

AlaMode

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

brought to you by





Features

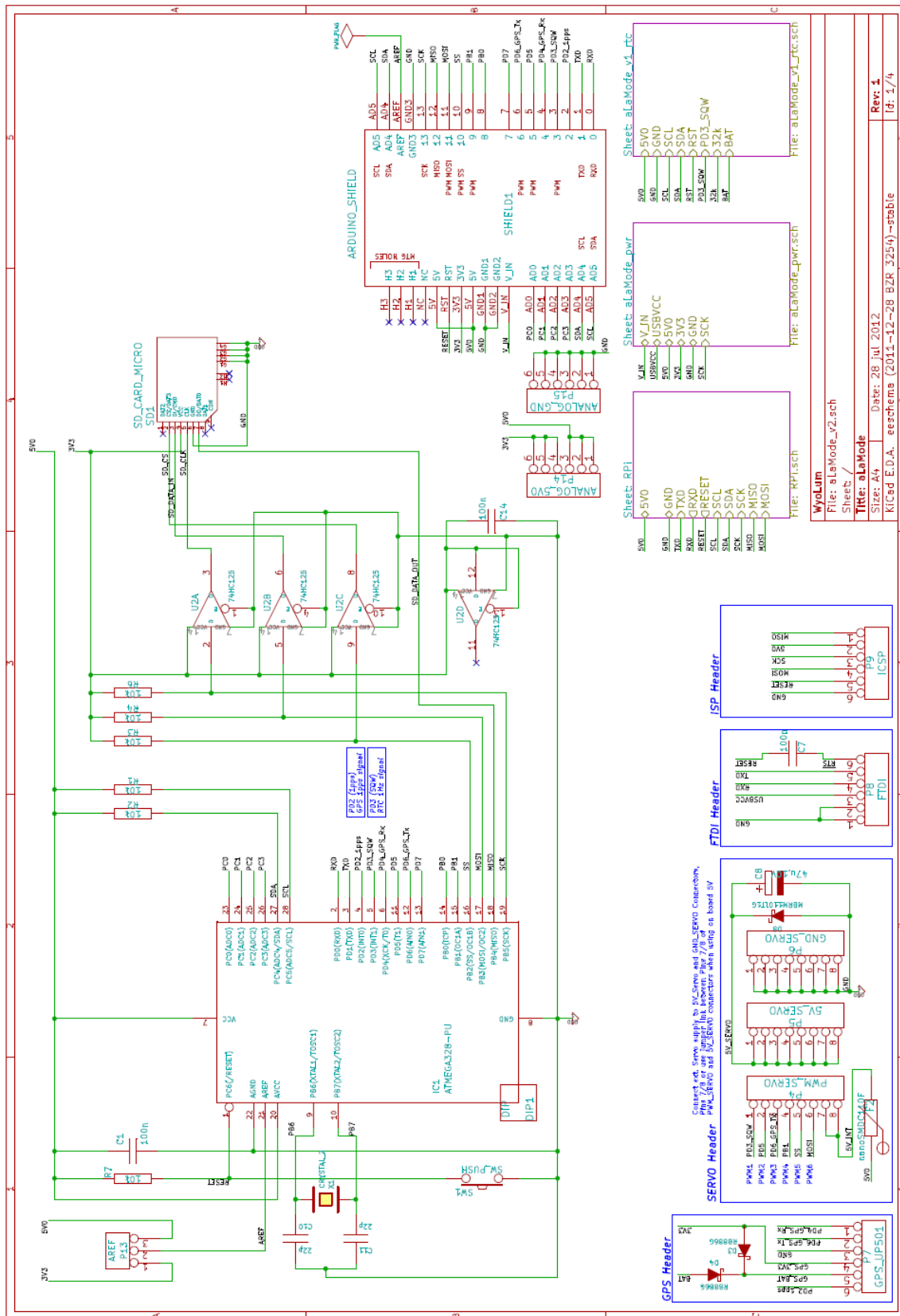
- micro SD card reader
- Temperature controlled, precision Real Time clock, with battery backup
- GPS interface for the Fastrax UP501 module
- Arduino compatible, with standard shield headers
- General purpose blink LED on port D13
- Interfaces with Raspberry-Pi® via the GPIO header
- Communicates with 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

