



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



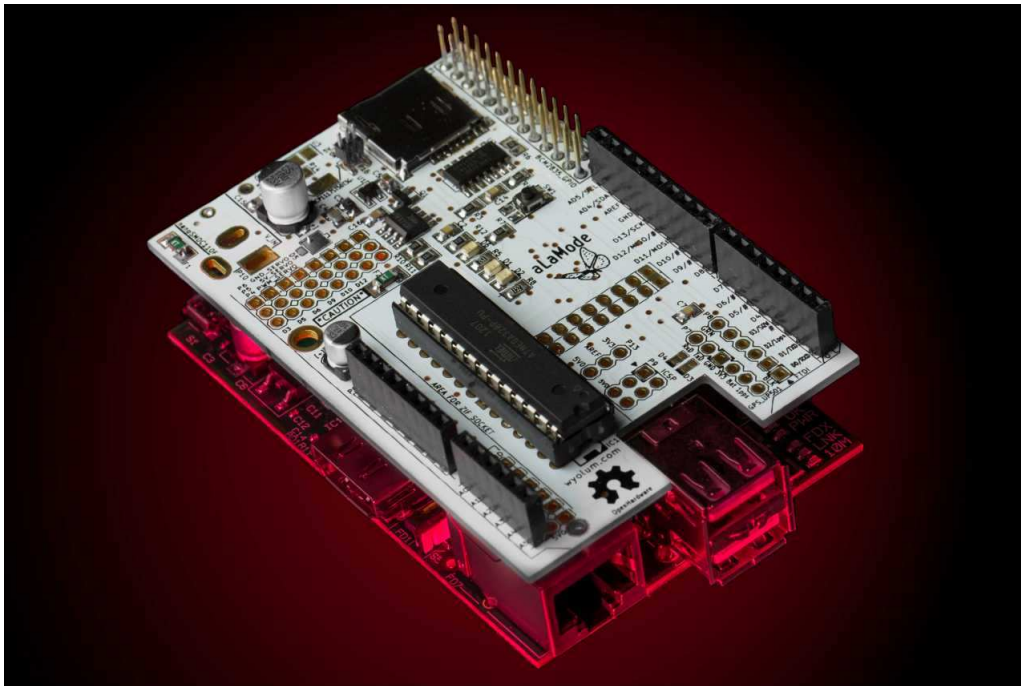
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Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China





