

340A SE

Issue Date: 9th August 2006

SERVICE MANUAL



SPECIFICATIONS:

Power Output	45W (into 8 Ω) 55W (into 4 Ω)
Max Power Consumption	360W
Total Harmonic Distortion	1kHz < 0.01% 20kHz < 0.01%
Frequency Response (-1 dB)	5Hz – 50kHz
S to N Ratio (unweighted)	92dB
Slew Rate (into 8 Ω)	20V/uS
Dimensions (HxWxD)	
mm	70 x 430 x 310
Inches	2.8 x 16.9 x 12.2
Weight	
Kg	6.2
Lbs	13.6

AP20599/I

340A SE 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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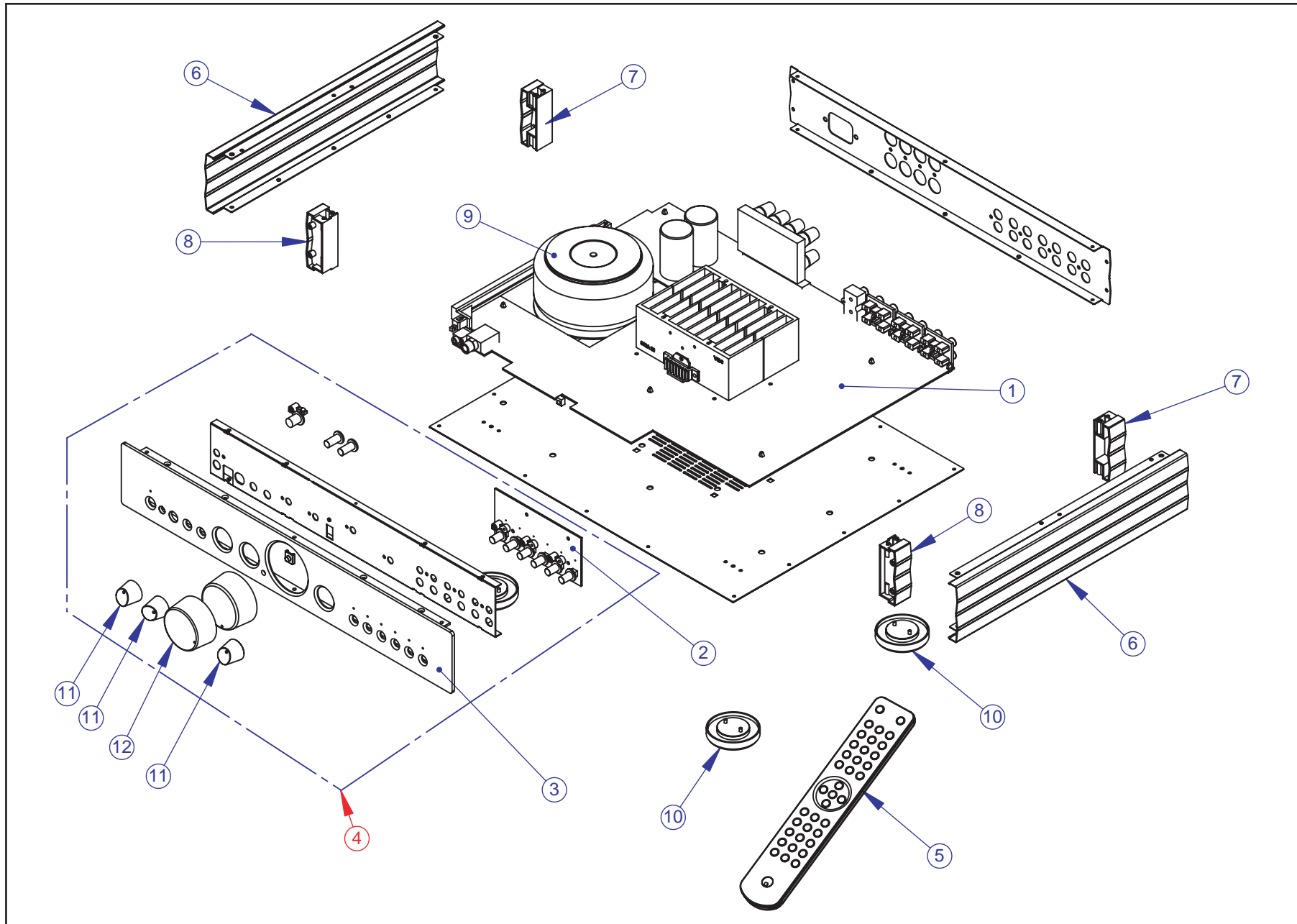
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Cambridge Audio Azur 340A SE Amplifier



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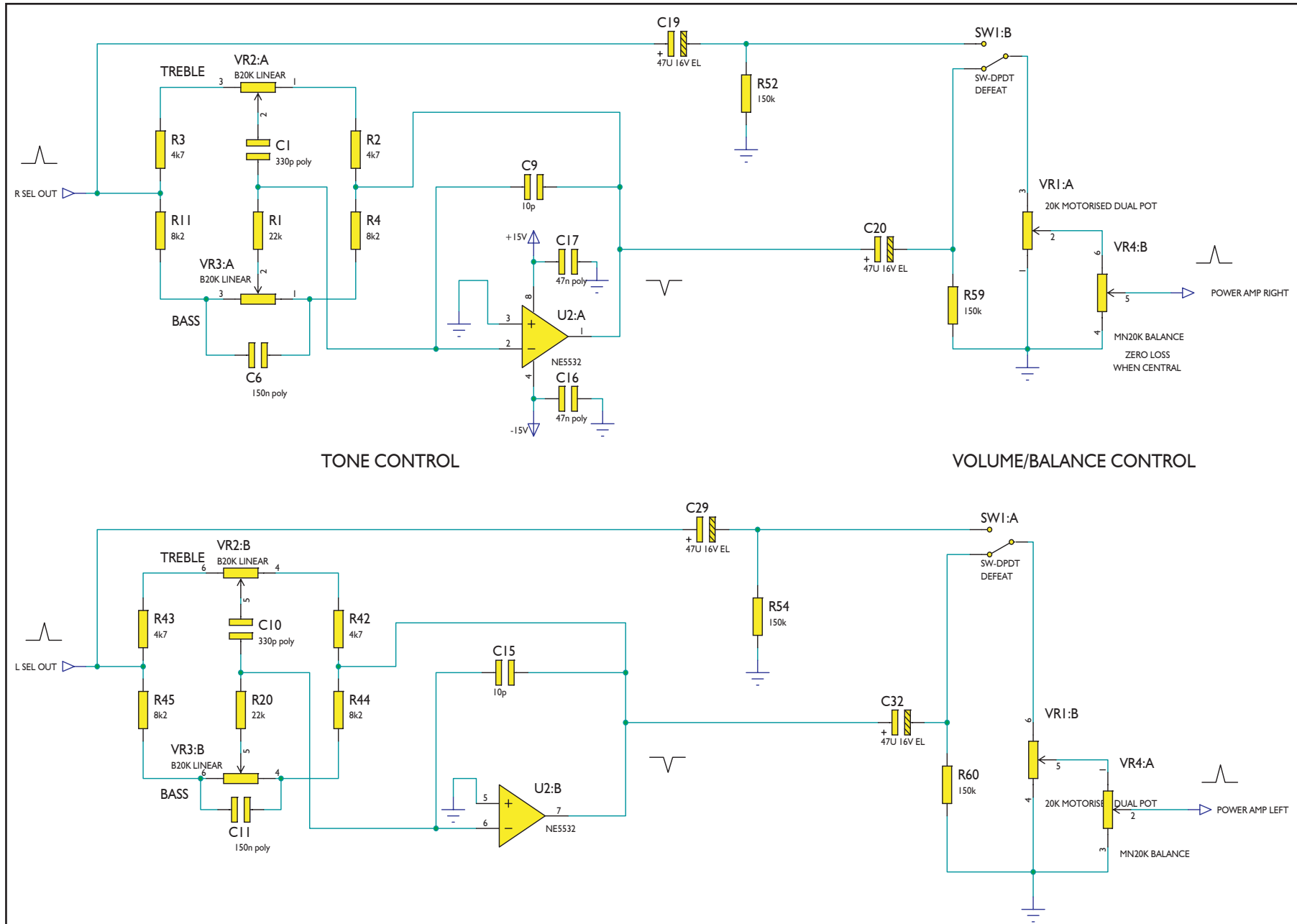
Exploded Drawing

