

240320dp_fp series sample program

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RES    EQU    p2.0
CS     EQU    p2.3
R_D    EQU    p2.1
R_W    EQU    p2.2
A0     EQU    p2.4

ORG    00H
jmp    chip_select

CHIP_SELECT:
CLR    RES
NOP
NOP
SETB   RES
NOP
NOP
;LCALL INTI
;LCALL INTI
LCALL INTI
LCALL DELAY2
;LCALL INTI

LCALL  CG_RAM          ; ALL POINTS ON(TEST1)
LCALL  CSRW
LCALL  CSR_DIR
LCALL  CSR_FORM
LCALL  DISP_ON
;LCALL  DELAY
LCALL  TEST1
LCALL  DELAY

;LCALL  CG_RAM          ; SQUARE ON(TEST2)
;LCALL  CSRW
;LCALL  CSR_DIR
;LCALL  CSR_FORM
;LCALL  DISP_ON
;LCALL  TEST2
;LCALL  DELAY
LCALL  CG_RAM
LCALL  CSRW
LCALL  CSR_DIR        ;ALL CHECKER ON
LCALL  CSR_FORM
LCALL  DISP_ON
LCALL  CHECKER
LCALL  DELAY

;LCALL  CG_RAM          ; ALL ROW ON SCREEN(TEST3)
;LCALL  CSRW
;LCALL  CSR_DIR
;LCALL  CSR_FORM
;LCALL  DISP_ON
;LCALL  ROW
;LCALL  DELAY

LCALL  CG_RAM          ; ALL COLUMN ON SCREEN(TEST4)
LCALL  CSRW
LCALL  CSR_DIR
LCALL  CSR_FORM
LCALL  DISP_ON
LCALL  COLUMN
LCALL  DELAY

LCALL  CG_RAM          ; ALL CHARACTER ON SCREEN(TEST5)
LCALL  CSRW
LCALL  CSR_DIR
LCALL  CSR_FORM
LCALL  DISP_ON
LCALL  C_SET1
LCALL  DELAY

LCALL CLR_L1
LCALL CLR_L2
LCALL TIAN
LCALL DELAY          ;WRITE "big_char"

MOV    A,#058H        ; DISPLAY OFF

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LCALL    TTR1
MOV      A,#016H
LCALL    TTR2
; COMMAND INPUT
; P1 (FP5=0, FP4=1, FP3=0, FP2=1, FP1=0, FP0=0, FC1=1, FC

                JMP     CHIP_SELECT

;*****
INTI:
SYSTEM_SET:
MOV      A,#040H      ; SYSTEM SET
LCALL    TTR1        ; COMMAND INPUT
MOV      A,#030H      ; P1
LCALL    TTR2
MOV      A,#087H      ; P2
LCALL    TTR2
MOV      A,#07H       ; P3 (FY = 7)
LCALL    TTR2
MOV      A,#1Dh       ; p4 (cr=44)
LCALL    TTR2
MOV      A,#026H      ;P5 (TC/R=30?)
LCALL    TTR2
mov      a,#09Fh      ; p6 (1/f =159)
LCALL    TTR2
MOV      A,#1EH       ; P7 (APL =30)
LCALL    TTR2
MOV      A,#00H       ; P8 (APH = 0)
LCALL    TTR2
SCROLL:
MOV      A,#044H      ; SCROLL
LCALL    TTR1        ; COMMAND INPUT
MOV      A,#000H      ; P1 (SAD 1L)
LCALL    TTR2
MOV      A,#000H      ; P2 (SAD 1H)
LCALL    TTR2
MOV      A,#09FH      ; P3 (SL1)
LCALL    TTR2
MOV      A,#0B0H      ; P4 (SAD 2L)
LCALL    TTR2
MOV      A,#004H      ; P5 (SAD 2H)
LCALL    TTR2
MOV      A,#09fH      ; P6 (SL2)
LCALL    TTR2
MOV      A,#058H      ; P7 (SAD 3L)
LCALL    TTR2
MOV      A,#002H      ; P8 (SAD 3H)
LCALL    TTR2
MOV      A,#070H      ; P9 (SAD 4L)
LCALL    TTR2
MOV      A,#017H      ; P10 (SAD 4H)
LCALL    TTR2
HDOT_SCR:
MOV      A,#05AH      ; HDOT SCR
LCALL    TTR1        ; COMMAND INPUT
MOV      A,#00H       ; P1 = 0
LCALL    TTR2
OVLAY:
MOV      A,#05BH      ; OVLAY
LCALL    TTR1        ; COMMAND INPUT
MOV      A,#00H       ; P1 (OV=0, DM2=0, DM1=0, MX1=0, MX0=0)
LCALL    TTR2
DISP_OFF:
MOV      A,#058H      ; DISPLAY OFF
LCALL    TTR1        ; COMMAND INPUT
MOV      A,#056H      ; P1 (FP5=0, FP4=1, FP3=0, FP2=1, FP1=0, FP0=0, FC1=1, FC
LCALL    TTR2
;LCALL    DELAY
LCALL    DISP_ON
LCALL    CSR_DIR
LCALL    CSR_FORM
LCALL    CLR_L1      ; CLEAR THE 1ST LAYER RAM MEMORY

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240320dp_fp series sample program
                ; CLEAR THE 2ND LAYER RAM MEMORY
                CLR_L2
DISP_OFF2:
MOV     A,#058H      ; DISPLAY OFF
LCALL  TTR1          ; COMMAND INPUT
MOV     A,#056H      ; P1 (FP5=0, FP4=1, FP3=0, FP2=1, FP1=0, FP0=0, FC1=1, FC
LCALL  TTR2
RET
TEST1:  MOV A,#042H
        LCALL TTR1
        MOV R7,#20
TEST1_1:MOV R5,#30
TEST1_2: MOV A,#80H
        LCALL TTR2
        DJNZ R5,TEST1_2
        DJNZ R7,TEST1_1
        RET

C_SET1:
        MOV     A,#042H      ; MWTRITE
        LCALL  TTR1          ; COMMAND INPUT
        MOV     R7,#20      ;row_char
c_set2l: MOV     R5,#30
        MOV     A,#041H      ; start display characters from "A"
c_set1l:LCALL  TTR2
        INC     A
        DJNZ   R5,c_set1l

        DJNZ   R7,c_set2l      ; 40 row of character
        RET
;*****
DISP_ON:
        MOV     A,#059H      ; DISPLAY ON
        LCALL  TTR1          ; COMMAND INPUT
        MOV     A,#47H      ; (FP5=0, FP4=0, FP3=0, FP2=0, FP1=0, FP0=1, FC1=1, FC0=1)
        LCALL  TTR2
        RET
DISP_ON2:
        MOV     A,#059H      ; DISPLAY ON
        LCALL  TTR1          ; COMMAND INPUT
        MOV     A,#13H      ; (FP5=0, FP4=0, FP3=0, FP2=0, FP1=0, FP0=1, FC1=1, FC0=1)
        LCALL  TTR2
        RET
COLUMN:
        MOV     A,#042H      ; SHOW ALL COLUMN IN SCREEN
        LCALL  TTR1          ; MWTRITE
        MOV     R6,#20      ; COMMAND INPUT
        MOV     R7,#30      ; NO. OF ROW_CHAR
COL1:   MOV     R7,#30      ; NO. OF COL_CHAR
COL2:   MOV     A,#082H
        LCALL  TTR2
        DJNZ   R7,COL2
        DJNZ   R6,COL1
        RET
;*****
ROW:
        MOV     A,#042H      ; SHOW ALL ROW IN SCREEN
        LCALL  TTR1          ; MWTRITE
        MOV     R6,#20      ; COMMAND INPUT
        MOV     R7,#30      ; NO. OF ROW_CHAR
ROW1:   MOV     R7,#30      ; NO. OF COL_CHAR
ROW2:   MOV     A,#083H
        LCALL  TTR2
        DJNZ   R7,ROW2
        DJNZ   R6,ROW1
        RET
CHECKER:
        MOV     A,#042H      ; SHOW ALL CHECKER IN SCREEN
        LCALL  TTR1          ; MWTRITE
        MOV     R6,#20      ; COMMAND INPUT
        MOV     R7,#30      ; NO. OF ROW_CHAR
CHECKER1: MOV     R7,#30      ; NO. OF COL_CHAR
CHECKER2: MOV     A,#081H
        LCALL  TTR2
        DJNZ   R7,CHECKER2
        DJNZ   R6,CHECKER1
        RET
TIAN:   MOV     A, #46H
        LCALL  TTR1
        MOV     A, #0B0H
        LCALL  TTR2