AlaMode

*An Arduino compatible board for the
Raspberry-Pi®*

brought to you by





Features

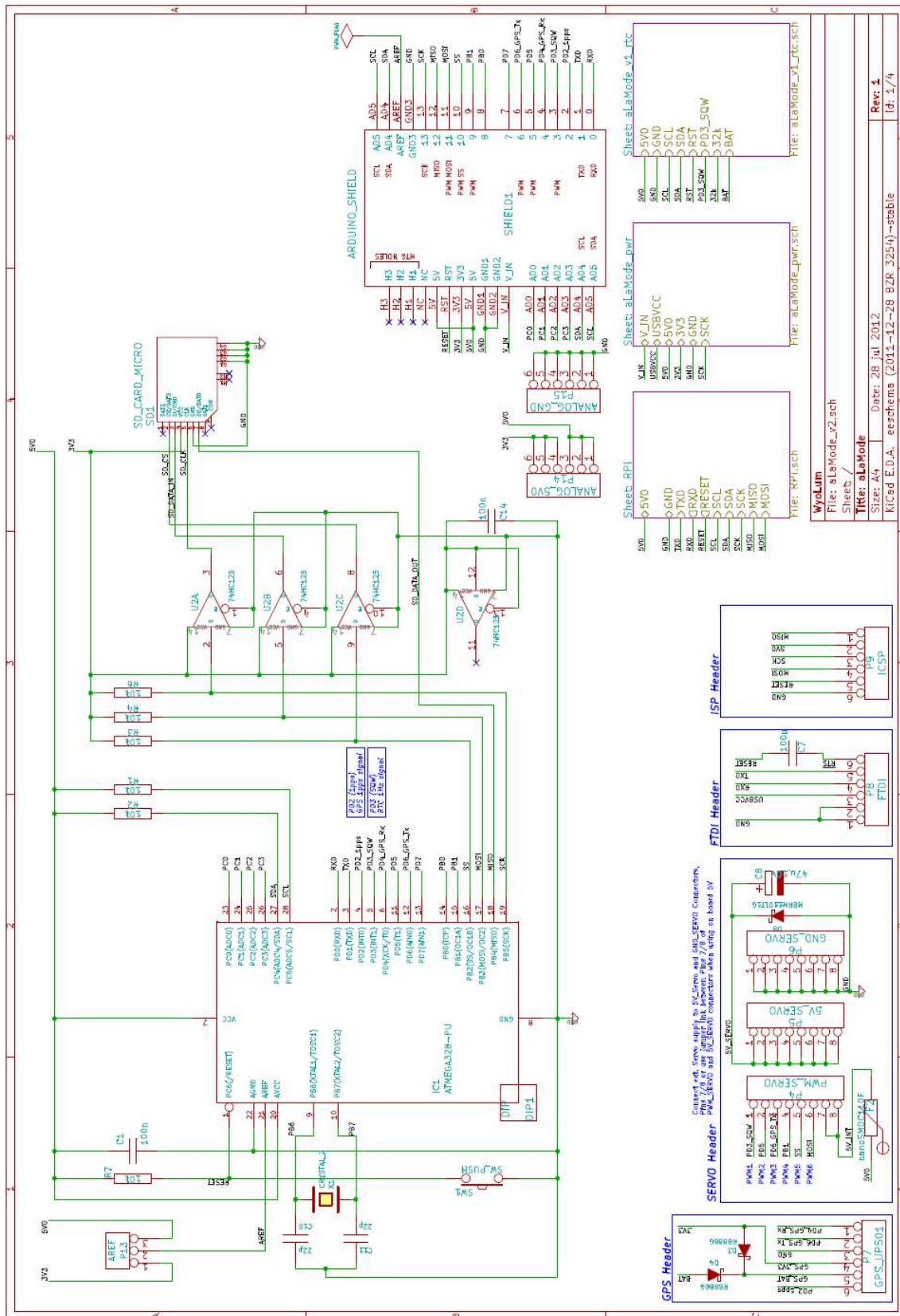
- micro SD card reader
- Temperature controlled, precision Real Time clock, with battery backup
- GPS interface for the Fastrax UP501 module
- Arduino compatible, with standard shield headers
- General purpose blink LED on port D13
- Interfaces with Raspberry-Pi® via the GPIO header
- Communicates with Raspberry-Pi via I2C, SPI or Serial UART
- Analog reference can be set to either 5V0 or 3V3
- Analog header has 5V0, 3V3 and GND headers, to allow interfacing 3 wire sensors directly.
- Servo header with 5V0 and GND connections to allow interfacing 3 wire servos directly
- Servos can be powered via on-board 5V0 or from external 5V
- FTDI and ISP headers for programming and sketch loading
- Power via external 5V to micro-USB socket, or directly from Raspberry-Pi
- 5V0 and 3V3 indicator LEDs

Potential Uses

- Stand-alone data logger
- Simple-to-use, persistent storage
- Program loader for separate Arduino compatible

