

## 64128k\_1\_m\_n series sample program (serial)

```

;ST7565P*1
CS1 EQU P1.0
AO EQU P1.2 ;RST=/RES
RES EQU P1.1 ;RS=AO
SCL EQU P1.3
SI EQU P1.4
ORG 0000H
JMP BEGIN
ORG 0003H
JMP INTOO
ORG 0013H
JMP INTII
BEGIN: SETB ITO
        SETB IT1
        SETB EA
        CLR EX0
        CLR EX1
        MOV B,#11011001B

        LCALL INTI
        lcall delay4

        ;lcall wcom2

START: MOV A,#0AFH ;DISPLAY ON
        LCALL WCOM
        MOV A,#10100101B ;DISPLAY ALL POINTS ON(TEST1)
        LCALL WCOM
        MOV 40H,#15
        LCALL DELAY2
        ;LCALL DELAY4
; WAIT: JMP WAIT
        MOV A,#10100100B ;return normal
        LCALL WCOM
        ;LCALL DELAY2

        ;MOV A,#040H ;INITIAL DISPLAY LINE
        ;LCALL WCOM
        LCALL TEST2 ;TEST2(WRITE SQUARE)
        ;MOV A,#0AFH ;DISPLAY ON
        ;LCALL WCOM
        MOV 40H,#15
        LCALL DELAY2
        ;LCALL DELAY4

        ;MOV A,#040H ;INITIAL DISPLAY LINE
        ;LCALL WCOM
        MOV R3,#00H ;TSET3(WRITE COLUMN)
        LCALL TEST
        MOV 40H,#15
        lcall delay2
        ;LCALL DELAY4

        MOV R3,#08H ;TEST4(WRITE CHECKER)
        LCALL TEST
        MOV 40H,#15
        LCALL DELAY2
        ;LCALL DELAY4

        ;MOV A,#10000001B ;ELECTRONIC VOLUME MODE SET
        ;LCALL WCOM
        ;MOV A,#11010101B ;ELECTRONIC VOLUME REGISTER SET;
        ;LCALL WCOM
        LCALL TEST5 ;TEST5(WRITE BIG CHAR)
        ;MOV A,#0AFH ;DISPLAY ON
        ;LCALL WCOM
        MOV 40H,#30
        LCALL DELAY2

        ;MOV A,#10000001B ;ELECTRONIC VOLUME MODE SET
        ;LCALL WCOM
        ;MOV A,B ;ELECTRONIC VOLUME REGISTER SET;
        ;LCALL WCOM
        MOV A,#10101110B ;DISPLAY OFF(TEST6)
        LCALL WCOM

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MOV 40H,#15
LCALL DELAY2
;LCALL DELAY4
;WAIT:JMP WAIT
LJMP START

INTI:
LCALL DELAY
LCALL DELAY
CLR RES ;RST
NOP
lcall delay
;lcall delay

SETB RES
NOP
lcall delay
;MOV A,#0E2H ;SOFTWARE RST
;LCALL WCOM
MOV A,#0A2H ;MOV A,#0A2H ;BIAS SELECT =1/9
LCALL WCOM
;lcall wcom2
MOV A,#1010000B ;ADC SELECT: SEGO TO SEG131
LCALL WCOM
MOV A,#11001000B ;SHL SELECT: COM63 TO COM0
LCALL WCOM

MOV A,#00100101B ;SET V0 VOLTAGE
LCALL WCOM
MOV A,#10000001B ;ELECTRONIC VOLUME MODE SET
LCALL WCOM
MOV A,B ;ELECTRONIC VOLUME REGISTER SET;
LCALL WCOM
MOV A,#11111000B ;SET BOOSTER RATIO=4X
LCALL WCOM
MOV A,#00000000B
LCALL WCOM
MOV A,#00101111B ;POWER SETTING(VF=ON,VR=ON,VC=ON)
LCALL WCOM
;MOV R3,090H ;WRITE 00H TO DISPLAY DATA RAM
;LCALL TEST
;MOV A,#10101100B ;STATIC INDICATOR OFF
;LCALL WCOM

;MOV A,#11111000B
;LCALL WCOM
;MOV A,#00000000B
;LCALL WCOM
LCALL DELAY
MOV A,#040H ;INITIAL DISPLAY LINE
LCALL WCOM
MOV A,#0A6H ;NORMAL DISPLAY!!!!!!!!!!!!!!
