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;*****;
;* EINSTEIN REAL TIME CLOCK ACCESS PROGRAM *;
;* COPYRIGHT (C) 1980/85 A.J.CORNISH BSc. *;
;*          CRYSTAL ELECTRONICS          *;
;* Originally written for SHARP MZ80K 1980 *;
;* Adapted for TATUNG EINSTEIN, Nov 1985 *;
;*****;

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ORG      0100H

CR       EQU      00H
LF       EQU      0AH

DOS      EQU      0005H
FDESC    EQU      005CH
STACK    EQU      0300H
TIMBUF   EQU      0F88CH      ; AREA FOR STORING TIME (SAVING TIME?!)

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TIME:    LD        (OLDSP),SP      ; SAVE STACK FROM DOS MONITOR
         LD        SP,STACK
         LD        HL,FDESC+1
         LD        A,(HL)
         CP
         JR        NZ,SETIME

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; NOTHING AFTER TIME, SO WANT TO KNOW THE TIME

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RDTIME:  LD        HL,TIMBUF
         LD        DE,TIMTX1
         LD        BC,0
         LDI
         LDI
         INC       DE              ; SKIP COLONS
         LDI
         LDI
         INC       DE
         LDI
         LDI
         LD        DE,TIMTXT
FINIS:   CALL      PRMESS
         LD        SP,(OLDSP)     ; GO STRAIGHT BACK TO TIME LEAVE TIME
         RET

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; DOS PRINT MESSAGE ROUTINE

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PRMESS:  PUSH      BC
         PUSH      DE
         PUSH      HL
         LD        C,9
         CALL     DOS
         POP       HL
         POP       DE
         POP       BC
         RET

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; BUILD TIME OUTPUT TEXT HERE

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TIMTX1:  DB "    "

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TIMX1:  DEFB  '00:00:00',CR,LF,'*'
DEFS    0005H
OLDSP:  DEFS  0002H

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; ROUTINE TO SET THE TIME

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SETIME:  PUSH    HL
        LD      HL,INTEXT
        PUSH   HL
        LD      A,'0'
        LD      B,6
SET0:    LD      (HL),A
        INC    HL
        DJNZ   SET0
        LD      (HL),' '
        POP    DE
        POP    HL
        LD      B,6
SET1:    LD      A,(HL)          ; FILL INTEXT FROM CMD LINE BUFFER
        CP     ' '
        JR     Z,SET2
        CP     '0'
        JR     C,ERR
        CP     '0'+10
        JR     NC,ERR
        LD      (DE),A
        INC    HL
        INC    DE
        DJNZ   SET1
SET2:    LD      HL,INTEXT
        LD      A,(HL)
        CP     '2'
        INC    HL
        JR     NZ,SET3
        LD      A,(HL)          ; HOURS CAN'T EXCEED 23!
        CP     '4'
        JR     NC,ERR
SET3:    JR     NC,ERR
        INC    HL
        LD      A,(HL)          ; MINS & SECS CAN'T EXCEED 59!
        CP     '6'
        JR     NC,ERR
        INC    HL
        INC    HL
        LD      A,(HL)
        CP     '6'
        JR     NC,ERR
        LD      HL,INTEXT
        LD      DE,TIMBUF
        LD      BC,6
        LDIR   ; COPY TO TIME BUFFER
        JP     RDTIME          ; ALL SET, GO BACK AND DISPLAY
ERR:     LD      DE,INTEXT      ; ERROR, JUST DO ERROR DISPLAY
        LD      A,'?'
        LD      (INTEXT+6),A
        JP     FINIS

```

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; BUILD INPUT TIME HERE

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INTEXT:  DEFB  '000000',CR,LF,'*'
END

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