

ADDRESS	LENGTH	BINARY CONTROL CARDS.	
0	146	IDENT	IN
146		END	

ENTRY POINTS.

OPEN	-	0	CLOSE	-	115	GETFCAP	-	102
OPEN1	-	1	GETDNT	-	135	GETCTRS	-	121
MAPIN	-	16	PUTDNT	-	143	PUTCTRS	-	131

EXTERNAL SYMBOLS.

T1	P.DIRCT	CA.DSKF	REC.DR	DNTOUT	PCCTRS	EC:CCAP	LOCKRW
C.T2	P.ERRCL	CC.DIR	EC.FILE	DNTINRW	LKCTRS	DSPDCAP	OPENRW
IPLIST	P.ERRNO	E.WAIT	EN.WAIT	DNTINRO	OPCTRS	DE:MMRW	LOCKRO
SHAPES	EF.DRCT	RETERR	EC.DRCT	LOCKDNT	CLOSDIR	DE:MMRO	OPENRO
WINDOW	DF.DRCT	SYSERR	EN.RSRV	CLCTRS	LETGO	DF:READ	ERRLOC
M.WIN	CL.DRCT	PASSER	UNLKDNT	ULCTRS	SHUTWIN	CI:OPS	

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IDENT ENTRY      IO
                  OPEN,OPEN1,MAPIN,CLOSE,GETDNT,PUTDNT

EXT              T1,C,T2

EXT              IPLIST,SHAPES,WINDOW,M.WIN
EXT              P.DIRCT,P.ERRCL,P.FRRNO
EXT              EF.DRCT,DF.DRCT,CL.DRCT,CA.DSKF,CC.DIR,T1
EXT              E.WAIT,RETERR,SYSERR,PASSER,REC.DR
EXT              EC.FILE,EN.WAIT
EXT              EC.DRCT,EN.RSRV
    
