

MINIBUG REV. 4 PROGRAM LISTING

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00100          NAM      MINIB
00110          * MINI-BUG
00120          * COPYWRITE 1973, MOTOROLA INC
00140          * REV 004 (USED WITH MIKBUG)
00180          FCF4    ACIACS EQU  2176364  ACIA CONTROL/STATUS
00190          FCF5    ACIADA EQU  ACIACS+1
00200 FE00          ORG      $FE00
00210          * MINIB
00220          * INPUT ONE CHAR INTO A-REGISTER
00230 FE00 B6 FCF4  INCH   LDA A  ACIACS
00240 FE03 47          ASR A
00250 FE04 24 FA          BCC   INCH   RECEIVE NOT READY
00260 FE06 B6 FCF5    LDA A  ACIADA  INPUT CHARACTER
00270 FE09 84 7F          AND A  #$7F   RESET PARITY BIT
00280 FE0B 81 7F          CMP A  #$7F
00290 FE0D 27 F1          BEQ   INCH   RUBOUT; IGNORE
00300 FE0F 7E FEAE      JMP    DUTCH  ECHO CHAR

00320          * INPUT HEX CHAR
00330 FE12 8D EC        INHEX  BSR   INCH
00340 FE14 81 30        CMP A  #$30
00350 FE16 2B 52          BMI   C1     NOT HEX
00360 FE18 81 39        CMP A  #$39
00370 FE1A 2F 0A        BLE   IN1HG
00380 FE1C 81 41        CMP A  #$41
00390 FE1E 2B 4A        BMI   C1     NOT HEX
00400 FE20 81 46        CMP A  #$46
00410 FE22 2E 46        BGT   C1     NOT HEX
00420 FE24 80 07        SUB A  #7
00430 FE26 39          IN1HG  RTS

00450 FE27 86 D1        LOAD   LDA A  #$D1  TURN READER ON
00460 FE29 B7 FCF4      STA A  ACIACS
00470 FE2C 86 11        LDA A  #$21
00480 FE2E 8D 7E        BSR   DUTCH

00500 FE30 8D CE        LOAD3  BSR   INCH
00510 FE32 81 53        CMP A  #'S
00520 FE34 26 FA        BNE   LOAD3  1ST CHAR NOT (S)
00530 FE36 8D C8        BSR   INCH   READ CHAR
00540 FE38 81 39        CMP A  #'9
00550 FE3A 27 25        BEQ   LOAD21
00560 FE3C 81 31        CMP A  #'1
00570 FE3E 26 F0        BNE   LOAD3  2ND CHAR NOT (1)
00580 FE40 7F FF32     CLR   CKSM  ZERO CHECKSUM
00590 FE43 8D 36        BSR   BYTE  READ BYTE
00600 FE45 80 02        SUB A  #2
00610 FE47 B7 FF33     STA A  BYTECT  BYTE COUNT
00620          * BUILD ADDRESS
00630 FE4A 8D 21        BSR   BADDR
00640          * STORE DATA
00650 FE4C 8D 2D        LOAD11 BSR   BYTE
00660 FE4E 7A FF33     DEC   BYTECT
    
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MINIBUG REV. 4 PROGRAM LISTING (continued)

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00670 FE51 27 05        BEQ   LOAD15  ZERO BYTE COUNT
00680 FE53 A7 00        STA A  X     STORE DATA
00690 FE55 08          INX
00700 FE56 20 F4        BRA   LOAD11

00720 FE58 7C FF32     LOAD15 INC   CKSM
00730 FE5B 27 D3        BEQ   LOAD3
00740 FE5D 86 3F        LOAD19 LDA A  #'?  PRINT QUESTION MARK
00750 FE5F 8D 4D        BSR   DUTCH
00760 FE61 86 B1        LOAD21 LDA A  #$B1  TURN READER OFF
00770 FE63 B7 FCF4      STA A  ACIACS
00780 FE66 86 13        LDA A  #$23
00790 FE68 8D 44        BSR   DUTCH
00800 FE6A 7E FEDB C1   JMP    CONTRL

00820          * BUILD ADDRESS
00830 FE6D 8D 0C        BADDR  BSR   BYTE  READ 2 FRAMES
00840 FE6F B7 FF33;    STA A  XHI
00850 FE72 8D 07        BSR   BYTE
00860 FE74 B7 FF35      STA A  XLOW
00870 FE77 FE FF34      LDX   XHI   (X) ADDRESS WE BUILT
00880 FE7A 39          RTS

00900          * INPUT BYTE (TWO FRAMES)
00910 FE7B 8D 95        BYTE  BSR   INHEX  GET HEX CHAR
00920 FE7D 48          ASL A
00930 FE7E 48          ASL A
00940 FE7F 48          ASL A
00950 FE80 48          ASL A
00960 FE81 16          TAB
00970 FE82 8D 8E        BSR   INHEX
00980 FE84 84 0F        AND A  #$0F  MASK TO 4 BITS
00990 FE86 1B          ABA
01000 FE87 16          TAB
01010 FE88 FB FF32     ADD B  CKSM
01020 FE8B F7 FF32     STA B  CKSM
01030 FE8E 39          RTS

01050          * CHANGE MEMORY (M AAAA DD NN)
01060 FE8F 8D DC        CHANGE BSR   BADDR  BUILD ADDRESS
01070 FE91 8D 34        BSR   DUTS   PRINT SPACE
01080 FE93 8D 30        BSR   OUT2HS
01090 FE95 8D E4        BSR   BYTE
01100 FE97 09          DEX
01110 FE98 A7 00        STA A  X
01120 FE9A A1 00        CMP A  X
01130 FE9C 26 BF        BNE   LOAD19  MEMORY DID NOT CHANGE
01140 FE9E 20 3B        BRA   CONTRL

