

# Bill Of Material for D1V33 OK

Date: 15-May-09 Spencerhk

Item	Qty	Reference	Part Name	Manufacturer	Description	Price	Total
1	4	Q23-24 Q29-30	2AS970,BL	TOSHIBA	PNP LOW NOISE TRANSISTOR		Provided
2	4	Q21-22 Q27-28	2SC2240,BL	TOSHIBA	LOW NOISE NPN SILICON TRANSISTOR		Provided
3	4	Q2-Q7 Q12-Q17	2SJ74	TOSHIBA	P-CHANNEL,LOW NOISE JFET	not use	
4	4	Q50	2SJ148	Toshiba	MOSFET P CHAN TO-92	not use	
5	20	Q1 Q4-6 Q9-11 Q14-16 Q19-20 Q41-48	2SK170; BL	Toshiba	N-CHANNEL, LOW NOISE JFET		Provided
6	8	Q3, Q8, Q13, Q18 & Q37 Q38 Q39 Q40	2SK369; BL	Toshiba	N-CHANNEL, LOW NOISE JFET		Provided
7	4	Q25-26 Q31-32	2SK246; GR	Toshiba	N-CHANNEL, LOW NOISE JFET		Provided
8	4	Q49	2SK982	Toshiba	MOSFET N CHANN TO-92	not use	
9	2	T1-2	51698-LF3	MIDCOM	MIDCOM 51698-LF3 SPDIF PULSE TRANSFORMER		Provided
10	3	U4 U11 U17	74HC86	Hitachi	QUADRUPLE 2-INPUT EXCLUSIVE-OR GATE		Provided
11	46	D1-8 D37-44	Optional	On Semi	Fred Diode	not use	
12	16	D21-27 D29 D11-18	BYV27-150	PHILIPS	SOFT SCHOXY DIODE 150V 2A		Provided
13	4	C4-C15 C25 C36	10u 100V or above	Rifa or Wima	Film capacitor MKP	not use	
14	4	C10 C20 C31 C41	100u 25V	Panasonic FM	ALUMINUM ELECTROLYTIC CAP.		Provided
15	21	C82 C104 C106 C132 C134 C153 C155 C181 C183 C196 C199 C202 C209-210 C222 C230 C233 C235 C239 C241 C243	100u 10V	Panasonic FC	ALUMINUM ELECTROLYTIC CAP.		Provided
16	8	C177 C124 C140 C189 C149	100u 10V	Panasonic FC	ALUMINUM ELECTROLYTIC CAP.		Provided
17	4	C128 C100 C173	120u 50V	Panasonic FC	ALUMINUM ELECTROLYTIC CAP.		Provided
18	1	C205	220u 35V	Panasonic FC	ALUMINUM ELECTROLYTIC CAP.		Provided
19	20	C6 C17 C27 C38 C49-50 C67-68 C102 C120 C122 C130 C136 C138 C151 C169 C171 C179 C185 C187	12u 35V	Panasonic FC	ALUMINUM ELECTROLYTIC CAP.		Provided
20	4	C24 C35 C223 C229	2200u 16V	Panasonic FC	ALUMINUM ELECTROLYTIC CAP.		Provided
21	4	C84-85 C88-89	220u 25V	Muse BP	ALUMINUM ELECTROLYTIC CAP.	not provide	
22	4	C45-46 C63-64	470u 25V	Panasonic FA	ALUMINUM ELECTROLYTIC CAP.		Provided
23	4	C110 C158-159 C109	470u 25V	Panasonic FA	ALUMINUM ELECTROLYTIC CAP.		Provided
24	4	C115-116 C164-165	470u 25V	Panasonic FA	ALUMINUM ELECTROLYTIC CAP.		Provided
25	2	C83 C86	5600u 35V	Panasonic Audio	ALUMINUM ELECTROLYTIC CAP.		Provided
