Easi-thought structure (mark 2 version)

		address in readup	if 2 = bottom address
~~32~~ bytes	Bootstrap routine	1C90	
160 bytes	for contents of 7660 - 76FF	1CB0 - 1D4F	start = 2+40
176 bytes	— — — 7750 - 77FF	1D50 - 1DFF	start = 2+200
192 bytes	— — — — 78E0 - 799F	1E00 - 1E0F	start = 2+376
	print routine	1EC0	
	search routine	1F78	
	main routine	2000	start = 2+888
	function keys	2099 - 2469	
	startup	246A - 248B	

32 byte	bootstrap	4000 - 401F	
160 byte	contents of 7660 - 76FF	4020 - 408F	
176 bytes	7750 - 77FF	40C0 - 416F	
192 bytes	78E0 - 799F	4170 - 422F	
	print routine	4230	[4233]
	search		
	main		
	function keys		
	startup	47DA	

Version 2 - master sheet

mem	contents
7650	cursor high
7651	cursor low
7652	FE ! s
7653	01 ! t
7654	FD ! a
7655	27 ! r
7656	FE ! t
7657	lowest poss. mem high
7658	— — — low
7659	highest — — high
765A	— — — low
765B	highest address used high
765C	~~current level~~ low
765D	current level no
765E	edit controls: 1 = advance 2 = backup 3 = delete 4 = paste 5 = delete / print line length
765F	return to BASIC codes: 1 = trying to overflow memory, 2 = display file name, 3 = mem. used, 4 = search, 5 level no., 6 mem. remaining

76FE	store for auto-repeat
76FF	input from display subrout.
76EA, 76EB, 76EC	stores for printer/fp codes — line len, 1 = no wrap 2 = no wrap/5 indents more, 1 = cont. print, 2 = stop print
77FD	store for paste buffer size
77FE	store for sel marker high
77FF	— — — — low

Subroutines

7660	word/sent/para/section check
768C	move text up 1 place
7680	— — — acc. to Y reg.
76C3	move text down 1 place
76C7	— — — acc. to Y reg.
76ED	loads 7656/C into U, 7650/1 into X
76F5	loads 7656/C into U
7750	beep
776F	stores U in 7656/C, X in 7650/1
7777	stores X in 7650/1
7780	checks curr. level & stores in 765D
778C	add level marker
77A3	input subroutine + autorepeat delay
77D5	rollforward
77DC	autorepeat check
[77E7	portion of DEF & routine]
77F1	— — display —

78E0	level search
7906	portion of add level routine
78BE	display/input rout. call for basic
— 790C	= Main menu
7926	= Tape menu
7960	= Print menu
795A	= Del sec" check
7974	= Hex set

STARTUP ROUTINE

246A (47DA)

LDI XH 40	48 40
LDI XL 00	4A 00
LDA (7865)	A5 78 65 — 2470 (47E0)
STA YH	18
LDA (7866)	A5 78 66
STA YL	1A
TIN	F5
CPI XH 47	4C 47
BCR-	91 05
CPI XL DA	4E DA
BCR-	91 09
LDI UL 02	6A 02 — 2480 (47F0)
LDI XH 78	48 78
LDI XL 65	4A 65
LDA YH	94
SINX	41
LDA YL	14
SINX	41
LOP	88 06
~~RTN~~	~~9A~~ JMP C897 — BA C8 97

248B (47FB) — 47FD

Bootstrap routine

		1C90
LDI XH dummy	48	76
LDI XL dummy	4A	60
LDI YH 76	58	76
LDI YL 60	5A	60
LDI UL 9F	6A	9F
↱ TIN	F5	
LOP	88	03
LDI YH 77	58	77
LDI YL 50	5A	50 — 1C99
LDI UL AF	6A	AF
↱ TIN	F5	
LOP	88	03
LDI YH 78	58	78
LDI YL E0	5A	E0
LDI UL BF	6A	BF
↱ TIN	F5	
LOP	88	03
RTN	9A	
		— 1CAF

33 bytes

Print routine

```
LDI UH 00      68 00
LDA (7659)     A5 76 59
STA YH         18
LDA (765A)     A5 76 5A
STA YL         1A
INC Y          54
LDA (76EA)     A5 76 EA
STA UL         2A
PSH Y          FD 98
PSH U          FD A8
LDI A 20       B5 20
SIN Y          51
LOP            88 03
LDA UH         A4
STA (Y)        1E
POP U          FD 2A
POP Y          FD 1A
LDA (76EB)     A5 76 EB
CPI A 02       B7 02
BZR+           89 0B
LDA (765D)     A5 76 5D
CPI A 05       B7 05
BCR+           81 04
LDI A 05       B5 05
BCH+           8E 03
LDA (765D)     A5 76 5D
DEC A          DF
BZS+           8B 04
INC Y          54
DEC UL         62
BCH-           9E 07
PSH U          FD A8
STP 76ED       BE 76 ED
POP U          FD 2A
LINX           45
CPI A FD       B7 FD
BCS+ (A)       83 4D
CPI A 7C       B7 7C
BZS+ (F)       8B 36
SIN (Y)        51
LOP            88 0C
LDA UH         A4
CPA (76EB)     A7 76 EB
BCR+ (D)       81 14

LDI UL 08      6A 08
DEC Y          56
LDA (Y)        15
CPI A 2D       B7 2D
BZS+ (D)       8B 0C
CPI A 20       B7 20
BZS+ (D)       8B 08
DEC X          46
LDA UH         A4
STA (Y)        1E
LOP            88 0F
LDI A 2D       B5 2D
STA (Y)        1E
(D) LDI UL 00  6A 00
LDA (7659)     A5 76 59
STA YH         18
LDA (765A)     A5 76 5A
STA YL         1A
INC Y          54
LINY           55
BZS+           8B 03
INC UL         60
BCH-           9E 06
LDA UL         24
STA 76SE       AE 76 5E
(K) STP 7777   BE 77 77
RTN            9A
(F) LDA UH     A4
STA (Y)        1E
BCH- (D)       9E 1D
INCX           44
LINX           45
STA 765D       AE 76 5D
INCX           44
LDA (X)        05
CPI A FD       B7 FD
BCR- (F)       91 0B
CPI A FE       B7 FE
BCR-           91 0F
(A) CPI A FE   B7 FE
BZR-           99 12
LDA UH         A4
STA (Y)        1E

STA 76EB       AE 76 EB
LDI A 02       B5 02
STA 76EC       AE 76 EC
LDA 7657       A5 76 57
STA XH         08
LDA 7658       A5 76 58
STA XL         0A
INCX           44
INCX           44
INCX           44
BCH- (D)       9E 47
```

