ref	QTY	DESCRIPTION	value	PACKAGE	Manufacturer	Mfr. P/N	Vendor	Vendor P/N	RATE	MOUNT
								TOTAL		**32.26**
BT1	1	HOLDER BATTERY COIN 20MM DIA THM	BATT_RTC	Coin, 20.0mm	Keystone Electronics	3003	Digikey	3003K-ND	0.59	0.59
--	1	BATTERY LITHIUM COIN 3V 20MM	Coin Battery	CR2032	Panasonic - BSG	CR2032	Digikey	P189-ND	0.28	0.28
C1 C7 C9 C21 C22 C23	6	CAP CER 0.1UF 25V 10% X7R 0805	0.1µF	0805 (2012 Metric)	Kemet	C0805C104K3RACTU	DigiKey	399-1168-1-ND	0.10	0.60
C2 C5	2	CAP CER 1UF 16V 10% X7R 0805	1.0µF	0805 (2012 Metric)	Samsung Electro-Mechanics America, Inc	CL21B105KOFNNNE	DigiKey	1276-1026-1-ND	0.10	0.20
C3	1	CAP CER 0.22UF 50V 10% X7R 0805	220nF	0805 (2012 Metric)	Samsung Electro-Mechanics America, Inc	CL21B224KBFSFNE	DigiKey	1276-2948-1-ND	0.10	0.10
C10 C11	2	CAP CER 22PF 630V 10% X7R 0805	22pF	0805 (2012 Metric)	Kemet	C0805C220KBRACTU	DigiKey	399-5568-2-ND	0.08	0.17
C24 C25 C26	3	CAP CER 22UF 16V 20% X7R 1210	22uF	1210 (3225 Metric)	TDK Corporation	C3225X7R1C226M250AC	DigiKey	445-3955-1-ND	0.84	2.52
D1	1	LED, indicator, BLINK	LED	2-SMD, J-Lead	OSRAM Opto Semiconductors Inc	LG M67K-H1J2-24-Z	DigiKey	475-2730-1-ND	0.22	0.22
Q1	1	TRANSISTOR GP NPN AMP SOT-23	MMBT2222	SOT-23-3	Fairchild Semiconductor	MMBT2222A	DigiKey	MMBT2222AFSCT-ND	0.18	0.18
R1 R2 R7 R9 R11 R12 R13 R14 R15	9	RES 10K OHM 1/8W 5% 0805	10k	0805 (2012 Metric)	Stackpole Electronics Inc	RMCF0805JT10K0	DigiKey	RMCF0805JT10K0CT-ND	0.03	0.27
R3	1	RES 100 OHM 1/8W 5% 0805	100E	0805 (2012 Metric)	Stackpole Electronics Inc	RMCF0805JT100R	DigiKey	RMCF0805JT100RCT-ND	0.03	0.03
R5 R16	2	RES 1.5K OHM 1/8W 5% 0805	1k5	0805 (2012 Metric)	Stackpole Electronics Inc	RMCF0805JT1K50	DigiKey	RMCF0805JT1K50CT-ND	0.03	0.06
SD1	1	Micro SD Card Socket	SD_CARD_MICRO		?	?	seeed	ST-SD-006A		0.00
SP1	1	BUZZER PIEZO 4KHZ 12.2MM PC MNT	Speaker	Circular - 12.20mm Dia x 6.50mm H	TDK Corporation	PS1240P02BT	DigiKey	445-2525-1-ND	0.73	0.73
SW1 SW2 SW3 SW4 SW5 SW6	6	SWITCH TACTILE SPST-NO 0.05A 12V	SW_RST SW_UP SW_DN SW_OK SW_LT SW_RT	6.00mm x 6.00mm	TE Connectivity	1825910-7	DigiKey	450-1804-ND	0.10	0.60
U1	1	IC REG LDO 3.3V 0.25A	LDO 3V3	SOT23-3	Microchip Technology	MCP1700T-3302E/TT	DigiKey	MCP1700T3302ETTCT-ND	0.44	0.44
(or U1_Alt1)				(or SOT-89-3)		(or MCP1700T-3302E/MB)		(or MCP1700T3302EMBCT-ND)		
U2	1	IC VOLT-LEVEL TRANSLATOR 14-SOIC	TXB0104D	14-SOIC (0.154", 3.90mm Width)	Texas Instruments	TXB0104DR	DigiKey	296-21928-1-ND	1.69	1.69

ref	QTY	DESCRIPTION	value	PACKAGE	Manufacturer	Mfr. P/N	Vendor	Vendor P/N	RATE	MOUNT
U4	1	IC RTC W/TCXO 16-SOIC	DS3231N	16-SOIC (0.295", 7.50mm Width)	Maxim Integrated Products	DS3231S#	DigiKey	DS3231S#-ND	8.82	8.82
U7	1	IC MCU 8BIT 32KB FLASH 32TQFP	ATMEGA328P	32-TQFP	Atmel	ATMEGA328P-AU	DigiKey	ATMEGA328P-AU-ND	3.12	3.12
X1	1	CRYSTAL 16MHZ 9PF SMD	16MHz	4-SMD, No Lead (DFN, LCC)	EPSON	TSX-3225 16.0000MF09Z-AC3	DigiKey	SER3628CT-ND	0.63	0.63
DO NOT POPULATE										
J1	1	CONN HEADER .100" DUAL STR 6POS	ISP	Dual row, 0.1"	Sullins Connector Solutions	PREC003DAAN-RC	DigiKey	S2012EC-03-ND	0.25	0.25
