

ADDRESS	LENGTH	BINARY CONTROL CARDS.	
0	174	IDENT	SERVICE
174		END	

ENTRY POINTS.

CONVERT	-	4	SETUP	-	34	DECODE	-	76	SIZES	-	0
---------	---	---	-------	---	----	--------	---	----	-------	---	---

EXTERNAL SYMBOLS.

OPERCL	TEMP1	ERRPACK	DBR	UNLOCKW	M.EMPTY	M.TWAIT	FR.SHAP
IPLIST	TEMP2	STKBUF	DBW	RELCLAM	M.RETRY	M.CLTIM	FR.FUND
COMMROF	TEMP3	SETPCNT	GETRESP	RELEASE	M.CLOSE	M.10SEC	FR.FLAG
COMMROL	TEMP4	DISKENT	TR.DRIV	FRW	M.TVRES	GF.LEN	FR.ROOT
COMMRWF	TEMP5	DISKERR	TR.LEVL	MAKEMAP	M.HELP	GF.SUSF	FR.CLAM
COMMRWL	TEMP6	DISKINT	BLK.SIZ	LOADBUF	M.SWAB	GF.SUSL	FR.MEMB
HOLDBLK	TEMP7	FRWENT	BLK.DTY	AUDIT	M.ABFCH	GF.IOTF	FHRADDR
LOCTAB	TEMP8	FRWERR	BLK.FLG	NOQLOCK	M.ABFIL	GF.IOTL	FILEADR
LOCTABF	TEMP9	FRWINT	SW.SW	PROBE	M.ACREQ	GF.DDSF	LFTFREE
LOCTABL	TEMP10	ENTER	SW.DDS	RETCLK	M.ACRES	GF.DDSL	LFHADDR
LFT	TEMP11	CLKBUF	PG.PG	SYSERR	M.USRCC	GF.DATF	DARADDR
FLDLN	TEMPA	DSYSTIM	PG.DDS	FRETURN	M.FRWCC	GF.DATL	PAGESW
USERRWF	TEMPB	DSWPTIM	PG.DTY	RETURN	M.TRMCC	GF.APTF	MAPBUF
USERRWL	TEMPC	DUSRTIM	PTR.PTR	RETPAR	M.CLOCC	GF.APTL	SIZE
DATMAP	TEMPE	MYSCEF	PTR.DDS	ERRPARM	M.ACTCC	GF.HSHF	NUMRESP
TERMRWL	TEMPE	MYCODE	PTR.CM	ERRFILE	M.TRYCC	FHRHASH	CREATER
TERMROF	TEMPF	MYSUBP	PTR.DTY	ERRALOC	M.DFILT	DARHASH	CREBLKR
TERMRWF	TEMPG	MYEVCH	PTR.NUM	ERRMAP	M.DOBJS	GF.HSHL	DELBLKR
CLOSRWF	TEMPI	READCAP	CREATE	CALBEAD	NOBJS	GF.TRVF	OPENR
CLOSRWL	TEMPV	WRITCAP	CREBLK	REGS	M.BFILE	FHR	ATTACHR
CLOSROF	TEMPW	SAVEREG	DELBLK	D.ENTRY	M.DDREG	FR.LEN	DETACHR
READRWF	TEMPX	RESTREG	OPEN	D.FNAME	M.DDRSP	FR.NAME	ZROMAPR
READRWL	TEMPY	MAINCL	ATTACH	DBGU1	M.RBUFS	FR.WD3	CHMAPR
READONF	TEMPZ	FILCL	DETACH	DSKLCK	M.WBUFS	FR.SHAP	CHMAPB1
READONL	MYIDENT	SLEEP	CRELFH	DBGU2	M.SLOTS	FR.FUND	SETUPR
HENTRY	MYDAR	MYRESP	OPENDAR	M.AUTH	M.LOCKS	FHR	CREATB1
DENTRY	MYUNIT	RESP	PRVOPEN	M.MKCAP	NLOCKS	FR.LEN	CLOSER
ORGADDR	MYSWCC	GFILE	MKPTR	REDSP	M.DDSCT	FR.NAME	MOVBLKR
ORGCLST	DDSIPL	HFILE	DSPTR	GDSKHDR	M.FHRL	FR.WD1	CREPTRR
ORGMAP	IOTIPL	FILECAP	CLOSE	FDSKHDR	M.DARL	FR.WD2	DORESPR
INTDAT	HASHIPL	CTEMP	ECLOSE	GDSKPTR	M.HASHL	FR.WD3	ERRNUM
AP0	SUSPIPL	UDSKSCR	DARSPA	FDSKPTR	M.ADDS	FR.SUSP	ERRCLAS
AP1	DATIPL	BFILE	ZEROMAP	GDSKDAT	M.ASUSP	FR.LOCK	TABADDR
AP2	APTIPL	DDRSP	CHMAP	FDSKDAT	M.ADISK	FR.DAR	ECIDSCP
AP3	RETPARM	RBUFS	CLODAR	GETDSK	M.SDISK	FR.OPEN	ECICIN
AP4	RETERR	RETRY	HASH	FREEDSK	M.FDISK	FR.CAPX	
AP5	PASSERR	SLOTS	DELHASH	BUSYDSK	M.FCLEV	FR.DBSZ	
AP6	USRPACK	HBR	EXCLAIM	L.MNCL	M.UNAME	FR.ONEL	
AP7	IOTBUF	HBW	SHCLAIM	M.GFILE	M.USCTR	FR.FROZ	
AP8	PROCADR	PBR	LOCK	M.HFILE	M.OPCL	FR.WRIT	

SERVICE ROUTINES
STORAGE ALLOCATION.

