



# 1621

```
;*****  
;*****  
;1621    LCD  
;*****  
        #INCLUDE  CMS69F628. H  
  
WR_1621      EQU    PORTA, 0      ;1621  
DATA_1621    EQU    PORTA, 1      ;1621  
CS_1621      EQU    PORTA, 2      ;1621  
  
DATA_INC     EQU    ?            ;  
COMMAND_ADD  EQU    ?            ;    /  
FLAG         EQU    ?            ;  
  
TEMP         EQU    ?            ;  
COUNT       EQU    ?            ;  
  
;*****  
;*****  
;1621  
;*****  
LCD_DRIVE:  
ONOFF_COMMAND:            ;  
  
;    LDIA        B' 00000000'    ;SYS    DIS
```



```
LDIA      B' 00000001'      ;SYS  EN
CALL      ST_COMMAND_COM

OSC_CHO:      ;          rc  xt  extclk
; LDIA      B' 00010100'      ;EXT XT
LDIA      B' 00011000'      ;INT RC 256K
; LDIA      B' 00011100'      ;EXT CLK 256K
CALL      ST_COMMAND_COM

BIAS_COM_CHO:      ;BIAS/COM
LDIA      B' 00100000'      ;BIAS 1/2 2COM
; LDIA      B' 00100100'      ;BIAS 1/2 3COM
; LDIA      B' 00101000'      ;BIAS 1/2 4COM
; LDIA      B' 00100001'      ;BIAS 1/3 2COM
; LDIA      B' 00100101'      ;BIAS 1/3 3COM
; LDIA      B' 00101001'      ;BIAS 1/3 4COM
CALL      ST_COMMAND_COM

BELL_HZ:      ;
LDIA      B' 01100000'      ;TONE 2K
; LDIA      B' 01000000'      ;TONE 4K
CALL      ST_COMMAND_COM

BELL_ONOFF:      ;
LDIA      B' 00001001'      ;TONE ON
; LDIA      B' 00001000'      ;TONE OFF
CALL      ST_COMMAND_COM

CLR_COMMAND:      ;      wdt      timer
;      wdt      timer      wdt
timer
LDIA      B' 00001110'      ;CLR  WDT
; LDIA      B' 00001100'      ;CLR  TIMER
CALL      ST_COMMAND_COM
```



```
WORK_CHO:                                ;WDT  TIMER
    LDIA    B' 00000111'                ;WDT EN
;    LDIA    B' 00000110'                ;TIMER EN
;    LDIA    B' 00000101'                ;WDT DIS
;    LDIA    B' 00000100'                ;TIMER DIS
    CALL    ST_COMMAND_COM

FRE_CHO:                                  ;
    LDIA    B' 10100000'                ;F1
;    LDIA    B' 10100001'                ;F2
;    LDIA    B' 10100010'                ;F4
;    LDIA    B' 10100011'                ;F8
;    LDIA    B' 10100100'                ;F16
;    LDIA    B' 10100101'                ;F32
;    LDIA    B' 10100110'                ;F64
;    LDIA    B' 10100111'                ;F128
    CALL    ST_COMMAND_COM

WORK_ALLOW:                               ;WDT  TIMER
;    LDIA    B' 10000000'                ;IRQ  DIS
    LDIA    B' 10001000'                ;IRQ  EN
    CALL    ST_COMMAND_COM

WORK_START:                               ;                1621
;    LDIA    B' 00000010'                ;LCD OFF
    LDIA    B' 00000011'                ;LCD ON
    CALL    ST_COMMAND_COM

DISP_ON:                                  ;WRITE DATA
    CLR     COMMAND_ADD

DISP_LOOP:
    LDIA    01FH
    ANDA    COMMAND_ADD
```



```
ADDIA    TAB_DATA$L
LD       TABLE_SPL, A
LDIA     TAB_DATA$H
SZB      STATUS, C
ADDIA    . 1
LD       TABLE_SPH, A
TABLE    DATA_INC      ;
CLRB     FLAG, 0        ;
CALL     LCD_DRIVE_COM

INCR     COMMAND_ADD    ;      +1
LDIA     . 32
SUBA     COMMAND_ADD
SNZB     STATUS, C
JP       DISP_LOOP
RET

;*****
ST_COMMAND_COM:
    LD     COMMAND_ADD, A
    SETB   FLAG, 0      ;
;-----
LCD_DRIVE_COM:
    CLRB   CS_1621
    LDIA   B' 10100000'
    SZB    FLAG, 0      ;=1--->COMMAND, =0--->WRITE
    LDIA   B' 10000000'
    LD     TEMP, A
    LDIA   D' 3'
    LD     COUNT, A
```



```
CALL        SEND_1621

;-----

LDIA       D' 6'          ;
SZB        FLAG, 0
LDIA       D' 9'
LD         COUNT, A
LD         A, COMMAND_ADD
LD         TEMP, A
CALL       SEND_1621

;-----

SZB        FLAG, 0          ;
JP         LCD_DRIVE_BACK
LD         A, DATA_INC
LD         TEMP, A
LDIA      D' 4'
LD         COUNT, A
CALL       SEND_1621

LCD_DRIVE_BACK:
SETB      CS_1621
RET

;*****

SEND_1621:          ;
RLCR      TEMP
CLRB      DATA_1621
SZB       STATUS, C
SETB      DATA_1621
CLRB      WR_1621
SETB      WR_1621
SZDECR    COUNT
```



JP SEND\_1621

RET 00H

\*\*\*\*\*

TAB\_DATA:

DW 0FH ;addr0

DW 0FH ;addr1

DW 0FH

DW 0FH

DW 0FH

DW 0FH

DW 0FH

DW 0FH

DW 0FH

DW 0FH

DW 0FH

DW 0FH

DW 0FH

DW 0FH

DW 0FH

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DW 0FH

DW 0FH

DW 0FH

DW 0FH

DW 0FH



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DW	0FH	
DW	0FH	
DW	0FH	
DW	0FH	
DW	0FH	
DW	0FH	
DW	0FH	;addr31

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