

	<b>2/19/2018</b>	(all prices list)	<u>List Unit Price</u>	<u>List Extended</u> <b>VENDOR TOTAL</b>	<u>Country of Origin</u>	<u>Schedule B Tariff Code</u>	<u>MFR</u>	<u>Picture</u>
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[Download as Excel file](#)

**Fab Lab**

Estimated cost assuming Epilog Mini24 with Sentry filter, Roland SRM20, Roland GS-24, 3Dwox printer (These are the most common and standard options. Other lasers, small milling machines, vinyl cutters and 3D printers listed here are viable but non-standard options):

<http://mtm.cba.mit.edu/>

**\$107,709.80**

Fab labs have a recommended list of capabilities. These include a laser cutter for making 3D structures from 2D designs, a large CNC mill for making furniture and housing,

a NC knife and smaller mini-mill for making circuits and molds for casting, 3D printers, an electronics workbench, and a suite of tooling and materials that allows anyone, anywhere

to make almost anything. Below please find our recommendations for equipping your fab lab. If you invest in the below list completely, including materials, your lab can participate

In the global Fab Academy.

For a laser system we recommend one of the following (Choose laser + ventilation or Filter system):

**EPILOG LASERS**

**For USA purchases please contact  
Mark Schwarz, 303-277-1188,  
Marks@epiloglaser.com, Tell him  
you want MIT Fab Lab Laser**

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

**For International please contact  
Bob Henry, bobh@epiloglaser.com,  
Tell him you want MIT Fab Lab  
Laser**

1 Mini 24-40W	40Watt CO2 Laser system (2 yr warranty bumper to bumper) 12"X24" bed	14,495.00	14,495.00	USA	8456.10.80.00
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Depending on where you are in the world, you can buy

1 Floor Stand	Floor Stand	595.00	595.00	USA	9403.20.0020
1 Air Assist Pump	Air Assist Pump	300.00	300.00	USA	84.56

1 Spare parts kit	Spare Parts Kit	2,495.00	2,495.00	USA	84.56
Rotary Attachment (for etching 1 with round objects)	rim style rotary attachment	1,150.00	1,150.00	USA	84.56
1 shipping	shipping	250.00	250.00	<b>Epilog:</b>	

**\$19,285.00**

*Sentry Air Systems for Epilog (HEPA filter for internal filtration)*

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

1 <b>SS-400-PFS</b>	High Flow Portable Floor Sentry Filtration system, Includes CFP, HEPA and 22LB Carbon filters, 2 yr warranty	2,981.00	2,981.00	USA	8421.39.8005
Extra filters CFP + HEPA + 22 1 Lb Carbon		2,235.38	2,235.38 <b>SAS total:</b>	USA	8421.39.8005

**\$5,216.38**

*For venting outside (No  
HEPA)*

1 DC250SEMB	(Also need aluminum duct section, see 5400K3 under McMaster order)	395.00	395.00	Outdoor venting:
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**\$395.00**

*Other Epilog Options:*

*OPTION:*

1 Helix 24-75W	75Watt CO2 Laser system (2 yr warranty bumper to bumper) 18"X24" bed	24,995.00	24,995.00	USA	8456.10.80.00
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Comes with Stand

1 Air Assist Pump	Air Assist Pump	300.00	300.00	USA	84.56
1 Spare parts kit	Spare Parts Kit	2,495.00	2,495.00	USA	84.56
Rotary Attachment (for etching 1 with round objects)	rim style rotary attachment	1,150.00	1,150.00	USA	84.56
1 shipping	shipping	350.00	350.00	<b>Epilog:</b>	

*Ventilation is the same as above,  
requires either SAS Hepa or external  
blower*

**\$29,290.00**

OPTION:

<b>Fusion M2 32 CO2 Laser 1 system</b>	75W CO2 Laser system (2 yr warranty bumper to bumper) 32"X20" bed	31,995.00	31,995.00	USA	8456.10.80.00
	Comes with Stand				
1 Air Assist Pump	Air Assist Pump	300.00	300.00	USA	84.56
1 Spare parts kit	Spare Parts Kit	2,495.00	2,495.00	USA	84.56
Rotary Attachment (for etching 1 with round objects)	rim style (3-jaw style also available)	1,495.00	1,495.00	USA	84.56



1 shipping	shipping	500.00	500.00	<b>Epilog:</b>
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	<i>Ventilation requires 650 CFM</i>			<b>\$36,785.00</b>
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**BOFA Ventilation**

1 Filtration system part #L0661A	Bofa Advantage 500 IQ systems	5,130.00	5,130.00	
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1 DHK-AD500IQ-4	Std hose Connection kit 2 ports, 4"	252.00	252.00	
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4 A1030222	Year of Deep pleat Pre-filter supply (one is included in purchase	455.00	1,820.00
2 A1030297	Year of Combined Filter supply (one is included in purchase)	891.00	1,782.00
1 Shipping		300.00	300.00 <b>BOFA:</b>

**\$9,284.00**

*OPTION:*

1 watt Fiber	<b>Fusion M2 32 50 watt CO2/20</b> system (2 yr warranty bumper to bumper) 32"X20" bed	45,995.00	45,995.00	USA	8456.10.80.00
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Comes with Stand

1 Air Assist Pump	Air Assist Pump	300.00	300.00	USA	84.56
1 Spare parts kit	Spare Parts Kit	2,495.00	2,495.00	USA	84.56
Rotary Attachment (for etching 1 with round objects)	rim style (3-jaw style also available)	1,495.00	1,495.00	USA	84.56
1 shipping	shipping	500.00	500.00	<b>Epilog:</b>	

*Internal Ventillation requirements are  
different for Fusion:*

**\$50,785.00**

1	Filtration system part #L0661A Bofa Advantage 500 IQ systems	5,130.00	5,130.00
1	DHK-AD500iQ-4 Std hose Connection kit 2 ports, 4"	252.00	252.00
4	A1030222 Year of Deep pleat Pre-filter supply (one is included in purchase)	455.00	1,820.00
2	A1030297 Year of Combined Filter supply (one is included in purchase)	891.00	1,782.00
1	Shipping	300.00	300.00 <b>Epilog:</b>

\$9,284.00

TROTEC LASERS

**US Sales: Rachel Dreher, Marketing  
and Sales Trotec Laser Inc.,  
Rachel.Dreher@troteclaser.com, +1  
(734) 927 6312**

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

**International Sales: Petra Buresch,  
Int. Product Marketing  
Petra.buresch@troteclaser.com  
+ 43 7242/239 7341**

*OPTION:*

1 Speedy 100	60W CO2 Laser System, 24"X12". Includes cutting table, air assist, 2 yr warranty	17,900.00	17,900.00
1 Table Stand	Table Stand	450.00	450.00
Option: Built in Air Assist 1 (including pump)	Option: Built in Air Assist	700.00	700.00 <b>Trotec 100:</b>

**\$19,050.00**

*Trotec Exhaust System for  
100*

1 Atmos Mono 3,900.00 3,900.00

1 Atmos Mono/Duo Filter 495.00 495.00 **Trotec Exhaust:**

**\$4,395.00**

*OPTION:*

1 Speedy 400 (CO2) 80W CO2 Laser System, 39"X24" bed, includes cutting table, air assist, Trolley base, 2 yr warranty 32,900.00 32,900.00

Option: Built in Air Assist 1 (including pump) 690.00 690.00 **Trotec 400:**

**\$33,590.00**

*Trotec Exhaust System for  
400*

1 Atmos Duo

4,900.00 4,900.00

1 Atmos Mono/Duo F9 Filter

495.00 495.00 **Trotec Exhaust:**

**\$5,395.00**

**TROTEC: Leasing options are available. We can put you in contact with our leasing firm. Leasing – usually requires first and last month as a down payment. Rate is HIGHLY dependent upon credit check.**



**GCC LASERS**

**For GCC lasers please contact: Jeff  
Hapgood**

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

**TEL: 603-.224-.8324,  
jeff@TECedu.com**

*OPTION:*

1 560-0008	GCC LaserPro Spirit LS CO2 Laser Cutter/Engraving system,40 Watt CO2 Laser system, bed size 29"X18", 2 yr warranty	22,200.00	22,200.00
1 560-0417	CorelDraw X7 Graphics Software, 1 seat	100.00	100.00
1 560-0100	LaserPro Honeycomb Cutting Table	480.00	480.00
1 560-0400	TEC Internal compressor	500.00	500.00
Spare parts kit (for remote 1 locations)	Spare parts kit	2,491.00	2,491.00

1 Tech support if desired	Tech support if desired	2,000.00	2,000.00
1 3Yr Extended Warranty	3Yr Extended Warranty	900.00	900.00
1 shipping	shipping	600.00	600.00

**GCC Spirit:**

**\$29,271.00**

*Fume Extractor for GCC  
LSPro Spirit*

1 560-0334IQ	BOFA Oracle IQ L1974-8205Chemical air filtration unit with hose kit and filters	3,149.00	3,149.00
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4 560-0332	BOFA Orable Extra Replacement Labrynth Filter	198.00	792.00
2 560-0333	BOFA Orable Extra Replacement Main Hepa/Chemical Filter	317.00	634.00
1 shipping	shipping	300.00	300.00 <b>GCC BOFA:</b>

**\$4,875.00**

*OPTION:*

1 560-0051	GCC LaserPro C180 II- 40 Watt, 18" x 12"	16,900.00	16,900.00
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1 560-0417	CorelDraw X7 Graphics Software, 1 seat (included)	-	-
1 560-0100	LaserPro Honeycomb Cutting Table	360.00	360.00
1 560-0400	GCC Compressor for Air Assist	500.00	500.00
Spare parts kit (for remote 1 locations)	Spare parts kit	2,143.00	2,143.00
1 Tech Support if desired	Tech Support if desired	2,000.00	2,000.00
1 3Yr Extended Warranty	Yr Extended Warranty	700.00	700.00

**GCC LaserPro:**

1 shipping	shipping	525.00	525.00	<b>GCC C180 II:</b>
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Fume Extractor for GCC  
LaserPro C180 II

1 560-0335	BOFA AD C180-PC Complete Chemical Air Filtration Unit with hose kit and filters	2,699.00	2,699.00
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4 560-0339	BOFA ADC180 Extra Replacement Labrynth Filter	187.00	748.00
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2 560-0340	BOFA ADC180 Extra Repl. Main HEPA/Chemical Filt	275.00	550.00
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1 shipping

shipping

300.00

300.00 **GCC BOFA:**

For Large CNC we  
recommend:

**\$19,903.00**

**For Large CNC we  
recommend:**

## ShopBot

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

There are 2 versions, an open loop and a closed loop. The closed

loop is more expensive, but preferable if you can afford it.

Open Loop ShopBot: You need to purchase the first three (3) parts. E-Chain optional but recommended



*Open Loop ShopBot:*

1 PRSstandard96 96x48x8in:	13,335.00	13,335.00	USA	8465.92.0090
1 220V 4HP spindle:	3,495.00	3,495.00	Italy	8466.92.0020
1 Router Bit Starter Kit: 195.00	195.00	195.00	USA	8466.92.0020
1 E-Chain X96 Kit - Cable carrier system for 96"-axis PRS tools	380.00	380.00	USA	8466.92.0020

Crating for Intl shipping

450.00

450.00 **Shopbot Open Loop:**

Shipping fees: determined on a case by case basis

0.00

**\$17,855.00**

*Closed Loop ShopBot:*

PRSalph96 Includes E-Chair  
1 X96 Kit carrier sys

18,380.00

18,380.00

USA

8465.92.0090

1 Crtl Box 1 Spindle

200.00

200.00

USA

8466.92.0020

1 HSD 4HP 220V spindle	3,459.00	3,459.00	Italy	8466.92.0020
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1 Router Bit Starter Kit: 195.00	195.00	195.00	USA	8466.92.0020
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Crating for Intl shipping	450.00	450.00	<b>Shopbot Closed Loop:</b>	
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Shipping: determined on a case by case basis				<b>\$22,684.00</b>
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*The ShopBot requires a hefty dust collector. Please see:*

<https://www.utterguys.com>

1 33828	Shop Fox W1666—2 HP 1550 CFM Dust Collector	483.00	483.00	<b>Dust Collector:</b>	8421.39.8005
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1 D4572	Upper micron bag (don't get it wet, you can clean these with compressed air)	49.00	49.00		
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2 D4573-5pk	Lower plastic bags	35.00	70.00		
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**\$602.00**

**For 3D Printer we recommend:**

**Sindoh**

<http://3dprinter.sindoh.com/>

1 DP200 3Dwox	3Dwox	999.00	999.00	8443.32.5000
Sindoh 3Dwox Refillable 2 Cartridge PLA black	Sindoh 3Dwox Refillable Cartridge PLA	49.99	99.98	3907.70.0000

Spool PLA 700g (assorted 18 colors)	Sindoh 3Dwox Refill Filament PLA Spo	29.99	539.82	3907.70.0000
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1 3DWOX Nozzle (DP 200 ONLY)	3DWOX Nozzle (DP 200 ONLY)	130.00	130.00	8443.32.5000
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1 3DWOX Bed (DP 200 ONLY)	3DWOX Bed (DP 200 ONLY)	60.00	60.00	8443.32.5000
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**Sindoh:**

**\$1,828.80**

**Onsrud**

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

*collets for regular shopbot (not desktop!):*

1 34-152	ER 25 Collet - Inches 1/8 ID	39.90	39.90	USA	8466.10.0175
1 34-156	ER 25 Collet - Inches 1/4 ID	39.90	39.90	USA	8466.10.0175
1 34-164	ER 25 Collet - Inches 1/2 ID	39.90	39.90	USA	8466.10.0175

1 34-168	ER 25 Collet - Inches 5/8 ID	39.90	39.90	USA	8466.10.0175
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*end mills to go with regular  
shopbot (desktop can remove  
1/2" end mills and extended  
length end mills):*

0.00

2 64-012	1/8" Solid Carbide One Flute Downcut Super O Flute for Plastic, Wood, Aluminum, Solid Surface	38.70	77.40	USA	820900
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2 65-012	1/8" Solid Carbide One Flute Upcut Super O Flute for Plastic, Wood, Aluminum, Solid Surface	36.70	73.40	USA	820900
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5 52-240	1/8" Solid Carbide Two Flute Upcut for Wood and Soft Plastic	23.65	118.25	USA	820900
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5 57-240	1/8" Solid Carbide Two Flute Downcut for Woods	23.65	118.25	USA	820900
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2 52-280	1/4" Solid Carbide Two Flute Upcut for Wood and Soft Plastic	26.70	53.40	USA	820900
2 57-287	1/4" Solid Carbide Two Flute Downcut for Woods	30.75	61.50	USA	820900
1 57-367	1/2" Solid Carbide Two Flute Downcut for Woods	84.00	84.00	USA	820900
2 37-61	1/2" Carbide Tipped Two Flute Up-shear V Flute For V-Grooving or Beveling 90° for Plastics, Solid Surface, Composites, Laminated and Vaneered Materials	18.75	37.50	USA	820900
1 52-244BL	1/8" Solid Carbide Two Flute Upcut Ballnose (Extended Length) for Plastics, Solid Surface, Aluminum, and Wood	55.45	55.45	USA	820900
1 52-280BL	1/4" Solid Carbide Two Flute Upcut Ballnose (Extended Length) for Plastics, Solid Surface, Aluminum, and Wood	62.65	62.65	USA	820900

1 52-360BL	1/2" Solid Carbide Two Flute Upcut Ballnose (Extended Length) for Plastics, Solid Surface, Aluminum, and Wood	128.80	128.80	USA	820900
2 56-041	1/8" Solid Carbide Two Flute Straight V Flute for Composites, Hard and Soft Plastics, Solid Surface	26.25	52.50	USA	820900
2 56-082	1/4" Solid Carbide Two Flute Straight V Flute for Composites, Hard and Soft Plastics, Solid Surface	28.90	57.80	USA	820900
1 64-000	1/16" Solid Carbide One Flute Downcut Super O Flute for Plastic, Wood, Aluminum, Solid Surface	34.05	34.05	USA	820900

Onsrud:

\$1,174.55

For NC Mini-Mill we  
recommend one of the  
following:

Roland- This model is Fab  
Academy standard

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

monofab SRM-20 (milling machine (X) 8 in x (Y) 6 in x (Z) 2.38  
1 in(203.2 (X) x 152.4 (Y) x 60.5 (Z) mm)

4,995.00

4,995.00

USA/Japan

8465.92.0090

1 SS-20	SRM-20 Spindle Unit replacement part	259.99	259.99	USA/Japan
1 SM-20	SRM-20 Spindle Motor replacement part	167.98	167.98	USA/Japan
1 ZC-20-32	3.2mm-1/8in SRM Collet	64.99	64.99	
1 shipping	shipping	80.00	80.00	<b>Roland SRM20:</b>

**\$5,567.96**

OPTION:

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

MDX-40A (milling machine (X) 12 in x (Y) 12 in x (Z) 4.125 in (305 (X) 1 x 305 (Y) x 105 (Z) mm		7,995.00	7,995.00	USA/Japan	8465.92.0090
1 ZCL-40A	Rotary 4th Axis unit 4.7 in.(120 mm) diameter by 10.6 in. (270 mm) long	3,695.00	3,699.00	USA/Japan	
1 ZDX-40	Dust Box for MDX-40	509.99	509.99	USA/Japan	
1 shipping	shipping	80.00	80.00		

