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>>>> SK - F O R T H 7 9 <<<<

ASSEMBLY LANGUAGE SOURCE LISTING

EX-707875 SOURCE LISTING

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RELEASE 2.0

FORTH-79 STANDARD

with

Double-Number Standard Extensions

BY:

JOHN W. BROWN

DISTRIBUTED BY:

SATURN SOFTWARE LIMITED  
P. O. BOX 397  
NEW WESTMINSTER, V3L 4Y7

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V3L 4Y7, CANADA

&gt;PA

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0010      .LS
0020      .CT FTH05

0001 ;
0002 ;*****
0003 ;** SK-FORTH (79-STANDARD) **
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0009 ;** NEW WESTMINSTER, B. C. **
0010 ;** V3L 4Y7, CANADA **
0011 ;*****
0012 ;
0013
0014 ;*****
0015 ;** SYM/KIM-FORTH PART 0 **
0016 ;** DISK FILE FTH05 **
0017 ;** FEBRUARY 04, 1982 **
0018 ;*****
0019
0020 ;** CONDITIONAL ASSEMBLY VARIABLES
0021
0022 SYM      .DE $0000 SET FOR SYM ASSEMBLY
0023 KIM      .DE $0000 SET FOR KIM ASSEMBLY
0024 MYKIM    .DE $0000 SET FOR MYKIM
0025 DISK     .DE $0000 SET FOR DISK ASSEMBLY
0026
0027          SET MYKIM = 0
0028          SET KIM = 0
0029          SET SYM = 1
0030          SET DISK = 0
0031
0032          IFE SYM-1
0033 BASEAD   .DE $0200
0034 MEM      .DE $6000 TOP OF FORTH SYS MEMORY
0035 DRAM     .DE $6000 START OF DISK IN RAM
0036          ***
0037
0038          IFE KIM-1
0039 BASEAD   .DE $2000
0040 MEM      .DE $8000 TOP OF FORTH SYS MEMORY
0041 DRAM     .DE $C000 START OF DISK IN RAM
0042          ***
0043
0044          .BA BASEAD
0045          .MC $0200
0046          .OS
0047          .CE
0048
0049 ;          EQUATES GIVING MEMORY ASSIGNMENTS
0050 ;          MACHINE REGISTERS AND DISK PARAMETERS
0051

```

```

0052 SSIZE      .DE $0080
0053 NBUF>     .DE $0002
0054 SBLK>     .DE $0008
0055 BBUF>     .DE $0400
0056 BSCR>     .DE $0001
0057 BMAG      .DE $0808 ( BBUF> + 4 ) * NBUF>
0058
0059
0060 BOS        .DE $20 BOTOM OF DATA STACK PAGE ZERO
0061 TOS        .DE $9E TOP OF DATA STACK PAGE ZERO
0062
0063           IFE SYM-1
0064
0065 TWIDTH     .DE $4F
0066 MODE       .DE $FD
0067 TTYO       .DE $20
0068 CRTO       .DE $80
0069 CRTI       .DE $10
0070 B2400     .DE $06
0071 B4800     .DE $01
0072           ***
0073
0074           IFE KIM-1
0075
0076 TWIDTH     .DE $40
0077 BDRY       .DE $F0
0078 OLD        .DE $F1
0079 CHAR       .DE $F2
0080 BUFADL     .DE $F3
0081 BUFADH     .DE $F4
0082
0083 SYN        .DE $16
0084 EOT        .DE $04
0085 BIT.IN     .DE $01 BIT 0 IS INPUT
0086 BIT.OUT    .DE $02 BIT 1 IS OUTPUT
0087           ***
0088 ;
0089 N          .DE TOS+8 SCRATCH WORKSPACE
0090 IP         .DE N+8 INTERPRETIVE POINTER
0091 W          .DE IP+3 CODE FIELD POINTER
0092 UP         .DE W+2 USER AREA POINTER
0093 XSAVE      .DE UP+2 TEMP AREA FOR X REGISTER
0094 YSAVE      .DE XSAVE+1 TEMP FOR Y REGISTER
0095 TEMP       .DE YSAVE+1 INDIRECT JMP ADDRESS
0096 XW        .DE TEMP+2
0097 NP        .DE XW+2
0098
0099 TIBX       .DE $100 TERMINAL INPUT BUFFER 84 BYTES
0100 ORIG      .DE FORTH.TOP
0101
0102 UAREA     .DE MEM-$80 (128)BYTE USER AREA
0103 DAREA     .DE UAREA-BMAG DISK BUFFER AREA
0104
0105           IFE SYM-1
0106
0107 VIAORB     .DE $A000
0108 VIADRB    .DE $A002
0109 VIAPCR    .DE $A00C

```

```

0110 TECHO     .DE $A653
0111 TOUTFL    .DE $A654
0112 SDBYT     .DE $A651
0113 TFID>    .DE $A64E
0114 TSAD>    .DE $A64C
0115 TEAD>    .DE $A64A
0116 USRBRK   .DE $A676
0117 MONBRK   .DE $804A
0118 TOUT      .DE $8AA0
0119 USRENT    .DE $8035
0120 SAVER     .DE $8188
0121 RESXAF    .DE $81B8
0122 RESXF     .DE $81BE
0123 RESALL    .DE $81C4
0124 ACCESS    .DE $8B86
0125 BEEP     .DE $8972
0126 DELAY    .DE $899B
0127 INSTAT   .DE $8386
0128 INCH     .DE $8A58 INPUT ASCII CHAR FROM TERM
0129 TCR       .DE $834D TERMINAL CR LF
0130 MONLOAD   .DE $8C7B
0131 MONSAVE   .DE $8E8A
0132 CONFIG    .DE $89A5
0133 ZERCK     .DE $832E
0134 P2SCR     .DE $829C
0135 INCP3     .DE $8293
0136           ***
0137
0138           IFE KIM-1
0139
0140 TMODE     .DE $17E6
0141 SCR6      .DE $17E7
0142 SCR7      .DE $17E8
0143 SCR8      .DE $17B4
0144 SCR9      .DE $17B5
0145 TAPE1     .DE $17B6
0146 TAPE2     .DE $17B7
0147 HSBDRY    .DE $17B8
0148 TAPE.DEL .DE $17B9
0149
0150 TFID>    .DE $17BA
0151 TSAD>    .DE $17BC
0152 TEAD>    .DE $17BE
0153 TSPEED    .DE $17B2
0154
0155 SAD       .DE $1740
0156 SADD      .DE $1741
0157 SBD       .DE $1742
0158 PBD       .DE $1702
0159 PBDD      .DE $1703
0160 TIMER     .DE $1706
0161 TIM8      .DE $1705
0162
0163 ZERCK     .DE $1943
0164 INIT1     .DE $1E8C
0165 CHKT      .DE $194C
0166 NMIVEC    .DE $17FA
0167 USRBRK   .DE $17FE

```

```

0168 MONBRK .DE $1925
0169 GETCH .DE $1E5A
0170 TOUT .DE $1EA0
0171 TCR .DE $1E2F
0172 TTYOUT .DI RETURN
0173 PCRLF .DI RETURN
0174 ***
0175
0176 IFE MYKIM-1
0177
0178 VIA.ACR .DE $080B
0179 VIA.SR .DE $080A
0180 VIA.T2LL .DE $0808
0181 ***
0182 ;
0183
0184 IFE SYM-1
0185
0186 FLBOT> .DE $7210
0187 FLTOP> .DE $7212
0188 CONNUM> .DE $7214
0189 DKNUM> .DE $7215
0190 MTRKAD> .DE $7216
0191 MSECAD> .DE $7217
0192 COMAND> .DE $7218
0193 CONCOM> .DE $7219
0194 MSTAT> .DE $721A
0195 ERCODE> .DE $721B
0196 MDISK> .DE $7C7C
0197 ***
0198
0199 IFE KIM-1
0200
0201 FLBOT> .DE $F210
0202 FLTOP> .DE $F212
0203 CONNUM> .DE $F214
0204 DKNUM> .DE $F215
0205 MTRKAD> .DE $F216
0206 MSECAD> .DE $F217
0207 COMAND> .DE $F218
0208 CONCOM> .DE $F219
0209 MSTAT> .DE $F21A
0210 ERCODE> .DE $F21B
0211 MDISK> .DE BELL.VEC
0212 ***
0213
0214 ;
0215 ; FROM DAREA DOWNWARD TO TOP OF THE
0216 ; DICTIONARY IS SPACE WHERE THE
0217 ; USERS APPLICATIONS ARE COMPILED
0218
0219
0220 ; BOOT UP PARAMETERS.
0221 ; JUMP VECTORS TO BOOTUP CODE
0222 ; PARAMETERS DESCRIBING THE SYSTEM
0223
0224 SYSBASE .DI ENTER
0225

```

```

0200- 4C 1C 14 0226 ENTER JMP CCOLD+2 COLD VECTOR
0203- 4C 2C 14 0227 REENTER JMP WARM WARM VECTOR
0206- 4C 58 8A 0228 TIN.VEC JMP INCH
0209- 4C A0 8A 0229 TOUT.VEC JMP TOUT
020C- 4C 4D 83 0230 TCRLF.VEC JMP TCR
020F- 4C 60 19 0231 POUT.VEC JMP TTYOUT
0212- 4C F5 18 0232 PCRLF.VEC JMP PCRLF
0215- 4C BA 18 0233 ECHAR.VEC JMP OUT.ALL
0218- 4C DF 18 0234 ECRLF.VEC JMP CRLF.ALL
021B- 4C 86 83 0235 BREAK.VEC JMP INSTAT
021E- 4C 72 89 0236 BELL.VEC JMP BEEP
0221- 4C F8 14 0237 CREAD.VEC JMP CREAD
0224- 4C B5 14 0238 CWRITE.VEC JMP CWRITE
0227- 4C 7C 7C 0239 DISK.VEC JMP MDISK>
0240 ;
022A- B8 25 0241 FORTH.TOP .SI NTOP LAST FORTH ENTRY
022C- 08 00 0242 .SE $0008 BACK SPACE CHARACTER
022E- 80 5F 0243 I.UP .SE UAREA INITIAL USER AREA
0230- 9E 00 0244 I.SO .SE TOS INITIAL TOP OF STACK
0232- FF 01 0245 I.RO .SE $1FF INITIAL TOP OF RETURN STACK
0234- 00 01 0246 I.TIB .SE TIBX INITIAL TERMINAL INPUT BUFFER
0236- 1F 00 0247 I.WIDTH .SE $1F INITIAL NAME FIELD WIDTH(31)
0238- 00 00 0248 I.WARN .SE $00 NO DISK=0,DISK=1
023A- 5D 2E 0249 I.FENCE .SI TOP INITIAL FENCE ADDRESS
023C- 5D 2E 0250 I.DP .SI TOP INITIAL TOP OF DICTIONARY
023E- 70 25 0251 I.VOCLNK .SI ALO INITIAL VOCAB LINK POINTER
0252 ;
0240- 01 0253 KTMFLG .BY $01 ;SET FOR KIM-2
0241- 01 0254 TBAUD .BY B4800
0242- 06 0255 PBAUD .BY B2400
0256 ;
0257 .CT FTH10

0258 ;
0259 ;*****
0260 ;** SK-FORTH (79-STANDARD) **
0261 ;** HDE MINI/SYKES DISK VERSION **
0262 ;** BY JACK W. BROWN **
0263 ;** COPYRIGHT (C) 1980 **
0264 ;** SATURN SOFTWARE LIMITED **
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0267 ;** NEW WESTMINSTER, B. C. **
0268 ;** V3L 4Y7, CANADA **
0269 ;*****
0270 ;
0271
0272 ;*****
0273 ;** SYM/KIM FORTH PART 1 **
0274 ;** DISK FILE FTH10 **
0275 ;*****
0276
0277 ; LIT
0278
0243- 83 4C 49 0279 .BY $83 'LI' $D4
0246- D4

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0247- 00 00      0280      .SE $00
0249- 4B 02      0281 LIT      .SI =+2
024B- B1 AE      0282      LDA (IP),Y
024D- 48          0283      PHA
024E- E6 AE      0284      INC *IP
0250- D0 02      0285      BNE LIT1
0252- E6 AF      0286      INC *IP+1
0254- B1 AE      0287 LIT1      LDA (IP),Y
0256- E6 AE      0288 LIT2      INC *IP
0258- D0 02      0289      BNE PUSH
025A- E6 AF      0290      INC *IP+1
0291
025C- CA          0292 PUSH      DEX
025D- CA          0293      DEX
0294
025E- 95 01      0295 PUT      STA *$01,X
0260- 68          0296      PLA
0261- 95 00      0297      STA *$00,X
0298
0299
0300 ;           NEXT IS THE ADDRESS INTERPRETER THAT MOVES FROM
0301 ;           MACHINE LEVEL WORD TO WORD.
0302
0263- A0 00      0303 NEXT      LDY #$00
0265- B1 AE      0304      LDA (IP),Y FETCH CODE FIELD ADDRESS
0267- 85 B1      0305      STA *W
0269- C8          0306      INY
026A- B1 AE      0307      LDA (IP),Y
026C- 85 B2      0308      STA *W+1
026E- B1 B1      0309      LDA (W),Y
0270- 85 B8      0310      STA *TEMP+1
0272- 88          0311      DEY
0273- B1 B1      0312      LDA (W),Y
0275- 85 B7      0313      STA *TEMP
0277- 20 97 02   0314      JSR TRACE REMOVE WHEN ALL IS WELL
027A- 18          0315      CLC
027B- A5 AE      0316      LDA *IP
027D- 69 02      0317      ADC #$02
027F- 85 AE      0318      STA *IP
0281- 90 02      0319      BCC NEXT1
0283- E6 AF      0320      INC *IP+1
0285- 6C B7 00   0321 NEXT1     JMP (TEMP) INDIRECT JUMP
0322
0323 ;           CLIT - PUSHES NEXT INLINE BYTE TO DATA STACK
0324
0288- 84 43 4C   0325      .BY $84 'CLI' $D4
028B- 49 D4
028D- 43 02      0326      .SI LIT-$06 LINK TO LIT
028F- 91 02      0327 CLIT      .SI =+2
0291- B1 AE      0328      LDA (IP),Y
0293- 48          0329      PHA
0294- 98          0330      TYA
0295- F0 BF      0331      BEQ LIT2 FORCED BRANCH TO LIT
0332
0333 ;           TEMPORARY TRACE ROUTINE
0334
0335
0297- 86 B5      0336 TRACE      STX *XSAVE

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0299- 20 DF 18   0337      JSR CRLF.ALL
029C- A5 AF      0338      LDA *IP+1
029E- 20 FE 18   0339      JSR PRBYT
02A1- A5 AE      0340      LDA *IP
02A3- 20 FE 18   0341      JSR PRBYT PRINT THE INTERPRETIVE POINTER
02A6- 20 D4 18   0342      JSR OUTSP.ALL
0343
02A9- A0 00      0344      LDY #$00
02AB- B1 AE      0345      LDA (IP),Y
02AD- 85 B9      0346      STA *XW
02AF- 85 BB      0347      STA *NP FETCH NEXT CODE FIELD POINTER
02B1- C8          0348      INY
02B2- B1 AE      0349      LDA (IP),Y
02B4- 85 BA      0350      STA *XW+1
02B6- 85 BC      0351      STA *NP+1
02B8- 20 13 03   0352      JSR PRNAM PRINT DICTIONARY NAME
0353
02BB- A5 BA      0354      LDA *XW+1 PRINT CODE FIELD ADDRESS
02BD- 20 FE 18   0355      JSR PRBYT
02C0- A5 B9      0356      LDA *XW
02C2- 20 FE 18   0357      JSR PRBYT
02C5- 20 D4 18   0358      JSR OUTSP.ALL
0359
02C8- A5 B5      0360      LDA *XSAVE PRINT STACK LOCATION IN Z PAGE
02CA- 20 FE 18   0361      JSR PRBYT
02CD- 20 D4 18   0362      JSR OUTSP.ALL
0363
02D0- A9 01      0364      LDA #$01 PRINT RETURN STACK BOTTOM
02D2- 20 FE 18   0365      JSR PRBYT
02D5- BA          0366      TSX
02D6- E8          0367      INX
02D7- 8A          0368      TXA
02D8- 20 FE 18   0369      JSR PRBYT
02DB- 20 D4 18   0370      JSR OUTSP.ALL
0371
02DE- 20 1B 02   0372 TBREAK      JSR BREAK.VEC
02E1- B0 02      0373      BCS TBRK
02E3- 90 0E      0374      BCC TBRK2
02E5- 20 AF 18   0375 TBRK      JSR INTCHR
02E8- C9 20      0376      CMP #$20 ;SPACE TO CONTINUE TRACE
02EA- F0 07      0377      BEQ TBRK2
02EC- C9 0D      0378      CMP #$0D ;CR TO QUIT TRACE
02EE- D0 F5      0379      BNE TBRK
02F0- 20 1F 0F   0380      JSR TROFF
02F3- A6 B5      0381 TBRK2      LDX *XSAVE
02F5- A0 00      0382      LDY #$00
02F7- 60          0383      RTS
0384
0385 ;           TCOLON -- CALLED FROM DOCOLON TO LABEL EACH
0386 ;           POINT WHERE FORTH 'NESTS' ONE LEVEL.
0387
02F8- 86 B5      0388 TCOLON      STX *XSAVE
02FA- A5 B1      0389      LDA *W
02FC- 85 BB      0390      STA *NP LOCATE NAME OF CALLED WORD
02FE- A5 B2      0391      LDA *W+1
0300- 85 BC      0392      STA *NP+1
0302- 20 DF 18   0393      JSR CRLF.ALL
0305- A9 3A      0394      LDA #':

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0307- 20 BA 18 0395 JSR OUT.ALL
030A- 20 D4 18 0396 JSR OUTSP.ALL
030D- 20 13 03 0397 JSR PRNAM
0310- 4C DE 02 0398 JMP TBREAK
0399
0400 ; PRNAM - PRINT NAME BY CODE FIELD ADDRESS IN NP
0401
0313- 20 35 03 0402 PRNAM JSR DECNP
0316- 20 35 03 0403 JSR DECNP
0319- 20 35 03 0404 JSR DECNP
031C- A0 00 0405 LDY #00
031E- 20 35 03 0406 PN1 JSR DECNP
0321- B1 BB 0407 LDA (NP),Y LOOP TILL BIT 7 IN NAME SET
0323- 10 F9 0408 BPL PN1
0325- C8 0409 PN2 INY
0326- B1 BB 0410 LDA (NP),Y
0328- 20 BA 18 0411 JSR OUT.ALL PRINT LETTERS OF NAME FIELD
032B- B1 BB 0412 LDA (NP),Y
032D- 10 F6 0413 BPL PN2
032F- 20 D4 18 0414 JSR OUTSP.ALL
0332- A0 00 0415 LDY #00
0334- 60 0416 RTS
0417
0418 ; DECNP - DECREMENT FIELD NAME POINTER
0419
0335- A5 BB 0420 DECNP LDA *NP
0337- D0 02 0421 BNE DECNP1
0339- C6 BC 0422 DEC *NP+1
033B- C6 BB 0423 DECNP1 DEC *NP
033D- 60 0424 RTS
0425
0426
033E- 0A 0427 SETUP ASL A
033F- 85 A5 0428 STA *N-1
0341- B5 00 0429 SETUP1 LDA *00,X
0343- 99 A6 00 0430 STA N,Y
0346- E8 0431 INX
0347- C8 0432 INY
0348- C4 A5 0433 CPY *N-1
034A- D0 F5 0434 BNE SETUP1
034C- A0 00 0435 LDY #00
034E- 60 0436 RTS
0437
0438 ; EXECUTE
0439
034F- 87 45 58 0440 .BY $87 'EXECUT' $C5
0352- 45 43 55
0355- 54 C5
0357- 88 02 0441 .SI CLIT-$07 LINK TO CLIT
0359- 5B 03 0442 EXEC .SI +=2
035B- B5 00 0443 LDA *00,X
035D- 85 B1 0444 STA *W
035F- B5 01 0445 LDA *01,X
0361- 85 B2 0446 STA *W+1
0363- A0 01 0447 LDY #01
0365- B1 B1 0448 LDA (W),Y
0367- 85 B8 0449 STA *TEMP+1
0369- 88 0450 DEY

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036A- B1 B1 0451 LDA (W),Y
036C- 85 B7 0452 STA *TEMP
036E- E8 0453 INX
036F- E8 0454 INX
0370- 6C B7 00 0455 JMP (TEMP) INDIRECT JUMP
0456
0457 ; BRANCH
0458
0373- 86 42 52 0459 .BY $86 'BRANC' $C8
0376- 41 4E 43
0379- C8
037A- 4F 03 0460 .SI EXEC-$0A
037C- 7E 03 0461 BRAN .SI +=2
037E- 18 0462 CLC
037F- B1 AE 0463 LDA (IP),Y
0381- 65 AE 0464 ADC *IP
0383- 48 0465 PHA
0384- C8 0466 INY
0385- B1 AE 0467 LDA (IP),Y
0387- 65 AF 0468 ADC *IP+1
0389- 85 AF 0469 STA *IP+1
038B- 68 0470 PLA
038C- 85 AE 0471 STA *IP
038E- 4C 63 02 0472 JMP NEXT
0473
0474 ; OBRANCH
0475
0391- 87 30 42 0476 .BY $87 'OBRANC' $C8
0394- 52 41 4E
0397- 43 C8
0399- 73 03 0477 .SI BRAN-$09
039B- 9D 03 0478 ZBRAN .SI +=2
039D- E8 0479 INX
039E- E8 0480 INX
039F- B5 FE 0481 LDA *$FE,X
03A1- 15 FF 0482 ORA *$FF,X
03A3- F0 D9 0483 BEQ BRAN+2
0484
03A5- 18 0485 BUMP CLC
03A6- A5 AE 0486 LDA *IP
03A8- 69 02 0487 ADC #02
03AA- 85 AE 0488 STA *IP
03AC- 90 02 0489 BCC BUMP1
03AE- E6 AF 0490 INC *IP+1
03B0- 4C 63 02 0491 BUMP1 JMP NEXT
0492
0493 ; (LOOP)
0494
03B3- 86 28 4C 0495 .BY $86 '(LOOP' $A9
03B6- 4F 4F 50
03B9- A9
03BA- 91 03 0496 .SI ZBRAN-$0A
03BC- BE 03 0497 PLOOP .SI +=2
03BE- 86 B5 0498 STX *XSAVE
03C0- BA 0499 TSX
03C1- FE 01 01 0500 INC $101,X
03C4- D0 03 0501 BNE PL1
03C6- FE 02 01 0502 INC $102,X

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03C9- 18      0503
03CA- BD 03 01 0504 PL1      CLC
03CD- FD 01 01 0505      LDA $103,X
03D0- BD 04 01 0506      SBC $101,X
03D3- FD 02 01 0507      LDA $104,X
0508      SBC $102,X
0509
03D6- A6 B5   0510 PL2      LDX *XSAVE
03D8- 0A      0511      ASL A
03D9- 90 A3   0512      BCC BRAN+2
03DB- 68      0513      PLA
03DC- 68      0514      PLA
03DD- 68      0515      PLA
03DE- 68      0516      PLA
03DF- 4C A5 03 0517      JMP BUMP
0518
0519 ;      (+LOOP)
0520
03E2- 87 28 2B 0521      .BY $87 '(+LOOP' $A9
03E5- 4C 4F 4F
03E8- 50 A9
03EA- B3 03   0522      .SI PLOOP-$09
03EC- EE 03   0523 PPL00  .SI +=2
03EE- E8      0524      INX
03EF- E8      0525      INX
03F0- 86 B5   0526      STX *XSAVE
03F2- B5 FF   0527      LDA *$FF,X
03F4- 48      0528      PHA
03F5- 48      0529      PHA
03F6- B5 FE   0530      LDA *$FE,X
03F8- BA      0531      TSX
03F9- E8      0532      INX
03FA- E8      0533      INX
03FB- 18      0534      CLC
03FC- 7D 01 01 0535      ADC $101,X
03FF- 9D 01 01 0536      STA $101,X
0402- 68      0537      PLA
0403- 7D 02 01 0538      ADC $102,X
0406- 9D 02 01 0539      STA $102,X
0409- 68      0540      PLA
040A- 10 BD   0541      BPL PL1
040C- 38      0542      SEC ;CHANGED FROM CLC FOR 79-STD
040D- BD 01 01 0543      LDA $101,X
0410- FD 03 01 0544      SBC $103,X
0413- BD 02 01 0545      LDA $102,X
0416- FD 04 01 0546      SBC $104,X
0419- 4C D6 03 0547      JMP PL2
0548
0549 ;      (DO)
0550
041C- 84 28 44 0551      .BY $84 '(DO' $A9
041F- 4F A9
0421- E2 03   0552      .SI PPL00-$0A
0423- 25 04   0553 PDD    .SI +=2
0425- B5 03   0554      LDA *$03,X
0427- 48      0555      PHA
0428- B5 02   0556      LDA *$02,X
042A- 48      0557      PHA

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042B- B5 01   0558      LDA *$01,X
042D- 48      0559      PHA
042E- B5 00   0560      LDA *$00,X
0430- 48      0561      PHA
0562
0431- E8      0563 POPTWO  INX
0432- E8      0564      INX
0565
0433- E8      0566 POP      INX
0434- E8      0567      INX
0435- 4C 63 02 0568      JMP NEXT
0569
0570 ;      I
0571
0438- 81 C9   0572      .BY $81 $C9
043A- 1C 04   0573      .SI PDO-$07
043C- 26 07   0574 I      .SI R+2 SHARE CODE FOR R
0575
0576 ;      J
0577
043E- 81 CA   0578      .BY $81 $CA
0440- 38 04   0579      .SI I-$04
0442- 44 04   0580 J      .SI +=2
0444- 86 B5   0581      STX *XSAVE
0446- BA      0582      TSX
0447- BD 05 01 0583      LDA $0105,X
044A- 48      0584      PHA
044B- BD 06 01 0585      LDA $0106,X
044E- A6 B5   0586      LDX *XSAVE
0450- 4C 5C 02 0587      JMP PUSH
0588 ;
0589 ;
0590 ;
0591
0453- 81 CB   0591      .BY $81 $CB
0455- 3E 04   0592      .SI J-$04
0457- 59 04   0593 K      .SI +=2
0459- 86 B5   0594      STX *XSAVE
045B- BA      0595      TSX
045C- BD 09 01 0596      LDA $109,X
045F- 48      0597      PHA
0460- BD 0A 01 0598      LDA $10A,X
0463- A6 B5   0599      LDX *XSAVE
0465- 4C 5C 02 0600      JMP PUSH
0601 ;
0602 ;      DIGIT
0603
0468- 85 44 49 0604      .BY $85 'DIGI' $D4
046B- 47 49 D4
046E- 53 04   0605      .SI K-$04
0470- 72 04   0606 DIGIT  .SI +=2
0472- 38      0607      SEC
0473- B5 02   0608      LDA *$02,X
0475- E9 30   0609      SBC #$30
0477- 30 18   0610      BMI DIGIT2
0479- C9 0A   0611      CMP #$0A
047B- 30 07   0612      BMI DIGIT1
047D- 38      0613      SEC
047E- E9 07   0614      SBC #$07

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0480- C9 0A	0615	CMP #S0A
0482- 30 0D	0616	BMI DIGIT2
0484- D5 00	0617 DIGIT1	CMP *S00,X
0486- 10 09	0618	BPL DIGIT2
0488- 95 02	0619	STA *S02,X
048A- A9 01	0620	LDA #S01
048C- 48	0621	PHA
048D- 98	0622	TYA
048E- 4C 5E 02	0623	JMP PUT EXIT TRUE WITH CONVERTED VALUE
0491- 98	0624 DIGIT2	TYA
0492- 48	0625	PHA
0493- E8	0626	INX
0494- E8	0627	INX
0495- 4C 5E 02	0628	JMP PUT
	0629	
	0630 ;	(ROLL)
	0631	
0498- 86 28 52	0632	.BY \$86 '(ROLL' \$A9
049B- 4F 4C 4C		
049E- A9		
049F- 68 04	0633	.SI DIGIT-\$08
04A1- A3 04	0634 PROLL	.SI +=2
04A3- 86 B5	0635	STX *XSAVE
04A5- B5 00	0636	LDA *S00,X
04A7- 0A	0637	ASL A
04A8- 18	0638	CLC
04A9- 65 B5	0639	ADC *XSAVE
04AB- AA	0640	TAX
04AC- B5 00	0641	LDA *S00,X
04AE- 48	0642	PHA
04AF- B5 01	0643	LDA *S01,X
04B1- 48	0644	PHA
04B2- CA	0645	DEX
04B3- CA	0646 PROLL1	DEX
04B4- B5 01	0647	LDA *S01,X
04B6- 95 03	0648	STA *S03,X
04B8- E4 B5	0649	CPX *XSAVE
04BA- B0 F7	0650	BCS PROLL1
04BC- A6 B5	0651	LDX *XSAVE
04BE- E8	0652	INX
04BF- E8	0653	INX
04C0- 68	0654	PLA
04C1- 4C 5E 02	0655	JMP PUT
	0656	
	0657 ;	(FIND)
	0658	
04C4- 86 28 46	0659	.BY \$86 '(FIND' \$A9
04C7- 49 4E 44		
04CA- A9		
04CB- 98 04	0660	.SI PROLL-\$09
04CD- CF 04	0661 PFIND	.SI +=2
04CF- A9 02	0662	LDA #S02
04D1- 20 3E 03	0663	JSR SETUP
04D4- 86 B5	0664	STX *XSAVE
04D6- A0 00	0665 PFIND1	LDY #S00
04D8- B1 A6	0666	LDA (N),Y
04DA- 51 A8	0667	EOR (N+2),Y
04DC- 29 3F	0668	AND #S3F

04DE- D0 2D	0669	BNE PFIND4
04E0- C8	0670 PFIND2	INY
04E1- B1 A6	0671	LDA (N),Y
04E3- 51 A8	0672	EOR (N+2),Y
04E5- 0A	0673	ASL A
04E6- D0 23	0674	BNE PFIND3
04E8- 90 F6	0675	BCC PFIND2
04EA- A6 B5	0676	LDX *XSAVE
04EC- CA	0677	DEX
04ED- CA	0678	DEX
04EE- CA	0679	DEX
04EF- CA	0680	DEX
04F0- 18	0681	CLC
04F1- 98	0682	TYA
04F2- 69 05	0683	ADC #S05
04F4- 65 A6	0684	ADC *N
04F6- 95 02	0685	STA *S02,X
04F8- A0 00	0686	LDY #S00
04FA- 98	0687	TYA
04FB- 65 A7	0688	ADC *N+1
04FD- 95 03	0689	STA *S03,X
04FF- 94 01	0690	STY *S01,X
0501- B1 A6	0691	LDA (N),Y
0503- 95 00	0692	STA *S00,X
0505- A9 01	0693	LDA #S01
0507- 48	0694	PHA
0508- 4C 5C 02	0695	JMP PUSH
050B- B0 05	0696 PFIND3	BCS PFIND5
050D- C8	0697 PFIND4	INY
050E- B1 A6	0698	LDA (N),Y
0510- 10 FB	0699	BPL PFIND4
0512- C8	0700 PFIND5	INY
0513- B1 A6	0701	LDA (N),Y
0515- AA	0702	TAX
0516- C8	0703	INY
0517- B1 A6	0704	LDA (N),Y
0519- 85 A7	0705	STA *N+1
051B- 86 A6	0706	STX *N
051D- 05 A6	0707	ORA *N
051F- D0 B5	0708	BNE PFIND1
0521- A6 B5	0709	LDX *XSAVE
0523- A9 00	0710	LDA #S00
0525- 48	0711	PHA
0526- 4C 5C 02	0712	JMP PUSH FALSE EXIT UPON READING NULL LINK
	0713	
	0714 ;	ENCLOSE
	0715	
0529- 87 45 4E	0716	.BY \$87 'ENCLOS' \$C5
052C- 43 4C 4F		
052F- 53 C5		
0531- C4 04	0717	.SI PFIND-\$09
0533- 35 05	0718 ENCL	.SI +=2
0535- A9 02	0719	LDA #S02
0537- 20 3E 03	0720	JSR SETUP
053A- 8A	0721	TXA
053B- 38	0722	SEC
053C- E9 08	0723	SBC #S08
053E- AA	0724	TAX



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053F- 88      0725      DEY
0540- C6 A9   0726      DEC *N+3
0542- 94 05   0727      STY *$05,X
0544- 94 03   0728      STY *$03,X
0546- 94 01   0729      STY *$01,X
0548- C8      0730 ENCL1  INY
0549- D0 08   0731      BNE ENCL2
054B- F6 05   0732      INC *$05,X
054D- F6 03   0733      INC *$03,X
054F- F6 01   0734      INC *$01,X
0551- E6 A9   0735      INC *N+3
0553- B1 A8   0736 ENCL2  LDA (N+2),Y
0555- C5 A6   0737      CMP *N
0557- F0 EF   0738      BEQ ENCL1
              0739
0559- 94 04   0740      STY *$04,X
055B- B1 A8   0741 ENCL4  LDA (N+2),Y
055D- D0 0E   0742      BNE ENCL6
055F- 94 02   0743      STY *$02,X
0561- 94 00   0744      STY *$00,X
0563- 98      0745      TYA
0564- D5 04   0746      CMP *$04,X
0566- D0 02   0747      BNE ENCL5
0568- F6 02   0748      INC *$02,X
056A- 4C 63 02 0749 ENCL5  JMP NEXT
              0750
056D- C8      0751 ENCL6  INY
056E- D0 06   0752      BNE ENCL7
0570- F6 03   0753      INC *$03,X
0572- F6 01   0754      INC *$01,X
0574- E6 A9   0755      INC *N+3
0576- C5 A6   0756 ENCL7  CMP *N
0578- D0 E1   0757      BNE ENCL4
057A- 94 00   0758      STY *$00,X
057C- 98      0759      TYA
057D- D0 02   0760      BNE ENCL8
057F- D6 03   0761      DEC *$03,X
0581- 88      0762 ENCL8  DEY
0582- 94 02   0763      STY *$02,X
0584- 4C 63 02 0764      JMP NEXT
              0765
              0766      .CT FTH15

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```

0777 ;
0778 ;*****
0779 ;** SK-FORTH (79-STANDARD) **
0780 ;** HDE MINI/SYKES DISK VERSION **
0781 ;** BY JACK W. BROWN **
0782 ;** COPYRIGHT (C) 1980 **
0783 ;** SATURN SOFTWARE LIMITED **
0784 ;** (ALL RIGHTS RESERVED) **
0785 ;** P. O. BOX 397 **
0786 ;** NEW WESTMINSTER, B. C. **
0787 ;** V3L 4Y7, CANADA **
0788 ;*****
0789 ;

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0790
0791 ;*****
0792 ;** SYM/KIM-FORTH PART 2 **
0793 ;** DISK FILE FTH15 **
0794 ;*****
0795
0796 ; EMIT
0797
0587- 84 45 4D 0798      .BY $84 'EMI' $D4
058A- 49 D4
058C- 29 05   0799      .SI ENCL-$0A
058E- 98 18   0800 EMIT  .SI XEMIT
              0801
              0802 ; KEY
              0803
0590- 83 4B 45 0804      .BY $83 'KE' $D9
0593- D9
0594- 87 05   0805      .SI EMIT-$07
0596- 81 19   0806 KEY  .SI XKEY
              0807
              0808 ; ? TERMINAL
              0809
0598- 89 3F 54 0810      .BY $89 '?TERMINA' $CC
059B- 45 52 4D
059E- 49 4E 41
05A1- CC
05A2- 90 05   0811      .SI KEY-$06
05A4- 87 19   0812 QTERM .SI XQTER
              0813
              0814 ; CR
              0815
05A6- 82 43 D2 0816      .BY $82 'C' $D2
05A9- 98 05   0817      .SI QTERM-$0C
05AB- A3 19   0818 CR  .SI XCR
              0819
              0820 ; CMOVE
              0821
05AD- 85 43 4D 0822      .BY $85 'CMOV' $C5
05B0- 4F 56 C5
05B3- A6 05   0823      .SI CR-$05
05B5- B7 05   0824 CMOVE .SI +=2
05B7- A9 03   0825      LDA #$03
05B9- 20 3E 03 0826      JSR SETUP
05BC- 24 A7   0827      BIT *N+1 ;CHECK FOR -VE COUNT
05BE- 30 0E   0828      BMI CMOVE2
05C0- A5 A6   0829      LDA *N ;CHECK FOR 0 COUNT
05C2- 05 A7   0830      ORA *N+1
05C4- F0 08   0831      BEQ CMOVE2
05C6- C4 A6   0832 CMOVE1 .SI +=2
05C8- D0 07   0833      BNE CMOVE3
05CA- C6 A7   0834      DEC *N+1
05CC- 10 03   0835      BPL CMOVE3
05CE- 4C 63 02 0836 CMOVE2 .SI +=2
05D1- B1 AA   0837 CMOVE3 .SI +=2
05D3- 91 A8   0838      STA (N+2),Y
05D5- C8      0839      INY
05D6- D0 EE   0840      BNE CMOVE1
05D8- E6 AB   0841      INC *N+5

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05DA- E6 A9      0842      INC *N+3
05DC- 4C C6 05  0843      JMP CMOVE1
                   0844
                   0845 ;      U*
                   0846
05DF- 82 55 AA  0847      .BY $82 'U' $AA
05E2- AD 05     0848      .SI CMOVE-$08
05E4- E6 05     0849      USTAR      .SI +=2
05E6- B5 02     0850      LDA *$02,X
05E8- 85 A6     0851      STA *N
05EA- 94 02     0852      STY *$02,X
05EC- B5 03     0853      LDA *$03,X
05EE- 85 A7     0854      STA *N+1
05FO- 94 03     0855      STY *$03,X
05F2- A0 10     0856      LDY #$10 FOR 16 BITS
05F4- 16 02     0857      USTAR1    ASL *$02,X
05F6- 36 03     0858      ROL *$03,X
05F8- 36 00     0859      ROL *$00,X
05FA- 36 01     0860      ROL *$01,X
05FC- 90 15     0861      BCC USTAR2
05FE- 18        0862      CLC
05FF- A5 A6     0863      LDA *N
0601- 75 02     0864      ADC *$02,X
0603- 95 02     0865      STA *$02,X
0605- A5 A7     0866      LDA *N+1
0607- 75 03     0867      ADC *$03,X
0609- 95 03     0868      STA *$03,X
060B- 90 06     0869      BCC USTAR2
060D- F6 00     0870      INC *$00,X
060F- D0 02     0871      BNE USTAR2
0611- F6 01     0872      INC *$01,X
0613- 88        0873      USTAR2    DEY
0614- D0 DE     0874      BNE USTAR1
0616- 4C 63 02 0875      JMP NEXT
                   0876
                   0877 ;      U/MOD
                   0878
0619- 85 55 2F 0879      .BY $85 'U/MO' $C4
061C- 4D 4F C4
061F- DF 05     0880      .SI USTAR-$05
0621- 23 06     0881      USTAR      .SI +=2
0623- B5 04     0882      LDA *$04,X
0625- B4 02     0883      LDY *$02,X
0627- 94 04     0884      STY *$04,X
0629- 0A        0885      ASL A
062A- 95 02     0886      STA *$02,X
062C- B5 05     0887      LDA *$05,X
062E- B4 03     0888      LDY *$03,X
0630- 94 05     0889      STY *$05,X
0632- 2A        0890      ROL A
0633- 95 03     0891      STA *$03,X
0635- A9 10     0892      LDA #$10 FOR 16 BITS
0637- 85 A6     0893      STA *N
0639- 36 04     0894      USTAR1    ROL *$04,X
063B- 36 05     0895      ROL *$05,X
063D- 38        0896      SEC
063E- B5 04     0897      LDA *$04,X
0640- F5 00     0898      SBC *$00,X

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0642- A8        0899      TAY
0643- B5 05     0900      LDA *$05,X
0645- F5 01     0901      SBC *$01,X
0647- 90 04     0902      BCC USLAS2
0649- 94 04     0903      STY *$04,X
064B- 95 05     0904      STA *$05,X
064D- 36 02     0905      USTAR1    ROL *$02,X
064F- 36 03     0906      ROL *$03,X
0651- C6 A6     0907      DEC *N
0653- D0 E4     0908      BNE USLAS1
0655- 4C 33 04 0909      JMP POP
                   0910
                   0911 ;      AND
                   0912
0658- 83 41 4E 0913      .BY $83 'AN' $C4
065B- C4
065C- 19 06     0914      .SI USLAS-$08
065E- 60 06     0915      ANDD      .SI +=2
0660- B5 00     0916      LDA *$00,X
0662- 35 02     0917      AND *$02,X
0664- 48        0918      PHA
0665- B5 01     0919      LDA *$01,X
0667- 35 03     0920      AND *$03,X
                   0921
0669- E8        0922      BINARY    INX
066A- E8        0923      INX
066B- 4C 5E 02 0924      JMP PUT
                   0925
                   0926 ;      OR
                   0927
066E- 82 4F D2 0928      .BY $82 'O' $D2
0671- 58 06     0929      .SI ANDD-$06
0673- 75 06     0930      OR        .SI +=2
0675- B5 00     0931      LDA *$00,X
0677- 15 02     0932      ORA *$02,X
0679- 48        0933      PHA
067A- B5 01     0934      LDA *$01,X
067C- 15 03     0935      ORA *$03,X
067E- E8        0936      INX
067F- E8        0937      INX
0680- 4C 5E 02 0938      JMP PUT
                   0939
                   0940 ;      XOR
                   0941
0683- 83 58 4F 0942      .BY $83 'XO' $D2
0686- D2
0687- 6E 06     0943      .SI OR-$05
0689- 8B 06     0944      XOR      .SI +=2
068B- B5 00     0945      LDA *$00,X
068D- 55 02     0946      EOR *$02,X
068F- 48        0947      PHA
0690- B5 01     0948      LDA *$01,X
0692- 55 03     0949      EOR *$03,X
0694- E8        0950      INX
0695- E8        0951      INX
0696- 4C 5E 02 0952      JMP PUT
                   0953
                   0954 ;      SP@

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0699- 83 53 50 0955
069C- C0 0956 .BY $83 'SP' $C0
069D- 83 06 0957 .SI XOR-$06
069F- A1 06 0958 SPAT .SI +=2
06A1- 8A 0959 TXA
0960
06A2- 48 0961 PUSHOA PHA
06A3- A9 00 0962 LDA #$00
06A5- 4C 5C 02 0963 JMP PUSH
0964
0965 ; SP!
0966
06A8- 83 53 50 0967 .BY $83 'SP' $A1
06AB- A1
06AC- 99 06 0968 .SI SPAT-$06
06AE- B0 06 0969 SPSTO .SI +=2
06B0- A0 06 0970 LDY #$06
06B2- B1 B3 0971 LDA (UP),Y LOAD DATA STACK POINTER FROM
06B4- AA 0972 TAX SILENT USER VARIABLE SO.
06B5- 4C 63 02 0973 JMP NEXT
0974
0975 ; RP!
0976
06B8- 83 52 50 0977 .BY $83 'RP' $A1
06BB- A1
06BC- A8 06 0978 .SI SPSTO-$06
06BE- C0 06 0979 RPSTO .SI +=2
06C0- 86 B5 0980 STX *XSAVE LOAD RETURN STACK POINTER
06C2- A0 08 0981 LDY #$08 (MACHINE STACK POINTER) FROM
06C4- B1 B3 0982 LDA (UP),Y SILENT USER VARIABLE RO.
06C6- AA 0983 TAX
06C7- 9A 0984 TXS
06C8- A6 B5 0985 LDX *XSAVE
06CA- 4C 63 02 0986 JMP NEXT
0987
0988 ; ;S
0989
06CD- C2 3B D3 0990 .BY $C2 ' ; ' $D3
06D0- B8 06 0991 .SI RPSTO-$06
06D2- D4 06 0992 SEMIS .SI +=2
06D4- 68 0993 PLA
06D5- 85 AE 0994 STA *IP
06D7- 68 0995 PLA
06D8- 85 AF 0996 STA *IP+1
06DA- 4C 63 02 0997 JMP NEXT
0998
0999 ; LEAVE
1000
06DD- 85 4C 45 1001 .BY $85 'LEAV' $C5
06E0- 41 56 C5
06E3- CD 06 1002 .SI SEMIS-$05
06E5- E7 06 1003 LEAVE .SI +=2
06E7- 86 B5 1004 STX *XSAVE
06E9- BA 1005 TSX
06EA- BD 01 01 1006 LDA $101,X
06ED- 9D 03 01 1007 STA $103,X
06FO- BD 02 01 1008 LDA $102,X

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06F3- 9D 04 01 1009 STA $104,X
06F6- A6 B5 1010 LDX *XSAVE
06F8- 4C 63 02 1011 JMP NEXT
1012
1013 ; >R
1014
06FB- 82 3E D2 1015 .BY $82 '>' $D2
06FE- DD 06 1016 .SI LEAVE-$08
0700- 02 07 1017 TOR .SI +=2
0702- B5 01 1018 LDA *$01,X MOVE HI BYTE
0704- 48 1019 PHA TO RETURN STACK
0705- B5 00 1020 LDA *$00,X THEN LOW BYTE
0707- 48 1021 PHA TO RETURN STACK
0708- E8 1022 INX
0709- E8 1023 INX POPPING OFF DATA STACK
070A- 4C 63 02 1024 JMP NEXT
1025
1026 ; R>
1027
070D- 82 52 BE 1028 .BY $82 'R' $BE
0710- FB 06 1029 .SI TOR-$05
0712- 14 07 1030 RFROM .SI +=2
0714- CA 1031 DEX
0715- CA 1032 DEX MAKE ROOM ON DATA STACK
0716- 68 1033 PLA HIGH BYTE
0717- 95 00 1034 STA *$00,X
0719- 68 1035 PLA THEN LOW BYTE
071A- 95 01 1036 STA *$01,X RESTORED TO DATA STACK
071C- 4C 63 02 1037 JMP NEXT
1038
1039 ; R@
1040
071F- 82 52 C0 1041 .BY $82 'R' $C0
0722- 0D 07 1042 .SI RFROM-$05
0724- 26 07 1043 R .SI +=2
0726- 86 B5 1044 STX *XSAVE
0728- BA 1045 TSX ADDRESS RETURN STACK
0729- BD 01 01 1046 LDA $101,X COPY BOTTOM VALUE
072C- 48 1047 PHA TO DATA STACK
072D- BD 02 01 1048 LDA $102,X
0730- A6 B5 1049 LDX *XSAVE
0732- 4C 5C 02 1050 JMP PUSH
1051 ;
1052 ; RDEPTH - PUSH RETURN STACK DEPTH
1053 ;
1054 .BY $86 'RDEPT' $C8
0735- 86 52 44
0738- 45 50 54
073B- C8
073C- 1F 07 1055 .SI R-$05
073E- 40 07 1056 RDEPTH .SI +=2
0740- 86 B5 1057 STX *XSAVE
0742- BA 1058 TSX
0743- E8 1059 INX
0744- E8 1060 INX
0745- 8A 1061 TXA
0746- A6 B5 1062 LDX *XSAVE
0748- 49 FF 1063 EOR #$FF
074A- 4A 1064 LSR A

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074B- 4C A2 06 1065      JMP PUSHOA
                  1066 ;
                  1067 ;      O=
                  1068
074E- 82 30 BD 1069      .BY $82 '0' $BD
0751- 35 07 1070      .SI RDEPTH-$09
0753- 55 07 1071 ZEQU   .SI +=2
0755- B5 00 1072      LDA *$00,X
0757- 15 01 1073      ORA *$01,X
0759- 94 01 1074      STY *$01,X
075B- D0 01 1075      BNE ZEQU1
075D- C8      1076      INY
075E- 94 00 1077 ZEQU1  STY *$00,X
0760- 4C 63 02 1078      JMP NEXT
                  1079
                  1080 ;      O<
                  1081
0763- 82 30 BC 1082      .BY $82 '0' $BC
0766- 4E 07 1083      .SI ZEQU-$05
0768- 6A 07 1084 ZLESS  .SI +=2
076A- 16 01 1085      ASL *$01,X
076C- 98      1086      TYA
076D- 2A      1087      ROL A
076E- 94 01 1088      STY *$01,X
0770- 95 00 1089      STA *$00,X
0772- 4C 63 02 1090      JMP NEXT
                  1091 ;
                  1092 ;      O>
                  1093 ;
0775- 82 30 BE 1094      .BY $82 '0' $BE
0778- 63 07 1095      .SI ZLESS-$05
077A- 7C 07 1096 ZGREAT  .SI +=2
077C- B5 01 1097      LDA *$01,X
077E- 94 01 1098      STY *$01,X
0780- 30 05 1099      BMI ZGREAT1
0782- 15 00 1100      ORA *$00,X
0784- F0 01 1101      BEQ ZGREAT1
0786- C8      1102      INY
0787- 94 00 1103 ZGREAT1  STY *$00,X
0789- 4C 63 02 1104      JMP NEXT
                  1105 ;
                  1106 ;      +
                  1107
078C- 81 AB 1108      .BY $81 $AB
078E- 75 07 1109      .SI ZGREAT-$05
0790- 92 07 1110 PLUS   .SI +=2
0792- 18      1111      CLC
0793- B5 00 1112      LDA *$00,X
0795- 75 02 1113      ADC *$02,X
0797- 95 02 1114      STA *$02,X
0799- B5 01 1115      LDA *$01,X
079B- 75 03 1116      ADC *$03,X
079D- 95 03 1117      STA *$03,X
079F- 4C 33 04 1118      JMP POP
                  1119
                  1120 ;      DO=
                  1121
07A2- 83 44 30 1122      .BY $83 'DO' $BD

```

```

07A5- BD
07A6- 8C 07 1123      .SI PLUS-$04
07A8- AA 07 1124 DZEQU  .SI +=2
07AA- B5 00 1125      LDA *$00,X
07AC- 15 01 1126      ORA *$01,X
07AE- 15 02 1127      ORA *$02,X
07B0- 15 03 1128      ORA *$03,X
07B2- 94 03 1129      STY *$03,X
07B4- D0 01 1130      BNE DZEQU1
07B6- C8      1131      INY
07B7- 94 02 1132 DZEQU1  STY *$02,X
07B9- 4C 33 04 1133      JMP POP
                  1134
                  1135 ;      DO<
                  1136
07BC- 83 44 30 1137      .BY $83 'DO' $BC
07BF- BC
07C0- A2 07 1138      .SI DZEQU-$06
07C2- C4 07 1139 DZLESS  .SI +=2
07C4- 16 03 1140      ASL *$03,X
07C6- 98      1141      TYA
07C7- 2A      1142      ROL A
07C8- 94 03 1143      STY *$03,X
07CA- 95 02 1144      STA *$02,X
07CC- 4C 33 04 1145      JMP POP
                  1146
                  1147 ;      D+
                  1148
07CF- 82 44 AB 1149      .BY $82 'D' $AB
07D2- BC 07 1150      .SI DZLESS-$06
07D4- D6 07 1151 DPLUS  .SI +=2
07D6- 18      1152      CLC
07D7- B5 02 1153      LDA *$02,X
07D9- 75 06 1154      ADC *$06,X
07DB- 95 06 1155      STA *$06,X
07DD- B5 03 1156      LDA *$03,X
07DF- 75 07 1157      ADC *$07,X
07E1- 95 07 1158      STA *$07,X
07E3- B5 00 1159      LDA *$00,X
07E5- 75 04 1160      ADC *$04,X
07E7- 95 04 1161      STA *$04,X
07E9- B5 01 1162      LDA *$01,X
07EB- 75 05 1163      ADC *$05,X
07ED- 95 05 1164      STA *$05,X
07EF- 4C 31 04 1165      JMP POPTWO
                  1166
                  1167 ;      NEGATE
                  1168
07F2- 86 4E 45 1169      .BY $86 'NEGAT' $C5
07F5- 47 41 54
07F8- C5
07F9- CF 07 1170      .SI DPLUS-$05
07FB- FD 07 1171 NEGATE  .SI +=2
07FD- 38      1172      SEC
07FE- 98      1173      TYA
07FF- F5 00 1174      SBC *$00,X
0801- 95 00 1175      STA *$00,X
0803- 98      1176      TYA

```

0804-	F5 01	1177	SBC *\$01,X
0806-	95 01	1178	STA *\$01,X
0808-	4C 63 02	1179	JMP NEXT
		1180	
		1181 ;	DNEGATE
		1182	
080B-	87 44 4E	1183	.BY \$87 'DNEGAT' \$C5
080E-	45 47 41		
0811-	54 C5		
0813-	F2 07	1184	.SI NEGATE-\$09
0815-	17 08	1185	DNEGATE .SI ==+2
0817-	38	1186	SEC
0818-	98	1187	TYA
0819-	F5 02	1188	SBC *\$02,X
081B-	95 02	1189	STA *\$02,X
081D-	98	1190	TYA
081E-	F5 03	1191	SBC *\$03,X
0820-	95 03	1192	STA *\$03,X
0822-	4C FE 07	1193	JMP NEGATE+3
		1194	
		1195 ;	OVER
		1196	
0825-	84 4F 56	1197	.BY \$84 'OVE' \$D2
0828-	45 D2		
082A-	0B 08	1198	.SI DNEGATE-\$0A
082C-	2E 08	1199	OVER .SI ==+2
082E-	B5 02	1200	LDA *\$02,X
0830-	48	1201	PHA
0831-	B5 03	1202	LDA *\$03,X
0833-	4C 5C 02	1203	JMP PUSH
		1204	
		1205 ;	DROP
		1206	
0836-	84 44 52	1207	.BY \$84 'DRO' \$DO
0839-	4F D0		
083B-	25 08	1208	.SI OVER-\$07
083D-	33 04	1209	DROP .SI POP
		1210	
		1211 ;	SWAP
		1212	
083F-	84 53 57	1213	.BY \$84 'SWA' \$DO
0842-	41 D0		
0844-	36 08	1214	.SI DROP-\$07
0846-	48 08	1215	SWAP .SI ==+2
0848-	B5 02	1216	LDA *\$02,X
084A-	48	1217	PHA
084B-	B5 00	1218	LDA *\$00,X
084D-	95 02	1219	STA *\$02,X
084F-	B5 03	1220	LDA *\$03,X
0851-	B4 01	1221	LDY *\$01,X
0853-	94 03	1222	STY *\$03,X
0855-	4C 5E 02	1223	JMP PUT
		1224	
		1225 ;	DUP
		1226	
0858-	83 44 55	1227	.BY \$83 'DU' \$DO
085B-	D0		
085C-	3F 08	1228	.SI SWAP-\$07

085E-	60 08	1229	DUP .SI ==+2
0860-	B5 00	1230	LDA *\$00,X
0862-	48	1231	PHA
0863-	B5 01	1232	LDA *\$01,X
0865-	4C 5C 02	1233	JMP PUSH
		1234	
		1235 ;	+!
		1236	
0868-	82 2B A1	1237	.BY \$82 '+' \$A1
086B-	58 08	1238	.SI DUP-\$06
086D-	6F 08	1239	PSTOR .SI ==+2
086F-	18	1240	CLC
0870-	A1 00	1241	LDA (\$00,X) FETCH 16 BIT VALUE ADDRESSED
0872-	75 02	1242	ADC *\$02,X BY BOTTOM OF STACK, ADDING TO
0874-	81 00	1243	STA (\$00,X) SECOND ITEM ON STACK, AND
0876-	F6 00	1244	INC *\$00,X RETURN TO MEMORY
0878-	D0 02	1245	BNE PSTOR1
087A-	F6 01	1246	INC *\$01,X
087C-	A1 00	1247	PSTOR1 LDA (\$00,X)
087E-	75 03	1248	ADC *\$03,X
0880-	81 00	1249	STA (\$00,X)
0882-	4C 31 04	1250	JMP POPTWO
		1251	
		1252 ;	TOGGLE
		1253	
0885-	86 54 4F	1254	.BY \$86 'TOGGL' \$C5
0888-	47 47 4C		
088B-	C5		
088C-	68 08	1255	.SI PSTOR-\$05
088E-	90 08	1256	TOGGL .SI ==+2
0890-	A1 02	1257	LDA (\$02,X) COMPLEMENT BITS IN MEMORY ADDRESS
0892-	55 00	1258	EOR *\$00,X SECOND ON STACK, BY PATTERN
0894-	81 02	1259	STA (2,X) ON BOTTOM OF STACK.
0896-	4C 31 04	1260	JMP POPTWO
		1261	
		1262 ;	@
		1263	
0899-	81 C0	1264	.BY \$81 \$C0
089B-	85 08	1265	.SI TOGGL-\$09
089D-	9F 08	1266	AT .SI ==+2
089F-	A1 00	1267	LDA (\$00,X)
08A1-	48	1268	PHA
08A2-	F6 00	1269	INC *\$00,X
08A4-	D0 02	1270	BNE AT1
08A6-	F6 01	1271	INC *\$01,X
08A8-	A1 00	1272	AT1 LDA (\$00,X)
08AA-	4C 5E 02	1273	JMP PUT
		1274	
		1275 ;	@
		1276	
08AD-	82 43 C0	1277	.BY \$82 'C' \$C0
08B0-	99 08	1278	.SI AT-\$04
08B2-	B4 08	1279	CAT .SI ==+2
08B4-	A1 00	1280	LDA (\$00,X) FETCH BYTE ADDRESSED BY BOTTOM
08B6-	95 00	1281	STA *\$00,X OF STACK, ZEROING
08B8-	94 01	1282	STY *\$01,X
08BA-	4C 63 02	1283	JMP NEXT
		1284	

```

1285 ; !
1286
08BD- 81 A1 1287 .BY $81 $A1
08BF- AD 08 1288 .SI CAT-$05
08C1- C3 08 1289 STORE .SI +=2
08C3- B5 02 1290 LDA *$02,X
08C5- 81 00 1291 STA ($00,X) STORE 2ND 16 BIT VALUE ON STACK
08C7- F6 00 1292 INC *$00,X TO MEMORY ADDRESSED BY
08C9- D0 02 1293 BNE STORE1
08CB- F6 01 1294 INC *$01,X BOTTOM OF STACK
08CD- B5 03 1295 STORE1 LDA *$03,X
08CF- 81 00 1296 STA ($00,X)
08D1- 4C 31 04 1297 JMP POPTWO
1298
1299 ; CI
1300
08D4- 82 43 A1 1301 .BY $82 'C' $A1
08D7- BD 08 1302 .SI STORE-$04
08D9- DB 08 1303 CSTORE .SI +=2
08DB- B5 02 1304 LDA *$02,X
08DD- 81 00 1305 STA ($00,X)
08DF- 4C 31 04 1306 JMP POPTWO
1307
1308 ; :
1309
08E2- C1 BA 1310 .BY $C1 $BA
08E4- D4 08 1311 .SI CSTORE-$05
08E6- FC 08 1312 COLON .SI DOCOL
08E8- 1C 0D 1313 .SI QEXEC
08EA- D8 0C 1314 .SI SCSP
08EC- 98 0A 1315 .SI CURR
08EE- 9D 08 1316 .SI AT
08F0- 8B 0A 1317 .SI CON
08F2- C1 08 1318 .SI STORE
08F4- 8D 11 1319 .SI CREAT
08F6- B1 0D 1320 .SI SMUDG
08F8- 9D 0D 1321 .SI RBRAC
08FA- EC 0D 1322 .SI PSCOD
1323
08FC- A5 AF 1324 DOCOL LDA *IP+1
08FE- 48 1325 PHA
08FF- A5 AE 1326 LDA *IP
0901- 48 1327 PHA
0902- 20 F8 02 1328 JSR TCOLON MARK START OF TRACED COLON
0905- 18 1329 CLC
0906- A5 B1 1330 LDA *W
0908- 69 02 1331 ADC #$02
090A- 85 AE 1332 STA *IP
090C- 98 1333 TYA
090D- 65 B2 1334 ADC *W+1
090F- 85 AF 1335 STA *IP+1
0911- 4C 63 02 1336 JMP NEXT
1337
1338 ; EXIT
1339
0914- 84 45 58 1340 .BY $84 'EXI' $D4
0917- 49 D4
0919- E2 08 1341 .SI COLON-$04

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091B- FC 08 1342 EXIT .SI DOCOL
091D- 12 07 1343 .SI RFROM
091F- 3D 08 1344 .SI DROP
0921- D2 06 1345 .SI SEMIS
1346
1347 ; ;
1348
0923- C1 BB 1349 .BY $C1 $BB
0925- 14 09 1350 .SI EXIT-$07
0927- FC 08 1351 SEMCOL .SI DOCOL
0929- 44 0D 1352 .SI QCSP
092B- 79 0D 1353 .SI COMP
092D- D2 06 1354 .SI SEMIS
092F- B1 0D 1355 .SI SMUDG
0931- 8F 0D 1356 .SI LBRAC
0933- D2 06 1357 .SI SEMIS
1358
1359 ; CONSTANT
1360
0935- 88 43 4F 1361 .BY $88 'CONSTAN' $D4
0938- 4E 53 54
093B- 41 4E D4
093E- 23 09 1362 .SI SEMCOL-$04
0940- FC 08 1363 CONST .SI DOCOL
0942- 8D 11 1364 .SI CREAT
0944- 19 0B 1365 .SI COMMA
0946- EC 0D 1366 .SI PSCOD
1367
0948- A0 02 1368 DOCON LDY #$02
094A- B1 B1 1369 LDA (W),Y
094C- 48 1370 PHA
094D- C8 1371 INY
094E- B1 B1 1372 LDA (W),Y
0950- 4C 5C 02 1373 JMP PUSH
1374
1375 ; VARIABLE
1376
0953- 88 56 41 1377 .BY $88 'VARIABLE' $C5
0956- 52 49 41
0959- 42 4C C5
095C- 35 09 1378 .SI CONST-$0B
095E- FC 08 1379 VAR .SI DOCOL
0960- 8D 11 1380 .SI CREAT
0962- 88 09 1381 .SI ZERO
0964- 19 0B 1382 .SI COMMA
0966- D2 06 1383 .SI SEMIS
1384
1385 ; USER
1386
0968- 84 55 53 1387 .BY $84 'USE' $D2
096B- 45 D2
096D- 53 09 1388 .SI VAR-$0B
096F- FC 08 1389 USER .SI DOCOL
0971- 40 09 1390 .SI CONST
0973- EC 0D 1391 .SI PSCOD
1392
0975- A0 02 1393 DOUSE LDY #$02
0977- 18 1394 CLC

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0978- B1 B1      1395      LDA (W),Y
097A- 65 B3      1396      ADC *UP
097C- 48          1397      PHA
097D- A9 00      1398      LDA #$00
097F- 65 B4      1399      ADC *UP+1
0981- 4C 5C 02   1400      JMP PUSH
                  1401
                  1402 ;      0
                  1403
0984- 81 B0      1404      .BY $81 $B0
0986- 68 09      1405      .SI USER-$07
0988- 48 09      1406 ZERO  .SI DOCON
098A- 00 00      1407      .SE $0000
                  1408
                  1409 ;      1
                  1410
098C- 81 B1      1411      .BY $81 $B1
098E- 84 09      1412      .SI ZERO-$04
0990- 48 09      1413 ONE   .SI DOCON
0992- 01 00      1414      .SE $0001
                  1415
                  1416 ;      2
                  1417
0994- 81 B2      1418      .BY $81 $B2
0996- 8C 09      1419      .SI ONE-$04
0998- 48 09      1420 TWO   .SI DOCON
099A- 02 00      1421      .SE $0002
                  1422
                  1423 ;      3
                  1424
099C- 81 B3      1425      .BY $81 $B3
099E- 94 09      1426      .SI TWO-$04
09A0- 48 09      1427 THREE .SI DOCON
09A2- 03 00      1428      .SE $0003
                  1429
                  1430 ;      BL
                  1431
09A4- 82 42 CC   1432      .BY $82 'B' $CC
09A7- 9C 09      1433      .SI THREE-$04
09A9- 48 09      1434 BL    .SI DOCON
09AB- 20 00      1435      .SE $0020
                  1436
                  1437 ;      TW - TERMINAL WIDTH
                  1438
09AD- 82 54 D7   1439      .BY $82 'T' $D7
09B0- A4 09      1440      .SI BL-$05
09B2- 48 09      1441 TW    .SI DOCON
09B4- 4F 00      1442      .SE TWIDTH
                  1443
                  1444 ;      C/L
                  1445
09B6- 83 43 2F   1446      .BY $83 'C/' $CC
09B9- CC
09BA- AD 09      1447      .SI TW-$05
09BC- 48 09      1448 CSLL  .SI DOCON
09BE- 40 00      1449      .SE $0040
                  1450
                  1451 ;      FIRST
    
```

```

                  1452
09C0- 85 46 49   1453      .BY $85 'FIRS' $D4
09C3- 52 53 D4
09C6- B6 09      1454      .SI CSLL-$06
09C8- 48 09      1455 FIRST .SI DOCON
09CA- 78 57      1456      .SE DAREA
                  1457
                  1458 ;      LIMIT
                  1459
09CC- 85 4C 49   1460      .BY $85 'LIMI' $D4
09CF- 4D 49 D4
09D2- C0 09      1461      .SI FIRST-$08
09D4- 48 09      1462 LIMIT  .SI DOCON
09D6- 80 5F      1463      .SE UAREA BUFFERS END AT USER AREA
                  1464
                  1465 ;      B/BUF - BYTES PER BUFFER
                  1466
09D8- 85 42 2F   1467      .BY $85 'B/BU' $C6
09DB- 42 55 C6
09DE- CC 09      1468      .SI LIMIT-$08
09E0- 48 09      1469 BBUF  .SI DOCON
09E2- 00 04      1470      .SE BBUF>
                  1471
                  1472 ;      S/BLK - NUMBER OF SECTORS PER BLOCK
                  1473
09E4- 85 53 2F   1474      .BY $85 'S/BL' $CB
09E7- 42 4C CB
09EA- D8 09      1475      .SI BBUF-$08
09EC- 48 09      1476 SBLK  .SI DOCON
09EE- 08 00      1477      .SE SBLK>
                  1478
                  1479 ;      NBUF - NUMBER OF BUFFERS
                  1480
09F0- 84 4E 42   1481      .BY $84 'NBU' $C6
09F3- 55 C6
09F5- E4 09      1482      .SI SBLK-$08
09F7- 48 09      1483 NBUF  .SI DOCON
09F9- 02 00      1484      .SE NBUF>
                  1485
                  1486 ;      B/SCR - BUFFERS PER SCREEN
                  1487
09FB- 85 42 2F   1488      .BY $85 'B/SC' $D2
09FE- 53 43 D2
0A01- F0 09      1489      .SI NBUF-$07
0A03- 48 09      1490 BSCR  .SI DOCON
0A05- 01 00      1491      .SE BSCR>
                  1492
                  1493      .CT FTH20
                  1494 ;
1495 ;*****
1496 ;**      SK-FORTH (79-STANDARD)      **
1497 ;**      HDE MINI/SYKES DISK VERSION  **
1498 ;**      BY JACK W. BROWN          **
1499 ;**      COPYRIGHT (C) 1980        **
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1501 ;**          (ALL RIGHTS RESERVED)          **
1502 ;**          P. O. BOX 397                    **
1503 ;**          NEW WESTMINSTER, B. C.          **
1504 ;**          V3L 4Y7, CANADA                 **
1505 ;*****
1506 ;
1507 ;
1508 ;*****
1509 ;**          SYM/KIM FORTH PART 3              **
1510 ;**          DISK FILE FTH20                  **
1511 ;*****
1512 ;
1513 ;          +ORIGIN
1514 ;
1515 ;          .BY $87 '+ORIGI' $CE

OA07- 87 2B 4F
OA0A- 52 49 47
OA0D- 49 CE
OA0F- FB 09      1516          .SI BSCR-$08
OA11- FC 08      1517 PORIG   .SI DOCOL
OA13- 49 02      1518          .SI LIT
OA15- 00 02      1519          .SE ENTER
OA17- 90 07      1520          .SI PLUS
OA19- D2 06      1521          .SI SEMIS
1522 ;
1523 ;          TIB
1524 ;
1525 ;          .BY $83 'TI' $C2

OA1B- 83 54 49
OA1E- C2
OA1F- 07 OA      1526          .SI PORIG-$0A
OA21- 75 09      1527 TIB    .SI DOUSE
OA23- OA         1528          .BY $0A
1529 ;
1530 ;          WIDTH
1531 ;
1532 ;          .BY $85 'WIDT' $C8

OA24- 85 57 49
OA27- 44 54 C8
OA2A- 1B OA      1533          .SI TIB-$06
OA2C- 75 09      1534 WIDTH  .SI DOUSE
OA2E- OC         1535          .BY $0C
1536 ;
1537 ;          WARNING
1538 ;
1539 ;          .BY $87 'WARNIN' $C7

OA2F- 87 57 41
OA32- 52 4E 49
OA35- 4E C7
OA37- 24 OA      1540          .SI WIDTH-$08
OA39- 75 09      1541 WARN   .SI DOUSE
OA3B- OE         1542          .BY $0E
1543 ;
1544 ;          FENCE
1545 ;
1546 ;          .BY $85 'FENC' $C5

OA3C- 85 46 45
OA3F- 4E 43 C5
OA42- 2F OA      1547          .SI WARN-$0A
OA44- 75 09      1548 FENCE  .SI DOUSE
OA46- 10         1549          .BY $10
1550 ;
1551 ;          DP

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```

1552
OA47- 82 44 DO 1553          .BY $82 'D' $DO
OA4A- 3C OA    1554          .SI FENCE-$08
OA4C- 75 09    1555 DP     .SI DOUSE
OA4E- 12       1556          .BY $12
1557 ;
1558 ;          VOC-LINK
1559 ;
1560 ;          .BY $88 'VOC-LIN' $CB

OA4F- 88 56 4F
OA52- 43 2D 4C
OA55- 49 4E CB
OA58- 47 OA    1561          .SI DP-$05
OA5A- 75 09    1562 VOCL   .SI DOUSE
OA5C- 14       1563          .BY $14
1564 ;
1565 ;          BLK
1566 ;
1567 ;          .BY $83 'BL' $CB

OA5D- 83 42 4C
OA60- CB
OA61- 4F OA    1568          .SI VOCL-$0B
OA63- 75 09    1569 BLK   .SI DOUSE
OA65- 16       1570          .BY $16
1571 ;
1572 ;          >IN
1573 ;
1574 ;          .BY $83 '>I' $CE

OA66- 83 3E 49
OA69- CE
OA6A- 5D OA    1575          .SI BLK-$06
OA6C- 75 09    1576 IN    .SI DOUSE
OA6E- 18       1577          .BY $18
1578 ;
1579 ;          OUT
1580 ;
1581 ;          .BY $83 'OU' $D4

OA6F- 83 4F 55
OA72- D4
OA73- 66 OA    1582          .SI IN-$06
OA75- 75 09    1583 OUT   .SI DOUSE
OA77- 1A       1584          .BY $1A
1585 ;
1586 ;          SCR
1587 ;
1588 ;          .BY $83 'SC' $D2

OA78- 83 53 43
OA7B- D2
OA7C- 6F OA    1589          .SI OUT-$06
OA7E- 75 09    1590 SCR   .SI DOUSE
OA80- 1C       1591          .BY $1C
1592 ;
1593 ;          CONTEXT
1594 ;
1595 ;          .BY $87 'CONTEX' $D4

OA81- 87 43 4F
OA84- 4E 54 45
OA87- 58 D4
OA89- 78 OA    1596          .SI SCR-$06
OA8B- 75 09    1597 CON   .SI DOUSE
OA8D- 20       1598          .BY $20
1599 ;
1600 ;          CURRENT
1601 ;

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OA8E- 87 43 55 1602 .BY \$87 'CURREN' \$D4  
 OA91- 52 52 45  
 OA94- 4E D4  
 OA96- 81 OA 1603 .SI CON-\$0A  
 OA98- 75 09 1604 CURR .SI DOUSE  
 OA9A- 22 1605 .BY \$22  
 1606  
 1607 ; STATE  
 1608  
 OA9B- 85 53 54 1609 .BY \$85 'STAT' \$C5  
 OA9E- 41 54 C5  
 OAA1- 8E OA 1610 .SI CURR-\$0A  
 OAA3- 75 09 1611 STATE .SI DOUSE  
 OAA5- 24 1612 .BY \$24  
 1613  
 1614 ; BASE  
 1615  
 OAA6- 84 42 41 1616 .BY \$84 'BAS' \$C5  
 OAA9- 53 C5  
 OAA8- 9B OA 1617 .SI STATE-\$08  
 OAAD- 75 09 1618 BASE .SI DOUSE  
 OAAF- 26 1619 .BY \$26  
 1620  
 1621 ; DPL  
 1622  
 OAB0- 83 44 50 1623 .BY \$83 'DP' \$CC  
 OAB3- CC  
 OAB4- A6 OA 1624 .SI BASE-\$07  
 OAB6- 75 09 1625 DPL .SI DOUSE  
 OAB8- 28 1626 .BY \$28  
 1627  
 1628 ; FLD  
 1629  
 OAB9- 83 46 4C 1630 .BY \$83 'FL' \$C4  
 OABC- C4  
 OABD- B0 OA 1631 .SI DPL-\$06  
 OABF- 75 09 1632 FLD .SI DOUSE  
 OAC1- 2A 1633 .BY \$2A  
 1634  
 1635 ; CSP  
 1636  
 OAC2- 83 43 53 1637 .BY \$83 'CS' \$D0  
 OAC5- D0  
 OAC6- B9 OA 1638 .SI FLD-\$06  
 OAC8- 75 09 1639 CSP .SI DOUSE  
 OACA- 2C 1640 .BY \$2C  
 1641  
 1642 ; R#  
 1643  
 OACB- 82 52 A3 1644 .BY \$82 'R' \$A3  
 OACE- C2 OA 1645 .SI CSP-\$06  
 OAD0- 75 09 1646 RNUM .SI DOUSE  
 OAD2- 2E 1647 .BY \$2E  
 1648  
 1649 ; HLD  
 1650  
 OAD3- 83 48 4C 1651 .BY \$83 'HL' \$C4  
 OAD6- C4

OAD7- CB OA 1652 .SI RNUM-\$05  
 OAD9- 75 09 1653 HLD .SI DOUSE  
 OADB- 30 1654 .BY \$30  
 1655  
 1656 ; 1+  
 1657  
 OADC- 82 31 AB 1658 .BY \$82 '1' \$AB  
 OADF- D3 OA 1659 .SI HLD-\$06  
 OAE1- FC 08 1660 ONEP .SI DOCOL  
 OAE3- 90 09 1661 .SI ONE  
 OAE5- 90 07 1662 .SI PLUS  
 OAE7- D2 06 1663 .SI SEMIS  
 1664  
 1665 ; 2+  
 1666  
 OAE9- 82 32 AB 1667 .BY \$82 '2' \$AB  
 OAEC- DC OA 1668 .SI ONEP-\$05  
 OAEA- FC 08 1669 TWOP .SI DOCOL  
 OAF0- 98 09 1670 .SI TWO  
 OAF2- 90 07 1671 .SI PLUS  
 OAF4- D2 06 1672 .SI SEMIS  
 1673  
 1674 ; HERE  
 1675  
 OAF6- 84 48 45 1676 .BY \$84 'HER' \$C5  
 OAF9- 52 C5  
 OAFB- E9 OA 1677 .SI TWOP-\$05  
 OAFD- FC 08 1678 HERE .SI DOCOL  
 OAFF- 4C OA 1679 .SI DP  
 OBO1- 9D 08 1680 .SI AT  
 OBO3- D2 06 1681 .SI SEMIS  
 1682  
 1683 ; ALLOT  
 1684  
 OBO5- 85 41 4C 1685 .BY \$85 'ALLO' \$D4  
 OBO8- 4C 4F D4  
 OBOB- F6 OA 1686 .SI HERE-\$07  
 OBOD- FC 08 1687 ALLOT .SI DOCOL  
 OBOF- 4C OA 1688 .SI DP  
 OB11- 6D 08 1689 .SI PSTOR  
 OB13- D2 06 1690 .SI SEMIS  
 1691  
 1692 ;  
 1693  
 OB15- 81 AC 1694 .BY \$81 \$AC  
 OB17- 05 OB 1695 .SI ALLOT-\$08  
 OB19- FC 08 1696 COMMA .SI DOCOL  
 OB1B- FD OA 1697 .SI HERE  
 OB1D- C1 08 1698 .SI STORE  
 OB1F- 98 09 1699 .SI TWO  
 OB21- OD OB 1700 .SI ALLOT  
 OB23- D2 06 1701 .SI SEMIS  
 1702  
 1703 ; C,  
 1704  
 OB25- 82 43 AC 1705 .BY \$82 'C' \$AC  
 OB28- 15 OB 1706 .SI COMMA-\$04  
 OB2A- FC 08 1707 CCOMM .SI DOCOL

OB2C- FD 0A	1708	.SI HERE
OB2E- D9 08	1709	.SI CSTOR
OB30- 90 09	1710	.SI ONE
OB32- OD 0B	1711	.SI ALLOT
OB34- D2 06	1712	.SI SEMIS
	1713	
	1714 ;	
	1715	
OB36- 81 AD	1716	.BY \$81 \$AD
OB38- 25 0B	1717	.SI CCOMM-\$05
OB3A- FC 08	1718 SUB	.SI DOCOL
OB3C- FB 07	1719	.SI NEGATE
OB3E- 90 07	1720	.SI PLUS
OB40- D2 06	1721	.SI SEMIS
	1722	
	1723 ;	D-
	1724	
OB42- 82 44 AD	1725	.BY \$82 'D' \$AD
OB45- 36 0B	1726	.SI SUB-\$04
OB47- FC 08	1727 DSUB	.SI DOCOL
OB49- 15 08	1728	.SI DNEGATE
OB4B- D4 07	1729	.SI DPLUS
OB4D- D2 06	1730	.SI SEMIS
	1731	
	1732 ;	1-
	1733	
OB4F- 82 31 AD	1734	.BY \$82 '1' \$AD
OB52- 42 0B	1735	.SI DSUB-\$05
OB54- FC 08	1736 ONESB	.SI DOCOL
OB56- 90 09	1737	.SI ONE
OB58- 3A 0B	1738	.SI SUB
OB5A- D2 06	1739	.SI SEMIS
	1740	
	1741 ;	2-
	1742	
OB5C- 82 32 AD	1743	.BY \$82 '2' \$AD
OB5F- 4F 0B	1744	.SI ONESB-\$05
OB61- FC 08	1745 TWOSB	.SI DOCOL
OB63- 98 09	1746	.SI TWO
OB65- 3A 0B	1747	.SI SUB
OB67- D2 06	1748	.SI SEMIS
	1749	
	1750 ;	2*
	1751	
OB69- 82 32 AA	1752	.BY \$82 '2' \$AA
OB6C- 5C 0B	1753	.SI TWOSB-\$05
OB6E- FC 08	1754 TWOSTAR	.SI DOCOL
OB70- 5E 08	1755	.SI DUP
OB72- 90 07	1756	.SI PLUS
OB74- D2 06	1757	.SI SEMIS
	1758	
	1759 ;	3*
	1760	
OB76- 82 33 AA	1761	.BY \$82 '3' \$AA
OB79- 69 0B	1762	.SI TWOSTAR-\$05
OB7B- FC 08	1763 THSTAR	.SI DOCOL
OB7D- 5E 08	1764	.SI DUP
OB7F- 5E 08	1765	.SI DUP

OB81- 90 07	1766	.SI PLUS
OB83- 90 07	1767	.SI PLUS
OB85- D2 06	1768	.SI SEMIS
	1769	
	1770 ;	=
	1771	
OB87- 81 BD	1772	.BY \$81 \$BD
OB89- 76 0B	1773	.SI THSTAR-\$05
OB8B- FC 08	1774 EQUAL	.SI DOCOL
OB8D- 3A 0B	1775	.SI SUB
OB8F- 53 07	1776	.SI ZEQU
OB91- D2 06	1777	.SI SEMIS
	1778	
	1779 ;	D=
	1780	
OB93- 82 44 BD	1781	.BY \$82 'D' \$BD
OB96- 87 0B	1782	.SI EQUAL-\$04
OB98- FC 08	1783 DEQUAL	.SI DOCOL
OB9A- 47 0B	1784	.SI DSUB
OB9C- A8 07	1785	.SI DZEQU
OB9E- D2 06	1786	.SI SEMIS
	1787	
OBA0- 38	1788 SUB1	SEC
OBA1- B5 02	1789	LDA *\$02,X
OBA3- F5 00	1790	SBC *\$00,X
OBA5- B5 03	1791	LDA *\$03,X
OBA7- F5 01	1792	SBC *\$01,X
OBA9- 94 03	1793	STY *\$03,X
OBAB- 60	1794	RTS
	1795	
	1796 ;	UK
	1797	
OBAC- 82 55 BC	1798	.BY \$82 'U' \$BC
OBAF- 93 0B	1799	.SI DEQUAL-\$05
OBBI- B3 0B	1800 ULESS	.SI +=2
OBBI- B3 0B	1801	JSR SUB1
OBBI- B3 0B	1802	BCS ULESS1
OBBI- B3 0B	1803	INY
OBBI- B3 0B	1804 ULESS1	STY *\$02,X
OBBI- B3 0B	1805	JMP POP
	1806	
	1807 ;	<
	1808	
OBBI- B3 0B	1809	.BY \$81 \$BC
OBC0- AC 0B	1810	.SI ULESS-\$05
OBC2- C4 0B	1811 LESS	.SI +=2
OBC4- 20 A0 0B	1812	JSR SUB1
OBC7- 50 02	1813	BVC LESS1
OBC9- 49 80	1814	EOR #\$80
OBCB- 10 01	1815 LESS1	BPL LESS2
OBCD- C8	1816	INY
OBCE- 94 02	1817 LESS2	STY *\$02,X
OBDO- 4C 33 04	1818	JMP POP
	1819	
OBDO- 4C 33 04	1820 SUB2	SEC
OBD3- 38	1821	LDA *\$04,X
OBD4- B5 04	1822	SBC *\$00,X
OBD6- F5 00	1822	LDA *\$05,X
OBD8- B5 05	1823	

OBDA- F5 01	1824	SBC *\$01,X
OBDC- B5 06	1825	LDA *\$06,X
OBDE- F5 02	1826	SBC *\$02,X
OBEO- B5 07	1827	LDA *\$07,X
OBE2- F5 03	1828	SBC *\$03,X
OBE4- 94 07	1829	STY *\$07,X
OBE6- 60	1830	RTS
	1831	
	1832 ;	DU<
	1833	
OBE7- 83 44 55	1834	.BY \$83 'DU' \$BC
OBEA- BC		
OBEB- BE 0B	1835	.SI LESS-\$04
OBED- EF 0B	1836	DULESS .SI =+2
OBEF- 20 D3 0B	1837	JSR SUB2
OBF2- B0 01	1838	BCS DULESS1
OBF4- C8	1839	INX
OBF5- 94 06	1840	DULESS1 STY *\$06,X
OBF7- E8	1841	INX
OBF8- E8	1842	INX
OBF9- 4C 31 04	1843	JMP POPTWO
	1844	
	1845 ;	D<
	1846	
OBFC- 82 44 BC	1847	.BY \$82 'D' \$BC
OBFF- E7 0B	1848	.SI DULESS-\$06
OC01- 03 0C	1849	DLESS .SI =+2
OC03- 20 D3 0B	1850	JSR SUB2
OC06- 50 02	1851	BVC DLESS1
OC08- 49 80	1852	EOR #\$80
OC0A- 10 01	1853	DLESS1 BPL DLESS2
OC0C- C8	1854	INX
OC0D- 94 06	1855	DLESS2 STY *\$06,X
OC0F- E8	1856	INX
OC10- E8	1857	INX
OC11- 4C 31 04	1858	JMP POPTWO
	1859	
	1860 ;	>
	1861	
OC14- 81 BE	1862	.BY \$81 \$BE
OC16- FC 0B	1863	.SI DLESS-\$05
OC18- FC 08	1864	GREAT .SI DOCOL
OC1A- 46 08	1865	.SI SWAP
OC1C- C2 0B	1866	.SI LESS
OC1E- D2 06	1867	.SI SEMIS
	1868	
	1869 ;	ROT
	1870	
OC20- 83 52 4F	1871	.BY \$83 'RO' \$D4
OC23- D4		
OC24- 14 0C	1872	.SI GREAT-\$04
OC26- FC 08	1873	ROT .SI DOCOL
OC28- 00 07	1874	.SI TOR
OC2A- 46 08	1875	.SI SWAP
OC2C- 12 07	1876	.SI RFROM
OC2E- 46 08	1877	.SI SWAP
OC30- D2 06	1878	.SI SEMIS
	1879	

	1880 ;	SPACE
	1881	
OC32- 85 53 50	1882	.BY \$85 'SPAC' \$C5
OC35- 41 43 C5		
OC38- 20 0C	1883	.SI ROT-\$06
OC3A- FC 08	1884	SPACE .SI DOCOL
OC3C- A9 09	1885	.SI BL
OC3E- 8E 05	1886	.SI EMIT
OC40- D2 06	1887	.SI SEMIS
	1888	
	1889 ;	?DUP
	1890	
OC42- 84 3F 44	1891	.BY \$84 '?DU' \$D0
OC45- 55 D0		
OC47- 32 0C	1892	.SI SPACE-\$08
OC49- FC 08	1893	DDUP .SI DOCOL
OC4B- 5E 08	1894	.SI DUP
OC4D- 9B 03	1895	.SI ZBRAN
OC4F- 04 00	1896	.SE DDUP1--
OC51- 5E 08	1897	.SI DUP
OC53- D2 06	1898	DDUP1 .SI SEMIS
	1899	
	1900 ;	TRAVERSE
	1901	
OC55- 88 54 52	1902	.BY \$88 'TRAVERS' \$C5
OC58- 41 56 45		
OC5B- 52 53 C5		
OC5E- 42 0C	1903	.SI DDUP-\$07
OC60- FC 08	1904	TRAV .SI DOCOL
OC62- 46 08	1905	.SI SWAP
OC64- 2C 08	1906	TRAV1 .SI OVER
OC66- 90 07	1907	.SI PLUS
OC68- 8F 02	1908	.SI CLIT
OC6A- 7F	1909	.BY \$7F
OC6B- 2C 08	1910	.SI OVER
OC6D- B2 08	1911	.SI CAT
OC6F- C2 0B	1912	.SI LESS
OC71- 9B 03	1913	.SI ZBRAN
OC73- F1 FF	1914	.SE TRAV1--
OC75- 46 08	1915	.SI SWAP
OC77- 3D 08	1916	.SI DROP
OC79- D2 06	1917	.SI SEMIS
	1918	
	1919 ;	LATEST
	1920	
OC7B- 86 4C 41	1921	.BY \$86 'LATES' \$D4
OC7E- 54 45 53		
OC81- D4		
OC82- 55 0C	1922	.SI TRAV-\$0B
OC84- FC 08	1923	LATES .SI DOCOL
OC86- 98 0A	1924	.SI CURR
OC88- 9D 08	1925	.SI AT
OC8A- 9D 08	1926	.SI AT
OC8C- D2 06	1927	.SI SEMIS
	1928	
	1929 ;	LFA
	1930	
OC8E- 83 4C 46	1931	.BY \$83 'LF' \$C1

OC91- C1			
OC92- 7B OC	1932	.SI LATES-\$09	
OC94- FC 08	1933 LFA	.SI DOCOL	
OC96- 8F 02	1934	.SI CLIT	
OC98- 04	1935	.BY \$04	
OC99- 3A 0B	1936	.SI SUB	
OC9B- D2 06	1937	.SI SEMIS	
	1938		
	1939 ;	CFA	
	1940		
OC9D- 83 43 46	1941	.BY \$83 'CF' \$C1	
OCA0- C1			
OCA1- 8E OC	1942	.SI LFA-\$06	
OCA3- FC 08	1943 CFA	.SI DOCOL	
OCA5- 61 0B	1944	.SI TWOSB	
OCA7- D2 06	1945	.SI SEMIS	
	1946		
	1947 ;	NFA	
	1948		
OCA9- 83 4E 46	1949	.BY \$83 'NF' \$C1	
OCAC- C1			
OCAD- 9D OC	1950	.SI CFA-\$06	
OCAF- FC 08	1951 NFA	.SI DOCOL	
OCB1- 8F 02	1952	.SI CLIT	
OCB3- 05	1953	.BY \$05	
OCB4- 3A 0B	1954	.SI SUB	
OCB6- 49 02	1955	.SI LIT	
OCB8- FF FF	1956	.SE \$FFFF	
OCBA- 60 OC	1957	.SI TRAV	
OCBC- D2 06	1958	.SI SEMIS	
	1959		
	1960 ;	PFA	
	1961		
OCBE- 83 50 46	1962	.BY \$83 'PF' \$C1	
OCC1- C1			
OCC2- A9 OC	1963	.SI NFA-\$06	
OCC4- FC 08	1964 PFA	.SI DOCOL	
OCC6- 90 09	1965	.SI ONE	
OCC8- 60 OC	1966	.SI TRAV	
OCCA- 8F 02	1967	.SI CLIT	
OCCC- 05	1968	.BY \$05	
OCCD- 90 07	1969	.SI PLUS	
OCCF- D2 06	1970	.SI SEMIS	
	1971		
	1972 ;	!CSP	
	1973		
OCD1- 84 21 43	1974	.BY \$84 '!CS' \$D0	
OCD4- 53 D0			
OCD6- BE OC	1975	.SI PFA-\$06	
OCD8- FC 08	1976 SCSP	.SI DOCOL	
OCDA- 9F 06	1977	.SI SPAT	
OCDC- C8 0A	1978	.SI CSP	
OCDE- C1 08	1979	.SI STORE	
OCEO- D2 06	1980	.SI SEMIS	
	1981		
	1982 ;	?ERROR	
	1983		
OCE2- 86 3F 45	1984	.BY \$86 '?ERRO' \$D2	

