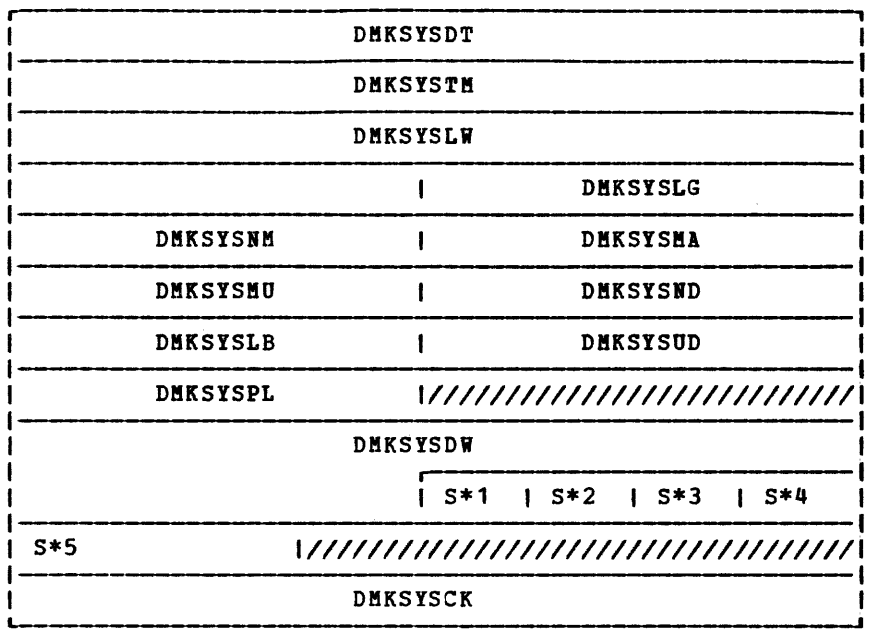


Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	SWPVM	DS	1F		Pointer to VMBLOK
4	SWPFLAG2	DS	1X	S*7	Swap table FLAG2 bits
	Bits defined in SWPFLAG2				
	SWPAPP	EQU	X'80'		Attached processor's shared page table and swap table
		ORG	SWPFLAG2		
4	SWPPAG	DS	1F		Pointer to page table
		ORG	SWPFLAG2		
4	SWPSEGNO	DS	1X	S*7	Segment table index (o through 255)
8	SWPFLAG	DS	1X	S*1	Swap table flag bits
	Bits defined in SWPFLAG				
	SWPTRANS	EQU	X'80'		Page in transit
	SWPRECMP	EQU	X'40'		Page permanently assigned
	SWPALLOC	EQU	X'20'		Page enqueued for allocation
	SWPSHR	EQU	X'10'		Page shared
	SWPREF1	EQU	X'08'		First half-page referenced
	SWPCHG1	EQU	X'04'		First half-page changed
	SWPREF2	EQU	X'02'		Second half-page referenced
	SWPCHG2	EQU	X'01'		Second half-page changed
9	SWPVPAGE	DS	1X	S*2	Virtual page number within the segment
A	SWPKEY1	DS	1X	S*3	Virtual storage key, first 2048 bytes
B	SWPKEY2	DS	1X	S*4	Virtual storage key, second 2048 bytes
C	SWPCYL	DS	1H		DASD cylinder address
E	SWPDPAGE	DS	1X	S*5	DASD page number on cylinder
F	SWPCODE	DS	1X	S*6	RDEVBLOK device code (The device code is used as an index into the list of CP-owned paging volumes pointed to by DMKSYSOW)

Note: For each SWPTABLE there is only one doubleword that consists of SWPVM and SWPPAG followed by 16 entries (one for each PAGTABLE entry) that consist of S*1, S*2, S*3, S*4, SWPCYL, S*5, and S*6. Thus, the total size of the SWPTABLE is 17 doublewords.

SYSLOCS: SYSTEM LOW STORAGE INFORMATION BLOCK

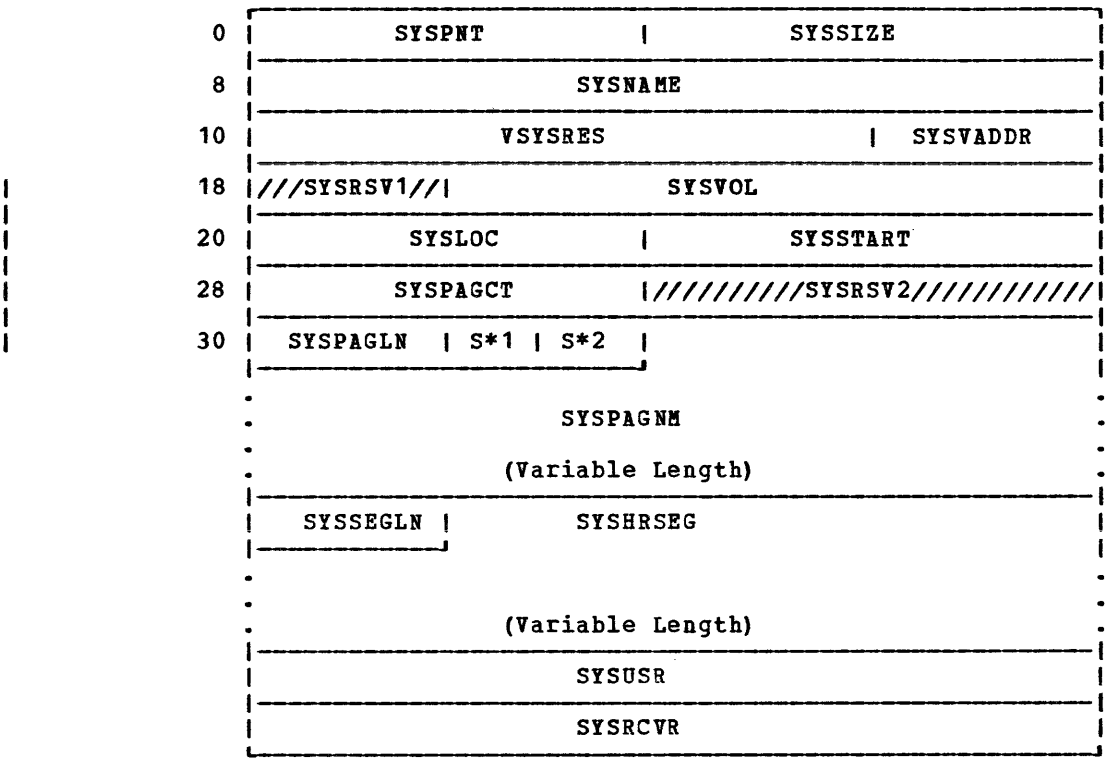
SYSLOCS contains user logon and dial statistics, time/date and log message data, TOD values, and line edit values.



Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	DMKSYSDT	DC	CL8'MM/DD/YY'		Date of system log message
8	DMKSYSTM	DC	CL8'HH:MM:SS'		Time of system log message
10	DMKSYSLW	DC	X'00',X'00',CL10' '		Weekday of system log messages
1C	DMKSYSLG	DC	A(0)		Pointer to first log message block
20	DMKSYSNM	DC	F'0'		Current number of users on the system
24	DMKSYSMA	DC	F'0'		Maximum number of users allowed on the system
28	DMKSYSMU	DC	F'0'		Maximum number of users on the system
2C	DMKSYSND	DC	F'0'		Number of dialed users on the system
30	DMKSYSLB	DC	A(0)		Pointer to user directory lock block
34	DMKSYSUD	DC	A(0)		Pointer to start of user directory on SYSRES
38	DMKSYSPL	DC	A(0)		Pointer to a list of virtual page buffers
3C		DC	A(0)		Reserved for IBM use
40	DMKSYSDW	DC	X'00',X'00', CL10'		Day of week in hexadecimal and EBCDIC
4C	DMKSYSLE	DC	X'7B'	S*1	Terminal line-end symbol
4D	DMKSYSLD	DC	X'4A'	S*2	Terminal line-delete symbol
4E	DMKSYSCD	DC	X'7C'	S*3	Terminal character-delete symbol
4F	DMKSYSES	DC	X'7F'	S*4	Terminal escape symbol
50	DMKSYSLL	DC	AL1(130,129,72,80)	S*5	Default line lengths for 3210 and 3215 - 2741 and 1050 - 3270 and 3066 terminals
53		DC	XL5'0'		Reserved for IBM use
58	DMKSYSCK	DC	D'0'		TOD clock value last stored by accounting, DUMP, or machine check

SYSTBL: NAMED SYSTEM TABLE

SYSTBL contains the system and DASD information required to load a saved system by name. SYSTBL is built during system generation in DMKSNT using the NAMESYS macro.



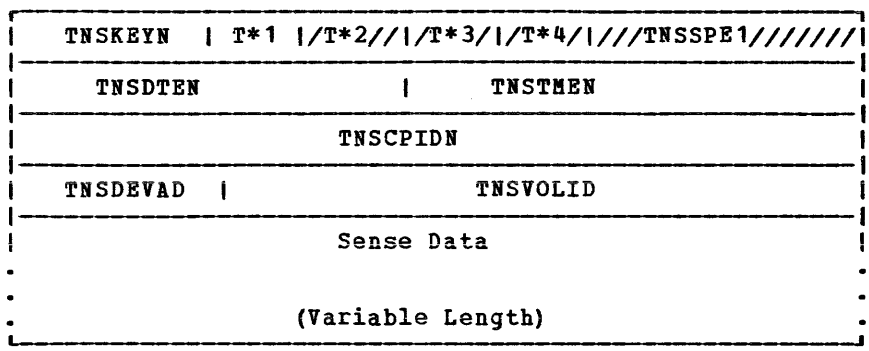
Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	SYSPNT	DS	1F		Chain pointer to next entry
4	SYSSIZE	DS	1F		Minimum storage size needed to run system
8	SYSNAME	DS	CL8		System name
10	VSYSRES	DS	CL6		Volume identification number of DASD containing user's system
16	SYSVADDR	DS	1H		Virtual address of VSYSRES
18	SYSRSV1	DS	1H		Reserved for IBM use
1A	SYSVOL	DS	CL6		Volume identification number of DASD containing saved pages
20	SYSLOC	DS	1F		For count-key-data, the cylinder number on VSYSRES of user's system (cc__); for FB-512, the block number of user's system on VSYSRES (BBBB).
24	SYSSTART	DS	1F		CCPD of first page on SYSVOL
28	SYSPAGCT	DS	1F		Total number of pages saved
2C	SYSRSV2	DS	1F		Reserved for IBM use
30	SYSPAGLN	DS	1H		Number of entries in SYSPAGNM
32	SYSSEQ	DS	1X	S*1	VMSAVE priority sequence
33	SYSFLAG	DS	1X	S*2	Named system flag
	Bits defined in SYSFLAG				
	SYSPROT	EQU	X'80'		Unprotected shared segments

Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
34	SYSPAGNM	DS	1F	One fullword entry for each range of pages to be saved
	SYSSEGLN	DS	1H	Numbers of entries in SYSHRSEG
	SYSHRSEG	DS	1X	One byte for each segment to be shared
	SYSUSR	DS	CL8	VMSAVE owner userid[1]
	SYSRCVR	DS	CL8	VMSAVE receiver userid[1]

[1]The displacement for this area depends on the preceding variables.

TNSREC: "T" TYPE RECORD FORMAT (ENVIRONMENTAL RECORDING)

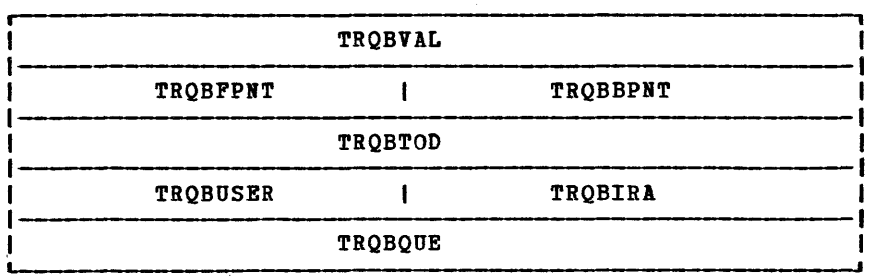
TNSREC is used by DMKIOE to record miscellaneous data records on CP's I/O error recording cylinders. The record contains sense data applicable to a specific I/O device.



Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
	24-Byte Header Record				
0	TNSKEYN	DS	1H		Class source 90=T type N/S NON TPER
2	TNSSWS1	DS	1X	T*1	Switch byte 0
3	TNSSWS2	DS	1X	T*2	Reserved for IBM use
4	TNSSWS3	DS	1X	T*3	Reserved for IBM use
5	TNSRECNT	DS	1X	T*4	Reserved for IBM use
6	TNSSPE1	DS	1H		Reserved for IBM use
8	TNSDTEN	DS	1F		Date
C	TNSTMEN	DS	1F		Time
10	TNSCPIDN	DS	2F		Processor identification and model number
	End of 24-Byte Header				
	Device Dependent Data				
18	TNSDEVAD	DS	1H		Device address request is pending
1A	TNSVOLID	DS	6X		Volume identification number
20	TNSSNS1	DS	24X		24 Sense bytes
38	TNSSNS2	DS	24X		24 Additional sense bytes
50	TNSSNS3	DS	24X		24 Additional sense bytes
68	TNSSNS4	DS	24X		24 Additional sense bytes
80	TNSSNS5	DS	24X		24 Additional sense bytes
98	TNSSNS6	DS	24X		24 Additional sense bytes
B0	TNSSNS7	DS	24X		Last 24 sense bytes

TRQBLOK: TOD CLOCK COMPARATOR REQUEST

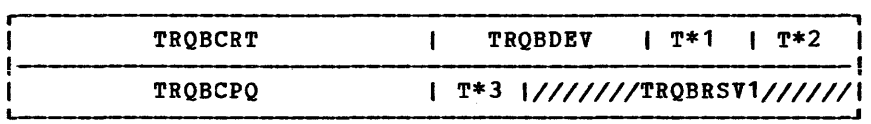
TRQBLOK manages the timing facilities of VM/370.



Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	TRQBVAL	DS	1D		TOD clock comparator value for interrupt
8	TRQBFPNT	DS	1F		Pointer to next TRQBLOK
C	TRQBBPNT	DS	1F		Pointer to previous TRQBLOK
10	TRQBTOD	DS	1D		TOD clock value when TRQBLOK is queued
18	TRQBUSER	DS	1F		Address of VMBLOK for user
1C	TRQBIRA	DS	1F		Interrupt return address
20	TRQBQUE	DS	1D		Time left in queue; tracking virtual processor timer
	TRQBSIZE	EQU	(*-TRQBLOK)/8		TRQBLOK size in doublewords (X'04')

- Local Graphic Device Support

The following continuation of the TRQBLOK DSECT for local graphic device support is built, referenced, and released by DMKGRF.

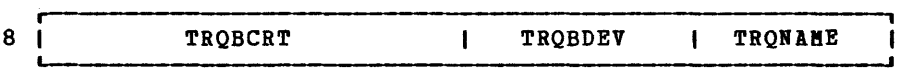


Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
28	TRQBCRT	DS	1F		Graphic device return IRA
2C	TRQBDEV	DS	1H		Graphic device device address
2E	TRQBFLAG	DS	1X	T*1	Graphic device flags
	Bits defined in TRQBFLAG				
	CRTFMT	EQU	X'80'		Screen formatted VM/370 online
	CRTDIAG	EQU	X'40'		Screen written with Diagnose X'19' command code
	CRTALRM	EQU	X'20'		Screen has alarm message
	CRTWNG	EQU	X'10'		Screen has MORE... warning
	CRTCARD	EQU	X'08'		Data from card reader
	CRTUSEWA	EQU	X'04'		ERASE/WRITE ALTERNATE or ERASE/WRITE is needed
	CRTAPL	EQU	X'02'		APL read buffer allocated
	CRTSIO	EQU	X'01'		User issue Diagnose to input area
	CRTAIO	EQU	CRTSIO		Timer interrupt pending after I/O completes
2F	TRQBLINE	DS	1X	T*2	Line coordinate for input area

Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
30	TRQBCPQ	DS	1F		Deferred CONTASL queue
34	TRQBFLG2	DS	1X	T*3	Full screen support flags
	Bits defined in TRQBFLG2 for Full Screen Support				
	CRTFSSA	EQU	X'80'		System available
	CRTFSII	EQU	X'40'		Input inhibited
	TRQBPAIR	EQU	X'20'		Flag for PA1 key in full screen mode
35	TRQBRSV1	DS	3X		Reserved for IBM use
	CRTEXT	EQU	(*-TRQBCRT)/8		Size of extension in doublewords
	CRTEXTSZ	EQU	*-TRQBCRT		Size of extension in bytes

- Remote Graphic Device Support

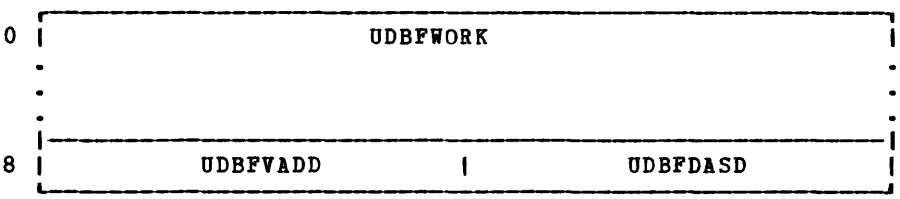
The following continuation of the TRQBLOK DSECT for remote graphic device support is built, referenced, and released by DMKRGA and DMKRGB.



Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
28	TRQBCRT	DS	1F	Graphic device return IRA
2C	TRQBDEV	DS	1H	Graphic device line address
2E	TRQNAME	DS	1H	Resource identification
	TRQBPOLL	EQU	X'FF'	Timer interrupt for general poll

UDBFBLOK: USER DIRECTORY BUFFER BLOCK

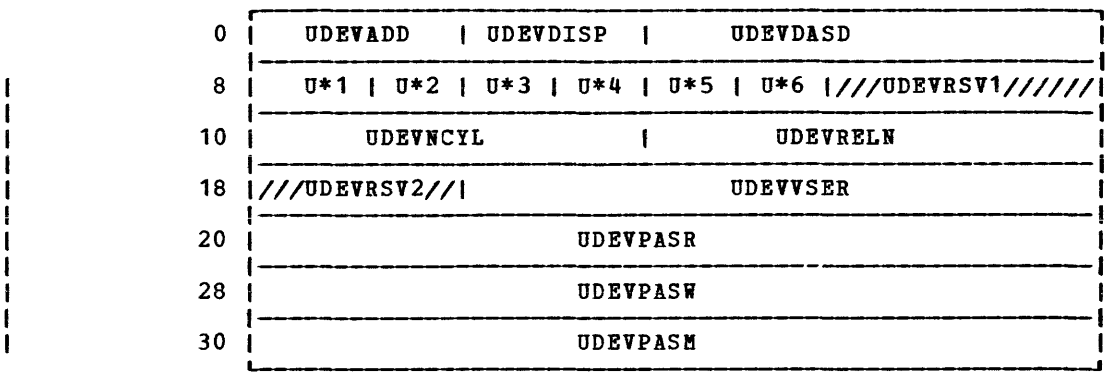
UDBFBLOK is used as a buffer for user device block data in user directory access operations.



Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	UDBFWORK	DS	7D	Buffer work space used by the caller
38	UDBFVADD	DS	1F	Virtual address of the last directory page
3C	UDBFDASD	DS	1F	DASD address of the last directory page
	UDBFSIZE	EQU	(*-UDBFBLOK)/8	UDBFBLOK size in doublewords (X'08')

UDEVBLOK: USER DEVICE BLOCK

UDEVBLOK supplies the information about the virtual machine's virtual devices, the operational parameters for its use, such as DASD access passwords, read/write link mode, spool device, T-disk space versus dedicated device space, as well as other parameters.

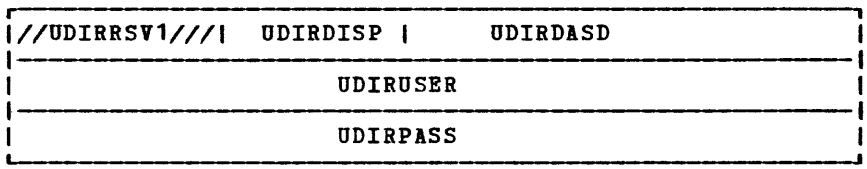


Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	UDEVADD	DS	1H		Virtual device address
2	UDEVDISP	DS	1H		Displacement of the next block
4	UDEVDASD	DS	1F		DASD address of the next block
8	UDEVSTAT	DS	1X	U*1	Device status information
	Bits defined in UDEVSTAT				
	UDEVDED	EQU	X'80'		Device to be dedicated to this user
	UDEVTDSK	EQU	X'40'		T-disk to be allocated
	UDEVLONG	EQU	X'20'		Device block is full length (6 doublewords)
	UDEVLKDV	EQU	X'10'		Device is to be linked (at logon)
	UDEVSPOO	EQU	X'08'		Device is a spool device
	UDEV3158	EQU	X'04'		Device is a 3158 console
	UDEVVRR	EQU	X'02'		Virtual reserve/release requested
9	UDEVMODE	DS	1X	U*2	Access mode information
	Bits defined in UDEVMODE				
	UDEVLR	EQU	X'80'		Read links allowed
	UDEVLW	EQU	X'40'		Write links allowed
	UDEVLM	EQU	X'20'		Multiple write links allowed
	UDEVR	EQU	00		Device to be in R link mode for owner
	UDEVRR	EQU	04		Device to be in RR link mode for owner
	UDEVW	EQU	08		Device to be in W link mode for owner
	UDEVWR	EQU	12		Device to be in WR link mode for owner
	UDEVM	EQU	16		Device to be in M link mode for owner
	UDEVMR	EQU	20		Device to be in MR link mode for owner
	UDEVMW	EQU	24		Device to be in MW link mode for owner
A	UDEVTYPC	DS	1C	U*3	Virtual device class
B	UDEVTYPE	DS	1C	U*4	Virtual device type
C	UDEVFTR	DS	1C	U*5	Device feature codes
D	UDEVMDL	DS	1C	U*6	Device model number
		ORG	UDEVMDL		User device block (short)
D	UDEVCLAS	DS	1C		Spool device output class
E	UDEVLINK	DS	1H		User link to disk
10	UDEVLKID	DS	1D		User link to userid

Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
E	UDEVRSV1	DS	1H	Reserved for IBM use
10	UDEVNCYL	DS	1F	Virtual DASD size (cylinder or block)
14	UDEVRELN	DS	1F	Virtual DASD relocation (cylinder or block)
18	UDEVRSV2	DS	1H	Reserved for IBM use
1A	UDEVVSER	DS	6C	Volume identification number
20	UDEVPASR	DS	1D	Password for read access
28	UDEVPASW	DS	1D	Password for write access
30	UDEVPASM	DS	1D	Password for multiple access
	UDEVSIZE	EQU	(*-UDEVBLOK)/8	UDEVBLOK size in doublewords (X'06')

UDIRBLOK: USER DIRECTORY BLOCK

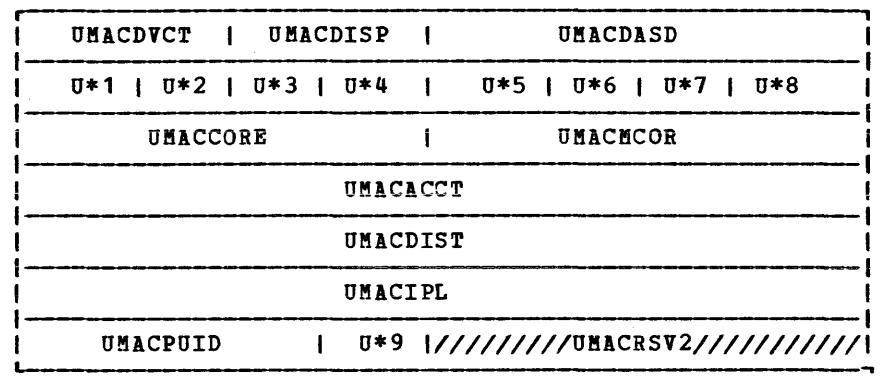
UDIRBLOK contains data describing the user's command privilege classes, special virtual machine options, terminal line edit values, and other values.



Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	UDIRRSV1	DS	1H	Reserved for IBM use
2	UDIRDISP	DS	1H	Displacement of the user's UMACBLOK
4	UDIRDASD	DS	1F	DASD address of the user's UMACBLOK
8	UDIRUSER	DS	1D	Userid
10	UDIRPASS	DS	1D	User password
	UDIRSIZE	EQU	(*-UDIRBLOK)/8	UDIRBLOK size in doublewords (X'03')

UMACBLOK: USER MACHINE BLOCK

UMACBLOK contains the logon parameters for one virtual machine user. This block provides, in addition to the linkage to the user's defined virtual machine device UDEVBLOK, the command privilege class, assigned line edit values, as well as other virtual machine options.

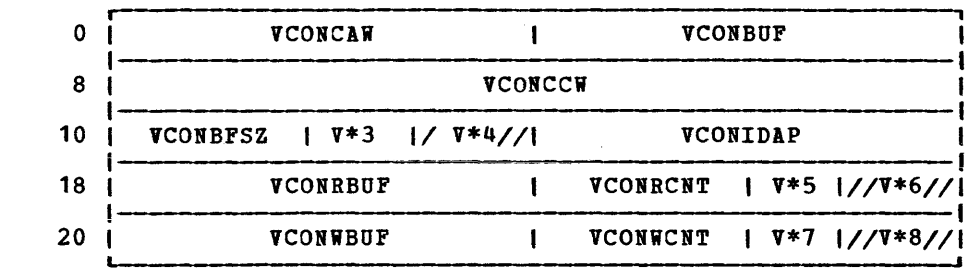


Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	UMACDVCT	DS	1H		Number of devices
2	UMACDISP	DS	1H		Displacement of the next block
4	UMACDASD	DS	1F		DASD address of the next block
8	UMACCLEV	DS	1C	U*1	Command level flags
	Bits defined in UMACCLEV				
	UMACCLA	EQU	X'80'		Privilege Class A functions
	UMACCLB	EQU	X'40'		Privilege Class B functions
	UMACCLC	EQU	X'20'		Privilege Class C functions
	UMACCLD	EQU	X'10'		Privilege Class D functions
	UMACCLE	EQU	X'08'		Privilege Class E functions
	UMACCLF	EQU	X'04'		Privilege Class F functions
	UMACCLG	EQU	X'02'		Privilege Class G functions
	UMACCLH	EQU	X'01'		Privilege Class H functions
9	UMACPRIR	DS	1X	U*2	Virtual machine priority
A	UMACOPT	DS	1X	U*3	Virtual machine option flags
	Bits defined in UMACOPT				
	UMACISAM	EQU	X'80'		ISAM CCW checking option
	UMACECOP	EQU	X'40'		Extended control mode option
	UMACRT	EQU	X'20'		Real timer option
	UMACVROP	EQU	X'10'		Virtual = Real storage option
	UMACACC	EQU	X'08'		Accounting card option
	UMACFST	EQU	X'04'		Invalidate first shadow table entry
	UMACNSVC	EQU	X'02'		SVCs not handled by virtual machine assist feature
	UMACBMX	EQU	X'01'		Virtual block multiplexer channel

Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
B	UMACOPT2	DS	1C	U*4	Virtual machine option flags
	Bits defined in UMACOPT2				
	UMACCPU	EQU	X'80'		Processor identification number on option statement
	UMAC370E	EQU	X'20'		370E assist in option statement
	UMACVMSV	EQU	X'10'		VMSAVE on option statement
C	UMACLEND	DS	1C	U*5	Terminal line end symbol
D	UMACLDEL	DS	1C	U*6	Terminal line delete symbol
E	UMACCDEL	DS	1C	U*7	Terminal character delete symbol
F	UMACES	DS	1C	U*8	Edit escape symbol
10	UMACCORE	DS	1F		Virtual storage size in bytes
14	UMACMCOR	DS	1F		Maximum virtual storage size in bytes
18	UMACACCT	DS	1D		Accounting information
20	UMACDIST	DS	1D		User machine distribution information
28	UMACIPL	DS	1D		Name of system to be IPLed at logon
30	UMACPUID	DS	XL3		Processor identification number in binary
33	UMACAFF	DS	1X	U*9	Affinity and processor address
	Bits defined in UMACAFF				
	UMACFFON	EQU	X'40'		Affinity specified
	UMACFFAD	DS	OBL6		Processor address for affinity
34	UMACRSVR	DS	1F		Reserved for IBM use
	UMACSIZE	EQU	(*-UMACBLOK)/8		UMACBLOK size in doublewords (X'06')

VCONCTL: VIRTUAL CONSOLE CONTROL BLOCK

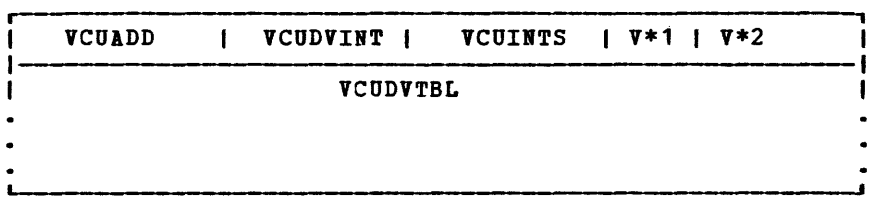
VCONCTL contains CCW and data buffer information for the communications of the virtual console. The VDEVCON field of the VDEVBLOK points to VCONCTL.



Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	VCONCAW	DS	1F		Virtual address of user CCW
4	VCONBUF	DS	1F		Pointer to data buffer
8	VCONCCW	DS	1D		Current user CCW
		ORG	VCONCCW		
8	VCONADDR	DS	1F		CCW data address
C	VCONFLAG	DS	1X		CCW flag bits
D	VCONDWC	DS	1X		Diagnose write control
E	VCONCNT	DS	1H		CCW byte count
		ORG	VCONADDR		
8	VCONCOMD	DS	1X		CCW command code
10	VCONBFSZ	DS	1H		Data buffer size in doublewords
12	VCONFSS	DS	1X	V*3	Full screen diagnose flags
	Bits defined in VCONFSS for Full Screen support				
	VCONALT	EQU	X'08'		Set to 1 when ERASE/WRITE ALTERNATE operation
	VCONMOD	EQU	X'04'		Set to 1 when modified operation
	VCONRD	EQU	X'02'		Full screen read
	VCONWRT	EQU	X'01'		Full screen write
	VCONFSOP	EQU	X'0F'		Any full screen operation
	VCONEWA	EQU	X'0D'		ERASE/WRITE ALTERNATE operation
	VCONRMOD	EQU	X'06'		Read modified operation
	VCONEWRT	EQU	X'05'		ERASE/WRITE operation
13	VCONRSV3	DS	1X	V*4	Reserved for IBM use
14	VCONIDAP	DS	1F		For indirect data addressing pointer to current IDAW
18	VCONRBUF	DS	1F		Address of read data buffer
1C	VCONRCNT	DS	1H		Data count in read buffer
1E	VCONRBSZ	DS	1X	V*5	Read buffer size in doublewords
1F	VCONRSV6	DS	1X	V*6	Reserved for IBM use
20	VCONWBUF	DS	1F		Address of write data buffer
24	VCONWCNT	DS	1H		Data count in write buffer
26	VCONWBSZ	DS	1X	V*7	Write buffer size in doublewords
27	VCONRSV8	DS	1X	V*8	Reserved for IBM use
	VCONSIZE	EQU	(*-VCONCTL)/8		VCONCTL size in doublewords (X'04')

VCUBLOK: VIRTUAL CONTROL UNIT BLOCK

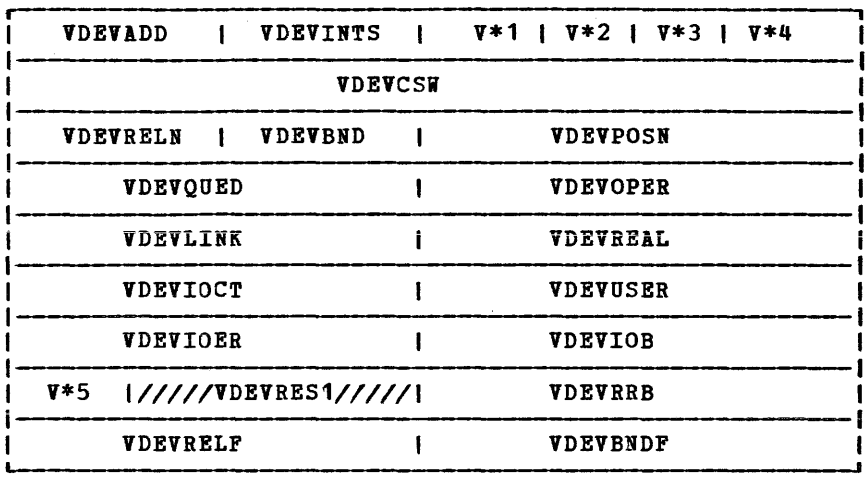
VCUBLOK contains status information relating to the virtual channel, and the status and features of the virtual control unit. The VMCUSTRT field of the VMBLOK points to the first VCUBLOK.



Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	VCUADD	DS	1H		Virtual control unit address
2	VCUDVINT	DS	1H		VDEVBLOK with interrupt - bit map
4	VCUINTS	DS	1H		Virtual control unit interrupt status
6	VCUSTAT	DS	1X	V*1	Virtual control unit status
	Bits defined in VCUSTAT				
	VCUCHBSY	EQU	X'80'		Virtual subchannel busy
	VCUCEPND	EQU	X'40'		Interrupt pending in subchannel
	VCUBUSY	EQU	X'20'		Virtual control unit busy
	VCUPEND	EQU	X'10'		Virtual control unit interrupt pending
	VCUCUEPN	EQU	X'08'		Virtual control unit end pending
	VCUACTV	EQU	X'04'		Virtual control unit active
7	VCUTYPE	DS	1X	V*2	Virtual control unit type
	Bits defined in VCUTYPE				
	VCUSHRD	EQU	X'80'		Virtual control unit on shared subchannel
	VCUCTCA	EQU	X'40'		Virtual control unit is a channel-to-channel adapter
8	VCUDVTBL	DS	16H		Devices attached - VMDVSTRT index
	VCUSIZE	EQU	(*-VCUBLOK)/8		VCUBLOK size in doublewords (X'05')

VDEVBLOK: VIRTUAL DEVICE BLOCK

VDEVBLOK maintains status and interrupt conditions for one virtual device. The VMDVSTRT field of the VMBLOK points to the first VDEVBLOK.

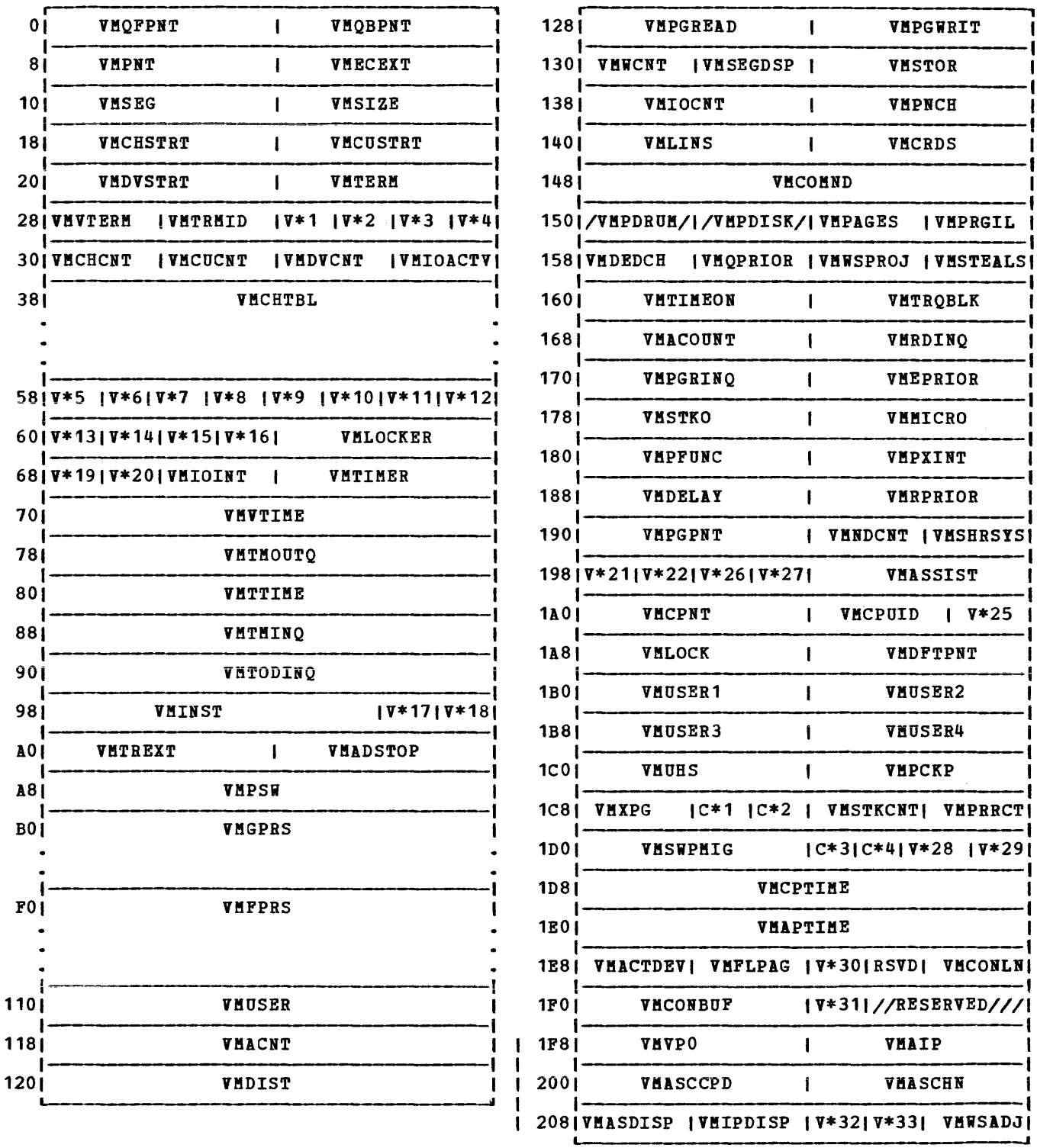


Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	VDEVADD	DS	1H		Virtual device address
2	VDEVINTS	DS	1H		Virtual device interrupt status
4	VDEVTYPC	DS	1X	V*1	Virtual device type class
5	VDEVTYPE	DS	1X	V*2	Virtual device type
6	VDEVSTAT	DS	1X	V*3	Virtual device status
	Bits defined in VDEVSTAT				
	VDEVCHBS	EQU	X'80'		Virtual subchannel busy
	VDEVCHAN	EQU	X'40'		Virtual channel interrupt pending
	VDEVBUSY	EQU	X'20'		Virtual device busy
	VDEVPEND	EQU	X'10'		Virtual device interrupt pending
	VDEVCUE	EQU	X'08'		Virtual control unit end
	VDEVNRDY	EQU	X'04'		Virtual device not ready
	VDEVCATT	EQU	X'02'		Virtual device attached by console function
	VDEVDED	EQU	X'01'		VDEVREAL is dedicated device RDEVBLOK
7	VDEVFLAG	DS	1X	V*4	Virtual device flags
	Bits defined in VDEVFLAG				
	VDEVRDO	EQU	X'80'		DASD - read-only
	VDEVENAB	EQU	X'80'		Virtual 270x - line enabled
	VDEVTDSK	EQU	X'40'		DASD - T-disk space allocated by CP
	VDEVDIAL	EQU	X'40'		Virtual 270x - line connected
	VDEVCSPL	EQU	X'40'		Console - activity spooled
	VDEV231T	EQU	X'20'		DASD - 2311 simulated on top half of 2314
	VDEV231B	EQU	X'10'		DASD - 2311 simulated on bottom half of 2314
	VDEVCCW1	EQU	X'10'		Console and spooling - processing first CCW
	VDEVSAS	EQU	X'08'		DASD - Executing standalone seek
	VDEVDLY	EQU	X'08'		Console - delay spooling
	VDEVDET	EQU	X'04'		Virtual device is being detached
	VDEVPOST	EQU	X'02'		Present attention with a single interrupt
	VDEVRSRL	EQU	X'02'		Reserve/release are valid CCW operation codes
	VDEVUC	EQU	X'01'		Virtual device sense bytes present

Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
8	VDEVCSW	DS	1D		Virtual channel status word
10	VDEVRELN	DS	1H		Virtual DASD cylinder relocation
12	VDEVBND	DS	1H		Virtual DASD size (in cylinders)
14	VDEVPOSN	DS	1F		Virtual DASD seek position
18	VDEVQUED	DS	1F		Virtual SIO to real SIO queued time
1C	VDEVOPER	DS	1F		Device operational time
20	VDEVLINK	DS	1F		Link to virtual shared devices
		ORG	VDEVLINK		
20	VDEVTMAT	DS	1F		T-disk attached time (TOD clock word 0)
24	VDEVREAL	DS	1F		Pointer to real device RDEVBLOK
28	VDEVIOCT	DS	1F		Virtual device I/O count
2C	VDEVUSER	DS	1F		Pointer to VMBLOK of VDEVBLOK owner
30	VDEVIOER	DS	1F		Pointer to IOERBLOK for last error
		ORG	VDEVIOER		
30	VDEVSNSE	DS	1F		Sense bytes for spool device
34	VDEVFCBK	DS	1F		Address of forms control block (VFCBBLOK)
34	VDEVIOB	DS	1F		Pointer to active IOBLOK
38	VDEVFLG2	DS	1X	V*5	Virtual device flag byte 2
	Bits defined in VDEVFLG2				
	VDEVRRF	EQU	X'80'		Process virtual RESERVE/RELEASE commands
	VDEVRES	EQU	X'40'		Minidisk reserved by VDEVUSER
	VDEVODE	EQU	X'20'		VDEVBLOK to get device when minidisk is released
	VDEVCPEX	EQU	X'10'		Virtual I/O waiting for release of minidisk
	VIRTUAL	EQU	X'01'		Virtual device is known by the virtual machine as a 3330V
39	VDEVRES1	DS	3X		Reserved for IBM use
3C	VDEVRRB	DS	1F		Address of VRRBLOK for RESERVE/RELEASE
40	VDEVRELF	DS	1F		Virtual DASD (FB-512 only) relocation factor in the FB-512 blocks
44	VDEVBNDF	DS	1F		Virtual DASD size (FB-512 only) as number of FB-512 blocks
	VDEVSIZE	EQU	(*-VDEVBLOK)/8		VDEVBLOK size in doublewords (X'07')
	For Spooling/Console Devices				
		ORG	VDEVRELN		
10	VDEVEXTN	DS	1F		Pointer to spool extension block
14	VDEVSPAR	DS	1F		Spare pointer to spool extension block
18	VDEVCON	DS	1F		Pointer to VCONCTL console control
1C	VDEVSPL	DS	1F		Pointer to VSPLCTL spool control
20	VDEVCLAS	DS	1C		Spool output class
21	VDEVKEY	DS	1X		Storage key in user's CAW
22	VDEVUNIT	DS	1H		Spool output directed device address
24	VDEVCOPY	DS	1H		Number of copies requested
26	VDEVCFLG	DS	1X		Console - virtual console flags
	Bits defined in VDEVCFLG				
	VDEVATTN	EQU	X'80'		User pressed Attention key two or more times
	VDEVTIC	EQU	X'40'		Last CCW processed was a TIC
	VDEVTRAN	EQU	X'20'		Data transfer occurred during this channel program
	VDEVVCF	EQU	X'10'		Virtual console function in progress
	VDEVAUCR	EQU	X'08'		Automatic carriage return on first read

VMBLOK: VIRTUAL MACHINE CONTROL BLOCK

VMBLOK is used as the primary control block for almost all activities related to a single virtual machine. This block contains the following information: the dispatch and priority level of the virtual machine, the virtual machine's processor registers, preferred virtual machine option values, and other values significant to virtual machine operations. The ASYSVM field of the PSA points to the system VMBLOK.



Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	VMQFPNT	DS	1F		Pointer to next VMBLOK in queue
4	VMQBPNT	DS	1F		Pointer to previous VMBLOK in queue
8	VMPNT	DS	1F		Pointer (CYCLIC) to next VMBLOK
C	VMECEXT	DS	1F		VMBLOK extended control pointer - ECBLOK
	VMVCR0	EQU	VMECEXT		Virtual control register 0 for non-EC mode virtual machine
10	VMSEG	DS	1F		Pointer to VMSEGTBL
14	VMSIZE	DS	1F		Virtual temporary storage size in bytes
18	VMCHSTRT	DS	1F		Pointer to VCHBLOK table
1C	VMCUSTRT	DS	1F		Pointer to VCUBLOK table
20	VMDVSTRT	DS	1F		Pointer to VDEVBLOK table
24	VMTERM	DS	1F		Pointer to RDEVBLOK for user terminal
28	VMVTERM	DS	1H		Displacement to virtual console VDEVBLOK
2A	VMTRMID	DS	1H		Resource ID of real terminal if 370x
2C	VMTLEND	DS	1C	V*1	Terminal line end symbol
2D	VMTLDEL	DS	1C	V*2	Terminal line delete symbol
2E	VMTCDEL	DS	1C	V*3	Terminal character delete symbol
2F	VMTESCP	DS	1C	V*4	Terminal escape symbol
30	VMCHCNT	DS	1H		Virtual channel count
32	VMCUCNT	DS	1H		Virtual control unit count
34	VMDVCNT	DS	1H		Virtual device count
36	VMIOACTV	DS	1H		Active channel mask
38	VMCHTBL	DS	16H		Channels attached - VMCHSTRT index
58	VMRSTAT	DS	1X	V*5	Virtual machine running status
	Bits defined in VMRSTAT				
	VMCFWAIT	EQU	X'80'		Waiting - Executing console function
	VMPGWAIT	EQU	X'40'		Waiting - Paging operation(s)
	VMIOWAIT	EQU	X'20'		Waiting - Scheduled IOBLOK start
	VMPSWAIT	EQU	X'10'		Waiting - Virtual PSW wait state
	VMEXWAIT	EQU	X'08'		Waiting - Instruction simulation
	VMLOGON	EQU	X'04'		User not logged on
	VMLOGOFF	EQU	X'02'		User logging off
	VMIDLE	EQU	X'01'		Virtual machine in idle wait state
	VMCPWAIT	EQU	VMCFWAIT+VMPGWAIT+VMIOWAIT+VMEXWAIT+VMLOGOFF+VMLOGON		
	VMNORUN	EQU	VMCPWAIT+VMPSWAIT		
	VMLONGWT	EQU	VMCFWAIT+VMLOGON+VMLOGOFF+VMIDLE		
59	VMDSTAT	DS	1X	V*6	Virtual machine dispatching status
	Bits defined in VMDSTAT				
	VMDSP	EQU	X'80'		Virtual machine is dispatched run user
	VMTSEND	EQU	X'40'		Virtual machine is compute bound
	VMQSEND	EQU	X'20'		Virtual machine in-queue time slice end
	VMTIO	EQU	X'10'		Virtual machine is in TIO busy loop
	VMRUN	EQU	X'08'		Virtual machine runnable
	VMINQ	EQU	X'04'		Virtual machine in a queue
	VMELIG	EQU	X'02'		Virtual machine in eligible list
	VMPAZAPL	EQU	X'01'		Use dispatch path DMKDSPCH

Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
63	VMPEND	DS	1X	V*16	Interrupt pending summary flag
	Bits defined in VMPEND				
	VMDEFSTK	EQU	X'80'		Deferred task wait for system lock
	VMPERPND	EQU	X'40'		Virtual PER interrupt pending
	VMPRGPND	EQU	X'20'		Virtual program interrupt deferred
	VMSVCPND	EQU	X'10'		Virtual SVC interrupt deferred
	VMPGPND	EQU	X'08'		Virtual pseudo page fault pending
	VMRFLRST	EQU	X'04'		Reflect a restart interrupt
	VMIOPND	EQU	X'02'		Virtual I/O interrupt pending
	VMEXTPND	EQU	X'01'		Virtual external interrupt pending
64	VMLOCKER	DS	1F		Base address of holder of VMLOCK
68	VMFSTAT	DS	1X	V*19	Virtual machine feature status
	Bits defined in VMFSTAT				
	VMFBMX	EQU	X'80'		Virtual block multiplexer channels
	VMFAUTO	EQU	X'40'		Autopoll handshake option in use
	VMFVTMR	EQU	X'20'		User requested virtual timer assist enabled
	VMF370E	EQU	X'08'		370E is enabled for this virtual machine
69	VMMLVL2	DS	1X	V*20	Additional message handling information
	Bits defined in VMMLVL2				
	VMMIMSG	EQU	X'80'		Receiving all informational messages
	VMMHLITE	EQU	X'40'		Highlite input redisplay
6A	VMIOINT	DS	1H		I/O interrupt pending flags
6C	VMTIMER	DS	1F		Virtual timer value - X'50'
70	VMVTIME	DS	1D		Virtual processor time used
78	VMTMOUTQ	DS	1D		Time remaining in queue 1 and/or queue 2
80	VMTTIME	DS	1D		Total time while in supervisor state
88	VMTMINQ	DS	1D		VMTTIME value at entry to queue
	VMTSOUTQ	EQU	VMTMINQ		Supervisor time allowed (redefine label)
90	VMTODINQ	DS	1D		TOD clock time stamp at queue entry
98	VMINST	DS	3H		Virtual machine privileged or tracing instruction
9E	VMUPRIOR	DS	1H	V*17	User priority from directory
9F	VMPSWDCT	DS	1X	V*18	Invalid LINK password count
A0	VMTREXT	DS	1F		Address of extended trace control block
A4	VMADSTOP	DS	1F		Address of address stop control block
A8	VMPSW	DS	1D		Virtual machine PSW
B0	VMGPRS	DS	16F		Virtual machine general purpose registers
F0	VMFPRS	DS	4D		Virtual machine floating-point registers
110	VMUSER	DS	CL8		Virtual machine identification
118	VMACNT	DS	CL8		Virtual machine accounting number
120	VMDIST	DS	CL8		Virtual machine distribution code
128	VMPGREAD	DS	1F		Total page reads
12C	VMPGWRIT	DS	1F		Total page writes
130	VMWCNT	DS	1H		Page wait count
132	VMSEGDSP	DS	1H		Displacement of virtual machine SEGTABLE from start of block
134	VMSTOR	DS	1F		Permanent storage size (in bytes)
138	VMIOCNT	DS	1F		Virtual SIO count for nonspooled I/O
13C	VMPNCH	DS	1F		Virtual card count - spooled punch
140	VMLINS	DS	1F		Virtual line count - spooled printer
144	VMCRDS	DS	1F		Virtual card count - spooled reader
148	VMCOMND	DS	CL8		Last CP command executed
150	VMPDRUM	DS	1H		Reserved for IBM use
152	VMPDISK	DS	1H		Reserved for IBM use
154	VMPAGES	DS	1H		Number of real pages currently resident
156	VMPRGIL	DS	1H		ILC for latest program interrupt
158	VMDEDCH	DS	1H		Mask for dedicated channel

Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
15A	VMQPRIOR	DS	1H		Priority in dispatching queue
15C	VMWSPROJ	DS	1H		Projected working set size
15E	VMSTEALS	DS	1H		Number of waits for stolen pages
160	VMTIMEON	DS	1F		Logon time -- TOD clock word 0
164	VMTRQBLK	DS	1F		Address of TRQBLOK for real timer
168	VMACOUNT	DS	1F		Address of user ACCTBLOK
16C	VMRDINQ	DS	1F		Page read total (VMPGREAD) at queue entry
170	VMPGRINQ	DS	1F		Sum of virtual machine pages count at each page read
174	VMEPRIOR	DS	1F		Eligible list priority
178	VMSTKO	DS	1F		Console function output stack pointer
17C	VMMICRO	DS	1F		Virtual machine assist - real control R6
		ORG	VMMICRO		
17C	VMMCR6	DS	1X		Control register 6 - hardware flag byte
17D	VMMADDR	DS	3X		Control register 6 - address of virtual machine
	Bits defined in VMMCR6				
	VMMFE	EQU	X'80'		Virtual machine assist feature enabled
	VMMPROB	EQU	X'40'		Virtual machine in problem state
	VMMNOSK	EQU	X'20'		Virtual machine assist does not handle SSK, or ISK
	VMM360	EQU	X'10'		S/360 operations only; no EC mode operations allowed
	VMMSVC	EQU	X'08'		Virtual machine assist does not handle SVCs
	VMMSHADT	EQU	X'04'		Shadow tables present (EC mode and translate)
	VMMCPAST	EQU	X'02'		CP assist feature enabled
	VMMVTMR	EQU	X'01'		Virtual interval timer assist feature enabled
17D	VMMADDR	DS	3X		Control register 6 - address of virtual machine's pointer list (MICBLOK)
180	VMPFUNC	DS	1F		PFnn function table
184	VMPXINT	DS	1F		Extended external interrupt stack pointer
188	VMDELAY	DS	1F		TRQBLOK for delayed SLEEP or LOGOFF
18C	VMRPRIOR	DS	1F		Run list dispatching priority
190	VMPGPNT	DS	1F		Pointer to list of pages in PGBLOK
194	VMNDCNT	DS	1H		Nondeferred page read count
196	VMSHRSYS	DS	1H		Number of shared named systems
198	VMRBSC	DS	1X	V*21	Remote display line count
199	VMCXSTAT	DS	1X	V*22	VMCF status byte
	Bits defined in VMCXSTAT				
	VMBCAUTH	EQU	X'80'		VMCF active
	VMIOLOG	EQU	X'20'		I/O logout mask bit from control register 14. Referenced through VMVCR14.
	VMVPOREL	EQU	X'10'		Diagnose 6C issued by user
	VMINVTLB	EQU	X'08'		Invalidate real translate lookaside buffer before displacement
	VMSTBYPS	EQU	X'04'		Bypass shadow tables for V=R user
	VMPOREL	EQU	X'02'		Page 0 relocated for V=R user
	VMSTFST	EQU	X'01'		Invalidate first shadow table entry
	VMVCR14	EQU	VMCXSTAT	V*22	Contains I/O logout mask bit from control register 14 (for both EC and BC mode). During EC mode, control register 14 data is also kept in the ECBLOK.
19A	VMAFF	DS	1X	V*26	Affinity request field
	Bits defined in VMAFF				
	VMAFFON	EQU	X'40'		Affinity set on
	VMAFFAD	DS	0BL6		Processor address
19B	VMLSTPRC	DS	1X	V*27	Last processor executed in problem state
19C	VMASSIST	DS	1F		Pointer to list of VMABLOKs

Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
1A0	VMCPNT	DS	1F		VMCBLOK anchor
1A4	VMCPUID	DS	3X		Processor identification number in binary
1A7	VMNOECPS	DS	1X	V*25	ECPS flag byte
1A8	VMLOCK	DS	1F		Lock word for compare and swap locking
1AC	VMDFTPNT	DS	1F		Deferred task pointer
1B0	VMUSER1	DS	1F		Reserved for installation use
1B4	VMUSER2	DS	1F		Reserved for installation use

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1B8       VMUSER3  DS    1F              Reserved for installation use
1BC       VMUSER4  DS    1F              Reserved for installation use
1C0       VMUHS    DS    1F              Recent history of user processor utilization
1C4       VMPCKP   DS    1F              User page read checkpoint
1C8       VMXPG    DS    1H              Maximum virtual machine pages count in-queue
1CA       VMQ2CNT  DS    1X        C*1   Consecutive queue 2 count
1CB       VMQ3CNT  DS    1X        C*2   Count of consecutive Q2s allowed
1CC       VMSTKCNT DS    1H              Count of stacked IOB plus CPEXBLOKs
1CE       VMPRRCT  DS    1H              Processor related stacked CPEXBLOKs
1D0       VMSWPMIG DS    1F              Pointer to pseudo page table
1D4       VMFVRF   DS    1X        C*3   SET FAVORED percentage for user
1D5       VMCRTO   DS    1X        C*4   COMPUTE/ELAPSED ratio
1D6       VMSHRPRC DS    1X       V*28   Processor (main or attached) whose shared
                                          segments were last used
1D7       VMGRFTAB DS    1X       V*29   GRAF virtual console logical tab
1D8       VMCPTIME DS    1D              Main processor supervisor time
1E0       VMAPTIME DS    1D              Attached processor supervisor time
1EA       VMFLPAG  DS    1H              Count of nonshared flushed pages
1E8       VMACTDEV DS    1H              Virtual device address for last virtual SIO
1EC       VMSPMFLG DS    1X       V*30   VMCF special message flag

          Bits defined in VMSPMFLG
          VMSPMON  EQU   X'40'           Receiving special messages
          VMSMSGON EQU   X'20'           Processing special messages

1ED       RESERVED DS    1X              Reserved for IBM use
1EE       VMCONLN  DS    1H              Bytes left in response buffer
1F0       VMCONBUF DS    1F              Virtual address of response buffer
1F4       VMPSWDCA DS    1X       V*31   Invalid AUTOLOG password count

          Bits defined in VMPSWDCA
          VMNPWDCL EQU   X'04'           Virtual machine requests password suppression

1F5       RESERVED DS    3X              Reserved for IBM use
1F8       VMVPO    DS    1F              Real address of virtual page 0
1FC       VMAIP    DS    1F              Pointer to accounting interface area
200       VMASCCPD DS    1F              DASD page address of user page over IPL by
                                          device
204       VMASCHN  DS    1F              Chain of VMSAVE users
208       VMASDISP DS    1H              System name table displacement for user
                                          with VMSAVE enabled
20A       VMIPDISP DS    1H              System name table displacement for user
                                          who has issued an IPL command to a system
                                          generated by VMSAVE
20C       VMSVSTAT DS    1X       V*32   Status of VMSAVE

          Bits defined in VMSVSTAT
          VMAS     EQU   X'80'           Enabled for VMSAVE
          VMASIPL  EQU   X'40'           IPL command issued for a system generated by
                                          VMSAVE
          VMIPLDEV EQU   X'20'           IPL command issued to a device

20D               DS    1X       V*33   Reserved for IBM use
20E       VMWSADJ  DS    1H              Working set size adjusted

          VMBSIZE  EQU   (*-VMBLOK)/8    VMBLOK size in doublewords (X'38')
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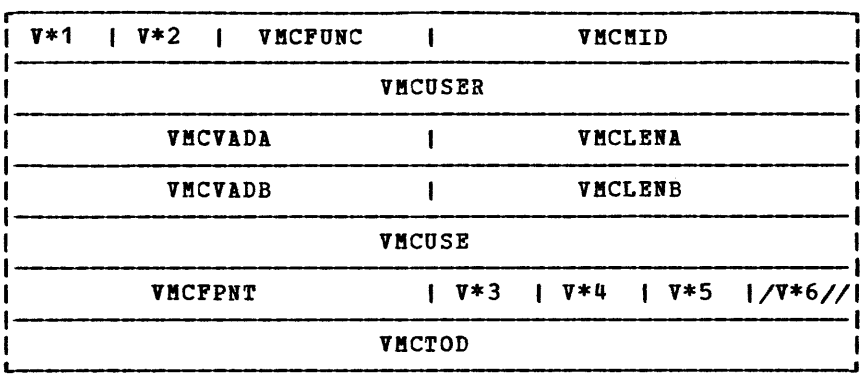
VMCBLOK: VIRTUAL MACHINE COMMUNICATION BLOCK

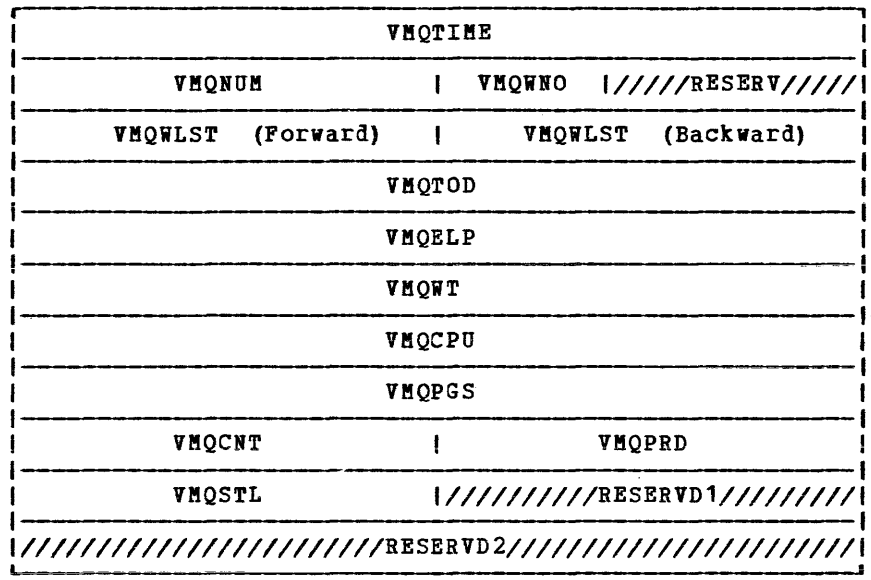
VMCBLOK contains data transfer and status information used by the Virtual Machine Communication Facility (VMCF). The VMCPNT field of the VMBLOK points to VMCBLOK.



Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	VMCSTAT	DS	1X	V*1	VMCBLOK user status
	Bits defined in VMCSTAT				
	VMCRESP	EQU	X'80'		Final response interrupt
	VMCRJCT	EQU	X'40'		Message rejected
	VMCPRTY	EQU	X'20'		Priority message
1	VMCEFLG	DS	1X	V*2	Data transfer return code
2	VMCFUNC	DS	1H		Subfunction code
4	VMCMID	DS	1F		Message identifier
8	VMCUSER	DS	1D		Source and/or sink userid (VMUSER)
10	VMCVADA	DS	1F		Vaddr of message buffer
14	VMCLENA	DS	1F		Length of message
18	VMCVADB	DS	1F		Vaddr of reply buffer (SEND/RECV only)
1C	VMCLENB	DS	1F		Length of reply buffer (SEND/RECV only)
20	VMCUSE	DS	1D		User-supplied doubleword
28	VMCFPNT	DS	1F		Address of next VMCBLOK
2C	VMCKEY	DS	1X	V*3	User PSW key
2D	VMCCSTAT	DS	1X	V*4	VMCBLOK control status
	Bits defined in VMCCSTAT				
	VMCCXINT	EQU	X'80'		External interrupt VMCBLOK
	VMCCRECP	EQU	X'40'		Transaction processed
	VMCCBUSY	EQU	X'20'		VMCBLOK busy
2E	VMCASTAT	DS	1X	V*5	VMCBLOK authorization status
	Bits defined in VMCASTAT				
	VMCAAUTS	EQU	X'80'		Authorized specific
	VMCAPRTY	EQU	X'40'		Authorized priority
	VMCAQIES	EQU	X'20'		User is quiescent
2F	VMCRSB1	DS	1X	V*6	Reserved for IBM use
30	VMCTOD	DS	1D		TOD at authorization and/or build operation
	VMCBSIZE	EQU	(*-VMCBLOK)/8		VMCBLOK size in doublewords
	Redefinition for Master VMCBLOK				
	VMCACNT	EQU	VMCFUNC		Active message count

VMQBLOK: VIRTUAL MACHINE QUEUE SCHEDULING BLOCK

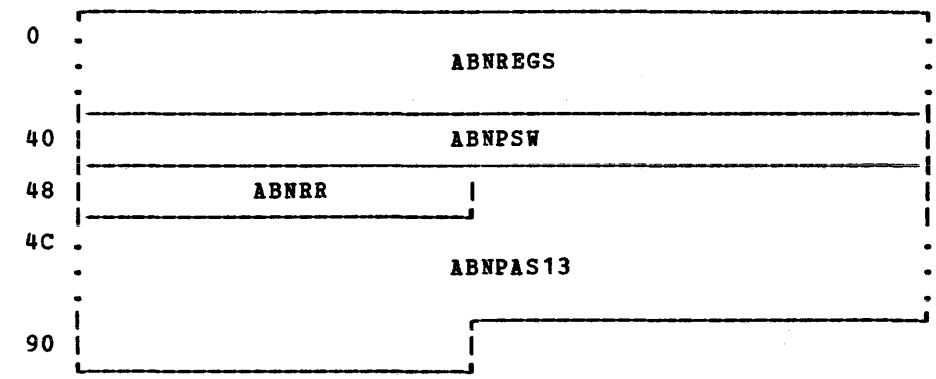
VMQBLOK provides scheduling information, queue pointers, additional data, and counters to the users in the eligible user list queue.



Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	VMQTIME	DS	D	Time in queue; double precision twos complement for time-of-day units
8	VMQNUM	DS	F	Number of users in this queue
C	VMQWNO	DS	H	Number of VMBLOKs in eligible list
E	RSERV	DS	H	Reserved for IBM use
10	VMQWLSTA	DS	2A	List address for eligible list
18	VMQDATA	DS	8D	Queue activity data
		ORG	VMQDATA	
18	VMQTOD	DS	D	In-queue time stamp
20	VMQELP	DS	D	In-queue time
28	VMQWT	DS	D	Time in-queue of eligible list
30	VMQCPU	DS	D	In-queue processor use
38	VMQPGS	DS	D	Estimated average page wait time in seconds
40	VMQCNT	DS	F	Count of dropouts from queue
44	VMQPRD	DS	F	In-queue pages read
48	VMQSTL	DS	F	In-queue pages stolen
4C	RESERVD1	DS	F	Reserved for IBM use
50	RESERVD2	DS	D	Reserved for IBM use

ABWSECT: ABEND RECOVERY WORKSPACE

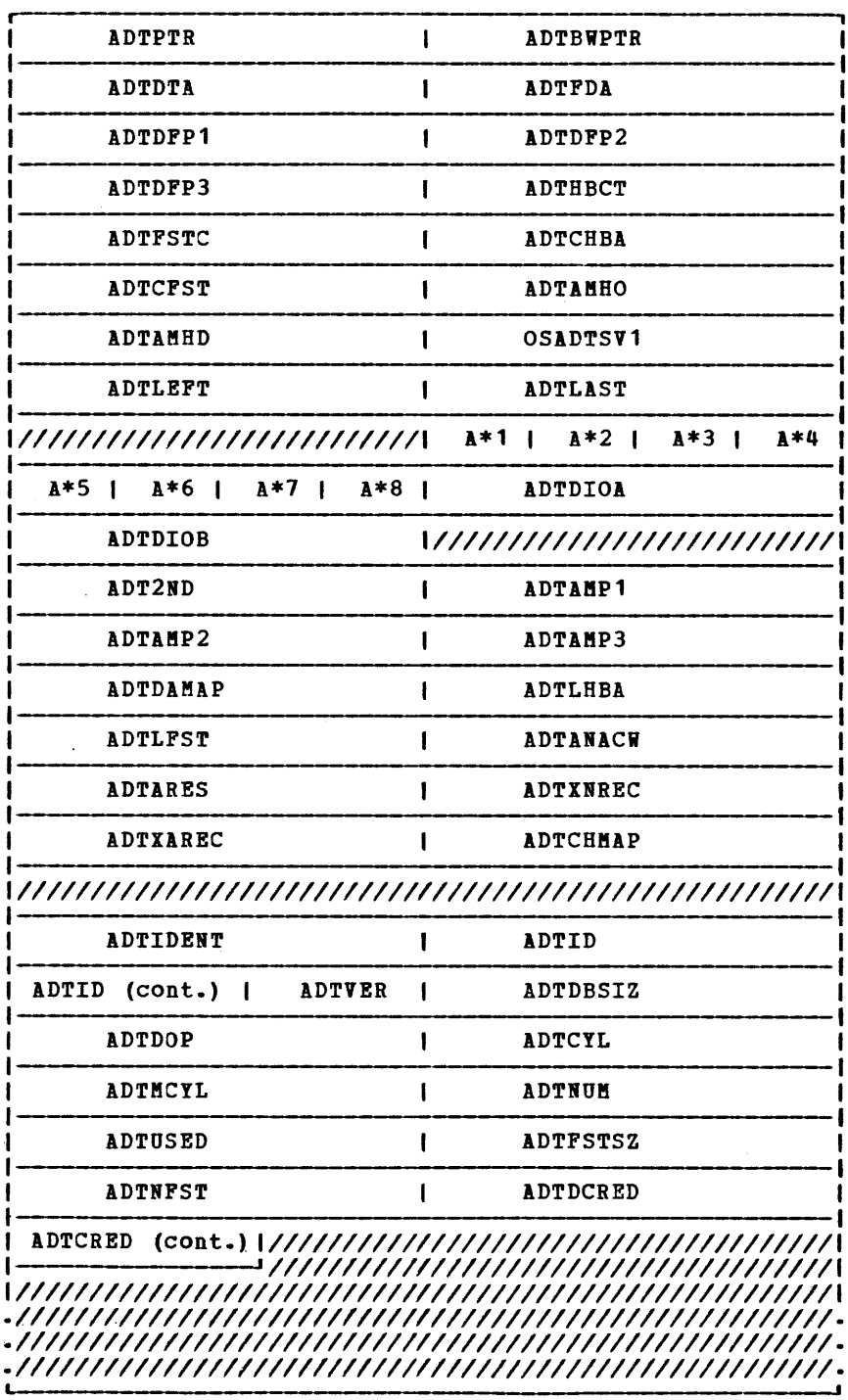
ABWSECT describes the fields used for saving registers and other data during abend recovery. V-constants in DMSABN, DMSDBG, DMSFRE, DMSITI, DMSITP, and DMSITS point to the ABWSECT block. ABWSECT is defined in module DMSABW.



Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	ABNREGS	DS	16F	Registers at time of abend
40	ABNPSW	DS	D	PSW at time of abend
48	ABNRR	DS	F	Temporary save area
4C	ABNPAS13	DS	18F	Area passed to nucleus routines
	Space for DMSERR PLIST			
94		ORG	ABNPAS13	
4C	ABNERLST	DS	47X	

ADTSECT: ACTIVE DISK TABLE

ADTSECT describes the attributes of virtual disks (A-G, S, Y, Z) accessed by a virtual machine via the ACCESS command. Space is allocated for the ADT when DMSNUC is assembled. In the ADT, certain fields are defined for use by both CMS and OS. For example, ADTHBCT field at displacement 1C (hexadecimal) into ADTSECT is also defined as OSADTVTA for use by OS simulation routines. ADTSECT is invoked by the ADT macro.



Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
	Needed for Read-Only Disks and Read/Write Disks			
0	ADTPTR	DS	A	Pointer to next ADT block in chain
4	ADTBWPTR	DS	1F	Address of previous ADT (BW chain)
8	ADTDTA	DS	A	Device table address in NUCON
C	ADTFDA	DS	A	File directory (PSTAT) address
10	ADTDFP1	DS	A	Directory file level 1 pointer
10	ADTMFDN	EQU	ADTDFP1,4	Number of doublewords in the master directory file
14	ADTDFP2	DS	A	Directory file level 2 pointer
14	ADTMFDA	EQU	ADTDFP2,4	Address of master file directory
18	ADTDFP3	DS	A	Directory file level 3 pointer
1C	ADTHBCT	EQU	1F	File status table hyperblock count
20	ADTFSTC	DS	1F	Number of file status table entries in the directory
24	ADTCHBA	DS	1F	Address of the current hyperblock
24	OSADTFST	EQU	ADTCHBA,0	Address of first OS file status table
28	ADTCFST	DS	1F	Displacement of current file status table entry
28	OSADTVTB	EQU	ADTCFST,0	Address of upper OS virtual table of contents
2C	ADTAMHO	DS	1F	Allocation map hypberblocks with next hole
2C	ADT1ST	EQU	ADTAMHO,4	First empty record
30	ADTAMHD	DS	1F	Displacement into hyperblock data of next hole
30	OSADTDSK	EQU	ADTAMHD,0	OS disk address
34	OSADTSV1	DS	1F	OS save area
38	ADTLEFT	DS	1F	Number of records left
3C	ADTLAST	DS	1F	Indicator for last record
40		DS	1F	Reserved for IBM use

```
Hexadecimal  Field
Displacement Name                                  Field Description, Contents, Meaning
------------ -----
     44      ADTM      DS    1C        A*1  Mode letter (A,B,C,...,X,Y,Z)
     45      ADTMX     DS    1C        A*2  Extension-of-mode letter (A,B,C,...,X,Y,Z)
     46      ADTFLG1   DS    1X        A*3  First flag byte

             Bits defined in ADTFLG1
             ADTFSF    EQU   X'80'          ADT block in free storage
             ADTFRO    EQU   X'40'          CMS read-only disk (attached and ready)
             ADTFRW    EQU   X'20'          CMS read/write disk (attached and ready)
             ADTFFSTF  EQU   X'10'          First FST hyperblock is in free storage
             ADTFFSTV  EQU   X'08'          FST hyperblocks are of varying lengths
             ADTFQQF   EQU   X'04'          200-byte QQMSK is in free storage
             ADTROX    EQU   X'02'          This disk has read-only extension(s)
             ADTFMIN   EQU   X'01'          ADT block is minimum size

     47      AFTFLG2   DS    1X        A*4  Second flag byte

             Bits defined in ADTFLG2
             ADTFMFD   EQU   X'80'          MFD is in storage
             ADTFALNM  EQU   X'40'          All filenames are in storage
             ADTFALTY  EQU   X'20'          All filetypes are in storage
             ADTFMDRO  EQU   X'10'          Modes 1 through 5 are in storage
             ADTFALMD  EQU   ADTFMDRO+X'08' All modes (0 through 5) are in storage
             ADTFALUF  EQU   ADTFMFD+ADTFALNM+ADTFALTY+ADTFALMD
                                            All UFD is in storage
             ADTFROS   EQU   X'04'          Indicates this is an OS disk
             ADTPSTM   EQU   X'02'          ADT PSTAT chain modified
             ADTFDOS   EQU   X'01'          Indicates this is a DOS disk

     48      ADT2ND    DS    0D
     48      ADTFLG3   DS    XL1       A*5  Third flag byte

             Bits defined in ADTFLG3
             ADTUPD1   EQU   X'80'          First half of UPDISK called
             ADTFXCHN  EQU   X'40'          Extra chain link(s) need to be returned
             ADTFRWOS  EQU   X'20'          Read/write OS or DOS disk
             ADTFSORT  EQU   X'10'          All file status table hyperblocks
                                              and all file status table entries have
                                              been sorted
             ADTFORCE  EQU   X'08'          CMS/DOS/OS disk forced to read-only
             ADTFNOAP  EQU   X'04'          For DMSAUT -- do not abend if it is
                                              a disk error

     49      ADTFLG4   DS    XL1       A*6  Fourth flag byte

             Bits defined in ADTFLG4
             ADTEDF    EQU   X'80'          Disk with enhanced disk format
             ADTEDFAE  EQU   X'40'          Enhanced-disk-format access erase done
             ADTADDED  EQU   X'20'          ADT added to ADT chain by ADTLKP

     4A      ADTFTYP   DS    XL1       A*7  File type flag byte
     4B                DS    XL1       A*8  Reserved for IBM use
     4C      ADTDIOA   DS    A(0)           Disk constants table in DMSDIO
     4C      ADTFBABF  EQU   ADTDIOA,2      FB-512 block to CMS block factor

     50      ADTDIOB   DS    A (0)          Sector number table in DMSDIO
     50      ADTFBALB  EQU   ADTDIOB,4      Last FB-512 block of the minidisk

     54                DS    1F             Reserved for IBM use
     58      ADT2ND    DS    0D
     58      ADTMSK    DS    1F             800-byte (PQMSK) bit mask address
                                              or allocation map data hyperblock chain
```

Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
5C	ADTAMP1	DS	1F	Allocation map level 1 pointer
5C	ADTQQM	EQU	ADTAMP1	200-byte (PQQMSK) bit mask address
60	ADTAMP2	DS	1F	Allocation map level 2 pointer
60	ADTPQM1	EQU	ADTAMP2	Number of non-MFD mask bytes
64	ADTAMP3	DS	1F	Allocation map level 3 pointer
64	ADTPQM2	EQU	ADTAMP3	Number of bit mask bytes
68	ADTDAMAP	DS	1F	De-allocation map hyperblock chain
68	ADTPQM3	EQU	ADTDAMAP	Number of doublewords in PQMSK
6C	ADTLHBA	DS	A	Pointer to last file status table hyperblock
70	ADTLFST	DS	1F	Displacement of last file status table in last hyperblock
74	ADTANACW	DS	1F	Alternate number of active write files
76	ADTNACW	EQU	ADTANACW+2,2	Number of active write files
78	ADTARES	DS	1F	Alternate reserve count
7A	ADTRES	EQU	ADTARES+2,2	Reserve count (RESRVCNT)
7C	ADTXNREC	DS	1F	Number of doublewords of extra chain link records
80	ADTXAREC	DS	1F	Address of block of extra chain link records
84	ADTCHMAP	DS	1F	Change map hyperblock chain
88		DS	1D	Reserved for IBM use
	Mapping of Volume Label			
		DS	0D	
90	ADTIDENT	DS	CL4	Volume start and/or label identification
94	ADTID	DS	CL6	Volume start and/or volume identification
9A	ADTVER	DS	CL2	Version level
9C	ADTDBSIZ	DS	1F	Disk block size
A0	ADTDOP	DS	1F	Disk origin pointer
A4	ADTCYL	DS	1F	Number of formatted cylinders on disk
A8	ADTMCYL	DS	1F	Maximum number of formatted cylinders on disk
AC	ADTNUM	DS	1F	Disk size in blocks
B0	ADTUSED	DS	1F	Number of disk blocks in use
B4	ADTFSTSZ	DS	1F	Size of file status table
B8	ADTNFST	DS	1F	Number of file status tables per block
BC	ADTDCRED	DS	CL6	Disk creation date (X'yymmddhhmmss')
C2		DS	CL30	Reserved for IBM use
	ADTLABSZ	EQU	*-ADTIDENT	Length of the label portion
	Mapping of OS Field in Volume Label			
		ORG	ADTIDENT	
	OSADTVTA	EQU	ADTIDENT+11,5	VTOC address of OS pack
	ADTLBM	EQU	ADT2ND-ADTSECT	Length of minimum ADT block in bytes
	ADTLDM	EQU	ADTLBM/8	Length of minimum ADT block in doublewords
	ADTLB	EQU	*-ADTSECT	Length of full ADT block in bytes
	ADTLD	EQU	(ADTLB+7)/8	Length of full ADT block in doublewords
	Other Parameters			
	ADTRL	EQU	800	Logical record length
	ADTMXBML	EQU	10	Maximum bit map length (number of records) for 3330
	NUCON Device Table Displacements			
	DTAD	EQU	0,2	Device number
	DTADC	EQU	2,1	Device class
	DTADT	EQU	3,1	Byte to indicate device type
	DTAS	EQU	4,4	Symbolic device name

AFTSECT: ACTIVE FILE TABLE

AFTSECT is used to describe a file currently open for a read or write. The AFT is created when a file is opened. Space for up to five AFTs is available in DMSNUC; any others must reside in free storage. AFTSECT is invoked via the AFT macro.

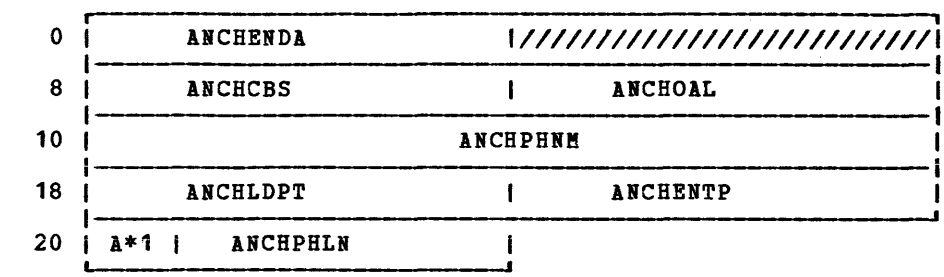
0	AFTPTR		AFTADT	
8	AFTCLD	AFTCLN	AFTCLA	
10	AFTDBD	AFTDBN	AFTDBA	
18	AFTCLB			
	.			
	.			
	.			
18	AFTUFP5		AFTUFP4	
20	AFTUFP3		AFTUFP2	
28	AFTUFP1		AFTRDBLK	
30	AFTRDID		AFTLSTRC	
38	AFTARP		AFTAWP	
40	AFTPHYP		AFTSVBLK	
48	AFTSVBLK (cont.)		AFTSVFP4	
50	AFTSVFP4 (cont.)		AFTSVFP3	
58	AFTSVFP3 (cont.)		AFTSVFP2	
60	AFTSVFP2 (cont.)		AFTSVFP1	
68	AFTSVFP1 (cont.)		AFTUBFAD	
70	AFTUBFLG		AFTMXBLK	
78	AFTBLKWD		AFTEBLIN	
80	AFTEBDSP		A*1	AFTPFST
88	AFTIN	AFTID	AFTFCLA	
90	AFTFCLX	AFTCLDX	A*2	//A*3//	AFTOCLDX
98	AFTN			
A0	AFTT			
A8	AFTD		AFTWP	AFTRP
B0	AFTM	AFTIC	AFTFCL	A*4	A*5
B8	AFTIL		AFTDBC	AFTYR
C0	AFTFOP		AFTADBC	
C8	AFTAIC		A*6	A*7	AFTADATI
D0	AFTADATI (cont.)		//////RESERVED//////////	

Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	AFTPTR	DS	F	Pointer to next AFT block in chain
	Bits defined in AFTPTR			
	AFTFSF	EQU	X'40'	Indicates that AFTPTR is in free storage
4	AFTADT	DS	F	Pointer to active disk table
8	AFTCLD	DS	H	Disk address of current chain link
A	AFTCLN	DS	H	Number of current chain link
C	AFTCLA	DS	F	Storage address of chain link
10	AFTDBD	DS	H	Disk address of current data block
12	AFTDBN	DS	H	Number of current data block
14	AFTDBA	DS	F	Storage address of current data block
18	AFTCLB	DS	XL80	Chain link buffer from first chain link
		ORG	AFTCLB	
	Field redefined for EDF			
18	AFTUFP5	DS	F	Fifth level pointer to hyperblock chain
1C	AFTUFP4	DS	F	Fourth level pointer to hyperblock chain
20	AFTUFP3	DS	F	Third level pointer to hyperblock chain
24	AFTUFP2	DS	F	Second level pointer to hyperblock chain
28	AFTUFP1	DS	F	First level pointer to hyperblock chain
2C	AFTRDBLK	DS	F	Data block chain
30	AFTRDID	DS	F	Item displacement in block
34	AFTLSTRC	DS	F	Last record number processed
38	AFTARP	DS	F	Alternate READ pointer
3C	AFTAWP	DS	F	Alternate WRITE pointer
40	AFTPHYP	DS	F	A (HBLK holding static FST)
44	AFTSVBLK	DS	2F	Save data block displacement and number
4C	AFTSBFP4	DS	2F	Save pointer 4 block displacement and number
54	AFTSBFP3	DS	2F	Save pointer 3 block displacement and number
5C	AFTSBFP2	DS	2F	Save pointer 2 block displacement and number
64	AFTSBFP1	DS	2F	Save pointer 1 block displacement and number
6C	AFTAUBFD	DS	F	Save user buffer address
70	AFTUBFLG	DS	F	Save user buffer length
	Bits defined in AFTUBFLG			
	AFTOVLAP	EQU	X'80'	Length across two data blocks
74	AFTMXBLK	DS	F	Maximum number of entries in a PTR block
78	AFTBLKWD	DS	F	Save user buffer displacement block write
79	AFTBFORM	EQU	AFTBLKWD+1,1	Save real format during block write
7A	AFTPRCT	EQU	AFTBLKWD+2,2	Save previous residual count for virtual format
7C	AFTEBLIN	DS	F	Current item number
80	AFTEBDSP	DS	F	Current item displacement
84	AFTFLG	DS	X A*1	Flag byte
	Bits defined in AFTFLG			
	AFTUSED	EQU	X'80'	Active file table block in use
		EQU	X'40'	Reserved for IBM use
	AFTICF	EQU	X'20'	First chain link in storage flag
	AFTFBA	EQU	X'10'	Full buffer assigned
	AFTDBF	EQU	X'08'	Data block in storage flag
	AFTWRT	EQU	X'04'	Active write
	AFTRD	EQU	X'02'	Active read
	AFTFULD	EQU	X'01'	Full disk; special case
85	AFTPFST	DS	3X	Pointer to (static) FST entry
88	AFTIN	DS	H	Current item number
8A	AFTID	DS	H	Displacement of current item in data block
8C	AFTFCLA	DS	F	Storage address of first chain link
90	AFTFCLX	DS	H	Disk address of swapped FCL
92	AFTCLDX	DS	H	Disk address of swapped chain link

Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
94	AFTFLG2	DS	X	A*2	Second flag byte
	Bits defined in AFTFLG2				
	AFTNEW	EQU	X'80'		Brand new file
	AFTOLDCL	EQU	X'40'		Current chain link existed previously
	AFTCLX	EQU	X'20'		Alternate chain link assigned and/or implied
	AFTREAD	EQU	X'10'		File is being read
	AFTVLGTH	EQU	X'08'		Length must be handled for virtual format
	AFTVLREC	EQU	X'04'		Writing the last virtual format record
	AFTERR8	EQU	X'02'		User buffer length too long (?/short)
	SAMDLEN	EQU	X'01'		Force same length update
95		DS	X	A*3	Reserved for IBM use
96	AFTOCLDX	DS	1H		Old value (if any) of AFTCLDX
98	AFTFST	DS	0D		
98	AFTN	DS	1D		Filename
A0	AFTT	DS	1D		Filetype
A8	AFTD	DS	1F		Date and time last written
AC	AFTWP	DS	1H		Write pointer (ITEM=)
AE	AFTRP	DS	1H		Read pointer (ITEM=)
B0	AFTM	DS	1H		Filemode
B2	AFTIC	DS	1H		Item count
B4	AFTFCL	DS	1H		First chain link
B6	AFTFV	DS	1C	A*4	Fixed (F) and/or variable (V) flag byte
B7	AFTFB	DS	1C	A*5	Flag byte (if used)
	Bits defined in AFTFB				
	Note: FSTB flag byte definitions apply only to STATEFST copy of FST entry after successful STATE or STATEW call.				
	AFTFRWX	EQU	X'C0'		Read-only extension of read/write disk
	AFTFRW	EQU	X'80'		Read/write disk
	AFTFROX	EQU	X'40'		Read-only extension of read-only disk
	AFTFRO	EQU	X'00'		Read-only disk
B8	AFTIL	DS	1F		Maximum length of item
BC	AFDBC	DS	1H		Number of data blocks
BE	AFTYR	DS	1H		Year
	FST EDF Extension				
C0	AFTFOP	DS	1F		Alternate file origin pointer
C4	AFTADBC	DS	1F		Alternate number of data blocks
C8	AFTAIC	DS	1F		Alternate item count
CC	AFTNLVL	DS	XL1	A*6	Number of pointer block levels
CD	AFTPTRSZ	DS	XL1	A*7	Length of pointer element
CE	AFTADATI	DS	CL6		Alternate date and time (yymmddhhmmss)
D4		DS	F		Reserved for IBM use
	AFTL	EQU	*-AFTN		Length of AFT block in bytes
	FST Hyperblock Parameters				
	AFTFWDP	EQU	800		Forward pointer to next hyperblock in storage
	AFTBKWD	EQU	804		Backward pointer to previous hyperblock in storage
	AFTLB	EQU	*-AFTSECT		Length of AFTSECT block in bytes
	AFTLD	EQU	AFTLB/8		Length of AFTSECT block in doublewords

ANCHSECT: ANCHOR TABLE

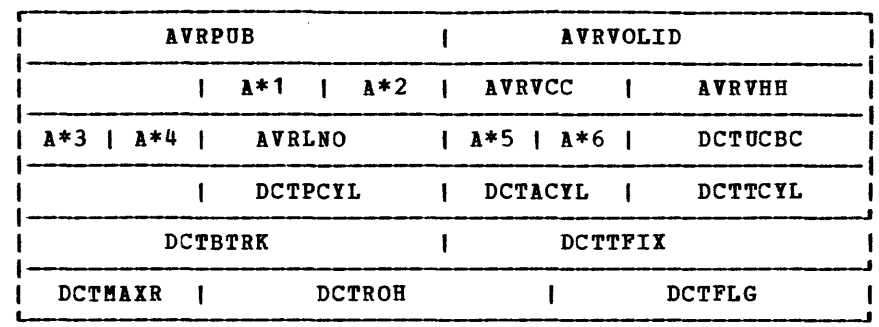
ANCHSECT defines the DOS/VS anchor table. This DSECT is used by DMSDOS when a CDLOAD (SVC 65) is issued, and the phase is not found in either the CMSVSAM or CMSAMS segment. In this case, the specified phase is loaded either from a CMS DOSLIB or a DOS core image library, and the name, load point, entry point, and the length in bytes, of the phase are saved in an available slot in the anchor table. ANCHSECT is invoked by the ANCHTAB macro.



Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	ANCHENDA	DC	A(0)		End address of anchor table
4		DC	F'0'		Reserved for IBM use
8	ANCHCBS	DC	A(0)		Pointer to VSAM AMCB table
C	ANCHOAL	DC	A(0)		Pointer to VSAM OAL (OPEN ACB) table, which is followed by one or more Anchor Table entries
	Anchor Table Entries and Their Format				
10	ANCHPHNM	DC	CL8' '		Phase name
18	ANCHLDPT	DC	A(0)		Load point
1C	ANCHENTP	DC	A(0)		Entry point
20	ANCHSTSW	DC	X'00'	A*1	Status switch
	Bits defined in ANCHSTSW				
	ANCHMLOD	EQU	X'00'		Phase must be loaded
	ANCHINST	EQU	X'7F'		Phase is already in storage
	ANCHRPJL	EQU	X'FF'		Requested phase just loaded by another task (only if AP=YES)
	ANCHLENG	EQU	20		Length of one anchor table entry
	ANCHSIZ	EQU	1024		Default size of anchor table (in bytes)
21	ANCHPHLN	DC	AL3(0)		Length of phase in bytes

AVRADR: VOLUME AND DEVICE CHARACTERISTICS

AVRADR details the various characteristics of both volumes and devices under its control.

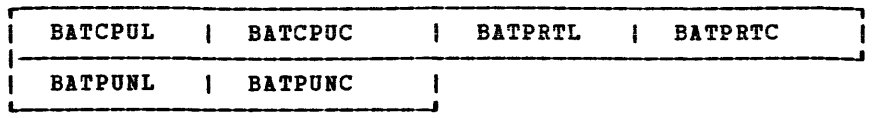


Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	AVRPUB	DS	A		Address of PUB
4	AVRVOLID	DS	CL6		Volume identifier
A	AVRFLAG	DS	X	A*1	Mask of invalid fields
	Bits defined in AVRFLAG				
	AVRNLNO	EQU	X'02'		Logical unit number (AVRLNO) is invalid
	AVRNVOL	EQU	X'01'		Volume identifier (AVRVOLID) and pointer to VTOC (AVRVTOC) are invalid
B	AVRTYPE	DS	X	A*2	Device characteristics
	Bits defined in AVRTYPE				
	AVRFBA	EQU	1		FB/E device (includes FB-512)
	AVRCKD	EQU	2		CKD device
	AVRRPS	EQU	3		RPS is supported by device
C	AVRVTOC	DS	0CL6		Pointer to VTOC
		ORG	AVRVTOC		
	AVRVCI	DS	X		FB/E blocks and/or CI in VTOC
	AVRVNUM	DS	XL4		FB/E block number
		DS	X		Reserved for IBM use
C	AVRVCC	DS	XL2		Cylinder number checked
E	AVRVHH	DS	XL2		Track number checked
10	AVRVR	DS	X	A*3	Record number checked
11		DS	X	A*4	Reserved for IBM use
12	AVRLNO	DS	XL2		Logical unit number
14	DCTADR	DS	0X		
14	DCTPUBC	DS	XL1	A*5	PUB code
15	DCTDTFC	DS	XL1	A*6	DTF code
16	DCTUCBC	DS	XL4		VSAM catalog
1A	DCTPCYL	DS	XL2		Primary cylinders and/or blocks per volume
1C	DCTACYL	DS	XL2		Alternate area cylinders and/or blocks
1E	DCTTCYL	DS	XL2		Tracks and/or cylinders checked (FB/E blocks and/or access position by blocks and/or cylinders in group)
20	DCTBTRK	DS	XL4		Bytes per track checked (blocks and/or cylinder in group)
24	DCTTFIX	DS	XL4		Cylinders and/or blocks under fixed access
28	DCTMAXR	DS	XL2		Maximum physical record size

Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
2A	DCTROH	DS	XL3	Device 0 and/or head
2D	DCTFLG	DS	XL3	Device tolerance flag bytes
	DCTLEN	EQU	*-DCTADR	DCTADR length in bytes
	AVRLEN	EQU	*-AVRADR	AVRADR length in bytes

BATLSECT: CMS BATCH USER JOB LIMITS

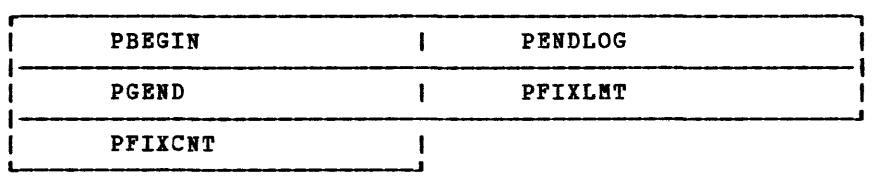
BATLSECT describes the fields in the user job limits table for CMS batch jobs. The ABATLIMT field in NUCON points to BATLSECT.



Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	BATCPUL	DC	H'32767'	Virtual processor limit (in seconds); can be reset
2	BATCPUC	DC	H'0'	Current processor count; do not reset
4	BATPRTL	DC	H'32767'	Number printed lines limit; can be reset
6	BATPRTC	DC	H'0'	Current line count; do not reset
8	BATPUNL	DC	H'32767'	Number punched cards limit; can be reset
A	BATPUNC	DC	H'0'	Current card count; do not reset

BBOX: BOUNDARY BOX

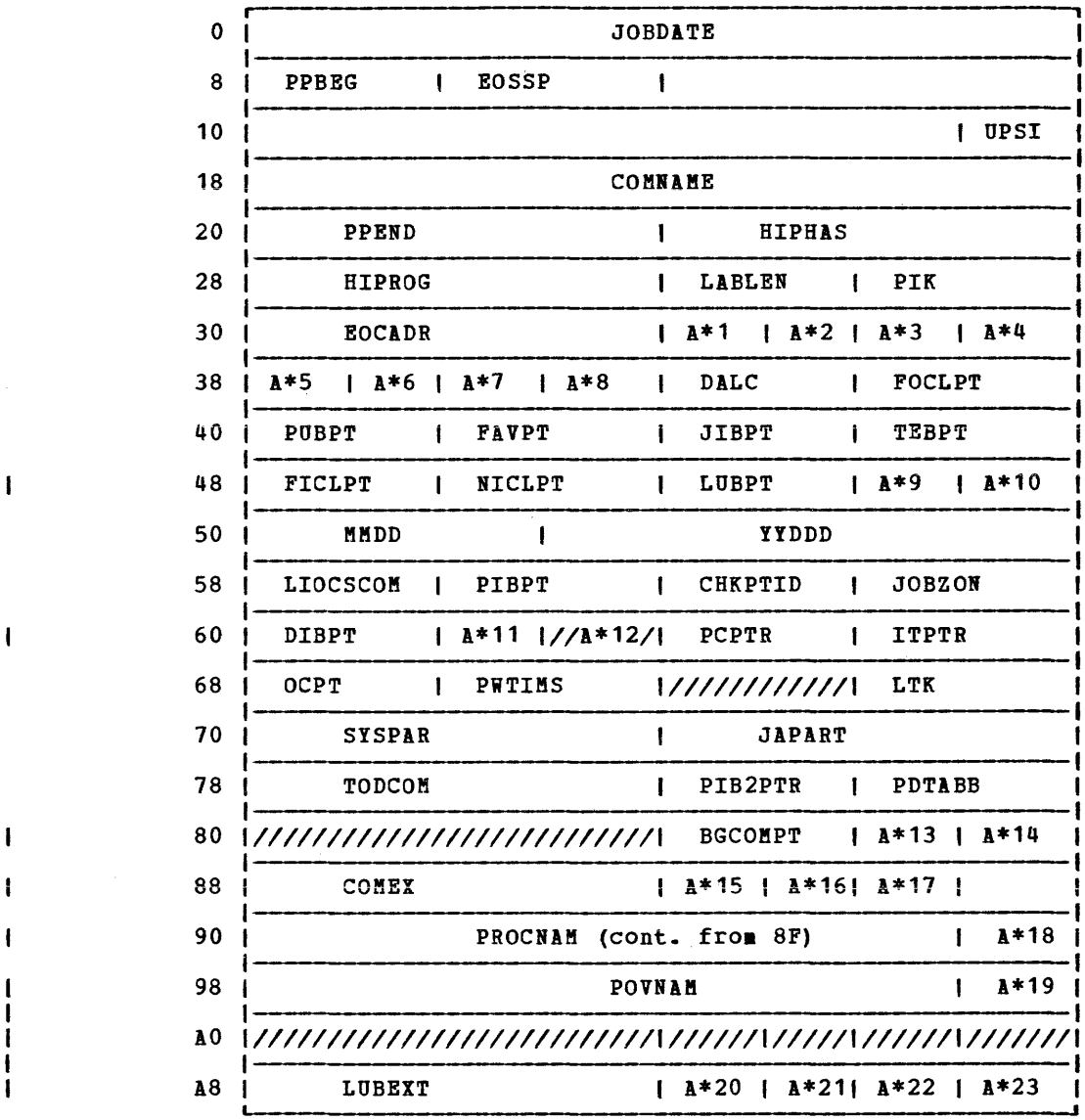
BBOX contains the beginning and ending addresses of the partitions; one for each entry.



Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	PBEGINP	DS	XL4	Starting address of partition
4	PENDLOG	DS	XL4	Logical end of partition
8	PGEND	DS	XL4	Physical end of partition
C	PFIXLMT	DS	XL4	Prefix limit is zero for CMS
10	PFIXCNT	DS	XL4	Prefix count is zero for CMS

BGCOM: DOS/VS PARTITION COMMUNICATION REGION

BGCOM simulates the DOS/VS Partition Communication Region (BGCOM). The ABGCOM field in NUCON points to the BGCOM block.