STET

Search

```
                    1F78
LDI YH 78           58 78
LDI YL D0           5A D0
LDI UL 0E           6A 0F
LDI A 00            B5 00
PSH Y               FD 98        1F80
→SIN Y              51
 LOP                88 03
 POP Y              FD 1A
 LDI UH 78          68 78
 LDI UL D0          6A D0
 PSH Y              FD 98
 LDI XL 00          4A 00
→PSH X              FD 88        1F90
 PSH Y              FD 98
 PSH U              FD A8
 SJP E243           BE E2 43
 POP U              FD 2A
 POP Y              FD 1A
 POP X              FD 0A
 CPI A 01           B7 01
 BZS+               8B 15        1FA0
 SIN Y              51
 INC XL             40
 PSH X              FD 88
 PSH Y              FD 98
 PSH U              FD A8
 SJP E3B            BE ED 3B
 POP U              FD 2A
 POP Y              FD 1A        1FB0
 POP X              FD 0A
 CPI XL 10          4E 10
 BZR-               99 28
→LDA XL             04
 STA UH             28
 POP Y              FD 1A
 PSH U              FD A8
 SJP 76ED           BE 76 ED
 POP U              FD 2A        1FC0
 DECX               46
(x) LDI UL 00       6A 00
```

input search string

```
                    1FC5
→INC X              64
 LDA (x)            05
 CPI A FE           B7 FE
 BZS+(y)            8B 2A
 CPA (Y)            17
 BZR-               99 09
 PSH X              FD 88
→INC UL             60           1FD0
 LDA UL             24
 CPA UH             A6
 BZS+(z)            8B 12
 INC X              44
 INC Y              54
 LDA (x)            05
 CPI A FE           B7 FE
 BZS+(y)            8B 17
 CPA (Y)            17
 BZS-               9B 0F
 POP X              FD 0A        1FE0
 LDI YH 78          58 78
 LDI YL D0          5A D0
 BCH-(x)            9E 24
(z) DEC UL          62
 INC X              44           POP X
 DEC X              46
 LOP                88 03
 SJP 7777           BE 77 77
 POP X              FD 0A        1FF0
 BCH+               8E 05
(y) POP X           FD 0A
(x) SJP 7750        BE 77 50
 SJP 76ED           BE 76 ED
 SJP 7780           BE 77 80
 BCH+(A)            8E 81
```

Main routine - see version 1 for set-up details

```
                                    2000
edit start  SJP (76ED)              BE 76 ED
            BCH+ A                  8E 7C
new start   LDA (7657)              A5 76 57
            STA YH                  18
            LDA (7658)              A5 76 58
            STA YL                  1A
            LDI XH 76               48 76
            LDI XL 52               4A 52        2010
            LDI UL 04               6A 04
            TIN                     F5
cycle start LOP                     88 03
         C  LDI XH 7B               48 7B
            LDI XL 10               4A 10
            STX Y                   FD 5A
            LDI UL 1A               6A 1A
CLS         LDI A 00                B5 00
            SIN Y                   51           2020
            LOP                     88 03
            STX U                   FD 6A
            LDI XL, 1A              4A 1A
            SJP (ED3B)              BE ED 3B
            SJP (76ED)              BE 76 ED
            STX Y                   FD 5A
            STX U                   FD 6A        2030
            LDI XL 01               4A 01
         >  INC Y                   54
            LDA (Y)                 15
            INC XL                  40
            CPI A FD                B7 FD
            BCS+                    83 0B
            CPI A 20                B7 20
            B2S+                    8B 07
            CPI XL 1A               4E 1A
            B2R-                    99 0F        2040
            DEC U                   66
            BCH+ d                  8E 1B
jump key    DEC Y                   56
         @  DEC U                   66
            LDA (U)                 25
            INC XL                  40
            CPI A FD                B7 FD

            BCS+                    83 06
            CPI XL 1A               4E 1A
            B2R- a                  99 0B        2050
            BCH+ d                  8E 0D
         >  CPI XL 1A               4E 1A
            B2S+ d                  8B 09
            INC Y                   54
            LDA (Y)                 15
            CPI A FD                B7 FD
            BCS+ d                  83 03
            INC XL                  40
            BCH-                    9E 0D        2060
         d  SJP (ED3B) (77F1)       BE ~~77~~ ~~F1~~
INPUT       SJP ~~ED3B~~ 77A3       BE ED 77 43 A3
            PSH A                   FD C8
            SJP (76ED)              BE 76 ED
            POP A                   FD 8A
FRAME CHECK CPI A 0D                B7 0D
            B2R+                    89 02        2070
            LDI A 7C                B5 7C
            CPI A 80                B7 80
            BCS+ F                  83 22
            CPI A 20                B7 20
            BCR+ Q                  81 A2
            SINX                    41
            LDI A 00                B5 00
            STA 765E                AE 76 5E     2080
         A  SJP 7777                BE 77 77
            SJP 768C                BE 76 8C
store page  B2R+                    89 05
& line no.  LDI A 27                B5 27
cursor      STA (X)                 0E
            BCH- C                  9E 78
overflow    STA 765F                AE 76 5F     2090
abort       DEC X                   46
         F  SJP 7777                BE 77 77
finish      SJP 76C3                BE 76 C3
            RTN                     9A
            BCA [illegible] RENDER
```

