

Crossbill parts list

Lasers:

473nm 50mW Low Cost Turnkey Laser	Edmund Optics Stock #35-070	\$3,700
532nm 50mW Low Cost Turnkey Laser	Edmund Optics Stock #35-072	\$2,300

Low cost turn key lasers

<https://www.edmundoptics.com/f/low-cost-turnkey-lasers/15091/>

<http://www.oemlasersystems.com/>

M Series 473nm Laser 50 mW	473M50, Dragon lasers	\$1,160
M Series 532nm Laser 100 mW	532M100, Dragon lasers	\$980

<https://www.dragonlasers.com/m-series-532nm-laser-1-300mw.html>

<https://www.dragonlasers.com/m-series-473nm-laser-50mw.html>

Camera:

IMX174, 163 FPS, 76 QE, CMOS	GS3-U3-23S6M-C, Flir	\$1,050
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Translation stage:

USB Linear slide, 6.4 μ m step	Picard Industries	\$445
Two axis motorized micropositioning platform with 25mm of travel with 95nm step Size. Third axis manual.	MadCityLabs MMP2 custom modified without encoders	~\$8,000 (RFQ)

<http://picardindustries.com/products/linear-motions/usb-linear-slide/>

Microscope objectives:

Olympus 60x W - 3 pieces	LUMPLFLN60XW; LWD PLAN FLUOR 60X WTR DIPPING OBJ, NA 1.0, WD 2.0 mm	~\$9,600 (RFQ)
Tube lens - 2 pieces	SWTLU-C, Super wide tube lens FN 26.5	\$800

DAQ:

Analog voltage output device with 4 high-speed channels (100 kS/s)	USB-3101FS, MCC	\$550
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<https://www.mccdaq.com/usb-data-acquisition/USB-3100-Series.aspx>

Thorlabs Lenses and mirrors:

Scan lens - 2 pieces	CLS-SL	\$5,600
Achromatic lenses	AC508-150-A-ML, AC508-100-A-ML	\$300
1" Protected Aluminum Elliptical Mirror -2 pcs	PFE10-G01	\$135
Round Protected Aluminum Mirror Ø1"	ME1-G01	\$15 each

Round Protected Aluminum Mirror Ø1/2"	ME05-G01	\$12 each
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Optical scanning systems (Galvanometers):

Large beam galvo (10 mm)	Thorlabs GVS011/M	\$1,600
Small beam galvo (<5 mm)	Thorlabs GVS001	\$1,050
Power supply	Traco power TXL 035-1515D	\$60

Filter(s) / Dichroic(s):

Dichroic beam combiner	Di01-R405/488/532/635, Semrock	\$615
Dichroic beam combiner	FF495-Di03	\$285
Fluorescence filter GFP	MF525-39	\$258
Fluorescence filter TXRED	MF630-69	\$258

Optomechanical components:

Breadboard Handles	BBH1 - 2 pcs	\$16
Optical breadboard	MB4560/M - 2 pcs	\$800
Ø25.0 mm Pillar Post	RS150/M - 4 pcs	\$150
Ø1" Post Holder	RSHT4/M - 4 pcs	\$200
Dovetail rails	RLA150/M - 1 pc, RLA300/M - 2 pcs	\$210
2 pairs of rail positioners	RCN, RCN1	\$160
Rail carrier	RC1 - 6 pcs	\$180
Ø12.7 mm Post Holder	PH20/M - 5 pcs	\$35
Ø12.7 mm Optical Post	TR20/M - 5 pcs	\$30
Ø12.7 mm Post Holder	PH40/M - 2 pcs	\$16
Ø12.7 mm Optical Post	TR40/M - 3 pcs	\$18
	TR50/M - 1pc; TR75/M - 3pc;	
60 mm Cage Plate	LCP08/M - 6 pcs	\$330
30 mm to 60 mm Cage Plate Adapter -5 pcs	LCP02/M	\$215
Cage Assembly Rod	ER05-P4 - 2 pcs; ER1-P4 - 1 pc; ER1.5-P4 - 1 pc; ER3-P4 - 3 pcs; ER6-P4 - 1 pc; ER12 - 8 pcs	\$335
Right-Angle Kinematic Elliptical Mirror Mount	KCB1EC/M - 2 pcs	\$420

Swivel Base Adapter pack	UPHA-P5 - 3 packs	\$335
Right-Angle Clamp for Ø1/2" Posts	RA90/M-P5	\$50
Right-Angle End Clamp for Ø1/2" Posts	RA180/M-P5	\$60
Thread adapters	SM1A3 - 3 pcs; SM2AD41 - 2 pcs; SM1A9 - 1 pc; SM1T2 - 1 pc; AP4M3M - 2 pcs;	\$160
Table Clamp, L-Shape	CL5A-P5	\$22
Z-Axis Translation Mount	SM1Z	\$210
Sliding Filter Mount with Two CFS1-F1 Inserts	CFS1/M	\$170
30 mm Cage Cube with Dichroic Filter Mount	CM1-DCH/M - 2 pcs	\$350
Lens Mount with Retaining Ring for Ø2" Optics,	LMR2/M	\$30
45° Mirror Mount for Ø1/2" Optics	H45A - 2 pcs	\$70
Mini-Series Kinematic Mirror Mount for Ø1/2" Optics	MK05/M - 2 pcs	\$175
6.5 mm Travel Single-Axis Translation Stage	MS1S/M - 2 pcs	\$465
Right-Angle Kinematic Mount for Ø1" Optics, 30 mm Cage Compatible	C45P - 1 pc	\$169

3D printed/moulded parts:

Objective chamber	Custom (download stl from github)	--
Chamber clip	Custom (download stl from github)	--