

HERTZ

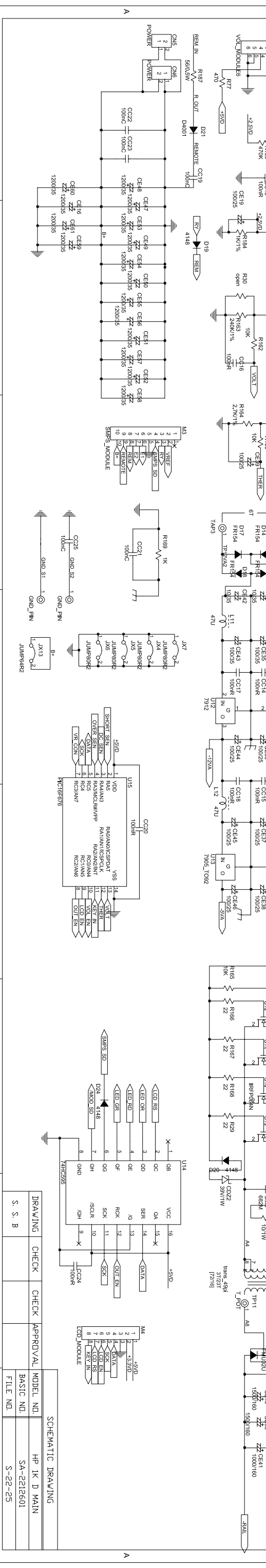
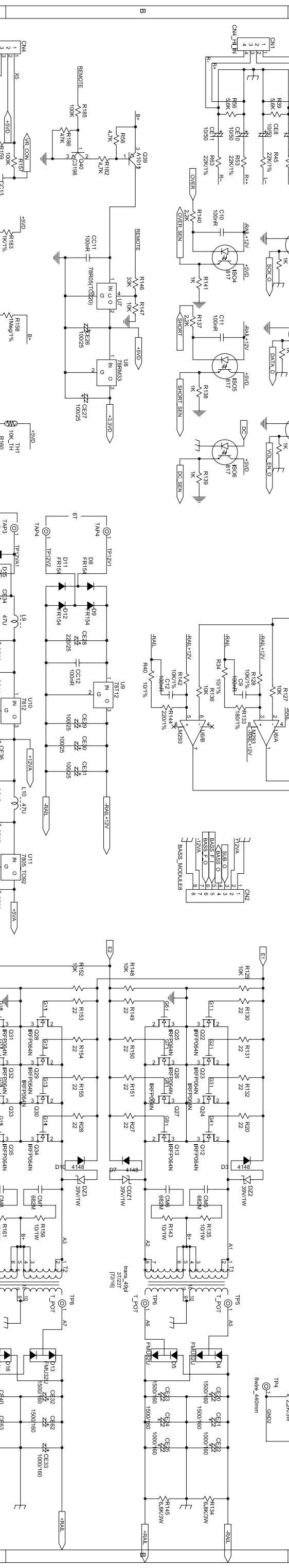
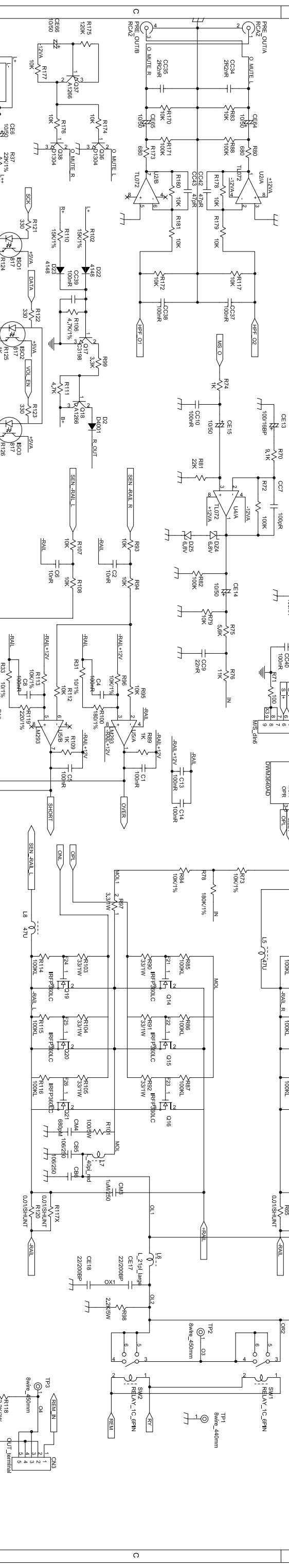
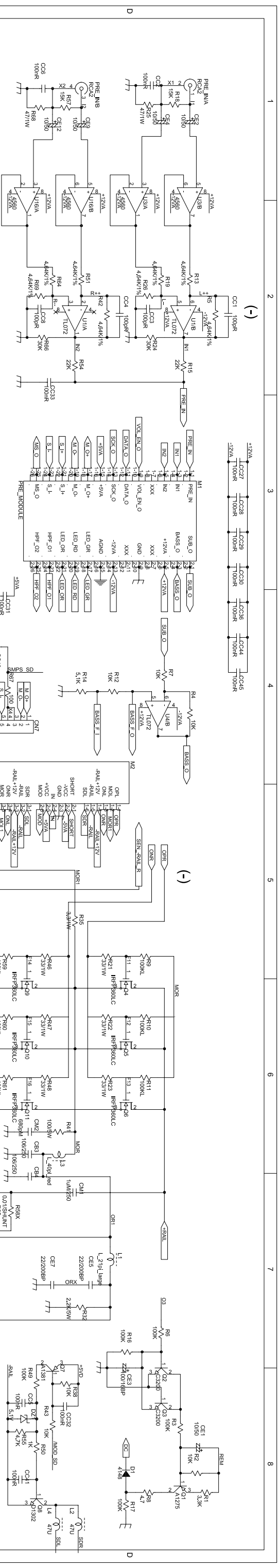
- SERVICE MANUAL -

SERIES: HP

MODEL: HP 1 KD

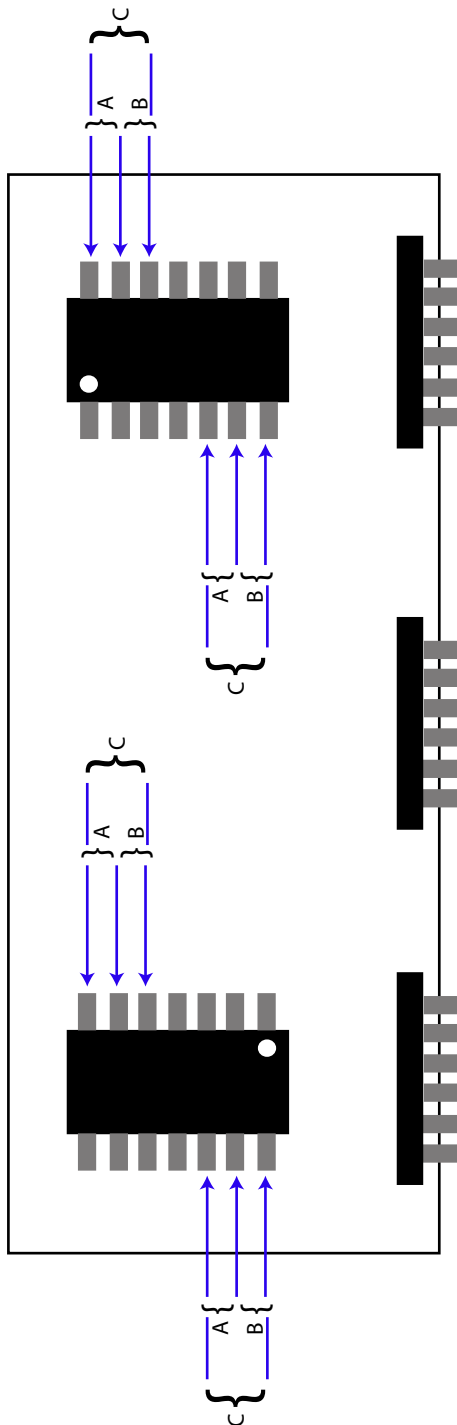
REVISION: A

Issued in January 2008



SCHEMATIC DRAWING			
DRAWING	CHECK	CHECK	APPROVAL
S. S. B			
MODEL NO.	HP IK D MAIN		
BASIC NO.	SA-2212601		
FILE NO.	S-22-25		