153 bytes

Function keys

```
[P]        CPIA 83        B7 83
           BZR+ (Spc)     89 19
DEF C      SJP 76C3       BE 76 C3]
           LDI YH 78      [58 78
           LDI YL D0      5A D0    20A0
           LDI UH 00      68 00
           PSH Y          FD 98
           LDA (Y)        15
           BZS+           8B 07
           INC UH         FD 60
           INC Y          54
           CPI UH 10      6C 10]
           BCR-           [91 0A   20B0
           POP Y          FD 1A
           BCH-[x in search]  9E F3 BE
(Spc)      CPIA 80        B7 80
DEF SPACE  BZR+           89 07
→0         LDIA 00        B5 00
           STA 765F       AE 76 5F
           BCH-[F]        9E][2F   20C0
           CPIA 93        B7 93
DEF S      BZR+           89 04
→4         LDIA 04        B5 04
           BCH-           9E 0D
           CPIA 86        B7 86
DEF F      BZR+           89 04
→2         LDIA 02        B5 02
           BCH-           9E][15   20D0
           CPIA 8C        B7 8C
DEF L      BZR+           89 04
→5         LDIA 05        B5 05
           BCH-           9E 1D
           CPIA 8D        B7 8D
DEF M      BZR+           89 04
→6         LDIA 06        B5 06
           BCH-           9E][25   20E0
           CPIA 95        B7 95
DEF U      BZR+           89 04
→3         LDIA 03        B5 03
           BCH-           9E 2D
           CPIA 88        B7 88

82 bytes
```

```
           BZR+           89 09
DEF H      LDI UH 79.     68 79
           LDI UL 74      6A] [74    20F0
           SJP 7990       BE 79 90
           BCH-[C]        9E 6A
           CPIA 94        B7 94
DEF T      BZR+           89 13
           SJP 76C3       BE 76 C3
           LDA 7657       A5 76 57]
           STA XH         [08        2100
           LDA 7658       A5 76 58
           STA XL         0A
           INC X          44
           INC X          44
           INC X          44
           SJP 7780       BE 77 80
           BCH-[A]        9E 8C
           CPIA 82        B7 82
DEF B      BZR+           89][0E     2110
           SJP 76C3       BE 76 C3
           SJP 76ED       BE 76 ED
           ~~LDA UH~~     ~~A4~~ NOP 38
           ~~STA XH~~     ~~08~~ SJP BE 77 E7
           ~~LDA UL~~     ~~24~~ 77 E7
           ~~STA XL~~     ~~0A~~
           BCH-           9E 12
[Q]        BCH+ [Q']      8E CB      dummy
           CPI A 90       B7][90     2120
           BZS+ [P/D]     8B 09
           CPIA 84        B7 84
           BZS+ [P/D]     8B 05
error input [E] SJP 7750  BE 77 50
           BCH-[E]        9E 38

contd next sheet

65 bytes
```

function keys

DEFP
DEFD

STA UL	2A	212C	LDI A 01	B5 01	
SJP 7780	BE 77 80]		STA 765F	AE 76 5F]	
STA UH	[28	2130	BCH -[F]	[9E F0	2180
CPI UL 90	6E 90		(F9) POP Y	FD 1A	
BZR+	89 07		PSH Y	FD 98	
CPI A 01	B7 01		PSH U	FD A8	
BZS -[E]	9B 12		SJP 76C3	BE 76 C3	
DEC A	DF 80		POP U	FD 2A	
BCH +	8E 05		POP Y	FD 1A	
CPI A 14	B7 14		DEC X	46]	
BZS -[E]	9B 19]		INC X	[46	2190
INC A	[DD	2140	SJP 7660	BE 76 60	
STA UL	2A		BZS -	9B 06	
PSH X	FD 88		LIN X	45	
PSH Y	FD 98		CPI A FD	B7 FD	
PSH U	FD A8		BCS+	83 0C	
SJP E243	BE E2 43		LDA (X)	05	
POP U	FD 2A		CPI A FD	B7 FD	
POP Y	FD 1A		BCS+	83 07]	
POP X	FD [0A	2150	PSH Y	[FD 98	2140
CPI A 0F	B7 0F		SJP 778C	BE 778C	
BZS+	8B 08		POP Y	FD 1A	
CPI A 14	B7 14		DEC X	46	
BCR -[E]	91 32		LDA UL	24	
CPI A 17	B7 17		STA UH	28	
BBS -[E]	93 36		DEC X	46	
STA YL	1A		SJP 7660	BE 76 60	
PSH Y	FD 98]		BZS -	9B 06]	
REC	[F9	2160	LDA (X)	[05	2180
LDA 765C	A5 76 5C		CPI A FD	B7 FD	
ADI 06	B3 06		BCS T	83 12	
STA YL	1A		INC X	44	
LDA 765B	A5 76 5B		SJP 778C	BE 77 8C	
ADI A 00	B3 00		(t) INC X	44	
CPA 7659	A7 76 59		INC X	44	
BCR+ (F9)	81 [11	2170	INC X	44	
BZR+	89 06		SJP 7750	BE 77 50	
LDA YL	14		SJP 7750	BE [77 50	2100
CPA 765A	A7 76 5A		SJP 7780	BE 77 80	
BCR+ (F9)	81 09		BCH -[A]	9E BC	
POP Y	FD 1A		DEC X	46	

Function keys

```
                LDA #$A4        A4
                STA (x)         0E
                BCH - (f)       9E 12
insert for  ->  NOP x 3         38 38 38
backup          NOP x 2         38 38          21D0
routine         PSH X           FD 88
                JSP 76ED        BE 76 ED
                JSP 76C3        BE 76 C3
                POP X           FD 0A
                LDI A 02        B5 02
                BCH + (p)       8E 68          21E0
                NOP x 3         38 38 38
                BCH - E         9E BD
                BCH - C         9E BC
                BCH - A         9E DD
                BCH - F         9E 6A
Q'              ANI #(F00B) FD  FD E9 F0 0B FD
                STA YL          1A             21F0
                CPI A 0C        B7 0C
                BZR+ (backup)   89 60
                JSP 77DC        BE 77 DC
                CPI YL 0F       5E 0F
                BCR+            81 0C
                BZS+ (A5)       8B 4F
                INC X           44
                JSP 7660        BE 76 60       2200
                BZS+            8B 05
                CPI A 02        B7 02
                BZS+            8B 01
                INC X           44
                LDA (x)         05
                CPI A FD        B7 FD
                BCR+ (h)        81 1A
(g)             CPI A FE        B7 FE
                BCR+            81 07          2210
                LDI A 00        B5 00
                STA (765E)      AE 76 5E
                BCH - E         9E 36
                INC X           44
```

