

D-O AIO PCB V1.4

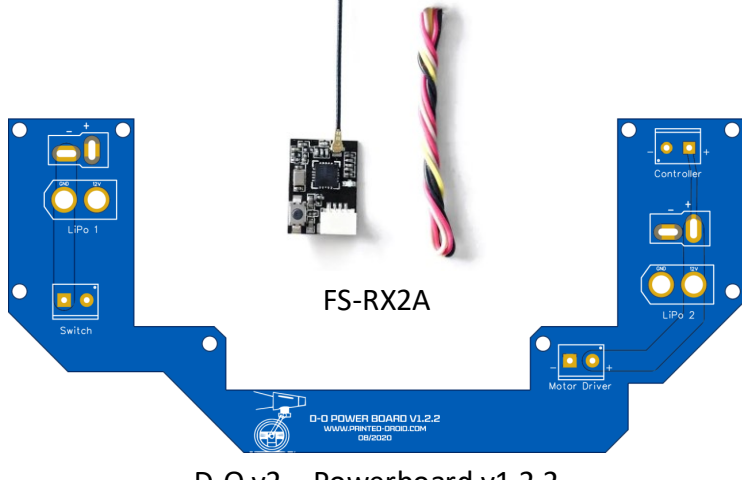
v1.3 - 11/2020

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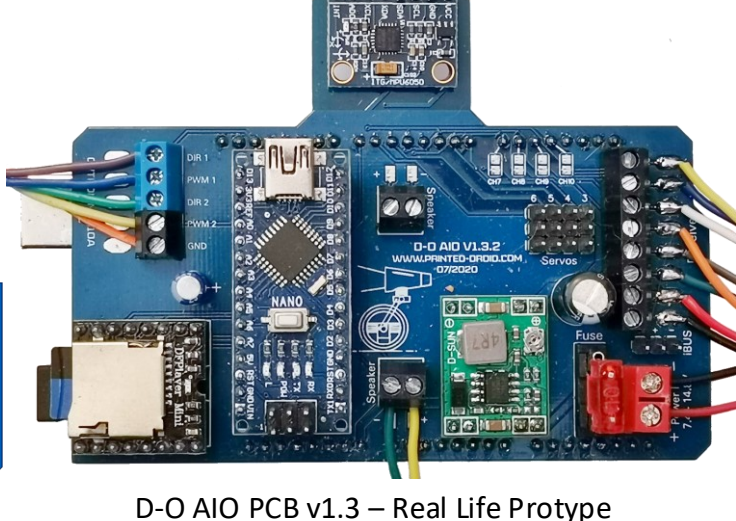
The latest diagrams and files can always be found here:
<http://www.printed-droid.com/files/>

The D-O AIO PCB is sitting on a regular Mega 2560
(running the Main Sketch)
It's powered with (fused) 7.4 – 14.8V

The Arduino Nano runs the sketch for the DFPlayer
(only if you're not using the iBus sketch!)



D-O v2 – Powerboard v1.2.2



D-O AIO PCB v1.3 – Real Life Prototype
In the diagram is the current version 1.4

How is everything connected? Basically it's the „original“ D-O v2 wiring but everything on a pcb with some nice features.

All Pins for the Speakers, Receiver and the Cytron MDD10A are usable via screw terminals (alternative you can solder header pins) and via solder pads.

The buck converter provides stable 6V/2A (peak up to 3A) for the servos (if the Mega triggers them). The logics for Arduino, IMU and DF Player get their own stable 5V and 3V3.

You can see various solder Pads. They have the following functions if you solder them:

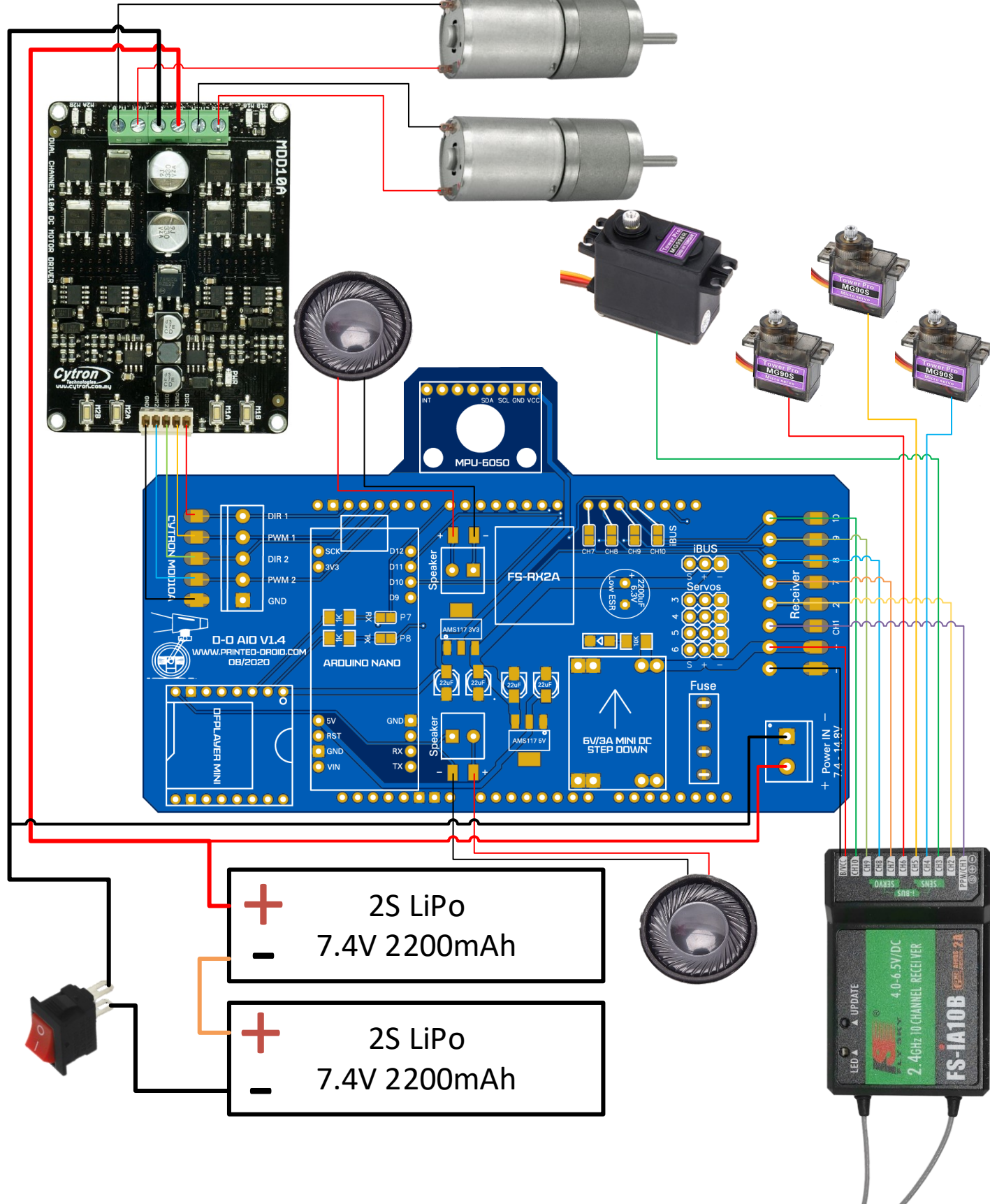
- P7 connects Mega2560 Pin7 as RX to the DFPlayer
- P8 connects Mega2560 Pin8 as RX to the DFPlayer
- CH7 connects Receiver Channel 7 Pin to Mega 2560 Pin14
- CH8 connects Receiver Channel 8 Pin to Mega 2560 Pin15
- CH9 connects Receiver Channel 9 Pin to Mega 2560 Pin16
- CH10 connects Receiver Channel 10 Pin to Mega 2560 Pin17

Using an iBus receiver and the sketch for it the Arduino Nano can be dismissed

There's a small receiver called FS-RX2A (picture upper left). This small receiver is a full 10CH receiver with iBUS protocol for ~6USD.

Wiring it up without powerboard (no Ibus):

- Other needed components:
- 1x Cytron MDD10A
 - 2x 2S LiPo Batteries 7.4V 2200mAh
 - 1x 10Ch Receiver
 - 2x 500 RPM 12v motors (20.4:1)
 - 1x Servo MG996R
 - 3x Servos MG90
 - 1x Switch
 - 2x 8ohm 2W 28mm Speakers