```

* XTEXTS REQUIRED:

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0      MISC MAC XTEXT      .. SUBROUTINE LINKAGE MACROS
0      SYS MAC XTEXT      .. SYSTEM-CALLING MACROS (ECS AND DISK)
    
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* ↑OPEN↑ CONVERTS THE DIRECTORY CAPABILITY [C.DIRCT] INTO A DISK FILE CAPABILITY [DF.DRCT], OPENS THIS FILE [GIVING EF.DRCT], LOCKS THE FILE, AND PUTS IT IN THE WINDOW MAP ENTRY. ALTERNATE ENTRY: ↑OPEN1↑.

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*      X1 = 0 [=READ-ONLY] OR 1 [=READ/WRITE]
*      CALLR OPEN,R6
*
*      SAVES: X4, R1, B2, B3, B5, B6, B7
    
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0  6150000001 +      OPEN      CALLR      GETFCAR,B5      .. CONVERT THE DIRECTORY CAPABILITY
*                                     [C.DIRCT] INTO A DISK FILE CAPABILITY
*                                     [DF.DRCT]
1  7160000000 X      OPEN1     ON.ERR      PASSER      .. HANDLE ERRORS ON OPEN ACTION
2  0311000011 +      NZ          X1,OP,OPRW .. THIS IS AN ALTERNATE ENTRY POINT
3  0130000000 X      SYSCALL   OPENRO,E.RSRV,OPAUTH .. ECS INCARNATION RETURNED [EF.DRCT]
5  7160000067 +      ON.ERR      LOCKERR     .. HANDLE TIME-OUT ERROR ON CLAIM
6  0130000000 X      SYSCALL   LOCKRO      .. MAKE A SHARED CLAIM ON FILE
7  13666
10 0200000016 +      JP          MAPIN
11 0130000000 X      OP.OPRW   SYSCALL   OPENRW,E.RSRV,OPAUTH .. ECS INCARNATION RETURNED AS EF.DRCT
13 7160000067 +      ON.ERR      LOCKERR
14 0130000000 X      SYSCALL   LOCKRW      .. MAKE AN EXCLUSIVE CLAIM ON FILE
15 13666
16 7160000000 X      MAPIN     READ      EF.DRCT,0,T1,1,OPERR .. READ HEADER WORD
27 5130000000 X      SA3        T1
      20352          LX3        60-18      .. BLOCK SIZE IS [25:42]
30 0311000045 +      NZ          X1,OP,MPRW
      7160000000 X      INMAPRO  (CL.DRCT,CC.DIR),M.WIN,EF.DRCT,0,WINDOW,X3
44 0200000060 +      JP          OP.GTDSC .. NOW FORMAT DESCRIPTOR
45 7160000000 X      OP.MPRW   INMAPRW  (CL.DRCT,CC.DIR),M.WIN,EF.DRCT,0,WINDOW,X3
60 5110000000 X      OP.GTDSC  SA1        WINDOW .. INITIALIZE A1
      6241000000 X      SB4        X1+WINDOW .. FREE POINTER IS [43:60]
61 0321000062 +      PL          X1,OP,RET
      5011000002      SA1        A1+2      .. SKIP THE SUCCESSOR POINTER
62 0260000000      OP.RET     JP          B6
    
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63  7120000000 x            E.RSRV  SX2      EN.RSRV
     13666                  OFF.ERR  ** KLUDGE #TIL BETTER ERROR PROCESSING **
     0200000000 x          JP        RFC.DR

65  0100000000 x            OPERR   SYSERR   .. UNEXPECTED FRETURN ON HEADER READ

* THE FOLLOWING CODE CHECKS FOR A (EC.FILE,EN.WAIT) ERROR ON MAKING A
* CLAIM - INDICATING SOME DIRECTORY SYSTEM IS LOCKED UP.

67  5110000000 x            LOCKERR SA1       P.ERRCL   .. ERROR CLASS
     7120000000 x          SX2      EC.FILE
70  37212                   IX2      X1-X2
     0312000074 +          NZ       X2,LOCKERR1 .. WHO KNOWS WHAT IS WRONG
71  5120000000 x            SA2      P.ERRNO   .. ERROR NUMBER
     7130000000 x          SX3      EN.WAIT
72  37323                   IX3      X2-X3
     0313000076 +          NZ       X3,LOCKERR2
73  0200000000 x          JP        E.WAIT   .. GIVE REGRETS TO THE USER

74  0100000000 x            LOCKERR1 SYSERR   .. UNKNOWN ERROR CLASS