Cambridge Audio Azur 340A SE Amplifier

Drawing Reference	AP Part Number	Factory Part No	Description
	PY640		Top Panel (Silver)
	PY641		Top Panel (Black)
	PY516	7002-608010-006	Lid T6 Torx Screws (Silver)
	PY515	7002-608010-001	Lid T6 Torx Screws (Black)
1	PY1192	9434-015010E11	Azur 340A SE Main PCB 230V API99543 Rev A Type
2	PY1193	9434-015010E41	Azur 340A SE Control PCBA API51856 Rev A
3	PY1197	6534-150007E000A01	Azur 340A SE Front Panel - Silver with Silkscreen (Metal-work Only)
3	PY1196	6534-150007E000-01	Azur 340A SE Front Panel - Black with Silk screen (Metal-work Only)
4	PY1194	8534-015030E301	Azur 340A SE Front Panel Assy (Silver) Rev A
4	PY1195	8534-015040E301	Azur 340A SE Front Panel Assy (Black) Rev A
5	PY1012		Remote Control (340/540/640A)
	PY945	6040-150002-000-01	Battery Door for Azur R/C Black Painted (USD)
6	PY810	6550-010207-000-02	Azur-640C Small Side Panel (Silver)
6	PY1115	6550-010207-000-01	Azur 640C Small Side Panel (Black)
7	PY1111	8554-001020-701	Small Support Rear Assy (with two brass inserts)
8	PY1112	8554-001010-701	Small Support Front Assy (with two brass inserts)
9	PY642	3200-069331E000	Transformer (T06933A rev 06) 230V 24V*2/3A 17*2/150ma 340A (Europe version)
9	PY1084	3200-071211-000	TR. (T0712A REV03) 115VAC 24.7V*2@3A 17V*2@0.15A 340A (USA version)
10	PY541	6050-150010-000A01	Foot (Silver)
10	PY531	6050-150010-000	Foot (Black)
	PY544	6600-170100-000	Foot Pad (Self Adhesive)
11	PY592	6050-150004-002-02	Azur-640A Grey Colour Selector Knob (Silver)
11	PY593		540A/640A Selector Knob (Black)
12	PY590		540A/640A Volume Knob (Silver)
12	PY591		540A/640A Volume Knob (Black)

*Please order using AP part number.

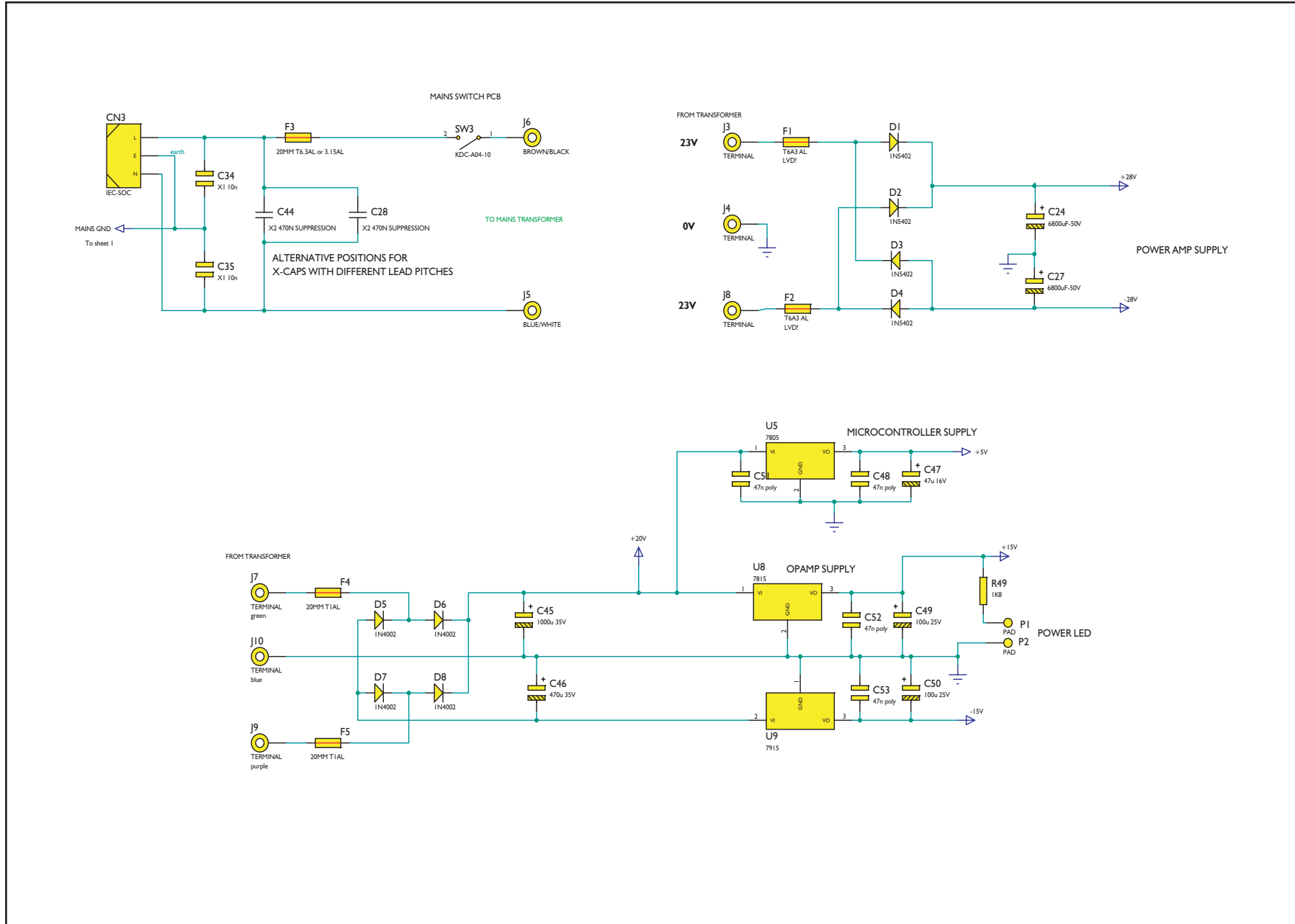
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API9951/3 Amplifier PCB Schematic (Tone Control)

