

XBRS IDENT H20 8/5/68

TCNT EQU 199 TAPE RECORD LENGTH
NCMEM EQU 57B
XSET MACRO D
LDA =D(1)
SBRM XTMSG
ENDM

XOSET MACRO D
LDA =D(1)
SBRM XOMSG
ENDM

FREEZE

* EXEC ENTRY TRANSFER VECTOR

BRU EXECI
BRU EXECP
BRU OFFTTY
BRU EXECR

* BRS TRANSFER VECTOR

BRU GFN (15)
BRU GIFNB (16)
BRU UABORT (17)
BRU GOFNA (18)
BRU GOFNB (19)
BRU CFILE (20)
BRU SFDC (48)
BRU ECDUMP (95)
BRU ECRECV (96)
BRU RFDC (60)
BRU DELETF (80)

\$XTMSG ZRO RLV1
LDX COUT
\$XOMSG NOP RLV1
LDB =-1
BRS 34
BRR RLV1

* 1.10 CLOSE ALL FILES (BRS 17)
UABORT SBRM BRS17
BRS 111

\$BRS17 ZRO RETURN
BRS 8

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LDX      =- 5
SKN      OPFE,2
BRU      *+ 4
BRX      *+ 1
BRX      *- 3
BRR      RETURN
BRS      46
SBRM     FLGTH
BRS      47
BRU      BRS17+2

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* BRS 80 - DELETE A FILE. CLOSES ALL OPEN FILES FIRST.
DELETF SBRM BRS48; BRS 111
      SKA =11000000B; BRS 111
      BRS 43; MRG =7B; BRS 44
      SBRM BRS17
      SBRM DELFIL; BRS 111; MIN UBRST; BRS 111

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* BRS 18 - CONVERT OUTPUT FILE NAME TO INDEX
GOFNA LDX      =- 1          SET TO BRS 18
      BRU      G18

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* BRS 15-CONVERT INPUT FILE NAME TO INDEX

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GFN      CLX
G18      SBRM     BRS58
          BRS     111
          MIN     UBRST
          BRS     111
$BRS58   ZRO     RETURN
          STX     GOFNFT          =0 FOR BRS 15,-1 FOR BRS 18
          SKG     =0
          LDA     =100000B
          LRSH    12
          STA     GOFNFL
          CLA
          LSH     12
          STA     GOFN1
          SBRM    RFINA
          BRR     RETURN
          BRR     RETURN
          BRU     GFN1          LIBRARY FILES AND PERIPHERALS
BRS48A   SBRM    FDSCH
          BRU     GFN3          COULDNT FIND
          SKN     GOFNFT
          BRU     GFN5
          LDX     GOFNFL
          SKN     GOFN1; BRU *+2; BRU GFN5
          XOSSET XE3
          CIO     GOFN1
          STA     GOFN3
          SKE     OKCH
          BRU *+2; BRU GFN5; SKE XCOMCH

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BRR      RETURN
BRU      GFN5
GFN1     STA      UNPTR
ETR      =177777B
STA      XWR1
LDA      XOUT
SKN      GOFNFT
LDA      XIN
ADD      XWR1
LDX      =-8
SKE      PERT+8,2
BRX      *-1
CXA
SKE      X0
BRU      ++2
BRU      GFN6
LDA      FILTB+8,2
LDX      DEVTBL+8,2
SKB      X4
LDB      XCRCH
ETR      =7
COPY     XA,AB,BX
MIN      RETURN
BRR      RETURN
GFN3     SKN      GOFNFT
BRU      GFN3A
LDA      FDEND
SKG      =231
BRU      GFN4
XSET     XM54          FILE DIRECTORY FULL
BRR      RETURN
GFN3A    LDA      GBUF; SKA =200B; BRU ++2; BRR RETURN
EOR      =200B; CLB; RCY 8; STB RLV1
CLB; RCY 8; AXC; RSH 8
COPY     XA,BA
MRG      RLV1; BRU GFN1
GFN4     LDX      GOFNFL
SKN      GOFN1; BRU ++2; BRU GFN8
XOSET    XE2
CIO      GOFN1
STA      GOFN3
SKE      OKCH
BRU      ++2; BRU GFN8; SKE XCOMCH
BRR      RETURN
GFN8     LDA      =GBUF; MUL =3; LSH 23; SUB =1
STA      UNPTR; ADD =9; STA UNPTR1
LDB      =77B
GFN8A    GCI      UNPTR; BRR RETURN
SKM      =17B; BRU ++2; BRR RETURN
SKA      =100B; BRU GFN8B
GFN8C    SKA      =200B; BRU GFN8D; BRU GFN8A
GFN8B    CAX; ETR =77B; SKG =40B
BRR      RETURN; CXA; BRU GFN8C
GFN8D    GCI      UNPTR; BRU GFN8E