OCES- 52 52 4F			
OCE8- D2			
OCE9- D1 OC	1985	.SI SCSP-\$07	
OCEB- FC 08	1986 QERR	.SI DOCOL	
OCED- 46 08	1987	.SI SWAP	
OCEF- 9B 03	1988	.SI ZBRAN	
OCF1- 08 00	1989	.SE QERR1--	
OCF3- 24 11	1990	.SI ERROR	
OCF5- 7C 03	1991	.SI BRAN	
OCF7- 04 00	1992	.SE QERR2--	
OCF9- 3D 08	1993 QERR1	.SI DROP	
OCFB- D2 06	1994 QERR2	.SI SEMIS	
	1995		
	1996 ;	?COMP	
	1997		
OCFD- 85 3F 43	1998	.BY \$85 '?COM' \$D0	
OD00- 4F 4D D0			
OD03- E2 OC	1999	.SI QERR-\$09	
OD05- FC 08	2000 QCOMP	.SI DOCOL	
OD07- A3 0A	2001	.SI STATE	
OD09- 9D 08	2002	.SI AT	
ODOB- 53 07	2003	.SI ZEQU	
ODOD- 8F 02	2004	.SI CLIT	
ODOF- 11	2005	.BY \$11	
OD10- EB OC	2006	.SI QERR	
OD12- D2 06	2007	.SI SEMIS	
	2008		
	2009 ;	?EXEC	
	2010		
OD14- 85 3F 45	2011	.BY \$85 '?EXE' \$C3	
OD17- 58 45 C3			
OD1A- FD OC	2012	.SI QCOMP-\$08	
OD1C- FC 08	2013 QEXEC	.SI DOCOL	
OD1E- A3 0A	2014	.SI STATE	
OD20- 9D 08	2015	.SI AT	
OD22- 8F 02	2016	.SI CLIT	
OD24- 12	2017	.BY \$12	
OD25- EB OC	2018	.SI QERR	
OD27- D2 06	2019	.SI SEMIS	
	2020		
	2021 ;	?PAIRS	
	2022		
OD29- 86 3F 50	2023	.BY \$86 '?PAIR' \$D3	
OD2C- 41 49 52			
OD2F- D3			
OD30- 14 OD	2024	.SI QEXEC-\$08	
OD32- FC 08	2025 QPAIR	.SI DOCOL	
OD34- 3A 0B	2026	.SI SUB	
OD36- 8F 02	2027	.SI CLIT	
OD38- 13	2028	.BY \$13	
OD39- EB OC	2029	.SI QERR	
OD3B- D2 06	2030	.SI SEMIS	
	2031		
	2032 ;	?CSP	
	2033		
OD3D- 84 3F 43	2034	.BY \$84 '?CS' \$D0	
OD40- 53 D0			
OD42- 29 OD	2035	.SI QPAIR-\$09	

OD44- FC 08	2036	QCSP	.SI DOCOL
OD46- 9F 06	2037		.SI SPAT
OD48- C8 0A	2038		.SI CSP
OD4A- 9D 08	2039		.SI AT
OD4C- 3A 0B	2040		.SI SUB
OD4E- 8F 02	2041		.SI CLIT
OD50- 14	2042		.BY \$14
OD51- EB 0C	2043		.SI QERR
OD53- D2 06	2044		.SI SEMIS
	2045		
	2046 ;	?LOADING	
	2047		
OD55- 88 3F 4C	2048		.BY \$88 '?LOADIN' \$C7
OD58- 4F 41 44			
OD5B- 49 4E C7			
OD5E- 3D 0D	2049		.SI QCSP-\$07
OD60- FC 08	2050	QLOAD	.SI DOCOL
OD62- 63 0A	2051		.SI BLK
OD64- 9D 08	2052		.SI AT
OD66- 53 07	2053		.SI ZEQU
OD68- 8F 02	2054		.SI CLIT
OD6A- 16	2055		.BY \$16
OD6B- EB 0C	2056		.SI QERR
OD6D- D2 06	2057		.SI SEMIS
	2058		
	2059 ;	COMPILE	
	2060		
OD6F- 87 43 4F	2061		.BY \$87 'COMPIL' \$C5
OD72- 4D 50 49			
OD75- 4C C5			
OD77- 55 0D	2062		.SI QLOAD-\$0B
OD79- FC 08	2063	COMP	.SI DOCOL
OD7B- 05 0D	2064		.SI QCOMP
OD7D- 12 07	2065		.SI RFROM
OD7F- 5E 08	2066		.SI DUP
OD81- EE 0A	2067		.SI TWOP
OD83- 00 07	2068		.SI TOR
OD85- 9D 08	2069		.SI AT
OD87- 19 0B	2070		.SI COMMA
OD89- D2 06	2071		.SI SEMIS
	2072		
	2073 ;	[	
	2074		
OD8B- C1 DB	2075		.BY \$C1 \$DB
OD8D- 6F 0D	2076		.SI COMP-\$0A
OD8F- FC 08	2077	LBRAC	.SI DOCOL
OD91- 88 09	2078		.SI ZERO
OD93- A3 0A	2079		.SI STATE
OD95- C1 08	2080		.SI STORE
OD97- D2 06	2081		.SI SEMIS
	2082		
	2083 ;	]	
	2084		
OD99- 81 DD	2085		.BY \$81 \$DD
OD9B- 8B 0D	2086		.SI LBRAC-\$04
OD9D- FC 08	2087	RBRAC	.SI DOCOL
OD9F- 8F 02	2088		.SI CLIT
ODA1- C0	2089		.BY \$C0

ODA2- A3 0A	2090		.SI STATE
ODA4- C1 08	2091		.SI STORE
ODA6- D2 06	2092		.SI SEMIS
	2093		
	2094 ;	SMUDGE	
	2095		
ODA8- 86 53 4D	2096		.BY \$86 'SMUDGE' \$C5
ODAB- 55 44 47			
ODAE- C5			
ODAF- 99 0D	2097		.SI RBRAC-\$04
ODB1- FC 08	2098	SMUDG	.SI DOCOL
ODB3- 84 0C	2099		.SI LATES
ODB5- 8F 02	2100		.SI CLIT
ODB7- 20	2101		.BY \$20
ODB8- 8E 08	2102		.SI TOGGL
ODBA- D2 06	2103		.SI SEMIS
	2104		
	2105 ;	HEX	
	2106		
ODBC- 83 48 45	2107		.BY \$83 'HE' \$D8
ODBF- D8			
ODCO- A8 0D	2108		.SI SMUDG-\$09
ODC2- FC 08	2109	HEX	.SI DOCOL
ODC4- 8F 02	2110		.SI CLIT
ODC6- 10	2111		.BY \$10
ODC7- AD 0A	2112		.SI BASE
ODC9- C1 08	2113		.SI STORE
ODCB- D2 06	2114		.SI SEMIS
	2115		
	2116 ;	DECIMAL	
	2117		
ODCD- 87 44 45	2118		.BY \$87 'DECIMA' \$CC
ODDO- 43 49 4D			
ODD3- 41 CC			
ODD5- BC 0D	2119		.SI HEX-\$06
ODD7- FC 08	2120	DECIM	.SI DOCOL
ODD9- 8F 02	2121		.SI CLIT
ODDB- 0A	2122		.BY \$0A
ODDC- AD 0A	2123		.SI BASE
ODDE- C1 08	2124		.SI STORE
ODE0- D2 06	2125		.SI SEMIS
	2126		
	2127 ;	(;CODE)	
	2128		
ODE2- 87 28 3B	2129		.BY \$87 '(;CODE' \$A9
ODE5- 43 4F 44			
ODE8- 45 A9			
ODEA- CD 0D	2130		.SI DECIM-\$0A
ODEC- FC 08	2131	PSCOD	.SI DOCOL
ODEE- 12 07	2132		.SI RFROM
ODFO- 84 0C	2133		.SI LATES
ODF2- C4 0C	2134		.SI PFA
ODF4- A3 0C	2135		.SI CFA
ODF6- C1 08	2136		.SI STORE
ODF8- D2 06	2137		.SI SEMIS
	2138		
	2139 ;	;CODE	
	2140		

ODFA- C5 3B 43	2141	.BY \$C5 ' ;COD' \$C5
ODFD- 4F 44 C5		
OE00- E2 OD	2142	.SI PSCOD-\$0A
OE02- FC 08	2143	.SI DOCOL
OE04- 44 OD	2144	.SI QCSP
OE06- 79 OD	2145	.SI COMP
OE08- EC OD	2146	.SI PSCOD
OE0A- 8F OD	2147	.SI LBRAC
OE0C- AA 25	2148	.SI AINIT
OE0E- D2 06	2149	.SI SEMIS
	2150	
	2151 ;	DOES>
	2152	
OE10- C5 44 4F	2153	.BY \$C5 'DOES' \$BE
OE13- 45 53 BE		
OE16- FA OD	2154	.SI SCOD-\$08
OE18- FC 08	2155	.SI DOCOL
OE1A- 79 OD	2156	.SI COMP
OE1C- EC OD	2157	.SI PSCOD
OE1E- 8F 02	2158	.SI CLIT
OE20- 20	2159	.BY \$20
OE21- 2A 0B	2160	.SI CCOMM
OE23- 49 02	2161	.SI LIT
OE25- 2B 0E	2162	.SI DODOES
OE27- 19 0B	2163	.SI COMMA
OE29- D2 06	2164	.SI SEMIS
	2165	
OE2B- CA	2166	DODOES DEX
OE2C- CA	2167	DEX
OE2D- 18	2168	CLC
OE2E- A9 02	2169	LDA #\$02
OE30- 65 B1	2170	ADC *W
OE32- 95 00	2171	STA *\$00,X
OE34- 98	2172	TYA
OE35- 65 B2	2173	ADC *W+1
OE37- 95 01	2174	STA *\$01,X
OE39- 38	2175	SEC
OE3A- 68	2176	PLA
OE3B- E9 01	2177	SBC #\$01
OE3D- 85 B1	2178	STA *W
OE3F- 68	2179	PLA
OE40- E9 00	2180	SBC #\$00
OE42- 85 B2	2181	STA *W+1
OE44- 4C FC 08	2182	JMP DOCOL
	2183	
	2184 ;	COUNT
	2185	
OE47- 85 43 4F	2186	.BY \$85 'COUN' \$D4
OE4A- 55 4E D4		
OE4D- 10 OE	2187	.SI DOES-\$08
OE4F- FC 08	2188	.SI DOCOL
OE51- 5E 08	2189	.SI DUP
OE53- E1 0A	2190	.SI ONEP
OE55- 46 08	2191	.SI SWAP
OE57- B2 08	2192	.SI CAT
OE59- D2 06	2193	.SI SEMIS
	2194	
	2195 ;	TYPE

	2196		
OE5B- 84 54 59	2197	.BY \$84 'TYP' \$C5	
OE5E- 50 C5			
OE60- 47 OE	2198	.SI COUNT-\$08	
OE62- FC 08	2199	TYPE .SI DOCOL	
OE64- 49 OC	2200	.SI DDUP	
OE66- 9B 03	2201	.SI ZBRAN	
OE68- 18 00	2202	.SE TYPE2==	
OE6A- 2C 08	2203	.SI OVER	
OE6C- 90 07	2204	.SI PLUS	
OE6E- 46 08	2205	.SI SWAP	
OE70- 23 04	2206	.SI PDO	
OE72- 3C 04	2207	TYPE1 .SI I	
OE74- B2 08	2208	.SI CAT	
OE76- 8E 05	2209	.SI EMIT	
OE78- BC 03	2210	.SI PLOOP	
OE7A- F8 FF	2211	.SE TYPE1==	
OE7C- 7C 03	2212	.SI BRAN	
OE7E- 04 00	2213	.SE TYPE3==	
OE80- 3D 08	2214	TYPE2 .SI DROP	
OE82- D2 06	2215	TYPE3 .SI SEMIS	
	2216		
	2217 ;	-TRAILING	
	2218		
OE84- 89 2D 54	2219	.BY \$89 '-TRAILIN' \$C7	
OE87- 52 41 49			
OE8A- 4C 49 4E			
OE8D- C7			
OE8E- 5B OE	2220	.SI TYPE-\$07	
OE90- FC 08	2221	DTRAI .SI DOCOL	
OE92- 5E 08	2222	.SI DUP	
OE94- 88 09	2223	.SI ZERO	
OE96- 23 04	2224	.SI PDO	
OE98- 2C 08	2225	DTRAI1 .SI OVER	
OE9A- 2C 08	2226	.SI OVER	
OE9C- 90 07	2227	.SI PLUS	
OE9E- 54 0B	2228	.SI ONESB	
OEAO- B2 08	2229	.SI CAT	
OEA2- A9 09	2230	.SI BL	
OEA4- 18 OC	2231	.SI GREAT	
OEA6- 9B 03	2232	.SI ZBRAN	
OEA8- 08 00	2233	.SE DTRAI2==	
OEA- E5 06	2234	.SI LEAVE	
OEA- 7C 03	2235	.SI BRAN	
OEA- 04 00	2236	.SE DTRAI3==	
OEBO- 54 0B	2237	DTRAI2 .SI ONESB	
OEB2- BC 03	2238	DTRAI3 .SI PLOOP	
OEB4- E4 FF	2239	.SE DTRAI1==	
OEB6- D2 06	2240	.SI SEMIS	
	2241		
	2242	.CT FTH25	
	2243 ;		
	2244 ;	*****	
	2245 ;**	SK-FORTH (79-STANDARD)	**
	2246 ;**	HDE MINI/SYKES DISK VERSION	**

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2254 ;*****
2255 ;
2256 ;
2257 ;*****
2258 ;** SYM/KIM FORTH PART 4 **
2259 ;** DISK FILE FTH25 **
2260 ;*****
2261 ;
2262 ; (".)
2263 ;
OEB8- 84 28 2E 2264 .BY $84 '(." ' $A9
OEBB- 22 A9
OEBD- 84 OE 2265 .SI DTRAI-$OC
OEBF- FC 08 2266 PDOTQ .SI DOCOL
OEC1- 24 07 2267 .SI R
OEC3- 4F OE 2268 .SI COUNT
OEC5- 5E 08 2269 .SI DUP
OEC7- E1 OA 2270 .SI ONEP
OEC9- 12 07 2271 .SI RFROM
OECB- 90 07 2272 .SI PLUS
OECD- 00 07 2273 .SI TOR
OECF- 62 OE 2274 .SI TYPE
OED1- D2 06 2275 .SI SEMIS
2276 ;
2277 ; ."
2278 ;
OED3- C2 2E A2 2279 .BY $C2 '.' $A2
OED6- B8 OE 2280 .SI PDOTQ-$O7
OED8- FC 08 2281 DOTQ .SI DOCOL
OEDA- 8F 02 2282 .SI CLIT
OEDC- 22 2283 .BY $22
OEDD- A3 OA 2284 .SI STATE
OEDF- 9D 08 2285 .SI AT
OEE1- 9B 03 2286 .SI ZBRAN
OEE3- 12 00 2287 .SE DOTQ1--
OEE5- 79 OD 2288 .SI COMP
OEE7- BF OE 2289 .SI PDOTQ
OEE9- F9 OF 2290 .SI WORD
OEEB- B2 08 2291 .SI CAT
OEEF- E1 OA 2292 .SI ONEP
OEEF- OD 0B 2293 .SI ALLOT
OEF1- 7C 03 2294 .SI BRAN
OEF3- 08 00 2295 .SE DOTQ2--
OEF5- F9 OF 2296 DOTQ1 .SI WORD
OEF7- 4F OE 2297 .SI COUNT
OEF9- 62 OE 2298 .SI TYPE
OEFB- D2 06 2299 DOTQ2 .SI SEMIS
2300 ;
2301 ; BEEP
2302 ;
OEFD- 84 42 45 2303 .BY $84 'BEE' $DO

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OF00- 45 DO
OF02- D3 OE 2304 .SI DOTQ-$O5
OF04- 06 OF 2305 BEP .SI +=2
OF06- 20 1E 02 2306 JSR BELL.VEC
OF09- 4C 63 02 2307 JMP NEXT
2308
2309 ; TRACEOFF
2310
OF0C- 88 54 52 2311 .BY $88 'TRACEOF' $C6
OF0F- 41 43 45
OF12- 4F 46 C6
OF15- FD OE 2312 .SI BEP-$O7
OF17- 19 OF 2313 TROAOF .SI +=2
OF19- 20 1F OF 2314 JSR TROFF
OF1C- 4C 63 02 2315 JMP NEXT
2316
OF1F- A9 60 2317 TROFF LDA #$60
OF21- 8D 97 02 2318 STA TRACE
OF24- 8D F8 02 2319 STA TCOLON
OF27- 60 2320 RTS
2321
2322 ; TRACEON
2323
OF28- 87 54 52 2324 .BY $87 'TRACEO' $CE
OF2B- 41 43 45
OF2E- 4F CE
OF30- 0C OF 2325 .SI TROAOF-$OB
OF32- 34 OF 2326 TRAON .SI +=2
OF34- 20 3A OF 2327 JSR TRON
OF37- 4C 63 02 2328 JMP NEXT
2329
OF3A- A9 86 2330 TRON LDA #$86
OF3C- 8D 97 02 2331 STA TRACE
OF3F- 8D F8 02 2332 STA TCOLON
OF42- 60 2333 RTS
2334
2335 ; TRACECOLON
2336
OF43- 8A 54 52 2337 .BY $8A 'TRACECOLO' $CE
OF46- 41 43 45
OF49- 43 4F 4C
OF4C- 4F CE
OF4E- 28 OF 2338 .SI TRAON-$OA
OF50- 52 OF 2339 TRACOL .SI +=2
OF52- 20 58 OF 2340 JSR TRCOL
OF55- 4C 63 02 2341 JMP NEXT
2342
OF58- A9 86 2343 TRCOL LDA #$86
OF5A- 8D F8 02 2344 STA TCOLON
OF5D- 60 2345 RTS
2346
2347 ; QUERY
2348
OF5E- 85 51 55 2349 .BY $85 'QUER' $D9
OF61- 45 52 D9
OF64- 43 OF 2350 .SI TRACOL-$OD
OF66- FC 08 2351 QUERY .SI DOCOL
OF68- 21 0A 2352 .SI TIB

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OF6A- 9D 08	2353	.SI AT
OF6C- B2 09	2354	.SI TW
OF6E- 84 21	2355	.SI EXPECT
OF70- 88 09	2356	.SI ZERO
OF72- 6C 0A	2357	.SI IN
OF74- C1 08	2358	.SI STORE
OF76- D2 06	2359	.SI SEMIS
	2360	
	2361 ;	FILL
	2362	
OF78- 84 46 49	2363	.BY \$84 'FIL' \$CC
OF7B- 4C CC		
OF7D- 5E OF	2364	.SI QUERY-\$08
OF7F- FC 08	2365 FILL	.SI DOCOL
OF81- 2C 08	2366	.SI OVER
OF83- 7A 07	2367	.SI ZGREAT
OF85- 9B 03	2368	.SI ZBRAN
OF87- 18 00	2369	.SE FILL1--
OF89- 46 08	2370	.SI SWAP
OF8B- 00 07	2371	.SI TOR
OF8D- 2C 08	2372	.SI OVER
OF8F- D9 08	2373	.SI CSTOR
OF91- 5E 08	2374	.SI DUP
OF93- E1 0A	2375	.SI ONEP
OF95- 12 07	2376	.SI RFROM
OF97- 54 0B	2377	.SI ONESB
OF99- B5 05	2378	.SI CMOVE
OF9B- 7C 03	2379	.SI BRAN
OF9D- 08 00	2380	.SE FILL2--
OF9F- 3D 08	2381 FILL1	.SI DROP
OFA1- 3D 08	2382	.SI DROP
OFA3- 3D 08	2383	.SI DROP
OFA5- D2 06	2384 FILL2	.SI SEMIS
	2385	
	2386 ;	ERASE
	2387	
OFA7- 85 45 52	2388	.BY \$85 'ERAS' \$C5
OFAA- 41 53 C5		
OFA D- 78 OF	2389	.SI FILL-\$07
OFAF- FC 08	2390 ERASE	.SI DOCOL
OFB1- 88 09	2391	.SI ZERO
OFB3- 7F OF	2392	.SI FILL
OFB5- D2 06	2393	.SI SEMIS
	2394	
	2395 ;	BLANKS
	2396	
OFB7- 86 42 4C	2397	.BY \$86 'BLANK' \$D3
OFBA- 41 4E 4B		
OFBD- D3		
OFBE- A7 OF	2398	.SI ERASE-\$08
OFCC- FC 08	2399 BLANK	.SI DOCOL
OFC2- A9 09	2400	.SI BL
OFC4- 7F OF	2401	.SI FILL
OFC6- D2 06	2402	.SI SEMIS
	2403	
	2404 ;	HOLD
	2405	
OFC8- 84 48 4F	2406	.BY \$84 'HOL' \$C4

OFCB- 4C C4			
OFCD- B7 OF	2407		.SI BLANK-\$09
OFCE- FC 08	2408 HOLD		.SI DOCOL
OFD1- 49 02	2409		.SI LIT
OFD3- FF FF	2410		.SE \$FFFF
OFD5- D9 0A	2411		.SI HLD
OFD7- 6D 08	2412		.SI PSTOR
OFD9- D9 0A	2413		.SI HLD
OFDB- 9D 08	2414		.SI AT
OFDD- D9 08	2415		.SI CSTOR
OFDF- D2 06	2416		.SI SEMIS
	2417		
	2418 ;	PAD	
	2419		
OFE1- 83 50 41	2420		.BY \$83 'PA' \$C4
OFE4- C4			
OFE5- C8 OF	2421		.SI HOLD-\$07
OFE7- FC 08	2422 PAD		.SI DOCOL
OFE9- FD 0A	2423		.SI HERE
OFEB- 8F 02	2424		.SI CLIT
OFED- 54	2425		.BY \$54
OFEE- 90 07	2426		.SI PLUS
OFFO- D2 06	2427		.SI SEMIS
	2428		
	2429 ;	WORD	
	2430		
OFF2- 84 57 4F	2431		.BY \$84 'WOR' \$C4
OFF5- 52 C4			
OFF7- E1 OF	2432		.SI PAD-\$06
OFF9- FC 08	2433 WORD		.SI DOCOL
OFFB- 63 0A	2434		.SI BLK
OFFD- 9D 08	2435		.SI AT
OFFF- 9B 03	2436		.SI ZBRAN
1001- 0C 00	2437		.SE WORD1--
1003- 63 0A	2438		.SI BLK
1005- 9D 08	2439		.SI AT
1007- 67 17	2440		.SI BLOCK
1009- 7C 03	2441		.SI BRAN
100B- 06 00	2442		.SE WORD2--
100D- 21 0A	2443 WORD1		.SI TIB
100F- 9D 08	2444		.SI AT
1011- 6C 0A	2445 WORD2		.SI IN
1013- 9D 08	2446		.SI AT
1015- 90 07	2447		.SI PLUS
1017- 46 08	2448		.SI SWAP
1019- 33 05	2449		.SI ENCL
101B- FD 0A	2450		.SI HERE
101D- 8F 02	2451		.SI CLIT
101F- 22	2452		.BY \$22
1020- C0 OF	2453		.SI BLANK
1022- 6C 0A	2454		.SI IN
1024- 6D 08	2455		.SI PSTOR
1026- 2C 08	2456		.SI OVER
1028- 3A 0B	2457		.SI SUB
102A- 00 07	2458		.SI TOR
102C- 24 07	2459		.SI R
102E- FD 0A	2460		.SI HERE
1030- D9 08	2461		.SI CSTOR



1032- 90 07	2462	.SI PLUS
1034- FD 0A	2463	.SI HERE
1036- E1 0A	2464	.SI ONEP
1038- 12 07	2465	.SI RFROM
103A- B5 05	2466	.SI CMOVE
103C- FD 0A	2467	.SI HERE
103E- D2 06	2468	.SI SEMIS
	2469	
	2470 ;	(NUMBER)
	2471	
1040- 88 28 4E	2472	.BY \$88 '(NUMBER' \$A9
1043- 55 4D 42		
1046- 45 52 A9		
1049- F2 0F	2473	.SI WORD-\$07
104B- FC 08	2474 PNUMB	.SI DOCOL
104D- E1 0A	2475 PNUM1	.SI ONEP
104F- 5E 08	2476	.SI DUP
1051- 00 07	2477	.SI TOR
1053- B2 08	2478	.SI CAT
1055- AD 0A	2479	.SI BASE
1057- 9D 08	2480	.SI AT
1059- 70 04	2481	.SI DIGIT
105B- 9B 03	2482	.SI ZBRAN
105D- 2C 00	2483	.SE PNUM3--
105F- 46 08	2484	.SI SWAP
1061- AD 0A	2485	.SI BASE
1063- 9D 08	2486	.SI AT
1065- E4 05	2487	.SI USTAR
1067- 3D 08	2488	.SI DROP
1069- 26 0C	2489	.SI ROT
106B- AD 0A	2490	.SI BASE
106D- 9D 08	2491	.SI AT
106F- E4 05	2492	.SI USTAR
1071- D4 07	2493	.SI DPLUS
1073- B6 0A	2494	.SI DPL
1075- 9D 08	2495	.SI AT
1077- E1 0A	2496	.SI ONEP
1079- 9B 03	2497	.SI ZBRAN
107B- 08 00	2498	.SE PNUM2--
107D- 90 09	2499	.SI ONE
107F- B6 0A	2500	.SI DPL
1081- 6D 08	2501	.SI PSTOR
1083- 12 07	2502 PNUM2	.SI RFROM
1085- 7C 03	2503	.SI BRAN
1087- C6 FF	2504	.SE PNUM1--
1089- 12 07	2505 PNUM3	.SI RFROM
108B- D2 06	2506	.SI SEMIS
	2507	
	2508 ;	NUMBER
	2509	
108D- 86 4E 55	2510	.BY \$86 'NUMBE' \$D2
1090- 4D 42 45		
1093- D2		
1094- 40 10	2511	.SI PNUM-\$0B
1096- FC 08	2512 NUMBER	.SI DOCOL
1098- 88 09	2513	.SI ZERO
109A- 88 09	2514	.SI ZERO
109C- 26 0C	2515	.SI ROT

109E- 5E 08	2516	.SI DUP
10A0- E1 0A	2517	.SI ONEP
10A2- B2 08	2518	.SI CAT
10A4- 8F 02	2519	.SI CLIT
10A6- 2D	2520	.BY \$2D
10A7- 8B 0B	2521	.SI EQUAL
10A9- 5E 08	2522	.SI DUP
10AB- 00 07	2523	.SI TOR
10AD- 90 07	2524	.SI PLUS
10AF- 49 02	2525	.SI LIT
10B1- FF FF	2526	.SE \$FFFF
10B3- B6 0A	2527 NUM1	.SI DPL
10B5- C1 08	2528	.SI STORE
10B7- 4B 10	2529	.SI PNUMB
10B9- 5E 08	2530	.SI DUP
10BB- B2 08	2531	.SI CAT
10BD- A9 09	2532	.SI BL
10BF- 3A 0B	2533	.SI SUB
10C1- 9B 03	2534	.SI ZBRAN
10C3- 15 00	2535	.SE NUM2--
10C5- 5E 08	2536	.SI DUP
10C7- B2 08	2537	.SI CAT
10C9- 8F 02	2538	.SI CLIT
10CB- 2E	2539	.BY \$2E
10CC- 3A 0B	2540	.SI SUB
10CE- 88 09	2541	.SI ZERO
10D0- EB 0C	2542	.SI QERR
10D2- 88 09	2543	.SI ZERO
10D4- 7C 03	2544	.SI BRAN
10D6- DD FF	2545	.SE NUM1--
10D8- 3D 08	2546 NUM2	.SI DROP
10DA- 12 07	2547	.SI RFROM
10DC- 9B 03	2548	.SI ZBRAN
10DE- 04 00	2549	.SE NUM3--
10E0- 15 08	2550	.SI DNEGATE
10E2- D2 06	2551 NUM3	.SI SEMIS
	2552	
	2553 ;	-FIND
	2554	
10E4- 85 2D 46	2555	.BY \$85 '-FIN' \$C4
10E7- 49 4E C4		
10EA- 8D 10	2556	.SI NUMBER-\$09
10EC- FC 08	2557 DFIND	.SI DOCOL
10EE- A9 09	2558	.SI BL
10F0- F9 0F	2559	.SI WORD
10F2- 8B 0A	2560	.SI CON
10F4- 9D 08	2561	.SI AT
10F6- 9D 08	2562	.SI AT
10F8- CD 04	2563	.SI PFIND
10FA- 5E 08	2564	.SI DUP
10FC- 53 07	2565	.SI ZEQU
10FE- 9B 03	2566	.SI ZBRAN
1100- 0A 00	2567	.SE DFIND1--
1102- 3D 08	2568	.SI DROP
1104- FD 0A	2569	.SI HERE
1106- 84 0C	2570	.SI LATES
1108- CD 04	2571	.SI PFIND
110A- D2 06	2572 DFIND1	.SI SEMIS

2573  
 2574 ; (ABORT)  
 2575  
 110C- 87 28 41 2576 .BY \$87 '(ABORT' \$A9  
 110F- 42 4F 52  
 1112- 54 A9  
 1114- E4 10 2577 .SI DFIND-\$08  
 1116- FC 08 2578 PABOR .SI DOCOL  
 1118- A5 13 2579 .SI ABORT  
 111A- D2 06 2580 .SI SEMIS  
 2581  
 2582 ; ERROR  
 2583  
 111C- 85 45 52 2584 .BY \$85 'ERRO' \$D2  
 111F- 52 4F D2  
 1122- 0C 11 2585 .SI PABOR-\$0A  
 1124- FC 08 2586 ERROR .SI DOCOL  
 1126- 39 0A 2587 .SI WARN  
 1128- 9D 08 2588 .SI AT  
 112A- 68 07 2589 .SI ZLESS  
 112C- 9B 03 2590 .SI ZBRAN  
 112E- 04 00 2591 .SE ERROR1--  
 1130- 16 11 2592 .SI PABOR  
 1132- FD 0A 2593 ERROR1 .SI HERE  
 1134- 4F 0E 2594 .SI COUNT  
 1136- 62 0E 2595 .SI TYPE  
 1138- BF 0E 2596 .SI PDOTQ  
 113A- 04 20 20 2597 .BY \$04 ' ? '  
 113D- 3F 20  
 113F- 1D 18 2598 .SI MESS  
 1141- AE 06 2599 .SI SPSTO  
 1143- 3D 08 2600 .SI DROP  
 1145- 3D 08 2601 .SI DROP  
 1147- 6C 0A 2602 .SI IN  
 1149- 9D 08 2603 .SI AT  
 114B- 63 0A 2604 .SI BLK  
 114D- 9D 08 2605 .SI AT  
 114F- 76 13 2606 .SI QUIT  
 1151- D2 06 2607 .SI SEMIS  
 2608  
 2609 ; ID.  
 2610  
 1153- 83 49 44 2611 .BY \$83 'ID' \$AE  
 1156- AE  
 1157- 1C 11 2612 .SI ERROR-\$08  
 1159- FC 08 2613 IDDOT .SI DOCOL  
 115B- E7 0F 2614 .SI PAD  
 115D- 8F 02 2615 .SI CLIT  
 115F- 20 2616 .BY \$20  
 1160- 8F 02 2617 .SI CLIT  
 1162- 5F 2618 .BY \$5F  
 1163- 7F 0F 2619 .SI FILL  
 1165- 5E 08 2620 .SI DUP  
 1167- C4 0C 2621 .SI PFA  
 1169- 94 0C 2622 .SI LFA  
 116B- 2C 08 2623 .SI OVER  
 116D- 3A 0B 2624 .SI SUB  
 116F- E7 0F 2625 .SI PAD

1171- 46 08 2626 .SI SWAP  
 1173- B5 05 2627 .SI CMOVE  
 1175- E7 0F 2628 .SI PAD  
 1177- 4F 0E 2629 .SI COUNT  
 1179- 8F 02 2630 .SI CLIT  
 117B- 1F 2631 .BY \$1F  
 117C- 5E 06 2632 .SI ANDD  
 117E- 62 0E 2633 .SI TYPE  
 1180- 3A 0C 2634 .SI SPACE  
 1182- D2 06 2635 .SI SEMIS  
 2636  
 2637 ; CREATE  
 2638  
 1184- 86 43 52 2639 .BY \$86 'CREAT' \$C5  
 1187- 45 41 54  
 118A- C5  
 118B- 53 11 2640 .SI IDDOT-\$06  
 118D- FC 08 2641 CREAT .SI DOCOL  
 118F- C8 09 2642 .SI FIRST  
 1191- FD 0A 2643 .SI HERE  
 1193- 8F 02 2644 .SI CLIT  
 1195- A0 2645 .BY \$A0  
 1196- 90 07 2646 .SI PLUS  
 1198- B1 0B 2647 .SI ULESS  
 119A- 98 09 2648 .SI TWO  
 119C- EB 0C 2649 .SI QERR  
 119E- EC 10 2650 .SI DFIND  
 11A0- 9B 03 2651 .SI ZBRAN  
 11A2- OF 00 2652 .SE CREAT1--  
 11A4- 3D 08 2653 .SI DROP  
 11A6- AF 0C 2654 .SI NFA  
 11A8- 59 11 2655 .SI IDDOT  
 11AA- 8F 02 2656 .SI CLIT  
 11AC- 04 2657 .BY \$04  
 11AD- 1D 18 2658 .SI MESS  
 11AF- 3A 0C 2659 .SI SPACE  
 11B1- FD 0A 2660 CREAT1 .SI HERE  
 11B3- 5E 08 2661 .SI DUP  
 11B5- B2 08 2662 .SI CAT  
 11B7- 2C 0A 2663 .SI WIDTH  
 11B9- 9D 08 2664 .SI AT  
 11BB- B0 15 2665 .SI MIN  
 11BD- E1 0A 2666 .SI ONEP  
 11BF- OD 0B 2667 .SI ALLOT  
 11C1- 5E 08 2668 .SI DUP  
 11C3- 8F 02 2669 .SI CLIT  
 11C5- 80 2670 .BY \$80  
 11C6- 8E 08 2671 .SI TOGGL  
 11C8- FD 0A 2672 .SI HERE  
 11CA- 90 09 2673 .SI ONE  
 11CC- 3A 0B 2674 .SI SUB  
 11CE- 8F 02 2675 .SI CLIT  
 11D0- 80 2676 .BY \$80  
 11D1- 8E 08 2677 .SI TOGGL  
 11D3- 84 0C 2678 .SI LATES  
 11D5- 19 0B 2679 .SI COMMA  
 11D7- 98 0A 2680 .SI CURR  
 11D9- 9D 08 2681 .SI AT

11DB- C1 08	2682	.SI STORE
11DD- 98 09	2683	.SI TWO
11DF- 0D 0B	2684	.SI ALLOT
11E1- EC 0D	2685	.SI PSCOD
11E3- 18	2686 DOCREAT	CLC
11E4- A5 B1	2687	LDA *W
11E6- 69 02	2688	ADC #\$02
11E8- 48	2689	PHA
11E9- 98	2690	TYA
11EA- 65 B2	2691	ADC *W+1
11EC- 4C 5C 02	2692	JMP PUSH
	2693	
	2694 ;	[COMPILE]
	2695	
11EF- C9 5B 43	2696	.BY \$C9 '[COMPILE]' \$DD
11F2- 4F 4D 50		
11F5- 49 4C 45		
11F8- DD		
11F9- 84 11	2697	.SI CREAT-\$09
11FB- FC 08	2698 BCOMP	.SI DOCOL
11FD- EC 10	2699	.SI DFIND
11FF- 53 07	2700	.SI ZEQU
1201- 88 09	2701	.SI ZERO
1203- EB 0C	2702	.SI QERR
1205- 3D 08	2703	.SI DROP
1207- A3 0C	2704	.SI CFA
1209- 19 0B	2705	.SI COMMA
120B- D2 06	2706	.SI SEMIS
	2707	
	2708 ;	LITERAL
	2709	
120D- C7 4C 49	2710	.BY \$C7 'LITERA' \$CC
1210- 54 45 52		
1213- 41 CC		
1215- EF 11	2711	.SI BCOMP-\$0C
1217- FC 08	2712 LITER	.SI DOCOL
1219- A3 0A	2713	.SI STATE
121B- 9D 08	2714	.SI AT
121D- 9B 03	2715	.SI ZBRAN
121F- 08 00	2716	.SE LITER1--
1221- 79 0D	2717	.SI COMP
1223- 49 02	2718	.SI LIT
1225- 19 0B	2719	.SI COMMA
1227- D2 06	2720 LITER1	.SI SEMIS
	2721	
	2722 ;	CLITERAL
	2723	
1229- C8 43 4C	2724	.BY \$C8 'CLITERA' \$CC
122C- 49 54 45		
122F- 52 41 CC		
1232- 0D 12	2725	.SI LITER-\$0A
1234- FC 08	2726 CLITER	.SI DOCOL
1236- A3 0A	2727	.SI STATE
1238- 9D 08	2728	.SI AT
123A- 9B 03	2729	.SI ZBRAN
123C- 08 00	2730	.SE CLITER1--
123E- 79 0D	2731	.SI COMP
1240- 8F 02	2732	.SI CLIT

1242- 2A 0B	2733	.SI CCOMM
1244- D2 06	2734 CLITER1	.SI SEMIS
	2735	
	2736	
	2737 ;	DLITERAL
	2738	
1246- C8 44 4C	2739	.BY \$C8 'DLITERA' \$CC
1249- 49 54 45		
124C- 52 41 CC		
124F- 29 12	2740	.SI CLITER-\$0B
1251- FC 08	2741 DLIT	.SI DOCOL
1253- A3 0A	2742	.SI STATE
1255- 9D 08	2743	.SI AT
1257- 9B 03	2744	.SI ZBRAN
1259- 08 00	2745	.SE DLIT1--
125B- 46 08	2746	.SI SWAP
125D- 17 12	2747	.SI LITER
125F- 17 12	2748	.SI LITER
1261- D2 06	2749 DLIT1	.SI SEMIS
	2750	
	2751 ;	?STACK
	2752	
1263- 86 3F 53	2753	.BY \$86 '?STAC' \$CB
1266- 54 41 43		
1269- CB		
126A- 46 12	2754	.SI DLIT-\$0B
126C- FC 08	2755 QSTAC	.SI DOCOL
126E- 8F 02	2756	.SI CLIT
1270- 9E	2757	.BY TOS
1271- 9F 06	2758	.SI SPAT
1273- B1 0B	2759	.SI ULESS
1275- 90 09	2760	.SI ONE
1277- EB 0C	2761	.SI QERR
1279- 9F 06	2762	.SI SPAT
127B- 8F 02	2763	.SI CLIT
127D- 20	2764	.BY BOS
127E- B1 0B	2765	.SI ULESS
1280- 8F 02	2766	.SI CLIT
1282- 07	2767	.BY \$07
1283- EB 0C	2768	.SI QERR
1285- D2 06	2769	.SI SEMIS
	2770	
	2771 ;	INTERPRET
	2772	
1287- 89 49 4E	2773	.BY \$89 'INTERPRE' \$D4
128A- 54 45 52		
128D- 50 52 45		
1290- D4		
1291- 63 12	2774	.SI QSTAC-\$09
1293- FC 08	2775 INTER	.SI DOCOL
1295- EC 10	2776 INT1	.SI DFIND
1297- 9B 03	2777	.SI ZBRAN
1299- 1E 00	2778	.SE INT4--
129B- A3 0A	2779	.SI STATE
129D- 9D 08	2780	.SI AT
129F- C2 0B	2781	.SI LESS
12A1- 9B 03	2782	.SI ZBRAN
12A3- 0A 00	2783	.SE INT2--

12A5- A3 OC	2784	.SI CFA
12A7- 19 OB	2785	.SI COMMA
12A9- 7C 03	2786	.SI BRAN
12AB- 06 00	2787	.SE INT3--
12AD- A3 OC	2788	INT2 .SI CFA
12AF- 59 03	2789	.SI EXEC
12B1- 6C 12	2790	INT3 .SI QSTAC
12B3- 7C 03	2791	.SI BRAN
12B5- 2E 00	2792	.SE INT7--
12B7- FD 0A	2793	INT4 .SI HERE
12B9- 96 10	2794	.SI NUMBER
12BB- B6 0A	2795	.SI DPL
12BD- 9D 08	2796	.SI AT
12BF- E1 0A	2797	.SI ONEP
12C1- 9B 03	2798	.SI ZBRAN
12C3- 08 00	2799	.SE INT5--
12C5- 51 12	2800	.SI DLIT
12C7- 7C 03	2801	.SI BRAN
12C9- 18 00	2802	.SE INT6--
12CB- 3D 08	2803	INT5 .SI DROP
12CD- 5E 08	2804	.SI DUP
12CF- 49 02	2805	.SI LIT
12D1- 00 FF	2806	.SE \$FF00
12D3- 5E 06	2807	.SI ANDD
12D5- 9B 03	2808	.SI ZBRAN
12D7- 08 00	2809	.SE INT55--
12D9- 17 12	2810	.SI LITER
12DB- 7C 03	2811	.SI BRAN
12DD- 04 00	2812	.SE INT6--
12DF- 34 12	2813	INT55 .SI CLITER
12E1- 6C 12	2814	INT6 .SI QSTAC
12E3- 7C 03	2815	INT7 .SI BRAN
12E5- B0 FF	2816	.SE INT1--
	2817	
	2818 ;	IMMEDIATE
	2819	
12E7- 89 49 4D	2820	.BY \$89 'IMMEDIAT' \$C5
12EA- 4D 45 44		
12ED- 49 41 54		
12F0- C5		
12F1- 87 12	2821	.SI INTER-\$OC
12F3- FC 08	2822	IMMED .SI DOCOL
12F5- 84 0C	2823	.SI LATES
12F7- 8F 02	2824	.SI CLIT
12F9- 40	2825	.BY \$40
12FA- 8E 08	2826	.SI TOGGL
12FC- D2 06	2827	.SI SEMIS
	2828	
	2829 ;	
	2830	
12FE- 8A 56 4F	2831	.BY \$8A 'VOCABULAR' \$D9
1301- 43 41 42		
1304- 55 4C 41		
1307- 52 D9		
1309- E7 12	2832	.SI IMMED-\$OC
130B- FC 08	2833	VOCAB .SI DOCOL
130D- 8D 11	2834	.SI CREAT
130F- 49 02	2835	.SI LIT

1311- 81 A0	2836	.SE \$A081 ;USED TO LINK VOCABULARIES
1313- 19 OB	2837	.SI COMMA
1315- 98 0A	2838	.SI CURR
1317- 9D 08	2839	.SI AT
1319- A3 OC	2840	.SI CFA
131B- 19 OB	2841	.SI COMMA
131D- FD 0A	2842	.SI HERE
131F- 5A 0A	2843	.SI VOCL
1321- 9D 08	2844	.SI AT
1323- 19 OB	2845	.SI COMMA
1325- 5A 0A	2846	.SI VOCL
1327- C1 08	2847	.SI STORE
1329- EC OD	2848	.SI PSCOD
132B- 20 2B OE	2849	DOVOC JSR DODOES
132E- EE 0A	2850	.SI TWOP
1330- 8B 0A	2851	.SI CON
1332- C1 08	2852	.SI STORE
1334- D2 06	2853	.SI SEMIS
	2854	
	2855 ;	FORTH
	2856	
1336- C5 46 4F	2857	.BY \$C5 'FORT' \$C8
1339- 52 54 C8		
133C- FE 12	2858	.SI VOCAB-\$OD
133E- 2B 13	2859	FORTH .SI DOVOC
1340- 81 A0	2860	.SE \$A081
1342- B8 25	2861	XFOR .SI NTOP
1344- 00 00	2862	VLO .SE \$0000
	2863	
	2864 ;	DEFINITIONS
	2865	
1346- 8B 44 45	2866	.BY \$8B 'DEFINITION' \$D3
1349- 46 49 4E		
134C- 49 54 49		
134F- 4F 4E D3		
1352- 36 13	2867	.SI FORTH-\$08
1354- FC 08	2868	DEFIN .SI DOCOL
1356- 8B 0A	2869	.SI CON
1358- 9D 08	2870	.SI AT
135A- 98 0A	2871	.SI CURR
135C- C1 08	2872	.SI STORE
135E- D2 06	2873	.SI SEMIS
	2874	
	2875 ;	(
	2876	
1360- C1 A8	2877	.BY \$C1 \$A8
1362- 46 13	2878	.SI DEFIN-\$0E
1364- FC 08	2879	CLBRAC .SI DOCOL
1366- 8F 02	2880	.SI CLIT
1368- 29	2881	.BY \$29
1369- F9 0F	2882	.SI WORD
136B- 3D 08	2883	.SI DROP
136D- D2 06	2884	.SI SEMIS
	2885	
	2886 ;	QUIT
	2887	
136F- 84 51 55	2888	.BY \$84 'QUI' \$D4
1372- 49 D4		

