

ADDRESS LENGTH
0 762
762

BINARY CONTROL CARDS.

IDENT ECSINIT
END

BLOCKS	TYPE	ADDRESS	LENGTH
ABSOLUTE*	ABSOLUTE	0	412
PROGRAM*	LOCAL	0	762
ECS	LOCAL	762	0

ENTRY POINTS.

ECSINIT	-	0	CLASCNT	-	376	FC.FLOR	-	373	EC.RTMP	-	0
S.SYSAB	-	636	AUTHCNT	-	377	FC.FINF	-	402	COMPNT	-	375
BADMAPC	-	374	PARMBUF	-	1	FC.ABPC	-	400	PACKBUF	-	1

EXTERNAL SYMBOLS.

MOTSIZE	E.RDSHP	L.ERCAL	E.INMTR	I.SESMG	E.DLOBJ	E.DSWAP	E.REFER
S.ECSFL	L.RDSHP	F.TIMDT	L.INMTR	F.CLIIB	L.DLOBJ	L.DSWAP	L.REFER
ACTIONI	E.CPROC	L.TIMDT	E.FSON	I.CLIIB	RTNFL	SFRET	REFZ
E.MKOPN	L.CPROC	F.DSPOP	L.FSON	F.STIIB	E.RTNFL	E.SFBET	E.REFZ
L.MKOPN	E.DSPST	I.DSPOP	E.DLPRO	I.STIIB	L.RTNFL	L.SFRET	L.REFZ
E.ADORD	L.DSPST	F.CAGEN	L.DLPRO	F.FRET	ALLOC	KILLP	OMYGO
L.ADORD	E.DSSTE	I.CAGEN	E.MOVEC	I.FRET	E.ALLOC	E.KILLP	E.OMYGO
E.COPOP	L.DSSTE	F.CGEN	L.MOVEC	F.PRET	L.ALLOC	L.KILLP	L.OMYGO
L.COPOP	E.PTINT	I.CGEN	E.CAPIN	I.PRET	REALC	PPAR	NEWTP
E.MEVCH	L.PTINT	F.DSPSP	L.CAPIN	F.STMSG	E.REALC	E.PPAR	E.NEWTP
L.MEVCH	E.MKSUB	I.DSPSP	E.CAPOU	I.STMSG	L.REALC	L.PPAR	L.NEWTP
E.DSMAP	L.MKSUB	F.NEWUN	L.CAPOU	F.CLRMG	FREE	STOPP	ERRR
L.DSMAP	E.DLSUB	I.NEWUN	E.DSCAP	I.CLRMG	E.FREE	E.STOPP	E.ERRR
E.DFMAP	L.DLSUB	F.DONAT	L.DSCAP	F.CPUIN	L.FREE	L.STOPP	L.ERRR
L.DFMAP	E.JMRET	I.DONAT	E.SPRET	I.CPUIN	FATSO	CLCMP	SRETN
E.CRECL	L.JMRET	F.CRALB	L.SPRET	F.CPOUT	E.FATSO	E.CLCMP	E.SRETN
L.CRECL	E.MODPC	I.CRALB	E.CPZRO	I.CPOUT	L.FATSO	L.CLCMP	L.SRETN
E.DELCL	L.MODPC	F.INCHR	L.CPZRO	F.ARMIT	COMP0	CLRD	GETP
L.DELCL	E.CCCLO	I.INCHR	E.DLOPR	I.ARMIT	E.COMP0	E.CLBD	E.GETP
E.MKCCD	L.CCCLO	F.DSPOB	L.DLOPR	F.DISIT	L.COMP0	L.CLBD	L.GETP
L.MKCCD	E.DELAB	I.DSPOB	E.DPROD	I.DISIT	RELAT	SETD	E.ECS
E.NWTMP	L.DELAB	F.DSPAL	L.DPROD	F.RET	E.RELAT	E.SETD	
L.NWTMP	E.DSECH	I.DSPAL	E.GRAB	I.RET	L.RELAT	L.SETD	
E.CRFIL	L.DSECH	F.MOVCP	L.GRAB	MKOBJ	PRINT	MKMTY	
L.CRFIL	E.DSPAB	I.MOVCP	E.SESM	F.MKOBJ	E.PRINT	E.MKMTY	
E.DLFIL	L.DSPAB	F.MOVMT	L.SESM	L.MKOBJ	L.PRINT	L.MKMTY	
L.DLFIL	E.ERCAL	I.MOVMT	E.SESMG	DLOBJ	DSWAP	REFER	

IDENT ECSINIT

*
*
*
*
*
*

USED AT SYSTEM INITIALIZATION TIME TO GET
ECS IN SHAPE AND CREATE THE MASTER ALLOCATION BLOCK
(MAB)

	ENTRY	ECSINIT,S.SYSAB
	EXT	MOTSIZE,S.ECSFL,ACTIONL
RECS	MACRO	^
+	RE	^
	RJ	=XE.ECS
RECS	ENDM	
WECS	MACRO	^
+	WE	^
	RJ	=XE.ECS
WECS	ENDM	
ECSACT	XTEXT	
INTSYS	XTEXT	
TYPES	XTEXT	
ECSMAC	XTEXT	

