

| | The components | Distributor | Catalog number | Quantity required for one SPIRO system |
|-----|---|-------------------------------------|--|---|
| | | | | |
| | Borgs nest | | | |
| 1 | Raspberry pi 3B+ | Amazon | 358-RPI3-MODBP-BULK | 1 |
| 2 | Power supply 5V 2.5A, micro USB | Mouser | 358-1101001000045 | 1 |
| 3 | Adafruit tb6612 h-bridge dc-stepper motor driver breakout board | Mouser | 485-2448 | 1 |
| 4 | Unipolar stepper motor Nema17, 12V, 0.35A | Mouser | 485-324 | 1 |
| 5 | Power adapter 12V 3A wih with 2.1 power plug | Amazon | | 1 |
| 6 | Female DC connector 5.5 x2.1mm | Amazon | | 1 |
| 7 | SparkFun MOSFET Power Control Kit | Mouser | 474-COM-12959 | 1 |
| 8 | Green LED strip 12V (sic! it should be possible to cut the strip in 5cm segments!) | Mouser | 828-OVQ12S30G7 | 1 meter |
| 9 | 90 degree connectors for 8 mm LED strip + terminal LED strip connector | Amazon | | 4 corners 1 terminal connector |
| 10 | 2-Pin 3.5 mm Pitch PCB Mount Screw Terminal Connector | Mouser | 710-691214110002S | 1 |
| 11 | Jumper cables 10 cm Female to female (Dupont wires) | Amazon | | 20 |
| 12 | SD Memory Card Class 10 (32Gb or more, see chapter 18 in the SPIRO assembly instructions) | Amazon | | 1 |
| 13 | Heat shrink tubes, diameter 1 mm and 2 mm | Amazon | | 5 cm of each |
| 14 | Wire end ferrules, 0,5 mm2, not insulated | Amazon | | 20 |
| 15 | Colored AWG 28 wires | Amazon | | ca 3 m |
| | | | | |
| | Structural parts | | | |
| 16 | Aluminium profile T2020, black | Amazon | | 1x 30cm for the vertical rail 1x ca 34 cm for the horizontal rail 2x ca 8cm for each leg 2x 14 cm for the LED frame mounting |
| 17 | 2020 Aluminium Profile Slot Cover black | Banggod | | 1 m |
| 18 | 635zz - R-1950ZZ - 5972K263 Miniature Ball Bearings Bearing | Amazon | | 3 |
| 19 | Rigid shaft coupling M5 to M5 | Amazon | | 1 |
| | | | | |
| | Camera | | | |
| 20a | Raspberry Pi Camera v2 8 MP | Mouser | 485-3099 | 1 |
| 20b | Arducam with motorized focus | Uctronics | B0122 | 1 |
| 21 | Flex cable | Amazon | | 25-30 cm |
| 22 | Coiled Cable Protection | Amazon | | ca 1 m |
| | | | | |
| | Microswitch | | | |
| 23 | Mini microswitch | Reichelt elektronik | MAR 1050.5202 | 1 |
| | | | | |
| | Screws | | | |
| 24 | M2 x 25mm, button head | | | 4 |
| 25 | M2 hex nuts | | | 4 |
| | | | | |
| 26 | M2.5 x 12mm, button head | | | 2 |
| 27 | M2.5 x 12mm, flat head countersunk, black | | | 2 |
| 28 | M2.5 x 8mm, flat head countersunk | | | 8 |
| 29 | M2.5 hex nuts | | | 12 |
| | | | | |
| 30 | M3 x 12 mm, button head, hex socket, black | | | 8 |
| 31 | M3 x 20mm, flat head countersunk | | | 4 |
| 32 | M3 hex nuts | | | 8 |
| | | | | |
| 33 | M5 x 8 mm, flat head countersunk, black | | | 1 |
| 34 | M5 x 8 mm screw, button head, hex socket, black | | | 27 |
| 35 | M5 x 11-12 mm , button head, hex socket, black. Lifehack: use M5x16 and print a 5mm tall washer | | | 6 |
| 36 | M5 x 12 mm, countersunk | | | 4 |
| 37 | M5 x 16 mm screw, button head, hex socket, black | | | 3 |
| 38 | M5 bolt x 20mm, hexagonal head | | | 1 |
| 39 | M5 x16mm bolt, hex head | | | 4 |
| 40 | M5 T-nuts for T2020 aluminium profile | | | 32 |
| 41 | M5 hex nuts | | | 3 |
| 42 | M5 washer, OD 10mm, flat | | | 6 |
| 42 | M5 slide-in bracket for T2020 aluminium profile | | | 3 |
| | | | | |
| | Plastic for the 3D printer | | | |
| 44 | PLA filament matt black | 3Dprinthings | Matteforge Pro Filament PLA 1.75 mm - NEW, black | ca 1.7 kg |
| 45 | PLA filament milky white | Amazon | Sunlu, PLA+, 1.75 mm, milky white/semi-transparent | ca 100 g |
| | | | | |
| | Tools | | | |
| 46 | Wire stripper suitable for AWG 28 wires | Amazon | | |
| 47 | Ferrule crimper suitable for 0.5 mm2 ferrules | Amazon | | |
| 48 | Soldering iron & solder | Amazon | | |
| 49 | Screw drivers for M2, M2.5 and M3 (cross and flat head) | | | |
| 50 | Allen keys for M5 & M3 | | | |
| 51 | A saw to cut aluminium profiles | | | |
| 52 | Super glue | | | 200 ul |
| 53 | Forceps | | | |
| | | | | |
| | Recommended accessories | | | |
| 54 | Flat Ethernet cable | Amazon | | 1, required length must be estimated on place |