

## SERVICE MANUAL



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### SPECIFICATIONS:

Power Output	75W (into 8 $\Omega$ ) 120W (into 4 $\Omega$ )
THD (unweighted)	<0.002% @ 1kHz, of rated power <0.050% 20Hz – 20kHz, of rated power <0.020% 20Hz – 20kHz @ 10w
Frequency response (-1 dB)	5Hz – 50kHz
S/N ratio (ref 1w)	>90dB
Input impedances	47kohms
Power Amp damping factor	> 100
Max power consumption	700w
Min/On power consumption	<35w (no signal)
Standby power consumption	<10w
Bass / Treble controls	shelving, ultimate boost/cut + /-7.5dB @ 20Hz and 20kHz
Dimensions	100 x 430 x 310mm (3.9 x 16.9 x 12.2")
Weight	7.4kg (16.3Lbs)

# **640A V2.0 SERVICE MANUAL**

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## SAFETY PRECAUTIONS & IMPORTANT NOTES

1. Check that the rear of the product indicates the correct supply voltage for your area.



2. The lightning flash with the arrowhead within an equilateral triangle is intended to alert the user or service agent to the presence of dangerous voltages within the product enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



3. The exclamation point within an equilateral triangle is intended to alert the user or service agent to the presence of important operating and maintenance (Servicing) instructions in the literature accompanying the appliance.

4. This product complies with EEC Low Voltage (73/23/EEC) and Electromagnetic Compatibility (89/336/EEC) Directives when used and serviced in accordance with this manual. For continued compliance all components marked safety and EMC critical must only be replaced by Cambridge Audio approved parts.

5. Any unauthorised design alterations or additions will void the manufacturer's warranty; furthermore the manufacturer cannot accept responsibility for personal injury or property damage resulting therefrom.

6. When servicing, care should be taken to observe the original routing and dressing of the leads and it should be confirmed that they have been returned to normal after re-assembly.

### Notes on chip component replacement

Never reuse a component that has been removed from a PCB

Notice that the minus side of a tantalum capacitor may be damaged by heat

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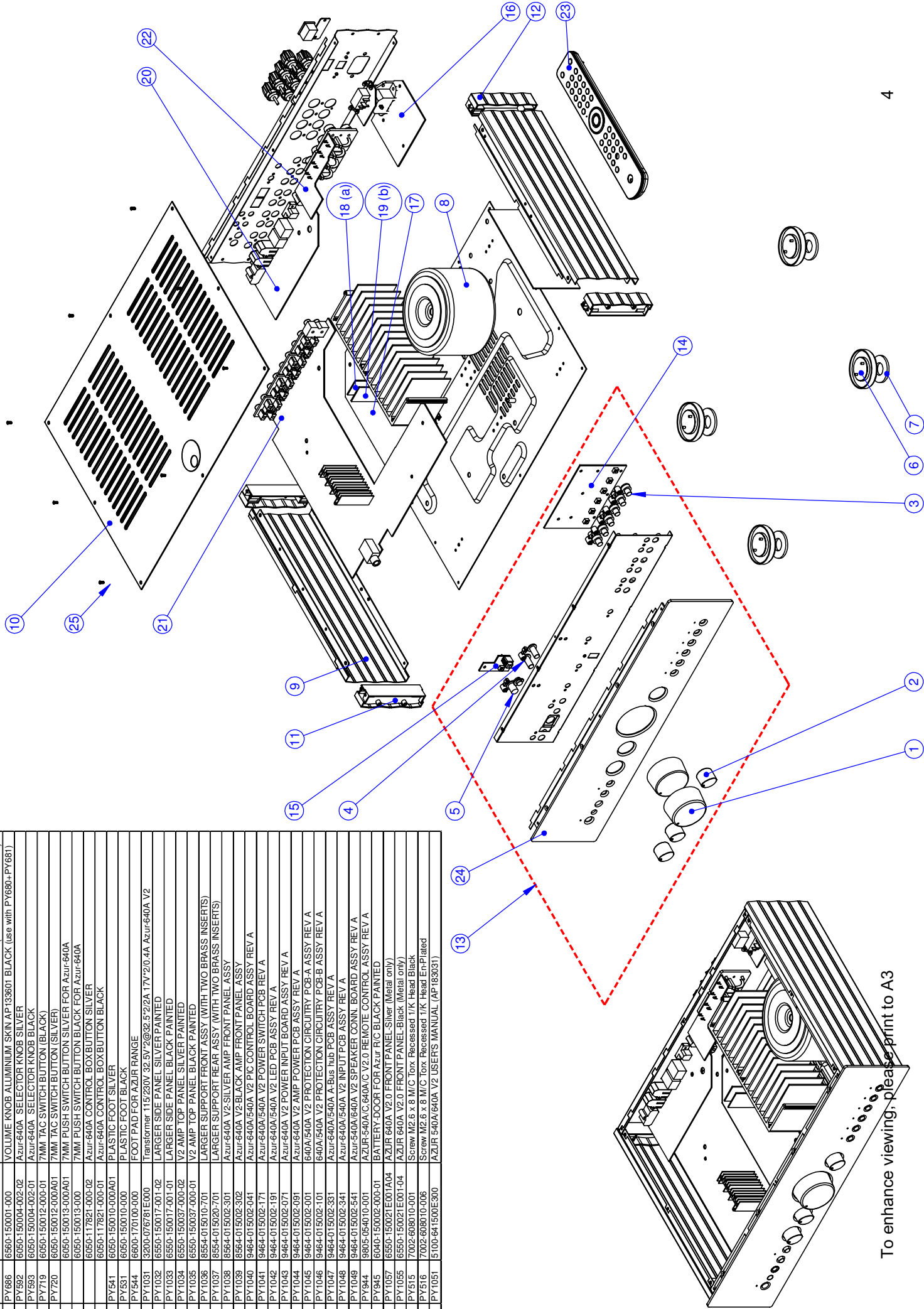
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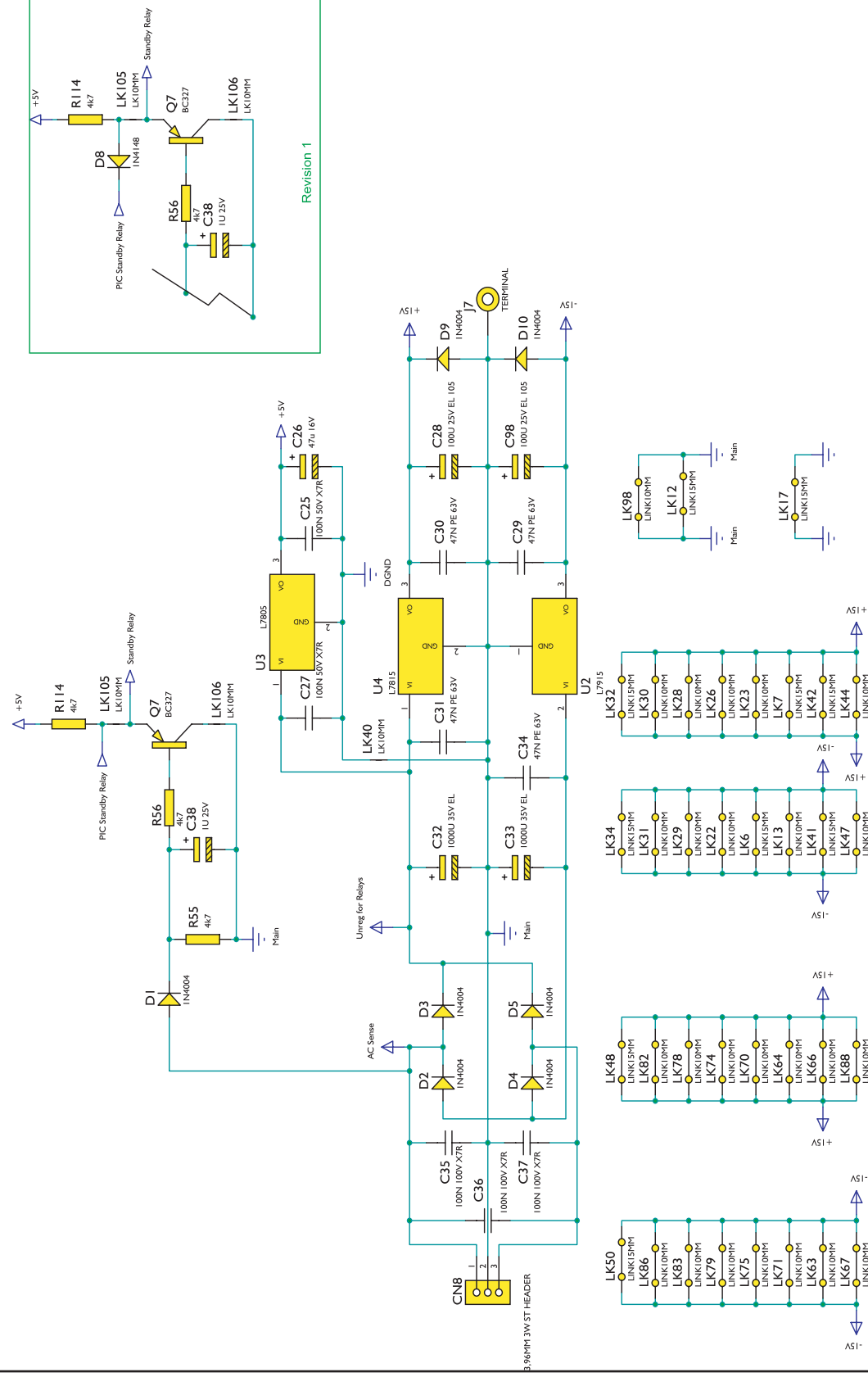
Information provided in this document is provided solely for the use of official service agents in repairing and servicing Audio Partnership PLC products.

Drawing ref\AP Part	Factory part number	Description
1	PY687	VOLUME KNOB ALUMINIUM SKIN AP133601 SILVER (use with PY680-PY681)
1	PY686	VOLUME KNOB ALUMINIUM SKIN AP133601 BLACK (use with PY680-PY681)
2	PY692	Azur-640A SELECTOR KNOB SILVER
2	PY693	Azur-640A SELECTOR KNOB BLACK
3	PY719	7MM TAC SWITCH BUTTON (BLACK)
3	PY720	7MM TAC SWITCH BUTTON (SILVER)
4	6650-150012-000A01	7MM PUSH SWITCH BUTTON SILVER FOR Azur-640A
4	6650-150013-000	7MM PUSH SWITCH BUTTON BLACK FOR Azur-640A
5	6650-117821-000-01	Azur-640A CONTROL BOX BUTTON SILVER
5	6650-117821-000-01	Azur-640A CONTROL BOX BUTTON BLACK
6	PY641	PLASTIC FOOT SILVER
6	6650-150010-000A01	PLASTIC FOOT SILVER
7	PY644	FOOT PAD FOR AZUR RANGE
8	PY1031	Transformer 115/230V 32.5V/200VA 17V/20.4A Azur-640A V2
9	PY1032	LARGER SIDE PANEL SILVER PAINTED
9	PY1033	LARGER SIDE PANEL BLACK PAINTED
10	PY1034	V2 AMP TOP PANEL SILVER PAINTED
10	PY1035	V2 AMP TOP PANEL BLACK PAINTED
11	PY1036	LARGER SUPPORT FRONT ASSY (WITH TWO BRASS INSERTS)
12	PY1037	LARGER SUPPORT REAR ASSY (WITH TWO BRASS INSERTS)
13	PY1038	Azur-640A V2-SILVER AMP FRONT PANEL ASSY
13	PY1039	Azur-640A V2-BLACK AMP FRONT PANEL ASSY
14	PY1040	Azur-640A V2-PIC CONTROL BOARD ASSY REV A
15	PY1041	Azur-640A V2-POWER SWITCH PCB REV A
16	PY1042	Azur-640A V2-LED PCB ASSY REV A
17	PY1043	Azur-640A V2-POWER INPUT BOARD ASSY REV A
17	PY1044	Azur-640A V2-AMP POWER PCB ASSY REV A
18	PY1045	640A V2-PROTECTION CIRCUITRY PCB-A ASSY REV A
19	PY1046	640A V2-PROTECTION CIRCUITRY PCB-B ASSY REV A
20	PY1047	Azur-640A V2-A-Bus hub PCB ASSY REV A
21	PY1048	Azur-640A V2-INPUT PCB ASSY REV A
22	PY1049	Azur-640A V2-SPEAKER CONN. BOARD ASSY REV A
23	PY945	Azur-540A V2 REMOTE CONTROL ASSY REV A
24	PY1057	BATTERY DOOR FOR Azur R/C BLACK PAINTED
24	6650-150021-E001A04	AZUR 640A V2.0 FRONT PANEL-Silver (Metal only)
24	PY1055	AZUR 640A V2.0 FRONT PANEL-Black (Metal only)
25	PY515	Screw M2.6 x 8 M/C Torx Recessed 1/K Head Black
25	PY516	Screw M2.6 x 8 M/C Torx Recessed 1/K Head EnPlated
25	PY1051	AZUR 540A/640A V2 USER'S MANUAL (AP183031)



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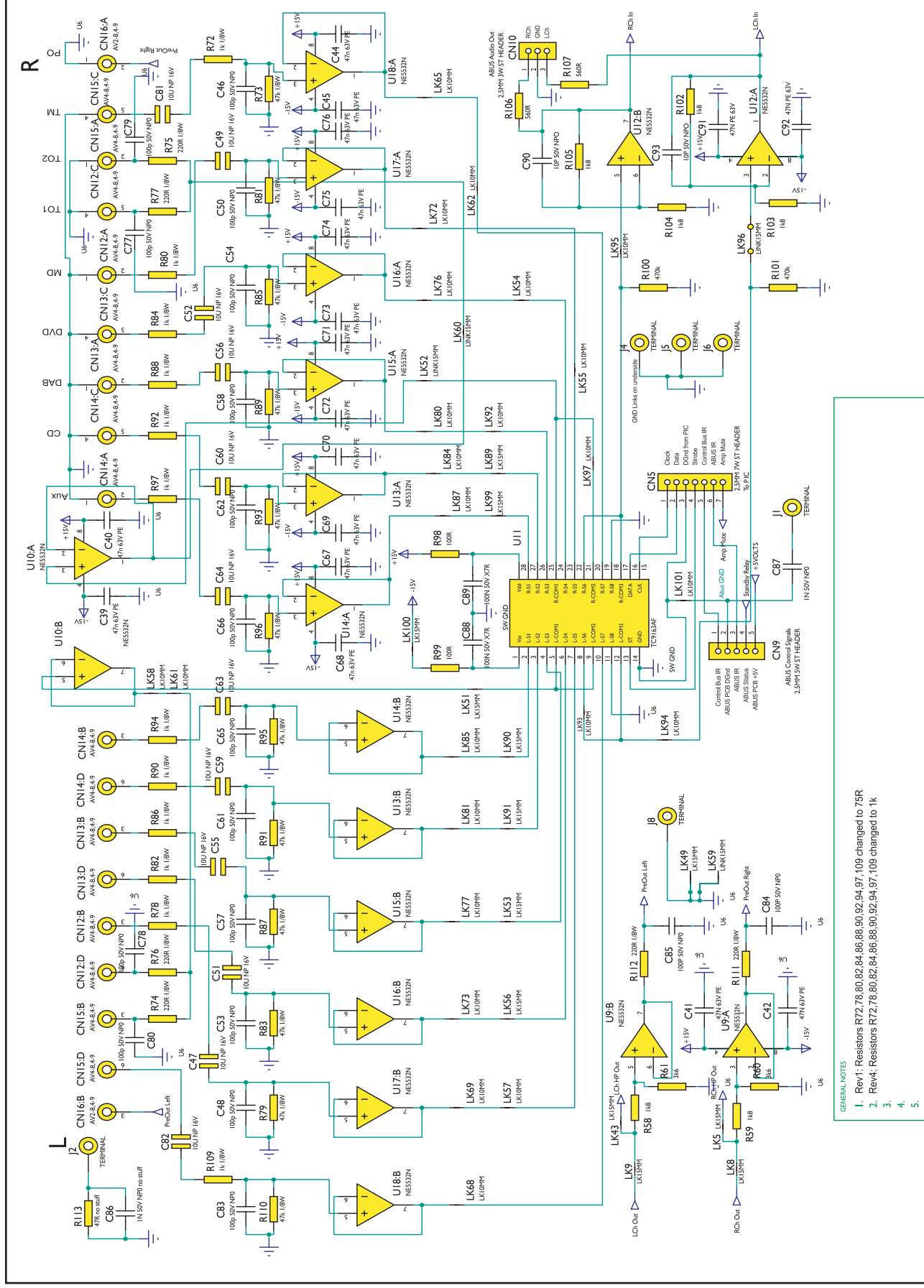
# Cambridge Audio Azur 640A V2.0 Amplifier



