BugBu 260 BOM (Acheivable 260x250x300 build volume) This build uses the Ender 3 24v Heated Bed. You can either use the full 235x235 bed area with space around it, or get a Bambu build plate to get a 260x250 print bed area

<u>Please note:</u> **The items listed don't include any extra wiring or a Pi and as with any BOM, there are going to be small miscellaneous parts needed along the way. The scew assortments will hopefully cover a lot of the miscellaneous. For a more rigid gantry, 4 - 45mm Linear Bearings are better, but the shorter ones in the BOM will work fine. This list is only a guide, better pricing may be found elsewhere. While every effort has been made to make this a complete list, and the design easy to assemble, please know this is still a self sourced ground up 3D printer build and will require printed parts, time, and attention to details. All work is done so at your own risk and without any liability to the designer of the project.**

The STL file parts are pre orientated for best printing. Print with no less than 6 walls and 20% infill. The STL file name will tell you quantity of each item and if it needs supports, only two parts should need supports. I use Polymaker PLA Pro for the parts unless I enclose the printer, I go to Polymaker ASA or ABS.

MOTION:	Quantity	Price Each	Total	Amazon or Ali Link to Suggested Part
GT2 6mm Belt, 5 meter minimum length	1	$9.00	$9.00	https://www.amazon.com/dp/B097T212B9/ref=twister_B09877BH12?_encoding=UTF8&psc=1
GT2 20 Toothless 5mm bore idler	7	$1.75	$12.25	Printer/dp/B07RV2T54M/ref=sr_1_3?crid=OFZKSAD0WYW1&keywords=g
GT2 20 Tooth 5mm bore timing pulley	2	$4.50	$9.00	https://www.amazon.com/WINSINN-Aluminum-Timing-Pulley-Printer/dp/B07BPGYX3G/ref=sr_1_6?crid=OFZKSAD0WYW1&keywords=gt2+idler&qid=1676580494&sprefix=gt2+idler%2Caps%2C244&sr=8-6
GT2 20 Tooth 5mm bore stepper timing pulley	3	$2.50	$7.50	https://www.amazon.com/WINSINN-Aluminum-Synchronous-Timing-Printer/dp/B077GNZK3J/ref=sr_1_3?crid=34KC9XQCOHDJ4&keywords=gt2+5mm+pulley&qid=1676580569&sprefix=gt2+5mm+pul%2Caps%2C136&sr=8-3
8mm linear rod 350mm	4	$4.50	$18.00	https://www.amazon.com/300mm-Linear-Motion-Printer-Machine/dp/B09P86HCNM/ref=sr_1_4?crid=IF1RABLTL091&keywords=8mm%2Blinear%2Brod%2B300mm&qid=1676581300&sprefix=8mm%2Blinear%2Brod%2Caps%2C161&sr=8-4&th=1
Linear Bearings (these are 45mm bearings and much	4	$4.00	$16.00	https://www.amazon.com/Printer-Bearings-JGAurora-LM08LUU-LM8LUU/dp/B083XQTH41/ref=sr_1_3?crid=3F2JI3QNE8QS6&keywords=45mm+8mm+linear+bearing&qid=1684185100&sprefix=45mm+8mm+linear+bearing%2Caps%2C136&sr=8-3
Nema17 42mm stepper motor	3	$8.25	$24.75	https://www.amazon.com/POLISI3D-Printer-Stepper-Stepping-Connector/dp/B08HWGYY9D/ref=sr_1_20?crid=16ZTNIBQWH1GK&keywords=nema+stepper+motor+42&qid=1676581694&sprefix=Nema+stepper+moto%2Caps%2C141&sr=8-20

Item	Qty	Unit	Total	Link
8mm 4-start lead screw 350mm	1	$9.50	$9.50	https://www.amazon.com/ReliaBot-300mm-Thread-Starts-Printer/dp/B078R7XJP3/ref=sr_1_4?keywords=8mm%2Blead%2Bscrew%2B300mm&qid=1677709742&sr=8-4&th=1
MGN12H Linear Rail	2	$19.00	$38.00	https://www.amazon.com/dp/B0B1LZBXXL?ref=ppx_yo2ov_dt_b_product_details&th=1
5mm to 8mm coupler	1	$6.49	$6.49	https://www.amazon.com/uxcell-Coupling-Aluminum-Connector-Accessories/dp/B08HCKXGQD/ref=sr_1_18?keywords=5mm%2Bto%2B8mm%2Bcoupler&qid=1684188029&sprefix=5mm%2Bto%2B%2Caps%2C176&sr=8-18&th=1
			$0.00	