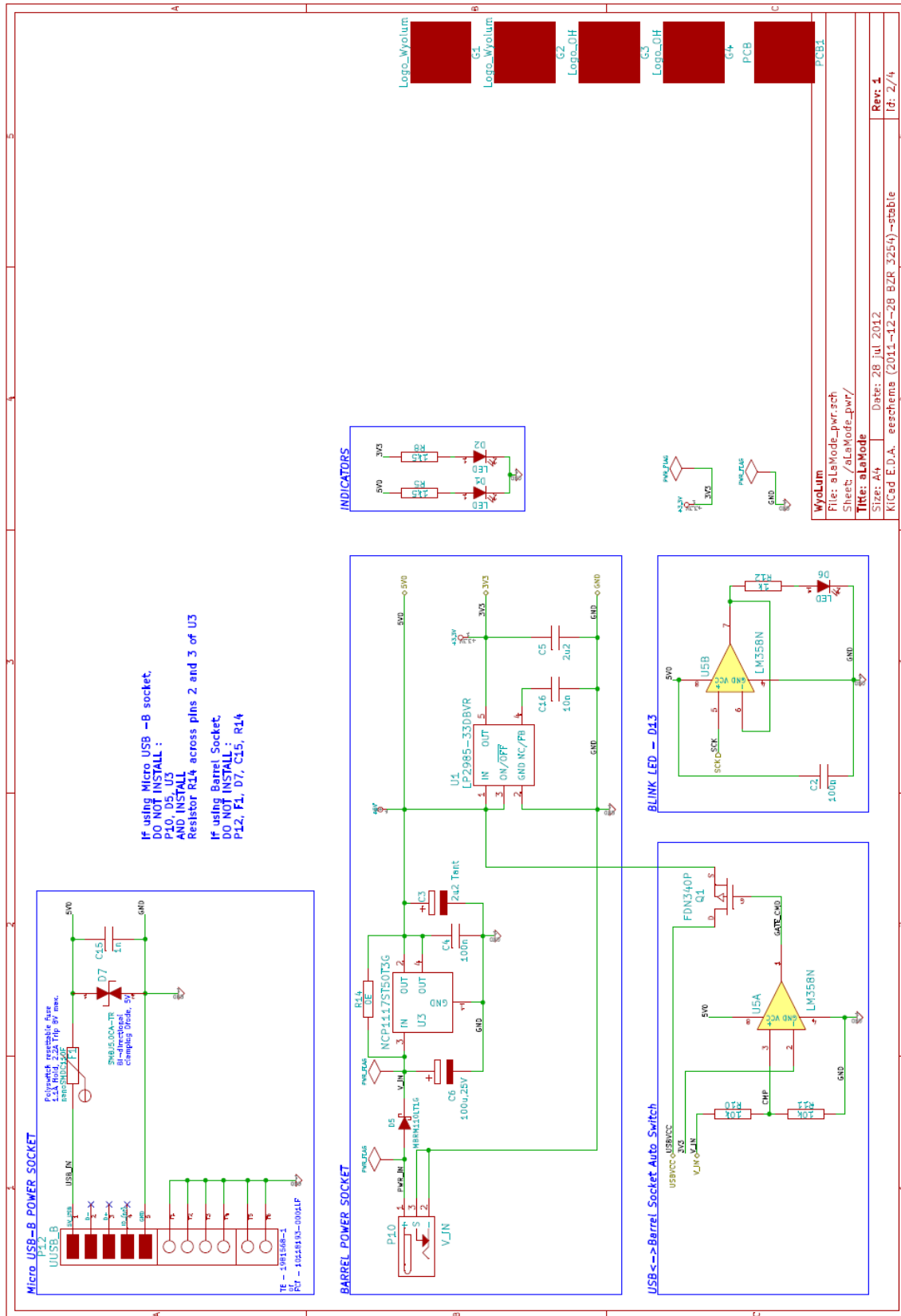


Schematic, #1



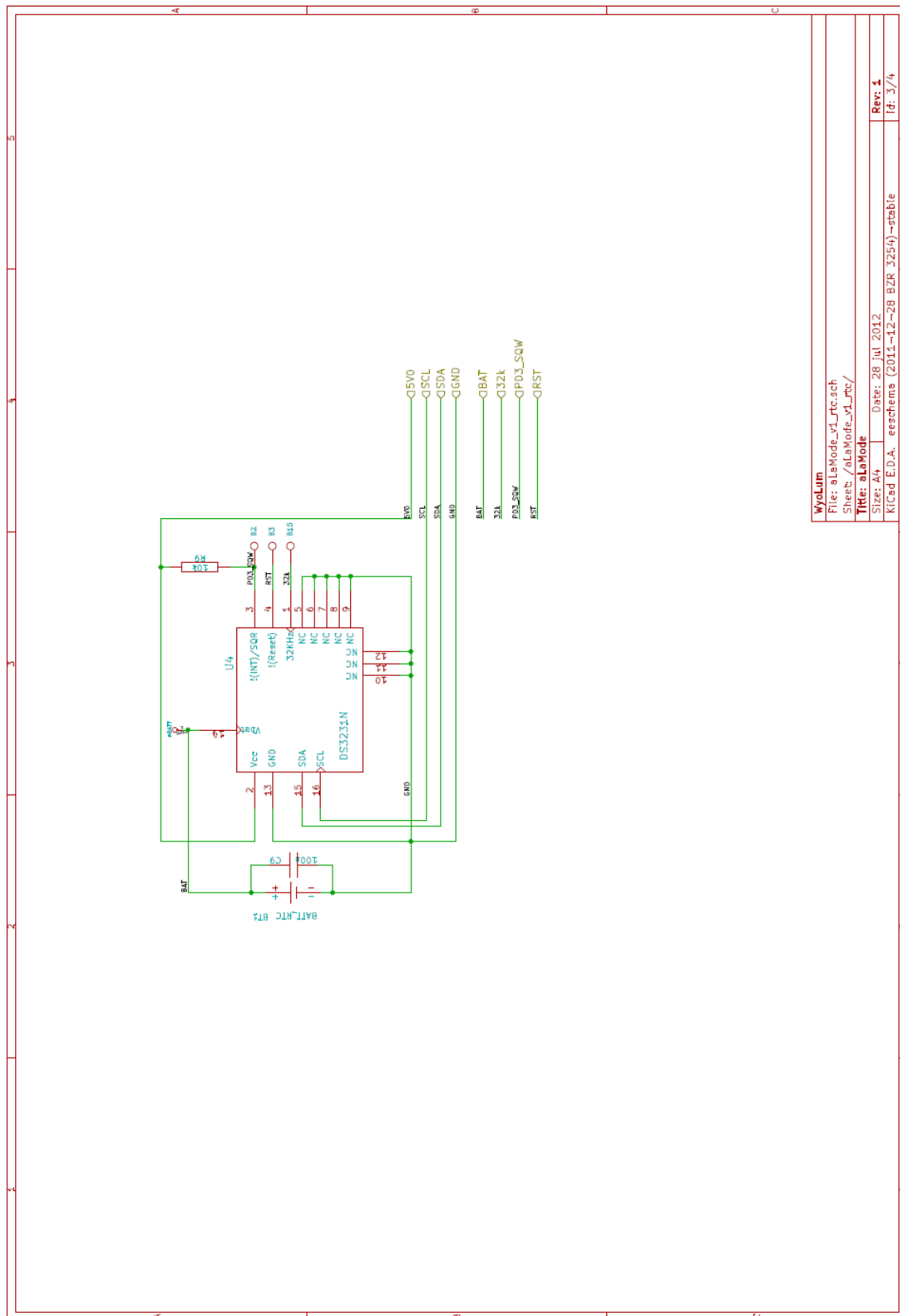


Schematic, #2



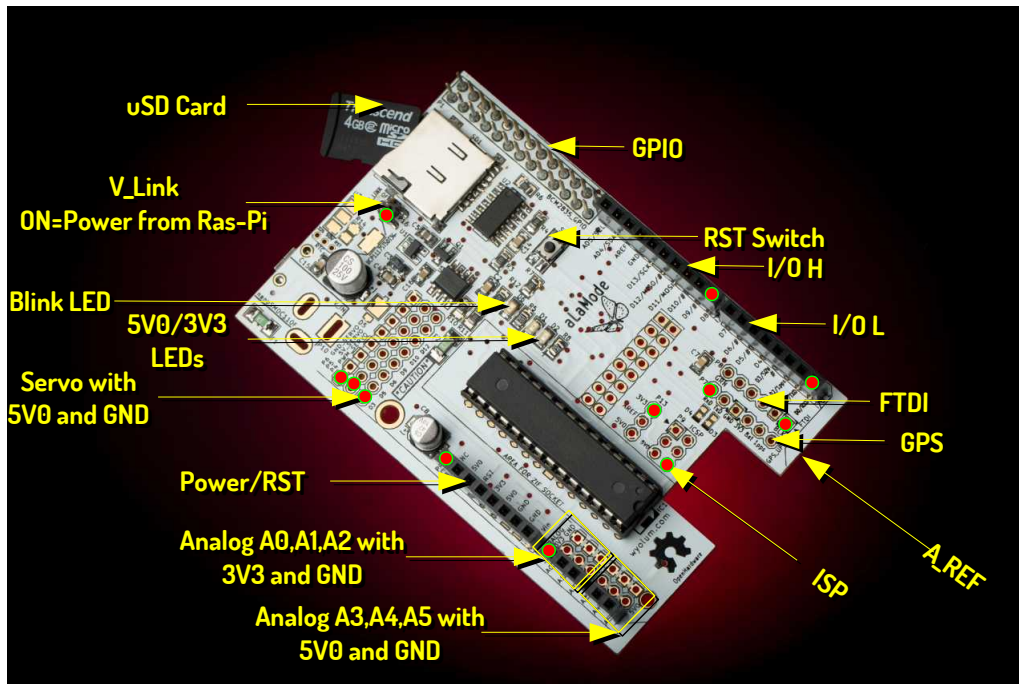


Schematic, #3

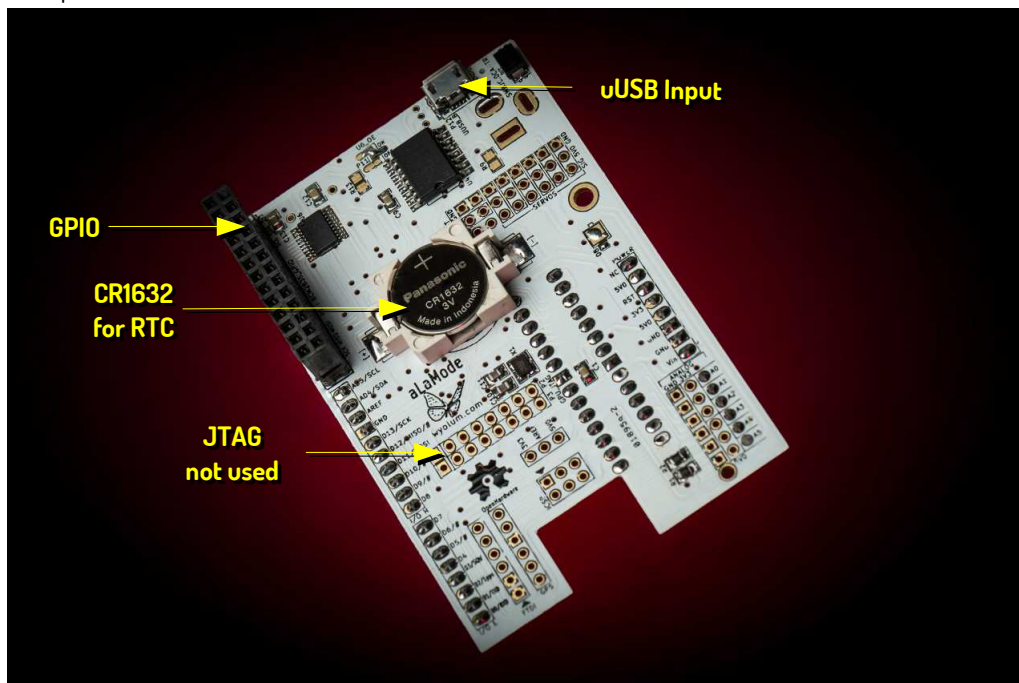




Physical Interfaces



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						



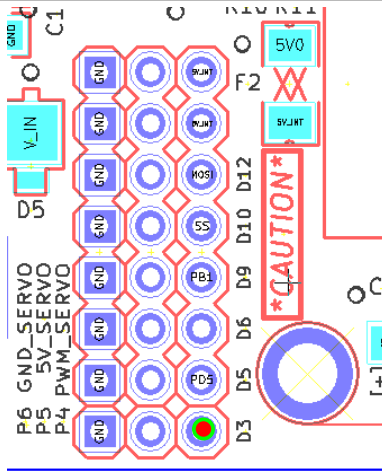
HEADER's GPS and FTDI	
	<ol style="list-style-type: none"> 1. GPS_Rx , PD4 (Arduino digital pin 4) 2. GPS_Tx , PD6 (Arduino digital pin 6) 3. GND 4. 3V3 5. GPS_BATT (backup for GPS, from RTC 3V batt.) 6. 1pps , PD2 (Arduino digital pin 2) <ol style="list-style-type: none"> 1. GND (BLACK) 2. GND 3. 5V0 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