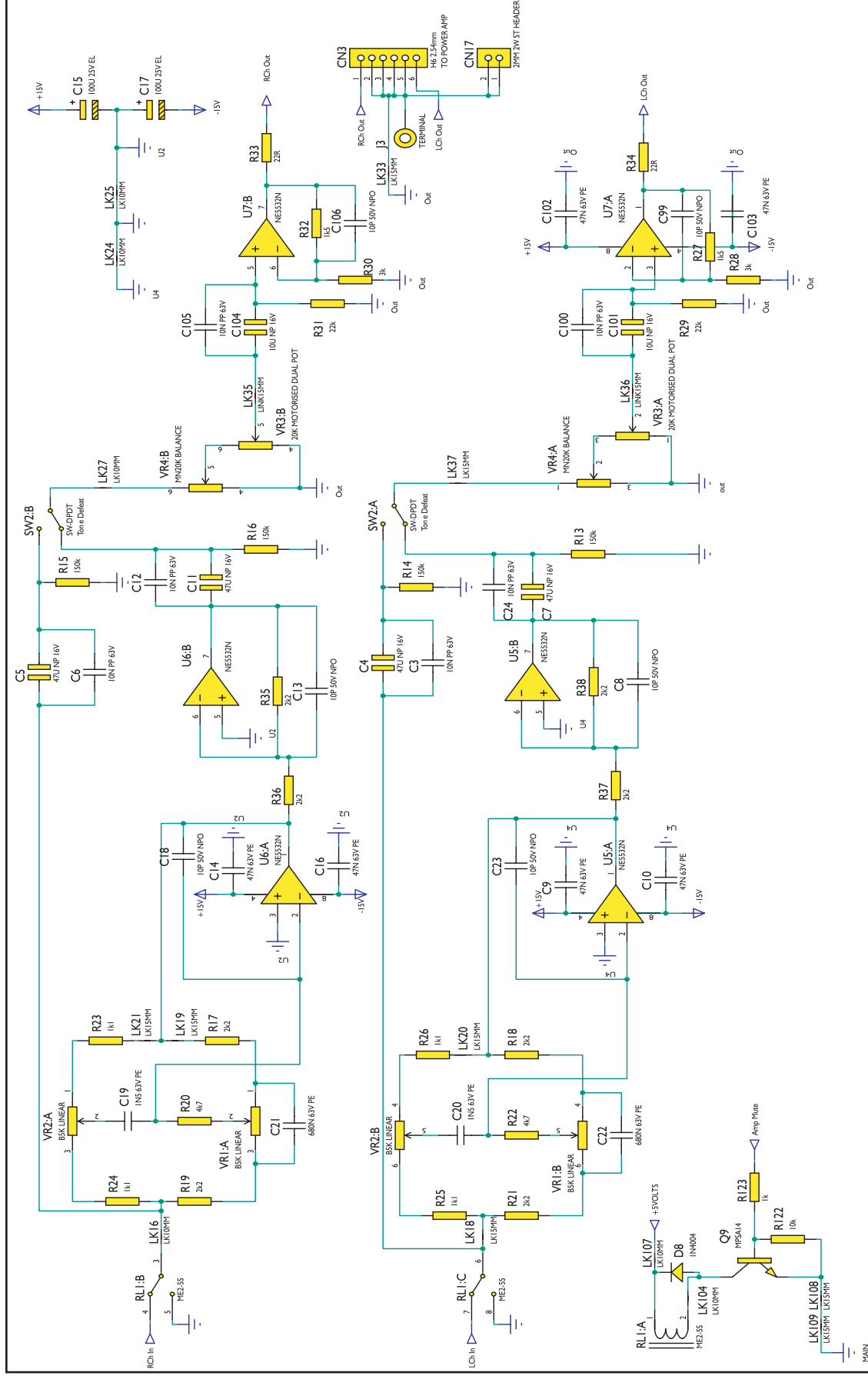
## GENERAL NOTES

1. Rev2: D8 Removed, LK105 and 106 added.
2. Rev4: D9 and D10 added.
- 3.
- 4.
- 5.

# Cambridge Audio Azur 640A V2.0 Amplifier

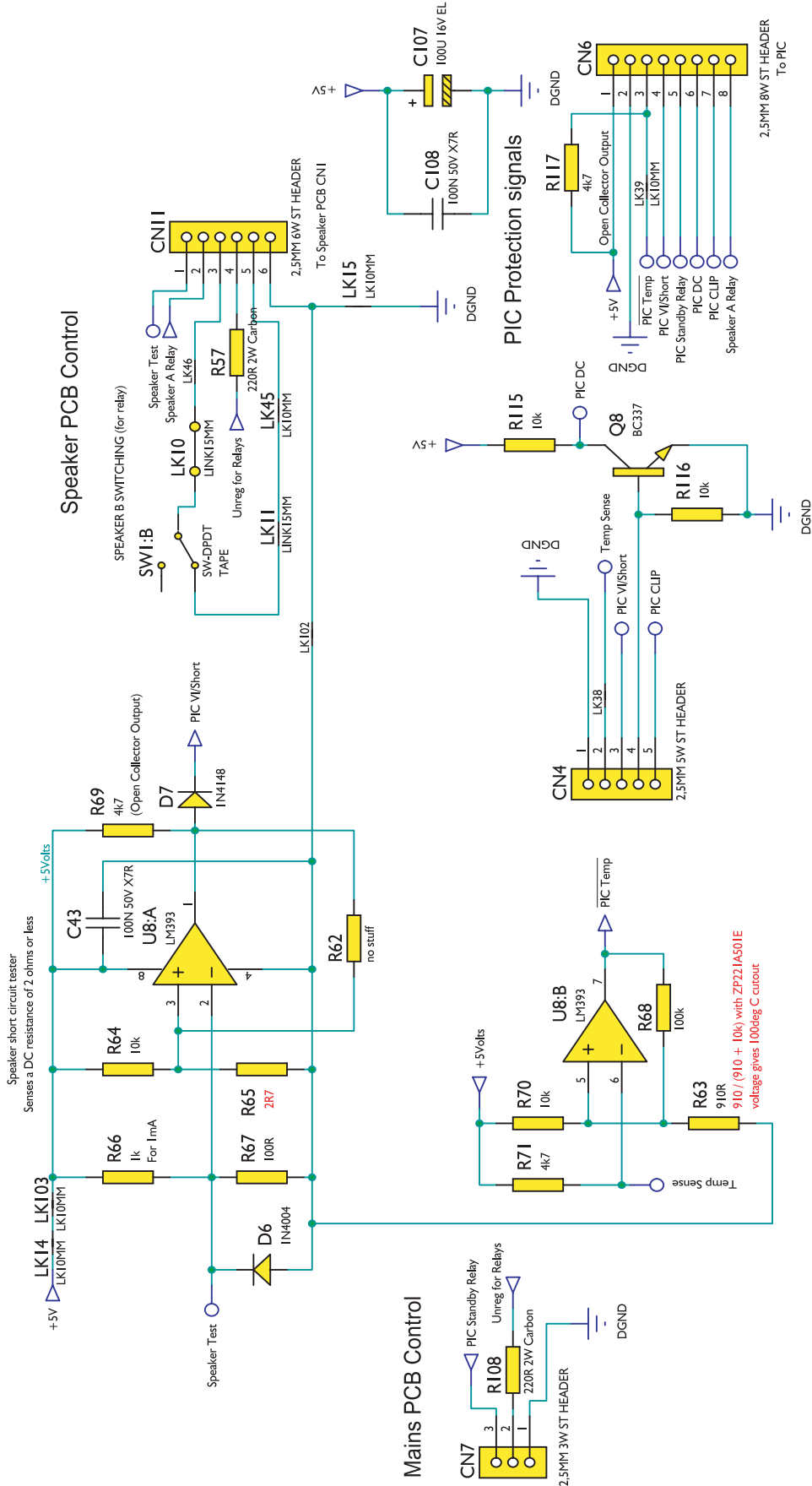


# Cambridge Audio Azur 640A V2.0 Amplifier



# Cambridge Audio Azur 640A V2.0 Amplifier

## Speaker Cable Short Circuit Detector

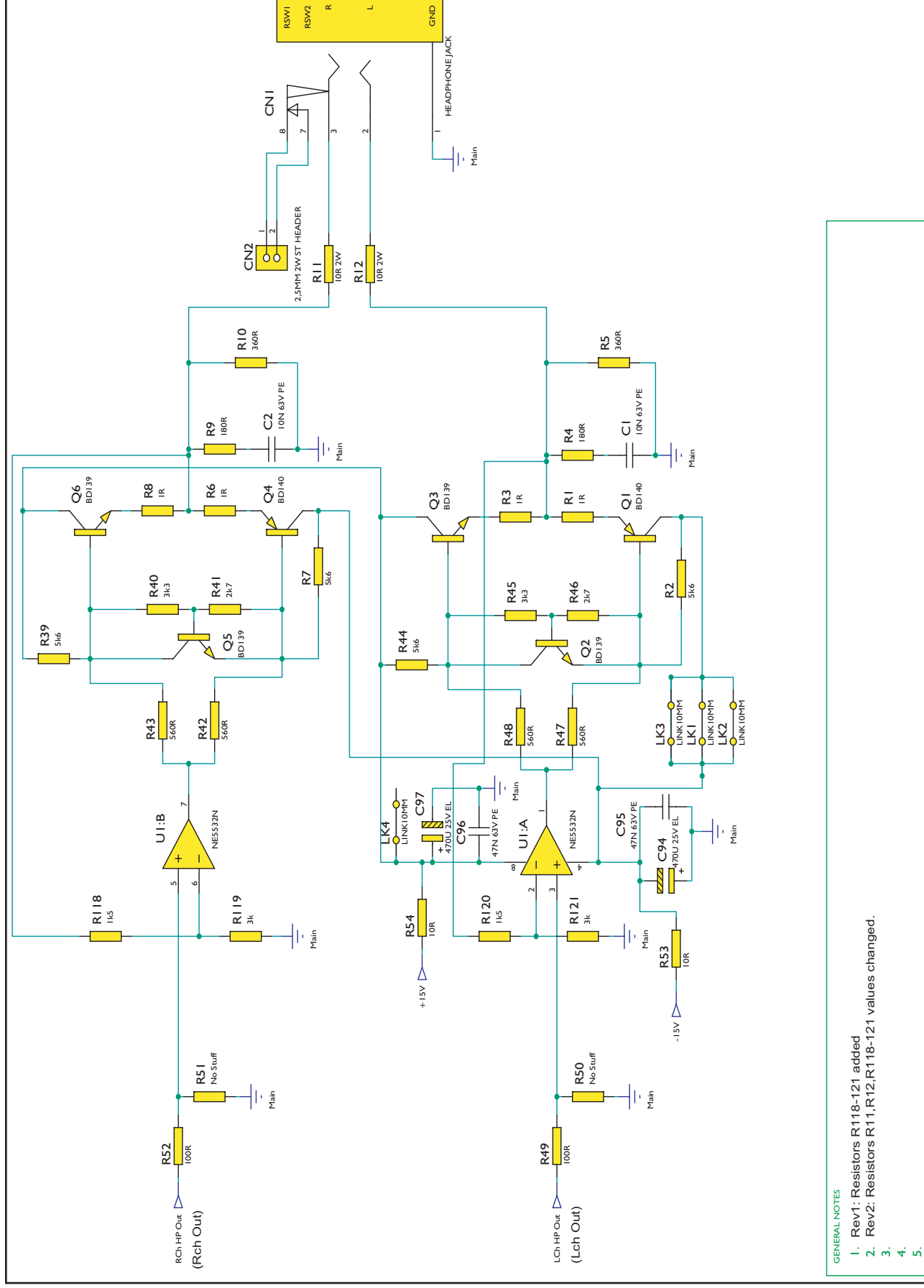


### GENERAL NOTES

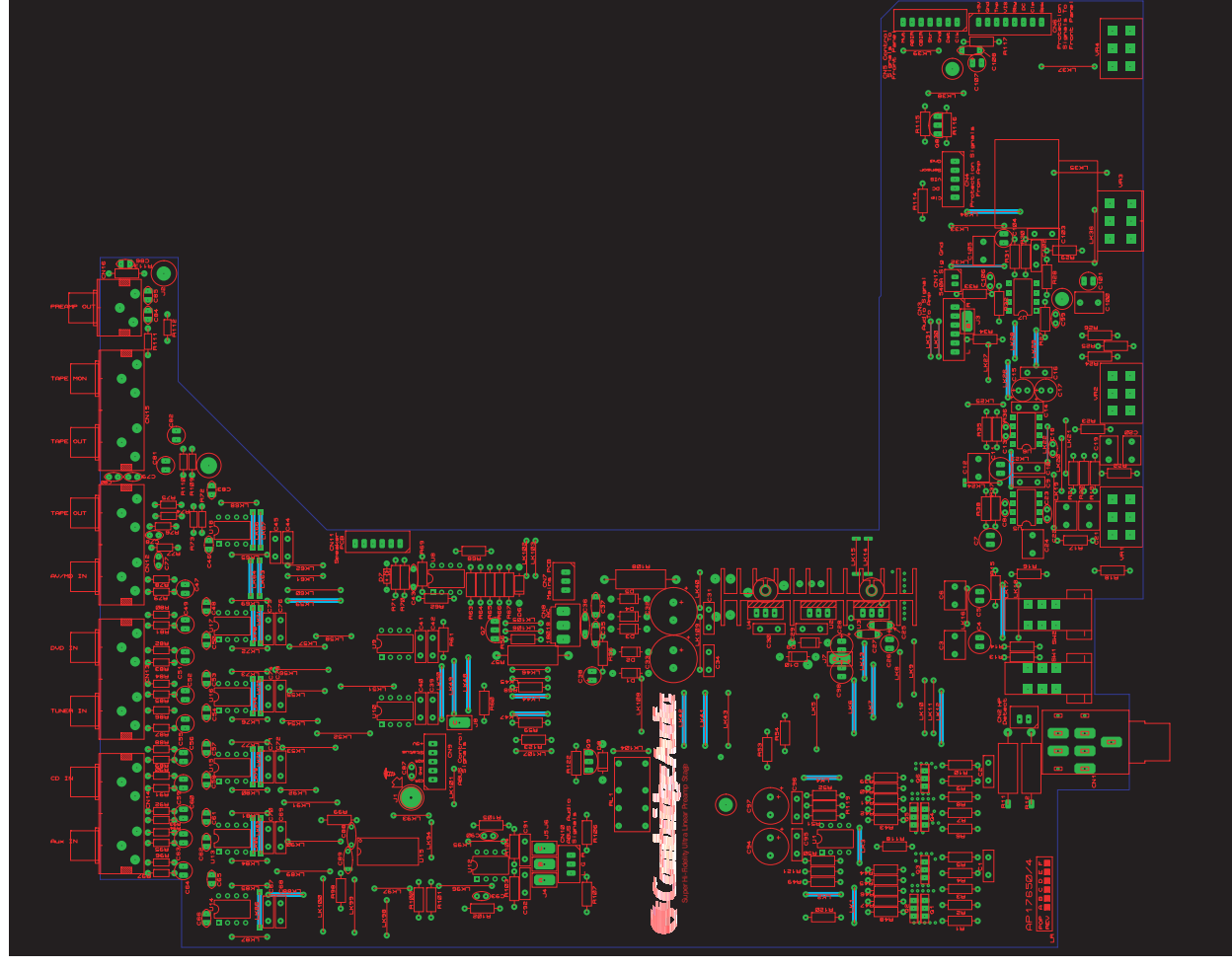
1. Rev3: R65 Changed from 10R to 8R2
2. Rev4: R65 Changed from 8R2 to 4R7
3. Rev5: R65 Changed from 4R7 to 2R7
- 4.
- 5.