81 bytes

```
                LIN X           45
                CPA (765D)      A7 76 5D
                BZS + (f)       8B 1C
(h)             INC X           44
                LDA (x)         05             2220
                CPI A FD        B7 FD
                BCR-            91 06
                BCH - (g)       9E 1A
                CPI YL 14       5E 14
                BCR+ (f)        81 10
                JSP 7660        BE 76 60
                BZR+            89 03
                INC X           44             2230
                BCH -           9E 08
                CPI A 02        B7 02
                BZS+            8B 03
                JSP 77D5        BE 77 D5
                DEC X           46
(f)             PSH X           FD 88
                JSP 76ED        BE 76 ED
                JSP 76C3        BE 76 C3       2240
                POP X           FD 0A
                LDI A 01        B5 01
(p)             STA (765E)      AE 76 5E
                BCH - (A)       9E 66
(A5)            INC X           44
                LDA X           05
                CPI A FD        B7 FD
                BCR-            91 06          2250
                BCH - (g)       9E 47
backup          CPI A 08        B7 08
                BZR+ (delete)   89 54
                JSP 77DC        BE 77 DC
                CPI YL 0F       5E 0F
                BCR+ (dec)      81 13
                BZS+ (a0)       8B 39          2260
                DEC X           46
                LDA (x)         05
                CPI A 20        B7 20
                BZS-            9B 06
                JSP 766C        BE 76 6C
```

81 bytes

cont'd

advance

backup

Function keys

Label	Instruction	Bytes	Address
	B2S+	8B 05	
	CPI A 02	B7 02	
	B2S+	8B 01	
	DECX	46	2270
	INCX	44	
(dec)	DECX	46	
	LDA(x)	05	
	CPI A FD	B7 FD	
	BCR+	81 05	
backup (contd)	SJP level check	BE 78 E0	
	B2S- [E]	9B 67	
	CPI YL 14	5E 14	
	BCR+	81 0C	2280
	DECX	46	
	SJP 7660	BE 76 60	
	B2R+	89 03	
	DECX	46	
	BCH-	9E 08	
	SJP 77D5	BE 77 D5	
	BCH- insert @ 21CD	9E C3	2290
	NOP x 4	38 38 38 38	
	NOP x 4	38 38 38 38	
	NOP x 3	38 38 38	
(as)	DECX	46	
	LDA(x)	05	
	CPI A FD	B7 FD	
	BCR-	91 06	
	BCH-	9E 2A	22A0
dummy	BCH - advance	9E B0	
dummy	BCH - [E]	9E C4	
dummy	BCH - [C]	9E C4	
dummy	BCH - [A]	9E C4	
dummy	BCH - [F]	9E C4	
(delete)	CPI A 18	B7 18	
	B2R+ (shft cl)	89 4F	
(cl) delete	DECX	46	22B0
	LDA (x)	05	
	CPI A FD	B7 FD	
	BCS - [E]	93 12	
	~~INCX~~	44	
	CPI YL 0F	5E 0F	
		79 bytes	

Label	Instruction	Bytes	Address
	B2R+	89 0F	
	LDI UH 79	68 79	
	LDI UL 5A	6A 5A	
	PSH Y	FD 98	22C0
	SJP 7990	BE 79 90	
	POP Y	FD 1A	
	CPI A 59	B7 59	
	B2R - [E]	99 26	
	DEC X / LDI UH 00, LDI UL 02	46 / 68 00 6A 02	
	CPI YL 18	5E 18	22D0
(cl) delete/cold	B2S+	8B 06	
	SJP 7660	BE 76 60	
	B2R+	89 12	
	LDA (X)	05	
	CPI A 7F	B7 7F	
	B2R+	89 05	
	LDI A 00	B5 00	22E0
	STA (77FE)	AE 77 FE	
	CPI YL 18	5E 18	
	B2S+	8B 0B	
	DECX	46	
	INCU	64	
	BCH -	9E 17	
	LDA (X)	05	
	CPI A FD	B7 FD	
	BCR+	81 02	
	INCX	44	
	DEC U	66	22F0
	LDA UH	A4	
	STA YH	18	
	LDA UL	24	
	STA YL	1A	
	SJP 7777	BE 77 77	
	SJP 76C7	BE 76 C7	
	LDI A 03	B5 03	
	BCH - (P)	9E ~~[illegible]~~ B8	
(shft cl)	CPI A 1A	B7 1A	2300
	B2R+ (w/s/p/s)	89 ~~[illegible]~~ 2E	
del. section marker	DEC X	46	
	LDA (X)	05	
	CPI A FD	B7 FD	
	B2R - [E]	99 65	
		80 bytes	

Function keys

FHH CL

del see "make"

DEC X	46	
DEC X	46	
LDA X	05	
CPI A FE	B7 FE	
B2S - [E]	9B 6C	
LDI YH 00	58 00	2310
LDI YL 04	5A 04	
SJP 76 C7	BE 76 C7	
SJP 7780	BE 77 80	
BCH - [A]	9E 76	
CPI A FF	B7 FF	
B2R+	89 05	
LDI A 00	B5 00	2310
STA (77FE)	AE 77 FE	
INC Y	54	
BCH -	9E 12	
DEC X	46	
DEC X	46	
LDA (X)	05	
CPI A FE	B7 FE	
B2S+	8B 0E	
INC Y	54	
SJP 7777	BE 77 77	
SJP 76 C7	BE 76 C7	2320
DEC X	46	
SJP 7780	BE 77 80	
INC X	44	
BCH - [A]	9E 82	
INC X	44	
INC X	44	
INC X	44	
DEC Y	56	
DEC Y	56	
BCH -	9E 14	2330
CPI A 0F	B7 0F	
B2S+	8B 08	
CPI A 14	B7 14	
BCR leveljump	81 15	
CPI A 17	B7 17	
BCS leveljump	83 11	
LDA (765E)	A5 76 5E	
CPI A 01	B7 01	2340

REDUNDANT

del. setting

(w/s/p/s)

keywords (word set para section)

