

Embedded Artists 2.7 inch E-paper Display Module & mbed LPC1768



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1 Required Hardware

The hardware listed below is needed to get Embedded Artists 2.7 inch E-paper display module connected to a mbed LPC1768.

- **mbed LPC1768**
- Embedded Artists 2.7 inch **E-paper Display** module. Part number: EA-LCD-009
http://www.embeddedartists.com/products/displays/lcd_27_epaper.php
- 14 pcs female-to-female **jumper wires** (prototyping cables). Embedded Artists 50 pack with part number EA-ACC-015 can be used.
http://www.embeddedartists.com/products/acc/acc_wire_ff.php

2 Connect the Display

Use female-to-female jumper wires (prototyping cables) to connect the mbed with the display. The figures below as well as the table guides you how to connect the cables.

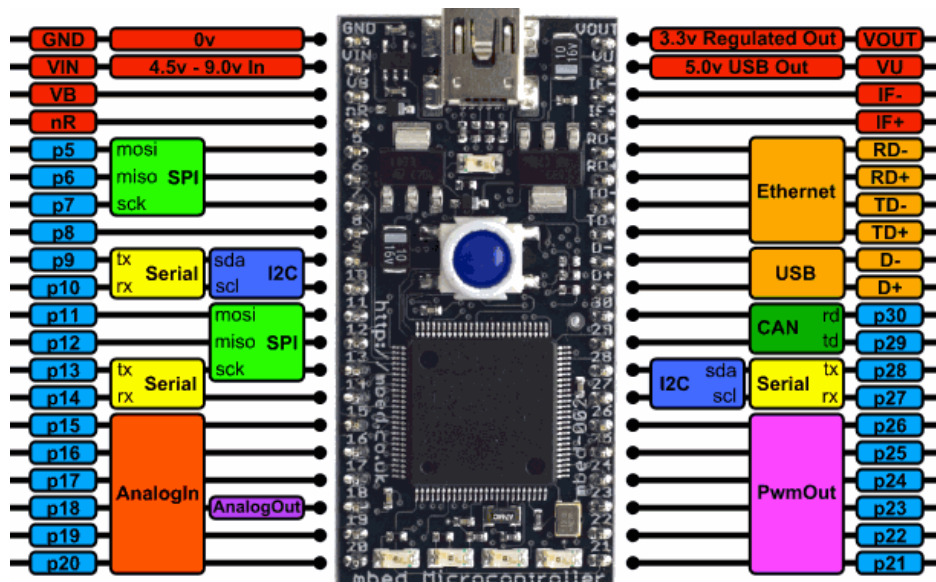


Figure 1 - Pin numbering on mbed LPC1768

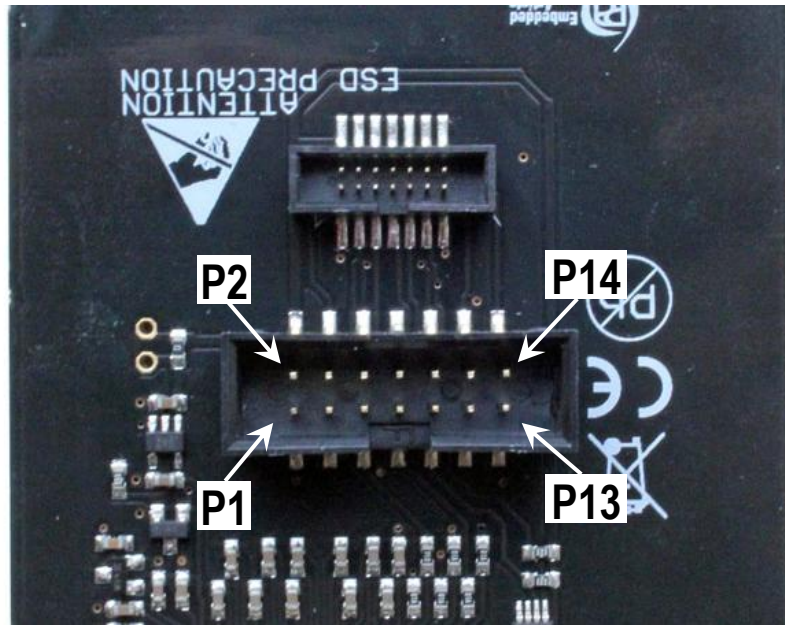


Figure 2 - Pin numbering on display

mbed			Display	
GND	GND	↔	1	GND
p5	MOSI	↔	4	MOSI
p6	MISO	↔	5	MISO
p7	SCK	↔	3	SCK
p8	GPIO	↔	6	SSEL
p9	GPIO	↔	13	Power control
p10	GPIO	↔	8	Border
p11	GPIO	↔	14	Discharge
p12	GPIO	↔	12	Reset
p13	GPIO	↔	7	Busy
p26	PWM	↔	11	PWM
p27	SCL	↔	9	SCL
p28	SDA	↔	10	SDA
VOUT	3V3	↔	2	3V3

