

## LAOS Laser - Feature #49

### 3v3 for LPCExpresso

2012-09-30 15:17 - jaap

<b>Status:</b>	Closed	<b>Start date:</b>	2012-09-30
<b>Priority:</b>	Normal	<b>Due date:</b>	
<b>Assignee:</b>	peter	<b>% Done:</b>	100%
<b>Category:</b>	Mainboard	<b>Estimated time:</b>	0.00 hour
<b>Target version:</b>	Laos Mainboard Rev4		
<b>Description</b>			
The LCPEXpresso needs 3v3 power circuit. Can we add that to the board? What is needed for that?			

#### History

##### #1 - 2012-09-30 16:04 - Anonymous

Good idea - I'm using an MCP1703-3.3V (there are also TO-92 packages, and MCP1702 is equivalent). No extra parts, things are stable as far as I can tell. Note that these regulators don't all use the same pinout.

For the connections, see my recent [weblog post](#).

##### #2 - 2012-09-30 16:59 - jaap

Added space for MCP1703 and a jumper (to be able to switch between MBED and LPCExpresso).

##### #3 - 2012-09-30 16:59 - jaap

- Status changed from New to Resolved

##### #4 - 2012-10-01 01:04 - Anonymous

Looking at the rev4 board, I'm not sure what package you've used - there's TO-92 through-hole version, which might be more convenient. This regulator does *not* have ground on the middle pin (it bit me once, just wanted to mention it).

##### #5 - 2012-10-01 09:32 - jaap

This is the MICROCHIP - MCP1703-3302E/DB in a SOT223 package. Farnell order code: 1627177  
Datasheet: <http://www.farnell.com/datasheets/77574.pdf>

##### #6 - 2012-10-01 10:20 - Anonymous

FYI, the through-hole version is MC1702, see Farnell # 1331485

##### #7 - 2012-10-01 22:04 - peter

The MBED is rated at 220mA max  
<http://mbed.org/users/no2chem/notebook/mbed-power-controlconsumption/>

so with the 3v3 to the pololus we may exceed the 250mA max of the 3v3 regulator.  
We could search for a 3v3 regulator with higher current rating (500mA) or power the pololus with 5V.  
The latter is possible, because the 3V3 logic voltages will still be in the 0/1 range (although they could be more susceptible to noise). 5V would make interfacing external steppers and RS422 stepper signal easier.

B.t.w. The jumper is not required: if you do not place the component on the board, there is no contact.

**#8 - 2012-10-02 08:52 - jaap**

- *Tracker changed from Bug to Feature*
- *Status changed from Resolved to In Progress*

Jumper is placed there so you can still use the board with MBED as well.

Alternative voltage regulator: Farnell order no: 9388338

Specs: <http://www.farnell.com/datasheets/71043.pdf>

Would that one do the trick? If so, I will adapt the board layout for that one.

**#9 - 2012-10-02 20:49 - jaap**

- *Status changed from In Progress to Resolved*
- *% Done changed from 0 to 100*

Now in github...

**#10 - 2012-11-24 15:54 - jaap**

- *Status changed from Resolved to Closed*

Solved in board rev4