BOM D-O Mainboard + Supply board

	# required	Туре	Link	Contained in Kit	Comment
Main board	1			yes	
Power board	1			yes	
Female pin header Main board / Arduino	2	2.54mm 14pin		yes	Self solder
Female pin header Main board / DFPlayer	2	2.54mm 14pin		yes	Self solder
Female pin header Power board / Gyro	1	2.54mm 9pin		yes	Self solder
Female pin header Main board / Xbee	2	2mm 10pin	https://a.aliexpress.com/_Evyz9aN	yes	Self solder
Male pin header Main board / Amplifier	2	2.54mm 2pin	https://a.aliexpress.com/ ExxAZ2d	yes	Self solder
Gyro standoffs	2	M2.5x12	https://a.aliexpress.com/ EG86KNx	yes	
Gyro standoff screws	2	M2.5x5	https://de.aliexpress.com/item/32810852732.html? spm=a2g0o.productist.main.7.35f2ea97efFr5N&algo_pvid=5189f	yes	
Power board mounting screws	2	M2x8	https://a.aliexpress.com/_EG068mN	yes	
Encoder cable with connector	2	KF2510 4 Pin 200mm	https://a.aliexpress.com/ EJB2txj	yes	Self solder
Motor driver cable with connector	2	KF2510 3 Pin 200mm	https://a.aliexpress.com/_EJB2txj	yes	Self solder
Amplifier Cable	1	JST PH 2mm	https://a.aliexpress.com/_Exf7Yh7	yes	
Fan connector	2		JST XH 2pol	yes	Self solder
XT30 Male + Female Power Connector	10	XT30	https://www.amazon.de/HUAZIZ-Anschlüsse-Rundstecker-	yes	Self solder
XT30 Boards for Battery Packs	2		https://de.aliexpress.com/item/1005006755414157.html? spm=a2q0o.detail.pcDetailTopMoreOtherSeller.1.30ccZniGZniGjH	yes	Self solder
Fuse holder 17x7mm incl. 10A fuse	1		https://de.aliexpress.com/i/4000583874791.html	yes	Self solder
Battery holder	2	Keystone 1049	https://www.reichelt.de/batteriehalter-fuer-2x-18650-	yes	Self solder
Screw terminal socket + plug 3.81mm	1	2EDG 2 Pin 3.81mm	https://de.aliexpress.com/item/1005006431241111.html? spn=a2g0o.productlist.main.35.18e354565eNspE&algo_pvid=521	yes	Self solder
Power switch	1		https://www.reichelt.de/kippschalter-10a-125vac-1x-ein-ein- ms-166-n13140 html?	yes	Self solder
Fan 12V XH2.54 Version	0		https://a.aliexpress.com/ EwbluWN	no	Optional
Arduino Mkr Wifi 1010	1		https://store.arduino.cc/en-de/products/arduino-mkr-wifi-1010? srsltid=AfmBOor1uf474VBO4E3swBHxB5lnk16Y9eaV17ocvgedTx	no	Not contained in kit
Arduino Mkr Dynamixel Shield	1		https://www.mybotshop.de/ROBOTIS-DYNAMIXEL-Arduino-	no	Not contained in kit
Xbee board	1	XB24CAUIT	https://de.rs-online.com/web/p/entwicklungstools-	no	Not contained in kit
Gyro board	1	ISM330DHCX	https://www.digikey.de/de/products/detail/adafruit-industries-llc/ 4502/11569134?utm_adgroup=Development Boards, Kits,	no	Not contained in kit
UBEC 12V3A	1		https://de.aliexpress.com/item/1005007037699334.html? som=a2a0o.productlist.main.1.7932d20ctt8PtJ&alao_pvid=9c1a4	no	Not contained in kit
UBEC 5V3A	1		https://de.aliexpress.com/item/1005007037699334.html? som=a2a0o.productlist.main.1.7932d20ctt8PtJ&alao_pvid=9c1a4	no	Not contained in kit

	# required	Туре	Link	Contained in Kit	Comment
DfPlayer Mini	1		https://de.farnell.com/dfrobot/dfr0299/dfplayer-mini-mp3-player-arduino/dp/3517866?CMP=KNC-GDE-GEN-KWL-PMAX-Search-	no	Not contained in kit
Amplifier	1		https://a.aliexpress.com/_Eli5efP	no	Not contained in kit
Speakers	2		https://www.cqrobot.com/index.php?route=product/ product&product_id=1106	no	Not contained in kit

BOM D-O Rest

	# required	Туре	Link	Comment
Lead weight	2kg	Lead shot ~1mm		
Countersunk screws top frame - bottom frame	6	M3x8		
Neck - body connector male (in body)	1	2.54mm 10 pin 2 row	https://www.digikey.de/short/pd8w3z7d	
Main axis bearings	2			
Square nuts body	16	M3		
Square nuts body	4	M4		
Countersunk screws main axis holder left	2	M4x?		Shorter, from inside the body
Countersunk screws main axis holder right	2	M4x?		Longer, from outside the body
Main neck servo	1	XL430-W250-T		
Screws servo holder - body	3	M3x12 countersunk		
Screws servo holder - servo	3	M2.5x? socket		
Screws servo gear - servo	4	2mm self- tapping socket		Included with servo
Delrin Balls	100			
Countersunk screws wheels - body	10	M3x8		
Countersunk screws wheels - outer bearings		M3x?		
Countersunk screws drive edge - lazy susans	12	M3x8		
Square nuts lazy susans	12	M3		
Outer bearings wheels				
Countersunk screws neck - body	3	M3x40		
Neck - body connector female (in neck)	2	Dupont 2.54mm 5 pin		
Neck carbon tube	0	OD15mm, ID13mm, length >170mm	https://www.amazon.de/dp/B07RLF822F/ ref=pe_27091401_487027711_TE_SCE_3p_dp_i1?th=1	Optional, can use printed part
Neck i2c cable	1	STEMMA/Qt, length 250mm+		

	# required	Туре	Link	Comment
Neck Dynamixel cable	1	length 250mm+		
Neck square nut	1	M3		
Neck safety screw	1	M3x5		
Head pitch servo	1	Dynamixel XL330-M288		
Square nut servo connector	1	M3		
Screws servo connector - servo	3	2mm self- tapping socket		Included with servo
Screw servo connector - neck	1	M3x12 countersunk		
Screws head frame - pitch servo	4	M2.5x12 socket		
Square nut head frame	1	M3		
Screw neck bottom - head frame	1	M3x8 countersunk		
Screws neck bottom - servo	4	M2.5x12 socket		
Head yaw servo	1	Dynamixel XL330-M288		
Screws neck bottom - neck top	2	M3x40 countersunk		
Screws tilt mount - yaw servo	4	2mm self-		Included with servo
Screws tilt mount - roll servo	4	M2.5x12 socket		
Head roll servo	1	Dynamixel		
Head roll servo rear mount grommet		FPX330-H101		
Screws head plate - roll servo	8	2mm self- tapping socket		Included with servo