76  0100000000 x            LOCKERR2 SYSERR   ..
                                           NUMBER

* NOTE: -OPAATH- APPEARS HERE IN THE READ-ONLY SWAPPING REGION, EVEN
*         THOUGH THE SYSTEM WILL RETURN IN OPATUH,OPAATH+1(1:12) THE NUMBER
*         OF PARAMETERS ACTUALLY RETURNED. THESE NUMBERS SHOULD ALWAYS BE
*         0 AND 1.

100 00000000000000000000 OPAATH  RPAATH  (0,0),(EF,DRCT,1) .. RETURN 0 DATUMS AND T CAPABILITY

* ↑GETFCAP↑ MAKES A DISK FILE CAPABILITY OUT OF A DIRECTORY
* CAPABILITY. IT USES X2, A6-X6, AND A7-X7. IT LEAVES THE OPTIONS OF
* THE DIRECTORY CAPABILITY IN P.DIRECT, FOR THOSE WHO NEED OB.IMPL.
*
*           CALLR   GETFCAP,B5

*           ENTRY   GETFCAP

102 0130000000 x            GETFCAP SYSCALL  D5PDCAP  .. DISPLAY CAPABILITY IN X4, X7
103 5160000000 x            SA6      P.DIRCT  .. (OPTIONS, TYPE)
     10277                BX2      X7       .. OBJECT-SPECIFIER
104 7160000000 x            CRCAP    DF,DRCT,(CL,DRCT,CA,DSKF),(,X2) .. CREATE DISK FILE CAPABILITY
114 0250000000                JP        B5     .. RETURN

* ↑CLOSE↑ SHUTS THE WINDOW MAP ENTRY, RELEASES THE CLAIM ON THE DIRECTORY
* FILE, AND CLOSSES THE FILE.
*
*           CALL    CLOSE
*
*           SAVES: A0,X0 -> A5,X5 ; B1 -> B7

115 0130000000 y            CLOSE   SYSCALL  SHUTWIN  .. ZERO MAP ENTRY FOR WINDOW
116 0130000000 x            SYSCALL  LFTGO    .. RELEASE CLAIM

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117 0130000000 x
120 0270000000

SYSCALL CLOS DIR
JP B7

.. CLOSE DF.DRCT
.. RETURN

*
 * ROUTINES TO RESERVE AND RELEASE THE STATIC NAME TAG FILE

		ENTRY	GETCTRS,PUTCTRS	
121	0130000000	X	GETCTRS SYSCALL	OPCTRS,GCERR,GCAUTH .. OPEN DF.CTRS READ/WRITE
123	0130000000	X	SYSCALL	LKCTRS .. MAKE EXCLUSIVE CLAIM
124	0270000000		JP	B7 .. RETURN
125	00000000000000000000		GCAUTH RPAUTH	(0,0),(0,72,1) .. AUTHORIZATION TO GET ECS INCARNATION OF DF.CTRS
			*	
127	0100000000	X	GCERR SYSERR	.. UNEXPECTED FRETURN
131	0130000000	X	PUTCTRS SYSCALL	PCCTRS .. PSEUDO-CLOSE DF.CTRS
132	0130000000	X	SYSCALL	UCCTRS .. RELEASE CLAIM ON DF.CTRS
133	0130000000	X	SYSCALL	CCCTRS .. CLOSE DF.CTRS
134	0270000000		JP	B7 .. RETURN

*
 * X1 - ZERO/NOT ZERO FOR READONLY/WRITABLE
 * CALLR GETDNT,B6

135	0130000000	X	GETDNT SYSCALL	LOCKDNT .. GET LOCK EVENT (OR HANG)
136	0311000141	+	NZ	X1,GETDNTRW
137	0130000000	X	SYSCALL	DNTINRW .. PUT DNT IN MAP (RO)
140	0260000000		JP	B6 .. RETURN
141	0130000000	X	GETDNTRW SYSCALL	DNTINRW .. PUT IN MAP
142	0260000000		JP	B6 .. RETURN

*
 * CALLR PUTDNT,B6

143	0130000000	X	PUTDNT SYSCALL	DNTOUT .. REMOVE DNT FROM MAP
144	0130000000	X	SYSCALL	UNLKDNT .. SEND LOCK EVENT
145	0260000000		JP	B6 .. RETURN

146 END

36672	STORAGE USED	648 STATEMENTS	78 SYMBOLS	000001 INVENTED SYMBOLS
	6600 ASSEMBLY	4.242 SECONDS	141 REFERENCES	

OP.MPRW	45	PROGRAM*	2/44	2/47	L
OP.OPRW	11	PROGRAM*	2/31	2/37	L
OP.RET	62	PROGRAM*	2/50	2/52	L
PASSER	0	EXTERNAL*	2/30		
PCCTRS	0	EXTERNAL*	5/17		
PUTCTRS	131	PROGRAM*	5/05	5/17	L
PUTDNT	143	PROGRAM*	2/02	5/37	L
P.DIRCT	0	EXTERNAL*	3/40		S
P.ERRCL	0	EXTERNAL*	3/10		
P.ERRNO	0	EXTERNAL*	3/14		
REC.DR	0	EXTERNAL*	3/03		
RETRR	0	EXTERNAL*			
SHAPS	0	EXTERNAL*			
SHUTWIN	0	EXTERNAL*	3/52		
SYSERR	0	EXTERNAL*	3/05	3/20	3/21 5/14
TI	0	EXTERNAL*	2/42	2/42	
ULCTRS	0	EXTERNAL*	5/18		
UNLKDNT	0	EXTERNAL*	5/38		
WINDOW	0	EXTERNAL*	2/46	2/48	2/48 2/49