

O2 HEADPHONE AMPLIFIER UPGRADE BOARD BOM, agdr, sergey888, 2013

NOTE: BOM IS 4 PAGES LONG - SCROLL DOWN

BASIC BUILD WITH OUTPUT AMPLIFIER UPGRADES

part		mfgr	mfgr number	Mouser	each	tvl	
250mA audio current buffer, TO263 SMD,	2	IC2, IC4	TI	LME49600TS/NOPB	926-LME49600TS/NOPB	\$5.18	\$10.36
FET input, low distortion, DC precision, low quiescent current, op amp SOIC-8 SMD	2	IC1, IC3	TI	OPA140AID	595-OPA140AID	\$4.93	\$9.86
47uF 35V 10% solid tantalum 2917 0.2R	2	C1, C2	Kemet	T495X476K035ATE200	80-T495X476K035AT	\$2.67	\$5.34
10uF 50V 10% X7R MLCC 1210 SMD	4	C8, C9, C14, C15	AVX	UMK325AB7106KM-T	963-UMK325AB7106KM-T	\$0.93	\$3.72
2.2uF 50V 10% X7R MLCC 1206 SMD	4	C4, C5, C10, C11	murata	GRM31CR71H225KA88L	81-GRM31CR71H225KA88	\$0.32	\$1.28
33pF 50V 1% COG MLCC 1206 SMD	4	C6, C7, C12, C13	AVX	12065A330FAT2A	581-12065A330F	\$0.60	\$2.40
3.3K 0.1% 1/4W 25 PPM/K 1206 SMD thin film	2	R5, R7	vishay	TNPW12063K30BEEN	71-TNPW12063K30BEEN	\$0.85	\$1.70
1.0K 0.1% 1/4W 25 PPM/K 1206 SMD thin film	2	R6, R8	vishay	TNPW12061K00BEEA	71-TNPW12061K00BEEA	\$0.55	\$1.10
PC board 4 layer, in QTY 5, each	1		Seeed	Fusion 4 layer 1.6mm 50mmx100mm			\$0.00
DIP headers, 24 pin, snappable	1	JP1, JP2	FCI	68024-412HLF	649-68024-412HLF	\$0.55	\$0.55
GRAND TOTAL							\$36.31

OPTIONAL ADDITIONAL POWER RAIL LEDS, POWER MANAGEMENT LATCH CIRCUIT, & 1/4 NEUTRIK JACK

part		mfgr	mfgr number	mouser	each	tvl	
4.99K 0.1% 1/4W 25 PPM/K 1206 SMD thin film	2	R3, R4	vishay	TNPW12064K99BEEA	71-TNPW12064K99BEEA	\$0.55	\$1.10
green LEDs, 1204 SMD, right angle	2	LED1, LED2	avago	HSMG-C110	630-HSMG-C110	\$0.27	\$0.54
1/4" slimline neutrik PC jack	1	J1	neutrik	NRJ3HF-1	568-NRJ3HF-1	\$0.55	\$0.55
OR 1% 1/4W 100 PPM/K 1206 SMD thick film (zero ohm jumper)	2	R1, R2	vishay	CRCW12060000Z0EB	71-CRCW12060000Z0EB	\$0.10	\$0.20
4.7meg 1% 1/4W 100 PPM/K 1206 SMD thick film	1	R9	vishay	CRCW12064M70FKEA	71-CRCW1206-4.7M-E3	\$0.10	\$0.10
2.2uF 50V 10% X7R MLCC 1206 SMD, same as C4 above	1	C16	murata	GRM31CR71H225KA88L	81-GRM31CR71H225KA88	\$0.32	\$0.32
2N7002 n-channel mosfets, SOT23	2	Q1, Q2	ON semi	2N7002LT1G	863-2N7002LT1G	\$0.15	\$0.30
OPTIONS TOTAL							\$3.11

OPTIONAL ALTERNATIVE (TO OPA140) OP AMPS, SINGLE PER PACKAGE, FOR OP AMP ROLLING

part		mfgr	mfgr number	mouser	each	tvl	
FET input, ultra low distortion, low noise, DC precision, op amp SOIC-8 SMD	2	IC1, IC3	TI	OPA827AID	595-OPA827AID	\$8.91	\$17.82
FET input, ultra low distortion, low noise, ultra DC precision, op amp SOIC-8 SMD	2	IC1, IC3	TI	OPA627AU	595-OPA627AU	\$25.63	\$51.26
FET input, low distortion, low noise, op amp SOIC-8 SMD	2	IC1, IC3	TI	OPA1641AID	595-OPA1641AID	\$2.98	\$5.96
Bipolar input, low distortion, low noise, op amp SOIC-8 SMD	2	IC1, IC3	TI	LME49710MA/NOPB	926-LME49710MA/NOPB	\$1.75	\$3.50
Bipolar input, ultra low distortion, ultra low noise, op amp SOIC-8 SMD	2	IC1, IC3	TI	LME49990MA/NOPB	926-LME49990MA/NOPB	\$2.59	\$5.18

OPTIONAL +/-15Vdc O2 AMPLIFIER POWER RAIL UPGRADE

part		O2 part	mfgr	mfgr number	mouser	each	ttl
Voltage regulator, 15Vdc fixed, 1.0A	1	U5	ON Semi	MC7815ACTG	863-MC7815ACTG	\$0.58	\$0.58
Voltage regulator, -15Vdc fixed, 1.0A	1	U6	ON Semi	MC7915ACTG	863-MC7915ACTG	\$0.58	\$0.58
1.0uF 50V X7R MLCC 5mm L.S. capacitor, 10%	1	C1	TDK	FK24X7R1H105K	810-FK24X7R1H105K	\$0.40	\$0.40
620R, 1W, 5% metal oxide resistor	2	R1, R2	KOA	MOS1CT52R621J	660-MOS1CT52R621J	\$0.09	\$0.18
p-channel mosfet, 60V, 30V gate	1	Q1	Fairchild	FQU11P06TU	512-FQU11P06TU	\$0.76	\$0.76
n-channel mosfet, 200V, 30V gate	1	Q2	Fairchild	FQPF10N20C	512-FQPF10N20C	\$0.88	\$0.88