0
0
0
0

```

0 000000000
1 5110000000 X
   7100000140
2 37110
   7100000000
3 5100000662 +
   7120000100
4 0120000100
5 36002
   37301
   0333000004 +
6 37323
   63230
7 0122000000
10 7100000411
   7110000000 X
11 36010

   6130000001
12 5110000620 +
   54213
   10722

13 5100000000 X
17 5100000000 X
23 5100000000 X
27 5100000000 X
33 5100000000 X
37 5100000000 X
43 5100000000 X
47 5100000000 X
53 5100000000 X
57 5100000000 X
63 5100000000 X
67 5100000000 X
73 5100000000 X
77 5100000000 X
    
```

```

ECSINIT PS 0 . ENTRY POINT
*
* LOOP TO ZERO ECS
*
SA1 S.ECSFL
SX0 ZRSIZ+IP.SAFE
IX1 X1-X0
SX0 0
SA0 ZRBUF
SX2 ZRSIZ
ZRLOP WECS ZRSIZ
IX0 X0+X2
IX3 X0-X1
NG X3,ZRLOP
IX3 X2-X3
SB2 X3
WECS B2
SX0 EC.MOT . COMPUTE ADDRESS OF FIRST
SX1 MOTSIZE . CELL AFTER THE MOT
IX0 X1+X0
PUTECS MACRO J.NAME
EXT F.NAME,L.NAME
SA0 F.NAME
SB2 L.NAME
WE R2
RJ XE.ECS
BX6 X0+X1
SX5 R2
LX2 30
BX6 X6+X2
SA6 ACTIONL+J
SX0 X0+B2
SA7 A6+B3
PUTECS ENDM
SB3 I
SA1 DCODE
SA2 A1+B3
BX7 X2
*PUTECS MACROS
PUTECS J.MKOPER,MKOPN
PUTECS J.ADDORD,ADORD
PUTECS J.COPYOP,COPOP
PUTECS J.MKEC,MEVCH
PUTECS J.DISMAP,DSMAP
PUTECS J.DSFMAP,DFMAP
PUTECS J.CRECL,CRECL
PUTECS J.DELCL,DELCL
PUTECS J.CRECC,MKCCD
PUTECS J.NWTMP,NWTMP
PUTECS J.CREFIL,CRFIL
PUTECS J.DELFIL,DLFIL
PUTECS J.REDSHP,RDSHP
PUTECS J.CPROC,CPROC
    
```

103 5100000000 X
107 5100000000 X
113 5100000000 X
117 5100000000 X
123 5100000000 X
127 5100000000 X
133 5100000000 X
137 5100000000 X
143 5100000000 X
147 5100000000 X
153 5100000000 X
157 5100000000 X
163 5100000000 X
167 5100000000 X
173 5100000000 X
177 5100000000 X
203 5100000000 X
207 5100000000 X
213 5100000000 X
217 5100000000 X
223 5100000000 X
227 5100000000 X
233 5100000000 X
237 5100000000 X
243 5100000000 X
247 5100000000 X
253 5100000000 X
257 5100000000 X
263 5100000000 X
267 5100000000 X
273 5100000000 X
277 5100000000 X
303 5100000000 X
307 5100000000 X
313 5100000000 X
317 5100000000 X
323 5100000000 X
327 5100000000 X
333 5100000000 X
337 5100000000 X
343 5100000000 X
347 5100000000 X
353 5100000000 X
357 5100000000 X
363 5100000000 X
367 5100000000 X
373 5100000000 X
377 5100000000 X
403 5100000000 X
407 5100000000 X
413 5110000000 X

5110000000 X
5110000000 X

PUTECS J.DISPST, DSPST
PUTECS J.DISSEN, DSSTE
PUTECS J.PINT, PTINT
PUTECS J.MKSUBP, MKSUB
PUTECS J.DELSUB, DLSUB
PUTECS J.JPRET, JMRET
PUTECS J.MODPC, MODPC
PUTECS J.CCCLOA, CCCLO
PUTECS J.DELAB, DELAB
PUTECS J.DELEC, DSECH
PUTECS J.DSPAB, DSPAB
PUTECS J.USRER, ERCAL
PUTECS J.TIMOT, TIMDT
PUTECS J.DISPOP, DSPOP
PUTECS J.CAGEN, CAGEN
PUTECS J.CGEN, CGEN
PUTECS J.DSPSP, DSPSP
PUTECS J.NEWUN, NEWUN
PUTECS J.DONATE, DONAT
PUTECS J.CRALBK, CRALB
PUTECS J.INCHR, INCHR
PUTECS J.DSPOR, DSPOR
PUTECS J.DSPALC, DSPAL
PUTECS J.MOVCP, MOVCP
PUTECS J.MOVMT, MOVMT
PUTECS J.INMTR, INMTR
PUTECS J.FSON, FSON
PUTECS J.DLPRO, DLPRO
PUTECS J.MOVEC, MOVEC
PUTECS J.CAPIN, CAPIN
PUTECS J.CAPOU, CAPOU
PUTECS J.DSCAP, DSCAP
PUTECS J.SPRET, SPRET
PUTECS J.CPZRO, CPZRO
PUTECS J.DLOPR, DLOPR
PUTECS J.DPROD, DPROD
PUTECS J.GRAB, GRAB
PUTECS J.ESMGEN, SESM
PUTECS J.ESMLOC, SESMG
PUTECS J.CLRIB, CLIIB
PUTECS J.SETIIB, STIIB
PUTECS J.FRETUR, FRET
PUTECS J.RETPAR, PRET
PUTECS J.STMSG, STMSG
PUTECS J.CLRMG, CLRMG
PUTECS J.CPUIN, CPUIN
PUTECS J.CPOUT, CPOUT
PUTECS J.ARMIT, ARMIT
PUTECS J.DISIT, DISIT
PUTECS J.RETURN, RET
PUTSUB MKOBJ
PUTSUB DLOBJ
PUTSUB RTNFL