**Roland MDX-40A:**

**\$12,283.99**

*OPTION:*

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

MDX-540 (milling machine 19.6(X) x 15.7(Y) x 6.1"(Z) [500 (X) x 400  
1 (Y) x 155 mm (Z)])

20,995.00 20,995.00

USA/Japan

8465.92.0090

1 ZCL-540

Rotary 4th Axis 7.0" Diameter x 14.6"  
Length [177.8mm Diameter x  
370.8mm Length]

5,099.00 3,699.00

USA/Japan

1 ZBX-540E	Safety enclosure	1,539.00	1,539.00	USA/Japan
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1 shipping	shipping	80.00	80.00	
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**Roland MDX-540:**

**\$26,313.00**

Roland (this is the Fab Academy standard)

<http://www.rolanddga.com>

GS-24 CAMM-1 SERVO vinyl cutter 2" - 27.5"5.08cm - 69.85cm 19.69 1 IPS 30gf - 350gf	1,995.00	1,995.00	<b>Roland Vinyl:</b>	USA/Japan	8477.80.0000
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1 shipping	shipping	80.00	80.00		
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Roland Blades					<b>\$2,075.00</b>
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VMI Sales

[http://www.vmisales.com/plotter\\_blades/](http://www.vmisales.com/plotter_blades/)

5 Roland 45 Degree Plotter Blades, 5 pack	32.50	162.50	USA	8443.99.5600
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**VMI Sales:**

**\$162.50**

**Carbide Depot**

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

*precision milling tooling:*

10	GT 11550	0.0100" DIA 220M .010	16.43	164.30	USA	820900
25	CU 129974	0.0156" DIA 2FL SE AlTiN 1/64	14.94	373.50	USA	820900

10	CU 129985	0.0312" DIA 2FL SE AITiN 1/32	10.10	101.00	USA	820900
10	CU 130007	0.0625" DIA 2FL SE AITiN 1/16	7.31	73.10	USA	820900
10	CU 130029	0.0938" DIA 2FL SE AITiN 3/32	7.31	73.10	USA	820900
10	CU 130051	0.1250" DIA 2FL SE AITiN 1/8	6.80	68.00	USA	820900
10	CU 136596	0.1250" DIA 4FL SE LONG AITiN 1/8	11.53	115.30	USA	820900
10	CU 132042	0.0156" DIA 2FL BALLNOSE AITiN 1/6	16.74	167.40	USA	820900

10	CU 132053	0.0312" DIA 2FL BALLNOSE AITiN 1/3	10.39	103.90	USA	820900
10	CU 132075	0.0625" DIA 2FL BALLNOSE AITiN 1/1	10.00	100.00	USA	820900
10	CU 132097	0.0938" DIA 2FL BALLNOSE AITiN 3/3	10.51	105.10	USA	820900
10	CU 132119	0.1250" DIA 2FL BALLNOSE AITiN 1/8	9.63	96.30	USA	820900
10	CU 137212	0.1250" DIA 4FL BALLNOSE LONG AI	13.71	137.10	USA	820900

**Carbide Depot:**

\$1,678.10

Amazon

<http://www.amazon.com>

*stock cutting:*

1	DW788S	DeWalt 20" Variable Speed Scroll Saw	583.82	583.82	Taiwan	8465.91.0049
1	<a href="https://www.amazon.com/WEN-3962-Two-Speed-Stand-Worklight/dp/B016VD8GAA">https://www.amazon.com/WEN-3962-Two-Speed-Stand-Worklight/dp/B016VD8GAA</a>	WEN 3962 Two-Speed Band Saw with	221.76	221.76	China	8465.91.0012

110V--needs step up transformer and plug adapter for non-US

locations

*drilling:*

1	LXFD01CW	Makita LXFD01CW 18-Volt Compact Li	184.00	184.00	USA	8467.21
1	DC18RA	<a href="http://www.amazon.com/Makita-30-min">http://www.amazon.com/Makita-30-min</a>	78.99	78.99	USA	8504.40.9550

*grinding, cutting:*

1	300-1/24	Dremel 300 Series Variable-Speed Rot	113.00	113.00	USA	8467.29
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*machining clean-up:*

1	CHV1510	Black & Decker CHV1510 Dustbuster 1	39.99	39.99	China	8508.11.0000
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1	9633400	Shop-Vac 9633400 6.5-Peak HP Ultra	127.00	127.00	USA	8479.89
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*fixturing:*

5	9970	Intertape 9970 Indoor Carpet Tape 1.8'	12.45	62.25	USA	3919.10.2010
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shopbot

[https://www.amazon.com/Stanley-16-150-Short-3-Piece-Chisel/dp/B00002X1YO/ref=sr\\_1\\_2?rps=1&ie=UTF8&qid=1492542705&sr=8-2&keywords=chisel+wood&refinements=p\\_85%3A247095501](https://www.amazon.com/Stanley-16-150-Short-3-Piece-Chisel/dp/B00002X1YO/ref=sr_1_2?rps=1&ie=UTF8&qid=1492542705&sr=8-2&keywords=chisel+wood&refinements=p_85%3A247095501)

1	1	chisel set	9.99	9.99
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*mold curing, solder reflow:*

<https://www.amazon.com/Cuisinart-TOB-260N1-Convection-Toaster-Stainless/dp/B01M0AWSJX>

1	Cuisinart TOB-260N1 Chef's Convection Toaster	208.99	208.99	China	8516.60.6000
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110V--needs step up transformer and plug adapter for

non-US locations



surface mount rework:

1	6966C	Weller Heat Gun, Model 6966C, 750-80	122.00	122.00	Mexico	84.19
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<https://www.amazon.com/WELLER-TOOLS-HEATGUN-NOZZLE-piece/dp/B00DJW4D90/>

5		WELLER 6958 TOOLS, HEATGUN NC	12.94	64.70		
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Looking for 220V version of the Weller Heat Gun, with fine tip

for soldering capability--please source locally.

measuring:

5	01407A	Neiko Stainless Steel 6-Inch Digital Ca	16.99	84.95	China	9017.30.40.00
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1	B001FDOJCQ	10 pk LR44 cell battery for caliper	1.21	1.21	China	8506.10.0000
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*inspection:*

1	44302	Celestron 44302 Handheld Digital Micr	39.99	39.99	China	9011.80.0000
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*lascutter lens cleaning:*

1	074887544100	Zeiss Pre-Moistened Lens Cloths Wipe	25.99	25.99	USA	34.02
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*laser cutter fire safety:*

1	B00IYCE7IC	Hot Headz Fire Blanket, 36 x 36-Inch, F	17.97	17.97		
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*videoconference:*

2	Logitech C920	HD Pro Webcam, 1080p Widescreen V	73.32	146.64	USA	8525.80.00.35
2	Logitech P710e	Mobile Speakerphone with Enterprise-C	141.00	282.00	USA	8518.10

*video monitor:*

1	BWCMO363	4.3" Color TFT Monitor	19.52	19.52	China	8528.59.0100
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*design:*

2	CTL471	Wacom Bamboo Splash Pen Tablet	42.99	85.98	Japan	8471.60
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5	P-SDX128U1H-GE	PNY Elite Performance 128GB High Sp	49.99	249.95		
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5	B00LLEODCK	SanDisk Ultra Fit CZ43 64GB USB 3.0	27.49	137.45		
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5	<a href="https://www.amazon.com/SanDisk-microSDXC-Standard-Packaging-SDSQUNC-064G-GN6MA/dp/B010Q588D4">https://www.amazon.com/SanDisk-microSDXC-Standard-Packaging-SDSQUNC-064G-GN6MA/dp/B010Q588D4</a>	SanDisk Ultra 64GB microSDXC UHS-	21.99	109.95		
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*project documentation:*

1	<a href="https://www.amazon.com/dp/B01MCRBY4X">https://www.amazon.com/dp/B01MCRBY4X</a>	Sony Cyber-shot DSC-RX100 V 20.1 M	998.00	998.00	Taiwan	8525.80.4000
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*structured light scanning*

1	B00D73RWNA	IncrediSonic Pico Projector Vue Series	549.95	549.95	USA	
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1	Logitech C920	HD Pro Webcam 1080p	67.99	67.99	USA	8525.80.00.35
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1	Sunpak 620-1212DCC	Tripod	11.99	11.99	Japan	85.29
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*projector:*

1	H180X	Optoma H180X	450.17	450.17	USA	8528.61.00.00
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*speakers:*

1	M1Active 320	Alesis USB Studio Monitor Pair	79.99	79.99	USA	8518.22.0000
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*radio modules:*

5	<a href="https://www.amazon.com/NRF905-Wireless-Transmitting-Receiver-1-9-3-6V/dp/B00HR69SEO">https://www.amazon.com/NRF905-Wireless-Transmitting-Receiver-1-9-3-6V/dp/B00HR69SEO</a>	2pcs NRF905 GFSK Wireless Transmi	14.57	72.85		
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10	<a href="https://www.amazon.com/DIYmall-Transceiver-Antistatic-Compatible-Raspberry/dp/B01DD5IV0Y">https://www.amazon.com/DIYmall-Transceiver-Antistatic-Compatible-Raspberry/dp/B01DD5IV0Y</a>	DIYmall nRF24L01+ 2.4GHz Wireless	6.45	64.50
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10	<a href="https://www.amazon.com/Diymini-Bluetooth-Module-Anti-lost-Android/dp/B00O2TTUEW">https://www.amazon.com/Diymini-Bluetooth-Module-Anti-lost-Android/dp/B00O2TTUEW</a>	Hm11 Bluetooth 4.0 BLE Module	11.99	119.90
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20	<a href="https://www.amazon.com/Diymini-ESP8266-Wifi-Module-ESP-12E/dp/B00XJG7CYY">https://www.amazon.com/Diymini-ESP8266-Wifi-Module-ESP-12E/dp/B00XJG7CYY</a>	ESP8266 Wifi Module ESP-12E	5.99	119.80
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*sensor modules:*

5	<a href="http://www.amazon.com/SunFounder-Ultrasonic-Distance-Mega2560-Duemilanove/dp/B00E0NXTJW">http://www.amazon.com/SunFounder-Ultrasonic-Distance-Mega2560-Duemilanove/dp/B00E0NXTJW</a>	2 pcs Ultrasonic Module HC-SR04 Distance Sensor	8.99	44.95
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5	<a href="http://www.amazon.com/J-deal%C2%AE-Pyroelectric-Infrared-Detector-Hc-sr501/dp/B013LA6MW0">http://www.amazon.com/J-deal%C2%AE-Pyroelectric-Infrared-Detector-Hc-sr501/dp/B013LA6MW0</a>	Pyroelectric Infrared PIR Motion Senso	8.48	42.40
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5	<a href="http://www.amazon.com/sunke-e-OV7670-640X480-Compatible-Interface/dp/B00AZWVZKW">http://www.amazon.com/sunke-e-OV7670-640X480-Compatible-Interface/dp/B00AZWVZKW</a>	Yosoo VGA OV7670 Camera Module L	8.27	41.35
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*embedded computing:*

5	<a href="http://www.amazon.com/Guide--Clear-Case--Power-Supply--WiFi-Dongle--Kingston-Adapter--HDMI/dp/B00MV6TAJI">http://www.amazon.com/Guide--Clear-Case--Power-Supply--WiFi-Dongle--Kingston-Adapter--HDMI/dp/B00MV6TAJI</a>	Raspberry Pi 2 Model B (1GB) Comple	69.99	349.95
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2	<a href="http://www.amazon.com/SunFounder-Project-Universal-Starter-Mega2560/dp/B00D9MK150/ref=sr_1_2?ie=UTF8&amp;qid=1463685906&amp;sr=8-2&amp;keywords=breadboard+starter+kit">http://www.amazon.com/SunFounder-Project-Universal-Starter-Mega2560/dp/B00D9MK150/ref=sr_1_2?ie=UTF8&amp;qid=1463685906&amp;sr=8-2&amp;keywords=breadboard+starter+kit</a>	Breadboard starter kit w/ components	19.99	39.98
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*networking:*

2	WZR-600DHP2D	Buffalo AirStation™ WZR-600DHP2D †	99.99	199.98	USA	8517.62.0050
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5	27143	Cables To Go - 27143 - 10ft CAT6 550	3.91	19.55	USA	8544.42.0000
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5	27145	Cables To Go - 27145 - 25ft CAT6 550	3.86	19.30	USA	8544.42.0000
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5	27166	Cables To Go - 27166 - 50ft CAT6 550	11.25	56.25	USA	8544.42.0000
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*printing:*

1	MX 922	Canon Office Products PIXMA MX922 '1	99.99	99.99	China	8443.32.1040
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2	B00ATZ9JZI	Canon CLI-251 BK/CMY 4 PK Value Pz	44.99	89.98	USA	8443.91.1000
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2	B00AH9JVL5	Canon Ink PGI-250 PGBK XL Individua	22.99	45.98	Japan	3215.11
2	0775B023	Canon Photo Paper Glossy, 8.5 x 11 In	20.53	41.06	Japan	4802.62
5	54-301	Mohawk 100% Recycled Color Copy/L&	11.43	57.15	USA	4802.62
1	<a href="https://www.amazon.com/imagePROGRAF-iPF670-Large-Format-Printer/dp/B00SNLCTMK">https://www.amazon.com/imagePROGRAF-iPF670-Large-Format-Printer/dp/B00SNLCTMK</a>	imagePROGRAF iPF670 24" Large Fo	945.00	945.00		
1	<a href="https://www.amazon.com/HP-Inkjet-Plotter-Paper-24x150/dp/B005IZDGDK">https://www.amazon.com/HP-Inkjet-Plotter-Paper-24x150/dp/B005IZDGDK</a>	HP Inkjet Plotter Paper , 24x150 - Feet	38.95	38.95		
1	<a href="https://www.amazon.com/Canon-PFI-107-130ml-Tank-iPF670/dp/B00WW0H1NA">https://www.amazon.com/Canon-PFI-107-130ml-Tank-iPF670/dp/B00WW0H1NA</a>	Canon PFI-107 130ml Ink Tank for Car	330.00	330.00		

*plotting:*

4	B000GOZXA2	Mini Sharpie 4 pack	5.49	21.96	9608.20.0000
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*lighting:*

4	B006LW331E	5M Waterproof 5050 SMD 300 Epoxy L	11.55	46.20	8541.40.2000
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*large format printing:*

*power:*

8	B000IF51UQ	Belkin 6 Outlet Home/Office Surge Prc	9.79	78.32		8536.69.5050
5	B002GHCOUY	Cables to Go 53410 Outlet Saver 18 A	11.19	55.95	China	8544.42.0000
3	B000MWAKVU	Power Bright VC100W Voltage Transfc	16.22	48.66	China	8504.31.4065
2	B000MX1QXA	Power Bright VC500W Voltage Transfc	30.68	61.36	China	8504.31.4065
1	B000MX564U	Power Bright VC1000W Voltage Transl	66.29	66.29	China	8504.31.6000
2	B000MY02LQ	Power Bright VC3000W Voltage Transl	108.03	216.06	China	8504.31.6000

*labeller and label tape:*

1	PT-18R	Model PT18R Brother PT-18R Recharge	105.58	105.58	China	84.43
2	B0013CED4I	Model TZe231 Brother 1/2" 12mm Black	18.95	37.90	China	3919.10
3	B004I2EDA4	Model TZe221/Brother 3/8" 9mm Black	11.01	33.03	China	3919.10
3	B004I2EE3K	Model TZe241 Brother 3/4" 18mm Black	12.28	36.84	China	3919.10
3	B004I2MP6I	Model TZe211 Brother 1/4" 6mm Black	8.71	26.13	China	3919.10

*air compressor accessories:*

1	B000HE8BMS	WEN 2290 Air Compressor Accessory	21.99	21.99	China	3917.31.0000
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*USB cables:*

5	B00NH124VM	Micro USB cable 6ft	4.79	23.95	China?	847330
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5	B00NH11N5A	Mini USB cable 6ft	4.27	21.35	China?	847330
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5	B00NH13DV2	USB cable A to B, 10ft	5.49	27.45	China?	847330
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5	B00C7SA21U	USB 3.0 10ft Extension	6.49	32.45	China?	847330
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*degassing*

1	<a href="http://www.amazon.com/Bel-Art-Scienceware-F42010-Polypropylene-Desiccator/dp/B002VBW9R8/">http://www.amazon.com/Bel-Art-Scienceware-F42010-Polypropylene-Desiccator/dp/B002VBW9R8/</a>	Vacuum Chamber (Polycarbonate, 24cm ID) for degassing silicone, etc.	101.84	101.84		
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*velcro:*

1	<a href="https://www.amazon.com/iMBA-Price-Cable-Fastening-Tape-0.75-inch-One-Wrap-Hook-Loop-75-Yards/dp/B00FT2WHO6/">https://www.amazon.com/iMBA-Price-Cable-Fastening-Tape-0.75-inch-One-Wrap-Hook-Loop-75-Yards/dp/B00FT2WHO6/</a>	iMBA Price Cable Fastening Tape - 0.75 inch One Wrap Hook & Loop (75 feet) 25 Yards/Roll - Black	15.95	15.95		
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*Power supplies:*

3 B0165HTDZ4	4pack 9V 1A Power adapter	19.99	59.97	China	8471.80.90.00
5 B00ZU9MW2A	12V 5A AC-DC Universal Power Supply	12.99	64.95	China	8471.80.90.00
5 B00GWEYER8	3A, 24V Switching Power Supply	14.85	74.25	China	8471.80.90.00
5 B019RNKSNY	24 Volt Power Supply - 8.3 Amp Single Output	19.34	96.70	China	8471.80.90.00
10 B00I0VL96U	NEMA 5-15P to Standard ROJ Power Cord	7.48	74.80		

sewing:



<a href="https://www.amazon.com/Brother-Prewound-Stabilizer-Embroidery-Scissors/dp/B01AMQ810C">https://www.amazon.com/Brother-Prewound-Stabilizer-Embroidery-Scissors/dp/B01AMQ810C</a>	Brother Sewing SE1800 Sewing Machine with 64 Threads, Prewound Bobbins, Cap Hoop, Sock Hoop, Stabilizer, 15,000 Embroidery Designs and Scissors, Blue/White	1,398.00	1,398.00
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<a href="https://www.amazon.com/Brother-SA519-Iron-Backing-Stabilizer/dp/B002U0K8C8">https://www.amazon.com/Brother-SA519-Iron-Backing-Stabilizer/dp/B002U0K8C8</a>	Brother SA519 Iron On Backing Stabilizer	11.35	34.05
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<a href="https://www.amazon.com/BLACK+DECKER-IR03V-Easy-Steam-Iron-Anti-Drip/dp/B00A0UF1AO">https://www.amazon.com/BLACK+DECKER-IR03V-Easy-Steam-Iron-Anti-Drip/dp/B00A0UF1AO</a>	BLACK+DECKER IR03V Easy Steam Iron	16.49	16.49
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<a href="https://www.amazon.com/Whitmor-6152-5290-Tabletop-Ironing-Board/dp/B00YDFLQAG">https://www.amazon.com/Whitmor-6152-5290-Tabletop-Ironing-Board/dp/B00YDFLQAG</a>	Whitmor Tabletop Ironing Board	13.99	13.99
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<a href="https://www.amazon.com/Fiskars-6x24-Acrylic-Ruler-12-87577097J/dp/B002XNULX8">https://www.amazon.com/Fiskars-6x24-Acrylic-Ruler-12-87577097J/dp/B002XNULX8</a>	Fiskars 6x24 Inch Acrylic Ruler	10.49	20.98
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<a href="https://www.amazon.com/Brother-PE-Design-Plus-Embroidery-Digitizing/PhotoStitch-Software-Package/dp/B00HX3ZDKE">https://www.amazon.com/Brother-PE-Design-Plus-Embroidery-Digitizing/PhotoStitch-Software-Package/dp/B00HX3ZDKE</a>	Brother PE Design Plus Embroidery Digitizing/PhotoStitch Software Package	479.99	479.99
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1	<a href="https://www.amazon.com/Plano-Molding-728000-Angled-Tackle/dp/B006PKXVAA">https://www.amazon.com/Plano-Molding-728000-Angled-Tackle/dp/B006PKXVAA</a>	Plano Angled Tackle System	33.74	33.74
1	<a href="https://www.amazon.com/Prewound-Bobbins-Brother-Embroidery-Machine/dp/B0095UWOCS">https://www.amazon.com/Prewound-Bobbins-Brother-Embroidery-Machine/dp/B0095UWOCS</a>	144 Prewound Bobbins for Brother Embroidery Machine Size A (156)	23.99	23.99
2	<a href="https://www.amazon.com/Pieces-SEWING-MACHINE-NEEDLES-ASSORTMENT/dp/B00W0RPQ0">https://www.amazon.com/Pieces-SEWING-MACHINE-NEEDLES-ASSORTMENT/dp/B00W0RPQ0</a>	50 Pieces HOME SEWING MACHINE NEEDLES ASSORTMENT (ORGAN 15X1 SIZE#9,11,14, 16, 18) 10pcs per size	9.99	19.98
2	<a href="https://www.amazon.com/Triangle-Tailors-Assorted-Colors-Quilting/dp/B00XI64MFC">https://www.amazon.com/Triangle-Tailors-Assorted-Colors-Quilting/dp/B00XI64MFC</a>	Triangle Tailor's Chalk 10 Piece Assorted Colors	7.77	15.54
1	<a href="https://www.amazon.com/Emmalkites-Ripstop-Fabric-Making-1-63Oz/dp/B00ZPR32XA/">https://www.amazon.com/Emmalkites-Ripstop-Fabric-Making-1-63Oz/dp/B00ZPR32XA/</a>	Ripstop Nylon Fabric 1.63Oz 40D 59" W X 36" L - PACK 14pcs of 14 Colors	67.95	67.95
1	<a href="http://www.amazon.com/Alvin-Professional-Cutting-Green-Black/dp/B0015ASN5S">www.amazon.com/Alvin-Professional-Cutting-Green-Black/dp/B0015ASN5S</a>	Alvin 24 inches x 36 inches Green/Black Professional Self-Healing Cutting Mat	36.74	36.74

	<a href="https://www.amazon.com/Fiskars-Contour-Rotary-Cutter-195210-1001/dp/B000B7M8WU">https://www.amazon.com/Fiskars-Contour-Rotary-Cutter-195210-1001/dp/B000B7M8WU</a>	Fiskars 45mm Contour Rotary Cutter	9.79	9.79
	<a href="https://www.amazon.com/Rotary-Cutter-Blades-45mm-10-Pack/dp/B01CPPGBJQ">https://www.amazon.com/Rotary-Cutter-Blades-45mm-10-Pack/dp/B01CPPGBJQ</a>	Rotary Cutter Blades 45mm 10-Pack	12.24	12.24
	<a href="https://www.amazon.com/Singer-00349-Dressmaker-Pins-500-Count/dp/B00Y1DVRZY">https://www.amazon.com/Singer-00349-Dressmaker-Pins-500-Count/dp/B00Y1DVRZY</a>	Singer Dressmaker Pins, 500-Count (2)	6.88	6.88
	<a href="https://www.amazon.com/dp/B00566E8DI">https://www.amazon.com/dp/B00566E8DI</a>	Singer Asst Safety Pins, Multisize, 250-Count	5.29	10.58
	<a href="https://www.amazon.com/Rockland-Muslin-45-Inch-Unbleached-Natural/dp/B002PNPBLI">https://www.amazon.com/Rockland-Muslin-45-Inch-Unbleached-Natural/dp/B002PNPBLI</a>	Rockland 92 by 76 Count Muslin, 44/45-Inch, Unbleached/Natural	47.61	47.61

heat transfer vinyl:

	Happybuy 8 in 1 Heat Press Machine 12 X 15 Inch 360 Degree Swing-away Heat Press Multifunction Sublimation T Shirt Press Machine Transfer Printer for Plate Mug Cup Hat (8 in 1 Swing- away)	254.99	254.99
1	<a href="https://www.amazon.com/Happybuy-Swing-away-Multifunction-Sublimation-Transfer/dp/B06Y3ZTQFY">https://www.amazon.com/Happybuy-Swing-away-Multifunction-Sublimation-Transfer/dp/B06Y3ZTQFY</a>		

	SISER EasyWeed Heat Transfer Vinyl, 12 x 15" 12-Color Starter BUNDLE	30.20	30.20
1	<a href="https://www.amazon.com/EasyWeed-Transfer-12-Color-Starter-BUNDLE/dp/B0127RTOYQ">https://www.amazon.com/EasyWeed-Transfer-12-Color-Starter-BUNDLE/dp/B0127RTOYQ</a>		

**Amazon:**

**\$11,998.71**

**Dell**

<http://www.dell.com>

7	Inspiron Small Desktop	6th Generation Intel® Core™ i5-6400 Processor, 8GB, 1600MHz, 1TB 7200 rpm Hard Drive	529.00	3,703.00	<b>8471 41 0150</b>
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Inspiron Small Desktop \$330.00

7	E2417H	Dell 24 Monitor	149.00	1,043.00	<b>8528 51 0000</b>
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one computer is needed for each machine, one for microcontroller programming, and more are recommended for design/education/collaboration

5	Dell Chromebook 13 3380	Intel Core i3-6006 Processor with 4GB Memory and 16GB SSD	429.00	2,145.00	
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**Dell:**

**\$6,891.00**

**Test Equipment Depot**

<http://www.testequipmentdepot.com>

1	Instek GDS-1152A-U 150 MHz Digital Storage Oscilloscope (110-240v)	935.00	935.00	Taiwan	9030.20.1500
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1	Instek AFG-2125 Function Generator, 25MHZ, sweep, AM/FM (110-240	510.00	510.00	Taiwan	8543.20.0000	
1	Instek GPD-3303D Triple-Output DC Power Supply, 30V/3A x 2, 2.5V/3	415.00	415.00	Taiwan	8471.80.90.00	
1	Aven Tools 26502-LED ProVue Slim LED Magnifying Lamp w/Mounting Clamp, 110- 220v	26502-LED	81.96	81.96	USA	9405.20.30.00

**Test Equipment Depot:** USA 8539.31.0000

**\$1,941.96**

**Tag Connect**

I hate to add another vendor, but this cable is so useful. Lose the 2x3 and save \$.72 and a lot of space on every board!

<http://www.tag-connect.com/TC2030-IDC-NL>

2	TC2030-IDC-NL	Programming cable, No-legs, 6 pin, Ribbon connector	33.95	67.90
2	TC2030-CLIP	Retaining clip for cables (optional)	6.00	12.00

**\$79.90**

**Digi-Key**

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



*resistors:*

1000	311-0.0ERCT-ND	RES 0.0 OHM 1-4W 5% 1206 SMD-	0.00	4.77	China	853321
250	311-0.1ANCT-ND	RES .10 OHM 1-4W 1% 1206 SMD	0.17	42.04	Philippines	853321
50	P.10AVCT-ND	RES SMD 0.1 OHM 5% 1W 1206	0.34	17.18		
100	CSRN2010FKR250CT-ND	RES .25OHM 1W 1% 2010 SMD	0.30	30.00	China	853321
1000	311-1.00FRCT-ND	RES 1.00 OHM 1-4W 1% 1206 SMD-	0.01	6.37	China	853321

1000	311-4.99FRCT-ND	RES 4.99 OHM 1-4W 1% 1206 SMD	0.01	6.37	China	853321
1000	311-10.0FRCT-ND	RES 10.0 OHM 1-4W 1% 1206 SMD	0.01	6.37	China	853321
1000	311-49.9FRCT-ND	RES 49.9 OHM 1-4W 1% 1206 SMD-	0.01	6.37	China	853321
1000	311-100FRCT-ND	RES 100 OHM 1-4W 1% 1206 SMD	0.01	6.37	China	853321
1000	311-499FRCT-ND	RES 499 OHM 1-4W 1% 1206 SMD-	0.01	6.37	China	853321
1000	311-1.00KFRCT-ND	RES 1.00K OHM 1-4W 1% 1206 SMD-	0.01	6.37	China	853321

1000	311-4.99KFRCT-ND	RES 4.99K OHM 1-4W 1% 1206 SMD	0.01	6.37	China	853321
1000	311-10.0KFRCT-ND	RES 10.0K OHM 1-4W 1% 1206 SMD	0.01	6.37	China	853321
1000	311-49.9KFRCT-ND	RES 49.9K OHM 1-4W 1% 1206 SMD	0.01	6.37	China	853321
1000	311-100KFRCT-ND	RES 100K OHM 1-4W 1% 1206 SMD	0.01	6.37	China	853321
1000	311-499KFRCT-ND	RES 499K OHM 1-4W 1% 1206 SMD	0.01	6.37	China	853321
1000	311-1.00MFRCT-ND	RES 1.00M OHM 1-4W 1% 1206 SMD	0.01	6.37	China	853321

1000	311-4.99MFRCT-ND	RES 4.99M OHM 1-4W 1% 1206 SMD	0.01	6.37	China	853321
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1000	311-10.0MFRCT-ND	RES 10.0M OHM 1-4W 1% 1206 SMD	0.01	6.37	China	853321
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*potentiometer:*

50	987-1014-1-ND	TRIMMER 10K OHM 0.25W SMD	0.92	45.76		8533.4
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*capacitors:*

500	311-1212-1-ND	CAP CERAMIC 1PF 50V NP0 1206-\$0	0.05	23.25	Taiwan	853224
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500	311-1150-1-ND	CAP CERAMIC 10PF 50V NP0 1206-\$	0.04	20.23	UK	853224
500	311-1161-1-ND	CAP CERAMIC 100PF 50V NP0 1206-	0.05	23.53	UK	853224
500	311-1144-1-ND	CAP 1000PF 1KV CERAMIC X7R 1206-	0.15	73.44	UK	853224
500	311-1174-1-ND	CAP 10000PF 50V CERAMIC X7R 1206-	0.04	18.82	UK	853224
500	399-4674-1-ND	CAP CERAMIC .1UF 250V X7R 1206-	0.12	57.75	Mexico	853224
500	445-1423-1-ND	CAP CER 1UF 50V X7R 10% 1206-	0.07	34.00	Japan	853224

100	587-1352-1-ND	CAP CER 10UF 35V Y5V 1206-	0.18	18.40	Japan	853224
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25	283-2810-ND	CAP SUPER 1F 5.5V RADIAL	2.72	68.08	South Korea	853229
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*chokes:* -

25	PCD2144CT-ND	CHOKE COIL 1.2UH 6500MA SMD-	1.99	49.73	Singapore	850450
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25	PCD2152CT-ND	CHOKE COIL 10UH 3900MA SMD-	1.99	49.73	Singapore	850450
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25	PCD2164CT-ND	CHOKE COIL 100UH 1200MA SMD-	1.99	49.73	Singapore	850450
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25	PCD2176CT-ND	CHOKE COIL 1000UH 410MA SMD-	1.99	49.73	Singapore	850450
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*diodes:* -

250	497-5559-1-ND	DIODE SCHOTTKY 100V SGL SOD-1:	0.17	42.08	Taiwan	854110
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250	641-1331-1-ND	DIODE SCHOTTKY 1A 100V MINI-SM	0.19	48.10	Taiwan	854110
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500	BZT52C3V3-FDICT-ND	DIODE ZENER 500MW 3.3V SOD123-	0.07	32.63	China	854110
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500	BZT52C4V7-13-FDICT-ND	DIODE ZENER 4.7V 500MW SOD-123	0.07	32.63	China	854110
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*transistors:*

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250	NDS355ANCT-ND		0.26	65.84	Philippines	854121
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250	NDS356APCT-ND	MOSFET P-CH -30V 1.1A 3-SSOT-	0.34	84.57	Philippines	854121
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50	RFD16N05LSM9ACT-ND	MOSFET N-CH 50V 16A TO-252AA-	1.13	56.25	Malaysia	854129
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*H-bridge motor driver:*

100	620-1428-1-ND	IC PWM MOTOR DVR FULL 8SOIC	1.57	157.38	Philippines	854239
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*stepper motor driver:*

25	620-1352-1-ND	IC MOTOR DRIVER PAR 24TSSOP	3.11	77.80
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*solid state relay:*

25	CLA413-ND	POWER SWITCH AC SS SCR 8SOIC	3.04	76.00
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*regulators:*

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250	LM3480IM3-3.3/NOPBCT-ND	IC 3.3V100MA LDO VREG SOT23-	0.32	80.00	Malaysia	854239
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250	LM3480IM3-5.0/NOPBCT-ND	IC 5.0 100MA LDO VREG SOT23-	0.32	80.00	Malaysia	854239
100	ZLDO1117G33DICT-ND	IC REG LDO 3.3V 1A SOT223-3	0.34	33.99		8542.31.0000
100	ZLDO1117G50DICT-ND	IC REG LDO 5V 1A SOT223-3	0.34	33.99	Malaysia	854239
	<i>amplifiers:</i>	-				
50	AD8615AUJZ-REEL7CT-ND	IC OPAMP GP R-R CMOS LN TSOT23	1.74	87.11	Malaysia	854233
25	LM4861M-ND	IC AMP AUDIO PWR 1.5W MONO 8SOP	1.28	31.88		854233

LEDs:

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250	160-1167-1-ND	LED RED CLEAR 1206 SMD-	0.13	32.81	Taiwan	854140
250	160-1169-1-ND	LED GREEN CLEAR 1206 SMD-	0.15	37.50	Taiwan	854140
250	160-1403-1-ND	LED YELLOW ORANGE CLEAR 1206	0.10	25.31		854140
250	160-1889-1-ND	LED BLUE CLEAR 1206 REV MT SMC	0.13	33.41		854140
250	160-1737-1-ND	LED WHITE YELLOW 260MCD 1206	0.25	62.10	China	854140

100	CLV1A-FKB-CK1N1G1BB7R4S	LED RGB DIFFUSED 4PLCC SMD	0.60	59.80	China	854140
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100	1080-1346-1-ND	LED IR GAA1AS WATER CLEAR SMD	0.36	35.65	Taiwan	854140
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for led strips see the amazon list

*photodetectors:* -

100	1080-1379-1-ND	Phototransistor 940nm Top View 1206	0.15	14.85	Taiwan	854140
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100	1080-1380-1-ND	Phototransistor 940nm Top View 1206	0.15	14.85		
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10	497-16538-1-ND	Optical Sensor 200cm I <sup>2</sup> C Output	5.64	56.35
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*LCD:* -

25	67-1781-ND	LCD MODULE 16x2 CHARACTER-	7.06	176.40	Taiwan	853120
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*speakers / microphones:* -

50	458-1124-ND	SPEAKER 8 OHM .25W 23MM ROUNI	0.59	29.44	Taiwan	851829
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50	423-1134-1-ND	MIC MEMS ANALOG OMNI -22DB	1.14	57.08
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25	423-1405-1-ND	MIC MEMS DIGITAL I2S OMNI -26DB	2.21	55.14
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*temperature:* -