J2 J4 J6 J10 J11 J12 J13 J14 J15 J16 J17 J18	1	CONN HEADER .100" SNGL STR 40POS	PWR_1 SER_1 PAR_1 PAR_2 PAR_3 SER_2 PWR_2 STACK_R EqIn_EXT FTDI SW_EXT STACK_L	Single row, 0.1"	Sullins Connector Solutions	PREC040SAAN-RC	DigiKey	S1012EC-40-ND	0.51	0.51
J8	1	TERM BLOCK 5.08MM VERT 2POS PCB	5V_EXT	Through Hole, 0.2"	On Shore Technology Inc	OSTTA024163	DigiKey	ED2580-ND	0.42	0.42
J5	1	CONN JACK STEREO 5POS 3.5MM SMD	JACK_3.5MM_5P IN	3.50mm (0.141", 1/8", Mini Plug) - Headphone	CUI Inc	SJ1-3515-SMT-TR-PI	DigiKey	CP1-3515SJPICT-ND	1.45	1.45
U3	1	IC IR RCVR MOD 38KHZ DOME AXIAL	TSOP382	Side View	Vishay Semiconductor Opto Division	TSOP38238	DigiKey	751-1227-ND	0.91	0.91
U6	1	IC seven band graphic equalizer	MSGEQ7	SO8	MSI	MSGEQ7	Sparkfun	MSGEQ7	4.95	4.95
(or U6_Alt1)				DIP-8						
C14 C18	2	CAP CER 10000PF 50V 5% X7R 0805	10nF	0805 (2012 Metric)	Samsung Electro-Mechanics America, Inc	CL21B103JBANNNC	DigiKey	1276-1245-1-ND	0.11	0.22
C15	1	CAP CER 33PF 16V 5% X7R 0603	33pF	0603 (1608 Metric)	AVX Corporation	0603YC330JAT2A	DigiKey	478-6211-1-ND	0.18	0.18
C16 C17	2	CAP CER 0.1UF 25V 10% X7R 0805	0.1µF	0805 (2012 Metric)	Kemet	C0805C104K3RACTU	DigiKey	399-1168-1-ND	0.10	0.20
R6 R10	2	TRIMMER 25K OHM 0.15W TH	25k	Square - 0.370" L x 0.368" W x 0.213" H (9.40mm x 9.35mm x 5.40mm)	CTS Electrocomponents	262UR253B	DigiKey	262UR253B-ND	0.69	1.38

ref	QTY	DESCRIPTION	value	PACKAGE	Manufacturer	Mfr. P/N	Vendor	Vendor P/N	RATE	MOUNT
R8	1	RES 200K OHM 1/8W 5% 0805	200k	0805 (2012 Metric)	Stackpole Electronics Inc	RMCF0805JT200K	DigiKey	RMCF0805JT200KCT-ND	0.03	0.03
P2 P3	1	CONN HEADER .100" SNGL STR 10POS	SPK<>EQ2 EQ_SH	Single row, 0.1"	Sullins Connector Solutions	PREC040SAAN-RC	DigiKey	S1012EC-40-ND	0.51	0.51
POWER SUPPLY								**TOTAL**		**10.00**
C4	1	CAP CER 10UF 16V 10% X7R 1206	10uF	1206 (3216 Metric)	Samsung Electro-Mechanics America, Inc	CL31B106KOHNNNE	DigiKey	1276-1082-1-ND	0.29	0.29
C6 C13	2	CAP CER 0.1UF 25V 10% X7R 0805	0.1µF	0805 (2012 Metric)	Kemet	C0805C104K3RACTU	DigiKey	399-1168-1-ND	0.10	0.20
C8	1	CAP CER 3300PF 50V 10% X7R 0805	3.3nF X7R	0805 (2012 Metric)	Kemet	C0805C332K5RACTU	DigiKey	399-1153-1-ND	0.10	0.10
C12	1	CAP CER 22UF 16V 20% X7R 1210	22uF	1210 (3225 Metric)	TDK Corporation	C3225X7R1C226M250AC	DigiKey	445-3955-1-ND	0.84	0.84
C19 C20	2	CAP ALUM 100UF 35V 20% SMD	100uF	Radial, Can - SMD	Nichicon	UWT1V101MCL1GS	DigiKey	493-2203-1-ND	0.48	0.96
D2	1	RECT BRIDGE GPP 4A 1000V GBU	Bridge	Through Hole	Micro Commercial Co	GBU4M-BP	DigiKey	GBU4M-BPMS-ND	0.88	0.88
J7 J9	2	TERM BLOCK 5.08MM VERT 2POS PCB	V_IN 5V_EXT	Through Hole, 0.2"	On Shore Technology Inc	OSTTA024163	DigiKey	ED2580-ND	0.42	0.84
L1	1	Power Inductor 2.2 uH 20 % 8 A	2.2uH	4.3 mm W x 4.3 mm L x 2.1 mm H	Coilcraft	XFL4020-222MEB	Mouser	994-XFL4020-222MEB	2.13	2.13
R4	1	RES 100K OHM 1/8W 5% 0805	100k	0805 (2012 Metric)	Stackpole Electronics Inc	RMCF0805JT100K	DigiKey	RMCF0805JT100KCT-ND	0.03	0.03
U5	1	IC REG BUCK SYNC 5V 3A 16QFN	TPS62133	16-VFQFN Exposed Pad	Texas Instruments	TPS62133RGTT	DigiKey	296-30225-1-ND	3.73	3.73