LCALL WCOM
RET
INTOO: PUSH ACC
MOV A,B
CJNE A,#11000000B,GO_DEC
JMP OUT_INTOO
GO_DEC:DEC A
MOV B,A
MOV A,#10000001B
LCALL WCOM
MOV A,B
LCALL WCOM
OUT_INTOO:POP ACC
RETI
INTII: PUSH ACC
MOV A,B
CJNE A,#11111111B,GO_INC
JMP OUT_INTII
GO_INC:INC A
MOV B,A
MOV A,#10000001B
LCALL WCOM
MOV A,B
LCALL WCOM
OUT_INTII:POP ACC

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RETI

TEST:
DISP2:  MOV     R2,#0B0H
        MOV     A,R2           ;set page address
        LCALL  WCOM
        MOV     A,#010H       ;set column address MSB
        LCALL  WCOM
        mov     a,#00h
        ;MOV    A,#00H       ;set column address LSB
        LCALL  WCOM
DISP1:  MOV     R1,#16         ;set (8*8)*16characters
        MOV     DPTR,#CHAR

DISP0:  MOV     R0,#8
        MOV     A,R3
        MOVC   A,@A+DPTR
        LCALL  WDATA
        INC    DPTR
        DJNZ   R0,DISP0
        DJNZ   R1,DISP1
        INC    R2
        CJNE   R2,#0B8H,DISP2
        RET

TEST2:  MOV     A,#10110000B
        LCALL  WCOM
        MOV     A,#00010000B
        LCALL  WCOM
        MOV     A,#00000000B
        LCALL  WCOM
        MOV     A,#11111111B
        LCALL  WDATA
        MOV     A,#00000001B
        LCALL  LOOP1
        MOV     A,#11111111B
        LCALL  WDATA
        MOV     A,#10110001B
        MOV     R5,A
        LCALL  WCOM
        MOV     A,#00010000B
        LCALL  WCOM
        MOV     A,#00000000B
        LCALL  WCOM
        MOV     R6,#6
TEST2_1: MOV     A,#11111111B
        LCALL  WDATA
        MOV     A,#00000000B
        LCALL  LOOP1
        MOV     A,#11111111B
        LCALL  WDATA
        INC    R5
        MOV     A,R5
        LCALL  WCOM
        MOV     A,#00010000B
        LCALL  WCOM
        MOV     A,#00000000B
        LCALL  WCOM
        DJNZ   R6,TEST2_1
        MOV     A,#10110111B
        LCALL  WCOM
        MOV     A,#00010000B
        LCALL  WCOM
        MOV     A,#00000000B
        LCALL  WCOM
        MOV     A,#11111111B
        LCALL  WDATA
        MOV     A,#10000000B
        LCALL  LOOP1
        MOV     A,#11111111B
        LCALL  WDATA
        RET

TEST5:  MOV     A,#10110000B
        MOV     R5,A
        MOV     R7,#4
TEST5_1: MOV R6, #2

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TEST5_2:  MOV DPTR,#BIG_CHAR
          MOV  A,R5
          LCALL WCOM
          MOV  A,#00010000B
          LCALL WCOM
          MOV  A,#00000000B
          LCALL WCOM
          MOV R3,#128
TEST5_2_1:
          MOV A,#0
          MOVC A,@A+DPTR
          LCALL WDATA
          INC DPTR
          DJNZ R3,TEST5_2_1
          INC R5
          DJNZ R6,TEST5_2
          DJNZ R7,TEST5_1
          RET
LOOP1:    MOV R7,#126
LOOP1_1:  PUSH ACC
          LCALL WDATA
          POP ACC
          DJNZ R7,LOOP1_1
          RET

DELAY:    MOV 40H,#032H ;10.05ms
DEL1:    MOV 41H,#030H
DEL2:    DJNZ 41H,DEL2 ;192us
          DJNZ 40H,DEL1
          RET

DELAY2:   SETB EX0
          SETB EX1
          LCALL DELAY4
          ;MOV 40H,#15
DEL21:   MOV 41H,#250
DEL22:   MOV 42H,#80
DEL23:   ;MOV C,P2.0
          JB P1.7,KDL
          LCALL DELAY4
CHECK_KEY: NOP
          NOP
          ;MOV C,P2.0
          JNB P1.7,BREAK1
          JMP CHECK_KEY
KDL:    DJNZ 42H,DEL23
          DJNZ 41H,DEL22
          DJNZ 40H,DEL21
BREAK1:  CLR EX0
          CLR EX1
          RET
DELAY3:  MOV R1,#25
DEL31:   MOV R2,#50
DEL32:   DJNZ R2,DEL32
          DJNZ R1,DEL31
          RET
DELAY4:  MOV 43h,#4
DEL41:   MOV 44h,#250
DEL42:   MOV 45h,#200
DEL43:   DJNZ 45h,DEL43
          DJNZ 44h,DEL42
          DJNZ 43h,DEL41
          RET
WCOM:    PUSH ACC
          CLR CS1
          CLR A0
          NOP
          MOV 49H,#8
WCOM_1:  RLC A
          MOV SI,C
          NOP
          CLR SCL
          NOP
          NOP
          SETB SCL
          DJNZ 49H,WCOM_1
          NOP

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```

      POP ACC
      RET
WDATA:  PUSH ACC
        CLR CS1
        SETB A0
        NOP
        MOV 49H,#8
WDATA_1:
        RLC A
        MOV SI,C
        NOP
        CLR SCL
        NOP
        NOP
        SETB SCL
        DJNZ 49H,WDATA_1
        NOP
        POP ACC
        RET

```

```

CHAR:
DB      0FFH,000H,0FFH,000H,0FFH,000H,0FFH,000H
;DB     080H,040H,020H,010H,008H,004H,002H,001H
DB      055H,0AAH,055H,0AAH,055H,0AAH,055H,0AAH
DB      000H,000H,000H,000H,000H,000H,000H,000H

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BIG_CHAR:
DB      004H,004H,0FCH,0FCH,004H,004H,004H,004H,00CH,018H,0F0H,0E0H,000H,004H,004H,0FCH
DB      0FCH,004H,004H,000H,030H,078H,0CCH,0C4H,084H,084H,008H,03CH,000H,000H,004H,004H
DB      0FCH,0FCH,004H,004H,004H,08CH,0F8H,070H,000H,004H,004H,0FCH,0FCH,004H,004H,000H
DB      000H,000H,000H,000H,000H,000H,000H,000H,0C0H,030H,00CH,07CH,0F0H,080H,000H,000H
DB      000H,004H,004H,00CH,01CH,074H,0E4H,080H,000H,080H,064H,014H,00CH,004H,01CH,00CH
DB      004H,004H,004H,0FCH,0FCH,004H,004H,004H,00CH,01CH,004H,004H,0FCH,0FCH,084H,084H
DB      084H,0E4H,004H,01CH,000H,000H,0C0H,0F0H,018H,008H,004H,004H,004H,004H,008H,008H
DB      03CH,000H,004H,004H,0FCH,0FCH,084H,084H,080H,084H,084H,0FCH,0FCH,004H,004H,000H
DB      020H,020H,03FH,03FH,020H,020H,020H,020H,010H,018H,00FH,007H,000H,020H,020H,03FH
DB      03FH,020H,020H,000H,03CH,018H,010H,020H,021H,021H,033H,01FH,00EH,000H,020H,020H
DB      03FH,03FH,021H,021H,001H,001H,000H,000H,000H,020H,020H,03FH,03FH,020H,020H,020H
DB      020H,020H,030H,00CH,020H,030H,038H,027H,002H,002H,002H,002H,023H,03FH,03CH,030H
DB      020H,000H,000H,000H,000H,020H,020H,03FH,03FH,020H,020H,000H,000H,000H,000H,000H
DB      000H,020H,020H,03FH,03FH,020H,020H,000H,000H,000H,020H,020H,03FH,03FH,020H,020H
DB      020H,023H,020H,030H,008H,000H,007H,00FH,018H,030H,020H,020H,020H,020H,020H,010H
DB      008H,000H,020H,020H,03FH,03FH,020H,020H,000H,020H,020H,03FH,03FH,020H,020H,000H
BIG_CHAR2:
DB      010H,010H,0F0H,0F0H,010H,010H,010H,010H,030H,060H,0C0H,080H,000H,010H,010H,0F0H
DB      0F0H,010H,010H,000H,0C0H,0E0H,030H,010H,010H,010H,020H,0F0H,000H,000H,010H,010H
DB      0F0H,0F0H,010H,010H,010H,030H,0E0H,0C0H,000H,010H,010H,0F0H,0F0H,010H,010H,000H
DB      000H,000H,000H,000H,000H,000H,000H,000H,0C0H,030H,0F0H,0C0H,000H,000H,000H
DB      000H,010H,010H,030H,070H,0D0H,090H,000H,000H,000H,090H,050H,030H,010H,070H,030H
DB      010H,010H,010H,0F0H,0F0H,010H,010H,010H,030H,070H,010H,010H,0F0H,0F0H,010H,010H
DB      010H,090H,010H,070H,000H,000H,000H,0C0H,060H,020H,010H,010H,010H,010H,020H,020H
DB      0F0H,000H,010H,010H,0F0H,0F0H,010H,010H,000H,010H,010H,0F0H,0F0H,010H,010H,000H
DB      080H,080H,0FFH,0FFH,080H,080H,080H,080H,040H,060H,03FH,01FH,000H,080H,080H,0FFH
DB      0FFH,080H,080H,000H,0F0H,061H,043H,083H,086H,086H,0CCH,07CH,038H,000H,080H,080H
DB      0FFH,0FFH,084H,084H,004H,006H,003H,001H,000H,080H,080H,0FFH,0FFH,080H,080H,080H
DB      080H,080H,0C0H,030H,080H,0C0H,0E0H,09CH,00BH,008H,008H,009H,08FH,0FEH,0F0H,0C0H
DB      080H,000H,000H,000H,000H,081H,083H,0FEH,0FCH,082H,081H,000H,000H,000H,000H,000H
DB      000H,080H,080H,0FFH,0FFH,080H,080H,000H,000H,000H,080H,080H,0FFH,0FFH,082H,082H
DB      082H,08FH,080H,0C0H,020H,000H,01FH,03FH,060H,0C0H,080H,080H,080H,080H,080H,040H
DB      020H,000H,080H,080H,0FFH,0FFH,082H,082H,002H,082H,082H,0FFH,0FFH,080H,080H,000H

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END