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SKE =0; BRR RETURN; BRU GFN3D
GFN3E BRS 46
LDA FDEND
ADD =UFD
STA UNPTR
LDX =- 3
LDB GBUFE, 2
COPY XA, AX
STB 3, 2
EAX 1, 2
COPY AX, XA, B
BRX *- 5
LDX UNPTR
LDA X4
STP 0, 2
STA 2, 2
LDA =7
ADM FDEND
BRS 47
GFN5 LDX UNPTR
LDA 2, 2
LCY 1
ETR X4
STA XWR1
LDA 2, 2
RSH 17
ETR =7
COPY AB, XA
MRG XWR1
GFN7 LDX GGFN3
MIN RETURN
BRR RETURN
GFN6 SKN GGFNFT
BRU **2
BRR RETURN
LDX GGFNFL
XO SET XM4
LDA =LIB
LDX =128
LDB =400B
BRS 61
HLT
LDX =-128
LDA LIBE, 2
SKE X0
BRU **2
BRR RETURN
BRX **1
SKE UNPTR
BRX *-6
COPY XA, B
SKE X0
BRU **2
BRR RETURN

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LDA LIBE,2
LCY 3
CBX
RCY 3
CXB
BRU GFN7

PERT ASC 'IAP'
ASC 'IAC'
ASC 'IET'
ASC 'OAP'
ASC 'OAC'
ASC 'ORP'
ASC 'OET'
ASC 'OON'

DEVTBL DATA 0 WAS PAPER TAPE INPUT 100001B
DATA 100003B
DATA 100004B
DATA 0 WAS PAPER TAPE OUTPUT 100002B
DATA 100014B
DATA 100013B
DATA 100005B
DATA 100006B

FILTB DATA -1
DATA 77770003B
DATA 3
DATA -1
DATA 77770003B
DATA 77770003B
DATA 10003B
DATA 27777B

XOUT ASC 'O '
XIN ASC 'I '

\$DELIM ZRO RLV1
CIO GOFN1
MIN RLV1
SKE OKCH
SKG =0
SKR RLV1
BRR RLV1

\$DCHAR3 ZRO RLV2
SBRM DELIM
BRU *-1

\$CHAR5 NOP RLV2
LDX ==-2
CLB

CHAR31 RSH 8
SBRM DELIM
BRU CHAR4
BRX CHAR31

	RSH	8
	MIN	RLV2
	SBRM	DELIM
	BRU	CHAR4
	SKE	XCOMCH; BRU *-3
CHAR4	XAB	
	BRR	RLV2
SCHAR3	ZRO	RLV2
	SBRM	DELIM
	BRU	CRA
	SKE	QUOTCH
	BRU	CHAR31-2
	BRU	QT
SRFINA	ZRO	RLV4
	CLA	
	LDX	=-3
	STA	GBUFE,2
	BRX	*-1
	CIO	GOFN1
	SKE	XCRCH
	BRU	*+2
	BRR	RLV4
	SKE	XMBCH
	BRU	*+3
	CIO	GOFN1
	BRU	RFINA+5
	SKG	X0
	BRU	RFINA+5
	STA	TLV1
	SBRM	FIDEL
	BRR	RLV4
	BRU	RFINA4
	LDA	=8
	STA	TLV11
RFINA1	CIO	GOFN1
	SKE	XCRCH
	BRU	*+2
	BRR	RLV4
	SKE	XSLSCH
	BRU	RFINA3
	LDA	TLV11
	SKA	=8
	BRR	RLV4
RFINA2	LDX	=200B
	MIN	TLV11
	SBRM	STNAM
	BRU	*+1
	NOP	0
	MIN	RLV4
	MIN	RLV4
	MIN	RLV4
	BRR	RLV4
RFINA3	ETR	=177B

