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10 0000 ;*****
20 0000 ;
30 0000 ;           PET FILE SYSTEM
40 0000 ;           SYMBOLS
50 0000 ;
60 0000 ;*****
70 0000 ; COPYRIGHT L J SHUSTEK AND H J SAAL, 1978,1979,1980
80 0000 ;-----
90 0000 ;
100 0000 ;           L O A D M A P
110 0000 ;
120 0000 ;-----
130 0000 B           =$9000
140 0000 VECTOR   =$0000+B   JUMP VECTOR
150 0000 FILSYS   =$0080+B   FILE SYSTEM MAIN RTNS
160 0000 FILUTL   =$0600+B   FILE SYSTEM UTILITY RTNS
170 0000 DSKRTN   =$0840+B   LOW LEVEL FLOPPY DISK RTNS
180 0000 DIMMON   =$0B20+B   "DIM" MONITOR
190 0000 DISASM   =$11D0+B   DISASSEMBLER
200 0000 PRTRTN   =$1400+B   LOCAL KEYBOARD/PRINTER RTNS
210 0000 HDKRTN   =$15C0+B   LOW LEVEL HARD DISK RTNS
220 0000 CHKSMB   =$18FE+B   CHECKSUM BYTES
230 0000 ENDSYS   =$1900+B   END OF THE FILE SYSTEM
240 0000 ;
250 0000 SYSVAR   =$1A00+B   START OF SYSTEM VARIABLES
260 0000 ;
270 0000 ;-----
280 0000 ;
290 0000 ;           CONTROL BLOCK DESCRIPTIONS
300 0000 ;
310 0000 ;-----
320 0000 *=0
330 0000 ;
340 0000 ; DIRECTORY ENTRY (DE)           [ORDER DEPENDENT]
350 0000 ;
360 0010 DENAM   *=*+16  FILENAME
370 0010 DENAML  *=     SIZE OF FILENAMES
380 0011 DETYP   *=*+1   TYPE
390 0013 DEBLK   *=*+2   STARTING BLOCK NUMBER
400 0015 DESIZ   *=*+2   SIZE IN BYTES (LOW 2 BYTES)
410 0017 DEADR   *=*+2   MEMORY ADDRESS (L,H)
420 0018 DESIZM *=*+1   SIZE IN BYTES (HIGH OF 3 BYTES)
430 0019 DEFLGS *=*+1   FLAGS
440 001B DEPASS *=*+2   PASSWORD
450 0020         *=*+5   UNUSED
460 0020 DELEN   *=     SIZE OF DIRECTORY ENTRY
470 0020 ;
480 0020 DENUM   =256/DELEN #DE/BLOCK
490 0020 ;
500 0020 TBNUMS  =16*77   TOTAL BLOCKS, SINGLE SIDED
510 0020 TBNUMD  =32*77   TOTAL BLOCKS, DOUBLE SIDED
520 0020 DBNUMS  =16     #DIR FLKS, SINGLE SIDED DISKS
530 0020 DBNUMD  =32     #DIR BLKS, DOUBLE SIDED DISKS
540 0020 DBLKSS  =TBNUMS-DBNUMS #DATA BLKS, SINGLE SIDED
550 0020 DBLKSD  =TBNUMD-DBNUMD #DATA BLKS, DOUBLE SIDED
560 0020 ; NOTE: THE SIZE OF THE DIRECTORY ENTRY AND THE NUMBER OF DIRE
CTORY
570 0020 ; BLOCKS CAN BE CHANGED WITHOUT CHANGING ANY CODE.