73 bytes

B2S - adv	9B A2	
CPI A 02	B7 02	
B2S - back	9B E0	
CPI A 03	B7 03	
B2S - del	9B 9C	
BCH - [E]	9E AA	
(level jump) CPI A 0A	B7 0A	2350
B2S+ (↑↓)	8B 04	
CPI A 0B	B7 0B	
B2R+ (new level)	89 37	
(↑↓) LDA (765D)	A5 76 5D	
STA YH	18	
CPI YL 0A	5E 0A	
B2R+	89 02	
INC YH	FD 50	
INC X	44	2360
LDA (X)	05	
CPI A FD	B7 FD	
BCR-	91 06	
CPI A FE	B7 FE	
B2S - [E]	93 1E	
INC X	44	
LIN X	45	
CPI YL 0A	5E 0A	
B2R+	89 05	
CPA YH	96	2370
BCR-	91 13	
BCH+	8E 03	
CPA YH	96	
BCS-	93 18	
STA (765D)	AE 76 5D	
PSH X	FD 88	
SJP 76ED	BE 76 ED	
SJP 76C3	BE 76 C3	2380
POP X	FD 0A	
BCH - [A]	9E 5F	
(DUMMY) BCH - [E]	9E 3D	
BCH - [C]	9E E5	
BCH - [F]	9E E3	
(new level) CPI A 09	B7 09	
B2S+ (NL)	8B 04	2390
CPI A 19	B7 19	

81 bytes

Function keys

```
BZR + sel        89 4B
NL  SJP 76 F5    BE 76 F5
    REC          F9
    LDA UL       24
    ADI A 07     B3 07
    STA UL       2A
    LDA UH       A4
    ADI A 00     B3 00          23A0
    CPA (765A)   A7 76 59
    BCR+         81 0F
    BZR+         89 06
    LDA UL       24
    CPA (765A)   A7 76 5A
    BCR+         81 07
    LDI A 01     B5 01          23B0
    STA (765F)   AE 76 5F
    BCH - F      9E 29
    LDA (765D)   A5 76 5D
    STA UL       2A
    CPI YL 09    5E 09
    BZR+         89 07
    CPI A 01     B7 01
    BZS - E      9B 39
    DEC A        DF             23C0
    BCH+         8E 05
    CPI A 14     B7 14
    BZS - E      9B 40
    INC A        DD
    STA UH       28
    PSH U        FD A8
    SJP 76C3     BE 76 C3
    SJP 778C     BE 77 8C       23D0
    POP U        FD 2A
    INC X        44
    INC X        44
    INC X        44
    LDA UL       24
    STA UH       28
    SJP 778C     BE 77 8C
    SJP 7806     BE 78 06
    BCH - A      9E 5B
    CPI A 11     B7 11          23E0
sel
```

79 bytes

```
BZR + cut        89 12
    LDA (77FE)   A5 77 FE
    BZR - E      99 62
    LDA XH       84
    STA (77FE)   AE 77 FE
    LDA XL       04
    STA (77FF)   AE 77 FF       23F0
    LDI A 7F     B5 7F
    SIN X        41
    BCH - A      9E 71
cut CPI A 12     B7 12
    BZS + cut    8B 06
    CPI A 13     B7 13
    BZS + paste  8B 4B
    BCH - E      9E 79          → To next page
cut LDA (77FE)
    BZS - E
    STA YH
    LDA (77FF)
    STA YL
    LDI UL 00
>LIN(Y)
    INC UL
    CPI UL FF
    BZS - E
    CPI A FE
    BZS - E
    LDA YH
    CPA XH
    BZR -
    LDA YL
    CPA XL
    BZR -
    CPI UL 07
    BCR - E
cut BSX Y        FD DA          2400
    LDA (77FE)   A5 77 FE
    BZS - E      9B 09
    STA XH       D8
    LDA (77FF)   A5 77 FF
    STA XL       07
    REC          F9
```

30 bytes

add new level

function keys

cut

```
STX Y                FD 5A
LDA 77FE             A5 77 FE
BZS -E               9B 09
STA XH               08
LDA 77FF             A5 77 FF
STA XL               0A
REC                  F9
LDA YL               14
SBC XL               00
STA UL               2A
LDA YH               94
SBC XH               80
STA UH               28
CPL UH 00            6C 00
BZR-E                99 17
LDA UL               24
NOP                  38
NOP                  38
NOP                  38
NOP                  38
NOP                  38
BSTA 77FD            AE 77 FD
PSH X                FD 88
NOP                  38
INC X                44
LDA 7659             A5 76 59
STA YH               18
LDA 765A             A5 76 5A
STA YL               1A
INC Y                54
TIN                  F5
LOP                  88 03
LDA 77FD             A5 77 FD
STA YL               1A
LDI A 00             B5 00
STA 77FE             AE 77 FE
STA YH               18
POP X                FD 0A
INC Y                54
INC Y                54
SJP 76C7             BE 76 C7
BCH-A                9E 57
```

2400

paste

2410

2420

2430

2440

67 bytes

```
LDA 77FD             A5 77 FD
BZS-E                9B 4A
STA YL               1A
LDI A 00             B5 00
STA YH               18
SJP 7690             BE 76 90
BZS+                 9B 05
STA 765F             AE 76 5F
BCH-E                9E CB
SJP 76C3             BE 76 C3
LDA 7659             A5 76 59
STA YH               18
LDA 765A             A5 76 5A
STA YL               1A
INC Y                54
LIN Y                55
CPI A 27             B7 27
BZS-A                9B 26
SINX                 41
BCH-                 9E 08
```

2450

2460

2469 ends

7660-768B

Word/sentence/para/section check

Tests for (X) = space, ., ! or } - prep^ - store code (0F, 14, 15, 16) = YL

Returns A = 02 if (X) = FD or FE (↓YL ≠ 0F)
A = 01 if wd/sent/para/section) part = x (↓YL = 0F)
A = 00 if unsuccessful