# Cambridge Audio Azur 640A V2.0 Amplifier



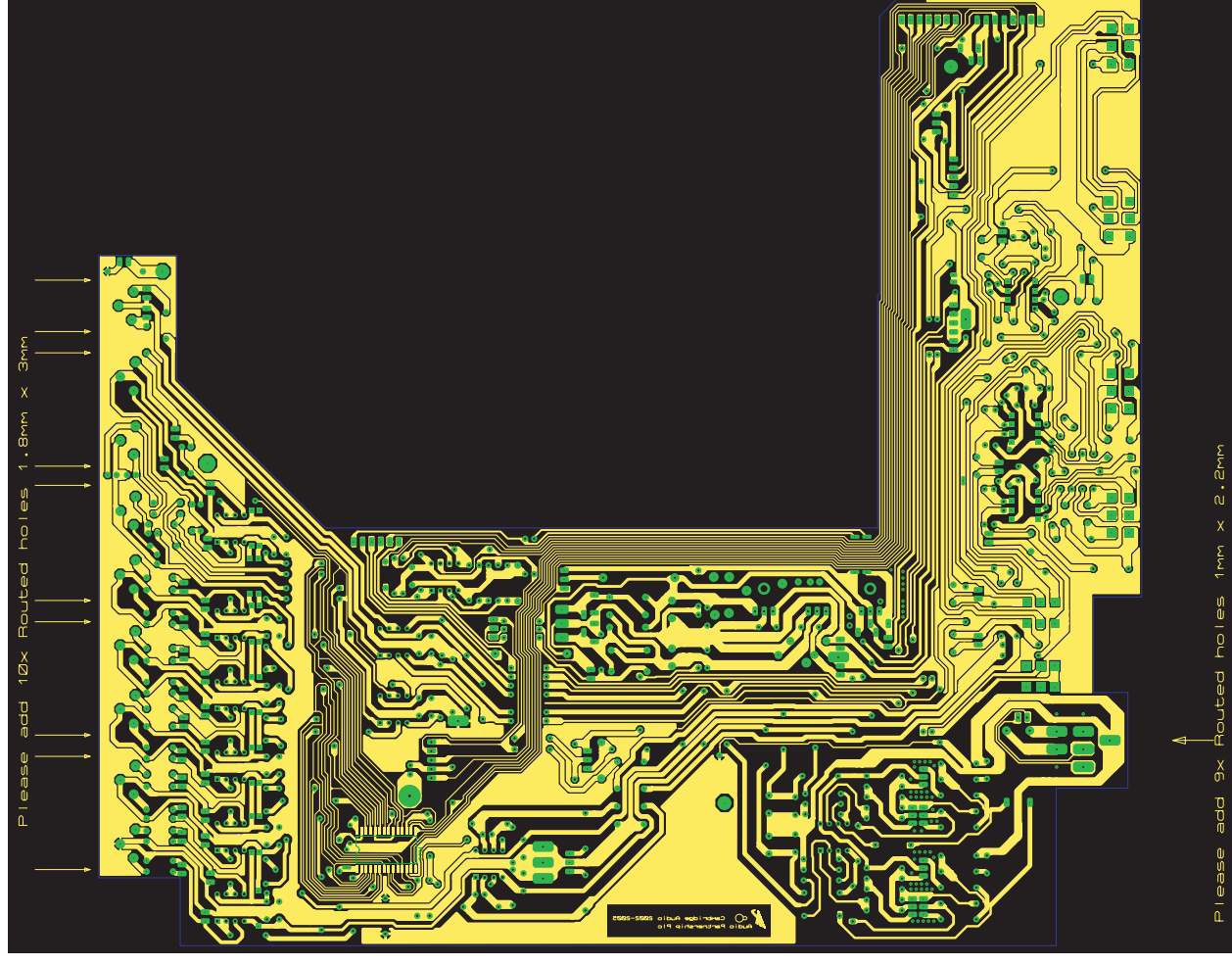
## Cambridge Audio Azur 640A V2.0 Amplifier



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## API 7649/4 Input PCB Board Layout (Top Side)

## Cambridge Audio Azur 640A V2.0 Amplifier



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**API 7649/4 Input PCB Board Layout (Bottom Side)**

**Cambridge Audio Azur 640A V2.0 Amplifier Input PCB Assembly BOM**
**API7652/5**

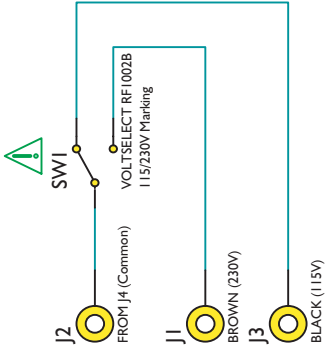
AP Part No	Value	Description/Type	Factory Part No.	Qty	Component Ident	Notes
	<b>RESISTORS</b>					
	1R	0.25W metal film		4	R1, 3, 6, 8.	
	2R7	0.25W metal film		1	R65	See Input Schematic (Protection Circuitry)
	10R	0.25W metal film		2	R53, 54	
	22R	0.25W metal film		2	R33, 34	
	100R	0.25W metal film		5	R49, 52, 67, 98, 99.	
	180R	0.25W metal film		2	R4, 9	
	360R	0.25W metal film		2	R5, 10	
	560R	0.25W metal film		6	R42, 43, 47, 48, 106, 107	
	910R	0.25W metal film		1	R63	
	1K	0.25W metal film		2	R66, (R123)	See Input Schematic (Tone Control)
	1K1	0.25W metal film		4	R23-26	
	1K5	0.25W metal film		4	R27, 32, (118, 120)	See Input Schematic (Headphone Driver)
	1K8	0.25W metal film		6	R58, 59, 102-105.	
	2K2	0.25W metal film		8	R17-19, 21, 35-38	
	2K7	0.25W metal film		2	R41, 46	
	3K	0.25W metal film		4	R28, 30, R119, (R121)	See Input Schematic (Headphone Driver)
	3K3	0.25W metal film		2	R40, 45	
	3K6	0.25W metal film		2	R60, 61	
	4K7	0.25W metal film		8	R20, 22, 55, 56, 69, 71, 114, 117	
	5K6	0.25W metal film		4	R2, 7, 39, 44	
	10K	0.25W metal film		5	R64, 70, 115, 116, (122)	See Input Schematic (Tone Control)
	22K	0.25W metal film		2	R29, 31	
	100K	0.25W metal film		1	R68	
	150K	0.25W metal film		4	R13-16	
	470K	0.25W metal film		2	R100, 101	
	1k	0.125W metal film		12	R72, 78, 80, 82, 84, 86, 88, 90, 92, 94, 97, 109.	See Input Schematic (Buffers and Switches)
	220R	0.125W metal film		6	R74-77, 111, 112.	
	47K	0.125W metal film		12	R73, 79, 81, 83, 85, 87, 89, 91, 93, 95, 96, 110,	
	10R	2W Carbon		2	R11, 12	See Input Schematic (Headphone Driver)
	220R	2W Carbon		2	R57, 108	
	<b>CAPACITORS</b>					
	10pF 50V	NP0 Ceramic	1181-100042-000	8	C8, 13, 18, 23, 90, 93, 99, 106.	
	100pF 50V	NP0 Ceramic	1181-101042-000	18	C46, 48, 50, 53, 54, 57, 58, 61, 62, 65, 66, 77-80, 83, 84, 85	
	1nF 50V	Ceramic	1100-102043-000	1	C87	
	100nF 50V	Ceramic	1100-104043-000	6	C25, 27, 43, 88, 89, 108	
	100nF 100V	Monolithic Ceramic	1106-104064-001	3	C35, 36, 37.	
	1.5nF 63V	Polyester film		2	C19, 20	
	10nF 63V	Polyester film	1117-103052-000	2	C1, 2	
	47nF 63V	Polyester film	1117-473053-000	30	C9, 10, 14, 16, 29-31, 34, 39, 40, 41, 42, 44, 45, 67-76, 91, 92, 95, 96, 102, 103	
	680nF 63V	Polyester film		2	C21, 22	
	10nF 63V	Polypropylene film		6	C3, 6, 12, 24, 100, 105	
	10uF 16V	Non Polarised Electrolytic	1105-100013-000	14	C47, 49, 51, 52, 55, 56, 59, 60, 63, 64, 81, 82, 101, 104	
	47uF 16V	Non Polarised Electrolytic		4	C4, 5, 7, 11,	
	1uF 25V	Polarised Electrolytic	1102-107024-000	1	C38	
	47uF 16V	Polarised Electrolytic	1102-470014-000	1	C26	
	100uF 16V	Polarised Electrolytic	1102-101014-000	1	C107.	
	100uF 25V	Polarised Electrolytic	1102-101024-000	2	C15, 17	

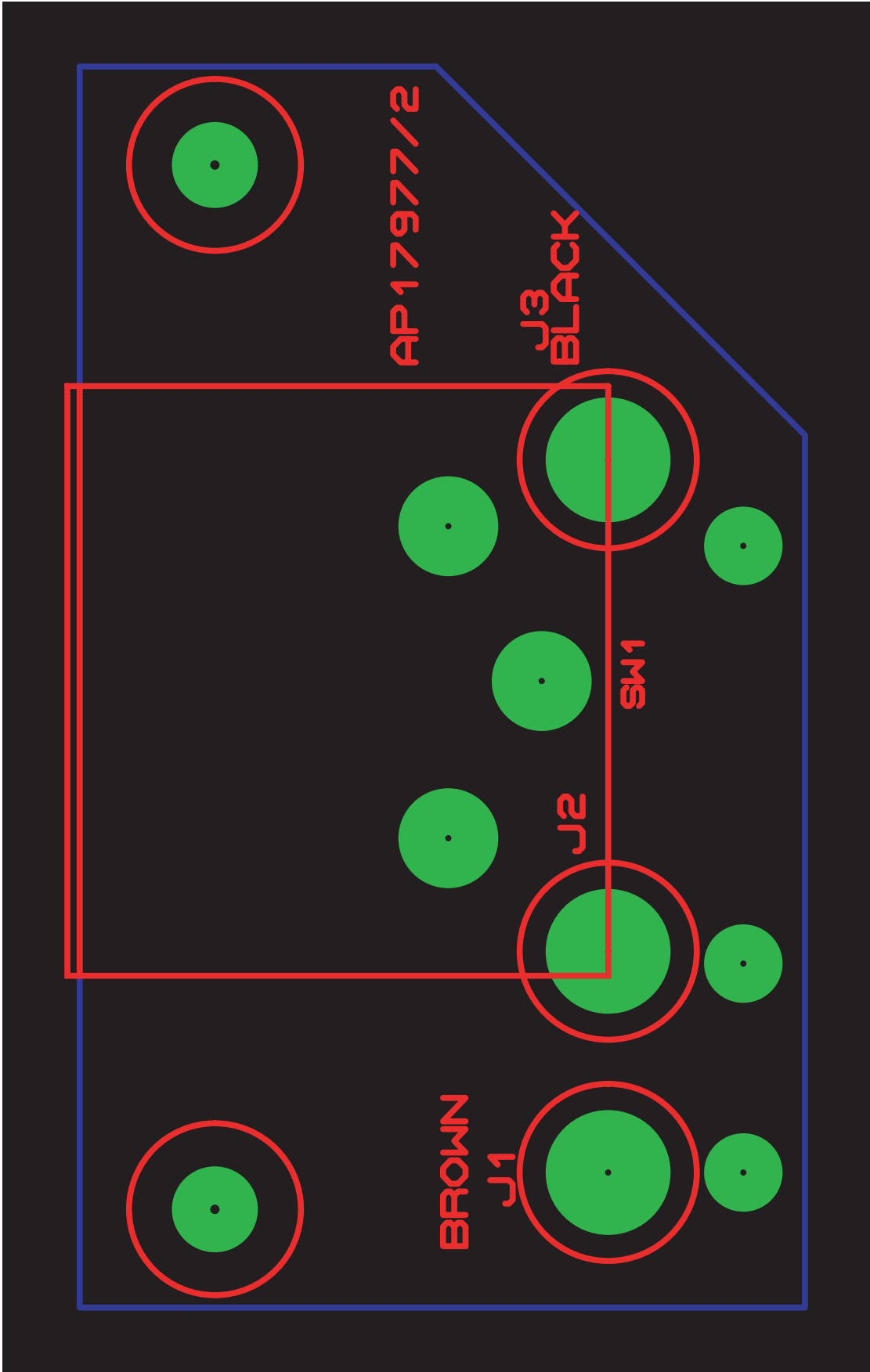
**Note: resistors, capacitors and other 'generic' electronics components are not usually stocked by the manufacturer. Please obtain these locally.**