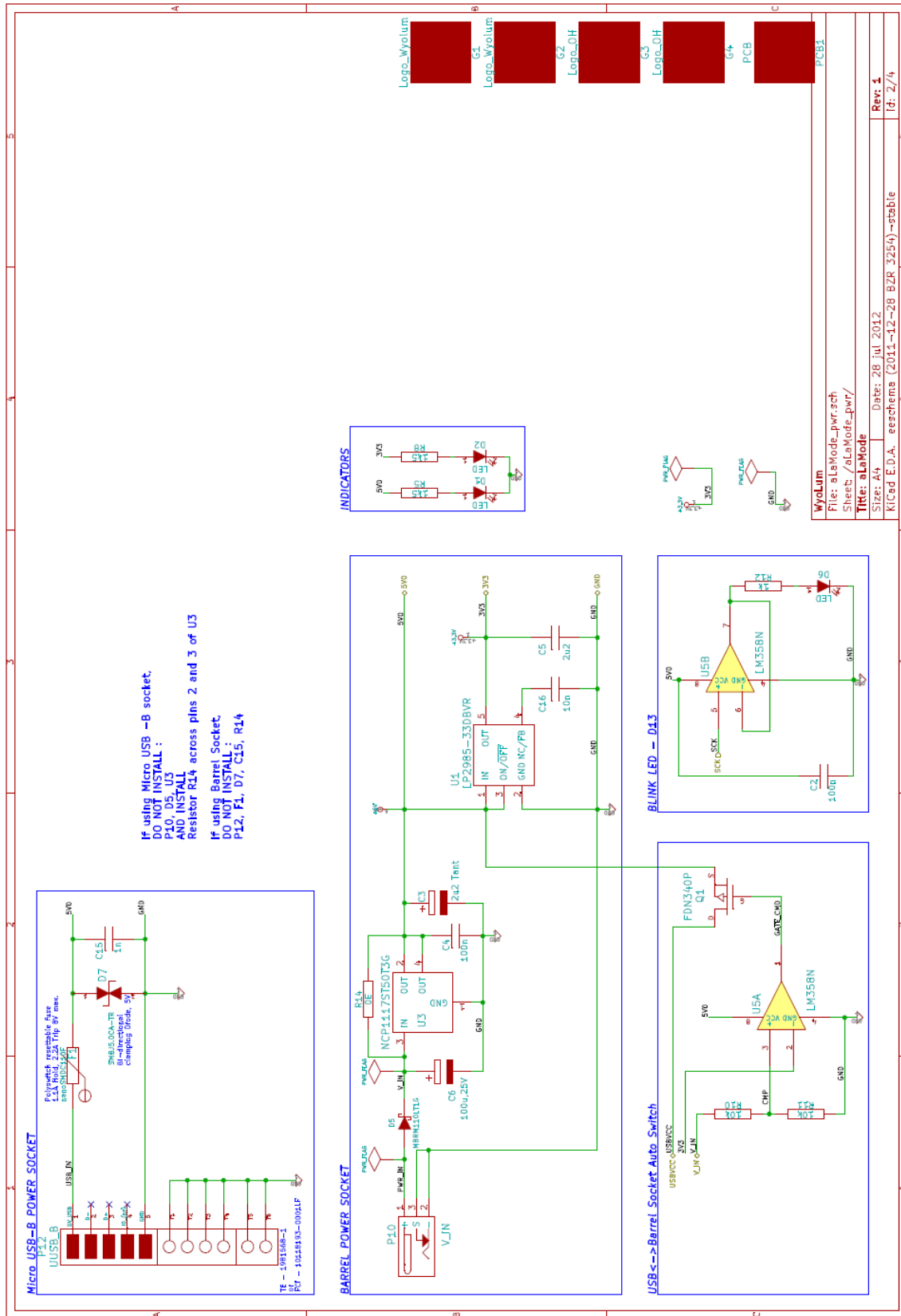


Schematic, #1



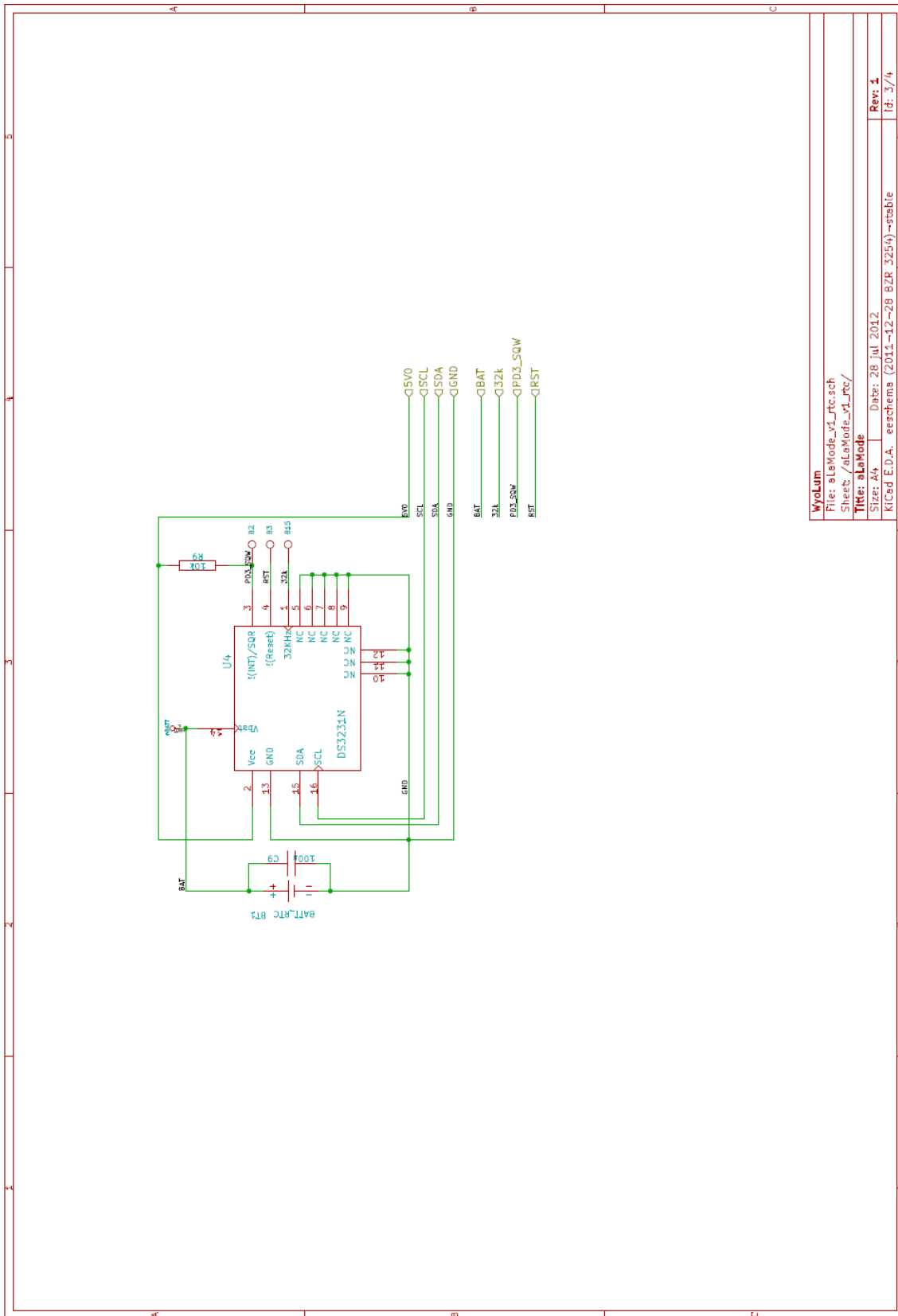


Schematic, #2