HARDWARE

Full fastener cart from Bolt Depot

NOTE: Add all items on the list to your cart. This should be all the fasteners you need ACCEPT the t-nuts. T-nuts listed below.

Item	Qty	Unit	Total	Link
			$0.00	
(T-nuts cart)	1	$35.00	$35.00	https://www.boltdepot.com/cart/208641
M5 T-slot/T-nut (this link is for the twist style, there is a link below in alternates for spring loaded. Pick your preference)	100	$0.06	$6.00	https://www.amazon.com/Hulless-Sliding-Fastener-Aluminum-Accessories/dp/B08NZMVP6N/ref=sr_1_14?keywords=m5+t+nut&qid=1676582188&sprefix=m5+t%2Caps%2C237&sr=8-14
2019 aluminum extrusion 350mm (t or v slot)	8	$4.75	$38.00	https://www.amazon.com/BELLA-BAYS-Extrusion-20mmx20mm-Engraving/dp/B08TBL625V/ref=sr_1_8?crid=3P1QA4VVUBSWL&keywords=350mm%2B2020%2Bextrusion&qid=1684185865&s=industrial&sprefix=350mm%2B2020%2Bextrusion%2Cindustrial%2C127&sr=1-8&th=1
2020 aluminum extrusion 400mm (t or v slot)	4	$5.00	$20.00	https://www.amazon.com/BELLA-BAYS-Extrusion-20mmx20mm-Engraving/dp/B08TBL5V61/ref=sr_1_8?crid=3P1QA4VVUBSWL&keywords=350mm%2B2020%2Bextrusion&qid=1684185865&s=industrial&sprefix=350mm%2B2020%2Bextrusion%2Cindustrial%2C127&sr=1-8&th=1
2021 aluminum extrusion 300mm (t or v slot)	2	$6.00	$12.00	https://www.amazon.com/BELLA-BAYS-Extrusion-20mmx20mm-Engraving/dp/B08TBHFWK3/ref=sr_1_8?crid=3P1QA4VVUBSWL&keywords=350mm%2B2020%2Bextrusion&qid=1684185865&s=industrial&sprefix=350mm%2B2020%2Bextrusion%2Cindustrial%2C127&sr=1-8&th=1
			$0.00	

EXTRUDER: Note that my design can accommodate a few designs, select which one you want to use, just note you will need a different gear kit for the Hummbingbird Extruder

Item	Qty	Unit	Total	Link
			$0.00	
BMG dual drive extruder kit	1	$18.00	$18.00	https://www.amazon.com/Precision-Printer-Plating-Hardened-Extruder/dp/B097YL3C6J/ref=sr_1_14?keywords=bmg+clone+dual+gear+extruder&qid=1676582650&sprefix=BMG+clone%2Caps%2C151&sr=8-14

Item	Qty	Unit	Total	Link
3D Printed Sherpa Mini (Print parts and assemble) Use the STL's and build instructions from the GitHub	1			https://github.com/Annex-Engineering/Sherpa_Mini-Extruder
3D Printed Vorxtrudort (Print parts and assemble) Use the STL's and build instructions from the GitHub				https://github.com/nhchiu/VoronMods/tree/main/Extruders/Vorxtrudort
3D Printed Hummingbird (Print parts and assemble. Order big gear kit from Github link) Use the STL's and build instructions from the GitHub				https://github.com/nhchiu/VoronMods/tree/main/Extruders/Hummingbird
			$0.00	

