

Item	Qty	References	Value	Manufacturer	Manufacturer P/N	Vendor	Vendor P/N	Vendor Pricing (as of 8/24/02)
1	1	C3	capacitor, ceramic, 0.1uF, 25V, X7R, 10%, SMT 0805	Panasonic	ECJ-2VB1E104K	Digi-Key	PCC1828CT-ND	\$1.24/qty10 (\$0.124 ea), \$8.33/qty100 (\$0.0833 ea)
2	1	R9	resistor, thick film, 1.0 ohm, 1%, 150V, 1/8 W, 200 ppm/C, SMT 0805	Panasonic	ERJ-6RQF1R0V	Digi-Key	P1.0DCT-ND	\$4.26/qty10 (\$0.426 ea), \$15.09/qty50 (\$0.3018 ea)
3	5	R1, R2, R3, R4, R5	resistor, thick film, 1.00M, 1%, 150V, 1/10 W, 100 ppm/C, SMT 0805	Panasonic	ERJ-6ENF1004V	Digi-Key	P1.00MCCT-ND	\$0.91/qty10 (\$0.091 ea), \$2.44/qty50 (\$0.0488 ea)
4	1	R8	resistor, thick film, 100k, 1%, 150V, 1/10 W, 100 ppm/C, SMT 0805	Panasonic	ERJ-6ENF1003V	Digi-Key	P100KCCT-ND	\$0.91/qty10 (\$0.091 ea), \$2.44/qty50 (\$0.0488 ea)
5	2	C1, C2	capacitor, ceramic, 10uF, 6.3V, +80/-20%, Y5V, SMT 0805	Panasonic	ECJ-2FF0J106Z	Digi-Key	PCC2182CT-ND	\$6.60/qty10 (\$0.66 ea) \$47.15/qty100 (\$0.4715 ea)
6	1	R6	resistor, thick film, 115, 1%, 150V, 1/10 W, 100 ppm/C, SMT 0805	Panasonic	ERJ-6ENF1150V	Digi-Key	P115CCT-ND	\$0.91/qty10 (\$0.091 ea), \$2.44/qty50 (\$0.0488 ea)
7	1	R7	resistor, thick film, 30.1k, 1%, 150V, 1/10 W, 100 ppm/C, SMT 0805	Panasonic	ERJ-6ENF3012V	Digi-Key	P30.1KCCT-ND	\$0.91/qty10 (\$0.091 ea), \$2.44/qty50 (\$0.0488 ea)
8	1	Y1	crystal, quartz watch type, 32.768kHz, 20ppm, -10/+60C, CL=12.5pF, ESR=50k, fundamental, cylinder case	FOX Electronics	NC26/0.032768/E/ /D/125/1/ / / / /	Mouser Electronics	559-NC26	(\$0.63 ea) qty 1-9, (\$0.53 ea) qty 10-99
9	1	(for BT1)	battery holder, SMT, 20mm coin cell, nickle plated spring steel, for Polycase FB-20 series enclosures	Polycase	BATT-HDR-FB	Polycase	BATT-HDR-FB	(\$0.24 ea) qty 1-999
10	1	Q1	MOSFET, N-channel, 3A, 20V, R(on)=0.050 ohm @ Vgs = 2.5V, SMT SuperSOT-3	Fairchild Semiconductor	FDN339AN	Mouser Electronics	512-FDN339AN	(\$0.80 ea) qty 1-24, (\$0.59 ea) qty 25-99
11	1	J1	connector, 10-ckt, ZIF, right angle, 0.5mm pitch, for 0.18mm thick FPC/FFC cable, top contact	Hirose Electric	FH12A-10S-0.5SH	Digi-Key	HFK10CT-ND	(\$1.20 ea) qty 1-9, (\$0.93 ea) qty 10-99