1374- 60 13	2889	.SI CLBRAC-\$04
1376- FC 08	2890	QUIT .SI DOCOL
1378- 88 09	2891	.SI ZERO
137A- 63 0A	2892	.SI BLK
137C- C1 08	2893	.SI STORE
137E- 8F 0D	2894	.SI LBRAC
1380- BE 06	2895	QUIT1 .SI RPSTO
1382- AB 05	2896	.SI CR
1384- 66 0F	2897	.SI QUERY
1386- 93 12	2898	.SI INTER
1388- A3 0A	2899	.SI STATE
138A- 9D 08	2900	.SI AT
138C- 53 07	2901	.SI ZEQU
138E- 9B 03	2902	.SI ZBRAN
1390- 07 00	2903	.SE QUIT2==
1392- BF 0E	2904	.SI PDOTQ
1394- 02 4F 4B	2905	.BY \$02 'OK'
1397- 7C 03	2906	QUIT2 .SI BRAN
1399- E7 FF	2907	.SE QUIT1==
139B- D2 06	2908	.SI SEMIS
	2909	
	2910 ;	ABORT
	2911	
139D- 85 41 42	2912	.BY \$85 'ABOR' \$D4
13A0- 4F 52 D4		
13A3- 6F 13	2913	.SI QUIT-\$07
13A5- FC 08	2914	ABORT .SI DOCOL
13A7- AE 06	2915	.SI SPSTO
13A9- D7 0D	2916	.SI DECIM
13AB- C9 1A	2917	.SI OFF
13AD- 47 1A	2918	.SI SET2
13AF- AB 05	2919	.SI CR
13B1- BF 0E	2920	.SI PDOTQ
13B3- 1F 53 4B	2921	.BY \$1F 'SK-FORTH 2.0 BY JOHN W. BROWN'
13B6- 2D 46 4F		
13B9- 52 54 48		
13BC- 20 32 2E		
13BF- 30 20 20		
13C2- 42 59 20		
13C5- 20 4A 4F		
13C8- 48 4E 20		
13CB- 57 2E 20		
13CE- 42 52 4F		
13D1- 57 4E		
13D3- AB 05	2922	.SI CR
13D5- AB 05	2923	.SI CR
13D7- BF 0E	2924	.SI PDOTQ
13D9- 2B 43 4F	2925	.BY \$2B 'COPYRIGHT (C) 1981 '
13DC- 50 59 52		
13DF- 49 47 48		
13E2- 54 20 28		
13E5- 43 29 20		
13E8- 31 39 38		
13EB- 31 20		
13ED- 20 53 41	2926	.BY ' SATURN SOFTWARE LIMITED'
13F0- 54 55 52		
13F3- 4E 20 53		
13F6- 4F 46 54		

13F9- 57 41 52			
13FC- 45 20 4C			
13FF- 49 4D 49			
1402- 54 45 44			
1405- 3E 13	2927	.SI FORTH	
1407- 54 13	2928	.SI DEFIN	
1409- AB 05	2929	.SI CR	
140B- BF 0E	2930	.SI PDOTQ	
140D- 02 4F 4B	2931	.BY \$02 'OK'	
1410- 76 13	2932	.SI QUIT	
	2933		
	2934 ;	CCOLD	
	2935		
1412- 85 43 43	2936	.BY \$85 'CCOL' \$C4	
1415- 4F 4C C4			
1418- 9D 13	2937	.SI ABORT-\$08	
141A- 1C 14	2938	.SI +=2	
141C- AD 2A 02	2939	LDA FORTH.TOP FROM CS AREA	
141F- 8D 42 13	2940	STA FORTH+\$04	
1422- AD 2B 02	2941	LDA FORTH.TOP+1	
1425- 8D 43 13	2942	STA FORTH+\$05	
1428- A0 15	2943	LDY #\$15	
142A- D0 02	2944	BNE WARM1	
142C- A0 0F	2945	WARM LDY #\$0F	
142E- AD 2E 02	2946	WARM1 LDA I.UP	
1431- 85 B3	2947	STA *UP	
1433- AD 2F 02	2948	LDA I.UP+1	
1436- 85 B4	2949	STA *UP+1	
1438- B9 2A 02	2950	WARM2 LDA FORTH.TOP,Y	
143B- 91 B3	2951	STA (UP),Y	
143D- 88	2952	DEY	
143E- 10 F8	2953	BPL WARM2	
1440- A9 13	2954	LDA #H,ABORT+2	
1442- 85 AF	2955	STA *IP+1	
1444- A9 A7	2956	LDA #L,ABORT+2	
1446- 85 AE	2957	STA *IP	
1448- D8	2958	CLD	
	2959		
	2960	IFE SYM-1	
1449- 20 86 8B	2961	JSR ACCESS	
144C- A9 00	2962	LDA #\$00	
144E- 8D 53 A6	2963	STA TECHO	
1451- AD 02 A0	2964	LDA VIADRB	
1454- 09 80	2965	ORA #\$80	
1456- 8D 02 A0	2966	STA VIADRB	
1459- 20 27 19	2967	JSR TOFF1	
145C- 20 75 19	2968	JSR TTYCLOSE	
145F- A9 4A	2969	LDA #L,MONBRK	
1461- 8D 76 A6	2970	STA USRBRK	
1464- A9 80	2971	LDA #H,MONBRK	
1466- 8D 77 A6	2972	STA USRBRK+1	
	2973	***	
	2974		
	2975	IFE KIM-1	
	2976	JSR INIT1	
	2977	LDA PBDD	
	2978	ORA #\$0C	
	2979	STA PBDD	

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2980 JSR TOFF0
2981 JSR TOFF1
2982 LDA #L,REENTER
2983 STA USRBRK
2984 STA NMIVEC
2985 LDA #H,REENTER
2986 STA USRBRK+1
2987 STA NMIVEC+1
2988 ***
2989
1469- A2 FF 2990 LDX # $FF
146B- 9A 2991 TXS
2992
146C- A9 OC 2993 LDA # $OC ;CLEAR SCREEN
146E- 20 09 02 2994 JSR TOUT.VEC
1471- 20 1E 02 2995 JSR BELL.VEC ;DELAY
1474- 4C C0 06 2996 JMP RPSTO+2
2997
2998 .CT FTH30

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2999 ;
3000 ;*****
3001 ;** SK-FORTH (79-STANDARD) **
3002 ;** HDE MINI/SYKES DISK VERSION **
3003 ;** BY JACK W. BROWN **
3004 ;** COPYRIGHT (C) 1980 **
3005 ;** SATURN SOFTWARE LIMITED **
3006 ;** (ALL RIGHTS RESERVED) **
3007 ;** P. O. BOX 397 **
3008 ;** NEW WESTMINSTER, B. C. **
3009 ;** V3L 4Y7, CANADA **
3010 ;*****
3011 ;
3012
3013 ;*****
3014 ;** SYM/KIM-FORTH PART 5 **
3015 ;** DISK FILE FTH30 **
3016 ;*****
3017
3018 ;KIM AUTOMATIC CASSETTE MOTOR CONTROL
3019 ;CASSETTE 0 IS CONTROLLED BY BIT 3 OF $1702
3020 ;CASSETTE 1 IS CONTROLLED BY BIT 2 OF $1702
3021
3022 IFE KIM-1
3023
3024 ;** TURN OFF MOTOR 0
3025
3026 TOFF0 LDA PBD
3027 ORA # $08
3028 STA PBD
3029 RTS
3030
3031 ;** TURN OFF MOTOR 1
3032
3033 TOFF1 LDA PBD
3034 ORA # $04

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3035 STA PBD
3036 RTS
3037
3038 ;** TURN ON MOTOR 0
3039
3040 TONO LDA PBD
3041 AND # $F7
3042 STA PBD
3043 RTS
3044
3045 ;** TURN ON MOTOR 1
3046
3047 TON1 LDA PBD
3048 AND # $FB
3049 STA PBD
3050 RTS
3051
3052 ;** TOGGLE MOTOR 0
3053
3054 TOGO LDA PBD
3055 EOR # $08
3056 STA PBD
3057 RTS
3058
3059 ;** TOGGLE MOTOR 1
3060
3061 TOG1 LDA PBD
3062 EOR # $04
3063 STA PBD
3064 RTS
3065
3066 ***
3067
3068 IFE MYKIM-1
3069
3070 BEEP JSR SAVER
3071 LDA # $10
3072 STA VIA.ACR
3073 LDA # $0F
3074 STA VIA.SR
3075 LDA # $80
3076 STA VIA.T2LL
3077 JSR DELAY
3078 LDA # $00
3079 STA VIA.ACR
3080 JMP RESALL
3081
3082 DELAY JSR SAVER
3083 LDY # $FF
3084 DELAY1 LDX # $FF
3085 DELAY2 DEX
3086 BNE DELAY2
3087 DEY
3088 BNE DELAY1
3089 JMP RESALL
3090 ***
3091
3092 IFE KIM-1

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3093
3094 INCH BIT SAD ;WAIT FOR START BIT
3095 BMI INCH
3096 LDA SBD ;TURN OFF OUTPUT
3097 AND #$FE
3098 STA SBD
3099 JSR GETCH
3100 PHA
3101 LDA SBD ;TURN OUTPUT ON
3102 ORA #$01
3103 STA SBD
3104 PLA
3105 RETURN RTS
3106
3107 INSTAT JSR SAVER ;ANY KEY BREAK
3108 LDX #$08
3109 INST1 BIT SAD
3110 BPL INST2
3111 DE X
3112 BPL INST1
3113 CLC
3114 BCC INST3
3115 INST2 LDA SBD ; TURN OFF PORT
3116 AND #$FE
3117 STA SBD
3118 JSR BELL.VEC
3119 LDA SBD
3120 ORA #$01
3121 STA SBD
3122 SEC
3123 INST3 JMP RESXF
3124
3125 CREAD JSR SAVER
3126 JSR LOAD>
3127 LDA #$00
3128 BCC CREAD1
3129 LDA #$01
3130 CREAD1 JMP RESXAF
3131
3132 LOAD> LDX #$00
3133 STX TSPEED
3134
3135 LOADT JSR SET.SPEED ;INITIALIZE
3136 JSR TAPE.INIT
3137
3138 LOADT2 JSR SYNC ;GET IN SYNC
3139 LOADT4 JSR RDBYT
3140 STA SAD ;DISPLAY ON LEDS
3141 CMP #SYN
3142 BEQ LOADT4
3143 CMP #'*
3144 BNE LOADT2 ;TRY AGAIN
3145 JSR RDBYT
3146 STA SAD ;DISPLAY
3147 STA TFID>+1
3148 CMP TFID>
3149 BEQ LOADT5
3150 LDA TFID>

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3151 BEQ LOADT5 ;LOAD ANYWAY
3152 CMP #$FF
3153 BNE LOADT2 ;TRY AGAIN
3154
3155 LDX #$03
3156 IGNOR JSR RDCHK PASS OVER
3157 DE X
3158 BPL IGNOR
3159 BMI LOADT7
3160
3161 LOADT5 JSR RDCHK
3162 STA *BUFADL
3163 STA TSAD>
3164 JSR RDCHK
3165 STA *BUFADH
3166 STA TSAD>+1
3167
3168 JSR RDCHK
3169 STA TEAD>
3170 JSR RDCHK
3171 STA TEAD>+1
3172
3173 LOADT7 JSR RDBYT
3174 LDX *BUFADL ;CHECK FOR END
3175 CPX TEAD> ;OF TAPE FILE
3176 BNE LOADT8
3177 LDX *BUFADH
3178 CPX TEAD>+1
3179 BEQ LOADT9
3180
3181 LOADT8 JSR CHKT
3182 LDY #$00
3183 STA (BUFADL),Y
3184 INC *BUFADL
3185 BNE LOADT7
3186 INC *BUFADH
3187 BNE LOADT7
3188
3189 LOADT9 CMP #' / ;END OF FILE MARKER
3190 BNE NGEXIT
3191 JSR RDBYT
3192 CMP SCR6
3193 BNE NGEXIT
3194 JSR RDBYT
3195 CMP SCR7
3196 BEQ OKEXIT
3197
3198 NGEXIT SEC
3199 BCS EXIT>
3200 OKEXIT CLC
3201 EXIT> PHP
3202 JSR INIT1
3203 PLP
3204 RTS
3205
3206 CWRITE JSR SAVER
3207 JSR DUMP>
3208 LDA #$00

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3209      BCC CWRITE1
3210      LDA #S01
3211 CWRITE1  JMP RESXAF
3212
3213 DUMP>   LDA #S03
3214      LDX #S00
3215      STA TAPE.DEL
3216      STX TSPEED
3217
3218 DUMPT    JSR SET.SPEED
3219      JSR TAPE.INIT
3220      LDX TAPE.DEL
3221      LDY #S80
3222
3223 DUMPT1   TXA
3224      PHA
3225 DUMPT1A  LDA #SYN
3226      JSR OUTBYT
3227      DEY
3228      BNE DUMPT1A
3229      PLA
3230      TAX
3231      DEX
3232      BNE DUMPT1
3233
3234      LDA #'*
3235      JSR OUTBYT
3236      LDA TFID>
3237      JSR OUTBYT
3238      LDA TSAD>
3239      JSR OUTCHK
3240      LDA TSAD>+1
3241      JSR OUTCHK
3242      LDA TEAD>
3243      JSR OUTCHK
3244      LDA TEAD>+1
3245      JSR OUTCHK
3246
3247 DUMPT2   LDA *BUFADL
3248      CMP TEAD>
3249      BNE DUMPT4
3250      LDA *BUFADH
3251      CMP TEAD>+1
3252      BNE DUMPT4
3253      LDA #' /
3254      JSR OUTBYT
3255      LDA SCR6
3256      JSR OUTBYT
3257      LDA SCR7
3258      JSR OUTBYT
3259      LDA #EOT
3260      JSR OUTBYT
3261      LDA #EOT
3262      JSR OUTBYT
3263      JMP OKEXIT
3264
3265 DUMPT4   LDY #S00
3266      LDA (BUFADL),Y

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3267      JSR OUTCHK
3268      INC *BUFADL
3269      BNE DUMPT2
3270      INC *BUFADH
3271      JMP DUMPT2
3272
3273 SET.SPEED LDX TSPEED
3274      LDA BDRY.TAB,X
3275      STA *BDRY
3276      LDA TAPE1.TAB,X
3277      STA TAPE1
3278      LDA TAPE2.TAB,X
3279      STA TAPE2
3280      RTS
3281
3282 BDRY.TAB  .BY $46 $23 $17 $11
3283 TAPE1.TAB .BY $33 $19 $11 $0C
3284 TAPE2.TAB .BY $5A $2D $1E $16
3285
3286 TAPE.INIT JSR ZERCK ;ZERO CHECK SUM
3287      JSR CONF IG
3288      LDA TSAD>
3289      STA *BUFADL
3290      LDA TSAD>+1
3291      STA *BUFADH
3292      INC TEAD>
3293      BNE =+4
3294      INC TEAD>+1
3295      RTS
3296
3297 SYNC     LDA #S7F
3298      STA SADD
3299      LDA #S13
3300      STA SBD
3301
3302 SYNC5    JSR SYNBIT
3303      ROR *CHAR
3304      LDA *CHAR
3305      STA SAD
3306      CMP #SYN
3307      BNE SYNC5
3308      LDX #S0A
3309
3310 SYNC10   JSR RDBYT
3311      STA SAD
3312      CMP #SYN
3313      BNE SYNC5
3314      DEX
3315      BNE SYNC10
3316      DEX
3317      RTS
3318
3319 SYNBIT    JSR GETTR
3320      BCS GETTR
3321      RTS
3322
3323 GETTR    LDY #SFF
3324 NOTR     LDA PBD

```



```

3325 AND #BIT.IN
3326 CMP *OLD
3327 BEQ NOTR
3328 STA *OLD
3329 LDA TIMER
3330 STY TIM8
3331 CLC
3332 ADC *BDRY
3333 RTS
3334
3335 RDBYT STX SCR8
3336 LDX #S08
3337 JSR GETTR
3338 BCS RDBYT3
3339 RDBYT1 JSR GETTR
3340 BCC RDBYT2
3341 JSR GETTR
3342 SEC
3343 RDBYT2 ROR *CHAR
3344 DEX
3345 BNE RDBYT1
3346 LDA *CHAR
3347 RDBYT3 LDX SCR8
3348 RTS
3349
3350 RDCHK JSR RDBYT
3351 JMP CHKT
3352
3353 CONFIG LDA PBDD
3354 ORA #BIT.OUT
3355 AND #$FF-BIT.IN
3356 STA PBDD
3357 RTS
3358
3359 OUTCHK JSR CHKT
3360 OUTBYT LDX #S09
3361 STY SCR9
3362 STA *CHAR
3363 LDA PBD
3364
3365 OUTBYT1 LSR *CHAR ;GET BIT
3366 EOR #BIT.OUT
3367 STA PBD
3368 LDY TAPE1
3369
3370 OUTBYT2 DEY ;DELAY TAPE1 TIME
3371 BNE OUTBYT2
3372 BCC OUTBYT5
3373 EOR #BIT.OUT ;FLIP BIT
3374 STA PBD
3375
3376 OUTBYT3 LDY TAPE2
3377 OUTBYT4 DEY ;DELAY TAPE2 TIME
3378 BNE OUTBYT4
3379 DEX
3380 BNE OUTBYT1 ;NEXT BIT
3381 LDY SCR9
3382 RTS

```

```

3383
3384 NOP
3385 OUTBYT5 NOP ;DELAY SAME AMT
3386 BCC OUTBYT3
3387 ***
3388
3389 .CT FTH35

```

```

3390 ;
3391 ;*****
3392 ;** SK-FORTH (79-STANDARD) **
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3394 ;** COPYRIGHT (C) 1980 **
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3398 ;** NEW WESTMINSTER, B. C. **
3399 ;** V3L 4Y7, CANADA **
3400 ;*****
3401 ;
3402
3403 ;*****
3404 ;** SYM/KIM-FORTH PART 6 **
3405 ;** DISK FILE FTH35 **
3406 ;*****
3407
3408
3409 ; INITIALIZE FOR SYM TAPE I/O
3410
3411 IFE SYM-1
3412 TAPE.INIT LDY #S80 ;HI SPEED MODE
3413 STY *MODE
3414 LDA #S09
3415 JSR CONFIG ;I/O CONFIGURATION
3416 JSR ZERCK ;ZERO CHECK SUM
3417 JSR P2SCR ;START AD TO $00FE
3418 RTS
3419 ***
3420
3421 ; TSAD
3422
3423 .BY $84 'TSA' $C4
3424
3425 TSAD .SI CCOLD-$08
3426 .SE TSAD>
3427
3428 ; TEAD
3429
3430 .BY $84 'TEA' $C4
3431
3432 TEAD .SI TSAD-$07
3433 .SE TEAD>
3434
3435 ; Tfid

```

149D- 84 54 46	3436	
14A0- 49 C4	3437	.BY \$84 'TFI' \$C4
14A2- 92 14	3438	.SI TEAD-\$07
14A4- 48 09	3439	TFID .SI DOCON
14A6- 4E A6	3440	.SE TFID>
	3441	
	3442 ;	S2
	3443	
14A8- 82 53 B2	3444	.BY \$82 'S' \$B2
14AB- 9D 14	3445	.SI TFID-\$07
14AD- AF 14	3446	S2 .SI =+2
14AF- 20 24 02	3447	JSR CWRITE.VEC
14B2- 4C A2 06	3448	JMP PUSHOA
	3449	
	3450	IFE SYM-1
14B5- 20 88 81	3451	CWRITE JSR SAVER
14B8- 20 93 82	3452	JSR INCP3
14BB- 20 77 14	3453	JSR TAPE.INIT
14BE- 20 8A 8E	3454	JSR MONSAVE
14C1- A9 00	3455	LDA #\$00
14C3- 90 02	3456	BCC CWRITE1
14C5- A9 01	3457	LDA #\$01
14C7- 4C B8 81	3458	CWRITE1 JMP RESXAF
	3459	***
	3460	
	3461 ;	L2
	3462	
14CA- 82 4C B2	3463	.BY \$82 'L' \$B2
14CD- A8 14	3464	.SI S2-\$05
14CF- D1 14	3465	L2 .SI =+2
14D1- AD 4E A6	3466	LDA TFID>
14D4- C9 FF	3467	CMP #\$FF
14D6- FO 1B	3468	BEQ L2ERR
14D8- 20 21 02	3469	JSR CREAD.VEC
14DB- 4C A2 06	3470	JMP PUSHOA
	3471	
	3472 ;	LF2
	3473	
14DE- 83 4C 46	3474	.BY \$83 'LF' \$B2
14E1- B2		
14E2- CA 14	3475	.SI L2-\$05
14E4- E6 14	3476	LF2 .SI =+2
14E6- AD 4E A6	3477	LDA TFID>
14E9- C9 FF	3478	CMP #\$FF
14EB- DO 06	3479	BNE L2ERR
14ED- 20 21 02	3480	JSR CREAD.VEC
14FO- 4C A2 06	3481	JMP PUSHOA
	3482	
14F3- A9 01	3483	L2ERR LDA #\$01
14F5- 4C A2 06	3484	JMP PUSHOA
	3485	
	3486	IFE SYM-1
14F8- 20 88 81	3487	CREAD JSR SAVER
14FB- 20 93 82	3488	JSR INCP3
14FE- 20 77 14	3489	JSR TAPE.INIT
1501- 20 7B 8C	3490	JSR MONLOAD
1504- A9 00	3491	LDA #\$00

1506- 90 02	3492	BCC CREAD1
1508- A9 01	3493	LDA #\$01
150A- 4C B8 81	3494	CREAD1 JMP RESXAF
	3495	***
	3496	
	3497	
	3498 ;	R/T
	3499	
150D- 83 52 2F	3500	.BY \$83 'R/' \$D4
1510- D4		
1511- DE 14	3501	.SI LF2-\$06
1513- E3 11	3502	R/T .SI DOCREAT
1515- 00 00	3503	.SE \$00
	3504	
	3505 ;	W/T
	3506	
1517- 83 57 2F	3507	.BY \$83 'W/' \$D4
151A- D4		
151B- OD 15	3508	.SI R/T-\$06
151D- E3 11	3509	W/T .SI DOCREAT
151F- 00 00	3510	.SE \$00
	3511	
	3512 ;	HARD
	3513	
1521- 84 48 41	3514	.BY \$84 'HAR' \$C4
1524- 52 C4		
1526- 17 15	3515	.SI W/T-\$06
1528- E3 11	3516	HARD .SI DOCREAT
152A- 00 00	3517	.SE \$00
	3518	
	3519 ;	TAPE
	3520	
152C- 84 54 41	3521	.BY \$84 'TAP' \$C5
152F- 50 C5		
1531- 21 15	3522	.SI HARD-\$07
1533- 35 15	3523	TAPE .SI =+2
1535- B5 00	3524	LDA *0,X
1537- FO 10	3525	BEQ TAPE0
1539- B5 02	3526	LDA *2,X
153B- FO 06	3527	BEQ TAPE1.OFF
153D- 20 39 19	3528	JSR TON1
1540- 4C 31 04	3529	JMP POPTWO
1543- 20 27 19	3530	TAPE1.OFF JSR TOFF1
1546- 4C 31 04	3531	JMP POPTWO
1549- B5 02	3532	TAPE0 LDA *2,X
154B- FO 06	3533	BEQ TAPE0.OFF
154D- 20 30 19	3534	JSR TONO
1550- 4C 31 04	3535	JMP POPTWO
1553- 20 1E 19	3536	TAPE0.OFF JSR TOFF0
1556- 4C 31 04	3537	JMP POPTWO
	3538	
	3539 ;	S->D
	3540	
1559- 84 53 2D	3541	.BY \$84 'S->' \$C4
155C- 3E C4		
155E- 2C 15	3542	.SI TAPE-\$07
1560- FC 08	3543	STOD .SI DOCOL
1562- 5E 08	3544	.SI DUP

1564- 68 07	3545	.SI ZLESS
1566- FB 07	3546	.SI NEGATE
1568- D2 06	3547	.SI SEMIS
	3548	
	3549 ;	+
	3550	
156A- 82 2B AD	3551	.BY \$82 '+' \$AD
156D- 59 15	3552	.SI STOD-\$07
156F- FC 08	3553 PM	.SI DOCOL
1571- 68 07	3554	.SI ZLESS
1573- 9B 03	3555	.SI ZBRAN
1575- 04 00	3556	.SE PM1--
1577- FB 07	3557	.SI NEGATE
1579- D2 06	3558 PM1	.SI SEMIS
	3559	
	3560 ;	D+-
	3561	
157B- 83 44 2B	3562	.BY \$83 'D+' \$AD
157E- AD		
157F- 6A 15	3563	.SI PM-\$05
1581- FC 08	3564 DPM	.SI DOCOL
1583- 68 07	3565	.SI ZLESS
1585- 9B 03	3566	.SI ZBRAN
1587- 04 00	3567	.SE DPM1--
1589- 15 08	3568	.SI DNEGATE
158B- D2 06	3569 DPM1	.SI SEMIS
	3570	
	3571 ;	ABS
	3572	
158D- 83 41 42	3573	.BY \$83 'AB' \$D3
1590- D3		
1591- 7B 15	3574	.SI DPM-\$06
1593- FC 08	3575 ABS	.SI DOCOL
1595- 5E 08	3576	.SI DUP
1597- 6F 15	3577	.SI PM
1599- D2 06	3578	.SI SEMIS
	3579	
	3580 ;	DABS
	3581	
159B- 84 44 41	3582	.BY \$84 'DAB' \$D3
159E- 42 D3		
15A0- 8D 15	3583	.SI ABS-\$06
15A2- FC 08	3584 DABS	.SI DOCOL
15A4- 5E 08	3585	.SI DUP
15A6- 81 15	3586	.SI DPM
15A8- D2 06	3587	.SI SEMIS
	3588	
	3589 ;	MIN
	3590	
15AA- 83 4D 49	3591	.BY \$83 'MI' \$CE
15AD- CE		
15AE- 9B 15	3592	.SI DABS-\$07
15B0- FC 08	3593 MIN	.SI DOCOL
15B2- 2C 08	3594	.SI OVER
15B4- 2C 08	3595	.SI OVER
15B6- 18 0C	3596	.SI GREAT
15B8- 9B 03	3597	.SI ZBRAN
15BA- 04 00	3598	.SE MIN1--

15BC- 46 08	3599	.SI SWAP
15BE- 3D 08	3600 MIN1	.SI DROP
15CO- D2 06	3601	.SI SEMIS
	3602	
	3603 ;	MAX
	3604	
	3605	.BY \$83 'MA' \$D8
15C2- 83 4D 41		
15C5- D8		
15C6- AA 15	3606	.SI MIN-\$06
15C8- FC 08	3607 MAX	.SI DOCOL
15CA- 2C 08	3608	.SI OVER
15CC- 2C 08	3609	.SI OVER
15CE- C2 08	3610	.SI LESS
15D0- 9B 03	3611	.SI ZBRAN
15D2- 04 00	3612	.SE MAX1--
15D4- 46 08	3613	.SI SWAP
15D6- 3D 08	3614 MAX1	.SI DROP
15D8- D2 06	3615	.SI SEMIS
	3616	
	3617 ;	M*
	3618	
15DA- 82 4D AA	3619	.BY \$82 'M' \$AA
15DD- C2 15	3620	.SI MAX-\$06
15DF- FC 08	3621 MSTAR	.SI DOCOL
15E1- 2C 08	3622	.SI OVER
15E3- 2C 08	3623	.SI OVER
15E5- 89 06	3624	.SI XOR
15E7- 00 07	3625	.SI TOR
15E9- 93 15	3626	.SI ABS
15EB- 46 08	3627	.SI SWAP
15ED- 93 15	3628	.SI ABS
15EF- E4 05	3629	.SI USTAR
15F1- 12 07	3630	.SI RFROM
15F3- 81 15	3631	.SI DPM
15F5- D2 06	3632	.SI SEMIS
	3633	
	3634 ;	M/
	3635	
15F7- 82 4D AF	3636	.BY \$82 'M' \$AF
15FA- DA 15	3637	.SI MSTAR-\$05
15FC- FC 08	3638 MSLAS	.SI DOCOL
15FE- 2C 08	3639	.SI OVER
1600- 00 07	3640	.SI TOR
1602- 00 07	3641	.SI TOR
1604- A2 15	3642	.SI DABS
1606- 24 07	3643	.SI R
1608- 93 15	3644	.SI ABS
160A- 21 06	3645	.SI USLAS
160C- 12 07	3646	.SI RFROM
160E- 24 07	3647	.SI R
1610- 89 06	3648	.SI XOR
1612- 6F 15	3649	.SI PM
1614- 46 08	3650	.SI SWAP
1616- 12 07	3651	.SI RFROM
1618- 6F 15	3652	.SI PM
161A- 46 08	3653	.SI SWAP
161C- D2 06	3654	.SI SEMIS
	3655	

	3656 ;	*	
	3657		
161E- 81 AA	3658	.BY \$81 \$AA	
1620- F7 15	3659	.SI MSLAS-\$05	
1622- FC 08	3660 STAR	.SI DOCOL	
1624- E4 05	3661	.SI USTAR	
1626- 3D 08	3662	.SI DROP	
1628- D2 06	3663	.SI SEMIS	
	3664		
	3665 ;	/MOD	
	3666		
162A- 84 2F 4D	3667	.BY \$84 '/MO' \$C4	
162D- 4F C4			
162F- 1E 16	3668	.SI STAR-\$04	
1631- FC 08	3669 SLMOD	.SI DOCOL	
1633- 00 07	3670	.SI TOR	
1635- 60 15	3671	.SI STOD	
1637- 12 07	3672	.SI RFROM	
1639- FC 15	3673	.SI MSLAS	
163B- D2 06	3674	.SI SEMIS	
	3675		
	3676 ;	/	
	3677		
163D- 81 AF	3678	.BY \$81 \$AF	
163F- 2A 16	3679	.SI SLMOD-\$07	
1641- FC 08	3680 SLASH	.SI DOCOL	
1643- 31 16	3681	.SI SLMOD	
1645- 46 08	3682	.SI SWAP	
1647- 3D 08	3683	.SI DROP	
1649- D2 06	3684	.SI SEMIS	
	3685		
	3686 ;	MOD	
	3687		
164B- 83 4D 4F	3688	.BY \$83 'MO' \$C4	
164E- C4			
164F- 3D 16	3689	.SI SLASH-\$04	
1651- FC 08	3690 MOD	.SI DOCOL	
1653- 31 16	3691	.SI SLMOD	
1655- 3D 08	3692	.SI DROP	
1657- D2 06	3693	.SI SEMIS	
	3694		
	3695 ;	*/MOD	
	3696		
1659- 85 2A 2F	3697	.BY \$85 '*/MO' \$C4	
165C- 4D 4F C4			
165F- 4B 16	3698	.SI MOD-\$06	
1661- FC 08	3699 SSMOD	.SI DOCOL	
1663- 00 07	3700	.SI TOR	
1665- DF 15	3701	.SI MSTAR	
1667- 12 07	3702	.SI RFROM	
1669- FC 15	3703	.SI MSLAS	
166B- D2 06	3704	.SI SEMIS	
	3705		
	3706 ;	*/	
	3707		
166D- 82 2A AF	3708	.BY \$82 '* ' \$AF	
1670- 59 16	3709	.SI SSMOD-\$08	
1672- FC 08	3710 SSLAS	.SI DOCOL	

1674- 61 16	3711	.SI SSMOD	
1676- 46 08	3712	.SI SWAP	
1678- 3D 08	3713	.SI DROP	
167A- D2 06	3714	.SI SEMIS	
	3715		
	3716 ;	M/MOD	
	3717		
167C- 85 4D 2F	3718	.BY \$85 'M/MO' \$C4	
167F- 4D 4F C4			
1682- 6D 16	3719	.SI SSLAS-\$05	
1684- FC 08	3720 MSMOD	.SI DOCOL	
1686- 00 07	3721	.SI TOR	
1688- 88 09	3722	.SI ZERO	
168A- 24 07	3723	.SI R	
168C- 21 06	3724	.SI USLAS	
168E- 12 07	3725	.SI RFROM	
1690- 46 08	3726	.SI SWAP	
1692- 00 07	3727	.SI TOR	
1694- 21 06	3728	.SI USLAS	
1696- 12 07	3729	.SI RFROM	
1698- D2 06	3730	.SI SEMIS	
	3731		
	3732 ;	USE	
	3733		
169A- 83 55 53	3734	.BY \$83 'US' \$C5	
169D- C5			
169E- 7C 16	3735	.SI MSMOD-\$08	
16A0- E3 11	3736 USE	.SI DOCREAT	
16A2- 78 57	3737	.SE DAREA	
	3738		
	3739 ;	PREV	
	3740		
16A4- 84 50 52	3741	.BY \$84 'PRE' \$D6	
16A7- 45 D6			
16A9- 9A 16	3742	.SI USE-\$06	
16AB- E3 11	3743 PREV	.SI DOCREAT	
16AD- 78 57	3744	.SE DAREA	
	3745		
	3746 ;	+BUF	
	3747		
16AF- 84 2B 42	3748	.BY \$84 '+BU' \$C6	
16B2- 55 C6			
16B4- A4 16	3749	.SI PREV-\$07	
16B6- FC 08	3750 PBUF	.SI DOCOL	
16B8- E0 09	3751	.SI BBUF	
16BA- 8F 02	3752	.SI CLIT	
16BC- 04	3753	.BY \$04	
16BD- 90 07	3754	.SI PLUS	
16BF- 90 07	3755	.SI PLUS	
16C1- 5E 08	3756	.SI DUP	
16C3- D4 09	3757	.SI LIMIT	
16C5- 8B 0B	3758	.SI EQUAL	
16C7- 9B 03	3759	.SI ZBRAN	
16C9- 06 00	3760	.SE PBUF1--	
16CB- 3D 08	3761	.SI DROP	
16CD- C8 09	3762	.SI FIRST	
16CF- 5E 08	3763 PBUF1	.SI DUP	
16D1- AB 16	3764	.SI PREV	

16D3- 9D 08	3765	.SI AT
16D5- 3A 0B	3766	.SI SUB
16D7- D2 06	3767	.SI SEMIS
	3768	
	3769 ;	UPDATE
	3770	
16D9- 86 55 50	3771	.BY \$86 'UPDAT' \$C5
16DC- 44 41 54		
16DF- C5		
16E0- AF 16	3772	.SI PBUF-\$07
16E2- FC 08	3773	UPDAT .SI DOCOL
16E4- AB 16	3774	.SI PREV
16E6- 9D 08	3775	.SI AT
16E8- 9D 08	3776	.SI AT
16EA- 49 02	3777	.SI LIT
16EC- 00 80	3778	.SE \$8000
16EE- 73 06	3779	.SI OR
16F0- AB 16	3780	.SI PREV
16F2- 9D 08	3781	.SI AT
16F4- C1 08	3782	.SI STORE
16F6- D2 06	3783	.SI SEMIS
	3784	
	3785 ;	EMPTY-BUFFERS
	3786	
16F8- 8D 45 4D	3787	.BY \$8D 'EMPTY-BUFFER' \$D3
16FB- 50 54 59		
16FE- 2D 42 55		
1701- 46 46 45		
1704- 52 D3		
1706- D9 16	3788	.SI UPDAT-\$09
1708- FC 08	3789	EMBUF .SI DOCOL
170A- C8 09	3790	.SI FIRST
170C- D4 09	3791	.SI LIMIT
170E- 2C 08	3792	.SI OVER
1710- 3A 0B	3793	.SI SUB
1712- AF 0F	3794	.SI ERASE
1714- D2 06	3795	.SI SEMIS
	3796	
	3797 ;	BUFFER
	3798	
1716- 86 42 55	3799	.BY \$86 'BUFFE' \$D2
1719- 46 46 45		
171C- D2		
171D- F8 16	3800	.SI EMBUF-\$10
171F- FC 08	3801	BUFFR .SI DOCOL
1721- A0 16	3802	.SI USE
1723- 9D 08	3803	.SI AT
1725- 5E 08	3804	.SI DUP
1727- 00 07	3805	.SI TOR
1729- B6 16	3806	BUFFR1 .SI PBUF
172B- 9B 03	3807	.SI ZBRAN
172D- FC FF	3808	.SE BUFR1--
172F- A0 16	3809	.SI USE
1731- C1 08	3810	.SI STORE
1733- 24 07	3811	.SI R
1735- 9D 08	3812	.SI AT
1737- 68 07	3813	.SI ZLESS
1739- 9B 03	3814	.SI ZBRAN

173B- 14 00	3815	.SE BUFR2--
173D- 24 07	3816	.SI R
173F- EE 0A	3817	.SI TWOP
1741- 24 07	3818	.SI R
1743- 9D 08	3819	.SI AT
1745- 49 02	3820	.SI LIT
1747- FF 7F	3821	.SE \$7FFF
1749- 5E 06	3822	.SI ANDD
174B- 88 09	3823	.SI ZERO
174D- A5 1B	3824	.SI RSLW
174F- 24 07	3825	BUFR2 .SI R
1751- C1 08	3826	.SI STORE
1753- 24 07	3827	.SI R
1755- AB 16	3828	.SI PREV
1757- C1 08	3829	.SI STORE
1759- 12 07	3830	.SI RFROM
175B- EE 0A	3831	.SI TWOP
175D- D2 06	3832	.SI SEMIS
	3833	
	3834 ;	BLOCK
	3835	
175F- 85 42 4C	3836	.BY \$85 'BLOC' \$CB
1762- 4F 43 CB		
1765- 16 17	3837	.SI BUFR-\$09
1767- FC 08	3838	BLOCK .SI DOCOL
1769- 00 07	3839	.SI TOR
176B- AB 16	3840	.SI PREV
176D- 9D 08	3841	.SI AT
176F- 5E 08	3842	.SI DUP
1771- 9D 08	3843	.SI AT
1773- 24 07	3844	.SI R
1775- 3A 0B	3845	.SI SUB
1777- 5E 08	3846	.SI DUP
1779- 90 07	3847	.SI PLUS
177B- 9B 03	3848	.SI ZBRAN
177D- 32 00	3849	.SE BLOCK3--
177F- B6 16	3850	BLOCK1 .SI PBUF
1781- 53 07	3851	.SI ZEQU
1783- 9B 03	3852	.SI ZBRAN
1785- 12 00	3853	.SE BLOCK2--
1787- 3D 08	3854	.SI DROP
1789- 24 07	3855	.SI R
178B- 1F 17	3856	.SI BUFR
178D- 5E 08	3857	.SI DUP
178F- 24 07	3858	.SI R
1791- 90 09	3859	.SI ONE
1793- A5 1B	3860	.SI RSLW
1795- 61 0B	3861	.SI TWOSB
1797- 5E 08	3862	BLOCK2 .SI DUP
1799- 9D 08	3863	.SI AT
179B- 24 07	3864	.SI R
179D- 3A 0B	3865	.SI SUB
179F- 5E 08	3866	.SI DUP
17A1- 90 07	3867	.SI PLUS
17A3- 53 07	3868	.SI ZEQU
17A5- 9B 03	3869	.SI ZBRAN
17A7- D8 FF	3870	.SE BLOCK1--
17A9- 5E 08	3871	.SI DUP

```

17AB- AB 16      3872      .SI PREV
17AD- C1 08      3873      .SI STORE
17AF- 12 07      3874 BLOCK3 .SI RFROM
17B1- 3D 08      3875      .SI DROP
17B3- EE 0A      3876      .SI TWOP
17B5- D2 06      3877      .SI SEMIS
                 3878
                 3879 ;      SAVE-BUFFERS
                 3880
17B7- 8C 53 41  3881      .BY $8C 'SAVE-BUFFER' $D3
17BA- 56 45 2D
17BD- 42 55 46
17C0- 46 45 52
17C3- D3
17C4- 5F 17      3882      .SI BLOCK-$08
17C6- FC 08      3883 SAVBUF .SI DOCOL
17C8- F7 09      3884      .SI NBUF
17CA- E1 0A      3885      .SI ONEP
17CC- 88 09      3886      .SI ZERO
17CE- 23 04      3887      .SI PDO
17D0- 49 02      3888 SAVBUF1 .SI LIT
17D2- FF 7F      3889      .SE $7FFF
17D4- 1F 17      3890      .SI BUFR
17D6- 3D 08      3891      .SI DROP
17D8- BC 03      3892      .SI PLOOP
17DA- F6 FF      3893      .SE SAVBUF1--
17DC- D2 06      3894      .SI SEMIS
                 3895
                 3896      .CT 1FTH40

3897 ;
3898 ;*****
3899 ;**      SK-FORTH (79-STANDARD)      **
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3907 ;*****
3908 ;
3909
3910 ;*****
3911 ;**      SYM/KIM-FORTH PART 7        **
3912 ;**      DISK FILE FTH40           **
3913 ;*****
3914
3915 ;      (LINE)
3916
17DE- 86 28 4C  3917      .BY $86 '(LINE' $A9
17E1- 49 4E 45
17E4- A9
17E5- B7 17      3918      .SI SAVBUF-$0F
17E7- FC 08      3919 PLINE .SI DOCOL
17E9- 00 07      3920      .SI TOR

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17EB- BC 09      3921      .SI CSLL
17ED- E0 09      3922      .SI BBUF
17EF- 61 16      3923      .SI SSMOD
17F1- 12 07      3924      .SI RFROM
17F3- 03 0A      3925      .SI BSCR
17F5- 22 16      3926      .SI STAR
17F7- 90 07      3927      .SI PLUS
17F9- 67 17      3928      .SI BLOCK
17FB- 90 07      3929      .SI PLUS
17FD- BC 09      3930      .SI CSLL
17FF- D2 06      3931      .SI SEMIS
                 3932
                 3933 ;      .LINE
                 3934
1801- 85 2E 4C  3935      .BY $85 '.LIN' $C5
1804- 49 4E C5
1807- DE 17      3936      .SI PLINE-$09
1809- FC 08      3937 DLINE .SI DOCOL
180B- E7 17      3938      .SI PLINE
180D- 90 0E      3939      .SI DTRAI
180F- 62 0E      3940      .SI TYPE
1811- D2 06      3941      .SI SEMIS
                 3942
                 3943 ;      MESSAGE
                 3944
1813- 87 4D 45  3945      .BY $87 'MESSAG' $C5
1816- 53 53 41
1819- 47 C5
181B- 01 18      3946      .SI DLINE-$08
181D- FC 08      3947 MESS .SI DOCOL
181F- 39 0A      3948      .SI WARN
1821- 9D 08      3949      .SI AT
1823- 9B 03      3950      .SI ZBRAN
1825- 11 00      3951      .SE MESS2--
1827- 49 0C      3952      .SI DDUP
1829- 9B 03      3953      .SI ZBRAN
182B- 07 00      3954      .SE MESS1--
182D- 8F 02      3955      .SI CLIT
182F- 01         3956      .BY $01
1830- 09 18      3957      .SI DLINE
1832- 7C 03      3958 MESS1 .SI BRAN
1834- 0D 00      3959      .SE MESS3--
1836- BF 0E      3960 MESS2 .SI PDOTQ
1838- 06 4D 53  3961      .BY $06 'MSG # '
183B- 47 20 23
183E- 20
183F- 18 20      3962      .SI DOT
1841- D2 06      3963 MESS3 .SI SEMIS
                 3964
                 3965 ;      LOAD
                 3966
1843- 84 4C 4F  3967      .BY $84 'LOA' $C4
1846- 41 C4
1848- 13 18      3968      .SI MESS-$0A
184A- FC 08      3969 LOAD .SI DOCOL
184C- 63 0A      3970      .SI BLK
184E- 9D 08      3971      .SI AT
1850- 00 07      3972      .SI TOR

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1852- 6C 0A	3973	.SI IN
1854- 9D 08	3974	.SI AT
1856- 00 07	3975	.SI TOR
1858- 88 09	3976	.SI ZERO
185A- 6C 0A	3977	.SI IN
185C- C1 08	3978	.SI STORE
185E- 03 0A	3979	.SI BSCR
1860- 22 16	3980	.SI STAR
1862- 63 0A	3981	.SI BLK
1864- C1 08	3982	.SI STORE
1866- 93 12	3983	.SI INTER
1868- 12 07	3984	.SI RFROM
186A- 6C 0A	3985	.SI IN
186C- C1 08	3986	.SI STORE
186E- 12 07	3987	.SI RFROM
1870- 63 0A	3988	.SI BLK
1872- C1 08	3989	.SI STORE
1874- D2 06	3990	.SI SEMIS
	3991	
	3992 ;	-->
	3993	
1876- C3 2D 2D	3994	.BY \$C3 '---' \$BE
1879- BE		
187A- 43 18	3995	.SI LOAD-\$07
187C- FC 08	3996 NSCR	.SI DOCOL
187E- 60 0D	3997	.SI QLOAD
1880- 88 09	3998	.SI ZERO
1882- 6C 0A	3999	.SI IN
1884- C1 08	4000	.SI STORE
1886- 03 0A	4001	.SI BSCR
1888- 63 0A	4002	.SI BLK
188A- 9D 08	4003	.SI AT
188C- 2C 08	4004	.SI OVER
188E- 51 16	4005	.SI MOD
1890- 3A 0B	4006	.SI SUB
1892- 63 0A	4007	.SI BLK
1894- 6D 08	4008	.SI PSTOR
1896- D2 06	4009	.SI SEMIS
	4010	
	4011 ;	XEMIT - OUTPUT ONE CHARACTER
	4012	
1898- 98	4013 XEMIT	TYA
1899- 38	4014	SEC
189A- A0 1A	4015	LDY #\$1A
189C- 71 B3	4016	ADC (UP),Y
189E- 91 B3	4017	STA (UP),Y
18A0- C8	4018	INY ;BUMP USER VARIABLE OUT
18A1- A9 00	4019	LDA #\$00
18A3- 71 B3	4020	ADC (UP),Y
18A5- 91 B3	4021	STA (UP),Y
18A7- B5 00	4022	LDA *\$00,X ;FETCH CHAR TO OUTPUT
18A9- 20 BA 18	4023	JSR OUT.ALL
18AC- 4C 33 04	4024	JMP POP
	4025	
	4026	IFE KIM-1
	4027	
	4028 SAVER	PHP
	4029	PHA