M2 MODULE CHECKPOINTS



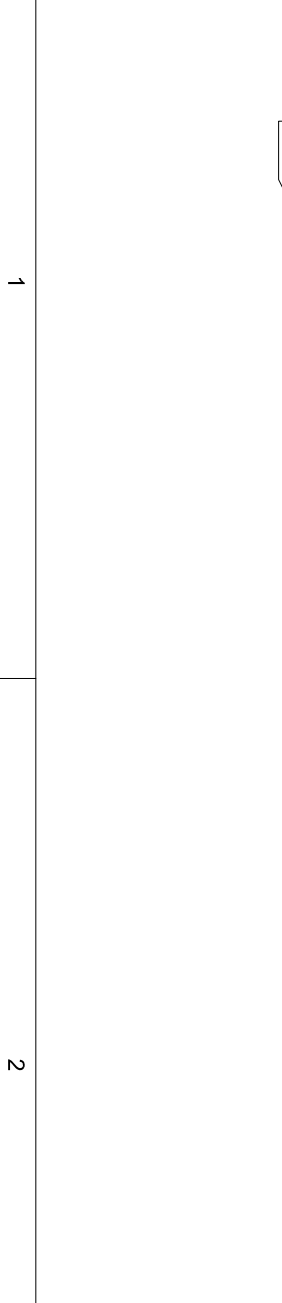
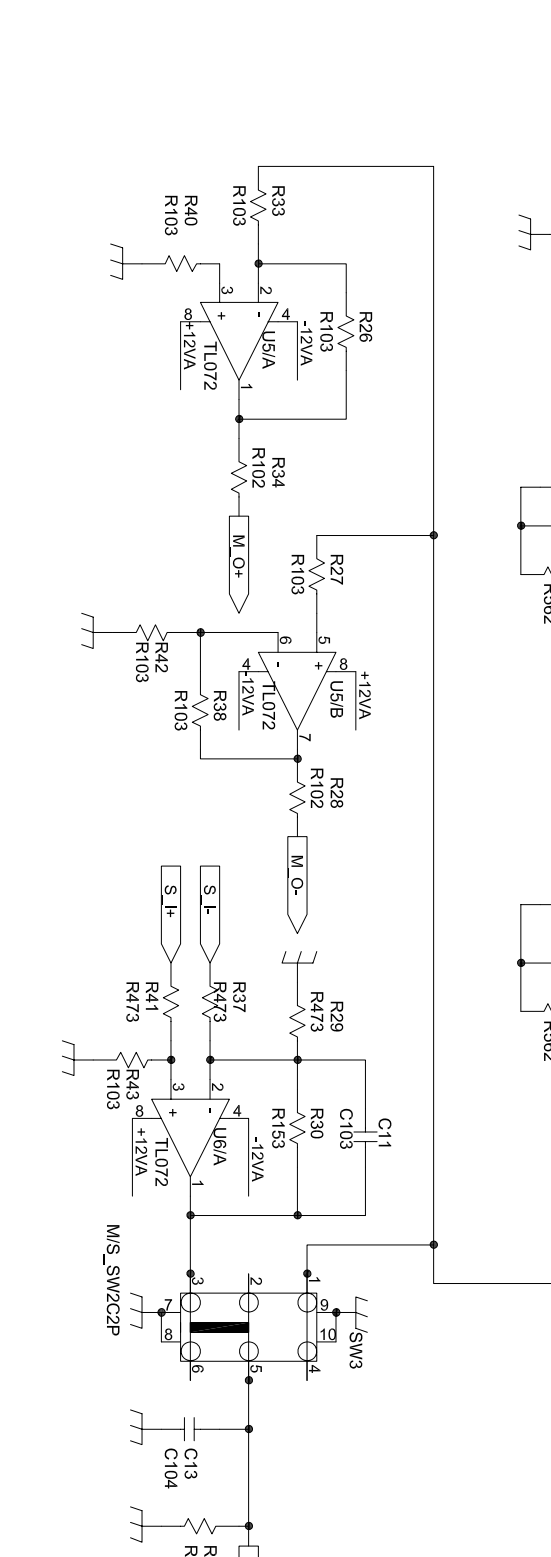
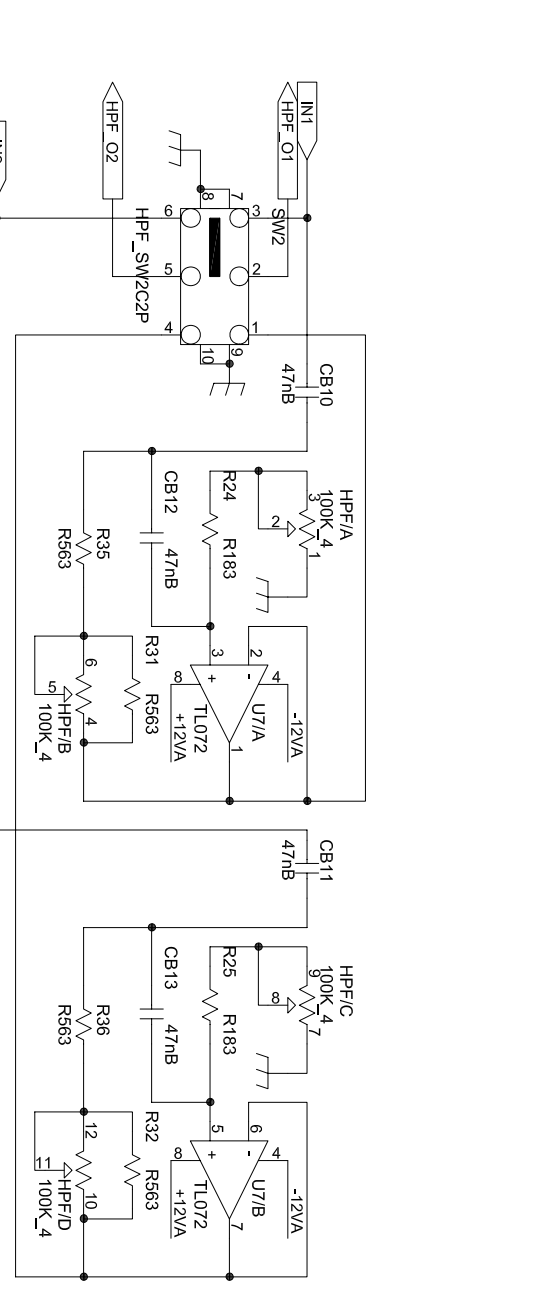
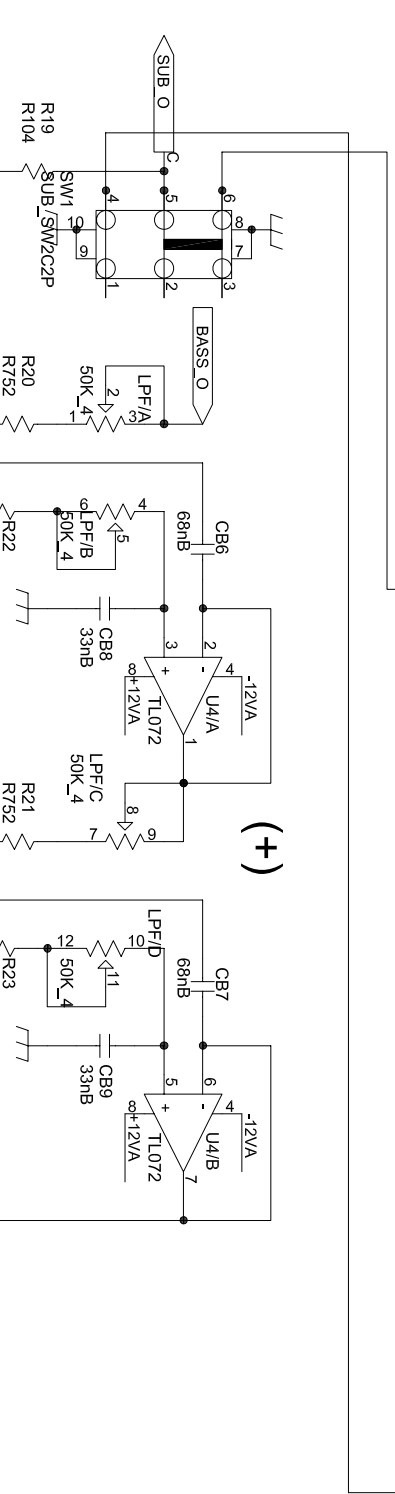
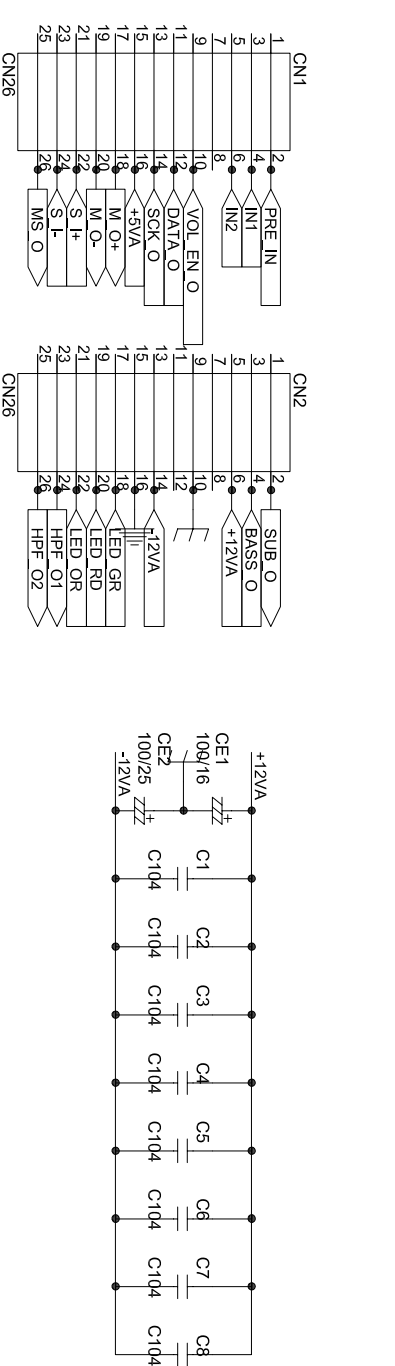
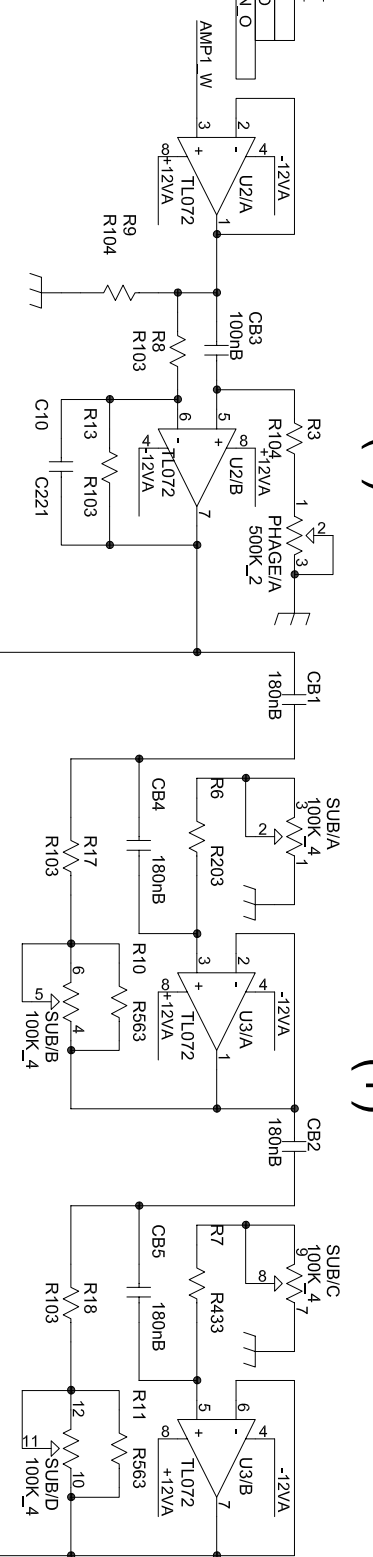