7660

```
LD A (x)          05
CPI YL 0F         5E 0F
B2R+              89 07
CPI A FD          B7 FD
B2R+ (b)          89 20
(a) LDI A 01      B5 01
RTN               9A
→ CPI A FD        B7 FD
  BCR+            81 03
  LDI A 02        B5 02
  RTN             9A
→ CPI YL 14       5E 14
  B2R+            89 06
  CPI A 20        B7 20
  B2S-(a)         9B 12
  BCH+            8E 04
→ CPI YL 15       5E 15
  B2R+            89 04
→ CPI A 2E        B7 2E
  B2S-(a)         9B 1C
→ CPI A 7C        B7 7C
  B2S-(a)         9B 20
(b) LDI A 00      B5 00
  RTN             9A
```

7670

7680

44 bytes

768C - 76C2

Move up test

- start @ (a) — moves up by 1
  — " — (b) — " — " — by no. in Y
  prep^n - cursor pos^n in 7650/1, highest address used - 765B/C
- returns A=01 if overflow (& aborts)
  A=00 if successful (and stores nav high in 765B/C
  X is unchanged
~~- (old) X is returned @ start of shift~~

			768C
(a)	LDI YH 00	58 00	
	LDI YL 01	5A 01	
(b)	SJP (end of shift)	BE 26 FD	7690
	REC	F9	
	LDA UL	24	
	ADC YL	12	
	STA YL	1A	
	LDA UH	A4	
	ADC YH	92	
	STA YH	18	
	CPA 7659	A7 76 59	
	BCR+	81 0B	
	BZR+	89 06	76A0
	LDA YL	14	
	CPA 765A	A7 76 5A	
	BCR+	81 03	
	→LDI A 01	B5 01	
	RTN	9A	
	→PSH Y	FD 98	
	→LDE U	67	
	SDE Y	53	
	LDA YH	94	
	CPA XH	86	76B0
	BZR-	99 06	
	LDA YL	14	
	CPA XL	06	
	BZR-	99 0A	
	POP Y	FD 1A	
	LDA YH	94	
	STA 765B	AE 76 5B	
	LDA YL	14	
	STA 765C	AE 76 5C	
	LDA 00	B5 00	
	RTN	9A	76C0

55 bytes

76C3 - 76E9

Move down Text

76C3 - moves down 1 (eg cursordel)
76C7 - moves down acc. to Y reg.

X emerges same as at start. New highest address in 765B/C

76C3

```
LDI YH 00      58 00
LDI YL 01      5A 01
PSH X          FD 88
STP 76F5       BE 76 F5
INC U          64
REC            F9
LDA XL         04
ADC YL         [2]
STA YL         [1A      76D0
LDA XH         84
ADC YH         92
STA YH         18
→LINY          55
 SINX          41
 LDA YH        94
 CPA UH        A6
 BCR-          91 06
 LDA YL        14
 CPA UL        26
 BCR-          91 0A
 DEC X         46
 LDA XH        [84]      76E0
 STA 765B      [AE 76 5B
 LDA XL        04
 STA 765C      AE 76 5C
 POP X         FD 0A
 RTN           9A
```

76E9

76ED–76FD

Load subroutine

76ED

LDA	7650	A5	76	50
STA	XH	08		76F0
LDA	7651	A5	76	51
STA	XL	0A		76F5
LDA	765B	A5	76	5B
STA	UH	28		
LDA	765C	A5	76	5C
STA	UL	2A		
RTN		9A		

17 bytes

Beep subroutine

7750-776E

PSH A	FD	C8
PSH X	FD	88
PSH Y	FD	98
PSH U	FD	A8
LDI XL FF	4A	FF
LDI XH 01	48	01
LDI UL 50	6A	50
SJP EB 6B	BE	EB 6B
LDI UL 25	6A	25
SJP EB 6B	BE	EB 6B
POP U	FD	2A
POP Y	FD	1A
POP X	FD	0A
POP A	FD	8A
RTN	9A	

31 bytes

776F - 777F

Store subroutine (puts u = 765B/C, x = 7650/1)

LDA uH	A4
STA 765B	AE 76 5B
LDA uL	24
STA 765C	AE 76 5C
LDA xH	84
STA 7650	AE 76 50
LDA xL	04
STA 7651	AE 76 51
RTN	9A

17 bytes

Finds current level & stores in 765D

7780

```
STX Y      FD 5A
LDE Y      57
CPI A FD   B7 FD
BZR -      99 05
LDE (Y)    57
CPI A FD   B7 FD
BCH +      8E 4D
  :
  :        778B
  :
  :        77CC
BCS -      93 47
STA 765D   AE 76 5D
RTN        9A
           77D1
```

778C - 77A2

add level code - FD - L - FD

cws. in X, level = UH

	778C	
PSH U	FD	A8
LDI YH 00	58	00
LDI YL 03	5A	03
SJP 7690	BE	76 90
STR Y	FD	5A
~~INC X~~ NOP	~~5F~~	38
POP U	FD	2A
LDI A FD	B5	FD
SINY	51	
LDA UH	A4	
SINY	51	
LDI A FD	B5	FD
SINY	51	
RTN	9A	

7790

77AO

77A3

Input routine with autorepeat delay

```
                        77A3
LDA (76FE)      A5 76 FE
BZR+            89 09
→LDI A 00       B5 00
 STA 76FE       AE 76 FE
 SJP E243       BE E2 43]
 RTN            [9A                77B0
→CPI A 01       B7 01
 BZS+           8B 09
  DEC A         DF
  STA (76FE)    AE 76 FE
  LDI UL FF     6A 50
 ↑DCS(X)        0C          — SJP 77F6   BE 77 F6
  LOP           88 03
→SJP E42C       BE E4][2C 77C0
 BZS-           9B 1B
  CPI A 08      B7 08
  BZS+          8B 04
  CPI A 0C      B7 0C
  BZR-          99 23
→RTN            9A
                ↖77CB
```

Rollforward routine

7705 - 770B

```
→INC X        44   ~7705
 LDA (x)      05
 CPI A 20     B7 20
 B2S-         9B 06
 ~~DEC X~~    ~~46~~
 RTN          9A   ~770B
```