HEATED BED
$0.00

Item	Qty	Unit	Total	Link
Standard ender 3 235x235 24v bed	1	$25.00	$25.00	https://www.amazon.com/Ender-V2-Heated-Bed-Replacement/dp/B08VHTW8CQ/ref=sr_1_1_sspa?keywords=ender+3+24v+heated+bed&qid=1676582719&sprefix=ender+3+24v+hea%2Caps%2C149&sr=8-1-spons&psc=1&spLa=ZW5jcnlwdGVkUXVhbGlmaWVyPUExQjRXTFBEVzlON0ZIJmVuY3J5cHRlZElkPUEwODY2MjI3MjhIVkxDODZEUUk4UyZlbmNyeXB0ZWRBZElkPUEwMzMxNDM0M1RBNkM2UDRIV01IWCZ3aWRnZXROYW1lPXNwX2F0ZiZhY3Rpb249Y2xpY2tSZWRpcmVjdCZkb05vdExvZ0NsaWNrPXRydWU=
235x235 build sheet	1	$12.00	$12.00	https://www.amazon.com/dp/B0856VT5XT?pd_rd_i=B0856VT5XT&pf_rd_p=b000e0a0-9e93-480f-bf78-a83c8136dfcb&pf_rd_r=CQBSE277ST4E0VEGNKTN&pd_rd_wg=zhEJn&pd_rd_w=gKyDr&pd_rd_r=8b2b8744-7140-4013-a04d-4a382d215ea4
			$0.00	

ELECTRONICS
$0.00

Item	Qty	Unit	Total	Link
3D Touch	1	$16.00	$16.00	https://www.amazon.com/3Dman-Upgrade-Leveling-Sensor-Printers/dp/B08SK62RMR/ref=sr_1_3?crid=22IW0RUW9WRAY&keywords=3dtouch&qid=1677710973&sprefix=3dtouch%2Caps%2C178&sr=8-3
24v Power Supply	1	$24.00	$24.00	https://www.amazon.com/ALITOVE-Universal-Regulated-Switching-Transformer/dp/B06XK2ZNKC/ref=sxts_rp_s_a_1_0?content-id=amzn1.sym.eff26b9b-e255-411b-a40d-eccb21f93fe4%3Aamzn1.sym.eff26b9b-e255-411b-a40d-eccb21f93fe4&cv_ct_cx=24v+power+supply&keywords=24v+power+supply&pd_rd_i=B06XK2ZNKC&pd_rd_r=82e418c1-9755-4243-a4ff-468e2e00e2d1&pd_rd_w=yv5NL&pd_rd_wg=3OEbB&pf_rd_p=eff26b9b-e255-411b-a40d-eccb21f93fe4&pf_rd_r=FP42ARP0ASMB46W1HM9X&qid=1676582807&sprefix=24v+%2Caps%2C461&sr=1-1-5985efba-8948-4f09-9122-d605505c9d1e

Item	Qty	Price	Total	Link
BTT E3 V2/V3 or MKS Robin E3 v1.1	1	$40.00	$40.00	https://www.amazon.com/BIGTREETECH-Upgrade-Control-TMC2209-Creality/dp/B0882QGFZR/ref=sr_1_1_sspa?crid=WGO9880SJLPG&keywords=bbt+skr+mini+e3&qid=1676582979&sprefix=bbt+skr+mini+e3%2Caps%2C132&sr=8-1-spons&psc=1&spLa=ZW5jcnlwdGVkUXVhbGlmaWVyPUFQWDA4RVRFNFhGR00mZW5jcnlwdGVkSWQ9QTAwMTk0OTROOFdVWVhEWDdBRjcmZW5jcnlwdGVkQWRJZD1BMDA2MjM2MTFLUVE1UzUwVU5GUlMmd2lkZ2V0TmFtZT1zcF9hdGYmYWN0aW9uPWNsaWNrUmVkaXJlY3QmZG9Ob3RMb2dDbGljaz10cnVl
Triangle-lab CHC hotend				
The link gives you the option of either standard or volcano for $5 more, the volcano is recommended over the standard	1	$35.00	$35.00	https://west3d.com/products/chc-ceramic-heater-core-hot-end-kit-v6-and-volcano-variants-pro
Nema 14 Pancake Stepper	1	$22.00	$22.00	https://www.amazon.com/FYSETC-Printer-Extruder-47-2inch-Accessories/dp/B099JMJNH2/ref=sr_1_14?keywords=nema+14+stepper&qid=1676583366&sprefix=nema+14+%2Caps%2C156&sr=8-14
3010 24v Fan	1	$9.00	$9.00	https://www.amazon.com/HKWANTAT-Bearings-Brushless-Cooling-30x30x10mm/dp/B09MCJ2XSP/ref=sr_1_11?keywords=3010%2Bfan%2B24v&qid=1676583429&sprefix=3010%2Caps%2C192&sr=8-11&th=1
5015 24v Fan	1	$9.00	$9.00	https://www.amazon.com/Brushless-Hydraulic-50mmx50mmx15mm-Appliances-Replacement/dp/B0BBZPB4DM/ref=sr_1_5?crid=1QIVTONGU4CGO&keywords=5015+24v&qid=1676583496&sprefix=5015+24v%2Caps%2C133&sr=8-5
Fan wire extensions	2	$5.50	$11.00	https://www.amazon.com/REIFENG-Printer-Cooling-Extension-Connection/dp/B09BN5X6ZT/ref=sr_1_3?crid=6U1XLUWJHV7S&keywords=jst+2.54+fan+wire+extension&qid=1680481307&sprefix=jst+2.54+fan+wire+extension%2Caps%2C147&sr=8-3
Power Switch	1	$8.00	$8.00	https://www.amazon.com/dp/B07KS2TQ45?ref=ppx_yo2ov_dt_b_product_details&th=1
			$490.49	