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PAGE 2

TEMP0

ERRADDR

PBW

UNLOCK

M.FILCL

M.IOCTR

FR.SIZE

IDENT

SERVICE

```

*
0      PARAMS  XTEXT
0      MACROS  XTEXT
0      SYSCALL XTEXT
  
```

```

*
0      EXT      OPERCL,IPLIST
0      MACSET   OPERCL,IPLIST,ECS
0      BEADTST  XTEXT
0      ERRORS   XTEXT
  
```

```

*
*      DISK BLOCK SIZES
*      (VFD 24/0,18/NUM SECTORS,18/NUM WORDS)
0      SIZES    VFD      24/0,18/1,18/63
1      VFD      24/0,18/2,18/128
2      VFD      24/0,18/4,18/256
3      VFD      24/0,18/7,18/512
  
```

```

*
*      PAGE      CONVERT...CONVERT...CONVERT
  
```

```

*
*      CONVERT USER SUPPLIED FILE CAPABILITY TO DISK SYSTEM
*      DATA
  
```

```

*
*      NOTES:  A) CONVERT ECS FILE UNIQUE NAME
*               TO LOCAL FILE TABLE (LFT)
*               ENTRY ADDRESS
*               B) LOCK THE FILE HEADER RECORD
*               C) COPY DISK SYSTEM CAPABILITY FOR FILE TO
*                  ↑FILECAP↑
*               D) IF CAN'T FIND FILE, MAKE ABORT RETURN
  
```

```

*
*      ON ENTRY: X7 = ECS FILE UNIQUE NAME AND MOT
*                 B7 = RETURN LINK
  
```

```

*
*      ON EXIT:  B2 = ↑LFHADDR↑ = LOCAL FILE TABLE ADDRESS
*                 OF FILE
*                 B1 = ↑FHRADDR↑ = FILE HEADER RECORD ADDRESS
*                 ↑FHR↑ = COPY OF FILE HEADER RECORD
*      RETURN:   B7 = NORMAL RETURN
*                 B7-1 = ABORT RETURN
  
```

```

*
*      ROUTINES CALLED: ↑LOCK↑
  
```

```

*
*      REGISTERS USED: B1, B2, B6, A4/X4, A5/X5, A6/X6,
*                     A7/X7
  
```

SERVICE ROUTINES
CONVERT ECS FILE TO DISK DATA

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4	5150777775 X	CONVERT	SA5	LFT-2	X7 = ECS FILE UNIQUE NAME
	43447		MX4	39	
5	5055000002	CONVERT1	SA5	A5+2	NEXT LFT ENTRY
	0305000033 +		ZR	X5, CONVERT4	JP IF END OF LFT
6	13657		BX6	X5-X7	
	11646		BX6	X4*X6	
	0316000005 +		NZ	X6, CONVERT1	LOOP UNTIL FIND FILE
		*			
		*		FOUND FILE IN LFT	
		*			
7	64250		SB2	A5	LFT ADDRESS OF FILE
	76620		SX6	B2	
	5160000000 X		SA6	LPHADDR	
10	63150		SB1	X5	FHR ADDRESS FROM LFT ENTRY
	7161000000		SX6	B1+0	
	10466		BX4	X6	
11	5160000000 X		SA6	FHRADDR	
	6160000013 +		SB6	CONVERT2	
12	0200000000 X		JP	LOCK	LOCK FILE HEADER RECORD
		*			
13	5150000000 X	CONVERT2	SA5	FR.CAPX	GET DISK SYS FILE CAPABILITY
	43655		MX6	60-15	
	15556		BX5	-X6*X5	
14	7160000000 X		CAPIN	FILCL, X5, FILECAP	
		*			
23	7160000000 X		DISPCAP	FILECAP	CONSISTANCY CHECK (SHOULD BE
30	56520		SA5	B2	1ST WD OF LPH
	13775		BX7	X7-X5	USER AND SYSTEM FILE CAP MUST
	21725		AX7	60-39	
31	0317000032 +		NZ	X7, CONVERT3	MATCH
		*			
	0270000000		JP	B7	RETURN
		*			
32	0100000000 X	CONVERT3	RJ	SYSERR	USER AND SYS CAPS DON'T MATCH
		*			
		*		NO SUCH FILE IN LFT	
		*			
33	0270777776	CONVERT4	JP	B7-1	ABORT RETURN...FILE NOT OPEN
		*			
		*			
		*		END CONVERT...END CONVERT...END CONVERT	

*PAGE

SETUP...SETUP...SETUP

SET UP FOR PROCESSING SECTION OF FILE

NOTES:

- A) THE MAXIMUM FILE ADDRESS (FILE ADDR + WORD COUNT) IS CHECKED TO SEE THAT IT IS WITHIN THE LIMIT OF THE FILE SIZE
- B) SPECIAL ROUTINE CALLS ARE MADE IF THE FILE IS LOCALLY OR GLOBALLY FROZEN.
- C) FOR A ZERO LEVEL FILE, THE FILE IS UNLOCKED AND A SPECIAL RETURN (B7-3) IS MADE.
- D) IF THE FILE IS NOT A ZERO LEVEL FILE, A SCALED WORD COUNT IS COMPUTED AND STORED. ALSO, THE BLOCK BITS ARE CLEARED FROM THE FILE ADDRESS. THE SCALED WORD COUNT = (OLD WORD COUNT + BLOCK BITS FROM FILE ADDR - 1). THUS, IF IT IS DECREMENTED BY THE BLOCK SIZE, IT WILL GO NEGATIVE WHEN ENOUGH BLOCKS HAVE BEEN PROCESSED.

