

## **AXE131 Serial OLED/LCD Firmware**

Kindly note that as the AXE131 serial driver module is shared between various sizes/types of LCD and OLED screens it may be necessary to customise the firmware for the size/type of screen that you are using.

This is a straight forward process by reprogramming the surface mount PICAXE-18M2 chip on the AXE131 module before use.

### **If your screen appears blank after first power up please update the firmware.**

- 1) Assemble the AXE131 module to the LCD/OLED using the assembly instructions

[picaxe.com/docs/axe131.pdf](http://picaxe.com/docs/axe131.pdf)

- 2) Download the AXE131 code from this link and open in PICAXE Editor 6

[picaxe.com/downloads/axe131.bas.txt](http://picaxe.com/downloads/axe131.bas.txt)

- 3) Near the top of the program define either LCD or OLED as appropriate by making sure that one of these two lines is active and the other is commented out e.g.

```
#define use_OLED  
; #define use_LCD
```

- 4) For the line\_length symbol make sure it is defined as 20 (for 20x4) or 16 for all other screens.

```
symbol line_length = 16 ; or change to 20
```

- 5) Insert the PICAXE cable into the socket on the AXE131 board and power up (4.5V or 5V)
- 6) Download the AXE131 code into the module

### **Character Addressing Tips:**

All screens are internally configured as if there are 64 characters on each line, however only the first 8/16/20 characters on a line are actually visible. That is why the first character address of line 1 is 128 and of line 2 is 192.

Note that 20x4 screens are internally configured as if line 3 is a continuation of line 1 (and line 4 is a continuation of line 2). Therefore character 1 of line 3 is considered to be character 21 of line 1 (ie address 148 which is 128+20).