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MOV     A, #004H
LCALL  TTR2
LCALL  CSR_DIR
LCALL  CSR_FORM
LCALL  DISP_ON2
MOV     A, #42H
LCALL  TTR1
MOV     R2, #5
LOOP1:  ;MOV     R1, #45
;LOOP2:  MOV     A, #0H
        ;LCALL  TTR2
        ;DJNZ  R1, LOOP2
        ;DJNZ  R0, LOOP1
        MOV DPTR,#TIAN_CHAR
        MOV R0,#32
LOOP3:  ;MOV R1,#17
; LOOP3_1:MOV A,#0
        ;      LCALL TTR2
        ;      DJNZ R1,LOOP3_1
        MOV R1,#30
LOOP3_2:MOV A,#0
        MOVC A,@A+DPTR
        LCALL TTR2
        INC DPTR
        DJNZ R1,LOOP3_2
        ;MOV R1,#18
;LOOP3_3:MOV A,#0
        ;      LCALL TTR2
        ;      DJNZ R1,LOOP3_3
        DJNZ R0,LOOP3
        djnz r2,loop1
;LOOP4:  MOV     R1, #30
;LOOP5:  MOV     A, #0AAH
        ;LCALL  TTR2
        ;DJNZ  R1, LOOP5
        ;DJNZ  R0, LOOP4
        RET

CSRW:
MOV     A,#046H      ; CURSOR ADDRESS REGISTER
LCALL  TTR1          ; COMMAND INPUT
MOV     A,#00H       ; P1 (CSRL = 0)
LCALL  TTR2
MOV     A,#00H       ; P2 (CSRH = 0)
LCALL  TTR2
RET
;*****

CSR_DIR:
MOV     A,#04CH      ; CURSOR INCREMENT DIRECTION
LCALL  TTR1
RET
;*****

CSR_FORM:
MOV     A,#05DH      ; CURSOR SIZE AND DISPLAY MODE
LCALL  TTR1          ; COMMAND INPUT
MOV     A,#07H       ; P1 (CRX = 5)
LCALL  TTR2
MOV     A,#087H      ; P2 (CRY = 7, CM = 1)
LCALL  TTR2
RET
;*****

TTR1:
; ***** ; COMMAD TRANSFER SUB-ROUTINE
CLR     R_W
SETB   A0
CLR     CS
NOP

MOV     P1,A
NOP
SETB   R_D
NOP
;NOP
CLR     R_D
NOP
NOP
;CLR   A0
SETB   CS
mov 47h,#10

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del10us1:djnz 47h,del10us1
RET

TTR2:                ; DATA TRANSFER SUB-ROUTINE
    CLR    R_W
    CLR    A0
    CLR    CS
    NOP
    MOV    P1,A
    NOP
    SETB   R_D

    ;NOP
    NOP
    CLR    R_D
    ;SETB   A0
    NOP
    NOP
    SETB   CS
    mov 47h,#10
del10us2:djnz 47h,del10us2
RET

;*****
CLR_L1:
    LCALL  ADD1
    MOV    A, #42H
    LCALL  TTR1
    MOV    R0, #20
L1:      MOV    R1, #30
L2:      MOV    A, #20H
    LCALL  TTR2
    DJNZ   R1, L2
    DJNZ   R0, L1
    RET

CLR_L2:
    MOV    A, #46H
    LCALL  TTR1
    MOV    A, #0B0H
    LCALL  TTR2
    MOV    A, #004H
    LCALL  TTR2
    LCALL  CSR_DIR
    LCALL  CSR_FORM
    ;LCALL  DISP_ON
    MOV    A, #42H
    LCALL  TTR1
    MOV    R2, #5

LOOPK1:  ;MOV DPTR,#TIAN_CHAR
    MOV    R0,#32

LOOPK3:  MOV    R1,#30
    LOOPK3_2:MOV A,#0
    ;MOVC A,@A+DPTR
    LCALL TTR2
    ;INC DPTR
    DJNZ R1,LOOPK3_2

    DJNZ R0,LOOPK3
    djnz r2,loopK1

    RET

;*****
ADD1:
    MOV    A, #46H
    LCALL  TTR1
    MOV    A, #00H
    LCALL  TTR2
    MOV    A, #00H
    LCALL  TTR2
    RET