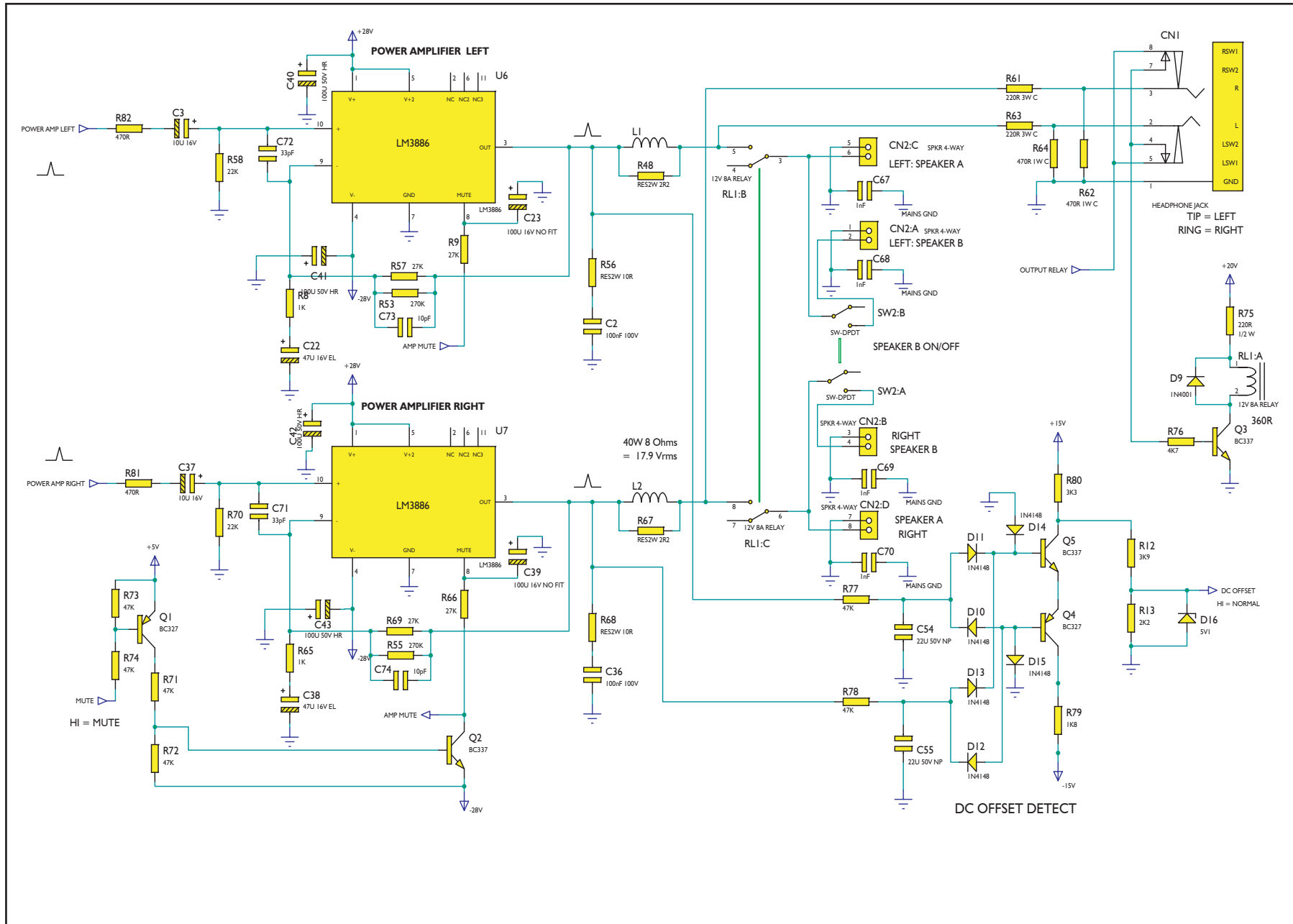
Cambridge Audio Azur 340A SE Amplifier



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API995I/3 Amplifier PCB Schematic (Power Supplies)