5110000000	X	PUTSUB	ALLOC
5110000000	X	PUTSUB	BEALC
5110000000	X	PUTSUB	FREE
5110000000	X	PUTSUB	FATSO
5110000000	X	PUTSUB	COMPO
5110000000	X	PUTSUB	RELAT
5110000000	X	PUTSUB	PRINT
5110000000	X	PUTSUB	DSWAP
5110000000	X	PUTSUB	SFRET
5110000000	X	PUTSUB	KILLP
5110000000	X	PUTSUB	PPAR
5110000000	X	PUTSUB	STOPP
5110000000	X	PUTSUB	QLCMP
5110000000	X	PUTSUB	QLRD
5110000000	X	PUTSUB	SETD
5110000000	X	PUTSUB	MKMTY
5110000000	X	PUTSUB	BEFER
5110000000	X	PUTSUB	REFZ
5110000000	X	PUTSUB	OMYGO
5110000000	X	PUTSUB	NEWTP
5110000000	X	PUTSUB	FRRR
5110000000	X	PUTSUB	KILLP
5110000000	X	PUTSUB	SRETN
5110000000	X	PUTSUB	GETP

```

*
* SET ADDRESS OF FIRST CELL ABOVE SYSTEM AREA
*
535 7170000003 10660 BX6 X0
SX7 3 . GET AN FLOOR ABOVE PFB1
536 5170000640 + 36767 IX7 X6+X7
SA7 USEABECS
*
* INITIALIZE EC.FLOR, BADMAPC, ETC
*
537 7100000373 54070 SA0 A7
540 0120000005 SX0 EC.FLOR
WECS R
*
* SET UP THE FREE CHAIN INFORMATION
*
541 5110000000 X SA1 S.ECSFL . CALCULATE AVAILABLE SPACE
7100000040 SX0 TP.SAFE . FUDGE THE DAMN FL TO AVOID
542 37110 IX1 X1-X0 . RANGE FAULTS NEAR THE TOP
37216 IX2 X1-X6 . SPACE = ECSFL-EC.FLOR-6
7170000006 SX7 A
543 37727 IX7 X2-X7
10477 BX4 X7 . SAVE FOR LATER
544 5170000651 + SA7 FREECHI+FS.TOTAL . TOTAL SPACE AVAILABLE
5170000646 + SA7 FREECHI+FS.SPACE . AVAILABLE SPACE NOW = TOTAL
7120000005 SX2 S . CALCULATE INITIAL HEAD OF FREE CHAIN
545 37712 IX7 X1-X2
5170000645 + SA7 FREECHI+FS.FPTR
546 5100000645 + SA0 FREECHI
7100000402 SX0 EC.FINFO
547 0120000007 WECS FS.SIZE
*
* SET UP FREE CHAIN - ONE REAL FREE BLOCK, 2 PSEUDO-FREE BLOCKS
*
550 10077 BX0 X7 . SAVE FPTR FOR LATER WRITE
5170000640 + SA7 FBLKI+4 . SET PPTR FOR PFB2
551 7120000003 SX2 3
36772 IX7 X7+X2 . CALCULATE NPTR FOR REAL FB
20736 LX7 30
552 12774 BX7 X7+X4 . COMBINE WITH SPACE
5170000654 + SA7 FBLKI+0
553 7120000001 SX2 1
36762 IX7 X6+X2 . CALCULATE PPTR FOR REAL FB
554 5170000655 + SA7 FBLKI+1
20736 LX7 30 . POSITION NPTR FOR PFB2
555 5170000657 + SA7 FBLKI+3
43201 MX2 1
20273 LX2 60-1
556 12772 BX7 X7+X2 . PTR TO PFB1 IS INCLUDED IN
5170000656 + SA7 FBLKI+2 . BOTH PFB HEADERS FOR CHECKING.
557 5100000654 + SA0 FBLKI
560 0120000005 WECS R . WRITE THE REAL FB TRAILER
. AND THE SECOND PFB

```

561 43701
12747
5170000661 +
562 10700
20736
5170000657 +
563 7120000003
36702
564 5077000001
10046
565 5100000656 +
566 0120000004

MX7
BX7
SA7
BX7
LX7
SA7
SX2
IX7
SA7
BX0
SA0
WECS

1
X4+X7
FBLKI+5
X0
30
FBLKI+3
3
X0+X2
47+1
X6
FBLKI+2
4

- . BLOCK FREE BIT
- . COMBINE WITH SPACE
- . SET HEADER FOR REAL FB
- . SET UP NSTR FOR PFB1
- . SET UP PSTR FOR PFB1
- . WRITE FIRST PFB AND REAL FB HEADER

*
* SET UP THE MOT CHAIN AND EC, ABPCK
* (THE FIRST CELL OF THE MOT ISNT CHAINED - ITS SAVED FOR THE MAB)
*

567 7100000411
7110777776 x
570 36001
76600
5160000616 +
571 6211777776
54040
43173
572 0120000001
573 10600
54600
36001
63111
574 0610000572 +
7160000002
575 5066000001
71000000400
576 0120000002