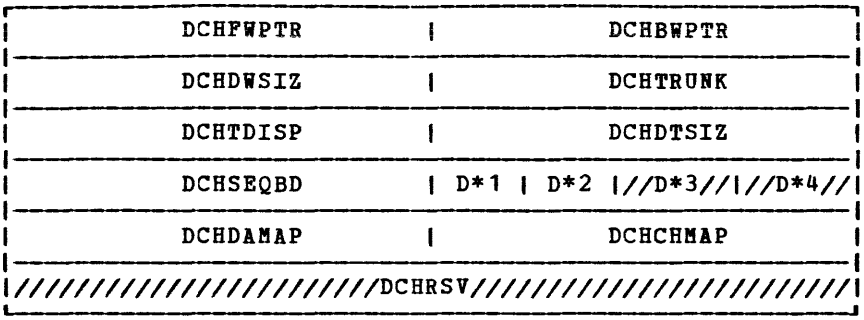
Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	JOBDATE	DC	C'00/00/00'	Job date
8	PPBEG	DC	S(0)	Supervisor end
A	EOSSP	DC	S(0)	End of storage protection
C		DC	11X'00'	User scratch area
17	UPSI	DC	X'00'	UPSI byte
18	COMNAME	DC	CL8'CMS/DOS'	Job name
20	PPEND	DC	A(0)	Highest storage address of partition

Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
24	HIPHAS	DC	A(0)		End address of last phase loaded
28	HIPROG	DC	A(0)		End address of longest phase loaded
2C	LABLEN	DC	H'0'		Length of problem program label area
2E	PIK	DC	X'0010'		Program interrupt key
30	EOCADR	DC	A(0)		End of virtual storage address
34	CONFIG	DC	B'11101000'	A*1	Machine configuration byte
35	LTACT	DC	B'00010000'	A*2	System configuration byte
36	SOB1	DC	B'11000100'	A*3	Standard language translator options
37	SOB2	DC	B'11011010'	A*4	Standard supervisor options
38	JCSW1	DC	B'11010000'	A*5	Job control byte
39	JCSW2	DC	B'00000000'	A*6	Linkage control byte
3A	JCSW3	DC	B'11000100'	A*7	Nonstandard language translator options
3B	JCSW4	DC	B'10000000'	A*8	Job duration indicator byte
3C	DALC	DC	H'0'		Disk address of volume label
3E	FOCLPT	DC	S(0)		Address of FOCL
40	PUBPT	DC	S(0)		Address of PUB
42	FAVPT	DC	S(0)		Address of FAVP
44	JIBPT	DC	S(0)		Address of JIB
46	TEBPT	DC	S(0)		Address of TEB
48	FICLPT	DC	S(0)		Address of FICL
4A	NICLPT	DC	S(0)		Address of NICL
4C	LUBPT	DC	S(0)		Address of LUB
4E	SYSLINE	DC	AL1(56)	A*9	SYSLST line count
4F	SYSDATE	DS	OCL9	A*10	System date
4F	MMDD	DC	XL4'00'		MMDD or DDMM
53	YYDDD	DC	XL5'00'		YYDDD portion of date
58	LIOCSCOM	DC	2X'00'		LIOCS communication bytes
5A	PIBPT	DC	S(0)		Address of PIB
5C	CHKPTID	DC	H'0'		Last checkpoint number
5E	JOBZON	DC	S(0)		Job zone in minutes
60	DIBPT	DC	S(0)		Background DIB pointer
62	DEVFLG1	DC	X'00'	A*11	Device flags for AUTOCLOSE
63		DC	X'00'	A*12	Reserved for IBM use
64	PCPTR	DC	S(0)		PC option table
66	ITPTR	DC	S(0)		IT option table
68	OCPT	DC	S(0)		OC option table
6A	PWTIMS	DC	X'0000'		Key of program with IT support
6C		DC	H'0'		Reserved for IBM use
6E	LTK	DC	S(0)		Logical transient key
70	SYSPAR	DC	F'0'		Address of SYSPARM
74	JAPART	DC	F'0'		Address of job accounting table
78	TODCOM	DC	A(0)		Address of TOD communications area
7C	PIB2PTR	DC	S(0)		Address of PIB extension
7E	PDTABB	DC	S(0)		Address of MICR DTF table
80		DC	F'0'		Reserved for IBM use
84	BGCOMPT	DC	S(0)		Address of background COMREG
86	OPTNBYTE	DC	X'00'	A*13	Option indicator byte
87	RMSROPEN	DC	B'00000000'	A*14	System configuration byte 2
88	COMEX	DC	A(0)		Pointer to SYSCOM option table
8C	STDOPT	DC	B'01000000'	A*15	Standard job control option byte
8D	TEMOPT	DC	B'01000000'	A*16	Temporary job control option byte
8E	DISKCONF	DC	X'00'	A*17	Disk configuration byte
8F	PROCNAM	DC	CL8' '		Procedure name
97	PSWTCH	DC	X'0'	A*18	Interface byte for catalog procedure
98	POVNAM	DC	CL7' '		Save area for statement name
9F	INSIZE	DC	X'0'	A*19	81-byte SYSIN indicator
A0		DC	F'0'		Reserved for IBM use
A4		DC	X'00'		Reserved for IBM use
A5		DC	X'00'		Reserved for IBM use
A6		DC	H'00'		Reserved for IBM use
A8	LUBEXT	DC	F'00'		Address for LUBTAB extension
AC	JCSW5	DC	X'00'	A*20	Job control switch 5
AD	JCSW6	DC	X'00'	A*21	Job control switch 6
AE	STDOPT2	DC	X'00'	A*22	Standard options 2
AF	TEMOPT2	DC	X'00'	A*20	Temporary options 2

Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
288	TSYM	DS	4F		Symbol entry
298	XPSW	DS	1D		Execution PSW
2A0	OUTPT1	DC	1C' '	A*2	Byte count
2A1	LINE	DC	CL11' '		I/O buffer
2AC	LINE1	DC	87X'40'		Filler bytes
303	LINE1B	DC	C'*'	A*3	Filler bytes
304	LINE1A	DC	32X'40'		Filler bytes
324	LINE1C	DC	C'*'	A*4	Filler bytes
325	LINE1D	DC	X'40'	A*5	Filler bytes
	DBGOUT	EQU	LINE		Output buffer
	INPUT	EQU	LINE		Input buffer
	INPUT1	EQU	LINE+60		Hexadecimal pack area
328	CONWR	DS	0D		PLIST for DMSCWR to type output line
328		DC	CL8'TYPLIN'		PLIST continued
330		DC	AL1(1),AL3(DBGOUT)		PLIST continued
334		DC	CL1'B',AL2(0)		PLIST continued
337	CONWRL	DC	AL1(0)	A*6	PLIST continued
338	INPUTSIZ	DS	1H		Size of typed-in input line
33A		DS	1H		Reserved for IBM use
33C		DC	F'0'		
340	CONHCT	DC	X'FAFBFCFDFEFF0000'		Translate table
348	HEX	DS	1F		Binary word
34C		DC	X'FFFFFFFF'		Fence
350	HEXHEX	DS	2F		Printer graphic word
358		DC	X'FF'		Extra translate byte
359	BITS	DC	X'C0C0C0C0C0C0C0C0'		Scratch word
361		ORG	*+14		Translate table
36F		DC	C'0123456789'		Translate table
379		DC	C'ABCDEF'		Translate table
	CONHXT	EQU	CONHCT-C'A'		
37F	DBGSWTCH	DC	X'00'	A*7	Internal DEBUG status flags
	Bits defined in DBGSWTCH				
			X'80'		Reserved for IBM use
			X'40'		Reserved for IBM use
	DBDEXIT	EQU	X'20'		Exit from DEBDUMP
	DBDDMSG	EQU	X'10'		Duplicate message in DEBDUMP
	DBGSET	EQU	X'08'		SET command
	DBGPERM	EQU	X'04'		Reserved for IBM use
	DBGCOND	EQU	X'02'		Reserved for IBM use
	The Following are Reserved for IBM Use				
380	YPSW	DS	D		PSW containing NSI
388	TBLINDX	DS	F		Current BRKPT table index
38C	BCR	NOPR	0		NOPR to pad DBGXWK when needed
38E		NOPR	0		Additional NOPR (if needed)
390	ILC	DS	1C	A*8	ILC of instruction in DBGXWK
391	ILC11	DC	X'06'	A*9	3 halfword instructions (6 bytes)
392	ILC0110	DC	X'04'	A*10	2 halfword instructions (4 bytes)
393	ILC00	DC	X'02'	A*11	1 halfword instructions (2 bytes)
	BAL	EQU	X'45'		BAL operation code
	BALR	EQU	X'05'		BALR operation code
394	DBGXWK	DS	3H		Re-create instruction at BRKPT address
39A		LPSW	48		Give control to NSI

DCHSECT: DATA CONTROL HYPERBLOCK

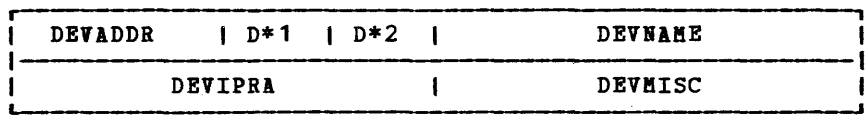
DCHSECT is the data control hyperblock that is an in-storage representation of disk data blocks as well as the interrelationship of these blocks on the disk.



Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	DCHFWPTR	DS	A		Forward pointer
4	DCHBWPTR	DS	A		Backward pointer
8	DCHDWSIZ	DS	F		Full hyperblock storage size in doublewords
C	DCHTRUNK	DS	F		Address of next block up in structure
10	DCHTDISP	DS	A		Displacement to disk address in root pointer block
14	DCHDTSIZ	DS	F		Data portion size in bytes
18	DCHSEQBD	DS	F		Displacement of sequential data block
1C	DCHFLG1	DS	XL1	D*1	First flag byte
	Bits defined in DCHFLG1				
	DCHCHOP	EQU	X'80'		De-allocate this directory block during directory update
	DCHNEW	EQU	X'40'		Do not reallocate this directory block during directory update
	DCHDALLO	EQU	X'20'		Disk address of block is in de-allocation list
	DCHCHGD	EQU	X'10'		Block has been altered
1D	DCHFLG2	DS	XL1	D*2	Second flag byte
	Bits defined in DCHFLG2				
	DCHFULL	EQU	X'80'		All disk blocks allocated in this hyperblock
	DCHDA	EQU	X'40'		All disk blocks de-allocated by erase
	DCHLHBLK	EQU	X'20'		Last hyperblock in buffer changed for erase
1E	DCHFLG3	DS	XL1	D*3	Reserve area for third flag byte
1F	DCHFLG4	DS	XL1	D*4	Reserve area for fourth flag byte
2C	DCHDAMAP	DS	F		De-allocation map address
24	DCHCHMAP	DS	F		Change map address
28	DCHRSV	DS	2F		Reserved for IBM use
	DCHPFIXL	EQU	*-DCHSECT		Length of prefix portion of hyperblock

DEVSECT: DEVICE TABLE DSECT

DEVSECT describes the device information required for input/output routines. DEVSECT is a DSECT corresponding to the data in a DEVTAB entry.



Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	DEVADDR	DS	1H		Virtual device address
2	DEVFLAG	DS	1X	D*1	Device flags
	Bits defined in DEVFLAG				
	DEVWAIT	EQU	X'80'		Wait bit
	DEVCLAS	EQU	DEVFLAG		Device class
	DEVFBA	EQU	X'7F'		FB-512 unit
	DEVDASD	EQU	X'02'		Direct access storage device
3	DEVTYPE	DS	1X	D*2	Device type
4	DEVNAME	DS	1F		Symbolic device name
8	DEVIPRA	DS	1F		Interrupt processing routine address
C	DEVMISC	DS	1F		Miscellaneous -- device dependent
	DEVSIZE	EQU	*-DEVSECT		Device table size (in bytes)

DEVTAB: DEVICE TABLE

DEVTAB contains the entries for the various devices handled by CMS (disks, tapes, reader, punch, printer, and console). DEVTAB is pointed to by V-constants in DMSIOW and DMSITI, and is also referenced indirectly by the ADEVTAB field in NUCON.

0	CONSOLE	130	SDISK
10	ADISK	140	TDISK
20	BDISK	150	UDISK
30	CDISK	160	VDISK
40	DDISK	170	WDISK
50	EDISK	180	XDISK
60	FDISK	190	YDISK
70	GDISK	1A0	ZDISK
80	HDISK	1B0	READER1
90	IDISK	1C0	PUNCH1
A0	JDISK	1D0	PRINTER1
B0	KDISK	1E0	READER2
C0	LDISK	1F0	PUNCH2
D0	MDISK	200	PRINTER2
E0	NDISK	210	TAPE1
F0	ODISK	220	TAPE2
100	PDISK	230	TAPE3
110	QDISK	240	TAPE4
120	RDISK	250	DUMMY

Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	CONSOLE	DS	0D	Device table entry for console
0		DC	XL2'009'	
2		DC	XL2'0'	
4		DC	CL4'CON1'	
8		DC	VL4(CONSI)	
C		DC	XL4'0'	
10	ADISK	DS	0D	Device table entry for A-disk
10		DC	XL2'191'	
12		DC	XL2'0'	
14		DC	CL4'DSK1'	
18		DC	AL4(0)	
1C		DC	XL4'0'	
20	BDISK	DS	0D	Device table entry for B-disk
20		DC	XL2'000'	
22		DC	XL2'0'	
24		DC	CL4'DSK2'	
28		DC	AL4(0)	
2C		DC	XL4'0'	
30	CDISK	DS	0D	Device table entry for C-disk
30		DC	XL2'000'	
32		DC	XL2'0'	
34		DC	CL4'DSK3'	
38		DC	AL4(0)	
3C		DC	XL4'0'	
40	DDISK	DS	0D	Device table entry for D-disk
40		DC	XL2'192'	
42		DC	XL2'0'	
44		DC	CL4'DSK4'	
48		DC	AL4(0)	
4C		DC	XL4'0'	
50	EDISK	DS	0D	Device table entry for E-disk
50		DC	XL2'000'	
52		DC	XL2'0'	
54		DC	CL4'DSK5'	
58		DC	AL4(0)	
5C		DC	XL4'0'	
60	FDISK	DS	0D	Device table entry for F-disk
60		DC	XL2'000'	
62		DC	XL2'0'	
64		DC	CL4'DSK6'	
68		DC	AL4(0)	
6C		DC	XL4'0'	
70	GDISK	DS	0D	Device table entry for G-disk
70		DC	XL2'000'	
72		DC	XL2'0'	
74		DC	CL4'DSK7'	
78		DC	AL4(0)	
7C		DC	XL4'0'	
80	HDISK	DS	0D	Device table entry for H-disk
80		DC	XL2'000'	
82		DC	XL2'0'	
84		DC	CL4'DSKH'	
88		DC	AL4(0)	
8C		DC	XL4'0'	
90	IDISK	DS	0D	Device table entry for I-disk
90		DC	XL2'000'	
92		DC	XL2'0'	
94		DC	CL4'DSKI'	
98		DC	AL4(0)	
9C		DC	XL4'0'	

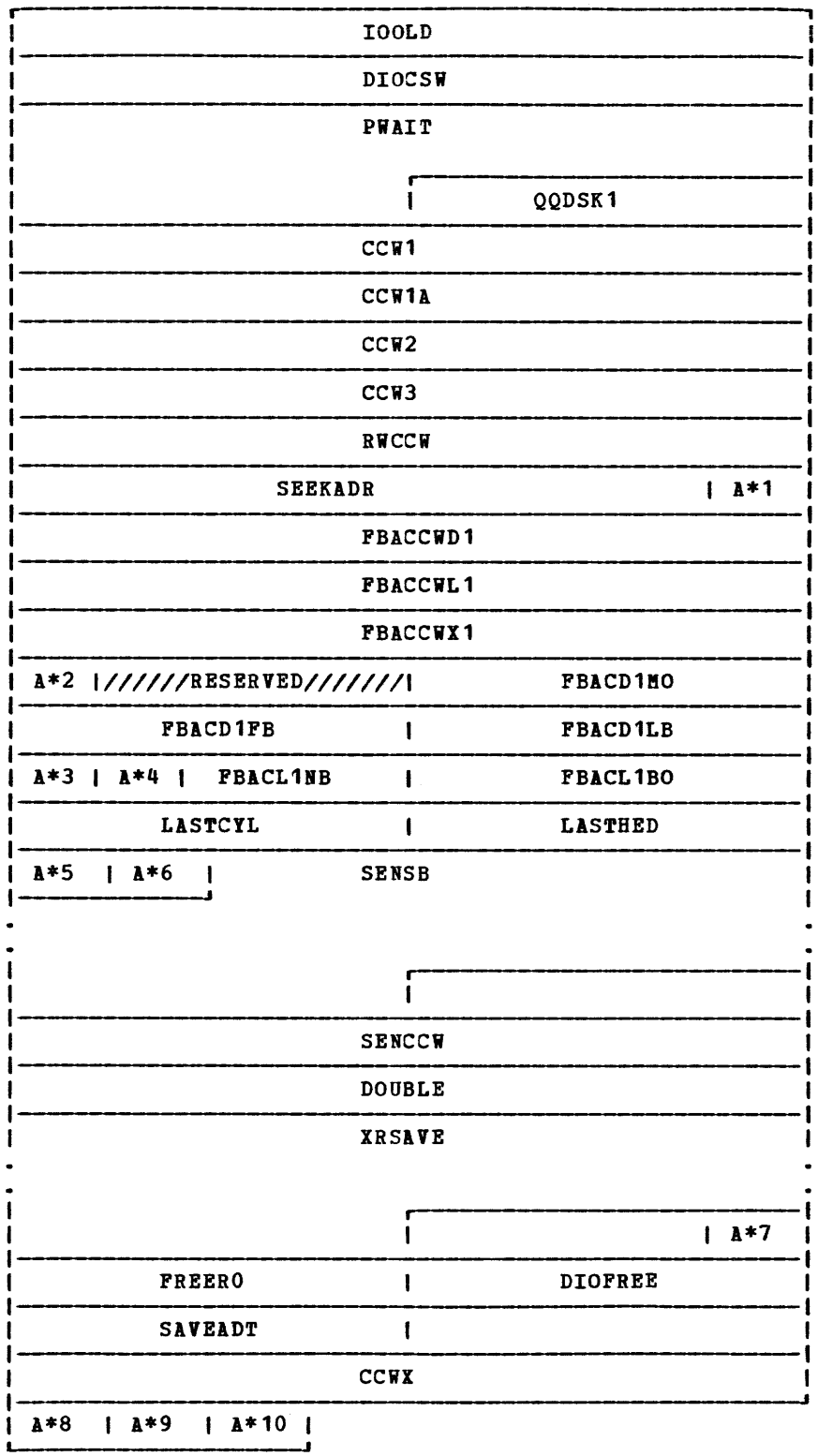
Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
A0	JDISK	DS	0D	Device table entry for J-disk
A0		DC	XL2'000'	
A2		DC	XL2'0'	
A4		DC	CL4'DSKJ'	
A8		DC	AL4(0)	
AC		DC	XL4'0'	
B0	KDISK	DS	0D	Device table entry for K-disk
B0		DC	XL2'000'	
B2		DC	XL2'0'	
B4		DC	CL4'DSKK'	
B8		DC	AL4(0)	
BC		DC	XL4'0'	
C0	LDISK	DS	0D	Device table entry for L-disk
C0		DC	XL2'000'	
C2		DC	XL2'0'	
C4		DC	CL4'DSKL'	
C8		DC	AL4(0)	
CC		DC	XL4'0'	
D0	MDISK	DS	0D	Device table entry for M-disk
D0		DC	XL2'000'	
D2		DC	XL2'0'	
D4		DC	CL4'DSKM'	
D8		DC	AL4(0)	
DC		DC	XL4'0'	
E0	NDISK	DS	0D	Device table entry for N-disk
E0		DC	XL2'000'	
E2		DC	XL2'0'	
E4		DC	CL4'DSKN'	
E8		DC	AL4(0)	
EC		DC	XL4'0'	
F0	ODISK	DS	0D	Device table entry for O-disk
F0		DC	XL2'000'	
F2		DC	XL2'0'	
F4		DC	CL4'DSKO'	
F8		DC	AL4(0)	
FC		DC	XL4'0'	
100	PDISK	DS	0D	Device table entry for P-disk
100		DC	XL2'000'	
102		DC	XL2'0'	
104		DC	CL4'DSKP'	
108		DC	AL4(0)	
10C		DC	XL4'0'	
110	QDISK	DS	0D	Device table entry for Q-disk
110		DC	XL2'000'	
112		DC	XL2'0'	
114		DC	CL4'DSKQ'	
118		DC	AL4(0)	
11C		DC	XL4'0'	
120	RDISK	DS	0D	Device table entry for R-disk
120		DC	XL2'000'	
122		DC	XL2'0'	
124		DC	CL4'DSKR'	
128		DC	AL4(0)	
12C		DC	XL4'0'	
130	SDISK	DS	0D	Device table entry for S-disk
130		DC	XL2'190'	
132		DC	XL2'0'	
134		DC	CL4'DSK8'	
138		DC	AL4(0)	
13C		DC	XL4'0'	

Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
140	TDISK	DS	0D	Device table entry for T-disk
140		DC	XL2'000'	
142		DC	XL2'0'	
144		DC	CL4'DSKT'	
148		DC	AL4(0)	
14C		DC	XL4'0'	
150	UDISK	DS	0D	Device table entry for U-disk
150		DC	XL2'000'	
152		DC	XL2'0'	
154		DC	CL4'DSKU'	
158		DC	AL4(0)	
15C		DC	XL4'0'	
160	VDISK	DS	0D	Device table entry for V-disk
160		DC	XL2'000'	
162		DC	XL2'0'	
164		DC	CL4'DSKV'	
168		DC	AL4(0)	
16C		DC	XL4'0'	
170	WDISK	DS	0D	Device table entry for W-disk
170		DC	XL2'000'	
172		DC	XL2'0'	
174		DC	CL4'DSKW'	
178		DC	AL4(0)	
17C		DC	XL4'0'	
180	XDISK	DS	0D	Device table entry for X-disk
180		DC	XL2'000'	
182		DC	XL2'0'	
184		DC	CL4'DSKX'	
188		DC	AL4(0)	
18C		DC	XL4'0'	
190	YDISK	DS	0D	Device table entry for Y-disk
190		DC	XL2'19E'	
192		DC	XL2'0'	
194		DC	CL4'DSK9'	
198		DC	AL4(0)	
19C		DC	XL4'0'	
1A0	ZDISK	DS	0D	Device table entry for Z-disk
1A0		DC	XL2'000'	
1A2		DC	XL2'0'	
1A4		DC	CL4'DSK0'	
1A8		DC	AL4(0)	
1AC		DC	XL4'0'	
1B0	READER1	DS	0D	Device table entry for READER1
1B0		DC	XL2'00C'	
1B2		DC	XL2'0'	
1B4		DC	CL4'RDR1'	
1B8		DC	AL4(0)	
1BC		DC	XL4'0'	
1C0	PUNCH1	DS	0D	Device table entry for PUNCH1
1C0		DC	XL2'00D'	
1C2		DC	XL2'0'	
1C4		DC	CL4'PCH1'	
1C8		DC	AL4(0)	
1CC		DC	XL4'0'	
1D0	PRINTER1	DS	0D	Device table entry for PRINTER1
1D0		DC	XL2'00E'	
1D2		DC	XL2'0'	
1D4		DC	CL4'PRN1'	
1D8		DC	AL4(0)	
1DC		DC	XL4'0'	

Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
1E0	READER2	DS	0D	Device table entry for READER2
1E0		DC	XL2'012'	
1E2		DC	XL2'0'	
1E4		DC	CL4'RDR2'	
1E8		DC	AL4(0)	
1EC		DC	XL4'0'	
1F0	PUNCH2	DS	0D	Device table entry for PUNCH2
1F0		DC	XL2'013'	
1F2		DC	XL2'0'	
1F4		DC	CL4'PCH2'	
1F8		DC	AL4(0)	
1FC		DC	XL4'0'	
200	PRINTER2	DS	0D	Device table entry for PRINTER2
200		DC	XL2'010'	
202		DC	XL2'0'	
204		DC	CL4'PRN2'	
208		DC	AL4(0)	
20C		DC	XL4'0'	
210	TAPE1	DS	0D	Device table entry for TAPE1
210		DC	XL2'181'	
212		DC	XL2'0'	
214		DC	CL4'TAP1'	
218		DC	AL4(0)	
21C		DC	XL4'0'	
220	TAPE2	DS	0D	Device table entry for TAPE2
220		DC	XL2'182'	
222		DC	XL2'0'	
224		DC	CL4'TAP2'	
228		DC	AL4(0)	
22C		DC	XL4'0'	
230	TAPE3	DS	0D	Device table entry for TAPE3
230		DC	XL2'183'	
232		DC	XL2'0'	
234		DC	CL4'TAP3'	
238		DC	AL4(0)	
23C		DC	XL4'0'	
240	TAPE4	DS	0D	Device table entry for TAPE4
240		DC	XL2'184'	
242		DC	XL2'0'	
244		DC	CL4'TAP4'	
248		DC	AL4(0)	
24C		DC	XL4'0'	
250	DUMMY	DS	0D	Device table entry for DUMMY
250		DC	XL2'000'	
252		DC	XL2'0'	
254		DC	CL4'XXXX'	
258		DC	AL4(0)	
25C		DC	XL4'0'	
260	TABEND	DS	0D	

DIOSECT: DISK I/O WORK AREA

DIOSECT describes the fields used by DMSDIO as a work area when reading and writing actual blocks of data on CMS disks. DIOSECT is pointed to by a V-constant in DMSNUC, and referenced indirectly by ADIOSECT in NUCON.



```
  Hexadecimal   Field
  Displacement  Name                              Field Description, Contents, Meaning
  ------------  -----                             --------------------------------------
       0        DIOSECT  DSECT
       0        IOOLD    DC    1D'0'              I/O old PSW (from interrupt routine)
       8        DIOCSW   DC    1D'0'              CSW (from interrupt routine)

                PLIST To Call DMSIOW
      10                 DS    0F
      10        PWAIT    DC    CL8'WAIT'
      18                 DC    C'DSK-'            Filled in to correct symbolic disk number
      1C                 DC    F'0'
      20                 DC    F'0'
      24        QQDSK1   DC    F'0'               First two bytes are always 0

                QQDSK2   EQU   QQDSK1+2           Halfword copy of 16th track disk address

                CCW Chain
      28        CCW1     CCW   X'07',SEEKADR,X'40',6    Seek
      30        CCW1A    CCW   X'03',0,X'40',1          Seek or set sector
      38        CCW2     CCW   X'31',SEEKADR+2,X'40',5  Search
      40        CCW3     CCW   X'08',*-8,0,1            TIC back to search
      48        RWCCW    CCW   X'00',*-*,X'20',*-*      Read or write data

      50        SEEKADR  DC    XL7'00'            Seek/search information (first 3 bytes are 0)

|     57        SECTNUM  DC    X'00'      A*1     Sector number

|               FB-512 CCWs for Use in One-CMS-Block Operations
|     58        FBACCWD1 CCW   FBADEF,FBACD1,SILI+CC,16 Define extent of full minidisk
|     60        FBACCWL1 CCW   FBALOC,FBACL1,SILI+CC,8  Locate FB-512 block for next operatio
|     68        FBACCWX1 CCW   FBARD,),SILI,512         Read a number of FB-512 blocks

|               Extent List
|     70        FBACD1   DC    X'00'      A*2     Mask byte
|     71                 DC    X'000000'          Reserved for IBM use
|     74        FBACD1MO DC    F'0'               Major displacement
|     78        FBACD1FB DC    F'0'               Displacement of first block
|     7C        FBACD1LB DC    F'2'               Displacement of last block

|               Locate List
|     80        FBACL1   DC    X'00'      A*3     Operation
|     81                 DC    X'00'      A*4     Auxiliary byte
|     82        FBACL1NB DC    H'1'               Number of blocks
|     84        FBACL1BO DC    F'2'               Block displacement

|               I/O Information
|     88        LASTCYL  DC    F'0'               Becomes last cylinder number used
|     8C        LASTHED  DC    F'0'               Becomes last head number used

|     90        DEVTYP   DC    X'00'      A*5     01=2311, 08=2314, 09=3330

|     91        DIOFLAG  DC    X'00'      A*6     RDTK/WRTK flag:

                Bits defined in DIOFLAG
                TOOBIG   EQU   X'04'              Byte count is greater than 800
                WRTKF    EQU   X'02'              Writing first chain link
                QQTRK    EQU   X'01'              Handling first chain link

                DIAGNUM  EQU   24                 Number assigned by CP for DIAGNOSE I/O

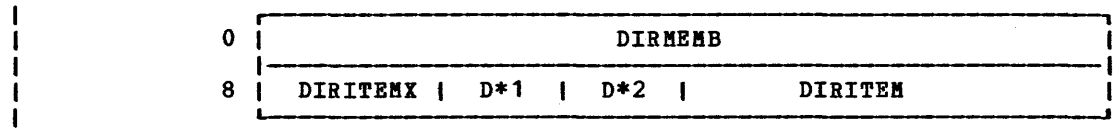
|     92        SENSB    DC    XL24'00'           Sense information
|     AC                 DS    0F
|     B0        SENCCW   CCW   X'04',SENSB,X'20',24 READ 24 BYTES SILI

|               Miscellaneous Storage
|     B8        DOUBLE   DC    1D'0'              (Scratch area, for CVD use, etc.)
```

Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
	Keep the Following Three in Order				
C0	XRSAVE	DS	15F		Registers 0-14 saved here for RDTK/WRTK
FC		DC	AL3(0)		First 3 bytes of R15 error code
FF	ERRCODE	DC	AL1(*-*)	A*7	Error code (in R15 at exit)
	Keep the Following Two in Order				
100	FREER0	DC	F'0'		No. of doublewords of free storage (if any)
104	DIOFREE	DC	F'0'		Address of free storage for buffer or CCWs
108	SAVEADT	DC	F'0'		Handy place for an ADT address
110	CCWX	CCW	X'23',SECTNUM,X'40',1		Set sector
118	DIAGRET	DC	X'00'	A*8	CP's DIAGNOSE return code if nonzero
119	IOCOMM	DC	X'00'	A*9	Set to read (06) or write (05)
11A	LASTREC	DC	X'00'	A*10	Number (1-14) of the last record processed

DIRSECT: CMS PDS DIRECTORY ENTRY

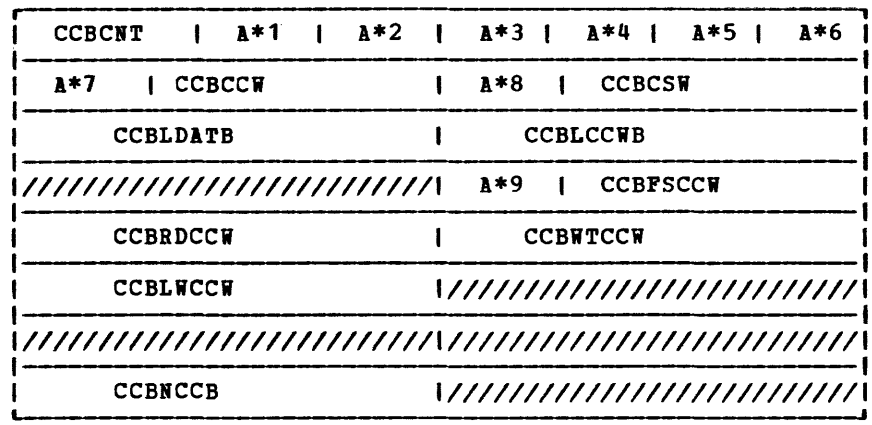
DIRSECT describes the fields of a CMS PDS directory entry. DIRSECT is invoked by the LIB macro.



Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	DIRMEMB	DS	CL8		Member name
8	DIRITEMX	DS	1H		SCP two-byte start item number
A	DIRFLG1	DS	1X	D*1	First flag byte
B	DIRFLG2	DS	1X	D*2	Second flag byte
	Bits defined in DIRFLG2				
	DIRNA	EQU	X'80'		Not an alias
C	DIRITEM	DS	1F		Starting item number of member
	DIRENTSZ	EQU	*-DIRSECT		Length of directory entry

DMSCCB: COMMAND CONTROL BLOCK

DMSCCB describes all fields of a DOS Command Control Block (CCB). This DSECT is used by DMSXCP to map the CCB specified by a user for an SVC 0 (EXCP) and passes the address of CCB to DMSXCP.



Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
	CCBST	EQU	*		Start CCB
	CCBD	EQU	*		Command control block
0	CCBLEN	DS	0CL16		Map of the DOS CCB
0	CCBCNT	DS	XL2		Residual count
2	CCBERMAP	DS	0XL4		Four bytes used to check errors
2	CCBCOM1	DS	XL1	A*1	Communications byte 1
	Bits defined in CCBCOM1				
	CCBWAIT	EQU	X'80'		Traffic bit(set at CE)
	CCBEOF	EQU	X'40'		End of file
	CCBIOERR	EQU	X'20'		Unrecoverable I/O error
	CCBERROK	EQU	X'10'		Accept unrecoverable error
	CCBRDC	EQU	X'08'		Return data checks
	CCBPDE	EQU	X'04'		Post at device end
	CCBDCV	EQU	X'02'		Return data check RD/CHK
	CCBUERR	EQU	X'01'		User error routine
3	CCBCOM2	DS	XL1	A*2	Communications byte 2
	Bits defined in CCBCOM2				
	CCBDCCNT	EQU	X'80'		Data check in count area
	CCBTRKOV	EQU	X'40'		Track overrun
	CCBEOC	EQU	X'20'		End of cylinder
	CCBDC	EQU	X'10'		Data check
	CCBNOREC	EQU	X'08'		No record found
	CCBRETRY	EQU	X'04'		Retry no record found
	CCBVER	EQU	X'02'		Verify error
	CCBCC	EQU	X'01'		Command chain (retry)

Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
4	CCBCSW1	DS	XL1	A*3	CSW status bit 1
	Bits defined in CCBCSW1				
	CCBATTN	EQU	X'80'		Attention
	CCBSTMOD	EQU	X'40'		Status modifier
	CCBCUE	EQU	X'20'		Control unit end
	CCBBUSY	EQU	X'10'		Busy
	CCBCE	EQU	X'08'		Channel end
	CCBDE	EQU	X'04'		Device end
	CCBUC	EQU	X'02'		Unit check
	CCBUE	EQU	X'01'		Unit exception
5	CCBCSW2	DS	XL1	A*4	CSW status bit 2
	Bits defined in CCBCSW2				
	CCBPCI	EQU	X'80'		Program-controlled interrupt
	CCBILEN	EQU	X'40'		Incorrect length
	CCBPROGM	EQU	X'20'		Program check
	CCBPROT	EQU	X'10'		Protection check
	CCBCHAND	EQU	X'08'		Channel data check
	CCBCHANC	EQU	X'04'		Channel control check
	CCBICTRL	EQU	X'02'		Interface control check
	CCBCHAIN	EQU	X'01'		Chaining check
6	CCBSYMU	DS	0XL2		Symbolic unit (SYSUN)
6	CCBSUCLS	DS	XL1	A*5	U - LUB class
7	CCBSUNUM	DS	XL1	A*6	N - LUB number within class
8	CCBLIOBS	DS	XL1	A*7	Reserved for LIOBS
9	CCBCCW	DS	XL3		Pointer to start of channel program
C	CCBCOM3	DS	XL1	A*8	Communication byte 3
	CCBAPEND	EQU	X'40'		Appendage exit at interrupt
D	CCBCSW	DS	XL3		Pointer to CSW or to appendage routine
10	CCBLDATB	DS	A		Address of last data block
14	CCBLCCWB	DS	A		Address of last CCW block
18		DS	F		Reserved for IBM use
1C	CCBUFLGS	DS	X	A*9	I/O manager CCB flags
	Bits defined in CCBUFLGS				
	CCBUEAIC	EQU	X'80'		Error analysis in control
	CCBUEAC	EQU	X'40'		Error analysis complete
	CCBURDCW	EQU	X'20'		Read CCW active
	CCBRPS	EQU	X'10'		RPS channel program candidate
1D	CCBFSCCW	DS	XL3		Save area for first CCW address
20	CCBRDCCW	DS	F		Address of first read CCW
24	CCBWTCCW	DS	F		Address of first write CCW
28	CCBLWCCW	DS	F		Address of the last write CCW
2C		DS	3F		Reserved for IBM use

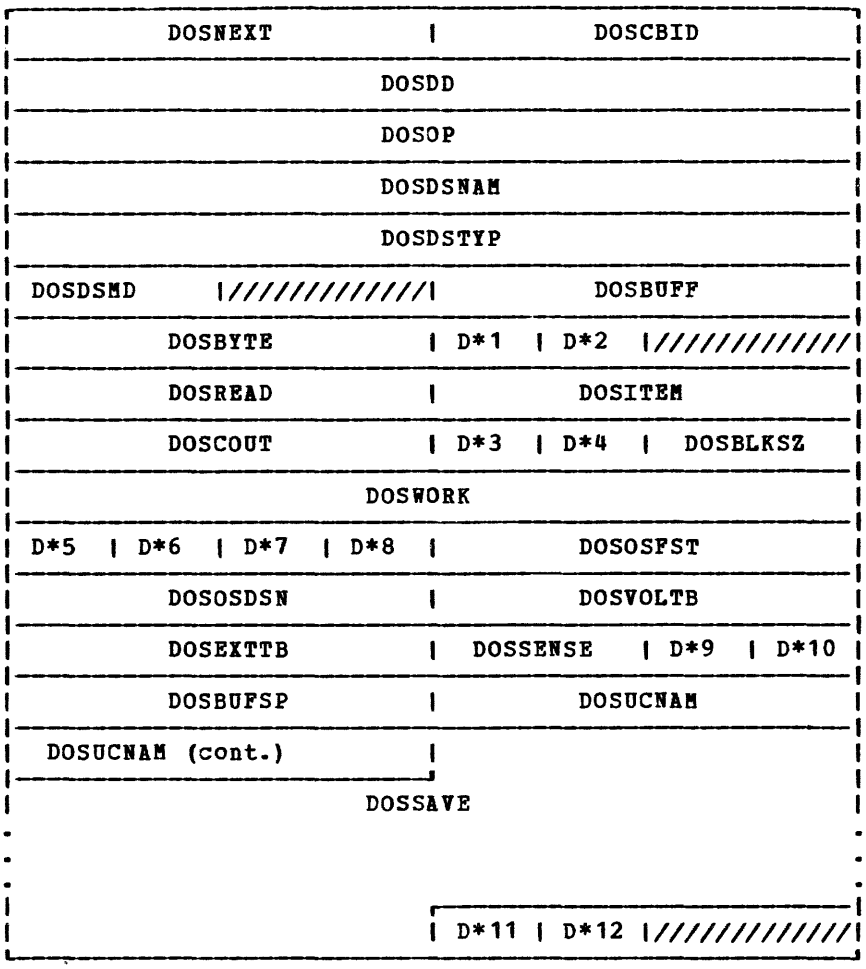
Note: CCBLWCCW chain field must have the same displacement as does FCBCHAIN in FCDB and also BKPFSTBK in BKPRD

38	CCBNCCB	DS	A		Address of next CCB block
3C		DS	F		Reserved for IBM use

DOSSECT: DOS SIMULATION CONTROL BLOCK

DOSSECT simulates the CMS File Control Block (FCB) in the CMS/DOS environment. DOSSECT is invoked by the DOSCB macro.

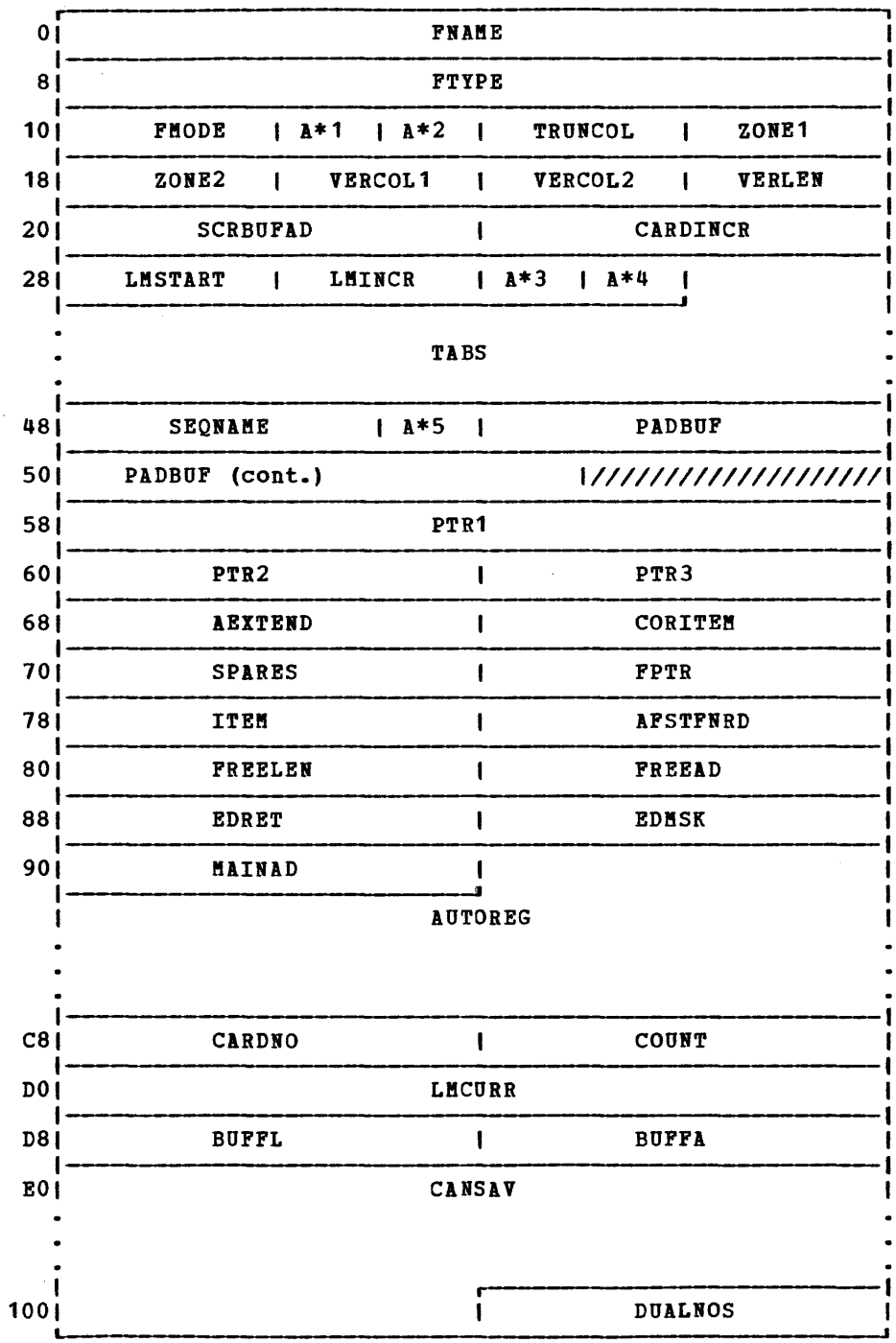
The DOS Simulation Control Blocks are chained together. The DOSFIRST field in NUCON points to the first DOSCB in the chain, or if no chain exists, contains zero.

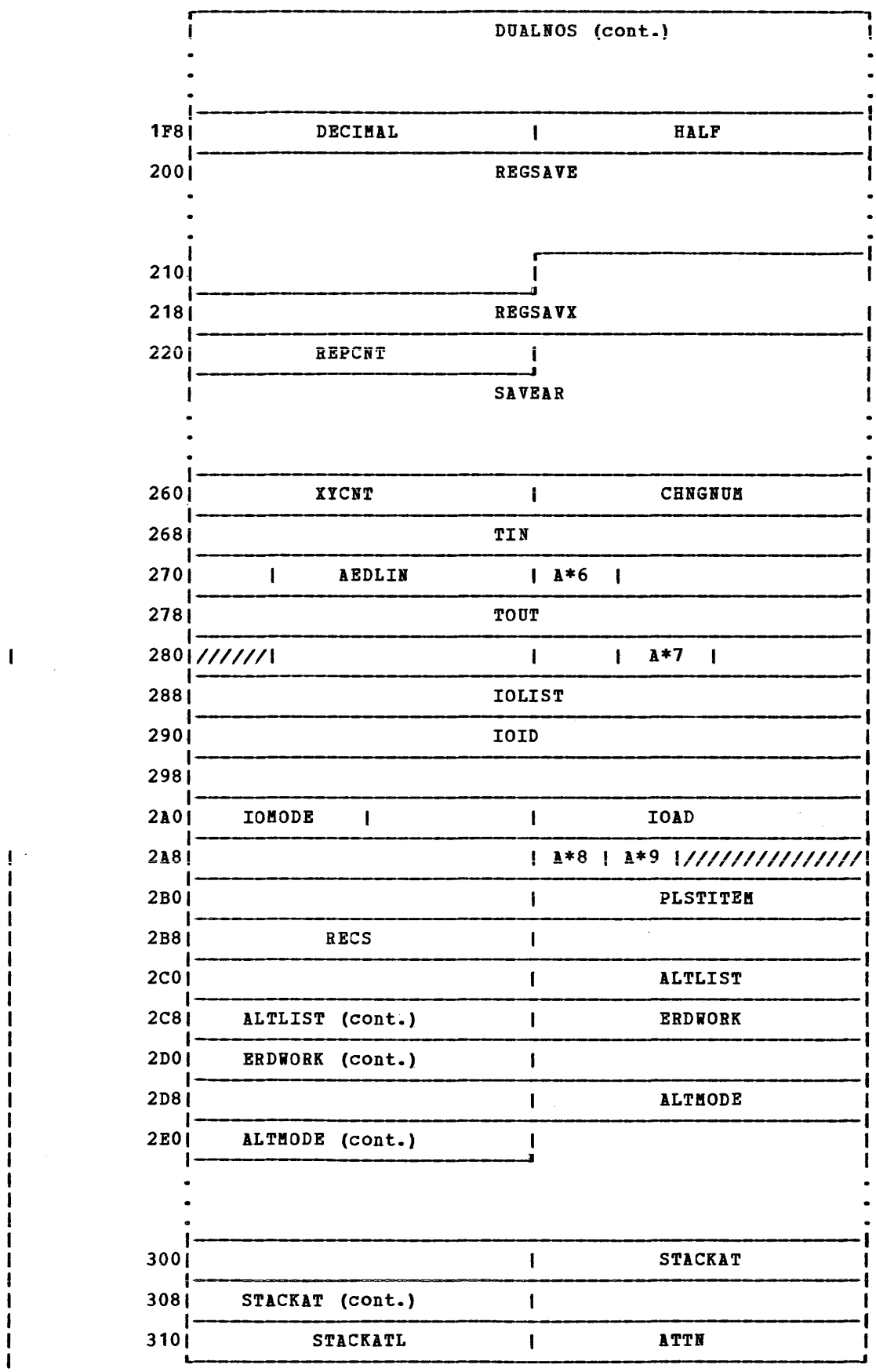


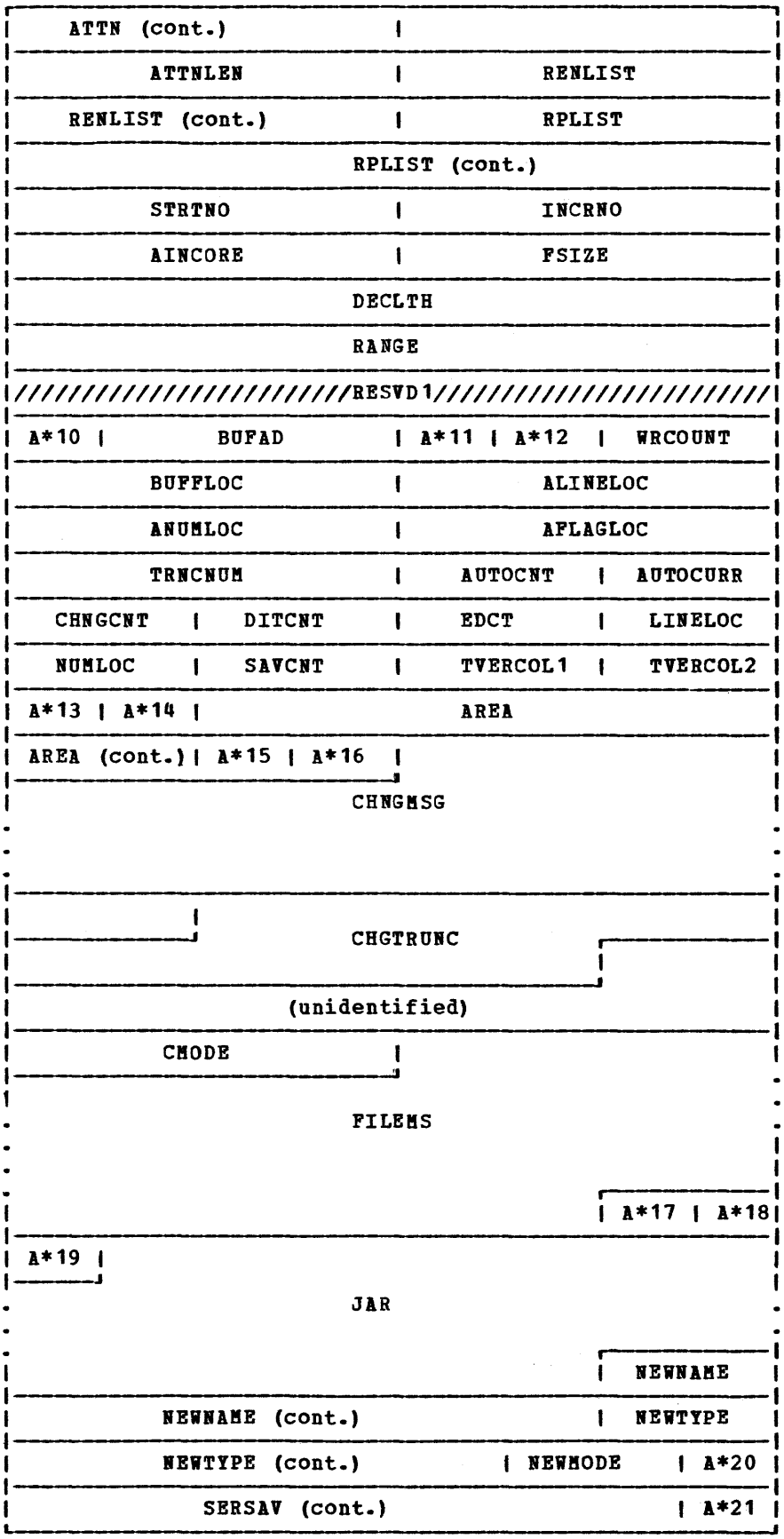
Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	DOSINIT	DS	0X		DOSCB flag byte
	Bits defined in DOSINIT				
	DOSOS	EQU	X'40'		OS user-created bit
	DOSDOS	EQU	X'20'		Defined for non-CMS disk
	DOSCMS	EQU	X'10'		Defined for CMS disk
	DOSDDCAT	EQU	X'08'		User catalog data set
	DOSPERM	EQU	X'04'		Permanent control block
	DOSJCAT	EQU	X'02'		Search VSAM job catalog
	DOSUCAT	EQU	X'01'		Search VSAM user catalog
0	DOSNEXT	DS	A		AL3(next DOSCB)
4	DOSCBID	DS	CL4		DLBL to distinguish from CMSCB
8	DOSDD	DS	CL8		Data definition name
10	DOSOP	DS	CL8		CMS operation
18	DOSTAPID	DS	0X		Tape identification
18	DOSDSNAM	DS	CL8		Data set name
20	DOSDSTYP	DS	CL8		Data set type
28	DOSDSMD	DS	CL2		Data set mode
2A		DS	H		Reserved for IBM use
2C	DOSBUFF	DS	F		A(input/output buffer)
30	DOSBYTE	DS	F		Size of buffer (data count)
34	DOSFORM	DS	CL1	D*1	File format: fixed/variable
35	DOSEPL	DS	1X	D*2	Extended PLIST
36		DS	1H		Reserved for IBM use
38	DOSREAD	DS	F		Number of bytes actually read
3C	DOSITEM	DS	1F		Item (record) number
40	DOSCOUT	DS	1F		Records per CMS physical block
44	DOSDEV	DS	X	D*3	Device type code
	Bits defined in DOSDEV				
	DOSDUM	EQU	0		Dummy device
	DOSDSK	EQU	20		Disk
45	DOSTAPMD	DS	X	D*4	Tape mode set to save
46	DOSBLKSZ	DS	H		Block size
48	DOSWORK	DS	D		Work area
50	DOSYSXXX	DS	0H		Logical unit for CMS/DOS
50	DOSSYS	DS	1X	D*5	SYS/PROG unit: X'00'=SYS, X'01'=PROG
51	DOSXXX	DS	1X	D*6	Number from 000-255 associated with the unit
52	DOSEXT	DS	1X	D*7	Number of DOS extents left to process
53	DOSEXTCT	DS	1X	D*8	Current DOS extent
54	DOSOSFST	DS	F		Pointer to OS FST
58	DOSOSDSN	DS	F		Pointer to OS dsname block
5C	DOSVOLTB	DS	F		A(volume ID table)--VSAM multivolume data set
60	DOSEXTTB	DS	F		A(extent table) for VSAM data space
64	DOSSENSE	DS	H		I/O sense data
66	DOSVOLNO	DS	X	D*9	No. of volumes (entries in DOSVOLTB)
67	DOSEXTNO	DS	X	D*10	No. of extents (entries in DOSEXTTB)
68	DOSBUFSP	DS	F		Size of VSAM I/O buffer(s)
6C	DOSUCNAM	DS	CL8		VSAM user catalog ddname
74	DOSSAVE	DS	6F		Temporary save area for re-entrant code
8C	DOSEXTCX	DS	1X	D*11	Current extent (used by DMSXCP)
8D	DOSTYPE	DS	1C	D*12	Data set type (SAM=S, VSAM=A)
8E		DS	H		Reserved for IBM use
90	DOSEND	DS	0D		End address of this block
	DOSENSIZ	EQU	(*-DOSSECT)/8		Size of block in doublewords

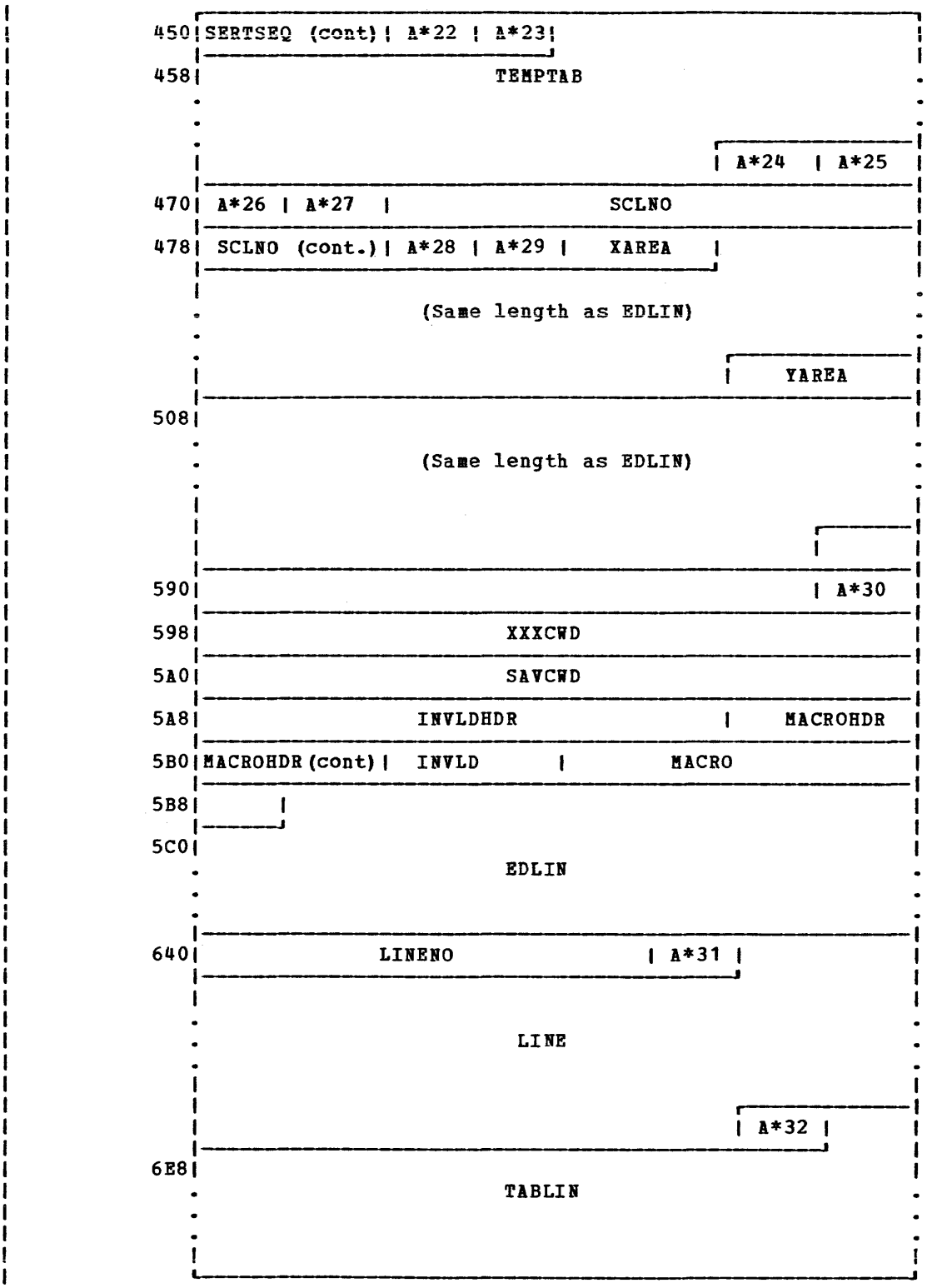
EDCB: EDIT CONTROL BLOCK

EDCB is used by all CMS EDIT modules to define common free storage control blocks. It is initialized by DMSEDX, the EDIT bootstrap routine, and built dynamically from user free storage each time a user issues the EDIT command.









Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
		DS	0F		
	BLOC	EQU	*		
0	FNAME	DS	CL8		Filename
8	FTYPE	DS	CL8		Filetype
10	FMODE	DS	CL2		Filemode
12	FV	DS	CL1	A*1	Record format
13	CASESW	DS	CL1	A*2	Case setting
14	TRUNCOL	DS	H		Truncation column
16	ZONE1	DS	H		Beginning zone initialized to first column
18	ZONE2	DS	H		End zone
1A	VERCOL1	DS	H		Verify column 1
1C	VERCOL2	DS	H		Verify column 2
1E	VERLEN	DS	H		Verify length
20	SCRBUFAD	DS	F		Address of GETMAIN buffer
24	CARDINCR	DS	F		Increment for serialization
28	LMSTART	DS	H		Where line numbers start
2A	LMINCR	DS	H		Automatic line numbers using default increment
2C	FLAG	DS	CL1	A*3	Flags for line monitoring
2D	FLAG2	DS	CL1	A*4	Miscellaneous flags
2E	TABS	DS	26AL1		Maximum of 25 tabs is allowed
	ENDTABS	EQU	*		End of tabs
48	SEQNAME	DS	CL3		Name, if any, for serialization
4B	PADCHAR	DS	CL1	A*5	'0' on right, ' ' on left
	ENDBLOC	EQU	*		End of blocks
	Note: PADBUF must remain directly behind PADCHAR				
4C	PADBUF	DS	9C		Pad characters
55	PTRCONS	EQU	*		DMSEDI line pointers
58	PTR1	DS	2F		Pointer to top of file (for dummy top line)
60	PTR2	DS	F		Current line pointer
64	PTR3	DS	F		Pointer to bottom line
68	AEXTEND	DS	F		Pointer to end of used area of storage
6C	CORITEM	DS	F		Number of bytes for one line in storage
70	SPARES	DS	F		Number of spare lines
74	FPTR	DS	F		Free list pointer
78	ITEM	DS	F		Item length
7C	AFSTFNRD	DS	F		Anchor for stacked lines upon entry
80	FREELEN	DS	F		Length of free storage
84	FREEAD	DS	F		Address of free storage
88	EDRET	DS	F		CMS return address
8C	EDMSK	DS	F		DMSSCR edit mask
90	MAINAD	DS	F		LOADSYS address; 0 if LOADMOD
	EPTRCONS	EQU	*		DMSEDI save areas and buffer pointers
94	AUTOREG	DS	13F		Autocheck save area
C8	CARDNO	DS	F		Save area for sequence number
CC	COUNT	DS	F		Number of characters in EDLIN
D0	LMCURR	DS	2F		Prompter current line number
D8	BUFFL	DS	F		Length of string (EDC)
DC	BUFFA	DS	F		Address of string (EDC)
E0	CANSAV	DS	9F		Register save (EDC)
104	DUALNOS	DS	CL240		Temporary string buffer (EDC)
1F8		DS	0D		
1F8	DECIMAL	DS	F		Used by DECBIN and BINDEC

Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
1FC	HALF	DS	F		BINDEC only edits four characters
200	REGSAV	DS	5F		Register save area
214	REGSAVX	DS	3F		Register save area
220	REPCNT	DS	F		FOR count
224	SAVEAR	DS	15F		DMSSCR save area
260	XYCNT	DS	F		X or Y execution count
264	CHNGNUM	DS	F		Number of lines to change
268	TIN	DS	0F		WAITRD PLIST
268		DS	CL8		WAITRD
270		DS	X		'1' for console No. 1
271	AEDLIN	DS	3X		A(EDLIN)
274	CASEREAD	DS	C	A*6	Default to uppercase
275		DS	3X		Length put here
278	TOUT	DS	0F		TYPLIN PLIST
278		DS	CL8		TYPLIN
280		DS	X		'1' for console No. 1
281		DS	3X		Address goes here
284		DS	C		'B' for black ribbon
285	TYPFLG	DS	X	A*7	X'20' maximum length override
286		DS	H		Length goes here
	CRBIT	EQU	X'80'		Suppress carriage return
288	IOLIST	DS	0F		Initialization for state of source
288		DS	CL8		ESTATE
290	IOID	DS	CL8		EDIT
298		DS	CL8		CMSUT1
2A0	IOMODE	DS	CL2		A1
2A2		DS	H		Reserved for IBM use
2A4	IOAD	DS	CL4		Do not allow asterisks
2A8		DS	F		133 (XINSCRIPT use LINE)
2AC		DS	0CL2		F/V and null record indicator
2AC	PLSTFV	DS	CL1	A*8	FV flag byte
2AD	PLSTFLGS	DS	X	A*9	PLIST flag byte (extended PLIST)
2AE		DS	H		Reserved for IBM use
2B0		DS	F		Read byte count
2B4	PLSTITEM	DS	F		Extended item number
2B8	RECS	DS	F		Number of items extended
2BC		DS	F		Write pointer
2C0		DS	F		Read pointer
2C4	ALTLIST	DS	0D		
2C4		DS	CL8		RENAME
2CC	EDWORK	DS	CL8		EDIT
2D4		DS	CL8		CMSUT1
2DC	ALTMODE	DS	CL8		A1
2E4		DS	CL8		New filename
2EC		DS	CL8		New filetype
2F4		DS	CL2		'*'
2F6		DS	CL6		New filemode
2FC		DS	8X		FF fence
304	STACKAT	DS	0F		PLIST to stack first in first out
304		DS	CL8		ATTN
30C		DS	CL4		First in first out
310	STACKATL	DS	F		Length and address of line to stack
314	ATTN	DS	0F		
314		DS	CL8		ATTN
31C		DS	CL4		Last in first out
320	ATTNLEN	DS	F		Length and address of line to stack
324	RENLIST	DS	0F		RENUM PLIST
324		DS	CL8		RENUM
32C	RPLIST	DS	CL12		Fileid
338	STRTNO	DS	F		Starting number
33C	INCRNO	DS	F		Increment number
340	AINCORE	DS	F		In-storage copy address

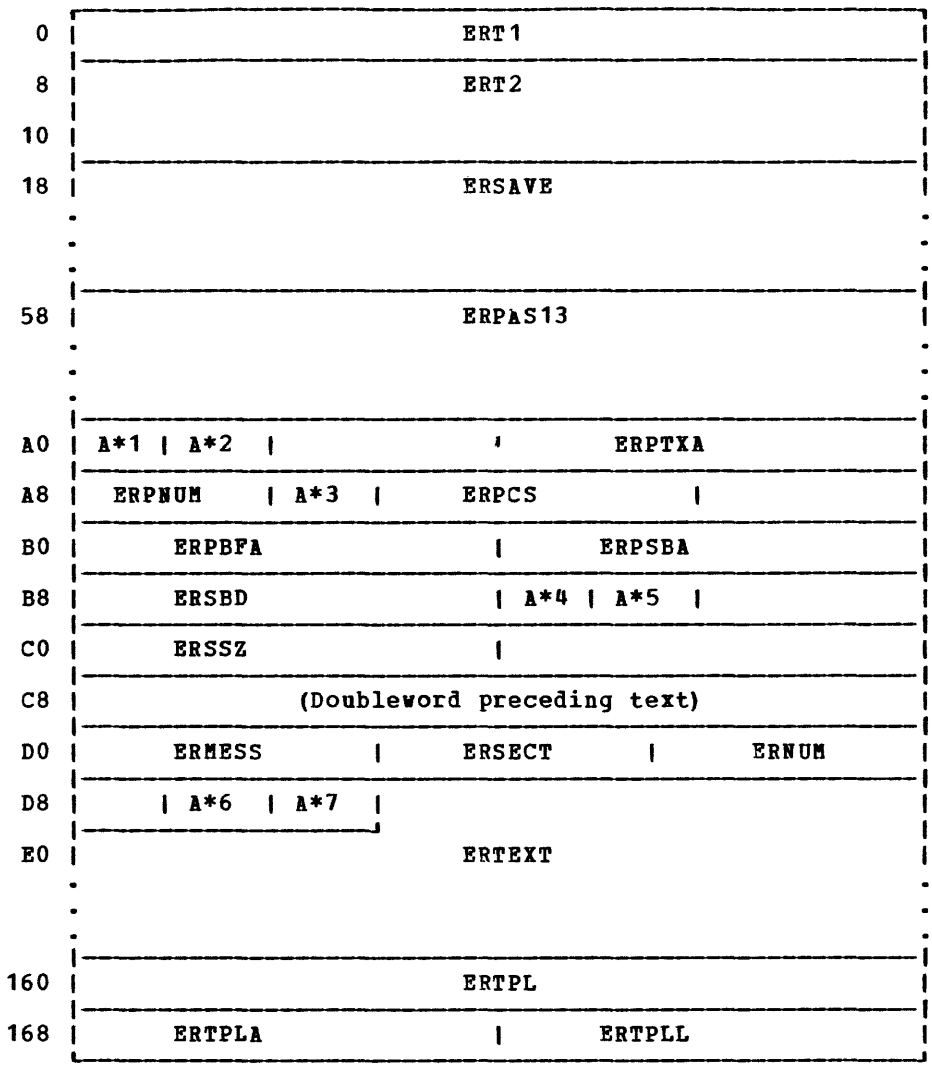
Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
344	FSIZE	DS	F		Record length
348	DECLTH	DS	D		DMSSCR work area
350	RANGE	DS	D		Message data areas
358	RESVD1	DS	D		Reserved for IBM use
360	CMDBLOK	DS	X	A*10	X'19'
361	BUFAD	DS	3X		Buffer address
364	FLG	DS	X	A*11	CCW flag
365	CTL	DS	X	A*12	Control byte
366	WRCOUNT	DS	H		Write count
368	GIOPLIST	DS	0F		DMSSCR PLIST for DMSGIO
368	BUFFLOC	DS	F		Buffer location
36C	ALINELOC	DS	F		Address of line location
370	ANUMLOC	DS	F		Address of number location
374	AFLAGLOC	DS	F		Address of flag location
378	TRNCNUM	DS	F		Number of lines truncated
37C	AUTOCNT	DS	H		Autosave parameter
37E	AUTOCURR	DS	H		Current modification count
380	CHNGCNT	DS	H		Temporary area for change
382	DITCNT	DS	H		Lines count stacked by REUSE (=) Subroutine
384	EDCT	DS	H		Next char in EDLIN
386	LINELOC	DS	H		Display line number
388	NUMLOC	DS	H		Display count
38A	SAVCNT	DS	H		Length of last saved request not beginning with either a ? or =
38C	TVERCOL1	DS	H		Temporary area for verifying column 1
38E	TVERCOL2	DS	H		Temporary area for verifying column 2
390	ALCHAR1	DS	C	A*13	Temporary byte used by ALTER
391	ALCHAR2	DS	C	A*14	Temporary byte used by ALTER
392	AREA	DS	CL8		EDIT instruction work
39A	BYTE	DS	X	A*15	Temporary byte (used by GET)
39B	CHNGFLAG	DS	X	A*16	Flag for change
39C	CHNGMSG	DS	CL20		Lines changed message
3B0		DS	2X		C','
3B2	CHGTRUNC	DS	13X		C'...LINE(S)'
3BF		DS	9X		C'TRUNCATED'
3C8	CMODE	DS	CL4		Filemode for MODECHK routine
3CC	FILEMS	DS	CL26		Retry message
3E6	FLAGLOC	DS	X	A*17	Flag for DMSGIO
3E7	GETFLAG	DS	X	A*18	Flag for GETFILE
3E8	HOLDFLAG	DS	X	A*19	DMSSCR SCRFLGS
3E9	JAR	DS	(ENDBLOC-BLOC)AL1		Save area for preserve
435	NEWNAME	DS	CL8		Name area for FILE and SAVE commands
43D	NEWTYPE	DS	CL8		Type area for FILE and SAVE commands
445	NEWMODE	DS	CL2		Mode area for FILE and SAVE commands
447	SERSAV	DS	CL8	A*20	Identification number for save area
44F	SERTSEQ	DS	CL3	A*21	Temporary byte identification number area
452	SERTSW	DS	X	A*22	Temporary byte used by identification number
453	SIGNAL	DS	X	A*23	Signal between routines
454	TEMPTAB	DS	(ENDTABS-TABS)AL1		Temporary spot for new tabs
46E	UTILFLAG	DS	X	A*24	DMSSCR utility flags
46F	XYFLAG	DS	X	A*25	X/Y active flag
470	SCRFLGS	DS	X	A*26	Screen function flags
471	SCRFLG2	DS	X	A*27	More screen function flags
472	SCLNO	DS	8C		Save LINEMODE sequence number
47A	TWITCH	DS	X	A*28	Location flags
47B	TYPSCR	DS	X	A*29	Display unit size index value
47C	XAREA	DS	H		X length and request buffer
47E		DS	CL135		(Same length as EDLIN)
506	YAREA	DS	H		Y length and request buffer
508		DS	CL135		(Same length as EDLIN)
58F					
590		CNOP	6,8		Alignment for XXXCWD
596		DS	X		Additional alignment for XXXCWD
597	BLANK1	DS	X	A*30	Blank for clearing XXXCWD
598	XXXCWD	DS	CL8		EDIT token buffer

Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
5A0	SAVCWD	DS	CL8	Location at which contents of XXXCWD are saved
5A8	INVLDHDR	DS	CL6	?EDIT: (for invalid request message)

Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
5AE	MACROHDR	DS	CL4		EXEC for EDIT macro stacking
5B2	INVLD	DS	OCL6'?EDIT:'		Location to store invalid header
		ORG	INVLD+2		
5B4	MACRO	DS	OCL4'EXEC'		Location to hold macro header (if invalid)
		ORG	MBCRO+4		
5B8		DS	C		Blank used for clearing EDLIN
5B9	EDLIN	DS	CL135		Terminal input buffer
630	LINENO	DS	CL5		Line number for typeout
635	BLANK2	DS	X	A*31	Blank for clearing line
636	LINE	DS	CL160		Current line is held here
6E6	BLANK3	DS	X	A*32	Blank for clearing TABLIN
6E7	TABLIN	DS	CL160		Output from spread
788	EDCBEND	DS	0D		
	EDCBLTH	EQU	(EDCBEND-EDCB)		Length of EDCB in doublewords

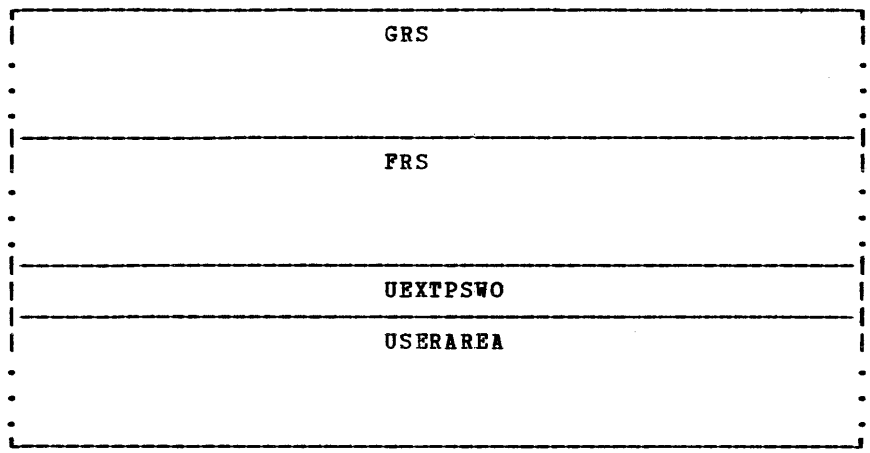
ERDSECT: ERROR HANDLING ROUTINE DSECT

ERDSECT describes the fields in a work area used for giving responses and error messages via the DMSERR or LINEDIT macros. A V-constant in DMSERR points to the DMSERT CSECT in DMSNUC.



EXTUAREA: EXTERNAL USER AREA

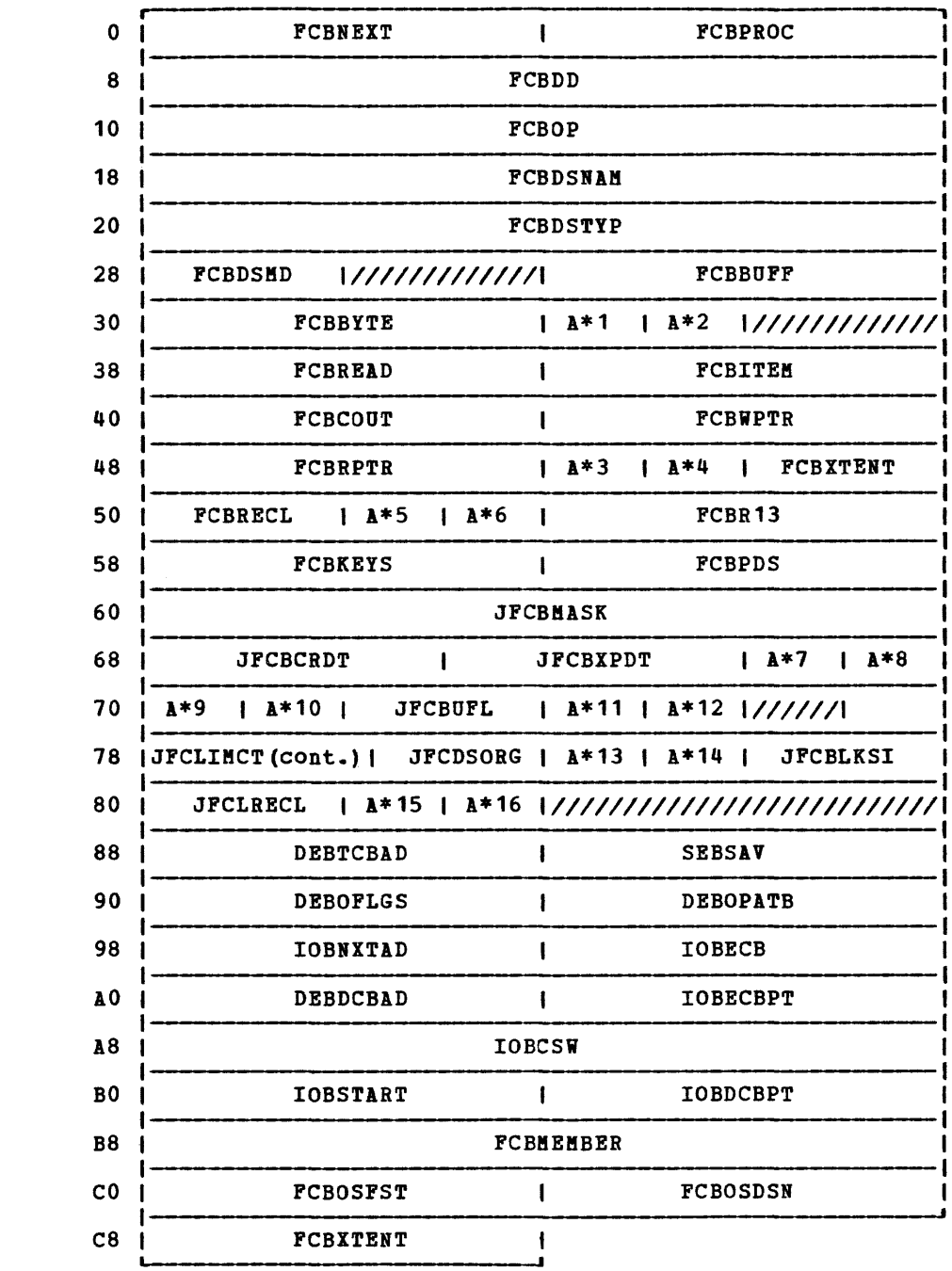
EXTUAREA is a 96-byte user area generated by the CMSAVE macro. The pointer to the user area is passed to the user via register 13. The USAVEPTR field in CMSAVE also points to the user area.



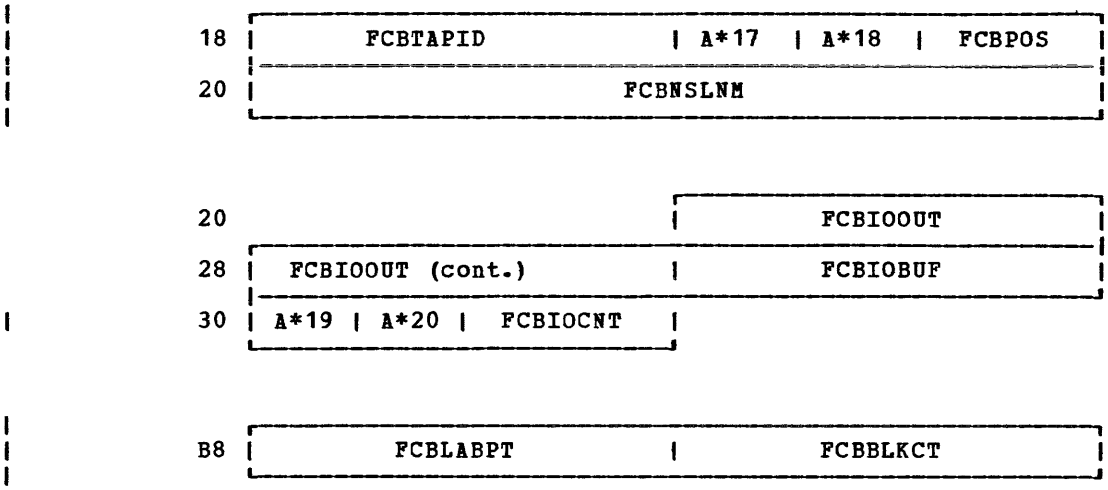
Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
		DS	0D	
0	GRS	DS	16F	Registers at time of interrupt
40	FRS	DS	4D	Floating-point registers at interrupt
60	UEXTPSWO	DS	1D	External old PSW at interrupt
68	USERAREA	DS	18F	User save area
B0	USEREAND	DS	0F	End user area

FCBSECT: SIMULATED OS CONTROL BLOCKS

FCBSECT consists of the CMS File Control Block (FCB) (used for file management under CMS), the simulated OS Job File Control Block (JFCB), Input/Output Block (IOB), and Data Extent Block (DEB). FCBSECT is invoked via the CMSCB macro. FCBSECT is dynamically allocated from CMS free storage each time the FILEDEF command is issued.



| • Special Fields for Tape Files Only



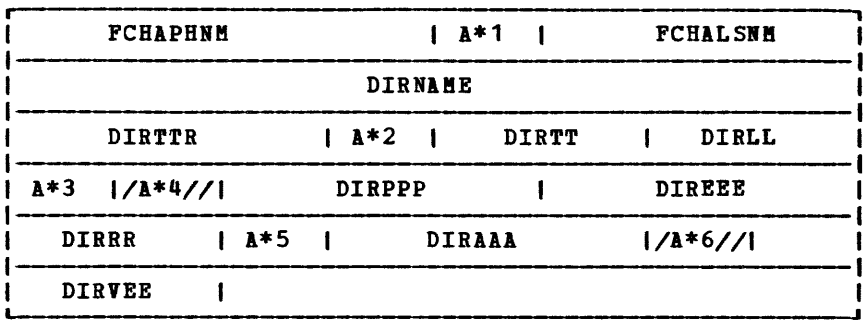
Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	FCBINIT	DS	0X		Initialization flag bytes
	Bits defined in FCBINIT				
	FCBDOSL	EQU	X'20'		Concatenated DOSLIB data set
	FCBOS	EQU	X'10'		FCB for OS formatted disk
	FCBOPCB	EQU	X'08'		OPEN acquired this CMS block
	FCBPERM	EQU	X'04'		Permanent control block
	FCBBATCH	EQU	X'02'		Special batch data set
	FCBCATML	EQU	X'01'		Concatenated MACLIB data set
0	FCBNEXT	DS	A		AL3(next CMSCB)
4	FCBPROC	DS	A		A(special processing routine)
8	FCBDD	DS	CL8		Data definition name
10	FCBOP	DS	CL8		CMS operation
18	IHAJFCB	DS	0D		Job file control block
18	JFCBDSNM	DS	0X		44 bytes, data set name
18	FCBTAPID	DS	0X		Tape identification
18	FCBDSNAM	DS	CL8		Data set name
20	FCBDSTYP	DS	CL8		Data set type
		ORG	FCBDSTYP		
	FCBPRPU	EQU	FCBDSTYP+4		Printer/punch command list
28	FCBTBSP	DS	0X		Two bytes for tape backspace count
28	FCBDSMD	DS	CL2		Data set mode
2A		DS	H		Reserved for IBM use
2C	FCBBUFF	DS	F		A(input/output buffer)
30	FCBBYTE	DS	F		Data count
34	FCBFORM	DS	CL1	A*1	File format: fixed/variable records
35	FCBEPL	DS	XL1	A*2	Extended PLIST flag byte
36	FCBCOUT	DS	H		Records per CMS physical block
38	FCBREAD	DS	F		Number of bytes actually read
3C	FCBITEM	DS	F		Extended PLIST item count
40	FCBCOUT	DS	F		Extended PLIST item count
44	FCBWPTR	DS	F		Extended PLIST write pointer
48	FCBRPTR	DS	F		Extended PLIST read pointer
4C	FCBDEV	DS	X	A*3	Device type code
	Bits defined in FCBDEV				
	FCBCRT	EQU	28		CRT
	FCBPCH	EQU	24		Punch
	FCBDSK	EQU	20		Disk
	FCBTAP	EQU	16		Tape
	FCBCON	EQU	12		Console terminal
	FCBRDR	EQU	8		Reader
	FCBPTR	EQU	4		Printer
	FCBDUM	EQU	0		Dummy device
4D	FCBMODE	DS	X	A*4	Mode: 1, 2, 3, 4, and 5
4E		DS	H		Reserved for IBM use
50	FCBRECL	DS	H		DCB LRECL at open time
52	IOBIOFLG	DS	X	A*5	I/O flags
53	FCBDCBCT	DS	X	A*6	No. of DCBs using this FCB
54	FCBR13	DS	F		Save area vector R13
58	FCBKEYS	DS	A		A(DDS in-storage key table)
5C	FCBPDS	DS	A		A(PDS in-storage directory)
60	JFCBMASK	DS	8X		Various mask bits
68	JFCBCRDT	DS	3C		Data set creation date (YDD)
6B	JFCBXPDT	DS	3C		Data set expiration date (YDD)
6E	JFCBIND1	DS	X	A*7	Indicator one
6F	JFCBIND2	DS	X	A*8	Indicator two
70	JFCBUFNO	DS	X	A*9	Number of buffers
71	JFCBFTEK	DS	0X		Buffering technique

Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
71	JFCBFALN	DS	X	A*10	Buffer alignment
72	JFCBUFL	DS	H		Buffer length
74	JFCEROPT	DS	X	A*11	Error option
75	JFCKEYLE	DS	X	A*12	Key length
76		DS	X		Reserved for IBM use
77	JFCLIMCT	DS	3X		BDAM search limit
7A	FCBDSORG	DS	0X		Data set organization
7A	JFCDSORG	DS	2X		Data set organization
7C	FCBRECFM	DS	0X		Record format
7C	JFCRECFM	DS	X	A*13	Record format
7D	JFCOPTCD	DS	X	A*14	Option codes
7E	FCBBLKSZ	DS	0H		Block size
7E	JFCBLKSI	DS	H		Block size
80	FCBLRECL	DS	0H		Logical record length
80	JFCLRECL	DS	H		Logical record length
82	FCBIOSW	DS	X	A*15	I/O operation indicator
	Bits defined in FCBIOSW				
	FCBCLOSE	EQU	X'80'		Switch turned on during CLOSE operation
	FCBCLEAV	EQU	X'40'		DISP=LEAVE during CLOSE operation
	FCBPROCC	EQU	X'20'		GOTO FCBPROC during CLOSE operation
	FCBPROCO	EQU	X'10'		GOTO FCBPROC during OPEN operation
	FCBCASE	EQU	X'08'		ON=LOWER CASE console I/O
	FCBPVMB	EQU	X'04'		PUT-MOVE-VAR-BLK
	FCBIOWR	EQU	X'02'		WRITE/PUT
	FCBIORD	EQU	X'01'		READ/GET
83	FCBIOSW2	DS	1X	A*16	I/O operation indicators
	Bits defined in FCBIOSW2				
	FCBMVFIL	EQU	X'08'		Move file is active
	FCBMMV	EQU	X'02'		Move PDS switch for FIND
	FCBMVPDS	EQU	X'01'		Switch for MOVEFILE with PDS option
84	DEBLNGTH	DS	0X		Length of DEB in doublewords
		ORG	DEBLNGTH		
	FCBTCLOS	EQU	X'40'		A type T close was done
84		DS	F		Reserved for IBM use
88	IHADEB	DS	0D		Data extent block
88	DEBTCBAD	DS	A		A(move-mode user buffer)
8C	SEBSAV	DS	F		Dynamic save for SEB return address (OS input/output simulation)
90	DEBOFLGS	DS	4X		Data set status flags
94	DEBOPATB	DS	4X		OPEN/CLOSE option byte
98	IOBFLG	DS	0X		Start of IOBPREFIX for normal scheduling
	Bits defined in IOBFLG				
	IOBBFLG	EQU	0		Displacement of IOB flag in IOB
	IOBOUT	EQU	X'40'		WRITE,PUT in progress
	IOBIN	EQU	X'20'		READ,GET in progress
	IOBUPD	EQU	X'10'		QSAM PUTX in progress
98	IOBNXTAD	DS	A		A(next buffer to be used)
9C	IOBECB	DS	F		ECB for QSAM normal scheduling
A0	IHAIOB	DS	0F		Input/output block
A0	DEBDEBID	DS	0X		DEB identification
A0	DEBDCBAD	DS	A		A(data control block)
A4	IOBECBCC	DS	0X		ECB completion code
	Bits defined in IOBECBCC				
	IOBBECBC	EQU	12		Displacement of ECB code in IOB
	IOBBECBP	EQU	12		Displacement of ECB pointer in IOB

Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
A4	IOBECBPT	DS	A		A(event control block) - see IHADECB DSECT
A8	IOBFLAG3	DS	0X		I/O error flag
	IOBBCSW	EQU	16		Displacement of CSW in IOB
A8	IOBCSW	DS	8X		Last CCW stored (that is, residual count)
B0	IOBSTART	DS	A		X'ID-NEXT BUFFER',AL3(INITIAL BUFFER)
B4	IOBDCBPT	DS	A		A(data control block)
B8	IOBEND	DS	0X		End of input/output block
B8	FCBMEMBR	DS	2F		OS PDS member name
C0	FCBOSFST	DS	F		Pointer to OS FST
C4	FCBOSDSN	DS	F		Pointer to OS DSNAME block
C8	FCBXTENT	DS	F		Number of items in extent
D0	FCBEND	DS	0D		End of FCB, JFCB, DEB, and IOB blocks
	Redefined Fields for Tape Files				
		ORF	FCBDSNAM		
18	FCBTAPID	DS	CL4		Tape identification
1C	FCBLABT	DS	1X	A*17	Tape label type
	Bits defined in FCBLABT				
	FCBNL	EQU	X'20'		Nonlabel
	FCBNSLMD	EQU	X'10'		NSL routine is a module
	FCBNSL	EQU	X'08'		Nonstandard user labels
	FCBSUL	EQU	FCBSL+FCBUSER		IBM and user standard labels
	FCBUSER	EQU	X'04'		User standard labels
	FCBSL	EQU	X'02'		IBM standard labels
	FCBBLP	EQU	X'01'		Bypass labels -- just position the tape
	FCBOFF	EQU	X'00'		No label processing at all
1D	FCBTPSW	DS	1X	A*18	Tape switch
	Bits defined in FCBTPSW				
	FCBLEAVE	EQU	X'80'		Do not reposition tape for open
	FCBNOEOV	EQU	X'40'		Do not EOV processing at all
1E	FCBPOS	DS	1H		Position parameter
20	FCBNSLNM	DS	CL8		NSL routine name
		ORG	FCBMEMBR		
B8	FCBLABPT	DS	A		Pointer to LABSECT block
BC	FCBBLKCT	DS	1F		Block count for tape file
		ORG	FCBDSTYP+4		
24	FCBIOOUT	DS	CL8		Special I/O command list
2C	FCBIOBUF	DS	A		A(data buffer)
30	FCBCONCR	DS	C	A*19	Console color code
31	FCBCONMS	DS	X	A*20	Console miscellaneous information
32	FCBIOCNT	DS	H		I/O count for data buffer
	FCBENSIZ	EQU	(*-FCBSECT)/8		Size of FCB entry in doublewords

FCHTAB: FETCH TABLE

FCHTAB contains a fetch/load parameter list that points to a 34-byte directory list. The fetch table is used when a DOS program issues a LOAD or FETCH request without the LIST= parameter. The IJBFTTAB field in the SYSCOM block in the DOSCON CSECT of NUCON points to the fetch table.

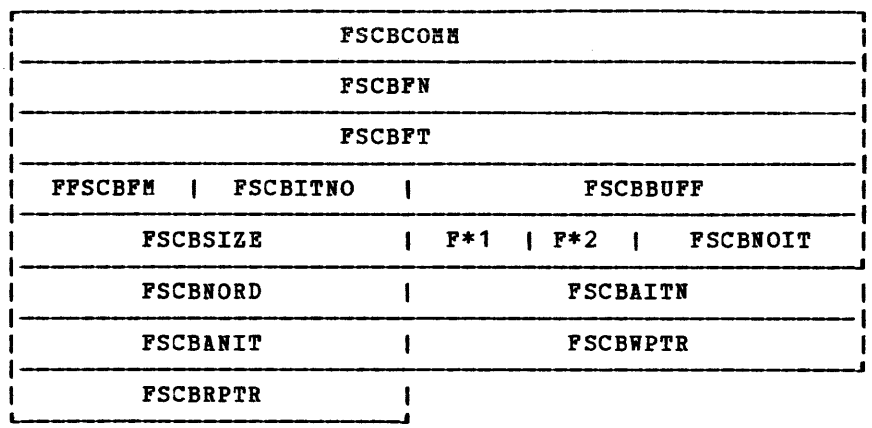


Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
	8-Byte Parameter List Pointing to Directory List				
0	FCHAPHNM	DC	A(DIRNAME)		Address of phase name
4	FCHOPT	DC	X'00'	A*1	Options
5	FCHALSNM	DS	AL3		Address of listname
	34-Byte Directory List				
8	DIRNAME	DS	CL8		Phase name
10	DIRTTR	DS	XL3		Phase TTR
13	DIRN	DS	XL1	A*2	No. of halfwords in directory
14	DIRTT	DS	XL2		No. of text blocks in phase
16	DIRLL	DS	XL2		Length last text block
18	DIRC	DS	XL1	A*3	Flag byte
	Bits defined in DIRC				
	SELFREL	EQU	X'80'		Phase self-relocatable
	RELPHSE	EQU	X'40'		Phase to be relocated
	SVAELIG	EQU	X'20'		Phase SVA eligible
	SVAPHSE	EQU	X'10'		Phase in SVA
	PCLPHSE	EQU	X'08'		Phase in private core image library
	PNOTFND	EQU	X'04'		Phase not found
	DACTIVE	EQU	X'02'		Phase directory active
	NOTEXT	EQU	X'01'		TEXT=NO specified
19	DIRT	DS	XL1	A*4	Reserved for IBM use
1A	DIRPPP	DS	XL3		Phase load point
1D	DIREEE	DS	XL3		Phase entry point
20	DIRRR	DS	XL2		No. of RLD items in phase
22	DIRR	DS	XL1	A*5	No. of additional RLD blocks
23	DIRAAA	DS	XL3		Partition start address
26	DIRK	DS	XL1	A*6	Reserved for IBM use
27	DIRVEE	DS	XL3		Phase entry point in SVA
	FCHLENG	EQU	*-FCHTAB		Total length in bytes (X'2A')
	FCHLENDW	EQU	(FCHLENG+7)/8		Total length in doublewords (X'06')

Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
	TCODE	EQU	14	FREETAB table code
	Bits defined in TCODE			
	USERCODE	EQU	1	User free storage page
	NUCCODE	EQU	2	Nucleus free storage page
	TRNCODE	EQU	3	Transient area page
	USARCODE	EQU	4	User area page
	SYSCODE	EQU	5	System page
	MAXCODE	EQU	5	Maximum possible code value
	*UNUSED	EQU	15	
	BLOCKLEN	EQU	16	Symbolic length of block
40	AFREETAB	DC	A(0)	Address of FREETAB table
44	FREELOW1	DS	F	Original value of FREELOWE (set by INIT2)
48	ACALL	DS	A	Address of caller (for errors)
	Flags Set by Examining SVC 203 Halfword Code			
4C	FREEFLG1	DC	BL1'0'	A*1
	Bits defined in FREEFLG1			
	FRF1C	EQU	X'80'	Conditional request
	FRF1V	EQU	X'40'	Variable request
	FRF1N	EQU	X'20'	Nucleus request
	FRF1E	EQU	X'10'	FREE (vs FRET) request
	FRF1L	EQU	X'08'	Low storage is OK
	FRF1H	EQU	X'04'	High storage is OK
	FRF1M	EQU	X'02'	Messages wanted on error
	FRF1B	EQU	X'01'	TYPCALL equals BALR in macro
	The Following Byte Holds Flags Internal to the DMSFRE Routine			
4D	FREEFLG2	DC	BL1'0'	A*2
	Bits defined in FREEFLG2			
	FRF2CL	EQU	X'80'	Cleanup flag
	FRF2SVP	EQU	X'40'	Variable pages request flag (SCHVPGE)
	FRF2NOI	EQU	X'20'	Second initialization routine has not yet been called by DMSINS
	FRF2CKE	EQU	X'10'	Do a check each time FREE or FRET is called
	FRF2CKT	EQU	X'08'	Do a check this time
	FRF2CKX	EQU	X'04'	Executing CHECK routine now
	Free Chain Element Description			
	POINTER	EQU	0	Pointer to next FREE element
	SIZE	EQU	4	Size of this element in bytes

FSCBD: FILE SYSTEM CONTROL BLOCK

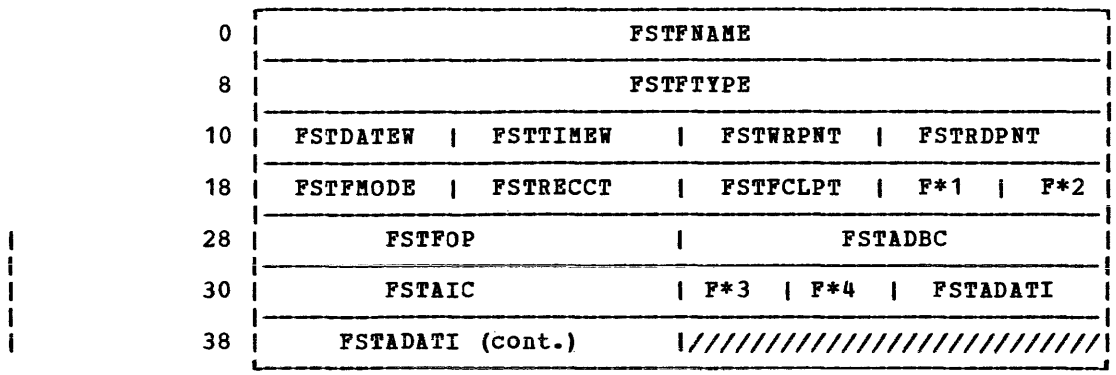
FSCBD is a PLIST defined for general use by routines that use the CMS file system. FSCBD is generated when the user invokes the FSCBD macro.



Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	FSCBCOMM	DS	CL8		File system command (RDBUF, WRBUF, etc.)
8	FSCBFN	DS	CL8		Filename
10	FSCBFT	DS	CL8		Filetype
18	FSCBFM	DS	CL2		Filemode
1A	FSCBITNO	DS	H		Relative record number to be read/written
1C	FSCBBUFF	DS	F		Address of read/write buffer or of STATEFST
20	FSCBSIZE	DS	F		Length of buffer
24	FSCBFV	DS	CL2	F*1	RECFM -- C'F' or C'V'
25	FSCBFLG	EQU	FSCBFV+1	F*2	Flag byte
	Bits defined in FSCBFLG				
	FSCBITAV	EQU	X'40'		Item available
	FSCBEPL	EQU	X'20'		Extended PLIST
	FSCBRCAV	EQU	X'01'		Previous record null
26	FSCBNOIT	DS	H		Number of records to be read/written
28	FSCBNORD	DS	A		Number of bytes actually read
2C	FSCBAITN	DS	F		Extended record number
30	FSCBANIT	DS	F		Extended number of records
34	FSCBWPTR	DS	F		Extended write pointer
38	FSCBRPTR	DS	F		Extended read pointer

FSTD: FILE STATUS TABLE ENTRY DSECT

FSTD describes the fields in a 40-byte file status table entry as found by STATE, STATEW, DMSLFS or DMSLFSW. FSTD is functionally equivalent to the FSTSECT DSECT.

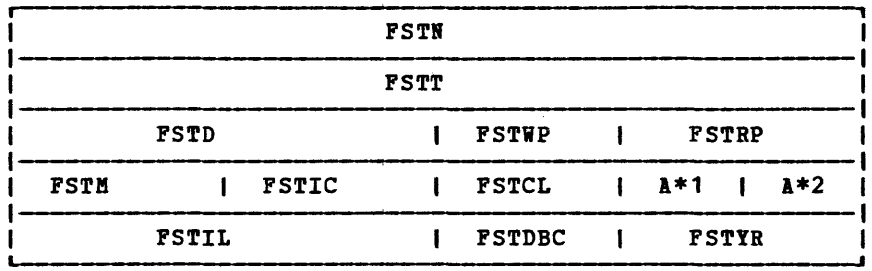


Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	FSTFNAME	DS	1D		Filename
8	FSTFTYPE	DS	1D		Filetype
10	FSTDATEW	DS	1H		Date last written - mmddyy
12	FSTTIMEW	DS	1H		Time last written - hhmmss
14	FSTWRPNT	DS	1H		Write pointer - item number
16	FSTRDPNT	DS	1H		Read pointer - item number
18	FSTFMODE	DS	1H		Filemode - letter and number
1A	FSTRECCT	DS	1H		Number of logical records
1C	FSTFCLPT	DS	1H		First chain link pointer
1E	FSTRECFM	DS	1C	F*1	Record format (F or V)
1F	FSTFLAGS	DS	1X	F*2	FST flag byte
	Bits defined in FSTFLAGS				
	FSTXWDSK	EQU	X'C0'		Extension of read/write disk
	FSTRWDSK	EQU	X'80'		Read/write disk
	FSTXRDSK	EQU	X'40'		Extension of read-only disk
	FSTFILEA	EQU	X'07'		File is active (one of the following)
	FSTACTRD	EQU	X'04'		File active for reading
	FSTACTWR	EQU	X'02'		File active for writing
	FSTACTPT	EQU	X'01'		File active from a point
	FSTRODSK	EQU	X'00'		Read-only disk
	Bits redefined for use in RDBUF				
	FSTDIA	EQU	X'40'		Item available
	FSTDRA	EQU	X'01'		Previous record null
	FSTDNI	EQU	X'00'		Null record
20	FSTLRECL	DS	1F		Logical record length
24	FSTBLKCT	DS	1H		Number of 800-byte blocks
26	FSTYEARW	DS	1H		Year last written
28	FSTFOP	DS	F		Alternate file origin pointer
2C	FSTADBC	DS	F		Alternate number of data blocks
30	FSTAIC	DS	F		Alternate item count
34	FSTNLVL	DS	XL1	F*3	Number of pointer block levels
35	FSTPTBSZ	DS	XL1	F*4	Length of a pointer element
36	FSTADATI	DS	CL6		Alternate date and time (X'yymmddhhmmss')
3C		DS	F		Reserved for IBM use
	FSTDSIZE	EQU	(*-FSTD)		FST size in bytes

FSTSECT: FILE STATUS TABLE

FSTSECT defines the file status table (FST) which describes the attributes of a file on a CMS virtual disk. FSTSECT is invoked by the macro FSTB.