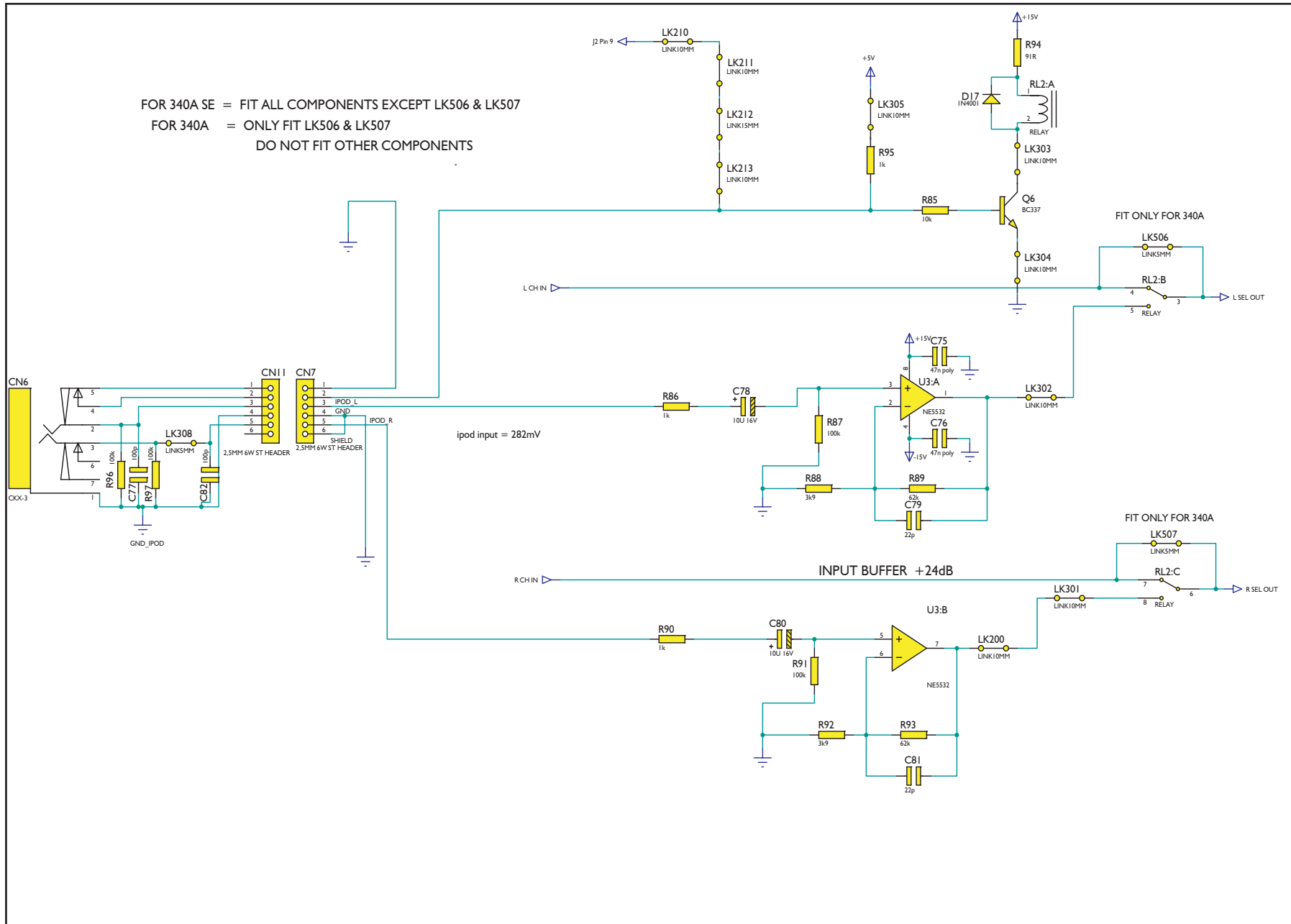
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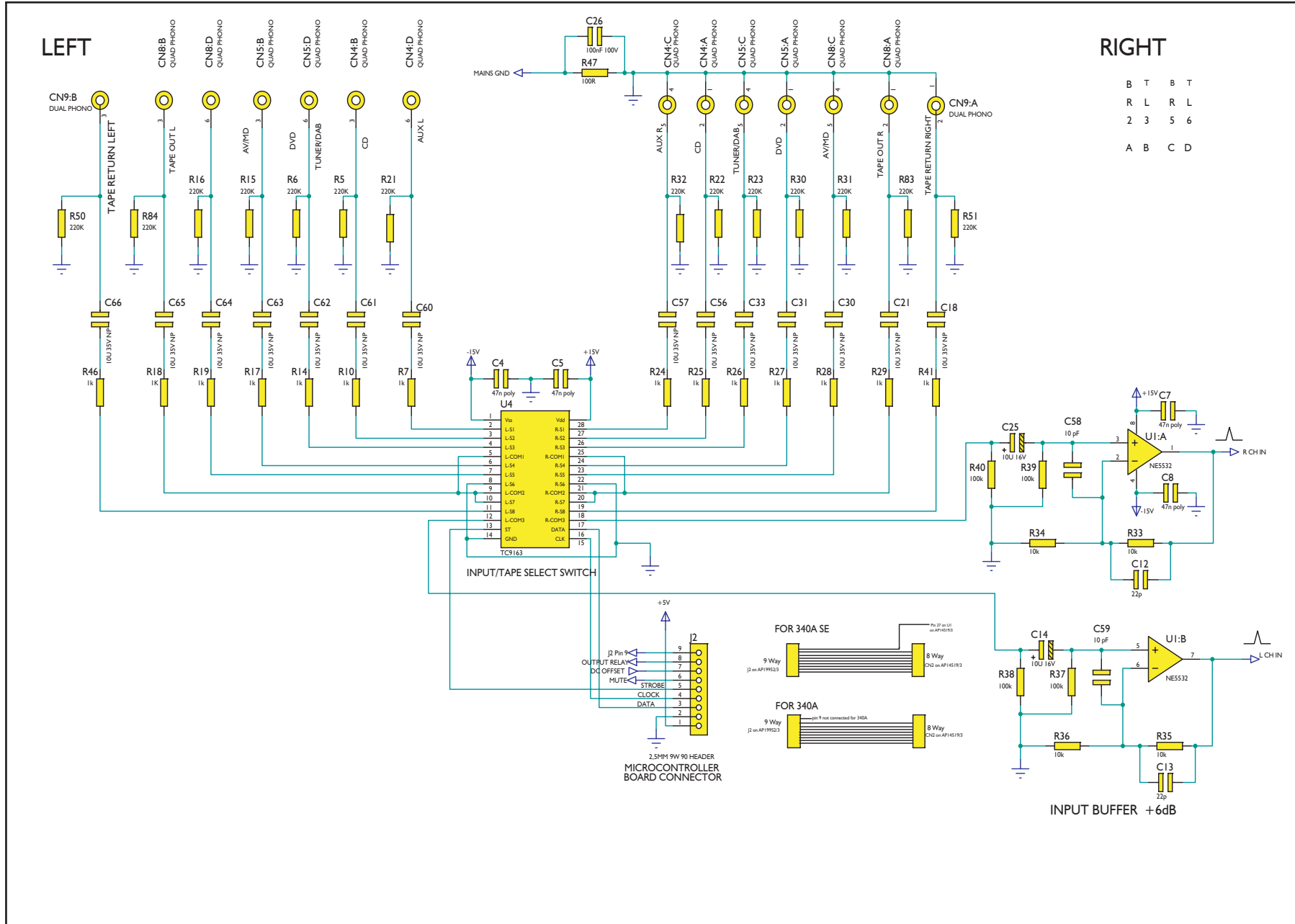
API9951/3 Amplifier PCB Schematic (Power Amplifiers)

Cambridge Audio Azur 340A SE Amplifier



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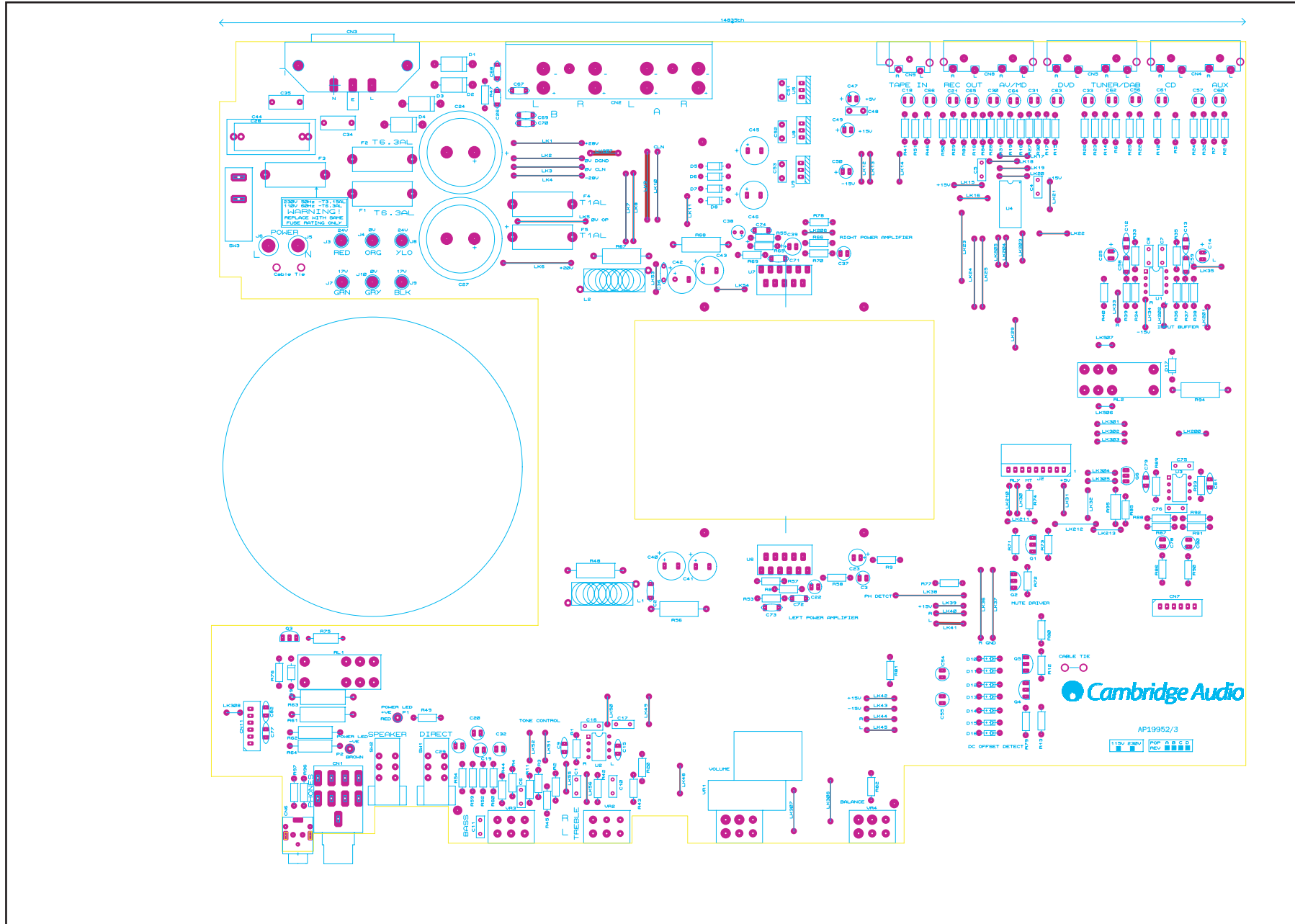
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API9951/3 Amplifier PCB Schematic (Input Select)

