

WE SIMPLY SOUND BETTER.

# **Reference 7250 / 7260**

## **SERVICE MANUAL**

B&K COMPONENTS, LTD.  
2100 Old Union Road  
Buffalo, New York 14227-2725  
U.S.A.

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**Pictures**


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# Reference 7250 series II Amplifier





# Reference 7250 Amplifier

### CONTROL I/O


CTRL IN 

CTRL IN ENABLE 

CTRL OUT 12VDC 125mA 

DEFEAT 

WHEN SWITCH IS SET TO ENABLE, THE AMPLIFIER WILL ONLY OPERATE WHILE A 5-24V SIGNAL IS APPLIED TO CTRL IN















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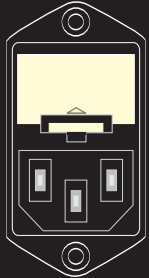
B&K Components, Ltd.  
Made in the U.S.A.  
[www.bkcomp.com](http://www.bkcomp.com)

SER. NO.


### INPUTS / LEVEL CONTROLS

LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	LEVEL 6
					
LO HI	LO HI	LO HI	LO HI	LO HI	LO HI
					
INPUT 1	INPUT 2	INPUT 3	INPUT 4	INPUT 5	INPUT 6

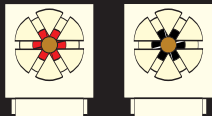
FUSE  
CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE REPLACE ONLY WITH SAME TYPE 15A 250V.




VOLTAGE ~ A.C. LINE

FUSE 

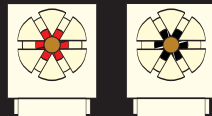
CHANNEL 1 OUTPUT




PLUS +    MINUS -

FUSE 

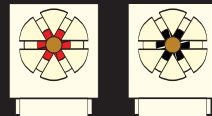
CHANNEL 2 OUTPUT




PLUS +    MINUS -

FUSE 

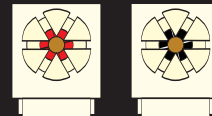
CHANNEL 3 OUTPUT




PLUS +    MINUS -

FUSE 

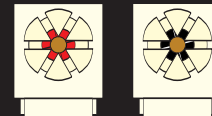
CHANNEL 4 OUTPUT



PLUS +    MINUS -

FUSE 

CHANNEL 5 OUTPUT



PLUS +    MINUS -

FUSE

CHANNEL 6 OUTPUT

PLUS +    MINUS -

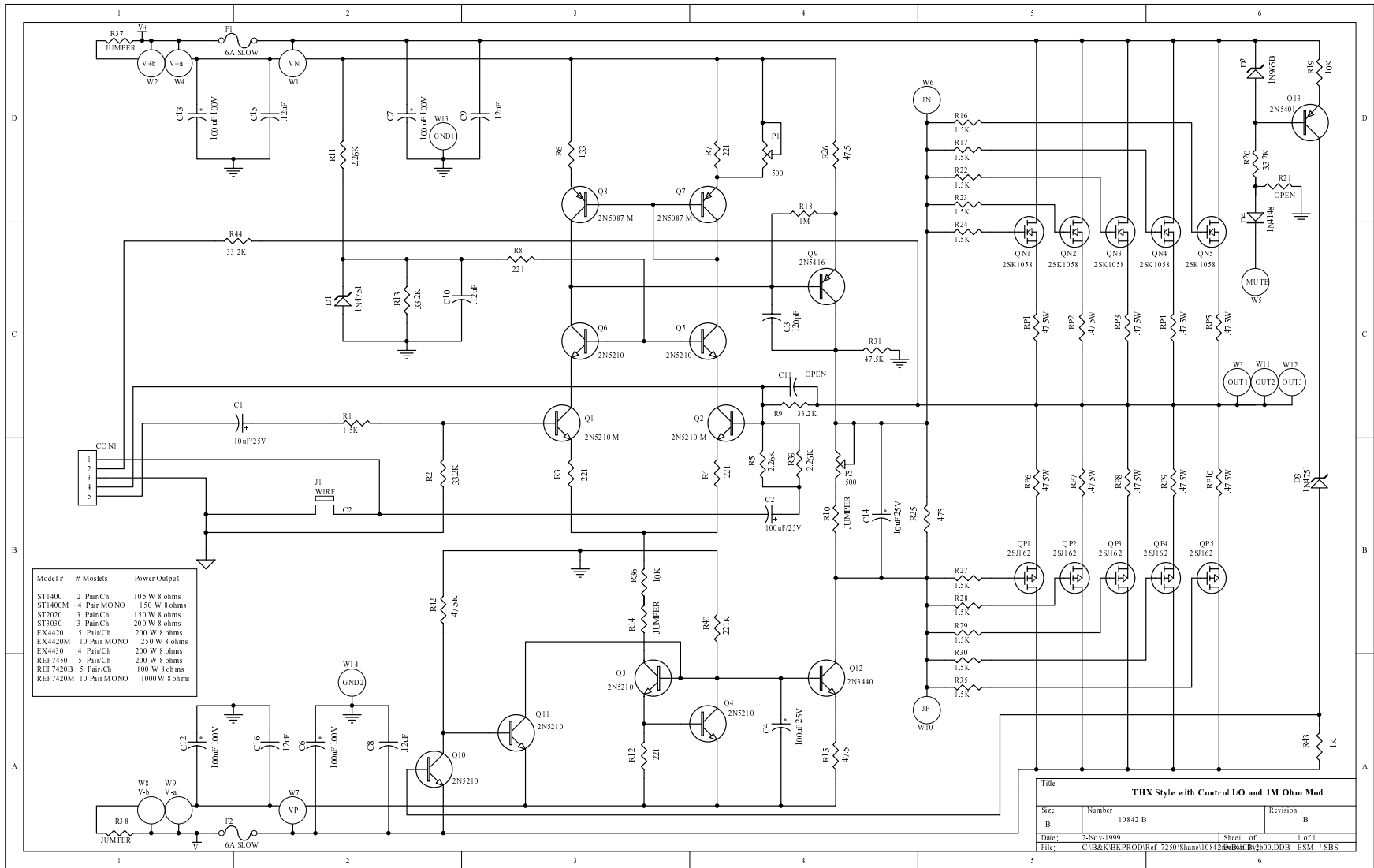
**CAUTION**  
RISK OF ELECTRIC SHOCK  
DO NOT OPEN