**Cambridge Audio Azur 640A V2.0 Amplifier Input PCB Assembly BOM**
**API7652/5**

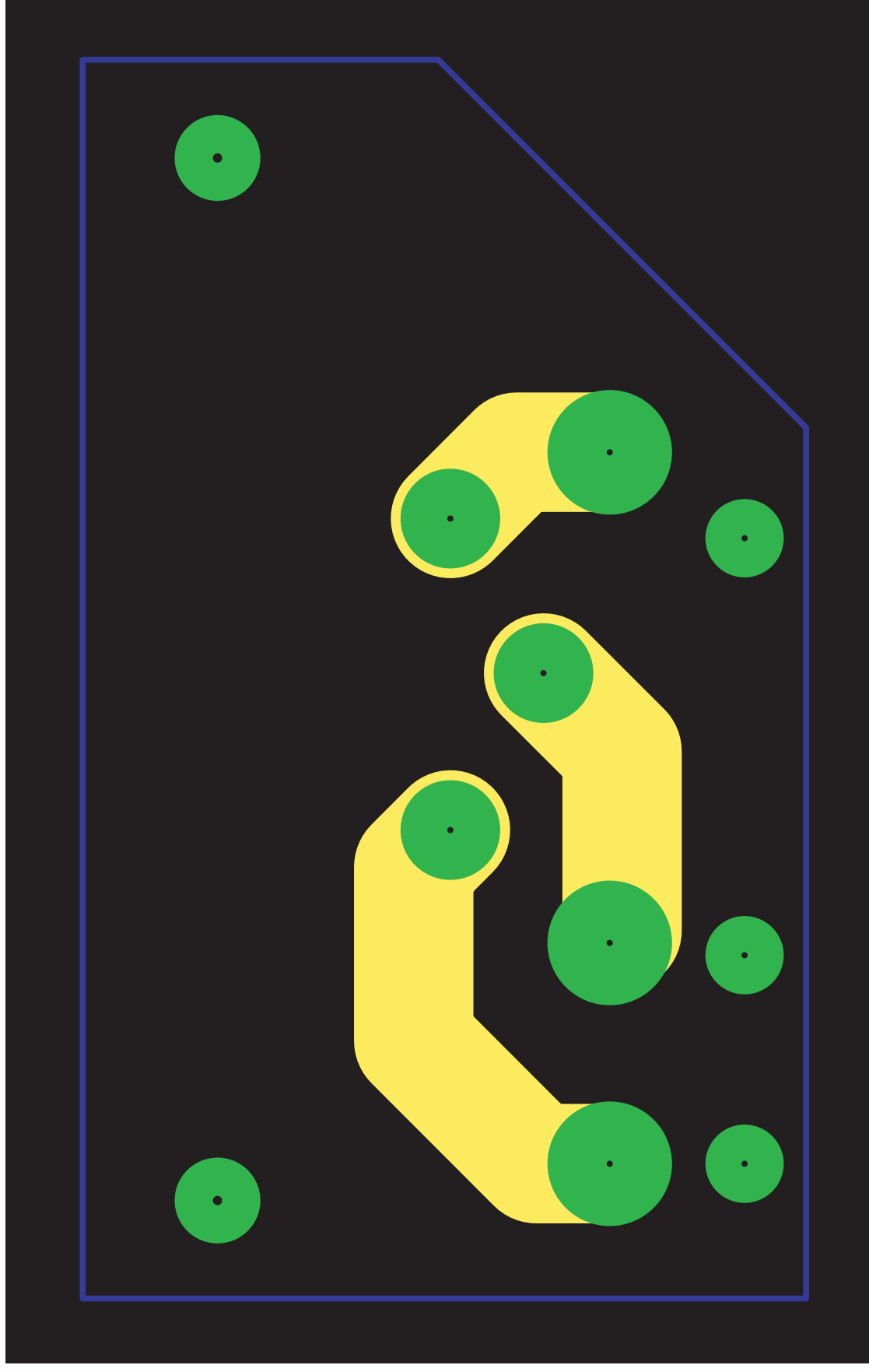
AP Part No	Value	Description/Type	Factory Part No.	Qty	Component Ident	Notes
	100uF 25V	105 degree Polarised Electrolytic		2	C28, 98.	
	470uF 25V	Polarised Electrolytic		2	C94, 97	
	1000uF 35V	Polarised Electrolytic	I102-102034-000	2	C32, 33	
<b>TRANSISTORS</b>						
	BD140	PNP Low power		2	Q1, 4	Q1 and Q2 must be thermally coupled and Q4 and Q5 must be thermally coupled, please see misc section for parts
	BD139	NPN Low power		4	Q2, 3, 5, 6,	Q1 and Q2 must be thermally coupled and Q4 and Q5 must be thermally coupled, please see misc section for parts
PY219	BC327-25	PNP Signal	I301-327000-100	1	Q7	
PY214	BC337-25	NPN Signal	I300-337000-100	1	Q8	
		NPN Darlington	I300-140000-100	1	Q9	See Input Schematic (Tone Control)
<b>DIODES</b>						
PY319	1N4004	Rectifier	I401-140040-000	9	D1-6,(D8, D9, D10)	See Input Schematic (Power Supply & Tone Control)
PY759	1N4148	Signal	I401-141480-000	1	D7	
<b>INTEGRATED CIRCUITS</b>						
PY108		NE5532N	4155-320052-900	13	U1, 5-7, 9, 10, 12-18	
		L7915CV		1	U2	
		L7805		1	U3	
		L7815CV		1	U4	
PY539		LM393	4139-300052-600	1	U8	
PY476		TC9163AF	4191-630103-000	1	U11	
<b>POTS</b>						
PY1013	20kA	Motorised Dual Volume Pot	I062-003511E110	1	VR3	High Torque
	MN20k	Dual Balance Pot	I062-003518E160	1	VR4	High Torque
	5kB	Dual Linear Pot	I062-002518E130	2	VR1, 2	High Torque
<b>SWITCH</b>						
PY045		2P2T Push Switch	2402-020200-010	2	SW1, 2	
<b>MISCELLANEOUS</b>						
	LINK10mm	24SWG Tinned Copper Wire		70	LK1-4, 13, 22, 23, 26, 28-31, 44, 47, 63, 64, 66, 67, 70, 71, 74, 75, 78, 79, 82, 83, 86, 88, 98, 14-16,24, 25, 27, 38-40, 45, 46, 54, 55, 57, 58, 61, 62, 65, 68, 69, 72, 73, 76, 77, 80, 81, 84, 85, 87, 92-95, 97, 101-103,(104,105,106,107)	See Input Schematic (Power Supply & Tone Control)
	LINK15mm	24SWG Tinned Copper Wire		39	LK5, 8, 9, 18-21, 33, 37, 43, 49, 51, 53, 56, 89-91, 99, 100, 6, 7, 10-12, 17, 32, 34-36, 41, 42, 48, 50, 52, 59, 60, 96,(108,109)	See Input Schematic (Tone Control)
PY584		5V Relay	4050-000005-002	1	RL1	See Input Schematic (Tone Control)

**Note: resistors, capacitors and other 'generic' electronics components are not usually stocked by the manufacturer. Please obtain these locally.**





## Cambridge Audio Azur 640A V2.0 Amplifier



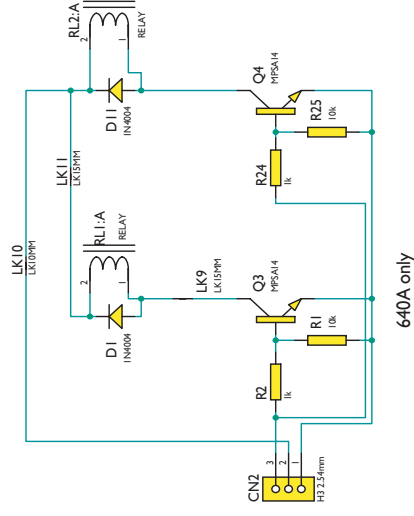
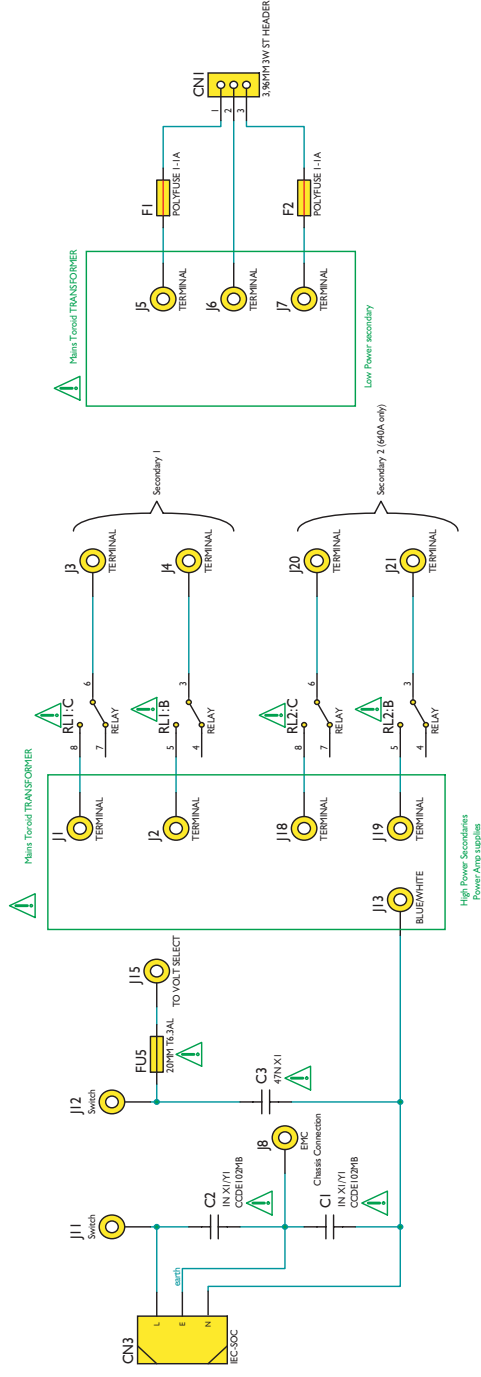


**Cambridge Audio Azur 640A V2 Voltage Selector PCB Assembly BOM****API7980/I**

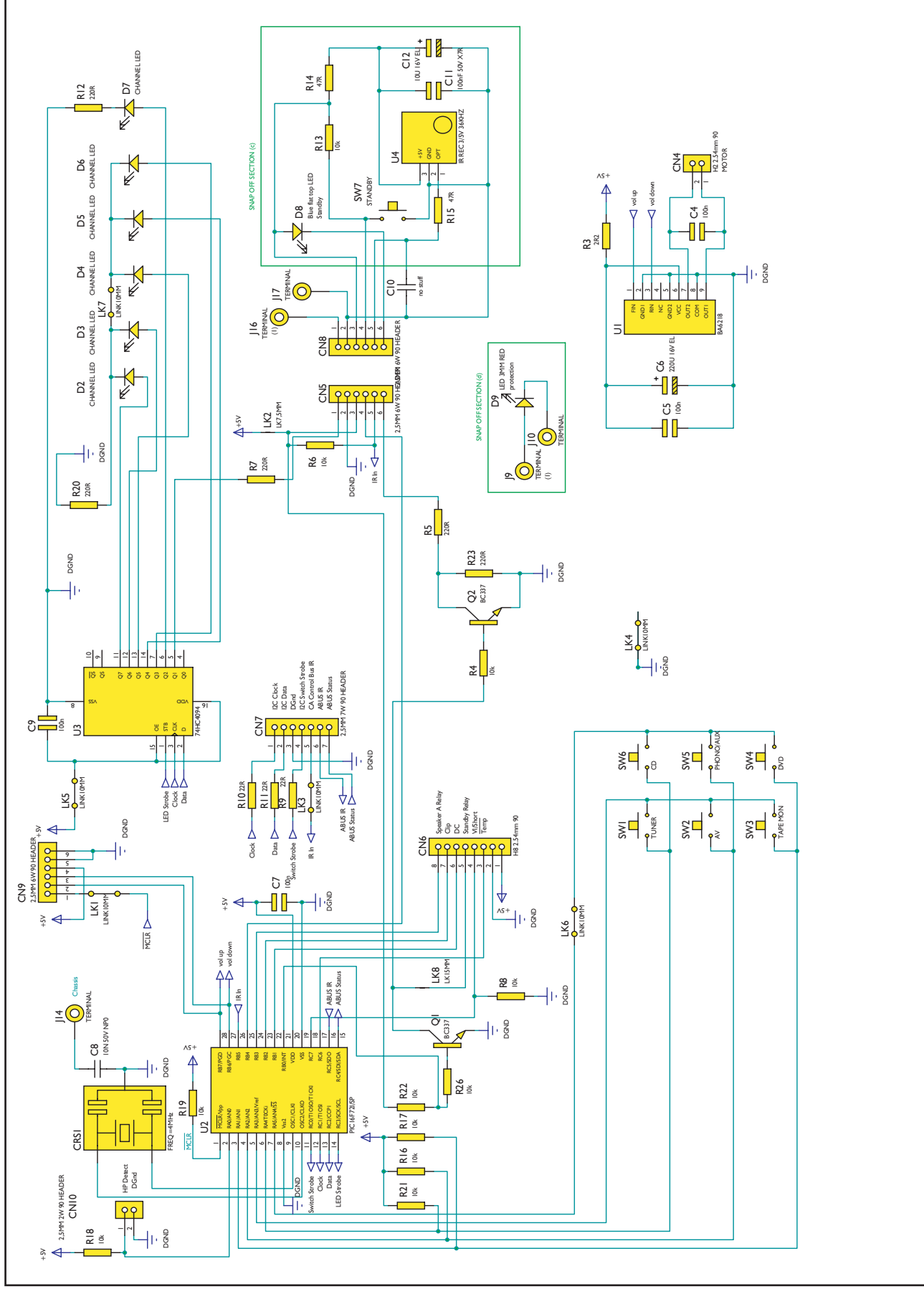
Value	Description/Type	Qty	Component Ident	Factory Part Number	Notes
<b>CONNECTORS</b>					
RFI002B	Voltage Selector	1	SW1	2406-010200-000	

**Note:** resistors, capacitors and 'other' electronic components are not usually stocked by the manufacturer. Please obtain these locally.