4030	PHA	
4031	PHA	
4032	PHP	
4033	PHA	
4034	TXA	
4035	PHA	
4036	TSX	
4037	LDA \$0109,X	
4038	STA \$0105,X	
4039	LDA \$0107,X	
4040	STA \$0109,X	
4041	LDA \$0101,X	
4042	STA \$0107,X	
4043	LDA \$0108,X	
4044	STA \$0104,X	
4045	LDA \$0106,X	
4046	STA \$0108,X	
4047	TYA	
4048	STA \$0106,X	
4049	PLA	
4050	TAX	
4051	PLA	
4052	PLP	
4053	RTS	
4054		
4055 RESXAF	PHP	
4056	TSX	
4057	STA \$0104,X	
4058	PLP	
4059		
4060 RESXF	PHP	
4061	PLA	
4062	TSX	
4063	STA \$0104,X	
4064		
4065 RESALL	PLA	
4066	TAY	
4067	PLA	
4068	TAX	
4069	PLA	
4070	PLP	
4071	RTS	
4072	***	
4073		
18AF- 20 88 81	4074 INTCHR	JSR SAVER
18B2- 20 06 02	4075	JSR TIN.VEC
18B5- 29 7F	4076	AND #\$7F
18B7- 4C B8 81	4077	JMP RESXAF
	4078 ;	
	4079	
18BA- 20 88 81	4080 OUT.ALL	JSR SAVER
18BD- 48	4081	PHA
18BE- AE 2A 15	4082	LDX HARD+2
18C1- FO 08	4083	BEQ CON.OUT ;CONSOLE ECHO ONLY
18C3- 20 0F 02	4084	JSR POUT.VEC
18C6- AE 2B 15	4085	LDX HARD+3 ;IF NOT 0
18C9- D0 05	4086	BNE OUT.END ;THEN NO CONSOLE ECHO
18CB- 68	4087 CON.OUT	PLA

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18CC- 48      4088      PHA
18CD- 20 09 02 4089      JSR TOUT.VEC
18DO- 68      4090 OUT.END PLA
18D1- 4C C4 81 4091      JMP RESALL
      4092
18D4- 20 88 81 4093 OUTSP.ALL JSR SAVER
18D7- A9 20      4094      LDA #$20
18D9- 20 BA 18 4095      JSR OUT.ALL
18DC- 4C C4 81 4096      JMP RESALL
      4097
18DF- 20 88 81 4098 CRLF.ALL JSR SAVER
18E2- AE 2A 15 4099      LDX HARD+2
18E5- FO 08      4100      BEQ CON.CR ;CONSOLE ECHO ONLY
18E7- 20 12 02 4101      JSR PCRLF.VEC
18EA- AE 2B 15 4102      LDX HARD+3 ;IN NOT 0
18ED- DO 03      4103      BNE CRLF.END ;THEN NO CONSOLE ECHO
18EF- 20 OC 02 4104 CON.CR JSR TCRLF.VEC
18F2- 4C C4 81 4105 CRLF.END JMP RESALL
      4106
      4107 IFE SYM-1
      4108
18F5- 20 54 19 4109 PCRLF JSR TTYOPEN
18F8- 20 OC 02 4110      JSR TCRLF.VEC
18FB- 4C 75 19 4111      JMP TTYCLOSE
      4112 ***
      4113
18FE- 20 88 81 4114 PRTBYT JSR SAVER
1901- 48      4115      PHA
1902- 4A      4116      LSR A
1903- 4A      4117      LSR A
1904- 4A      4118      LSR A
1905- 4A      4119      LSR A
1906- 20 10 19 4120      JSR HEXTA
1909- 68      4121      PLA
190A- 20 10 19 4122      JSR HEXTA
190D- 4C C4 81 4123      JMP RESALL
      4124
1910- 29 OF      4125 HEXTA AND #$0F
1912- C9 OA      4126      CMP #$0A
1914- 18      4127      CLC
1915- 30 02      4128      BMI HEXTA1
1917- 69 07      4129      ADC #$07
1919- 69 30      4130 HEXTA1 ADC #$30
191B- 4C BA 18 4131      JMP OUT.ALL
      4132
      4133 IFE SYM-1
      4134
      4135 ;** SYM AUTOMATIC CASSETTE MOTOR CONTROL
      4136 ;** 0 IS THE STANDARD DRIVE
      4137 ;** 1 IS THE AUX DRIVE CONTROLLED BY
      4138 ;** BIT PB7 OF VIA #1
      4139
      4140 ;** TURN OFF MOTOR 0
      4141
191E- AD OC A0 4142 TOFF0 LDA VIAPCR
1921- 29 DF      4143      AND #$DF
1923- 8D OC A0 4144      STA VIAPCR
1926- 60      4145      RTS

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      4146
      4147 ;** TURN OFF MOTOR 1
      4148
1927- AD 00 A0 4149 TOFF1 LDA VIAORB
192A- 09 80      4150      ORA #$80
192C- 8D 00 A0 4151      STA VIAORB
192F- 60      4152      RTS
      4153
      4154 ;** TURN ON MOTOR 0
      4155
1930- AD OC A0 4156 TONO LDA VIAPCR
1933- 09 20      4157      ORA #$20
1935- 8D OC A0 4158      STA VIAPCR
1938- 60      4159      RTS
      4160
      4161 ;** TURN ON MOTOR 1
      4162
1939- AD 00 A0 4163 TON1 LDA VIAORB
193C- 29 7F      4164      AND #$7F
193E- 8D 00 A0 4165      STA VIAORB
1941- 60      4166      RTS
      4167
      4168 ;** TOGGLE STATE OF MOTOR 1
      4169
1942- AD 00 A0 4170 TOG1 LDA VIAORB
1945- 49 80      4171      EOR #$80
1947- 8D 00 A0 4172      STA VIAORB
194A- 60      4173      RTS
      4174
      4175 ;** TOGGLE STATE OF MOTOR 0
      4176
194B- AD OC A0 4177 TOGO LDA VIAPCR
194E- 49 20      4178      EOR #$20
1950- 8D OC A0 4179      STA VIAPCR
1953- 60      4180      RTS
      4181
      4182 ; TTY OUT SUBROUTINE
      4183
1954- A9 20      4184 TTYOPEN LDA #TTYO
1956- 8D 54 A6 4185      STA TOUTFL
1959- AD 42 02 4186      LDA PBAUD
195C- 8D 51 A6 4187      STA SDBYT
195F- 60      4188      RTS
1960- 48      4189 TTYOUT PHA
1961- 20 54 19 4190      JSR TTYOPEN
1964- AD 00 A0 4191 BUSY LDA VIAORB ;CHECK IF PRINTER BUSY
1967- 29 01      4192      AND #$01 ;DTR SIGNAL ON PBO
1969- FO F9      4193      BEQ BUSY ;WHILE WAITING
196B- 68      4194      PLA
196C- 48      4195      PHA
196D- 20 09 02 4196      JSR TOUT.VEC
1970- 20 75 19 4197      JSR TTYCLOSE
1973- 68      4198      PLA
1974- 60      4199      RTS
1975- A9 90      4200 TTYCLOSE LDA #CRT1+CRTO
1977- 8D 54 A6 4201      STA TOUTFL
197A- AD 41 02 4202      LDA TBAUD
197D- 8D 51 A6 4203      STA SDBYT

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1980- 60      4204      RTS
              4205      ***
              4206
              4207 ;    XKEY READ ONE KEY TO STACK
              4208
1981- 20 AF 18 4209 XKEY      JSR INTCHR
1984- 4C A2 06 4210          JMP PUSHOA
              4211
              4212 ;    XQTER LEAVE BOOLEAN 1 IF TERM BREAK
              4213
1987- 20 1B 02 4214 XQTER      JSR BREAK.VEC
198A- B0 02    4215          BCS BBREAK
198C- 90 07    4216          BCC BBREAK1
198E- 20 AF 18 4217 BBREAK     JSR INTCHR
1991- C9 20    4218          CMP #S20
1993- D0 05    4219          BNE CTROLQ
1995- A9 00    4220 BBREAK1     LDA #S00
1997- 4C A2 06 4221          JMP PUSHOA
199A- C9 0D    4222 CTROLQ     CMP #S0D
199C- D0 F0    4223          BNE BBREAK
199E- A9 01    4224          LDA #S01
19A0- 4C A2 06 4225          JMP PUSHOA
              4226
              4227 ;    CRLF TO TERMINAL AND PRINTER
              4228
19A3- 20 DF 18 4229 XCR        JSR CRLF.ALL
19A6- 4C 63 02 4230          JMP NEXT
              4231
              4232
              4233 ;    LO
              4234
19A9- 82 4C CF 4235          .BY S82 'L' SCF
19AC- 76 18    4236          .SI NSCR-S06
19AE- E3 11    4237 LO        .SI DOCREAT
19B0- 00 60    4238          .SE DRAM
              4239
              4240 ;    HI
              4241
19B2- 82 48 C9 4242          .BY S82 'H' S9
19B5- A9 19    4243          .SI LO-S05
19B7- E3 11    4244 HI        .SI DOCREAT
19B9- 00 80    4245          .SE DRAM+S2000
              4246
              4247 ;    TRW
              4248
19BB- 83 54 52 4249          .BY S83 'TR' SD7
19BE- D7
19BF- B2 19    4250          .SI HI-S05
19C1- FC 08    4251 TRW      .SI DOCOL
19C3- 00 07    4252          .SI TOR
19C5- 5E 08    4253          .SI DUP
19C7- 03 0A    4254          .SI BSCR
19C9- C2 0B    4255          .SI LESS
19CB- 9B 03    4256          .SI ZBRAN
19CD- 13 00    4257          .SE TRW1--
19CF- 12 07    4258          .SI RFROM
19D1- 49 02    4259          .SI LIT
19D3- FF 7F    4260          .SE S7FFF

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19D5- AB 16    4261          .SI PREV
19D7- 9D 08    4262          .SI AT
19D9- C1 08    4263          .SI STORE
19DB- 8F 02    4264          .SI CLIT
19DD- 06       4265          .BY S06
19DE- 24 11    4266          .SI ERROR
19E0- 03 0A    4267 TRW1     .SI BSCR
19E2- 3A 0B    4268          .SI SUB
19E4- E0 09    4269          .SI BBUF
19E6- 22 16    4270          .SI STAR
19E8- AE 19    4271          .SI LO
19EA- 9D 08    4272          .SI AT
19EC- 90 07    4273          .SI PLUS
19EE- B7 19    4274          .SI HI
19F0- 9D 08    4275          .SI AT
19F2- E0 09    4276          .SI BBUF
19F4- 3A 0B    4277          .SI SUB
19F6- 2C 08    4278          .SI OVER
19F8- B1 0B    4279          .SI ULESS
19FA- 9B 03    4280          .SI ZBRAN
19FC- 13 00    4281          .SE TRW2--
19FE- 12 07    4282          .SI RFROM
1A00- 49 02    4283          .SI LIT
1A02- FF 7F    4284          .SE S7FFF
1A04- AB 16    4285          .SI PREV
1A06- 9D 08    4286          .SI AT
1A08- C1 08    4287          .SI STORE
1A0A- 8F 02    4288          .SI CLIT
1A0C- 06       4289          .BY S06
1A0D- 24 11    4290          .SI ERROR
1A0F- 12 07    4291 TRW2     .SI RFROM
1A11- 9B 03    4292          .SI ZBRAN
1A13- 04 00    4293          .SE TRW3--
1A15- 46 08    4294          .SI SWAP
1A17- E0 09    4295 TRW3     .SI BBUF
1A19- B5 05    4296          .SI CMOVE
1A1B- D2 06    4297          .SI SEMIS
              4298          .CT 1FTH45
              4299 ;
              4300 ;*****
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              4308 ;**      V3L 4Y7, CANADA              **
              4309 ;*****
              4310 ;
              4311 ;
              4312 ;*****
              4313 ;**      SYM/KIM-FORTH PART 8          **
              4314 ;**      DISK FILE FTH45              **
              4315 ;*****

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4316
4317
4318 ;
4319
1A1D- 84 53 45 4320 .BY $84 'SET' $B1
1A20- 54 B1
1A22- BB 19 4321 .SI TRW-$06
1A24- FC 08 4322 SET1 .SI DOCOL
1A26- 9B 1B 4323 .SI DISK>
1A28- 9D 08 4324 .SI AT
1A2A- 9B 03 4325 .SI ZBRAN
1A2C- 12 00 4326 .SE SET11==
1A2E- 88 09 4327 .SI ZERO
1A30- 49 02 4328 .SI LIT
1A32- 15 72 4329 .SE DKNUM>
1A34- D9 08 4330 .SI CSTOR
1A36- 88 09 4331 .SI ZERO
1A38- 49 02 4332 .SI LIT
1A3A- 14 72 4333 .SE CONNUM>
1A3C- D9 08 4334 .SI CSTOR
1A3E- D2 06 4335 SET11 .SI SEMIS
4336
4337 ;
4338
1A40- 84 53 45 4339 .BY $84 'SET' $B2
1A43- 54 B2
1A45- 1D 1A 4340 .SI SET1-$07
1A47- FC 08 4341 SET2 .SI DOCOL
1A49- 9B 1B 4342 .SI DISK>
1A4B- 9D 08 4343 .SI AT
1A4D- 9B 03 4344 .SI ZBRAN
1A4F- 12 00 4345 .SE SET22==
1A51- 98 09 4346 .SI TWO
1A53- 49 02 4347 .SI LIT
1A55- 15 72 4348 .SE DKNUM>
1A57- D9 08 4349 .SI CSTOR
1A59- 88 09 4350 .SI ZERO
1A5B- 49 02 4351 .SI LIT
1A5D- 14 72 4352 .SE CONNUM>
1A5F- D9 08 4353 .SI CSTOR
1A61- D2 06 4354 SET22 .SI SEMIS
4355
4356 ;
4357 (MDISK)
1A63- 87 28 4D 4358 .BY $87 '(MDISK' $A9
1A66- 44 49 53
1A69- 4B A9
1A6B- 40 1A 4359 .SI SET2-$07
1A6D- 6F 1A 4360 PMDISK .SI ==+2
1A6F- 86 B5 4361 STX *XSAVE
1A71- 20 27 02 4362 JSR DISK.VEC
1A74- A6 B5 4363 LDX *XSAVE
1A76- 4C 63 02 4364 JMP NEXT
4365
4366 ;
4367 MDISK
1A79- 85 4D 44 4368 .BY $85 'MDIS' $CB
1A7C- 49 53 CB