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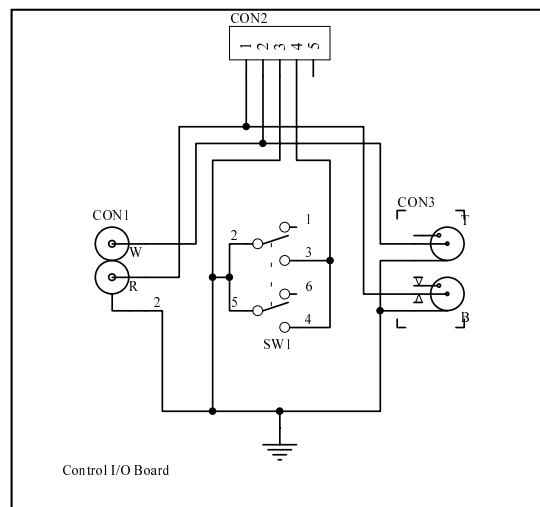
# **Schematics**

B&K COMPONENTS, LTD.  
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U.S.A.

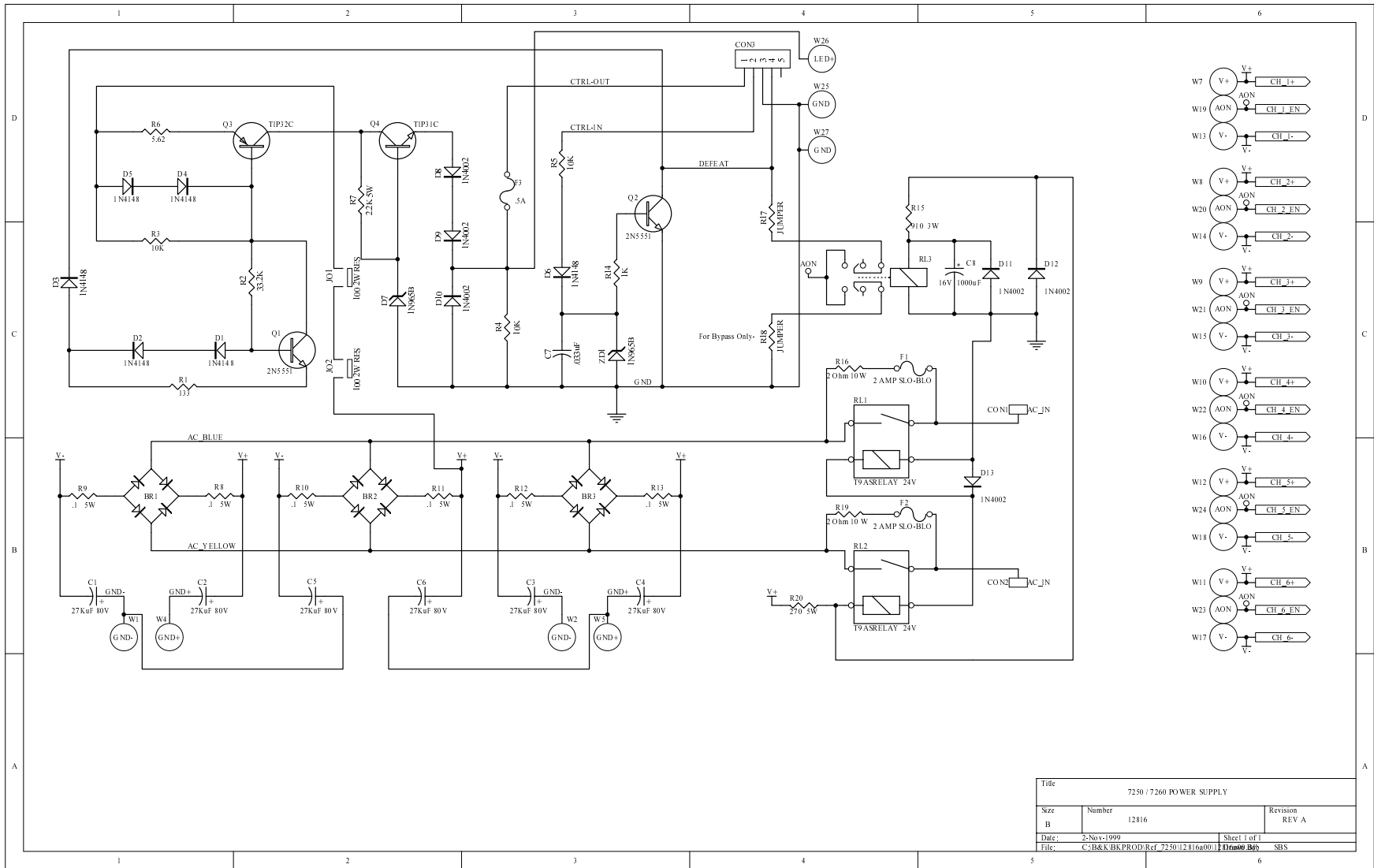


Model#	# Mosfets	Power Output
ST1400	2 Pair/Ch	10.5 W 8 ohms
ST1400M	4 Pair/MONO	150 W 8 ohms
ST2020	3 Pair/Ch	150 W 8 ohms
ST3030	3 Pair/Ch	200 W 8 ohms
EX4420	5 Pair/Ch	200 W 8 ohms
EX4420M	10 Pair/MONO	250 W 8 ohms
EX4430	4 Pair/Ch	200 W 8 ohms
REF7430	5 Pair/Ch	200 W 8 ohms
REF7420B	5 Pair/Ch	800 W 8 ohms
REF7420M	10 Pair/MONO	1000 W 8 ohms

Title		
<b>THX Style with Control I/O and 1M Ohm Mod</b>		
Size	Number	Revision
B	10842 B	B
Date:	3-Nov-1999	Sheet of 1 of 1