Alternate parts and upgrades

Item	Link
Spring Loaded t-nuts	https://www.amazon.com/Rierdge-European-Standard-Aluminum-Extrusion/dp/B09B3H8RJP/ref=sr_1_4?crid=1LCXS8NV1BOIE&keywords=m5+spring+loaded+t+nut&qid=1680480766&sprefix=m5+spring+loaded+t+nut%2Caps%2C121&sr=8-4
Pre-assembled Sherpa Mini with stepper motor	https://www.amazon.com/FYSETC-Sherpa-Extruder-Compatible-Printer/dp/B095WFBGL4/ref=sr_1_2?crid=13BPJS0ETHO6X&keywords=sherpa+mini&qid=1680480906&sprefix=sherpa+mini%2Caps%2C151&sr=8-2

BTT BLTouch			https://www.amazon.com/BIGTREETECH-BLTouch-Leveling-Extension-Upgrade/dp/B087CQ3RLG/ref=sr_1_5?crid=99UVWVHZ6JWE&keywords=BLtouch&qid=1680481034&sprefix=bltouch%2Caps%2C134&sr=8-5&th=1
Creality CRTouch			https://www.amazon.com/gp/product/B09XCGPLXH/ref=ewc_pr_img_1?smid=A113EI13J39RO4&psc=1
Metal inside corners for strength (will need more M5x12 or 10 and tnuts for these)			https://www.amazon.com/dp/B07P9GBNNQ?ref=ppx_yo2ov_dt_b_product_details&th=1
Metal antibacklash nut (or us POM if you prefer)	1		https://www.amazon.com/ReliaBot-Backlash-Spring-Elimination-Threaded/dp/B079JQ7S3Y/ref=sr_1_2?crid=34ACDA9AZ5HWZ&keywords=anti%2Bbacklash%2Bnut%2Btr8x8&qid=1684186353&sprefix=antibacklash%2Bnut%2Btr8x8%2Caps%2C131&sr=8-2&th=1
POM if you don't want metal			https://www.amazon.com/Printer-Backlash-Threaded-Eliminate-Accessories/dp/B07XYQ4KJ9/ref=sr_1_1?crid=34ACDA9AZ5HWZ&keywords=anti%2Bbacklash%2Bnut%2Btr8x8&qid=1684186483&sprefix=antibacklash%2Bnut%2Btr8x8%2Caps%2C131&sr=8-1&th=1