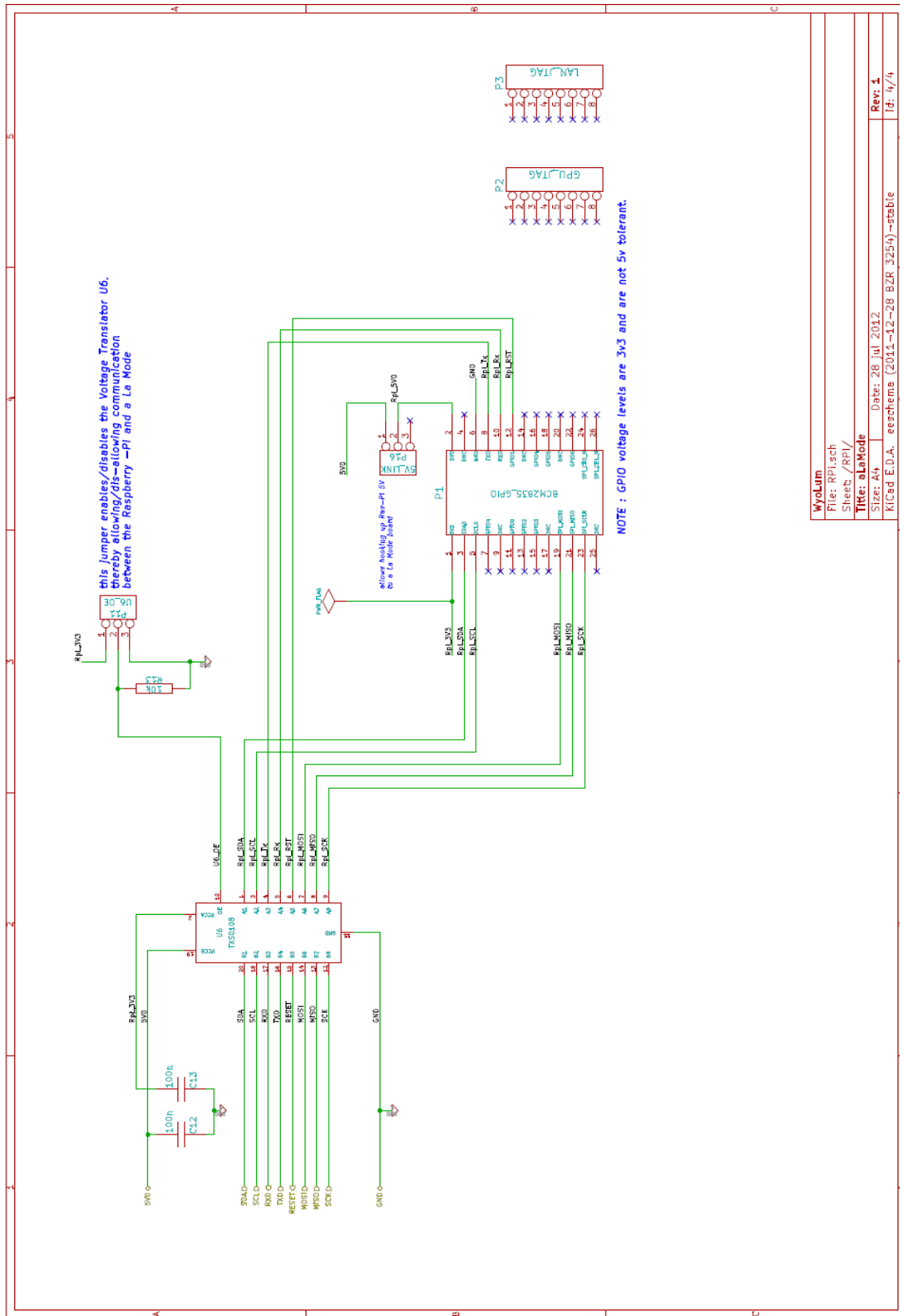
Schematic, #3



Wyolum	
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Sheet: /aluMode_v1_rtc/	
Title: aluMode	
Size: A4	Date: 28 Jul 2012
KicEad E.O.A. eeschema (2011-12-28 BZR 3254)-stable	
Rev: 1	Id: 3/4