ON ENTRY:

- FILE IS LOCKED
- X1 = FILE ADDRESS
- X2 = WORD COUNT
- B7 = NORMAL RETURN
- B7-1 = SPECIAL ENTRY FOR GLOBALLY FROZEN FILE (B6 = RETURN TO ^SETUP^)
- B7-2 = SPECIAL RETURN FOR LOCALLY FROZEN FILE (B6 = RETURN TO ^SETUP^)
- B7-3 = SPECIAL RETURN FOR ZERO LEVEL FILE (FILE IS UNLOCKED)
- B7-4 = ERROR RETURN (B7 = ERROR NUM) (FILE IS UNLOCKED)

ON EXIT:

- X7 = ^TEMP2^ = SCALED WORD COUNT
- X1 = FILE ADDRESS X/ BLOCK BITS CLEARED
- X5 = 24/0, 18/NUM SECTORS PER DATA BLOCK, 18/NUM WORDS PER DATA BLOCK
- FILE IS LOCKED (UNLESS ZERO LEVEL FILE OR FILE ADDRESS ERROR)

REGISTERS USED: B6, B7, A4/X4, A5/X5, A6/X6, A7/X7

ROUTINES CALLED: . UNLOCK				
TEMPORARIES USED: SETUP, TEMP2				
34	76670 5160000000 X	SETUP SX6 SA6	B7 SETUP	STORE RETURN LINK
35	0331000073 + 0332000075 +	NG NG	X1, SETUP7 X2, SETUP9	JP IF NEGATIVE FILE ADDRESS JP IF NEGATIVE WORD COUNT
36	5150000000 X 0335000062 +	SA5 NG	FR, FLAG X5, SETUP4	JP IF ZERO LEVEL FILE
37	5140000000 X 43766 20420	SA4 MX7 LX4	FR, SHAP 60-6 10+6	TEST MAXIMUM FILE ADDRESS
40	15647 63760 21406 43762	BX6 SB7 AX4 MX7	-X7*X4 X6 6	DISTANCE TO S0
41	15747 22777 36412	BX7 LX7 IX4	60-10 -X7*X4 X7, B7	S0 (1ST SHAPE NUM) MAX FILE ADDR + 1
42	0302000043 + 43673 36464	ZR MX6 IX4	X1+X2 X2, SETUP1 59 X6+X4	FILE ADDR + WORD COUNT IF ZERO WD CNT., DON'T NORMALIZE OTHERWISE, NORMALIZE IF (FADDR + WORDCOUNT - (IF WORDCOUNT .NE. 0 THEN ELSE 0) - MAXFADDR + 1) .GE. 0) THEN ERROR
43	37647 0326000074 +	SETUP1 IX6 PL	X4-X7 X6, SETUP8	JP IF FILE ADDR TOO LARGE
44	5140000000 X 20404	SA4 LX4 PL	FR, FLAG FR, FRZF	CHECK FOR FROZEN FILE
45	0324000050 + 6160000050 +	SB6 SA5	X4, SETUP2 SETUP2	JP IF NOT GLOBALLY FROZEN
46	5150000000 X 63750	SB7 JP	X5 B7-1	CALL SPECIAL ROUTINE
50	5140000000 X 5244000001	SETUP2 SA4 SA4	LFHADDR X4+1	RECOVER LFHADDR
51	0324000054 + 5150000000 X	PL SA5	X4, SETUP3 SETUPR	JP IF NOT LOCALLY FROZEN CALL SPECIAL ROUTINE FOR LOCALLY

SERVICE ROUTINES
 SETUP TO PROCESS FILE SECTION

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52	6160000054 +		SB6	SETUP3	FROZEN FILE
	63750		SB7	X5	
53	0270777775		JP	B7-2	
		*			
		*			
54	5150000000 X	SETUP3	SA5	FR.FLAG	COMPUTE SCALED WORD COUNT
	20503		LX5	FR.SZFG+2	
	43772		MX7	60-2	
55	15557		BX5	-X7*X5	DATA BLOCK SIZE CODE
	5255000000 +		SA5	SIZES+X5	NUM SECTORS PER DATA //DATA BLK
		*			SIZE
56	7245777776		SX4	X5-1	DATA BLK BITS MASK
	11441		BX4	X4*X1	SCALE FACTOR
	13114		BX1	X1-X4	CLEAR BLOCK BITS IN FILE ADDR
57	36724		IX7	X2+X4	
	7277777776		SX7	X7-1	SCALED WORD COUNT..
60	5170000000 X		SA7	TEMP2	
		*			
		*			
		*			
		*			
61	63740		SA4	SETUPR	EXIT
	5140000000 X		SB7	X4	RETURN LINK
	0270000000		JP	B7	
		*			
		*			
		*			
		*			
62	5150000000 X	SETUP4	SA5	FR.SHAP	ZERO LEVEL FILE...JUST CHECK ADDRESS
	20512		LX5	10	
	43662		MX6	60-10	
63	15556		BX5	-X6*X5	MAX FILE ADDR + 1
	36412		IX4	X1+X2	FILE ADDR + WORD COUNT
	0302000065 +		ZR	X2,SETUP4A	IF NOT ZERO WORDCOUNT THEM
64	43673		MX6	59	NORMALIZE AS ABOVE
	36446		IX4	X4+X6	
65	37445	SETUP4A	IX4	X4-X5	
	0324000074 +		PL	X4,SETUP8	JP IF FILE ADDR TOO LARGE
		*			
66	5150000000 X		SA5	SETUPR	MAKE SPECIAL RETURN AFTER
	6265777774		SB6	X5-3	UNLOCKING THE FILE
67	0200000000 X		JP	UNLOCK	
		*			
		*			
		*			
		*			
70	6160000071 +	SETUP5	SB6	SETUP6	ERROR EXIT
	0200000000 X		JP	UNLOCK	UNLOCK FILE
71	5150000000 X	SETUP6	SA5	SETUPR	RETURN LINK
	63650		SB6	X5	
72	0260777773		JP	B6-4	SPECIAL ERROR EXIT (B7 =
		*			ERROR NUMBER)
		*			
		*			
73	6170000000	SETUP7	SB7	E-NEGP	NEGATIVE FILE ADDRESS