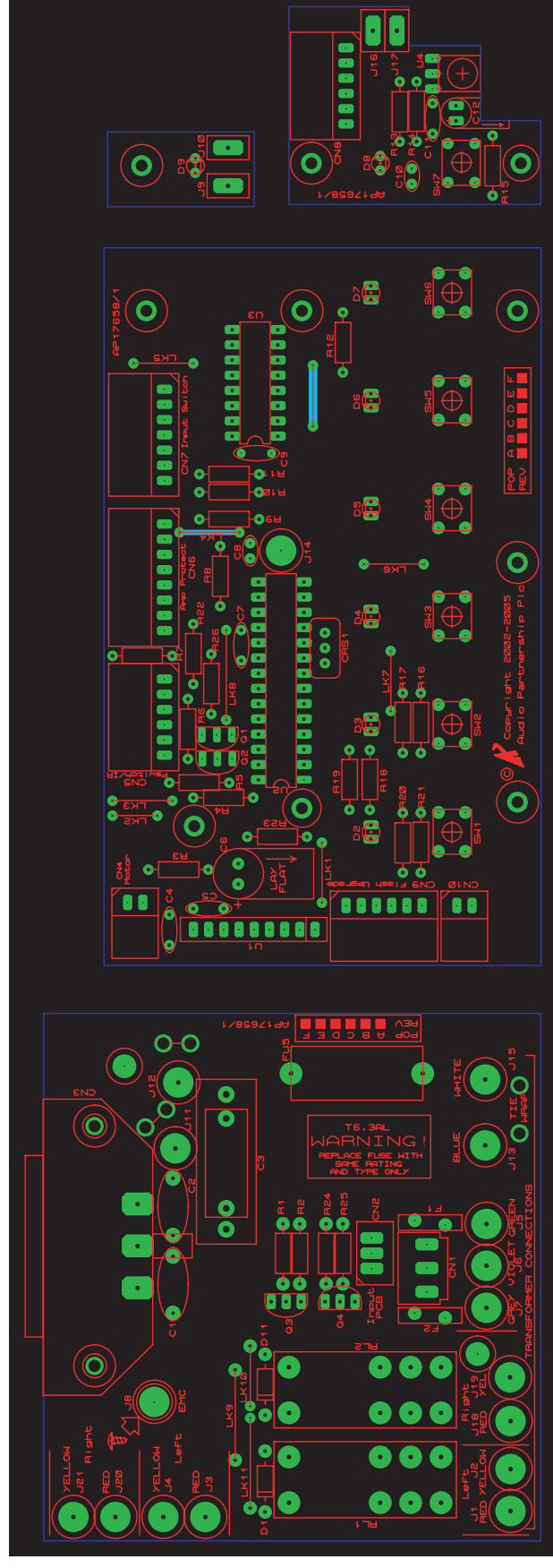
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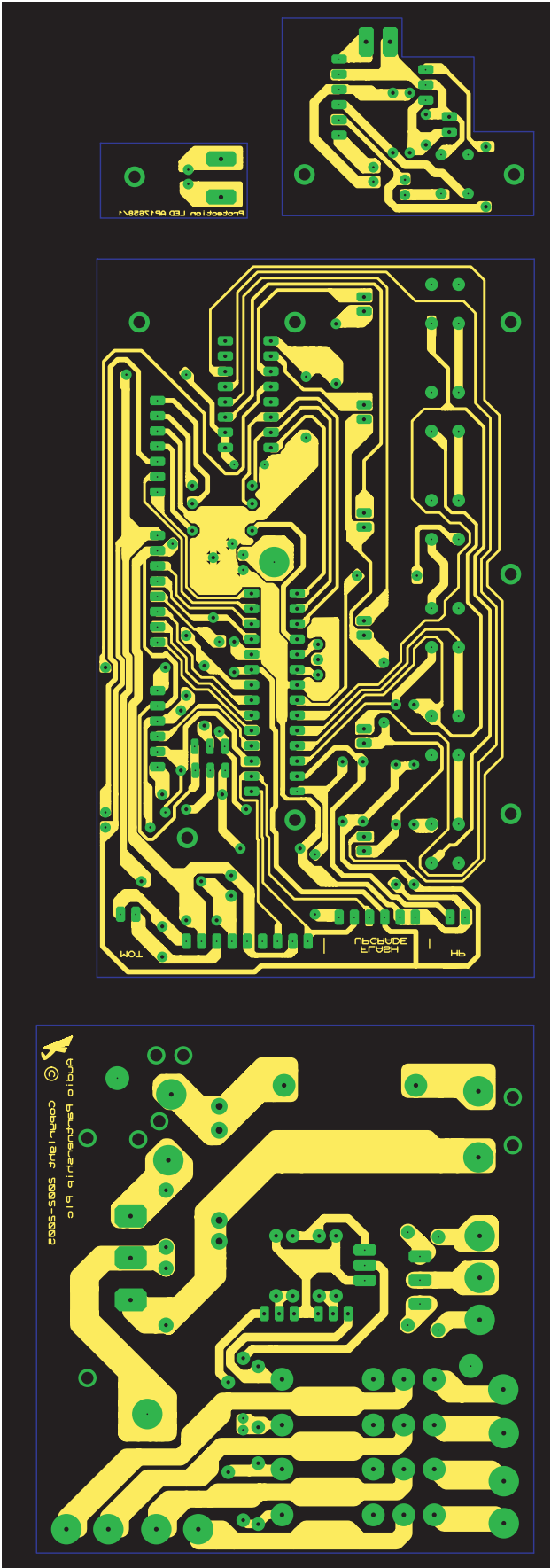
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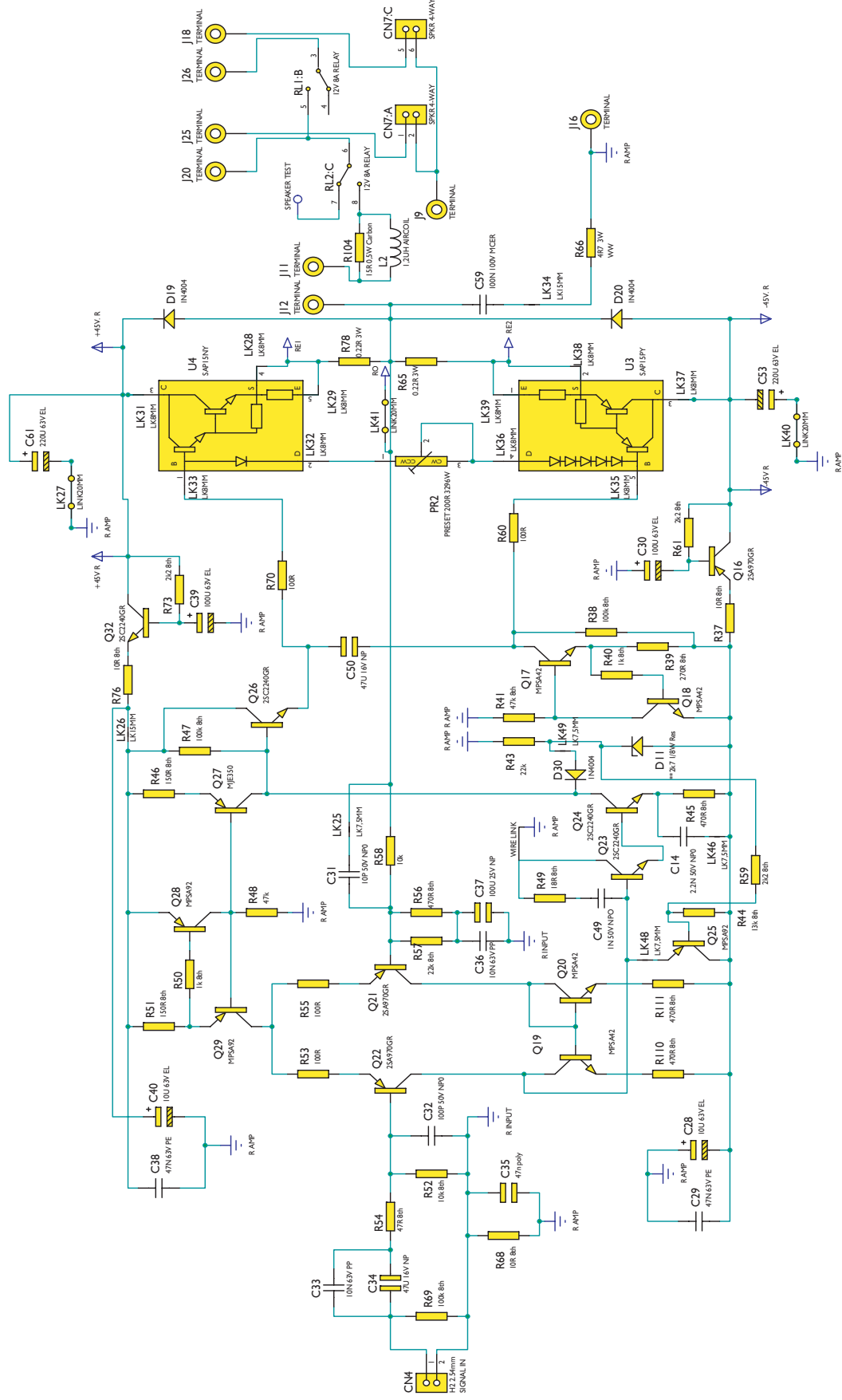


**Cambridge Audio Azur 640A Front Panel and Mains PCB Assembly BOM**
**API7660/I**

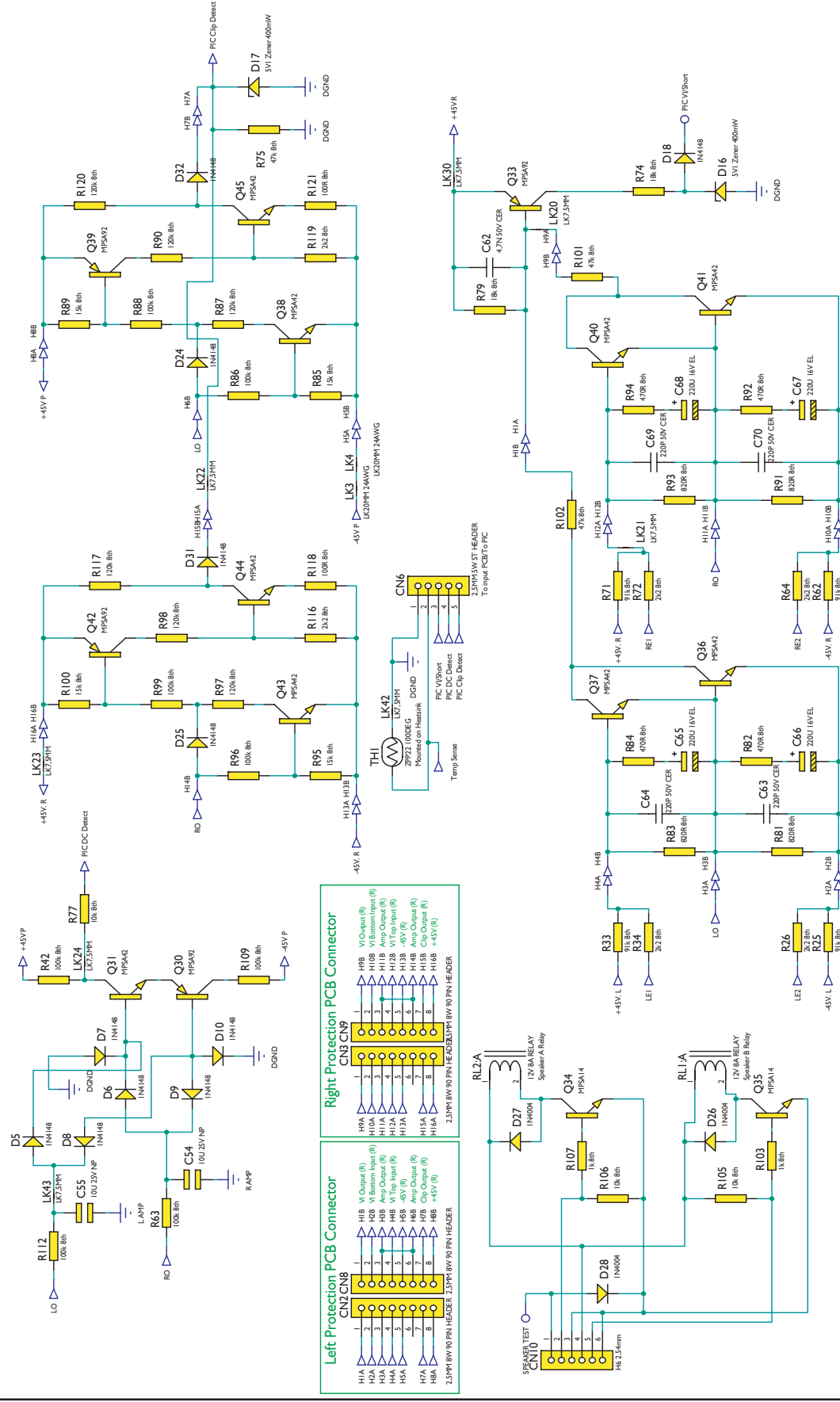
AP Part No.	Value	Description	Factory Part No.	Qty	Component Ident	Notes
	<b>RESISTORS</b>					
	220R	0.25W metal film		5	R5, 7, 12, 20, 23	
	10K	0.25W metal film		540A 12 640A 13	R1, 4, 6, 8, 13, 16-19, 21, 22, 25, 26	
	22R	0.25W metal film		3	R9-11	
	47R	0.25W metal film		2	R14, 15	
	2R2	0.25W metal film		1	R3	
	1K	0.25W metal film		540A 1 640A 2	R2, 24	
	<b>CAPACITORS</b>					
	100nF	50V Ceramic	1100-104044-000	5	C4, 5, 7, 9, 11	
	47nF	Mains Rated X1		1	C3	Mains Suppression
	1nF	Mains Rated X1/Y1		2	C1, 2	Mains Suppression
	10nF	50V Ceramic	1100-104043-000	1	C8	
	10uF	16V Electrolytic	1102-100014-000	1	C12	
	220uF	16V Electrolytic	1102-221014-000	1	C6	
	<b>TRANSISTORS</b>					
	MPSA14	NPN Darlington Transistor	1300-140000-100	540A 1 640A 2	Q3, Q4	540A fit Q4 only
PY214	BC337-25	NPN Transistor	1300-337000-100	2	Q1, 2	
	<b>DIODES</b>					
PY064	Blue	LED	3100-000030-003	7	D2-8	
	Red	LED	3100-000000-003	1	D9	
PY319	1N4004	Rectifier Diode		540A 1 640A 2	D1, 11	540A fit D11 only
	<b>INTEGRATED CIRCUITS</b>					
PY635	PIC16F721/SP	Flash PIC micro	4116-720054-200	1	U2	U2 must be programmed with API8951/I software (file name: 640AV2.hex) Request from UK Office
PY260	BA6218	Motor Drive IC	4162-180002-300	1	U1	
PY524	M74HC4094	Shift Register	4174-409052-600	1	U3	
PY054	3/5V 36KHZ	IR Receiver	3001-183600-001	1	U4	
	<b>RELAY</b>					
PY594		8A-250VAC 2P2T	4050-110122-001	540A 1 640A 2	RL1, RL2	540A fit RL2 only
	<b>SWITCHES</b>					
PY043		Tact Switch	2400-020200-000	7	SW1-7	
	<b>MISCELLANEOUS</b>					
	4MHz	Ceramic Resonator	1602-400002-990	1	CRS1	
	20MM T6.3AL			1	FU5	
	1.1A	Polyfuse		2	FI,2	

**Note: resistors, capacitors and other 'generic' components are not usually stocked by the manufacturer. Please obtain these locally.**

