

240320e series sample program

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;LCD CONTROLLER:LC212*1   SPI MODE
D_R   EQU P1.1
SCK   EQU P1.2
SO    EQU P1.0
SI    EQU P1.3
SS    EQU P1.4
BUSY  EQU P1.5
      ORG   0000H
      JMP   BEGIN

BEGIN: CLR SCK
      NOP

START: MOV A,#10000001B   ;SYSTEM RESET
      MOV B,#00000000B
      LCALL WCOM
      LCALL DELAY1
      MOV A,#10000001B   ;SELECT SIZE 320*240
      MOV B,#10000000B
      LCALL WCOM
      MOV A,#00000000B
      MOV B,#00000100B
      LCALL WCOM
      MOV A,#10000001B   ;SET LCD CLOCK(4M Hz)
      MOV B,#10000001B
      LCALL WCOM
      MOV A,#01001000B
      MOV B,#00010000B
      LCALL WCOM
      MOV A,#10000011B   ;DISPLAY ON
      MOV B,#00000000B
      LCALL WCOM
      MOV A,#10000100B   ;CLEAR SCREEN
      MOV B,#00000000B
      LCALL WCOM

      MOV R4,#18H
      LCALL TEST         ;ALL POINTS ON
      LCALL DELAY2

      MOV A,#10000100B   ;CLEAR SCREEN
      MOV B,#00000000B
      LCALL WCOM
      MOV R4,#00H
      LCALL TEST         ;WRITE ROW
      LCALL DELAY2

      MOV A,#10000100B   ;CLEAR SCREEN
      MOV B,#00000000B
      LCALL WCOM
      MOV R4,#08H
      LCALL TEST         ;WRITE COLUMN
      LCALL DELAY2

      MOV A,#10000100B   ;CLEAR SCREEN
      MOV B,#00000000B
      LCALL WCOM
      MOV R4,#10H
      LCALL TEST         ;WRITE CHECK
      LCALL DELAY2

      MOV A,#10000100B   ;CLEAR SCREEN
      MOV B,#00000000B
      LCALL WCOM
      LCALL TEST5        ;WRITE BIG CHAR
      LCALL DELAY2

      MOV A,#10010001B   ;CURSOR OM
      MOV B,#00000000B
      LCALL WCOM
      MOV A,#10010011B   ;
      MOV B,#00000000B
      LCALL WCOM
      MOV 48H,#12
L3:   MOV A,#00000000B
      MOV B,#11111100B

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        LCALL WCOM
        DJNZ 48H,L3
        MOV A,#10000100B    ;CLEAR SCREEN
        MOV B,#00000000B
        LCALL ENG_CHAR      ;WRITE CHAR
        LCALL DELAY2

        MOV A,#10000011B    ;DISPLAY Off
        MOV B,#00000001B
        LCALL WCOM

        LJMP  START
TEST:   MOV A,#10110000B
        MOV B,#00000000B
        LCALL WCOM
        MOV A,#00H
        MOV B,#00H
        LCALL WCOM
        MOV A,#00H
        MOV B,#00H
        LCALL WCOM
        MOV A,#00H
        MOV B,#28H
        LCALL WCOM
        MOV A,#00H
        MOV B,#0F0H
        LCALL WCOM
        MOV R1,#30
TEST_0: MOV R2,#8
        MOV DPTR,#CHAR
TEST_1: MOV R3,#40
TEST_2: MOV A,R4
        MOVC A,@A+DPTR
        MOV B,A
        MOV A,#00H
        LCALL WCOM
        DJNZ R3,TEST_2
        INC DPTR
        DJNZ R2,TEST_1
        DJNZ R1,TEST_0
        RET
TEST5:  MOV A,#10110000B
        MOV B,#00000000B
        LCALL WCOM
        MOV A,#00H
        MOV B,#00H
        LCALL WCOM
        MOV A,#00H
        MOV B,#00H
        LCALL WCOM
        MOV A,#00H
        MOV B,#28H
        LCALL WCOM
        MOV A,#00H
        MOV B,#0F0H
        LCALL WCOM
        MOV R1,#15
TEST5_1: MOV R2,#16
        MOV DPTR,#CHAR1
TEST5_2: MOV R3,#40
TEST5_3: MOV A,#0
        MOVC A,@A+DPTR
        MOV B,A
        MOV A,#00H
        LCALL WCOM
        INC DPTR
        DJNZ R3,TEST5_3
        DJNZ R2,TEST5_2
        DJNZ R1,TEST5_1
        RET

