

# RepRapDiscount Smart Controller

From RepRapWiki

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## Smart Controller

Based on **bkubicek idea** (<http://www.thingiverse.com/thing:15081>) , we realized this smart controller.

### Description

This Smart Controller contains a SD-Card reader, a rotary encoder and a 20 Character x 4 Line LCD display. You can easy connect it to your Ramps board using the "smart adapter" included.

After connecting this panel to your Ramps you don't need your pc any more, the Smart Controller supplies power for your SD card. Further more all actions like calibration, axes movements can be done by just using the rotary encoder on the Smart Controller. Print your 3D designs without PC, just with a g-code design stored on the SD card.

### Schematics

LCD Connect Schematics

RepRapDiscount Controller Final Schematics

Smart Adapter Gerber Files

Smart Controller Gerber Files

As firmware we used Marlin's sources (<https://github.com/ErikZalm/Marlin>) , to update the firmware in the future you just need an Arduino board, so you are good to go ;)

### Pictures of a Smart Controller made by RepRapDiscount.com



## RepRapDiscount.com Smart Controller

Release status: working



**Description** Run your RAMPS with just with a SD card!

**License** GPL

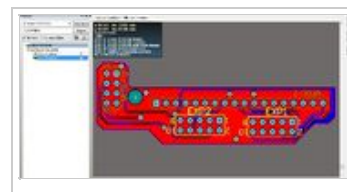
**Author** RepRapDiscount.com

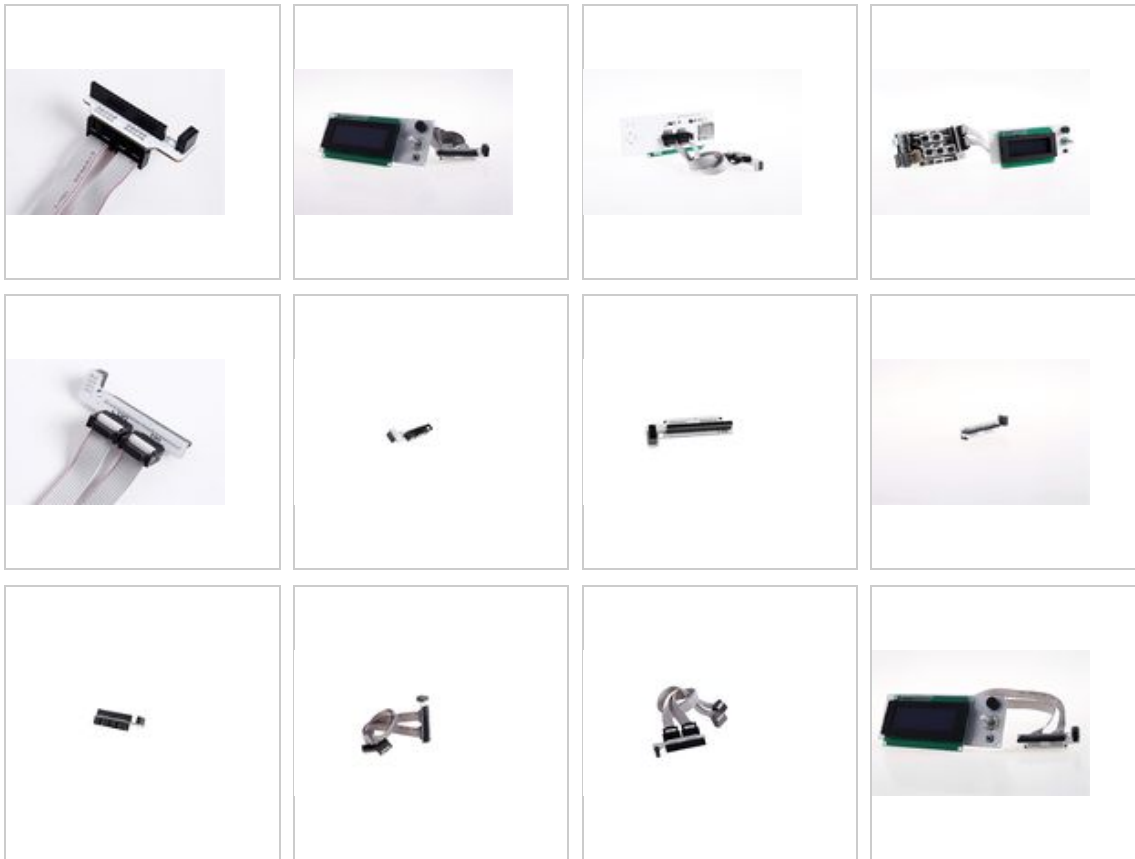
**Based-on** [[bkubicek idea (<http://www.thingiverse.com/thing:15081>)]]

**Categories** Electronics

**CAD Models** none

**External Link** none





## Marlin V1 (new)

In "Configuration.h"

1. Change line 46 to "#define MOTHERBOARD 33"
2. Change line 306 to "#define REPRAP\_DISCOUNT\_SMART\_CONTROLLER" (just remove the // at the beginning)
3. Change line 326 to "#define NEWPANEL //enable this if you have a click-encoder panel" (just remove the // at the beginning)

Switch over to "Pins.h" and change line 318 to "#define RAMPS\_V\_1\_3" (just remove the // at the beginning)

Upload the firmware, power off the Arduino, connect the panel, reapply power, and everything should work.

## Marlin V1 RC2 (old)

**Settings for RAMPS1.4** in "Configuration.h" search for "ULTIPANEL" and activate the define (remove the leading "//")

1. define ULTIPANEL

and

1. define NEWPANEL //enable this if you have a click-encoder panel

Also change the value on "define MOTHERBOARD" to 33

in "pins.h" go to section for RAMPS configuration (search for "MOTHERBOARD == 33")

//STOP / KILL button

1. define KILL\_PIN 41 //[RAMPS14-SMART-ADAPTER]

//lcd pins

1. define LCD\_PINS\_RS 16 //[RAMPS14-SMART-ADAPTER]
2. define LCD\_PINS\_ENABLE 17 //[RAMPS14-SMART-ADAPTER]
3. define LCD\_PINS\_D4 23 //[RAMPS14-SMART-ADAPTER]

4. define LCD\_PINS\_D5 25 //[RAMPS14-SMART-ADAPTER]
5. define LCD\_PINS\_D6 27 //[RAMPS14-SMART-ADAPTER]
6. define LCD\_PINS\_D7 29 //[RAMPS14-SMART-ADAPTER]

//encoder pins

1. define BTN\_EN1 31 //[RAMPS14-SMART-ADAPTER]
2. define BTN\_EN2 33 //[RAMPS14-SMART-ADAPTER]
3. define BTN\_ENC 35 //[RAMPS14-SMART-ADAPTER]

//beeper

1. define BEEPER 37 //[RAMPS14-SMART-ADAPTER] / 37 = enabled; -1 = disabled / (if you don't like the beep sound ;-)

//SD card detect pin

1. define SDCARDDetect 49 //[RAMPS14-SMART-ADAPTER]

## Open Source Files

You can find the open source files here: <http://forum.reprapdiscount.com/forums/oss/>

Retrieved from "http://reprap.org/mediawiki/index.php?title=RepRapDiscount\_Smart\_Controller&oldid=131380"

Categories: Working developments | Electronics | LCD | RAMPS | RepRapDiscount

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