

		Part description	Brand	Part number	Vendor	Price	Number	Extended price	Notes
Mode-locked fiber laser									
	<i>necessary</i>	fusion splicer	Fujikura	FSM-30S	eBay	3470	1	3470	avoid New England Machinery
		fiber cleaver	Fujikura Alcoa	CT-07BS	eBay, excel-telco	172.5	1	172.5	
		Er-doped gain fiber	Thorlabs	ER80-4/125	Thorlabs	99	2	198	4um Core Diameter 125um Cladding Diameter
		single-mode fiber, SMF-28	Thorlabs	SMF--28--100	Thorlabs	51.51	1	51.51	-ive dispersion, 900um Jacket, 100m Length
		WDM 980/1550nm	Optilab (OEQuest)	OEWDM-MF-9850	Optilab (OEQuest)	45	1	45	980nm / 1550nm Mixed Fiber Pump Combiner
		output coupler	Oplink	DWFC12021216	eBay, boteq	50	1	50	20/80
		GRIN fiber collimator	Thorlabs	50--1550A	Thorlabs	59.2	3	177.6	for NPR section and laser output
		GRIN holder	Thorlabs	SM1PT	Thorlabs	32.55	2	65.1	
		GRIN holder optical mount	Thorlabs	KC1-T	Thorlabs	90.78	2	181.56	
		isolator	Optilab (OEQuest)	ISO-15-D-03	Optilab (OEQuest)	100	1	100	1550nm Dual Stage Isolator - Premium, 300mW Rated
		980 nm pump diode	Optilab (OEQuest)	LC95-280mW	Optilab (OEQuest)	500	1	500	980nm Pump LD, 280mW Kink Free, TEC, FBG
		pump diode mount	Newport		744 eBay	200	1	200	butterfly mount
		pump diode T-controller	Wavelength Electronics	LDTC0520	Wavelength Electronics	391	1	391	combined T- and I-controller
		pump diode I-controller							
		power supply for controllers	Linear	179-2321-ND	Digikey	75.31	1	75.31	12V/3.4A
			Linear	179-231-ND	Digikey	50.03	1	50.03	12V/1.7A
		half-wave plate 1550nm	Thorlabs	WPH502	Thorlabs	45	1	45	5mm square, need custom mounts to 1", e.g.
		quarter-wave plate 1550nm	Thorlabs	WPQ501	Thorlabs	70	2	140	5mm square, need custom mounts to 1", e.g.
		rotation mounts	Thorlabs	RSP1	Thorlabs	81.1	3	243.3	
		polarizing beamsplitter	Thorlabs	PBS054	Thorlabs	163	1	163	5mm 1200--1600nm
	PBS mount	Thorlabs	KM100P	Thorlabs	64	1	64		
	oscilloscope							needed to observe ML pulses if no OSA	
								6382.91	
<i>helpful</i>	various output couplers	Optilab (OEQuest)	STAP-15-As-2-1-S-B	Optilab (OEQuest)	19	1	19	1/99	
		Optilab (OEQuest)	L2SEWF15A02	Optilab (OEQuest)	19	1	19	2/98	
		Optilab (OEQuest)	SWFC1055LU01	Optilab (OEQuest)	23	1	23	5/95	
		Optilab (OEQuest)	SWBC2150PS210	Optilab (OEQuest)	19	1	19	50/50	
	optical spectrum analyzer	Ando	AQ6315B	eBay, Testworld Inc	16,000	1	16000	try to get 400-1700nm version	
	pos. dispersion fiber	Thorlabs	DCF38	Thorlabs	6.1	5	30.5	Dispersion Compensating Fiber for SMF-28e+, Dispersion: --38 ps/nm*km, MFD: 5.72-6.3um	
		Thorlabs	DCF3	Thorlabs	5.02	5	25.1	Non-Zero Dispersion Compensating Fiber, Dispersion: -3.0 ps/nm*km, MFD: 7.7-8.5um	
