

Leach Amp PCB BOM		http://users.ece.gatech.edu/~mleach/lowtim/		Quantity		Source	Part Number	Each	Total
Designation	Description	Single PCB	Total						
PCBs									
PCB	2 Layer 5"x5" board	1	2	ExpressPCB	Custom			\$56.00	\$112.00
Capacitors									
C1	390 pF, 50v +-2%	1	2	Partscconn	STYRENE-73998			\$0.60	\$1.20
C2,C3,C15,C16,C23,C24	0.1 uF 100V, metal film, .20" hole	6	12	AVNet	ECQ-V1104JM			\$0.13	\$1.60
C4,C5,C13,C14,C21,C22	100 uF 63V, radial elect, .20" hole	6	12	Welborne	NICH7			\$0.36	\$4.32
C6	220 uF 16V, bipolar, .20" hole	1	2	Mouser	647-UVP1C221MPD			\$0.52	\$1.03
C7,C12,C17,C18	0.1 uF, 50v +-5% Poly Prop	4	8	Mouser	667-ECQ-V1H104JL3			\$0.13	\$1.05
C8	180 pF, 50v +-2%	1	2	Mouser	598-CD15FD181FO3			\$2.02	\$4.04
C9	47 pF mica	1	2	Mouser	5982-15-500V47G			\$1.59	\$3.18
C10,C11	10pf, 50v Dipped Mica	2	4	Mouser	598-CD17CD100JO3			\$1.35	\$5.40
C19,C20	0.01 uF 100V, metal. film, .20" hole	2	4	Mouser	505-MKP20.01/100/5			\$0.47	\$1.88
CP3	0.1 uF 250Vdc, metal film	1	2	AVNet	ECQ-E2104KB			\$0.15	\$0.30
Diodes									
D1,D2,D3,D4,D11,D12	1N4004 Diode	6	12	AVNet	1N4004			\$0.05	\$0.60
D5,D6,D7,D8,D9,D10	1N4148 Diode - Fernell	6	12	AVNet	1N4148			\$0.02	\$0.27
D13,D14,D15,D16	1N5250B - 20V Zener Diode	4	8	AVNet	1N5250B			\$0.04	\$0.32
Resistors									
P1	2k POT, 3/8" square, single turn, top adjust, laydown	1	2	AVNet	3386P-1-202LF			\$1.11	\$2.22
R1	20k, 1/4W .5% low noise - metal film *	1	2	Mouser	660-MF1/4CLT52R2002D			\$0.32	\$0.64
R2	2k, 1/4W .5% low noise - metal film *	1	2	Mouser	660-MF1/4CCT52R2001D			\$0.18	\$0.36
R3,R4,R5,R6,R7,R8,R9,R10	300, 1/4W 1% low noise - metal film *	8	16	Mouser	660-MF1/4DC3000F			\$0.06	\$0.96
R11,R12,R27	1.2k, 1/4W	3	6	Mouser	660-MF1/4DCT52R1201F			\$0.06	\$0.36
R13,R14	2.2K, 1/2W	2	4	Mouser	660-MF1/2DC2201F			\$0.16	\$0.64
R15,R16	12k, 1/4W 1%	2	4	Mouser	660-MF1/4DC1202F			\$0.06	\$0.24
R17,R18	11k, 1/4W 1% low noise - metal film	2	4	Mouser	660-MF1/4DC1102F			\$0.06	\$0.24
R19	1.1k, 1/4W 1% low noise - metal film	1	2	Mouser	660-MF1/4DC1101F			\$0.06	\$0.12
R20	22k, 1/4W 1% low noise - metal film	1	2	Mouser	660-MF1/4DC2202F			\$0.06	\$0.12
R21,R22	30, 1/4W 1%	2	4	Mouser	660-MF1/4DC30R0F			\$0.06	\$0.24
R23,R24	360, 1/4W 1%	2	4	Mouser	603-MFR-25FTE52-360R			\$0.12	\$0.48

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Resistors (Continued)									
R25,R26	1k, 1/4W	2	4	Mouser	660-MF1/4DCT52A1001F		\$0.06	\$0.24	
R28,R29	270, 1/4W 1%	2	4	Mouser	660-MF1/4DC2700F		\$0.06	\$0.24	
R30,R31	3.9k, 1/2W 5%	2	4	Mouser	660-MF1/2CC3921F		\$0.18	\$0.72	
R34,R35	330, 1/4W 1%	2	4	Mouser	660-MF1/4DC3300F		\$0.06	\$0.24	
R36	220, 1/2W	1	2	Mouser	660-MF1/2CC2210F		\$0.18	\$0.36	
R32,R33,R51	82, 1/4W	3	6	Mouser	660-MF1/4DC82R0F		\$0.06	\$0.36	
R37,R38,R39,R40	680, 1/4W	4	8	Mouser	660-MF1/4DC6800F		\$0.06	\$0.48	
R41,R42,R43,R44	10, 1/2W 1%	4	8	Mouser	660-MF1/2DC10R0F		\$0.16	\$1.28	
R45,R46,R47,R48	0.33 ohm, 5W, wire wound	4	8	Mouser	588-TWW5JR33E		\$0.38	\$3.04	
R49	10, 2W, carbon or oxide film	1	2	Mouser	279-CFR200J10R		\$0.20	\$0.40	
Transistors									
Q1, Q2, Q5, Q7, Q9, Q10	MPS 8099 - Motorola NPN TO226AA=TO92	6	12	Mouser	863-MPSA06G		\$0.21	\$2.56	
Q3, Q4, Q6, Q8, Q11	MPS 8599 - Motorola PNP TO226AA=TO92	5	10	Mouser	863-MPSA56G		\$0.23	\$2.25	
Q13, Q14	2N3439 NPN - Motorola TO5	2	4	Mouser	511-2N3439		\$1.48	\$5.92	
Q12, Q15	2N5416 PNP - Motorola TO5	2	4	Mouser	511-2N5416		\$1.80	\$7.20	
Q16	MJE15030 NPN - Motorola TO220AB	1	2	Mouser	863-MJE15030G		\$1.27	\$2.54	
Q17	MJE15031 PNP - Motorola TO220AB	1	2	Mouser	863-MJE15031G		\$1.13	\$2.26	
Heat Sinks									
Heat Sink for Q16 & Q17	Heat sink for TO220AB	2	4	Jameco	1115643		\$0.35	\$1.40	
Power Transistors									
Q18,Q20	MJL3281A NPN - ON TO264-3	2	4	Mouser	863-MJL3281AG		\$3.70	\$14.80	
Q19,Q21	MJL1302A PNP - ON TO264-3	2	4	Mouser	863-MJL1302AG		\$3.70	\$14.80	

Estimated Total

\$204.89