WMOT

SX0
SX1
IX0
SX6
SA6
SB1
SA0
MX1
WECS
BX6
SA6
IX0
SB1
GE
SX6
SA6
SX0
WECS

EC, MOT
MOTSIZE-1
X0+X1
B0
TEMP
X1-1
A6
B9
1
X0
A0
X0+X1
B1+X1
B1, B0, WMOT
2
A6+1
EC, ABPCK
2

- . A (LAST CELL OF MOT)
- . 0 IS THE SIGNAL FOR THE LAST
- . SLOT IN THE MOT
- . TALLY (OMITS FIRST CELL)
- . -1
- . WRITE ONE MOT SLOT
- . SET PIR TO WORD N
- . FOR WRITING IN WORD N-1
- . TALLY
- . INITIALIZE NEXT UN TO 2
- . WRITE MOT HEAD, UN

```

*
* SET UP THE FIRST MOT SLOT FOR THE MAB
*
577 7100000411          43601          20626
                                SX0          FC.MOT
                                MX6          T          . CREATE A UN OF 1
                                LX6          22
                                SA6          A0
600 54600
601 0120000001        WECS          1
*
* FABRICATE A CAPABILITY FOR THE MAB IN S.SYSAB
* CRITICAL OPTIONS ARE TURNED OFF
*
602 12660          BX6          X6+X0          . GIVES UN.MOT
                                SA6          S.SYSAB+1
603 5150000622 +          SA5          MABBITS          . PICK UP ALLOWED OPTION BITS
                                SX6          T.ALLOC
604 12665          BX6          X6+X5          . GIVES OPTION BITS, TYPE
                                SA6          A6-1
                                5066777776
*
* CALL ALLOC TO GET THE SPACE NEEDED
*
605 7170000015          10500          BX5          X0
                                SX7          AB.SIZE+IP.AWDS
606 66200          6170000607 +          SB7          NEXT
                                SB2          R0
                                JP          =XALLOC
                                0200000000 X
*
* WRITE THE INITIAL CONTENTS OF THE MAB
*
607 5110000646 +          NEXT          SA1          FREECHI+FS.SPACE
                                7160002000          SX6          IP.PAD          . CALCULATE SPACE AVAILABLE TO THE
610 37616          IX6          X1-X6          . MAB = SPACE AVAILABLE LESS
                                5160000624 +          SA6          ABCONTNT+AB.TIML          . (INITIALIZE CHARGE FIELD)
                                20636          LX6          30          . THE REALLOCATORS PAD
611 7110000015          SX1          AB.SIZE+IP.AWDS
                                12616          BX6          X1+X6          . CHARGE THE MAB FOR ITSELF
612 5160000623 +          SA6          ABCONTNT+AB.ECS
                                5100000623 +          SA0          ABCONTNT
613 7100000002          SX0          IP.AWDS
                                36030          IX0          X3+X0          . GET A(OBJECT)
614 0120000013        WECS          AB.SIZE          . WRITE IT
*
* RETURN TO CALLER
*
615 0200000000 +          JP          FCSINIT
615          PROCSYM          XTEXT
615          OBBITS          XTEXT
                                LIST          X
615          ALOCSYM          XTEXT

```


652
652 0000000000000000000001
653
653 0000000000000000000000
654

ORG FREECHI*FS.NFBLK
VFD 60/1 . NUMBER OF FREE BLOCKS
ORG FREECHI*FS.NBLKS
VFD 60/0 . NUMBER OF BLOCKS
ORG FREECHI*FS.SIZE

*
*
*

SCRATCH FOR INITIALIZATION OF FREE CHAIN

654
656 2000000000000000000000
657
661 4000000000000000000000
100
662

FBLKI

ZRSIZ
ZRBUF

BSSZ 2 . TRAILER FOR REAL FB SET UP HERE
VFD 2/1.58/0 . PSEUDO-FB HEADER
BSSZ 2 . USED FOR BOTH PFB TRAILERS
VFD 2/2.58/0 . HEADER FOR REAL FB SET UP HERE
EQU 1008
BSSZ ZRSIZ . BLOCK OF #S FOR CLEARING ECS

```

0
0
1
373
374
376
377
400
402
411
762

```

```

ENTRY
ENTRY
ENTRY
EXT
USE
ORG
BSS
BSS
EQU
BSS
BSS
EQU
BSS
BSS
EQU
BSS
EQU
BSS
EQU
BSS
END

```

```

1
375
400
402
37015 STORAGE USED
6600 ASSEMBLY

```

```

BADMAPC,CLASCNT,AUTHCNT,PARMBUF,EC.FLOR
EC.FINF,EC.ABPC,EC.RTMP,COMPNT
PACKBUF
MOTSIZE
ECS
PBUFL
PARMBUF
BADMAPC+1
EC.ABPC
FS.SIZE
EC.FINFO
1

```

- DUMMY MOT FOR REALLOC
- GENERAL ECS SCRATCH BUFFER
- SCRATCH FOR MOVING XPACKS
- PTR TO USABLE ECS FOR COMPACT
- BAD MAP COUNT
- COMPACTION COUNT AND FLAG
- CURRENT CLAS CODE
- CURRENT CAPABILITY AUTHORIZATION
- MOT: UNIQUE NAME INFO
- DAMN 7-CHARACTER EXTERNALS
- FREE CHAIN INFO
- DITTO
- BEGINNING OF MOT

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1776 STATEMENTS
9.429 SECONDS
559 SYMBOLS
647 REFERENCES

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ECS INITIALIZER
SYMBOLIC REFERENCE TABLE.

COMPASS - VER 2.