File:	C:\B&K\BKPROD\Ref 7250\Shane\10842\B\B&K10842.DDB_ESM / SBS	

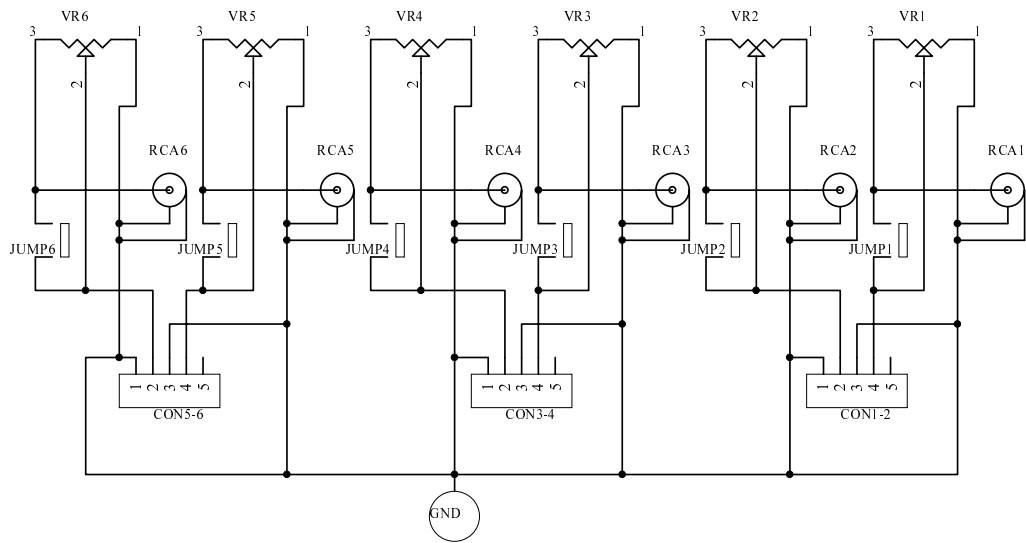


Title		
CONTROL I/O BOARD		
Size	Number	Revision
A	12820	REV -
Date:	2-Nov-1999	Sheet of
File:	C:\B&K\BKPROD\Ref 7250\12820a00.1	312x00.DDB SBS



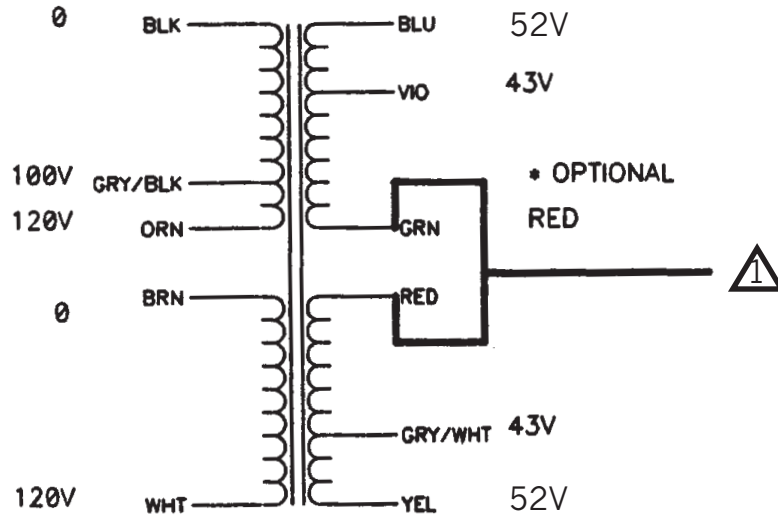
Title		
7250 / 7260 POWER SUPPLY		
Size	Number	Revision
B	12816	REV A
Date:	2-Nov-1999	Sheet 1 of 1
File:	C:\B&K\BKPROD\Ref 7250\12816a000\13.Dwg	SBS






Title		
7250 / 7260 INPUT BOARD		
Size	Number	Revision
A	12819	REV A
Date:	2-Nov-1999	Sheet of
File:	C:\B&K\BKPROD\Ref 7250\12819a00.1	11 of 00
SBS		

# 1500VA MULTI SEC/PRI TOROID



ALL LEADS EXCEPT  TERMINATED WITH 0.250 INSULATED FEMALE DISCONNECT (PANDUIT DNF14-250FIB OR APP'D EQUIV.)