SERVICE ROUTINES
 SETUP TO PROCESS FILE SECTION

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	0200000070 +		JP	SETUP5	
74	6170000001	*			
	0200000070 +	SETUP8	SB7	E•BIGPAR	FILE ADDR + WORD COUNT TOO LARGE
			JP	SETUP5	
75	6170000000	*			
	0200000070 +	SETUP9	SB7	E•NEGPARG	NEGATIVE WORD COUNT
			JP	SETUP5	
		*			
		*			
		*			
		*			
				END SETUP...END SETUP...END SETUP	

*PAGE

DECODE...DECODE...DECODE

DECODE FILE ADDRESS

NOTES: A) FILE ADDRESS ALONG WITH SHAPE
OF FILE DRIVES +DECODE+ THRU THE
FILE TREE IN DDS
B) RETURN VECTOR IS USED TO RETURN THE
RESULT OF THE TREE WALK
C) DO NOT DECODE ZERO LEVEL FILES
D) CHECK FILE ADDR BEFORE CALLING
DECODE

ON ENTRY: FILE HEADER RECORD IS LOCKED

+FHR+ = COPY OF FILE HEADER RECORD
B1 = +FHRADDR+ = FILE HEADER RECORD ADDR
X1 = FILE ADDRESS TO BE DECODED
B7 = RETURN VECTOR BASE

ON EXIT: X4 = DATA BLOCK OR POINTER BLOCK POINTER
B5 = DDS ADDR OF POINTER IN X4

RETURNS: B7 = DATA BLOCK IN ECS (X3 = MASK TO
EXTRACT INDEX IN DATA BITS FROM FILE
ADDRESS)

B7-1 = DATA BLOCK NOT IN ECS
B7-2 = NON-EXISTANT DATA BLOCK
B7-3 = POINTER BLOCK NOT IN ECS
(X2 = LOG2 (PTR BLK SIZE))
B7-4 = NON-EXISTANT POINTER BLOCK (X2 =
LOG2(SIZE OF MISSING POINTER BLOCK))
B4=0 MEANS PTR BLK POINTS TO DATA
BLOCKS..B6 = BIT COUNT UP THRU
NON-EXIST PTR BLK
B7-5 = BUSY POINTER ENCOUNTERED
B7-6 = I/O ERROR - BLK STUCK ON DISK

REGISTERS USED: B4, B5, B6, A2/X2, A3/X3, A4/X4,
A5/X5, A6/X6, A7/X7

TEMPORARIES USED: TEMP5

76 5120000000 X
0331000172 +
77 43712
11627
20612

DECODE

SA2
NG
MX7
BX6
LX6

FR.SHAPE
X1,DECODE11
10
X2*X7
10

FILE SHAPE
SYSERR..NEGATIVE FILE ADDR
EXTRACT S0 FROM SHAPE

EXTRACT DISTANCE TO S

FORM MASK FOR EXTRACT SO FROM
FILE ADDRESS

EXTRACT 1ST LEVEL FROM FILE ADDR
RIGHT JUSTIFY 1ST ADDRESS CHUNK
TEST FOR ADDR TOO BIG

SYSERR..FILE ADDR TOO BIG

ADDR OF POINTER IN DDS (NOTE
HORRIBLE CONSTRUCT DUE TO LOUSY
LEADER)
PICK UP ROOT POINTER OF FILE

```

X1 = FILE ADDRESS
X2 = SHAPE CODE WORD (CURRENT SHAPE NUM RT
    JUSTIFIED
X3 = ADDRESS CHUNK EXTRACTION MASK (EXTRACTS NEXT
    CHUNK)
X4 = POINTER (DATA OR POINTER BLOCK)
X7 = ADDRESS CHUNK
B5 = DDS ADDR OF POINTER IN X4
B6 = BIT COUNT UP TO CURRENT CHUNK OF ADDRESS

```

EXTRACT PTR TYPE AND STATUS

POINTER DECODING JUMP TABLE

```

0 - DATA BLOCK STATUS TABLE
1 - DATA BLOCK OUT
2 - I/O ERROR
3 - BLOCK IS IN ECS

```

0 - PTR BLK ON DISK
1 - I/O ERROR
2 - POINTER BLOCK IN ECS
3 -
4 - POINTER BUSY
5 - NON EXISTANT POINTER BLOCK
6 - BUSY POINTER