09/14/71 10.53.45.

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ABCONTNT	623	PROGRAM*	8/23 S	8/38	10/09	10/13	10/18	10/22	10/27	10/31
AB.CHAIN	12		8/37 S	10/08 L	10/11	10/16	10/20	10/24	10/29	10/33
AB.CPAVL	10		9/05 D	10/11						
AB.CPUSD	11		9/09 D	10/20						
AB.CTS	2		9/10 D	10/22						
AB.DTS	3		9/07 D	10/16						
AB.ECS	0		9/08 D	10/18						
AB.MCHG	5		8/37 S	9/04 D	10/09					
AB.MCTS	6		9/12 D	10/27						
AB.MDTS	7		9/13 D	10/29						
AB.MOT	4		9/14 D	10/31						
AB.SIZE	13		9/11 D	10/24						
AB.TIML	1		8/23	8/35	8/41	9/15 D	10/33			
ACTIONL	0	EXTERNAL*	8/33 S	9/06 D	10/13					
			3/41 S	3/49 S	4/04 S	4/12 S	4/20 S	4/28 S	4/36 S	4/44 S
			3/42 S	3/50 S	4/05 S	4/13 S	4/21 S	4/29 S	4/37 S	4/45 S
			3/43 S	3/51 S	4/06 S	4/14 S	4/22 S	4/30 S	4/38 S	4/46 S
			3/44 S	3/52 S	4/07 S	4/15 S	4/23 S	4/31 S	4/39 S	4/47 S
			3/45 S	3/53 S	4/08 S	4/16 S	4/24 S	4/32 S	4/40 S	4/48 S
			3/46 S	4/01 S	4/09 S	4/17 S	4/25 S	4/33 S	4/41 S	4/49 S
			3/47 S	4/02 S	4/10 S	4/18 S	4/26 S	4/34 S	4/42 S	4/50 S
			3/48 S	4/03 S	4/11 S	4/19 S	4/27 S	4/35 S	4/43 S	4/51 S
ALLOC	0	EXTERNAL*	5/01	8/26						
AUTHCNT	377		12/01 E	12/14 L						
BADMAPC	374		12/01 E	12/11 L	12/12					
CLASCNT	376		12/01 E	12/13 L						
CLASSCNT	643	PROGRAM*	10/38 L							
CLCMP	0	EXTERNAL*	5/13							
CLRD	0	EXTERNAL*	5/14							
CMBUFF	50		10/05	10/06						
COMPCNT	375		12/02 E	12/12 D						
COMP0	0	EXTERNAL*	5/05							
DCODE	620	PROGRAM*	3/36	10/03 L						
DLOBJ	0	EXTERNAL*	4/52							
DSWAP	0	EXTERNAL*	5/08							
ECSINIT	0	PROGRAM*	2/08 E	3/01 L	8/45					
EC.ABPC	400		12/02 E	12/16 D						
EC.ABPCK	400		7/33	12/15 L	12/16					
EC.FINF	402		12/02 E	12/18 D						
EC.FINFO	402		6/30	12/17 L	12/18					
EC.FLOR	373		6/12	12/01 E	12/10 L					
EC.MOT	411		3/18	7/17	8/04	12/19 L				
EC.RTMP	0		12/02 E	12/07 L						
ERRR	0	EXTERNAL*	5/21							
E.ADORD	0	EXTERNAL*	3/41							
E.ALLOC	0	EXTERNAL*	5/02							
E.ARMIT	0	EXTERNAL*	4/48							
E.CAGEN	0	EXTERNAL*	4/15							
E.CAPIN	0	EXTERNAL*	4/30							
E.CAPOU	0	EXTERNAL*	4/31							
E.CCCLO	0	EXTERNAL*	4/08							
E.CGEN	0	EXTERNAL*	4/16							
E.CLCMP	0	EXTERNAL*	5/14							

ECS INITIALIZER
SYMBOLIC REFERENCE TABLE.