 TERMINATED WITH VINYL INSULATED RING TERMINAL FOR #10 STUD (PANDUIT PV12-10HDR OR APP'D EQUIV.)

THE SECONDARY VOLTAGES LISTED ARE FOR FULL LOAD CONDITIONS MAX DIMENSIONS OF TOROIDAL TRANSFORMER:

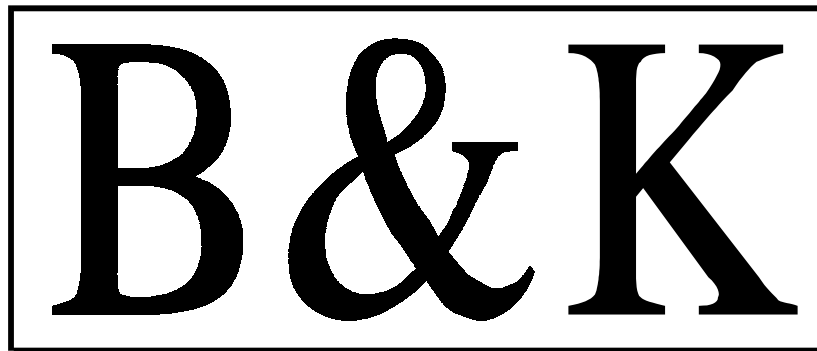
HEIGHT: 4.75"  
DIAMETER: 6.75"

LEADS: 10" LENGTH 14 AWG TEW 105 DEG. C - LEADS TO BE BROUGHT OUT SIDE OF CASE NEAR BOTTOM WITH PRIMARY/SECONDARY LEADS SPLIT 180 DEGREES TRANSFORMER TO BE SUPPLIED WITH CYLINDRICAL DECORATIVE COVER - COLOR BLACK. TRANSFORMER POTTING COMPOUND TO EXTEND TO LOWER LIP OF COVER TO PROVIDE FLUSH MOUNTING SURFACE MOUNTING: SINGLE CENTER 3/8" - 16 THREADED INSERT (must be a 3/8" = 0.375" = 9.525mm mounting hole) EXTENDING A MINIMUM OF 2" FROM BOTTOM ISOLATION PAD: 1/4" THICK NEOPRENE RUBBER

Rev D	Increased length of all wires 1 inch - primaries and secondaries.	10/22/99
Rev C	Increased Max. Diameter to 6.75" Isolation Pad Specifications: 1/4" Thick Neoprene Rubber	9/22/99
Rev B	Added Potting Spec Added Mounting Insert Length Spec Added Lead Termination Specs	8/30/99
Rev A	Chg. Sec. Voltage from 48V to 52 V Added Lead Routing Spec Added Mounting Insert Spec	7/8/99

## B&K COMPONENTS LTD.

Size	Number	Rev
A	<b>P/N 12786</b> 1500VA MULTI SEC/PRI SK-RWW-5/31/99-A	D
Date	10/22/99	Drawn By RWW/SBS