26	4	C59-60 C77-78	560u 35V	Panasonic FC	ALUMINUM ELECTROLYTIC CAP.		Provided
27	5	C3 C14 C87 C90 C226	560u 35V	Panasonic FC	ALUMINUM ELECTROLYTIC CAP.		Provided
28	12	C11 C21 C32 C42 C142-145 C191-194	56u 35V	Panasonic FC	ALUMINUM ELECTROLYTIC CAP.		Provided
29	90	C1 C5 C12 C16 C22 C26 C33 C37 C47-48 C51 C53 C55-58 C65-66 C69 C71 C73-76 C79-81 C91-94 C99 C101 C103 C105 C107-108 C111-114 C117-119 C121 C123 C127 C129 C131 C133 C135 C137 C139 C141 C148 C150 C152 C154 C156-157 C160-163 C166-168 C170 C172 C176 C178 C180 C182 C184 C186 C188 C190 C195 C198 C201 C206 C212-213 C218 C221 C224 C232 C234 C238 C242	0.047u 50V 5%	Panasonic ECQ-V	RADIAL FILM CAPACITOR, MKT		Provided
30	16	C8 C19 C29 C40 C97 C98 C125 C126 C146 C147 C174 C175	0.1u, 100V K	Wima	RADIAL FILM CAPACITOR, MKT		Provided
31	4	C95-96 C225 C231	0.1u 160V K	Epcos	RADIAL FILM CAPACITOR, MKP		Provided
32	4	C7 C18 C28 C39	10nf, 50VJ	Nessei	RADIAL FILM CAPACITOR, MKT		Provided
33	2	C9 C30	150p, 5%	CDE	Silver Mica		Provided
34	4	C2 C13 C23 C34	2700pf, 5%	CDE	Silver Mica		Provided
35	1	C197	330pf,K	Murata	Axial FILM CAPACITOR, Ceramic		Provided
36	1	C200	47nf,J	Epcos	RADIAL FILM CAPACITOR, MKT		Provided
37	8	J3-4 J8 J17 J25 J27-29	CON-SIP-2P	China	GENERIC 2 PIN SIP HEADER .100 CENTERS		Provided
38	10	J1 J12-15 J18-19 J23-24 J26	CON-SIP-2P pin strip	China	GENERIC 2 PIN SIP HEADER .100 CENTERS		Provided
39	10	J2 J5-7 J9 J20-22 J30-31	CON-SIP-3P	China	GENERIC 3 PIN SIP HEADER .100 CENTERS		Provided
40	3	J10-11 J16	CON-SIP-2P pin strip	China	GENERIC 3 PIN SIP HEADER .100 CENTERS		Provided
41	1	U15	CS8414	Crystal	Receiver IC 96kHz + Converter board & pins (\$20)	not provide	
42	1	U15 replacement	DIR9001 converter	Ti	Receiver IC 96kHz (\$25)	not provide	
43	5	D20 D31 D45-47	DIODE,1N4148	Semtech	100V 500mA diode		Provided
44	13	H1-13	HEATSINK_SMALL	China	630 x 600 x 1000 mil (L x W x H)		Provided
45	19	L2-20	47uH	China	Radial inductors 100mA type		Provided
46	1	L21	Bead	China	Inductor Bead		Provided
47	3	Q34 Q36 Q52	IRF610	IR	MOSFET N CHANN POWER 200V 1.8A		Provided
48	3	Q33 Q35 Q51	IRF9610	IR	MOSFET P CHAN 200V 1.8A		Provided
49	7	D9-10 D19 D28 D30 D32 D48	LED - Green or Red	China	LIGHT EMITTING DIODE		Provided