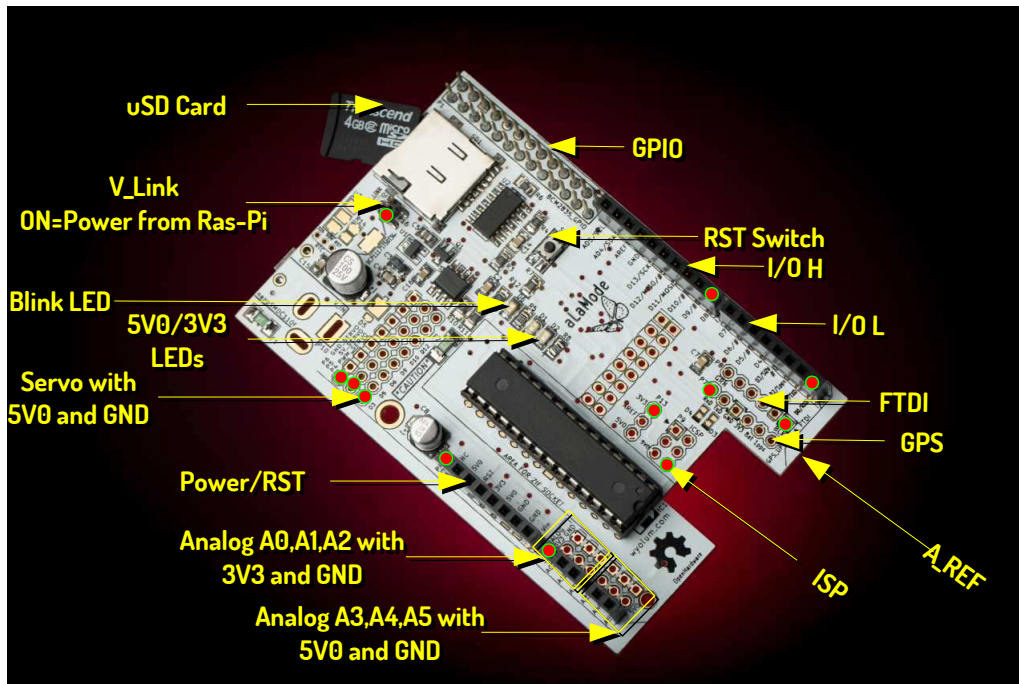
Schematic, #4



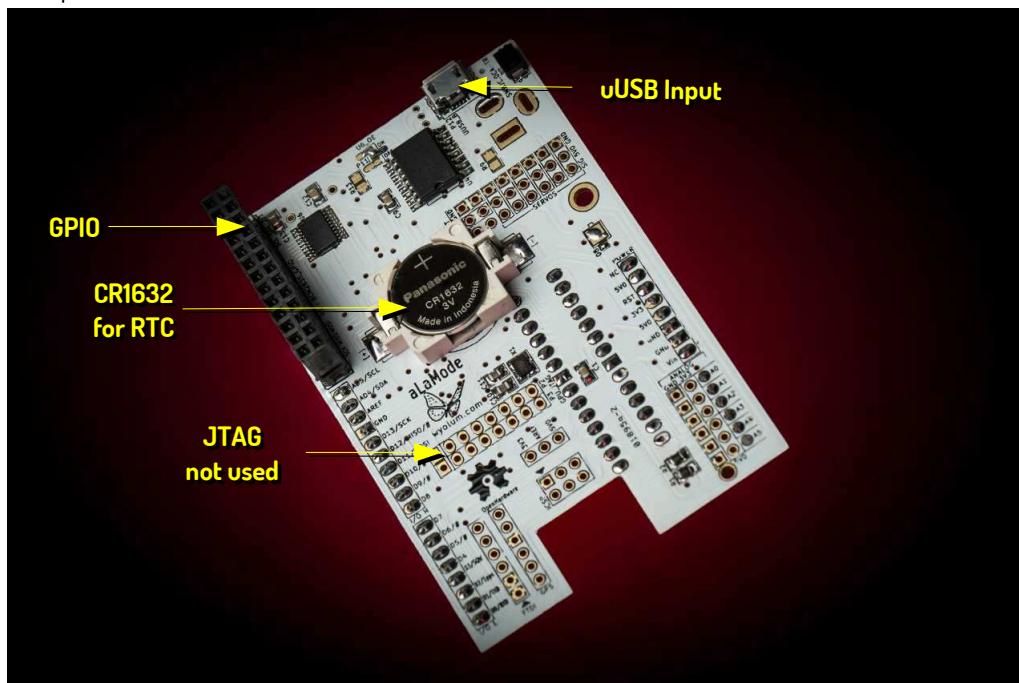
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Sheet: /RPI/
Title: LaMode
Size: A4
Date: 28 Jul 2012
KiCad E.D.A. eeschema (2011-12-29 BZR 3254)-stable
Rev: 1
Id: 4/4



Physical Interfaces



NOTE : Picture shows the prototype Beta boards. Final production boards do not have the cutout, and GPS header is re-positioned.