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ENG_CHAR:MOV R4,#00000000B
          MOV R1,#20
EC1:     MOV A,#10010100B
          MOV B,#00000000B
          LCALL WCOM
          MOV A,#00000000B
          MOV B,#00000000B
          LCALL WCOM
          MOV A,R4
          MOV B,A
          MOV A,#00000000B
          LCALL WCOM
          ;LCALL DELAY1
          MOV A,#10100000B
          MOV B,#00000000B
          LCALL WCOM
          MOV R3,#00101100B
          MOV R2,#53
EC2:     MOV A,R3
          MOV B,A
          MOV A,#00000000B
          LCALL WCOM
          INC R3
          DJNZ R2,EC2
          MOV A,R4
          CLR C
          ADDC A,#1
          MOV R4,A
          DJNZ R1,EC1
          RET

DELAY1:  MOV     41H,#5
DEL11:   MOV     42H,#250
DEL12:   MOV     43H,#200
DEL13:   DJNZ   43H,DEL13
          DJNZ   42H,DEL12
          DJNZ   41H,DEL11
          RET
DELAY2:  MOV     41H,#15
DEL21:   MOV     42H,#250
DEL22:   MOV     43H,#200
DEL23:   DJNZ   43H,DEL23
          DJNZ   42H,DEL22
          DJNZ   41H,DEL21
          RET
DELAY3:  MOV     41H,#50
DEL31:   DJNZ   41H,DEL31
          RET
WCOM:
CHECK_BUSY:NOP
          NOP
          MOV C,BUSY
          JC CHECK_BUSY

          CLR SS
          ;clr sck
          MOV 49H,#8
L1:      RLC A
          ;CLR SCK
          ;NOP
          ;NOP
          MOV SI,C
          NOP
          NOP
          setb SCK
          NOP
          clr SCK
          DJNZ 49H,L1
          MOV A,B
          MOV 49H,#8
L2:      RLC A
          ;CLR SCK
          ;NOP
          ;NOP
          MOV SI,C
          NOP
          NOP
          setb SCK
          NOP

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clr SCK
DJNZ 49H,L2
;CLR SCK
NOP
SETB SS
LCALL DELAY3
RET

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CHAR:
DB      OFFH,000H,OFFH,000H,OFFH,000H,OFFH,000H
DB      0AAH,0AAH,0AAH,0AAH,0AAH,0AAH,0AAH,0AAH
DB      0FOH,0FOH,0FOH,0FOH,00FH,00FH,00FH,00FH
DB      0FFH,0FFH,0FFH,0FFH,0FFH,0FFH,0FFH,0FFH