E.CLIIB	0	EXTERNAL*	4/40							
E.CLRD	0	EXTERNAL*	5/15							
E.CLRMG	0	EXTERNAL*	4/45							
E.COMPO	0	EXTERNAL*	5/06							
E.COPOP	0	EXTERNAL*	3/42							
E.CPOUT	0	EXTERNAL*	4/47							
E.CPROC	0	EXTERNAL*	3/53							
E.CPUIN	0	EXTERNAL*	4/46							
E.CPZRO	0	EXTERNAL*	4/34							
E.CRALB	0	EXTERNAL*	4/20							
E.CRECL	0	EXTERNAL*	3/46							
E.CRFIL	0	EXTERNAL*	3/50							
E.DELAB	0	EXTERNAL*	4/09							
E.DELCL	0	EXTERNAL*	3/47							
E.DFMAP	0	EXTERNAL*	3/45							
E.DISIT	0	EXTERNAL*	4/49							
E.DLFIL	0	EXTERNAL*	3/51							
E.DLOBJ	0	EXTERNAL*	4/53							
E.DLOPR	0	EXTERNAL*	4/35							
E.DLPRO	0	EXTERNAL*	4/28							
E.DLSUB	0	EXTERNAL*	4/05							
E.DONAT	0	EXTERNAL*	4/19							
E.DPROD	0	EXTERNAL*	4/36							
E.DSCAP	0	EXTERNAL*	4/32							
E.DSECH	0	EXTERNAL*	4/10							
E.DSMAP	0	EXTERNAL*	3/44							
E.DSPAB	0	EXTERNAL*	4/11							
E.DSPAL	0	EXTERNAL*	4/23							
E.DSPOB	0	EXTERNAL*	4/22							
E.DSPOP	0	EXTERNAL*	4/14							
E.DSPSP	0	EXTERNAL*	4/17							
E.DSPST	0	EXTERNAL*	4/01							
E.DSSTE	0	EXTERNAL*	4/02							
E.DSWAP	0	EXTERNAL*	5/09							
E.ECS	0	EXTERNAL*	3/12	3/52	4/12	4/25	4/38	4/51	5/11	5/24
			3/18	3/53	4/13	4/26	4/39	4/52	5/12	5/25
			3/41	4/01	4/14	4/27	4/40	4/53	5/13	6/14
			3/42	4/02	4/15	4/28	4/41	5/01	5/14	6/32
			3/43	4/03	4/16	4/29	4/42	5/02	5/15	6/53
			3/44	4/04	4/17	4/30	4/43	5/03	5/16	7/13
			3/45	4/05	4/18	4/31	4/44	5/04	5/17	7/26
			3/46	4/06	4/19	4/32	4/45	5/05	5/18	7/35
			3/47	4/07	4/20	4/33	4/46	5/06	5/19	8/09
			3/48	4/08	4/21	4/34	4/47	5/07	5/20	8/42
			3/49	4/09	4/22	4/35	4/48	5/08	5/21	
			3/50	4/10	4/23	4/36	4/49	5/09	5/22	
			3/51	4/11	4/24	4/37	4/50	5/10	5/23	
E.ERCAL	0	EXTERNAL*	4/12							
E.ERRR	0	EXTERNAL*	5/22							
E.FATSO	0	EXTERNAL*	5/05							
E.FREE	0	EXTERNAL*	5/04							
E.FRET	0	EXTERNAL*	4/42							
E.FSON	0	EXTERNAL*	4/27							

ECS INITIALIZER
SYMBOLIC REFERENCE TABLE.

E.GETP	0	EXTERNAL*	5/25						
E.GRAR	0	EXTERNAL*	4/37						
E.INCHR	0	EXTERNAL*	4/21						
E.INMTR	0	EXTERNAL*	4/26						
E.JMRET	0	EXTERNAL*	4/06						
E.KILLP	0	EXTERNAL*	5/11	5/23					
E.MEVCH	0	EXTERNAL*	3/43						
E.MKCCD	0	EXTERNAL*	3/48						
E.MKMTY	0	EXTERNAL*	5/17						
E.MKOBJ	0	EXTERNAL*	4/52						
E.MKOPN	0	EXTERNAL*	3/40						
E.MKSUB	0	EXTERNAL*	4/04						
E.MODPC	0	EXTERNAL*	4/07						
E.MOVCP	0	EXTERNAL*	4/24						
E.MOVEC	0	EXTERNAL*	4/29						
E.MOVMT	0	EXTERNAL*	4/25						
E.NEWTP	0	EXTERNAL*	5/21						
E.NEWUN	0	EXTERNAL*	4/18						
E.NWTMP	0	EXTERNAL*	3/49						
E.OMYGO	0	EXTERNAL*	5/20						
E.PPAR	0	EXTERNAL*	5/12						
E.PRET	0	EXTERNAL*	4/43						
E.PRINT	0	EXTERNAL*	5/08						
E.PTINT	0	EXTERNAL*	4/03						
E.RDSHP	0	EXTERNAL*	3/52						
E.REALC	0	EXTERNAL*	5/03						
E.REFER	0	EXTERNAL*	5/18						
E.REFZ	0	EXTERNAL*	5/19						
E.RELAT	0	EXTERNAL*	5/07						
E.RET	0	EXTERNAL*	4/50						
E.RTNFL	0	EXTERNAL*	5/01						
E.SESM	0	EXTERNAL*	4/38						
E.SESMG	0	EXTERNAL*	4/39						
E.SETD	0	EXTERNAL*	5/16						
E.SFRET	0	EXTERNAL*	5/10						
E.SPRET	0	EXTERNAL*	4/33						
E.SRETN	0	EXTERNAL*	5/24						
E.STIIB	0	EXTERNAL*	4/41						
E.STMSG	0	EXTERNAL*	4/44						
E.STOPP	0	EXTERNAL*	5/13						
E.TIMDT	0	EXTERNAL*	4/13						
FATSO	0	EXTERNAL*	5/04						
FBLKI	654	PROGRAM*	6/36 S	6/44 S	6/50 S	7/03 S	7/11		
			6/41 S	6/46 S	6/51 S	7/06 S	11/09 L		
FREE	0	EXTERNAL*	5/03						
FREECHI	645	PROGRAM*	6/24 S	6/28 S	8/30	10/44	10/48	10/52	11/03
			6/25 S	6/29	10/43 L	10/46	10/50	11/01	11/05
FS.FPTR	0		6/28 S	9/19 D	10/44				
FS.NBLKS	6		9/25 D	11/03					
FS.NFBLK	5		9/24 D	11/01					
FS.SIZE	7		6/31	9/26 D	10/43	11/05	12/17		
FS.SLOP	2		9/21 D	10/48					
FS.SPACE	1		6/25 S	8/30	9/20 D	10/46			

ECS INITIALIZER
SYMBOLIC REFERENCE TABLE.