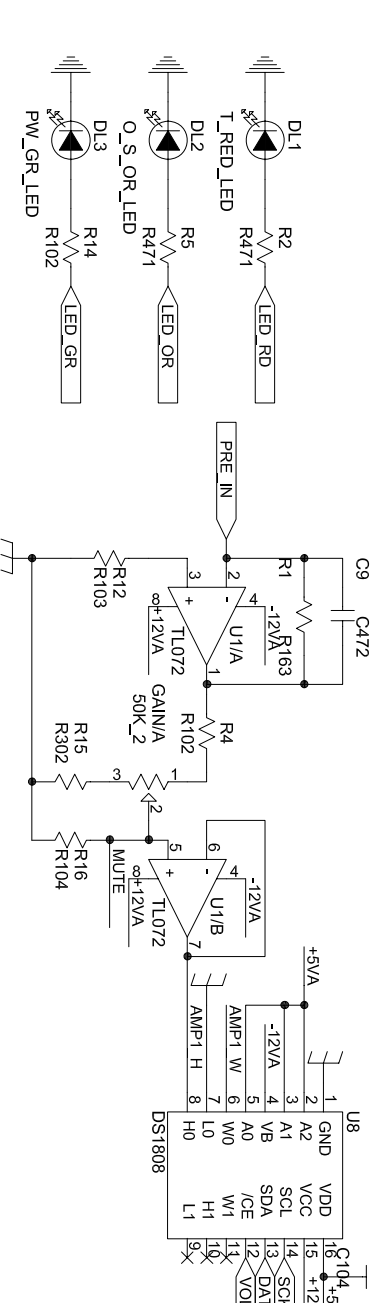
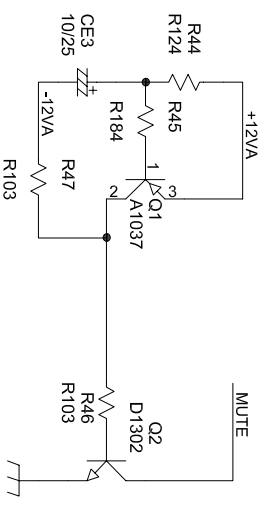
Measure resistance of A, B and C points, usual values are between 270kohms - 3 Mohms range.
Resistance must be, in any case, higher than 10kohm.
If lower than 10Kohms the module must be replaced with a new one.