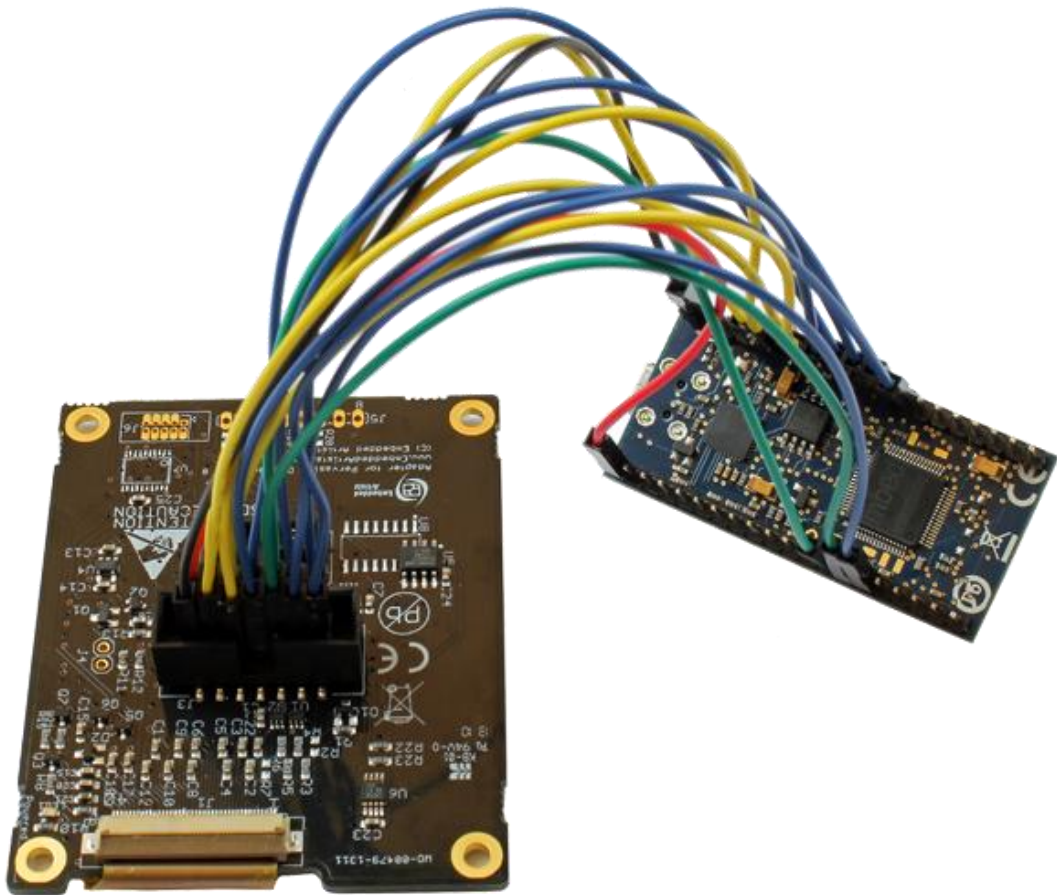
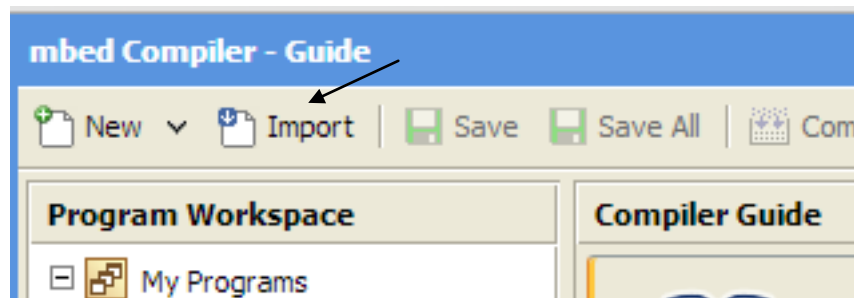