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Symbol	Count	PROGRAM*	External*	1	2	3	4
FS.TOTAL	4			6/24 S	9/23 D	10/52	
FS.USED	3			9/22 D	10/50		
GARBAG	641			10/36 L			
GETP	0			5/24			
IP.AWDS	2			8/23	8/35	8/39	9/34 D
IP.DAEC	102			9/35 D			
IP.MINBK	5			9/32 D			
IP.PAD	2000			8/31	9/36 D		
IP.SAFE	40			3/06	6/18	9/38 D	
IP.SLIM	34			9/39 D			
IP.SLOP	10			9/37 D			
J.ADDORD	114			3/42 S			
J.ARMIT	234			4/49 S			
J.CAGEN	164			4/16 S			
J.CAPIN	31			4/31 S			
J.CAPOU	33			4/22 S			
J.CCCLOA	116			4/09 S			
J.CGEN	166			4/17 S			
J.CLRIIB	143			4/41 S			
J.CLRMG	226			4/46 S			
J.COPYOP	60			3/43 S			
J.CPOUT	232			4/48 S			
J.CPROC	2			4/01 S			
J.CPUIN	230			4/47 S			
J.CPZRO	210			4/35 S			
J.CRALBK	122			4/21 S			
J.CRECC	15			3/49 S			
J.CRECL	0			3/47 S			
J.CREFIL	4			3/51 S			
J.DELAB	131			4/10 S			
J.DELCL	112			3/48 S			
J.DELEC	147			4/11 S			
J.DELFIL	64			3/52 S			
J.DELSUB	133			4/06 S			
J.DISIT	236			4/50 S			
J.DISMAP	74			3/45 S			
J.DISPOP	162			4/15 S			
J.DISPST	104			4/02 S			
J.DISSEN	106			4/03 S			
J.DLOPR	220			4/36 S			
J.DLPRO	126			4/29 S			
J.DONATE	120			4/20 S			
J.DPROD	135			4/37 S			
J.DSCAP	25			4/33 S			
J.DSFMAP	110			3/46 S			
J.DSPAB	152			4/12 S			
J.DSPALC	177			4/24 S			
J.DSPOB	175			4/23 S			
J.DSPSP	170			4/18 S			
J.ESMGEN	42			4/39 S			
J.ESMLOC	44			4/40 S			
J.FRETUR	40			4/43 S			
J.FSON	204			4/28 S			

ECS INITIALIZER
SYMBOLIC REFERENCE TABLE.

J.GRAB	222		4/38	S
J.INCHR	173		4/22	S
J.INMTR	212		4/27	S
J.JPRET	76		4/07	S
J.MKEC	11		3/44	S
J.MKOPER	46		3/41	S
J.MKSUBP	23		4/05	S
J.MODPC	124		4/08	S
J.MOVCP	214		4/25	S
J.MOVEC	27		4/30	S
J.MOVMT	216		4/26	S
J.NEWUN	102		4/19	S
J.NWTMP	17		3/50	S
J.PINT	100		4/04	S
J.REDSHP	66		3/53	S
J.RETPAR	160		4/44	S
J.RETURN	37		4/51	S
J.SETIIB	141		4/42	S
J.SPRET	206		4/34	S
J.STMSG	224		4/45	S
J.TIMDT	154		4/14	S
J.USRER	156		4/13	S
KILLP	0	EXTERNAL*	5/10	5/22
L.ADORD	0	EXTERNAL*	3/42	
L.ALLOC	0	EXTERNAL*	5/02	5/02
L.ARMIT	0	EXTERNAL*	4/49	
L.CAGEN	0	EXTERNAL*	4/16	
L.CAPIN	0	EXTERNAL*	4/31	
L.CAPOU	0	EXTERNAL*	4/32	
L.CCCLO	0	EXTERNAL*	4/09	
L.CGEN	0	EXTERNAL*	4/17	
L.CLCMP	0	EXTERNAL*	5/14	5/14
L.CLIIB	0	EXTERNAL*	4/41	
L.CLRD	0	EXTERNAL*	5/15	5/15
L.CLRMG	0	EXTERNAL*	4/46	
L.COMPO	0	EXTERNAL*	5/06	5/06
L.COPOP	0	EXTERNAL*	3/43	
L.CPOUT	0	EXTERNAL*	4/48	
L.CPROC	0	EXTERNAL*	4/01	
L.CPUIN	0	EXTERNAL*	4/47	
L.CPZRO	0	EXTERNAL*	4/35	
L.CRALB	0	EXTERNAL*	4/21	
L.CRECL	0	EXTERNAL*	3/47	
L.CRFIL	0	EXTERNAL*	3/51	
L.DELAB	0	EXTERNAL*	4/10	
L.DELCL	0	EXTERNAL*	3/48	
L.DFMAP	0	EXTERNAL*	3/46	
L.DISIT	0	EXTERNAL*	4/50	
L.DLFIL	0	EXTERNAL*	3/52	
L.DLOBJ	0	EXTERNAL*	4/53	4/53
L.DLOPR	0	EXTERNAL*	4/36	
L.DLPRO	0	EXTERNAL*	4/29	
L.DLSUB	0	EXTERNAL*	4/06	

ECS INITIALIZER
SYMBOLIC REFERENCE TABLE.