580 0020 ;

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390 0020 ; FILE TYPES
600 0020 ;
610 0020 FLAST =0 LAST ENTRY
620 0020 FEMPTY =1 EMPTY ENTRY
630 0020 FVDESC =10 VOLUME DESCRIPTOR
640 0020 FASM =A0 ASSEMBLER PGM
650 0020 FBASIC =B0 BASIC PGM
660 0020 FSYMBL =C0 SYMBOL TABLE
670 0020 FWILD =F0 WILDCARD PGM (LOAD ANYWHERE)
680 0020 ;
690 0020 ; VOLUME DESCRIPTOR (VD)
700 0020 ;
710 0020 ; THE VD IS A SPECIAL KIND OF DE WHICH MUST BE THE
720 0020 ; FIRST IN THE DIRECTORY. ONLY THE NAME AND TYPE
730 0020 ; FIELDS ARE THE SAME.
740 0020 ;
750 0000 ; *=0
760 0010 VDNAM **+=DENAML VOLUME NAME
770 0011 VDTYP **+=1 TYPE ("FVDESC" ALWAYS)
780 0012 VDVERS **+=1 DOS VERSION#
790 0013 VDFLAG **+=1 FLAGS:
800 0013 VDF2SI =80 2 SIDED
810 0014 VDDSIZ **+=1 SIZE OF DIRECTORY IN BLOCKS
820 0020 VDLEN *=DELEN
830 0020 ;
840 0020 ; DIRECTORY LIST OPTIONS
850 0020 ;
860 0020 LSTSHT =01 SHORT (DRONE) LISTING
870 0020 LSTVIR =02 VIRTUAL (MAPPED) LISTING
880 0020 ;
890 0020 ; DISK HARDWARE ADDRESSES
900 0020 ;
910 BFFB *=BFFB
920 BFFC DDSEL **+=1 DRIVE SELECT REG
930 BFFD DDCMD **+=1 DRIVE CMD/STATUS REG
940 BFFE DDTRK **+=1 DRIVE TRACK REG
950 BFFF DDSEC **+=1 DRIVE SECTOR REG
960 C000 DDATA **+=1 DRIVE DATA REG
970 C000 ;
980 C000 DDREST=255-00 6 MS. RESTORE COMMAND
990 C000 ;
1000 C000 ;-----
1010 C000 ;
1020 C000 ; ZERO PAGE VARIABLES
1030 C000 ;
1040 C000 ; CHANGES REQUIRE MASSIVE REASSEMBLY, SO BEWARE!
1050 C000 ;-----
1060 000A *=0A
1070 000C BUSPTR **+=2 PTR USED BY BUS ROUTINES
1080 000E **+=2 UNUSED
1090 0010 **+=2 UNUSED
1100 0011 **+=1 UNUSED
1110 0013 MNTMP0 **+=2 MONITOR TEMP (MUST BE PAGE0)
1120 0015 MNTMP2 **+=2 MONITOR TEMP
1130 0017 MNTMP4 **+=2 MONITOR TEMP (MUST BE PAGE0)
1140 0017 WRDPTR =MNTMP0 *** MUST BE $11 ***
1150 0019 MSGPTR **+=2 *** MUST BE $17 ***
1160 001B **+=2 UNUSED
1170 001D **+=2 UNUSED
1180 001F **+=2 UNUSED
1190 0021 **+=2 UNUSED
1200 0023 **+=2 UNUSED
1210 0023 ;
1220 0023 ; FPARM: FILESYS PARAMETERS (OVERLAY WITH FCB)
1230 0023 ;
1240 0023 FPARM =*
1250 0023 FNAME **+=DENAML FILENAME (MONITOR ASSUMES IS AT 002)

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1250 0030 FNAME **+DENAML FILENAME (MONITOR ASSUMES IS AT $20)
1260 0034 FTYPE **+1 FILE TYPE