25	235-1109-1-ND	THERMISTOR NTC 10K OHM 10% 12	2.50	62.48	Japan	853329
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25	749-1055-1-ND	TEMP SENSOR RTD 1K OHM 1206	2.38	59.48	USA	8533.21.0030
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*hall effect:*

25	620-1021-1-ND	IC SENSOR HALL EFFECT SOT23W	1.39	34.65	Philippines	854239
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*accelerometer:*

25	ADXL343BCCZ-ND	ACCELEROMETER DGTL 3AXIS 14LC	2.71	67.83	Malta	854239
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*op-amp:*

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100	AD8605ARTZREEL7CT-ND	IC OPAMP SNGL R-R I-O LN SOT23-6	1.35	135.24	South Korea	854233
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*microcontrollers:*

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200	ATTINY45V-10SU-ND	IC AVR MCU 4K 10MHZ 8SOIC-8	1.23	246.00	China	854231
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100	ATTINY44A-SSU-ND	IC MCU AVR 4K FLASH 20MHZ 14SO	1.18	117.60	South Korea	854231
50	ATMEGA328P-AU-ND	IC MCU 8BIT 32KB FLASH 32TQFP	2.87	143.50	South Korea	854231
25	ATMEGA16U2-AU-ND	IC MCU 8BIT 16KB FLASH 32TQFP	3.53	88.20		854231
25	ATMEGA16U4-AU-ND	IC MCU 8BIT 16KB FLASH 44TQFP	4.63	115.67		854231
50	ATXMEGA16E5-AURCT-ND	IC MCU 8BIT 16KB FLASH 32TQFP	2.11	105.30	South Korea	854231
50	ATXMEGA16A4U-AURCT-ND	IC MCU 8BIT 16KB FLASH 44TQFP	2.80	139.92	South Korea	854231



2	ATATMEL-ICE-BASIC-ND	EMU FOR SAM AND AVR MCU BASIC	54.11	108.22	854231
3	1659-1000-ND	Arduino Uno Board	24.95	74.85	
1	1597-1363-ND	Espruino Eval Kit	39.90	39.90	
1	1597-1187-ND	BeagleBone Black Rev C	65.00	65.00	
5	428-3390-ND	PSOC 5LP PROTOTYPING KIT	9.98	49.90	

*programmable logic:*

5	220-2656-ND	ICE40HX1K-STICK-EVN	25.24	126.20
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*memory:*

50	557-1562-ND	IC FLASH 128MBIT 108MHZ 8SO	1.51	75.40
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*radios:*

10	RN4871-V/RM118-ND	BLUETOOTH 4.2 BLE MODULE, SHIE	7.24	72.40
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10	BL652-SA-01-CT-ND	RF TXRX MOD BLUETOOTH CHIP AN	7.53	75.30
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*crystal:*

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200	XC1109CT-ND	CER RESONATOR 20.00MHZ SMD	0.43	85.50	China	8541.6
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200	535-10004-1-ND	RESONATOR CER 8.00 MHZ W/CAP	0.25	49.50		8541.6
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100	644-1039-1-ND	CRYSTAL 20.000000 MHZ 8PF SMD	0.49	48.60	Singapore	8541.6
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*buttons and switches:*

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50	401-2012-1-ND	SWITCH SLIDE SPDT 12V 100MA GV	0.84	41.87	China	853650
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100	SW262CT-ND	SWITCH TACT SMD W-GND 160GF	0.74	73.94	Japan	853650
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*magnets:* -

100	469-1004-ND	MAGNET 1-4"DIA X 1	0.29	29.25	China	850511
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100	469-1002-ND	MAGNET 1-2"DIA X 1	0.98	97.50	China	850511
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*connectors:*

3	A9982-ND	T-HANDLE TOOL MTA-100	33.93	101.79		
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50	A30814-ND	CONN RECEPT 2POS 28AWG MTA10	0.18	8.99
50	A19270-ND	CONN STRAIN RELIEF COVER 2POS	0.26	13.18
50	A30816-ND	CONN RECEPT 4POS 28AWG MTA10	0.26	13.11
50	A19272-ND	CONN STRAIN RELIEF COVER 4POS	0.38	19.19
50	A30818-ND	CONN RECEPT 6POS 28AWG MTA10	0.27	13.63
50	A19274-ND	CONN STRAIN RELIEF COVER 6POS	0.57	28.38

50	A30820-ND	CONN RECEPT 8POS 28AWG MTA10	0.35	17.54
50	A19276-ND	CONN STRAIN RELIEF COVER 8POS	0.53	26.55
50	609-4958-ND	CONN SOCKET IDC 4POS DL SR 30/	0.55	27.34
100	609-2841-ND	CONN SOCKET IDC 6POS DL SR 30/	0.57	57.41
50	609-3568-ND	CONN SOCKET IDC 8POS DL SR 30/	0.75	37.36
50	609-1739-ND	CONN SOCKET IDC 10POS DUAL 30	0.90	44.88

*headers:*

50	609-5160-1-ND	4 Positions Header Connector 0.100" (;	0.66	33.00
100	609-5161-1-ND	6 Positions Header Connector 0.100" (;	0.60	60.14
50	609-5162-1-ND	8 Positions Header Connector 0.100" (;	0.67	33.50
50	609-5163-1-ND	10 Positions Header Connector 0.100"	0.89	44.35
50	609-4814-ND	CONN RCPT 5POS .100 SGL STR SM	0.65	32.65

50	952-1771-ND	02+02 DIL SMT SKT	0.51	25.50
50	S5674-ND	CONN FEMALE 8POS DL .1" TIN SMT	0.98	49.05
10	S1013E-36-ND	CONN HEADER 36PS .100 SINGLE S	3.19	31.88
10	S1143E-36-ND	SMT RT Angle Male Header 0.1" (36pc	3.30	33.00
20	A111251CT-ND	SMT RT Angle Female Header 0.1" (50pc	0.66	13.22
10	SAM1213-50-ND	TH female header 0.1" (50pos)	3.62	36.20



20	S1011EC-40-ND	TH male header 0.1" (40pos)	0.65	13.00
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*jacks / plugs:*

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100	CP1-023PJCT-ND	CONN PWR JACK DC 0.65X2.75MM S	0.82	82.34	Hong Kong	853669
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100	CP-012-ND	CONN DC PWR PLUG 0.7X2.35MM-	0.78	77.63	Taiwan	853669
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50	CP-002AHPJCT-ND	CONN-POWER JACK 2.1MM SMD	1.47	73.45	Hong Kong	853669
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100	CP-2501SP-ND	CONN PLUG STEREO 2.5MM W-COV	0.83	82.80	Taiwan	853669
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100	CP1-2533SJCT-ND	CONN JACK STEREO 3PIN 2.5MM SM	0.88	87.79	Hong Kong	853669
50	CP-1453-ND	CONN RCA PLUG W-STRAIN REL BL	1.41	70.50	China	853669
50	CP-1459-1-ND	CONN RCA JACK METAL R/A BLK SM	1.12	55.90	China	853669
10	SC1323-ND	CONN JACK PHONO 2POS SHIELDE	3.00	30.00	USA	853669
50	ED1122-ND	CONN PIN SPRING-LOADED PCB	0.58	28.77		

*ribbon cable*

1	MC10M-50-ND	CBL RIBN 10COND 0.050 MULTI 50'	38.07	38.07	Taiwan	854449
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*screw terminals:* -

100	ED1514-ND	TERMINAL BLOCK 3.5MM 2POS PCB	0.46	46.30	Germany	853669
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100	ED1515-ND	TERMINAL BLOCK 3.5MM 3POS PCB	0.67	66.60	Germany	853669
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*test clips:* -

5	923655-08-ND	8-PN GOLD SMD TEST CLIP-	15.65	78.25	USA	853690
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*antistatic bags:*

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100	16-1032-ND	BAG ESD SHLD 3"X5" METAL-IN ZIP-	0.10	10.25	USA	392329
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100	16-1034-ND	BAG ESD SHLD 5"X8" METAL-IN ZIP-	0.19	19.41	USA	392329
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200	16-1036-ND	BAG ESD SHLD 8"X10" METAL-IN ZIF	0.33	65.92	USA	392329
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*antistatic packaging:*

1	12660-ND	FOAM HI DENSITY X-INK 1/4" 24X35	62.67	62.67	USA	5503.9
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*heat shrink tubing:* -

5	A116B-4-ND	HEATSHRINK 1-16 IN X 4FT BLACK	0.76	3.80	USA	854690
5	A018B-4-ND	HEATSHRINK 1-8 IN X 4FT BLACK	0.86	4.30	USA	854690
5	A014B-4-ND	HEATSHRINK 1-4 IN X 4FT BLACK	1.32	6.60	USA	854690
5	A038B-4-ND	HEATSHRINK 3-8 IN X 4FT BLACK	1.46	7.30	USA	854690
5	A012B-4-ND	HEATSHRINK 1-2 IN X 4FT BLACK	1.66	8.30	USA	854690

soldering:

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4	KE1409-ND	SOLDER NO-CLEAN .020" X 1 lb-	74.33	297.32	USA	831130
1	K416-ND	FAN FUME ABSORBER BENCHTOP	101.20	101.20	USA	851519
10	EB1088-ND	QUICK BRAID GOLD .050" X 10'-	4.63	46.30	USA	741300
2	WES51-ND	SOLDER STATION ANALOG 50W (11	99.00	198.00	Germany	851519
20	ETU-ND	TIP REPLACEMENT SINGLE FLAT.01	5.12	102.40	Mexico	851590

10	TC205-ND	SPONGE REPLACEMENT	1.10	11.00	USA	0511.99.3600
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tools: -

20	EROP7SA-ND	TWEEZER CURVED PRECISION TIP-	3.50	70.00	Pakistan	820320
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5	PA70057-ND	WIRE STRIPPER DATASHARK 30-20	10.91	54.55	Taiwan	820320
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5	MS54-ND	PLIER DIAGONAL CUTTING-	16.80	84.00	USA	820320
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5	L4V-ND	PLIER SUBMINIATURE LONG NOSE-	16.10	80.50	USA	820320
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10	243-1021-ND	MAGNIFIER EYE LOUPE 10X 1" LENS	2.16	21.60	USA	901380
4	201PV-ND	PANA VISE JR. UNIVERSAL VISE-	27.99	111.96	USA	820570
2	XP600-ND	SCREWDRIVER PRECISION SET 6 P	25.70	51.40	Germany	820540
	<i>battery connections:</i>	-				
100	BS6I-MC-ND	9V BATTERY SNAP WITH 2PC MOLC	0.52	52.00	China	853669
50	BH9V-W-ND	HOLDER BATTERY 9V WIRE LEADS-	1.27	63.25	China	853669



100	55K-ND	CLIP BATTERY AAA-N CELL SMT	0.28	28.15	USA	853669
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*multimeter:* -

2	705-1030-ND	DMM COMPACT AUTO	61.95	123.90	Taiwan	903031
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*USB:* -

25	768-1007-1-ND	IC USB TO SERIAL UART 28-SSOP-	4.05	101.25	Indonesia	854239
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3	768-1028-ND	CABLE USB TO TTL SERIAL CONV	20.00	60.00	China	847330
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3	768-1015-ND	CABLE USB - SERIAL TTL CONVERT	20.00	60.00	Indonesia	847330
50	609-4613-1-ND	CONN USB MICRO B RECPT SMT R/	0.32	15.90		
50	H2961CT-ND	CONN RECEPT MINI USB2.0 5POS	0.89	44.28	Indonesia	8536.69.4040
<i>jumper wires:</i>						
5	1528-1154-ND	M/M Jumper Wires 6" (40pcs)	3.95	19.75	China	854449
5	1528-1162-ND	M/F Jumper Wires 6" (40pcs)	3.95	19.75	China	854449

5	1528-1379-ND	F/F Jumper Wires 6" (40pcs)	3.95	19.75	China	854449
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*card holder:*

25	WM12834CT-ND	MICRO SD NORMAL ULTRALOW	1.99	49.72		
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**Digikey:**

**\$8,621.54**

For labs requiring 220V:

\*\*\* Welding Station:  
WES51DUK: 220V, 50Hz you  
will need to source this locally d

**Jameco**

<http://www.jameco.com>

*transducers:*

10	139492	SENSOR,ULTRASONIC,40KHZ,TRAN	7.19	71.90	USA	8543.70.6000
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25	1956784	TRANSDUCER,PIEZO,30VAC,75dB, LEADS,0.5-20Hz,SINGLE TONE	2.95	73.75	USA	8543.7
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*actuators:*

50	1810099	MOTOR,DC,12VDC,8600RPM,63mA, :	2.49	124.50	USA	850110
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10	232047	DC MOTOR , 12VDC , 8750MA	4.49	44.90	USA	850110
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25	256314	Vibrating Motor 3 Volt DC 75 mA	2.95	73.75		
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10	2138812	MOTOR,STEP,7VDC/350Ma, 7.5 STEI	7.95	79.50	USA	850110
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10	253471	MOTOR,DC,GEAR,12V,50/1,120RPM,	13.45	134.50	USA	850110
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10	2120479	MOTOR,STEPPER,BIPOLAR,4VDC/1 A 3600 GR-CM,1.8 STEP ANGLE	17.95	179.50	USA	850110
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10	238538	MOTOR,STEP,12VDC/.4A, 3200 GM- CM	19.95	199.50	USA	850110
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*test leads:*

10	11422	CABLE ASSEMBLY,RG174,BNC TO M	3.95	39.50	USA	8544.42.9000
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10	11464	CABLE ASSEMBLY,RG174,BNC TO M	3.95	39.50	USA	8536.69.8000
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*coax adapters:*

10	11440	PLUG,BNC/BANANA/JAMECO VALUE	4.49	44.90	USA	8536.69.8000
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*third hands:*

5	26690	TOOL,THIRD HAND/VARIOUS 3RD H	6.95	34.75	USA	8203.40.6000
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**Jameco:**

**\$1,140.45**

**Hobby King**

<http://www.hobbyking.com>

10	HK-5320	Ultra-Micro Digital Servo 1.7g/0.05sec/0.075kg	3.77	37.70	USA	850110
10	HK15178	Analog Servo 10g/1.4kg/0.09s	1.95	19.50	USA	850110



10	HKSCM9-5	Single Chip Digital Servo (5V) 10g/1.4kg/0.09s	2.99	29.90	USA	850110
10	HK15138	Standard Analog Servo 38g/4.3kg/0.17s	3.12	31.20	USA	850110
10	HKSCM16-6	Single Chip Digital Servo (6V) 16g/2.5kg/0.13s	3.64	36.40	USA	850110
10	939MG	Metal Gear Servo 2.5kg/12.5g/0.14sec	4.37	43.70	USA	850110

**Hobby King:**

**\$198.40**

VPC INC

<https://www.vpcinc.com/Category/Favorit-Through-Hole-Rivets-104.cfm>

2	700-028-2	copper PCB RIVETS 1.0mm (inner dia.) (1000 per pack)	59.25	118.50	USA
2	700-025-3	copper PCB RIVETS 0.6mm (inner dia.) (1000 per pack)	59.25	118.50	USA

VPC INC:

\$237.00

**McMaster-Carr**

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

*measuring:*

10	2388A57	Stainless Steel Pocket Rule Semiflexibl	2.54	25.40	USA	9017.20.80.60
3	19175A47	Stanley Leverlock Tape Rule Inch/Metri	15.31	45.93	Thailand	9017.20.80.60
3	2151A65	Compact Aluminum Level Standard 9"	8.51	25.53	USA	9031.49.8000

1	1760T86	Compact Digital Bench Scale with Ss P	398.74	398.74	China	8423.81.0040
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*storage:*

4	5073T12	Cardboard Bin Box Standard, 2" Width	5.23	20.92	USA	4819.10.0040
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4	5073T29	Cardboard Bin Box Standard, 3" Width	5.41	21.64	USA	4819.10.0040
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4	5073T11	Cardboard Bin Box Standard, 4" Width	5.75	23.00	USA	4819.10.0040
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4	5073T14	Cardboard Bin Box Standard, 6" Width	5.93	23.72	USA	4819.10.0040
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4	5073T15	Cardboard Bin Box Standard, 8" Width	6.33	25.32	USA	4819.10.0040
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6	9619T61	Plastic Cabinet 16 Drawers, 10-9/16" W	15.58	93.48	USA	9403.70.0000
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2	9619T71	Plastic Cabinet 24 Drawers, 20" W X 1'	34.29	68.58	USA	9403.70.0000
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*cutting:*

4	41865A12	Scroll Saw Blade Regular Cut;.250" Wi	5.89	23.56	USA	8208.20.0000
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4	6917A23	Scroll Saw Blade Fast Cut Skip Tooth,	5.00	20.00	USA	8208.20.0000
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4	41865A16	Scroll Saw Blade Fast Cut Skip Tooth,	6.11	24.44	USA	8208.20.0000
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20	35545A71	Auto-Lock Breakaway-Blade Utility Knif	3.17	63.40	China	8211.93.0001
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*molding/casting:*

2	1865T35	Plastic Cup Polypropylene, 37288 oz, 2	7.87	15.74	USA	3924.10.0002
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1	77985T54	6" Length Wooden Paint Stirrer, Packs	14.45	14.45	China	4421.90.6500
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2	52555T1	Nitrile Disposable Gloves Powder Free,	14.45	28.90	China	4015.19.0002
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10	17805T81	Disposable Aluminum Weighing Dish S	10.57	105.70	USA	7615.19.9000
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2	9060K53	Soft Tempered Aluminum Foil .001" Th	30.60	61.20	USA	7607.11.3000
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*cable ties:*