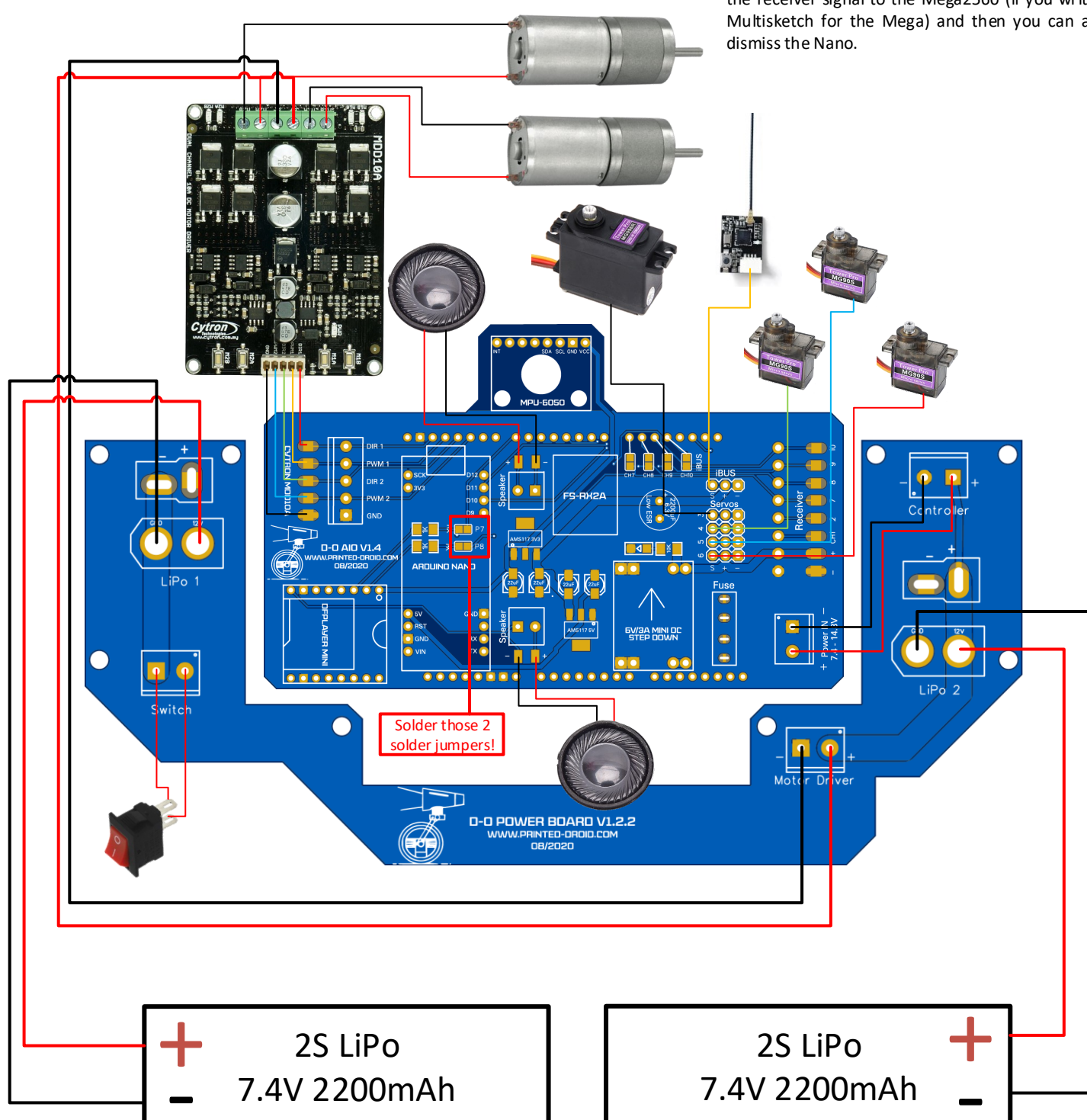
Wiring it up with powerboard (Ibus):

- Other needed components:
- 1x Cytron MDD10A
 - 2x 2S LiPo Batteries 7.4V 2200mAh
 - 1x 10Ch Receiver iBUS Receiver
 - 2x 500 RPM 12v motors (20.4:1)
 - 1x Servo MG996R
 - 3x Servos MG90
 - 1x Switch
 - 2x 8ohm 2W 28mm Speakers

This is the ideal setup. With this setup the 10 channels are transmitted via iBUS signal. The Sketch is modified to receive the iBUS signal and translate it to PWM for the MEGA2560. Solder the P7 & P8 bridges!

The Arduino Nano is not needed for this setup! The Mega handles everything!

If you use the traditional 10ch PWM Receiver, it's possible to solder the bridges CH7-CH9 and route the receiver signal to the Mega2560 (if you write a Multisketch for the Mega) and then you can also dismiss the Nano.



Needed Transmitter Settings:

