

Issue Date: 18th June 2004

SERVICE MANUAL



SPECIFICATIONS:

Power Output	40W (into 8 Ω) 50W (into 4 Ω)
Max Power Consumption	345W
Total Harmonic Distortion	1kHz < 0.009% 20kHz < 0.09%
Frequency Response (-1dB)	5Hz – 50kHz
S to N Ration (unweighted)	99dB
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

AP15844/1

340A SERVICE MANUAL

TABLE OF CONTENTS

Safety Precautions & Important Notes_____	3
Main Assembly BOM_____	4/5
Micro controller PCB Schematic (PIC's/Switches/LED's)____	6
Micro controller PCB Layout (Top Side)_____	7
Micro controller PCB Layout (Bottom Side)_____	8
Front Panel PCB Assembly BOM_____	9
Main PCB Schematic (Input Select)_____	10
Main PCB Schematic (Power Amplifiers)_____	11
Main PCB Schematic (Power Supplies)_____	12
Main PCB Schematic (Tone Control)_____	13
Main PCB Layout (Top Side)_____	14
Main PCB Layout (Bottom Side)_____	15
Main PCB BOM_____	16-18
IC Pin Layout Details_____	19/20
Silver – Black Differences BOM_____	21

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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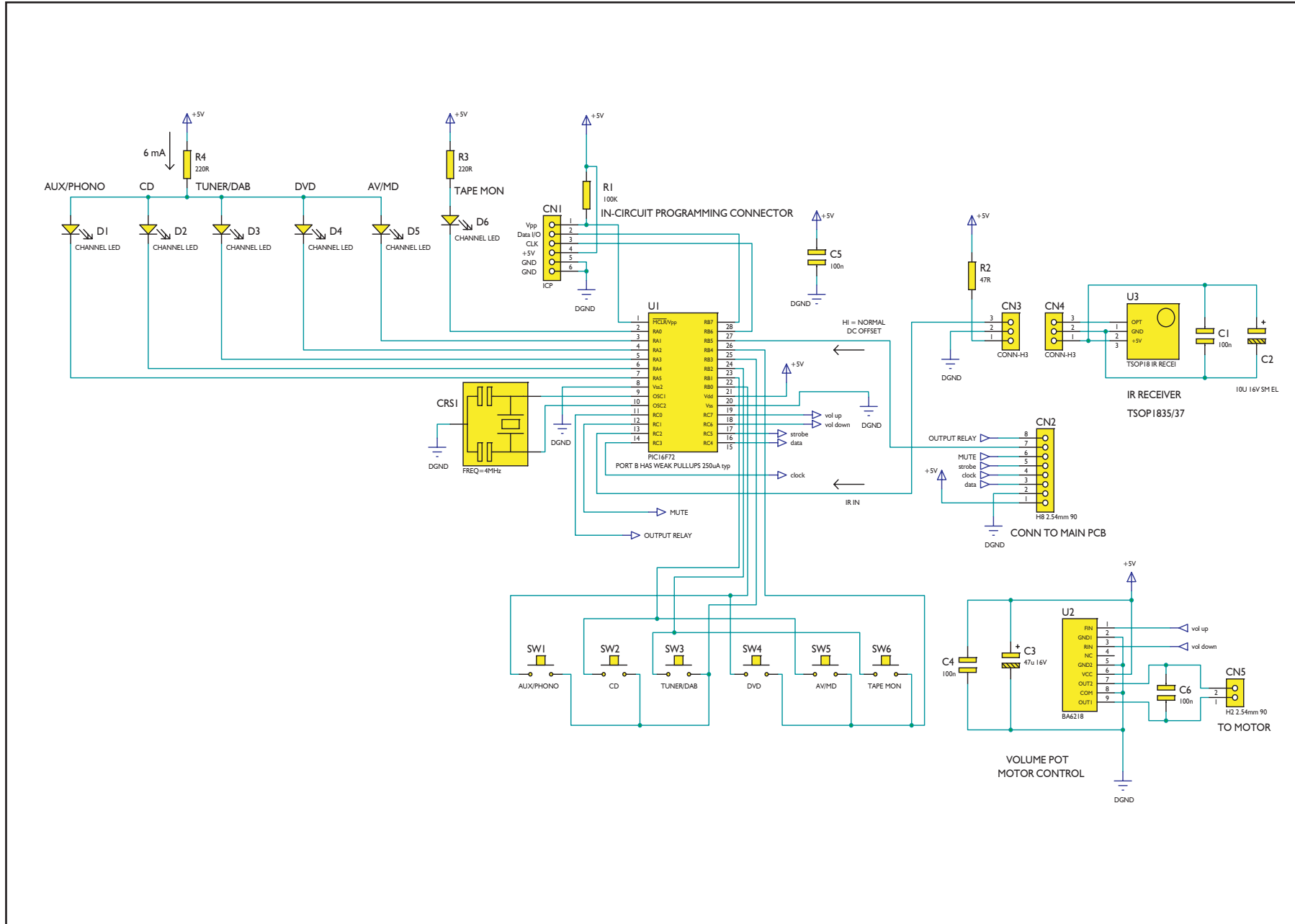
Cambridge Azur 340A Main Assembly BOM

API4861/4

AP PART No.	DRAWING NO	DESCRIPTION	QTY	COMMENTS
		Chassis Assembly		
	API4160/1	Bottom Panel	1	
PY541	API2652/2	Foot Moulding Silver	4	Position In Place on Bottom Panel
PY544	API2883/3	Foot Pad	4	Affix on Foot Using Adhesive Surface
		M3 X 8 Plastite Pozi Pan	4	Fix Feet To Bottom Panel.
		7mm Plastic Support	9	Push Snap Fit On Bottom Panel
		7mm Plastic Support	4	Resting Under PCB fastened to Bottom Panel
API4775/1		7mm Plastic Standoff (Square Snap - In)	6	Fastening PCB to Bottom Panel
		M3 X 8 Plastite Pozi Pan	6	To hold PCB to Square snap-in Stand-offs
API4561/3		Transformer toroidal 230V	1	
		Transformer bolt M8 56mm thread length	1	Supplied with Transformer. Secures transformer
		Dished transformer plate 70 mm diam	1	Supplied with Transformer. On top of transformer
		Rubber Washer	2	Supplied with Transformer. One is fitted under the transformer and one on the top, under dished washer
		M8 nut	1	Supplied with Transformer. Secures transformer
		M8 plain washer	1	Supplied with Transformer. Secures transformer
		M8 locking washer	1	Supplied with Transformer. Secures transformer
API5528/1		Cambridge Toroidal 67mm label	1	Stick to top of dished transformer plate 70 mm diam.
API4862/2		Insulation Sheet	1	To Be Positioned Over Standoffs Under Power PCB
		M4 X 12 Pozi Pan Machine Bolt	1	Fix Through Earthing Point hole on Bottom Panel
		M4 Nut Standard	1	Used To Fix Above Bolts
		M4 Lock Washer	1	For Earth Bolts
		Earth point label	1	Place next to earth point bolt on bottom of chassis
	PCB Gerber API4	Main PCB Assembly BOM	1	Fixes onto the Bottom Panel With 7mm Plastic Standoffs. Built to BOM API5173/2
		Front Panel Assembly		
	API4159/1	Sub Panel	1	Fasten in place between the Ledges of the Front Panel, Align Up The Power Button Holes
	API2931/1	Lightguide	3	Fasten To Subplate. Input select LEDs
	API2931/1	Lightguide (half of)	0.5	Fasten To Subplate. Power LED
		M3 X 6 Pozi Pan Stp Screw	4	Affixes Three Lightguide To Subplate
PY638	API4157/1	Front Panel (Punched And Printed) Silver	1	Extrusion Details API2738* & Screened With Artwork API4826/1 & API4828/2
	API2935/1	IR Lens	1	Glued In Place On The Front Panel
		M3 X 6 C/S Pozi Machine Screw	7	Fasten The Sub Plate to the Front Panel. Only 7 screws are fitted out of a possible 8. See drawing API5536/1
	PCB Gerber API4	IR PCB Assembly (part of F/P PCB assembly)	1	Fitted onto the Front Panel, bom is API5185/2
		Washer Nylon M3, 1mm Thk	1	Fitted between Front Panel and IR PCB
		M2.6 x 4mm Pan hd Poz Taptite	1	Use to fix IR PCB onto SubPanel
	API2934/1	7mm TAC Switch Cushion	6	Position on the 7mm tact switch Buttons, down the main shaft affix using adhesive provided on the cushion.
	API2925/1	7mm TAC Switch Button	6	Position In Place On The Front Panel
	API2926/2	7mm Push Switch Button	2	Fitted to SW1 & 2 on main PCB
	PCB Gerber API4	Front Panel & MicroController PCB Assembly BOM	1	Fixes onto the Sub Panel With M3 M/C Screws. Built to BOM AP 15185/2
		M3 X 6 Pozi Pan Machine Screw	7	Used For Fixing The Front Panel Pcb's To The Subplate Standoffs
		Side Panel Assembly		
	API2725/2	Pressed Side Panel (2 Ridge)	2	
	API2727/1	Front Plastic Support (2 Ridge With Captive M2.6 Nuts)	2	Position at Front within Side Panels
	API2728/1	Rear Plastic Support (2 Ridge With Captive M2.6 Nuts)	2	Position at Rear within Side Panels
		M2.6 X 8 C/S Pozi Plastite	8	To Affix Side Panels To Plastic Inserts
		Rear Panel Assembly		
	API4162/2	Rear Panel Printed	1	Screened With Artwork API4830/3
		M3 X 10 Pozi Pan Plastite	8	To fix speaker terminal and Phono sockets connectors to Rear Panel
		M4 X 8 Pozi Pan Plastite	2	To fix IEC Power connector to Rear Panel

AP PART No.	DRAWING NO	DESCRIPTION	QTY	COMMENTS
		Final assembly		
	API1879/3	Opus Control Box Powerswitch	1	Position in Place on the Front Panel
	API4819/1	Push Switch Bar Extension	1	Affix and glue to Power Bar
	CD4P AB05a	Power Bar	1	Fitted to SW3 on main PCB
	API5512/1	Front Panel Insulation Sheet	1	Attach to main PCB with two tie-wraps
		Tie-wraps (plastic ties) Width 2.5mm	2	Attach insulation strip to main PCB
PY592	API0209/3	Cambridge Selector Knob Mk3 Silver	3	
	API0224/1	Cambridge Knob Insert Mk2	3	Insert Into Selector Knobs
PY590	API2750/2	Cambridge New Range Amp Volume Knob Silver	1	
	API3361/1	A600 Volume Knob Blue Plastic Insert	1	Insert Into Volume Knob
	API3360/1	A600 Volume Knob Aluminium Skin	1	Glued and taped In Place On Volume Knob
		M3 X 10 Pozi Pan Plastite	4	To fix rear panel to side panels
		M2.6 X 6 Pozi Pan Machine Screw	12	To fix Bottom Panel To Side, Front And Rear Panels
		M2.6 x ???	4	To fix Bottom Panel To Side Panels (at corners)
	API4865/1	Cambridge Azur 340A Microcontroller Cableform	1	From Main PCB J2 to Front Panel PCB CN2
	API4896/1	Cambridge Azur 340A Volume Control Cableform	1	From Front Panel PCB CN5 to Volume Pot Motor
	API5204/1	Cambridge Azur 340A Earth Lead	1	From earth pin of IEC Scket (CN3) on main PCB to Chassis earth stud
		M4 Nut Standard	1	Used To Fix earth lead to earth stud
		M4 Lock Washer	1	For above nut
		LED wireform is attached to main PCB		Glue power LED into light-guide
		Lidding		
	API3340/1	Lidding Tape For Front And Rear Panels	2	Fix To The Correct Surfaces For Lid
	API3342/1	Lidding Tape For Side Panels	2	Fix To The Correct Surfaces For Lid
PY640	API4161/1	340A Top Panel (Silver)	1	Position Top Of The Product
PY516		M2.6 X 6 C/S Torx Machine Screw (Silver)	8	To Affix Top Panel to plastic Inserts, Side, Rear and Front Panel
		Packaging		
		Serial Number Label, Blank (6.5X35.5mm)	1	print with serial number label and attached to rear panel
	API3612/1	Azur 2 Ridge Woven Bag	1	Pack 340A Unit Inside
	API3504/2	Poly Endcap Packaging	2	
	API3613/1	Azur Woven Bag For Remote Control	1	Pack Remote Control Inside,
		Azur Remote Control Complete. Model No RC-340AC/540AC/640AC	1	Fit into Poly Endcap, buttons to face polystyrene, Packing in Rebate Provided
		AAA Alkaline Batteries	3	For Remote. Place In Instruction Manual Polybag
PY637	API5509/1	340A Amp Instruction Manual	1	
		Polybag 173X260X4C mm	1	For Instruction Manual and Remote Batteries
		1830mm AC IEC Power Cord Set BS Standard Fused 3 AMP	1	Must Be Bs Approved
	API3505/1	Carton Packaging With Handle	1	Printed To Artwork API3716/1
	API4696/1	Carton Label (Model No.)	1	For Box
		Blue Tape Seal For Cambridge Carton	1	
	NOTES:	Issue 1 - 15.03.2004		
		Issue 2 - 23.04.2004		

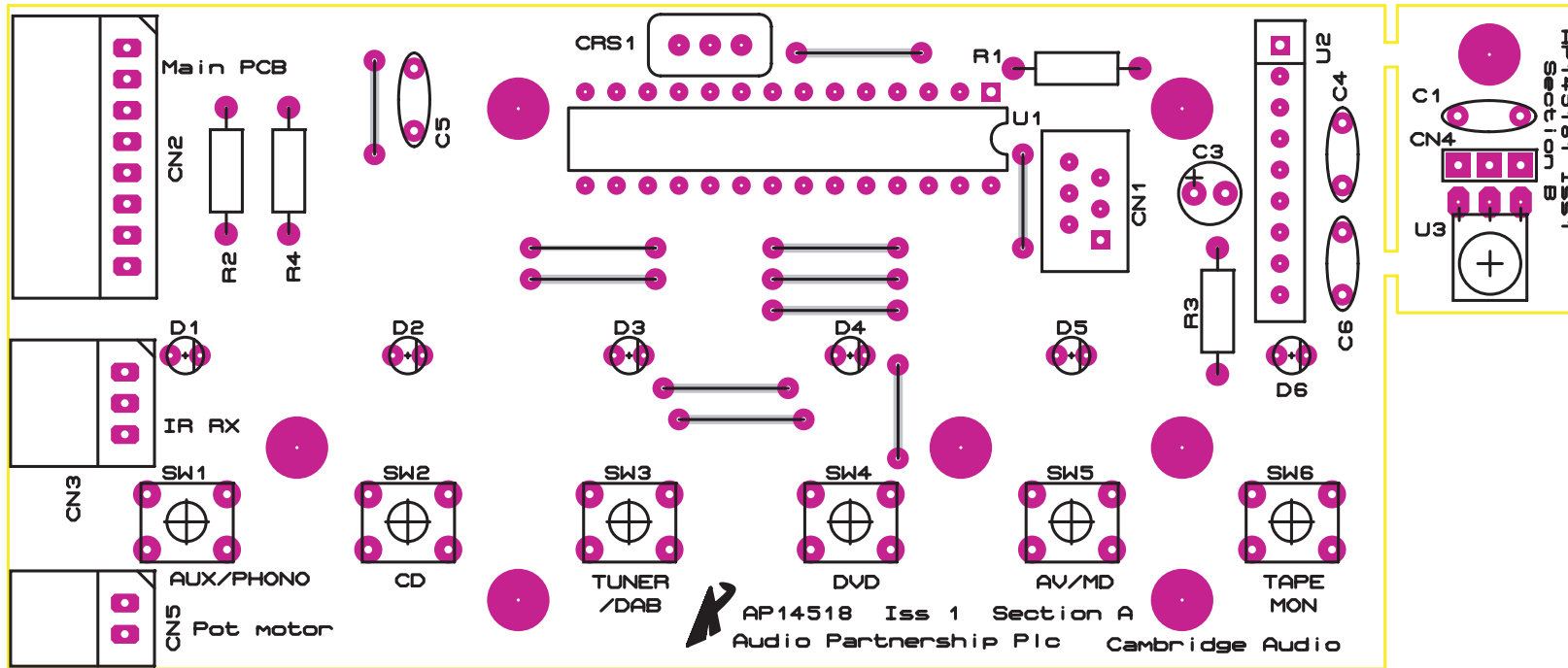
Cambridge Azur 340A Intergrated Amplifier



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AP14518/I Microcontroller PCB Schematic (PIC's/Switches/LED's)

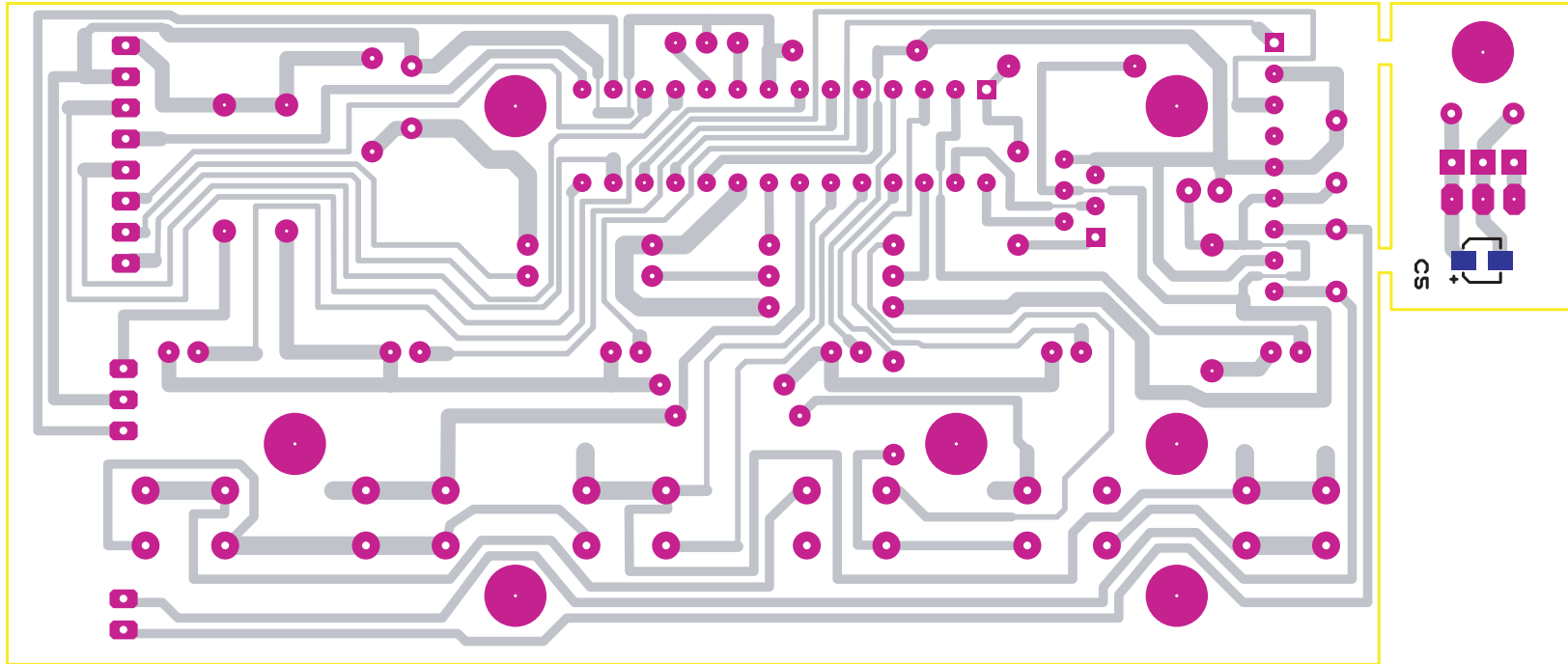
Cambridge Azur 340A Intergrated Amplifier



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AP14518/1 Microcontroller PCB Board Layout (Top Side)

Cambridge Azur 340A Intergrated Amplifier



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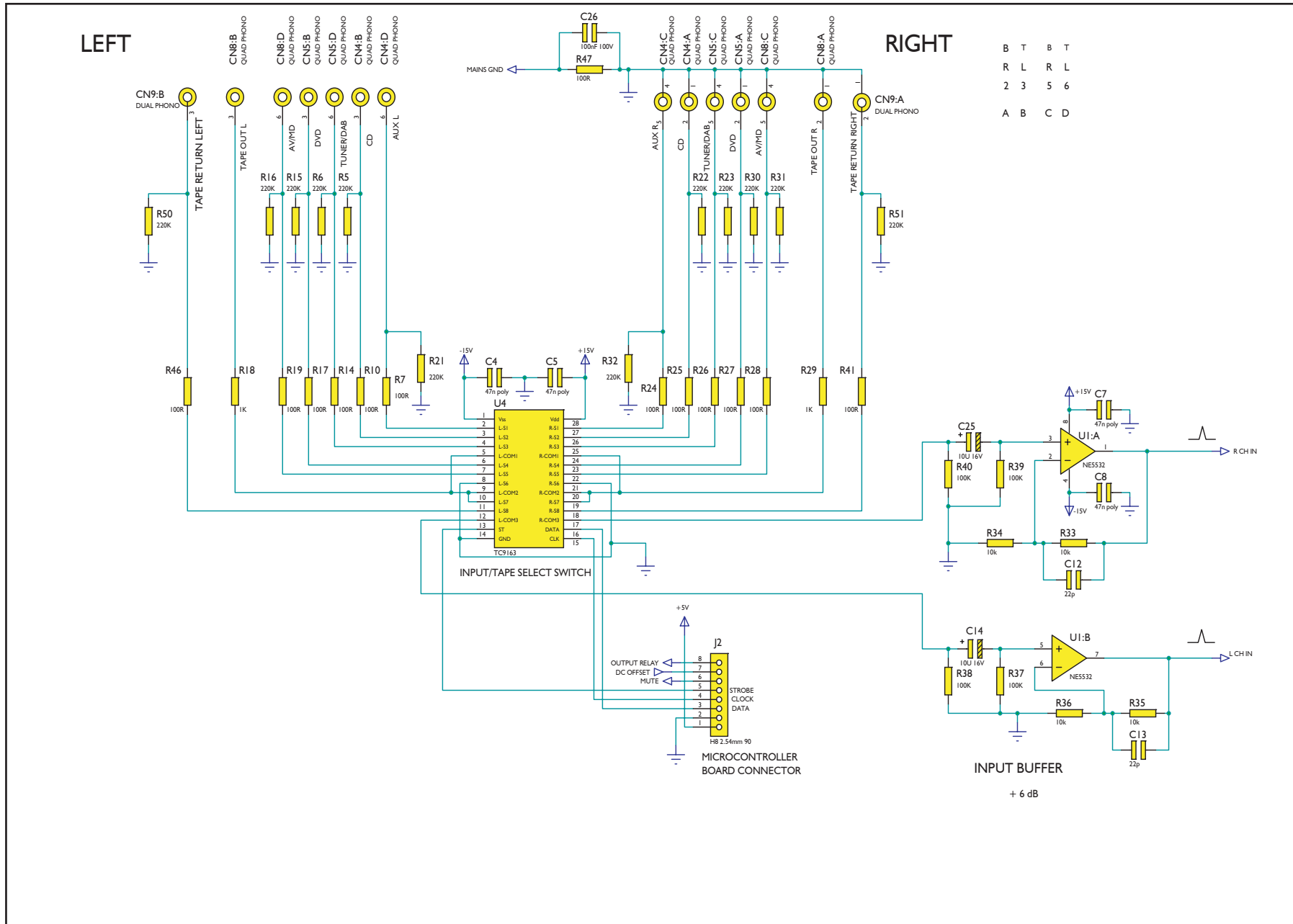
API4518/I Micrcontroller PCB Board Layout (Bottom Side)

Cambridge Azur 340A Front Panel PCB BOM

API5185/3

AP PART No.	DRAWING No	DESCRIPTION	QTY	DESIGNATOR	COMMENTS
	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	
	100nF	Ceramic NP0 or C0G 10%	4	C1, C4-C6	
	47uF	16V Radial Electrolytic	1	C3	
PY634		PIC16F72-I/SP	1	U1	Programmed with API4904/X
		Version label for PIC	1	U1	Print with latest software version number and stick on PIC.
PY260		BA6218 MOTOR DRIVE IC	1	U2	As used in 540A. 4162-180002-300 SIL-8 package
PD092		TSOP18 IR RECEIVER MODULE (VISHAY)	1	U3	As used in 540A 3001-183600-001
PY064		FLAT TOP BLUE LEDS (AS PER CURRENT CAMBRIDGE)	6	D1-D6	Please use flat top LED at standard Azur height
	ICP	Picoplex PF-50 6-way male header	1	CN1	Vertical
		H8 2.54mm 90	1	CN2	Right-angle connector 8-way
		H2 2.54mm 90	1	CN5	Right-angle connector 2-way
		H3 2.54mm 90	1	CN3	Right-angle connector 3-way
	API4897/1	Azur 340A IR PCB cable	1		
	2400-020200-000	Tactile Switch	6	SW1, 2, 3, 4, 5, 6	As used on 540A, CD, Tuner, AV, Phono/Aux, Tape/Mon, DVD
		Ceramic Resonator F=4MHz	1	CRS1	
	10mm long	Wire link	11	LK1-11	
	API4519/1	Blank PCB	1		
	Note:	API4518/1-A is the switch and micro controller PCB assembly			
		API4518/1-B is the IR PCB assembly			

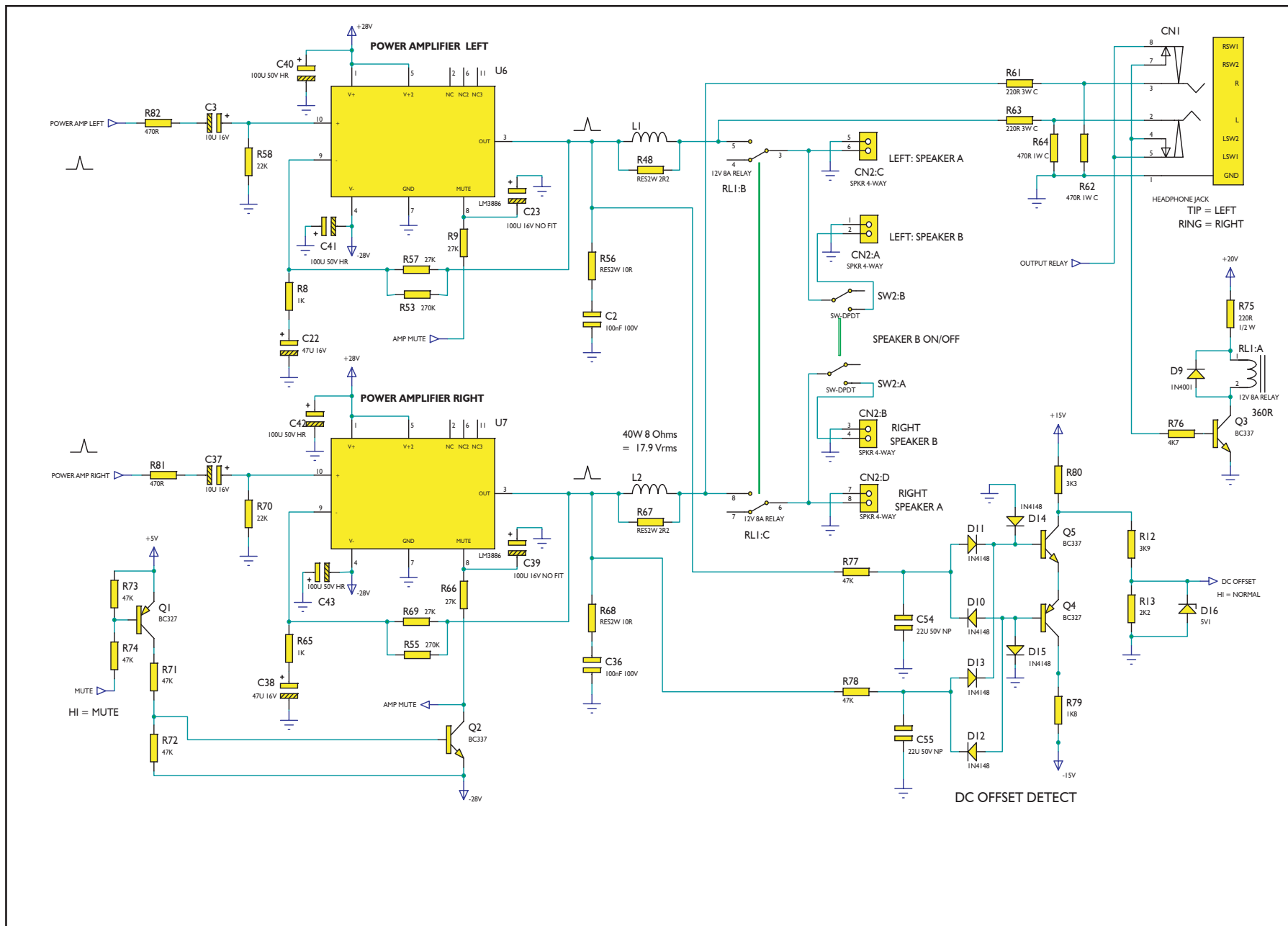
Cambridge Azur 340A Intergrated Amplifier