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1A7F- 63 1A 4369 .SI PMDISK-$0A
1A81- FC 08 4370 MDISK .SI DOCOL
1A83- 6D 1A 4371 .SI PMDISK
1A85- 49 02 4372 .SI LIT
1A87- 1B 72 4373 .SE ERCODE>
1A89- B2 08 4374 .SI CAT
1A8B- 8F 02 4375 .SI CLIT
1A8D- FF 4376 .BY $FF
1A8E- C2 0B 4377 .SI LESS
1A90- 9B 03 4378 .SI ZBRAN
1A92- 13 00 4379 .SE MDISK1--
1A94- C2 0D 4380 .SI HEX
1A96- 49 02 4381 .SI LIT
1A98- 1B 72 4382 .SE ERCODE>
1A9A- B2 08 4383 .SI CAT
1A9C- 18 20 4384 .SI DOT
1A9E- C9 1A 4385 .SI OFF
1AA0- 8F 02 4386 .SI CLIT
1AA2- 08 4387 .BY $08
1AA3- 24 11 4388 .SI ERROR
1AA5- D2 06 4389 MDISK1 .SI SEMIS
4390
4391 ;
4392 ON
4393
1AA7- 82 4F CE 4393 .BY $82 'O' $CE
1AAA- 79 1A 4394 .SI MDISK-$08
1AAC- FC 08 4395 ON .SI DOCOL
1AAE- 9B 1B 4396 .SI DISK>
1AB0- 9D 08 4397 .SI AT
1AB2- 9B 03 4398 .SI ZBRAN
1AB4- 0D 00 4399 .SE ON1--
1AB6- 8F 02 4400 .SI CLIT
1AB8- 30 4401 .BY $30
1AB9- 49 02 4402 .SI LIT
1ABB- 18 72 4403 .SE COMAND>
1ABD- D9 08 4404 .SI CSTOR
1ABF- 6D 1A 4405 .SI PMDISK
1AC1- D2 06 4406 ON1 .SI SEMIS
4407
4408 ;
4409 OFF
4410
1AC3- 83 4F 46 4410 .BY $83 'OF' $C6
1AC6- C6
1AC7- A7 1A 4411 .SI ON-$05
1AC9- FC 08 4412 OFF .SI DOCOL
1ACB- 9B 1B 4413 .SI DISK>
1ACD- 9D 08 4414 .SI AT
1ACF- 9B 03 4415 .SI ZBRAN
1AD1- 0D 00 4416 .SE OFF1--
1AD3- 8F 02 4417 .SI CLIT
1AD5- 20 4418 .BY $20
1AD6- 49 02 4419 .SI LIT
1AD8- 18 72 4420 .SE COMAND>
1ADA- D9 08 4421 .SI CSTOR
1ADC- 6D 1A 4422 .SI PMDISK
1ADE- D2 06 4423 OFF1 .SI SEMIS
4424
4425 ; (SET)

```

IAEO- 85 28 53	4426	
IAE3- 45 54 A9	4427	.BY \$85 '(SET' \$A9
IAE6- C3 1A	4428	.SI OFF-\$06
IAE8- FC 08	4429	.SI DOCOL
IAEA- 53 07	4430	.SI ZEQU
IAEC- 49 02	4431	.SI LIT
IAEE- 18 72	4432	.SE COMAND>
IAFO- D9 08	4433	.SI CSTOR
IAF2- 49 02	4434	.SI LIT
IAF4- 10 00	4435	.SE \$0010
IAF6- 31 16	4436	.SI SLMOD
IAF8- 49 02	4437	.SI LIT
IAFA- 16 72	4438	.SE MTRKAD>
IAFC- D9 08	4439	.SI CSTOR
IAFE- E1 0A	4440	.SI ONEP
IB00- 49 02	4441	.SI LIT
IB02- 17 72	4442	.SE MSECAD>
IB04- D9 08	4443	.SI CSTOR
IB06- 5E 08	4444	.SI DUP
IB08- E0 09	4445	.SI BBUF
IB0A- 54 0B	4446	.SI ONESB
IB0C- 90 07	4447	.SI PLUS
IB0E- 49 02	4448	.SI LIT
IB10- 12 72	4449	.SE FLTOP>
IB12- C1 08	4450	.SI STORE
IB14- 49 02	4451	.SI LIT
IB16- 10 72	4452	.SE FLBOT>
IB18- C1 08	4453	.SI STORE
IB1A- 81 1A	4454	.SI MDISK
IB1C- C9 1A	4455	.SI OFF
IB1E- D2 06	4456	.SI SEMIS
	4457	
	4458 ;	DRW
	4459	
IB20- 83 44 52	4460	.BY \$83 'DR' \$D7
IB23- D7		
IB24- E0 1A	4461	.SI PSET-\$08
IB26- FC 08	4462	.SI DOCOL
IB28- 00 07	4463	.SI TOR
IB2A- EC 09	4464	.SI SBLK
IB2C- 22 16	4465	.SI STAR
IB2E- 5E 08	4466	.SI DUP
IB30- 8F 02	4467	.SI CLIT
IB32- 08	4468	.BY \$08
IB33- C2 0B	4469	.SI LESS
IB35- 9B 03	4470	.SI ZBRAN
IB37- 13 00	4471	.SE DRW1==
IB39- 12 07	4472	.SI RFROM
IB3B- 49 02	4473	.SI LIT
IB3D- FF 7F	4474	.SE \$7FFF
IB3F- AB 16	4475	.SI PREV
IB41- 9D 08	4476	.SI AT
IB43- C1 08	4477	.SI STORE
IB45- 8F 02	4478	.SI CLIT
IB47- 06	4479	.BY \$06
IB48- 24 11	4480	.SI ERROR
IB4A- 8F 02	4481	.SI CLIT

IB4C- 08	4482	.BY \$08
IB4D- 3A 0B	4483	.SI SUB
IB4F- 5E 08	4484	.SI DUP
IB51- 49 02	4485	.SI LIT
IB53- 30 02	4486	.SE \$0230
IB55- C2 0B	4487	.SI LESS
IB57- 9B 03	4488	.SI ZBRAN
IB59- 0A 00	4489	.SE DRW2==
IB5B- 12 07	4490	.SI RFROM
IB5D- 47 1A	4491	.SI SET2
IB5F- E8 1A	4492	.SI PSET
IB61- 1B 09	4493	.SI EXIT
IB63- 49 02	4494	.SI LIT
IB65- 30 02	4495	.SE \$0230
IB67- 98 09	4496	.SI TWO
IB69- 41 16	4497	.SI SLASH
IB6B- 3A 0B	4498	.SI SUB
IB6D- 5E 08	4499	.SI DUP
IB6F- 49 02	4500	.SI LIT
IB71- 30 02	4501	.SE \$0230
IB73- C2 0B	4502	.SI LESS
IB75- 9B 03	4503	.SI ZBRAN
IB77- 0A 00	4504	.SE DRW3==
IB79- 12 07	4505	.SI RFROM
IB7B- 24 1A	4506	.SI SET1
IB7D- E8 1A	4507	.SI PSET
IB7F- 1B 09	4508	.SI EXIT
IB81- 12 07	4509	.SI RFROM
IB83- 49 02	4510	.SI LIT
IB85- FF 7F	4511	.SE \$7FFF
IB87- AB 16	4512	.SI PREV
IB89- 9D 08	4513	.SI AT
IB8B- C1 08	4514	.SI STORE
IB8D- 8F 02	4515	.SI CLIT
IB8F- 06	4516	.BY \$06
IB90- 24 11	4517	.SI ERROR
IB92- D2 06	4518	.SI SEMIS
	4519 ;	
	4520 ;	
	4521 ;	
IB94- 84 44 49	4522	.BY \$84 'DIS' \$CB
IB97- 53 CB		
IB99- 20 1B	4523	.SI DRW-\$06
IB9B- E3 11	4524	.SI DOCREAT
IB9D- 00 00	4525	.SE DISK
	4526 ;	
	4527 ;	
	4528 ;	
IB9F- 83 52 2F	4529	.BY \$83 'R/' \$D7
IBA2- D7		
IBA3- 94 1B	4530	.SI DISK>-\$07
IBA5- FC 08	4531	.SI DOCOL
IBA7- 9B 1B	4532	.SI DISK>
IBA9- 9D 08	4533	.SI AT
IBAB- 9B 03	4534	.SI ZBRAN
IBAD- 08 00	4535	.SE RSLW1==
IBAF- 26 1B	4536	.SI DRW
IBB1- 7C 03	4537	.SI BRAN

DISK - SYSTEM VARIABLE SET FOR DISK

R/W - STANDARD FORTH R/W LINKAGE

1BB3- 04 00	4538	.SE RSLW2--
1BB5- C1 19	4539 RSLW1	.SI TRW
1BB7- D2 06	4540 RSLW2	.SI SEMIS
	4541 ;	
	4542	
	4543 ;	TICK
	4544	
1BB9- C1 A7	4545	.BY \$C1 \$A7
1BBB- 9F 1B	4546	.SI RSLW-\$06
1BBD- FC 08	4547 TICK	.SI DOCOL
1BBF- EC 10	4548	.SI DFIND
1BC1- 53 07	4549	.SI ZEQU
1BC3- 88 09	4550	.SI ZERO
1BC5- EB 0C	4551	.SI QERR
1BC7- 3D 08	4552	.SI DROP
1BC9- 17 12	4553	.SI LITER
1BCB- D2 06	4554	.SI SEMIS
	4555	
	4556 ;	FORGET
	4557	
1BCD- 86 46 4F	4558	.BY \$86 'FORGE' \$D4
1BD0- 52 47 45		
1BD3- D4		
1BD4- B9 1B	4559	.SI TICK-\$04
1BD6- FC 08	4560 FORG	.SI DOCOL
1BD8- BD 1B	4561	.SI TICK
1BDA- AF 0C	4562	.SI NFA
1BDC- 5E 08	4563	.SI DUP
1BDE- 44 0A	4564	.SI FENCE
1BE0- 9D 08	4565	.SI AT
1BE2- B1 0B	4566	.SI ULESS
1BE4- 8F 02	4567	.SI CLIT
1BE6- 15	4568	.BY \$15
1BE7- EB 0C	4569	.SI QERR
1BE9- 00 07	4570	.SI TOR
1BEB- 5A 0A	4571	.SI VOCL
1BED- 9D 08	4572	.SI AT
1BEF- 24 07	4573 FORG1	.SI R
1BF1- 2C 08	4574	.SI OVER
1BF3- B1 0B	4575	.SI ULESS
1BF5- 9B 03	4576	.SI ZBRAN
1BF7- 12 00	4577	.SE FORG2--
1BF9- 3E 13	4578	.SI FORTH
1BFB- 54 13	4579	.SI DEFIN
1BFD- 9D 08	4580	.SI AT
1BFF- 5E 08	4581	.SI DUP
1C01- 5A 0A	4582	.SI VOCL
1C03- C1 08	4583	.SI STORE
1C05- 7C 03	4584	.SI BRAN
1C07- E8 FF	4585	.SE FORG1--
1C09- 5E 08	4586 FORG2	.SI DUP
1C0B- 8F 02	4587	.SI CLIT
1C0D- 04	4588	.BY \$04
1C0E- 3A 0B	4589	.SI SUB
1C10- C4 0C	4590 FORG3	.SI PFA
1C12- 94 0C	4591	.SI LFA
1C14- 9D 08	4592	.SI AT
1C16- 5E 08	4593	.SI DUP

1C18- 24 07	4594	.SI R
1C1A- B1 0B	4595	.SI ULESS
1C1C- 9B 03	4596	.SI ZBRAN
1C1E- F2 FF	4597	.SE FORG3--
1C20- 2C 08	4598	.SI OVER
1C22- 98 09	4599	.SI TWO
1C24- 3A 0B	4600	.SI SUB
1C26- C1 08	4601	.SI STORE
1C28- 9D 08	4602	.SI AT
1C2A- 49 0C	4603	.SI DDUP
1C2C- 53 07	4604	.SI ZEQU
1C2E- 9B 03	4605	.SI ZBRAN
1C30- D9 FF	4606	.SE FORG2--
1C32- 12 07	4607	.SI RFROM
1C34- 4C 0A	4608	.SI DP
1C36- C1 08	4609	.SI STORE
1C38- D2 06	4610	.SI SEMIS
	4611	
	4612 ;	BACK
	4613	
1C3A- 84 42 41	4614	.BY \$84 'BAC' \$CB
1C3D- 43 CB		
1C3F- CD 1B	4615	.SI FORG-\$09
1C41- FC 08	4616 BACK	.SI DOCOL
1C43- FD 0A	4617	.SI HERE
1C45- 3A 0B	4618	.SI SUB
1C47- 19 0B	4619	.SI COMMA
1C49- D2 06	4620	.SI SEMIS
	4621	
	4622 ;	BEGIN
	4623	
1C4B- C5 42 45	4624	.BY \$C5 'BEG1' \$CE
1C4E- 47 49 CE		
1C51- 3A 1C	4625	.SI BACK-\$07
1C53- FC 08	4626 BEGIN	.SI DOCOL
1C55- 05 0D	4627	.SI QCOMP
1C57- FD 0A	4628	.SI HERE
1C59- 90 09	4629	.SI ONE
1C5B- D2 06	4630	.SI SEMIS
	4631	
	4632 ;	THEN
	4633	
1C5D- C4 54 48	4634	.BY \$C4 'THE' \$CE
1C60- 45 CE		
1C62- 4B 1C	4635	.SI BEGIN-\$08
1C64- FC 08	4636 THEN	.SI DOCOL
1C66- 05 0D	4637	.SI QCOMP
1C68- 98 09	4638	.SI TWO
1C6A- 32 0D	4639	.SI QPAIR
1C6C- FD 0A	4640	.SI HERE
1C6E- 2C 08	4641	.SI OVER
1C70- 3A 0B	4642	.SI SUB
1C72- 46 08	4643	.SI SWAP
1C74- C1 08	4644	.SI STORE
1C76- D2 06	4645	.SI SEMIS
	4646	
	4647 ;	DO
	4648	

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1C78- C2 44 CF 4649 .BY $C2 'D' $CF
1C7B- 5D 1C 4650 .SI THEN-$07
1C7D- FC 08 4651 DO .SI DOCOL
1C7F- 79 OD 4652 .SI COMP
1C81- 23 04 4653 .SI PDO
1C83- FD 0A 4654 .SI HERE
1C85- AO 09 4655 .SI THREE
1C87- D2 06 4656 .SI SEMIS
4657
4658 ; LOOP
4659
1C89- C4 4C 4F 4660 .BY $C4 'LOO' $D0
1C8C- 4F DO
1C8E- 78 1C 4661 .SI DO-$05
1C90- FC 08 4662 LOOP .SI DOCOL
1C92- AO 09 4663 .SI THREE
1C94- 32 OD 4664 .SI QPAIR
1C96- 79 OD 4665 .SI COMP
1C98- BC 03 4666 .SI PLOOP
1C9A- 41 1C 4667 .SI BACK
1C9C- D2 06 4668 .SI SEMIS
4669 ;
4670 .CT IFTH50

4671 ;
4672 ;*****
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4679 ;** NEW WESTMINSTER, B. C. **
4680 ;** V3L 4Y7, CANADA **
4681 ;*****
4682 ;
4683 ;
4684 ;*****
4685 ;** SYM/KIM-FORTH PART 9 **
4686 ;** DISK FILE FTH50 **
4687 ;*****
4688
4689 ; +LOOP
4690
1C9E- C5 2B 4C 4691 .BY $C5 '+LOO' $D0
1CA1- 4F 4F DO
1CA4- 89 1C 4692 .SI LOOP-$07
1CA6- FC 08 4693 PLUSLP .SI DOCOL
1CA8- AO 09 4694 .SI THREE
1CAA- 32 OD 4695 .SI QPAIR
1CAC- 79 OD 4696 .SI COMP
1CAE- EC 03 4697 .SI PLOOP
1CB0- 41 1C 4698 .SI BACK
1CB2- D2 06 4699 .SI SEMIS
4700
4701 ; UNTIL

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4702
1CB4- C5 55 4E 4703 .BY $C5 'UNTI' $CC
1CB7- 54 49 CC
1CBA- 9E 1C 4704 .SI PLUSLP-$08
1CBC- FC 08 4705 UNTIL .SI DOCOL
1CBE- 90 09 4706 .SI ONE
1CC0- 32 OD 4707 .SI QPAIR
1CC2- 79 OD 4708 .SI COMP
1CC4- 9B 03 4709 .SI ZBRAN
1CC6- 41 1C 4710 .SI BACK
1CC8- D2 06 4711 .SI SEMIS
4712
4713 ; AGAIN
4714
1CCA- C5 41 47 4715 .BY $C5 'AGAI' $CE
1CCD- 41 49 CE
1CDO- B4 1C 4716 .SI UNTIL-$08
1CD2- FC 08 4717 AGAIN .SI DOCOL
1CD4- 90 09 4718 .SI ONE
1CD6- 32 OD 4719 .SI QPAIR
1CD8- 79 OD 4720 .SI COMP
1CDA- 7C 03 4721 .SI BRAN
1CDC- 41 1C 4722 .SI BACK
1CDE- D2 06 4723 .SI SEMIS
4724
4725 ; REPEAT
4726
1CE0- C6 52 45 4727 .BY $C6 'REPEA' $D4
1CE3- 50 45 41
1CE6- D4
1CE7- CA 1C 4728 .SI AGAIN-$08
1CE9- FC 08 4729 REPEAT .SI DOCOL
1CEB- 00 07 4730 .SI TOR
1CED- 00 07 4731 .SI TOR
1CEF- D2 1C 4732 .SI AGAIN
1CF1- 12 07 4733 .SI RFROM
1CF3- 12 07 4734 .SI RFROM
1CF5- 61 0B 4735 .SI TWOSB
1CF7- 64 1C 4736 .SI THEN
1CF9- D2 06 4737 .SI SEMIS
4738
4739 ; IF
4740
1CFB- C2 49 C6 4741 .BY $C2 'I' $C6
1CFE- E0 1C 4742 .SI REPEAT-$09
1D00- FC 08 4743 IF .SI DOCOL
1D02- 79 OD 4744 .SI COMP
1D04- 9B 03 4745 .SI ZBRAN
1D06- FD 0A 4746 .SI HERE
1D08- 88 09 4747 .SI ZERO
1D0A- 19 0B 4748 .SI COMMA
1DOC- 98 09 4749 .SI TWO
1DOE- D2 06 4750 .SI SEMIS
4751
4752 ; ELSE
4753
1D10- C4 45 4C 4754 .BY $C4 'ELS' $C5
1D13- 53 C5

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1D15- FB 1C	4755	.SI IF-\$05
1D17- FC 08	4756	ELSE .SI DOCOL
1D19- 98 09	4757	.SI TWO
1D1B- 32 OD	4758	.SI QPAIR
1D1D- 79 OD	4759	.SI COMP
1D1F- 7C 03	4760	.SI BRAN
1D21- FD 0A	4761	.SI HERE
1D23- 88 09	4762	.SI ZERO
1D25- 19 0B	4763	.SI COMMA
1D27- 46 08	4764	.SI SWAP
1D29- 98 09	4765	.SI TWO
1D2B- 64 1C	4766	.SI THEN
1D2D- 98 09	4767	.SI TWO
1D2F- D2 06	4768	.SI SEMIS
	4769	
	4770 ;	WHILE
	4771	
1D31- C5 57 48	4772	.BY \$C5 'WHIL' \$C5
1D34- 49 4C C5		
1D37- 10 1D	4773	.SI ELSE-\$07
1D39- FC 08	4774	WHILE .SI DOCOL
1D3B- 00 1D	4775	.SI IF
1D3D- EE 0A	4776	.SI TWOP
1D3F- D2 06	4777	.SI SEMIS
	4778	
	4779 ;	?STK
	4780	
1D41- 84 3F 53	4781	.BY \$84 '?ST' \$CB
1D44- 54 CB		
1D46- 31 1D	4782	.SI WHILE-\$08
1D48- FC 08	4783	QSTK .SI DOCOL
1D4A- 5E 08	4784	.SI DUP
1D4C- 5E 08	4785	.SI DUP
1D4E- 53 07	4786	.SI ZEQU
1D50- 46 08	4787	.SI SWAP
1D52- 5E 08	4788	.SI DUP
1D54- 90 07	4789	.SI PLUS
1D56- 9F 06	4790	.SI SPAT
1D58- 90 07	4791	.SI PLUS
1D5A- 49 02	4792	.SI LIT
1D5C- 98 00	4793	.SE TOS-6
1D5E- 18 0C	4794	.SI GREAT
1D60- 73 06	4795	.SI OR
1D62- D2 06	4796	.SI SEMIS
	4797	
	4798 ;	ROLL
	4799	
1D64- 84 52 4F	4800	.BY \$84 'ROL' \$CC
1D67- 4C CC		
1D69- 41 1D	4801	.SI QSTK-\$07
1D6B- FC 08	4802	ROLL .SI DOCOL
1D6D- 48 1D	4803	.SI QSTK
1D6F- 9B 03	4804	.SI ZBRAN
1D71- 0C 00	4805	.SE ROLL1--
1D73- 3D 08	4806	.SI DROP
1D75- 90 09	4807	.SI ONE
1D77- 24 11	4808	.SI ERROR
1D79- 7C 03	4809	.SI BRAN

1D7B- 04 00	4810	.SE ROLL2--
1D7D- A1 04	4811	ROLL1 .SI PROLL
1D7F- D2 06	4812	ROLL2 .SI SEMIS
	4813	
	4814 ;	PICK
	4815	
1D81- 84 50 49	4816	.BY \$84 'PIC' \$CB
1D84- 43 CB		
1D86- 64 1D	4817	.SI ROLL-\$07
1D88- FC 08	4818	PICK .SI DOCOL
1D8A- 48 1D	4819	.SI QSTK
1D8C- 9B 03	4820	.SI ZBRAN
1D8E- 0C 00	4821	.SE PICK1--
1D90- 3D 08	4822	.SI DROP
1D92- 90 09	4823	.SI ONE
1D94- 24 11	4824	.SI ERROR
1D96- 7C 03	4825	.SI BRAN
1D98- 0A 00	4826	.SE PICK2--
1D9A- 6E 0B	4827	PICK1 .SI TWOSTAR
1D9C- 9F 06	4828	.SI SPAT
1D9E- 90 07	4829	.SI PLUS
1DA0- 9D 08	4830	.SI AT
1DA2- D2 06	4831	PICK2 .SI SEMIS
	4832 ;	
	4833 ;	2! DOUBLE NUMBER STORE
	4834 ;	
1DA4- 82 32 A1	4835	.BY \$82 '2' \$A1
1DA7- 81 1D	4836	.SI PICK-\$07
1DA9- FC 08	4837	TSTORE .SI DOCOL
1DAB- 46 08	4838	.SI SWAP
1DAD- 2C 08	4839	.SI OVER
1DAF- C1 08	4840	.SI STORE
1DB1- EE 0A	4841	.SI TWOP
1DB3- C1 08	4842	.SI STORE
1DB5- D2 06	4843	.SI SEMIS
	4844 ;	
	4845 ;	2@ DOUBLE NUMBER FETCH
	4846 ;	
1DB7- 82 32 CO	4847	.BY \$82 '2' \$CO
1DBA- A4 1D	4848	.SI TSTORE-\$05
1DBC- FC 08	4849	TAT .SI DOCOL
1DBE- 5E 08	4850	.SI DUP
1DC0- EE 0A	4851	.SI TWOP
1DC2- 9D 08	4852	.SI AT
1DC4- 46 08	4853	.SI SWAP
1DC6- 9D 08	4854	.SI AT
1DC8- D2 06	4855	.SI SEMIS
	4856 ;	
	4857 ;	2CONSTANT DOUBLE NUMBER CONSTANT
	4858 ;	
1DCA- 89 32 43	4859	.BY \$89 '2CONSTAN' \$D4
1DCD- 4F 4E 53		
1DD0- 54 41 4E		
1DD3- D4		
1DD4- B7 1D	4860	.SI TAT-\$05
1DD6- FC 08	4861	TCON .SI DOCOL
1DD8- 8D 11	4862	.SI CREAT
1DDA- 19 0B	4863	.SI COMMA

IDDC- 19 0B	4864	.SI COMMA
1DDE- EC 0D	4865	.SI PSCOD
1DE0- 20 2B OE	4866	JSR DODOES
1DE3- BC 1D	4867	.SI TAT
1DE5- D2 06	4868	.SI SEMIS
	4869 ;	
	4870 ;	2DROP DOUBLE NUMBER DROP
	4871 ;	
1DE7- 85 32 44	4872	.BY \$85 '2DRO' \$D0
1DEA- 52 4F D0		
1DED- CA 1D	4873	.SI TCON-\$0C
1DEF- FC 08	4874	TDROP .SI DOCOL
1DF1- 3D 08	4875	.SI DROP
1DF3- 3D 08	4876	.SI DROP
1DF5- D2 06	4877	.SI SEMIS
	4878 ;	
	4879 ;	2DUP DOUBLE DUPLICATE
	4880 ;	
1DF7- 84 32 44	4881	.BY \$84 '2DU' \$D0
1DFA- 55 D0		
1DFC- E7 1D	4882	.SI TDROP-\$08
1DFE- FC 08	4883	TDUP .SI DOCOL
1E00- 2C 08	4884	.SI OVER
1E02- 2C 08	4885	.SI OVER
1E04- D2 06	4886	.SI SEMIS
	4887 ;	
	4888 ;	2OVER DOUBLE OVER
	4889 ;	
1E06- 85 32 4F	4890	.BY \$85 '2OVE' \$D2
1E09- 56 45 D2		
1E0C- F7 1D	4891	.SI TDUP-\$07
1E0E- FC 08	4892	TOVER .SI DOCOL
1E10- 8F 02	4893	.SI CLIT
1E12- 04	4894	.BY \$04
1E13- 88 1D	4895	.SI PICK
1E15- 8F 02	4896	.SI CLIT
1E17- 04	4897	.BY \$04
1E18- 88 1D	4898	.SI PICK
1E1A- D2 06	4899	.SI SEMIS
	4900 ;	
	4901 ;	2ROT DOUBLE ROTATE
	4902 ;	
1E1C- 84 32 52	4903	.BY \$84 '2RO' \$D4
1E1F- 4F D4		
1E21- 06 1E	4904	.SI TOVER-\$08
1E23- FC 08	4905	TROT .SI DOCOL
1E25- 8F 02	4906	.SI CLIT
1E27- 06	4907	.BY \$06
1E28- 6B 1D	4908	.SI ROLL
1E2A- 8F 02	4909	.SI CLIT
1E2C- 06	4910	.BY \$06
1E2D- 6B 1D	4911	.SI ROLL
1E2F- D2 06	4912	.SI SEMIS
	4913 ;	
	4914 ;	2SWAP DOUBLE SWAP
	4915 ;	
1E31- 85 32 53	4916	.BY \$85 '2SWA' \$D0
1E34- 57 41 D0		

1E37- 1C 1E	4917	.SI TROT-\$07
1E39- FC 08	4918	TSWAP .SI DOCOL
1E3B- 26 0C	4919	.SI ROT
1E3D- 00 07	4920	.SI TOR
1E3F- 26 0C	4921	.SI ROT
1E41- 12 07	4922	.SI RFROM
1E43- D2 06	4923	.SI SEMIS
	4924 ;	
	4925 ;	D> DOUBLE GREATER
	4926 ;	
1E45- 82 44 BE	4927	.BY \$82 'D' \$BE
1E48- 31 1E	4928	.SI TSWAP-\$08
1E4A- FC 08	4929	DGREAT .SI DOCOL
1E4C- 39 1E	4930	.SI TSWAP
1E4E- 01 0C	4931	.SI DLESS
1E50- D2 06	4932	.SI SEMIS
	4933 ;	
	4934 ;	DMAX LEAVE LARGER DOUBLE NUMBER
	4935 ;	
1E52- 84 44 4D	4936	.BY \$84 'DMA' \$D8
1E55- 41 D8		
1E57- 45 1E	4937	.SI DGREAT-\$05
1E59- FC 08	4938	DMAX .SI DOCOL
1E5B- 0E 1E	4939	.SI TOVER
1E5D- 0E 1E	4940	.SI TOVER
1E5F- 01 0C	4941	.SI DLESS
1E61- 9B 03	4942	.SI ZBRAN
1E63- 04 00	4943	.SE DMAX1--
1E65- 39 1E	4944	.SI TSWAP
1E67- EF 1D	4945	DMAX1 .SI TDROP
1E69- D2 06	4946	.SI SEMIS
	4947 ;	
	4948 ;	DMIN LEAVE SMALLER DOUBLE NUMBER
	4949 ;	
1E6B- 84 44 4D	4950	.BY \$84 'DMI' \$CE
1E6E- 49 CE		
1E70- 52 1E	4951	.SI DMAX-\$07
1E72- FC 08	4952	DMIN .SI DOCOL
1E74- 0E 1E	4953	.SI TOVER
1E76- 0E 1E	4954	.SI TOVER
1E78- 4A 1E	4955	.SI DGREAT
1E7A- 9B 03	4956	.SI ZBRAN
1E7C- 04 00	4957	.SE DMIN1--
1E7E- 39 1E	4958	.SI TSWAP
1E80- EF 1D	4959	DMIN1 .SI TDROP
1E82- D2 06	4960	.SI SEMIS
	4961 ;	
	4962 ;	2VARIABLE DOUBLE NUMBER VARIABLE
	4963 ;	
1E84- 89 32 56	4964	.BY \$89 '2VARIABL' \$C5
1E87- 41 52 49		
1E8A- 41 42 4C		
1E8D- C5		
1E8E- 6B 1E	4965	.SI DMIN-\$07
1E90- FC 08	4966	TVAR .SI DOCOL
1E92- 8D 11	4967	.SI CREAT
1E94- 88 09	4968	.SI ZERO
1E96- 88 09	4969	.SI ZERO

1E98- 19 0B	4970	.SI COMMA
1E9A- 19 0B	4971	.SI COMMA
1E9C- EC 0D	4972	.SI PSCOD
1E9E- 20 2B OE	4973	JSR DODOES
1EA1- D2 06	4974	.SI SEMIS
	4975 ;	
	4976 ;	
	4977 ;	DEPTH
	4978	
1EA3- 85 44 45	4979	.BY \$85 'DEPT' \$C8
1EA6- 50 54 C8		
1EA9- 84 1E	4980	.SI TVAR-\$OC
1EAB- FC 08	4981	DEPTH .SI DOCOL
1EAD- 9F 06	4982	.SI SPAT
1EAF- 49 02	4983	.SI LIT
1EB1- 9E 00	4984	.SE TOS
1EB3- 46 08	4985	.SI SWAP
1EB5- 3A 0B	4986	.SI SUB
1EB7- 98 09	4987	.SI TWO
1EB9- 41 16	4988	.SI SLASH
1EBB- D2 06	4989	.SI SEMIS
	4990	
	4991 ;	NOT
	4992	
1EBD- 83 4E 4F	4993	.BY \$83 'NO' \$D4
1ECO- D4		
1EC1- A3 1E	4994	.SI DEPTH-\$08
1EC3- FC 08	4995	NOT .SI DOCOL
1EC5- 53 07	4996	.SI ZEQU
1EC7- D2 06	4997	.SI SEMIS
	4998	
	4999 ;	CONVERT
	5000	
1EC9- 87 43 4F	5001	.BY \$87 'CONVER' \$D4
1ECC- 4E 56 45		
1ECF- 52 D4		
1ED1- BD 1E	5002	.SI NOT-\$06
1ED3- FC 08	5003	CONVERT .SI DOCOL
1ED5- 4B 10	5004	.SI PNUMB
1ED7- D2 06	5005	.SI SEMIS
	5006	
	5007 ;	FIND
	5008	
1ED9- 84 46 49	5009	.BY \$84 'FIN' \$C4
1EDC- 4E C4		
1EDE- C9 1E	5010	.SI CONVERT-\$0A
1EE0- FC 08	5011	FIND .SI DOCOL
1EE2- EC 10	5012	.SI DFIND
1EE4- 9B 03	5013	.SI ZBRAN
1EE6- 0A 00	5014	.SE FIND1==
1EE8- 3D 08	5015	.SI DROP
1EEA- A3 0C	5016	.SI CFA
1EEC- 7C 03	5017	.SI BRAN
1EEE- 04 00	5018	.SE FIND2==
1EFO- 88 09	5019	FIND1 .SI ZERO
1EF2- D2 06	5020	FIND2 .SI SEMIS
	5021	
	5022 ;	MOVE

	5023		
1EF4- 84 4D 4F	5024	.BY \$84 'MOV' \$C5	
1EF7- 56 C5			
1EF9- D9 1E	5025	.SI FIND-\$07	
1EFB- FC 08	5026	MOVE .SI DOCOL	
1EFD- 6E 0B	5027	.SI TWOSTAR	
1EFF- B5 05	5028	.SI CMOVE	
1F01- D2 06	5029	.SI SEMIS	
	5030		
	5031 ;	(R-V)	
	5032		
1F03- A3 52 56	5033	.BY \$A3 'RV' \$CC	
1F06- CC			
1F07- F4 1E	5034	.SI MOVE-\$07	
1F09- FC 08	5035	RVL .SI DOCOL	
1F0B- 44 0A	5036	.SI FENCE	
1F0D- 9D 08	5037	.SI AT	
1F0F- 49 02	5038	.SI LIT	
1F11- DC 1B	5039	.SI FORG+6	
1F13- 00 07	5040	.SI TOR	
1F15- D2 06	5041	.SI SEMIS	
	5042		
	5043 ;	COLD	
	5044		
1F17- 84 43 4F	5045	.BY \$84 'COL' \$C4	
1F1A- 4C C4			
1F1C- 03 1F	5046	.SI RVL-\$06	
1F1E- FC 08	5047	COLD .SI DOCOL	
1F20- 09 1F	5048	.SI RVL	
1F22- 1A 14	5049	.SI CCOLD	
1F24- D2 06	5050	.SI SEMIS	
	5051		
	5052 ;	SPACES	
	5053		
1F26- 86 53 50	5054	.BY \$86 'SPACE' \$D3	
1F29- 41 43 45			
1F2C- D3			
1F2D- 17 1F	5055	.SI COLD-\$07	
1F2F- FC 08	5056	SPACS .SI DOCOL	
1F31- 88 09	5057	.SI ZERO	
1F33- C8 15	5058	.SI MAX	
1F35- 49 0C	5059	.SI DDUP	
1F37- 9B 03	5060	.SI ZBRAN	
1F39- 0C 00	5061	.SE SPACS2==	
1F3B- 88 09	5062	.SI ZERO	
1F3D- 23 04	5063	.SI PDO	
1F3F- 3A 0C	5064	SPACS1 .SI SPACE	
1F41- BC 03	5065	.SI PLOOP	
1F43- FC FF	5066	.SE SPACS1==	
1F45- D2 06	5067	SPACS2 .SI SEMIS	
	5068		
	5069 ;	<#	
	5070		
1F47- 82 3C A3	5071	.BY \$82 '<' \$A3	
1F4A- 26 1F	5072	.SI SPACS-\$09	
1F4C- FC 08	5073	BDIGS .SI DOCOL	
1F4E- E7 0F	5074	.SI PAD	
1F50- D9 0A	5075	.SI HLD	



IF52- C1 08	5076	.SI STORE
IF54- D2 06	5077	.SI SEMIS
	5078	
	5079 ;	#>
	5080	
IF56- 82 23 BE	5081	.BY \$82 '#' \$BE
IF59- 47 1F	5082	.SI BDIGS-\$05
IF5B- FC 08	5083 EDIGS	.SI DOCOL
IF5D- 3D 08	5084	.SI DROP
IF5F- 3D 08	5085	.SI DROP
IF61- D9 0A	5086	.SI HLD
IF63- 9D 08	5087	.SI AT
IF65- E7 0F	5088	.SI PAD
IF67- 2C 08	5089	.SI OVER
IF69- 3A 0B	5090	.SI SUB
IF6B- D2 06	5091	.SI SEMIS
	5092	
	5093 ;	SIGN
	5094	
IF6D- 84 53 49	5095	.BY \$84 'SIG' \$CE
IF70- 47 CE		
IF72- 56 1F	5096	.SI EDIGS-\$05
IF74- FC 08	5097 SIGN	.SI DOCOL
IF76- 26 0C	5098	.SI ROT
IF78- 68 07	5099	.SI ZLESS
IF7A- 9B 03	5100	.SI ZBRAN
IF7C- 07 00	5101	.SE SIGN1==
IF7E- 8F 02	5102	.SI CLIT
IF80- 2D	5103	.BY \$2D
IF81- CF 0F	5104	.SI HOLD
IF83- D2 06	5105 SIGN1	.SI SEMIS
	5106	
	5107 ;	#
	5108	
IF85- 81 A3	5109	.BY \$81 \$A3
IF87- 6D 1F	5110	.SI SIGN-\$07
IF89- FC 08	5111 DIG	.SI DOCOL
IF8B- AD 0A	5112	.SI BASE
IF8D- 9D 08	5113	.SI AT
IF8F- 84 16	5114	.SI MSMOD
IF91- 26 0C	5115	.SI ROT
IF93- 8F 02	5116	.SI CLIT
IF95- 09	5117	.BY \$09
IF96- 2C 08	5118	.SI OVER
IF98- C2 0B	5119	.SI LESS
IF9A- 9B 03	5120	.SI ZBRAN
IF9C- 07 00	5121	.SE DIG1==
IF9E- 8F 02	5122	.SI CLIT
IFA0- 07	5123	.BY \$07
IFA1- 90 07	5124	.SI PLUS
IFA3- 8F 02	5125 DIG1	.SI CLIT
IFA5- 30	5126	.BY \$30
IFA6- 90 07	5127	.SI PLUS
IFA8- CF 0F	5128	.SI HOLD
IFAA- D2 06	5129	.SI SEMIS
	5130	
	5131 ;	#S
	5132	

IFAC- 82 23 D3	5133	.BY \$82 '#' \$D3
IFAF- 85 1F	5134	.SI DIG-\$04
IFB1- FC 08	5135 DIGS	.SI DOCOL
IFB3- 89 1F	5136 DIGS1	.SI DIG
IFB5- 2C 08	5137	.SI OVER
IFB7- 2C 08	5138	.SI OVER
IFB9- 73 06	5139	.SI OR
IFBB- 53 07	5140	.SI ZEQU
IFBD- 9B 03	5141	.SI ZBRAN
IFBF- F4 FF	5142	.SE DIGS1==
IFC1- D2 06	5143	.SI SEMIS
	5144	
	5145 ;	D.R
	5146	
IFC3- 83 44 2E	5147	.BY \$83 'D.' \$D2
IFC6- D2		
IFC7- AC 1F	5148	.SI DIGS-\$05
IFC9- FC 08	5149 DDOTR	.SI DOCOL
IFCB- 00 07	5150	.SI TOR
IFCD- 46 08	5151	.SI SWAP
IFCF- 2C 08	5152	.SI OVER
IFD1- A2 15	5153	.SI DABS
IFD3- 4C 1F	5154	.SI BDIGS
IFD5- B1 1F	5155	.SI DIGS
IFD7- 74 1F	5156	.SI SIGN
IFD9- 5B 1F	5157	.SI EDIGS
IFDB- 12 07	5158	.SI RFROM
IFDD- 2C 08	5159	.SI OVER
IFDF- 3A 0B	5160	.SI SUB
IFE1- 2F 1F	5161	.SI SPACS
IFE3- 62 0E	5162	.SI TYPE
IFE5- D2 06	5163	.SI SEMIS
	5164	
	5165 ;	D.
	5166	
IFE7- 82 44 AE	5167	.BY \$82 'D' \$AE
IFEA- C3 1F	5168	.SI DDOTR-\$06
IFEC- FC 08	5169 DDOT	.SI DOCOL
IFEE- 88 09	5170	.SI ZERO
IFF0- C9 1F	5171	.SI DDOTR
IFF2- 3A 0C	5172	.SI SPACE
IFF4- D2 06	5173	.SI SEMIS
	5174	
	5175 ;	U.
	5176	
IFF6- 82 55 AE	5177	.BY \$82 'U' \$AE
IFF9- E7 1F	5178	.SI DDOT-\$05
IFFB- FC 08	5179 UDOT	.SI DOCOL
IFFD- 88 09	5180	.SI ZERO
IFFF- EC 1F	5181	.SI DDOT
2001- D2 06	5182	.SI SEMIS
	5183	
	5184 ;	.R
	5185	
2003- 82 2E D2	5186	.BY \$82 '.' \$D2
2006- F6 1F	5187	.SI UDOT-\$05
2008- FC 08	5188 DOTR	.SI DOCOL
200A- 00 07	5189	.SI TOR

200C- 60 15	5190	.SI STOD
200E- 12 07	5191	.SI RFROM
2010- C9 1F	5192	.SI DDOTR
2012- D2 06	5193	.SI SEMIS
	5194	
	5195 ;	
	5196	
2014- 81 AE	5197	.BY \$81 \$AE
2016- 03 20	5198	.SI DOTR-\$05
2018- FC 08	5199 DOT	.SI DOCOL
201A- 60 15	5200	.SI STOD
201C- EC 1F	5201	.SI DDOT
201E- D2 06	5202	.SI SEMIS
	5203	
	5204 ;	S. - STACK PRINT
	5205	
2020- 82 53 AE	5206	.BY \$82 'S' \$AE
2023- 14 20	5207	.SI DOT-\$04
2025- FC 08	5208 SDOT	.SI DOCOL
2027- BF 0E	5209	.SI PDOTQ
2029- 05 42 4F	5210	.BY \$05 'BOT> '
202C- 54 3E 20		
202F- AB 1E	5211	.SI DEPTH
2031- 49 0C	5212	.SI DDUP
2033- 9B 03	5213	.SI ZBRAN
2035- 16 00	5214	.SE SDOT2--
2037- 90 09	5215	.SI ONE
2039- 46 08	5216	.SI SWAP
203B- 23 04	5217	.SI PDO
203D- 3C 04	5218 SDOT1	.SI I
203F- 88 1D	5219	.SI PICK
2041- 18 20	5220	.SI DOT
2043- 49 02	5221	.SI LIT
2045- FF FF	5222	.SE \$FFFF
2047- EC 03	5223	.SI PPLOO
2049- F4 FF	5224	.SE SDOT1--
204B- BF 0E	5225 SDOT2	.SI PDOTQ
204D- 05 3C 54	5226	.BY \$05 '<TOP '
2050- 4F 50 20		
2053- D2 06	5227	.SI SEMIS
	5228	
	5229 ;	?
	5230	
2055- 81 BF	5231	.BY \$81 \$BF
2057- 20 20	5232	.SI SDOT-\$05
2059- FC 08	5233 QUES	.SI DOCOL
205B- 9D 08	5234	.SI AT
205D- 18 20	5235	.SI DOT
205F- D2 06	5236	.SI SEMIS
	5237	
	5238 ;	LIST
	5239	
2061- 84 4C 49	5240	.BY \$84 'LIS' \$D4
2064- 53 D4		
2066- 55 20	5241	.SI QUES-\$04
2068- FC 08	5242 LIST	.SI DOCOL
206A- D7 0D	5243	.SI DECIM
206C- AB 05	5244	.SI CR

206E- 5E 08	5245	.SI DUP
2070- 7E 0A	5246	.SI SCR
2072- C1 08	5247	.SI STORE
2074- BF 0E	5248	.SI PDOTQ
2076- 07 53 63	5249	.BY \$07 'Screen '
2079- 72 65 65		
207C- 6E 20		
207E- 5E 08	5250	.SI DUP
2080- 18 20	5251	.SI DOT
2082- C2 0D	5252	.SI HEX
2084- 8F 02	5253	.SI CLIT
2086- 05	5254	.BY \$05
2087- 08 20	5255	.SI DOTR
2089- BF 0E	5256	.SI PDOTQ
208B- 04 20 68	5257	.BY \$04 'hex'
208E- 65 78		
2090- D7 0D	5258	.SI DECIM
2092- 8F 02	5259	.SI CLIT
2094- 10	5260	.BY \$10
2095- 88 09	5261	.SI ZERO
2097- 23 04	5262	.SI PDO
2099- AB 05	5263 LIST1	.SI CR
209B- 3C 04	5264	.SI I
209D- A0 09	5265	.SI THREE
209F- 08 20	5266	.SI DOTR
20A1- 3A 0C	5267	.SI SPACE
20A3- 3C 04	5268	.SI I
20A5- 7E 0A	5269	.SI SCR
20A7- 9D 08	5270	.SI AT
20A9- 09 18	5271	.SI DLINE
20AB- A4 05	5272	.SI QTERM
20AD- 9B 03	5273	.SI ZBRAN
20AF- 04 00	5274	.SE LIST2--
20B1- E5 06	5275	.SI LEAVE
20B3- BC 03	5276 LIST2	.SI PLOOP
20B5- E4 FF	5277	.SE LIST1--
20B7- AB 05	5278	.SI CR
20B9- D2 06	5279	.SI SEMIS
	5280	
	5281 ;	INDEX
	5282	
20BB- 85 49 4E	5283	.BY \$85 'INDE' \$D8
20BE- 44 45 D8		
20C1- 61 20	5284	.SI LIST-\$07
20C3- FC 08	5285 INDEX	.SI DOCOL
20C5- AB 05	5286	.SI CR
20C7- E1 0A	5287	.SI ONEP
20C9- 46 08	5288	.SI SWAP
20CB- 23 04	5289	.SI PDO
20CD- AB 05	5290 INDEX1	.SI CR
20CF- 3C 04	5291	.SI I
20D1- A0 09	5292	.SI THREE
20D3- 08 20	5293	.SI DOTR
20D5- 3A 0C	5294	.SI SPACE
20D7- 88 09	5295	.SI ZERO
20D9- 3C 04	5296	.SI I
20DB- 09 18	5297	.SI DLINE
20DD- A4 05	5298	.SI QTERM

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20DF- 9B 03      5299      .SI ZBRAN
20E1- 04 00      5300      .SE INDEK2==
20E3- E5 06      5301      .SI LEAVE
20E5- BC 03      5302 INDEX2  .SI PLOOP
20E7- E6 FF      5303      .SE INDEK1==
20E9- D2 06      5304      .SI SEMIS
                    5305
                    5306 ;      TRIAD
                    5307
20EB- 85 54 52   5308      .BY $85 'TRIA' $C4
20EE- 49 41 C4
20F1- BB 20      5309      .SI INDEX-$08
20F3- FC 08      5310 TRIAD   .SI DOCOL
20F5- 5E 08      5311      .SI DUP
20F7- A0 09      5312      .SI THREE
20F9- 90 07      5313      .SI PLUS
20FB- 46 08      5314      .SI SWAP
20FD- 23 04      5315      .SI PDO
20FF- AB 05      5316 TRIAD1  .SI CR
2101- 3C 04      5317      .SI I
2103- 68 20      5318      .SI LIST
2105- BC 03      5319      .SI PLOOP
2107- F8 FF      5320      .SE TRIAD1==
2109- AB 05      5321      .SI CR
210B- 8F 02      5322      .SI CLIT
210D- OF         5323      .BY $0F
210E- 1D 18      5324      .SI MESS
2110- D2 06      5325      .SI SEMIS
                    5326
                    5327
                    5328 ;      VLIST
                    5329
2112- 85 56 4C   5330      .BY $85 'VLIS' $D4
2115- 49 53 D4
2118- EB 20      5331      .SI TRIAD-$08
211A- FC 08      5332 VLIST   .SI DOCOL
211C- 8F 02      5333      .SI CLIT
211E- 80         5334      .BY $80
211F- 75 0A      5335      .SI OUT
2121- C1 08      5336      .SI STORE
2123- 8B 0A      5337      .SI CON
2125- 9D 08      5338      .SI AT
2127- 9D 08      5339      .SI AT
2129- 75 0A      5340 VLIST1  .SI OUT
212B- 9D 08      5341      .SI AT
212D- B2 09      5342      .SI TW
212F- 8F 02      5343      .SI CLIT
2131- 10         5344      .BY $10
2132- 3A 0B      5345      .SI SUB
2134- 18 0C      5346      .SI GREAT
2136- 9B 03      5347      .SI ZBRAN
2138- 0A 00      5348      .SE VLIST2==
213A- AB 05      5349      .SI CR
213C- 88 09      5350      .SI ZERO
213E- 75 0A      5351      .SI OUT
2140- C1 08      5352      .SI STORE
2142- 5E 08      5353 VLIST2  .SI DUP
2144- 59 11      5354      .SI IDDOT

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2146- 3A 0C      5355      .SI SPACE
2148- 3A 0C      5356      .SI SPACE
214A- C4 0C      5357      .SI PFA
214C- 94 0C      5358      .SI LFA
214E- 9D 08      5359      .SI AT
2150- 5E 08      5360      .SI DUP
2152- 53 07      5361      .SI ZEQU
2154- A4 05      5362      .SI QTERM
2156- 73 06      5363      .SI OR
2158- 9B 03      5364      .SI ZBRAN
215A- CF FF      5365      .SE VLIST1==
215C- 3D 08      5366      .SI DROP
215E- D2 06      5367      .SI SEMIS
                    5368
                    5369      .CT 1FTH55

                    5370 ;
                    5371 ;*****
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5378 ;**      NEW WESTMINSTER, B. C.    **
5379 ;**      V3L 4Y7, CANADA          **
5380 ;*****
5381 ;
5382 ;
5383 ;*****
5384 ;**      SYM/KIM- FORTH PART 10      **
5385 ;**      DISK FILE FTH55           **
5386 ;*****
5387 ;
5388 ;      MON
5389 ;
2160- 83 4D 4F   5390      .BY $83 'MO' $CE
2163- CE
2164- 12 21      5391      .SI VLIST-$08
2166- 68 21      5392 MON    .SI +=2
                    5393
                    5394      IFE SYM-1
                    5395
2168- A9 80      5396      LDA #80
216A- 8D 53 A6   5397      STA TECHO
216D- 20 35 80   5398      JSR USRENT
2170- 20 86 8B   5399      JSR ACCESS
2173- A9 00      5400      LDA #800
2175- 8D 53 A6   5401      STA TECHO
2178- 4C 63 02   5402      JMP NEXT
                    5403      ***
                    5404
                    5405      IFE KIM-1
                    5406      LDA #$4C
                    5407      STA *800
                    5408      LDA #L,NEXT

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5409		STA *\$01
5410		LDA #H,NEXT
5411		STA *\$02
5412		JMP MONBRK
5413		***
5414		
217B- 86 45 58	5415	.BY \$86 'EXPEC' \$D4
217E- 50 45 43		
2181- D4		
2182- 60 21	5416	.SI MON-\$06
2184- 86 21	5417	EXPECT .SI +=2
2186- A9 02	5418	LDA #\$02 ;TRANSFER TWO
2188- 20 3E 03	5419	JSR SETUP
218B- 86 B5	5420	STX *XSAVE
218D- 20 95 21	5421	JSR FILBUF
2190- A6 B5	5422	LDX *XSAVE
2192- 4C 63 02	5423	JMP NEXT
	5424	
2195- 20 29 23	5425	FILBUF JSR ZERBUF CLEAR IN BUFFER
	5426	
2198- A0 00	5427	STBUFF LDY #\$00 POINT TO START
	5428	
219A- B8	5429	NEXCHR CLV USE FOR BRANCH REGARDLESS
	5430	
219B- 20 AF 18	5431	JSR INTCHR
219E- C9 20	5432	CMP #\$20 IF CONTROL CHAR
21A0- 90 03	5433	BCC CTROLA THEN PROCESS IT
21A2- 4C 79 22	5434	JMP CHAR. ELSE PROCESS CHARACTER
	5435	
21A5- C9 01	5436	CTROLA CMP #\$01
21A7- D0 22	5437	BNE CTROLH
21A9- C0 00	5438	CPY #\$00
21AB- F0 57	5439	BEQ BEEP1
21AD- 20 1E 23	5440	JSR CRLFP
21B0- 20 B5 21	5441	JSR CTROLA0
21B3- 50 E3	5442	BVC STBUFF
21B5- AE 2B 15	5443	CTROLA0 LDX HARD+3
21B8- D0 10	5444	BNE CTROLA2
21BA- AD 40 02	5445	LDA KTMFLG
21BD- D0 03	5446	BNE CTROLA1
21BF- 4C 0C 02	5447	JMP TCRLF.VEC
21C2- 88	5448	CTROLA1 DEY
21C3- 20 13 23	5449	JSR BCKSPC
21C6- C0 00	5450	CPY #\$00
21C8- D0 F8	5451	BNE CTROLA1
21CA- 60	5452	CTROLA2 RTS
	5453	
21CB- C9 08	5454	CTROLH CMP #\$08 ;BACK SPACE?
21CD- D0 18	5455	BNE CTROLI ;NO
21CF- AE 40 02	5456	LDX KTMFLG
21D2- F0 C6	5457	BEQ NEXCHR
21D4- AE 2B 15	5458	LDX HARD+3
21D7- D0 C1	5459	BNE NEXCHR
21D9- C0 00	5460	CPY #\$00 ;YES- AT START ALREADY?
21DB- D0 03	5461	BNE CTROLH1
21DD- 4C 4A 22	5462	JMP CTROLZ1
21E0- 88	5463	CTROLH1 DEY ;NO FALL THROUGH WITH BS
21E1- 20 09 02	5464	JSR TOUT.VEC

21E4- 4C 9A 21	5465	JMP NEXCHR
	5466	
21E7- C9 09	5467	CTROLI CMP #\$09 ;HORZ TAB?
21E9- D0 09	5468	BNE CTROLM ;NO
21EB- C4 A6	5469	CPY *N ;YES- AT END ALREADY?
21ED- B0 BA	5470	BCS CTROLA+4
21EF- B1 A8	5471	LDA (N+2),Y ;NO- DUMP CHAR THEN
21F1- F0 B6	5472	BEQ CTROLA+4
21F3- C8	5473	INY
	5474	
21F4- C9 0D	5475	CTROLM CMP #\$0D ;RETURN?
21F6- D0 12	5476	BNE CTROLS ;NO
21F8- 20 95 22	5477	JSR EEOF
21FB- A9 00	5478	LDA #\$00
21FD- 91 A8	5479	STA (N+2),Y
21FF- A9 20	5480	LDA #\$20
2201- 4C 15 02	5481	JMP ECHAR.VEC
2204- 20 1E 02	5482	BEEP1 JSR BELL.VEC
2207- 4C 9A 21	5483	NEXCHR1 JMP NEXCHR
	5484	
220A- C9 13	5485	CTROLS CMP #\$13 ;MONITOR JUMP?
220C- D0 0B	5486	BNE CTROLT ;NO
	5487	IFE SYM-1
220E- A9 80	5488	LDA #\$80 ;YES RESTORE ECHO
2210- 8D 53 A6	5489	STA TECHO
2213- 20 35 80	5490	JSR USRENT
2216- 4C 2C 14	5491	JMP WARM
	5492	***
	5493	IFE KIM-1
	5494	LDA #\$4C
	5495	STA *\$00
	5496	LDA #L,REENTER
	5497	STA *\$01
	5498	LDA #H,REENTER
	5499	STA *\$02
	5500	JMP MONBRK
	5501	***
	5502	
2219- C9 14	5503	CTROLT CMP #\$14 ;TOGGLE CASSETTE?
221B- D0 15	5504	BNE CTROLX ;NO
221D- 20 AF 18	5505	JSR INTCHR
2220- C9 30	5506	CMP #\$30 ;CASSETTE 0?
2222- D0 05	5507	BNE CTROLT1 ;NO-
2224- 20 4B 19	5508	JSR TOGO ;YES- DO IT TO IT
2227- 50 DE	5509	BVC NEXCHR1
2229- C9 31	5510	CTROLT1 CMP #\$31 ;CASSETTE 1 THEN?
222B- D0 D7	5511	BNE BEEP1 ;NO BEEP THE OPERATOR
222D- 20 42 19	5512	JSR TOG1 ;YES DO
2230- 50 D5	5513	BVC NEXCHR1
	5514	
2232- C9 18	5515	CTROLX CMP #\$18 ;CANCEL LINE?
2234- D0 10	5516	BNE CTROLZ ;NO
2236- C0 00	5517	CPY #\$00
2238- F0 03	5518	BEQ CTROLX1
223A- 20 C2 21	5519	JSR CTROLA1
223D- 20 95 22	5520	CTROLX1 JSR EEOF
2240- 20 1E 23	5521	JSR CRLFP ;SEND IF PRINTER ON
2243- 4C 95 21	5522	JMP FILBUF

2246-	C9 1A	5523			
2248-	D0 0F	5524	CTROLZ	CMP #S1A	;SKIP TO END?
224A-	B1 A8	5525		BNE ESCAPE	;NO
224C-	F0 06	5526	CTROLZ1	LDA (N+2),Y	;YES
224E-	20 15 02	5527		BEQ CTROLZ2	
2251-	C8	5528		JSR ECHAR.VEC	
2252-	50 F6	5529		INY	
2254-	20 95 22	5530		BVC CTROLZ1	
2257-	50 19	5531	CTROLZ2	JSR EEOF	
		5532		BVC NEXCHR2	
		5533			
2259-	C9 1B	5534	ESCAPE	CMP #S1B	;SKIP TO CHARACTER?
225B-	D0 17	5535		BNE ECHO	;NO
225D-	20 AF 18	5536		JSR INTCHR	
2260-	85 A7	5537		STA *N+1	
2262-	B1 A8	5538	ESCAPE1	LDA (N+2),Y	
2264-	F0 EE	5539		BEQ CTROLZ2	
2266-	20 15 02	5540		JSR ECHAR.VEC	
2269-	C8	5541		INY	
226A-	C5 A7	5542		CMP *N+1	
226C-	F0 99	5543		BEQ NEXCHR1	
226E-	C4 A6	5544		CPY *N	