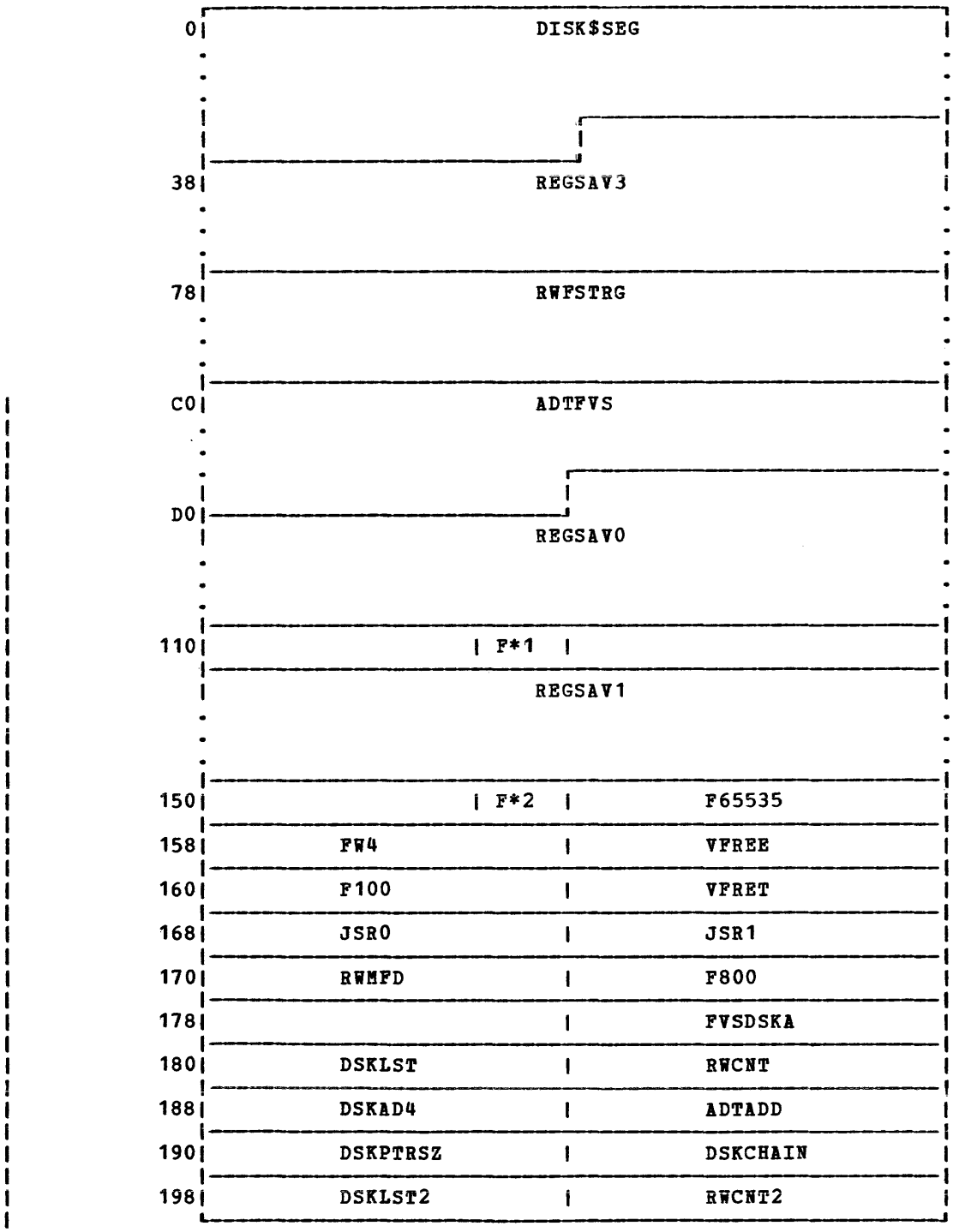
The file status tables for all files on the disk are grouped into 800-byte disk records referred to as file status table blocks (FSTBs). Each file status table block can accommodate up to 20 file status tables.

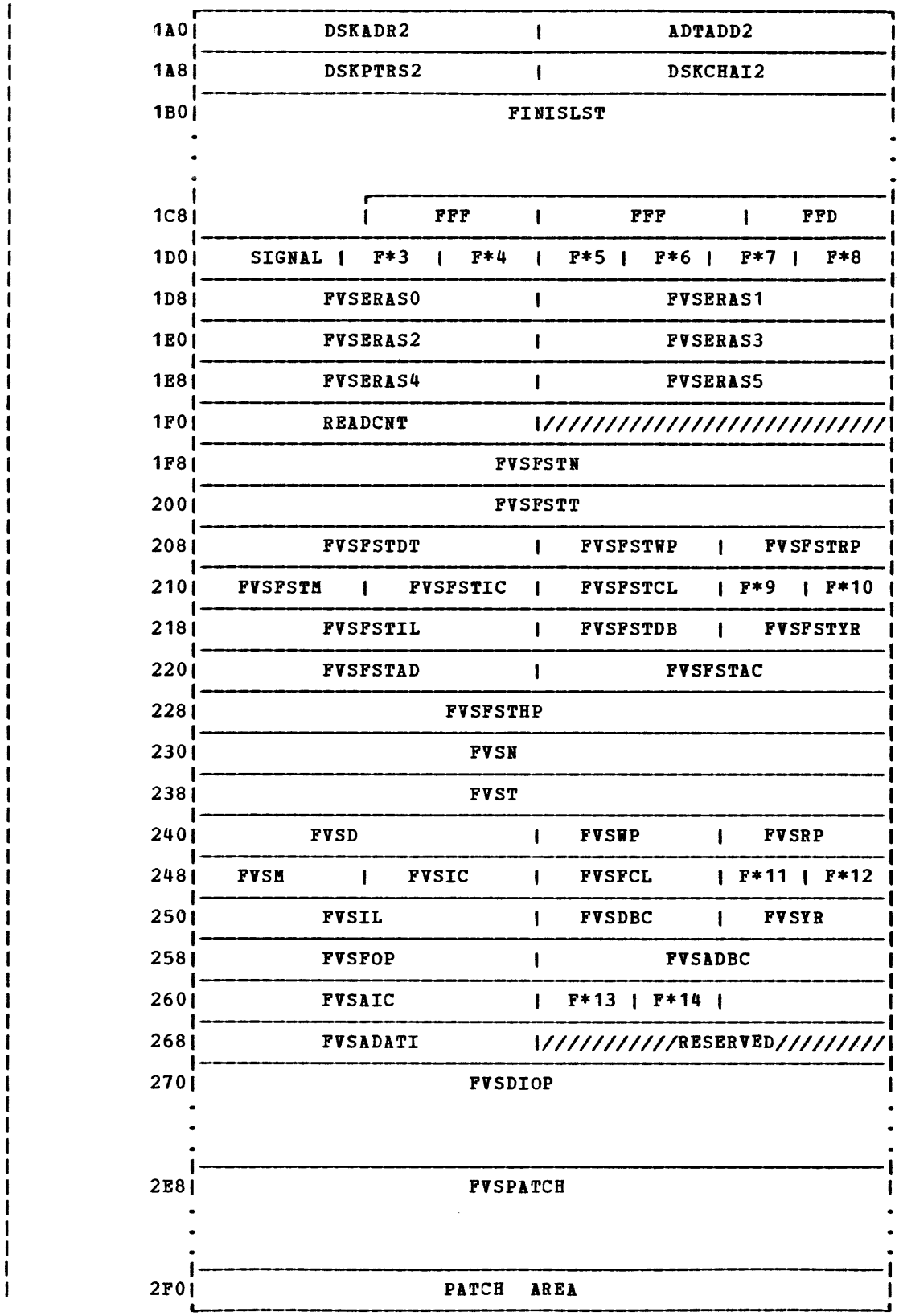


Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	FSTN	DS	1D		Filename
8	FSTT	DS	1D		Filetype
10	FSTD	DS	1F		Date/time last written
14	FSTWP	DS	1H		Write pointer (item number)
16	FSTRP	DS	1H		Read pointer (item number)
18	FSTM	DS	1H		Filemode
1A	FSTIC	DS	1H		Item count
1C	FSTFCL	DS	1H		First chain link
1E	FSTFV	DS	1C	A*1	Fixed(F)/variable(V) flag
1F	FSTFB	DS	1C	A*2	Flag byte (if used)
	Bits defined in FSTFB (Applicable only to STATEFST copy of FST-entry after successful STATE or STATEW call)				
	FSTFRWX	EQU	X'C0'		Read-only extension of read/write disk
	FSTFRW	EQU	X'80'		Read/write disk
	FSTFROX	EQU	X'40'		Read-only extension of read-only disk
	FSTFACT	EQU	X'07'		File is active (one of the following)
	FSTFAR	EQU	X'04'		File active for reading
	FSTFAW	EQU	X'02'		File active for writing
	FSTFAP	EQU	X'01'		File active from a designated point
	FSTFRO	EQU	X'00'		Read-only disk
	Bits redefined for use in RDBUF				
	FSTITAV	EQU	X'40'		Item available
	FSTRECAV	EQU	X'01'		Previous record null
	FSTNOIT	EQU	X'00'		Null record
20	FSTIL	DS	1F		Maximum item length
24	FSTDBC	DS	1H		800-byte data block count
26	FSTYR	DS	1H		Year
	FSTL	EQU	*-FSTSECT		Size of FST in bytes (X'28')
	FST Hyperblock Parameters				
	FSTFWDP	EQU	800		Forward pointer to next hyperblock in storage
	FSTBKWD	EQU	804		Backward pointer to previous hyperblock in storage

FVSECT: FIXED VARIABLE STORAGE WORK AREA FOR CMS FILE SYSTEM

FVSECT is used mainly by file management and I/O routines. FVS contains save areas, work areas, and commonly used constants. A typical use of FVS is when a reentrant I/O routine requires a work area or save area, since the routine cannot modify itself. FVSECT is invoked by the FVS macro.





Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	DISK$SEG	DS	15F		For FSTLKP, FSTLKW, ACTLKP, TRKLKP, QQTRK
3C	REGSAV3	DS	15F		For RDBUF, WRBUF, FINIS, STATE, POINT
78	RWFSTRG	DS	18F		Remaining storage for RDBUF, WRBUF, FINIS
C0	ADTFVS	DC	2F'0'		ADTLKP
	Save Area for Lowest Level Routines (For example, READMFD, RELUFD, UPDISK, TYPSRCH, and ADTLKW)				
D4	REGSAV0	DS	15F		Saved R0-R15
110		DC	AL3(00)		First 3 bytes of return code
113	ERRCOD0	DC	AL1(*-*)	F*1	Error code
	TRKLSAVE	EQU	REGSAV0		For TRKLKP/X only when called by QQTRK/X
	Save Area for Next-to-Lowest Level Routines (For example, READFST, ERASE, ALTER, and INTSVC-LOADMOD)				
114	REGSAV1	DS	15F		Register save area
152		DC	AL3(00)		First 3 bytes of return code
153	ERRCOD1	DC	AL1(*-*)	F*2	Error code
154	F65535	DC	F'65535'		= X'0000FFFF'
158	FW4	DC	F'4'		Constant value
	HW4	EQU	FW4+2		Constant value
15C	VFREE	DC	V(FREE)		Constant value
160	F100	DC	F'100'		Constant value
164	VFRET	DC	V(FRET)		Address of VFRET into R15
168	JSR0	DC	F'0'		R0 saved here for FRET calls
16C	JSR1	DC	F'0'		R1 saved here for FRET calls
	PLIST to Read/Write MFD				
170	RWMFD	DC	A(*-*)		Address of MFD
174	F800	DC	F'800'		800 bytes
178		DC	A(HW4)		
17C	FVSDSKA	DC	A(*-*)		Address of the active disk table
180	DSKLST	DS	0F		All-purpose RDTK/WRTK PLIST
180	DSKLOC	DS	A(*-*)		Address of item to be read or written
184	RWCNT	DC	A(*-*)		Byte count (usually 800)
188	DSKADR	DC	A(*-*)		Disk address of item to be read or written
	Bits defined in DSKADR				
	FWADDR	EQU	X'80'		When in high order bit, indicates extended DIO PLIST (fullword disk address pointer size and PLIST chain pointer)
18C	ADTADD	DC	A(*-*)		Address of active disk table now in use
190	DSKPTRSZ	DC	F'0'		Disk pointer size if fullword address
194	DSKCHAIN	DC	A(0)		PLIST chain pointer
198	DSKLAST2	DC	0F		All purpose readtoken and/or writetoken PLIST
198	DSKLOC2	DC	A(*-*)		Address of item
19C	RWCNT2	DC	A(*-*)		Byte count
1A0	DSKADR2	DC	A(*-*)		Disk address of item
1A4	ADTADD2	DC	A(*-*)		Address of active disk table not used in chained PLISTs)
1A8	DSKPTRS2	DC	F'0'		Disk pointer size if fullword address
1AC	DSKCHAI2	DC	A(0)		PLIST chain pointer
1B0	FINISLST	DC	CL8'FINIS'		PLIST to close all files
1B8		DC	CL8'*'		
1C0		DC	CL8'*'		
1C8		DC	CL2'*'		

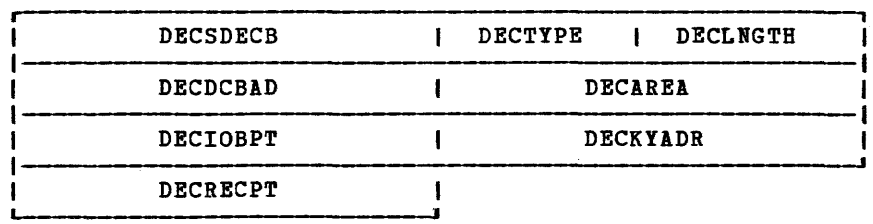
Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
1CA		DS	0H		Halfword constants
1CA	FFF	DC	X'FFFF'		Means no significant data past 215th byte
1CC	FFE	DC	X'FFFE'		1968-era MFD still supported on input only
1CE	FFD	DC	X'FFFD'		Newest signal for 2314 handling
1D0	SIGNAL	DC	H'0'		SIGNAL = Scratch halfword used by READMFD or ERASE = 0000, X'FFFF', X'FFFE', or X'FFFD'
	Bits defined in SIGNAL				
	SWTCH	EQU	SIGNAL+1		00, FF, FE, or FD
1D2	UFDBUSY	DC	X'00'	F*3	Nonzero means UFD is being updated
	Bits defined in UFDBUSY				
	WRBIT	EQU	X'80'		WRBUF
	UPBIT	EQU	X'40'		UPDISK - READMFD
	FNBIT	EQU	X'20'		FINIS
	ERBIT	EQU	X'10'		ERASE - ALTER - READFST
	DIOBIT	EQU	X'08'		RDTK/WRTK
	Bits for Routines That Do Not Update the Disk, but That Cannot Be Interrupted by a HX Command				
	ABNBIT	EQU	X'02'		DMSABN (abend recovery routine)
	ITSBIT	EQU	X'01'		DMSITS (SVC handling routine)
1D3	KXFLAG	DC	X'00'	F*4	HX flag byte
	Bits defined in KXFLAG				
	KXWANT	EQU	X'80'		HX wanted as soon as possible
	KXWSVC	EQU	X'01'		Hold HX until any SVC activity
1D4	FVSFLG0	DC	X'00'	F*5	General communication flag byte
	Bits defined in FVSFLAG0				
	FVSUFSPC	EQU	X'80'		Disk/tape dump DMSBRD to use FVS FST copy to build AFT
1D5	FLGSAVE	DC	X'00'	F*6	For scratch use (for example, by RELUFD)
1D6	FVSFLAG	DC	X'00'	F*7	For general use (as needed)
	Miscellaneous Storage Used by ERASE (or RENAME)				
1D7	ERSFLAG	DC	X'00'	F*8	Flag for use by ERASE or RENAME
1D8	FVSERAS0	DC	F'0'		R0 to/from FSTLKW (for ERASE)
1DC	FVSERAS1	DC	F'0'		R1 to ACTLKP or FSTLKW (for ERASE)
1E0	FVSERAS2	DC	F'0'		Address of free storage used by ERASE
1E4	FVSERAS3	DC	F'0'		Pointers for each block in file are being erased
1E8	FVSERAS4	DC	F'0'		Pointer size of file being erased
1EC	FVSERAS5	DC	F'0'		Hyperblock address of file is being erased
1F0	READCNT	DC	F'0'		Current read count (DMSBRD)
	File Status Table (FST) Copy from STATE				
1F8	STATEFST	DS	0D		Full FST of file (STATE)
	CDF FST Copy (40 bytes)				
1F8	FVSFSTN	DC	D'0'		Filename
200	FVSFSTT	DC	D'0'		Filetype
208	FVSFSTDT	DC	2H'0'		Date/time last written
20C	FVSFSTWP	DC	H'0'		Write pointer (item ID)
20E	FVSFSTRP	DC	H'0'		Read pointer (item ID)
210	FVSFSTM	DC	H'0'		Filemode
212	FVSFSTIC	DC	H'0'		Number of items in file
214	FVSFSTCL	DC	H'0'		Disk address (first chain link)
216	FVSFSTFV	DC	C' '	F*9	Fixed(F)/variable(V) indicator

Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
217	FVSFSTFB	DC	X'00'	F*10	Flag byte
218	FVSFSTIL	DC	F'0'		Length of largest item in file
21C	FVSFSTDB	DC	H'0'		Number of data blocks
21E	FVSFSTYR	DC	2C' '		Year last written
	FVS1	EQU	*-STATEFST		Length of short FST
	Pointers Associated with Both FST Versions				
220	FVSFSTAD	DC	A(0)		A(active disk table for this file)
	STATER0	EQU	FVSFSTAD		
224	FVSFSTAC	DC	A(0)		A(real FST entry for this file)
	STATER1	EQU	FVSFSTAC		
228	FVSFSTHP	DC	A(0)		A(hyperblock holding this FST)
	EDF FST Copy Area (64 bytes)				
230	STATFST2	DS	0D		EDF format FST copy
	File Status Table (File Directory) Block				
230	FVSN	DS	1D		Filename
238	FVST	DS	1D		Filetype
240	FVSD	DS	1F		Date and/or time last written
244	FVSWP	DS	1H		Write pointer (item number)
246	FVSRP	DS	1H		Read pointer (item number)
248	FVSM	DS	1H		Filemode
24A	FVSIC	DS	1H		Item count
24C	FVSFCL	DS	1H		First chain link
24E	FVSFV	DS	1C	F*11	Fixed (F) and/or Variable (V) flag byte
24F	FVSFB	DS	1C	F*12	Flag byte (if used)
	Bits defined for FVSFB ("FSTFB")				
	Note: These bit definitions apply only to STATEFST copy of FST entry after successful STATE or STATEW call.				
	FVSFRWX	EQU	X'C0'		Read-only extension of read/write disk
	FVSFRW	EQU	X'80'		Read-write disk
	FVSFROX	EQU	X'40'		Read-only extension of read-only disk
	FVSFACT	EQU	X'07'		File is active and is one of the following:
	FVSFAR	EQU	X'04'		File active for reading
	FVSFAW	EQU	X'02'		File active for writing
	FVSFAP	EQU	X'01'		File active from a certain point
	Note: These bits apply only to FSCBFLG in PLIST				
	FVSITAV	EQU	X'40'		Item available
	FVSEPL	EQU	X'20'		Extended PLIST
	FVSRECAV	EQU	X'01'		Previous record is null
250	FVSIL	DS	1F		Maximum for item length
254	FVSDBC	DS	1H		Number of data blocks
256	FVSYR	DS	1H		Year
	FST EDF Extension				
258	FVSFPO	DS	1F		Alternate file orgin pointer
25C	FVSADBC	DS	1F		Alternate number of data blocks
260	FVSAIC	DS	1F		Alternate item count
264	FVSNLVL	DS	XL1	F*13	Numbeer of pointer block levels
265	FVSPTRSZ	DS	XL1	F*14	Length of a pointer element
266	FVSADATI	DS	CL6		Alternate date and/or time (X'yymmddhhmmss')
26C		DS	F		Reserved for IBM use
	FVSL	EQU	*-FVSN		

Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
	FST Hyperblock Parameters			
	FVSFWDP	EQU	800	Forward pointer to next hyperblock in storage
	FVSBKWD	EQU	804	Backward pointer to previous hyperblock in stora
	FVSELMNL	EQU	6	Length of a DIO PLIST element
	FVSELMNT	EQU	5	Number of DIO PLISTs in multi-element chained area
270	FVSDIOP	DS	(FVSELMNT*FVSELMNL)F	DIO multi-element PLIST
2E8	FVSPATCH	DS	0D	Patch area for CMS nucleus
2E8		DC	CL8'FVSPATCH'	Eye catcher
2F0		DC	20F'0'	Patch area

IHADECB: DATA EVENT CONTROL BLOCK

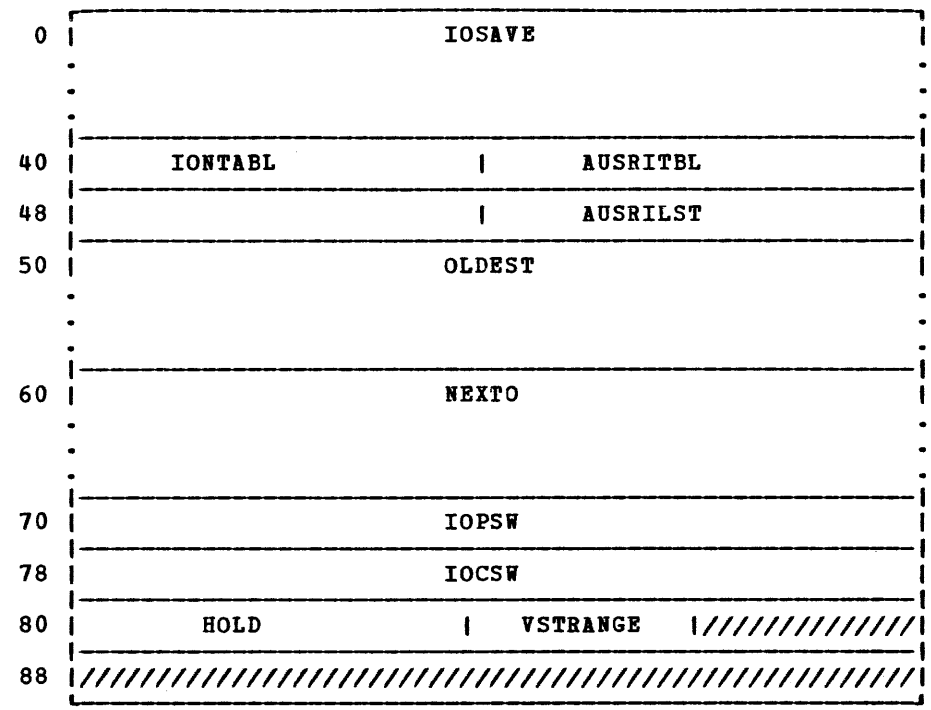
IHADECB, which is invoked via the CMSCB macro, is the simulated data event control block used for CMS processing of OS macros and OS access methods. The IOBECBPT field in FCBSECT points to IHADECB.



Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	DECSDECB	DS	F	Event control block
4	DECTYPE	DS	H	Type of I/O request
	Bits defined in DECTYPE			
	DECBRD	EQU	X'80'	Read SF
	DECBWR	EQU	X'20'	Write SF
6	DECLNGTH	DS	H	Length of key and data
8	DECDCBAD	DS	A	V(data control block)
C	DECAREA	DS	A	V(key and data, buffer)
10	DECIOBPT	DS	A	V(IOB)
	BDAM Extension			
14	DECKYADR	DS	A	V(key)
18	DECRECPT	DS	A	V(block reference field)
	Frequently Used Equates			
	DDNAM	EQU	FCBDSTYP	Filetype = data set name
	BLK	EQU	X'10'	RECFM=blocked records
	BS	EQU	X'20'	MACRF=BSAM
	DA	EQU	X'20'	DSORG=direct access
	FXD	EQU	X'80'	RECFM=fixed-length records
	IS	EQU	X'80'	DSORG=indexed sequential
	LOC	EQU	X'08'	MACRF=locate mode
	MOV	EQU	X'10'	MACRF=move mode
	PS	EQU	X'40'	DSORG=physical sequential
	PO	EQU	X'02'	DSORG=partitioned organization
	POU	EQU	X'03'	DSORG=partitioned unmoveable
	PREVIOUS	EQU	X'80'	OFLGS=previous I/O operation
	QS	EQU	X'40'	MACRF=QSAM
	UND	EQU	X'C0'	RECFM=undefined format records
	VAR	EQU	X'40'	RECFM=variable-length records

IOSECT: I/O INTERRUPT SAVE AREA

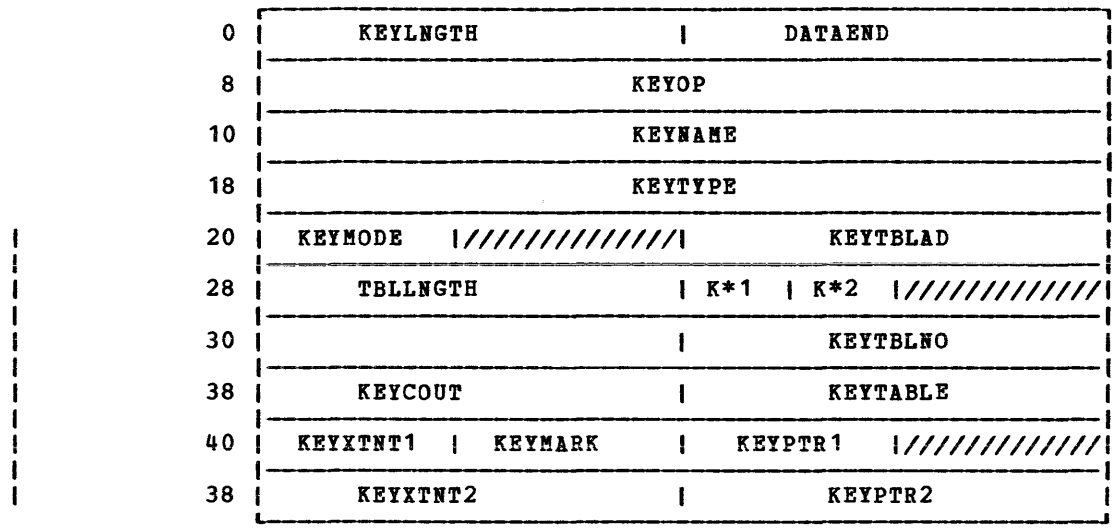
IOSECT describes the fields used by DMSITI for save registers, I/O old PSW, and other data when handling I/O interrupts. IOSECT is pointed to by the AIOSECT field in NUCON.



Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	IOSAVE	DS	16F	Register save area
40	IONTABL	DC	F'0'	Size of user interrupt table in doublewords
44	AUSRITBL	DC	A(0)	Address of user interrupt table
48		DC	F'28'	Length of each entry
4C	AUSRILST	DC	A(0)	Address of last entry in table
50	OLDEST	DS	4F	Oldest I/O old PSW and CSW
60	NEXTO	DS	4F	Next oldest I/O old PSW and CSW
70	IOPSW	DS	2F	Newest I/O old PSW
78	IOCSW	DS	2F	Newest CSW
80	HOLD	DC	F'0'	Holds entry pointer for device
84	VSTRANGE	DC	H'0'	Unknown device address saved here
86		DC	1H'0'	Reserved for IBM use
88		DC	2F'0'	Reserved for IBM use

KEYSECT: DISK KEY TABLE DSECT FOR BDAM SIMULATION

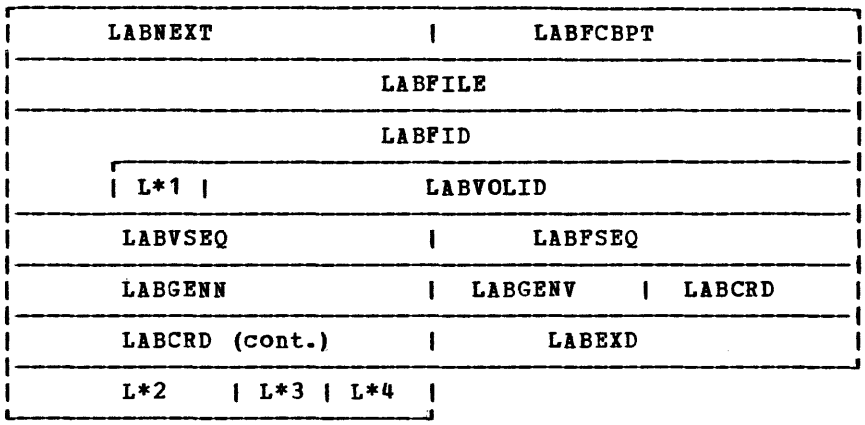
KEYSECT defines the key table used in OS simulation of BDAM files for I/O by key. KEYSECT is built dynamically from CMS free storage.



Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	KEYLNGTH	DS	1F		Key length
4	DATAEND	DS	1F		Pointer to last data item in file
8	KEYOP	DS	2F		Start of PLIST for keys file
10	KEYNAME	DS	2F		Filename of keys file
18	KEYTYPE	DS	2F		Filetype of keys file
20	KEYMODE	DS	1H		Filemode of keys file
22		DS	1H		Reserved for IBM use
24	KEYTBLAD	DS	1F		Address of key table
28	TBLLNGTH	DS	1F		Byte size of key table
2C	KEYFORM	DS	1X	K*1	Format of keys file
2D	KEYCHNG	DS	1X	K*2	Indicates change in key table
	Bits defined in KEYCHNG				
	KEYEXTPL	EQU	X'20'		Extended PLIST flag
	KDYCHANG	EQU	X'01'		Change in the key table
2E		DS	1H		Reserved for IBM use
30		DS	1F		Number of bytes read
34	KEYTBLNO	DS	1F		Item number of key table
38	KEYCOUNT	DS	1F		Blocking factor of key table
3C	KEYTABLE	DS	0F		Start of key table (item number)
3C	KEYEOF	DS	XL4'61FFFF61'		End of file marker
40	KEYXTNT1	DS	1H		Extent area if less than or equal to 65535
42	KEYMARK	DS	C'KY'		BDAM key indicator
44	KEYPTR1	DS	1H		Pointer to keys if less than or equl to 65535
46		DS	1H		Reserved for IBM use
48	KEYXTNT2	DS	1F		Extent area if greater than 65535
4C	KEYPTR2	DS	1F		Pointer to keys if greater than 65535

LABSECT: TAPE LABEL INFORMATION

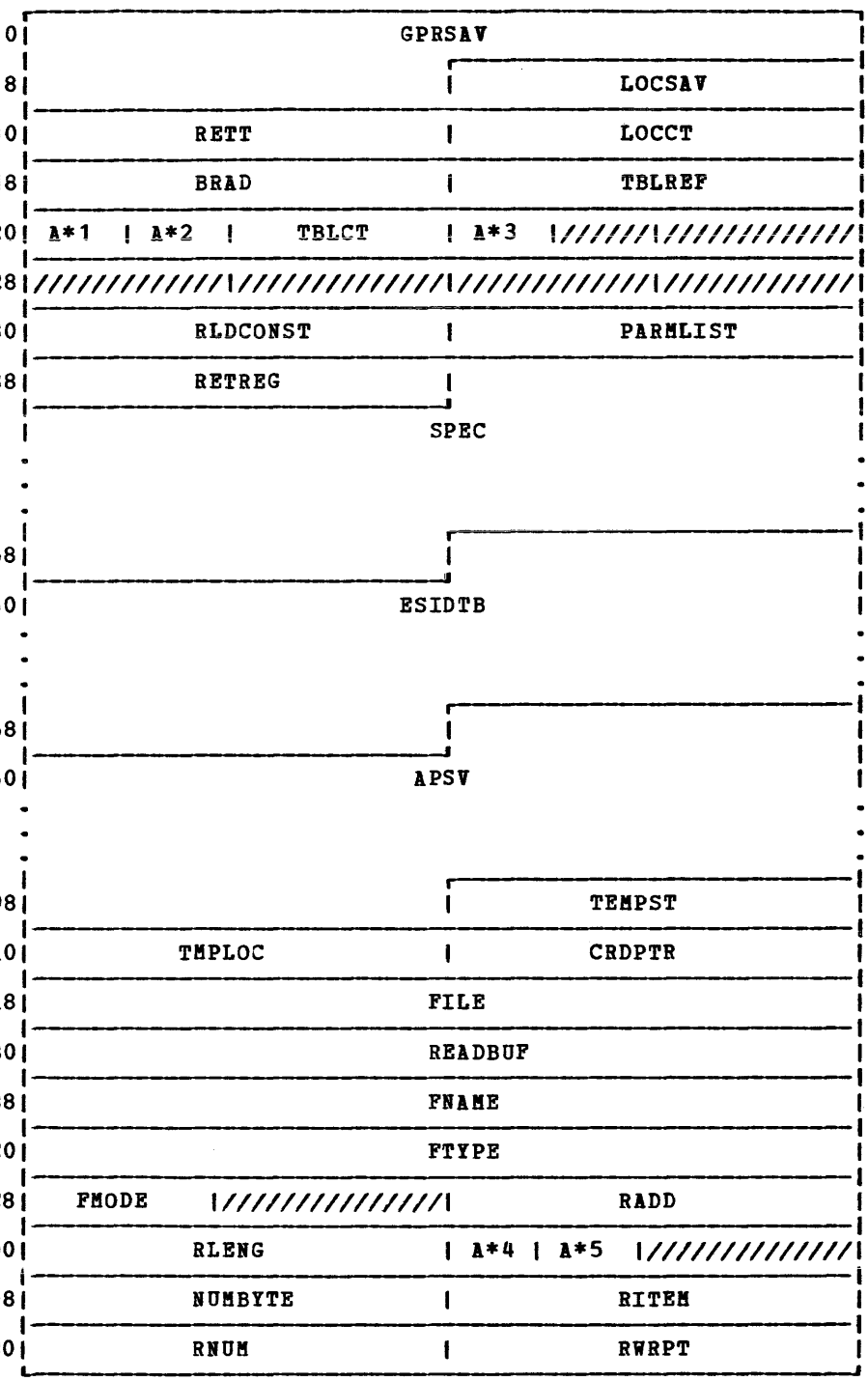
LABSECT contains user-supplied tape label information used by CMS tape label processing.

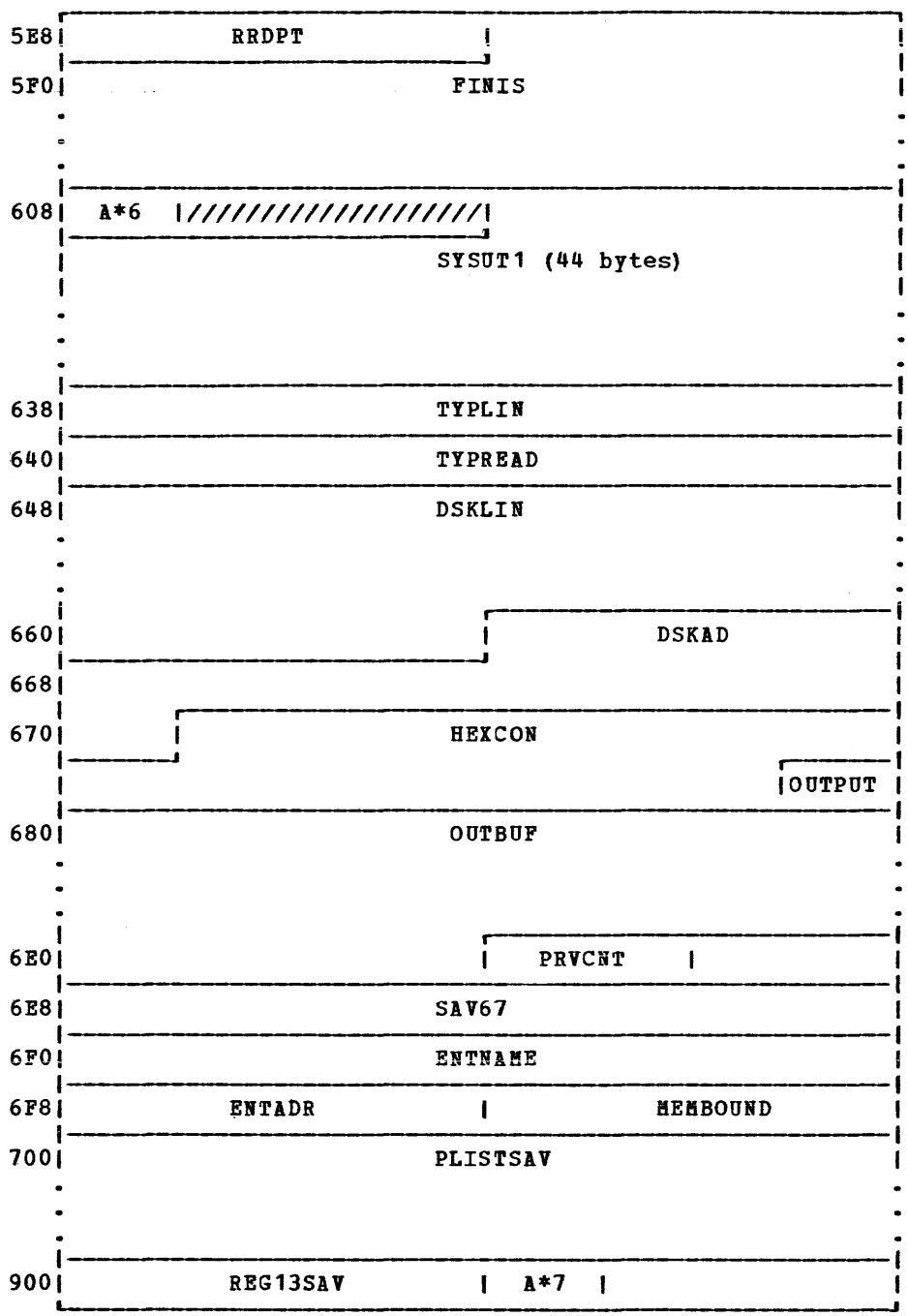


Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	LABNEXT	DS	A		Forward chain pointer
4	LABFCBPT	DS	A		Pointer FCBSECT or zero
8	LABFILE	DS	CL8		Name of file (DDNAME) for block
10	LABFID	DS	CL17		File identifier
21	LABSEC	DS	CL1	L*1	Security
22	LABVOLID	DS	CL6		Volume serial number (volid)
28	LABVSEQ	DS	CL4		Volume sequence number
2C	LABFSEQ	DS	CL4		File sequence number
30	LABGENN	DS	CL4		Generation number
34	LABGENV	DS	CL2		Generation version
36	LABCRD	DS	CL6		Creation date
3C	LABEXD	DS	CL6	L*2	Expiration date
42	LABFLAG1	DS	1X	L*3	This byte had default flags
	Bits defined in LABFLAG1				
	LABDFID	EQU	X'80'		Default file identifier
	LABDSBC	EQU	X'40'		Default security
	LABDVID	EQU	X'20'		Default volume serial number
	LABDVSEQ	EQU	X'10'		Default volume sequence number
	LABDFSEQ	EQU	X'08'		Default file sequence number
	LABDGENN	EQU	X'04'		Default generation number
	LABDGENV	EQU	X'02'		Default generation version
	LABDCRD	EQU	X'01'		Default creation date
43	LABFLAG2	EQU	1X	L*4	Miscellaneous flags byte
	Bits defined in LABFLAG2				
	LABDEXD	EQU	X'80'		Default exipiration date
	LABFDEF	EQU	X'04'		LABSECT gotten by FILEDEF
	LABPERM	EQU	X'02'		Permanent specified
	LABNOCHG	EQU	X'01'		No change specified
	LABSIZE	EQU	(*-LABSECT+7)/8		Size of LABSECT in doublewords

LDRST: LOADER STORAGE AREA

LDRST describes the fields of the work area used by the loader. The work area is obtained and built by DMSLDR. LDRST is built dynamically by DMSLDR from CMS free storage.





Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	GPRSAV	DS	3F		R9 through R12
C	LOCSAV	DS	F		Base register contains A(DMSLDRA)
10	RETT	DS	F		Return register for DMSLSB
14	LOCCT	DS	F		(LOCCNT) next load location
18	BRAD	DS	F		(STRTADDR) start execution address
1C	TBLREF	DS	F		(ALDRTBL) top of loader table
20	FLAG1	DS	X	A*1	Loader switches (permanent)
	Bits defined in FLAG1				
	ABSOLUTE	EQU	X'80'		Absolute loading
	FSTXTADR	EQU	X'40'		First text address saved
	COMMONEX	EQU	X'20'		Common entries exist in loader table
	PREXIST	EQU	X'10'		PR entries exist in loader table
	ENDCDADR	EQU	X'08'		Allow end card address
	NOERASE	EQU	X'04'		Do not erase the load map
	WORKFILE	EQU	X'02'		Work file (SYSUT1) exists
	NODUP	EQU	X'01'		Do not type message DMSLI0202W
21	FLAG2	DS	X	A*2	Loader switches (permanent)
	Bits defined in FLAG2				
	STRINITC	EQU	X'80'		Call STRINIT in LOADMOD
	NOMAP	EQU	X'40'		Do not create a load map
	APRILB	EQU	X'20'		REP card processing control
	NOAUTO	EQU	X'10'		No automatic text deck checking
	TYPE	EQU	X'08'		Type load map at terminal
	NOREP	EQU	X'04'		No REP card printing
	NOINV	EQU	X'02'		No invalid card typeout
	NOLIBE	EQU	X'01'		No automatic TXT library searching
22	TBLCT	DS	H		Number of entries in loader table
24	FLAG3	DS	X	A*3	More flags
	Bits defined in FLAG3				
	CMD	EQU	X'80'		Processing names from command list
25		DS	X		Reserved for IBM use
26		DS	5H		Reserved for IBM use
30	RLDCONST	DS	F		Relocation constant
34	PARMLIST	DS	F		Updated parameter list pointer
38	RETREG	DS	F		Return register
3C	SPEC	DS	200F		10-card input buffer
35C	ESIDTB	DS	256H		256 ESD entries; object deck
55C	APSV	DS	16F		Register save area for subroutine calls
59C	TEMPST	DS	F		Temporary RLD routine storage
5A0	TMPLOC	DS	F		Temporary storage
5A4	CRDPTR	DS	F		Input card pointer
5A8	FILE	DS	D		Save location for DMSLIB
5B0	READBUF	DS	2F		Input read parameter list
5B8	FNAME	DS	2F		Filename
5C0	FTYPE	DS	2F		Filetype
5C8	FMODE	DS	H		Filemode
5CA		DS	H		Reserved for IBM use
5CC	RADD	DS	F		Buffer address
5D0	RLENG	DS	F		Buffer length
5D4	RFIX	DS	C	A*4	Fixed/variable flag byte
5D5	REPL	DS	X	A*5	Extended PLIST flag byte
5D6		DS	H		Reserved for IBM use

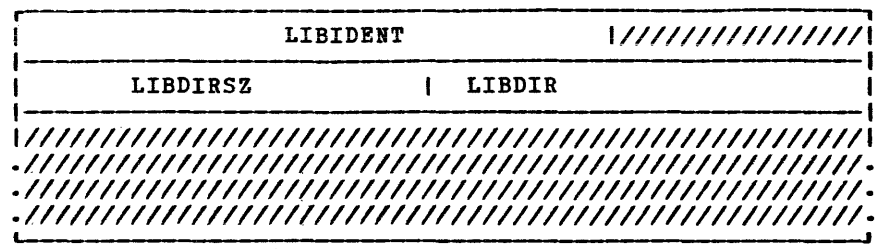
Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
5D8	NUMBYTE	DS	F		Number of bytes actually read
5DC	RITEM	DS	F		Item number
5E0	RNUM	DS	F		Number of items
5E4	RWRPT	DS	F		Write pointer
5E8	RRDPT	DS	F		Read pointer
5EC	FINIS	DS	7F		FINIS parameter list
608	FLAGS	DS	X	A*6	Loader switches (nonpermanent)
	Bits defined in FLAGS				
	START	EQU	X'80'		Start execution requested
	ONEDYNA	EQU	X'40'		One call to dynamic loading per text file
	ESD1ST	EQU	X'20'		First ESD data item this card
	NOSLCADR	EQU	X'10'		No address field in SLC card
	SETLIB	EQU	X'08'		Set up for library searching
	CLOSELIB	EQU	X'04'		Clear TXTLIB searching
	LUNDEF	EQU	X'02'		Undefined entries exist in loader table
	RESET	EQU	X"01"		Reset "entry" specified
609		DS	3X		Library search work area pointer
60C	SYSUT1	DS	11F		RLD work file PLISTs
638	TYPLIN	DS	2F		TYPLIN parameter list
640	TYPEAD	DS	2F		TYPLIN buffer address
648	DSKLIN	DS	7F		Disk parameter list for load map
664	DSKAD	DS	13X		
681	HEXCON	DS	14X		Hexadecimal constant
	Bits defined in HEXCON				
	PACK	EQU	HEXCON		Hexadecimal constant
	UNPACK	EQU	HEXCON+5		Hexadecimal constant
68F	OUTPUT	DS	X		
690	OUTBUF	DS	100X		Output buffer for load map and terminal printing
6F4	PRVCNT	DS	H		Address of next PR load address
6F8	SAV67	DS	2F		Temporary save area of R6 and R7
700	ENTNAME	DS	CL8		Entry name (reset ENTRY or entry control
708	ENTADR	DS	F		Entry name's loader table location
70C	MEMBOUND	DS	F		Low extend of free storage (FREELOWE)
710	PLISTSAV	DS	64D		LOAD (INCLUDE) PLIST saved
910	REG13SAV	DS	F		Address of LDRST
914	FRSTSDID	DS	X	A*7	First section definition identification
918	ENDFREE	DS	0D		
	NEED	EQU	(ENDFREE-LDRST)/8		

Note: The following equates refer to displacements and flags in the REFTABLE entry usually pointed to by register 12

REFNAME	EQU	0	Displacement of 8-byte name field
REFLG1	EQU	8	Displacement of flag byte 1
REFPRB	EQU	X'7C'	PR - byte alignment
REFPRH	EQU	X'7D'	PR - halfword alignment
REFPRF	EQU	X'7E'	PR - fullword alignment
REFPRD	EQU	X'7F'	PR - doubleword alignment
REFUND	EQU	X'80'	Undefined symbol
REFCXD	EQU	X'81'	Resolve CXD
REFCOM	EQU	X'82'	Define common area
REFWEX	EQU	X'83'	Weak external reference
REFNOB	EQU	X'90'	LIBE card - nonobligatory
REFLIB	EQU	X'10'	Single bit for nonobligatory LIBE card
REFINFO	EQU	9	Displacement of relocation factor or maximum address
REFVAL	EQU	13	Displacement of absolute or assigned value
REFLG2	EQU	16	Displacement of flag byte 2
REFCMD	EQU	X'80'	Command line name - must resolve

LIBSECT: CMS PDS HEADER

LIBSECT keeps track of the total library size and the address of the CMS PDS library.

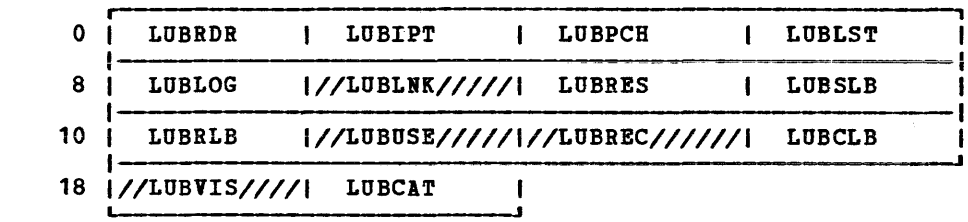


Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	LIBIDENT	DS	CL6'LIBPDS'	CMS PDS library identifier
6		DS	H'0'	Reserved for IBM use only
8	LIBDIRSZ	DS	F	Total directory size in bytes
C	LIBDIR	DS	F	Directory address (item number)
10		DS	XL64	Reserved for IBM use
	LIBIDSIZ	EQU	*-LIBSECT	Length of PDS identifier

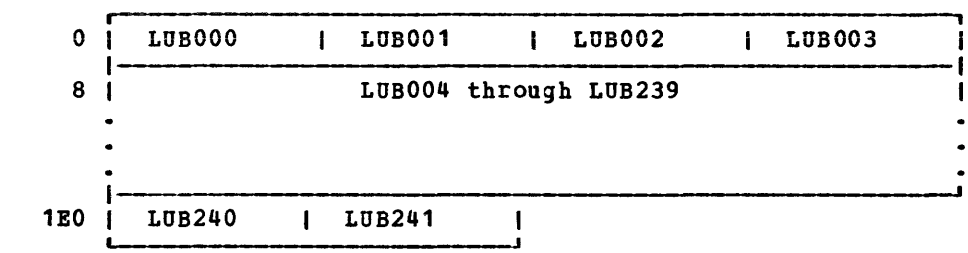
LUBTAB AND LUBPR: LOGICAL UNIT BLOCK TABLE

LUBTAB is a device table that has a 2-byte entry for each symbolic name used by CMS/DOS. The simulated LUB has 255 entries: 14 entries for the system logical units and 241 entries for programmer logical units. System devices (SYSRDR, SYSIPT, SYSPCH, SYSLST, and SYSLOG) can be assigned to alternate devices. The system and programmer tables are defined with separate DSECTs: LUBTAB and LUBPR. LUBTAB is pointed to by the LUBPT field in BGCOM. The address of the first LUB entry is in the first byte of the FICL control block.

