

```
*****
*           k: Handler for 12 key           *
*           Atari Video Touchpad           *
*           By Brian Hall 12/18/84         *
*****
```

LIST -M

```
= D300      PORTA      = 54016
= D302      PACTL      = 54018
= D40A      WSYNC      = $d40a
= D20F      SKCTL      = $d20F
= D208      ALLPOT     = $d208
= D20B      POTGO      = $d20b
= 0270      PADDL0     = $0270
= 0271      PADDL1     = $0271
= 0272      PADDL2     = $0272
= 0273      PADDL3     = $0273
= 0284      STRIG0     = $0284
= 0285      STRIG1     = $0285
= 031A      HATABS     = $031A
= 0012      RTCLOCK    = $12
= 0011      BRKKEY     = $11
= 006B      Devnam     = 'k'
```

0000 = 0600                    ORG \$600

```
*****
*           Installation code               *
*****
```

```
0600      Start:
          ; First, we must search through the
          ; handler table to see if there is an
          ; opening, or the device is already
          ; installed. An opening is marked with
          ; a 0 byte.
```

```
0600      PROC
0600      A200      ldx #0
0602      BD1A03    :look  lda HATABS,x
0605      F00A ^0611 beq Install      ;found a spot!
0607      C96B      cmp #Devnam      ;already in?
0609      F005 ^0610 beq :out         ;yes!
060B      E8        inx
060C      E8        inx
060D      E8        inx
060E      D0F2 ^0602 bne :look        ;keep looking
0610      60        :out  rts          ; end of table!?
```

```
0611      Install:
```

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```

; We put the ASCII for the device name
; in the table followed by the address
; of its handler vector table.

```

```

0611 A96B      lda #Devnam
0613 9D1A03    sta HATABS,x
0616 A926      lda #low Hndvec
0618 9D1B03    sta HATABS+1,x
061B A906      lda #high Hndvec
061D 9D1C03    sta HATABS+2,x

```

```

; Put a zero in to insure room for more
; handlers.

```

```

0620 A900      lda #0
0622 9D1D03    sta HATABS+3,x
0625 60        rts
          EPROC

```

```

*****
*           Handler Vector Table           *
*****

```

```

0626          Hndvec:
0626 3406      dw OpenV-1
0628 4C06      dw CloseV-1
062A 5E06      dw GetV-1
062C C906      dw PutV-1
062E C106      dw StatusV-1
0630 C906      dw SpecialV-1
0632 4CCA06    jmp Ret ; Init vector

```

```

*****
*           Actual Routines                *
*****

```

```

0635          OpenV:
0635 20CB06    :ok   jsr There?
0638 F001 ^063B beq :yep
063A 60        rts
063B          :yep  Movei PACTL,$30
0640          Movei PORTA,$f0
0645          Movei PACTL,$34
064A A001      ldy #1
064C 60        rts

```

```

064D          CloseV:
064D          Movei PACTL,$30
0652          Movei PORTA,0
0657          Movei PACTL,$34
065C A001      ldy #1
065E 60        rts

```

```

065F          GetV:
* Is the controller hooked up?

```

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```

065F 20CB06          jsr There?
0662 F001 ^0665      beq Brk
0664 60              rts

      * Is break pressed?
0665 Brk:
0665 A511            lda BRKKEY
0667 D007 ^0670      bne Nxt
0669                Movei BRKKEY,1
066D A080            ldy #$80
066F 60              rts

0670 Nxt:
0670                Movei BRKKEY,1
0674 A200            ldx #0
0676                :Loop
      * Select row
0676 B0DB06          lda Rowmsk,x
0679 8D00D3          sta PORTA
      * Wait for some inane reason
      *   - incorrect values if you don't
067C A514            lda RTCLOK+2
067E C514            :wait1 cmp RTCLOK+2
0680 F0FC ^067E      beq :wait1
0682 A514            lda RTCLOK+2
0684 C514            :wait2 cmp RTCLOK+2
0686 F0FC ^0684      beq :wait2
      * Read column 1
0688 AD7302          lda PADDL3
068B C90A            cmp #10
068D 9008 ^0697      bcc :l1
068F A901            lda #1
0691 18              clc
0692 7DDF06          adc Basadd,x
0695 9024 ^06BB      bcc :Out
      * Read column 2
0697 AD7202          :l1 lda PADDL2
069A C90A            cmp #10
069C 9008 ^06A6      bcc :l2
069E A902            lda #2
06A0 18              clc
06A1 7DDF06          adc Basadd,x
06A4 9015 ^06BB      bcc :out
      * Read column 3
06A6 AD8502          :l2 lda STRIG1
06A9 D008 ^06B3      bne :next
06AB A903            lda #3
06AD 18              clc
06AE 7DDF06          adc Basadd,x
06B1 9008 ^06BB      bcc :out
06B3 E8              :next inx
06B4 E004            cpx #4

```

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```

06B6 D0BE ^0676      bne :Loop
                    ; We must have a value to return, so
                    ; loop back.
06B8 4C5F06          jmp GetV
                    ; Found a value, so return it in A
06BB AA             :out tax
06BC BDE306          lda Keytab,x
06BF A001            ldy #1
06C1 60             rts

06C2                StatusV:
06C2 20CB06          jsr There?
06C5 D003 ^06CA      bne Ret
06C7 A001            ldy #1
06C9 60             rts

                    * Null routine for unused cmds
06CA                PutV:
06CA                SpecialV:
06CA 60             Ret: rts

06CB                There?:
06CB AD7202          lda PADDL2
06CE 2D7302          and PADDL3
06D1 C9E4            cmp #228
06D3 F003 ^06D8      beq No
06D5 A000            ldy #0
06D7 60             rts
06D8 A08A            No ldy #138 ;?device timeout
06DA 60             rts

                    ; Table of row masks
06DB EEDDBB77        Rowmsk db $ee,$dd,$bb,$77

                    ; Number to add based on row
06DF 00030609        Basadd db 0,3,6,9

                    *****
                    * Alpha Equivalents for Touchpad keys *
                    * Assignable to any ATASCII chars *
                    *****
06E3 0031323334      Keytab db 0,'123456789*0#'

                    EPROC
06F0                END Start

```

no ERRORS, 44 Labels, \$4454 free.