Autorepeat setup

77DC - 77E6

	77DC	
LDA 76FE	A5	76 FE
BZR+	89	05 77E0
LDI A 02	B5	02
STA 76FE	AE	76 FE
RTN	9A	
	77E6	

77E7 - 77F0

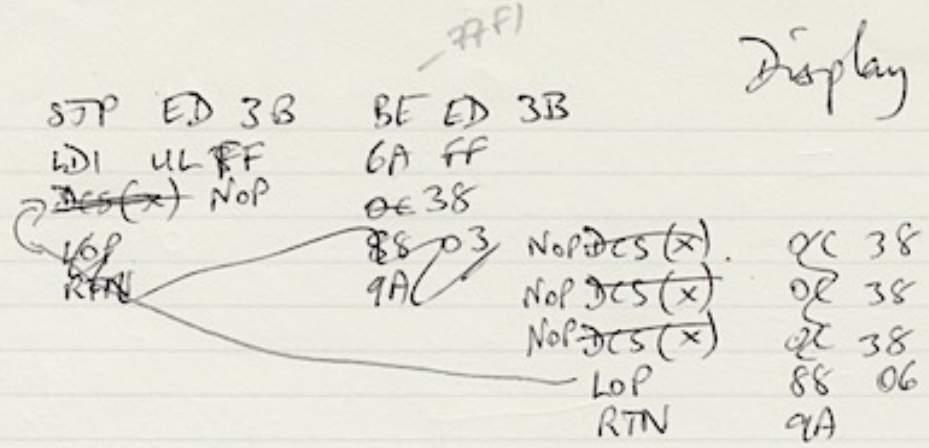
Portion of Def Routine

77E7

LDA UH	A4
STA XH	08
LDA UL	24
STA XL	0A
DEC X	46
SBP 7780	BE 7780
INC X	46
RTN	9A — 77F0

77F1

Display suivant 77F1-77FC



78E0 - 7905

Level check/search

Returns A=1 if successful
A=0 if not

```
DEC X          46 - 78E0
LDE X          47
STA YH         18
LDA (x)        05
CPI A FE       B7 FE
BCR+           81 03
LDI A 00       B5 00
RTN            9A
DEC X          46
LDA (x)        05
CPI A FD       B7 FD
BCR-           91 06   78F0
DEC X          46
~~LDA X~~ LDE X   ~~05~~ 47
CPA YH         96
BZR-           99 13
INC X          44
INC X          44
INC X          44
CPI YL 0F      5E 0F
BZS+           8B 06
LDA (x)        05
CPI A FD       B7 FD   7900
BCR-           99 0A
~~DEC X+ NOP 46~~ 38
~~LDI~~ A 01   B5 01
RTN            9A
```

7906-790B

Portion of add level routine

DECX	46	7906
STP 7780	BE 7780	
INCX	44	
RTN	9A	790B

Data for display (decimal) 790C - 798D

790C 7910

Main menu set: 77, 69, 78, 85, 58, 78, 101, 119, 32, 69, 100, 116, 32, 84, 112, 101, 32, 80,

7920

114, 116, 32, 69, 110, 100, 32, 32

7926 7930

Tape menu set: 84, 65, 80, 69, 32, 77, 69, 78, 85, 58, 32, 32, 76, 111, 97, 100, 63, 32,

32, 32, 83, 97, 118, 101, 63, 32

7940 7950

Print menu set: 80, 82, 73, 78, 84, 32, 7769, 78, 85, 58, 32, 67, 69, 49, 53, 48, 32,

32, 32, 79, 116, 104, 101, 114, 32

795A 7960

Delete section set: 67, 72, 69, 67, 75, 58, 32, 68, 69, 76, 46, 32, 83, 69, 67, 84,

7970

73, 79, 78, 32, 40, 89, 47, 78, 41, 63

7974 7980

Help set: 32, 83, 101, 108, 32, 67, 117, 116, 32, 80, 115, 116, 32, 87, 114,

100, 32, 83, 101, 110, 32, 80, 97, 114, 32, 32

7980 – 799F

Display subroutine (for 26-byte sets)

↓ USR BASIC

prep" – leading address in U, ~~[illegible]~~

STXU	FD 6A 7990
PSHX	FD 88
LDIXL 1A	4A 1A
SJP ED3B	BE ED 3B
SJP E243	BE E2 43
STA 76FF	AE 76 FF
POPX	FD 0A
RTN	9A

EASI-THOUGHT LOAD VERIFY ROUTINE (12-7-85)

		7650
LDI UH	47	68 47
LDI UL	FD	6A FD
LDI XH	27	48 27
LDI XL	10	4A 10
LDI YH	40	58 40
LDI YL	00	5A 00
LDA XH		94
CPA UH		A6 81 05
BCR+		14
LDA YL		26
CPA UL		81 01
BCR+		9A
RTN		55
LIN Y		F7
CIN		9B 0D
BZS-		48 76
LDI XH 76		4A 00
LDI XL 00		6A 39
LDI UL 39		B5 FF
LDI A FF		41
SWN X		88 03
LOP		BE E2 43
SJP E243		9A
RTN		