5	7134K21	Reusable Nylon Cable Tie Top Tab, 6"	6.65	33.25	USA	3926.90.9980
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5	7134K42	Reusable Cable Tie Top Tab, 15-5/16"	6.92	34.60	USA	3926.90.9980
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*hand tools:*

10	5820A17	6 Piece Fold-Up Screwdriver Set	7.30	73.00	USA	8205.40.0000
2	8551A31	10-Piece Slotted and Phillips Set	51.35	102.70	USA	8205.40.0000
5	54405A55	High-Visibility Orange Fold-Up Hex Key	5.23	26.15	USA	8204.11.0060
5	54405A56	High-Visibility Orange Fold-Up Hex Key	6.71	33.55	USA	8204.11.0060
1	5813A21	High-Visibility Premium Combination W	174.96	174.96		8204.11.00
3	8174A42	12-Piece Economy Needle-File Set 5-1.	18.00	54.00	China	8203.10.0000



2	5874A7	13" Forged Steel Head Hammer with Hickory Handle	8.95	17.90		8205.20.3000
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1	5878A8	White Rubber Hammer, Hardwood Handle, 4 lb. Overall Weight, 3-1/8" Face Diameter	38.90	38.90		8205.20.3000
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*glue gun:*

1	7578A11	Cordless Glue Gun	22.72	22.72	Taiwan	8516.79.0000
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2	7518A717	Clear Glue Stick, 1/2" X 4", 1-lb Packaç	11.98	23.96	USA	3506.91.0000
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*hex keys/set screws*

10	6958A21	Hex L-Key 1.5 mm Size, 3-1/16" Overa	0.23	2.30	USA	8204.11.0060
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10	57185A21	HT-Torque Ball-End L-Key, 2 mm Size	0.79	7.90		
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2	92605A097	Metric 18-8 SS Flat Point Socket Set S	2.73	5.46	Taiwan	8204.11.0060
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1	92605A042	Nonmarring Flat Point Set Screw, 18-8	11.71	11.71		
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*stock offset*

3	8586K81	HDPE, 1" Thick, 6" x 12"	19.06	57.18		
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*cleaning:*

1	7074T62	Swab Cotton-Low Lint Tip,.141" Diam >	2.26	2.26	USA	5601.21.0000
10	8619k851	Multipurpose Brush with Plastic Handle	1.61	16.10		
10	7035T4	Multipurpose Brush with Plastic Handle	2.01	20.10		
10	7035T5	Multipurpose Brush with Plastic Handle	2.01	20.10		
10	7348T14	Narrow-Width Horsehair Bristle Dust Br	7.32	73.20		

5	54845T42 (cannot be purchased)	First-Aid Supplies Isopropyl Alcohol 0.7	2.39	11.95	USA	2905.12.0050
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*magnet wire:*

2	7588K71	Magnet Wire 30 AWG, Copper, 3000' L	27.96	55.92	USA	7408.19.00.00
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*shape memory wire:*

1	8320K11	Shape-Memory Nitinol Wire .004" Diameter, 30' Coil	37.26	37.26	USA	7505.22.0000
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*garolite:*

10	8525K411	Easy-to-Machine Garolite SheetElectric	3.53	35.30	USA	3921.90.4010
10	8525K111	Easy-to-Machine Garolite SheetElectric	4.32	43.20		
5	8525K112	Easy-to-Machine Garolite SheetElectric	7.30	36.50		
5	8525K113	Easy-to-Machine Garolite SheetElectric	10.14	50.70		
5	8525K114	Easy-to-Machine Garolite SheetElectric	12.86	64.30		

*non-skid feet:*

1	6968T61	Textured-Surface Antislip Runner Mat F	23.58	23.58	USA	4016.91.0000
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*shopbot clamps:* shopbot fixturing clamps;

8	5039A52	Quick-Grip Bar Clamp 12" Maximum O	19.30	154.40	China	8205.70.00.90
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*shopbot dust removal:*

50	56355K33	Economical Clear Duct Hose 4" ID Quantity specifies length in feet	3.04	152.00		3917.39.0002
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3	5518K13	Duct Hose Connector for 4" Duct Hose	16.38	49.14		7616.99.5050
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1	5076K25	Worm Drive Hose Clamp for 4" Duct Hose (10 pk)	14.19	14.19		7307.29.0000
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*fire extinguisher: Non-US source locally*

1	6430T16	Class ABC Dry Chemical Fire Extinguis	52.08	52.08		8424.10.00.00
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*safety:*

10	52755T9	Panoramic Safety Glasses W/Vented S	4.81	48.10	USA	9004.90.0000
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2	54725T34	Disposable Foam Ear Plug (Corded) (100 pk)	29.05	58.10	USA	4016.99.6000
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3	54375T11	Three-Position Hearing Protection Earmuff	7.80	23.40	USA	3926.2
4	9832T62	Nitrile Palm-Coated Cotton Work Glove	4.50	18.00		6116.10.0000
2	9738T81	Disposable Polyethylene Apron Smooth, 28" Wide X 46" Long, 1.50 Mils Thick, White	9.66	19.32		6211.33.0000
2	5450T42	Disposable Respirator Mask N95 Filter, Aluminum Nose, Inner Foam Seal	20.95	41.90		39.26
<i>drill bits:</i>						
1	2788A31	General Purpose HSS Jobbers' Drill Set Black Oxide, 50 Pcs, 1 - 5.9mm X 0.1mm, 118 Deg Point	96.15	96.15	Brazil	8207.50.4030



*metal casting*

2	3226K51	High-Temperature Melting Pots	24.00	48.00	6914.90.0000
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3	56025T2	Nitrile-Coated Cotton Heat-Protection Glove 400	13.68	41.04	6116.10.0000
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2	5499A12	Tongs	18.86	37.72	8203.20.6060
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*tape* 0.00

3	6802K22	Military Grade Pipe Thread Sealant Tape Premium, 43'L X 1/4" W, .0032" Thk, 1.2 G/CC Gravity	3.11	9.33	3920.10.0000
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3 7612A25	Duct Tape Conformable, 1/2" Width X 60 Yards Length	9.34	28.02	Canada	5906.10.0000
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3 7648A711	Tape Made with Kapton® Polyimide High Temperature, 1/4" W, 5 Yards, .0025" Thk	4.34	13.02		3919.10.2040
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*machine oil for Shopbot setup:*

1 1244K14	10W Machine Oil (4 oz.)	3.33	3.33		
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*pressure pot (bubble removal  
for casting)*

1 9590T11	Pressure Tank for Air-Powered Paint Sprayer, Zinc-Plated Steel, 2.5 Gallon	144.58	144.58		
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1 9590T15	Plastic Liners for 2.5 Gallon Stainless Steel Pressure Tank for Air-Powered Paint Sprayer	16.65	16.65
1 9590T23	Replacement Cover Gasket for Zinc-Plated Steel Pressure Tank for Air-Powered Paint Sprayer	7.40	7.40
1 4464K563	302 Stainless Steel, 3/8 Pipe Size, Hex-Socket Plug, 150 PSI	1.87	1.87
1 4628K81	Safety Air-Exhaust Brass Ball Valve	13.28	13.28
1 6534K19	Industrial-Shape Hose Coupling	1.82	1.82
1 5485K21	Medium Pressure Brass Hex Nipple	1.40	1.40

*laser ventilation*

1	5400K3	Bend-and-Stay Very Flexible Metal Duct Hose for Fumes, 5 foot section, for laser ventilation.	44.6	44.6
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*PCB rivets*

2	3498A11	Center-Marking Punch with Round-Knurled Handle	3.48	6.96
2	3415A13	Pin-Loosening Punches	5.43	10.86

**McMaster:**

\$3,497.02

**RotoMetals**

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

*metal casting*

10	LOWMELTINGPOINT281ALL OY	Roto281F Low Melt Fusible Bismuth Based Alloy Ingot	19.99	199.90
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**RotoMetals:**

**\$199.90**

**Uline**

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

*lascutter cardboard:*

100	S-12647	30 x 40" 275# Corrugated Pads	1.50	150.00	USA	48.02
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**Uline:**

MachinableWax.com

\$150.00

<http://www.machinablewax.com>

*machinable wax*

10	18-0150307	Machinable wax blue 1.5" x 3" x 7"	8.95	89.50	USA	3407.00.4000
5	18-150612	Machinable wax blue 1.5" x 6" x 12"	24.95	124.75	USA	3407.00.4000
5	18-030606	Machinable wax blue 3" x 6" x 6"	25.95	129.75	USA	3407.00.4000

**MachinableWax.com**

**\$254.50**

**Acrylic**

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

Acrylic for laser cutting. You should be able to source this from just



about any country. We order locally from J Freeman, Brand name ZYF

For non fluorescent edge, the customer should specify "GP or CAST" r

Color isn't important, we just order a variety, so if a

certain color is out of stock, improvise as long as you

stick with GP/Cast.

J. Freeman uses Plexiglas Brand, for color codes visit  
[http://www.plexiglas.com/pdf\\_catalog/20.pdf](http://www.plexiglas.com/pdf_catalog/20.pdf)

1	#2050	Blue 1/4" thickness 6mm #2050 cast m	224.96	224.96	USA	3920.51.1000
1	#2108	Green 1/4" thickness 6mm#2108 cast r	224.96	224.96	USA	3920.51.1000
1		Clear 1/4" thickness 6mmcast material	121.60	121.60	USA	3920.51.1000
1	#7328	White 1/8" thickness 3mm#7328 cast n	103.68	103.68	USA	3920.51.1000

1	# 2037	Yellow 1/8" thickness 3mm # 2037 Cas	103.68	103.68	USA	3920.51.1000
1	#2025	Black 1/8" thickness 3mm #2025 Cast I	103.68	103.68	USA	3920.51.1000
1	#2283	Red 1/8" thickness 3mm #2283 Cast N	103.68	103.68	USA	3920.51.1000
1	#9093	Flourescent Green edge 1/4"	224.96	224.96	USA	3920.51.1000
1	#9095	Flourescent Red edge 1/4"	224.96	224.96	USA	3920.51.1000
1	#2119	Orange 1/4" thickness 6mm#2119 cast material	224.96	224.96	<b>Acrylic:</b>	

\$1,661.12

Tower Hobbies

<https://www3.towerhobbies.com>

Wood for Lasercutting

1	LXAS8305	Midwest Poplar Plywood Sheet 1/8 x 12 x 24" (30)	174.80	174.80	<b>Wood:</b>	USA	44.12
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\$174.80

US Gypsum

<http://plaster.com/>

casting

10	Hydrostone Super X - 1 Gallon Pail	12.75	127.50	USA	2520.10.0000
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10	Drystone - 1 Gallon Pail		13.00	130.00	Plaster:	USA	2520.10.0000
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**\$257.50**

**Smooth-On (or Reynolds Adv. Mtls.)**

<http://www.smooth-on.com/>

molding

10	OOMOO 25	OOMOO 25 Pint	25.47	254.70		USA	3910.00.0000
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5	Smooth-Cast 305	Smooth-Cast 305 Pint	25.96	129.80	USA	3909.50.1000
5	Smooth-Cast 326 (Cannot be purchased for overseas)	Smooth-Cast 326 Pint	25.96	129.80	USA	3909.50.1000
2	Universal Mold Release - Aerosol Can (Cannot be purchased for overseas)	Universal Mold Release - Aerosol Can	13.28	26.56		
1	SO-Strong® 9-Pack Color Sampler	SO-Strong® 9-Pack Color Sampler	28.25	28.25		
2	Ease Release 205 - Pint Unit- (Cannot be purchased for overseas)	Ease Release 205 - Pint Unit	13.20	26.40		
5	SORTA Clear® 37 - Trial Size	Translucent Platinum Silicone Rubber Compound.	34.72	173.60	USA	3910.00.0000

**Smooth-On:**

**\$769.11**

**Blick Art Materials**

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

*molding:*

2	00682-1001	BLICK STUDIO GESSO/GALLON 2 COAT	25.50	51.00	USA	9503.00.0000
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2	06066-1489	FOAM BRUSH SET/48SET CLSPK WD HND	19.09	38.18	USA	9603.40
2	33504-1905	FLEXWAX 5 lb block	51.14	102.28	USA	3407.00.4000
<i>silkscreen:</i>						
1	44911-0100	TITE-STRETCH CORD/100 FT	7.99	7.99	USA	5607.90
1	43101-1005	CORD SETTER/5X1IN	19.95	19.95	USA	8306.29
4	43215-2007	ACRYLIC SCRNB FBR INK/BLK QUAR	22.39	89.56	USA	3215.11.0060

2	43215-5517	ACRYLIC SCR N FBR INK/PROCESS	22.39	44.78	USA	3215.19.0060
4	43215-1007	ACRYLIC SCR N FBR INK/WHT QUAF	22.39	89.56	USA	3215.19.0060
2	43215-4407	ACRYLIC SCR N FBR INK/PROCESS	22.39	44.78	USA	3215.19.0060
2	43215-3007	ACRYLIC SCR N FBR INK/MAGENTA	22.39	44.78	USA	3215.19.0060
3	43405-1109	MONOFIL POLYST FABRC/WHT NO	12.79	38.37	USA	7019.52
2	43429-1012	SCRNPT 110 MONO FRAM/8X10X1 V	17.49	34.98	USA	5911.20.20.00

2	43429-1004	SCRNPT 110 MONO FRAM/10X14X1	19.92	39.84	USA	5911.20.20.00
2	37204-1006	Squeegee, Standard 6"	7.17	14.34	USA	9603.90
2	37204-1010	Squeegee, Standard 10"	12.99	25.98 <b>Blick:</b>	USA	9603.90

T-Shirt export codes: White-  
shirts available from <http://www.6109100004>, Color-6109100013

**\$686.37**

**Budnick Converting**

<http://www.budnickconverting.com> Prices as of 7/15/08 and reflect

bulk rates only. If you need to order contact lass at cba dot mit dot

edu.

vinylcutter

1	Permacel # 595B	Permacel # 595B transfer adhesive 6"x	53.75	53.75	USA	3506.10.00.00
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1	3M #214	3M #214 masking tape 6"x60 yds @	211.22	211.22	USA	4811.41.2100
1	3M #1	3M #1 epoxy film on liner 6"x100 yds @	220.87	220.87	USA	3919.10.2020
1	3M #1126	3M #1126 copper tape with conductive	246.04	246.04	USA	7410.11.0000

coming: carpet tape

**Budnick:**

coming: sandblast stencil, 3M scotch brand "buttercut"

**\$731.88**

**Beacon Graphics**

<http://beacongraphics.com>

vinyl

note this is "Sign" vinyl, 4 years durability, opaque, A4 series

1	A4108-O-F	A4 BRIGHT YELLOW 1550	56.79	56.79	USA	3919.90.5060
1	A4375-O-F	A4 MERLOT 1550	56.25	56.25	USA	3919.90.5060

1	A4555-O-F	A4 MEDIUM BLUE 1550	56.25	56.25	USA	3919.90.5060
1	A4090-O-M	A4 BLACK 2450	81.90	81.90	USA	3919.90.5060
1	A4005-O-M	A4 TRUE WHITE 2450	81.90	81.90	USA	3919.90.5060
1	AT75-24	R-TAPE CLEAR CHOICE 24X100 YDS	90.40	90.40	USA	3919.90.5060

**Beacon :**

**Global Laminates**

**\$423.49**

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

machineable PCB stock

Prices as of 7/15/08 and reflect

bulk rates only. If you need to order contact: [info@fabfoundation.org](mailto:info@fabfoundation.org), R

<https://www.inventables.com/categories/materials/circuit-board-blanks>

FR1 .062 1/0 40"x48"



75	6"x8" Single	Single side circuit board stock	1.40	105.00	USA	4811.90.5050
25	6"x8" Double	Double side circuit board stock	2.50	62.50	USA	4811.90.5050

**GLOBAL:**

**Composites**

**\$167.50**

**Entropy Resins**

<https://entropyresins.com/>

3	<a href="https://entropyresins.com/product/super-sap-100-1000/">https://entropyresins.com/product/super-sap-100-1000/</a>	Super Sap ONE Epoxy and ONE Hardener, 3 gal, Complete Starter Kit (Pumps, cups, sticks, gloves) (Cannot be purchased for overseas)	254.95	764.85
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3	<a href="https://entropyresins.com/product/super-sap-clr-clear-epoxy-resin/">https://entropyresins.com/product/super-sap-clr-clear-epoxy-resin/</a>	Super Sap CLR Epoxy and CLF (FAST) Hardener, 3 gal, Complete Starter Kit (Pumps, cups, sticks, gloves) (Cannot be purchased for overseas)	254.95	764.85
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**Fabrics-store.com**

<http://www.fabrics-store.com>

10	<a href="http://www.fabrics-store.com/first.php?goto=big_fabric&amp;menu=f&amp;menu=f&amp;fabric_id=740">http://www.fabrics-store.com/first.php?goto=big_fabric&amp;menu=f&amp;menu=f&amp;fabric_id=740</a>	IL020, 100% Linen, 57 inch, per yard	10.39	103.90
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**Home Depot**

<http://www.homedepot.com>

**\*\***<http://www.homedepot.com/p/Owens-Corning-FOAMULAR-250-2-in-x-48-in-x-8-ft-R-10-Scored-Squared-Edge-Insulation-Sheathing-52DD/202085962>

