

## Threaded Design Example component list

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**Introduction to Mechatronics and Measurement Systems, 3rd edition**

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[mechatronics.colostate.edu](http://mechatronics.colostate.edu)

Item	Description	Supplier	Part Number	Price*
PIC 16F627	16 I/O, 2 analog comparators	Digikey	PIC16F627-04/P	\$3.20
PIC 16F676	12 I/O, 10-bit A/D, internal osc, AUSART	Digikey	PIC16F676-I/P	\$2.28
PIC 16F871	33 I/O, 10-bit A/d, AUSART	Digikey	PIC16F871-I/P	\$5.48
PIC 16F72	22 I/O, 8-bit A/D	Digikey	PIC16F72-I/SP	\$3.45
TLC7524C	8-bit D/A converter	Digikey	296-1868-5	\$3.31
	piezoelectric buzzer	Digikey	P9900	\$3.19
OPA548FKTWT	power op amp, 3A	Digikey	296-15968-1	\$10.00
12-button keypad	front mount	Digikey	GH5008	\$11.56
contacts	for keypad connector	Digikey	A3007	10 for \$1.43
keypad connector		Digikey	A3016	\$0.70
LCD module	16x2, 5x8 dots	Digikey	73-1033, 73-1025, or 73-1054 (***these parts are obsolete***)	\$15.33
vertical dual row header	14-pin for LCD	Digikey	WM6814	\$0.95
socket-to-socket connectors and cable (for LCD module with two-row pin header)	MC, gold	Digikey	C3AAG-1406M	\$3.33
LCD module	16x2, 5x8 dots	Digikey	67-1779-ND	\$9.28
16 pin header	single row	Digikey	WM6216	\$1.18
	10-slot connector housing	Digikey	WM2808	\$1.01
	6-slot connector housing	Digikey	WM2804	\$0.82
socket contacts	10-pack (2 packs required)	Digikey	WM2510	\$0.90
vertical dual row header	10-pin for encoder	Digikey	WM6810	\$0.74
Maxon motor-encoder combo	19:1 planetary gear drive, 16 cpr encoder, 4 mm shaft	Acroname	R179-6V-ENC-MOTOR	\$119.00
H-bridge	3A, low voltage	Acroname	S17-3A-LV-HBRIDGE	\$72.00
ADC0831	8-bit serial A/D converter	Jameco	116100	\$1.95
microprocessor crystal	4MHz, 20 pF	Jameco	14592	\$0.59
potentiometer	1/2 W, single turn, 10k, 1/4 " shaft	Jameco	29081	\$0.99
knob	1/4 " shaft, sliver position indicator	Jameco	162481	\$1.19
push-button switch	SPST on/off switch for turning speed control on/off	Jameco	164494	\$1.84

minitaure tactile push-button switch	NO DPSTs for position buttons	Jameco	162886	\$0.45
PF35T48L4	unipolar stepper motor, 4-phase, 3.6 degrees/step, 7 V	Jameco	171601	\$4.99
HCTL-2016	quadrature decoder/counter	Newark	06F5500	\$21.75
EDE1144	keypad encoder	E-labs	EDE1144/P	\$7.00
ULN2003A	power IC for stepper motor, 500mA/phase	E-labs	Power IC Kit	\$3.00
EDE1200	unipolar stepper motor IC	E-labs	EDE1200	\$8.30

\*: prices from July, 2004