1270 0035 DRIVE **+1 DRIVE (1 OR 2)
1280 0038 MEMSIZ **+3 SIZE IN BYTES
1290 003A MEMAD **+2 PERMANENT MEMORY ADDRESS
1300 003C CMEMAD **+2 CURRENT MEMORY ADDRESS
1310 003D REPFLG **+1 REPLACE FLAG
1320 003E LSTFLG **+1 LIST FLAG
1330 003F RCODE **+1 RETURN CODE
1340 003F FPARMZ **
1350 003F ;
1360 003F ; FCB: FILE CONTROL BLOCK (OVERLAY WITH FPARM)
1370 003F ;
1380 0023 **=FPARM
1390 0023 FCB **=
1400 0033 **+DENAML (FNAME)
1410 0034 **+1 (FTYPE)
1420 0035 **+1 (DRIVE)
1430 0035 FCBVIS **-FCB VISIBLE PARTS OF FCB
1440 0038 FTSIZ **+3 TOTAL FILE SIZE
1450 003A FSTBLK **+2 STARTING RELATIVE BLOCK
1460 003A FCBL **-FCB
1470 003A ;
1480 003A ; EXTERNALLY VISIBLE FCB FIELD OFFSETS
1490 003A ;
1500 003A FCBNAM =FNAME-FCB
1510 003A FCBFTP =FTYPE-FCB
1520 003A FCBDSK =DRIVE-FCB
1530 003A ;
1540 003A ;
1550 003A ; DISK ROUTINE PARAMETERS
1560 003A ; (ORDER DEPENDENT; MATCHES DE)
1570 003A ;
1580 003F **=FPARMZ
1590 0040 DDRV **+1 DRIVE (1 OR 2)
1600 0041 DSID **+1 #SIDES (0 OR 1)
1610 0042 DTYP **+1 FILETYPE (USED ONLY BY FILSYS)
1620 0044 DBLK **+2 STARTING BLOCK#
1630 0044 FBLKNO =DBLK --ALIAS--
1640 0046 DSIZ **+2 SIZE IN BYTES (LOW 2 BYTES)
1650 0046 FBSIZ =DSIZ --ALIAS--
1660 0048 DADR **+2 STARTING ADDRESS
1670 0048 FBADR =DADR --ALIAS--
1680 0049 DSIZM **+1 MSB OF FILE SIZE
1690 0049 ;
1700 0049 ; VARIABLES
1710 0049 ;
1720 004A PNTL **+1 DISK ROUTINE POINTER
1730 004B PNTH **+1
1740 004D NBLKS **+2 NUMBER OF DISK BLKS
1750 004F PBMAP **+2 PTR TO BIT MAP (NOW LOCAL TO UTIL RTNS)
1760 0051 PDBLK **+2 PTR TO DIREC. BLK
1770 0051 ;
1780 0053 SPTR **+2 PTR FOR WMOVE, PRSTR
1790 0053 ;
1800 0054 DIROFF **+1 OFFSET IN DIR_BLK (ORDER DEPENDENT)
1810 0056 DIRBLK **+2 BLOCK # OF (ORDER DEPENDENT)
1820 0056 ;
1830 0057 K0 **+1 (ALSO WORD WITH K100)
1840 0059 K100 **+2
1850 005B K400 **+2
1860 005B ;
1870 005B ; THE END OF USABLE PAGE ZERO IS 5A
1880 005B ;
1890 005B ; -----
1900 005B ;
1910 005B ;
1920 005B ;
1930 005B ;
1940 005B ;
1950 005B ;
1960 005B ;
1970 005B ;
1980 005B ;
1990 005B ;
2000 005B ;

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1910 005B ; NON-ZERO-PAGE VARIABLES,
1920 005B ; INCLUDING DIRECTORY BUFFERS AND BIT MAPS
1930 005B ;
1940 005B ;-----
1950 AA00 * =SYSVAR