2270-	90 F0	5545		BCC ESCAPE1	
2272-	50 93	5546	NEXCHR2	BVC NEXCHR1	
		5547			
2274-	20 15 02	5548	ECHO	JSR ECHAR.VEC	
2277-	50 F9	5549		BVC NEXCHR2	
		5550			
2279-	C9 5F	5551	CHAR.	CMP #S5F	;DELETE?
227B-	F0 04	5552		BEQ DELETE	
227D-	C9 7F	5553		CMP #S7F	;DELETE?
227F-	D0 0F	5554		BNE ACCEPT	
		5555			
2281-	C0 00	5556	DELETE	CPY #S00	;AREADY AT START?
2283-	F0 08	5557		BEQ BEEP2	
2285-	20 F7 22	5558		JSR DELCHR	
2288-	20 E3 22	5559		JSR MOVDWN	
228B-	50 E5	5560		BVC NEXCHR2	
228D-	4C 04 22	5561	BEEP2	JMP BEEP1	
		5562			
2290-	20 B6 22	5563	ACCEPT	JSR INSERT	
2293-	50 DD	5564		BVC NEXCHR2	
		5565			
		5566		;** IF YOU HAVE A HI SPEED TERMINAL YOU	
		5567		;** MAY NOP THE RTS AND USE THE SUBROUTINE	
		5568		;** THAT FOLLOWS TO ERASE TO END OF FIELD	
		5569		;** OR ECHO THE APPROPRIATE CONTROL CHARACTER	
		5570			
		5571			
2295-	AD 40 02	5572	EEOF	LDA KTMFLG	
2298-	F0 1B	5573		BEQ EEOF3	
229A-	AD 2B 15	5574		LDA HARD+3	
229D-	D0 16	5575		BNE EEOF3	
229F-	84 A7	5576		STY *N+1	
22A1-	A9 20	5577	EEOF1	LDA #S20	
22A3-	20 09 02	5578		JSR TOUT.VEC	
22A6-	C8	5579		INY	
22A7-	C4 A6	5580		CPY *N	

22A9-	90 F6	5581		BCC EEOF1	
22AB-	A9 08	5582	EEOF2	LDA #S08	
22AD-	20 09 02	5583		JSR TOUT.VEC	
22B0-	88	5584		DEY	
22B1-	C4 A7	5585		CPY *N+1	
22B3-	D0 F6	5586		BNE EEOF2	
22B5-	60	5587	EEOF3	RTS	
		5588			
22B6-	48	5589	INSERT	PHA ;SAVE CHARACTER	
22B7-	98	5590		TYA ;SAVE Y TOO	
22B8-	48	5591		PHA	
22B9-	A2 01	5592		LDX #S01 ;FIND BUFFER END	
22BB-	B1 A8	5593	INSERT1	LDA (N+2),Y	
22BD-	F0 04	5594		BEQ INSERT2	
22BF-	C8	5595		INY	
22C0-	E8	5596		INX	
22C1-	50 F8	5597		BVC INSERT1	
		5598			
22C3-	C4 A6	5599	INSERT2	CPY *N ;PASED END?	
22C5-	90 08	5600		BCC INSERT3 ;NOPE	
22C7-	68	5601		PLA ;YES- RESTORE AND BEEP	
22C8-	A8	5602		TAY	
22C9-	68	5603		PLA	
22CA-	20 1E 02	5604		JSR BELL.VEC	
22CD-	50 13	5605		BVC INSERT4	
		5606			
22CF-	B1 A8	5607	INSERT3	LDA (N+2),Y	
22D1-	C8	5608		INY	
22D2-	91 A8	5609		STA (N+2),Y	
22D4-	88	5610		DEY	
22D5-	88	5611		DEY	
22D6-	CA	5612		DEX	
22D7-	D0 F6	5613		BNE INSERT3	
22D9-	68	5614		PLA	
22DA-	A8	5615		TAY	
22DB-	68	5616		PLA	
22DC-	91 A8	5617		STA (N+2),Y	
22DE-	20 15 02	5618		JSR ECHAR.VEC	
22E1-	C8	5619		INY	
22E2-	60	5620	INSERT4	RTS	
		5621			
22E3-	98	5622	MOVDWN	TYA	
22E4-	48	5623		PHA ;SAVE Y	
22E5-	B1 A8	5624	MOVDWN1	LDA (N+2),Y	
22E7-	F0 07	5625		BEQ MOVDWN2	
22E9-	88	5626		DEY	
22EA-	91 A8	5627		STA (N+2),Y	
22EC-	C8	5628		INY	
22ED-	C8	5629		INY	
22EE-	50 F5	5630		BVC MOVDWN1	
22F0-	88	5631	MOVDWN2	DEY	
22F1-	91 A8	5632		STA (N+2),Y	
22F3-	68	5633		PLA ;RESTORE Y	
22F4-	A8	5634		TAY	
22F5-	88	5635		DEY	
22F6-	60	5636		RTS	
		5637			
22F7-	AE 40 02	5638	DELCHR	LDX KTMFLG	

22FA-	FO 1C	5639	BEQ	BCKSL	
22FC-	AE 2A 15	5640	LDX	HARD+2	
22FF-	FO 0A	5641	BEQ	DELCHR1	
2301-	A9 5C	5642	LDA	#\$5C	
2303-	20 0F 02	5643	JSR	POUT.VEC	
2306-	AE 2B 15	5644	LDX	HARD+3	
2309-	DO 12	5645	BNE	DELCHR2	
230B-	20 13 23	5646	JSR	BCKSPC	DELCHR1
230E-	A9 20	5647	LDA	#\$20	
2310-	20 09 02	5648	JSR	TOUT.VEC	
2313-	A9 08	5649	LDA	#\$08	BCKSPC
2315-	4C 09 02	5650	JMP	TOUT.VEC	
2318-	A9 5C	5651	LDA	#\$5C	BCKSL
231A-	20 15 02	5652	JSR	ECHAR.VEC	
231D-	60	5653	RTS		DELCHR2
		5654			
231E-	AE 2A 15	5655	LDX	HARD+2	CRLFP
2321-	FO 05	5656	BEQ	CRLFP1	
2323-	48	5657	PHA		
2324-	20 12 02	5658	JSR	PCRLF.VEC	
2327-	68	5659	PLA		
2328-	60	5660	RTS		CRLFP1
		5661			
2329-	A4 A6	5662	LDY	*N	ZERBUF
232B-	A9 00	5663	LDA	#\$00	
232D-	91 A8	5664	STA	(N+2),Y	ZERBUF1
232F-	88	5665	DEY		
2330-	10 FB	5666	BPL	ZERBUF1	
2332-	60	5667	RTS		
		5668			
		5669			EDIT
		5670			
2333-	84 45 44	5671		.BY \$84 'EDI' \$D4	
2336-	49 D4				
2338-	7B 21	5672		.SI EXPECT-\$09	
233A-	3C 23	5673		.SI =+2	EDIT
233C-	A9 02	5674	LDA	#\$02	
233E-	20 3E 03	5675	JSR	SETUP	
2341-	86 B5	5676	STX	*XSAVE	
2343-	20 4A 22	5677	JSR	CTRLZ1	
2346-	A6 B5	5678	LDX	*XSAVE	
2348-	CA	5679	DEX		
2349-	CA	5680	DEX		
234A-	98	5681	TYA		
234B-	4C A2 06	5682	JMP	PUSHOA	
		5683			
		5684			
		5685			X ASCII NULL
		5686			
234E-	C1 80	5687		.BY \$C1 \$80	
2350-	33 23	5688		.SI EDIT-\$07	
2352-	FC 08	5689		.SI DOCOL	NULL
2354-	63 0A	5690		.SI BLK	
2356-	9D 08	5691		.SI AT	
2358-	9B 03	5692		.SI ZBRAN	
235A-	2A 00	5693		.SE NULL2--	
235C-	90 09	5694		.SI ONE	
235E-	63 0A	5695		.SI BLK	

2360-	6D 08	5696		.SI PSTOR	
2362-	88 09	5697		.SI ZERO	
2364-	6C 0A	5698		.SI IN	
2366-	C1 08	5699		.SI STORE	
2368-	63 0A	5700		.SI BLK	
236A-	9D 08	5701		.SI AT	
236C-	88 09	5702		.SI ZERO	
236E-	03 0A	5703		.SI BSCR	
2370-	21 06	5704		.SI USLAS	
2372-	3D 08	5705		.SI DROP	
2374-	53 07	5706		.SI ZEQU	
2376-	9B 03	5707		.SI ZBRAN	
2378-	08 00	5708		.SE NULL1--	
237A-	1C 0D	5709		.SI QEXEC	
237C-	12 07	5710		.SI RFROM	
237E-	3D 08	5711		.SI DROP	
2380-	7C 03	5712	NULL1	.SI BRAN	
2382-	06 00	5713		.SE NULL3--	
2384-	12 07	5714	NULL2	.SI RFROM	
2386-	3D 08	5715		.SI DROP	
2388-	D2 06	5716	NULL3	.SI SEMIS	
		5717			
		5718			
		5719			PUT
		5720			
238A-	83 50 55	5721		.BY \$83 'PU' \$D4	
238D-	D4				
238E-	4E 23	5722		.SI NULL-\$04	
2390-	FC 08	5723	PUTT	.SI DOCOL	
2392-	C6 17	5724		.SI SAVBUF	
2394-	C5 23	5725		.SI SCRAD	
2396-	99 14	5726		.SI TEAD	
2398-	C1 08	5727		.SI STORE	
239A-	8E 14	5728		.SI TSAD	
239C-	C1 08	5729		.SI STORE	
239E-	A4 14	5730		.SI TFID	
23A0-	C1 08	5731		.SI STORE	
23A2-	90 09	5732		.SI ONE	
23A4-	1D 15	5733		.SI W/T	
23A6-	9D 08	5734		.SI AT	
23A8-	33 15	5735		.SI TAPE	
23AA-	AD 14	5736		.SI S2	
23AC-	88 09	5737		.SI ZERO	
23AE-	1D 15	5738		.SI W/T	
23B0-	9D 08	5739		.SI AT	
23B2-	33 15	5740		.SI TAPE	
23B4-	04 0F	5741		.SI BEP	
23B6-	8F 02	5742		.SI CLIT	
23B8-	0A	5743		.BY \$0A	
23B9-	EB 0C	5744		.SI QERR	
23BB-	D2 06	5745		.SI SEMIS	
		5746			
		5747			SCRAD GET SCREEN ADDRESS
		5748			
23BD-	85 53 43	5749		.BY \$85 'SCRA' \$C4	
23C0-	52 41 C4				
23C3-	8A 23	5750		.SI PUTT-\$06	
23C5-	FC 08	5751	SCRAD	.SI DOCOL	

23C7- 54 0B 5752 .SI ONESB  
 23C9- 49 02 5753 .SI LIT  
 23CB- 00 04 5754 .SE \$0400  
 23CD- 22 16 5755 .SI STAR  
 23CF- AE 19 5756 .SI LO  
 23D1- 9D 08 5757 .SI AT  
 23D3- 90 07 5758 .SI PLUS  
 23D5- B7 19 5759 .SI HI  
 23D7- 9D 08 5760 .SI AT  
 23D9- 2C 08 5761 .SI OVER  
 23DB- B1 0B 5762 .SI ULESS  
 23DD- 8F 02 5763 .SI CLIT  
 23DF- 06 5764 .BY \$06  
 23E0- EB 0C 5765 .SI QERR  
 23E2- 5E 08 5766 .SI DUP  
 23E4- 49 02 5767 .SI LIT  
 23E6- FF 03 5768 .SE \$03FF  
 23E8- 90 07 5769 .SI PLUS  
 23EA- 04 0F 5770 .SI BEP  
 23EC- D2 06 5771 .SI SEMIS

GET ACCORDING TO TAPE ID

23EE- 83 47 45 5775 .BY \$83 'GE' \$D4  
 23F1- D4  
 23F2- BD 23 5776 .SI SCRAD-\$08  
 23F4- FC 08 5777 GET .SI DOCOL  
 23F6- C6 17 5778 .SI SAVBUF  
 23F8- A4 14 5779 .SI TF ID  
 23FA- C1 08 5780 .SI STORE  
 23FC- 90 09 5781 .SI ONE  
 23FE- 13 15 5782 .SI R/T  
 2400- 9D 08 5783 .SI AT  
 2402- 33 15 5784 .SI TAPE  
 2404- 04 0F 5785 .SI BEP  
 2406- CF 14 5786 .SI L2  
 2408- 88 09 5787 .SI ZERO  
 240A- 13 15 5788 .SI R/T  
 240C- 9D 08 5789 .SI AT  
 240E- 33 15 5790 .SI TAPE  
 2410- 04 0F 5791 .SI BEP  
 2412- 8F 02 5792 .SI CLIT  
 2414- 0B 5793 .BY \$0B  
 2415- EB 0C 5794 .SI QERR  
 2417- 08 17 5795 .SI EMBUF  
 2419- D2 06 5796 .SI SEMIS

SGET FORCED LOAD TO INDICATED SCREEN

241B- 84 53 47 5800 .BY \$84 'SGE' \$D4  
 241E- 45 D4  
 2420- EE 23 5801 .SI GET-\$06  
 2422- FC 08 5802 SGET .SI DOCOL  
 2424- C6 17 5803 .SI SAVBUF  
 2426- 8F 02 5804 .SI CLIT  
 2428- FF 5805 .BY \$FF  
 2429- A4 14 5806 .SI TF ID  
 242B- C1 08 5807 .SI STORE

242D- C5 23 5808 .SI SCRAD  
 242F- 99 14 5809 .SI TEAD  
 2431- C1 08 5810 .SI STORE  
 2433- 8E 14 5811 .SI TSAD  
 2435- C1 08 5812 .SI STORE  
 2437- 90 09 5813 .SI ONE  
 2439- 13 15 5814 .SI R/T  
 243B- 9D 08 5815 .SI AT  
 243D- 33 15 5816 .SI TAPE  
 243F- E4 14 5817 .SI LF2  
 2441- 88 09 5818 .SI ZERO  
 2443- 13 15 5819 .SI R/T  
 2445- 9D 08 5820 .SI AT  
 2447- 33 15 5821 .SI TAPE  
 2449- 04 0F 5822 .SI BEP  
 244B- 8F 02 5823 .SI CLIT  
 244D- 0B 5824 .BY \$0B  
 244E- EB 0C 5825 .SI QERR  
 2450- 08 17 5826 .SI EMBUF  
 2452- D2 06 5827 .SI SEMIS

SYSCOLD MOVE FENCE TO HERE AND COLD START

5828  
 5829 ;  
 5830  
 2454- 87 53 59 5831 .BY \$87 'SYSCOL' \$C4  
 2457- 53 43 4F  
 245A- 4C C4  
 245C- 1B 24 5832 .SI SGET-\$07  
 245E- FC 08 5833 SYSCOLD .SI DOCOL  
 2460- 3E 13 5834 .SI FORTH  
 2462- 8B 0A 5835 .SI CON  
 2464- 9D 08 5836 .SI AT  
 2466- 9D 08 5837 .SI AT  
 2468- 49 02 5838 .SI LIT  
 246A- 2A 02 5839 .SE FORTH.TOP  
 246C- C1 08 5840 .SI STORE  
 246E- FD 0A 5841 .SI HERE  
 2470- 5E 08 5842 .SI DUP  
 2472- 49 02 5843 .SI LIT  
 2474- 3A 02 5844 .SE I.FENCE  
 2476- C1 08 5845 .SI STORE  
 2478- 49 02 5846 .SI LIT  
 247A- 3C 02 5847 .SE I.DP  
 247C- C1 08 5848 .SI STORE  
 247E- 5A 0A 5849 .SI VOCL  
 2480- 9D 08 5850 .SI AT  
 2482- 49 02 5851 .SI LIT  
 2484- 3E 02 5852 .SE I.VOCLNK  
 2486- C1 08 5853 .SI STORE  
 2488- 1A 14 5854 .SI CCOLD  
 248A- D2 06 5855 .SI SEMIS  
 5856  
 5857 .CT 1FTH60

5858 ;  
 5859 ;\*\*\*\*\*  
 5860 ;\*\* SK-FORTH (79-STANDARD) \*\*

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5867 ;** V3L 4Y7, CANADA **
5868 ;*****
5869 ;
5870
5871 ;*****
5872 ;** SYM/KIM-FORTH PART 11 **
5873 ;** DISK FILE FTH60 **
5874 ;*****
5875
5876 ; SYSSAVE SAVE THE ENTIRE SYSTEM
5877
248C- 87 53 59 5878 .BY $87 'SYSSAV' $C5
248F- 53 53 41
2492- 56 C5
2494- 54 24 5879 .SI SYSCOLD-$0A
2496- FC 08 5880 SYSSAVE .SI DOCOL
2498- A4 14 5881 .SI TFID
249A- C1 08 5882 .SI STORE
249C- 49 02 5883 .SI LIT
249E- 00 02 5884 .SE SYSBASE
24A0- 8E 14 5885 .SI TSAD
24A2- C1 08 5886 .SI STORE
24A4- FD 0A 5887 .SI HERE
24A6- 99 14 5888 .SI TEAD
24A8- C1 08 5889 .SI STORE
24AA- 90 09 5890 .SI ONE
24AC- 1D 15 5891 .SI W/T
24AE- 9D 08 5892 .SI AT
24B0- 33 15 5893 .SI TAPE
24B2- 04 0F 5894 .SI BEP
24B4- AD 14 5895 .SI S2
24B6- 88 09 5896 .SI ZERO
24B8- 1D 15 5897 .SI W/T
24BA- 9D 08 5898 .SI AT
24BC- 33 15 5899 .SI TAPE
24BE- 04 0F 5900 .SI BEP
24C0- 8F 02 5901 .SI CLIT
24C2- 0A 5902 .BY $0A
24C3- EB 0C 5903 .SI QERR
24C5- D2 06 5904 .SI SEMIS
5905
5906 ; CLOAD
5907
24C7- 85 43 4C 5908 .BY $85 'CLOA' $C4
24CA- 4F 41 C4
24CD- 8C 24 5909 .SI SYSSAVE-$0A
24CF- FC 08 5910 CLOAD .SI DOCOL
24D1- 5E 08 5911 .SI DUP
24D3- 22 24 5912 .SI SGET
24D5- AD 0A 5913 .SI BASE
24D7- 9D 08 5914 .SI AT
24D9- 2C 08 5915 .SI OVER

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24DB- 68 20 5916 .SI LIST
24DD- AD 0A 5917 .SI BASE
24DF- C1 08 5918 .SI STORE
24E1- 4A 18 5919 .SI LOAD
24E3- D2 06 5920 .SI SEMIS
5921
5922 ; EDITOR
5923
24E5- C6 45 44 5924 .BY $C6 'EDITO' $D2
24E8- 49 54 4F
24EB- D2
24EC- C7 24 5925 .SI CLOAD-$08
24EE- 2B 13 5926 EDITOR .SI DOVOC
24F0- 81 A0 5927 .SE $A081
24F2- 21 2E 5928 .SI ETOP
24F4- 44 13 5929 ELO .SI VLO
5930
5931 ; WHERE LIST LINE AND MARK ERROR
5932
24F6- 85 57 48 5933 .BY $85 'WHER' $C5
24F9- 45 52 C5
24FC- E5 24 5934 .SI EDITOR-$09
24FE- FC 08 5935 WHERE .SI DOCOL
2500- 2C 08 5936 .SI OVER
2502- 2C 08 5937 .SI OVER
2504- 5E 08 5938 .SI DUP
2506- 03 0A 5939 .SI BSCR
2508- 41 16 5940 .SI SLASH
250A- 5E 08 5941 .SI DUP
250C- 7E 0A 5942 .SI SCR
250E- C1 08 5943 .SI STORE
2510- BF 0E 5944 .SI PDOTQ
2512- 07 53 63 5945 .BY $07 'Screen '
2515- 72 65 65
2518- 6E 20
251A- D7 0D 5946 .SI DECIM
251C- 18 20 5947 .SI DOT
251E- 46 08 5948 .SI SWAP
2520- BC 09 5949 .SI CSLL
2522- 31 16 5950 .SI SLMOD
2524- BC 09 5951 .SI CSLL
2526- 22 16 5952 .SI STAR
2528- 26 0C 5953 .SI ROT
252A- 67 17 5954 .SI BLOCK
252C- 90 07 5955 .SI PLUS
252E- AB 05 5956 .SI CR
2530- BC 09 5957 .SI CSLL
2532- 62 0E 5958 .SI TYPE
2534- AB 05 5959 .SI CR
2536- FD 0A 5960 .SI HERE
2538- B2 08 5961 .SI CAT
253A- 3A 0B 5962 .SI SUB
253C- 2F 1F 5963 .SI SPACS
253E- 8F 02 5964 .SI CLIT
2540- 5E 5965 .BY $5E
2541- 8E 05 5966 .SI EMIT
2543- EE 24 5967 .SI EDITOR
2545- 76 13 5968 .SI QUIT

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2547- D2 06 5969 .SI SEMIS  
 5970  
 5971 ; MYSELF - USED FOR RECURSIVE DEFINITIONS  
 5972  
 2549- C6 4D 59 5973 .BY \$C6 'MYSEL' \$C6  
 254C- 53 45 4C  
 254F- C6  
 2550- F6 24 5974 .SI WHERE-\$08  
 2552- FC 08 5975 MYSELF .SI DOCOL  
 2554- 84 0C 5976 .SI LATES  
 2556- C4 0C 5977 .SI PFA  
 2558- A3 0C 5978 .SI CFA  
 255A- 19 0B 5979 .SI COMMA  
 255C- D2 06 5980 .SI SEMIS  
 5981  
 5982 ; ASSEMBLER VOCABULARY  
 5983  
 255E- C9 41 53 5984 .BY \$C9 'ASSEMBLE' \$D2  
 2561- 53 45 4D  
 2564- 42 4C 45  
 2567- D2  
 2568- 49 25 5985 .SI MYSELF-\$09  
 256A- 2B 13 5986 ASSM .SI DOVOC  
 256C- 81 A0 5987 .SE \$A081  
 256E- 5D 2C 5988 .SI ATOP  
 2570- F4 24 5989 ALO .SI ELO  
 5990  
 5991 ; 79-STANDARD  
 5992  
 2572- 8B 37 39 5993 .BY \$8B '79-STANDAR' \$C4  
 2575- 2D 53 54  
 2578- 41 4E 44  
 257B- 41 52 C4  
 257E- 5E 25 5994 .SI ASSM-\$0C  
 2580- FC 08 5995 STANDARD .SI DOCOL  
 2582- D2 06 5996 .SI SEMIS  
 5997  
 5998 ; MVAR  
 5999  
 2584- 84 4D 56 6000 .BY \$84 'MVA' \$D2  
 2587- 41 D2  
 2589- 72 25 6001 .SI STANDARD-\$0E  
 258B- E3 11 6002 MVAR .SI DOCREAT  
 258D- 0D 00 6003 .SE \$000D  
 6004  
 6005 ; SMVAR  
 6006  
 258F- 85 53 4D 6007 .BY \$85 'SMVA' \$D2  
 2592- 56 41 D2  
 2595- 84 25 6008 .SI MVAR-\$07  
 2597- FC 08 6009 SMVAR .SI DOCOL  
 2599- 8F 02 6010 .SI CLIT  
 259B- 0D 6011 .BY \$0D  
 259C- 8B 25 6012 .SI MVAR  
 259E- C1 08 6013 .SI STORE  
 25A0- D2 06 6014 .SI SEMIS  
 6015  
 6016 ; AINIT

6017  
 25A2- 85 41 49 6018 .BY \$85 'AINI' \$D4  
 25A5- 4E 49 D4  
 25A8- 8F 25 6019 .SI SMVAR-\$08  
 25AA- FC 08 6020 AINIT .SI DOCOL  
 25AC- 6A 25 6021 .SI ASSM  
 25AE- AD 0A 6022 .SI BASE  
 25B0- 9D 08 6023 .SI AT  
 25B2- C2 0D 6024 .SI HEX  
 25B4- 97 25 6025 .SI SMVAR  
 25B6- D2 06 6026 .SI SEMIS  
 6027  
 6028 ; CODE USED TO CREATE CODE DEFINITIONS  
 6029  
 25B8- C4 43 4F 6030 .BY \$C4 'COD' \$C5  
 25BB- 44 C5  
 25BD- A2 25 6031 .SI AINIT-\$08  
 25BF- FC 08 6032 CODE .SI DOCOL  
 25C1- 1C 0D 6033 .SI QEXEC  
 25C3- D8 0C 6034 .SI SCSP  
 25C5- 8D 11 6035 .SI CREAT  
 25C7- 84 0C 6036 .SI LATES  
 25C9- C4 0C 6037 .SI PFA  
 25CB- 5E 08 6038 .SI DUP  
 25CD- A3 0C 6039 .SI CFA  
 25CF- C1 08 6040 .SI STORE  
 25D1- B1 0D 6041 .SI SMUDG  
 25D3- AA 25 6042 .SI AINIT  
 25D5- D2 06 6043 .SI SEMIS  
 6044  
 6045 NTOP .DI CODE-\$07  
 6046 ;  
 6047 ; ATASK DUMMY TO MARK START OF ASSEMBLER WORDS  
 6048 ;  
 25D7- 85 41 54 6049 .BY \$85 'ATAS' \$CB  
 25DA- 41 53 CB  
 25DD- 40 13 6050 .SI FORTH+\$02  
 25DF- FC 08 6051 ATASK .SI DOCOL  
 25E1- D2 06 6052 .SI SEMIS  
 6053  
 6054 ; IP  
 6055  
 25E3- 82 49 D0 6056 .BY \$82 'I' \$D0  
 25E6- D7 25 6057 .SI ATASK-\$08  
 25E8- 48 09 6058 IP. .SI DOCON  
 25EA- AE 00 6059 .SI IP  
 6060  
 6061 ; W  
 6062  
 25EC- 81 D7 6063 .BY \$81 \$D7  
 25EE- E3 25 6064 .SI IP.-\$05  
 25F0- 48 09 6065 W. .SI DOCON  
 25F2- B1 00 6066 .SI W  
 6067  
 6068 ; N  
 6069  
 25F4- 81 CE 6070 .BY \$81 \$CE  
 25F6- EC 25 6071 .SI W.-\$04

25F8- 48 09	6072 N.	.SI DOCON
25FA- A6 00	6073	.SI N
	6074	
	6075 ;	XSAVE
	6076	
25FC- 85 58 53	6077	.BY \$85 'XSAV' \$C5
25FF- 41 56 C5		
2602- F4 25	6078	.SI N.-\$04
2604- 48 09	6079 XSAVE.	.SI DOCON
2606- B5 00	6080	.SI XSAVE
	6081	
	6082 ;	YSAVE
	6083	
2608- 85 59 53	6084	.BY \$85 'YSAV' \$C5
260B- 41 56 C5		
260E- FC 25	6085	.SI XSAVE.-\$08
2610- 48 09	6086 YSAVE.	.SI DOCON
2612- B6 00	6087	.SI YSAVE
	6088	
	6089 ;	UP
	6090	
2614- 82 55 D0	6091	.BY \$82 'U' \$D0
2617- 08 26	6092	.SI YSAVE.-\$08
2619- 48 09	6093 UP.	.SI DOCON
261B- B3 00	6094	.SI UP
	6095	
	6096 ;	PUT
	6097	
261D- 83 50 55	6098	.BY \$83 'PU' \$D4
2620- D4		
2621- 14 26	6099	.SI UP.-\$05
2623- 48 09	6100 PUT.	.SI DOCON
2625- 5E 02	6101	.SI PUT
	6102	
	6103 ;	NEXT
	6104	
2627- 84 4E 45	6105	.BY \$84 'NEX' \$D4
262A- 58 D4		
262C- 1D 26	6106	.SI PUT.-\$06
262E- 48 09	6107 NEXT.	.SI DOCON
2630- 63 02	6108	.SI NEXT
	6109	
	6110 ;	PUSH
	6111	
2632- 84 50 55	6112	.BY \$84 'PUS' \$C8
2635- 53 C8		
2637- 27 26	6113	.SI NEXT.-\$07
2639- 48 09	6114 PUSH.	.SI DOCON
263B- 5C 02	6115	.SI PUSH
	6116	
	6117 ;	PUSHOA
	6118	
263D- 86 50 55	6119	.BY \$86 'PUSHO' \$C1
2640- 53 48 4F		
2643- C1		
2644- 32 26	6120	.SI PUSH.-\$07
2646- 48 09	6121 PUSHOA.	.SI DOCON
2648- A2 06	6122	.SI PUSHOA

	6123	
	6124 ;	POP
	6125	
264A- 83 50 4F	6126	.BY \$83 'PO' \$D0
264D- D0		
264E- 3D 26	6127	.SI PUSHOA.-\$09
2650- 48 09	6128 POP.	.SI DOCON
2652- 33 04	6129	.SI POP
	6130	
	6131 ;	POPTWO
	6132	
2654- 86 50 4F	6133	.BY \$86 'POPTW' \$CF
2657- 50 54 57		
265A- CF		
265B- 4A 26	6134	.SI POP.-\$06
265D- 48 09	6135 POPTWO.	.SI DOCON
265F- 31 04	6136	.SI POPTWO
	6137	
	6138 ;	OPCHK
	6139	
2661- 85 4F 50	6140	.BY \$85 'OPCH' \$CB
2664- 43 48 CB		
2667- 54 26	6141	.SI POPTWO.-\$09
2669- 6B 26	6142 OPCHK	.SI +=2
266B- B5 00	6143	LDA *O,X
266D- 86 B5	6144	STX *XSAVE
266F- B8	6145	CLV
2670- 4A	6146	LSR A
2671- 90 09	6147	BCC TYPE02
2673- 4A	6148	LSR A
2674- B0 44	6149	BCS BAD.EXIT
2676- C9 22	6150	CMP #\$22
2678- F0 40	6151	BEQ BAD.EXIT
267A- 50 3A	6152	BVC OK.EXIT
	6153	
267C- 4A	6154 TYPE02	LSR A
267D- 90 12	6155	BCC TYPE0
267F- 4A	6156	LSR A
2680- 90 06	6157	BCC TYPE2A
2682- C9 13	6158	CMP #\$13
2684- F0 34	6159	BEQ BAD.EXIT
2686- 50 2E	6160	BVC OK.EXIT
	6161	
2688- 4A	6162 TYPE2A	LSR A
2689- B0 23	6163	BCS TYPE4AC
268B- C9 0A	6164	CMP #\$0A
268D- F0 27	6165	BEQ OK.EXIT
268F- 50 29	6166	BVC BAD.EXIT
	6167	
2691- 4A	6168 TYPE0	LSR A
2692- B0 09	6169	BCS TYPE4C
2694- 4A	6170	LSR A
2695- B0 1F	6171	BCS OK.EXIT
2697- C9 08	6172	CMP #\$08
2699- F0 1F	6173	BEQ BAD.EXIT
269B- 50 19	6174	BVC OK.EXIT
	6175	
269D- 4A	6176 TYPE4C	LSR A

269E- FO 1A	6177	BEQ BAD.EXIT
26A0- B0 08	6178	BCS TYPEC
26A2- 29 0D	6179	AND #S0D
26A4- C9 04	6180	CMP #S04
26A6- D0 06	6181	BNE TYPE4AC
26A8- 50 10	6182	BVC BAD.EXIT
	6183	
26AA- C9 09	6184 TYPEC	CMP #S09
26AC- FO 0C	6185	BEQ BAD.EXIT
	6186	
26AE- 4A	6187 TYPE4AC	LSR A
26AF- 90 05	6188	BCC OK.EXIT
26B1- 4A	6189	LSR A
26B2- C9 02	6190	CMP #S02
26B4- D0 04	6191	BNE BAD.EXIT
	6192	
26B6- A9 00	6193 OK.EXIT	LDA #S00
26B8- FO 02	6194	BEQ CHKRET
26BA- A9 01	6195 BAD.EXIT	LDA #S01
26BC- A6 B5	6196 CHKRET	LDX *XSAVE
26BE- 4C A2 06	6197	JMP PUSHOA
	6198	
	6199 ;	SETUP
	6200	
26C1- 85 53 45	6201	.BY \$85 'SETU' \$D0
26C4- 54 55 D0		
26C7- 61 26	6202	.SI OPCHK-\$08
26C9- 48 09	6203 SETUP.	.SI DOCON
26CB- 3E 03	6204	.SE SETUP
	6205	
	6206 ;	OPREL
	6207	
26CD- 85 4F 50	6208	.BY \$85 'OPRE' \$CC
26D0- 52 45 CC		
26D3- C1 26	6209	.SI SETUP.-\$08
26D5- FC 08	6210 OPREL	.SI DOCOL
26D7- 8D 11	6211	.SI CREAT
26D9- 2A 0B	6212	.SI CCOMM
26DB- EC 0D	6213	.SI PSCOD
26DD- 20 2B 0E	6214 DOOPREL	JSR DODOES
26E0- B2 08	6215	.SI CAT
26E2- 2A 0B	6216	.SI CCOMM
26E4- 5E 08	6217	.SI DUP
26E6- 8F 02	6218	.SI CLIT
26E8- FF	6219	.BY \$FF
26E9- 18 0C	6220	.SI GREAT
26EB- 9B 03	6221	.SI ZBRAN
26ED- 31 00	6222	.SE OPREL2--
26EF- FD 0A	6223	.SI HERE
26F1- E1 0A	6224	.SI ONEP
26F3- 3A 0B	6225	.SI SUB
26F5- 5E 08	6226	.SI DUP
26F7- 5E 08	6227	.SI DUP
26F9- 8F 02	6228	.SI CLIT
26FB- 80	6229	.BY \$80
26FC- 18 0C	6230	.SI GREAT
26FE- 46 08	6231	.SI SWAP
2700- 49 02	6232	.SI LIT

2702- 80 FF	6233	.SE \$FF80
2704- C2 0B	6234	.SI LESS
2706- 73 06	6235	.SI OR
2708- 9B 03	6236	.SI ZBRAN
270A- 0F 00	6237	.SE OPREL1--
270C- 88 09	6238	.SI ZERO
270E- FD 0A	6239	.SI HERE
2710- C1 08	6240	.SI STORE
2712- 90 09	6241	.SI ONE
2714- 8F 02	6242	.SI CLIT
2716- 1A	6243	.BY \$1A
2717- EB 0C	6244	.SI QERR
2719- 8F 02	6245 OPREL1	.SI CLIT
271B- FF	6246	.BY \$FF
271C- 5E 06	6247	.SI ANDD
271E- 2A 0B	6248 OPREL2	.SI CCOMM
2720- D2 06	6249	.SI SEMIS
	6250	
	6251 ;	BCC,
	6252	
2722- 84 42 43	6253	.BY \$84 'BCC' \$AC
2725- 43 AC		
2727- CD 26	6254	.SI OPREL-\$08
2729- DD 26	6255 BCC.	.SI DOOPREL
272B- 90	6256	.BY \$90
	6257	
	6258 ;	BCS,
	6259	
272C- 84 42 43	6260	.BY \$84 'BCS' \$AC
272F- 53 AC		
2731- 22 27	6261	.SI BCC.-\$07
2733- DD 26	6262 BCS.	.SI DOOPREL
2735- B0	6263	.BY \$80
	6264	
	6265 ;	BEQ,
	6266	
2736- 84 42 45	6267	.BY \$84 'BEQ' \$AC
2739- 51 AC		
273B- 2C 27	6268	.SI BCS.-\$07
273D- DD 26	6269 BEQ.	.SI DOOPREL
273F- FO	6270	.BY \$F0
	6271	
	6272 ;	BNE,
	6273	
2740- 84 42 4E	6274	.BY \$84 'BNE' \$AC
2743- 45 AC		
2745- 36 27	6275	.SI BEQ.-\$07
2747- DD 26	6276 BNE.	.SI DOOPREL
2749- D0	6277	.BY \$D0
	6278	
	6279 ;	BMI,
	6280	
274A- 84 42 4D	6281	.BY \$84 'BMI' \$AC
274D- 49 AC		
274F- 40 27	6282	.SI BNE.-\$07
2751- DD 26	6283 BMI.	.SI DOOPREL
2753- 30	6284	.BY \$30
	6285	

	6286 ;	BPL,	
	6287		
2754- 84 42 50	6288	.BY \$84 'BPL' \$AC	
2757- 4C AC			
2759- 4A 27	6289	.SI BMI.-\$07	
275B- DD 26	6290 BPL.	.SI DOOPREL	
275D- 10	6291	.BY \$10	
	6292		
	6293 ;	BVC,	
	6294		
275E- 84 42 56	6295	.BY \$84 'BVC' \$AC	
2761- 43 AC			
2763- 54 27	6296	.SI BPL.-\$07	
2765- DD 26	6297 BVC.	.SI DOOPREL	
2767- 50	6298	.BY \$50	
	6299		
	6300 ;	BVS,	
	6301		
2768- 84 42 56	6302	.BY \$84 'BVS' \$AC	
276B- 53 AC			
276D- 5E 27	6303	.SI BVC.-\$07	
276F- DD 26	6304 BVS.	.SI DOOPREL	
2771- 70	6305	.BY \$70	
	6306		
	6307 ;	MODE	
	6308		
2772- 84 4D 4F	6309	.BY \$84 'MOD' \$C5	
2775- 44 C5			
2777- 68 27	6310	.SI BVS.-\$07	
2779- FC 08	6311 MODE.	.SI DOCOL	
277B- 8D 11	6312	.SI CREAT	
277D- 2A 0B	6313	.SI CCOMM	
277F- EC 0D	6314	.SI PSCOD	
2781- 20 2B OE	6315 DOMODE	JSR DODOES	
2784- B2 08	6316	.SI CAT	
2786- 8B 25	6317	.SI MVAR	
2788- C1 08	6318	.SI STORE	
278A- D2 06	6319	.SI SEMIS	
	6320		
	6321 ;	IM,	
	6322		
278C- 83 49 4D	6323	.BY \$83 'IM' \$AC	
278F- AC			
2790- 72 27	6324	.SI MODE.-\$07	
2792- 81 27	6325 IM.	.SI DOMODE	
2794- 09	6326	.BY \$09	
	6327		
	6328 ;	AB,	
	6329		
2795- 83 41 42	6330	.BY \$83 'AB' \$AC	
2798- AC			
2799- 8C 27	6331	.SI IM.-\$06	
279B- 81 27	6332 AB.	.SI DOMODE	
279D- OD	6333	.BY \$0D	
	6334		
	6335 ;	ZP,	
	6336		
279E- 83 5A 50	6337	.BY \$83 'ZP' \$AC	

27A1- AC			
27A2- 95 27	6338	.SI AB.-\$06	
27A4- 81 27	6339 ZP.	.SI DOMODE	
27A6- 05	6340	.BY \$05	
	6341		
	6342 ;	IX,	
	6343		
27A7- 83 49 58	6344	.BY \$83 'IX' \$AC	
27AA- AC			
27AB- 9E 27	6345	.SI ZP.-\$06	
27AD- 81 27	6346 IX.	.SI DOMODE	
27AF- 01	6347	.BY \$01	
	6348		
	6349 ;	IY,	
	6350		
27B0- 83 49 59	6351	.BY \$83 'IY' \$AC	
27B3- AC			
27B4- A7 27	6352	.SI IX.-\$06	
27B6- 81 27	6353 IY.	.SI DOMODE	
27B8- 11	6354	.BY \$11	
	6355		
	6356 ;	AX,	
	6357		
27B9- 83 41 58	6358	.BY \$83 'AX' \$AC	
27BC- AC			
27BD- B0 27	6359	.SI IY.-\$06	
27BF- 81 27	6360 AX.	.SI DOMODE	
27C1- 1D	6361	.BY \$1D	
	6362		
	6363 ;	AY,	
	6364		
27C2- 83 41 59	6365	.BY \$83 'AY' \$AC	
27C5- AC			
27C6- B9 27	6366	.SI AX.-\$06	
27C8- 81 27	6367 AY.	.SI DOMODE	
27CA- 19	6368	.BY \$19	
	6369		
	6370 ;	ZX,	
	6371		
27CB- 83 5A 58	6372	.BY \$83 'ZX' \$AC	
27CE- AC			
27CF- C2 27	6373	.SI AY.-\$06	
27D1- 81 27	6374 ZX.	.SI DOMODE	
27D3- 15	6375	.BY \$15	
	6376		
	6377 ;	ZY,	
	6378		
27D4- 83 5A 59	6379	.BY \$83 'ZY' \$AC	
27D7- AC			
27D8- CB 27	6380	.SI ZX.-\$06	
27DA- 81 27	6381 ZY.	.SI DOMODE	
27DC- 15	6382	.BY \$15	
	6383		
	6384 ;	X,	
	6385		
27DD- 82 58 AC	6386	.BY \$82 'X' \$AC	
27E0- D4 27	6387	.SI ZY.-\$06	
27E2- 81 27	6388 X.	.SI DOMODE	

27E4- 1D	6389		.BY \$1D
	6390		
	6391 ;	Y,	
	6392		
27E5- 82 59 AC	6393		.BY \$82 'Y' \$AC
27E8- DD 27	6394		.SI X.-\$05
27EA- 81 27	6395 Y.		.SI DOMODE
27EC- 19	6396		.BY \$19
	6397		
	6398 ;	EXCODE	
	6399		
27ED- 86 45 58	6400		.BY \$86 'EXCOD' \$C5
27FO- 43 4F 44			
27F3- C5			
27F4- E5 27	6401		.SI Y.-\$05
27F6- FC 08	6402	EXCODE	.SI DOCOL
27F8- 8B 25	6403		.SI MVAR
27FA- 9D 08	6404		.SI AT
27FC- 5E 08	6405		.SI DUP
27FE- 8F 02	6406		.SI CLIT
2800- 1D	6407		.BY \$1D
2801- 8B 0B	6408		.SI EQUAL
2803- 2C 08	6409		.SI OVER
2805- 8F 02	6410		.SI CLIT
2807- OD	6411		.BY \$0D
2808- 8B 0B	6412		.SI EQUAL
280A- 73 06	6413		.SI OR
280C- 9B 03	6414		.SI ZBRAN
280E- 1D 00	6415		.SE EXCODE1--
2810- A0 09	6416		.SI THREE
2812- 88 1D	6417		.SI PICK
2814- 49 02	6418		.SI LIT
2816- 00 FF	6419		.SE \$FF00
2818- 5E 06	6420		.SI ANDD
281A- 53 07	6421		.SI ZEQU
281C- 9B 03	6422		.SI ZBRAN
281E- OD 00	6423		.SE EXCODE1--
2820- 5E 08	6424		.SI DUP
2822- 8F 02	6425		.SI CLIT
2824- 08	6426		.BY \$08
2825- 3A 0B	6427		.SI SUB
2827- 8B 25	6428		.SI MVAR
2829- C1 08	6429		.SI STORE
282B- 3D 08	6430	EXCODE1	.SI DROP
282D- 8B 25	6431		.SI MVAR
282F- 9D 08	6432		.SI AT
2831- 46 08	6433		.SI SWAP
2833- B2 08	6434		.SI CAT
2835- 2C 08	6435		.SI OVER
2837- 90 07	6436		.SI PLUS
2839- 69 26	6437		.SI OPCHK
283B- 8F 02	6438		.SI CLIT
283D- 1B	6439		.BY \$1B
283E- EB 0C	6440		.SI QERR
2840- 2A 0B	6441		.SI CCOMM
2842- 5E 08	6442		.SI DUP
2844- 8F 02	6443		.SI CLIT
2846- OD	6444		.BY \$0D

2847- 8B 0B	6445		.SI EQUAL
2849- 46 08	6446		.SI SWAP
284B- 8F 02	6447		.SI CLIT
284D- 18	6448		.BY \$18
284E- 18 0C	6449		.SI GREAT
2850- 73 06	6450		.SI OR
2852- 9B 03	6451		.SI ZBRAN
2854- 08 00	6452		.SE EXCODE2--
2856- 19 0B	6453		.SI COMMA
2858- 7C 03	6454		.SI BRAN
285A- 04 00	6455		.SE EXCODE3--
285C- 2A 0B	6456	EXCODE2	.SI CCOMM
285E- 97 25	6457	EXCODE3	.SI SMVAR
2860- D2 06	6458		.SI SEMIS
	6459		
	6460 ;	OPCODE	
	6461		
2862- 86 4F 50	6462		.BY \$86 'OPCD' \$C5
2865- 43 4F 44			
2868- C5			
2869- ED 27	6463		.SI EXCODE-\$09
286B- FC 08	6464	OPCODE	.SI DOCOL
286D- 8D 11	6465		.SI CREAT
286F- 2A 0B	6466		.SI CCOMM
2871- EC 0D	6467		.SI PSCOD
2873- 20 2B 0E	6468	DOOPCODE	JSR DODOES
2876- F6 27	6469		.SI EXCODE
2878- D2 06	6470		.SI SEMIS
	6471		
	6472 ;	OPXY	
	6473		
287A- 84 4F 50	6474		.BY \$84 'OPX' \$D9
287D- 58 D9			
287F- 62 28	6475		.SI OPCODE-\$09
2881- FC 08	6476	OPXY	.SI DOCOL
2883- 8D 11	6477		.SI CREAT
2885- 19 0B	6478		.SI COMMA
2887- EC 0D	6479		.SI PSCOD
2889- 20 2B 0E	6480	DOOPXY	JSR DODOES
288C- 8B 25	6481		.SI MVAR
288E- 9D 08	6482		.SI AT
2890- 5E 08	6483		.SI DUP
2892- 8F 02	6484		.SI CLIT
2894- 09	6485		.BY \$09
2895- 8B 0B	6486		.SI EQUAL
2897- 9B 03	6487		.SI ZBRAN
2899- 08 00	6488		.SE OPXY1--
289B- 90 09	6489		.SI ONE
289D- 8B 25	6490		.SI MVAR
289F- C1 08	6491		.SI STORE
28A1- 8F 02	6492	OPXY1	.SI CLIT
28A3- 19	6493		.BY \$19
28A4- 8B 0B	6494		.SI EQUAL
28A6- 9B 03	6495		.SI ZBRAN
28A8- 04 00	6496		.SE OPXY2--
28AA- E1 0A	6497		.SI ONEP
28AC- F6 27	6498	OPXY2	.SI EXCODE
28AE- D2 06	6499		.SI SEMIS

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6500
6501      .CT 1FTH65

6502 ;
6503 ;*****
6504 ;**      SK-FORTH (79-STANDARD)      **
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6510 ;**      NEW WESTMINSTER, B. C.    **
6511 ;**      V3L 4Y7, CANADA           **
6512 ;*****
6513 ;
6514
6515 ;*****
6516 ;**      SYM/KIM-FORTH PART 12      **
6517 ;**      DISK FILE FTH65           **
6518 ;*****
6519
6520 ;** ASSEMBLER DEFINITIONS CONTINUED
6521
6522 ;      ADC,
6523
28B0- 84 41 44 6524      .BY $84 'ADC' $AC
28B3- 43 AC
28B5- 7A 28      6525      .SI OPXY-$07
28B7- 73 28      6526 ADC.  .SI DOOPCODE
28B9- 60          6527      .BY $60
6528
6529 ;      AND,
6530
28BA- 84 41 4E 6531      .BY $84 'AND' $AC
28BD- 44 AC
28BF- B0 28      6532      .SI ADC.-$07
28C1- 73 28      6533 AND.  .SI DOOPCODE
28C3- 20          6534      .BY $20
6535
6536 ;      ASL,
6537
28C4- 84 41 53 6538      .BY $84 'ASL' $AC
28C7- 4C AC
28C9- BA 28      6539      .SI AND.-$07
28CB- 73 28      6540 ASL.  .SI DOOPCODE
28CD- 01          6541      .BY $01
6542
6543 ;      BIT,
6544
28CE- 84 42 49 6545      .BY $84 'BIT' $AC
28D1- 54 AC
28D3- C4 28      6546      .SI ASL.-$07
28D5- 73 28      6547 BIT.  .SI DOOPCODE
28D7- 1F          6548      .BY $1F
6549
6550 ;      CMP,

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6551
28D8- 84 43 4D 6552      .BY $84 'CMP' $AC
28DB- 50 AC
28DD- CE 28      6553      .SI BIT.-$07
28DF- 73 28      6554 CMP.  .SI DOOPCODE
28E1- C0          6555      .BY $C0
6556
6557 ;      DEC,
6558
28E2- 84 44 45 6559      .BY $84 'DEC' $AC
28E5- 43 AC
28E7- D8 28      6560      .SI CMP.-$07
28E9- 73 28      6561 DEC.  .SI DOOPCODE
28EB- C1          6562      .BY $C1
6563
6564 ;      EOR,
6565
28EC- 84 45 4F 6566      .BY $84 'EOR' $AC
28EF- 52 AC
28F1- E2 28      6567      .SI DEC.-$07
28F3- 73 28      6568 EOR.  .SI DOOPCODE
28F5- 40          6569      .BY $40
6570
6571 ;      INC,
6572
28F6- 84 49 4E 6573      .BY $84 'INC' $AC
28F9- 43 AC
28FB- EC 28      6574      .SI EOR.-$07
28FD- 73 28      6575 INC.  .SI DOOPCODE
28FF- E1          6576      .BY $E1
6577
6578 ;      LDA,
6579
2900- 84 4C 44 6580      .BY $84 'LDA' $AC
2903- 41 AC
2905- F6 28      6581      .SI INC.-$07
2907- 73 28      6582 LDA.  .SI DOOPCODE
2909- A0          6583      .BY $A0
6584
6585 ;      LSR,
6586
290A- 84 4C 53 6587      .BY $84 'LSR' $AC
290D- 52 AC
290F- 00 29      6588      .SI LDA.-$07
2911- 73 28      6589 LSR.  .SI DOOPCODE
2913- 41          6590      .BY $41
6591
6592 ;      ORA,
6593
2914- 84 4F 52 6594      .BY $84 'ORA' $AC
2917- 41 AC
2919- 0A 29      6595      .SI LSR.-$07
291B- 73 28      6596 ORA.  .SI DOOPCODE
291D- 00          6597      .BY $00
6598
6599 ;      ROL,
6600
291E- 84 52 4F 6601      .BY $84 'ROL' $AC

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2921- 4C AC			
2923- 14 29	6602	.SI ORA.-\$07	
2925- 73 28	6603 ROL.	.SI DOOPCODE	
2927- 21	6604	.BY \$21	
	6605		
	6606 ;	ROR,	
	6607		
2928- 84 52 4F	6608	.BY \$84 'ROR' \$AC	
292B- 52 AC			
292D- 1E 29	6609	.SI ROL.-\$07	
292F- 73 28	6610 ROR.	.SI DOOPCODE	
2931- 61	6611	.BY \$61	
	6612		
	6613 ;	SBC,	
	6614		
2932- 84 53 42	6615	.BY \$84 'SBC' \$AC	
2935- 43 AC			
2937- 28 29	6616	.SI ROR.-\$07	
2939- 73 28	6617 SBC.	.SI DOOPCODE	
293B- EO	6618	.BY \$EO	
	6619		
	6620 ;	STA,	
	6621		
293C- 84 53 54	6622	.BY \$84 'STA' \$AC	
293F- 41 AC			
2941- 32 29	6623	.SI SBC.-\$07	
2943- 73 28	6624 STA.	.SI DOOPCODE	
2945- 80	6625	.BY \$80	
	6626		
	6627 ;	STX,	
	6628		
2946- 84 53 54	6629	.BY \$84 'STX' \$AC	
2949- 58 AC			
294B- 3C 29	6630	.SI STA.-\$07	
294D- 73 28	6631 STX.	.SI DOOPCODE	
294F- 81	6632	.BY \$81	
	6633		
	6634 ;	STY,	
	6635		
2950- 84 53 54	6636	.BY \$84 'STY' \$AC	
2953- 59 AC			
2955- 46 29	6637	.SI STX.-\$07	
2957- 73 28	6638 STY.	.SI DOOPCODE	
2959- 7F	6639	.BY \$7F	
	6640		
	6641 ;	CPX,	
	6642		
295A- 84 43 50	6643	.BY \$84 'CPX' \$AC	
295D- 58 AC			
295F- 50 29	6644	.SI STY.-\$07	
2961- 89 28	6645 CPX.	.SI DOOPXY	
2963- DF E3	6646	.SE \$E3DF	
	6647		
	6648 ;	LDX,	
	6649		
2965- 84 4C 44	6650	.BY \$84 'LDX' \$AC	
2968- 58 AC			
296A- 5A 29	6651	.SI CPX.-\$07	

296C- 89 28	6652 LDX.	.SI DOOPXY	
296E- A1 A5	6653	.SE \$A5A1	
	6654		
	6655 ;	CPY,	
	6656		
2970- 84 43 50	6657	.BY \$84 'CPY' \$AC	
2973- 59 AC			
2975- 65 29	6658	.SI LDX.-\$07	
2977- 89 28	6659 CPY.	.SI DOOPXY	
2979- BF C3	6660	.SE \$C3BF	
	6661		
	6662 ;	LDY,	
	6663		
297B- 84 4C 44	6664	.BY \$84 'LDY' \$AC	
297E- 59 AC			
2980- 70 29	6665	.SI CPY.-\$07	
2982- 89 28	6666 LDY.	.SI DOOPXY	
2984- 9F A3	6667	.SE \$A39F	
	6668		
	6669 ;	OPBYT	
	6670		
2986- 85 4F 50	6671	.BY \$85 'OPBY' \$D4	
2989- 42 59 D4			
298C- 7B 29	6672	.SI LDY.-\$07	
298E- FC 08	6673 OPBYT	.SI DOCOL	
2990- 8D 11	6674	.SI CREAT	
2992- 2A 0B	6675	.SI CCOMM	
2994- EC 0D	6676	.SI PSCOD	
2996- 20 2B 0E	6677 DOOPBYT	JSR DODOES	
2999- B2 08	6678	.SI CAT	
299B- 2A 0B	6679	.SI CCOMM	
299D- D2 06	6680	.SI SEMIS	
	6681		
	6682 ;	ASLA,	
	6683		
299F- 85 41 53	6684	.BY \$85 'ASLA' \$AC	
29A2- 4C 41 AC			
29A5- 86 29	6685	.SI OPBYT-\$08	
29A7- 96 29	6686 ASLA.	.SI DOOPBYT	
29A9- 0A	6687	.BY \$0A	
	6688		
	6689 ;	LSRA,	
	6690		
29AA- 85 4C 53	6691	.BY \$85 'LSRA' \$AC	
29AD- 52 41 AC			
29B0- 9F 29	6692	.SI ASLA.-\$08	
29B2- 96 29	6693 LSRA.	.SI DOOPBYT	
29B4- 4A	6694	.BY \$4A	
	6695		
	6696 ;	ROLA,	
	6697		
29B5- 85 52 4F	6698	.BY \$85 'ROLA' \$AC	
29B8- 4C 41 AC			
29BB- AA 29	6699	.SI LSRA.-\$08	
29BD- 96 29	6700 ROLA.	.SI DOOPBYT	
29BF- 2A	6701	.BY \$2A	
	6702		
	6703 ;	RORA,	

6704	
29C0- 85 52 4F	6705 .BY \$85 'RORA' \$AC
29C3- 52 41 AC	
29C6- B5 29	6706 .SI ROLA.-\$08
29C8- 96 29	6707 RORA. .SI DOOPBYT
29CA- 6A	6708 .BY \$6A
	6709
	6710 ; CLC,
	6711
29CB- 84 43 4C	6712 .BY \$84 'CLC' \$AC
29CE- 43 AC	
29D0- C0 29	6713 .SI RORA.-\$08
29D2- 96 29	6714 CLC. .SI DOOPBYT
29D4- 18	6715 .BY \$18
	6716
	6717 ; CLD,
	6718
29D5- 84 43 4C	6719 .BY \$84 'CLD' \$AC
29D8- 44 AC	
29DA- CB 29	6720 .SI CLC.-\$07
29DC- 96 29	6721 CLD. .SI DOOPBYT
29DE- D8	6722 .BY \$D8
	6723
	6724 ; CLI,
	6725
29DF- 84 43 4C	6726 .BY \$84 'CLI' \$AC
29E2- 49 AC	
29E4- D5 29	6727 .SI CLD.-\$07
29E6- 96 29	6728 CLI. .SI DOOPBYT
29E8- 58	6729 .BY \$58
	6730
	6731 ; CLV,
	6732
29E9- 84 43 4C	6733 .BY \$84 'CLV' \$AC
29EC- 56 AC	
29EE- DF 29	6734 .SI CLI.-\$07
29FO- 96 29	6735 CLV. .SI DOOPBYT
29F2- B8	6736 .BY \$B8
	6737
	6738 ; DEX,