System (LUBTAB)



Programmer (LUBPR)

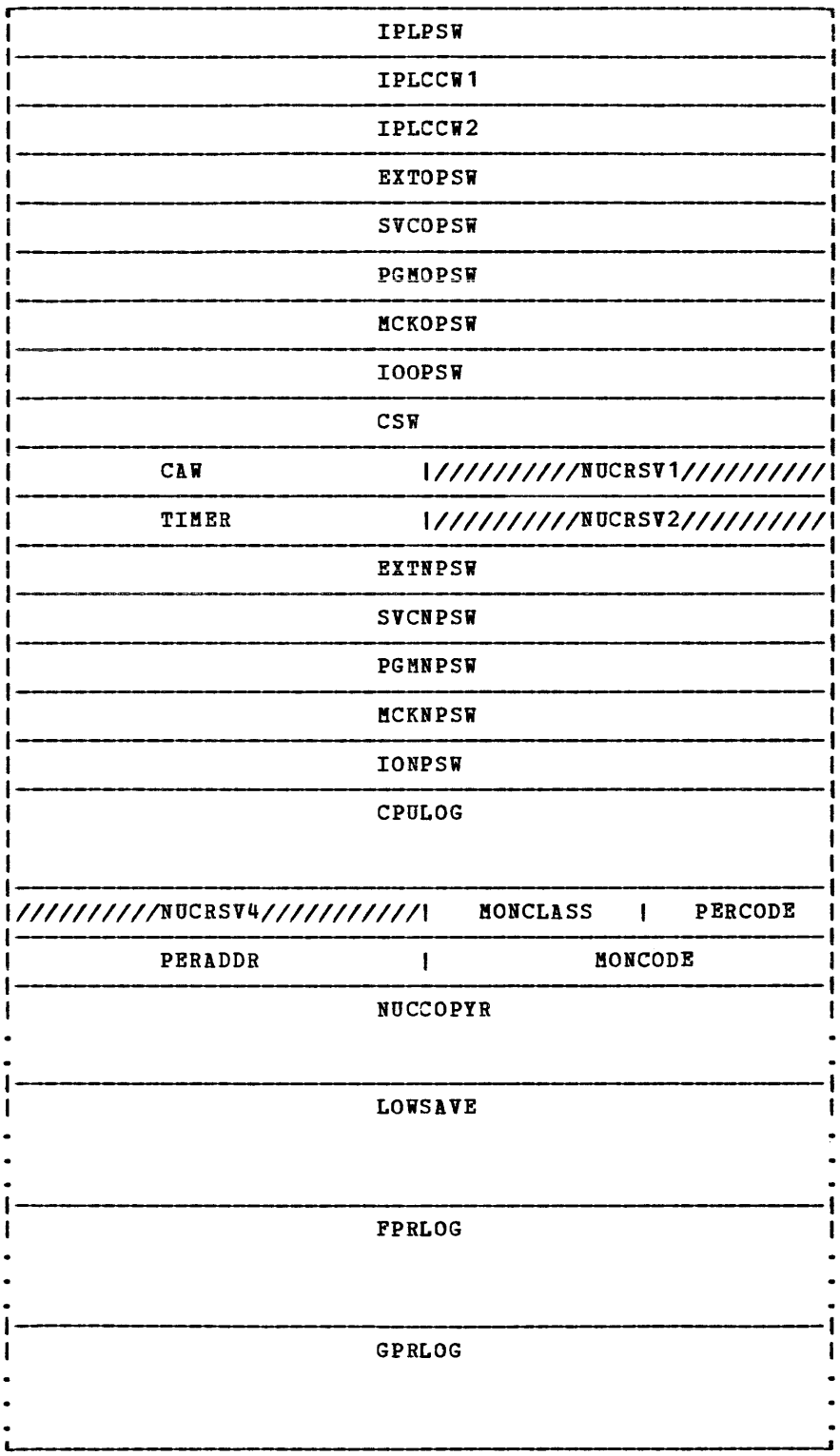


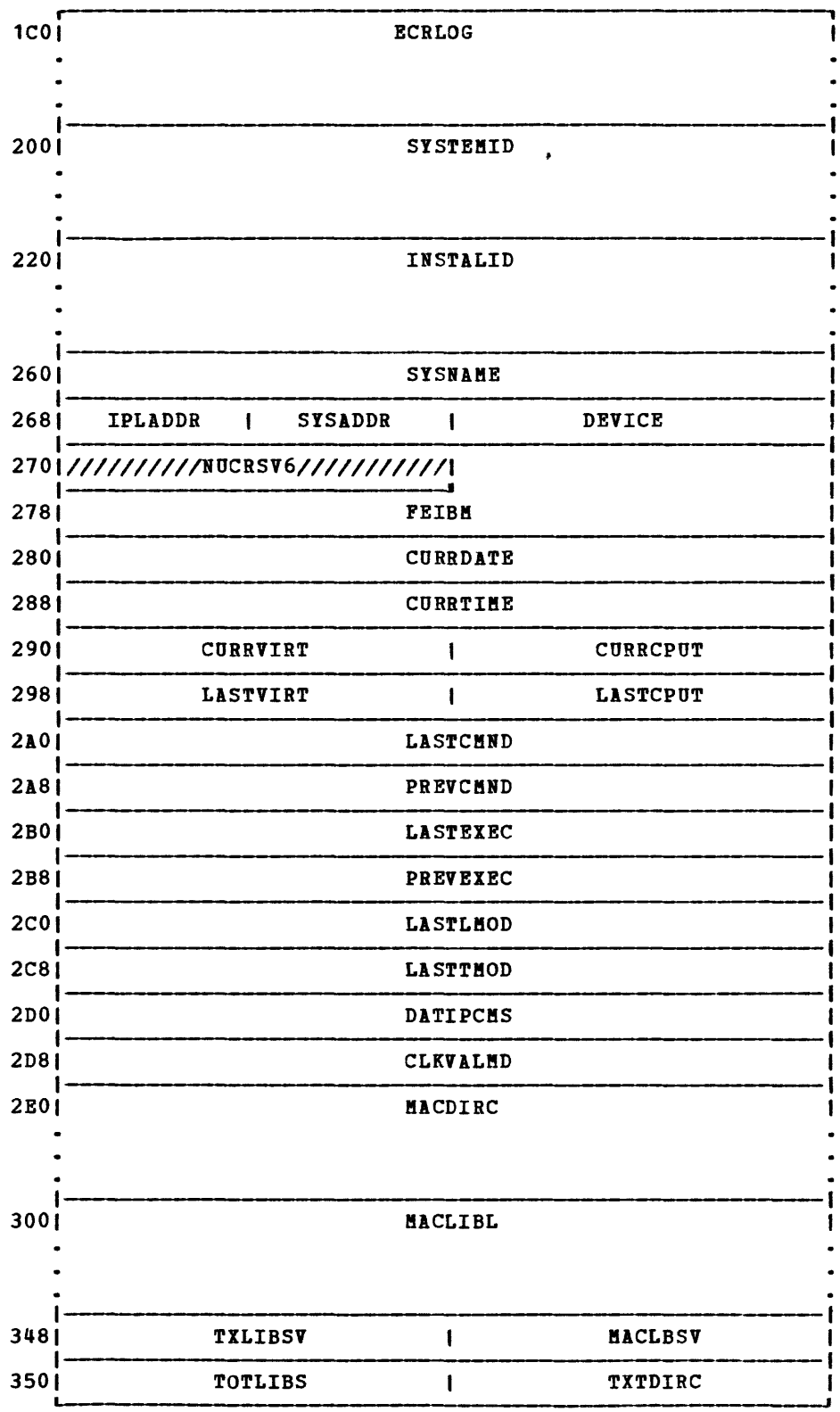
Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
	System LUBs			
0	LUBRDR	DS	XL2	System virtual reader
2	LUBIPT	DS	XL2	System virtual input device
4	LUBPCH	DS	XL2	System virtual punch
6	LUBLST	DS	XL2	System virtual printer
8	LUBLOG	DS	XL2	Terminal
A	LUBLNK	DS	XL2	Reserved for IBM use
C	LUBRES	DS	XL2	System residence volume
E	LUBSLB	DS	XL2	Private source statement library
10	LUBRLB	DS	XL2	Private relocatable library
12	LUBUSE	DS	XL2	Reserved for IBM use
14	LUBREC	DS	XL2	Reserved for IBM use
16	LUBCLB	DS	XL2	Private core image library
18	LUBVIS	DS	XL2	Reserved for IBM use
1A	LUBCAT	DS	XL2	VSAM catalog
	Programmer LUBs			
0	LUB000	DS	XL2	Programmer logical unit block
2	LUB001	DS	XL2	Programmer logical unit block
4	LUB002	DS	XL2	Programmer logical unit block
6	LUB003	DS	XL2	Programmer logical unit block
8	.	.	.	LUB004 through LUB239 are defined with DS and XL2. Each is a programmer logical unit block.
	.	.	.	
	.	.	.	
1E0	LUB240	DS	XL2	Programmer logical unit block

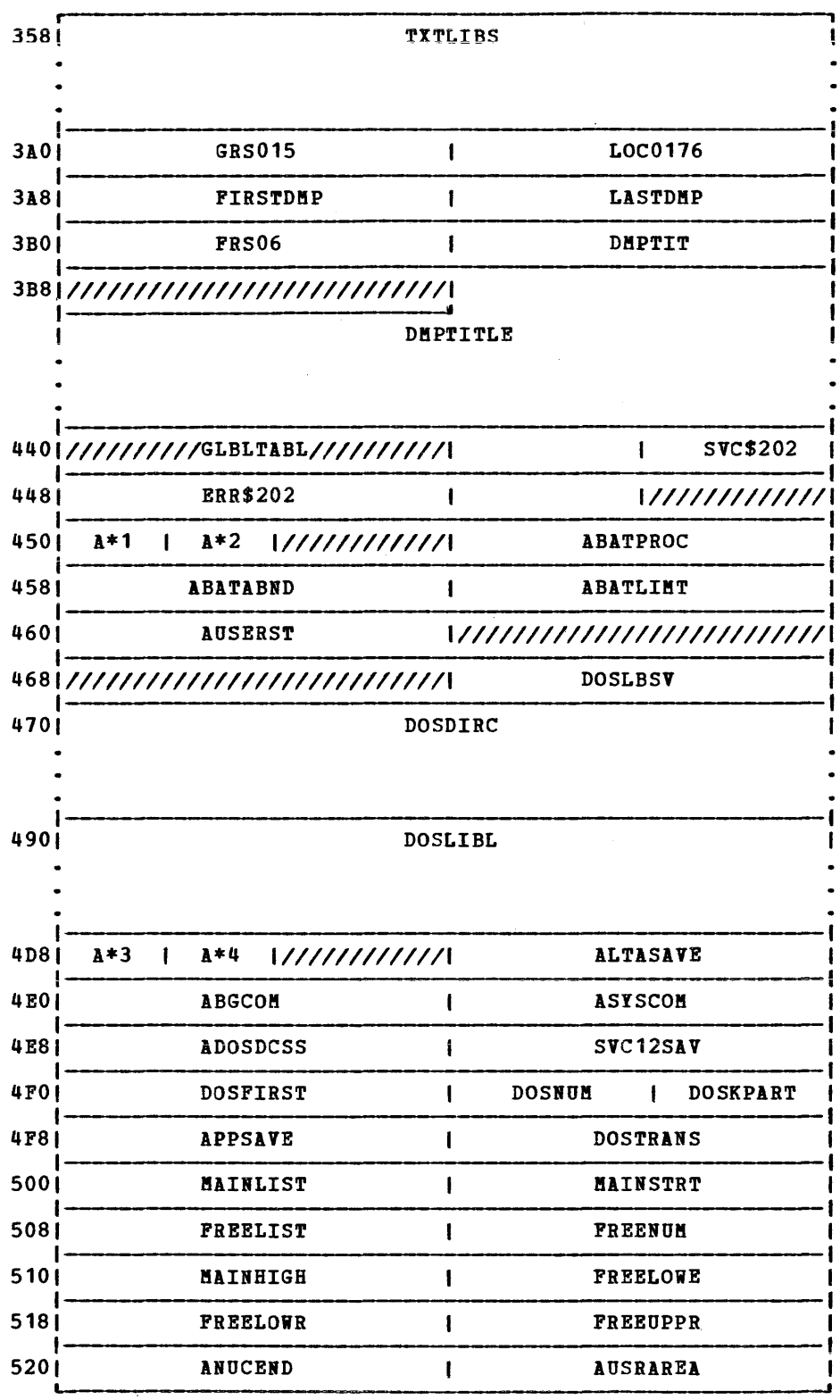
June 29, 1979

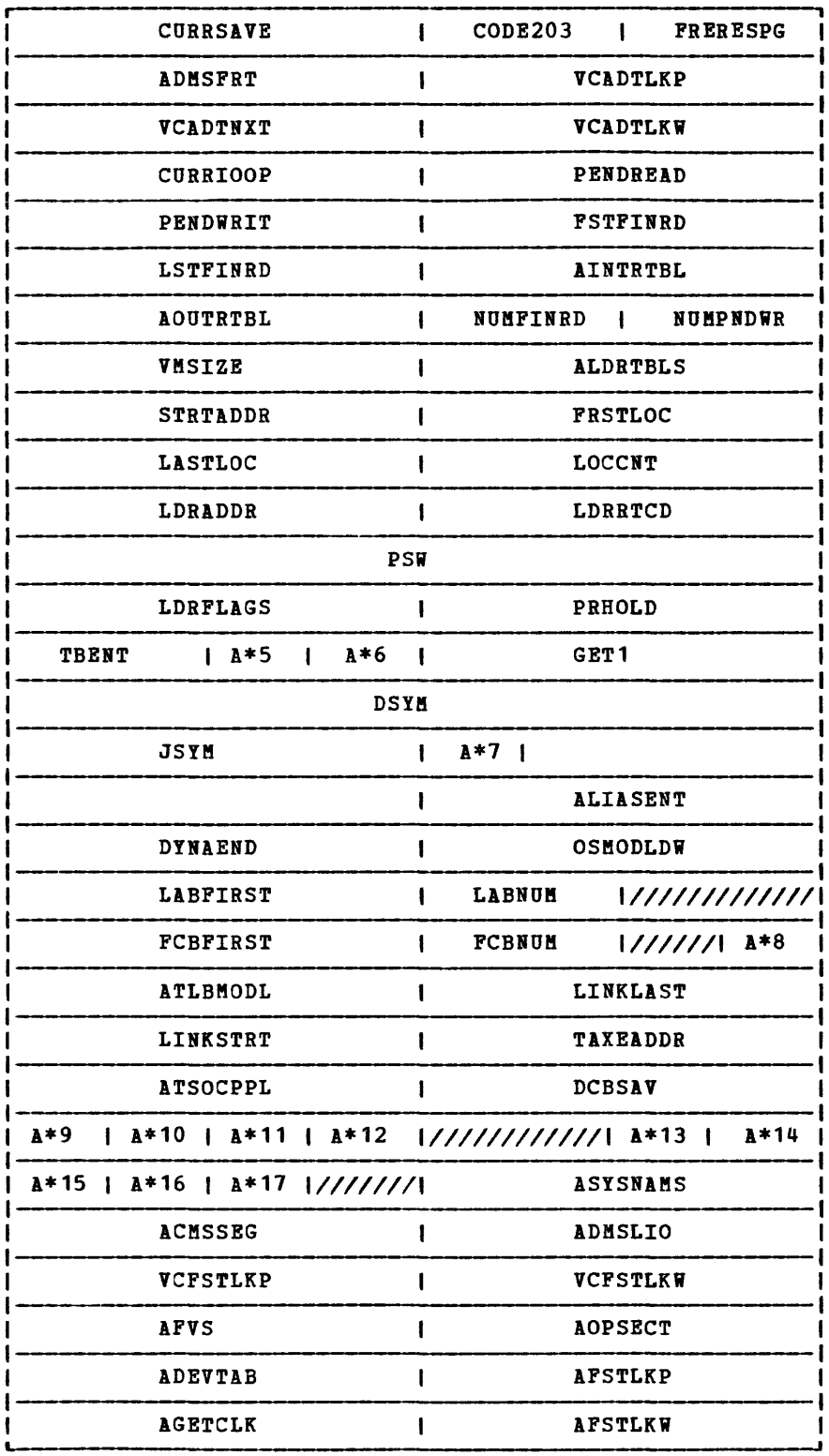
NUCON: NUCLEUS CONSTANT AREA

NUCON is the nucleus constant area of CMS.




1C0
ECRLOG
200
SYSTEMID
220
INSTALID
260
SYSNAME
268
IPLADDR
SYSADDR
DEVICE
270
//////////NUCRSV6//////////
278
FEIBM
280
CURRDATE
288
CURRTIME
290
CURRVIRT
CURRCPUT
298
LASTVIRT
LASTCPUT
2A0
LASTCMND
2A8
PREVCMND
2B0
LASTEXEC
2B8
PREVEXEC
2C0
LASTLMOD
2C8
LASTTMOD
2D0
DATIPCMS
2D8
CLKVALMD
2E0
MACDIRC
300
MACLIBL
348
TXLIBSV
MACLBSV
350
TOTLIBS
TXTDIRC





CA0		ADMSTRKA	ADMSTRKM
CA8		ADMSTRKD	ADMSALU
CB0		ASORTFST	ADEVSUP
CB8		ADEVIND	ATBLIND
CC0		ABLKIND	ALABELRD
CC8		ALABELWR	ADMSLADN
CD0		ADMSBLKR	ADMSBLKW
CD8		AABBREV	ADEVSUP2
CE0		AESTATF	AESTATEW
CE8		AEPOINT	ATRUNC
CF0		ABAMSYS	NUCRSVB1
CF8	N*n	RESERVED	ACMSZER
D00		SEG0RELD	ASSTATX
D08		ASSTATZ	AYSTATX
D10		AYSTATZ	ADMSIOW
D18		ADBGSECT	ADMSABW
D20		ADMSERR	ADMSCWT
D28		ADMSCWR	ADMSIOWR
D30		ADMSITI	ADMSABN
D38		AABNGO	ALADAD
D40		ACITDB	ADMSITSR
D48		ADMSFRES	ASTGSB
D40		AINTAB	ADMSCAT
D58		ADMSCPF	AEXCAB
D60		NUCRSV8	

Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
	Machine Usage			
0	IPLPSW	DS	1D	Initial program load of PSW
8	IPLCCW1	DS	1D	Initial program load of CCW1
10	IPLCCW2	DS	1D	Initial program load of CCW2
		ORG	IPLPSW	
0	RSTNPSW	DS	1D	PSW restart new PSW
8	RSTOPSW	DS	1D	PSW restart old PSW
10	ACMSCVT	DS	1F	Address of simulated OS CVT
14	ASYSREF	DS	1F	Address of nucleus address table
18	EXTOPSW	DS	1D	External old PSW
20	SVCOPSW	DS	1D	Supervisor call old PSW
28	PGMOPSW	DS	1D	Program old PSW
30	MCKOPSW	DS	1D	Machine-check old PSW
38	IOOPSW	DS	1D	Input/output old PSW
40	CSW	DS	1D	Channel status word
48	CAW	DS	1F	Channel address word
4C	NUCRSV1	DS	1F	Reserved for IBM use
50	TIMER	DS	1F	Interval timer
54	NUCRSV2	DS	1F	Reserved for IBM use
58	EXTNPSW	DS	1D	External new PSW
60	SVCNPSW	DS	1D	Supervisor call new PSW
68	PGMNPSW	DS	1D	Program new PSW
70	MCKNPSW	DS	1D	Machine-check new PSW
78	IONPSW	DS	1D	Input/output new PSW
80	CPULOG	DS	48D	Processor logout area
		ORG	CPULOG	
80	NUCRSV3	DS	2D	Reserved for IBM use
90	NUCRSV4	DS	1F	Reserved for IBM use
94	MONCLASS	DS	1H	Monitor call class number
96	PERCODE	DS	1H	Program event recorder code
98	PERADDR	DS	1F	Program event recorder address
9C	MONCODE	DS	1F	MONITOR CALL code
A0	NUCCOPYR	DC	CL32'Copyright	IBM BSEPP 5748-XX8' For CMS
C0	LOWSAVE	DS	XL160	Save area for first 160 bytes of storage
160	FPRLOG	DS	4D	Floating-point register logout area
180	GPRLOG	DS	16F	General-purpose register logout area
1C0	ECRLOG	DS	16F	Extended control register logout area
	System Usage			
200	SYSTEMID	DS	CL32	System name and date
220	INSTALID	DS	CL64	Installation identification
260	SYSNAME	DS	CL8	Name of saved system loaded (via IPL)
268	IPLADDR	DS	1H	Address of device loaded (via IPL)
26A	SYSADDR	DS	1H	Address of system disk
26C	DEVICE	DS	1F	Name of device causing last I/O interrupt
270	NUCRSV6	DS	1F	Reserved for IBM use
274	FEIBM	DC	CL12'FEIBM154067'	FE service number
280	DIAGTIME	DS	CL24	Buffer for DIAGNOSE timer
		ORG	DIAGTIME	
280	CURRDATE	DS	CL8	Current date - mm/dd/yy
288	CURRTIME	DS	CL8	Current time - hh.mm.ss
290	CURRVIRT	DS	1F	Current elapsed virtual time used
294	CURRCPUT	DS	1F	Current elapsed processor time used
298	LASTVIRT	DS	1F	Previous elapsed virtual time used
29C	LASTCPUT	DS	1F	Previous elapsed processor time used
2A0	LASTCMND	DC	CL8' '	Last command issued
2A8	PREVCMND	DC	CL8' '	Next to last command
2B0	LASTEXEC	DC	CL8' '	Last EXEC procedure
2B8	PREVEXEC	DC	CL8' '	Next to last EXEC procedure

Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
2C0	LASTLMOD	DC	CL8' '		Last module LOADMOD into main storage
2C8	LASTTMOD	DC	CL8'ACCESS'		Last module LOADMOD into transient area
2D0	DATIPCMS	DC	D'0'		Date (mm/dd/yy) at last IPL CMS
2D8	CLKVALMD	DC	D'0'		Time (STCK form) at midnight (0000 hours)
	Macro and Text Library Pointers				
2E0	MACDIRC	DC	8A(0)		Address of macro library directories
300	MACLIBL	DC	18F'-1'		Current macro library names
348	TXLIBSV	DC	F'0'		Library save area for TXTLIBS
34C	MACLBSV	DC	F'0'		Library save area for MACLIBS
350	TOTLIBS	DC	F'0'		Total global chains (in bytes)
354	TXTDIRC	DC	A(0)		Address of TEXT library directories
358	TXTLIBS	DC	18F'-1'		Current TEXT library names
	Debug Dump Parameters				
3A0	DUMPLIST	DS	0D		DEBUG DUMP PLIST
3A0	GRS015	DC	A(GPRLOG)		Address of GPR save area
3A4	LOC0176	DC	A(LOWSAVE)		Address of low storage save area
3A8	FIRSTDMP	DC	A(0)		Address of first location to dump
3AC	LASTDMP	DC	A(0)		Address of last location to dump
3B0	FRS06	DC	A(FPRLOG)		Address of FPR save area
3B4	DMPTIT	DC	A(DMPTITLE)		Address of dump title line
3B8		DC	4X'FF'		Reserved for IBM use
3BC	DMPTITLE	DC	CL132' '		Dump title line
440	GLBLTABL	DC	F'0'		Reserved for IBM use
444		DC	H'0'		Used for alignment
446	SVC$202	SVC	202		Common SVC for reentrant code
448	ERR$202	DC	A(*+4)		User will fill if necessary
44C		BR	14		Return to caller
44E		DC	H'0'		Reserved for IBM use
	Batch Monitor Information				
450	BATFLAGS	DC	1X'00'	A*1	Batch flags
	Bits defined in BATFLAGS				
	BATRUN	EQU	X'80'		Batch monitor running
	BATLOAD	EQU	X'40'		Loading batch processor
	BATNOEX	EQU	X'20'		Suppress user job execution
	BATRERR	EQU	X'10'		Batch reader error
	BATCPEX	EQU	X'08'		CP command executing
	BATUSEX	EQU	X'04'		User job executing
	BATMOVE	EQU	X'02'		MOVEFILE executing from terminal
	BATTERM	EQU	X'01'		User job being flushed
451	BATFLAG2	DC	1X'00'	A*2	More batch flags
	Bits defined in BATFLAG2				
	BATXLIM	EQU	X'80'		User job limit exceeded
	BATXCPU	EQU	X'40'		Processor time exceeded
	BATXPRT	EQU	X'20'		No. of printed lines exceeded
	BATXPUN	EQU	X'10'		No. of punched cards exceeded
	BATDCMS	EQU	X'08'		Disabled CMS command called
	BATIPLSS	EQU	X'04'		Batch loading (via IPL) saved system
	BATSTOP	EQU	X'02'		Batch stopping after current job
	BATSYSAB	EQU	X'01'		System abnormal termination in process
452		DC	2X'00'		Reserved for IBM use
	Batch Processor Entry Points				
454	ABATPROC	DC	A(0)		Main entry
458	ABATABND	DC	A(0)		User job abend entry
45C	ABATLIMT	DC	A(0)		User job limits table
460	AUSERST	DC	A(0)		Virtual machine restart entry point
464		DC	2F'0'		Reserved for IBM use

Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
	DOS Library Pointers				
46C	DOSLBSV	DC	F'0'		Library save area for DOSLIBs
470	DOSDIRC	DC	8A(0)		Address of DOS library directories
490	DOSLIBL	DC	18F'-1'		Current DOS library names
4D8	DOSFLAGS	DC	X'00'	A*3	DOS simulation flags
	Bits defined in DOSFLAGS				
	DOSMODE	EQU	X'80'		DOS environment flag
	DOSSVC	EQU	X'40'		DOS SVC simulation flag
	DOSVSAM	EQU	X'20'		DOS VSAM running flag
	DOSCOMP	EQU	X'10'		DOS compiler running flag
	DOSPIO	EQU	X'08'		DOS printer indicator
	VSMINSTL	EQU	X'04'		VSAM installation flag to relocate DCSS table
4D9	DOSRC	DC	X'00'	A*4	DOS return code to user
4DA		DC	2X'00'		Reserved for IBM use
4DC	ALTASAVE	DC	V(LTASAVE)		Address of LTA save area
4E0	ABGCOM	DC	V(BGCOM)		Address of partition communication region
4E4	ASYSCOM	DC	V(SYSCOM)		Address of system communication region
4E8	ADOSDCSS	DC	A(0)		Address of DOS DCSS
4EC	SVC12SAV	DC	F'0'		Work area for SVC 12
4F0	DOSFIRST	DC	A(0)		Address of first DOSCB in chain
4F0	DOSNUM	DC	H'0'		Number of DOSCBs in chain
4F6	DOSKPART	DS	H'0'		Number of K-bytes in DOS partition
4F8	APPSAVE	DC	V(PPSAVE)		Address of problem program save area
4FC	DOSTRANS	DC	A(0)		Address of DOS transient area
	Free Storage Pointers				
500	MAINLIST	DC	A(0)		Address of first block of user free storage
504	MAINSTRT	DC	V(USERAREA)		Address of the start of user free storage
508	FREELIST	DC	V(NUCEND)		Address of first block of system storage
50C	FREENUM	DC	F'1'		Number of blocks of system storage
510	MAINHIGH	DC	V(USERAREA)		High extend of user free storage
514	FREELOWE	DC	V(NUCEND)		Low extend of system free storage
518	FREELOWR	DC	V(TRANSAR)		Lower limit of system free storage
51C	FREEUPPR	DC	A(0)		Upper limit of system free storage
520	ANUCEND	DC	V(NUCEND)		Address of end of nucleus storage area
524	AUSRAREA	DC	V(INITSUB)		Address of beginning of user area
528	CURRSAVE	DC	A(0)		Address of current save area
52C	CODE203	DC	H'0'		Code number of last SVC 203
52E	FRERESPG	DS	H'2'		Amount of user storage to reserve for CMS free storage (pages: >=2)
530	ADMSFRT	DC	V(DMSFRT)		DMSFRE work area
534	VCADTLKP	DS	A(DMSLAD)		BALR equivalent of ADTLKP
538	VCADTNXT	DC	A(DMSLADN)		BALR equivalent of ADTNXT
53C	VCADTLKW	DC	A(DMSLADW)		BALR equivalent of ADTLKW
	Console I/O Pointers				
540	CURRIOOP	DC	A(0)		Address of current I/O buffer
544	PENDREAD	DC	A(0)		Address of pending read operation
548	PENDWRIT	DC	A(CONSTACK)		Address of pending write operation
54C	FSTFINRD	DC	A(0)		Address of finished read buffer
550	LSTFINRD	DC	A(0)		Address of last finished read buffer
554	AINTRTBL	DC	A(0)		Address of user input translate table
558	AOUTRTBL	DC	A(0)		Address of user output translate table
55C	NUMFINRD	DC	H'0'		Number of finished read buffers
55E	NUMPNDWR	DC	H'0'		Number of pending write operations

Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
	Loader Information				
560	VMSIZE	DS	1F		Virtual storage size
564	ALDRTBLS	DC	1F'0'		Address of loader tables
568	STRTADDR	DC	1F'0'		Module starting address
56C	FRSTLOC	DC	1F'0'		Module beginning address
570	LASTLOC	DC	1F'0'		Module ending address
574	LOCCNT	DC	1F'0'		Loader location counter
578	LDRADDR	DC	1F'0'		Loader return address
57C	LDRRTCD	DC	1F'0'		Loader return code
580	PSW	DC	1D'0'		User's starting PSW
588	LDRFLAGS	DC	1F'0'		Loader flags
58C	PRHOLD	DC	1F'0'		Pseudo register counter
590	TBENT	DC	H'0'		Initialize table entries to zeros
592	UNRES	DC	X'00'	A*5	Unresolved reference bit for CMS loader
593	MODFLGS	DC	1X'00'	A*6	Flags
	Bits defined in MODFLGS				
	NOMAPFLG	EQU	X'80'		NOMAP flag
	CLEAROP	EQU	X'40'		CLEAR option flag
	MODGNDOS	EQU	X'20'		Module generated with DOS option
	MODGNALL	EQU	X'10'		Module generated with ALL option
	SYSLOAD	EQU	X'08'		Allow load greater than FREELOWE or less than transient
	MDPCALL	EQU	X'04'		Indicate module called by DMSMDP
	MOD6	EQU	X'02'		Reserved for IBM use
	MOD7	EQU	X'01'		Reserved for IBM use
594	GET1	DC	1F'0'		DMSLSY R1 save location
598	DSYM	DC	2F'0'		DMSLSY work space
5A0	JSYM	DC	F'0'		DMSLSY unique identifier base
5A4	NXTSYM	DC	C'Z'	A*7	First character of unique identifier
5A5		DC	XL7'0'		Rest of unique identifier
5AC	ALIASENT	DC	1F'0'		Alias entry point (dynamic load)
5B0	DYNAEND	DC	1F'0'		Maximum load location (dynamic load)
5B4		DS	1F		Reserved for IBM use
5B8	LABFIRST	DC	A(0)		Address of first LABSECT
5BC	LABNUM	DC	H(0)		Number of LABSECT
	OS Simulation Pointers				
5C0	FCBTAB	DS	0D		FCB chain address
5C0	FCBFIRST	DC	A(0)		Address of first FCB
5C4	FCBNUM	DC	H'0'		Number of FCBs in chain
5C6		DC	X'00'		Reserved for IBM use
5C7	OSSFLAGS	DC	X'00'	A*8	OS simulation flags
	Bits defined in OSSFLAGS				
	COMPSWT	EQU	X'80'		Compiler switch
	OSSMNU	EQU	X'40'		DMSSMN unconditional flag
	OSRESET	EQU	X'20'		Reset for OS
	OSWAIT	EQU	X'10'		Wait for OS
	DYLD	EQU	X'08'		Dynamic loading in process
	DYLIBO	EQU	X'04'		Omit dynamic library scan
	DYLIBNOW	EQU	X'02'		Dynamic library scan
	DYMBRNM	EQU	X'01'		Linked via member name
5C8	ATLBMODL	DC	A(0)		Address of tape label processor
5CC	LINKLAST	DC	A(0)		Address of last OS linkage block
5D0	LINKSTRT	DC	A(0)		Address of entry point of last module
5D4	TAXEADDR	DC	A(0)		Terminal attention exit element address
5D8	ATSOCPPL	DC	V(CPP)		Address of TMP PLIST for TSO programs
5DC	DCBSAV	DC	1F'0'		DCB restoration address

Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
68C	ASCANO	DC	V(DMSSCNO)	
690	AEXEC	DC	V(DMSEXC)	
694	ASTART	DC	V(DMSLDRA)	
698	AADTLKW	DC	V(ADTLKW)	
69C	AUSABRV	DC	V(USABRV)	
6A0	AEXTSECT	DC	V(EXTSECT)	
6A4	ASCBPTR	DC	V(SCBPTR)	
6A8	ADMSROS	DC	A(0)	
6AC	LDMSROS	DC	H'0'	
6AE	CDMSROS	DC	H'0'	
6B0	AACTLKP	DC	V(DMSLAF)	
6B4	AACTNXT	DC	V(DMSLAFNX)	
6B8	AACTFREE	DC	V(DMSLAFFE)	
6BC	AACTFRET	DC	V(DMSLAFFT)	
6C0	AADTNXT	DC	V(ADTNXT)	
6C4	ATRKLKP	DC	V(DMSTRK)	
6C8	ATRKLKPX	DC	V(DMSTRKX)	
6CC	AQQTRK	DC	V(DMSTQQ)	
6D0	AQQTRKX	DC	V(DMSTQQX)	
6D4	AERASE	DC	V(DMSERS)	
6D8	ATYPSRCH	DC	V(TYPSRCH)	
6DC	AUPDISK	DC	V(DMSAUD)	
6E0	AKILLEX	DC	V(KILLEX)	
6E4	ATFINIS	DC	V(DMSFNST)	
6E8	ARDBUF	DC	V(DMSBRD)	
6EC	AWRBUF	DC	V(DMSBWR)	
6F0	AFINIS	DC	V(DMSFNS)	
6F4	ASTATE	DC	V(DMSSTTE)	
6F8	ASTATEW	DC	V(DMSSTTW)	
6FC	APOINT	DC	V(POINT)	
	Terminal Buffers			
700		DS	0D	
700	CONCCWS	CCW	0,0,X'60',0	Console read and write CCW
708		CCW	3,0,X'20',1	NOP to get CE and DE together
710	CONINBLK	DC	A(0)	
714		DC	XL1'0A'	
715		DC	AL1(134)	
716	CONINBUF	DS	CL134	
7A0		DS	0D	
7A0	CMNDLINE	DS	CL160	
840		DS	0D	
840		DC	CL8'EXEC'	
848	CMNDLIST	DS	CL536	
A60		DS	0D	
A60	CONSTACK	DS	CL320	
	Save Areas			
BA0	FREESAVE	DS	16F	
BE0	BALRSAVE	DS	16F	
C20	WAITSAVE	DS	16F	
	VSAM and AMSERV Control Words			
C60		DS	0D	
	Percent of Available User Storage To Reserve for GETVIS/FREEVIS Use When Running VSAM			
C60	PCTVSAM	DC	H'50'	50 percent for CMS/VSAM use
C62		DS	1H	Reserved for IBM use
C64		DS	1F	Reserved for IBM use

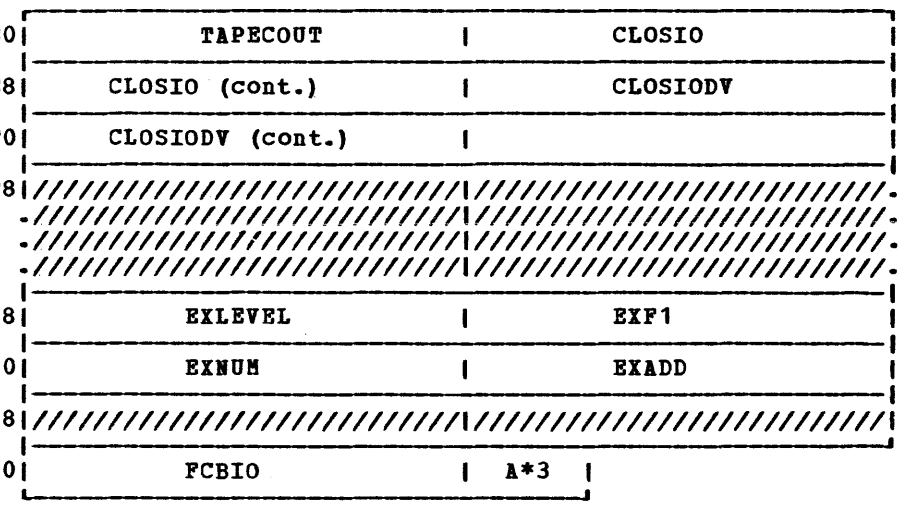
Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
	Beginning and End of IKQLAB (when in storage)				
C68	ADIKQLAB	DC	A(X'FFFFFF')		Set to A(IKQLAB) when it is in storage
C6C	NDIKQLAB	DC	A(0)		Set to end of IKQLAB when in storage
C70	ARURTBL	DC	V(RURTBL)		VSAM resource table address
C74	ADMSVIB	DC	V(DMSVIB)		Address of VSAM interface bootstrap
C78	AVIPWORK	DC	A(0)		Address of DMSVIP work area
C7C	VSAMFLG1	DC	X'00'	A*18	VSAM information flag
	Bits defined in VSAMFLG1				
	VSAMRUN	EQU	X'80'		VSAM system loaded
	VSJOBCAT	EQU	X'40'		VSAM job catalog active
	VIPINIT	EQU	X'20'		DMSVIP has been initialized
	VSAMSERV	EQU	X'10'		CMSAMS system loaded (AMSERV running)
	VIPSOP	EQU	X'08'		OS interface SVC 2 call
	VIPTCLOS	EQU	X'04'		OS TCLOSE call
	VSAMSOS	EQU	X'02'		OS AMSERV running
C7D		DS	3X		Reserved for IBM use
C80	AVSAMSYS	DC	A(0)		Address of VSAM saved system
C84	AAMSSYS	DC	A(0)		Address of CMSAMS saved system
C88	AVSREOJ	DC	V($$BEOJ4)		DMSVSR entry point from VSAM $$BACLOS
C8C	AVSRWORK	DC	A(0)		Address of DMSVSR work area
C90	ACBLIST	DC	A(0)		ACB list built by OPEN/CLOSE
C94		DS	3F		Reserved for IBM use
CA0	ADMSTRKA	DC	V(DMSTRKAL)		Enhanced disk format disk block allocate
CA4	ADMSTRKM	DC	V(DMSTRKMA)		Enhanced disk format disk block malfunction
CA8	ADMSTRKD	DC	V(DMSTRKDE)		Enhanced disk format disk block de-allocation
CAC	ADMSALU	DS	V(DMSALU)		Address of release subroutine
CB0	ASORTFST	DC	V(SORTFST)		Address of sort FST subroutine
CB4	ADEVSUP	DC	V(DMSDIOOS)		CP-to-OS device type conversion table
CB8	ADEVIND	DC	V(DMSDIODI)		Device constants table index
CBC	ATBLIND	DC	V(DMSDIOTI)		Device constants table
CC0	ABLKIND	DC	V(DMSDIOBI)		Device block size index
CC4	ALABELRD	DS	V(DMSDIOLR)		Address of label read routine
CC8	ALABELWR	DS	V(DMSDIOLW)		Address of label write routine
CCC	ADMSLADN	DC	V(DMSLADNW)		Location and/or address requested from the active device table
CD0	ADMSBLKR	DC	V(DMSEBLKR)		Enhanced disk format block read routine
CD4	ADMSBLKW	DC	V(DMSEBLKW)		Enhanced disk format block write routine
CD8	AABBREV	DC	V(ABBREV)		Abbreviation resolver in DMSINA
CDC	ADEVSUP2	DC	V(DMSDIOFB)		Device support table for FB-512
CE0	AESTATE	DC	V(DMSSTTN)		Extended PLIST state
CE4	AESTATEW	DC	V(DMSSTTNW)		Extended PLIST state for read/write
CE8	AEPOINT	DC	V(DMSPNTE)		Extended PLIST pointer
CEC	ATRUNC	DC	V(DMSERSTR)		File truncating function
CF0	ABAMSYS	DC	F'0'		Pointer to CMSBAM DCSS
CF4	NUCRSVB1	DS	F		Reserved for IBM use
CF8	BAMFLAGS	DC	X'00'		CMSBAM shared segment flag bytes
	Bits defined in BAMFLAGS				
	DOSBAM	EQU	X'80'		FB-512 support available
CF9	NUCRSVB2	DS	XL3		Reserved for IBM use
CFC	ACMSZER	DC	A(0)		Address of CMSZER segment
D00	SEG0RELO	DC	A(0)		Relocation factor for segment zero
D04	ASSTATX	DC	A(0)		Address of shared copy of SSTAT
D08	ASSTATZ	DC	A(0)		Address of dummy second SSTAT for hyperblock
D0C	AYSTATX	DC	A(0)		Address of shared copy of YSTAT
D10	AYSTATZ	DC	A(0)		Address of dummy second YSTAT for hyperblock
D14	ADMSIOW	DC	V(DMSIOW)		DMSIOW
D18	ADBGSECT	DC	V(DBGSECT)		Debugging work area
D1C	ADMSABW	DC	V(DMSABW)		Abend work area
D20	ADMSERR	DC	V(DMSERR)		DMSERR
D24	ADMSCWT	DC	V(DMSCWT)		DMSCWT

Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
D28	ADMSCWR	DC	V(DMSCWR)	DMSCWR
D2C	ADMSIOWR	DC	V(DMSIOWR)	DMSIOWR
D30	ADMSITI	DC	V(DMSITI)	DMSITI
D34	ADMSABN	DC	V(DMSABN)	DMSABN
D38	AABNGO	DC	V(DMSABNGO)	DMSABNGO
D3C	ALADAD	DC	V(DMSLADAD)	DMSLADAD
D40	ACITDB	DC	V(DMSCITDB)	DMSCITDB
D44	ADMSITSR	DC	V(DMSITSR)	DMSITSR
D48	ADMSFRES	DC	V(DMSFRES)	DMSFRES
D4C	ASTGSB	DC	V(DMSSTGSB)	DMSSTGSB
D50	AINTAB	DC	V(DMSINTAB)	DMSINTAB
D54	ADMSCAT	DC	V(DMSCAT)	DMSCAT
D58	ADMSCPF	DC	V(DMSCPF)	DMSCPF
D5C	AEXCAB	DC	V(DMSEXCAP)	Address of EXEC for abend routine
D60	NUCRSV8	DC	2A(0)	Reserved for IBM use
D68		DS	0D	Align end of NUCON

OPSECT: MAJOR CSECT FOR ALL I/O OPERATION LISTS

OPSECT describes the fields used by several programs as parameter lists for reading and writing on disks and other devices. The OPSECT CSECT is pointed to by the AOPSECT field in NUCON.

0	CMSOP		
8	FILENAME		
10	FILETYPE		
18	FILEMODE	//////////	FILEBUFF
20	FILEBYTE	FILEFORM	//////////
28	FILEREAD		FILEITEM
30	FILECOUT		FILEWPTR
38	FILERPTR		SAVER14
40	SAVER15		SAVER0
48	SAVER1		CMSNAME
50	CMSNAME (cont.)		CONREAD
58	CONREAD (cont.)		CONRDBUF
60	CONRDCOD | CONRDCNT	////////RESERVED//////////	
68	WAITLIST		
70	CONWRITE		
78	CONWRBUF	A*1 | |	CONWRCNT
80	WAITLST		
88	WAITDEV		
90			READLST
98	READLST (cont.)		RDBUFF
A0	RDCCW | RDCOUNT		PUNCHLST
A8	PUNCHLST (cont.)		PUNBUFF
B0	PUNCOUNT		PRINTLST
B8	PRINTLST (cont.)		PRBUF
C0	PRCNT		TAPELIST
C8	TAPELIST (cont.)		TAPEOPER
D0	TAPEOPER (cont.)		TAPEDEV
D8	A*2 | TAPEBUFF		TAPESIZE

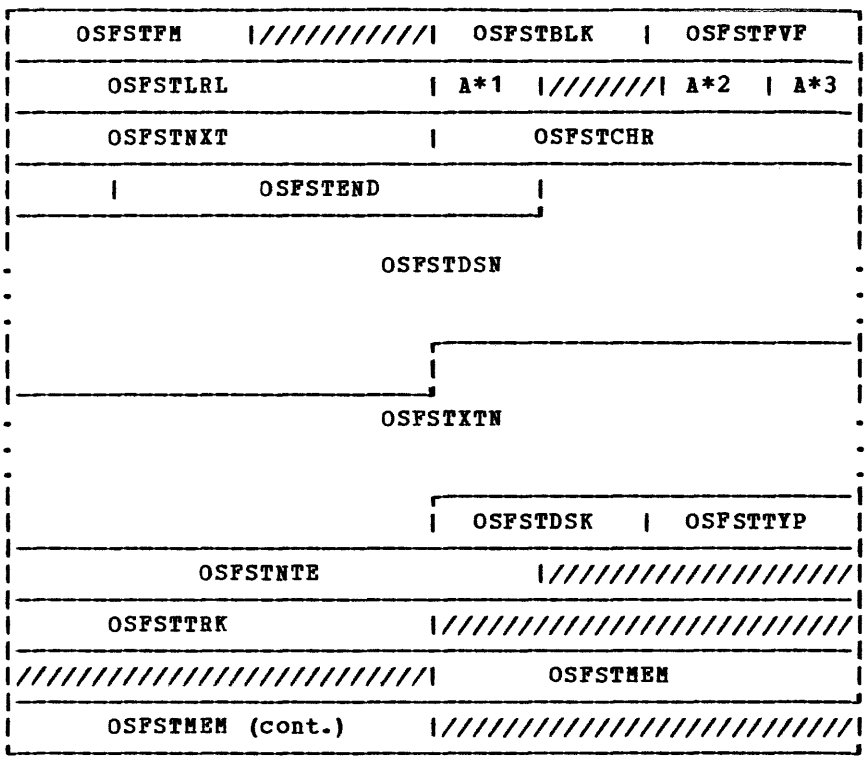


Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
	Main I/O Operation List			
0	PLIST	DS	0D	
0	CMSOP	DS	CL8	I/O operation command word
8	FILENAME	DS	CL8	Filename
10	FILETYPE	DS	CL8	Filetype
18	FILEMODE	DS	CL2	Filemode
1A		DS	H	Reserved for IBM use
1C	FILEBUFF	DS	F	Input/output buffer
20	FILEBYTE	DS	F	Data count
24	FILEFORM	DS	CL2	File format: fixed/variable records
26		DS	H	Reserved for IBM use
28	FILEREAD	DS	F	Read data count
2C	FILEITEM	DS	F	Item number
30	FILECOUT	DS	F	Number of items
34	FILEWPTR	DS	F	Write pointer
38	FILERPTR	DS	F	Read pointer
	POINTERS	EQU	FILEITEM	
	AFST	EQU	FILEBUFF	
	IOAREA	EQU	FILEBUFF	Buffer area location
	IOLENGTH	EQU	FILEBYTE	Buffer length
	Immediate Register Save Area			
3C	SAVER14	DC	F'0'	Temporary R14 save
40	SAVER15	DC	F'0'	Temporary R15 save
44	SAVER0	DC	F'0'	Temporary R0 save
48	SAVER1	DC	F'0'	Temporary R1 save
4C	CMSNAME	DC	CL8'FILE'	Default filename
	Console Parameter Lists			
54		DS	0F	
	Read Console			
54	CONREAD	DC	CL8'WAITRD'	Terminal read
5C	CONRDBUF	DC	V(CMNDLINE)	Address of input buffer
60	CONRDCOD	DC	C'U'	Translate code
61		DC	X'0'	
62	CONRDCNT	DC	AL2(0)	Data byte count
64		DC	F'0'	Reserved for IBM use
	Console Wait List			
68	WAITLIST	DS	0F	
68		DC	CL8'CONWAIT'	

Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
	Write Console				
70	CONWRITE	DS	0F		
70		DC	CL8'TYPLIN'		
78	CONWRBUF	DC	A(0)		Location of message text
7C	CONWRCOD	DC	C'B'	A*1	Color code
7D		DC	X'00'		
7E	CONWRCNT	DC	AL2(0)		Length of message text
	Wait Parameter List				
80	WAITLST	DS	0F		
80		DC	CL8'WAIT'		Address of DMSCWT
88	WAITDEV	DC	CL4'CON1'		Symbolic address of console
8C		DC	F'0'		
90		DC	F'0'		
	Reader Parameter List				
94		DS	0F		
94	READLST	DC	CL8'CARDRD'		
9C	RDBUFF	DC	A(0)		Buffer address
A0	RDCCW	DC	H'0'		CCW byte count
A2	RDCOUNT	DC	H'0'		Bytes actually read
	Card Punch Parameter List				
A4	PUNCHLST	DS	0F		
A4		DC	CL8'CARDPH'		
AC	PUNBUFF	DC	A(0)		Punch buffer address
B0	PUNCOUNT	DC	A(0)		Punch CCW count
	Printer Parameter List				
B4	PRINTLST	DS	0F		
B4		DC	CL8'PRINTR'		
BC	PRBUF	DC	A(0)		Printer buffer address
C0	PRCNT	DC	A(0)		Printer data count
	Tape Parameter List				
C4	TAPELIST	DS	0F		
C4		DC	CL8'TAPEIO'		
CC	TAPEOPER	DC	CL8' '		Tape operation command
D4	TAPEDEV	DC	CL4'TAP1'		Tape symbolic device
D8	TAPEMASK	DC	X'00'	A*2	Set mode
D9	TAPEBUFF	DC	AL3(0)		Buffer location
DC	TAPESIZE	DC	F'0'		
E0	TAPECOUT	DC	F'0'		Tape counter
	Close Out Device Dependent Data Set on Unit Record Equipment				
E4	CLOSIO	DS	0F		
E4		DC	CL8'CLOSIO'		Operation
EC	CLOSIODV	DC	CL8' '		Device type
F4		DC	4X'FF'		
F8		DC	6D'0'		Reserved for IBM use
	Storage for EXEC Bootstrap				
128	EXLEVEL	DC	F'0'		EXEC level
12C	EXF1	DC	F'1'		Follows EXEC level
130	EXNUM	DC	F'0'		Number of doublewords of free storage
134	EXADD	DC	F'0'		Address of EXECTOR in storage
138		DC	2F'0'		Reserved for IBM use
	Storage for OS Macro Simulation Routines				
140	FCBIO	DC	A(0)		Address of last FCB used during I/O
144	OSIOTYPE	DC	X'DD'	A*3	OS access method type

OSFST: OS FILE STATUS TABLE

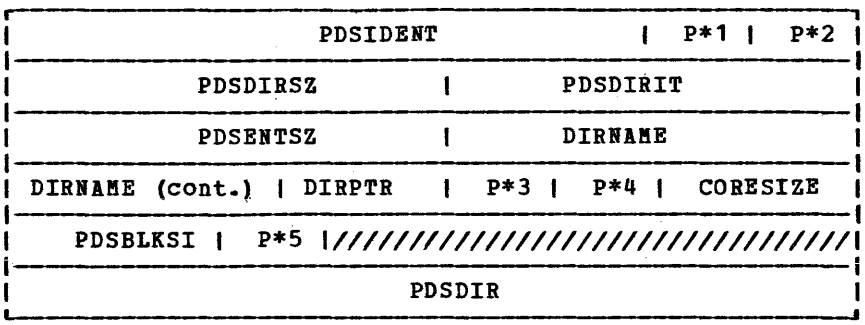
OSFST describes the fields of an OS file status table. When an OS disk is accessed, DMSROS obtains storage from CMS free storage, builds and fills in an OSFST block, which is comparable to a CMS FST block. This block is released by DMSALU.



Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	OSFSTFM	DS	1H		Disk mode
2		DS	1H		Reserved for IBM use
4	OSFSTBLK	DS	1H		Block size
6	OSFSTFVF	DS	1H		Fixed/variable flag
8	OSFSTLRL	DS	1F		Logical record size
C	OSFSTRFM	DS	1X	A*1	OS record format
D		DS	1X		Reserved for IBM use
E	OSFSTFLG	DS	1X	A*2	Flag byte
	Bits defined in OSFSTFLG				
	OSFSTALT	EQU	X'80'		Alternate track indicator
	OSFSTDBK	EQU	X'40'		Block size not specified in DSCB
	OSFSTMVL	EQU	X'08'		Multiple volume data set
	OSFSTUMV	EQU	X'02'		Unmoveable data set
	OSFSTRSW	EQU	X'01'		Indicates point+1 just issued
F	OSFSTXNO	DS	1X	A*3	Number of data extents on disk
10	OSFSTNXT	DS	1F		Next OS FST
14	OSFSTCHR	DS	5X		CCHHR of last I/O operation

PDSSECT: DIRECTORY TABLE FOR BPAM SIMULATION

PDSSECT describes the fields of the in-storage directory that is used in OS simulation of BPAM. The in-storage directory is built dynamically by DMSSVT from CMS free storage.

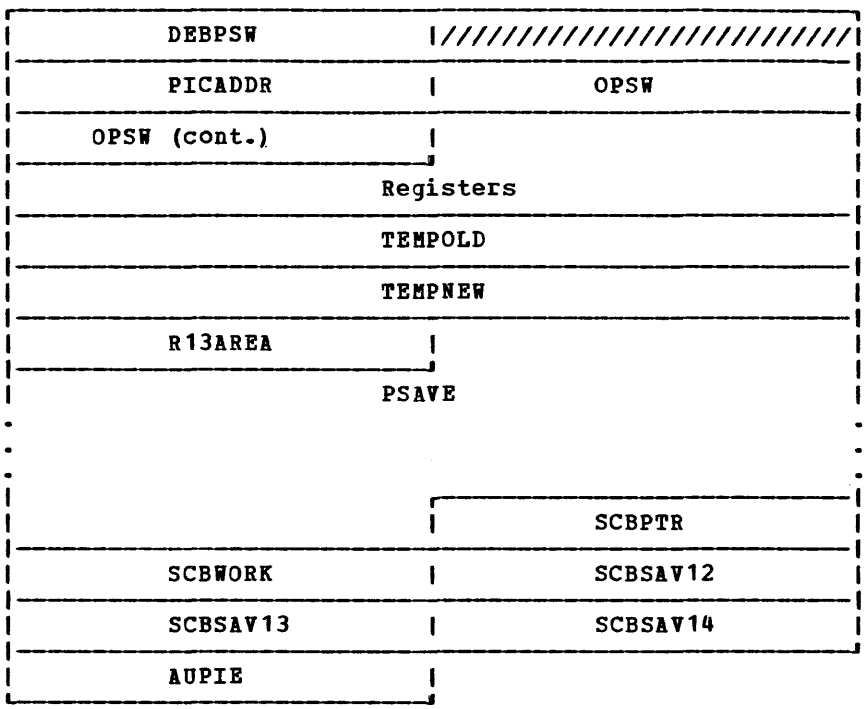


Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	PDSIDENT	DS	C'LIBPDS'		MACLIB/PDS identifier
	Flag byte at PDSIDENT+3				
	PDSFNEW	EQU	C'P'		Character 'P' indicates old format PDS
6	PDSFLG1	DS	X	P*1	IMACLIB/PDS first flag byte
	Bits defined in PDSFLG1				
	PDSTEMPF	EQU	C'$'		PDS directory is in $PDSTEMP file
7	PDSFLG2	DS	X	P*2	MACLIB/PDS second flag byte
8	PDSDIRSZ	DS	F		MACLIB/PDS directory size
C	PDSDIRIT	DS	F		MACLIB/PDS directory item number
	PDSHDRSZ	EQU	*-PDSIDENT		Size of MACLIB/PDS header
10	PDSENTSZ	DS	F		PDS entry size
14	DIRNAME	DS	3H		MACLIB identifier
1A	DIRPTR	DS	1H		Item pointer to start of directory
1C	TEMPBYTE	DS	1X	P*3	If this is a dollar sign ($), PDS is in the $PDSTEMP file
1D	NEWBLOKS	DS	1X	P*4	Number of new blocks added to PDS by STOW
1E	CORESIZE	DS	1H		Size of dictionary in bytes
20	PDSBLKSI	DS	1H		Block size of dictionary
22		DS	6X	P*5	Reserved for IBM use
	PDSLEN	EQU	*-PDSSECT		Length of the PDSSECT header
28	PDSDIR	DS	0F		Start of in-storage dictionary

PGMSECT: PROGRAM INTERRUPT WORK AREA

PGMSECT describes the fields used by DMSITP for saving registers, old PSW, and other data for handling program interrupts.

The PGMSECT CSECT is pointed to by the APGMSECT field in NUCON.



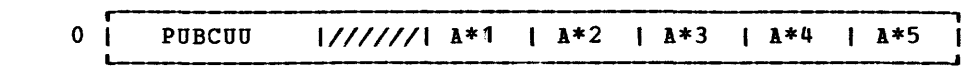
Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
	Storage for Program Interrupt Routine (DMSITP)			
0	DEBPSW	DC	F'0',V(DMSDBG)	Point to debug
4		DC	1F	Reserved for IBM use
8	PIE	DS	0D	Program interrupt element
8	PICADDR	DC	F'0'	PICA address from recent SPIE
C	OPSW	DC	2F'0'	Old PSW after program interrupt
14		DC	5F'0'	Registers are: R14, R15, R0, R1, and R2
	*EPIE			End program interrupt element
28	TEMPOLD	DC	8X'00'	Work area
30	TEMPNEW	DC	8X'00'	Work area
38	R13AREA	DC	F'0'	Saved R13
3C	PSAVE	DC	16F'0'	Registers saved at interrupt time
7C	SCBPTR	DC	F'0'	Pointer to first STAE control block
	Bits defined in SCBPTR			
	STAEBIT	EQU	X'80'	
	STAIBIT	EQU	X'40'	
	RETRYBIT	EQU	X'20'	
80	SCBWORK	DC	A(0)	Address of work area for STAE exit routine
84	SCBSAV12	DC	A(0)	Address of R12 save area for DMSSAB
88	SCBSAV13	DC	A(0)	Address of R13 save area for DMSSAB
8C	SCBSAV14	DC	A(0)	Address of R14 save area for DMSSAB
90	AUPIE	DS	A	Address of user's PIE, in SPIE exit

PUBADR: PHYSICAL UNIT BLOCK TABLE

PUBADR defines the fields of a physical unit block table as used by CMS and/or DOS routines. Both DSECTs define the same storage.

- For Use by CMS Routines (MAPPUB macro)

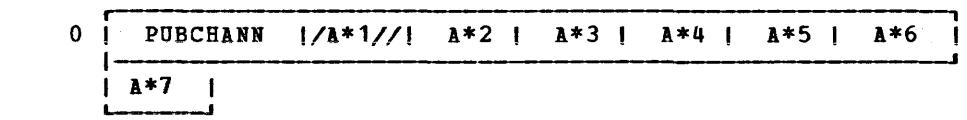
The simulated PUBADR DSECT has eighteen 8-byte entries, one for each device supported by CMS. The simulated PUBADR DSECT is invoked by the MAPPUB macro.



Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	PUBCUU	DS	XL2		Channel and device number
2		DS	X		Reserved for IBM use
3	PUBDSKM	DS	X	A*1	Disk mode if assigned DASD
4	PUBDEVT	DS	X	A*2	Device type code
5	PUBTAPM1	DS	X	A*3	CMS tape set mode attributes
6	PUBTAPM2	DS	X	A*4	DOS tape set mode attributes
7	PUBTAP7	DS	X	A*5	7-track indicator

- For Use by DOS/VS Routines (PUBTAB macro)

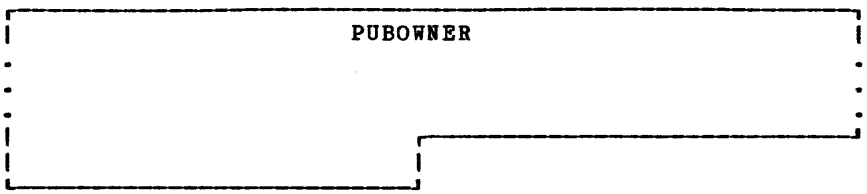
The PUBADR DSECT is invoked by the PUBTAB macro. The address of PUBTAB is at displacement X'40' of BGCOM.



Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	PUBCHANN	DS	XL2		Channel and device number
2	PUBCHQPT	DS	X	A*1	Reserved for IBM use
3	PUBERR	DS	X	A*2	Error retry counter or TEB point
4	PUBDEVTY	DS	X	A*3	Device type code
5	PUBOPTN	DS	X	A*4	Set mode command or other options
6	PUBCSFLG	DS	X	A*5	Channel scheduler flags
7	PUBJCFLG	DS	X	A*6	Job control flags
8	NEXTPUB	DS	X	A*7	First byte of next PUB entry
	PUBWIT	EQU	*-PUBADR		Length of PUB table
	PUBPTR	EQU	NEXTPUB		Pointer to original PUB

PUBOWNER: PHYSICAL UNIT BLOCK OWNERSHIP TABLE

PUBOWNER contains a 2-byte entry for each entry in the PUB table. For CMS/DOS, there are 34 two-byte entries. The address of the PUBOWNER table is in the SYSCOM block in the DOSCON CSECT of NUCON.



Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	PUBOWNER	DS	0H	PUB ownership table
0		DC	34X'0001'	PUB owner

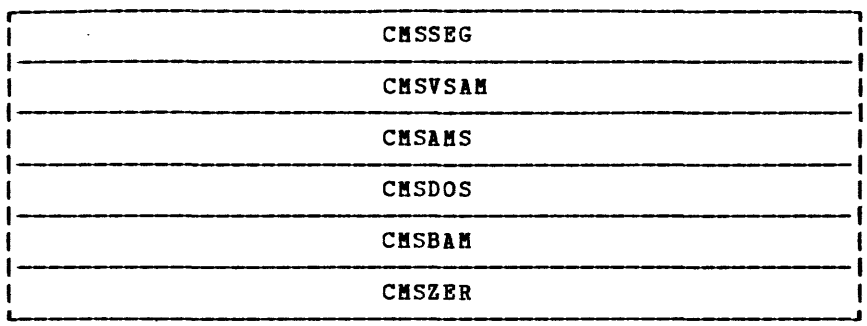
PUBOWNER entries have the following meanings:

Byte	Value	Meaning
0	X'00'	The physical unit is reserved
	X'40'	CMS is waiting for the volume to be mounted
1	X'01'	Background partition owns the physical unit

Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
50	IJBTIMER	DC	A(0)		Address of timer request table
54	IJBABTAB	DC	A(0)		Address of AB option table
58	IJBLIK	DC	H'0'		Key of task owning the LTA
5A	IJBTIK	DC	X'0010'		Task interrupt key
5C	IJBPWR	DC	A(0)		Pointer to power table
60	IJBTCAVT	DC	A(0)		Space for VTAM address
64	IJBRFTAB	DC	A(0)		Pointer to RF table
68	IJBEUECB	DC	A(0)		Pointer to EU and ECB table
6C	IJBOLTEP	DC	A(0)		Address of OLTEP bucket
70	IJBRASLN	DC	A(0)		Pointer to RAS linkage area
74	IJBTRTAB	DC	A(0)		Address of ASCII table
78	IJBPBOWN	DC	A(0)		Address of PUB ownership table
7C	IJBJATAB	DC	A(0)		Address of job accounting common area
80	IJBPMGR	DC	A(0)		Base address of programmer routines
84	IJBCCWT	DC	A(0)		Address of CCW transient work area
88	IJBSAVSD	DC	A(0)		Pointer to SDAID common area
8C	IJBLNSTB	DC	A(0)		Address of line mode table
90	IJBAMCOM	DC	A(0)		Address of VSAM common register
94	IJBAPTA	DC	A(0)		Address of PTA
98	IJBSBLK0	DC	A(0)		Pointer to first system task block
9C	IJBSBLKX	DC	F'0'		Pointer to current system task
A0	IJBSYSPT	DC	X'00'	A*5	For alignment
A1	IJBRASPT	DC	AL1(0)	A*6	Pointer to RAS task block
A2	IJBPMRPT	DC	AL1(0)	A*7	Pointer for PMGR task block
A3	IJBSUPPT	DC	AL1(0)	A*8	Pointer to SPVR task block
A4	IJBCRTPT	DC	AL1(0)	A*9	Pointer to CRT task block
A5	IJBERPPT	DC	AL1(0)	A*10	Pointer to ERP task block
A6		DC	10X'00'		Reserved for IBM use
B0		DC	F'0'		Reserved for IBM use
B4	IJBMVCAD	DC	A(0)		Pointer to MVCFLD
B8		DC	F'0'		Reserved for IBM use
BC		DC	H'0'		Reserved for IBM use
BE		DC	H'0'		Reserved for IBM use
C0	IJBMFCER	DS	11X'00'		Information on MFCM and MFCU ERP
CB	IJBNERQ	DC	AL1(0)	A*11	Number of error queue entries
CC	IJBPUBLN	DC	S(0)		Length of PUB table
CE	IJBAPNO	DC	H'1'		Number of active partitions
D0	IJBSEGT	DC	A(0)		Address of segment table
D4	IJBPFT	DC	A(0)		Address of page frame table
D8	IJBPFTX	DC	A(0)		Pointer to page frame table extension
DC	IJBBOX	DC	A(0)		Pointer to boundary box
E0	IJBDPDTB	DC	A(0)		Pointer to DPD table
E4		DC	F'0'		Reserved for IBM use
E8	IJBVIRAD	DC	A(0)		Address of VIRTAD routine
EC	IJBEOR	DC	F'0'		End of real storage
F0	IJBFTTAB	DC	A(0)		Address of the fetch table
F4	IJBSVA	DC	A(0)		Address of the SVA start
F8	IJBSVIS	DC	A(0)		Address of SVA GETVIS area
FC	ARPSL	DC	A(0)		Reserved for IBM use
100	ARPSR	DC	A(0)		Reserved for IBM use
104	IJBDLAB	DC	A(SYS$CODE)		Pointer to system code name
108	SYS$CODE	DC	CL13'CMS/VSAM'		System code name

SYSNAMES: SAVED SYSTEMS NAMES

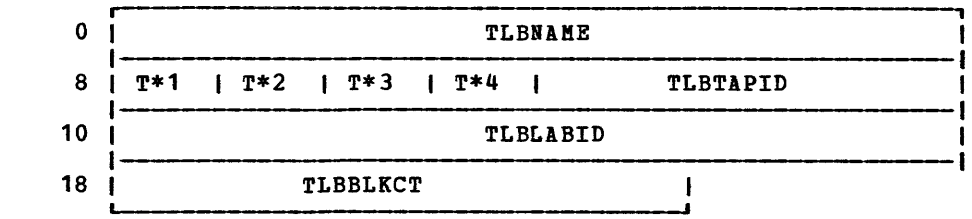
SYSNAMES defines the names of any saved systems which may be loaded by CMS routines. SYSNAMES describes the entries in the SYSNAMES table which is pointed to by the ASYSNAMES field in NUCON.



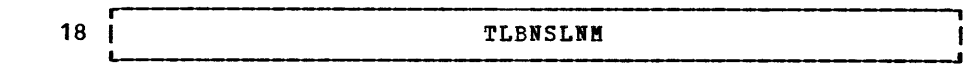
Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	CMSSEG	DC	CL8'CMSSEG'	CMS shared system name
8	CMSVSAM	DC	CL8'CMSVSAM'	VSAM shared system name
10	CMSAMS	DC	CL8'CMSAMS'	Access Method Services shared system name
18	CMSDOS	DC	CL8'CMSDOS'	DOS shared system name
20	CMSBAM	DC	CL8'CMSBAM'	DOSVS/BAM shared segment name
28	CMSZER	DC	CL8'CMSZER'	Segment zero returns and shares system status
30	SYSNEND	DS	0D	
	SYSNCNT	EQU	(SYSNEND-SYSUAMES)/8	Size in doublewords (X'06')

TLBBLOK: TAPE LABEL PROCESSING INFORMATION

TLBBLOK contains information used by the CMS tape label processing routines.



- For nonstandard labels, the following is the format:



Hexadecimal Displacement	Field Name				Field Description, Contents, Meaning
0	TLBNAME	DS	CL8		Called routine name (DMSTLB)
8	TLBTYPE	DS	1X	T*1	Type of call
	Bits defined in TLBTYPE				
	TLBEOV	EQU	X'80'		End of volume label call
	TLBCLOUT	EQU	X'0C'		Close output
	TLBCLIN	EQU	X'08'		Close input
	TLBOPOUT	EQU	X'04'		Open output
	TLBOPIN	EQU	X'00'		Open input
9	TLBCALL	DS	1X	T*2	Caller identification
	Bits defined in TLBCALL				
	TLBOS	EQU	X'80'		OS simulation
	TLBDOS	EQU	X'40'		DOS simulation
	TLBCMS	EQU	X'20'		CMS simulation
	TLBCMAC	EQU	X'10'		CMS macro
A	TLBLAST	DS	1X	T*3	Label type
	Bits defined in TLBLAST				
	TLBMSPC	EQU	X'20'		CMS macro space to TM or WTM
	TLBNSLMD	EQU	X'10'		Nonstandard label routine is the module
	TLBSUL	EQU	TLBSL+TLBUSER		Standard user labels
	TLBUSER	EQU	X'04'		User bit
	TLBSL	EQU	X'02'		IBM standard label
	TLBBLP	EQU	X'01'		No label processing
	TLBNONE	EQU	X'00'		Label type not specified
B	TLBMODE	DS	1X	T*4	Tape MODESET byte
C	TLBTAPID	DS	CL4		Tape identification
	Displacement X'10' Field differs dependent on type of label to be processed				
10	TLBDTFPT	DS	1F		DTF pointer for DOS
	TLBFCBPT	DS	1F		FCB pointer for OS
	TLBLABID	DS	CL8		LABSECT name (or identifier) for CMS
18	TLBBLKCT	DS	1F		Block count for CMS

Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
	For Nonstandard Label Only -- when it overlays part of Standard Label interface			
		ORG	TLBSLKCT	
18	TLBNSLNM	DS	CL8	Nonstandard label routine file name
	TLBSIZE	EQU	*-TLBBLOK	
	TLBDWSZ	EQU	(TLBSIZE+7)/8	

Section 3. RSCS Data Areas and Control Blocks

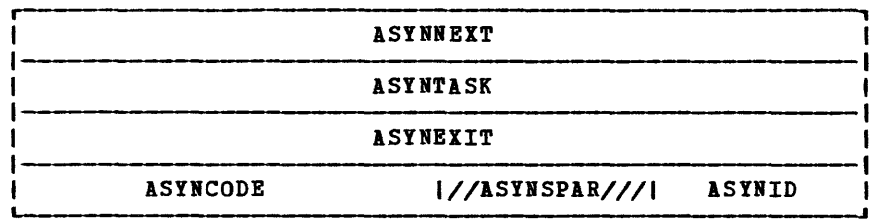
This section describes in detail each of the data areas used by RSCS. Unlike the CP and CMS format blocks in this publication, the RSCS format blocks are on fullword boundaries.

This section of the publication contains only DSECTs. Appendixes B and C contain other control areas used by RSCS.

ASYNE: ASYNCHRONOUS EXIT ELEMENT

ASYNE defines symbolic addresses for elements on an asynchronous exit queue. An asynchronous exit queue element contains information by which a task requests that it handle asynchronous interrupts.

IOEXITQ, EXTQ, and ALERTQ in SVECTORS are the heads of three asynchronous exit queues. Each of these queues is comprised of supervisor elements defined by the ASYNE DSECT. IOEXITQ points to requests for I/O exits, EXTQ points to requests for external exit requests, and ALERTQ points to requests for ALERT exits.



Hexadecimal Displacement	Field Name			Field Description, Contents, Meaning
0	ASYNNEXT	DS	1F	Address of the next asynchronous interrupt exit request element
4	ASYNTASK	DS	1F	Address of task element describing the task that requested the asynchronous interrupt
8	ASYNEXIT	DS	1F	Address of the requested asynchronous exit routine
C	ASYNCODE	DS	AL2	Address of the device for which asynchronous I/O interrupts are requested or interrupt bit code
E	ASYNSPAR	DS	1X	Reserved for IBM use
F	ASYNID	DS	1X	1-byte identification of the task owning the asynchronous exit routine

Appendix A. CP and RSCS Equate Symbols

This Appendix contains Assembler language equate symbols used to reference CP and RSCS data for:

- VM/370 Device Classes, Types, Models, and Features
- VM/370 Machine Usage
- VM/370 Extended Control Registers
- VM/370 CP Usage
- VM/370 Registers

VM/370 DEVICE CLASSES, TYPES, MODELS, AND FEATURES

Field Name			Field Description, Contents, Meaning
CLASTERM	EQU	X'80'	Terminal device class
TYP2700	EQU	X'40'	2700 bisyncronous line
TYP2955	EQU	TYP2700	2955 communications line
TYPTELE2	EQU	X'20'	Telegraph terminal control type II
TYPTTY	EQU	X'20'	Teletype terminal
TYPIBM1	EQU	X'10'	IBM terminal control type I
TYP2741	EQU	X'18'	2741 communications terminal
TYP1050	EQU	X'14'	1050 communications terminal
TYPUNDEF	EQU	X'1C'	Terminal device type is undefined
TYPBSC	EQU	X'80'	Bisyncronous line for 3270 remote stations
TYP3210	EQU	X'00'	3210 console
TYP3215	EQU	TYP3210	3215 console
TYP2150	EQU	TYP3210	2150 console
TYP1052	EQU	TYP3210	1052 console
FTRDIAL	EQU	X'01'	Dial feature
CLASGRAF	EQU	X'40'	Graphics device class
TYP2250	EQU	X'80'	2250 display unit
TYP2260	EQU	X'40'	2260 display station
TYP2265	EQU	X'20'	2265 display station
TYP3066	EQU	X'10'	3066 console
TYP1053	EQU	X'08'	1053 printer
TYP3277	EQU	X'04'	3277 display station
TYP3278	EQU	X'01'	3278 display station/system console
TYP3284	EQU	X'02'	3284 printer
TYP3286	EQU	TYP3284	3286 printer
TYP3287	EQU	TYP3284	3287 printer
TYP3288	EQU	TYP3284	3288 printer
TYP3289	EQU	TYP3284	3289 printer
TYP3138	EQU	TYP3277	3138 system console
TYP3148	EQU	TYP3277	3148 system console
TYP3158	EQU	TYP3277	3158 system console
FTROPRDR	EQU	X'80'	Operator identification card reader
CLASUR1	EQU	X'20'	Unit record input device class
TYPRDR	EQU	X'80'	Card reader device
TYP2501	EQU	X'81'	2501 card reader
TYP2540R	EQU	X'82'	2540 card reader
TYP3505	EQU	X'84'	3505 card reader
TYP1442R	EQU	X'88'	1442 card reader/punch
TYP2520R	EQU	X'90'	2520 card reader/punch
TYPTIMER	EQU	X'40'	Timer device
TYPTR	EQU	X'20'	Tape reader device
TYP2495	EQU	X'21'	2495 magnetic tape cartridge reader
TYP2671	EQU	X'22'	2671 paper tape reader
TYP1017	EQU	X'24'	1017 paper tape reader
CLASUR0	EQU	X'10'	Unit record output device class
TYPPUN	EQU	X'80'	Card punch device
TYP2540P	EQU	X'82'	2540 card punch
TYP3525	EQU	X'84'	3525 card punch
TYP1442P	EQU	X'88'	1442 card punch
TYP2520P	EQU	X'90'	2520 card punch
TYPPRT	EQU	X'40'	Printer type device
TYP1403	EQU	X'41'	1403 printer

Field Name			Field Description, Contents, Meaning
TYP3211	EQU	X'42'	3211 printer
TYP3203	EQU	X'43'	3203 printer (3211 and 1403)
TYP1443	EQU	X'44'	1443 printer
TYP3289E	EQU	X'46'	3289-E printer

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Field
Name                          Field Description, Contents, Meaning
=====                         ----------------------------------------
TYP3800  EQU   X'45'          3800 printing subsystem
TYPTP    EQU   X'20'          Tape punch device
TYP1018  EQU   X'24'          1018 paper tape punch

FTRUCS   EQU   X'01'          UCS feature
FTR4WCGM EQU   X'80'          3800 has four WCGM available. Note that FTREXTSN (X'40') is
                               also used for a 3800 printer.

CLASTAPE EQU   X'08'          Magnetic tape device class

TYP2401  EQU   X'80'          2401 tape drive
TYP2415  EQU   X'40'          2415 tape drive
TYP2420  EQU   X'20'          2420 tape drive
TYP3420  EQU   X'10'          3420 tape drive
TYP3410  EQU   X'08'          3410 tape drive
TYP3411  EQU   TYP3410        3411 tape drive
| TYP8809  EQU   X'04'          8809 tape drive

FTR7TRK  EQU   X'80'          7-track feature
FTRDLDNS EQU   X'40'          Dual density feature
FTRTRANS EQU   X'20'          Translate feature
FTRDCONV EQU   X'10'          Data conversion feature

CLASDASD EQU   X'04'          Direct access storage device class

TYP2311  EQU   X'80'          2311 disk storage drive
TYP2314  EQU   X'40'          2314 disk storage facility
TYP2319  EQU   TYP2314        2319 disk storage facility
TYP2321  EQU   TYP2311        2321 data cell drive
TYP3330  EQU   X'10'          3330 disk storage facility
TYP3333  EQU   TYP3330        3333 disk storage facility
TYP3350  EQU   X'08'          3350 disk storage facility
TYP2301  EQU   TYP2311        2301 parallel drum
TYP2303  EQU   TYP2311        2303 serial drum
TYP2305  EQU   X'02'          2305 fixed head storage device
TYP3340  EQU   X'01'          3340 disk storage facility

FTRRPS   EQU   X'80'          Rotational positional sensing (RPS) installed (3340)
FTREXTSN EQU   X'40'          Extended sense bytes (24 bytes)
FTR2311T EQU   X'20' (= VDEV231T)  Top half of 2314 used as 2311
FTR2311B EQU   X'10' (= VDEV231B)  Bottom half of 2314 used as 2311
FTR35MB  EQU   X'08'          35 multibyte data module mounted (3340)
FTR70MB  EQU   X'04'          70 multibyte data module mounted (3340)
FTRRSRL  EQU   X'02'          Reserve/release are valid CCW operation codes
VIRTUAL  EQU   X'01'          Device is a 3330V virtual machine
SYSVIRT  EQU   X'20'          Device is a 3330V system virtual machine
FTRVIRT  EQU   X'01'          3330 virtual (MSS) volume

CLASSPEC EQU   X'02'          Special device class

TYPCTCA  EQU   X'80'          Channel-to-channel adapter
TYP3704  EQU   X'40'          3704 programmable communication control unit
TYP3705  EQU   TYP3704        3705 programmable communication control unit
TYP3851  EQU   X'20'          3851 Mass Storage Controller
TYPSRF   EQU   X'04'          SRF device (#7443)
TYPUNSUP EQU   X'01'          Device not supported by VM/370

FTRTYP1  EQU   X'10'          Type 1 channel adapter (370x)
FTRTYP2  EQU   X'20'          Type 2 channel adapter (370x)
FTRTYP3  EQU   FTRTYP2        Treat as type 2 channel adapter (370x)
FTRTYP4  EQU   FTRTYP1        Treat as type 1 channel adapter (370x)

| CLASFBA  EQU   X'01'          Fixed block storage device class

| TYPFBA   EQU   X'00'          Generic fixed block storage device
```

Field Name			Field Description, Contents, Meaning
TYP3310	EQU	X'01'	3310 fixed block storage device
TYP3370	EQU	X'02'	3370 fixed block storage device

VM/370 EQUATE SYMBOLS -- MACHINE USAGE

Field Name			Field Description, Contents, Meaning
Bits defined in Standard/Extended PSW			
EXTMODE	EQU	X'08'	Bit 12 - extended mode
MCHEK	EQU	X'04'	Bit 13 - machine check enabled
WAIT	EQU	X'02'	Bit 14 - wait state
PROBMODE	EQU	X'01'	Bit 15 - problem state
Bits defined in Extended PSW			
PERMODE	EQU	X'40'	Bit 01 - PER enabled
TRANMODE	EQU	X'04'	Bit 05 - translate mode
IOMASK	EQU	X'02'	Bit 06 - summary I/O mask
EXTMASK	EQU	X'01'	Bit 07 - summary external mask
Bits defined in Channel Status Word (CSW)			
ATTN	EQU	X'80'	Bit 32 - attention
SM	EQU	X'40'	Bit 33 - status modifier
CUE	EQU	X'20'	Bit 34 - control unit end
BUSY	EQU	X'10'	Bit 35 - busy
CE	EQU	X'08'	Bit 36 - channel end
DE	EQU	X'04'	Bit 37 - device end
UC	EQU	X'02'	Bit 38 - unit check
UE	EQU	X'01'	Bit 39 - unit exception
PCI	EQU	X'80'	Bit 40 - program-control interrupt
IL	EQU	X'40'	Bit 41 - incorrect length
PRGC	EQU	X'20'	Bit 42 - program check
PRTC	EQU	X'10'	Bit 43 - protection check
CDC	EQU	X'08'	Bit 44 - channel data check
CCC	EQU	X'04'	Bit 45 - channel control check
IFCC	EQU	X'02'	Bit 46 - interface control check
CHC	EQU	X'01'	Bit 47 - chaining check
Bits defined in Channel Command Word (CCW)			
CD	EQU	X'80'	Bit 32 - chain data
CC	EQU	X'40'	Bit 33 - command chain
SILI	EQU	X'20'	Bit 34 - suppress incorrect length indicator
SKIP	EQU	X'10'	Bit 35 - suppress data transfer
PCIF	EQU	X'08'	Bit 36 - program-control interrupt FETCH
IDA	EQU	X'04'	Bit 37 - indirect data address
Bits defined in Sense Byte 0 (common to most devices)			
CMDREJ	EQU	X'80'	Bit 0 - command reject
INTREQ	EQU	X'40'	Bit 1 - intervention required
BUSOUT	EQU	X'20'	Bit 2 - bus out
EQCHK	EQU	X'10'	Bit 3 - equipment check
DATACHK	EQU	X'08'	Bit 4 - data check

VM/370 EQUATE SYMBOLS -- EXTENDED CONTROL REGISTERS

```
Field
Name                            Field Description, Contents, Meaning
-----                           -------------------------------------
Bits defined in CREG0
• BYTE 0
BLKMPX    EQU   X'80'           Bit 00 - enable block multiplexing
SSMSUPP   EQU   X'40'           Bit 01 - enable SSM suppression
TODSYNC   EQU   X'20'           TOD synchronous control
LAP370E   EQU   X'10'           Low address problem active

• BYTE 1
PAGE4K    EQU   X'80'           Bit 08 - use 4K pages
PAGE2K    EQU   X'40'           Bit 09 - use 2K pages
SEG1M     EQU   X'10'           Bit 11 - use 1M segments

• BYTE 2
MFAMASK   EQU   X'80'           Bit 16 - malfunction alert mask
EMSMASK   EQU   X'40'           Bit 17 - emergency signal mask
XCMASK    EQU   X'20'           Bit 18 - external call mask
SYNCMASK  EQU   X'10'           Bit 19 - TOD synchronous check mask
CKCMASK   EQU   X'08'           Bit 20 - mask on clock comparator interrupt
CPTMASK   EQU   X'04'           Bit 21 - mask on processor timer interrupt

• BYTE 3
INTMASK   EQU   X'80'           Bit 24 - mask on interval timer interrupt
KEYMASK   EQU   X'40'           Bit 25 - mask on operator key interrupt
SIGMASK   EQU   X'20'           Bit 26 - mask on external signals 2 through 7

Bits defined in CREG6 for 370E
• BYTE 0
PROB370E  EQU   X'40'           Virtual machine is running in virtual problem state

• BYTE 3
MVSA370E  EQU   X'04'           MVSA (MVS/System Extensions support) is active

Bits defined in CREG8
• BYTE 3
PERFCL    EQU   X'80'           Sample hardware/software utilizations
RESPCL    EQU   X'40'           Trace response class
SCHEDCL   EQU   X'20'           Trace scheduler activity class
TIMECL    EQU   X'10'           Execution timing class
USERCL    EQU   X'08'           Sample user resource usage class
PRIVCL    EQU   X'04'           Privileged operands class
DASDCL    EQU   X'02'           Sample DASDs; utilizations class
SEEKCL    EQU   X'01'           Trace DASD seek activity

• BYTE 4
SPROFCL   EQU   X'80'           Trace system profile class

Bits defined in CREG9
• BYTE 0
PERSUBR   EQU   X'80'           Bit 00 - monitor successful branches
PERIFET   EQU   X'40'           Bit 01 - monitor instruction fetches
PERSALT   EQU   X'20'           Bit 02 - monitor storage alteration
PERGPRS   EQU   X'10'           Bit 03 - monitor register alteration

Bits defined in CREG14
• BYTE 0
HARDSTOP  EQU   X'80'           Bit 00 - check stop control
SYNCLOG   EQU   X'40'           Bit 01 - synchronous logout control
IOLOG     EQU   X'20'           Bit 02 - I/O logout control
RECOVRPT  EQU   X'08'           Bit 04 - recovery report mask
CONFGRPT  EQU   X'04'           Bit 05 - configuration report mask
DAMAGRPT  EQU   X'02'           Bit 06 - external damage report mask
WARNGRPT  EQU   X'01'           Bit 07 - warning condition report mask
```

Bits defined in CREG14 (cont.)