1960 AA00 ;
1970 AE00 DBUF * =*+$400 4-PAGE DIRECTORY BUFFER
1980 AF34 BMAP * =TBNUMD/8+* ALLOCATION BIT MAP
1990 AF34 ; (DBUF AND BMAP MUST BE ON PAGE BOUNDARIES)
2000 AF34 ;
2010 AF36 TEMP * =*+2 A LOCAL TEMPORARY FOR ANYBODY
2020 AF38 DSKERC * =*+2 DSKRTN: COUNT OF RETRIES ON DISK
2030 AF38 ; CLEARED BY BOOTSTRAP
2040 AF39 DRETRY * =*+1 DSKRTN: #RETRIES FOR THIS OPERATION
2050 AF3A CUROP * =*+1 DSKRTN: FAILING OPERATION
2060 AF3B MAXY * =*+1 DSKRTN: MAX BYTES IN SECTOR
2070 AF3B ;
2080 AF3C SPSAVE * =*+1 FILSYS: SAVED STACK PTR
2090 AF3D SRCHCB * =*+1 FILSYS: COUNT DIR BLKS
2100 AF3E DSKERR * =*+1 FILSYS: DISK ERROR CODE
2110 AF3E ;
2120 AF40 BLKCNT * =*+2 DLIST: BLOCK CNT
2130 AF41 DALLOS * =*+1 FILUTL: COUNT ALLOCATED BLKS
2140 AF42 WMOVEY * =*+1 FILUTL: WMOVE INDEX
2150 AF43 DIRCOD * =*+1 FILUTL: DIR ERR SUBCODE
2160 AF46 DECNN * =*+3 FILUTL: ACCUMULATOR FOR PRDEC
2170 AF46 ;
2180 AF49 DLSTRK * =*+3 DISK LAST TRACK
2190 AF49 DSIDES * =*-1 DISK # SIDES
2200 AF4B * =*+2 DSIDES(1..2)=0..1, FF TO FORCE INIT
2210 AF4B ;
2220 AF5B FNAME2 * =*+DENAML FRENAM: OLD FILE NAME
2230 AF5C FTYPE2 * =*+1 FRENAM: OLD FILE TYPE
2240 AF5C ;
2250 AF5D FALOFL * =*+1 FILSYS: "ALLOCATE" FLAG
2260 AF5E FDIROF * =*+1 FILSYS: OFFSET OF DE TO USE (ORDER DEPENDENT)
2270 AF60 FDIRBL * =*+2 FILSYS: BLOCK# OF DE TO USE (ORDER DEPENDENT)
2280 AF61 FDIRFL * =*+1 FILSYS: FWRITE FLAGS (ORDER DEPENDENT)
2290 AF61 ; $80=FILE FOUND TO REPLACE, $01=EMPTY SLOT FOUND
2300 AF61 ; (ALSO USED BY SETUP TO INDICATE DISK CHANGED)
2310 AF61 ;
2320 AF62 DTIMER * =*+1 DSKRTN: JIFFY COUNTDOWN FOR DESELECT
2330 AF62 ;
2340 AF63 HDCYL * =*+1 HDKRTN: CYLINDER #
2350 AF64 HDHEAD * =*+1 HDKRTN: HEAD #
2360 AF65 HDSECT * =*+1 HDKRTN: SECTOR #
2370 AF67 HDSIZ * =*+2 HDKRTN: SIZE OF TRANSFER
2380 AF67 ;
2390 AF6B DIVDND * =*+4 MLTPLY, DIVIDE
2400 AF6D DIVISR * =*+2 MLTPLY, DIVIDE
2410 AF6D ;
2420 AF6F MNDIFF * =*+2 MONITOR
2430 AF70 MNSPTR * =*+1 MONITOR: TRUE SP
2440 AF72 MNACMD * =*+2 MONITOR
2450 AF73 MNPCL * =*+1 MONITOR
2460 AF74 MNPCH * =*+1 MONITOR
2470 AF75 MNFLGS * =*+1 MONITOR
2480 AF76 MNACC * =*+1 MONITOR
2490 AF77 MNXR * =*+1 MONITOR
2500 AF78 MNSP * =*+1 MONITOR
2510 AF79 MNSVCM * =*+1 MONITOR: SAVED CMD
2520 AF7A MNRcnt * =*+1 MONITOR