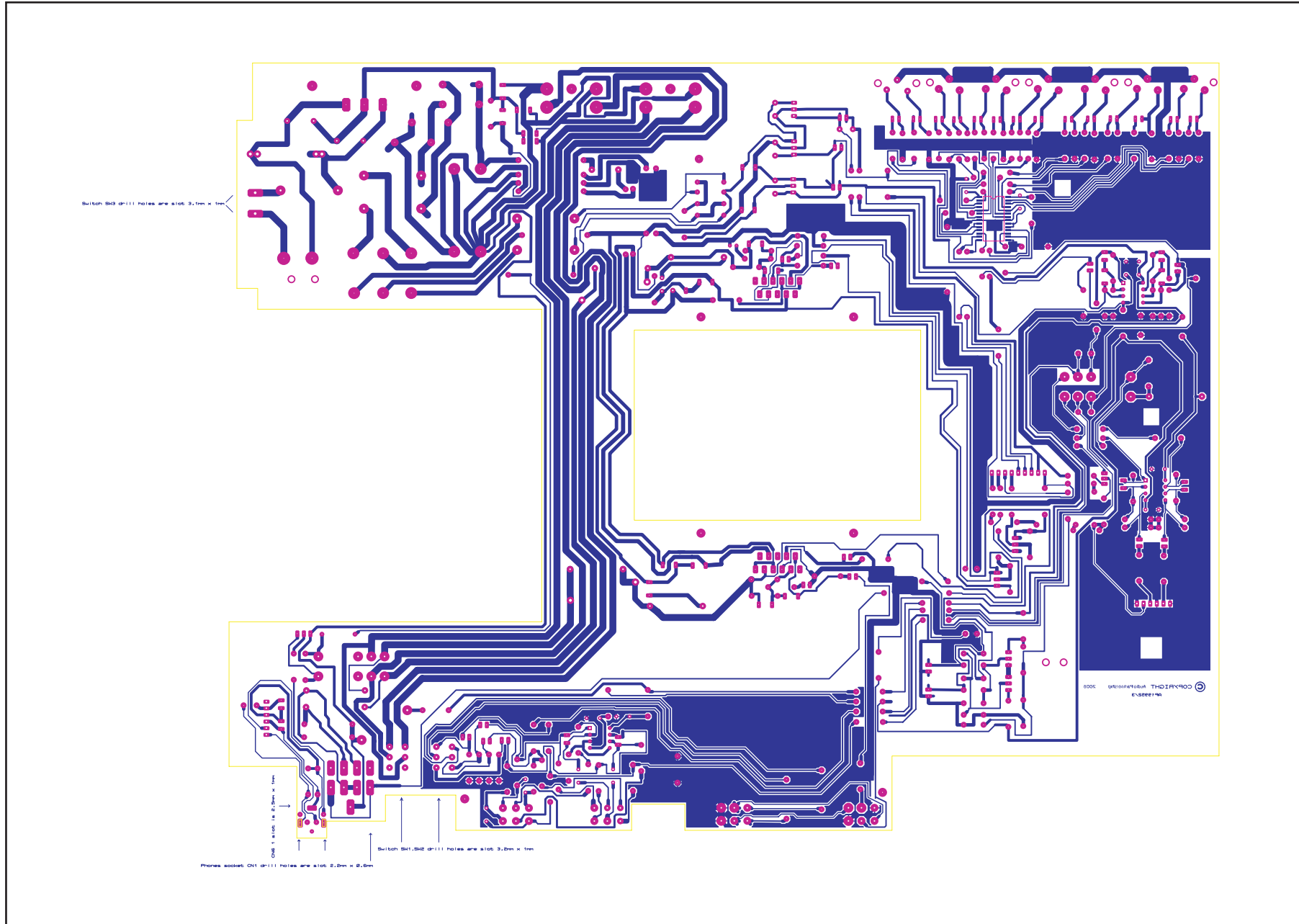
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API9951/3 Amplifier PCB Board Layout (Top Side)

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API9951/3 Amplifier PCB Board Layout (Bottom Side)