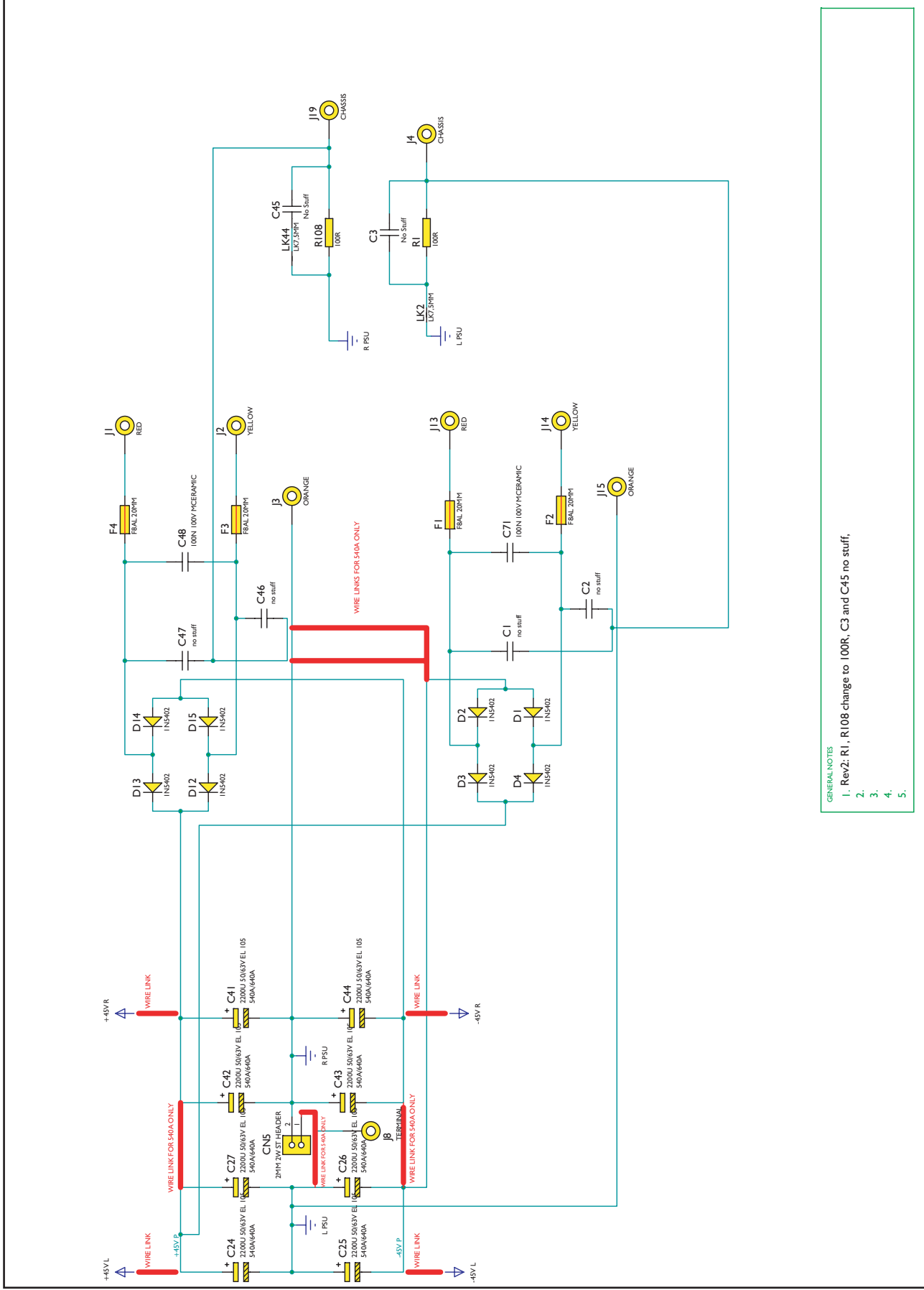
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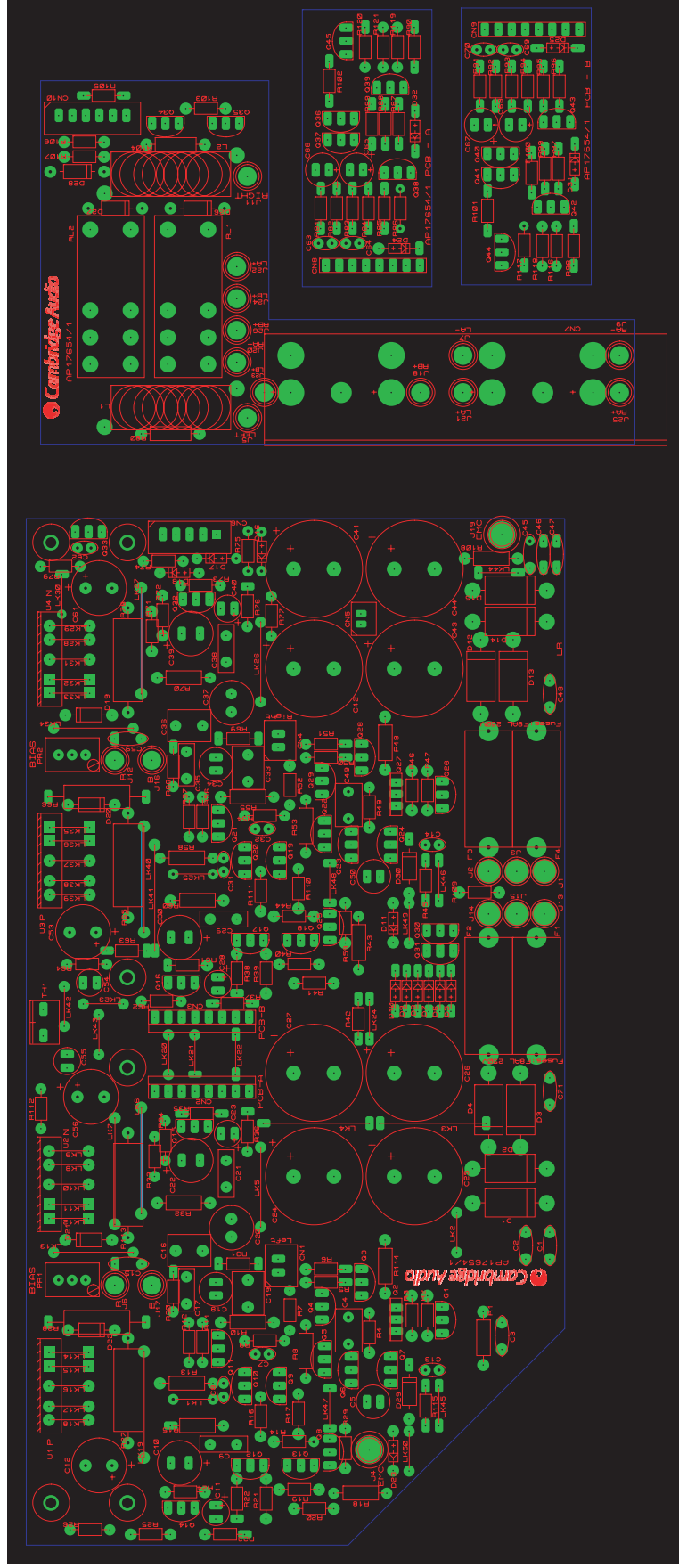








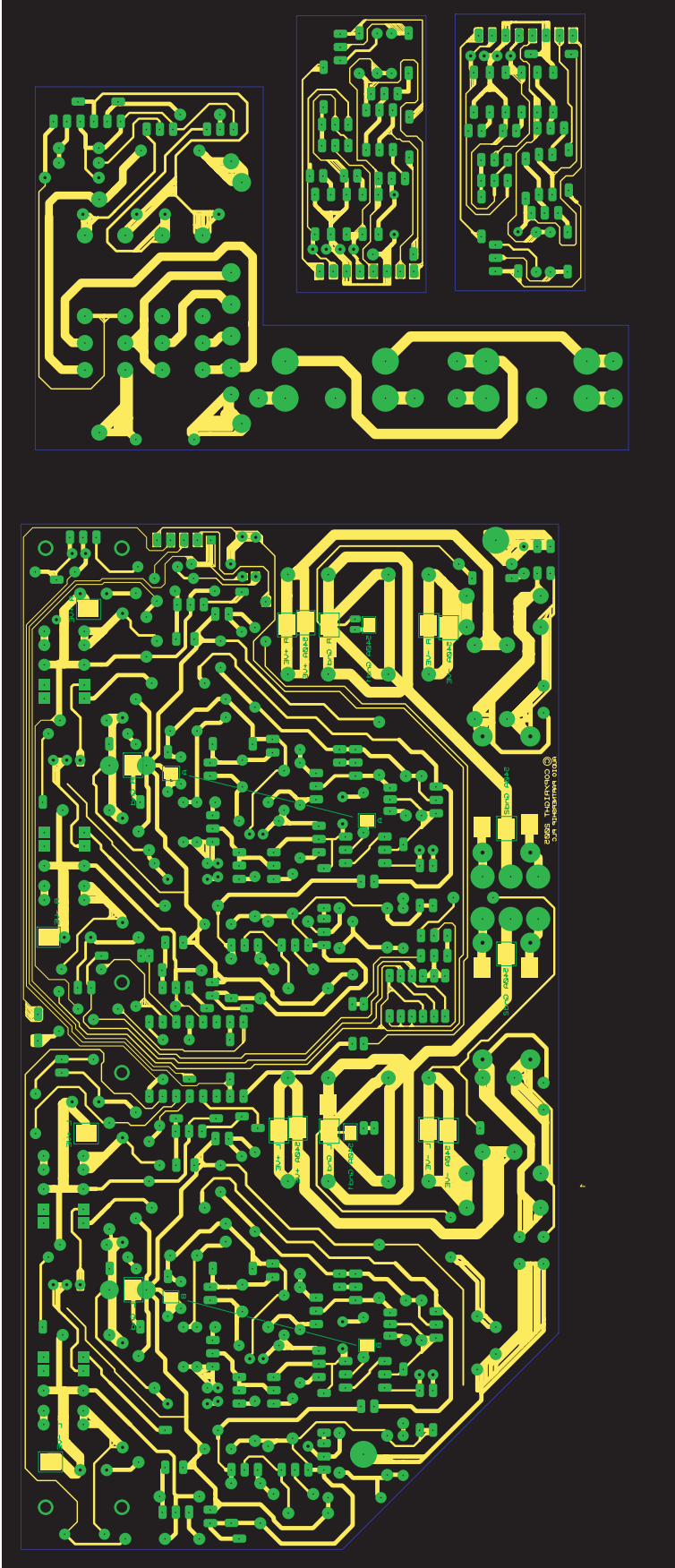
# Cambridge Audio Azur 640A V2.0 Amplifier



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AP17653/1 Amp PCB Board Layout (Top Side)

Cambridge Audio Azur 640A V2.0 Amplifier



**Cambridge Audio Azur 640A V2 Amp PCB Assembly BOM**
**API7656/2**

AP Part No	Value	Description	Reference	Qty	Factory Part No	Comments
	<b>Capacitors</b>					
	100nF 100V	Monolithic Ceramic	C15,C48,C59,C71	540A - 3 640A - 4	1106-104064-001	540A only C48 is not fitted
	1nF 63V	Polypropylene film	C4	1		
	47uF 16V	Non Polarised Electrolytic	C5,C18,C34,C50	4	1105-470014-000	
	47nF 63V	Polyester Film	C9,C21,C29,C38	4	1117-473053-000	
	100pF 50V	NP0 Ceramic	C7,C32	2	1181-101042-000	
	10pF 50V	NP0 Ceramic	C8	1		
	100uF 63V	Polarised Electrolytic	C10,C22,C30,C39	4	1102-101054-000	
	10uF 63V	Polarised Electrlytic	C11,C23,C28,C40	4	1102-100054-000	
	220uF 63V	Polarised Electrolytic	C12,C53,C56,C61	4		
	2.2nF 50V	NP0 Ceramic	C13,C14	2		
	10nF 63V	Polypropylene film	C16,C19,C33,C36	4		
	47nF 63V	Polyester Film	C17,C35	540A only 2		Only fitted for 540A
	100uF 25V	Non Polarised Electrolytic	C20,C37	2	1105-101024-000	
	2200uF 50V	105deg Polarised Electrolytic	C24-C27,C41-C44	540A only 8	1102-222044-001	Screened for CA/63V for 540A (540A only)
	2200uF 63V	105deg Polarised Electrolytic	C24-C27,C41-C44	640A only 8		Screened for CA/63V for 640A (640A only)
	10pF 50V	NP0 Ceramic	C31	1	1181-100042-000	
	1nF 50V	Ceramic	C49	1		
	10uF 25V	Non Polarised Electrolytic	C54,C55	2	1105-100024-000	
	4.7nF 50V	Ceramic	C62	1	1100-472043-000	
	220pF 50V	Ceramic	C63,C64,C69,C70	4	1100-221042-000	
	220uF 16V	Polarised Electrolytic	C65-C68	4	1102-221014-000	
	<b>Diodes</b>					
	1N5402	Rectifier Diode	640A D1-D4, D12-15 540A - D1-4 only	540A - 4 640A - 8		Please stand off pcb by 5mm
	1N4148	Signal	D5-D10,D18,D24,D25,D31,D32	11	1401-141480-000	
	3V9 500mW	Zener	D11,D23	2		
	5V1 500mW	Zener	D16,D17	2		
	1N4004	Rectifier Diode	D19-D22,D26-D30	9	1401-140040-000	
	<b>Fuses</b>					
	F8AL 20MM		640A F1-F4 540A F1,F2	540A - 2 640A - 4		
	Fuse Holders		640A F1-F4 540A F1,F2	540A - 2 640A - 4		
	<b>Inductors</b>					
	24.5T 0.9mm	1.2uH Output Inductor	L1,L2	2	3203-874801-000	
	<b>Ics</b>					
PY016	SAP15PY	PNP Power Transistor	U1,U3	2	1301-150000-700	
PY010	SAP15NY	NPN Power Transistor	U2,U4	2	1300-150000-700	
	<b>Pots</b>					
	200R	3296W Multiturn Preset	PR1,PR2	2		
	<b>Relay</b>					
PY594	12V 8A RELAY		RL1,RL2	2		
	<b>Resistors</b>					

**Note: resistors, capacitors and other 'generic' electronic components are not usually stocked by the manufacturer. Please obtain these locally.**

**Cambridge Audio Azur 640A V2 Amp PCB Assembly BOM**
**API7656/2**

AP Part No	Value	Description	Reference	Qty	Factory Part No	Comments
	100k 8th		R2,R22,R31,R38,R42,R47,R63,R69,R86,R88,R96,R99,R109,R112	14		
	150R 8th		R3,R6,R46,R51	4		
	18R 8th		R4,R49	2		
	1k 8th		R5,R19,R40,R50,R103,R107	6		
	91k 8th		R25,R33,R62,R71	4		
	10k 8th		R7,R52,R77,R105,R106	5		
	47R 8th		R9, R54	2		
	100R		R1,R8,R10,R15,R32,R53,R55,R60,R70,R108	10		
	470R 8th		R11,R16,R17,R45,R56,R82,R84,R92,R94,R110,R111,R115	12		
	120k 8th		R87,R90,R97,R98,R117,R120	6		
	22k 8th		R12,R57	2		
	10k		R13,R58	2		
	13k 8th		R14,R44	2		
	100R 8th		R118, R121	2		
	22k		R18,R43	2		
	2k7 8th		D11,D23	2		
	47k 8th		R20,R41,R75,R101,R102	5		
	270R 8th		R21,R39	2		
	10R 8th		R23,R30,R36,R37,R68,R76	540A 6 640A 4		640A has R30 and R68 linked out 540A has R30 and R68 fitted
	2k2 8th		R24,R26,R29,R34,R35,R59,R61,R64,R72,R73, R116, R119	12		
	0.22R 3W		R27,R65,R78,R113	4		
	4R7 3W		R28,R66	2		
	47k		R48,R114	2		
	15k 8th		R85,R89,R95,R100	4		
	18k 8th		R74,R79	4		
	15R	0.5W Carbon film	R80,R104	2		
	820R 8th		R81,R83,R91,R93	4		
	<b>Transistors</b>					
PY910	2SC2240GR	NPN Low Noise	Q1,Q6,Q7,Q15,Q23,Q24,Q26,Q32	8		
PY018	MJE350	PNP Low Power	Q2,Q27	2	1301-350000-200	
PY220	MPSA92	PNP High Voltage	Q3,Q4,Q8,Q25,Q28-Q30,Q33,Q39,Q42	10	1301-920000-100	
	2SA970GR	PNP Low Noise	Q5,Q11,Q14,Q16,Q21,Q22	6	1301-970000-100	