LINE	ADDRESS	DATA	OPERATION	COMMENT
131	73570	21704	DECODE3	ADDRESS CHUNK (INDEX TO NEXT PTR BLOCK)
		20444	SX5	
		73440	AX7	
132	36447	7160000000 X	LX4	60-24
			SX4	X4
			IX4	X4+X7
			REDDS	X4,TEMP5,1
				PAGE SWITCH POINTER
				PAGE SWITCH WORD
				READ PAGE SWITCH WORD
145	5140000000 X	20570	SA4	TEMP5
		43636	LX5	60-4
			MX6	30
146	0325000147 +	20436	PL	X5,DECODE4
			LX4	30
				JP IF EVEN NUMBERED PAGE
				JUSTIFY FOR ODD NUMBERED PAGE
147	15446	0304000173 +	DECODE4	ADDRESS OF POINTER PAGE IN DDS
		20504	BX4	-X6*X4
			ZR	X4,DECODE12
			LX5	4
			MX6	60-3
150	43671	15556	BX5	-X6*X5
		36445	IX4	X4+X5
		63540	SB5	X4
151	7160000000 X		REDDS	X4,TEMP5,1
				ADDR OF NEXT POINTER
				READ NEXT POINTER
163	5140000000 X	0324000107 +	SA4	TEMP5
			PL	X4,DECODE2
				PICK UP NEXT POINTER
				JP IF DATA BLOCK POINTER
				GET NEXT ADDRESS CHUNK
164	43670	21204	MX6	60-4
		15626	AX2	4
		63460	BX6	-X6*X2
			SB4	X6
165	11731	23343	BX7	X3*X1
		67664	AX3	X3,B4
			SB6	B6-B4
				MASK FOR NEXT TIME

166 0200000107 + 23767

AX7
JPX7,B6
DECODE2RT JUSTIFY NEW ADDRESS CHUNK
PROCESS THIS ADDRESS CHUNK
WITH THE POINTER BLOCK POINTER
WE JUST FOUND

POINTER BLOCK NOT IN ECS

167 7160007400
11662
63460

DECODE*

SX6
BX6
SB47400B
X6*X2
X6

NON-EXISTANT POINTER BLOCK

EXTRACT 2ND SHAPE BYTE UP TO SEE
IF MISSING PTR BLK POINTS TO
DATA OR POINTER BLOCKS (B4=0
MEANS PTR BLK POINTS TO DATA
BLOCKS)
RETURN LOG2 (SIZE OF
NON-EXISTANT POINTER BLOCK)170 43670
15226
0270777773MX6
BX2
JP60=4
=X6*X2
B7=4

POINTER BLOCK ON DISK

171 43670
15226
0270777774

DECODE*

MX6
BX2
JP60=4
=X6*X2
B7=3

RETURN LOG2 (PTR BLK SIZE) IN X2

172 0100000000 X
173 0100000000 XDECODE11
DECODE12RJ
RJSYSERR
SYSERRFILE ADDR ERROR
BAD PAGE SWITCH

END DECODE...END DECODE...END DECODE

173 SYMBOLS XTEXT
174 END

43317

STORAGE USED
6600 ASSEMBLY2435 STATEMENTS
17.986 SECONDS590 SYMBOLS
135 REFERENCES

000004 INVENTED SYMBOLS

SERVICE ROUTINES
SYMBOLIC REFERENCE TABLE.

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APTIPL	0	EXTERNAL*		
AP0	0	EXTERNAL*		
AP1	0	EXTERNAL*		
AP2	0	EXTERNAL*		
AP3	0	EXTERNAL*		
AP4	0	EXTERNAL*		
AP5	0	EXTERNAL*		
AP6	0	EXTERNAL*		
AP7	0	EXTERNAL*		
AP8	0	EXTERNAL*		
ATTACH	0	EXTERNAL*		
ATTACHR	0	EXTERNAL*		
AUDIT	0	EXTERNAL*		
BFILE	0	EXTERNAL*		
BLK.DTY	0	EXTERNAL*		
BLK.FLG	0	EXTERNAL*		
BLK.SIZ	0	EXTERNAL*		
BUSYDSK	0	EXTERNAL*		
CALBEAD	0	EXTERNAL*		
CHMAP	0	EXTERNAL*		
CHMAPB1	0	EXTERNAL*		
CHMAPR	0	EXTERNAL*		
CLKBUF	0	EXTERNAL*		
CLODAR	0	EXTERNAL*		
CLOSE	0	EXTERNAL*		
CLOSER	0	EXTERNAL*		
CLOSROF	0	EXTERNAL*		
CLOSRWF	0	EXTERNAL*		
CLOSRWL	0	EXTERNAL*		
COMMROF	0	EXTERNAL*		
COMMROL	0	EXTERNAL*		
COMMRWF	0	EXTERNAL*		
COMMRWL	0	EXTERNAL*		
CONVERT	4	PROGRAM*	5/01 L	
CONVERT1	5	PROGRAM*	5/03 L	5/07
CONVERT2	13	PROGRAM*	5/18	5/21 L
CONVERT3	32	PROGRAM*	5/30	5/34 L
CONVERT4	33	PROGRAM*	5/04	5/38 L
CREATEB1	0	EXTERNAL*		
CREATE	0	EXTERNAL*		
CREATER	0	EXTERNAL*		
CREBLK	0	EXTERNAL*		
CREBLKR	0	EXTERNAL*		
CRELFH	0	EXTERNAL*		
CREPTRR	0	EXTERNAL*		
CTEMP	0	EXTERNAL*		
DARADDR	0	EXTERNAL*		
DARHASH	0	EXTERNAL*		
DARSPA	0	EXTERNAL*		
DAT IPL	0	EXTERNAL*		
DATMAP	0	EXTERNAL*		
DBR	0	EXTERNAL*		
DEBUG1	0	EXTERNAL*		

SERVICE ROUTINES
SYMBOLIC REFERENCE TABLE.