**FOAMULAR 250 2 in. x 48 in. x 8 ft.  
R-10 Scored Squared Edge  
Insulation Sheathing LOCAL  
SOURCING PLEASE**

10

33.92

339.20

**Fiberglast**

[http://www.fibreglast.com/product/low-temperature-release-film-1580/Vacuum\\_Bagging\\_Films\\_Low\\_Temperature\\_Release\\_Film\\_Peel\\_Ply\\_Tapes](http://www.fibreglast.com/product/low-temperature-release-film-1580/Vacuum_Bagging_Films_Low_Temperature_Release_Film_Peel_Ply_Tapes) Low Temperature Release Film, unperforated (yds)

10

2.95

29.50

**Amazon**

<http://www.amazon.com/LA-Linen-15-Inch-Natural-100-Yard/dp/B00HTVMX08> LA Linen 15-Inch Natural Jute Burlap Roll, 100-Yard, Natural

2

50.90

101.80

3	<a href="http://www.amazon.com/Wiss-28N-Industrial-Shears-Scissors/dp/B000TDILJA">http://www.amazon.com/Wiss-28N-Industrial-Shears-Scissors/dp/B000TDILJA</a>	Wiss 28N Industrial Shears / Scissors	26.32	78.96
2	<a href="http://www.amazon.com/Duck-Brand-Stretch-Wrap-20-Inches-Wide-x-1000-Fee-Long-Single-Roll/dp/B000NHTUCE">http://www.amazon.com/Duck-Brand-Stretch-Wrap-20-Inches-Wide-x-1000-Fee-Long-Single-Roll/dp/B000NHTUCE</a>	Duck Brand Stretch Wrap, 20 Inches Wide x 1000 Feet Long, Single Roll (970700)	19.97	39.94
1	<a href="http://www.amazon.com/Warner-250-Tool-Wall-covering-Perforator/dp/B000I6JLAQ">http://www.amazon.com/Warner-250-Tool-Wall-covering-Perforator/dp/B000I6JLAQ</a>	Warner 250 Tool Wall covering Perforator	31.62	31.62
3	<a href="https://www.amazon.com/Mountain-Mist-Quilt-Light-Polyester-Batting/dp/B000G6JNCE/">https://www.amazon.com/Mountain-Mist-Quilt-Light-Polyester-Batting/dp/B000G6JNCE/</a>	Mountain Mist Quilt-Light Polyester Batting, Full 81-inch-by-96-inch	6.58	19.74
2	<a href="http://www.amazon.com/Space-Saver-Vacuum-Storage-Jumbo/dp/B004X98B5A">http://www.amazon.com/Space-Saver-Vacuum-Storage-Jumbo/dp/B004X98B5A</a>	50 PACK Space Saver Vacuum Storage Bags Jumbo Size 51"X40"	102.95	205.90
3	<a href="http://www.amazon.com/Mann-Release-Technologies-Ease-Release-200/dp/B004BNAN3G">http://www.amazon.com/Mann-Release-Technologies-Ease-Release-200/dp/B004BNAN3G</a>	Mann Release Technologies Ease Release 200 14 fl. oz.	10.44	31.32

3	<a href="http://www.amazon.com/Johnson-Wax-16-Oz-Fine-Wood-Paste-Wax-00203/dp/B0000DIWIM">http://www.amazon.com/Johnson-Wax-16-Oz-Fine-Wood-Paste-Wax-00203/dp/B0000DIWIM</a>	Johnson Wax 16 Oz Fine Wood Paste Wax 00203	7.99	23.97
5	<a href="http://www.amazon.com/Gorilla-Glue-50008-Adhesive-8-Ounces/dp/B0000223UV">http://www.amazon.com/Gorilla-Glue-50008-Adhesive-8-Ounces/dp/B0000223UV</a>	8oz Original Gorilla Glue	12.99	64.95
2	<a href="http://www.amazon.com/Members-Mark-Clear-Plastic-Cups/dp/B001KJFPR8">http://www.amazon.com/Members-Mark-Clear-Plastic-Cups/dp/B001KJFPR8</a>	Members Mark Clear Plastic Cups - 100/16oz Cups	12.39	24.78
2	<a href="http://www.amazon.com/All-you-Containers-Lids-32/dp/B00IEBYLKM">http://www.amazon.com/All-you-Containers-Lids-32/dp/B00IEBYLKM</a>	All 4 you Containers w/ Lids 32 oz (24)	12.99	25.98
2	<a href="http://www.amazon.com/Chenille-Kraft-Natural-Wood-Craft-Sticks-3776-01/dp/B001GXD6BU">http://www.amazon.com/Chenille-Kraft-Natural-Wood-Craft-Sticks-3776-01/dp/B001GXD6BU</a>	Chenille Kraft Natural Wood Craft Sticks, Jumbo Size, 6 x 3/4, Wood, Natural Wood, 500/Box (3776-01)	7.27	14.54
2	<a href="http://www.amazon.com/Perfect-Stix-PAINT9-Birchwood-Paddle/dp/B009EE61MY">http://www.amazon.com/Perfect-Stix-PAINT9-Birchwood-Paddle/dp/B009EE61MY</a>	Perfect Stix 9" Wooden Paint Paddle Stirrer Sticks Length (Pack of 100)	13.25	26.50

2	<a href="http://www.amazon.com/Mountain-4526-4-Inch-Plastic-Spreaders/dp/B000LQDATG">http://www.amazon.com/Mountain-4526-4-Inch-Plastic-Spreaders/dp/B000LQDATG</a>	Mountain 4526 4-Inch Plastic Spreaders, 100/box	28.39	56.78
5	<a href="http://www.amazon.com/dp/B003K15D9E">http://www.amazon.com/dp/B003K15D9E</a>	Ansell TNT Blue 92-575 Nitrile Glove, Chemical Resistant, Powdered, Disposable, Rolled Beaded Cuff, 9.5" Length, 5 mils Thick, Large (Pack of 100)	7.95	39.75
3	<a href="https://www.amazon.com/Irwin-Tools-Quick-Piece-Clamp/dp/B00M9IHVIC/">https://www.amazon.com/Irwin-Tools-Quick-Piece-Clamp/dp/B00M9IHVIC/</a>	Irwin Tools Quick Grip 6 Piece Clamp Set	57.91	173.73
1	<a href="http://www.amazon.com/BLACK-GARBAGE-TRASH-INDUSTRIAL-GALLON/dp/B000Y3PPK8">http://www.amazon.com/BLACK-GARBAGE-TRASH-INDUSTRIAL-GALLON/dp/B000Y3PPK8</a>	BLACK GARBAGE (TRASH) BAGS FOR HEAVY INDUSTRIAL USE, 60 GALLON XXX. HEAVY, BLACK 2.1 MIL - 4 MIL STRENGTH, 100/CASE	53.99	53.99
3	<a href="http://www.amazon.com/3M-Scotch-Seal-Mastic-Width-Length/dp/B0010XFTQ6">http://www.amazon.com/3M-Scotch-Seal-Mastic-Width-Length/dp/B0010XFTQ6</a>	3M Scotch-Seal Mastic Tape	11.72	35.16
1	<a href="https://www.amazon.com/Gast-DOA-P704-AA-Diaphragm-Pressure-Plastic/dp/B002KVKG9W/">https://www.amazon.com/Gast-DOA-P704-AA-Diaphragm-Pressure-Plastic/dp/B002KVKG9W/</a>	Electric Diaphragm vacuum pump (GAST)	471.98	471.98

**McMaster**

50	<a href="http://www.mcmaster.com/#5233k65/=ud4csa">http://www.mcmaster.com/#5233k65/=ud4csa</a>	PVC Tubing /// 5233K65	\$.75 per ft	37.50
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1	<a href="http://www.mcmaster.com/#91465k92/=ud4coc">http://www.mcmaster.com/#91465k92/=ud4coc</a>	Brass Push on hose Fitting 5 pack /// 91465K92	8.21	8.21
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total: **\$2,002.30**

**MTM**

*tooling:*

5 57185A21	High-Torque Ball-Point Hex L-Key, 2mm Hex, 4" Blade Length	0.79	3.95 mcmaster
2 8302A12	Chip-Clearing Tap for Through Holes, Standard, 3 x 0.5mm Thread Size	9.36	18.72 mcmaster
5 2958A55	Metric Black Oxide High-Speed Steel Jobbers' Drill Bit, 2.5mm, 57mm Overall Length, 25mm Drill Depth, 118 Degree Point	1.54	7.7 mcmaster

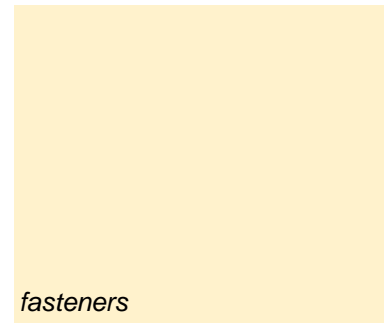


5 2958A66 Metric Black Oxide High-Speed Steel Jobbers' Drill Bit, 3.5mm, 70mm Overall Length, 32mm Drill Depth, 118 Degree Point 1.67 8.35 mcmaster

1 2742A513 Countersink for Aluminum, Brass, and Bronze, 3-Flute, 1/2" Body Diameter, 1/4" Shank Diameter, 82 deg 16.09 16.09 mcmaster

1 4289A35 Fixed Length Deburring Tool with Two Blades 7.66 7.66 mcmaster

2 65-013 1/8" Solid Carbide One Flute Upcut Super O Flute for Plastic, Wood, Aluminum, Solid Surface 35.75 71.5 onsrud

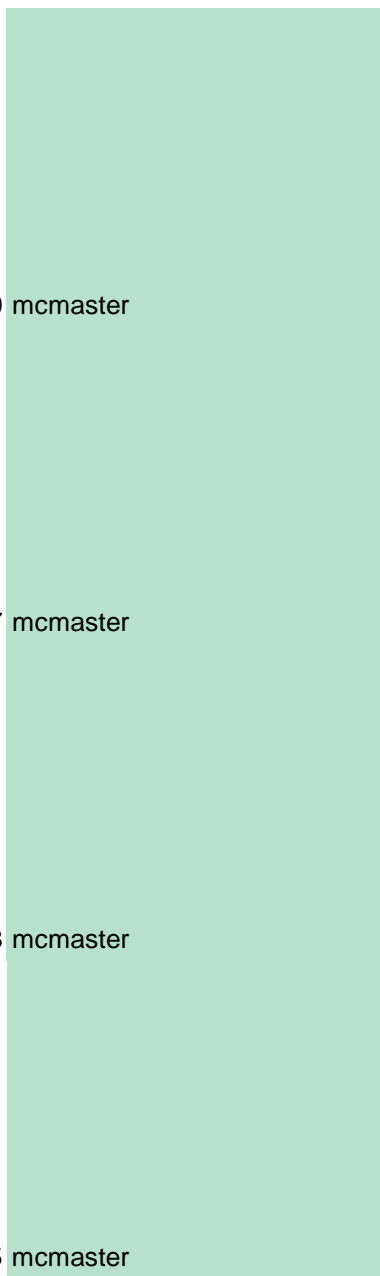


1 95610A530 Nylon Flat Washer, M3 Screw Size, 3.2mm ID, 8.0mm OD 2.84 2.84 mcmaster

1 93475A210	Type 18-8 Stainless Steel Flat Washer, M3 Screw Size, 3.2mm ID, 7.0mm OD	1.62	1.62 mcmaster
1 <u>92095A181</u>	18-8 Stainless Steel Button-Head Socket Cap Screw, M3 Size, 8 mm Length, .5 mm Pitch	9.37	9.37 mcmaster
1 92095A183	18-8 Stainless Steel Button-Head Socket Cap Screw, M3 Size, 12 mm Length, .5 mm Pitch	4.00	4 mcmaster
1 92095A472	18-8 Stainless Steel Button-Head Socket Cap Screw, M3 Size, 18 mm Long, 0.5 mm Pitch	6.00	6 mcmaster
1 90576A102	Zinc-Plated Class 8 Steel Nylon-Insert Locknut, M3x0.5 Thread Size, 5.5mm Wide, 4mm High	3.27	3.27 mcmaster
1 91828A211	Type 18-8 Stainless Steel Hex Nut, M3x0.5 Thread Size, 5.5mm Wide, 2.4mm High	5.55	5.55 mcmaster

1	94180A331	Metric Brass Heat-Set Insert for Plastics, Tapered, M3-.5 Internal Thread, 3.8mm Length	12.30	12.3	mcmaster
10	6389K625	Light Duty Dry-Running Sleeve Bearing, 1/16" Flange Thickness, Nylon, for 3/8" Diameter, 1/2" OD, 3/8" Length	0.59	5.9	mcmaster
10	7815K19	Multipurpose Flanged Sleeve Bearing for 3/8" Shaft Diameter, 1/2" OD, 1/2" Length, 11/16" Flange OD	3.57	35.7	mcmaster
10	6381K451	Alloy 932 (SAE 660) Bronze Sleeve Bearing for 3/8" Shaft Diameter, 1/2" OD, 1/2" Length	1.58	15.8	mcmaster
2	<a href="#">60355K45</a>	Ball Bearing, Double Shielded, Trade No.R6-2Z	6.25	12.5	mcmaster

*bearings*





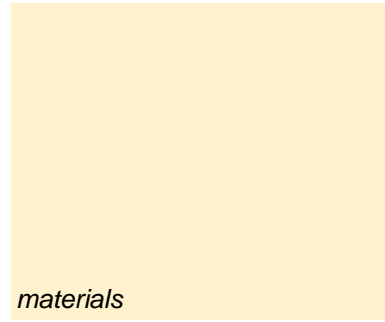
3	4568T22	Highly Corrosion-Resistant 6063 Aluminum, Anodized Tube, 3/8" OD, 0.070" Wall Thickness, 6 Feet Long	9.56	28.68	mcmaster
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4	6061K32	Hardened Precision Steel Shaft, 3/8" Diameter, 12" Length	6.48	25.92	mcmaster
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1	<u>9829K3</u>	Nylon-Lined Sleeve-Bearing Carriage, Threaded-Hole, for 12 mm Rail Width	24.06	24.06	mcmaster
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1	<u>9829K13</u>	Guide Rail, 12mm Wide, 270mm Long, for Nylon-Lined Sleeve-Bearing Carriage	51.30	51.3	mcmaster
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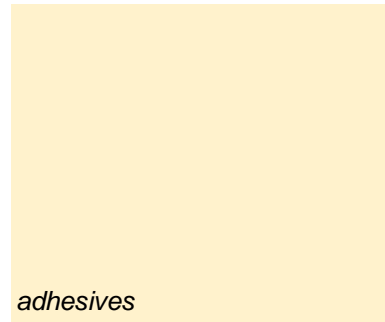
materials

4 8575K213	Black Delrin® Acetal Resin Sheet, 1/8" Thick, 12" x 24"	27.26	109.04 mcmaster
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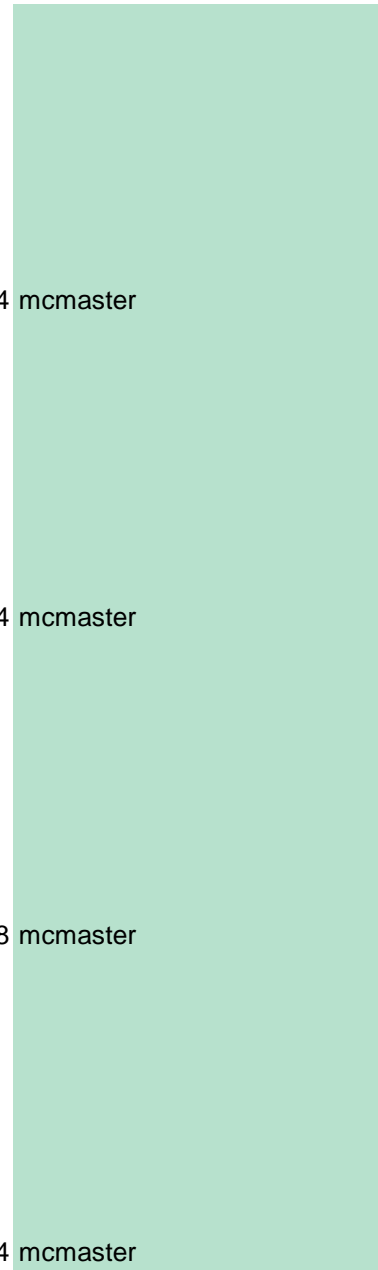
4 <u>9785T231</u>	Rigid HDPE Polyethylene Marine Grade Sheet, 1/2" Thick, 24" x 48", White	83.16	332.64 mcmaster
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10 9284K1	Expandable sleeving, do several colours of this	2.08	20.8 mcmaster
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2 7130K12	Nylon Cable Tie, 4" Long, 7/8" Bundle Diameter, 10 lb. Break Strength, White	2.27	4.54 mcmaster
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adhesives



1	<u>7476A19</u>	Carpenter's Glue for Wood, 4-Ounce Bottle	2.01	2.01	mcmaster
1	<u>91458A370</u>	Loctite® 425 Threadlocker, 0.7 oz.	19.93	19.93	mcmaster
3	<u>7467A21</u>	3M Adhesive Cartridge, DP100 Epoxy, 1.69 Ounces	18.88	56.64	mcmaster
1	<u>7467A43</u>	Dispensing Gun for 1.18, 1.25, 1.52, 1.59, 1.69 oz. 3M Adhesive Cartridge	85.76	85.76	mcmaster
1	<u>7467A12</u>	Mixer Nozzle for 1.25- & 1.69-oz. 3M Adhesive Cartridge	2.93	2.93	mcmaster
3	<u>7544A66</u>	Plastic Dispensing Bottle, 1 oz. Size	9.26	27.78	mcmaster