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																										
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																											

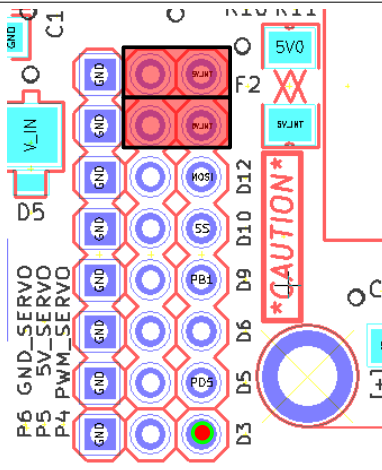


HEADER SERVO



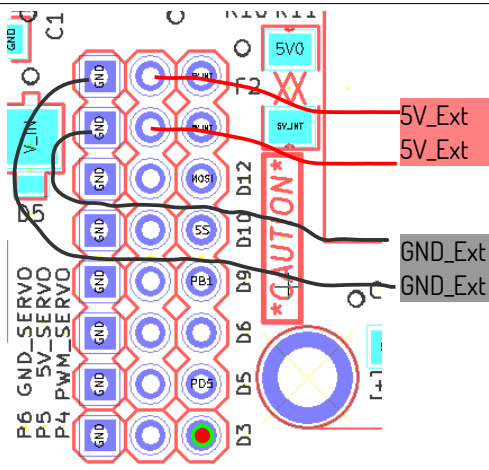
- | | | | |
|----|-------------|----------|-----------|
| 1. | PWM1 , PD3 | 5V_SERVO | GND_SERVO |
| 2. | PWM2 , PD5 | 5V_SERVO | GND_SERVO |
| 3. | PWM3 , PD6 | 5V_SERVO | GND_SERVO |
| 4. | PWM4 , PD9 | 5V_SERVO | GND_SERVO |
| 5. | PWM5 , PD10 | 5V_SERVO | GND_SERVO |
| 6. | PWM6 , PD11 | 5V_SERVO | GND_SERVO |