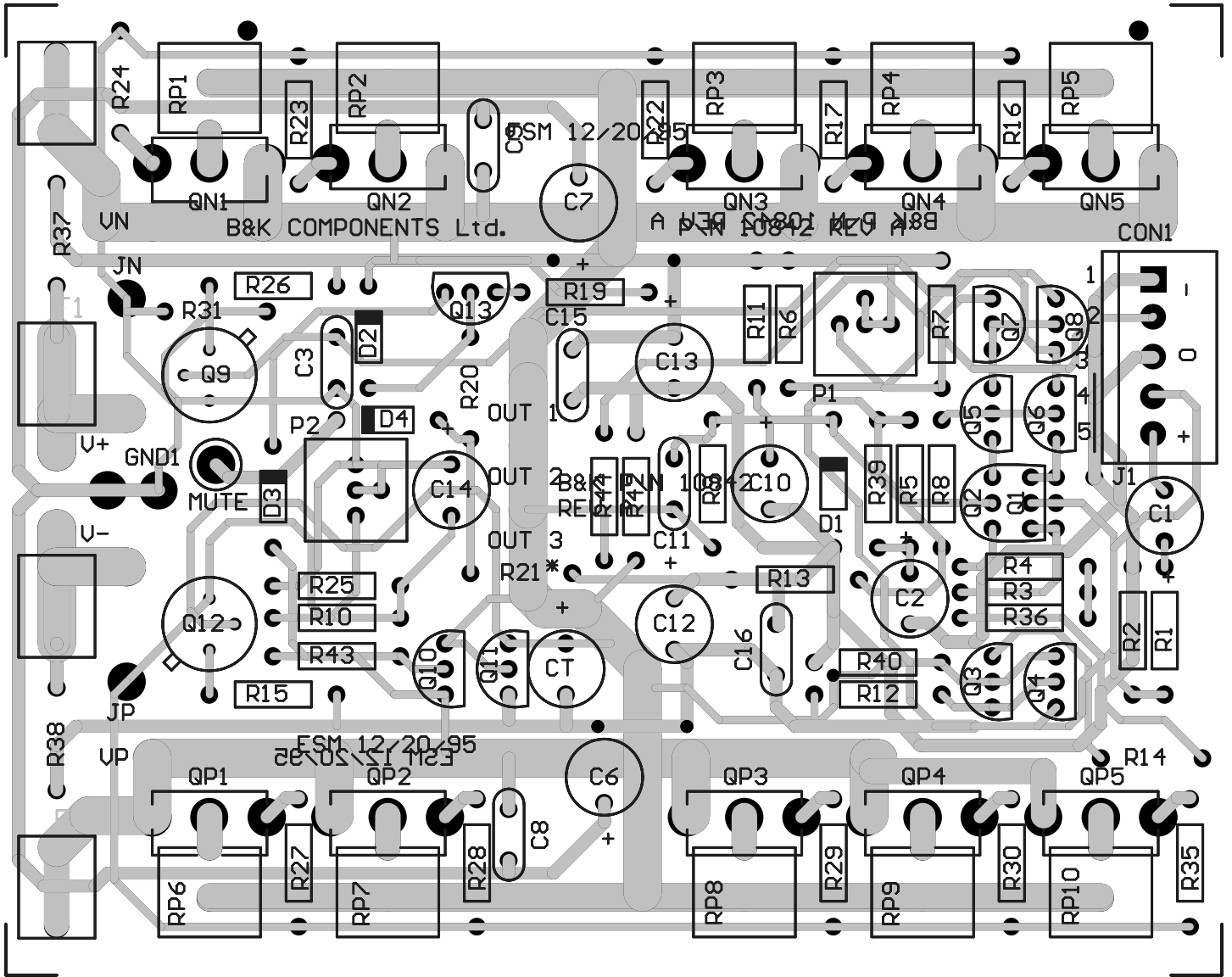


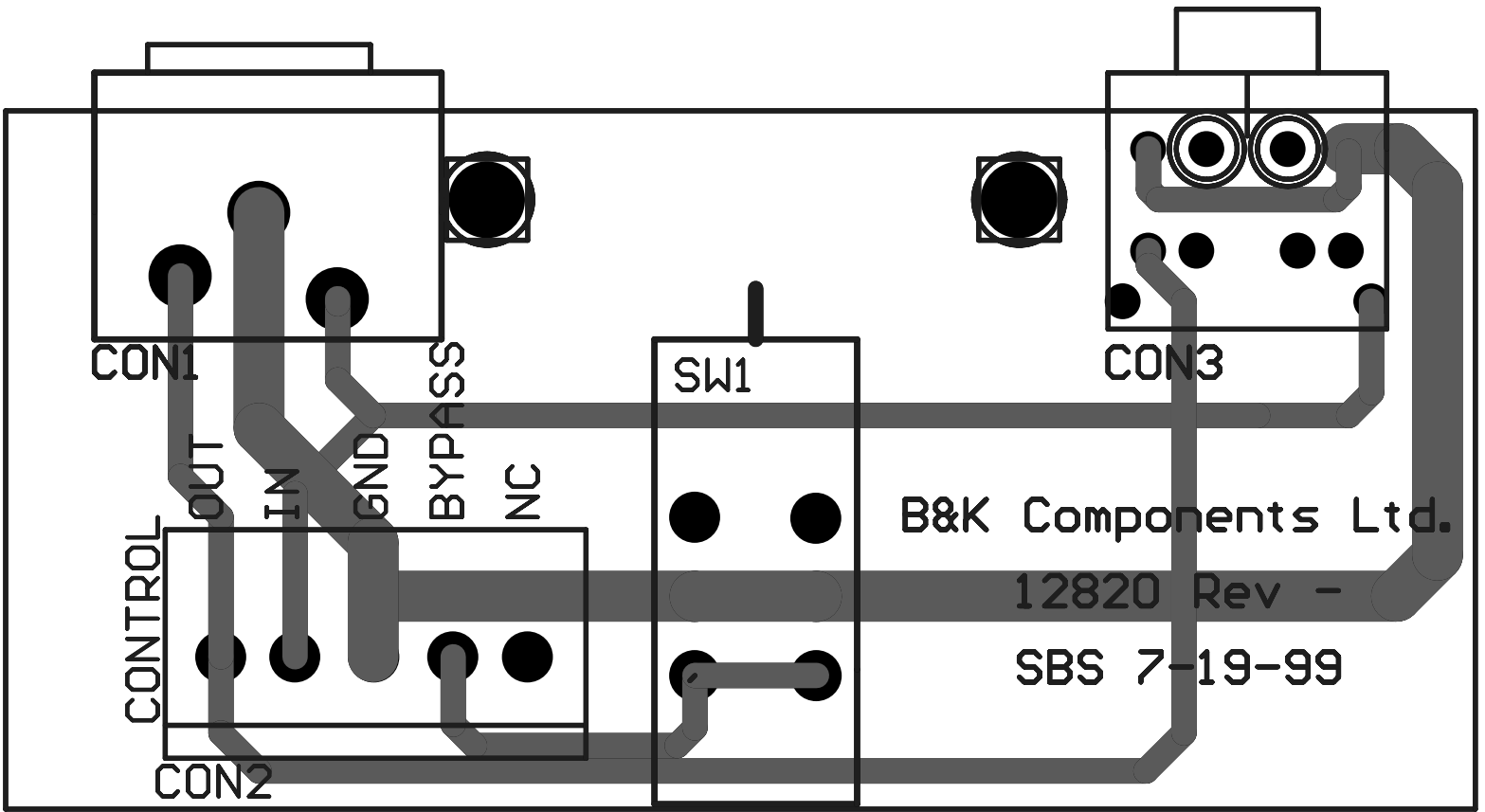
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# **Printed Circuit Boards**