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DEBUG2	0	EXTERNAL*					
DBW	0	EXTERNAL*					
DDRSP	0	EXTERNAL*					
DDSIPL	0	EXTERNAL*	12/27 S	12/27 S	12/27	12/42 S	12/42 S
			12/27 S	12/27 S	12/42 S	12/42 S	12/42
DECODE	76	PROGRAM*	10/49 L				
DECODEA	171	PROGRAM*	12/08	13/22 L			
DECODE11	172	PROGRAM*	10/50	11/18	13/27 L		
DECODE12	173	PROGRAM*	12/35	13/28 L			
DECODE2	107	PROGRAM*	11/41 L	12/44	13/02		
DECODE3	131	PROGRAM*	12/10	12/21 L			
DECODE4	147	PROGRAM*	12/31	12/34 L			
DECODE5	111	PROGRAM*	11/45	11/51 L			
DECODE9	167	PROGRAM*	12/13	13/11 L			
DELBLK	0	EXTERNAL*					
DELBLKR	0	EXTERNAL*					
DELHASH	0	EXTERNAL*					
DENTRY	0	EXTERNAL*					
DETACH	0	EXTERNAL*					
DETACHR	0	EXTERNAL*					
DISKENT	0	EXTERNAL*					
DISKERR	0	EXTERNAL*					
DISKINT	0	EXTERNAL*					
DORESPR	0	EXTERNAL*					
DSKLCK	0	EXTERNAL*					
DSPTR	0	EXTERNAL*					
DSWPTIM	0	EXTERNAL*					
DSYSTIM	0	EXTERNAL*					
DUSRTIM	0	EXTERNAL*					
D.ENTRY	0	EXTERNAL*					
D.FNAME	0	EXTERNAL*					
ECLOSE	0	EXTERNAL*					
EC: CIN	0	EXTERNAL*	5/25				
EC: DSCP	0	EXTERNAL*	5/27				
ENTER	0	EXTERNAL*					
ERRADDR	0	EXTERNAL*					
ERRALOC	0	EXTERNAL*					
ERRCLAS	0	EXTERNAL*					
ERRFILE	0	EXTERNAL*					
ERRMAP	0	EXTERNAL*					
ERRNUM	0	EXTERNAL*					
ERRPACK	0	EXTERNAL*					
ERRPARM	0	EXTERNAL*					
EXCLAIM	0	EXTERNAL*					
E.BIGPAR	1		9/03				
E.NEGPAR	0		8/53	9/06			
FB.FUND	0	EXTERNAL*					
FB.LEN	0	EXTERNAL*					
FB.NAME	0	EXTERNAL*					
FB.SHAP	0	EXTERNAL*					
FB.WD3	0	EXTERNAL*					
FDSKDAT	0	EXTERNAL*					
FDSKHDR	0	EXTERNAL*					

SERVICE ROUTINES
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FDSKPTR	0	EXTERNAL*			
FHB	0	EXTERNAL*			
FHR	0	EXTERNAL*	11/20		
FHRADDR	0	EXTERNAL*	5/17 S		
FHRHASH	0	EXTERNAL*			
FILCL	0	EXTERNAL*	5/25		
FILEADR	0	EXTERNAL*			
FILECAP	0	EXTERNAL*	5/25	5/27	
FLDLEN	0	EXTERNAL*			
FREEDSK	0	EXTERNAL*			
FRETURN	0	EXTERNAL*			
FRW	0	EXTERNAL*			
FRWENT	0	EXTERNAL*			
FRWERR	0	EXTERNAL*			
FRWINT	0	EXTERNAL*			
FR.CAPX	0	EXTERNAL*	5/21		
FR.CLAM	0	EXTERNAL*			
FR.DAR	0	EXTERNAL*			
FR.DBSZ	0	EXTERNAL*			
FR.FLAG	0	EXTERNAL*	7/17	7/42	8/06
FR.FROZ	0	EXTERNAL*			
FR.FRZF	4		7/43		
FR.FUND	0	EXTERNAL*			
FR.LEN	0	EXTERNAL*			
FR.LOCK	0	EXTERNAL*			
FR.MEMB	0	EXTERNAL*			
FR.NAME	0	EXTERNAL*			
FR.ONEL	0	EXTERNAL*			
FR.OPEN	0	EXTERNAL*			
FR.ROOT	0	EXTERNAL*	11/22	11/25	
FR.SHAP	0	EXTERNAL*	7/21	8/27	10/49
FR.SIZE	0	EXTERNAL*			
FR.SUSP	0	EXTERNAL*			
FR.SZFG	1		8/07		
FR.WD1	0	EXTERNAL*			
FR.WD2	0	EXTERNAL*			
FR.WD3	0	EXTERNAL*			
FR.WRIT	0	EXTERNAL*			
GDSKDAT	0	EXTERNAL*			
GDSKHDR	0	EXTERNAL*			
GDSKPTR	0	EXTERNAL*			
GETDSK	0	EXTERNAL*			
GETRESP	0	EXTERNAL*			
GFILE	0	EXTERNAL*			
GF.APTF	0	EXTERNAL*			
GF.APTL	0	EXTERNAL*			
GF.DATF	0	EXTERNAL*			
GF.DATL	0	EXTERNAL*			
GF.DDSF	0	EXTERNAL*	12/27	12/42	
GF.DDSL	0	EXTERNAL*	12/27	12/42	
GF.HSHF	0	EXTERNAL*			
GF.HSHL	0	EXTERNAL*			
GF.IOTF	0	EXTERNAL*			