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CHAR1:
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,000H,000H,000H,000H,000H,000H,000H,01CH,007H,0F8H,003H,0FOH,03FH,0COH
DB      07FH,0F1H,0FFH,081H,0FCH,018H,006H,030H,006H,018H,01CH,060H,00EH,000H,0E6H,001H
DB      081H,0F8H,00FH,0F8H,007H,0E0H,03FH,0E0H,00FH,087H,0FFH,0B0H,00DH,080H,030H,000H
DB      000H,01CH,007H,0FCH,00FH,0F8H,03FH,0FOH,07FH,0F1H,0FFH,083H,0FEH,018H,006H,030H
DB      006H,018H,038H,060H,00FH,001H,0E7H,001H,083H,0FCH,00FH,0FCH,00FH,0F8H,03FH,0FOH
DB      03FH,0E7H,0FFH,0B0H,00DH,0C0H,070H,000H,000H,036H,006H,00EH,00EH,01CH,030H,038H
DB      060H,001H,080H,007H,007H,018H,006H,030H,006H,018H,070H,060H,00FH,001H,0E7H,081H
DB      087H,00EH,00CH,00EH,01CH,03CH,030H,038H,070H,070H,030H,030H,00CH,0C0H,060H,000H
DB      000H,036H,006H,006H,018H,00EH,030H,018H,060H,001H,080H,00CH,003H,098H,006H,030H
DB      006H,018H,0E0H,060H,00DH,001H,067H,081H,08CH,003H,00CH,006H,030H,00CH,0C0H,018H
DB      060H,030H,030H,030H,00CH,0C0H,060H,000H,000H,036H,006H,006H,038H,006H,030H,00CH
DB      060H,001H,080H,00CH,001H,018H,006H,030H,006H,019H,0C0H,060H,00DH,083H,066H,0C1H
DB      09CH,003H,08CH,006H,070H,00EH,030H,018H,060H,000H,030H,030H,00CH,0E0H,0E0H,000H
DB      000H,063H,006H,00EH,030H,000H,030H,00CH,060H,001H,080H,018H,000H,018H,006H,030H
DB      006H,01BH,080H,060H,00DH,083H,066H,061H,098H,001H,08CH,006H,060H,006H,030H,038H
DB      070H,000H,030H,030H,00CH,060H,0C0H,000H,000H,063H,007H,0FCH,030H,000H,030H,00CH
DB      07FH,0E1H,0FFH,018H,000H,01FH,0FEH,030H,006H,01BH,080H,060H,00CH,082H,066H,061H
DB      098H,001H,0E0H,060H,00EH,060H,006H,03FH,0FOH,030H,000H,030H,00CH,060H,0C0H,000H
DB      000H,063H,007H,0FCH,030H,000H,030H,00CH,07FH,0E1H,0FFH,018H,03FH,09FH,0FEH,030H
DB      006H,01FH,080H,060H,00CH,0C6H,066H,031H,098H,001H,08FH,0FCH,060H,006H,03FH,0E0H
DB      00FH,0C0H,030H,030H,00CH,071H,0C0H,000H,000H,0FFH,086H,006H,030H,000H,030H,00CH
DB      060H,001H,080H,018H,03FH,098H,006H,030H,006H,01DH,0C0H,060H,00CH,0C6H,066H,019H
DB      098H,001H,08FH,0F8H,060H,006H,030H,0C0H,000H,0E0H,030H,030H,00CH,031H,080H,000H
DB      000H,0FFH,086H,003H,030H,000H,030H,00CH,060H,001H,080H,018H,001H,098H,006H,030H
DB      006H,018H,0E0H,060H,00CH,044H,066H,019H,098H,001H,08CH,000H,060H,006H,030H,0E0H
DB      000H,030H,030H,030H,00CH,031H,080H,000H,001H,080H,0C6H,003H,038H,006H,030H,00CH
DB      060H,001H,080H,00CH,001H,098H,006H,031H,086H,018H,070H,060H,00CH,06CH,066H,00DH
DB      09CH,003H,08CH,000H,070H,00CH,030H,060H,0C0H,030H,030H,030H,00CH,03BH,080H,000H
DB      001H,080H,0C6H,003H,018H,00CH,030H,018H,060H,001H,080H,00CH,001H,098H,006H,031H
DB      086H,018H,030H,060H,00CH,06CH,066H,007H,08CH,003H,00CH,000H,030H,0E0H,030H,070H
DB      0E0H,030H,030H,038H,01CH,01BH,000H,000H,001H,080H,0C6H,007H,01EH,01CH,030H,038H
DB      060H,001H,080H,007H,007H,098H,006H,031H,0CEH,018H,038H,060H,00CH,028H,066H,007H
DB      087H,00EH,00CH,000H,01CH,038H,030H,038H,070H,070H,030H,01CH,038H,01BH,000H,000H
DB      003H,000H,067H,0FEH,00FH,0F8H,03FH,0FOH,07FH,0F1H,080H,003H,0FFH,018H,006H,030H
DB      0FCH,018H,01CH,07FH,0CCH,038H,066H,003H,083H,0FCH,00CH,000H,00FH,0FCH,030H,018H
DB      03FH,0E0H,030H,00FH,0FOH,01FH,000H,000H,003H,000H,067H,0FCH,003H,0FOH,03FH,0C0H
DB      07FH,0F1H,080H,000H,0FCH,018H,006H,030H,078H,018H,00EH,07FH,0CCH,038H,066H,001H
DB      081H,0F8H,00CH,000H,007H,0EEH,030H,01CH,01FH,080H,030H,007H,0E0H,00EH,000H,000H

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END