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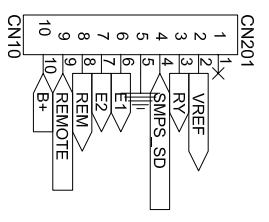
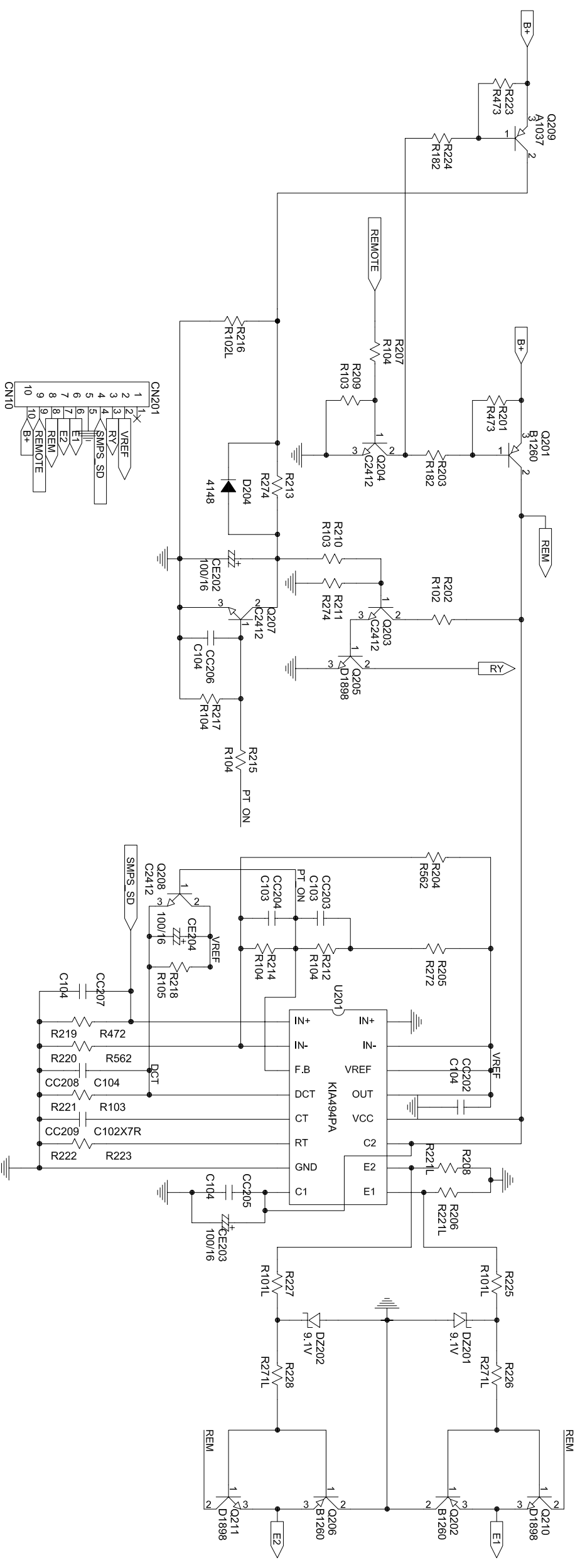
electromedia
S. Regina Km. 3,500 - Marignano - 62018 Potenza Picena (MC) - Italy
Tel. 0733.870870 Fax 0733.870880

General tol.	Scale	Code	Description	Tech. spec.	Rev.
-	-	-	M2 MODULE CHECK POINTS	FFA001	A
Validity	Size in	Use	Tooling	Code	Sheet
Quotation	-	-	-		
Final sample	General tol.	First issuing date	Current issuing date	25 January 2008	
Pre-series		25 January 2008	Project	Issued	Approval
<input checked="" type="checkbox"/> Production			LUCA GIROTTI	LUCA GIROTTI	LUCA GIROTTI

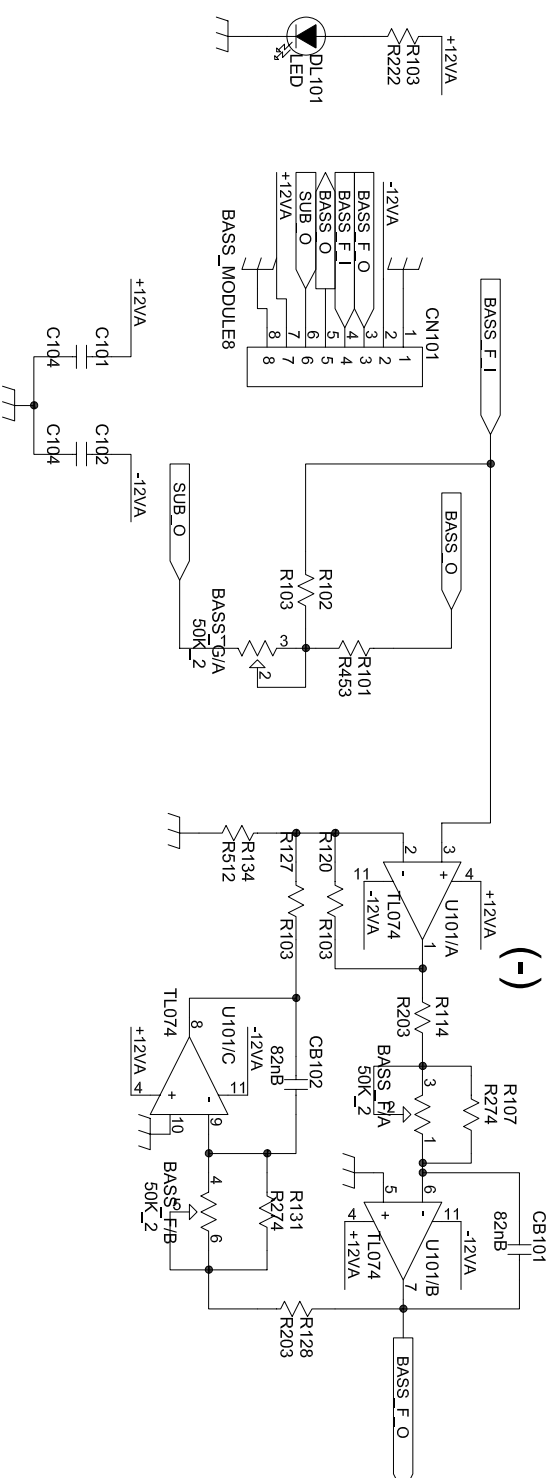


SCHEMATIC DRAWING			
DRAWING	CHECK	CHECK	APPROVAL
S. S. B			
MODEL NO.	HP JK D PRE		
BASIC NO.	SA-2212601		
FILE NO.	S-22-25		