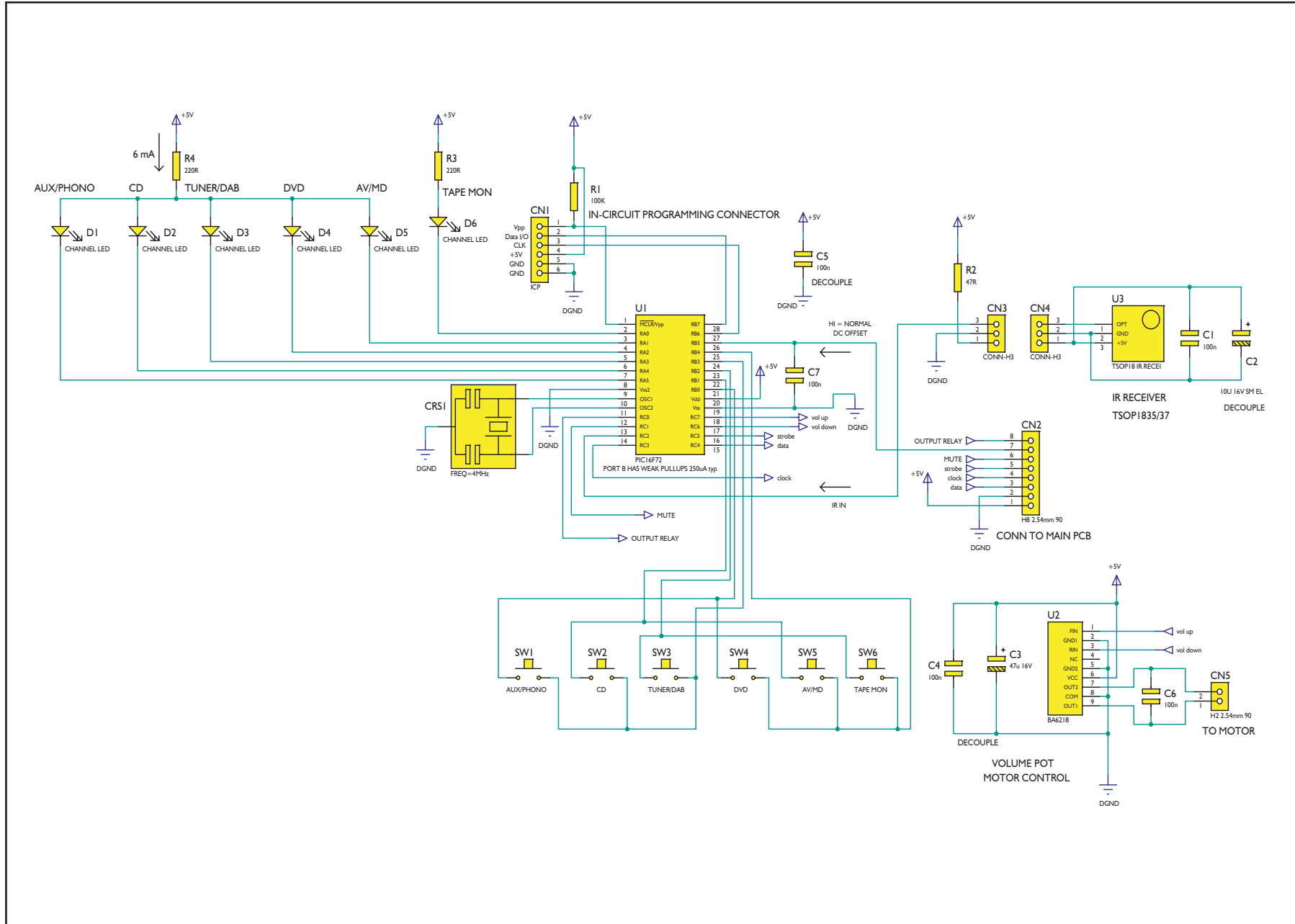
AP Part No	Value	Description	Qty	Component Ident	Notes
RESISTORS					
	2R2	2W Metal Film	2	R48, R67	Stand off PCB by 5mm
	10R	2W Metal Film	2	R56, R68	Stand off PCB by 5mm
	91R	2W Metal Film	1	R94	
	100R	0.25 W 1% Metal Film	1	R47	
	220R	0.5 W Metal Film	1	R75	
	220R	3W Metal Film	2	R61, R63	Stand off PCB by 5mm
	470R	0.25 W 1% Metal Film	2	R81, R82	
	470R	1W Metal Film	2	R62, R64	Stand off PCB by 5mm
	1K	0.25 W 1% Metal Film	18	R7, R8, R10, R14, R17, R18, R19, R24-R28, R29, R41, R46, R65, R86, R90,	
	1K8	0.25 W 1% Metal Film	2	R49, R79	
	2K2	0.25 W 1% Metal Film	1	R13	
	3K3	0.25 W 1% Metal Film	1	R80	
	3K9	0.25 W 1% Metal Film	3	R12, R88, R92	
	4k7	0.25 W 1% Metal Film	5	R2, R3, R42, R43, R76	
	8k2	0.25 W 1% Metal Film	4	R4, R11, R44, R45	
	10k	0.25 W 1% Metal Film	5	R33-R36, R85	
	1K	0.5 W Metal Film	1	R95	
	22k	0.25 W 1% Metal Film	4	R1, R20, R58, R70	
	27K	0.25 W 1% Metal Film	4	R9, R57, R66, R69	
	47K	0.25 W 1% Metal Film	6	R71-R74, R77, R78	
	62K	0.25 W 1% Metal Film	2	R89, R93	
	100K	0.25 W 1% Metal Film	8	R37-R40, R87, R91, R96, R97	
	150k	0.25 W 1% Metal Film	4	R52, R54, R59, R60	
	220K	0.25 W 1% Metal Film	14	R5, R6, R15, R16, R21-R23, R30-R32, R50, R51, R83, R84	
	270K	0.25 W 1% Metal Film	2	R53, R55	
CAPACITORS					
	22pF	Ceramic NPO. Pitch= 5.0mm	4	C12, C13, C79, C81	
	33pF	Ceramic NPO. Pitch= 5.0mm	2	C71, C72	EMC Suppression
	10pF	Ceramic NPO. Pitch= 5.0mm	6	C9, C15, C58, C59, C73, C74	
	100pF	Ceramic NPO. Pitch= 5.0mm	2	C77, C82	
	330pF	Polyester. Pitch= 5.0mm	2	C1, C10	
	1nF	Ceramic Y5P 50V. Pitch= 5.0mm	4	C67, C68, C69, C70	EMC Suppression
	10nF	X1 Mains rated Ceramic. Pitch= 5.0mm	2	C34, C35	EMC Suppression
	47nF	Polyester Pitch= 5.0mm	12	C4, C5, C7, C8, C16, C17, C48, C51-C53, C75, C76	
	100nF	Ceramic 100V Pitch= 5.0mm	3	C2, C26, C36	
	150nF	Polyester Pitch= 5.0mm	2	C6, C11	
	470nF	X2 Mains rated Polypropylene. Pitch 22.5mm	1	C28	EMC. C44 is alternative fit for 27.5 mm pitch
	10uF	Electrolytic 35V NP Pitch= 2.0mm	20	C3, C14, C18, C21, C25, C30, C31, C33, C37, C56, C57, C60, C61, C62, C63, C64, C65, C66, C78, C80	Some cap will have silk print of an electrolytic
	22uF	Electrolytic 50V NP Pitch= 2.0mm	2	C54, C55	
	47uF	Electrolytic 16V Pitch= 2.5mm	5	C20, C22, C32, C38, C47	
	47uF	Electrolytic 16V NP Pitch= 2.5mm	2	C19, C29	Silk print is electrolytic
	100uF	Electrolytic 50V HR Pitch= 5.0mm	4	C40-C43	
	100uF	Electrolytic 25V Pitch= 2.5mm	2	C49, C50	
	470uF	Electrolytic 35V Pitch= 5.0mm	1	C46	
	1000uF	Electrolytic 35V Pitch= 5.0mm	1	C45	
	10000uF	Cambridge Audio Branded Electrolytic 50V Pitch= 10.0mm	2	C24, C27	Glue both capacitors to PCB
SEMICONDUCTORS					
PY259	NE5532	Dual Low Noise Operational Amplifier	3	U1, U2, U3	DIL package
PY476	TC9163AF	Input Switching	1	U4	surface mount package
PD035	7805T	Voltage Regulator +5V	1	U5	TO220 package
PY644	LM3886T	High Performance Audio Power Amplifier	2	U6, U7	
PD037	7815T	Voltage Regulator +15V	1	U8	TO220 package
PD038	7915T	Voltage Regulator -15V	1	U9	TO220 package
TRANSISTORS					
PY219	BC327	PNP Small Signal	2	Q1, Q4	
PY214	BC337	NPN Small Signal	4	Q2, Q3, Q5, Q6	

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

AP Part No	Value	Description	Qty	Component Ident	Notes
	DIODES				
	1N5402	General Purpose Rectifier	4	D1-D4	
	1N4002	General Purpose Rectifier	4	D5-D8	
	1N4001	General Purpose Rectifier	2	D9, D17	
	1N4148	High Speed Signal	6	D10-D15	
	BZX85-C5V1	Zener 400mW	1	D16	
	MISCELLANEOUS				
	T6.3AL	6.3A time delay Fuse-20mm low breaking capacity	2	F1, F2	Secondary fuses
	T3.15AL OR T6.30AL	3.15A or 6.3A time delay Fuse-20mm low breaking capacity	1	F3	For EU & UK Models (230V) - F3 should be fitted with T3.15AL. For CU Models (115V) - F3 should be fitted with T6.3AL.
	T1AL	1A time delay Fuse-20mm low breaking capacity	2	F4, F5	Secondary fuses
PY594	12V coil, 8A 250VAC Massuse Me-11 012-2Z4	Relay-s	2	RL1, RL2	
PY004	20K MOTORISED DUAL POT	Pot-Dual-Motor	1	VR1	
PY003	B20K LINEAR	Pot-Dual	2	VR2, VR3	
PY005	MN20K BALANCE	Pot-Dual	1	VR4	
	CONNECTORS				
PY646	2330-005901-300	Headphone Jack	1	CN1	As 540A amplifier
PY647	WP8-21A	Spkr 4-Way	1	CN2	
PY226	YN 2336-003910-002	IEC-Socket	1	CN3	As 540A amplifier
	CKX-3.5-0.7	3.5mm HEADPHONE JACK	1	CN6	
PY036	YN 2330-006911-021	Quad Phono	3	CN4, CN5, CN8	
PY035	AV2-8.4-9	Dual Phono	1	CN9	
	SWITCH				
PY645	2402-020200-010	SW-DPDT	2	SW1, SW2	As 540A amplifier
PY227	KDC-A04-10	Mains switch 10A 250V TV-8	1	SW3	mains switch