2	<u>75165A791</u>	Stainless Steel Dispensing Needle, Assort 1 Each of 12 Gauges	25.03	50.06	mcmaster
<div style="background-color: #fff9c4; padding: 5px; margin: 5px 0;"><i>drive trains: lead screw</i></div>					
1	6350K128	Ultra-Smooth Threaded Rods, 1/4"-20 Size, 2:1 Speed Ratio, 1/10" Travel/Turn	148.45	148.45	mcmaster
3	6350K204	1/4"-20 Size, 10 Tpi, Wear-Compensating Nut for Ultra-Smooth Threaded Rods	29.33	87.99	mcmaster
6	6157K12	One-Piece Clamp-on Shaft Collar for 1/4" Diameter, Aluminum	2.20	13.2	mcmaster
6	6655K33	Steel Thrust Ball Bearing, Stainless Steel Washers, for 1/4" Shaft Diameter, 9/16" OD	2.85	17.1	mcmaster

3 6208K441	Aluminum Helical Flexible Shaft Coupling Clamp-on, 1" Length, 3/4" Outside Diameter; Shaft D A 3/16"; Shaft D B 1/4"	39.47	118.41	mcmaster
<i>drive trains: timing belt</i>				
1 1679K686	Trapezoidal Tooth Urethane Timing Belt, .080" Pitch, Trade Size 962mxl, 77" Outer Circle, 1/4" Wide	10.10	10.1	mcmaster
8 A 6M16M018DF6006	2.03 mm (MXL) Pitch, 18 Teeth, 6mm Bore, Plain Bore, No Insert, Polycarbonate Timing Pulley for 6mm Wide Belt	3.93	31.44	sdp-si
2 A 6T16M018DF6005	2.03 mm (MXL) Pitch, 18 Teeth, 5mm Bore, Aluminum T-Insert, Polycarbonate Timing Pulley for 6mm Wide Belt	6.27	12.54	sdp-si
16 S99GGFM050605	General Purpose Flanged Bearing, 5mm Bore, 6mm Outside Diameter, 5mm Overall Length, . Material- G300® Polymer.	1.31	20.96	sdp-si




8 A 9X25M0420

M4 x 0.7 Thread, 5mm Shoulder Dia.,  
20mm Shoulder length, Stainless Stee



3.03

24.24 sdp-si

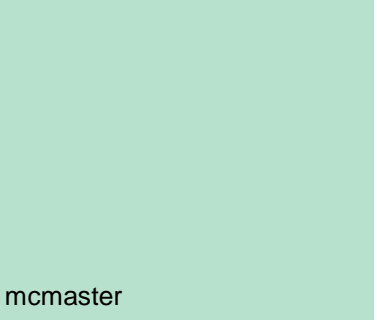


1 9829K3

Nylon-Lined Sleeve-Bearing Carriage,  
Threaded-Hole, for 12 mm Rail Width

24.06

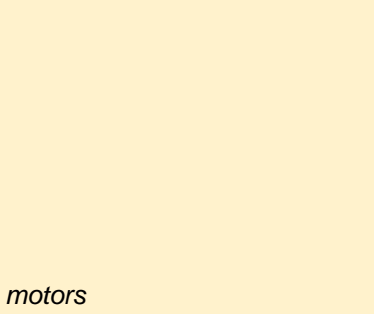
24.06 mcmaster



1 9829K13

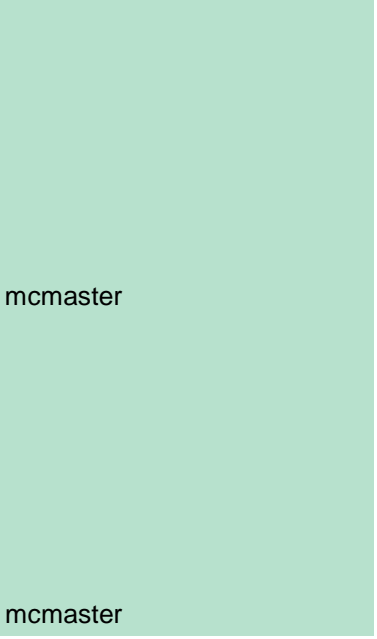
Guide Rail, 12mm Wide, 270mm  
Long, for Nylon-Lined Sleeve-Bearing  
Carriage

*motors*



51.30

51.3 mcmaster




6 238538

Motor Step 12VDC 0.4A

21.95

131.7 jameco





electronics

250 WM1114-ND

CONN TERM FEMALE 22-30AWG  
TIN

0.19

47.5 digikey



1 B007JLN93S

HT-225D Full Cycle Ratchet Crimping  
Tool with interchangeable die set HT-  
225D

23.00

23 amazon

**MTM Total:**

**\$2,098.80**

**Air Compressor**

1	DXCMPA1982054	<a href="http://www.amazon.com/DeWalt-DXCMPA1982054-20-Gallon-Portable-Compressor/dp/B00CAI5I1Y/ref=sr_1_1?ie=UTF8&amp;qid=1397151523&amp;sr=8-1&amp;keywords=dxcmpa1982054">http://www.amazon.com/DeWalt-DXCMPA1982054-20-Gallon-Portable-Compressor/dp/B00CAI5I1Y/ref=sr_1_1?ie=UTF8&amp;qid=1397151523&amp;sr=8-1&amp;keywords=dxcmpa1982054</a>	600.86	<b>\$600.86</b>
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\*\*\* expect to need to locally source fittings and hoses/pipes to connect this to appropriate machines

**Staples**

<http://www.staples.com>

*stock fixturing:*

25	504829	Model 137 Scotch Double Sided Perma	3.49	87.25	USA	3919.10
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2	462104	Polyethylene Double Sided Foam Tape	57.99	115.98
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*molding and casting:*

5	617688	Model RK5 Translucent Plastic Cold C	2.99	14.95	USA	3924.10.0002
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5	563562	TP10 Solo Plastic Party Cups, 10-oz.	6.79	33.95	USA	3924.10.0002
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5	783575	Model TP16 Solo Plastic Party Cups, 1	5.79	28.95	USA	3924.10.0002
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1	112743	Medline Talc Baby Powders, 4 oz, 48/P	34.99	34.99
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*cleaning supplies:*

18	538868	Model 5320 Kimberly-Clark Utility Wipe	3.79	68.22	USA	4823.70
10	807727	Sustainable Earth All-Purpose Cleaner,	3.99	39.90		2207.20
3	F11601M	O'Dell Angled Broom	9.99	29.97	USA	9603.90.0000
3	721698	Plastic Dust Pan	5.99	17.97	USA	3924.90

*office supplies:*

3	487547	uni-ball Vision Elite Rollerball Pens, Mic	28.59	85.77		9608.10.0000
5	229690	13023/13403 Acme 8" Economy Shear	7.99	39.95	USA	8213.00.0000
1	818674	X-Acto® 12" Heavy-Duty Plastic Paper	49.29	49.29		
5	514742	Model 11454-CC Staples Mechanical P	2.98	14.90	USA	9608.40
5	399782	Model L50BP3HB-K6 Pentel Super Hi-F	6.04	30.20	USA	9609.20
5	264291	Model ZE21BP3-K6 Pentel Clic Eraser	3.89	19.45	USA	4016.92



3	163451	Model 11299 Staples Glue-Top Scratch	17.29	51.87	USA	4820.90.0000
5	609009	Model 4184/Scotch Transparent Tape \	13.29	66.45	USA	3919.10
5	452605	Model 07364/Duck HP260 Crystal-Clea	8.49	42.45	USA	3919.10
5	468389	Staples® Acrylic Utility Duct Tape, Standard Grade, Silver, 2" x 60 yds, 1 Roll	8.99	44.95		
5	572355	3M #214 masking tape 2"x60 yds	4.99	24.95		

batteries:

1	752759	Duracell 9-Volt Alkaline Batteries, 72/P:	287.99	287.99	USA	8506.80.00.00
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1	751595	Duracell AA Alkaline Batteries, 144/Pac	114.99	114.99	USA	8506.80.00.00
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1	751596	Duracell AAA Alkaline Batteries, 144/P:	129.99	129.99	USA	8506.80.00.00
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*3d scanning:*

1	IM13P6648	3D Systems 350470 Sense 2 Black Handheld 3D Scanner	399.00	399.00		8471.60
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*stock:*

5	518307	Pacon® 37654 Spotlight Corrugated Presentation Display Board	30.99	154.95
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**Staples:**

**\$2,029.28**

**WonPro**

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

For international locations not on the 110V system we suggest the

following electrical supplies for conversion and adaptation:

8	WES.T6_black	Universal Power Bar	30.00	240.00	China	8536.30
8	WE-109C-6ft	Power cord	9.00	72.00	China	8536.30

OR

Design and production update pending

8	WE-4A6-GF	Universal Power Bar	0.00	0.00	China	8536.30
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plug configuration usually send about 8 of these

Country-Specific Power Cord Sold Separately%97cost approx.

depending on length of cord

24		24 Universal Plug Adapters	4.00	96.00 <b>Won Pro:</b>	China	8544.42
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please see [http://www.euoplugs.com/Wonpro\\_catalog/WA\\_Plug\\_Adapters\\_](http://www.euoplugs.com/Wonpro_catalog/WA_Plug_Adapters_) **\$408.00**

**\*\* Reference Books\*\*** (also available for Kindle-E Reader download)

**Purchase through Amazon.com (note: prices as of 3/7/2014)**

1	0521570956	The Nature of Mathematical Modeling, I	31.99	4901.99.0050
1	0521580447	The Physics of Information Technology	28.94	4901.99.0050

1	0465093477	Designing Reality: How to Survive and Thrive in the Third Digital Revolution	26.32	4901.99.0050
1	0465027466	Fab: The Coming Revolution on Your D	12.20	4901.99.0050
1	0500513759	Manufacturing Processes for Design Professionals THAMES & HUDSON Edition	61.25	4901.99.0050
1	0831130911	Machinery's Handbook, Toolbox Edition 30th Edition	71.84	4901.99.0050
1	0073398209	Shigley's Mechanical Engineering Design (McGraw-Hill Series in Mechanical Engineering)	219.95	4901.99.0050
1	0521809266	The Art of Electronics, Paul Horowitz, V	58.97	4901.99.0050

1	1259587541	Practical Electronics for Inventors, Pau	24.66	4901.99.0050
1	1449355730	Learning Python,5th Edition, Mark Lutz,	49.03	4901.99.0050
1	1491951907	Creative Coding and Data Visualization	33.47	4901.99.0050

**Books:**

**\$618.62**

Estimated Fab Lab total cost before shipping is between \$100,000 and \$125,000 depending on what brands and models you choose. See top of page for most common options and total cost.



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**Notes**

for m3 fasteners

m3 tap

m3 tap

m3 clearance

nylon

steel

can be used with loctite to  
make permanent

can be used with regular weller

for use with aluminium shafts

for use with precision ground  
hardened steel shafts

for use with precision ground  
hardened steel shafts, can be  
glued with epoxy

these are 6', maybe we can get  
a more convenient size if we  
custom order from mcmaster

for ICs see fab inventory

<http://www.amazon.com/HT-225D-Cycle-Ratchet-Crimping-interchangeable/dp/B007JLN93S>



Vendors:

Epilog Laser  
ShopBot  
MSC  
Roland  
Carbide Depot  
Ultimaker  
VMI Sales  
Amazon  
Test Equipment Depot  
Digi-Key  
Mouser  
Jameco  
Rotometals  
Circuit Specialists  
McMaster-Carr  
JFreeman  
US Gypsum  
Reynolds  
Blick Art Materials  
Budnick Converting  
Beacon Graphics  
Global Laminates  
Staples  
WonPro  
Dell  
Plaster.com  
Staples  
Hobby King  
Tower Hobbies  
Uline  
Machinable Wax  
Northern Tool  
Home Depot

NOTE - This list doesn't include the whole Digikey order, only parts that need labels. I've datasheet.

		Digi-Key part name
<i>resistors:</i>	1000	311-0.0ERCT-ND
	250	311-0.1ANCT-ND
	50	P.10AVCT-ND
	100	CSRN2010FKR250CT-ND
	1000	311-1.00FRCT-ND
	1000	311-4.99FRCT-ND
	1000	311-10.0FRCT-ND
	1000	311-49.9FRCT-ND
	1000	311-100FRCT-ND
	1000	311-499FRCT-ND
	1000	311-1.00KFRCT-ND
	1000	311-4.99KFRCT-ND
	1000	311-10.0KFRCT-ND
	1000	311-49.9KFRCT-ND
	1000	311-100KFRCT-ND
	1000	311-499KFRCT-ND
	1000	311-1.00MFRCT-ND
	1000	311-4.99MFRCT-ND
	1000	311-10.0MFRCT-ND
	<i>potentiometer:</i>	50
<i>capacitors:</i>	500	311-1212-1-ND
	500	311-1150-1-ND
	500	311-1161-1-ND
	500	311-1144-1-ND
	500	311-1174-1-ND
	500	399-4674-1-ND
	500	445-1423-1-ND
	100	587-1352-1-ND
	25	283-2810-ND
	<i>chokes:</i>	25
25		PCD2152CT-ND
25		PCD2164CT-ND
25		PCD2176CT-ND
<i>diodes:</i>		250
	250	641-1331-1-ND
	500	BZT52C3V3-FDICT-ND
	500	BZT52C4V7-13-FDICT-ND
<i>transistors:</i>	250	NDS355ANCT-ND
	250	NDS356APCT-ND
	50	RFD16N05LSM9ACT-ND

<i>H-bridge motor</i>	100	620-1428-1-ND
<i>stepper motor d</i>	25	620-1352-1-ND
<i>solid state relay</i>	25	CLA413-ND□
<i>regulators:</i>	250	LM3480IM3-3.3/NOPBCT-ND
	250	LM3480IM3-5.0/NOPBCT-ND
	100	ZLDO1117G33DICT-ND
	100	ZLDO1117G50DICT-ND
<i>amplifiers:</i>	50	AD8615AUJZ-REEL7CT-ND
	25	LM4861M-ND
<i>LEDs:</i>	250	160-1167-1-ND
	250	160-1169-1-ND
	250	160-1403-1-ND
	250	160-1889-1-ND
	250	160-1737-1-ND
	100	CLV1A-FKB-CK1N1G1BB7R4S3CT-ND
	100	1080-1346-1-ND
<i>photodetectors:</i>	100	1080-1379-1-ND
	100	1080-1380-1-ND
	10	497-16538-1-ND
<i>LCD:</i>	25	67-1781-ND
<i>speakers / micro</i>	50	458-1124-ND
	50	423-1134-1-ND
	25	423-1405-1-ND
<i>temperature:</i>	25	235-1109-1-ND
	25	749-1055-1-ND
<i>hall effect:</i>	25	620-1021-1-ND
<i>accelerometer:</i>	25	ADXL343BCCZ-ND
<i>op-amp:</i>	100	AD8605ARTZREEL7CT-ND
<i>microcontrollers</i>	200	ATTINY45V-10SU-ND
	100	ATTINY44A-SSU-ND
	50	ATMEGA328P-AU-ND
	25	ATMEGA16U2-AU-ND
	25	ATMEGA16U4-AU-ND
	50	ATXMEGA16E5-AURCT-ND
	50	ATXMEGA16A4U-AURCT-ND
	2	ATATMEL-ICE-BASIC-ND
	3	1659-1000-ND
	1	1597-1363-ND
	1	1597-1187-ND
	5	428-3390-ND

<i>programmable I</i>	5	220-2656-ND
<i>memory:</i>	50	557-1562-ND
<i>crystal:</i>	200	XC1109CT-ND
	200	535-10004-1-ND
	100	644-1039-1-ND
<i>buttons and swi</i>	50	401-2012-1-ND
	100	SW262CT-ND
<i>magnets:</i>	100	469-1004-ND
	100	469-1002-ND
<i>connectors:</i>	3	A9982-ND
	50	A30814-ND
	50	A19270-ND
	50	A30816-ND
	50	A19272-ND
	50	A30818-ND
	50	A19274-ND
	50	A30820-ND
	50	A19276-ND
	50	609-4958-ND
	100	609-2841-ND
	50	609-3568-ND
	50	609-1739-ND
<i>headers:</i>	50	609-5160-1-ND
	100	609-5161-1-ND
	50	609-5162-1-ND
	50	609-5163-1-ND
	50	609-4814-ND
	50	952-1771-ND
	50	S5674-ND
	10	S1013E-36-ND
	10	S1143E-36-ND
	20	A111251CT-ND

	10	SAM1213-50-ND
	20	S1011EC-40-ND
<i>jacks / plugs:</i>	100	CP1-023PJCT-ND
	100	CP-012-ND
	50	CP-002AHPJCT-ND
	100	CP-2501SP-ND
	100	CP1-2533SJCT-ND
	50	CP-1453-ND
	50	CP-1459-1-ND
	10	SC1323-ND
	50	ED1122-ND
<i>ribbon cable</i>	1	MC10M-50-ND
<i>screw terminals</i>	100	ED1514-ND
	100	ED1515-ND
<i>test clips:</i>	5	923655-08-ND
<i>antistatic bags:</i>	100	16-1032-ND
	100	16-1034-ND
	200	16-1036-ND
<i>antistatic packa</i>	1	12660-ND
<i>heat shrink tubi</i>	5	A116B-4-ND
	5	A018B-4-ND
	5	A014B-4-ND
	5	A038B-4-ND
	5	A012B-4-ND
<i>soldering:</i>	4	KE1409-ND
	10	EB1088-ND
	20	ETU-ND
	10	TC205-ND
<i>tools:</i>	20	EROP7SA-ND
<i>battery connect</i>	100	BS6I-MC-ND
	50	BH9V-W-ND
	100	55K-ND
<i>USB:</i>	25	768-1007-1-ND
	3	768-1028-ND
	3	768-1015-ND
	50	609-4613-1-ND
	50	H2961CT-ND
<i>jumper wires:</i>	5	1528-1154-ND
	5	1528-1162-ND