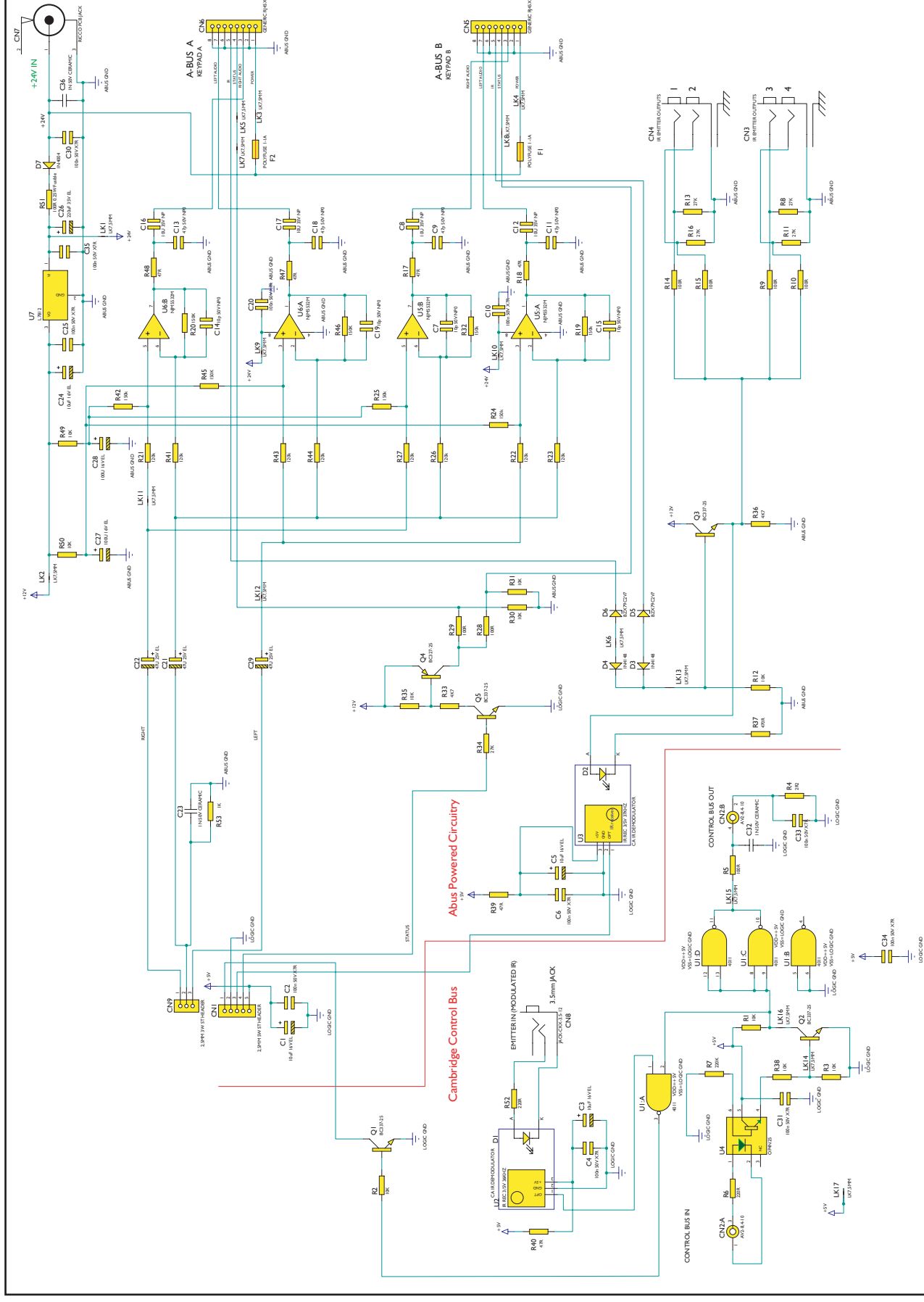
**Note: resistors, capacitors and other 'generic' electronic components are not usually stocked by the manufacturer. Please obtain these locally.**

**Cambridge Audio Azur 640A V2 Amp PCB Assembly BOM****API7656/2**

<b>AP Part No</b>	<b>Value</b>	<b>Description</b>	<b>Reference</b>	<b>Qty</b>	<b>Factory Part No</b>	<b>Comments</b>
PY537	MPSA42	NPN High Voltage	Q9,Q10,Q12,Q13,Q17-Q20,Q31,Q36-Q38,Q40,Q41,Q43-Q45	17	1300-420000-100	
	MPSA14	NPN Darlington	Q34,Q35	2	1300-140000-100	

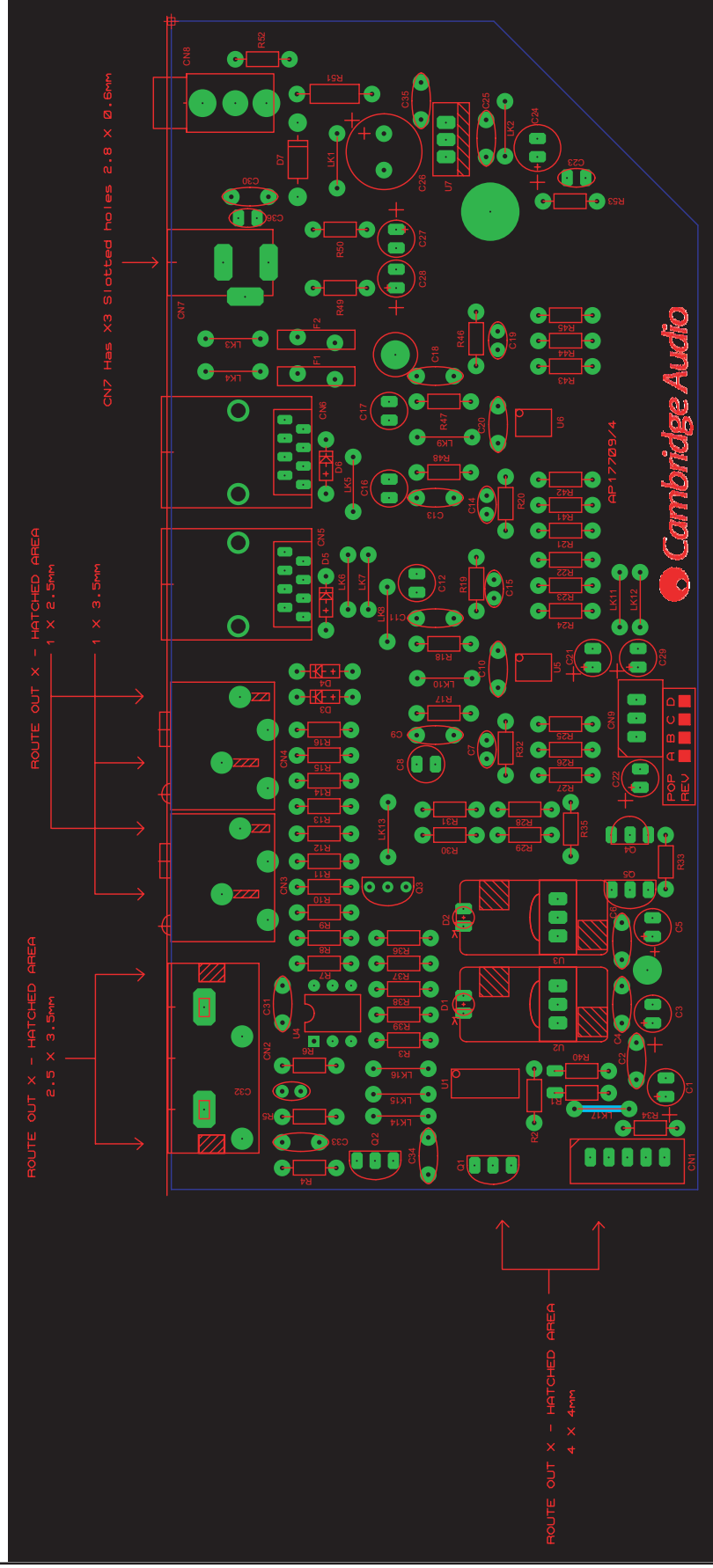
**Note: resistors, capacitors and other 'generic' electronic components are not usually stocked by the manufacturer. Please obtain these locally.**

To enhance viewing, please print to A3





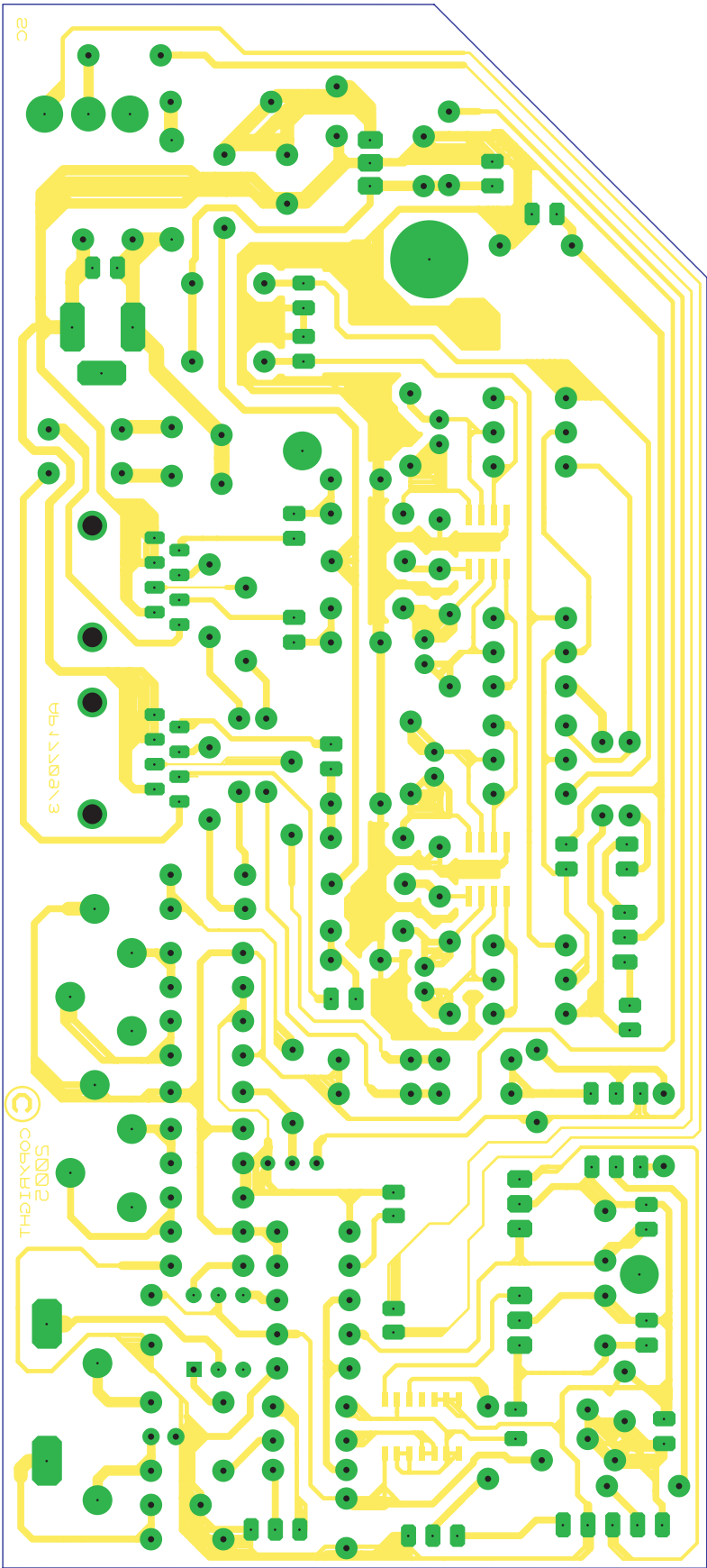
# Cambridge Audio Azur 640A V2.0 Amplifier



To enhance viewing, please print to A3

API7708/4 Abus Module PCB Layout (Top Side)

Cambridge Audio Azur 640A V2.0 Amplifier



To enhance viewing, please print to A3

**API 7708/4 Abus Module PCB Layout (Bottom Side)**

**Cambridge Audio Azur 640A V2 A-Bus PCB BOM**
**API7711/1**

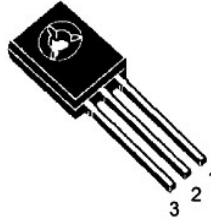
AP Part No	Value	Description	Factory Part No	Qty	Component Ident	NOTES
	<b>RESISTORS</b>					
	2R2	0.125W metal film		1	R4	
	47R	0.125W metal film		6	R17, 18, 39, 40, 47, 48	
	100R	0.125W metal film		8	R5, 9, 10, 14, 15, 28, 29	
	220R	0.125W metal film		2	R6, 52	
	470R	0.125W metal film		1	R37	
	1K	0.125W metal film		1	R53	
	4K7	0.125W metal film		2	R33, 36	
	10K	0.125W metal film		10	R1, 2, 3, 12, 30, 31, 35, 38, 49, 50	
	27k	0.125W metal film		5	R8, 11, 13, 16, 34	
	120K	0.125W metal film		8	R21, 22, 23, 26, 27, 41, 43, 44	
	150K	0.125W metal film		8	R19, 20, 24, 25, 32, 42, 45, 46	
	220K	0.125W metal film		1	R7	
	100R	0.33W Fusible metal film		1	R51	Resistor must be raised off the PCB by 5mm
	<b>CAPACITORS</b>					
	10pF 50V	NP0 Ceramic	1181-100042-000	4	C7, 14, 15, 19	
	47pF 50V	NP0 Ceramic	1181-470042-000	4	C9, 11, 13, 18.	
	1nF 50V	Ceramic	1100-102043-000	3	C23, 32, 36	
	100nF 50V	Ceramic	1100-104043-000	11	C2, 4, 6, 10, 20, 25, 30, 31, 33, 34, 35	
	10uF 16V	Polarised Electrolytic	1102-100014-000	4	C1, 3, 5, 24	
	47uF 25V	Polarised Electrolytic	1102-470024-000	3	C21, 22, 29	
	100U 16V	Polarised Electrolytic	1102-101014-000	2	C27, 28	
	220uF 35V	Polarised Electrolytic	1102-221034-001	1	C26	
	10U NP 35V	NP Electrolytic		4	C8, 12, 16, 17	
	<b>TRANSISTORS</b>					
PY214	BC337-25	NPN Signal	1300-337000-100	4	Q1, 2, 3, 5	
PY219	BC327-25	PNP Signal	1301-327000-100	1	Q4	
	<b>DIODES</b>					
PY962	Red LED			2	D1, 2	
PY759	1N4148		1401-141480-000	2	D3, 4	
	BZX79C2V7		1402-270001-201	2	D5, 6	
	1N4004		1401-140040-000	1	D7	
	<b>INTEGRATED CIRCUITS</b>					
	4011	Quad 2 Input NAND Gate		1	U1	
PY755		36kHz IR Receiver	3001-348360-000	1	U2	
PY1007		37kHz IR Receiver	3001-348370-000	1	U3	
PD025		Opto Isolator	4142-500050-001	1	U4	
	NJM5532M	Op amp	4155-320101-600	2	U5, 6	
	L7812	12V 1A Regulator	4178-120302-600	1	U7	
	<b>FUSES</b>					
	POLYFUSE 1.1A		4030-301100-001	2	F1, 2	

