Think3DPrint3D Ltd
Panelolu2 for Melzi HOWTO – draft February 2014

http://blog.think3dprint3d.com/2013/03/panelolu2-for-melzi.html

1. http://arduino.cc/en/Main/OldSoftwareReleases

    Download Arduino-0023.zip and extract.

2. https://github.com/T3P3/Marlin

    Download Marlin-Marlin_v1.zip and extract.

3. Add the "Marlin-Marlin_v1\ArduinoAddons\Arduino_0.xx\Sanguino" directory to "arduino-0023\Hardware\" directory.

4. Copy the avrdude.conf file found in Marlin-Marlin_v1\ArduinoAddons\Arduino_0.xx\hardware\tools\avr\etc\" and paste it into Arduino-0023\hardware\tools\avr\etc\, overwriting the existing file.

5. https://github.com/lincomatic/LiquidTWI2

    Download LiquidTWI2-master.zip, extract and rename to LiquidTWI2. Place it in Arduino-0023\libraries.

6. Put JP1 on Melzi (the one in the middle of the board, not the one at the RH end) on 1st 2 pins (bottom and centre) and connect to PC by USB. Windows should detect the FT232RL chip as FT232R USB UART and allocate it a COM port - see Control Panel/Devices and printers. Make a note of the number.

7. Run Arduino.exe from Arduino-0023. Decline the invitation to upgrade to a newer version of Arduino. In Tools>Board select Sanguino W/ ATmega1284p 16mhz, and in Tools>Serial Port select the COM port allocated to the Melzi.

8. Select File>Open and navigate to Marlin-Marlin_v1/Marlin/ and click on any of the files displayed to open Marlin in Arduino.

9. Click on the configuration.h tab in Marlin and edit Line 51 to read "#define MOTHERBOARD 63"

10. Modify the configuration.h of the Marlin to fit your printer setup (setting like controller board, axis dimensions, thermistors, etc). It's best to copy these from the configuration.h of your custom firmware. This blog post should help

11. Confirm Marlin compiles and uploads with //#define PANELOLU2 still commented out in configuration.h.

12. Then uncomment #define PANELOLU2 (line 381), along with #define EEPROM_SETTINGS (line 357) and #define EEPROM_CHITCHAT (line 360) and confirm it compiles and uploads. Note that with the #define PANELOLU2 uncommented, you must have the Panelolu2 connected when connecting to the Melzi with Pronterface or other software or Marlin will hang and not finish initialising.

13. Check the printer operation and calibration to ensure you have edited the Marlin configuration.h properly.