

Since version mios_v1_5b [MIOS](#) has supported 4-bit mode for HD44780 compatible displays

Usually this mode isn't needed, but some displays have been internally configured for 4-bit operation and don't have all the necessary connections for full 8-bit operation or You might have some other reason to try this mode out.

To configure [MIOS](#) application to use 4-bit CLCD mode, changes need to be made to the application:

First locate

'**USER_Init**' section of the source files ¹⁾

Then add to its own section just below the 'USER_Init' ²⁾:

;; use a CLCD, E input of first CLCD at D.7, E of second CLCD @C.4

```
;; using the 4-bit interface:
;; -> connect MBHP_CORE:J15:D7-D4 of the core module to D7-D4 of the
LCD
;; -> left MBHP_CORE:J15:D3-D0 of the core module open!
;; -> tie D3-D0 of the LCD to ground
movlw    0x37 | 0x80      ; E1: D.7, 4bit interface
movwf    MIOS_PARAMETER1
movlw    0x24 | 0x80      ; E2: C.4, 4bit interface
movwf    MIOS_PARAMETER2
movlw    0x00             ; LCD type 0
call     MIOS_LCD_TypeSet''
```

Then you have to Compile the modified application.

See the comments ³⁾ in the code for how to connect the display to the core. In the display side, having the datasheet for it helps a lot.

More: [MIOS function reference](#)

¹⁾

usually in 'main.asm', in MB_SID 'sid_init.inc'

²⁾

Don't add it in between the initialization commands or you can break something this way

³⁾

marked with ;; in the beginning of the line

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