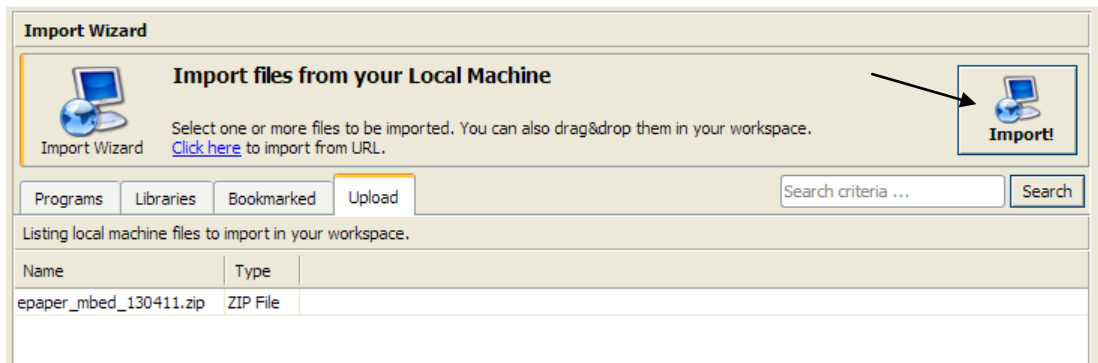
Figure 3 - mbed connected to Display

3 Import to mbed Compiler

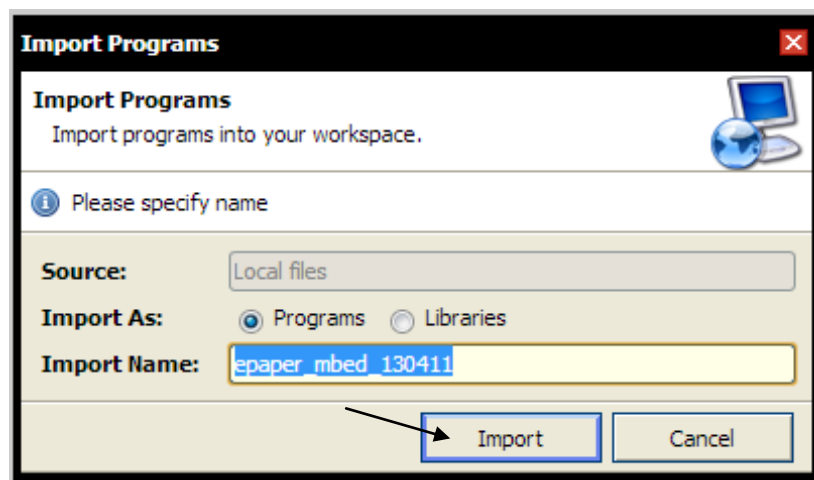
1. Download the zip file (epaper_mbed_XXXXX.zip) from the E-paper display module product page
http://www.embeddedartists.com/products/displays/lcd_27_epaper.php
2. Login to your mbed account and start the compiler
3. Click the import button in the toolbar



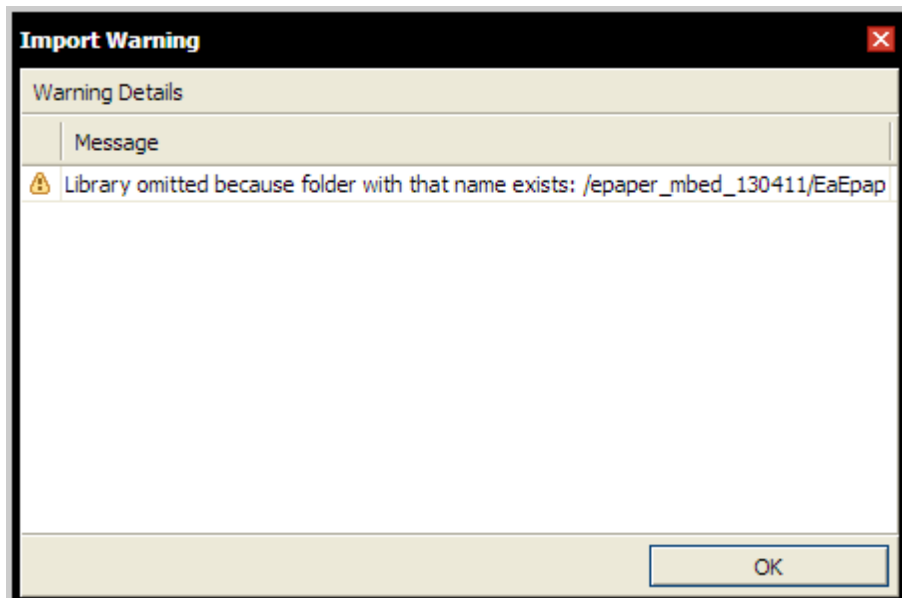
4. In the import wizard click the Upload tab and then browse and select the downloaded zip file.