```
• BYTE 1
ASYNELOG EQU   X'80'          Bit 08 - asynchronous extended logout control
ASYNFLOG EQU   X'40'          Bit 09 - asynchronous fixed logout control
```

VM/370 EQUATE SYMBOLS -- CP USAGE

Field Name			Field Description, Contents, Meaning
Bits defined for TRANS macro			
BRING	EQU	X'80'	Bring requested page
DEFER	EQU	X'40'	Defer execution until page in core
LOCK	EQU	X'20'	Lock page for I/O operation
IOERETN	EQU	X'10'	Return I/O errors to caller
SYSTEM	EQU	X'08'	Call to DMKPTRAN for system virtual machine space
VFAULT	EQU	X'04'	DMKPTRAN call for virtual page. Caller will not utilize real address
Equates for Parameter Field for Calls to DMKBLDRT/DMKBLDRL			
DELSEGS	EQU	X'80'	Release the segment tables
DELPAGES	EQU	X'40'	Release the page/swap tables
VRALOC	EQU	X'20'	Attempt allocation of Virtual=Real area
PAGTONLY	EQU	X'10'	Only one page table and return
NEWPAGES	EQU	X'08'	Build new page/swap table
NEWSEGS	EQU	X'04'	Build new segment table
KEEPSEGS	EQU	X'02'	Retain information in old segment table
OLDVMSEG	EQU	X'01'	VMSEG pointer in VMBLOK valid
Bits defined for Terminal I/O via DMKQCN			
HILIGHT	EQU	X'8000'	Output - highlighted data stream
NOTRESP	EQU	X'4000'	Output - message not a command response
ERRMSG	EQU	X'0800'	Output - control program error message
NORET	EQU	X'0400'	Output - return immediately after call
DFRET	EQU	X'0200'	Output - FRET buffer after queueing
OPERATOR	EQU	X'0100'	Output - message for system operator
LOGDROP	EQU	X'80'	Output - logoff and drop line after message
LOGHOLD	EQU	X'40'	Output - logoff and hold line after message
PRIORITY	EQU	X'20'	Output - write this message immediately
VMGENIO	EQU	X'10'	I/O request generated by virtual machine
NOAUTO	EQU	X'04'	Output - suppress automatic carriage return
ALARM	EQU	X'02'	Output - sound the audible alarm
NOTIME	EQU	X'01'	Output - suppress time stamp on message
INHIBit	EQU	X'08'	Input - prevent display of this data
EDIT	EQU	X'04'	Input - edit input data for corrections
UCASE	EQU	X'02'	Input - translate data to uppercase
Equates for Spool File Recovery Routine - DMKCKS			
CHGSHQ	EQU	X'0200'	Checkpoint a SHQBLOK
CHGRDV	EQU	X'0100'	Change attributes of real device
ACTSFB	EQU	X'80'	File being printed or punched
OPNSFB	EQU	X'40'	An open print-punch file
DELSFB	EQU	X'20'	Delete SFBLOK from checkpoint
CHGSFB	EQU	X'10'	Change existing SFBLOK
ADDSFB	EQU	X'08'	Add new SFBLOK to recovery cylinder
PRTCHN	EQU	X'04'	SFBLOK goes on print chain
PCHCHN	EQU	X'02'	SFBLOK goes on punch chain
RDRCHN	EQU	X'01'	SFBLOK goes on reader chain
Equates for VMSAVE SET/RESET routine - DMKCFS			
ASLOGON	EQU	X'80'	Enables VMSAVE option if there is exactly one entry in DMKSNT for this user (userid=) and there is no system saved there
ASON	EQU	X'40'	Parameter to set VMSAVE on
ASOFF	EQU	X'20'	Parameter to reset VMSAVE option
Equates for DASD READ/WRITE routine - DMKRPA			
NORLSE	EQU	X'01'	Special linkage for virtual machine generation via IPL
Equates for SWTCHVM macro			
SVMUNLOK	EQU	X'04'	Unlock only the current virtual machine
SVMNOUPD	EQU	X'02'	Lock virtual machine with NOUPDT option
SVMSTAY	EQU	X'01'	Stack CPEXBLOK for current processor

Field Name			Field Description, Contents, Meaning
Monitor Class and Code Definitions			
MNCLPERF	EQU	X'00'	Monitor perform class
MNCOSYS	EQU	X'0000'	Perform class, system performance
MNCOTH	EQU	X'0061'	Monitor tape header record
MNCOTT	EQU	X'0062'	Monitor tape trailer record
MNCOSUS	EQU	X'0063'	Monitor collection suspension record
MNCLRESP	EQU	X'01'	Monitor response class
MNCOBRD	EQU	X'0000'	Response class, begin read code
MNCOWRIT	EQU	X'0001'	Response class, write code
MNCOERD	EQU	X'0002'	Response class, end read code
MNCLSCH	EQU	X'02'	Monitor schedule class
MNCODQ	EQU	X'0002'	Schedule class, drop queue code
MNCOAQ	EQU	X'0003'	Schedule class, add to queue code
MNCOAEL	EQU	X'0004'	Schedule class, add to eligible list code
MNCLUSER	EQU	X'04'	Monitor user class
MNCOUSER	EQU	X'0000'	User class, user data
MNCLINST	EQU	X'05'	Monitor instruction simulation class
MNCOSIM	EQU	X'0000'	Instruction class; instruction simulation code
MNCLDAST	EQU	X'06'	Monitor DASD/tape class
MNCODASH	EQU	X'0000'	DASTAP class, first record
MNCODAS	EQU	X'0001'	DASTAP class, data records
MNCLSEEK	EQU	X'07'	Monitor DASD class
MNCOCYL	EQU	X'0000'	DASD class, seeks code
MNCLSYS	EQU	X'08'	Monitor system profile class
MNCODA	EQU	X'0002'	SYS class, DASD data

Field Name			Field Description, Contents, Meaning
Equates for SIGNAL Macro			
SIGSENSE	EQU	X'01'	Sense order code
SIGXC	EQU	X'02'	External call order code
SIGEMS	EQU	X'03'	Emergency signal order code
SIGSTART	EQU	X'04'	Start order code
SIGSTOP	EQU	X'05'	Stop order code
SIGREST	EQU	X'06'	Restart order code
SIGIPR	EQU	X'07'	Initial program reset order code
SIGPR	EQU	X'08'	Program reset order code
SIGSSS	EQU	X'09'	Stop and store status order code
SIGIML	EQU	X'0A'	Initial microprogram load order code
SIGICR	EQU	X'0B'	Initial processor reset order code
SIGCR	EQU	X'0C'	Processor reset order code emergency signals
SIGQUI	EQU	X'800'	Quiesce emergency signal
SIGEXT	EQU	X'400'	Extend emergency signal
SIGSYNC	EQU	X'200'	Clock synchronization emergency signal
SIGSHD	EQU	X'100'	Shutdown emergency signal
SIGCLK	EQU	X'080'	Clock check signal (external call signals)
SIGAPR	EQU	X'800'	Automatic processor recovery (external call signal)
SIGRES	EQU	X'400'	Resume external call signal
SIGWAKE	EQU	X'200'	Wakeup external call signal
SIGDISP	EQU	X'100'	Dispatch external call signal
Equates for TRACE macro			
TRCEXT	EQU	X'01'	External interrupt entry point
TRCSVC	EQU	X'02'	SVC interrupt entry point
TRCPGM	EQU	X'03'	Program interrupt entry point
TRCMCH	EQU	X'04'	Machine check interrupt entry point
TRCIO	EQU	X'05'	I/O interrupt entry point
TRCFREE	EQU	X'06'	Free storage entry point
TRCFRET	EQU	X'07'	Return storage entry point
TRCSCH	EQU	X'08'	Enter scheduler entry point
TRCDROP	EQU	X'09'	Queue drop entry point
TRCRUN	EQU	X'0A'	Run user entry point
TRCSIO	EQU	X'0B'	Start I/O entry point
TRCUNSTK	EQU	X'0C'	Unstack I/O interrupt entry point
TRCCSW	EQU	X'0D'	Virtual CSW store entry point
TRCTIO	EQU	X'0E'	Test I/O entry point
TRCHALT	EQU	X'0F'	Halt device entry point
TRCUNBLK	EQU	X'10'	Unstack IOBLOK or TRQBLOK entry point
TRCNCP	EQU	X'11'	NCP basic transmission unit entry point
TRCLOK	EQU	X'12'	Spin lock entry point
TRCSIGP	EQU	X'13'	Signal processor (SIGP) entry point
TRCCLCH	EQU	X'14'	Clear channel entry

Appendix E. Data Areas and Control Block References

This appendix -- a listing of CP, CMS, and RSCS control blocks -- contains the following:

- Module references to data areas and control blocks.
- Information on how certain data areas or control blocks are created and released.

CP CONTROL BLOCK REFERENCES

ACCTBLOK

Built by: DMKHVD

Released by: DMKHVD, DMKUSO

Referenced by: DMKACO, DMKCKP, DMKHVD, DMKSPL

ACNTBLOK

Built by: DMKACO, DMKHVD, DMKWRM

Released by: DMKACO

Referenced by: DMKACO, DMKCKP, DMKHVD, DMKJRL, DMKWRM

ACTIBLOK

Built by: DMKSYS

Released by: N/A

Referenced by: DMKACO, DMKCKP

ALOCBLOK

Built by: DMKCPI, DMKVDC

Released by: DMKCPI, DMKVDC

Referenced by: DMKCPI, DMKMON, DMKPGM, DMKPGT, DMKTDK, DMKVDC

BSCBLOK

Built by: DMKRGB

Released by: DMKRGA

Referenced by: DMKBSC, DMKRGA, DMKRGB

BUFFER

Built by: DMKCFM, DMKCPI, DMKERM, DMKGRF, DMKLNK, DMKLOG, DMKRGA, DMKRSP

Released by: DMKCFM, DMKCPI, DMKGRF, DMKLNK, DMKRGA, DMKRSP

Referenced by: DMKALG, DMKCDM, DMKCFG, DMKCFM, DMKCFO, DMKCFS, DMKCFV, DMKCPI, DMKCPT, DMKCSB, DMKCSO, DMKCSP, DMKCSQ, DMKCST, DMKCSU, DMKCSV, DMKERM, DMKGRF, DMKGRT, DMKLNK, DMKMSG, DMKRGA, DMKRSP, DMKSCN, DMKUDU, DMKVDC, DMKWRM

CCHREC

Built by: DMKCCH

Released by: DMKCCH, DMKIOE, DMKIOF

Referenced by: DMKCCH, DMKEIG, DMKSEV, DMKSIX

CCPARM

Built by: DMKNLD, DMKSNC

Released by: DMKNLD, DMKSNC

Referenced by: DMKNLD, DMKSNC

CHXBLOK

Built by: DMKDIA

Released by: DMKVCA

Referenced by: DMKCPP, DMKCQG, DMKDIA, DMKVCA, DMKVSI

CHYBLOK

Built by:

Released by:

Referenced by: DMKDIA, DMKVCA

CKPBLOK

Built by: DMKRNH

Released by: DMKRNH

Referenced by: DMKRNH, DMKWRM

CONTASK

Built by: DMKCNS, DMKGRF, DMKQCN, DMKRGA, DMKRGB, DMKRNH

Released by:

Referenced by: DMKCNS, DMKDSP, DMKGRF, DMKMON, DMKNES, DMKQCN, DMKQVM, DMKRGA, DMKRGB, DMKRNH

CORTABLE

Assembled in DMKSYS.

Released by: N/A

Referenced by: DMKATS, DMKBLD, DMKCCW, DMKCDS, DMKCFO, DMKCPI, DMKCPU, DMKCPV, DMKDGD, DMKDMP, DMKFRE, DMKMCC, DMKMCH, DMKMNI, DMKPAG, DMKPGM, DMKPGS, DMKPSA, DMKPTR, DMKQVM, DMKRPA, DMKSPM, DMKSTR, DMKUDR, DMKUDU, DMKUNT, DMKVMA, DMKVMC

CPEXBLOK

Built by: DMKACO, DMKCDS, DMKCFM, DMKCPS, DMKCPV, DMKDIA, DMKGRF, DMKIOE, DMKIOF, DMKIOG, DMKIOS, DMKLOC, DMKMCC, DMKMCH, DMKMON, DMKPGT, DMKPTR, DMKQCN, DMKRGA, DMKRGB, DMKRNH, DMKRPA, DMKRSP, DMKSPL, DMKSVC, DMKUSO, DMKVCA, DMKVDC, DMKVDE, DMKVMA, DMKVMC

Released by: DMKCPS, DMKDSP, DMKIOF, DMKMON, DMKPTR

Referenced by: DMKACO, DMKALG, DMKCCW, DMKCDS, DMKCFM, DMKCFO, DMKCFP, DMKCNS, DMKCPB, DMKCPS, DMKCPT, DMKCPU, DMKCPV, DMKDGD, DMKDIA, DMKDSB, DMKDSP, DMKEXT, DMKFRE, DMKGIO, DMKGRF, DMKIOE, DMKIOS, DMKIOT, DMKLOC, DMKLOK, DMKMCC, DMKMCD, DMKMCH, DMKMCT, DMKMIA, DMKMID, DMKMNI, DMKMON, DMKPAG, DMKPGM, DMKPGS, DMKPGT, DMKPRG, DMKPRV, DMKPRW, DMKPSA, DMKPTR, DMKQCN, DMKRGA, DMKRGB, DMKRNH, DMKRPA, DMKRSP, DMKSPL, DMKSSS, DMKSTP, DMKSTR, DMKSVC, DMKTMR, DMKTRD, DMKUSO, DMKVAT, DMKVCA, DMKVMA, DMKVMC, DMKVSI, DMKVSP

DDRREC

Built by: DMKVER

Released by: DMKVER

Referenced by: DMKVER

DMPINREC

Built by: DMKDMP

Released by: DMKDMP

Referenced by: DMKDMP

DMPKYREC

Built by: DMKDMP

Released by: DMKDMP

Referenced by: DMKDMP

ECBLOK

Built by: DMKBLD

Released by: DMKCFO, DMKCFS, DMKUSO

Referenced by: DMKACO, DMKBLD, DMKCDB, DMKCDM, DMKCDS, DMKCFF, DMKCFH, DMKCFP, DMKCFS, DMKCFV, DMKCKP, DMKCQR, DMKDSP, DMKEXT, DMKFPS, DMKHVC, DMKPRG, DMKPRV, DMKPRW, DMKPSA, DMKQVM, DMKSCH, DMKSPM, DMKSVC, DMKTMR, DMKTRC, DMKTRD, DMKUSO, DMKVAT, DMKVMC

ERRBLOK

Built by: DMKIOE

Released by: DMKIOF

Referenced by: DMKIOE, DMKIOF

IOBLOK

Built by: DMKACO, DMKCCW, DMKCFP, DMKCNS, DMKCPB, DMKCPI, DMKCPS, DMKCSO, DMKCSP, DMKCSU, DMKDGD, DMKDIA, DMKGIO, DMKGRF, DMKHVC, DMKIOS, DMKNLD, DMKRGA, DMKRGB, DMKSPL, DMKTDK, DMKVCA, DMKVDC, DMKVDD, DMKVDE, DMKVDR, DMKVIO

Released by: DMKCFP, DMKCNS, DMKCPB, DMKCPI, DMKCPS, DMKCSO, DMKDAS, DMKDGD, DMKDIA, DMKGIO, DMKGRF, DMKHVC, DMKIOS, DMKMON, DMKNLD, DMKPAG, DMKRGA, DMKRGB, DMKRNH, DMKRSP, DMKSEP, DMKTDK, DMKVCA, DMKVDC, DMKVDD, DMKVDE, DMKVIO

Referenced by: DMKACO, DMKBSC, DMKCCH, DMKCCW, DMKCFP, DMKCNS, DMKCPB, DMKCPI, DMKCPS, DMKCPT, DMKCSB, DMKCSO, DMKCSP, DMKCSU, DMKCSV, DMKDAS, DMKDAU, DMKDGD, DMKDIA, DMKDIB, DMKDSB, DMKDSP, DMKGIO, DMKGRF, DMKHVC, DMKIOE, DMKIOG, DMKIOS, DMKIOT, DMKISM, DMKLOH, DMKMCC, DMKMNI, DMKMON, DMKMSW, DMKNLD, DMKNLE, DMKPAG, DMKQVM, DMKRGA, DMKRGB, DMKRNH, DMKRSE, DMKRSP, DMKSEP, DMKSPL, DMKSPS, DMKSPT, DMKSSS, DMKSTK, DMKTAP, DMKTDK, DMKTRC, DMKTRD, DMKTRK, DMKUDR, DMKUNT, DMKUSO, DMKVCA, DMKVDC, DMKVDD, DMKVDE, DMKVDR, DMKVIO, DMKVSC, DMKVSI

IOERBLOK

Built by: DMKBSC, DMKCCH, DMKDAS, DMKDIA, DMKDIB, DMKIOE, DMKIOS, DMKRSE, DMKTAP, DMKVCA

Released by: DMKBSC, DMKCCH, DMKCCW, DMKCFP, DMKCNS, DMKCPS, DMKDAS, DMKDGD, DMKDIA, DMKDIB, DMKGIO, DMKGRF, DMKIOE, DMKIOS, DMKMON, DMKNLD, DMKRGA, DMKRGB, DMKRNH, DMKRSE, DMKRSR, DMKTAP, DMKVIO

Referenced by: DMKBSC, DMKCCH, DMKCCW, DMKCFP, DMKCNS, DMKCPT, DMKDAS, DMKDAU, DMKDGD, DMKDIA, DMKDIB, DMKDSB, DMKEIG, DMKGIO, DMKGRF, DMKIOE, DMKIOF, DMKIOS, DMKIOT, DMKMSW, DMKNLD, DMKNLE, DMKQVM, DMKRGA, DMKRNH, DMKRSE, DMKRSP, DMKSEV, DMKSIX, DMKTAP, DMKTRK, DMKUNT, DMKVCA, DMKVDC, DMKVDE, DMKVIO, DMKVSC

IRMBLOK

Built by: DMKCFO, DMKCFS

Released by: DMKCFS, DMKIOE

Referenced by: DMKCFO, DMKIOE

LOCKBLOK

Built by: DMKLOC

Released by: DMKLOC

Referenced by: DMKLOC

MCHAREA

Built by: DMKIOG

Released by: N/A

Referenced by: DMKCCH, DMKCFO, DMKCPU, DMKIOG, DMKMCH, DMKMCT

MCRECORD

Built by: DMKMCH

Released by: N/A

Referenced by: DMKMCH

MDRREC

Built by: DMKVER

Released by: DMKVER

Referenced by: DMKIOF, DMKVER

MICBLOK

Built by: DMKCFS, DMKLOG

Released by: DMKCFS, DMKLOG, DMKUSO

Referenced by: DMKBLD, DMKCFS, DMKDSP, DMKFPS, DMKLOG, DMKMCH, DMKPTR, DMKRPA, DMKSTR, DMKTRA

MIHREC

Built by: DMKVER

Released by: DMKVER

Referenced by: DMKVER

MNHDR

Built by: DMKMON

Released by: DMKMON

Referenced by: DMKMON

MN000

Built by: DMKMON

Released by: DMKMON

Referenced by: DMKMON

MN001

Built by: DMKMON

Released by: DMKMON

Referenced by: DMKMON

MN002

Built by: DMKMON

Released by: DMKMON

Referenced by: DMKMON

MN003

Built by: DMKMON

Released by: DMKMON

Referenced by: DMKMON

MN097

Built by: DMKMNI

Released by: DMKMON

Referenced by: DMKMNI

MN098

Built by: DMKMNI

Released by: DMKMON

Referenced by: DMKMNI

MN099

Built by: DMKMON

Released by: DMKMON

Referenced by: DMKMON

MN10X

Built by: DMKMON

Released by: DMKMON

Referenced by: DMKMON

MN20X

Built by: DMKMON

Released by: DMKMON

Referenced by: DMKMON

MN400

Built by: DMKMOO

Released by: DMKMOO

Referenced by: DMKMOO

MN410

Built by: DMKMOO

Released by: DMKMOO

Referenced by: DMKMOO

MN500

Built by: DMKMON

Released by: DMKMON

Referenced by: DMKMON

MN600DEV

Built by: DMKMOO, DMKMNI

Released by: DMKMOO

Referenced by: DMKMNI, DMKMOO

MN600HDR

Built by: DMKMOO, DMKMNI

Released by: DMKMOO

Referenced by: DMKMNI, DMKMOO

MN700

Built by: DMKMON

Released by: DMKMON

Referenced by: DMKMON

MN802CTR

Built by: DMKMON

Released by: DMKMON

Referenced by: DMKMON

MN802DEV

Built by: DMKMON

Released by: DMKMON

Referenced by: DMKMON

MONCOM

Built by: DMKMCC

Released by: DMKMON

Referenced by: DMKCPS, DMKDMP, DMKENT, DMKMCC, DMKMCD, DMKMIA, DMKMNI, DMKMON, DMKMOO

NCPTBL

Built by: DMKSNT

Released by: N/A

Referenced by: DMKNLD, DMKSNC

NICBLOK

Built by: DMKNLD

Released by: DMKNLD

Referenced by: DMKACO, DMKBLD, DMKCFT, DMKCKP, DMKCPI, DMKCQR, DMKDIA, DMKHVD, DMKLOG, DMKLOH, DMKNES, DMKNET, DMKNLD, DMKPSA, DMKQCN, DMKRGA, DMKRGB, DMKRNH, DMKVCN, DMKWRM

OBRRECN (Long OBR)

Built by: DMKIOF

Released by: DMKIOF

Referenced by: DMKIOC, DMKIOF, DMKVFR

OBRREC (Short OBR)

Built by: DMKIOF

Released by: DMKIOF

Referenced by: DMKIOF

OWNDLIST

Assembled into DMKSYS

Referenced by: DMKATS, DMKCFS, DMKCKP, DMKCKS, DMKCPI, DMKCPU, DMKCQY, DMKDRD, DMKPAG, DMKPGM, DMKPGS, DMKPGT, DMKPTR, DMKSCN, DMKSPL, DMKUDR, DMKVDA, DMKVDC, DMKWRM

PAGTABLE

Built by: DMKBLD

Released by: DMKBLD, DMKPGS

Referenced by: DMKATS, DMKBLD, DMKCFF, DMKCFG, DMKCPU, DMKPGS, DMKPTR, DMKVAT, DMKVMA,

PGBLOK

Built by: DMKVAT

Released by: DMKCFP, DMKDSP

Referenced by: DMKCFP, DMKDSP, DMKVAT

PSA

Assembled as part of DMKSYS; part of CP nucleus.

Referenced by: DMKACO, DMKALG, DMKAPI, DMKATS, DMKBLD, DMKBSC, DMKCCH, DMKCCW, DMKCDB, DMKCDM, DMKCDS, DMKCFC, DMKCFD, DMKCFF, DMKCFG, DMKCFH, DMKCFM, DMKCFO, DMKCFP, DMKCFS, DMKCFT, DMKCFV, DMKCKP, DMKCKS, DMKCKT, DMKCLK, DMKCNS, DMKCPB, DMKCPI, DMKCPS, DMKCPT, DMKCPU, DMKCPV, DMKCQG, DMKCQH, DMKCQP, DMKCQQ, DMKCQR, DMKCQY, DMKCSB, DMKCSO, DMKCSP, DMKCSQ, DMKCST, DMKCSU, DMKCSV, DMKCVT, DMKDAS, DMKDAU, DMKDEF, DMKDEG, DMKDGD, DMKDIA, DMKDIB, DMKDMP, DMKDRD, DMKDSB, DMKDSP, DMKEIG, DMKENT, DMKERM, DMKEXT, DMKFMT, DMKFPS, DMKFRE, DMKGIO, DMKGRF, DMKGRT, DMKHVC, DMKHVD, DMKIOC, DMKIOE, DMKIOF, DMKIOG, DMKIOS, DMKIOT, DMKISM, DMKJRL, DMKLNK, DMKLOC, DMKLOG, DMKLOH, DMKLOK, DMKMCC, DMKMCD, DMKMCH, DMKMCT, DMKMIA, DMKMID, DMKMNI, DMKMON, DMKMOO, DMKMSG, DMKMSW, DMKNES, DMKNET, DMKNLD, DMKNLE, DMKOPR, DMKPAG, DMKPGM, DMKPGS, DMKPGT, DMKPRG, DMKPRV, DMKPRW, DMKPSA, DMKPTR, DMKQCN, DMKQVM, DMKRGA, DMKRGB, DMKRNH, DMKRPA, DMKRSE, DMKRSP, DMKSAV, DMKSCH, DMKSCN, DMKSEP, DMKSEV, DMKSIX, DMKSNC, DMKSPL, DMKSPS, DMKSPT, DMKSRM, DMKSSP, DMKSSS, DMKSTK, DMKSTP, DMKSTR, DMKSVC, DMKTAP, DMKTCS, DMKTDK, DMKTHI, DMKTMR, DMKTRA, DMKTRC, DMKTRD, DMKTRK, DMKTRM, DMKUDR, DMKUDU, DMKUNT, DMKUSO, DMKVAT, DMKVCA, DMKVCH, DMKVCN, DMKVDA, DMKVDC, DMKVDD, DMKVDE, DMKVDR, DMKVDS, DMKVER, DMKVIO, DMKVMA, DMKVMC, DMKVMI, DMKVSC, DMKVSI, DMKVSP, DMKVSQ, DMKWRM

RCHBLOK

Assembled into CP nucleus module DMKRIO

Released by: N/A

Referenced by: DMKCCH, DMKCFO, DMKCKP, DMKCPB, DMKCPI, DMKCPS, DMKCPT, DMKCPV, DMKCQP, DMKDIA, DMKDSB, DMKENT, DMKIOG, DMKIOS, DMKIOT, DMKMNI, DMKMON, DMKMOO, DMKNES, DMKPRV, DMKQVM, DMKSCN, DMKSSP, DMKSSS, DMKVCH

RCUBLOK

Assembled into CP nucleus module DMKRIO.

Released by: N/A

Referenced by: DMKCCH, DMKCCW, DMKCFO, DMKCKP, DMKCPB, DMKCPI, DMKCPS, DMKCPT, DMKCPV, DMKCQP, DMKDIA, DMKDSB, DMKENT, DMKGRF, DMKIOC, DMKIOS, DMKIOT, DMKMNI, DMKMON, DMKMOO, DMKNES, DMKNLD, DMKPRV, DMKQVM, DMKSCN, DMKSSP, DMKSSS, DMKVCH

RCWTASK

Built by: DMKCCW

Released by: DMKCCW, DMKUNT

Referenced by: DMKCCW, DMKCFP, DMKCPB, DMKHVC, DMKIOS, DMKISM, DMKTRD, DMKTRK, DMKUNT, DMKVDR, DMKVIO

RDEVBLOK

Built by: Assembled into CP nucleus module DMKRIO

Released by: N/A

Referenced by: DMKACO, DMKATS, DMKBLD, DMKBSC, DMKCCH, DMKCCW, DMKCFC, DMKCFG, DMKCFH, DMKCFM, DMKCFO, DMKCFP, DMKCFS, DMKCFT, DMKCKP, DMKCKS, DMKCKT, DMKCNS, DMKCPB, DMKCPI, DMKCPS, DMKCPT, DMKCPU, DMKCPV, DMKMSG, DMKCQG, DMKCQP, DMKCQQ, DMKCQR, DMKCQY, DMKCSB, DMKCSO, DMKDAS, DMKDAU, DMKDEF, DMKDGD, DMKDIA, DMKDMP, DMKDRD, DMKDSB, DMKDSP, DMKENT, DMKGRF, DMKHVD, DMKIOC, DMKIOE, DMKIOF, DMKIOG, DMKIOS, DMKIOT, DMKLNK, DMKLOG, DMKLOH, DMKMCC, DMKMNI, DMKMON, DMKMOO, DMKMSW, DMKNES, DMKNET, DMKNLD, DMKNLE, DMKOPR, DMKPAG, DMKPGM, DMKPGS, DMKPGT, DMKPRV, DMKPSA, DMKPTR, DMKQCN, DMKQVM, DMKRGA, DMKRGB, DMKRNH, DMKRSE, DMKRSP, DMKSCN, DMKSEP, DMKSNC, DMKSPL, DMKSPS, DMKSPT, DMKSSP, DMKSSS, DMKTAP, DMKTCS, DMKTDK, DMKTRK, DMKTRM, DMKUDR, DMKUNT, DMKUSO, DMKVCH, DMKVCN, DMKVDA, DMKVDC, DMKVDD, DMKVDE, DMKVDR, DMKVDS, DMKVER, DMKVSC, DMKVSI, DMKVSP, DMKWRM

RECBLOK

Built by: DMKCKS, DMKCPI, DMKPGT, DMKRSP, DMKVSP, DMKWRM

Released by: DMKPGT, DMKSPL, DMKUSO

Referenced by: DMKCKP, DMKCKS, DMKCKT, DMKCPI, DMKDMP, DMKPGT, DMKRSP, DMKSPL, DMKUSO, DMKVSP, DMKWRM

RECPAG

Built by: DMKIOF, DMKIOG

Released by: DMKIOF, DMKIOG

Referenced by: DMKIOF, DMKIOG

RSPLCTL

Built by: DMKRSP

Released by: DMKRSP

Referenced by: DMKCKP, DMKCQP, DMKCSO, DMKRSP, DMKSPL, DMKTCS

SAVEAREA

Built by: DMKCPI, DMKSVC

Released by: DMKSVC

Referenced by: DMKACO, DMKALG, DMKAPI, DMKATS, DMKBLD, DMKBSC, DMKCCH, DMKCCW, DMKCDB, DMKCDM, DMKCDS, DMKCFC, DMKCFD, DMKCFF, DMKCFG, DMKCFH, DMKCFM, DMKCFO, DMKCFP, DMKCFS, DMKCFT, DMKCFV, DMKCKS, DMKCKT, DMKCLK, DMKCNS, DMKCPB, DMKCPS, DMKCPT, DMKCPU, DMKCPV, DMKCQG, DMKCQH, DMKCQP, DMKCQQ, DMKCQR, DMKCQY, DMKCSB, DMKCSO, DMKCSP, DMKCSQ, DMKCST, DMKCSU, DMKCSV, DMKDAS, DMKDAU, DMKDDR, DMKDEF, DMKDEG, DMKDGD, DMKDIA, DMKDIB, DMKDIR, DMKDRD, DMKDSB, DMKEIG, DMKENT, DMKERM, DMKFMT, DMKGIO, DMKGRF, DMKGRT, DMKHVD, DMKIOC, DMKIOE, DMKIOF, DMKIOG, DMKIOS, DMKIOT, DMKISM, DMKJRL, DMKLNK, DMKLOG, DMKLOH, DMKMCC, DMKMCD, DMKMCH, DMKMIA, DMKMID, DMKMNI, DMKMON, DMKMOO, DMKMSG, DMKMSW, DMKNEM, DMKNES, DMKNET, DMKNLD, DMKNLE, DMKPGM, DMKPGS, DMKPTR, DMKQCN, DMKQVM, DMKRGA, DMKRGB, DMKRNH, DMKRPA, DMKRSE, DMKRSP, DMKSEP, DMKSEV, DMKSIX, DMKSNC, DMKSPL, DMKSPM, DMKSPS, DMKSPT, DMKSRM, DMKSSP, DMKSSS, DMKSTP, DMKSTR, DMKSVC, DMKTAP, DMKTCS, DMKTDK, DMKTHI, DMKTRA, DMKTRC, DMKTRD, DMKTRK, DMKTRM, DMKUDR, DMKUDU, DMKUNT, DMKUSO, DMKVAT, DMKVCA, DMKVCH, DMKVDA, DMKVDC, DMKVDD, DMKVDE, DMKVDR, DMKVDS, DMKVER, DMKVMA, DMKVMC, DMKVSC, DMKVSP, DMKWRM

SAVTABLE

Built by: Assembled into CP pageable module DMKSNT

Released by: N/A

Referenced by: DMKCFF, DMKCFH, DMKCFS, DMKCKP, DMKCQY

SDRBLOK

Built by: DMKIOF

Released by: DMKIOE

Referenced by: DMKIOE, DMKIOF

SEGTABLE

Built by: DMKBLD

Released by: DMKBLD

Referenced by: DMKATS, DMKBLD, DMKCKP, DMKPGS, DMKVMA

SFBLOK

Built by: DMKCKS, DMKNLD, DMKSPL, DMKWRM

Released by: DMKCKS, DMKRSP, DMKSPL, DMKUSO

Referenced by: DMKACO, DMKCKP, DMKCKS, DMKCKT, DMKCPI, DMKCQH, DMKCQR, DMKCSO, DMKCSP, DMKCSQ, DMKCST, DMKCSU, DMKCSV, DMKDMP, DMKDRD, DMKMIA, DMKMNI, DMKNLE, DMKRSE, DMKRSP, DMKSEP, DMKSPL, DMKSPS, DMKSPT, DMKTCS, DMKUSO, DMKVSP, DMKVSQ, DMKWRM

SHQBLOK

Built by: DMKCSP, DMKWRM

Released by: DMKCSP

Referenced by: DMKCKS, DMKCQR, DMKCSQ, DMKSPL, DMKWRM

SHRTABLE

Built by: DMKCFG

Released by: DMKPGS, DMKVMA

Referenced by: DMKATS, DMKCFF, DMKCFG, DMKCFH, DMKCPU, DMKPGS, DMKPTR, DMKVMA

SPLINK

Built By: N/A

Released by: N/A

Referenced by: DMKACO, DMKCKS, DMKCQH, DMKCSU, DMKDRD, DMKMIA, DMKRSP, DMKSPL, DMKSPS, DMKTCS, DMKVSP, DMKVSQ

STOBLOK

Built by: DMKVAT

Released by: DMKVAT

Referenced by: DMKDSP, DMKFPS, DMKVAT

SWPTABLE

Built by: DMKBLD, DMKVMA

Released by: DMKBLD

Referenced by: DMKATS, DMKBLD, DMKCFF, DMKCPU, DMKPGM, DMKPGS, DMKPTR, DMKSTR, DMKVAT, DMKVMA

SYSLOCS

Assembled into CP nucleus module DMKSYS.

Referenced by: DMKACO, DMKBLD, DMKCFO, DMKCFT, DMKCFV, DMKCKP, DMKLOC, DMKLOG, DMKLOH, DMKUDR, DMKUDU, DMKUSO

SYSTBL

Assembled into DMKSNT.

Referenced by: DMKATS, DMKCFF, DMKCFG, DMKCFH, DMKCFS, DMKCKP, DMKCPU, DMKCQY

TNSREC

Built by: DMKIOF

Released by: DMKIOF

Referenced by: DMKIOF

TREXT

Built by: DMKTRA

Released by: DMKTRA, DMKTRC, DMKUSO

Referenced by: DMKCFM, DMKDSP, DMKPGS, DMKPRG, DMKPRV, DMKPRW, DMKSVC, DMKTMR, DMKTRA, DMKTRC, DMKTRD, DMKVIO

TRQBLOK

Built by: DMKBLD, DMKCFC, DMKCFS, DMKCPI, DMKGRF, DMKLOG, DMKMCC, DMKQCN, DMKRGA

Released by: DMKCFM, DMKCFS, DMKDIA, DMKMCC, DMKLOG, DMKMON, DMKQCN, DMKRGA, DMKUSO

Referenced by: DMKBLD, DMKCDS, DMKCFC, DMKCFM, DMKCFP, DMKCFS, DMKCPI, DMKCPU, DMKDIA, DMKDSP, DMKENT, DMKFPS, DMKGRF, DMKLOG, DMKMID, DMKMNI, DMKMON, DMKPSA, DMKQCN, DMKQVM, DMKRGA, DMKRGB, DMKSCH, DMKSSS, DMKSTP, DMKTMR, DMKUSO

UDBFBLOK

Built by: DMKDEF, DMKHVD, DMKSPL

Released by: DMKDEF, DMKHVD, DMKSPL

Referenced by: DMKCFS, DMKDEG, DMKHVD, DMKLNK, DMKLOG, DMKSPL, DMKUDR

UDEVBLOK

Built by: DMKCSP, DMKUDR

Released by: DMKCSP, DMKUDR

Referenced by: DMKDEF, DMKDIR, DMKLNK, DMKLOG, DMKLOH, DMKSCN, DMKSSS, DMKUDR, DMKUDU, DMKVDA, DMKVDS

UDIRBLOK

Built by: DMKCSP

Released by: DMKCSP

Referenced by: DMKCFS, DMKCPI, DMKCSP, DMKDEG, DMKDIR, DMKHVD, DMKLNK, DMKLOG, DMKSPL, DMKUDR, DMKUDU

UMACBLOK

Built by: DMKDIR

Released by: DMKDIR

Referenced by: DMKCFS, DMKDEG, DMKDIR, DMKHVD, DMKLOG, DMKSPL, DMKUDR, DMKUDU

VCHBLOK

Built by: DMKVDS

Released by: DMKUSO

Referenced by: DMKCFM, DMKCFP, DMKCKP, DMKCPB, DMKCPV, DMKCQG, DMKCSP, DMKCSU, DMKCSV, DMKDEF, DMKDEG, DMKDIA, DMKDSP, DMKFPS, DMKLNK, DMKLOG, DMKPRV, DMKQVM, DMKSCN, DMKSPL, DMKSSS, DMKUSO, DMKVCH, DMKVCN, DMKVDA, DMKVDC, DMKVDD, DMKVDS, DMKVIO, DMKVSC, DMKVSI, DMKVSP

VCONCTL

Built by: DMKVDS

Released by: DMKVDR

Referenced by: DMKALG, DMKCFP, DMKGRF, DMKRGA, DMKVCN, DMKVDR

VCUBLOK

Built by: DMKVDS

Released by: DMKUSO

Referenced by: DMKCFM, DMKCFP, DMKCKP, DMKCPB, DMKCPV, DMKCQG, DMKCSP, DMKCSU, DMKCSV, DMKDEF, DMKDEG, DMKDIA, DMKDSP, DMKLOG, DMKNLD, DMKPRV, DMKQVM, DMKSCN, DMKSPL, DMKSSS, DMKUSO, DMKVCH, DMKVCN, DMKVDA, DMKVDC, DMKVDD, DMKVDS, DMKVIO, DMKVSC, DMKVSI, DMKVSP

VDEVBLOK

Built by: DMKLOG, DMKVDS

Released by: DMKUSO

Referenced by: DMKACO, DMKALG, DMKCCH, DMKCCW, DMKCFG, DMKCFH, DMKCFM, DMKCFP, DMKCKP, DMKCPB, DMKCPS, DMKCPV, DMKCQG, DMKCQQ, DMKCSB, DMKCSP, DMKCSQ, DMKCST, DMKCSU, DMKCSV, DMKDAS, DMKDAU, DMKDEF, DMKDGD, DMKDIA, DMKDIB, DMKDRD, DMKDSP, DMKGIO, DMKGRF, DMKHVC, DMKHVD, DMKIOS, DMKLNK, DMKLOG, DMKLOH, DMKNLD, DMKPRV, DMKQCN, DMKQVM, DMKRGA, DMKSCN, DMKSPL, DMKSSS, DMKTHI, DMKTRC, DMKTRD, DMKTRK, DMKUNT, DMKUSO, DMKVCA, DMKVCH, DMKVCN, DMKVDA, DMKVDC, DMKVDD, DMKVDR, DMKVDS, DMKVER, DMKVIO, DMKVSC, DMKVSI, DMKVSP, DMKVSQ

VFCBBLOK

Built by: DMKCFG, DMKCSO

Released by: DMKVDR

Referenced by: DMKCSB, DMKVSP

VMABLOK

Built by: DMKBLD, DMKCFG

Released by: DMKBLD, DMKPGS, DMKVMA

Referenced by: DMKATS, DMKCFF, DMKPGS, DMKVMA

VMBLOK

Built by: DMKBLD

Released by: DMKBLD, DMKDIA, DMKLOG, DMKUSO

Referenced by: DMKACO, DMKALG, DMKAPI, DMKATS, DMKBLD, DMKCCH, DMKCCW, DMKCDB, DMKCDM, DMKCDS, DMKCFC, DMKCFD, DMKCFF, DMKCFG, DMKCFH, DMKCFM, DMKCFO, DMKCFP, DMKCFS, DMKCFT, DMKCFV, DMKCKP, DMKCKS, DMKCKT, DMKCNS, DMKCPB, DMKCPI, DMKCPS, DMKCPT, DMKCPU, DMKCPV, DMKCQG, DMKCQH, DMKCQP, DMKCQQ, DMKCQR, DMKCQY, DMKCSB, DMKCSO, DMKCSP, DMKCSQ, DMKCST, DMKCSU, DMKCSV, DMKDAS, DMKDAU, DMKDEF, DMKDEG, DMKDGD, DMKDIA, DMKDIB, DMKDRD, DMKDSP, DMKENT, DMKERM, DMKEXT, DMKFPS, DMKFRE, DMKGIO, DMKGRF, DMKGRT, DMKHVC, DMKHVD, DMKIOE, DMKIOF, DMKIOG, DMKIOS, DMKIOT, DMKISM, DMKJRL, DMKLNK, DMKLOG, DMKLOH, DMKLOK, DMKMCC, DMKMCD, DMKMCH, DMKMCT, DMKMIA, DMKMID, DMKMNI, DMKMON, DMKMOO,

DMKMSG, DMKMSW, DMKNES, DMKNET, DMKNLD, DMKNLE, DMKPAG, DMKPER, DMKPGM, DMKPGS, DMKPGT, DMKPRG, DMKPRV, DMKPRW, DMKPSA, DMKPTR, DMKQCN, DMKQVM, DMKRGA, DMKRGB, DMKRNH, DMKRPA, DMKRSE, DMKRSP, DMKSCH, DMKSCN, DMKSEP, DMKSNC, DMKSPL, DMKSPS, DMKSPT, DMKSRM, DMKSSS, DMKSTK, DMKSTP, DMKSTR, DMKSVC, DMKTCS, DMKTHI, DMKTMR, DMKTRA, DMKTRC, DMKTRD, DMKTRK, DMKUDR, DMKUDU, DMKUNT, DMKUSO, DMKVAT, DMKVCA, DMKVCH, DMKVCN, DMKVDA, DMKVDC, DMKVDD, DMKVDR, DMKVDS, DMKVER, DMKVIO, DMKVMA, DMKVMC, DMKVSC, DMKVSI, DMKVSP, DMKVSQ, DMKWRM

VMCBLOK

Built by: DMKVMC

Released by: DMKVMC

Referenced by: DMKDSP, DMKVMC

VMCMHDR

Built by: N/A

Released by: N/A

Referenced by: DMKMSG

VMCPARM

Built by: Virtual machine user

Released by: Virtual machine user

Referenced by: DMKVMC

VMQBLOK

Built by: DMKSCH

Released by: DMKSCH

Referenced by: DMKSCH, DMKSTP

VRRBLOK

Built by: DMKVDS

Released by: DMKVDR

Referenced by: DMKCCW, DMKCFP, DMKDGD, DMKGIO, DMKUNT, DMKVDS, DMKVSI

VSPLCTL

Built by: DMKDRD, DMKVSP

Released by: DMKVSP

Referenced by: DMKCKP, DMKCSP, DMKCSQ, DMKDRD, DMKSPL, DMKVSP, DMKVSQ

VSPXBLOK

Built by: DMKCST

Released by: DMKCST

Referenced by: DMKCKP, DMKCQG, DMKCSP, DMKCST, DMKSPL, DMKVDR, DMKVDS

XINTBLOK

Built by: DMKCFP, DMKCPB, DMKDSP, DMKGRF, DMKRGA, DMKSCH, DMKTMR

Released by: DMKCFP, DMKDSP, DMKSCH, DMKTMR

Referenced by: DMKCFP, DMKCFS, DMKCPB, DMKDSP, DMKFPS, DMKGRF, DMKPSA, DMKRGA, DMKSCH, DMKTMR, DMKVMC

XOBR3211

Built by: DMKRSE

Released by: DMKIOE

Referenced by: DMKBSC, DMKCCH, DMKCCW, DMKCFO, DMKCFP, DMKCNS, DMKCPS, DMKCPV, DMKCSB, DMKCSO, DMKDAS, DMKDGD, DMKDIA, DMKDIB, DMKEIG, DMKGIO, DMKGRF, DMKIOE, DMKIOF, DMKIOG, DMKIOS, DMKMNI, DMKMON, DMKMSW, DMKNLD, DMKNLE, DMKRGA, DMKRGB, DMKRNH, DMKRSE, DMKRSP, DMKSEV, DMKSIX, DMKSPL, DMKSPS, DMKSPT, DMKTAP, DMKUNT, DMKVCA, DMKVDA, DMKVDC, DMKVDE

ABTAB

Assembled as part of DMSNUC.

Referenced by: DMSBAB, DMSDOS, DMSITP

ABWSECT

Assembled as part of DMSNUC

Referenced by: DMSABN, DMSDBG, DMSFRE, DMSITI, DMSITP, DMSITS

ADTSECT

Assembled as part of DMSNUC.

Referenced by: DMSABN, DMSACC, DMSACF, DMSACM, DMSALU, DMSAMS, DMSARE, DMSARN, DMSARX, DMSASM, DMSASN, DMSAUD, DMSBOP, DMSBRD, DMSBWR, DMSCMP, DMSCPY, DMSDIO, DMSDLB, DMSDLK, DMSDOS, DMSDSK, DMSDSL, DMSERS, DMSEXC, DMSEXT, DMSFNS, DMSFOR, DMSGND, DMSIFC, DMSINS, DMSLAD, DMSLAF, DMSLBM, DMSLBT, DMSLDS, DMSLFS, DMSLKD, DMSLLU, DMSLST, DMSMOD, DMSMVE, DMSPUN, DMSQRY, DMSRNM, DMSROS, DMSSET, DMSSOP, DMSSTT, DMSSVT, DMSTMA, DMSTPE, DMSTPF, DMSTQQ, DMSTRK, DMSUPD, DMSXCP

AFTSECT

Assembled as part of DMSNUC; also created and released dynamically by DMSLAF.

Referenced by: DMSBRD, DMSBWR, DMSERS, DMSINT, DMSLAF, DMSPNT, DMSRNM, DMSSOP, DMSSTT, DMSTPE

ANCHSECT

Built by: DMSSTG

Released by: Not released

Referenced by: DMSDOS, DMSSTG

BATLSECT

Assembled as part of DMSBTP.

Referenced by: DMSCIO, DMSITE, DMSPIO

BBOX

Assembled as part of DMSNUC.

Referenced by: DMSSTG. This block is used by the DOS supervisor.

BGCOM

Assembled as part of DMSNUC.

Referenced by: DMSAMS, DMSASN, DMSBAB, DMSBOP, DMSCLS, DMSDLB, DMSDLK, DMSDMP, DMSDOS, DMSDSV, DMSFCH, DMSFET, DMSINS, DMSITP, DMSLLU, DMSOPL, DMSOPT, DMSPRV, DMSQRY, DMSRRV, DMSSET, DMSSMN, DMSSRV, DMSSTG, DMSVSR, DMSXCP

CMSTAXE

Built by: DMSSVT

Released by: DMSSVT

Referenced by: DMSCIT, DMSITI, DMSSVT

CVTSECT

Assembled as part of DMSNUC.

Referenced by: DMSINS

DBGSECT

Assembled as part of DMSNUC.

Referenced by: DMSDBD, DMSDBG, DMSITE.

DEVSECT

Assembled as part of DMSNUC.

Referenced by: DMSTIO, DMSTLB, DMSTPE, DMSTPF, DMSTPG

DEVTAB

Assembled as part of DMSNUC.

Referenced by: DMSASN, DMSDBD, DMSEDI, DMSEDX, DMSINI, DMSIOW, DMITI, DMSLLU, DMSSVT

DIOSECT

Assembled as part of DMSNUC.

Referenced by: DMSACM, DMSDIO, DMSFNS, DMSITI

DMSCCB

Built by: N/A

Released by: N/A

Referenced by: DMSXCP

DOSSECT

Built by: DMSDLB

Released by: DMSDLB, DMSABN

Referenced by: DMSAMS, DMSBOP, DMSCLS, DMSDLB, DMSDLK, DMSDOS, DMSDSV, DMSFCH, DMSOPL, DMSQRY, DMSROS, DMSRRV, DMSSRV, DMSSVT, DMSVIP, DMSXCP

EDCB

Built by: DMSEDX

Released by: DMSEDI

Referenced by: DMSEDC, DMSEDI, DMSEDX, DMSGIO, DMSSCR

ERDSECT

Assembled as part of DMSNUC.

Referenced by: DMSERR

EXTSECT

Assembled as part of DMSNUC.

Referenced by: DMSINS, DMSINT, DMSIOW, DMSITE, DMSQRY, DMSSET, DMSSTG, DMSSVN, DMSSVT

EXTUAREA

Assembled as part of DMSNUC.

Released by: N/A

No CMS references.

FCBSECT

Built by: DMSFLD

Released by: DMSFLD, DMSABN

Referenced by: DMSALU, DMSARN, DMSARX, DMSASM, DMSDSL, DMSFCH, DMSFLD, DMSLBD, DMSLDS, DMSMVE, DMSQRY, DMSROS, DMSSAB, DMSSBD, DMSSBS, DMSSCT, DMSSEB, DMSSOP, DMSSQS, DMSSVN, DMSSVT, DMSTLB

FCHTAB

Assembled as part of DMSNUC.

Referenced by: DMSDOS, DMSFET

FICL

Assembled as part of DMSNUC.

Referenced by: No CMS references. This block is used by the DOS supervisor.

FRDSECT

Assembled as part of DMSNUC.

Referenced by: DMSFRE, DMSSET

FSCBD

Built by: N/A

Released by: N/A

Referenced by: DMSBRD, DMSDLK, DMSERS, DMSIFC, DMSUPD, DMSZAP, and user programs that access the CMS file system.

FSTD

Built by: N/A

Released by: N/A

Referenced by: DMSCPY, DMSEDI, DMSEDX, DMSEXC, DMSFNS, DMSGND, DMSLAD, DMSLBT, DMSLST, DMSNCP, DMSSOP, DMSTPE, DMSTPF, DMSTPG, DMSTYP, DMSUPD

FSTSECT

Built by: DMSACF

Released by: DMSALU

Referenced by: DMSACF, DMSAMS, DMSARN, DMSARX, DMSASM, DMSBOP, DMSBRD, DMSBWR, DMSCPY, DMSDLK, DMSDSK, DMSDSL, DMSERS, DMSIFC, DMSLAF, DMSLBM, DMSLKD, DMSMDP, DMSMVE, DMSRNM, DMSSTT, DMSTPE, DMSUPD, DMSZAP

FVSECT

Assembled as part of DMSNUC.

Referenced by: DMSABN, DMSACC, DMSACF, DMSACM, DMSALU, DMSARN, DMSARX, DMSASM, DMSAUD, DMSBRD, DMSBTB, DMSBTP, DMSBWR, DMSCIT, DMSCMP, DMSCRD, DMSCWR, DMSCWT, DMSDIO, DMSDOS, DMSDSK, DMSDSL, DMSERD, DMSERS, DMSFNS, DMSGND, DMSINT, DMSITE, DMSITI, DMSITP, DMSITS, DMSLAD, DMSLBM, DMSLFS, DMSMOD, DMSPNT, DMSPUN, DMSQRY, DMSRNM, DMSSLN, DMSSOP, DMSSTT, DMSTPE, DMSTPF, DMSTPG, DMSTQQ, DMSUPD

IHADECB

Built by: N/A

Released by: N/A

Referenced by: DMSSBD, DMSSBS, DMSSCT, DMSSEB, DMSSVT

IOSECT

Assembled as part of DMSNUC.

Referenced by: DMSABN, DMSHDI, DMSINT, DMSITI

KEYSECT

Built by: DMSSVT

Released by: DMSSVT

Referenced by: DMSSBD, DMSSVT

LABSECT

Built by: DMSLBD

Released by: DMABN, DMSLBD

Referenced by: DMSFLD, DMSLBD, DMSQRY, DMSTLB

LDRST

Built by: DMSLDR

Released by: DMSLDR

Referenced by: DMSLDR, DMSLGT, DMSLIB, DMSLIO, DMSLSB, DMSOLD

LIBSECT

Assembled as part of the LIB macro.

Referenced by: DMSLBM, DMSLGT, DMSLIB, DMSPRT DMSPUN, DMSSVT, DMSTMA, DMSTYP

LUBPR

Assembled as part of DMSNUC.

Referenced by: DMSAMS, DMSBOP, DMSCLS, DMSDLB, DMSDLK, DMSDSV, DMSFCH, DMSLLU, DMSOPL, DMSPRV, DMSRRV, DMKSET, DMSSRV, DMSXCP

LUBTAB

Assembled as part of DMSNUC.

Referenced by: DMSAMS, DMSBOP, DMSCLS, DMSDLB, DMSFCH, DMSLLU, DMSOPL, DMSPRV, DMSRRV, DMSSET, DMSSRV, DMSXCP

NICL

Assembled as part of DMSNUC.

Referenced by: DMSBOP, DMSCLS, DMSDLB, DMSDLK, DMKDOS, DMSDSV, DMSLLU, DMSPRV, DMSXCP

NUCON

Assembled as part of DMSNUC.

Referenced by: DMSABN, DMSACC, DMSACF, DMSACM, DMSALU, DMSAMS, DMSARE, DMSARN, DMSARX, DMSASM, DMSASN, DMSAUD, DMSBAB, DMSBOP, DMSBRD, DMSBTB, DMSBTP, DMSBWR, DMSCAT, DMSCIO, DMSCIT, DMSCLS, DMSCMP, DMSCPF, DMSCPY, DMSCRD, DMSCWR, DMSCWT, DMSDBD, DMSDBG, DMSDIO, DMSDLB, DMSDLK, DMSDMP, DMSDOS, DMSDSK, DMSDSL, DMSDSV, DMSEDI, DMSEDX, DMSERD, DMSERR, DMSERS, DMSEXC, DMSEXT, DMSFCH, DMSFET, DMSFLD, DMSFNS, DMSFOR, DMSFRE, DMSGIO, DMSGLB, DMSGND, DMSHDI, DMSHDS, DMSHLI, DMSHLS, DMSIFC, DMSINA, DMSINI, DMSINM, DMSINS, DMSINT, DMSIOW, DMSITE, DMSITI, DMSITP, DMSITS, DMSLAD, DMSLAF, DMSLBD, DMSLBM, DMSLBT, DMSLDR, DMSLDS, DMSLFS, DMSLGT, DMSLIB, DMSLIO, DMSLKD, DMSLLU, DMSLOA, DMSLSB, DMSLST, DMSLSY, DMSMDP, DMSMOD, DMSMVE, DMSNCP, DMSOLD, DMSOPL, DMSOPT, DMSOR1, DMSOVR, DMSOVS, DMSPIO, DMSPNT, DMSPRT, DMSPRV, DMSPUN, DMSQRY, DMSRDC, DMSRNE, DMSRNM, DMSROS, DMSRRV, DMSSAB, DMSSBS, DMSSCN, DMSSCT, DMSSEB, DMSSET, DMSSLN, DMSSMN, DMSSOP, DMSSQS, DMSSRT, DMSSRV, DMSSSK, DMSSTG, DMSSTT, DMSSVN, DMSSVT, DMSSYN, DMSTIO, DMSTLA, DMSTLB, DMSTMA, DMSTPD, DMSTPE, DMSTPF, DMSTPG, DMSTQQ, DMSTRK, DMSTYP, DMSUPD, DMSVIB, DMSVIP, DMSVSR, DMSXCP, DMSZAP

OPSECT

Assembled as part of DMSNUC.

Referenced by: DMSABN, DMSARX, DMSASM, DMSCPY, DMSCRD, DMSCWR, DMSCWT, DMSDBG, DMSEXC, DMSEXT, DMSINS, DMSINT, DMSROS,

DMSSBD, DMSSBS, DMSSCT, DMSSEB, DMSSOP, DMSSQS, DMSSVN, DMSSVT

OSFST

Built by: DMSROS

Released by: DMSALU

Referenced by: DMSABN, DMSALU, DMSBOP, DMSDLK, DMSDSV, DMSFCH, DMSMVE, DMSOPL, DMSROS, DMSRRV, DMSSOP, DMSSRV, DMSSTT

OVSECT

Built by: N/A

Released by: N/A

Referenced by: DMSITS, DMSOVR

PCTAB

Assembled as part of DMSNUC.

Referenced by: DMSBAB, DMSDOS, DMSITP

PDSSECT

Built by: DMSSVT

Released by: DMSSVT

Referenced by: DMSSBS, DMSSTG, DMSSVT

PGMSECT

Assembled as part of DMSNUC.

Referenced by: DMSITP, DMSSAB, DMSSLN, DMSSTG, DMSSVT

PIBADR

Assembled as part of DMSNUC.

Referenced by: DMSBAB, DMSDOS, DMSITP

PIB2TAB

Assembled as part of DMSNUC.

Referenced by: DMSDOS, DMSVSR

PUBADR

Assembled as part of DMSNUC.

Referenced by: DMSBOP, DMSCLS, DMSDLK, DMSDOS, DMSDSV, DMSLLU, DMSPRV, DMSRRV, DMSSRV, DMSXCP

PUBOWNER

Assembled as part of DMSNUC.

Referenced by: DMSBOP, DMSCLS, DMSDLK, DMSLLU, DMSXCP

SSAVE

Built by: DMSITS

Released by: DMSITS

Referenced by: DMSABN, DMSACC, DMSBAB, DMSBOP, DMSCLS, DMSDBG, DMSDLB, DMSDOS, DMSERR, DMSFLD, DMSFRE, DMSIFC, DMSITP, DMSITS, DMSLDR, DMSOVS, DMSSAB, DMSSLN, DMSSMN, DMSSOP, DMSSTG, DMSSVN, DMSSVT, DMSTBL, DMSVIP, DMSXCP

SUBSECT

Assembled as part of DMSNUC.

Referenced By: DMSABN, DMSINM, DMSINT

SVCSECT

Assembled as part of DMSNUC.

Referenced by: DMSCIT, DMSFRE, DMSHDS, DMSINT, DMSITE, DMSITS, DMSLAD, DMSLFS, DMSOVR, DMSOVS, DMSSLN

SVEARA

Assembled as part of DMSNUC.

Referenced by: DMSBAB, DMSDOS, DMSITP

SYSCOM

Assembled as part of DMSNUC.

Referenced by: DMSBAB, DMSBOP, DMSDOS, DMSFET, DMSITP, DMSQRY, DMSSTG, DMSSYN

SYSNAMES

Assembled as part of DMSNUC.

Referenced by: DMSAMS, DMSBOP, DMSBPT, DMSDOS, DMSEDX, DMSEXC, DMSINS, DMSINT, DMSITS, DMSQRY, DMSSET, DMSVIB, DMSVSR

TLBBLOK

Built by: DMSBOP, DMSCLS, DMSSEB, DMSSOP, DMSTLB, DMSTMA, DMSTPD

Released by: DMSBOP, DMSCLS, DMSSEB, DMSSOP, DMSTLB, DMSTMA, DMSTPD

Referenced by: DMSBOP, DMSCLS, DMSSEB, DMSSOP, DMSTLB, DMSTMA, DMSTPD

TSOBLKS

Assembled as part of DMSNUC.

Referenced by: DMSSET

USAVE

Built by: N/A

Released by: N/A

Referenced by: DMSITS

USERSECT

Assembled as part of DMSNUC.

Released by: N/A

No CMS references.

ASYNE

Built by: DMTASY

Released by: DMTASY, DMTASK

Referenced by: DMTASY, DMTEXT, DMTIOM, DMTSIG

BUFDSECT

Built by: DMTSML

Released by: DMTSML

Referenced by: DMTSML

COMDSECT

Built by: DMTCOM

Released by: N/A

Referenced by: DMTAXS, DMTCMX, DMTMGX, DMTNPT, DMTREX, DMTSML

DEVTABLE

Built by: DMTNPT

Released by: DMTNPT

Referenced by: DMTNPT

FREEE

Built by: DMTQRQ

Released by: DMTQRQ

Referenced by: DMTASK, DMTINI, DMTQRQ

GIVE

Built by: DMTSML, DMTNPT, DMTAXS, DMTREX

Released by:

Referenced by:

GIVEE

Built by: DMTGIV

Released by: DMTAKE, DMTASK

Referenced by: DMTAKE, DMTASK, DMTGIV

IOE

Built by: DMTIOM

Released by: DMTIOM

Referenced by: DMTASK, DMTIOM, DMTREX

IOTABLE

Built by: DMTIOM, DMTCRE, DMTNPT, DMTREX, DMTSML

Released by: DMTNPT, DMTSML

Referenced by: DMTAXS, DMTCMX, DMTCRE, DMTINI, DMTIOM, DMTREX, DMTSML

LINKTABL

Assembled into DMTSYS at system generation; also built by DMTCMX.

Released by: DMTCMX

Referenced by: DMTASY, DMTAXS, DMTCMX, DMTCOM, DMTCRE, DMTEXT, DMTLAX, DMTMGX, DMTNPT, DMTREX, DMTSML

REQBLOCK

Built by: DMTNPT

Released by: DMTNPT

Referenced by: DMTNPT

ROUTE

Assembled in DMTSYS

Released by:

Referenced by: DMTAXS

SVECTORS

Assembled into DMTVEC at system generation; resides in the RSCS nucleus.

Referenced by: DMTAKE, DMTASK, DMTASY, DMTAXS, DMTCMX, DMTCOM, DMTCRE, DMTDSP, DMTEXT, DMTGIV, DMTINI, DMTIOM, DMTLAX, DMTMGX, DMTNPT, DMTQRQ, DMTREX, DMTSIG, DMTSML, DMTSTO, DMTSVC, DMTWAT

TAG

Built by: DMTAXS

Released by: DMTAXS

Referenced by: DMTAXS, DMTCMX, DMTNPT, DMTSML

TAGAREA

Built by: DMTAXS

Released by: N/A

Referenced by: DMTAXS

TANKDSEC

Built by: DMTSML

Released by: DMTSML

Referenced by: DMTSML

TAREA

Assembled into each task module.

Released by: DMTASK Referenced by: DMTAKE, DMTASK, DMTASY, DMTCOM, DMTCRE, DMTDSP, DMTEXT, DMTGIV, DMTIOM, DMTREX, DMTSIG, DMTSTO, DMTSVC

TASKE

Built by: DMTASK

Released by: DMTASK

Referenced by: DMTAKE, DMTASK, DMTASY, DMTAXS, DMTCOM, DMTDSP, DMTEXT, DMTGIV, DMTINI, DMTIOM, DMTNPT, DMTPST, DMTREX, DMTSIG, DMTSML, DMTSTO, DMTSVC, DMTWAT

TCTDSECT

Built by: DMTSML

Released by: DMTSML

Referenced by: DMTSML