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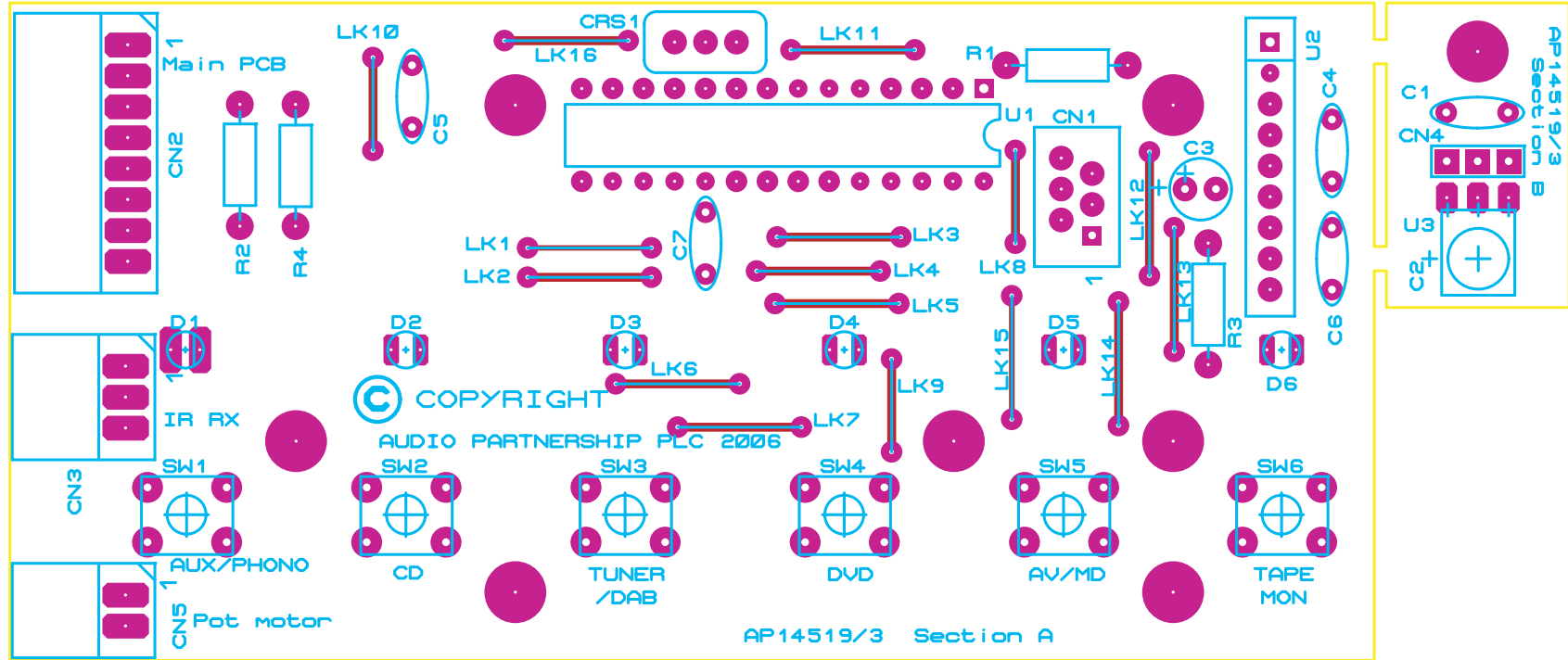
Cambridge Audio Azur 340A SE Amplifier



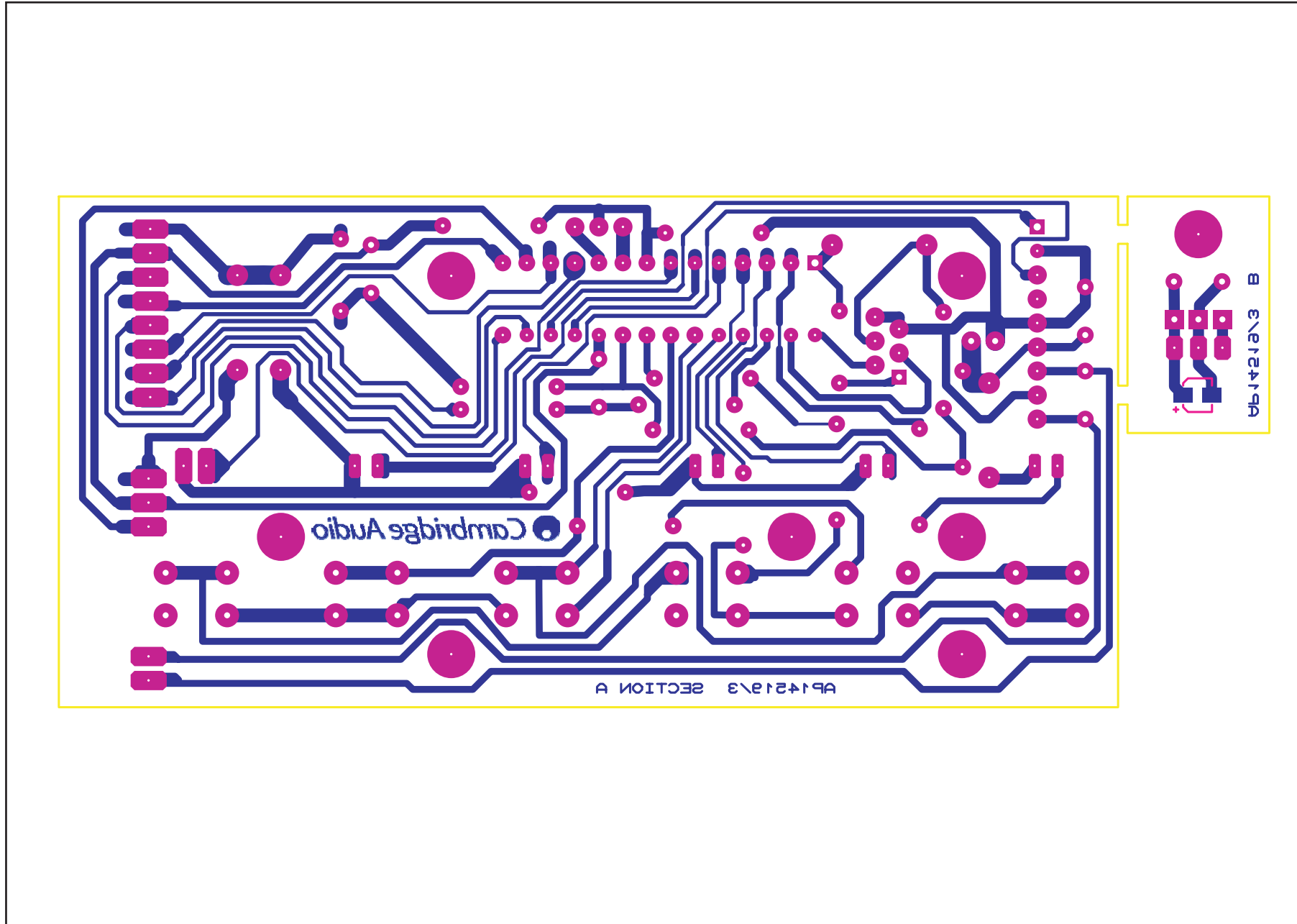
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API4518/3 Microcontroller PCB Schematic