- Click the Import button in the wizard and an import dialog will appear. Click the import button in this dialog.



- A warning dialog will most likely be displayed. You can ignore this warning and just click OK.

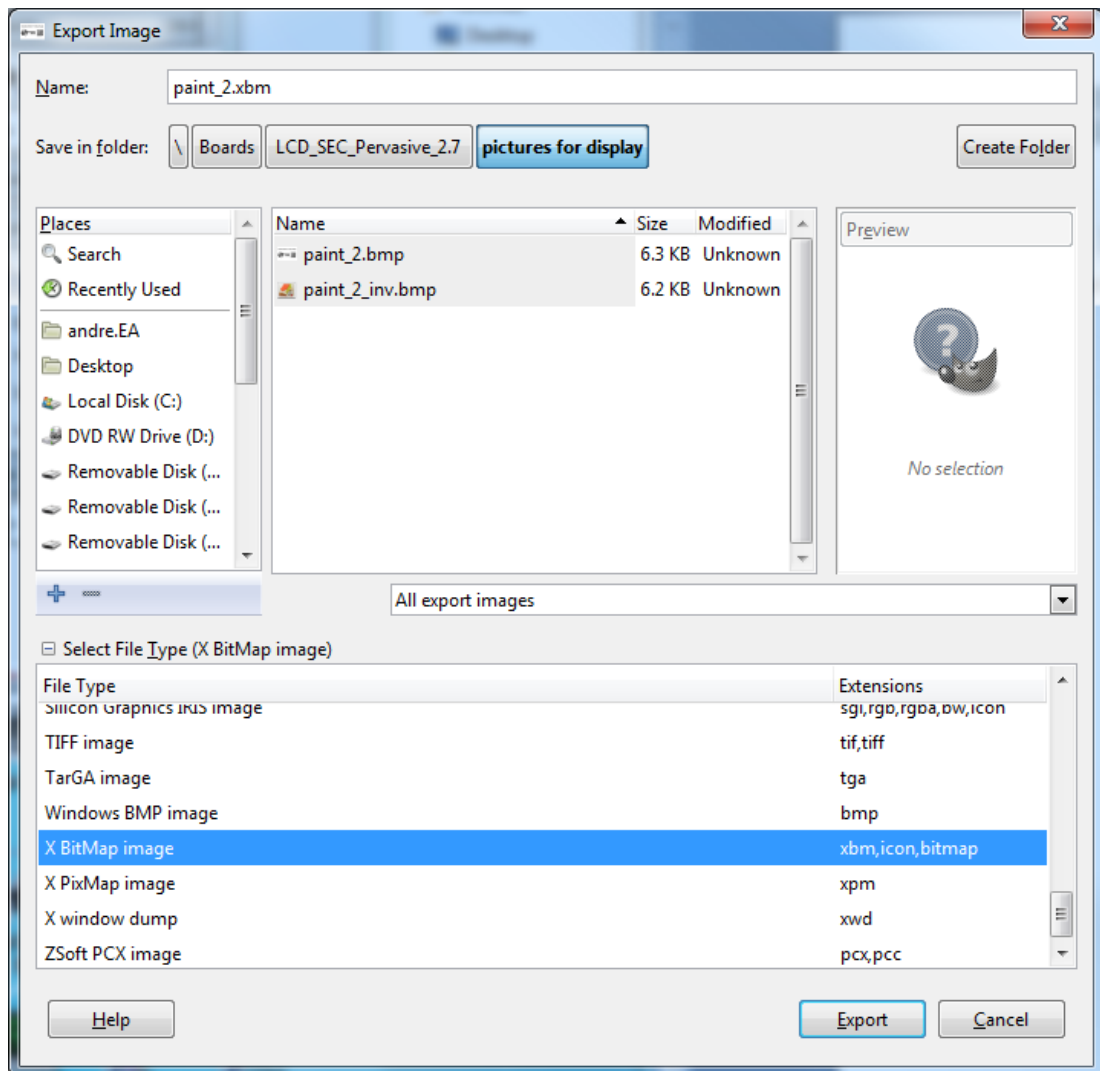


- You are now ready to build and download the application

4 Image Format

The format used for the images is the X BitMap (xbm) format. The image manipulation program called GIMP can be used to save a monochrome image in xbm format.

<http://www.gimp.org/>



5 Disclaimer

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