[HP_1KD_SMPs_V60] 2006. 09

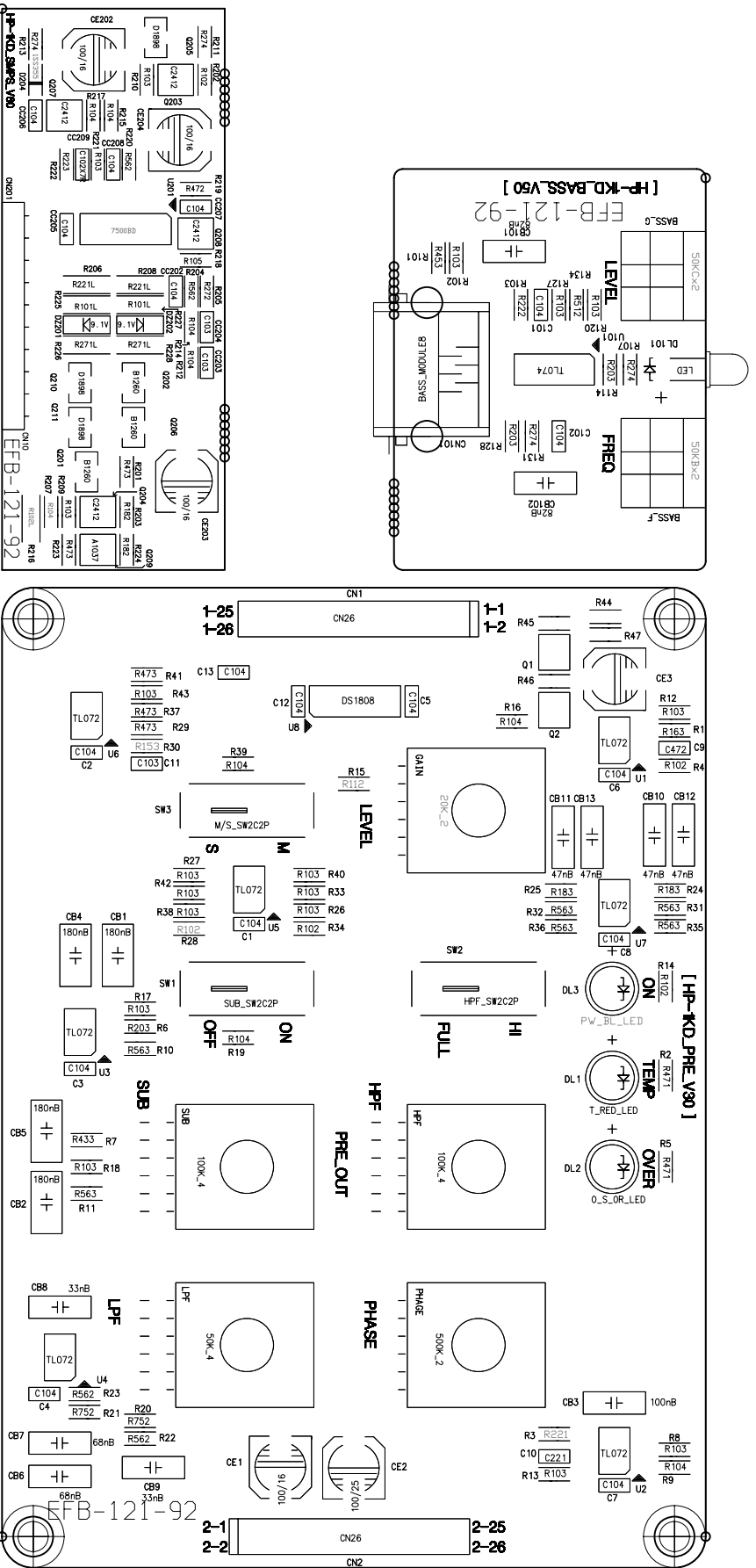


SCHEMATIC DRAWING			
DRAWING	CHECK	CHECK	APPROVAL
S. S. B			
MODEL NO.	HP 1K D SMPs		
BASIC NO.	SA-2212601		
FILE NO.	S-22-25		

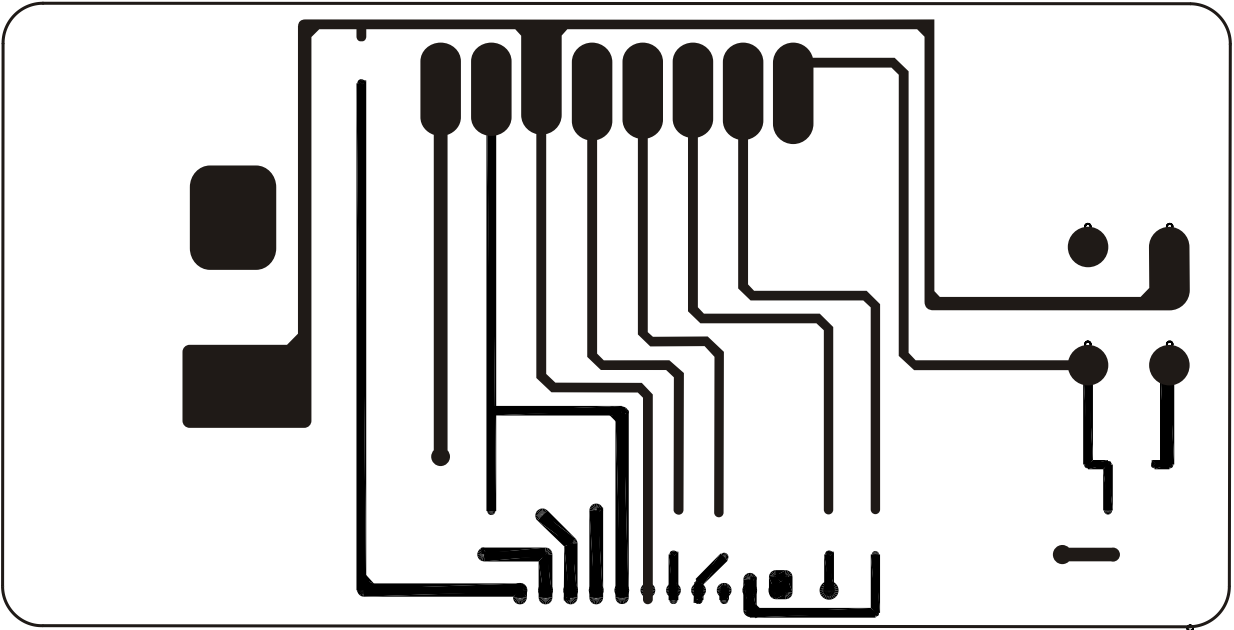
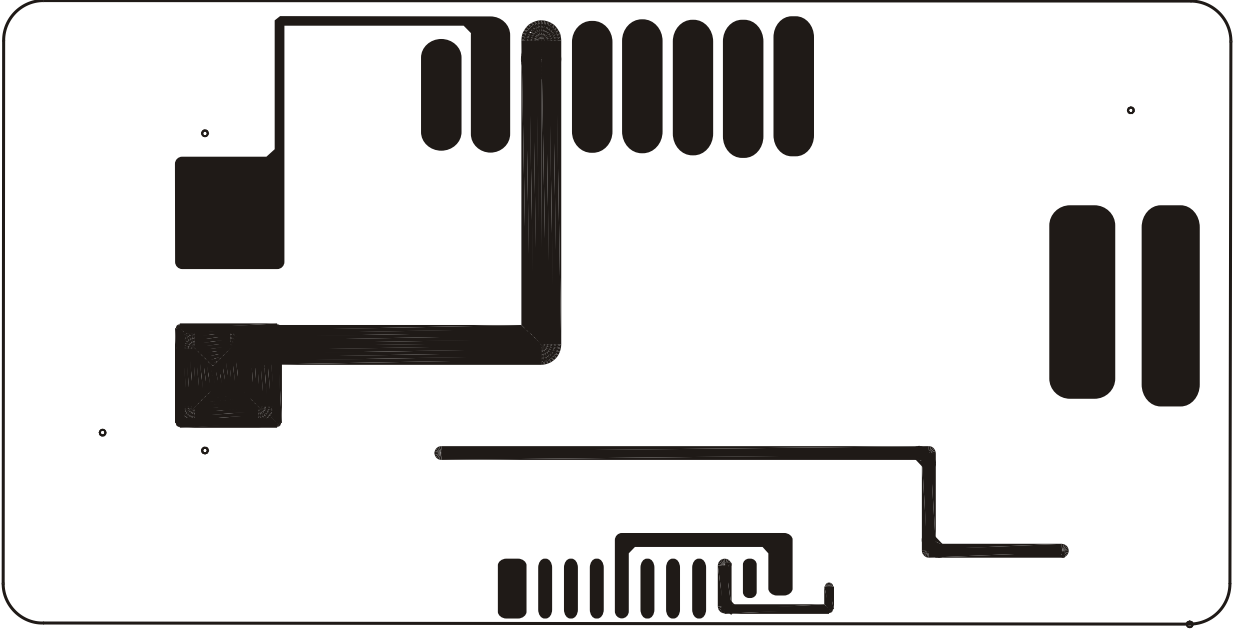
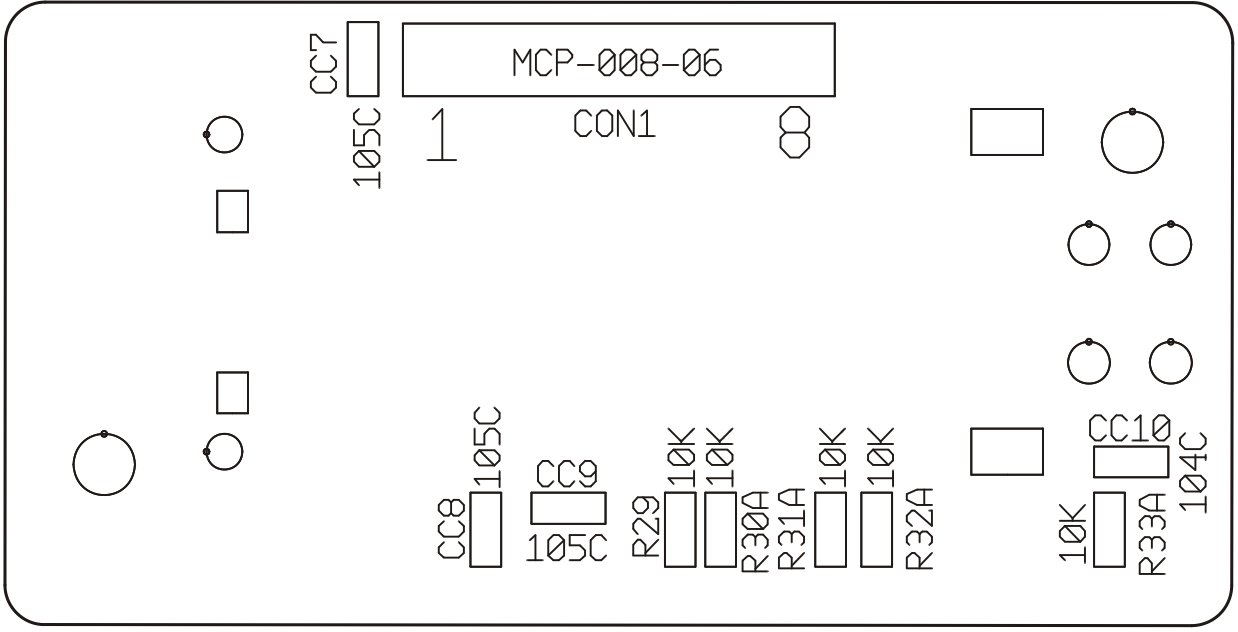


