

Schematic	Package	Manufacturer	Description	Part Number	DigiKey Part	Qty	Notes
Resistors							
R1-3	0603 (1608 Metric)	Panasonic - ECG	RES SMD 150 OHM 1% 1/10W 0603	ERJ-3EKF1500V	P150HCT-ND	3	150 ohm resistor
R4	0603 (1608 Metric)	Panasonic - ECG	RES SMD 560 OHM 5% 1/10W 0603	ERJ-3GEYJ561V	P560GCT-ND	1	560 ohm resistor (red LED current limiting)
R5	0603 (1608 Metric)	Panasonic - ECG	RES SMD 1K OHM 5% 1/10W 0603	ERJ-3GEYJ102V	P1.0KGCT-ND	1	1k ohm resistor (blue LED current limiting)
R6	0603 (1608 Metric)	Panasonic - ECG	RES SMD 2.2K OHM 5% 1/10W 0603	ERJ-3GEYJ222V	P2.2KGCT-ND	1	2.2k ohm resistor (servo signal pullup)
R7-11	0603 (1608 Metric)	Panasonic - ECG	RES SMD 10K OHM 5% 1/10W 0603	ERJ-3GEYJ103V	P10KGCT-ND	5	10k ohm resistor, SD card chip select pull-up, amp mute pull-up
R12-13	0603 (1608 Metric)	Panasonic - ECG	RES SMD 20K OHM 1% 1/10W 0603	ERJ-3EKF2002V	P20.0KHCT-ND	2	20k ohm resistors
Capacitors							
C1-2	0603 (1608 Metric)	Murata	0.1µF ±10% X7R 50V Ceramic Capacitor	GRM188R71H104KA93D	490-1519-1-ND	2	0.1µF speaker output caps
C3	0603 (1608 Metric)	Murata	0.47µF ±10% 16V X7R Ceramic Capacitor	GRM188R71C474KA88D	490-3295-1-ND	1	0.47µF audio input cap
C4-5	0603 (1608 Metric)	Murata	1µF ±10% 16V X5R Ceramic Capacitor	GRM188R61C105KA93D	490-1536-1-ND	2	1µF bypass caps
C6	0603 (1608 Metric)	Murata	2.2µF ±10% 16V X5R Ceramic Capacitor	GRM188R61C225KE15D	490-3296-1-ND	1	2.2µF bias cap
C7-8	0805 (2012 Metric)	Taiyo Yuden	CAP CER 100UF 25V X5R 0805	TMK212BBJ106KG-T	587-2985-1-ND	2	100µF input/output caps for voltage regulator
C9	0805 (2012 Metric)	Taiyo Yuden	47µF ±20% 6.3V X5R Ceramic Capacitor	JMK212BJ476MG-T	587-1779-1-ND	1	47µF additional for 5v supply
C10	Dia 6.3mm, 2.5mm spacing	Nichicon	CAP ALUM 220UF 20% 25V RADIAL	UVY1E221MED	UVY1E221MED-ND	1	220µF supply cap
Diodes							
D1	0805 (2012 Metric)	Lite-On, Inc	LED RED CLEAR 0805 SMD	LTST-C170CKT	160-1178-1-ND	1	Red, 1.8 Iv, 10mA, 10mcd. Green dots represent anode (face away from bar).
D2	0805 (2012 Metric)	Kingbright	Blue 470nm LED Indication - Discrete 2.65V 0805 (2012 Metric)	APT2012LVC/D	754-1938-1-ND	1	Blue, 2.65 Iv, 2mA, 24mcd. Green dots represent cathode (face towards bar).
D3	SOD-123W	Nexperia	DIODE SCHOTTKY 40V 3A SOD123W	PMEG40T30ERX	1727-7481-1-ND	1	Reverse polarity schottky, 40V 3A
MOSFETs							
Q1-4	SOT-23-3	Diodes, Inc	MOSFET N-CH 20V 3.4A SOT23-3	ZXMN2F34FHTA	ZXMN2F34FHCT-ND	4	MOSFET for outputs
Voltage Regulator							
LDO	TO-261-4/SOT-223	ON Semi	IC REG LDO 5V 1A SOT223	NCP1117ST50T3G	NCP1117ST50T3GOSCT-ND	1	5V regulator.
Connectors							
JP1-2	Connector	JST	3 Positions Header, Shrouded Connector 0.079" (2.00mm) Surfa	S3B-PH-SM4-TB(LF)(SN)	455-1750-1-ND	2	JST PH surface mount side entry for serial from TCB (3-pos)
JP3-5	Connector	JST	CONN HEADER XH TOP 2POS 2.5MM	B2B-XH-A(LF)(SN)	455-2247-ND	3	2 position header, voltage out passthrough to TCB (2), plus speaker
JP6	Connector	JST	3 Positions Header, Shrouded Connector 0.098" (2.50mm) Thro	B3B-XH-A(LF)(SN)	455-2248-ND	1	3 position header for volume control pot
JP7-11	Header	Banggood	2.54mm 3x40P Male Pins Three Row Right Angle Pin Header		972983	0.125	3x2 right angle RC connectors. DigiKey doesn't have - buy from Banggood or HobbyKing.
JP12	Header	Sullins Connector	CONN HEADER .100" SNGL STR 20POS	PRPC020SAAN-RC	S1011EC-20-ND	0.15	20 position header - break apart for JP12 (servo output)
JP13-15	Header	JST	CONN HEADER PH TOP 2POS 2MM	B2B-PH-K-S(LF)(SN)	455-1704-ND	3	Top entry through hole 2 position for light outputs
JP16-17	Socket	Sullins Connector	14 Position Header Connector 0.100" (2.54mm)	PPTC141LFBN-RC	S7012-ND	2	14 position female socket - for Teensy sides
JP18	Socket	Sullins Connector	5 Position Header Connector 0.100" (2.54mm)	PPTC051LFBN-RC	S6103-ND	1	5 position female socket - for Teensy back
Micro SD							
SD	MicroSD	Amphenol	CONN MICRO SD CARD PUSH-PUSH R/A	473340001	WM3288CT-ND	1	Adafruit footprint MICROSD
IC							
U1	24-TQFN	Maxim	IC AMP AUDIO 10W MONO D 24TQFN	MAX9768BETG+T	MAX9768BETG+TCT-ND	1	Class D, 10w @ 8ohm mono, speaker 4.5-14v, supply 3.3v
U2		PJRC	Teensy USB Development Board	TEENSY32		1	Teensy 3.2 from PJRC.com