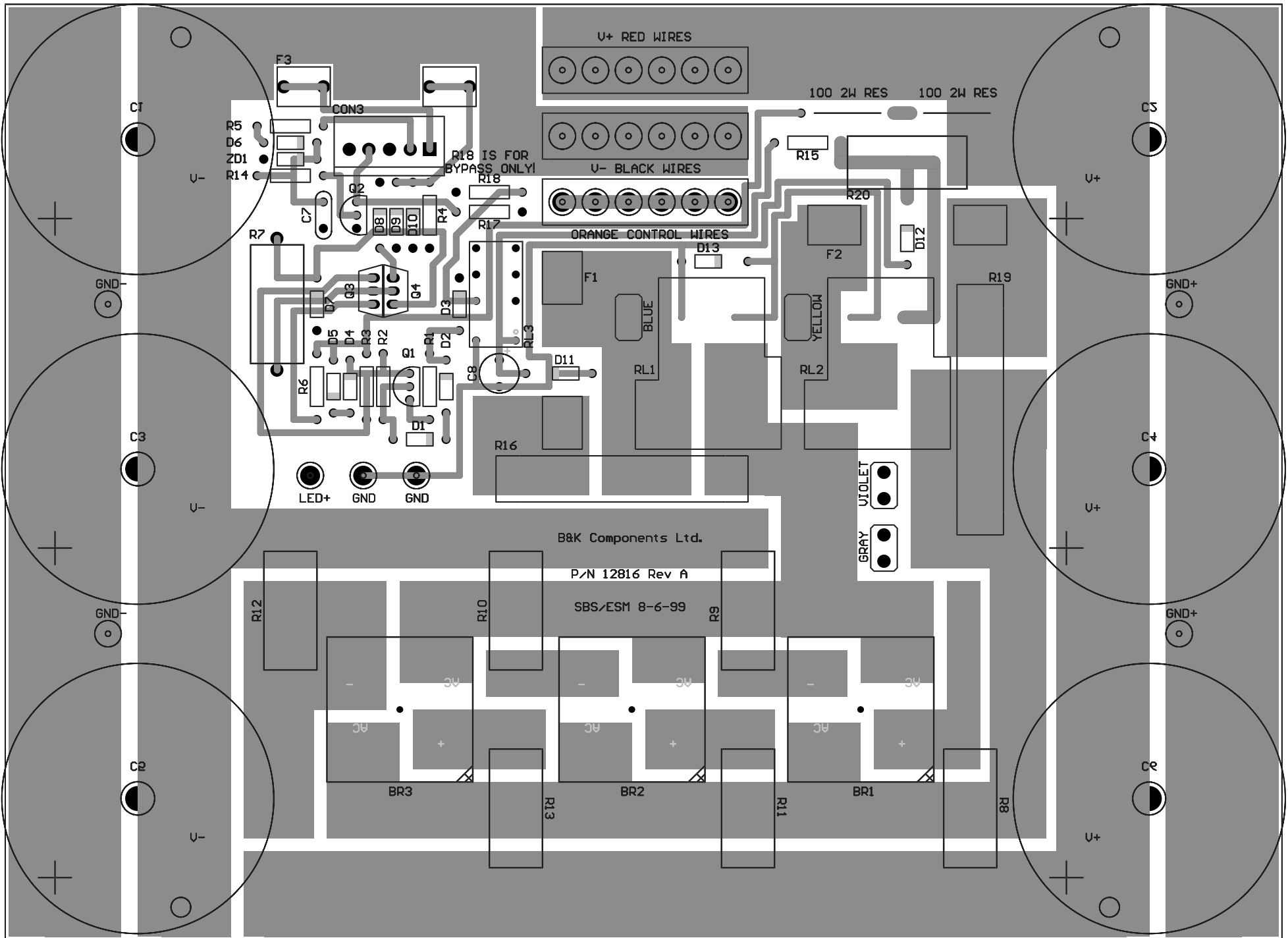
## **PCB's**

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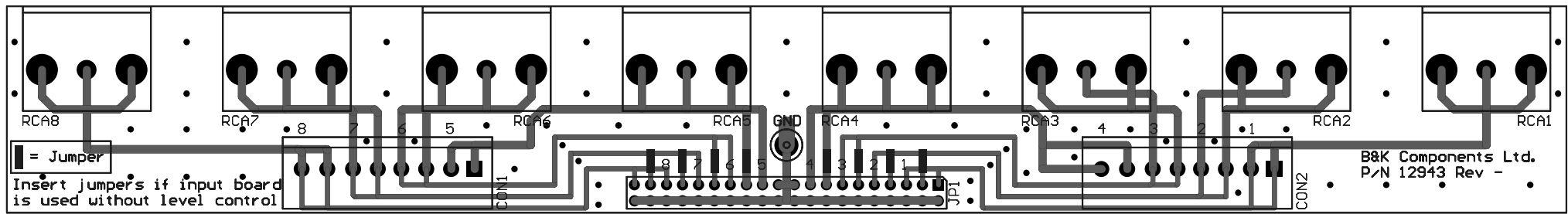