L.DONAT	0	EXTERNAL*	4/20			
L.DPROD	0	EXTERNAL*	4/27			
L.DSCAP	0	EXTERNAL*	4/33			
L.DSECH	0	EXTERNAL*	4/11			
L.DSMAP	0	EXTERNAL*	3/45			
L.DSPAB	0	EXTERNAL*	4/12			
L.DSPAL	0	EXTERNAL*	4/24			
L.DSPOB	0	EXTERNAL*	4/23			
L.DSPOP	0	EXTERNAL*	4/15			
L.DSPSP	0	EXTERNAL*	4/18			
L.DSPST	0	EXTERNAL*	4/02			
L.DSSTE	0	EXTERNAL*	4/03			
L.DSWAP	0	EXTERNAL*	5/09	5/09		
L.ERCAL	0	EXTERNAL*	4/13			
L.ERRR	0	EXTERNAL*	5/22	5/22		
L.FAT ₂ O	0	EXTERNAL*	5/05	5/05		
L.FREE	0	EXTERNAL*	5/04	5/04		
L.FRET	0	EXTERNAL*	4/43			
L.FSON	0	EXTERNAL*	4/28			
L.GETP	0	EXTERNAL*	5/25	5/25		
L.GRAB	0	EXTERNAL*	4/38			
L.INCHR	0	EXTERNAL*	4/22			
L.INMTR	0	EXTERNAL*	4/27			
L.JMRET	0	EXTERNAL*	4/07			
L.KILLP	0	EXTERNAL*	5/11	5/11	5/23	5/23
L.MEVCH	0	EXTERNAL*	3/44			
L.MKCCD	0	EXTERNAL*	3/49			
L.MKMTY	0	EXTERNAL*	5/17	5/17		
L.MKOBJ	0	EXTERNAL*	4/52	4/52		
L.MKOPN	0	EXTERNAL*	3/41			
L.MKSUB	0	EXTERNAL*	4/05			
L.MODPC	0	EXTERNAL*	4/08			
L.MOVCP	0	EXTERNAL*	4/25			
L.MOVEC	0	EXTERNAL*	4/30			
L.MOVMT	0	EXTERNAL*	4/26			
L.NEWTP	0	EXTERNAL*	5/21	5/21		
L.NEWUN	0	EXTERNAL*	4/19			
L.NWTMP	0	EXTERNAL*	3/50			
L.OMYGO	0	EXTERNAL*	5/20	5/20		
L.PPAR	0	EXTERNAL*	5/12	5/12		
L.PRET	0	EXTERNAL*	4/44			
L.PRINT	0	EXTERNAL*	5/08	5/08		
L.PTINT	0	EXTERNAL*	4/04			
L.RDSHP	0	EXTERNAL*	3/53			
L.REALC	0	EXTERNAL*	5/03	5/03		
L.REFER	0	EXTERNAL*	5/18	5/18		
L.REFZ	0	EXTERNAL*	5/19	5/19		
L.RELAT	0	EXTERNAL*	5/07	5/07		
L.RET	0	EXTERNAL*	4/51			
L.RTNFL	0	EXTERNAL*	5/01	5/01		
L.SESM	0	EXTERNAL*	4/39			
L.SESMG	0	EXTERNAL*	4/40			
L.SETD	0	EXTERNAL*	5/16	5/16		

ECS INITIALIZER
SYMBOLIC REFERENCE TABLE.

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L.SFRET	0	EXTERNAL*	5/10	5/10			
L.SPRET	0	EXTERNAL*	4/34				
L.SRETN	0	EXTERNAL*	5/24	5/24			
L.STIIB	0	EXTERNAL*	4/42				
L.STMSG	0	EXTERNAL*	4/45				
L.STOPP	0	EXTERNAL*	5/13	5/13			
L.TIMDT	0	EXTERNAL*	4/14				
MABBITS	622	PROGRAM*	8/15	10/07 L			
MKMTY	0	EXTERNAL*	5/16				
MKOBJ	0	EXTERNAL*	4/51				
MOTSIZE	0	EXTERNAL*	3/19	7/18	10/25	10/28	
NEWTP	0	EXTERNAL*	5/20				
NEXT	607	PROGRAM*	8/24	8/30 L			
OB.CHNAM	2		10/07				
OB.DSTRY	1		10/07				
OB.GOD	4000		10/07				
OMYGO	0	EXTERNAL*	5/19				
PACKBUF	1		12/03 E	12/09 D			
PARMBUF	1		12/01 E	12/08 L	12/09		
PPAR	0	EXTERNAL*	5/11				
PRINT	0	EXTERNAL*	5/07				
P.PBUFL	372		12/08				
REALC	0	EXTERNAL*	5/02				
REFER	0	EXTERNAL*	5/17				
REFZ	0	EXTERNAL*	5/18				
RELAT	0	EXTERNAL*	5/06				
RTNFL	0	EXTERNAL*	4/53				
SETD	0	EXTERNAL*	5/15				
SFRET	0	EXTERNAL*	5/09				
SRETN	0	EXTERNAL*	5/23				
STOPP	0	EXTERNAL*	5/12				
S.ECSFL	0	EXTERNAL*	3/05	6/17			
S.SYSAB	636	PROGRAM*	2/08 E	8/14 S	10/34 L		
TEMP	616	PROGRAM*	7/21 S	10/02 L			
T.ALLOC	1767		8/16				
T.CAUTH	1773		10/29				
USEABECS	640	PROGRAM*	6/07 S	10/35 L			
WMOT	572	PROGRAM*	7/25 L	7/30			
ZRBUF	662	PROGRAM*	3/09	11/14 L			
ZRLOP	4	PROGRAM*	3/11 L	3/14			
ZRSIZ	100		3/06	3/10	3/11	11/13 D	11/14