Physical Interfaces, Description

[RED Markers point to Pin # 1 of each header]

HEADER POWER							
	<ol style="list-style-type: none"> 1. NC 2. 5V0 3. RST 4. 3V3 5. 5V0 6. GND 7. GND 8. Vin (Note : 5V only) 						
HEADER ANALOG							
	<ol style="list-style-type: none"> 1. A0 : 3V3 : GND 2. A1 : 3V3 : GND 3. A2 : 3V3 : GND 4. A3 : 5V0 : GND 5. A4 : 5V0 : GND , SDA 6. A5 : 5V0 : GND , SCL 						
HEADER's ISP and AREF							
	<table border="0"> <tr> <td>1. MISO</td> <td>2. 5V0</td> </tr> <tr> <td>3. SCK</td> <td>4. MOSI</td> </tr> <tr> <td>5. RST</td> <td>6. GND</td> </tr> </table> <ol style="list-style-type: none"> 1. 3V3 2. AREF 3. 5V0 	1. MISO	2. 5V0	3. SCK	4. MOSI	5. RST	6. GND
1. MISO	2. 5V0						
3. SCK	4. MOSI						
5. RST	6. GND						



HEADER's GPS and FTDI	
	<ol style="list-style-type: none"> 1. GPS_Rx , PD4 (Arduino digital pin 4) 2. GPS_Tx , PD6 (Arduino digital pin 6) 3. GND 4. 3V3 5. GPS_BATT (backup for GPS, from RTC 3V batt.) 6. 1pps , PD2 (Arduino digital pin 2) <ol style="list-style-type: none"> 1. GND (BLACK) 2. GND 3. 5V0 4. RXD , PD0 (Arduino digital pin 0) 5. TXD , PD1 (Arduino digital pin 1) 6. RESET (GREEN)
HEADER's I/O L and I/O H	
	<ol style="list-style-type: none"> 1. PD0 , RXD 2. PD1 , TXD 3. PD2 , 1pps (GPS) 4. PD3 , SQW (RTC) , # (PWM1) 5. PD4 , GPS Rx 6. PD5 , # (PWM2) 7. PD6 , GPS Tx , # (PWM3) 8. PD7 , 9. PD8 , 10. PD9 , # (PWM4) 11. PD10 , SS # (PWM5) 12. PD11 , MOSI , # (PWM6) 13. PD12 , MISO 14. PD13 , SCK 15. GND , 16. AREF , 17. AD4 , SDA 18. AD5 , SCL



HEADER GPIO																											
	<table border="0"> <tr> <td>1. Rpi_3V3</td> <td>2. Rpi_5V0</td> </tr> <tr> <td>3. Rpi_SDA , SDA0</td> <td>4. NC</td> </tr> <tr> <td>5. Rpi_SCL , SCL0</td> <td>6. GND</td> </tr> <tr> <td>7. NC , GPIO4</td> <td>8. Rpi_Tx</td> </tr> <tr> <td>9. NC</td> <td>10. Rpi_Rx</td> </tr> <tr> <td>11. NC , GPIO 0</td> <td>12. Rpi_RST , GPIO 1</td> </tr> <tr> <td>13. NC , GPIO 2</td> <td>14. NC</td> </tr> <tr> <td>15. NC , GPIO 3</td> <td>16. NC , GPIO 4</td> </tr> <tr> <td>17. NC</td> <td>18. NC , GPIO 5</td> </tr> <tr> <td>19. Rpi_MOSI</td> <td>20. NC</td> </tr> <tr> <td>21. Rpi_MISO</td> <td>22. NC , GPIO 6</td> </tr> <tr> <td>23. Rpi_SCK</td> <td>24. NC , SPI_CE0</td> </tr> <tr> <td>25. NC</td> <td>26. NC , SPI_CE1</td> </tr> </table>	1. Rpi_3V3	2. Rpi_5V0	3. Rpi_SDA , SDA0	4. NC	5. Rpi_SCL , SCL0	6. GND	7. NC , GPIO4	8. Rpi_Tx	9. NC	10. Rpi_Rx	11. NC , GPIO 0	12. Rpi_RST , GPIO 1	13. NC , GPIO 2	14. NC	15. NC , GPIO 3	16. NC , GPIO 4	17. NC	18. NC , GPIO 5	19. Rpi_MOSI	20. NC	21. Rpi_MISO	22. NC , GPIO 6	23. Rpi_SCK	24. NC , SPI_CE0	25. NC	26. NC , SPI_CE1
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MICRO HEADER 5V-LINK																											
	<table border="0"> <tr> <td>1. 5V0</td> </tr> <tr> <td>2. Rpi_5V0</td> </tr> <tr> <td>3. NC</td> </tr> </table> <p>If ON, AlaMode is powered via Rpi 5V0 If OFF, AlaMode needs to be powered via P12, u-USB socket</p>	1. 5V0	2. Rpi_5V0	3. NC																							
1. 5V0																											
2. Rpi_5V0																											
3. NC																											