	isolator on output	Optilab (OEQuest)	ISO-15-D-03	Optilab (OEQuest)	100	1	100	1550nm Dual Stage Isolator - Premium, 300mW Rated	
	fiber jacket	Thorlabs	FT900SM	Thorlabs	1.9	10	19	900um Hytrel Tubing Yellow	
	WDM for pump isolation	Optilab (OEQuest)	OEWDM-MF-9850	Optilab (OEQuest)	45	1	45	980nm / 1550nm Mixed Fiber Pump Combiner	
	1550nm viewing card	Thorlabs	VRC4	Thorlabs	73	1	73		
	FC/APC connector	Optilab (OEQuest)	PT-FCAPC-0.5-S-900	Optilab (OEQuest)	8.5	5	42.5		
	fast fiber coupled detector	Optilab (OEQuest)	EPM 605 ALC	Optilab (OEQuest)	99	1	99	InGaAs PIN, 2.0GHz, Coaxial, Fiber Pigtail, Low Leakage	
	CNT tapered fiber						0		
	breadboard	Newport	SG-23-2	Newport	1,098	1	1098	2' x 3' x 2.4"	
								17612.1	
Auto-correlator	<i>necessary</i>	Si detector	Thorlabs	DET36A	Thorlabs	114.24	1	114.24	

		non-polarizing beamsplitter	Thorlabs	BSW12	Thorlabs	104	1	104	Ø1" 50:50 UVFS Plate Beamsplitter, Coating: 1.2-1.6 µm, t = 5 mm
		beamsplitter mount	Thorlabs	KM100	Thorlabs	39.9	1	39.9	
		z translation stage	Newport	423	Newport	249.94	1	249.94	
		Vernier screw for stage	Newport	SM-25	Newport	104.94	1	104.94	
		lens	Thorlabs	LB1757-C	Thorlabs	36.7	1	36.7	
		FC collimator mount	Thorlabs	F220FC-1550	Thorlabs	134.09	1	134.09	
		FC collimator holder	Thorlabs	AD11F	Thorlabs	27.8	1	27.8	
		FC collimator holder optical mount	Thorlabs	KC1-T	Thorlabs	90.78	1	90.78	
		mirror mount	Newport	U100-A2K	Newport	99.94	1	99.94	
		speaker						0	
		speaker driver						0	
		oscilloscope						0	
								1002.33	
	<i>helpful</i>	Au retroreflectors	Newport	50326-1005	Newport	440	2	880	Replicated Hollow Metal Retroreflector, 25.4mm OD, 5 arc sec RBA
		y-z mount for retroreflector	Thorlabs	LM1XY	Thorlabs	133.7	1	133.7	
		adjustable iris	Thorlabs	ID15	Thorlabs	46	1	43.86	
		12" square breadboard	Thorlabs	MB12	Thorlabs	155	1	155	
								1212.56	
Grating dispersion compensator									
	<i>necessary</i>	gratings	Thorlabs	GR13--0616	Thorlabs	62.5	4	250	Ruled Diff. Grating, 600/mm, 1.6 µm Blaze, 12.7 x 12.7 x 6 mm
		small translation stages	Newport	MT-X	Newport	79.94	2	159.88	
		grating mount	Thorlabs	KM05S	Thorlabs	64	4	256	Kinematic Mirror Mount for 1/2" (12.5 mm) Square Optics
		FC collimator mount	Thorlabs	F220FC-1550	Thorlabs	134.09	2	268.18	
		FC collimator holder	Thorlabs	AD11F	Thorlabs	27.8	2	55.6	SM1-Threaded Adapter for Ø11 mm Cylindrical Components
		FC collimator holder optical mount	Thorlabs	KC1-T	Thorlabs	90.78	2	181.56	
		free space coupling lens						0	
								1171.22	
	<i>helpful</i>	12" square breadboard	Thorlabs	MB12	Thorlabs	155	1	155	
		Au mirrors	Thorlabs	PF10-03-M01	Thorlabs	50	2	100	
								255	
		total necessary:		8556.46					
		total helpful w/out OSA:		3079.66					
		total helpful w/ OSA:		19079.66					