| 7. | 5V_INT | 5V_SERVO | GND_SERVO |
| 8. | 5V_INT | 5V_SERVO | GND_SERVO |

ERRATA : PWM6 = PD11 , MOSI (NOT PD12)



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)

(Note : Single jumper will work too. Dual jumpers allow higher current capacity)



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)

(Note : Single connections will work too. Dual connections allow higher current capacity)



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/>

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Development Boards & Kits - AVR category](#):

Click to view products by [Seeed Studio manufacturer](#):

Other Similar products are found below :

[3264](#) [ATAVRPARROT](#) [ATSAMR21B18MZ210PAT](#) [CS-EASE-03](#) [EV35F40A](#) [A100053](#) [1222](#) [MIKROE-2474](#) [1260](#) [KIT0018](#) [1405](#) [DEV-10914](#) [1500](#) [1639](#) [1657](#) [174](#) [193](#) [2000](#) [2010](#) [3208](#) [ATRCB256RFR2](#) [ATXMEGAA1U-XPRO](#) [2085](#) [ATSTK600-SC48](#) [2290](#) [2488](#) [DEV-11520](#) [2590](#) [296](#) [3000](#) [ATAVRBLE-IOT](#) [ATTINY416-XNANO](#) [DFR0010](#) [DFR0100](#) [DFR0164](#) [DFR0191](#) [DFR0221](#) [DFR0222](#) [DFR0225](#) [DFR0233](#) [DFR0282](#) [DFR0327](#) [DRI0027](#) [KIT0111](#) [K030007](#) [DFR0351](#) [DEV-13614](#) [KIT-14265](#) [3379](#) [DFR0216](#)