SCHEMATIC DRAWING			
DRAWING	CHECK	CHECK	APPROVAL
S. S. B			
MODEL NO.	HP IK D BASS		
BASIC NO.	SA-2212601		
FILE NO.	S-22-25		

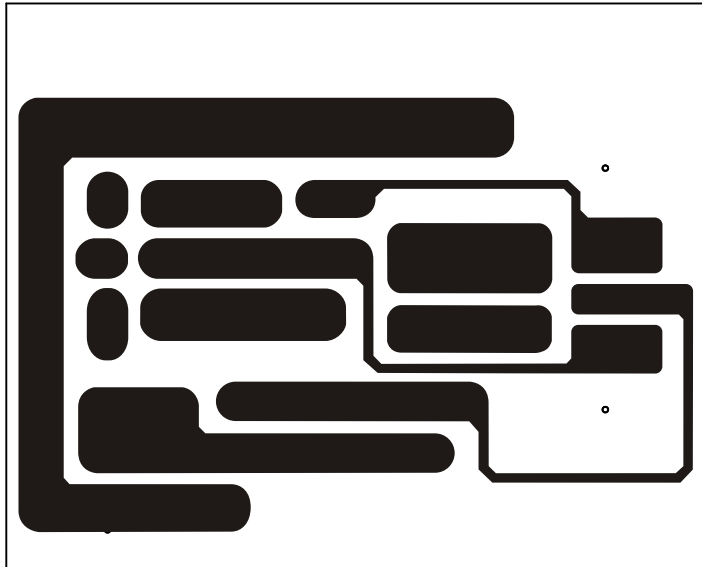
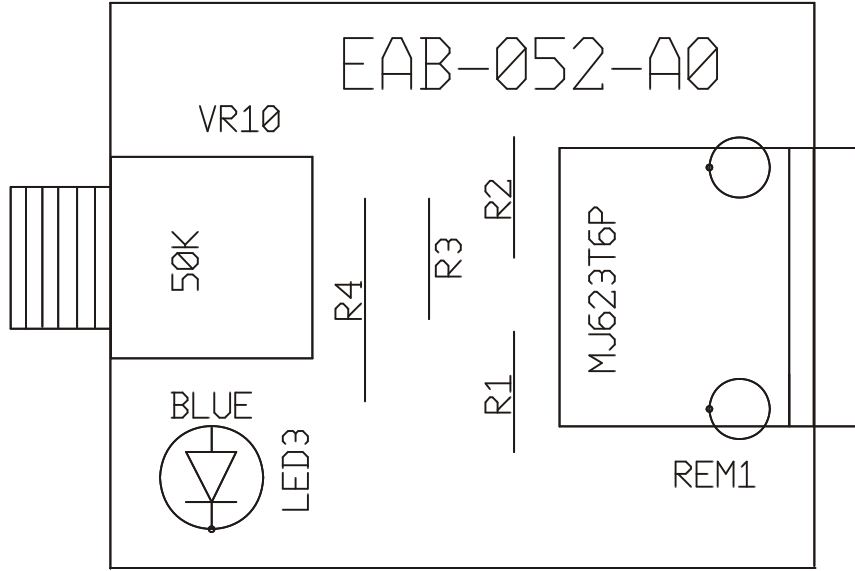
COMPONENTS LAYOUT DIAGRAM



REV 5	REV 4	REV 3	REV 2	REV 1	REV 0	BUYER : HP 1K D	DWG.No : AAFR096-01
						DRAWING	FILE No. : F-04-23
						CHECK	CHECK
						S. S. B	APPROVAL



