Character LCD driver activity matrix

	LCD_MODE_1	LCD_MODE_2	LCD_MODE_3	LCD_MODE_4	LCD_MODE_5
LCD_TIMER			+ only LCD_USERTIMER == 0		+ only LCD_USERTIMER == 0
LCD_TIMER_PR			+ only LCD_USERTIMER == 0		+ only LCD_USERTIMER == 0
LCD_USERTIMER			+		+
LCD_FPS			+ only LCD_USERTIMER == 0		+ only LCD_USERTIMER == 0
LCD_PULSEDELAY	+	+	+	+	+
LCD_EXEDELAY		+			
LCD_BLINKCHAR	+	+	+	+	+
LCD_BLINKSPEED					+
LCD_CURSOR	+	+	+		
LCD_ZEROCHANGE	+	+	+	+	+
LCD_ZEROCHANGEBACK	+	+	+	+	+
LCD_CHARSETINIT	+	+	+	+	+
LCD_CHARSETCHANGE	+	+	+	+	+
LCD_USRx_CHRx	+ Only LCD_CHARSETINIT	+ Only LCD_CHARSETINIT	+ Only LCD_CHARSETINIT	+ Only LCD_CHARSETINIT	+ Only LCD_CHARSETINIT
LcdInit()	+	+	+	+	+
LcdProcess()				+	
LcdIntProcess()			+ Only LCD_USERTIMER == 1		+ Only LCD_USERTIMER == 1
LcdRefreshAll()	+	+	+		
LcdRefreshStart()					+
LcdRefreshStop()					+
LcdRefreshed()			+		
LcdCursor...()	+	+	+		
LcdBlink...()	+	+	+	+	+
LcdChangeCharset()	+	+	+	+	+

Note:
- need to operate
- can be operated

Stm32f103 bluepill – st7735 spi setting

LCD 4 or 8 bit mode (LCD_MODE all)

```
#define LCD_E      B, 7
#define LCD_E2     X, 0    /* only double LCD */
#define LCD_RW     B, 6    /* necessary only busy mode */
#define LCD_RS     B, 5
#define LCD_D0     B, 8    /* only 8 bit mode */
#define LCD_D1     B, 9    /* only 8 bit mode */
#define LCD_D2     B, 10   /* only 8 bit mode */
#define LCD_D3     B, 11   /* only 8 bit mode */
#define LCD_D4     B, 12
#define LCD_D5     B, 13
#define LCD_D6     B, 14
#define LCD_D7     B, 15
if 4 bit mode:
- LCD_D0..D3 -> connect to GND
- LCD_D0..D3 definition change to X, 0
```

Double LCD 4 or 8 bit mode (LCD_MODE all)

```
#define LCD_E      B, 7
#define LCD_E2     B, 4    /* only double LCD */
#define LCD_RW     B, 6    /* necessary only busy mode */
#define LCD_RS     B, 5
#define LCD_D0     B, 8    /* only 8 bit mode */
#define LCD_D1     B, 9    /* only 8 bit mode */
#define LCD_D2     B, 10   /* only 8 bit mode */
#define LCD_D3     B, 11   /* only 8 bit mode */
#define LCD_D4     B, 12
#define LCD_D5     B, 13
#define LCD_D6     B, 14
#define LCD_D7     B, 15
if 4 bit mode:
- LCD_D0..D3 -> connect to GND
- LCD_D0..D3 definition change to X, 0
```

LCD 4 or 8 bit, not busy mode (LCD_MODE 2 or 3 or 5)

```
#define LCD_E      B, 7
#define LCD_E2     X, 0    /* only double LCD */
#define LCD_RW     X, 0    /* necessary only busy mode */
#define LCD_RS     B, 5
#define LCD_D0     B, 8    /* only 8 bit mode */
#define LCD_D1     B, 9    /* only 8 bit mode */
#define LCD_D2     B, 10   /* only 8 bit mode */
#define LCD_D3     B, 11   /* only 8 bit mode */
#define LCD_D4     B, 12
#define LCD_D5     B, 13
#define LCD_D6     B, 14
#define LCD_D7     B, 15
LCD_RW: connect to GND
if 4 bit mode:
- LCD_D0..D3 -> connect to GND
- LCD_D0..D3 definition change to X, 0
```

Double LCD 4or8 bit, not busy mode (LCD_MODE 2 or 3 or 5)

```
#define LCD_E      B, 7
#define LCD_E2     B, 4    /* only double LCD */
#define LCD_RW     X, 0    /* necessary only busy mode */
#define LCD_RS     B, 5
#define LCD_D0     B, 8    /* only 8 bit mode */
#define LCD_D1     B, 9    /* only 8 bit mode */
#define LCD_D2     B, 10   /* only 8 bit mode */
#define LCD_D3     B, 11   /* only 8 bit mode */
#define LCD_D4     B, 12
#define LCD_D5     B, 13
#define LCD_D6     B, 14
#define LCD_D7     B, 15
LCD_RW: connect to GND
if 4 bit mode:
- LCD_D0..D3 -> connect to GND
- LCD_D0..D3 definition change to X, 0
```