

FINAL BUDGET FOR WIRELESS PACE CLOCK

Function	Item	Source	Vendor	Quantity	Cost Each	COST	
						"P" Only	All Types
Display	Kingbright WP7113SRC/DU Water Clear Red LEDs	P	Digikey	544	\$0.05	\$25.30	\$25.30
	22 guage wire (ft)	E	Sinton Instruments	200	\$0.08	\$0.00	\$15.00
	40" x 15" of Sound Insulation Board	E	The Home Depot	1	\$5.00	\$0.00	\$5.00
	48" x 6" Plywood Strips	E	Bruce Land's Basement	2	\$2.00	\$0.00	\$4.00
	Locking Header Pin Connector Inserts	P	J.B. Saunders	100	\$0.05	\$5.00	\$5.00
	Carpet Tacks (1.75oz package)	P	The Home Depot	1	\$1.30	\$1.30	\$1.30
	Screws, Wire Routing Tacks, Twist Ties	E	Cornell Lab / Home	100	\$0.01	\$0.00	\$1.00
Electronics	Atmel ATmega32A PDIP40 Microcontroller	P	Digikey/Bruce Land	1	\$1.00	\$1.00	\$5.36
	NXP PCF8563P/F4 Clock/Calendar IC	P	Digikey	1	\$2.33	\$2.33	\$2.33
	Roving Networks RN-42 Bluetooth Module	P	Sparkfun	1	\$20.00	\$20.00	\$20.00
	Texas Instruments TLC5940 16-PWM LED Drivers	S	Texas Instruments	4	\$3.50	\$0.00	\$14.00
	Texas Instruments TPS5420D Regulator	S	Texas Instruments	1	\$5.74	\$0.00	\$5.74
	Android Smartphone	E	HTC	2	\$0.00	\$0.00	\$0.00
	HP Power Supply Laptop Brick 18.5v	E	Home	1	\$10.00	\$0.00	\$10.00
Passives	Abrakon AB38T-32.768KHZ 12.5pF 32.768kHz Crystal	P	Digikey	1	\$0.25	\$0.25	\$0.25
	TXC 9B-11.0592MAAJ-B 18pF 11.0592MHz Crystal	P	Digikey	1	\$0.39	\$0.39	\$0.39
	Panasonic ECA-1VM101 100uF 35v Electrolytic Capacitor	P	Digikey	1	\$0.25	\$0.25	\$0.25
	Panasonic ECA-0JM221 220uF 6.3v Electrolytic Capacitor	P	Digikey	1	\$0.20	\$0.20	\$0.20
	Comchip SB340E-G Schottky Diode	P	Digikey	2	\$0.49	\$0.98	\$0.98
	Murata 18R333C 33uH 500kHz 2A Inductor	P	Digikey	1	\$1.43	\$1.43	\$1.43
	High Precision Resistors 2.2kohm	E	Futurlec	4	\$0.20	\$0.00	\$0.80
	Various 1/4W Resistors and Standard Capacitors	E	Cornell Lab / Futurlec	10	\$0.03	\$0.00	\$0.30
PCBs	Copper FR4 Boards (sq. in.)	P	Parts Express (Amazon)	162	\$0.06	\$9.27	\$9.27
	3M 4840-6000-CP 40DIP 0.6" Socket for ATmega32A	P	Digikey	1	\$0.39	\$0.39	\$0.39
	3M 4828-3004-CP 28DIP 0.3" Sockets for TLC5940	P	Digikey	4	\$0.29	\$1.14	\$1.14
	3M 4808-3004-CP 8DIP 0.3" Socket for PCF8563	P	Digikey	1	\$0.18	\$0.18	\$0.18
	HP DC Jack for Power Supply	E	Home	1	\$10.00	\$0.00	\$10.00
	Header Pins	E	Futurlec	100	\$0.05	\$0.00	\$4.75
Future Work	48" x 18" x 1/8" 2423 or 2064 Plexiglass Panel	P	eStreetPlastics	1	\$20.29		\$20.29
	Hardwood, Aluminum, or Steel Enclosure	P	Local Hardware Store	1	\$25.00		\$25.00
	Monolithic PCB 7-seg Digits (8" x 10" PCB board)	P	Parts Express (Amazon)	4	\$6.21		\$24.84
	Modular Connectors for the Display	P	J.B. Saunders	8	\$0.50		\$4.00
	Mounting Hardware / Standoffs	P	J.B. Saunders	10	\$0.50		\$5.00

S Sampled
P Purchased
E Existing

CLASS TOTAL	\$69.41	
COST TO RECREATE		\$144.36
LOW VOLUME PRODUCTION		\$223.49