**Note: resistors, capacitors and other 'generic' electronic components are not usually stocked by the manufacturer. Please obtain these locally.**

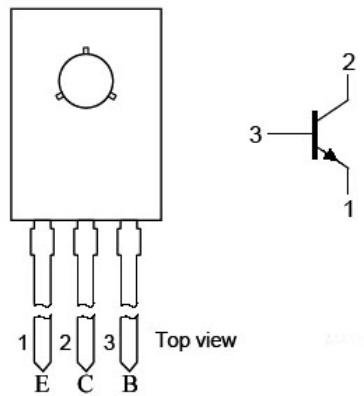
## Cambridge Audio Azur 640A V2.0 Amplifier IC Pin Layout Details

### Input PCB

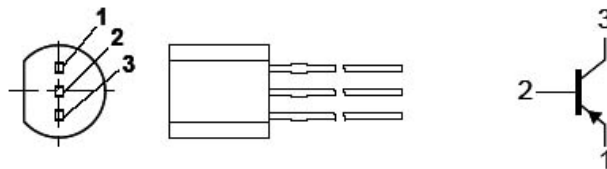
BDI40 (Q1 & Q4)



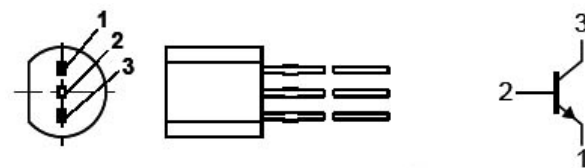
BDI39 (Q2, Q3, Q5 & Q6)



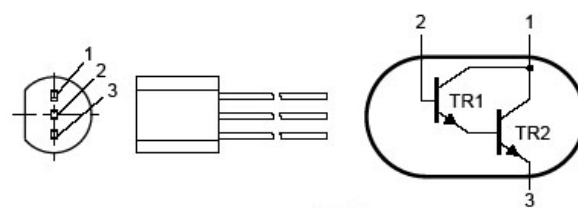
BC327 (Q7)



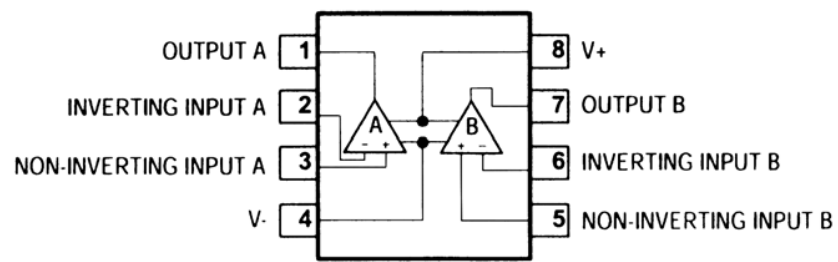
BC337 (Q8)



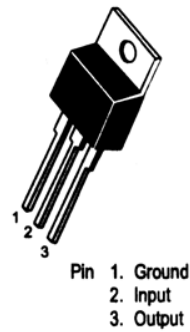
MPSA14 (Q9)



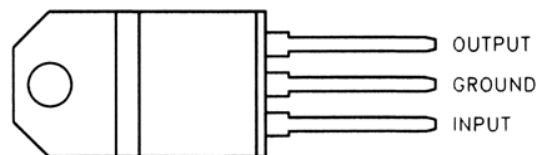
NE5532 (U1, U5, U6, U7, U9, U10, U12, U13, U14, U15, U16, U17 & U18)



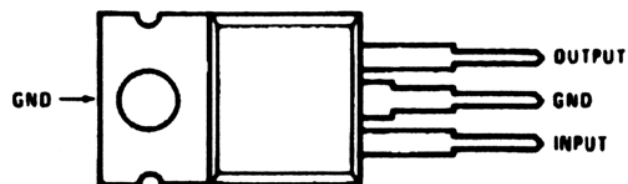
7915 (U2)



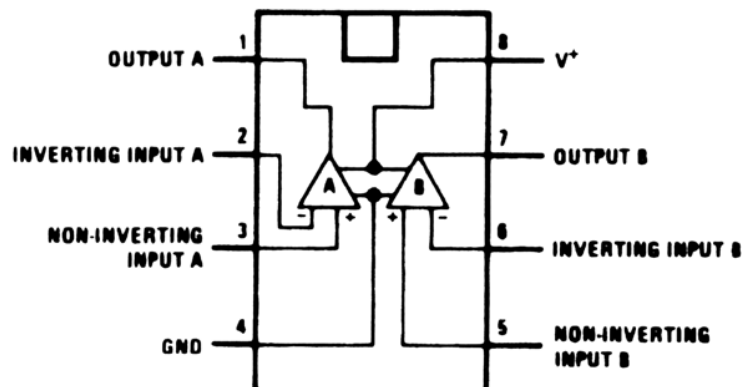
7805 (U3)



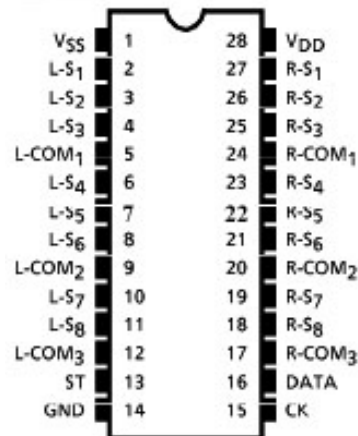
7815 (U4)



LM393 (U8)

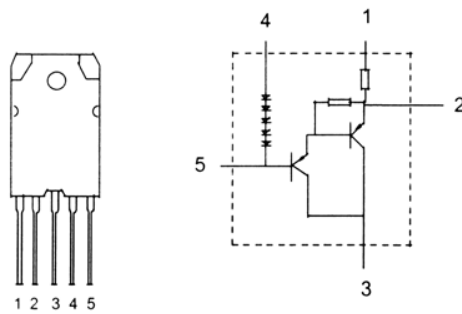


TC9163AF (U11)

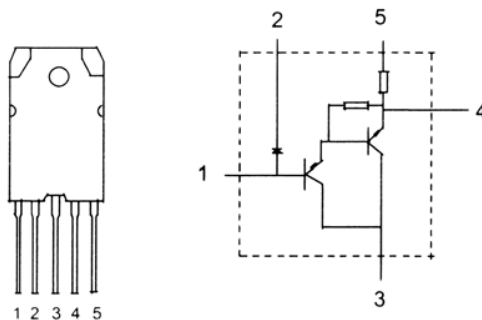


## Power Amp PCB

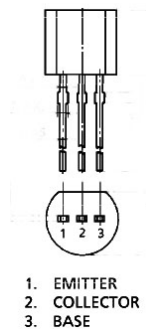
SAPI5PY (U1 & U3)



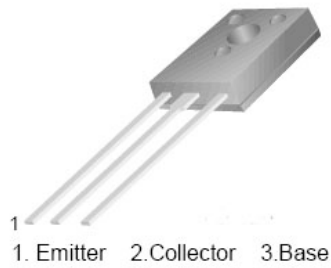
SAPI5NY (U2 & U4)



2SC2240GR (Q1, Q6, Q7, Q15, Q23, Q24, Q26 & Q32)



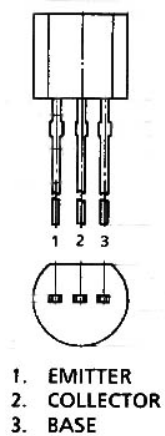
MJE350 (Q2 & Q27)



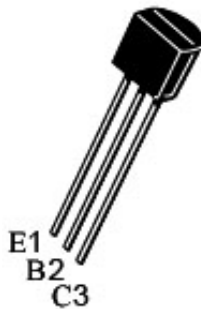
MPSA92 (Q3, Q4, Q8, Q25, Q28, Q29, Q30, Q33, Q39 & Q42)



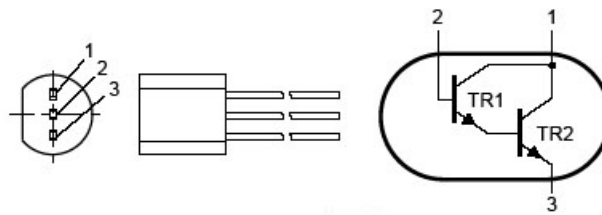
2SA970GR (Q5, Q11, Q14, Q16, Q21 & Q22)



MPSA42 (Q9, Q10, Q12, Q13, Q17, Q18, Q19, Q20, Q31, Q36, Q37, Q38, Q40, Q41, Q43, Q44 & Q45)

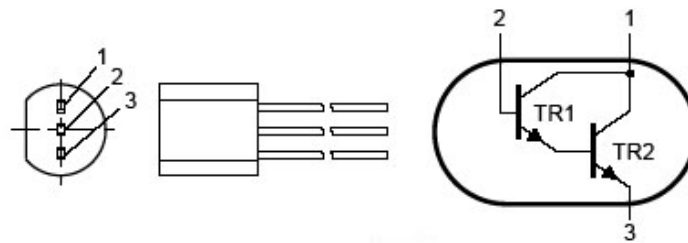


MPSA14 (Q34 & Q35)

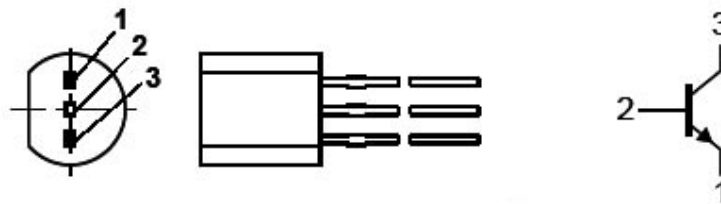


## Front Panel & Mains PCB

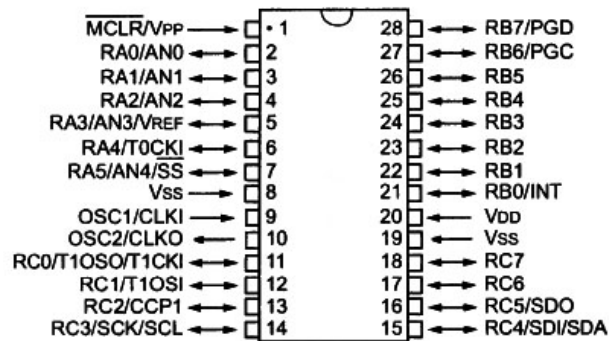
MPSA14 (Q3 & Q4)



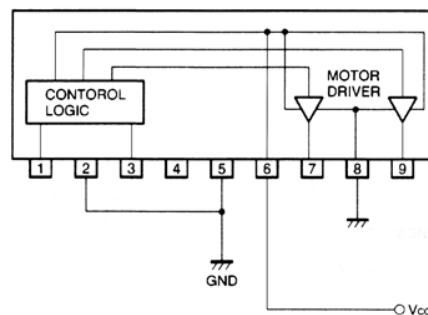
BC337 (Q1 & Q2)



PIC16F72-I/SP

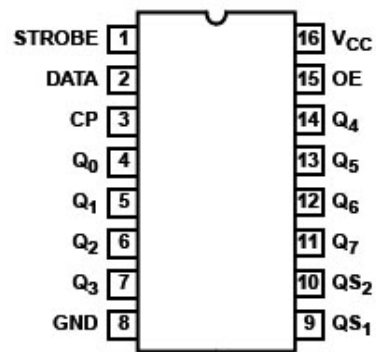


BA6218 (U1)

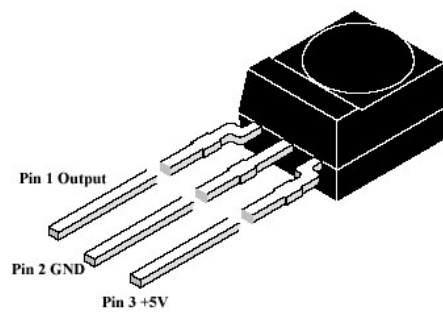




M74HC4094 (U3)

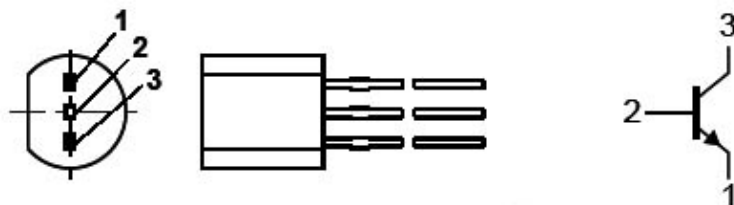


TSOP1836 (U4)

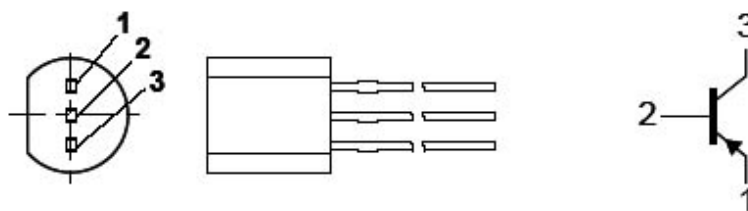


## A-BUS PCB

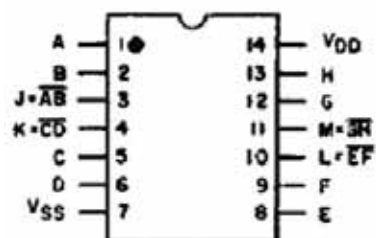
BC337 (Q1, Q2, Q3 & Q5)



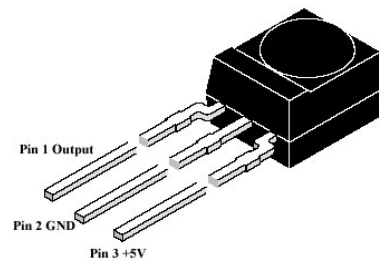
BC327 (Q4)



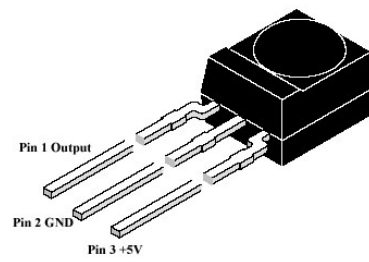
4011 (U1)



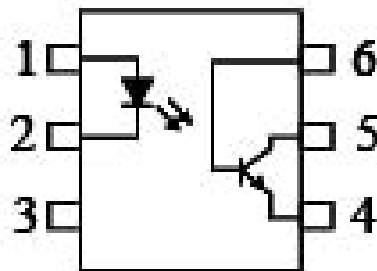
TSOP1836 (U2)



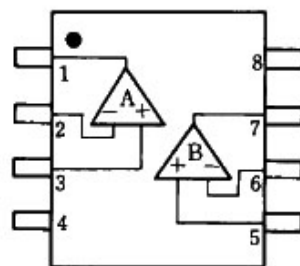
TSOP1837 (U3)



OP4N25 (U4)



NJM5532 (U5 & U6)



7812 (U7)