MAG TAPE
LIBRARY
DISC

USED TO BE CIO GOFN1
DISC
LIBRARY
MAG TAPE
ERROR

	CAX	
	SBRM	STNAM
	BRU	RFINA1
	CIO	GOFN1
	SKE	XSLSCH
	BRR	RLV4
	BRU	RFINA2
RFINA4	SBRM	CHAR5
	BRR	RLV4
	BRU	RFINA3-3
STNAM	ZRO	RLV1
	LDA	TLV11
	MUL	=12525253B
	EOR	--1
	STA	TLV2
	LSH	5
	ETR	=30B
	COPY	AX,XA,B
	LSH	0,2
	LDX	TLV2
	ADM	GBUFE,2
	SKR	TLV11
	BRR	RLV1
	MIN	RLV1
	BRR	RLV1
FIDEL	ZRO	RLV1
	SKE	XSLSCH
	SKE	XPRMCH
	MIN	RLV1
	MIN	RLV1
	SKE	XSLSCH
	SKR	RLV1
	BRR	RLV1

* SEARCH FD FOR NAME
 * IF SKIP, RETURNS POINTER IN A

\$FDSCH	ZRO	RLV1
	LDA	=UFD
	LDB	FDEND
\$HCSDF	NOP	RLV1
	ADD	=20000006B
	STA	UNPTR
	CBA ;	ADD UNPTR
	STA	UNPTR1
FDS1	LDA	UNPTR1
	SKG	UNPTR
	BRR	RLV1
	LDX	--3
	LDA*	UNPTR
	SKE	GBUFE,2
	BRU	FDS2

	BRX	*- 3
	MIN	RLV1
	LDA	UNPTR
	SUB	=20000006B
	STA	UNPTR
	BRR	RLV1
FDS2	LDA	=7
	ADM	UNPTR
	BRU	FDS1

* BRS 19 - OPEN FILE FOR OUTPUT

GOFNB	SBRM	BRS19
	BRS	111
	MIN	UBRSRT
	BRS	111

\$BRS19	ZRO	RETURN
	STA	UA
	STB	UB
	STX	UX
	SBRM	CFI
	BRU	G0FL
	BRR	RETURN
	SKN	1,2
	BRU	*+2
	BRR	RETURN
	SKN	2,2
	BRR	RETURN
	LDA	UX
	SKG	=4
	SKG	X0
	BRR	RETURN
	SKN	UA
	BRU	BRS19B
	LDA	1,2
	SKE	X0
	BRU	BRS19C
	LDA	X2
	MRG	2,2
BRS19A	ETR	X6
	RCY	17
	ADD	UX
	LCY	17
	STA	G0FN3
	LRSH	22
	ADD	=7
	LDX	1,2
	COPY	AX,XA
	BRS	1
	BRR	RETURN
	BRS	46

LIBRARY AND PERIPHERALS
ERROR

READ ONLY FILE

TAPE FILE

FILE TYPE WRONG
DOES USER WANT RANDOM FILE

	STA	GOFNFL
	COPY	XA
	LDX	UA
	LDB	GOFN3
	STP	1,2
	LDB	GOFNFL
	STB	GOFNFT
	BRU	BRS16A
BRS19C	LDA	2,2
	SKA	X2
	BRU	BRS19A
	BRR	RETURN
BRS19B	LDA	2,2
	SKA	X2
	BRR	RETURN
	BRU	BRS19A
GOFL	SKA	=10000000B
	BRR	RETURN
	LDX	=-8
	SKE	DEVTBL+8,2
	BRX	*-1
	CXA	
	SKG	=-1
	SKG	=-6
	BRR	RETURN
	SKG	=-3
	BRU	GOFL1
	ADD	=3
	SKE	=1
	BRU	GOFL4
	LDA	UX
	SKE	=3
	BRR	RETURN
	LDB	=1
	COPY	AX,BA,B
GOFL4	MIN	RETURN
	BRR	RETURN
GOFL1	LDB	X2
	SKB	CPARW
	BRU	*+2
	BRR	RETURN
	SKG	=-5
	BRU	GOFL2
	LDA	UX
	SKE	=3
	BRR	RETURN
	LDA	UA
	ETR	=37777B
	COPY	AX
	BRS	1
	BRR	RETURN
GOFL3	LDX	UX
	BRU	GOFL4
GOFL2	LDA	UX

LIBRARY

ILLEGAL DEVICE

SKG	=4
SKG	X0
BRR	RETURN
LDX	=2
BRS	1
BRR	RETURN
STA	GOFNFL
LDA	UX
WIO	GOFNFL
LDA	GOFNFL
BRU	GDFL 3

*CHECK	FD (A)	INDEX
CFI	ZRO	RLV1
	SKA	=1100000B
	BRR	RLV1
	MIN	RLV1
	ETR	=37777B
	ADD	=1
	SUB	=UFD
	SKG	FDEND
	BRU	*+2
	BRR	RLV1
	SUB	=1
	RSH	23
	DIV	=7
	SKB	--1
	BRR	RLV1
	LDA	UA
	ETR	=37777B
	CLX	
	STX	GOFN2
	LDX	--6
	SKE	OPFE,2
	BRU	*+2
	BRR	RLV1
	SKN	OPFE,2
	BRU	*+2
	STX	GOFN2
	BRX	*+1
	BRX	*-7
	SKN	GOFN2
	BRR	RLV1
	CAX	
	MIN	RLV1
	BRR	RLV1

FILE OVERFLOW

*BRS 16		
GIFNB	SBRM	BRS16
	BRS	111
	MIN	UBRSRT
	BRS	111

\$BRS16	ZRO	RETURN	
	STA	UA	
	SBRM	CFI	
	BRU	GI FL	LIBRARY AND PERIPHERALS
	BRR	RETURN	ERROR.
	SKN	2,2	
	BRR	RETURN	TAPE FILES
	LDA	1,2	
	ETR	=37777777B	
	SKG	X0	
	BRR	RETURN	
	LDA	2,2	
	STA	GO FNFT	
	RSH	21	
	ETR	=2	
	ADD	=8	
	CAB		
	LDA	1,2	
	ETR	=37777777B	
	CBX		
	BRS	1	
	BRR	RETURN	
	BRS	46	
	STA	GO FNFL	
	COPY	XA, AB	
	LDX	UA	
	XMA	1,2	
	ETR	X4	
	ADM	1,2	
BRS16A	COPY	XA	
	LDX	GO FN2	
	ETR	=37777B	
	STP	OPFE,2	
	CAX		
	LDA	2,2	
	RSH	17	
	ETR	=7	
	CAB		
	LDA	0,2	
	ETR	=37777777B	
	LDX	GO FNFL	
	COPY	XA, AX	
	SKN	GO FNFT	
	COPY	BX, XB	
GI FL 1	BRS	47	
	MIN	RETURN	
	BRR	RETURN	
GI FL	SKA	=10000000B	
	BRU	BRS16B	
	LDX	=-8	
	SKE	DEVTBL+8,2	
	BRX	*-1	
	CXA		

SKG	=-7
BRU	*+6
SKE	=-6
BRR	RETURN
COPY	A,X
LDB	=3
BRU	GI FL 1
LDB	X2
SKB	CPARW
BRU	*+2
BRR	RETURN
SKE	=-7
BRU	*+7
LDX	=3
BRS	1
BRR	RETURN
LDB	=3
CLX	
BRU	GI FL 1
LDX	=1
BRS	1
BRR	RETURN
STA	GO FNFL
WIO	GO FNFL
CAB	
LDA	GO FNFL
BRU	*-9
BRS16B CLB	
LCY	3
STB	GO FNFT
LSH	3
RCY	6
LDX	=8
BRS	1
BRR	RETURN
LDB	GO FNFT
CLX	
BRU	GI FL 1

* BRS 20

CFILE	SBRM	BRS20
	BRS	111
\$BRS20	ZRO	RETURN
	ETR	=37777B
	SKE	MAGT

	BRU	CFILX1
	BRR	RETURN
CFILX1	LDX	--5
	SKE	OPFE,2
	BRU	*+2
	BRU	*+5
	BRX	*+1
	BRX	*-4
	BRS	2
	BRR	RETURN
	BRS	46
	BRS	2
	SBRM	FLGTH
	BRS	47
	BRR	RETURN

FLGTH	ZRO	RTURN1
	STX	GOFN1
	EAX	-1,2
	LDX	OPFE,2
	STX	GOFN2
	LDA	1,2
	ETR	=37777777B
	LDX	=8
	BRS	1
	BRU	FLGTH1
	CLX	
	BRS	113
	BRS	2
	CXA	
	LDX	GOFN2
	XMA	0,2
	ETR	X4
	ADM	0,2
FLGTH1	LDX	GOFN1
	STX	OPFE,2
	EAX	-1,2
	STX	OPFE,2
	BRR	RTURN1

* BRS 95 (DUMP BRS)

ECDUMP	SBRM	BRS95
	BRS	111
	MIN	UBRSRT
	BRS	111

\$BRS95	ZRO	RETURN
	STA	OUTFIL
	LDA	SYSVER
	WIO	OUTFIL

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LDA      SY STL
SKE =-1; SUB = SUBTB1
WIO      OUTFIL

ECDMP2 LDX      JOB
LDA      PMA,2
LRSH     9
ADD      PMA,2
LRSH     6
ETR      =77B

WIO      OUTFIL
LDX      =PRGRL
LDA      =4
BIO      OUTFIL
BRU      ECDMP3
LDA      =NCMEM

ECDMP4 ADD      =1
SKG      =77B
BRU      *+3
MIN      RETURN
BRR      RETURN
BRS 39; BRU ECDMP4
WIO      OUTFIL
STA      ECDMP6
BRS      43
LCY      6
ETR      =77777700B
MRG      ECDMP6
RCY      6

BRS      44
LDA      =4000B
LDX      =20000B
BIO      OUTFIL
BRU      ECDMP3

LDA      ECDMP6
BRU      ECDMP4

ECDMP3 XSET     XE1
BRR     RETURN

*      BRS 96 (RECOVER BRS)

ECRECV SBRM     BRS96
BRS     111
MIN     UBRST
BRS     111
$BRS96 ZRO     RETURN
STA     INFIL

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	WIO	INFIL
	SKE	SYSVER
	BRU	ECRV4
	WIO	INFIL
	SKG	=NSYS4; SKG =-2; SUB =14476B
	SKE	=-1; ADD =SUBTB1
	STA	SYSTL
ECRV2	LDA	=NCMEM
ECRV3	ADD	=1
	SKG	=77B
	BRU	*+2
	BRU	*+3
	BRS	121
	BRU	ECRV3
	LDX	JOB
	LDA	PMA,2
	BRS	57
	ETR	=70007777B
	XMA	PMA,2
	RSH	6
	ETR	=77B
	STA	ECRV6
	WIO	INFIL
	SUB	ECRV6
	SKG	=-1
	CLA	
	CLB	
	LCY	15
	ADM	PMA,2
	LDA	=4
	LDX	=PRGRL
	BIO	INFIL
	BRU	ECRV7
ECRV5	WIO	INFIL
	SKE	TERMWD
	BRU	*+2
	BRU	ECRV8
	SKG	=77B; SKG =NCMEM; BRU ECRV7
	STA	ECRV6
	BRS	120
	BRS	43
	LCY	6
	ETR	=77777700B
	MRG	ECRV6
	RCY	6
	BRS	44
	LDA	=4000B
	LDX	=20000B

	BIO	INFIL
	BRU	ECRV7
	BRU	ECRV5
ECRV8	BRS	43
	CLB	
	BRS	44
	MIN	RETURN
	BRR	RETURN
ECRV4	XSET	XM13
	BRR	RETURN
ECRV7	XSET	XE1
	BRR	RETURN
*	BRS 48	SET UFD STATUSES

SFDC	SBRM	BRS48
	BRS	111
	MIN	UBRSRT
	BRS	111

\$BRS48	ZRO	RETURN
	STP	GBUF
	CXA	
	LDX	=2
	STA	GBUF, 2
	STX	GDFNFT
	STX	GDFNFL
	BRU	BRS48A

* BRS 60 READ UFD CTRL WORDS

RFDC	SBRM	BRS60
	BRS	111
	MIN	UBRSRT
	BRS	111

BRS60	ZRO	RETURN
	STP	GBUF
	CXA	
	LDX	=2
	STA	GBUF, 2
	STX	GDFNFL
	LDA	--1
	STA	GDFNFT
	STA	GDFN1
	BRU	BRS48A

* UNIVERSAL CONSTANTS AND WORKING SPACE FOR EXEC.

\$XCOMCH ZRO 14B
\$XSLSCH ZRO 17B
\$XPRMCH ZRO 7
\$XCRCH ZRO 155B
\$XMBCH ZRO 135B
XLINF ZRO 152B
\$OKCH DATA 16B
XE1 ASC ' ? / '
\$XM6 ASC '\$FILE TYPE WRONGS/'
XE2 ASC ' NEW FILE/'
XE3 ASC ' OLD FILE/'
XM4 ASC ' (LIBRARY) / '
XM13 ASC '\$NOT COMPATIBLE / '
XM54 ASC '\$FD FULLS/'

\$SYSVER DATA 111B
END