2530 AF7A ;
2540 AF7A ;MAPDRV * =*+1 MAPPER: VIRTUAL DRIVE #
2550 AF7A ;MAPNDX * =*+1 MAPPER: MAP INDEX
2560 AF7A ;MAPFL * =*+1 MAPPER: MISC FLAGS

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MNYR x = x+1

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2570 AF7A ;MAP ** +N MAPPER: FILE MAP (TO END OF PAGE)
2580 AF7A ;
2590 AF7A ;
2600 AF7A ;-----
2610 AF7A ;
2620 AF7A ; J U M P V E C T O R
2630 AF7A ;
2640 AF7A ;-----
2650 AF7A ;
2660 9000 ; *=VECTOR
2670 9000 ;
2680 9003 JMON **+3 MONITOR
2690 9006 JDSASM **+3 DISASSEMBLER
2700 9006 ;
2710 9009 FREAD **+3 FILE READ
2720 900C FWRITE **+3 FILE WRITE
2730 900F FWRITD **+3 FILE WRITE (DISPLACED)
2740 9012 FDELETE **+3 FILE DELETE
2750 9015 FRENAM **+3 FILE RENAME
2760 9018 FALLO **+3 FILE ALLOCATE
2770 901B FOPEN **+3 FILE OPEN FOR BLOCK I/O
2780 901E FBLKRD **+3 FILE BLOCK READ
2790 9021 FBLKWR **+3 FILE BLOCK WRITE
2800 9024 FDLIST **+3 DIRECTORY LIST
2810 9024 ;
2820 9027 DALLO **+3 BITMAP ALLOCATE
2830 902A DFREE **+3 BITMAP FREE
2840 902D DMARK **+3 BITMAP MARK
2850 9030 DIRERR **+3 DIRECTORY ERROR
2860 9033 WMOVE **+3 PAGE ZERO WORD MOVE RTN
2870 9033 ;
2880 9036 DREAD **+3 LOW LEVEL DISK READ RTN
2890 9039 DWRITE **+3 LOW LEVEL DISK WRITE RTN
2900 903C DVERIF **+3 LOW LEVEL DISK VERIFY RTN
2910 903F D2STST **+3 2-SIDED DISKETTE TEST
2920 9042 DCHTST **+3 DISK CHANGE TEST
2930 9042 ;
2940 9045 PRBYTE **+3 PRINT BYTE FROM A IN HEX
2950 9048 PRWORD **+3 PRINT WORD AT WRDPTR IN HEX
2960 904B PRSTR **+3 PRINT INLINE STRING UNTIL 0
2970 904E PRCHAR **+3 PRINT CHAR FROM A
2980 9051 PRMSG **+3 PRINT STRING AT MSGPTR UNTIL 0
2990 9054 PRDEC **+3 PRINT WORD AT WRDPTR IN DECIMAL
3000 9057 PRDECF **+3 PRINT WORD " " " " , FIXED FIELD OF 5
3010 9057 ;
3020 905A DINTRH **+3 LOW LEVEL INT. HANDLER (COUNT DOWN DESELECT)
3030 905D PRTENB **+3 LOCAL PRINTER ENABLE RTN
3040 9060 HDSKOP **+3 HARD DISK OPERATION
3050 9063 MLTPLY **+3 MULTIPLY (IN HDKRTN)
3060 9066 DIVIDE **+3 DIVIDE (IN HDKRTN)
3070 9066 ;
3080 9069 RDSCRN **+3 GET INPUT LINE
3090 906C RDKEY **+3 GET INPUT KEY
3100 906C ;
3110 906C ;
3120 906C CHKSUM =$B800 CHECKSUM ROUTINE IN BOOTSTRAP ROM
3130 906C STPTST =$F32A PET STOP KEY TEST
3140 906C ;
3150 906C .END

```