Individual fastener list in case you need to source from elsewhere

M3, M4, M5 Nut and Screw Kit	1	$15.00	https://www.amazon.com/Hilitchi-510-Pcs-Socket-Screws-Assortment/dp/B073SWXPYR/ref=sxin_17_ac_d_bv?ac_md=0-0-QnVkZ2V0IFBpY2s%3D-ac_d_bv_bv_bv&content-id=amzn1.sym.8f2bf95d-b9c2-4e6d-96a9-5fdf77a1951d%3Aamzn1.sym.8f2bf95d-b9c2-4e6d-96a9-5fdf77a1951d&cv_ct_cx=m3+m4+m5+screw+assortment&keywords=m3+m4+m5+screw+assortment&pd_rd_i=B073SWXPYR&pd_rd_r=8e8cc7e2-48b9-4a51-b752-0186dd22447b&pd_rd_w=jmPHz&pd_rd_wg=kQ31h&pf_rd_p=8f2bf95d-b9c2-4e6d-96a9-5fdf77a1951d&pf_rd_r=RBMRTG4MGTVCWFG3QMHH&qid=1677710013&sprefix=M3+M4+M%2Caps%2C158&sr=1-1-270ce31b-afa8-499f-878b-3bb461a9a5a6
M3 longer fastener kit	1	$9.28	https://www.amazon.com/iexcell-Metric-M5-0-8-Stainless-Assortment/dp/B08GZWVN4D/ref=sr_1_11?crid=3P17MCP2BHY7A&keywords=m5x25%2Bto%2Bm5x40&qid=1679576219&sprefix=m5x25%2Bto%2Bm5x40%2Caps%2C125&sr=8-11&th=1

M5 longer fastener kit	1	$9.80	https://www.amazon.com/iexcell-Metric-M5-0-8-Stainless-Assortment/dp/B07HDL3KVG/ref=sr_1_11?crid=3P17MCP2BHY7A&keywords=m5x25%2Bto%2Bm5x40&qid=1679576219&sprefix=m5x25%2Bto%2Bm5x40%2Caps%2C125&sr=8-11&th=1
Assorted M3 Kit	1	$12.00	https://www.amazon.com/Kadrick-Bolts%EF%BC%8CFlat-Washers-Assortment-Stainless/dp/B0BPFWBBF9/ref=sr_1_1_sspa?keywords=m3+screw+assortment&qid=1676582234&sprefix=m3%2Caps%2C229&sr=8-1-spons&psc=1&spLa=ZW5jcnlwdGVkUXVhbGlmaWVyPUE3T1dHOFRKREFNN00mZW5jcnlwdGVkSWQ9QTA0MzU1MDgzSVdTSUdRRlQ2NVBOJmVuY3J5cHRlZEFkSWQ9QTAwMjM5ODcxT0pGTURMRUdQSUZXJndpZGdldE5hbWU9c3BfYXRmJmFjdGlvbj1jbGlja1JlZGlyZWN0JmRvTm90TG9nQ2xpY2s9dHJ1ZQ==
M4x50 countersunk flat head	4	$2.00	https://www.amazon.com/METALLIXITY-Countersunk-Machine-M4x30mm-Stainless/dp/B09Y5P7X75/ref=sr_1_35?crid=6ITT1GZQTJ20&keywords=m4%2Bx40%2Bcountersunk%2Bscrew&qid=1676582605&sprefix=m4%2Bx40%2Bcountersunk%2Bscrew%2Caps%2C131&sr=8-35&th=1
M5x12 (M5x10 works too) button head	100	$0.10	https://www.amazon.com/M5-0-8-Button-Socket-Stainless-Quantity/dp/B07NVJT9VB/ref=sr_1_1_sspa?crid=2ESZ8FANAWB42&keywords=m5x12&qid=1676582167&sprefix=m5x12%2Caps%2C153&sr=8-1-spons&psc=1&spLa=ZW5jcnlwdGVkUXVhbGlmaWVyPUEyNEtPTlNGRFhQR0tNJmVuY3J5cHRlZElkPUEwNjE3MjQyNFBaWERJNkJaNFZCJmVuY3J5cHRlZEFkSWQ9QTAxMTk0NzMxTjlKWDg1SDVHN1NaJndpZGdldE5hbWU9c3BfYXRmJmFjdGlvbj1jbGlja1JlZGlyZWN0JmRvTm90TG9nQ2xpY2s9dHJ1ZQ==