Item	Qty	Reference	Part Name	Manufacturer	Description	Price	Total
50	4	D33-36	LM336-5V	Fairchild	PROGRAMMABLE PRECISION REFERENCE		Provided
51	5	U2 U5 U9 U12 U20	LM317T	ST or NS	POSITIVE VOLTAGE REGULATOR; ADJUSTABLE		Provided
52	4	U3 U6 U10 U13	LM337T	ST or NS	NEGATIVE VOLTAGE REGULATOR;ADJUSTABLE		Provided
53	5	U18 U21-24	LT1117-5V	Linear or	Voltage Regulator		Provided
54	4	U1 U7-8 U14	PCM63P	Burr Brown	20bit Digital to Analogy Converter (K - \$28)	not provide	
55	2	R81-82	RES-2W,0.47R	Metal film	Metal film resistor		Provided
56	4	R57 R58 R75 R76	RES-1/4W,10R,	Metal film	Metal film resistor	not provide	
57	29	R6 R15 R26 R36 R77-80 R85-87 R88 R92-94 R96 R99-104 R106-108 R110-111 R115-116	RES-1/4W,100,	Metal film	Metal film resistor	not provide	
58	8	R5 R14 R25 R35 R117 R125 R158-159	RES-1/4W,100K,	Metal film	Metal film resistor	not provide	
59	6	R7 R16 R27 R37 R155-156	RES-1/4W,100k,	Metal film	Metal film resistor	not provide	
60	12	R41-42 R51-54 R59-60 R69-72	RES-1/4W,10k,	Metal film	Metal film resistor	not provide	
61	4	R141-144	RES-1/4W,10k,	Metal film	Metal film resistor	not use	
62	1	R120	RES-1/4W,120R,	Metal film	Metal film resistor	not provide	
63	6	R91 R121 R123 R128 R157 R160	RES-1/4W,150,	Metal film	Metal film resistor	not provide	
64	4	R47-48 R65-66	RES-1/4W,15k,	metal film	Metal film resistor	not provide	
65	5	R55-56 R73-74 R114	RES-1/4W,1k,	Metal film	Metal film resistor	not provide	
66	4	R4 R13 R24 R34	RES-1/2W,1k5,	RMA 1/2W	Carbon resistor or metal film (1/4W)	not provide	
67	1	R153	RES-1/4W,2.7k,	Metal film	Metal film resistor	not provide	
68	4	R3 R12 R23 R33	RES-1/4W,10R,	Metal film	Metal film resistor	not provide	
69	4	R19 R30 R20 R40	RES-1/2W,22 to 47R	RMA 1/2W	Carbon resistor or metal film (1/4W)	not provide	
70	2	R89 R124	RES-1/4W,2k2,	Metal film	Metal film resistor	not provide	
71	8	R97-98 R105 R109 R112-113 R126-127	RES-1/4W,300,	Metal film	Metal film resistor	not provide	
72	4	R148-151	RES-1/4W,22R,	Metal film	Metal film resistor	not provide	
73	8	R28-29 R129-130 R133-134 R137-138	RES-1/4W,330k,	Metal film	Metal film resistor	not use	
74	1	R90	RES-3W,470R,	Metal film	Metal film resistor		Provided
75	5	R118-119 R146-147 R161	RES-1/4W,4R7,	Metal film	Metal film resistor	not provide	
76	6	R49-50 R67-68 R83-84	RES-1/4W,4k7,	Metal film	Metal film resistor	not provide	
77	5	R45-46 R63-64 R154	RES-1/4W,5k1,	Metal film	Metal film resistor	not provide	
78	1	R145	RES-1/4W,680R,	Metal film	Metal film resistor	not provide	
79	4	K1-4	RLY-RY5W-K,	Takamisawa	5V relay 2P2T		Provided
80	1	U16	SM5842AP or APT	NPC	High Performance Digital Filter (AP - \$27, APT - \$33)	not provide	
81	1	U16 Alternate part PMD100 + CBD	PMD100 + CBD	Pacific Audio	PMD100 HDCD decoder (\$30) + converter board kit (\$5)	not provide	
82	4	R1 R10 R21 R31	100R	20 turns type	VARIABLE RESISTOR (TOP ADJUST TYPE)		Provided
83	4	R8-9 R17-18	100k optional	20 turns type	VARIABLE RESISTOR (TOP ADJUST TYPE)	not use	
84	8	R38-39 R131-132 R135-136 R139-140	100k optional	20 turns type	VARIABLE RESISTOR (TOP ADJUST TYPE)	not use	
85	8	R2 R11 R22 R32 R43-44 R61-62	5k	20 turns type	VARIABLE RESISTOR (TOP ADJUST TYPE)		Provided
86	13	J1 J12-15 J18-19 J23-24 J26 J10-11 J16	Jumper 2 pin	Green or Red	Jumper pin to short pin - 2.5mm		Provided
87	6	28 pins IC socket	2.5mm	IC socket	IC socket, round, gold plated		Provided
88	3	14 pins IC socket	2.5mm	IC socket	IC socket, round, gold plated		Provided
89	13	Heatsink kit - screw, spring washer, insulation, plastic washer	TO-220, M3	TO-220, M3	TO-220 insulation and M3 size ROHS solder flash 2mm double size PCB		Provided
90	1	PCB - D1V33	PCB	2mm PCB	ROHS		Provided

**Detail of Jfets:**

Grade	Part	Jfet	Idss	Qty
BL	K170	Q1/Q6/Q11/Q16 & Q43/Q44/Q47/Q48	8 to 10mA match	8
BL	K170	Q5/Q10/Q15/Q20 & Q41/Q42/Q45/Q46	Total >=15mA, match	8
BL	K369	Q3/Q8/Q13/Q18 & Q37/Q38/Q39/Q40	about 10mA or above	8
BL	K170	Q4/Q9/Q14/Q19	9.0mA or above; match	4
GR	K246	Q25/Q26/Q31/Q32	~3mA; GR grade	4
				32

Total	\$165.00
S & H	\$20.00
4% paypal fee	\$7.40
Grand Total	\$192.40
7.75% HKD	\$1,491

Payment must be in HKD\$1491 by paypal  
 Paypal address at [skcheung68@gmail.com](mailto:skcheung68@gmail.com)