ADD2:
    MOV    A, #46H
    LCALL  TTR1
    MOV    A, #0B0H

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LCALL    TTR2
MOV      A,#0AAH
LCALL    TTR2
MOV      A,#0AAH
LCALL    TTR2
MOV      A,#0AAH
LCALL    TTR2
MOV      A,#0AAH
LCALL    TTR2
MOV      A,#0AAH
LCALL    TTR2
MOV      A,#000H ; 4TH CG_CODE 83H - ROW
LCALL    TTR2
MOV      A,#0ffH
LCALL    TTR2
MOV      A,#000H
LCALL    TTR2
MOV      A,#0ffH
LCALL    TTR2
MOV      A,#000H
LCALL    TTR2
MOV      A,#0ffH
LCALL    TTR2
MOV      A,#000H
LCALL    TTR2
MOV      A,#0ffH
LCALL    TTR2
MOV      A,#000H
LCALL    TTR2
MOV      A,#0ffH
LCALL    TTR2

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RET

TIAN_CHAR:

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DB 000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H
DB 000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H
DB 000H,000H,000H,060H,000H,000H,000H,000H,018H,000H,000H,000H,000H,000H,000H,000H
DB 000H,000H,001H,080H,000H,000H,000H,000H,000H,000H,000H,030H,000H,007H,0FFH,0E0H
DB 000H,0F0H,000H,000H,000H,000H,0F8H,000H,000H,000H,000H,000H,000H,000H,000H,000H
DB 00FH,080H,000H,001H,0FFH,080H,000H,000H,001H,0F0H,000H,001H,0E0H,0FCH,000H,0E0H
DB 000H,000H,000H,000H,078H,000H,000H,000H,000H,000H,000H,000H,000H,000H,007H,080H
DB 000H,000H,078H,000H,000H,000H,0F0H,000H,001H,0C0H,03EH,000H,000H,000H,000H,000H
DB 000H,000H,070H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,007H,000H,000H
DB 078H,000H,000H,000H,000H,0E0H,000H,001H,0C0H,00FH,000H,000H,000H,000H,000H,000H
DB 070H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,007H,000H,000H,000H,070H
DB 000H,000H,000H,0E0H,000H,001H,0C0H,00FH,000H,000H,000H,000H,000H,000H,007H,000H
DB 000H,000H,000H,00CH,000H,000H,000H,007H,000H,000H,000H,070H,000H,003H,000H,000H
DB 000H,0E0H,000H,001H,0C0H,00FH,000H,000H,000H,000H,000H,000H,070H,000H,000H,000H
DB 000H,01CH,000H,000H,000H,000H,00FH,000H,000H,000H,070H,000H,007H,000H,001H,0C0H
DB 000H,003H,080H,007H,080H,000H,000H,000H,000H,000H,0E0H,000H,000H,000H,000H,038H
DB 000H,000H,000H,000H,00EH,000H,000H,000H,0E0H,000H,00EH,000H,001H,0C0H,000H,003H
DB 080H,007H,080H,000H,000H,000H,000H,0E0H,000H,000H,000H,000H,078H,000H,000H,000H
DB 000H,000H,00EH,000H,000H,0E0H,000H,01EH,000H,001H,0C0H,000H,003H,080H,007H,0F8H
DB 00EH,07CH,000H,000H,0E0H,000H,07FH,0C0H,0FDH,0C0H,000H,007H,000H,007H,09FH,001H
DB 086H,01FH,0FFH,081H,0C0H,0E1H,0C0H,0E0H,030H,070H,01CH,038H,00CH,03CH,01DH,0FEH
DB 000H,001H,0C0H,000H,01CH,003H,08FH,080H,000H,007H,000H,007H,00FH,003H,006H,00FH
DB 0C7H,0C1H,0C1H,0C1H,0C0H,0E0H,070H,070H,030H,038H,018H,03CH,01FH,01EH,000H,001H
DB 0C0H,000H,01CH,006H,007H,080H,000H,007H,000H,00FH,00FH,007H,006H,00FH,003H,0C1H
DB 0C1H,0C1H,0C0H,0E0H,060H,070H,070H,038H,030H,03CH,01EH,01EH,000H,001H,0C0H,000H
DB 01CH,00CH,007H,080H,000H,00EH,000H,00FH,00EH,007H,006H,00EH,003H,0C3H,081H,0C1H
DB 080H,0E0H,0C0H,0E0H,060H,038H,060H,018H,03CH,01CH,000H,003H,080H,000H,038H,01CH
DB 007H,000H,000H,00EH,000H,00FH,00EH,007H,000H,00EH,003H,0C3H,080H,003H,080H,0E1H
DB 0C0H,0E0H,0FFH,0F8H,0E0H,000H,038H,01CH,000H,003H,080H,000H,038H,018H,007H,000H
DB 000H,00EH,000H,01EH,00EH,007H,080H,00EH,003H,083H,080H,00FH,080H,0E1H,080H,0E0H
DB 0C0H,000H,0C0H,000H,038H,01CH,000H,003H,080H,000H,038H,038H,007H,000H,000H,01CH
DB 000H,01EH,01CH,003H,0C0H,01CH,003H,087H,000H,03FH,000H,0E3H,081H,0C1H,0C0H,001H
DB 0C0H,000H,070H,038H,000H,007H,000H,000H,070H,030H,00EH,000H,000H,01CH,000H,03CH
DB 01CH,001H,0F0H,01CH,003H,087H,000H,0E7H,000H,0E3H,001H,0C1H,0C0H,001H,0C0H,000H
DB 070H,038H,000H,007H,000H,000H,070H,070H,00EH,000H,000H,000H,01CH,000H,03CH,01CH,000H
DB 0F8H,01CH,003H,007H,003H,087H,000H,0E6H,001H,0C3H,080H,001H,080H,000H,070H,038H
DB 000H,007H,000H,000H,070H,070H,00EH,000H,000H,038H,000H,078H,038H,000H,078H,038H
DB 007H,00EH,006H,00EH,000H,07EH,003H,083H,080H,003H,080H,000H,0E0H,070H,000H,00EH
DB 000H,000H,0E0H,070H,01CH,000H,000H,000H,000H,0F0H,038H,000H,038H,038H,00EH,00EH
DB 00EH,00EH,000H,07CH,003H,083H,080H,033H,080H,000H,0E0H,070H,000H,00EH,000H,018H
DB 0E0H,0F0H,01CH,000H,000H,038H,001H,0E0H,038H,030H,038H,038H,00EH,00EH,01CH,00EH
DB 000H,078H,003H,083H,080H,063H,0C0H,060H,0E0H,070H,000H,00EH,000H,030H,0E0H,0F0H
DB 01CH,000H,000H,070H,003H,0C0H,070H,030H,038H,070H,00CH,01CH,01EH,000H,000H,078H
DB 007H,083H,0C0H,0C3H,0C0H,0C1H,0C0H,0E0H,000H,01CH,000H,071H,0E0H,0F0H,03CH,000H