Cambridge Audio Azur 340A SE Amplifier



Cambridge Audio Azur 340A SE Amplifier



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API4518/3 Microcontroller PCB Board Layout (Bottom Side)

Cambridge Audio Azur 340ASE Front Panel PCB Assembly BOM

API5185/7

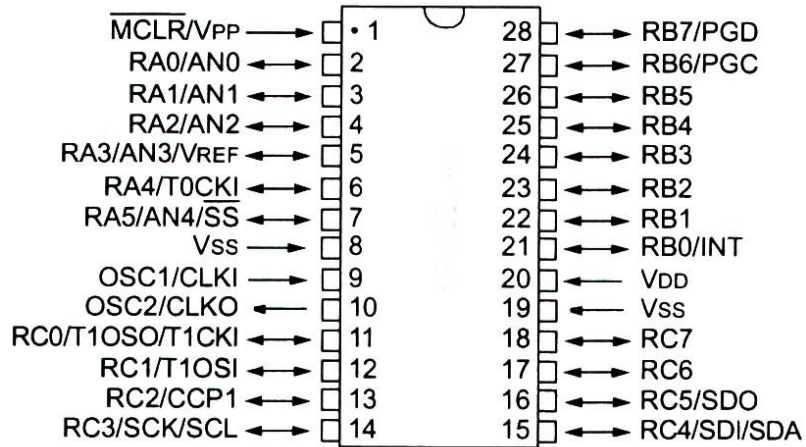
AP Part No	Value	Description	Qty	Component Ident	Notes
	RESISTORS				
	47R	Resistor 0.25W 1% metal film	1	R2	
	220R	Resistor 0.25W 1% metal film	2	R3, R4	
	100K	Resistor 0.25W 1% metal film	1	R1	
	CAPACITORS				
	100nF	Ceramic NP0 or C0G 10%	4	C1, C4-C7	C1 is soldered on rear of the IR PCB (solder side)
	47uF	16V Radial Electrolytic	1	C3	
	SEMICONDUCTORS				
	PIC16F72-I/SP	MicroController	1	U1	Programmed with API4904/3 (V1.2) Contact AP Service Dept
PY260	BA6218	Motor Controller	1	U2	As used in 540A. 4162-180002-300 SIL-8 package
PY054	TSOP1836/37	IR Receiver Module	1	U3	As used in 540A 3001-183600-001
	DIODES				
PY064	3100-000030-003	Blue Flat top LED	6	D1-D6	Please use flat top LED at standard Azur height
	SWITCH				
PY043	2400-020200-000	Tactile Switch	6	SW1, 2, 3, 4, 5, 6	As used on 540A, CD, Tuner, AV, Phono/Aux, Tape/Mon, DVD
	MISC				
		Ceramic Resonator F=4MHz	1	CRS1	

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

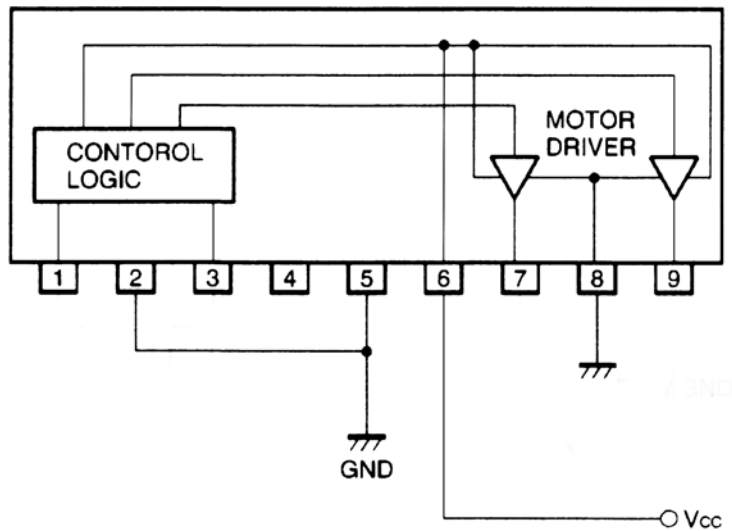
Cambridge Audio Azur 340ASE Amplifier IC Pin Layout Details

Front Panel PCB

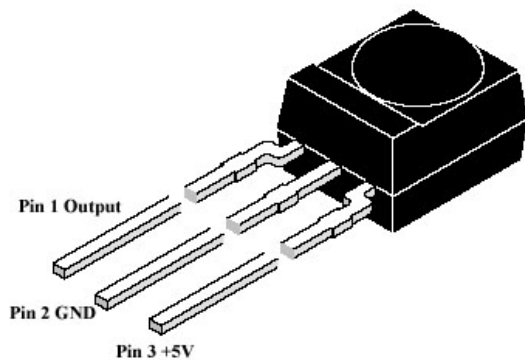
PIC16F72-I/SP (U1)



BA6218 (U2)

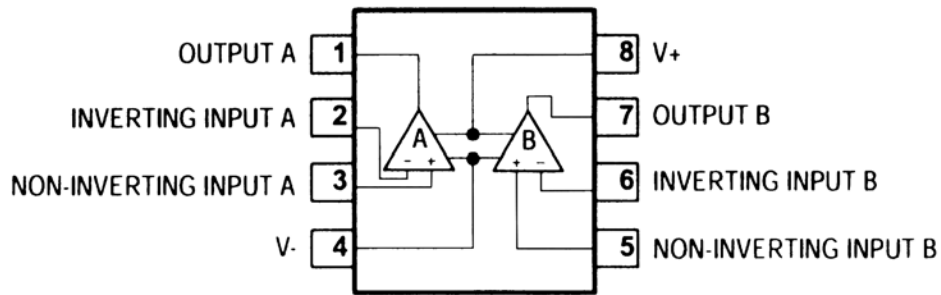


TSOP1836/37 (U3)

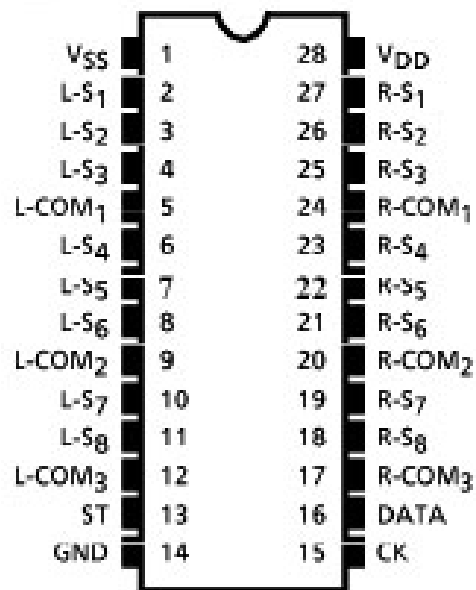


Main PCB

NE5532 (U1 & U2)



TC9163AF (U4)



LM3886T (U6 & U7)