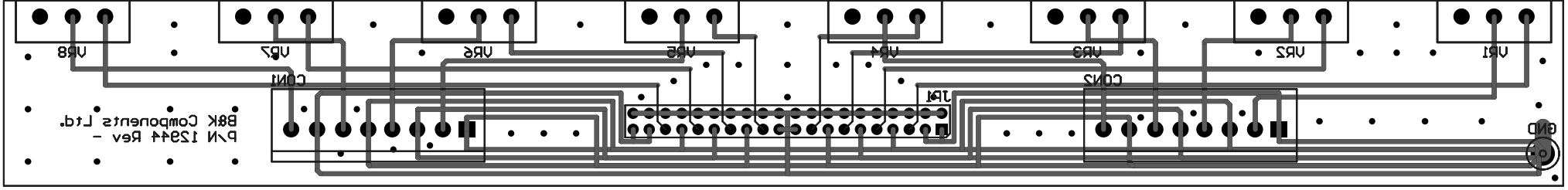


Holes within a circle are not to be plated through  
 2 X .102  
 2 X .125



Holes Within A Circle Are Not to Be Plated Through  
 6 x .187  
 4 x .078







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# **Bill of Materials**

## **BOM's**

B&K COMPONENTS, LTD.  
2100 Old Union Road  
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U.S.A.

Bill of Material for 10842b00. Bom

Used	Part Type	Designator	Footprint	Description
5	.12uF	C8 C9 C10	RAD200	CAPACITOR
		C15 C16		
10	.47 5W	RP1 RP2	R5W. S	RESISTOR
		RP3 RP4		
		RP5 RP6		
		RP7 RP8		
		RP9 RP10		
1	1.5K	R24	RES400	RESISTOR
10	1.5K	R1 R16 R17	RES500	RESISTOR
		R22 R23		
		R27 R28		
		R29 R30 R35		
1	1K	R43	RES500	RESISTOR
1	1M	R18	RES400	RESISTOR
1	1N965B	D2	DIODE. 4	ZENER DIODE
1	1N4148	D4	DIODE. 4	DIODE
1	1N4751	D3	DIODE. 4	ZENER DIODE
1	1N4751	D1	DIODE. 5	ZENER DIODE
3	2.26K	R5 R11 R39	RES500	RESISTOR
1	2N3440	Q12	T05	NPN TRANSISTOR
2	2N5087 M	Q7 Q8	T092	PNP TRANSISTOR
6	2N5210	Q3 Q4 Q5	T092	NPN TRANSISTOR
		Q6 Q10 Q11		
2	2N5210 M	Q1 Q2	T092	NPN TRANSISTOR
1	2N5401	Q13	T092	PNP TRANSISTOR
1	2N5416	Q9	T05	PNP TRANSISTOR
5	2SJ162	QP1 QP2	LATERAL3P	HITACHI P CH LATERAL MOSFET
		QP3 QP4		
		QP5		
5	2SK1058	QN1 QN2	LATERAL3P	HITACHI N CH LATERAL MOSFET
		QN3 QN4 QN5		
2	6A SLOW	F1 F2	FUSE. 3AG	FUSE
2	10K	R19 R36	RES500	RESISTOR
1	10uF 25V	C14	CAP200RP	POLAR CAPACITOR
1	10uF/25V	C1	CAP200RP	POLAR CAPACITOR
1	33.2K	R20	RES400	RESISTOR
4	33.2K	R2 R9 R13	RES500	RESISTOR
		R44		
2	47.5	R15 R26	RES500	RESISTOR
1	47.5K	R31	RES400	RESISTOR
1	47.5K	R42	RES500	RESISTOR
1	100uF 25V	C4	CAP200RP	POLAR CAPACITOR
2	100 uF 100V	C7 C13	CAP200RP	POLAR CAPACITOR
2	100uF 100V	C6 C12	CAP200RP	POLAR CAPACITOR
1	100uF/25V	C2	CAP200RP	POLAR CAPACITOR
1	120pF	C3	RAD200	CAPACITOR
1	133	R6	RES500	RESISTOR
5	221	R3 R4 R7	RES500	RESISTOR
		R8 R12		
1	221K	R40	RES500	RESISTOR
1	475	R25	RES500	RESISTOR
2	500	P1 P2	TRIMPOT	SINGLE POT
1	GND1	W13	PC_PAD	MOLEX 102" PC MOUNT CRIMP CONNECTOR
1	GND2	W14	PC_PAD	MOLEX 102" PC MOUNT CRIMP CONNECTOR
1	JN	W6	PC_PAD	MOLEX 102" PC MOUNT CRIMP CONNECTOR
1	JP	W10	PC_PAD	MOLEX 102" PC MOUNT CRIMP CONNECTOR
3	JUMPER	R14 R37	RES400	RESISTOR
		R38		
1	JUMPER	R10	RES500	RESISTOR
1	MUTE	W5	PC_PAD	MOLEX 102" PC MOUNT CRIMP CONNECTOR
1	OPEN	C11	RAD200	CAPACITOR
1	OPEN	R21	RES400	RESISTOR
1	OUT1	W3	PC_PAD	MOLEX 102" PC MOUNT CRIMP CONNECTOR
1	OUT2	W11	PC_PAD	MOLEX 102" PC MOUNT CRIMP CONNECTOR
1	OUT3	W12	PC_PAD	MOLEX 102" PC MOUNT CRIMP CONNECTOR
1	V+a	W4	PC_PAD	MOLEX 102" PC MOUNT CRIMP CONNECTOR
1	V+b	W2	PC_PAD	MOLEX 102" PC MOUNT CRIMP CONNECTOR
1	V-a	W9	PC_PAD	MOLEX 102" PC MOUNT CRIMP CONNECTOR
1	V-b	W8	PC_PAD	MOLEX 102" PC MOUNT CRIMP CONNECTOR
1	VN	W1	PC_PAD	MOLEX 102" PC MOUNT CRIMP CONNECTOR
1	VP	W7	PC_PAD	MOLEX 102" PC MOUNT CRIMP CONNECTOR
1	WI RE	J1	JUMP. 5	JUMPER (NORM OPEN)