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GF.IOTL	0	EXTERNAL*
GF.LEN	0	EXTERNAL*
GF.SUSF	0	EXTERNAL*
GF.SUSL	0	EXTERNAL*
GF.TRVF	0	EXTERNAL*
HASH	0	EXTERNAL*
HASHIPL	0	EXTERNAL*
HBR	0	EXTERNAL*
HBW	0	EXTERNAL*
HENTRY	0	EXTERNAL*
HFILE	0	EXTERNAL*
HOLDBLK	0	EXTERNAL*
INTDAT	0	EXTERNAL*
IOTBUF	0	EXTERNAL*
IOTIPL	0	EXTERNAL*
IPLIST	0	EXTERNAL*
IPTI:LIST	0	EXTERNAL*
LFHADDR	0	EXTERNAL*
LFT	0	EXTERNAL*
LFTFREE	0	EXTERNAL*
LOADBUF	0	EXTERNAL*
LOCK	0	EXTERNAL*
LOCTAB	0	EXTERNAL*
LOCTABF	0	EXTERNAL*
LOCTABL	0	EXTERNAL*
L.MNCL	0	EXTERNAL*
MAINCL	0	EXTERNAL*
MAKEMAP	0	EXTERNAL*
MAPBUF	0	EXTERNAL*
MKPTR	0	EXTERNAL*
MOVBLKR	0	EXTERNAL*
MYCODF	0	EXTERNAL*
MYDAR	0	EXTERNAL*
MYEVCH	0	EXTERNAL*
MYIDENT	0	EXTERNAL*
MYRESP	0	EXTERNAL*
MYSCRF	0	EXTERNAL*
MYSUBP	0	EXTERNAL*
MYSWOCC	0	EXTERNAL*
MYUNIT	0	EXTERNAL*
M.ABFCH	0	EXTERNAL*
M.ABFIL	0	EXTERNAL*
M.ACRES	0	EXTERNAL*
M.ACRES	0	EXTERNAL*
M.ACTCC	0	EXTERNAL*
M.ADDS	0	EXTERNAL*
M.ADISK	0	EXTERNAL*
M.ASUSP	0	EXTERNAL*
M.AUTH	0	EXTERNAL*
M.BFILE	0	EXTERNAL*
M.CLOCC	0	EXTERNAL*
M.CLOSE	0	EXTERNAL*

4/07

4/07 D

5/25 S

5/25 S

5/27 S

5/27

5/25 S

5/25 S

5/25

5/27 S

5/13 S

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SERVICE ROUTINES
SYMBOLIC REFERENCE TABLE.

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M.CLTIM	0	EXTERNAL*
M.DARL	0	EXTERNAL*
M.DDREQ	0	EXTERNAL*
M.DDRSP	0	EXTERNAL*
M.DDSCT	0	EXTERNAL*
M.DFILT	0	EXTERNAL*
M.DOBJJS	0	EXTERNAL*
M.EMPTY	0	EXTERNAL*
M.FCLEV	0	EXTERNAL*
M.FDISK	0	EXTERNAL*
M.FHRL	0	EXTERNAL*
M.FILCL	0	EXTERNAL*
M.FRWCC	0	EXTERNAL*
M.GFILE	0	EXTERNAL*
M.HASHL	0	EXTERNAL*
M.HELP	0	EXTERNAL*
M.HFILE	0	EXTERNAL*
M.IOCTR	0	EXTERNAL*
M.LOCKS	0	EXTERNAL*
M.MKCAP	0	EXTERNAL*
M.OPCL	0	EXTERNAL*
M.RBUFS	0	EXTERNAL*
M.RETRY	0	EXTERNAL*
M.SDISK	0	EXTERNAL*
M.SLOTS	0	EXTERNAL*
M.SWAB	0	EXTERNAL*
M.TRMCC	0	EXTERNAL*
M.TRYCC	0	EXTERNAL*
M.TVRES	0	EXTERNAL*
M.TWAIT	0	EXTERNAL*
M.UNAME	0	EXTERNAL*
M.USCTR	0	EXTERNAL*
M.USRCC	0	EXTERNAL*
M.WBUFS	0	EXTERNAL*
M.10SEC	0	EXTERNAL*
NLOCKS	0	EXTERNAL*
NOBJS	0	EXTERNAL*
NOQLOCK	0	EXTERNAL*
NUMRESP	0	EXTERNAL*
OPEN	0	EXTERNAL*
OPENDAR	0	EXTERNAL*
OPENR	0	EXTERNAL*
OPERCL	0	EXTERNAL*
OP!!!;CL	0	EXTERNAL*
ORGADDR	0	EXTERNAL*
ORGCLST	0	EXTERNAL*
ORGMAP	0	EXTERNAL*
PAGESW	0	EXTERNAL*
PASSERR	0	EXTERNAL*
PBR	0	EXTERNAL*
PBW	0	EXTERNAL*
PG.DDS	0	EXTERNAL*
PG.DTY	0	EXTERNAL*

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4/67 D

5/24

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SERVICE ROUTINES
SYMBOLIC REFERENCE TABLE.