HEADER SERVO																									
	<table border="0"> <tr><td>1. PWM1 , PD3</td><td>5V_SERVO</td><td>GND_SERVO</td></tr> <tr><td>2. PWM2 , PD5</td><td>5V_SERVO</td><td>GND_SERVO</td></tr> <tr><td>3. PWM3 , PD6</td><td>5V_SERVO</td><td>GND_SERVO</td></tr> <tr><td>4. PWM4 , PD9</td><td>5V_SERVO</td><td>GND_SERVO</td></tr> <tr><td>5. PWM5 , PD10</td><td>5V_SERVO</td><td>GND_SERVO</td></tr> <tr><td>6. PWM6 , PD11</td><td>5V_SERVO</td><td>GND_SERVO</td></tr> <tr><td>7. 5V_INT</td><td>5V_SERVO</td><td>GND_SERVO</td></tr> <tr><td>8. 5V_INT</td><td>5V_SERVO</td><td>GND_SERVO</td></tr> </table> <p>ERRATA : PWM6 = PD11 , MOSI (NOT PD12)</p>	1. PWM1 , PD3	5V_SERVO	GND_SERVO	2. PWM2 , PD5	5V_SERVO	GND_SERVO	3. PWM3 , PD6	5V_SERVO	GND_SERVO	4. PWM4 , PD9	5V_SERVO	GND_SERVO	5. PWM5 , PD10	5V_SERVO	GND_SERVO	6. PWM6 , PD11	5V_SERVO	GND_SERVO	7. 5V_INT	5V_SERVO	GND_SERVO	8. 5V_INT	5V_SERVO	GND_SERVO
1. PWM1 , PD3	5V_SERVO	GND_SERVO																							
2. PWM2 , PD5	5V_SERVO	GND_SERVO																							
3. PWM3 , PD6	5V_SERVO	GND_SERVO																							
4. PWM4 , PD9	5V_SERVO	GND_SERVO																							
5. PWM5 , PD10	5V_SERVO	GND_SERVO																							
6. PWM6 , PD11	5V_SERVO	GND_SERVO																							
7. 5V_INT	5V_SERVO	GND_SERVO																							
8. 5V_INT	5V_SERVO	GND_SERVO																							
	<p>To power Servos via AlaMode 5V0 supply (internal mode), fix shorting links/jumpers between Pin 7 (5V_INT) and 5V_SERVO and Pin 8 (5V_INT) and 5V_SERVO as marked here (red rectangles)</p> <p>(Note : Single jumper will work too. Dual jumpers allow higher current capacity)</p>																								
	<p>To power Servos via External 5V supply (external mode), connect 5V_SERVO to 5V_Ext 5V_SERVO to 5V_Ext and GND to GND_Ext GND to GND_Ext as marked here (red / gray rectangles)</p> <p>(Note : Single connections will work too. Dual connections allow higher current capacity)</p>																								



LINKS

- website : www.wyolum.com
- e-mail : info@wyolum.com
- forum : <http://wyolum.com/forum/forumdisplay.php?fid=14>
- Git Repo : <https://github.com/wyolum/alamode>
- Arduino : <http://www.arduino.cc/>