Bill of Material for 12820a00.Bom

Used	Part Type	Designator	Footprint	Description
1	PC_PAD	SW1	2PDT. 24	SWITCH DPDT
1	PC_PAD	CON3	7275-8NB	DUAL 3.5mm DUAL STEREO JACK similar to 35RAPC7J
1	PC_PAD	CON1	RCA. X1	R/W AUD CONN COMMON SHELL X 1
1	PC_PAD	CON2	SIP5	

Bill of Material for 12816a00.Bom

Used	Part Type	Designator	Footprint	Description
1	.5A	F3	FUSE.3AG	FUSE
6	.1 5W	R8 R9 R10 R11 R12 R13	RES5WAXIAL	RESISTOR
1	.033uF	C7	RAD200	CAPACITOR
1	1K	R14	RES500	RESISTOR
2	1N965B	D7 ZD1	DIODE.4	ZENER DIODE
6	1N4002	D8 D9 D10 D11 D12 D13	DIODE.5	DIODE
6	1N4148	D1 D2 D3 D4 D5 D6	DIODE.4	DIODE
1	2.2K 5W	R7	RES5WAXIAL	RESISTOR
2	2 AMP SLO-BLO	F1 F2	FUSE.3AG	FUSE
2	2N5551	Q1 Q2	T092	NPN TRANSISTOR
1	2 Ohm 10 W	R19	RES10WAXIAL	RESISTOR
1	2 Ohm 10W	R16	RES10WAXIAL	RESISTOR
1	5.62	R6	RES500	RESISTOR
3	10K	R3 R4 R5	RES500	RESISTOR
1	16V 1000uF	C8	CAP200RP	POLAR CAPACITOR
6	27KuF 80V	C1 C2 C3 C4 C5 C6	PCAP_2.BIG	POLAR CAPACITOR
1	33.2K	R2	RES500	RESISTOR
1	133	R1	RES500	RESISTOR
2	100 2W RES	J01 J02	JUMP.7	JUMPER (NORM OPEN)
1	270 5W	R20	RES5WAXIAL	RESISTOR
1	910 3W	R15	RES500	RESISTOR
2	AC_IN	CON1 CON2	FASTON.25	PC MOUNT FASTON CONNECTOR
6	AON	W19 W20 W21 W22 W23 W24	PC_PAD	MOLEX 102" PC MOUNT CRIMP CONNECTOR
3	BRIDGE_RECT	BR1 BR2 BR3	BRIDGE_HP	BRIDGE RECTIFIER
1	CON5	CON3	MOLEX5	
1	DPDT_RELAY_1	RL3	DPDT_RLY1	DPDT RELAY
2	GND+	W4 W5	PC_PAD	MOLEX 102" PC MOUNT CRIMP CONNECTOR
2	GND-	W1 W2	PC_PAD	MOLEX 102" PC MOUNT CRIMP CONNECTOR
2	GND	W25 W27	PC_PAD	MOLEX 102" PC MOUNT CRIMP CONNECTOR
2	JUMPER	R17 R18	RES500	RESISTOR
1	LED+	W26	PC_PAD	MOLEX 102" PC MOUNT CRIMP CONNECTOR
2	T9ASRELAY 24V	RL1 RL2	T9ASRELAY	SPST RELAY 30AMP
1	TIP31C	Q4	T0220	NPN POWER TRANSISTOR
1	TIP32C	Q3	T0220	PNP POWER TRANSISTOR
6	V+	W7 W8 W9 W10 W11 W12	PC_PAD	MOLEX 102" PC MOUNT CRIMP CONNECTOR
6	V-	W13 W14 W15 W16 W17 W18	PC_PAD	MOLEX 102" PC MOUNT CRIMP CONNECTOR

Bill of Material for 12943-00.Bom

Used	Part Type	Designator	Footprint	Description
2	CON8	CON1 CON2	MOLEX8	8 PIN MOLEX CONNECTOR
1	GND	W1	PC_PAD	MOLEX 102" PC MOUNT CRIMP CONNECTOR
1	HEADER_2X20	JP1	40PINHEAD	HEADER 20X2
8	RCA	RCA1 RCA2	PCB_RCA	RCA CONNECTOR
		RCA3 RCA4		
		RCA5 RCA6		
		RCA7 RCA8		

Bill of Material for 12944-00.Bom

Used	Part Type	Designator	Footprint	Description
2	CON8	CON1 CON2	MOLEX8	8 PIN MOLEX CONNECTOR
1	GND	W1	PC_PAD	MOLEX 102" PC MOUNT CRIMP CONNECTOR
1	HEADER_2X20	JP1	40PINHEAD	HEADER 20X2
8	TRIM_POT	VR1 VR2	SINGLPOT	Trim Pot
		VR3 VR4		
		VR5 VR6		
		VR7 VR8		