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PG.PG	0	EXTERNAL*							
PROBE	0	EXTERNAL*							
PROCADR	0	EXTERNAL*							
PRVOPEN	0	EXTERNAL*							
PTR.CM	0	EXTERNAL*							
PTR.DDS	0	EXTERNAL*							
PTR.DTY	0	EXTERNAL*							
PTR.NUM	0	EXTERNAL*							
PTR.PTR	0	EXTERNAL*							
RBUFS	0	EXTERNAL*							
READCAP	0	EXTERNAL*	12/26	12/41					
READONF	0	EXTERNAL*							
READONL	0	EXTERNAL*							
READRWF	0	EXTERNAL*							
READRWL	0	EXTERNAL*							
REDSHP	0	EXTERNAL*							
REGS	0	EXTERNAL*							
RELCLAM	0	EXTERNAL*							
RELEASE	0	EXTERNAL*							
RESP	0	EXTERNAL*							
RESTREG	0	EXTERNAL*							
RETCCLK	0	EXTERNAL*							
RETEPR	0	EXTERNAL*							
RETPAR	0	EXTERNAL*							
RETPARM	0	EXTERNAL*							
RETRY	0	EXTERNAL*							
RETURN	0	EXTERNAL*							
SAVEREG	0	EXTERNAL*							
SETPCNT	0	EXTERNAL*							
SETUP	34	PROGRAM*	7/09 L						
SETUPR	0	EXTERNAL*	7/10 S	7/46	7/53	8/20	8/38	8/47	
SETUP1	43	PROGRAM*	7/31	7/37 L					
SETUP2	50	PROGRAM*	7/44	7/45	7/50 L				
SETUP3	54	PROGRAM*	7/52	8/01	8/06 L				
SETUP4	62	PROGRAM*	7/18	8/27 L					
SETUP4A	65	PROGRAM*	8/32	8/35 L					
SETUP5	70	PROGRAM*	8/45 L	9/01	9/04	9/07			
SETUP6	71	PROGRAM*	8/45	8/47 L					
SETUP7	73	PROGRAM*	7/14	8/53 L					
SETUP8	74	PROGRAM*	7/38	8/36	9/03 L				
SETUP9	75	PROGRAM*	7/15	9/06 L					
SHCLAIM	0	EXTERNAL*							
SIZE	0	EXTERNAL*							
SIZES	0	PROGRAM*	4/14 L	8/10					
SLEEP	0	EXTERNAL*							
SLOTS	0	EXTERNAL*							
STKBUF	0	EXTERNAL*							
SUSPIPL	0	EXTERNAL*							
SW.DDS	0	EXTERNAL*							
SW.SW	0	EXTERNAL*							
SYSERR	0	EXTERNAL*	5/34	12/15	12/27	12/42	12/42	13/28	
			12/11	12/27	12/27	12/42	13/27		
TABADDR	0	EXTERNAL*							

SERVICE ROUTINES
SYMBOLIC REFERENCE TABLE.

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TEMPA	0	EXTERNAL*				
TEMPB	0	EXTERNAL*				
TEMPC	0	EXTERNAL*				
TEMPD	0	EXTERNAL*				
TEMPE	0	EXTERNAL*				
TEMPF	0	EXTERNAL*				
TEMPG	0	EXTERNAL*				
TEMPH	0	EXTERNAL*				
TEMPV	0	EXTERNAL*				
TEMPW	0	EXTERNAL*				
TEMPX	0	EXTERNAL*				
TEMPY	0	EXTERNAL*				
TEMPZ	0	EXTERNAL*				
TEMPO	0	EXTERNAL*				
TEMP1	0	EXTERNAL*				
TEMP10	0	EXTERNAL*				
TEMP11	0	EXTERNAL*				
TEMP2	0	EXTERNAL*	8/17 S			
TEMP3	0	EXTERNAL*				
TEMP4	0	EXTERNAL*				
TEMP5	0	EXTERNAL*	12/27	12/28	12/42	12/43
TEMP6	0	EXTERNAL*				
TEMP7	0	EXTERNAL*				
TEMP8	0	EXTERNAL*				
TEMP9	0	EXTERNAL*				
TERMROF	0	EXTERNAL*				
TERMRWF	0	EXTERNAL*				
TERMRWL	0	EXTERNAL*				
TR.DRIV	0	EXTERNAL*				
TR.LEVL	0	EXTERNAL*				
UDSKSCR	0	EXTERNAL*				
UNLOCK	0	EXTERNAL*	8/40	8/46		
UNLOCKW	0	EXTERNAL*				
USERRWF	0	EXTERNAL*				
USERRWL	0	EXTERNAL*				
USRPACK	0	EXTERNAL*				
WRITCAP	0	EXTERNAL*				
ZEROMAP	0	EXTERNAL*				
ZROMAPR	0	EXTERNAL*				

12.00.48. 05/14/71 TSS SCOPE 3.0
12.00.50.CPU = 000 SEC : CM = 014000
12.00.55.FILE,XTEXT
12.00.55.RFL,50000
12.00.56.CPU = 000 SEC : CM = 050000
12.00.56.TEXT,OUTPUT
12.00.56.GET,SYSSUBP,MACROS,,R0
12.00.56.GET,MACROS,DISKSYS,,R0
12.00.56.GET,SYMBOLS,DISKSYS,,R0
12.00.56.GET,PARAMS,DISKSYS,,R0
12.00.56.GET,DSKOPS,OPERS,,R0
12.00.56.GET,OBBITS,DISKSYS,,R0
12.00.57.GET,TYPES,DISKSYS,,R0
12.00.57.GET,ERRORS,DISKSYS,,R0
12.00.57.GET,DSKOPR,DISKSYS,,R0
12.00.57.GET,SYSCALL,MACROS,,R0
12.01.04.GET,SERVICES,DISKSYS
12.01.12.NOMPASS,I=SERVICES,S=0
12.01.13.ASSEMBLING SERVICE
12.01.35.ASSEMBLING SERVICE
12.01.42. ASSEMBLY COMPLETE.
12.01.45.END
12.01.47.FIN
12.01.47.CPU TIME: 019.552 SECONDS
12.01.47.SYS TIME: 005.282 SECONDS
12.01.47.SYSTXT : 960 LINES

END OF FILE

[illegible]