01160 FEA0 44          DUTHL  LSR A
01170 FEA1 44          LSR A
    
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01190 FE2 44          LSR A
01190 FE3 44          LSR A

01210 FE4 84 0F      DUTHR AND A  #$F      OUT HEX RIGHT BCD DIGIT
01220 FE6 8B 30          ADD A  #$30
01230 FE8 81 39          CMP A  #$39
01240 FE9 23 02          BLS   DUTCH
01250 FE8 8B 07          ADD A  #$7

01270                * OUTPUT ONE CHAR
01280 FE6 37          DUTCH PSH B      SAVE B-REG
01290 FE7 F6 FCF4     DUTC1 LDA B  ACIACS
01300 FE2 57          ASR B
01310 FE3 57          ASR B
01320 FE4 24 F9          BCC   DUTC1  XMIT NOT READY
01330 FE6 B7 FCF5     STA A  ACIADA  OUTPUT CHARACTER
01340 FE9 33          PUL B      RESTORE B-REG
01350 FE8 39          RTS

01370 FEBB A6 00      DUT2H LDA A  0,X      OUTPUT 2 HEX CHAR
01380 FEBD 8D E1          BSR   DUTHL  OUT LEFT HEX CHAR
01390 FEBF A6 00      LDA A  0,X
01400 FEC1 8D E1          BSR   DUTHR  OUT RIGHT HEX CHAR
01410 FEC3 08          INX
01420 FEC4 39          RTS

01450 FEC5 8D F4      DUT2HS BSR   DUT2H  OUTPUT 2 HEX CHAR + SPACE
01460 FEC7 86 20      DUTS  LDA A  #$20  SPACE
01470 FEC9 20 E3      BRA   DUTCH  (BSR & RTS)

01500                * PRINT CONTENTS OF STACK
01510 FECB 30          PRINT TSX
01520 FECC FF FF30     STX   SP      SAVE STACK POINTER
01530 FECD C6 09      LDA B  #9
01540 FED1 8D F2      PRINT2 BSR   DUT2HS  OUT 2 HEX & SPACE
01550 FED3 5A          DEC B
01560 FED4 26 FB          BNE   PRINT2

01590                * ENTER POWER ON SEQUENCE
01600          FED6     START EQU  *
01610                * INZ ACIA
01620 FED6 86 B1      LDA A  #$B1  SET SYSTEM PARAMETERS
01630 FED8 B7 FCF4     STA A  ACIACS

01650 FEDB 8E FF28     CONTRL LDS  #STACK  SET STACK POINTER
01660 FEDE 86 0D      LDA A  #D      CARRIAGE RETURN
    
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01670 FEE0 8D CC          BSR   DUTCH
01680 FEE2 86 0A          LDA A  #A      LINE FEED
01690 FEE4 8D C8          BSR   DUTCH

01710 FEE6 8D FE00       JSR   INCH     READ CHARACTER
01720 FEE9 16          TAB
01730 FEEA 8D DB          BSR   DUTS     PRINT SPACE
01740 FEEC C1 4C          CMP B  #L
01750 FEEE 26 03          BNE   ++5
01760 FEF0 7E FE27       JMP   LOAD
01770 FEF3 C1 4D          CMP B  #M
01780 FEF5 27 98          BEQ   CHANGE
01790 FEF7 C1 50          CMP B  #P
01800 FEF9 27 D0          BEQ   PRINT    STACK
01810 FEFB C1 47          CMP B  #G
01820 FEFD 26 DC          BNE   CONTRL
01830 FEFF 3B          RTI          GO

01860 FF00                ORG   $FF00
01870 FF00 0028          RMB   40
01880 FF28 0001          STACK RMB 1      STACK POINTER
01890                * REGISTERS FOR GO
01900 FF29 0001          RMB   1      CONDITION CODES
01910 FF2A 0001          RMB   1      B ACCUMULATOR
01920 FF2B 0001          RMB   1      A
01930 FF2C 0001          RMB   1      X-HIGH
01940 FF2D 0001          RMB   1      X-LOW
01950 FF2E 0001          RMB   1      P-HIGH
01960 FF2F 0001          RMB   1      P-LOW
01970 FF30 0001          SP   RMB 1      S-HIGH
01980 FF31 0001          RMB   1      S-LOW
01990                * END REGISTERS FOR GO
02000 FF32 0001          CKSM RMB 1      CHECKSUM
02010 FF33 0001          BYTECT RMB 1    BYTE COUNT
02020 FF34 0001          XHI  RMB 1      XREG HIGH
02030 FF35 0001          XLOW RMB 1      XREG LOW
02070                END
    
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SYMBOL TABLE

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ACIACS FCF4  ACIADA FCF5  INCH  FE00  INHGX FE12  INH6  FE26
LOAD  FE27  LOAD3  FE30  LOAD11 FE4C  LOAD15 FE58  LOAD19 FE5D
LOAD21 FE61  C1    FE6A  BADDR  FE6D  BYTE  FE7B  CHANGE FE8F
DUTHL FE0  DUTHR FE4  DUTCH FE6  DUTC1 FE7  DUT2H FE8B
DUT2HS FE5  DUTS  FE7  PRINT FE8  PRINT2 FE9  START FE66
CONTRL FEDB  STACK FF28  SP   FF30  CKSM  FF32  BYTECT FF33
XHI  FF34  XLOW  FF35
STOP
    
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