12	1	U1	IC, microcontroller, 16-bit, ultra-low power, 1.8-3.6V, ind temp, 2kB + 128B Flash memory, 128B RAM, comparator, MSP430F1111A, 20-pin SMT TSSOP (0.65mm pitch)	Texas Instruments	MSP430F1111AIPW	Digi-Key	296-12634-5-ND	(\$2.86 ea) qty 1-24, (\$2.28 ea) qty 25-99
13	0 ==> n/a	S1, S2, S3, S4, S5	elastomer button contact pads on PCB (copper traces)					0
14	1	D1	LED, IR, 940nm, T-1 (3mm dia), 0.1" lead spacing,	Vishay Telefunken	TSAL4400	Pioneer Standard Electronics	TSAL4400	(\$0.1317 ea)
15	0 ==> DO NOT POPULATE	J2, J3	connector, straight, 2-ckt, 0.1" spacing, 0.025" sq posts	Samtec	TSW-102-xx-x-S			0
16	1	BT1	battery, Li, 3V, coin cell, 20mm dia, 3.2mm thick, 220 mAh, CR2032	Panasonic	CR2032	Digi-Key	P189-ND	(\$0.45 ea) qty 1-9, (\$0.405 ea) qty10-199
17	1	n/a	PCB, unpopulated, IR Remote Board, P/N 1000, rev -, 2 layer, 1.690" x 1.060", SMT both sides			Overnight Protos	1000 rev -	\$219.91/qty20 (\$10.9955 ea)
18	1	n/a	enclosure, ABS plastic, black, snap fit, button insert, button keypad, FB-20 series, 4 button version	Polycase	FB-20 4 button	Polycase	FB-20 4 button	(\$2.30 ea) qty 1-9, (\$2.05 ea) qty 10-49, (\$1.85 ea) qty 50-99, (\$1.69 ea) qty 100+
19	1	n/a	machining hole for LED (D1) in FB-20 plastic enclosure					?
A			schematic file, IR_REMOTE.SCH, MSP430 Based IR Remote Control, rev -, 8/14/02, IVEX WinDraft v3.10					



<b>Vendor Price x Qty (to build 20 units)</b>	<b>IVEX WinDraft Schematic Capture library/part (comments)</b>	<b>IVEX WinBoard PCB Layout library/module (comments)</b>
\$0.12	PROJ_A.CLB/CAP-NONPOL (custom)	IPC782.LIB/C0805 (standard)
\$0.43	PROJ_A.CLB/RES-BOX (custom)	IPC782.LIB/R0805 (standard)
\$0.46	PROJ_A.CLB/RES-BOX (custom)	IPC782.LIB/R0805 (standard)
\$0.09	PROJ_A.CLB/RES-BOX (custom)	IPC782.LIB/R0805 (standard)
\$1.32	PROJ_A.CLB/CAP-NONPOL (custom)	IPC782.LIB/C0805 (standard)
\$0.09	PROJ_A.CLB/RES-BOX (custom)	IPC782.LIB/R0805 (standard)
\$0.09	PROJ_A.CLB/RES-BOX (custom)	IPC782.LIB/R0805 (standard)
\$0.53	DEVICE.CLB/CRYSTAL (standard)	EPDDCS1.LIB/SXTAL-NC15-NC26 (custom)
\$0.24	PROJ_A.CLB/BATTERY1P2P3N (custom)	EPDDCS1.LIB/BATT-HDR-FB (custom)
\$0.80	PROJ_A.CLB/FDN339AN (custom)	EPDDCS1.LIB/SuperSOT-3 (custom)
\$0.93	CONNECT.CLB/CONN12 (standard)	EPDDCS1.LIB/FH12A10S0.5SH (custom)

\$2.86	MSP430.CLB/MSP430F1101IPW (custom)	SOIC.LIB/MO152AC (standard)
\$0.00	DEVICE.CLB/SW_PUSHBUTTON (standard)	EPDDCS1.LIB/CON-PAD220x220 (custom)
\$0.13	PROJ_A.CLB/LED-C1A2 (custom)	EPDDCS1.LIB/T-1SMTLEDC1A2 (custom)
\$0.00	CONNECT.CLB/CONN02 (standard)	EPDDCS1.LIB/2-PIN-0.1CNTR (custom)
\$0.41	battery and battery holder are one item on the schematic	board layout is for the battery holder, ignoring the battery itself
\$11.00		IRREMOTE.BRD ==> IVEX WinBoard v2.25 board file
\$2.05		
?		
Total parts cost for one unit (building 20 at a time) = \$21.54		