COMPONENTS LAYOUT DIAGRAM



DESCRIPTION	Q.TY	REF.NO	DESCRIPTION	Q.TY	REF.NO
HP 1K D MAIN BOARD PARTS LIST					
CONNECTORS AND FUSES					
2mm 13P	2		1/5W 5% 22K ohm	3	R15,R54,R81
5267-08	1	M4	1/5W 5% 3.3Kohm	2	R1,R99
32V 150A	4	HP BUYER	1/5W 5% 30K ohm	2	R24,R66
32V 300A	2	HP BUYER	1/5W 5% 330 ohm	2	R121,R122
HEAD/5.08mm PITCH 4 POS	1	CN1	1/5W 5% 330 ohm	1	R122~R123 이면작업
PLUG/5.08mm PITCH 4 POS	1		1/5W 5% 33K ohm	1	R146
DIP-14PIN IC SOCKET	1	U15	1/5W 5% 4.7 ohm	1	R8
ICS					
74HC595	1	U14	1/5W 5% 4.7Kohm	4	R111,R55,R58,R182
PC817A	6	ISO1,ISO2,ISO3,ISO4,ISO5,ISO6	1/5W 5% 470Kohm	1	R159
LM293	2	U5,U6	1/5W 5% 47K ohm	1	R186
PIC16F676	1	U15	1/5W 5% 5.1Kohm	1	R14
PIC16F676M	1		1/5W 5% 5.6Kohm	4	R75,R39,R56,R76
DWM3640AD	1	M2	1/5W 5% 6.8Kohm	1	R70
TL072D	5	U1,U2,U3,U4,U6	1/5W 5% 680 ohm	2	R173,R80
78R05 TO-220 4PIN	1	U7	5W 10% / LCR-003-10 2.2K	2	R32,R98
78RM33 TO-220 3PIN	1	U8	5W 10%/LCR-003-06 100 ohm	2	R41,R101
KA 7812 TO-220	1	U10	1W 5% / AXIAL MINI 10ohm	4	R135,R143,R156,R161
KA 78T12 TO-220 3A	1	U9	1W 5% / AXIAL MINI 3.3ohm	2	R35,R97
			1W 5% / AXIAL MINI 33ohm	12	R103,R104,R105,R21,R22,R23,R46,R47,R48,R90,R91,R92
KA7912 TO-220	1	U12	1W 5% / STR BULK 47ohm	2	R25,R68
KIA78L05BP TO-92	1	U11	3W 5% / STR BULK 2.2Kohm	1	R118
KIA79L05BP TO-92	1	U13	3W 5% / STR BULK 6.8K ohm	2	R134,R145
JUMPERS					
7:7 / 0.12x665*7 BL 440mm	1	TP1~TP4	5W 5% / FORMING 0.01ohm	4	R117X,R120,R58X,R65
7:7 / 0.12x665*7 BL 450mm	1	TP2~TP3	CABLE TIES		
7:LUG/0.18x20 *3 BK 100mm	1	TP13	BLACK / 200mm	2	
DIODES					
FR154	8	D11,D12,D14,D15,D17,D18,D8,D9	NON COLOR / 100mm	2	
1N4001	2	D2,D21	CAPACITORS		
1N4148	9	D1,D10,D19,D20,D3,D7,D22,D23,D24	CER 50V 680pF	2	CM2,CM4
			CER 50V 47pF	2	CC42,CC43
			CER 50V 0.1uF	45	C1,C4,C5,C8,C9,C10,C11,C12,C13,C14,CC2,CC5,CC6,CC10,CC11,CC12,CC13,CC14,CC15,CC16,CC17,CC18,CC19,CC20,CC21,CC22,CC23,CC24,CC25,CC27,CC28,CC29,CC30,CC31,CC32,CC33,CC36,CC37,CC38,CC39,CC40,CC41,CC44,CC45,CE39
1N4754A	4	CDZ1,CDZ2,DZ2,DZ3	CER 50V 4700uF	2	CC34,CC35
1N5231	1	DZ1	CER50V 100pF	5	CC1,CC3,CC4,CC7,CC8
MTZ 6.8B	2	DZ4,DZ5	CER50V 0.022uF	1	CC9
FMU-32U	4	D13,D16,D4,D5	CER50V 0.01uF	2	C2,C6
INDUCTORS					
AL02TB470K	8	L10,L11,L12,L2,L4,L5,L8,L9	ELC 160V 1000uF	4	CE22,CE25,CE33,CE41
			ELC 25V 220uF	1	CE28
			ELC 25V 100uF	12	CE26,CE27,CE29,CE30,CE31,CE36,CE37,CE38,CE44,CE45,CE46,CE19
			ELC 35V 10uF	2	CE34,CE42
			ELC 35V 100uF	2	CE35,CE43
			ELC 50V 10uF	9	CE1,CE10,CE11,CE14,CE15,CE6,CE64,CE65,CE8
			ELC NXB 35V 1200uF	16	CE16,CE47,CE48,CE49,CE50,CE51,CE52,CE53,CE54,CE55,CE56,CE57,CE58,CE59,CE60,CE61
			ELC SMH 160V 500uF	8	CE20,CE21,CE23,CE24,CE32,CE40,CE62,CE63
1/2W 5% 56 ohm	1	R187	MET 400V 1.2uF	2	CM1,CM3
1/4W 5% 100K ohm	12	R10,R11,R114,R115,R116,R59,R60,R61,R85,R86,R87,R9	MPF 250V 10uF	4	CB3,CB4,CB5,CB6
			MYL 100V 6800pF	4	CM5,CM6,CM7,CM8
1/5W 1% 10 ohm	4	R31,R33,R34,R40	RND 250V 22uF	4	CE17,CE18,CE5,CE7
			RND 25V 100uF	2	CE13,CE3
1/5W 1% 180 ohm	2	R100,R133	TRACES		
			COT-115-04 64mm 2PIN	1	JX13
1/5W 1% 316 ohm	2	R119,R144	COT-116-05 83mm 2PIN	4	JX4,JX5,JX6,JX7
			COIL		
1/5W 1% 4.64Kohm	8	R13,R19,R26,R42,R5,R51,R64,R69	EIC02202	2	L1,L6
1/5W 1% 4.70Kohm	1	R106	*41 *0.8-8-41T (77uH)	2	L3,L7
1/5W 1% 1K ohm	2	R183,R184	*60 *0.8-72-4T*0.8-16-30T*0.8-1-6T	1	T2
1/5W 1% 1M ohm	1	R158	*60 *0.8-72-4T*0.8-16-30T*0.8-2-6T	1	T1
1/5W 1% / 10.0Kohm	6	R73,R84,R113,R128,R142,R96	TRANSISTORS		
1/5W 1% / 15.0Kohm	2	R102,R110	KTC 3198Y	2	Q17,Q40
1/5W 1% / 180Kohm	1	R78	KTC3200	2	Q2,Q3
1/5W 1% / 2.70Kohm	1	R164	2SA1011	1	Q39
1/5W 1% / 22.0Kohm	4	R37,R45,R53,R63	KSA-1381	1	Q7
1/5W 1% / 240Kohm	1	R163			
1/5W 5% 0 ohm	4	CE2,CE4,CE9,CE12	KTA 1275Y	1	Q1
1/5W 5% 100 ohm	2	R67,R71	KTA1266Y	1	Q18
1/5W 5% 100Kohm	10	R157,R16,R17,R171,R3,R49,R6,R82,R88,R185			
1/5W 5% 10K ohm	28	R107,R108,R112,R117,R12,R127,R129,R136,R147,R148,R152,R160,R162,R165,R170,R172,R2,R38,R4,R43,R7,R79,R83,R93,R94,R95,R179,R181			
1/5W 5% 12K ohm	2	R178,R180			
1/5W 5% 150Kohm	1	R72			
1/5W 5% 15K ohm	3	R18,R57,R77			
1/5W 5% 1K ohm	11	R50,R109,R124,R125,R126,R138,R139,R141,R169,R89,R74			
1/5W 5% 2.2Kohm	2	R137,R140			
1/5W 5% 22 ohm	16	R130,R131,R132,R149,R150,R151,R153,R154,R155,R166,R167,R168,R20,R27,R28,R29			
			KTD 1302	1	Q8