7660

7670

Mark 3 - additions in red

EASI-THOUGHT MARK 2 - BASIC

```
  10 " "WAIT 0:ON ERROR GOTO 90
  20 Z=PEEK &7865*256+PEEK &7866-2010
  30 U=Z+32:GOSUB 80:POKE Z+1,X,74,Y
  60 CALL Z:Z=Z+880
  70 GOTO 100
  80 X=INT (U/256):Y=U-256*X:RETURN
  90 CALL &7750:PAUSE "INVALID INPUT"
 100 GOSUB 750:U=&790C:GOSUB 690:GOTO U+800
 110 PRINT "DELETE PRESENT FILE? (Y/N)":GOSUB 740
 120 IF U<>89GOTO 100
 130 INPUT "NAME OF NEW FILE? ";A$
 140 GOSUB 750
 150 GOSUB 880
 160 U=256*V+W+1:IF PEEK U>&7EPOKE U,32
 170 CALL Z+5:GOTO 300
 180 GOSUB 760:IF PEEK U<>254CALL &7750:GOTO 100
 190 CALL Z+253:GOTO 300
 200 U=&7926:GOSUB 690:IF U=20GOTO 260
 210 IF U<>22GOTO 90
 230 GOSUB 720:V=W-X:U=INT (V/256):V=V-256*U
 240 POKE X,U:POKE X+2,V:GOSUB 790
 250 CSAVE MA$;X,W:POKE X,254:POKE X+2,253:GOTO 100
 260 INPUT "NAME OF FILE TO LOAD? ";A$
 270 GOSUB 750:GOSUB 880:GOSUB 790:CLOAD MA$;U
 280 X=PEEK U*256:Y=PEEK (U+2):POKE U,254:POKE U+2,253:POKE &765D,PEEK (U+1)
 290 V=U+X+Y:U=INT (V/256):V=V-256*U:POKE &765B,U,V:GOTO 100
 300 U=PEEK &765F:IF U=0GOTO 100
 310 GOTO 310+10*U
 320 BEEP 3:PRINT "FILE MEMORY FULL!":GOSUB 740:GOTO 100
 330 GOTO 934
 340 GOTO 949
 350 BEEP 3:CLS :PAUSE "INPUT SEARCH STRING":PRINT "?":CALL Z-136:GOTO 300
 360 PRINT "PRESENT LEVEL=";PEEK &765D:GOTO 700
 370 GOTO 941
 400 GOSUB 760:IF (PEEK U<>254)+(PEEK (U+2)<>253)CALL &7750:GOTO 100
 402 POKE &765E,0,0:U=PEEK &7650*256+PEEK &7651:CALL &7780,U
 405 U=&7940:GOSUB 690:IF U=20GOTO 530
 410 IF U<>22GOTO 90
 420 PRINT "IS INTERFACE SET UP? (Y/N)"
 430 POKE &765F,240
 440 GOSUB 740:IF U=89GOTO 460
 450 END
 460 "Z"IF PEEK &765F<>240GOTO 90
 470 SETDEV #8
 480 INPUT "LINE LENGTH? ";X:IF X<35OR X>250CALL &7750:GOTO 480
 490 Y=0:GOSUB 850
 500 GOSUB 670:LPRINT CHR$ 10
 510 LPRINT CHR$ 10:IF PEEK &76EC=2GOTO 100
 520 GOSUB 680:GOTO 510
 530 TEXT :CLS :PRINT "FORMAT:";:GCURSOR 84:GPRINT "7F7F7F7F":GCURSOR 128:GPRIN
T "3C3C3C3C3C3C3C3C3C3C3C3C"
 540 GOSUB 740:IF U=22GOTO 630
 550 IF U<>20GOTO 100
 560 INPUT "CSIZE? ";Y:Y=INT Y:IF Y<1OR Y>2GOTO 560
 570 X=INT (35/Y)
 590 GOSUB 850:CSIZE Y
 600 GOSUB 670:LF 1
 610 GOSUB 680:LPRINT CHR$ 13:IF PEEK &76EC=2LF 6:GOTO 100
 620 GOTO 610
```

490 X=X-1: Y=0: GOSUB 850

```
  540 GOSUB 740:IF U=22GOTO 630
  550 IF U<>20GOTO 100
  560 INPUT "CSIZE? ";Y:Y=INT Y:IF Y<1OR Y>2GOTO 560
  570 X=INT (35/Y)
  590 GOSUB 850:CSIZE Y
  600 GOSUB 670:LF 1
  610 GOSUB 680:LPRINT CHR$ 13:IF PEEK &76EC=2LF 6:GOTO 100
  620 GOTO 610
  630 X=68:Y=0:GOSUB 850
  635 GRAPH :ROTATE 1:CSIZE 2
  640 GOSUB 860
  643 Y=120:GOSUB 870:GOSUB 670:W=3:GOTO 646
  645 GOSUB 860
  646 GOSUB 870:GOSUB 680:IF PEEK &76EC=2LET W=0:GOTO 660
  650 W=W+1:IF W>10GOTO 660
  653 Y=600:GOSUB 870:POKE &79E4,0,1
  654 Y=300:GOSUB 870:POKE &79E4,0,1
  657 Y=120:GOTO 646
  660 GLCURSOR (-216,-1036):IF WGOTO 645
  663 GOSUB 860
  666 GLCURSOR (0,-99):GOTO 100
  670 FOR U=1TO (X-LEN A$)/2:LPRINT " ";:NEXT U:LPRINT A$:RETURN
  680 CALL Z-317:V=STATUS 3-258:FOR U=0TO PEEK &765E:LPRINT CHR$ (PEEK (V+U));:
EXT U:RETURN
  690 CALL &798E,U:U=PEEK &76FF:RETURN
  700 CALL &E243:IF PEEK &765FCALL Z:GOTO 300
  710 GOTO 100
  720 W=PEEK &765B*256+PEEK &765C:X=PEEK &7657*256+PEEK &7658
  730 Y=PEEK &7659*256+PEEK &765A:RETURN
  740 CALL &E243:U=ASC INKEY$ :RETURN
  750 POKE &77FD,0,0,0
  760 U=STATUS 2
  770 X=INT (U/256):Y=U-256*X:IF Y>250LET U=U+6:GOTO 770
  780 V=INT ((STATUS 3-259)/256):W=STATUS 3-259-256*V:RETURN
  790 BEEP 3:PRINT "TURN ON TAPE RECORDER!":RETURN
  818 GOTO 110
  819 GOTO 180
  820 GOTO 200
  821 GOTO 400
  822 END
  850 POKE &76EA,X,Y,0:RETURN
  860 SORGN :LINE -(216,0),2:SORGN :W=1:RETURN
  870 GLCURSOR (-21*W,-Y):RETURN
  880 POKE &7650,X,Y+3,254,1,253,39,254,X,Y,V,W,X,Y+4,1,0,0:RETURN
  928 GOTO 10
  934 CLS :PRINT "FILENAME: ";A$:GOTO 700
  936 U=&7974:GOSUB 690:GOTO 100
  941 GOSUB 720:PRINT Y-W;" CHARACTERS REMAIN":GOTO 700
  942 INPUT "NEW FILE NAME? ";A$
  943 GOTO 100
  949 GOSUB 720:PRINT W-X;" CHARACTERS USED":GOTO 700
```

add 682,685

682 CALL Z-317: V=STATUS 3-258: X=PEEK&765E-1:
Y=PEEK&76EA-1: IF X>Y LET X=Y
685 FOR U=0 TO X: LPRINT CHR$(PEEK(V
NEXT U: RETURN