<i>card holder:</i>	5	1528-1379-ND
	25	WM12834CT-ND

tried including manufacturer part numbers for some parts so that people can Google them to get the

Digi-Key part description	LINE 1
RES 0.0 OHM 1-4W 5% 1206 SMD-	RES 0.0 OHM
RES .10 OHM 1-4W 1% 1206 SMD	RES 0.1 OHM
RES SMD 0.1 OHM 5% 1W 1206	RES 0.1 OHM
RES .25OHM 1W 1% 2010 SMD	RES 0.25 OHM
RES 1.00 OHM 1-4W 1% 1206 SMD-	RES 1.0 OHM
RES 4.99 OHM 1-4W 1% 1206 SMD	RES 4.99 OHM
RES 10.0 OHM 1-4W 1% 1206 SMD	RES 10.0 OHM
RES 49.9 OHM 1-4W 1% 1206 SMD-	RES 49.9 OHM
RES 100 OHM 1-4W 1% 1206 SMD	RES 100 OHM
RES 499 OHM 1-4W 1% 1206 SMD-	RES 499 OHM
RES 1.00K OHM 1-4W 1% 1206 SMD-	RES 1.0K OHM
RES 4.99K OHM 1-4W 1% 1206 SMD	RES 4.99K OHM
RES 10.0K OHM 1-4W 1% 1206 SMD	RES 10.0K OHM
RES 49.9K OHM 1-4W 1% 1206 SMD	RES 49.9K OHM
RES 100K OHM 1-4W 1% 1206 SMD	RES 100K OHM
RES 499K OHM 1-4W 1% 1206 SMD	RES 499K OHM
RES 1.00M OHM 1-4W 1% 1206 SMD-	RES 1.0M OHM
RES 4.99M OHM 1-4W 1% 1206 SMD-	RES 49.9M OHM
RES 10.0M OHM 1-4W 1% 1206 SMD-	RES 10.0M OHM
TRIMMER 10K OHM 0.25W SMD	TRIM POT 10K OHM
CAP CERAMIC 1PF 50V NP0 1206-	
\$0.04200-	CAP 1PF
CAP CERAMIC 10PF 50V NP0 1206-	
\$0.03612-	CAP 10PF
CAP CERAMIC 100PF 50V NP0 1206-	
\$0.04200-	CAP 100PF
CAP 1000PF 1KV CERAMIC X7R 1206-	
\$0.15300-	CAP 1000PF
CAP 10000PF 50V CERAMIC X7R 1206	
\$0.03360-	CAP 10000PF
CAP CERAMIC .1UF 250V X7R 1206-	CAP 0.1UF
CAP CER 1UF 50V X7R 10% 1206-	CAP 1UF
CAP CER 10UF 35V Y5V 1206-	CAP 10UF
CAP SUPER 1F 5.5V RADIAL	CAP SUPER 1F
CHOKE COIL 1.2UH 6500MA SMD-	CHOKE COIL 1.2UH
CHOKE COIL 10UH 3900MA SMD-	CHOKE COIL 10UH
CHOKE COIL 100UH 1200MA SMD-	CHOKE COIL 100UH
CHOKE COIL 1000UH 410MA SMD-	CHOKE COIL 1000UH
DIODE SCHOTTKY 100V SGL SOD-123-	DIODE SCHOTTKY
DIODE SCHOTTKY 1A 100V MINI-SMA-	DIODE SCHOTTKY
DIODE ZENER 500MW 3.3V SOD123-	DIODE ZENER
DIODE ZENER 4.7V 500MW SOD-123-	DIODE ZENER
MOSFET N-CH 30V 1.7A SSOT3	MOSFET P-CH
MOSFET P-CH -30V 1.1A 3-SSOT-	MOSFET P-CH
MOSFET N-CH 50V 16A TO-252AA-	MOSFET N-CH

IC PWM MOTOR DVR FULL 8SOIC	H-BRIDGE PWM MOTOR
IC MOTOR DRIVER PAR 24TSSOP	H-BRIDGE PWM MOTOR
POWER SWITCH AC SS SCR 8SOIC	SOLID STATE RELAY
IC 3.3V100MA LDO VREG SOT23-	VOLTAGE REGULATOR
IC 5.0 100MA LDO VREG SOT23-	VOLTAGE REGULATOR
IC REG LDO 3.3V 1A SOT223-3	VOLTAGE REGULATOR
IC REG LDO 5V 1A SOT223-3	VOLTAGE REGULATOR
IC OPAMP GP R-R CMOS LN TSOT23-5	OPAMP 24MHZ
IC AMP AUDIO PWR 1.5W MONO 8SOIC	AUDIO POWER AMPLIFIER
LED RED CLEAR 1206 SMD-	LED RED
LED GREEN CLEAR 1206 SMD-	LED GREEN
LED YELLOW ORANGE CLEAR 1206 SMD	LED YELLOW
LED BLUE CLEAR 1206 REV MT SMD	LED BLUE
LED WHITE YELLOW 260MCD 1206	LED WHITE
LED RGB DIFFUSED 4PLCC SMD	LED RGB 4PLCC
LED IR GAA1AS WATER CLEAR SMD	LED INFRARED
Phototransistor 940nm Top View 1206 IR	PHOTOTRANSISTOR
Phototransistor 940nm Top View 1206 visible	PHOTOTRANSISTOR
Optical Sensor 200cm I <sup>2</sup> C Output	OPTICAL SENSOR
LCD MODULE 16x2 CHARACTER-	LCD MODULE
SPEAKER 8 OHM .25W 23MM ROUND	SPEAKER 8 OHM
MIC MEMS ANALOG OMNI -22DB	MEMS MICROPHONE
MIC MEMS DIGITAL I2S OMNI -26DB	MEMS MICROPHONE
THERMISTOR NTC 10K OHM 10% 1206-	THERMISTOR NTC
TEMP SENSOR RTD 1K OHM 1206	TEMP SENSOR RTD
IC SENSOR HALL EFFECT SOT23W	HALL EFFECT SENSOR
ACCELEROMETER DGTL 3AXIS 14LGA	ACCELEROMETER 3AXIS
IC OPAMP SNGL R-R I-O LN SOT23-5	OPAMP 10MHZ
IC AVR MCU 4K 10MHZ 8SOIC-	ATTINY 45V
IC MCU AVR 4K FLASH 20MHZ 14SOIC-	ATTINY 44A
IC MCU 8BIT 32KB FLASH 32TQFP	ATMEGA 328P
IC MCU 8BIT 16KB FLASH 32TQFP	ATMEGA 16U2
IC MCU 8BIT 16KB FLASH 44TQFP	ATMEGA 16U4
IC MCU 8BIT 16KB FLASH 32TQFP	ATMEGA 16E5
IC MCU 8BIT 16KB FLASH 44TQFP	ATMEGA 16A4U
EMU FOR SAM AND AVR MCU BASIC	ATATMEL
Arduino Uno Board	ARDUINO
Espruino Eval Kit	ESPRUINO
BeagleBone Black Rev C	BEAGLEBONE
PSOC 5LP PROTOTYPING KIT	PSOC 5LP



ICE40HX1K-STICK-EVN	FPGA
IC FLASH 128MBIT 108MHZ 8SO	MEMORY 128MBIT
CER RESONATOR 20.00MHZ SMD	RESONATOR CER
RESONATOR CER 8.00 MHZ W/CAP SMD	RESONATOR CER
CRYSTAL 20.000000 MHZ 8PF SMD	CRYSTAL 20MHZ
SWITCH SLIDE SPDT 12V 100MA GW-	SWITCH SLIDE
SWITCH TACT SMD W-GND 160GF	SWITCH TACT
MAGNET 1-4"DIA X 1	MAGNET
MAGNET 1-2"DIA X 1	MAGNET
T-HANDLE TOOL MTA-100	T-HANDLE TOOL
CONN RECEPT 2POS 28AWG MTA100	CONNECTOR SOCKET
CONN STRAIN RELIEF COVER 2POS	CONNECTOR STRAIN
CONN RECEPT 4POS 28AWG MTA100	CONNECTOR PLUG
CONN STRAIN RELIEF COVER 4POS	CONNECTOR STRAIN
CONN RECEPT 6POS 28AWG MTA100	CONNECTOR PLUG
CONN STRAIN RELIEF COVER 6POS	CONNECTOR STRAIN
CONN RECEPT 8POS 28AWG MTA100	CONNECTOR PLUG
CONN STRAIN RELIEF COVER 8POS	CONNECTOR STRAIN
CONN SOCKET IDC 4POS DL SR 30AU	CONNECTOR SOCKET
CONN SOCKET IDC 6POS DL SR 30AU	CONNECTOR SOCKET
CONN SOCKET IDC 8POS DL SR 30AU	CONNECTOR SOCKET
CONN SOCKET IDC 10POS DUAL 30AU	CONNECTOR SOCKET
4 Positions Header Connector 0.100" (2.54mm) Surface Mount	CONNECTOR HEADER
6 Positions Header Connector 0.100" (2.54mm) Surface Mount	CONNECTOR HEADER
8 Positions Header Connector 0.100" (2.54mm) Surface Mount	CONNECTOR HEADER
10 Positions Header Connector 0.100" (2.54mm) Surface Mount	CONNECTOR HEADER
CONN RCPT 5POS .100 SGL STR SMD	CONNECTOR SMT SOCKET
02+02 DIL SMT SKT	CONNECTOR SMT SOCKET
CONN FEMALE 8POS DL .1" TIN SMD	CONNECTOR SMT SOCKET
CONN HEADER 36PS .100 SINGLE SMD	CONNECTOR HEADER
SMT RT Angle Male Header 0.1" (36pos)	CONNECTOR HEADER
SMT RT Angle Female Header 0.1" (5pos)	CONNECTOR SMT SOCKET

TH female header 0.1" (50pos)	CONNECTOR SOCKET
TH male header 0.1" (40pos)	CONNECTOR HEADER
CONN PWR JACK DC 0.65X2.75MM SMD-	CONN POWER JACK
CONN DC PWR PLUG 0.7X2.35MM-	CONN POWER JACK
CONN-POWER JACK 2.1MM SMD	CONN POWER JACK
CONN PLUG STEREO 2.5MM W- COVER	CONN STEREO JACK
CONN JACK STEREO 3PIN 2.5MM SMD-	CONN STEREO JACK
CONN RCA PLUG W-STRAIN REL BLK	CONN RCA PLUG
CONN RCA JACK METAL R/A BLK SMD	CONN RCA
CONN JACK PHONO 2POS SHIELDED-	CONN JACK PHONO
CONN PIN SPRING-LOADED PCB	CONN PIN
CBL RIBN 10COND 0.050 MULTI 50'	RIBBON CABLE
TERMINAL BLOCK 3.5MM 2POS PCB-	TERMINAL BLOCK
TERMINAL BLOCK 3.5MM 3POS PCB-	TERMINAL BLOCK
8-PN GOLD SMD TEST CLIP-	8-PN GOLD SMD
BAG ESD SHLD 3"X5" METAL-IN ZIP-	ESD SHEILD BAG
BAG ESD SHLD 5"X8" METAL-IN ZIP-	ESD SHEILD BAG
BAG ESD SHLD 8"X10" METAL-IN ZIP-	ESD SHEILD BAG
FOAM HI DENSITY X-INK 1/4" 24X35	
HEATSHRINK 1-16 IN X 4FT BLACK	HEATSHRINK
HEATSHRINK 1-8 IN X 4FT BLACK	HEATSHRINK
HEATSHRINK 1-4 IN X 4FT BLACK	HEATSHRINK
HEATSHRINK 3-8 IN X 4FT BLACK	HEATSHRINK
HEATSHRINK 1-2 IN X 4FT BLACK	HEATSHRINK
SOLDER NO-CLEAN .020" X 1 lb-	SOLDER
QUICK BRAID GOLD .050" X 10'-	SOLDERING BRAID
TIP REPLACEMENT SINGLE FLAT.015"-	SOLDERING IRON TIP
SPONGE REPLACEMENT	SPONGE FOR
TWEEZER CURVED PRECISION TIP-	TWEEZERS
9V BATTERY SNAP WITH 2PC MOLDED-	9V BATTERY
HOLDER BATTERY 9V WIRE LEADS-	6V BATTERY
CLIP BATTERY AAA-N CELL SMT	AAA BATTERY
IC USB TO SERIAL UART 28-SSOP-	USB TO SERIAL
CABLE USB TO TTL SERIAL CONV	3.3V USB TO TTL
CABLE USB - SERIAL TTL	
CONVERTER-	5V USB TO TTL
CONN USB MICRO B RECPT SMT R/A	USB MICRO
CONN RECEPT MINI USB2.0 5POS	USB MINI
M/M Jumper Wires 6" (40pcs)	JUMPER WIRES
M/F Jumper Wires 6" (40pcs)	JUMPER WIRES

F/F Jumper Wires 6" (40pcs)  
MICRO SD NORMAL ULTRALOW

JUMPER WIRES  
MICRO SD  
AAA  
AA  
9V  
1.5V  
USB 2.0  
HDMI

I'm just figuring out how to make a file to  
print on the label maker

LINE 2

1-4W 5% 1206  
1-4W 1% 1206  
1W 5% 1206  
1W 1% 1206  
1-4W 1% 1206  
1-4W 1% 1206  
1-4W 1% 1206  
1-4W 1% 1206  
1-4W 1% 1206  
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1-4W 1% 1206  
1-4W 1% 1206  
1-4W 1% 1206  
0.25W

50V NP0 1206

50V NP0 1206

50V NP0 1206

1KV X7R 1206

50V X7R 1206

250V X7R 1206

50V X7R 10% 1206

35V Y5V 1206

5.5V RADIAL

6500MA

3900MA

1200MA

410MA

100V 150mA SOD-123

100V 1A SOD-123

500MW 3.3V SOD-123

500MW 4.7V SOD-123

30V 1.7A SSOT3

30V 1.1A SSOT3

50V 16A TO-252AA

DRIVER A4952 8SOIC  
DRIVER PAR A4982 24TSSOP  
1.5A CPC1964B 8SOIC  
3.3V 100mA SOT23  
5V 100mA SOT23  
3.3V 1A SOT223-3  
5V 1A SOT223-3

AD8615AUJZ TSOT23-5

1.5W 8SOIC  
Vf 1.8V 10mA 1206  
Vf 2.1V 10mA 1206

Vf 2V 20mA 1206  
Vf 3.3V 10mA 1206  
Vf 3.2A 20mA 1206

CLV1A-FKB-CK1N1G1BB7R4S3  
HIR11-21C/L11/TR8

PT15-21B/TR8 1206

PT15-21C/TR8 1206  
200cm I2C OUTPUT  
16X2 CHARACTERS  
0.25W 23MM  
ANALOG -22DB  
DIGITAL -26DB

10K OHM 10% 1206  
1K OHM 1206  
SOT23W

ADXL343BCCZ 14LGA  
AD8605ARTZ SOT23-5  
8SOIC

14SOIC  
32TQFP  
32TQFP  
44TQFP  
32TQFP  
44TQFP  
1ICE BASIC  
UNO  
EVAL KIT  
BLACK REV C  
PROTOTYPING KIT

ICE40HX1K  
FLASH 108MHZ 8SOIC  
20MHZ

8MHZ W/CAP  
8PF  
12V 100mA

0.25" x 0.125"  
1.0" x 0.125"

2POS 28 AWG  
RELIEF 2POS

4POS 28 AWG  
RELIEF 4POS

6POS 28 AWG  
RELIEF 6POS

8POS 28 AWG  
RELIEF 8POS

IDC 4POS 30AU

IDC 6POS 30AU

IDC 8POS 30AU

IDC 10POS 30AU

4POS 0.1"

6POS 0.1"

8POS 0.1"

10POS 0.1"

5POS 0.1"

4POS 0.1"

8POS 0.1"

2POS 0.1"

1POS 0.1"

5POS 0.1"

BULK 0.1"  
BULK 0.1"

0.65x2.75mm  
0.7x2.75mm  
2.1mm

2.5mm

3PIN 2.5mm

W-STRAIN REL

JACK METAL

2POS SHIELDED  
SPRING-LOADED PCB

3.5MM 2POS  
3.5MM 3POS  
TEST CLIP  
3"x5"  
5"x8"  
8"x10"

0.0625" x 4'  
0.125" x 4'  
0.25" x 4'  
0.375" x 4'  
0.5" x 4'

SOLDERING IRON

CONNECTOR  
HOLDER  
CLIP  
UART  
SERIAL CONVERTOR

SERIAL CONVERTOR

CABLE  
CABLE  
MALE-MALE  
MALE TO FEMALE

FEMALE TO FEMALE  
CARD HOLDER

BATTERIES  
BATTERIES  
BATTERIES  
BATTERIES  
CABLE  
CABLE