DESCRIPTION	Q.TY	REF.NO
DINS		
JACK 6P / KJ5-016	1	CN7
DIN PLUG 6P / KJ5-016	1	
FETS		
IRF360LC	12	Q10,Q11,Q14,Q15,Q16,Q19,Q20,Q21,Q4,Q5,Q6,Q9
IRFP064N	16	Q12,Q13,Q22,Q23,Q24,Q25,Q26,Q27,Q28,Q29,Q30,Q31,Q32,Q33,Q34,Q35
RCA JACKS		
JE020059BN	2	PRE_IN,PRE_OUT
RELAYS		
RD4A-12	2	SW1,SW2
TERMINALS		
TER-2	2	CN5,CN6
TER-5 POS	1	CN3
THERMISTOR		
10 % / 10Kohm +/-1%	1	TH1
CORES		
PAD *60x1T	2	
RING *40x1T	2	
MODULARS		
KM30206P BLACK 6C6P	1	
KM30206P BLACK 6C6P	1	
MJ623TBK BLACK 8C8P	1	
PLG6P5MO BLK 6C6P 5M	1	ACC'Y
PLG8P5MO BLK 8C8P 5M	1	ACC'Y
HP 1K D FRONT BOARD PARTS LIST		
CONNECTORS		
2.0mm DOUBLE ROW 2x13	2	CN1,CN2
LEDS		
304S2AD	1	DL1
304S60D	1	DL2
308H183BD	1	DL3
CAPACITORS		
ELC 16V 100uF	1	CE1
ELC 25V 100uF	1	CE2
CER 50V 0.01uF	1	C11
CER 50V 0.1uF	10	C1,C12,C13,C2,C3,C4,C5,C6,C7,C8,
CER 50V 220pF	1	C10
CER 50V 4700pF	1	C9
MPF 100V 0.18uF	4	CB1,CB2,CB4,CB5
MPF 100V 0.033uF	2	CB8,CB9
MPF 100V 0.047uF	4	CB10,CB11,CB12,CB13
MPF 100V 0.068uF	2	CB6,CB7
MPF 100V 0.1uF	1	CB3
RESISTORS		
1/10W 5% 20Kohm	1	R6
1/10W 5% 1.1K ohm	1	R15
1/10W 5% 100K ohm	9	R16,R19,R39,R9
1/10W 5% 10K ohm	18	R12,R13,R17,R18,R26,R27,R33,R38,R40,R42,R43,R8,
1/10W 5% 15K ohm	1	R30
1/10W 5% 16K ohm	1	R1
1/10W 5% 18K ohm	2	R24,R25
1/10W 5% 1K ohm	5	R34,R4,R14,R28
1/10W 5% 220ohm	1	R3
1/10W 5% 43K ohm	1	R7
1/10W 5% 470ohm	2	R2,R5
1/10W 5% 47K ohm	5	R29,R37,R41,R201,R223
1/10W 5% 5.6Kohm	4	R22,R23
1/10W 5% 56K ohm	6	R10,R11,R31,R32,R35,R36
1/10W 5% 7.5K ohm	2	R20,R21
TRANSISTORS		
DS1808	1	U8
ICS		
TL072CD	7	U1,U2,U3,U4,U5,U6,U7
SWITCHES		
KSA-2240	3	SW1,SW2,SW3
VOLUMES		
V123 HC0 20RS B20Kx2	1	GAIN
V123 HC0 20RS C500Kx2	1	PHAGE
V124 HC0 20RS C100Kx4	2	HPF,SUB
V124 HC0 20RS C50Kx4	1	LPF
HOLDERS		
LED HOLDER(13mm)	3	
HP 1K D OSC BOARD PARTS LIST		
CONNECTORS		
2.5mm PIN SINGLE 1x10	1	CN10

DESCRIPTION	Q.TY	REF.NO
CAPACITORS		
ELC 16V 100uF	3	CE203,CE204,CE202
CER 50V 0.01uF	2	CC203,CC204
CER 50V 0.1uF	17	CC202,CC205,CC206,CC207,CC208
MON 100V 1000pF	1	CC209
RESISTORS		
1/10W 5% 100ohm	2	R225,R227
1/10W 5% 270ohm	2	R226,R228
1/10W 5% 220 ohm	2	R206,R208
1/10W 5% 1.8K ohm	2	R203,R224
1/10W 5% 100K ohm	5	R212,R214,R215,R217,R207
1/10W 5% 10K ohm	3	R209,R221,R210
1/10W 5% 1K ohm	1	R202
1/10W 5% 1M ohm	1	R218
1/10W 5% 2.7K ohm	1	R205
1/10W 5% 22K ohm	1	R222
1/10W 5% 270K ohm	2	R211,R213
1/10W 5% 4.7K ohm	1	R219
1/10W 5% 47K ohm	2	R201,R223
1/10W 5% 5.6Kohm	2	R204,R220
1/10W 5% 1K ohm	1	R216
DIODES		
1SS355	1	D204
ZMM5239B	2	DZ201 ,DZ202
TRANSISTORS		
2SC 2412K	4	Q203,Q204,Q207,Q208
2SA 1037K	1	Q209
ICS		
KA 7500BD	1	U201
2SD 1898	3	Q210,Q211,Q205
2SB 1260	3	Q201,Q202,Q206
HP 1K D BASS REMOTE BOARD PARTS LIST		
LEDS		
30ASACAB2	1	LED
CAPACITORS		
CER 50V 0.1uF	2	C101,C102
MPF 100V 0.082uF	2	CB101,CB102
RESISTORS		
1/10W 5% 20Kohm	2	R114,R128
1/10W 5% 10K ohm	3	R120,R127,R102
1/10W 5% 2.2K ohm	1	R103
1/10W 5% 270K ohm	2	R107,R131
1/10W 5% 45K ohm	1	R101
1/10W 5% 5.1Kohm	1	R134
ICS		
TL074CD	1	U101
MODULAR		
MJ623TBK BLACK 8C8P	1	
VOLUME		
15B50Kx2	1	BASS_F
15KW 15C50Kx2	1	BASS_G
HP 1K D VOLUME REMOTE BOARD PARTS LIST		
JUMPERS		
*0.7 AXIAL TYPE 52mm	2	R1,R2,R3,R4
VOLUME		
V9M G3 C1 15KW 15B50Kx2 CENTEF	1	VR10
MODULARS		
JACK KM30206P	2	REM
PLUG PLG6P5MO	1	
LEDS		
30ASACAB2	1	
HP 1K D LCD BOARD PARTS LIST		
CAPACITORS		
CER 50V 1uF	3	CC7,CC8,CC9
CER 50V 0.1uF	1	CC10
RESISTORS		
1/10W 5% 10K ohm	5	R29,R30A,R31A,R32A,R33A
CONNECTOR		
2.5mm LOCK MINI CONN MCP-008-	1	CON1
SWITCH		
TS-1150F	1	
LCD		
JY06A12	1	