	6739
29F3- 84 44 45	6740 .BY \$84 'DEX' \$AC
29F6- 58 AC	
29F8- E9 29	6741 .SI CLV.-\$07
29FA- 96 29	6742 DEX. .SI DOOPBYT
29FC- CA	6743 .BY \$CA
	6744
	6745 ; DEY,
	6746
29FD- 84 44 45	6747 .BY \$84 'DEY' \$AC
2A00- 59 AC	
2A02- F3 29	6748 .SI DEX.-\$07
2A04- 96 29	6749 DEY. .SI DOOPBYT
2A06- 88	6750 .BY \$88
	6751
	6752 ; INX,
	6753
2A07- 84 49 4E	6754 .BY \$84 'INX' \$AC

2A0A- 58 AC	
2A0C- FD 29	6755 .SI DEY.-\$07
2A0E- 96 29	6756 INX. .SI DOOPBYT
2A10- E8	6757 .BY \$E8
	6758
	6759 ; INY,
	6760
2A11- 84 49 4E	6761 .BY \$84 'INX' \$AC
2A14- 59 AC	
2A16- 07 2A	6762 .SI INX.-\$07
2A18- 96 29	6763 INY. .SI DOOPBYT
2A1A- C8	6764 .BY \$C8
	6765
	6766 ; NOP,
	6767
2A1B- 84 4E 4F	6768 .BY \$84 'NOP' \$AC
2A1E- 50 AC	
2A20- 11 2A	6769 .SI INY.-\$07
2A22- 96 29	6770 NOP. .SI DOOPBYT
2A24- EA	6771 .BY \$EA
	6772
	6773 ; PHA,
	6774
2A25- 84 50 48	6775 .BY \$84 'PHA' \$AC
2A28- 41 AC	
2A2A- 1B 2A	6776 .SI NOP.-\$07
2A2C- 96 29	6777 PHA. .SI DOOPBYT
2A2E- 48	6778 .BY \$48
	6779
	6780 ; PHP,
	6781
2A2F- 84 50 48	6782 .BY \$84 'PHP' \$AC
2A32- 50 AC	
2A34- 25 2A	6783 .SI PHA.-\$07
2A36- 96 29	6784 PHP. .SI DOOPBYT
2A38- 08	6785 .BY \$08
	6786
	6787 ; PLA,
	6788
2A39- 84 50 4C	6789 .BY \$84 'PLA' \$AC
2A3C- 41 AC	
2A3E- 2F 2A	6790 .SI PHP.-\$07
2A40- 96 29	6791 PLA. .SI DOOPBYT
2A42- 68	6792 .BY \$68
	6793
	6794 ; PLP,
	6795
2A43- 84 50 4C	6796 .BY \$84 'PLP' \$AC
2A46- 50 AC	
2A48- 39 2A	6797 .SI PLA.-\$07
2A4A- 96 29	6798 PLP. .SI DOOPBYT
2A4C- 28	6799 .BY \$28
	6800
	6801 ; RTI,
	6802
2A4D- 84 52 54	6803 .BY \$84 'RTI' \$AC
2A50- 49 AC	
2A52- 43 2A	6804 .SI PLP.-\$07



2A54- 96 29	6805	RTI.	.SI DOOPBYT
2A56- 40	6806		.BY \$40
	6807		
	6808 ;	RTS,	
	6809		
2A57- 84 52 54	6810		.BY \$84 'RTS' \$AC
2A5A- 53 AC			
2A5C- 4D 2A	6811		.SI RTI.-\$07
2A5E- 96 29	6812	RTS.	.SI DOOPBYT
2A60- 60	6813		.BY \$60
	6814		
	6815 ;	BRK,	
	6816		
2A61- 84 42 52	6817		.BY \$84 'BRK' \$AC
2A64- 4B AC			
2A66- 57 2A	6818		.SI RTS.-\$07
2A68- 96 29	6819	BRK.	.SI DOOPBYT
2A6A- 00	6820		.BY \$00
	6821		
	6822 ;	SEC,	
	6823		
2A6B- 84 53 45	6824		.BY \$84 'SEC' \$AC
2A6E- 43 AC			
2A70- 61 2A	6825		.SI BRK.-\$07
2A72- 96 29	6826	SEC.	.SI DOOPBYT
2A74- 38	6827		.BY \$38
	6828		
	6829 ;	SED,	
	6830		
2A75- 84 53 45	6831		.BY \$84 'SED' \$AC
2A78- 44 AC			
2A7A- 6B 2A	6832		.SI SEC.-\$07
2A7C- 96 29	6833	SED.	.SI DOOPBYT
2A7E- F8	6834		.BY \$F8
	6835		
	6836 ;	SEI,	
	6837		
2A7F- 84 53 45	6838		.BY \$84 'SEI' \$AC
2A82- 49 AC			
2A84- 75 2A	6839		.SI SED.-\$07
2A86- 96 29	6840	SEI.	.SI DOOPBYT
2A88- 78	6841		.BY \$78
	6842		
	6843 ;	TAX,	
	6844		
2A89- 84 54 41	6845		.BY \$84 'TAX' \$AC
2A8C- 58 AC			
2A8E- 7F 2A	6846		.SI SEI.-\$07
2A90- 96 29	6847	TAX.	.SI DOOPBYT
2A92- AA	6848		.BY \$AA
	6849		
	6850 ;	TAY,	
	6851		
2A93- 84 54 41	6852		.BY \$84 'TAY' \$AC
2A96- 59 AC			
2A98- 89 2A	6853		.SI TAX.-\$07
2A9A- 96 29	6854	TAY.	.SI DOOPBYT
2A9C- A8	6855		.BY \$A8

	6856		
	6857 ;	TSX,	
	6858		
2A9D- 84 54 53	6859		.BY \$84 'TSX' \$AC
2AA0- 58 AC			
2AA2- 93 2A	6860		.SI TAY.-\$07
2AA4- 96 29	6861	TSX.	.SI DOOPBYT
2AA6- BA	6862		.BY \$BA
	6863		
	6864 ;	TXA,	
	6865		
2AA7- 84 54 58	6866		.BY \$84 'TXA' \$AC
2AAA- 41 AC			
2AAC- 9D 2A	6867		.SI TSX.-\$07
2AAE- 96 29	6868	TXA.	.SI DOOPBYT
2AB0- 8A	6869		.BY \$8A
	6870		
	6871 ;	TXS,	
	6872		
2AB1- 84 54 58	6873		.BY \$84 'TXS' \$AC
2AB4- 53 AC			
2AB6- A7 2A	6874		.SI TXA.-\$07
2AB8- 96 29	6875	TXS.	.SI DOOPBYT
2ABA- 9A	6876		.BY \$9A
	6877		
	6878 ;	TYA,	
	6879		
2ABB- 84 54 59	6880		.BY \$84 'TYA' \$AC
2ABE- 41 AC			
2AC0- B1 2A	6881		.SI TXS.-\$07
2AC2- 96 29	6882	TYA.	.SI DOOPBYT
2AC4- 98	6883		.BY \$98
	6884		
	6885 ;	JMP,	
	6886		
2AC5- 84 4A 4D	6887		.BY \$84 'JMP' \$AC
2AC8- 50 AC			
2ACA- BB 2A	6888		.SI TYA.-\$07
2ACC- FC 08	6889	JMP.	.SI DOCOL
2ACE- 8F 02	6890		.SI CLIT
2AD0- 4C	6891		.BY \$4C
2AD1- 2A 0B	6892		.SI CCOMM
2AD3- 19 0B	6893		.SI COMMA
2AD5- D2 06	6894		.SI SEMIS
	6895		
	6896 ;	JMI,	
	6897		
2AD7- 84 4A 4D	6898		.BY \$84 'JMI' \$AC
2ADA- 49 AC			
2ADC- C5 2A	6899		.SI JMP.-\$07
2ADE- FC 08	6900	JMI.	.SI DOCOL
2AE0- 8F 02	6901		.SI CLIT
2AE2- 6C	6902		.BY \$6C
2AE3- 2A 0B	6903		.SI CCOMM
2AE5- 19 0B	6904		.SI COMMA
2AE7- D2 06	6905		.SI SEMIS
	6906		
	6907 ;	JSR,	

2AE9- 84 4A 53	6908		
2AEC- 52 AC	6909	.BY \$84 'JSR' \$AC	
2AEE- D7 2A	6910	.SI JMI.-\$07	
2AFO- FC 08	6911	.SI DOCOL	JSR.
2AF2- 8F 02	6912	.SI CLIT	
2AF4- 20	6913	.BY \$20	
2AF5- 2A 0B	6914	.SI CCOMM	
2AF7- 19 0B	6915	.SI COMMA	
2AF9- D2 06	6916	.SI SEMIS	
	6917		
	6918 ;	NOT,	
	6919		
2AFB- 84 4E 4F	6920	.BY \$84 'NOT' \$AC	
2AFE- 54 AC			
2B00- E9 2A	6921	.SI JSR.-\$07	
2B02- FC 08	6922	.SI DOCOL	NOT.
2B04- 8F 02	6923	.SI CLIT	
2B06- 20	6924	.BY \$20	
2B07- 89 06	6925	.SI KOR	
2B09- D2 06	6926	.SI SEMIS	
	6927		
	6928 ;	BEGIN,	
	6929		
2BOB- 86 42 45	6930	.BY \$86 'BEGIN' \$AC	
2BOE- 47 49 4E			
2B11- AC			
2B12- FB 2A	6931	.SI NOT.-\$07	
2B14- FC 08	6932	.SI DOCOL	BEGIN.
2B16- FD 0A	6933	.SI HERE	
2B18- 90 09	6934	.SI ONE	
2B1A- D2 06	6935	.SI SEMIS	
	6936		
	6937 ;	UNTIL,	
	6938		
2B1C- 86 55 4E	6939	.BY \$86 'UNTIL' \$AC	
2B1F- 54 49 4C			
2B22- AC			
2B23- 0B 2B	6940	.SI BEGIN.-\$09	
2B25- FC 08	6941	.SI DOCOL	UNTIL.
2B27- 46 08	6942	.SI SWAP	
2B29- 90 09	6943	.SI ONE	
2B2B- 32 0D	6944	.SI QPAIR	
2B2D- 02 2B	6945	.SI NOT.	
2B2F- 2A 0B	6946	.SI CCOMM	
2B31- FD 0A	6947	.SI HERE	
2B33- 3A 0B	6948	.SI SUB	
2B35- 54 0B	6949	.SI ONESB	
2B37- 2A 0B	6950	.SI CCOMM	
2B39- D2 06	6951	.SI SEMIS	
	6952		
	6953 ;	AGAIN,	
	6954		
2B3B- 86 41 47	6955	.BY \$86 'AGAIN' \$AC	
2B3E- 41 49 4E			
2B41- AC			
2B42- 1C 2B	6956	.SI UNTIL.-\$09	
2B44- FC 08	6957	.SI DOCOL	AGAIN.

2B46- 90 09	6958	.SI ONE	
2B48- 32 0D	6959	.SI QPAIR	
2B4A- CC 2A	6960	.SI JMP.	
2B4C- D2 06	6961	.SI SEMIS	
	6962		
	6963 ;	IF,	
	6964		
2B4E- 83 49 46	6965	.BY \$83 'IF' \$AC	
2B51- AC			
2B52- 3B 2B	6966	.SI AGAIN.-\$09	
2B54- FC 08	6967	.SI DOCOL	IF.
2B56- 02 2B	6968	.SI NOT.	
2B58- 2A 0B	6969	.SI CCOMM	
2B5A- FD 0A	6970	.SI HERE	
2B5C- 88 09	6971	.SI ZERO	
2B5E- 2A 0B	6972	.SI CCOMM	
2B60- 98 09	6973	.SI TWO	
2B62- D2 06	6974	.SI SEMIS	
	6975		
	6976 ;	ELSE,	
	6977		
2B64- 85 45 4C	6978	.BY \$85 'ELSE' \$AC	
2B67- 53 45 AC			
2B6A- 4E 2B	6979	.SI IF.-\$06	
2B6C- FC 08	6980	.SI DOCOL	ELSE.
2B6E- 98 09	6981	.SI TWO	
2B70- 32 0D	6982	.SI QPAIR	
2B72- 8F 02	6983	.SI CLIT	
2B74- B8	6984	.BY \$B8	
2B75- 2A 0B	6985	.SI CCOMM	
2B77- 8F 02	6986	.SI CLIT	
2B79- 50	6987	.BY \$50	
2B7A- 2A 0B	6988	.SI CCOMM	
2B7C- FD 0A	6989	.SI HERE	
2B7E- 88 09	6990	.SI ZERO	
2B80- 2A 0B	6991	.SI CCOMM	
2B82- 2C 08	6992	.SI OVER	
2B84- FD 0A	6993	.SI HERE	
2B86- 46 08	6994	.SI SWAP	
2B88- 3A 0B	6995	.SI SUB	
2B8A- 54 0B	6996	.SI ONESB	
2B8C- 26 0C	6997	.SI ROT	
2B8E- D9 08	6998	.SI CSTOR	
2B90- 98 09	6999	.SI TWO	
2B92- D2 06	7000	.SI SEMIS	
	7001		
	7002 ;	THEN,	
	7003		
2B94- 85 54 48	7004	.BY \$85 'THEN' \$AC	
2B97- 45 4E AC			
2B9A- 64 2B	7005	.SI ELSE.-\$08	
2B9C- FC 08	7006	.SI DOCOL	THEN.
2B9E- 98 09	7007	.SI TWO	
2BA0- 32 0D	7008	.SI QPAIR	
2BA2- FD 0A	7009	.SI HERE	
2BA4- 2C 08	7010	.SI OVER	
2BA6- 3A 0B	7011	.SI SUB	
2BA8- 54 0B	7012	.SI ONESB	

2BAA- 46 08 7013 .SI SWAP  
 2BAC- D9 08 7014 .SI CSTOR  
 2BAE- D2 06 7015 .SI SEMIS  
 7016  
 7017 ; WHILE,  
 7018  
 2BB0- 86 57 48 7019 .BY \$86 'WHILE' \$AC  
 2BB3- 49 4C 45  
 2BB6- AC  
 2BB7- 94 2B 7020 .SI THEN.-\$08  
 2BB9- FC 08 7021 WHILE. .SI DOCOL  
 2BBB- 46 08 7022 .SI SWAP  
 2BBD- 90 09 7023 .SI ONE  
 2BBF- 32 0D 7024 .SI QPAIR  
 2BC1- 54 2B 7025 .SI IF.  
 2BC3- EE 0A 7026 .SI TWOP  
 2BC5- D2 06 7027 .SI SEMIS  
 7028  
 7029 ; REPEAT,  
 7030  
 2BC7- 87 52 45 7031 .BY \$87 'REPEAT' \$AC  
 2BCA- 50 45 41  
 2BCD- 54 AC  
 2BCF- B0 2B 7032 .SI WHILE.-\$09  
 2BD1- FC 08 7033 REPEAT. .SI DOCOL  
 2BD3- 8F 02 7034 .SI CLIT  
 2BD5- 04 7035 .BY \$04  
 2BD6- 32 0D 7036 .SI QPAIR  
 2BD8- 8F 02 7037 .SI CLIT  
 2BDA- B8 7038 .BY \$B8  
 2BDB- 2A 0B 7039 .SI CCOMM  
 2BDD- 8F 02 7040 .SI CLIT  
 2BDF- 50 7041 .BY \$50  
 2BE0- 2A 0B 7042 .SI CCOMM  
 2BE2- FD 0A 7043 .SI HERE  
 2BE4- 2C 08 7044 .SI OVER  
 2BE6- 3A 0B 7045 .SI SUB  
 2BE8- 46 08 7046 .SI SWAP  
 2BEA- D9 08 7047 .SI CSTOR  
 2BEC- FD 0A 7048 .SI HERE  
 2BEE- 3A 0B 7049 .SI SUB  
 2BF0- 54 0B 7050 .SI ONESB  
 2BF2- 2A 0B 7051 .SI CCOMM  
 2BF4- D2 06 7052 .SI SEMIS  
 7053  
 7054 ; O<,  
 7055  
 2BF6- 83 30 3C 7056 .BY \$83 'O<' \$AC  
 2BF9- AC  
 2BFA- C7 2B 7057 .SI REPEAT.-\$0A  
 2BFC- 48 09 7058 ZL. .SI DOCON  
 2BFE- 30 00 7059 .SE \$0030  
 7060  
 7061 ; O>,  
 7062  
 2C00- 83 30 3E 7063 .BY \$83 'O>' \$AC  
 2C03- AC  
 2C04- F6 2B 7064 .SI ZL.-\$06

2C06- 48 09 7065 ZG. .SI DOCON  
 2C08- 10 00 7066 .SE \$0010  
 7067  
 7068 ; O=,  
 7069  
 2C0A- 83 30 3D 7070 .BY \$83 'O=' \$AC  
 2C0D- AC  
 2C0E- 00 2C 7071 .SI ZG.-\$06  
 2C10- 48 09 7072 ZE. .SI DOCON  
 2C12- F0 00 7073 .SE \$00F0  
 7074  
 7075 ; CS,  
 7076  
 2C14- 83 43 53 7077 .BY \$83 'CS' \$AC  
 2C17- AC  
 2C18- 0A 2C 7078 .SI ZE.-\$06  
 2C1A- 48 09 7079 CS. .SI DOCON  
 2C1C- B0 00 7080 .SE \$00B0  
 7081  
 7082 ; CC,  
 7083  
 2C1E- 83 43 43 7084 .BY \$83 'CC' \$AC  
 2C21- AC  
 2C22- 14 2C 7085 .SI CS.-\$06  
 2C24- 48 09 7086 CC. .SI DOCON  
 2C26- 90 00 7087 .SE \$0090  
 7088  
 7089 ; O◇,  
 7090  
 2C28- 84 30 3C 7091 .BY \$84 'O◇' \$AC  
 2C2B- 3E AC  
 2C2D- 1E 2C 7092 .SI CC.-\$06  
 2C2F- 48 09 7093 ZNE. .SI DOCON  
 2C31- D0 00 7094 .SE \$00D0  
 7095  
 7096 ; TOP  
 7097  
 2C33- 83 54 4F 7098 .BY \$83 'TO' \$DO  
 2C36- D0  
 2C37- 28 2C 7099 .SI ZNE.-\$07  
 2C39- FC 08 7100 TOP. .SI DOCOL  
 2C3B- 88 09 7101 .SI ZERO  
 2C3D- E2 27 7102 .SI X.  
 2C3F- D2 06 7103 .SI SEMIS  
 7104  
 7105 ; SEC  
 7106  
 2C41- 83 53 45 7107 .BY \$83 'SE' \$C3  
 2C44- C3  
 2C45- 33 2C 7108 .SI TOP.-\$06  
 2C47- FC 08 7109 SEC .SI DOCOL  
 2C49- 98 09 7110 .SI TWO  
 2C4B- E2 27 7111 .SI X.  
 2C4D- D2 06 7112 .SI SEMIS  
 7113  
 7114 ; R  
 7115  
 2C4F- 81 D2 7116 .BY \$81 \$D2

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2C51- 41 2C      7117      .SI SEC-$06
2C53- FC 08      7118 RRR      .SI DOCOL
2C55- 49 02      7119      .SI LIT
2C57- 01 01      7120      .SE $0101
2C59- E2 27      7121      .SI X.
2C5B- D2 06      7122      .SI SEMIS
7123
7124 ;          END-CODE
7125
2C5D- 88 45 4E   7126      .BY $88 'END-COD' $C5
2C60- 44 2D 43
2C63- 4F 44 C5
2C66- 4F 2C      7127      .SI RRR-$04
2C68- FC 08      7128 ENDCODE .SI DOCOL
2C6A- AD 0A      7129      .SI BASE
2C6C- C1 08      7130      .SI STORE
2C6E- 44 0D      7131      .SI QCSP
2C70- B1 0D      7132      .SI SMUDG
2C72- 3E 13      7133      .SI FORTH
2C74- D2 06      7134      .SI SEMIS
7135
7136 ATOP      .DI ENDCODE-$0B
7137
7138          .CT IFTH70
7139 ;
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7149 ;*****
7150 ;
7151 ;
7152 ;*****
7153 ;**      SYM/KIM-FORTH PART 13      **
7154 ;**      DISK FILE FTH70          **
7155 ;*****
7156 ;
7157 ;**      EDITOR DEFINITIONS        **
7158 ;
7159 ;      ETASK      DUMMY TO MARK START OF EDITOR WORDS
7160 ;
2C76- 85 45 54   7161      .BY $85 'ETAS' $CB
2C79- 41 53 CB
2C7C- 40 13      7162      .SI FORTH+$02
2C7E- FC 08      7163 ETASK .SI DOCOL
2C80- D2 06      7164      .SI SEMIS
7165
7166 ;          TEXT
7167
2C82- 84 54 45   7168      .BY $84 'TEX' $D4

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2C85- 58 D4
2C87- 76 2C      7169      .SI ETASK-$08
2C89- FC 08      7170 TEXT .SI DOCOL
2C8B- FD 0A      7171      .SI HERE
2C8D- BC 09      7172      .SI CSLL
2C8F- E1 0A      7173      .SI ONEP
2C91- CO 0F      7174      .SI BLANK
2C93- F9 0F      7175      .SI WORD
2C95- E7 0F      7176      .SI PAD
2C97- BC 09      7177      .SI CSLL
2C99- E1 0A      7178      .SI ONEP
2C9B- B5 05      7179      .SI CMOVE
2C9D- D2 06      7180      .SI SEMIS
7181
7182 ;          LINE
7183
2C9F- 84 4C 49   7184      .BY $84 'LIN' $C5
2CA2- 4E C5
2CA4- 82 2C      7185      .SI TEXT-$07
2CA6- FC 08      7186 LINE .SI DOCOL
2CA8- 5E 08      7187      .SI DUP
2CAA- 49 02      7188      .SI LIT
2CAC- FO FF      7189      .SE $FFF0
2CAE- 5E 06      7190      .SI ANDD
2CB0- 8F 02      7191      .SI CLIT
2CB2- 17         7192      .BY $17
2CB3- EB 0C      7193      .SI QERR
2CB5- 7E 0A      7194      .SI SCR
2CB7- 9D 08      7195      .SI AT
2CB9- E7 17      7196      .SI PLINE
2CBB- 3D 08      7197      .SI DROP
2CBD- D2 06      7198      .SI SEMIS
7199
7200 ;          SPCR - SPACE OR CRLF
7201 ;          DEPENDING ON TERMINAL WIDTH
7202
2CBF- 84 53 50   7203      .BY $84 'SPC' $D2
2CC2- 43 D2
2CC4- 9F 2C      7204      .SI LINE-$07
2CC6- FC 08      7205 SPCR .SI DOCOL
2CC8- B2 09      7206      .SI TW
2CCA- 8F 02      7207      .SI CLIT
2CCC- 48         7208      .BY $48
2CCD- C2 0B      7209      .SI LESS
2CCF- 9B 03      7210      .SI ZBRAN
2CD1- 08 00      7211      .SE SPCR1--
2CD3- AB 05      7212      .SI CR
2CD5- 7C 03      7213      .SI BRAN
2CD7- 04 00      7214      .SE SPCR2--
2CD9- 3A 0C      7215 SPCR1 .SI SPACE
2CDB- D2 06      7216 SPCR2 .SI SEMIS
7217
7218 ;          -MOVE
7219
2CDD- 85 2D 4D   7220      .BY $85 '-MOV' $C5
2CE0- 4F 56 C5
2CE3- BF 2C      7221      .SI SPCR-$07
2CE5- FC 08      7222 DMOVE .SI DOCOL

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2CE7- A6 2C	7223	.SI LINE
2CE9- BC 09	7224	.SI CSLL
2CEB- B5 05	7225	.SI CMOVE
2CED- E2 16	7226	.SI UPDAT
2CEF- D2 06	7227	.SI SEMIS
	7228	
	7229 ;	H HOLD LINE AT PAD
	7230	
2CF1- 81 C8	7231	.BY \$81 \$C8
2CF3- DD 2C	7232	.SI DMOVE-\$08
2CF5- FC 08	7233 HH	.SI DOCOL
2CF7- A6 2C	7234	.SI LINE
2CF9- E7 0F	7235	.SI PAD
2CFB- E1 0A	7236	.SI ONEP
2CFD- BC 09	7237	.SI CSLL
2CFF- 5E 08	7238	.SI DUP
2D01- E7 0F	7239	.SI PAD
2D03- D9 08	7240	.SI CSTOR
2D05- B5 05	7241	.SI CMOVE
2D07- D2 06	7242	.SI SEMIS
	7243	
	7244 ;	E ERASE LINE
	7245	
2D09- 81 C5	7246	.BY \$81 \$C5
2D0B- F1 2C	7247	.SI HH-\$04
2D0D- FC 08	7248 EE	.SI DOCOL
2D0F- A6 2C	7249	.SI LINE
2D11- BC 09	7250	.SI CSLL
2D13- CO 0F	7251	.SI BLANK
2D15- E2 16	7252	.SI UPDAT
2D17- D2 06	7253	.SI SEMIS
	7254	
	7255 ;	S SPREAD AT GIVEN LINE
	7256	
2D19- 81 D3	7257	.BY \$81 \$D3
2D1B- 09 2D	7258	.SI EE-\$04
2D1D- FC 08	7259 SS	.SI DOCOL
2D1F- 5E 08	7260	.SI DUP
2D21- 49 02	7261	.SI LIT
2D23- OE 00	7262	.SE \$000E
2D25- 23 04	7263	.SI PDO
2D27- 3C 04	7264 SS1	.SI I
2D29- A6 2C	7265	.SI LINE
2D2B- 3C 04	7266	.SI I
2D2D- E1 0A	7267	.SI ONEP
2D2F- E5 2C	7268	.SI DMOVE
2D31- 49 02	7269	.SI LIT
2D33- FF FF	7270	.SE \$FFFF
2D35- EC 03	7271	.SI PPLOO
2D37- FO FF	7272	.SE SS1--
2D39- OD 2D	7273	.SI EE
2D3B- D2 06	7274	.SI SEMIS
	7275	
	7276 ;	D DELETE AND HOLD IN PAD
	7277	
2D3D- 81 C4	7278	.BY \$81 \$C4
2D3F- 19 2D	7279	.SI SS-\$04
2D41- FC 08	7280 DD	.SI DOCOL

2D43- 5E 08	7281	.SI DUP
2D45- F5 2C	7282	.SI HH
2D47- 8F 02	7283	.SI CLIT
2D49- 0F	7284	.BY \$0F
2D4A- 5E 08	7285	.SI DUP
2D4C- 26 0C	7286	.SI ROT
2D4E- 23 04	7287	.SI PDO
2D50- 3C 04	7288 DD1	.SI I
2D52- E1 0A	7289	.SI ONEP
2D54- A6 2C	7290	.SI LINE
2D56- 3C 04	7291	.SI I
2D58- E5 2C	7292	.SI DMOVE
2D5A- BC 03	7293	.SI PLOOP
2D5C- F4 FF	7294	.SE DD1--
2D5E- OD 2D	7295	.SI EE
2D60- D2 06	7296	.SI SEMIS
	7297	
	7298 ;	T TYPE LINE AT TERMINAL
	7299	
2D62- 81 D4	7300	.BY \$81 \$D4
2D64- 3D 2D	7301	.SI DD-\$04
2D66- FC 08	7302 TT	.SI DOCOL
2D68- 5E 08	7303	.SI DUP
2D6A- F5 2C	7304	.SI HH
2D6C- 5E 08	7305	.SI DUP
2D6E- 8F 02	7306	.SI CLIT
2D70- 03	7307	.BY \$03
2D71- 08 20	7308	.SI DOTR
2D73- C6 2C	7309	.SI SPCR
2D75- 7E 0A	7310	.SI SCR
2D77- 9D 08	7311	.SI AT
2D79- 09 18	7312	.SI DLINE
2D7B- D2 06	7313	.SI SEMIS
	7314	
	7315 ;	L LIST CURRENT SCREEN
	7316	
2D7D- 81 CC	7317	.BY \$81 \$CC
2D7F- 62 2D	7318	.SI TT-\$04
2D81- FC 08	7319 LL	.SI DOCOL
2D83- 7E 0A	7320	.SI SCR
2D85- 9D 08	7321	.SI AT
2D87- 68 20	7322	.SI LIST
2D89- AB 05	7323	.SI CR
2D8B- D2 06	7324	.SI SEMIS
	7325	
	7326 ;	R RETURN PAD TO GIVEN LINE
	7327	
2D8D- 81 D2	7328	.BY \$81 \$D2
2D8F- 7D 2D	7329	.SI LL-\$04
2D91- FC 08	7330 RR	.SI DOCOL
2D93- E7 0F	7331	.SI PAD
2D95- E1 0A	7332	.SI ONEP
2D97- 46 08	7333	.SI SWAP
2D99- E5 2C	7334	.SI DMOVE
2D9B- D2 06	7335	.SI SEMIS
	7336	
	7337 ;	P PUT INDICATED LINE TO CURRENT SCREEN
	7338	

2D9D- 81 D0	7339	.BY \$81 \$D0
2D9F- 8D 2D	7340	.SI RR-\$04
2DA1- FC 08	7341 PP	.SI DOCOL
2DA3- 90 09	7342	.SI ONE
2DA5- 89 2C	7343	.SI TEXT
2DA7- E7 0F	7344	.SI PAD
2DA9- E1 0A	7345	.SI ONEP
2DAB- B2 08	7346	.SI CAT
2DAD- 9B 03	7347	.SI ZBRAN
2DAF- 08 00	7348	.SE PP1--
2DB1- 91 2D	7349	.SI RR
2DB3- 7C 03	7350	.SI BRAN
2DB5- 04 00	7351	.SE PP2--
2DB7- 0D 2D	7352 PP1	.SI EE
2DB9- D2 06	7353 PP2	.SI SEMIS

7354  
7355 ; I INSERT TEXT FROM PAD TO GIVEN LINE  
7356

2DBB- 81 C9	7357	.BY \$81 \$C9
2DBD- 9D 2D	7358	.SI PP-\$04
2DBF- FC 08	7359 II	.SI DOCOL
2DC1- 5E 08	7360	.SI DUP
2DC3- 1D 2D	7361	.SI SS
2DC5- 91 2D	7362	.SI RR
2DC7- D2 06	7363	.SI SEMIS

7364  
7365 ; CLEAR INDICATED SCREEN  
7366

2DC9- 85 43 4C	7367	.BY \$85 'CLEA' \$D2
2DCC- 45 41 D2		
2DCF- BB 2D	7368	.SI II-\$04
2DD1- FC 08	7369 CLEAR	.SI DOCOL
2DD3- 7E 0A	7370	.SI SCR
2DD5- C1 08	7371	.SI STORE
2DD7- 8F 02	7372	.SI CLIT
2DD9- 10	7373	.BY \$10
2DDA- 88 09	7374	.SI ZERO
2DDC- 23 04	7375	.SI PDO
2DDE- 3C 04	7376 CLEAR1	.SI I
2DE0- 0D 2D	7377	.SI EE
2DE2- BC 03	7378	.SI PLOOP
2DE4- FA FF	7379	.SE CLEAR1--
2DE6- C6 17	7380	.SI SAVBUF
2DE8- D2 06	7381	.SI SEMIS

7382  
7383 ; COPY SCREEN-2 TO SCREEN-1  
7384

2DEA- 84 43 4F	7385	.BY \$84 'COP' \$D9
2DED- 50 D9		
2DEF- C9 2D	7386	.SI CLEAR-\$08
2DF1- FC 08	7387 COPY	.SI DOCOL
2DF3- C6 17	7388	.SI SAVBUF
2DF5- 03 0A	7389	.SI BSCR
2DF7- 22 16	7390	.SI STAR
2DF9- 46 08	7391	.SI SWAP
2DFB- 03 0A	7392	.SI BSCR
2DFD- 22 16	7393	.SI STAR
2DFF- 03 0A	7394	.SI BSCR

2E01- 2C 08	7395	.SI OVER
2E03- 90 07	7396	.SI PLUS
2E05- 46 08	7397	.SI SWAP
2E07- 23 04	7398	.SI PDO
2E09- 5E 08	7399 COPY1	.SI DUP
2E0B- 3C 04	7400	.SI I
2E0D- 67 17	7401	.SI BLOCK
2E0F- 61 0B	7402	.SI TWSB
2E11- C1 08	7403	.SI STORE
2E13- E1 0A	7404	.SI ONEP
2E15- E2 16	7405	.SI UPDAT
2E17- BC 03	7406	.SI PLOOP
2E19- F0 FF	7407	.SE COPY1--
2E1B- 3D 08	7408	.SI DROP
2E1D- C6 17	7409	.SI SAVBUF
2E1F- D2 06	7410	.SI SEMIS

7411  
7412 ; FIX INDICATED SCREEN LINE  
7413

2E21- 83 46 49	7414	.BY \$83 'FI' \$D8
2E24- D8		
2E25- EA 2D	7415	.SI COPY-\$07
2E27- FC 08	7416 FIX	.SI DOCOL
2E29- 5E 08	7417	.SI DUP
2E2B- E7 0F	7418	.SI PAD
2E2D- 8F 02	7419	.SI CLIT
2E2F- 50	7420	.BY \$50
2E30- 88 09	7421	.SI ZERO
2E32- 7F 0F	7422	.SI FILL
2E34- A6 2C	7423	.SI LINE
2E36- BC 09	7424	.SI CSLL
2E38- 90 0E	7425	.SI DTRAI
2E3A- E7 0F	7426	.SI PAD
2E3C- 46 08	7427	.SI SWAP
2E3E- B5 05	7428	.SI CMOVE
2E40- 5E 08	7429	.SI DUP
2E42- 0D 2D	7430	.SI EE
2E44- 5E 08	7431	.SI DUP
2E46- 8F 02	7432	.SI CLIT
2E48- 03	7433	.BY \$03
2E49- 08 20	7434	.SI DOTR
2E4B- C6 2C	7435	.SI SPCR
2E4D- E7 0F	7436	.SI PAD
2E4F- BC 09	7437	.SI CSLL
2E51- 3A 23	7438	.SI EDIT
2E53- 26 0C	7439	.SI ROT
2E55- A6 2C	7440	.SI LINE
2E57- 46 08	7441	.SI SWAP
2E59- B5 05	7442	.SI CMOVE
2E5B- D2 06	7443	.SI SEMIS

7444  
7445 ETOP .DI FIX-\$06  
7446 TOP .BY \$01  
7447  
7448 .EN

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/ACCESS=8B86           /B2400=0006           /B4800=0001
/BASEAD=0200           /BBUF>=0400           /BEEP=8972
/BMAG=0808             /BOS=0020             /BESC>=0001
/COMAND>=7218          /CONCOM>=7219         /CONF IG=89A5
/CONNUM>=7214          /CRTI=0010            /CRTO=0080
/DAREA=5778            /DELAY=899B           /DISK=0000
/DKNUM>=7215           /DRAM=6000            /ERCODE>=721B
/FLBOT>=7210           /FLTOP>=7212          /INCH=8A58
/INCP3=8293            /INSTAT=8386          /IP=00AE
/KIM=0000              /MDISK>=7C7C          /MEM=6000
/MODE=00FD            /MONBRK=804A          /MONLOAD=8C7B
/MONSAVE=8E8A          /MSECAD>=7217         /MSTAT>=721A
/MTRKAD>=7216          /MYKIM=0000           /N=00A6
/NBUF>=0002            /NP=00BB              /ORIG=022A
/P2SCR=829C            /RESALL=81C4          /RESXF=8188
/RESXF=8188            /SAVER=8188           /SBLK>=0008
/SDBYT=A651            /SSIZE=0080           /SYM=0001
/TCR=834D              /TEAD>=A64A           /TECHO=A653
/TEMP=00B7             /TFID>=A64E           /TIBX=0100
/TOS=009E              /TOUT=8AA0            /TOUTFL=A654
/TSAD>=A64C            /TTYO=0020            /TWIDTH=004F
/UAREA=5F80            /UP=00B3              /USRBRK=A676
/USRENT=8035           /VIADRB=A002          /VIAORB=A000
/VIAPCR=A00C           /W=00B1               /XSAVE=00B5
/XW=00B9               /YSAVE=00B6           /ZERCK=832E
AB.=279B               ABORT=13A5            ABS=1593
ACCEPT=2290            ADC.=28B7             AGAIN=1CD2
AGAIN.=2B44            AINIT=25AA            ALLLOT=0B0D
ALO=2570               AND.=28C1             ANDD=065E
ASL.=28CB              ASLA.=29A7            ASSM=256A
AT=089D                AT1=08A8              ATASK=25DF
ATOP=2C5D              AX.=27BF              AY.=27C8
BACK=1C41              BAD.EXIT=26BA         BASE=0AAD
BBREAK=198E            BBREAK1=1995          BBUF=09E0
BCC.=2729              BCKSL=2318            BCKSPC=2313
BCOMP=11FB             BCS.=2733             BDIGS=1F4C
BEEP1=2204             BEEP2=228D            BEGIN=1C53
BEGIN.=2B14            BELL.VEC=021E         BEP=0F04
BEQ.=273D              BINARY=0669           BIT.=28D5
BL=09A9                BLANK=0FC0            BLK=0A63
BLOCK1=177F            BLOCK2=1797           BLOC2=1797
BLOCK3=17AF            BMI.=2751             BNE.=2747
BPL.=275B              BRAN=037C             BREAK.VEC=021B
BRK.=2A68              BSCR=0A03             BUFR=171F
BUFR1=1729             BUFR2=174F            BUMP=03A5
BUMP1=03B0             BUSY=1964              BVC.=2765
BVS.=276F              CAT=08B2              CC.=2C24
CCOLD=141A             CCOMM=0B2A            CFA=0CA3
CHAR.=2279             CHKRET=26BC           CLBRAC=1364
CLC.=29D2              CLD.=29DC             CLEAR=2DD1
CLEAR1=2DDE            CLI.=29E6             CLIT=028F
CLITER=1234            CLITER1=1244          CLOAD=24CF
CLV.=29F0              CMOVE=05B5            CMOVE1=05C6
CMOVE2=05CE            CMOVE3=05D1           CMP.=28DF
CODE=25BF              COLD=1F1E             COLON=08E6
COMMA=0B19             COMP=0D79             CON=0A8B

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CON.CR=18EF           CON.OUT=18CB          CONST=0940
CONVERT=1ED3          COPY=2DF1             COPY1=2E09
COUNT=0E4F           CPX.=2961             CPY.=2977
CR=05AB               CREAD=14F8           CREAD.VEC=0221
CREAD1=150A           CREAT=118D           CREAT1=11B1
CRLF.ALL=18DF         CRLF.END=18F2        CRLF.P=231E
CRLFP1=2328           CS.=2C1A              CSLL=09BC
CSP=0AC8              CSTOR=08D9           CTROLA=21A5
CTROLA1=21B5          CTROLA1=21C2         CTROLA2=21CA
CTROLH=21CB           CTROLH1=21E0         CTROLI=21E7
CTROLM=21F4           CTROLQ=199A          CTROLS=220A
CTROLT1=2219          CTROLT1=2229         CTROLX=2232
CTROLX1=223D          CTROLZ=2246          CTROLZ1=224A
CTROLZ2=2254          CURR=0A98            CWRITE=14B5
CWRITE.VEC=0224       CWRITE1=14C7         DABS=15A2
DD=2D41               DD1=2D50             DDOT=1FEC
DDOTR=1FC9            DDUP=0C49            DDUP1=0C53
DEC.=28E9             DECIM=ODD7           DECNP=0335
DECNP1=033B           DEF IN=1354          DELCHR=22F7
DELCHR2=230B          DEQUAL=0B98          DELETE=281E
DEPTH=1EAB            DFIND=10EC           DEPTH=1EAB
DEY.=2A04             DIG=1F89             DFIND1=110A
DGREAT=1E4A          DIG1=1FA3            DIGIT=29FA
DIGIT=0470            DIGIT1=0484          DIGIT2=0491
DIGS=1FB3             DIGS1=1FB3           DISK.VEC=0227
DISK>=1B9B           DLESS=0C01           DLESS1=0COA
DLESS2=0COD           DLINE=1809           DLIT=1251
DLIT1=1261            DMAX=1E59            DMAX1=1E67
DMIN=1E72             DMIN1=1E80           DMOVE=2CE5
DNEGATE=0815          DO=1C7D              DOCOL=08FC
DOCON=0948            DOCREAT=11E3         DODOES=0E2B
DOES=0E18             DOMODE=2781          DOOPBYT=2996
DOOPREL=2873          DOOPXY=2889          DOOPY1=2889
DOT=2018              DOTQ=0ED8            DOTQ1=0EF5
DOTQ2=0EFB           DOUSE=0975           DOUSE1=0975
DOVOC=132B           DP=0A4C              DPL=0AB6
DPLUS=07D4            DPM=1581             DPM1=158B
DROP=083D             DRW=1B26             DRW1=1B4A
DRW2=1B63             DRW3=1B81            DSUB=0B47
DTRAI=0E90            DTRAI1=0E98          DTRAI2=0EB0
DTRAI3=0EB2           DULESS=0BED          DULESS1=0BF5
DUP=085E              DZEU=07A8            DZEU1=07B7
DZLESS=07C2           ECHAR.VEC=0215       ECHO=2274
ECRLF.VEC=0218        EDIGS=1F5B           EDIT=233A
EDITOR=24EE           EE=2D0D              EEOF=2295
EEOF1=22A1            EEOF2=22AB           EEOF3=22B5
ELO=24F4              ELSE=1D17            ELSE.=2B6C
EMBUF=1708            EMIT=058E           ENCL=0533
ENCL1=0548            ENCL2=0553          ENCL4=055B
ENCL5=056A            ENCL6=056D          ENCL7=0576
ENCL8=0581            ENCODE=2C68          ENTER=0200
EOR.=28F3             EQUAL=0B8B           ERASE=0FAF
ERROR=1124            ERROR1=1132          ESCAPE=2259
ESCAPE1=2262          ETASK=2C7E           ETOP=2E21
EXCODE=27F6           EXCODE1=282B         EXCODE2=285C
EXCODE3=285E          EXEC=0359            EXIT=091B
EXPECT=2184           FENCE=0A44           FILBUF=2195
FILL=0F7F             FILL1=0F9F           FILL2=0FA5

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FIND=1EE0      FIND1=1EF0      FIND2=1EF2  
 FIRST=09C8      FIX=2E27      FLD=0ABF  
 FORG=1BD6      FORG1=1BEF      FORG2=1C09  
 FORG3=1C10      FORTH=133E      FORTH.TOP=022A  
 GET=23F4      GREAT=OC18      HARD=1528  
 HERE=0AFD      HEX=0DC2      HEXTA=1910  
 HEXTA1=1919      HH=2CF5      HI=19B7  
 HLD=0AD9      HOLD=0FCF      I=043C  
 I.DP=023C      I.FENCE=023A      I.RO=0232  
 I.SO=0230      I.TIB=0234      I.UP=022E  
 I.VOCLNK=023E      I.WARN=0238      I.WIDTH=0236  
 IDDOT=1159      IF=1D00      IF.=2B54  
 II=2DBF      IM.=2792      IMMED=12F3  
 IN=0A6C      INC.=28FD      INDEX=20C3  
 INDE X1=20CD      INDE X2=20E5      INSERT=22B6  
 INSERT1=22BB      INSERT2=22C3      INSERT3=22CF  
 INSERT4=22E2      INT1=1295      INT2=12AD  
 INT3=12B1      INT4=12B7      INT5=12CB  
 INT55=12DF      INT6=12E1      INT7=12E3  
 INTCHR=18AF      INTER=1293      INX.=2A0E  
 INY.=2A18      IP.=25E8      IX.=27AD  
 IY.=27B6      J=0442      JMI.=2ADE  
 JMP.=2ACC      JSR.=2AF0      K=0457  
 KEY=0596      KTMFLG=0240      L2=14CF  
 L2ERR=14F3      LATES=OC84      LBRAC=0D8F  
 LDA.=2907      LDY.=2982      LDY.=2982  
 LEAVE=06E5      LESS=0BC2      LESS1=0BCB  
 LESS2=0BCE      LF2=14E4      LFA=0C94  
 LIMIT=09D4      LINE=2CA6      LIST=2068  
 LIST1=2099      LIST2=20B3      LIT=0249  
 LIT1=0254      LIT2=0256      LITER=1217  
 LITER1=1227      LL=2D81      LO=19AE  
 LOAD=184A      LOOP=1C90      LSR.=2911  
 LSRA.=29B2      MAX=15C8      LSR1=15D6  
 MDISK=1A81      MDISK1=1AA5      MESS=181D  
 MESS1=1832      MESS2=1836      MESS3=1841  
 MIN=15B0      MIN1=15BE      MOD=1651  
 MODE.=2779      MON=2166      MOVDWN=22E3  
 MOVDWN1=22E5      MOVDWN2=22F0      MOVE=1EFB  
 MSLAS=15FC      MSMOD=1684      MSTAR=15DF  
 MVAR=258B      MYSELF=2552      N.=25F8  
 NBUF=09F7      NEGATE=07FB      NEXCHR=219A  
 NEXCHR1=2207      NEXCHR2=2272      NEXXT=0263  
 NEXT.=262E      NEXT1=0285      NFA=0CAF  
 NOP.=2A22      NOT=1EC3      NOT.=2B02  
 NSCR=187C      NOTOP=25B8      NULL=2352  
 NULL1=2380      NULL2=2384      NULL3=2388  
 NUM1=10B3      NUM2=10D8      NUM3=10E2  
 NUMBER=1096      OFF=1AC9      OFF1=1ADE  
 OK.EXIT=26B6      ON=1AAC      ON1=1AC1  
 ONE=0990      ONEP=0AE1      ONESB=0B54  
 OPBYT=298E      OPCHK=2669      OPCODE=286B  
 OPREL=26D5      OPREL1=2719      OPREL2=271E  
 OPXY=2881      OPXY1=28A1      OPXY2=28AC  
 OR=0673      ORA.=291B      OUT=0A75  
 OUT.ALL=18BA      OUT.END=18D0      OUTSP.ALL=18D4  
 OVER=082C      PABOR=1116      PAD=0FE7  
 PBAUD=0242      PBUF=16B6      PBUF1=16CF

PCRLF=18F5      PCRLF.VEC=0212      PDO=0423  
 PDOTQ=0EBF      PFA=0CC4      PFIND=04CD  
 PFIND1=04D6      PFIND2=04E0      PFIND3=050B  
 PFIND4=050D      PFIND5=0512      PHA.=2A2C  
 PHP.=2A36      PICK=1D88      PICK1=1D9A  
 PICK2=1DA2      PL1=03C9      PL2=03D6  
 PLA.=2A40      PLINE=17E7      PLOOP=03BC  
 PLP.=2A4A      PLUS=0790      PLUSLP=1CA6  
 PM=156F      PM1=1579      PMDISK=1A6D  
 PN1=031E      PN2=0325      PNUM1=104D  
 PNUM2=1083      PNUM3=1089      PNUMB=104B  
 POP=0433      POP.=2650      POPTWO=0431  
 POPTWO.=265D      PORIG=0A11      POUT.VEC=020F  
 PP=2DA1      PP1=2DB7      PP2=2DB9  
 PPLOO=03EC      PREV=16AB      PRNAM=0313  
 PROLL1=04A1      PROLL1=04B3      PRTYT=18FE  
 PSCOD=0DEC      PSET=1AE8      PSTOR=086D  
 PSTOR1=087C      PUSH=025C      PUSH.=2639  
 PUSHOA=06A2      PUSHOA.=2646      PUT=025E  
 PUT.=2623      PUTT=2390      QCMP=OD05  
 QCSP=OD44      QERR=OC6B      QERR1=OCF9  
 QERR2=OCFB      QEXEC=OD1C      QLOAD=OD60  
 QPAIR=OD32      QSTAC=126C      QSTK=1D48  
 QTERM=05A4      QUERY=OF66      QUES=2059  
 QUIT=1376      QUIT1=1380      QUIT2=1397  
 R=0724      R/T=1513      RBRAC=OD9D  
 RDEPTH=073E      REENTER=0203      REPEAT=1CE9  
 REPEAT.=2BD1      RFROM=0712      RNUM=0AD0  
 ROL.=2925      ROLA.=29BD      ROLL=1D6B  
 ROLL1=1D7D      ROLL2=1D7F      ROR.=292F  
 RORA.=29C8      ROT=0C26      RPSTO=06BE  
 RRR=2D91      RRR=2C53      RSLW=1BA5  
 RSLW1=1BB5      RSLW2=1BB7      RTI.=2A54  
 RTS.=2A5E      RVL=1F09      S2=14AD  
 SAVBUF=17C6      SAVBUF1=17D0      SBC.=2939  
 SBLK=09EC      SCOD=0E02      SCR=0A7E  
 SCRAD=23C5      SCSF=0CD8      SCOD=2025  
 SDOT1=203D      SDOT2=204B      SEC=2C47  
 SEC.=2A72      SED.=2A7C      SEI.=2A86  
 SEMCOL=0927      SEMIS=06D2      SET1=1A24  
 SET11=1A3E      SET2=1A47      SET22=1A61  
 SETUP=033E      SETUP.=26C9      SETUP1=0341  
 SGET=2422      SIGN=1F74      SIGN1=1F83  
 SLASH=1641      SLMOD=1631      SMUDG=0DB1  
 SMVAR=2597      SPACE=0C3A      SPACS=1F2F  
 SPACS1=1F3F      SPACS2=1F45      SPAT=069F  
 SPCR=2CC6      SPCR1=2CD9      SPCR2=2CDB  
 SPSTO=06AE      SS=2D1D      SS1=2D27  
 SSLAS=1672      SSMOD=1661      STA.=2943  
 STANDARD=2580      STAR=1622      STATE=0AA3  
 STBUFF=2198      STOD=1560      STORE=08C1  
 STORE1=08CD      STX.=294D      STY.=2957  
 SUB=0B3A      SUB1=0BA0      SUB2=0BD3  
 SWAP=0846      SYBASE=0200      SYSCOLD=245E  
 SYSSAVE=2496      TAPE=1533      TAPE.INIT=1477  
 TAPE0=1549      TAPE0.OFF=1553      TAPE1.OFF=1543  
 TAT=1DBC      TAX.=2A90      TAY.=2A9A  
 TBAUD=0241      TBREAK=02DE      TBREK=02E5



TBRK2=02F3	TCOLON=02F8	TCON=1DD6
TCRLF.VEC=020C	TDROP=1DEF	TDUP=1DFE
TEAD=1499	TEXT=2C89	TFID=14A4
THEN=1C64	THEN.=2B9C	THREE=09A0
THSTAR=0B7B	TIB=0A21	TICK=1BBD
TIN.VEC=0206	TOFF0=191E	TOFF1=1927
TOGO=194B	TOG1=1942	TOGGL=088E
TONO=1930	TON1=1939	TOP=2E5D
TOP.=2C39	TOR=0700	TOUT.VEC=0209
TOVER=1E0E	TRACE=0297	TRACOL=0F50
TRAOFF=0F17	TRAON=0F32	TRAV=0C60
TRAV1=0C64	TRCOL=0F58	TRIAD=20F3
TRIAD1=20FF	TROFF=0F1F	TRON=0F3A
TROT=1E23	TRW=19C1	TRW1=19E0
TRW2=1A0F	TRW3=1A17	TSAD=148E
TSTORE=1DA9	TSWAP=1E39	TSX.=2AA4
TT=2D66	TTYCLOSE=1975	TTYOPEN=1954
TTYOUT=1960	TVAR=1E90	TW=09B2
TWO=0998	TWOP=0AEE	TWOSB=0B61
TWOSTAR=0B6E	TXA.=2AAE	TXS.=2AB8
TYA.=2AC2	TYPE=0E62	TYPE0=2691
TYPE02=267C	TYPE1=0E72	TYPE2=0E80
TYPE2A=2688	TYPE3=0E82	TYPE4AC=26AE
TYPE4C=269D	TYPEC=26AA	UDOT=1FFB
ULESS=0BB1	ULESS1=0BB9	UNTIL=1CBC
UNTIL.=2B25	UP.=2619	UPDAT=16E2
USE=16A0	USER=096F	USLAS=0621
USLAS1=0639	USLAS2=064D	USTAR=05E4
USTAR1=05F4	USTAR2=0613	VAR=095E
VLIST=211A	VLIST1=2129	VLIST2=2142
VLO=1344	VOCAB=130B	VOCL=0A5A
W.=25F0	W/T=151D	WARM=142C
WARM1=142E	WARM2=1438	WARN=0A39
WHERE=24FE	WHILE=1D39	WHILE.=2BB9
WIDTH=0A2C	WORD=OFF9	WORD1=100D
WORD2=1011	X.=27E2	XCR=19A3
XEMIT=1898	XFOR=1342	XKEY=1981
XOR=0689	XQTER=1987	XSAVE.=2604
Y.=27EA	YSAVE.=2610	ZBRAN=039B
ZE.=2C10	ZEQU=0753	ZEQU1=075E
ZERBUF=2329	ZERBUF1=232D	ZERO=0988
ZG.=2C06	ZGREAT=077A	ZGREAT1=0787
ZL.=2BFC	ZLESS=0768	ZNE.=2C2F
ZP.=27A4	ZX.=27D1	ZY.=27DA

//0000,2E5E,2E5E  
>SE

3000-54FC 5500-7CFC 9000  
4025 6BOE  
//

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