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DB 000H,070H,00FH,000H,070H,030H,030H,078H,018H,01CH,01CH,03CH,000H,070H,007H,003H
DB 0C1H,083H,0E1H,081H,0C0H,0E0H,000H,01CH,000H,0E1H,0C0H,0F0H,07CH,000H,000H,0F0H
DB 07EH,000H,0F0H,078H,060H,07CH,070H,03CH,01FH,0FFH,080H,060H,007H,0B1H,0FFH,001H
DB 0FFH,003H,0C1H,0E0H,000H,03CH,003H,0C1H,0ECH,07DH,0FEH,000H,007H,0FFH,0F0H,007H
DB 0FCH,07FH,0C0H,07FH,0C0H,0FFH,01FH,09FH,000H,0E0H,007H,0E0H,0FEH,000H,0FCH,00FH
DB 0F7H,0F8H,001H,0FFH,0FFH,0C1H,0F8H,03FH,038H,000H,000H,000H,000H,000H,000H,000H
DB 000H,0E0H,000H,000H,000H,000H,000H,0C0H,000H,000H,000H,000H,000H,000H,000H,000H
DB 000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,0E0H
DB 000H,000H,000H,000H,001H,080H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H
DB 000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,001H,0E0H,000H,000H
DB 000H,000H,033H,080H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H
DB 000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,001H,0E0H,000H,000H,000H,000H
DB 07FH,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H
DB 000H,000H,000H,000H,000H,000H,000H,000H,00FH,0F8H,000H,000H,000H,000H,07CH,000H
DB 000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H
END
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