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API4476/3 Main PCB Schematic (Input Select)

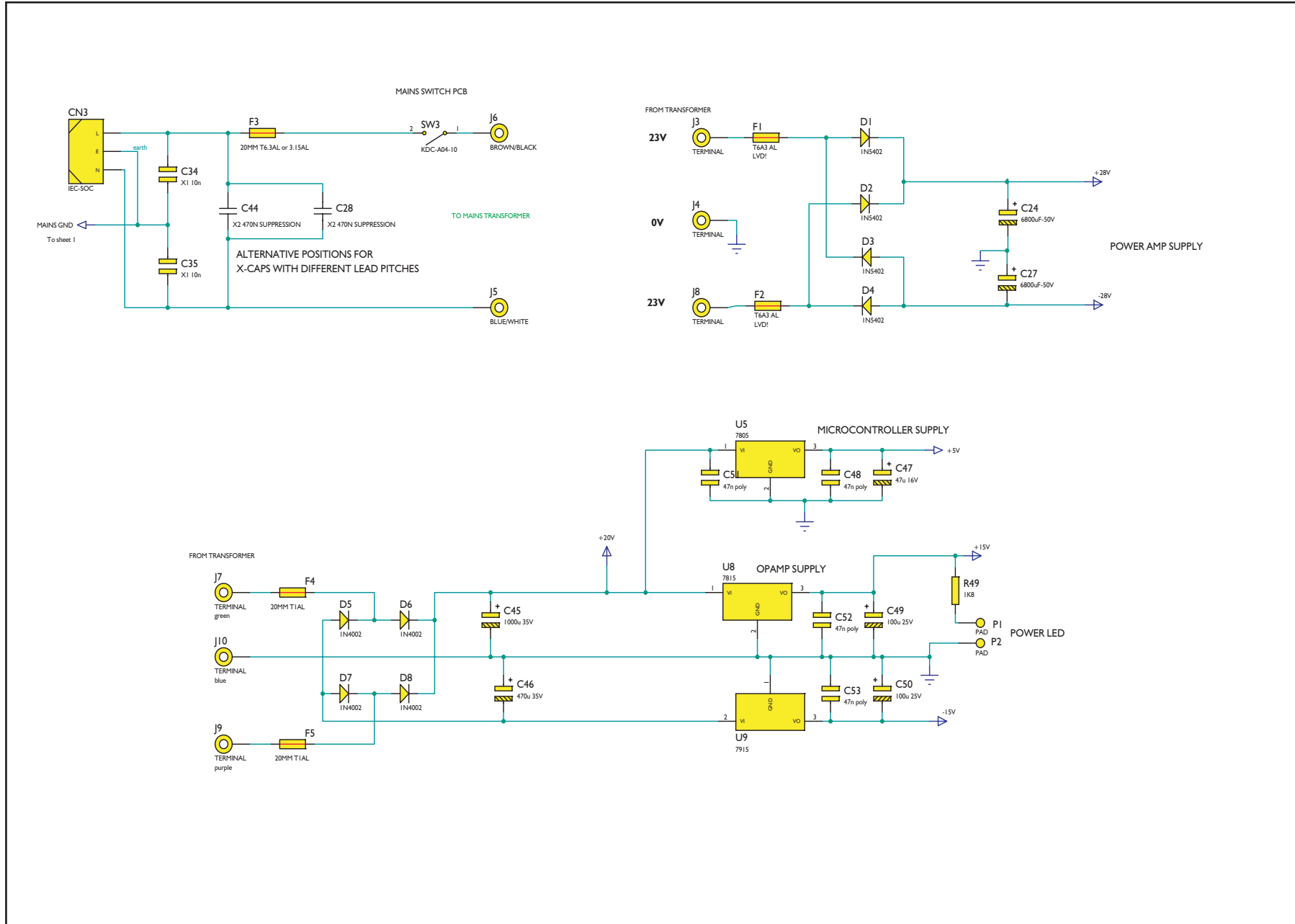
Cambridge Azur 340A Intergrated Amplifier



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API4476/3 Main PCB Schematic (Power Amplifiers)

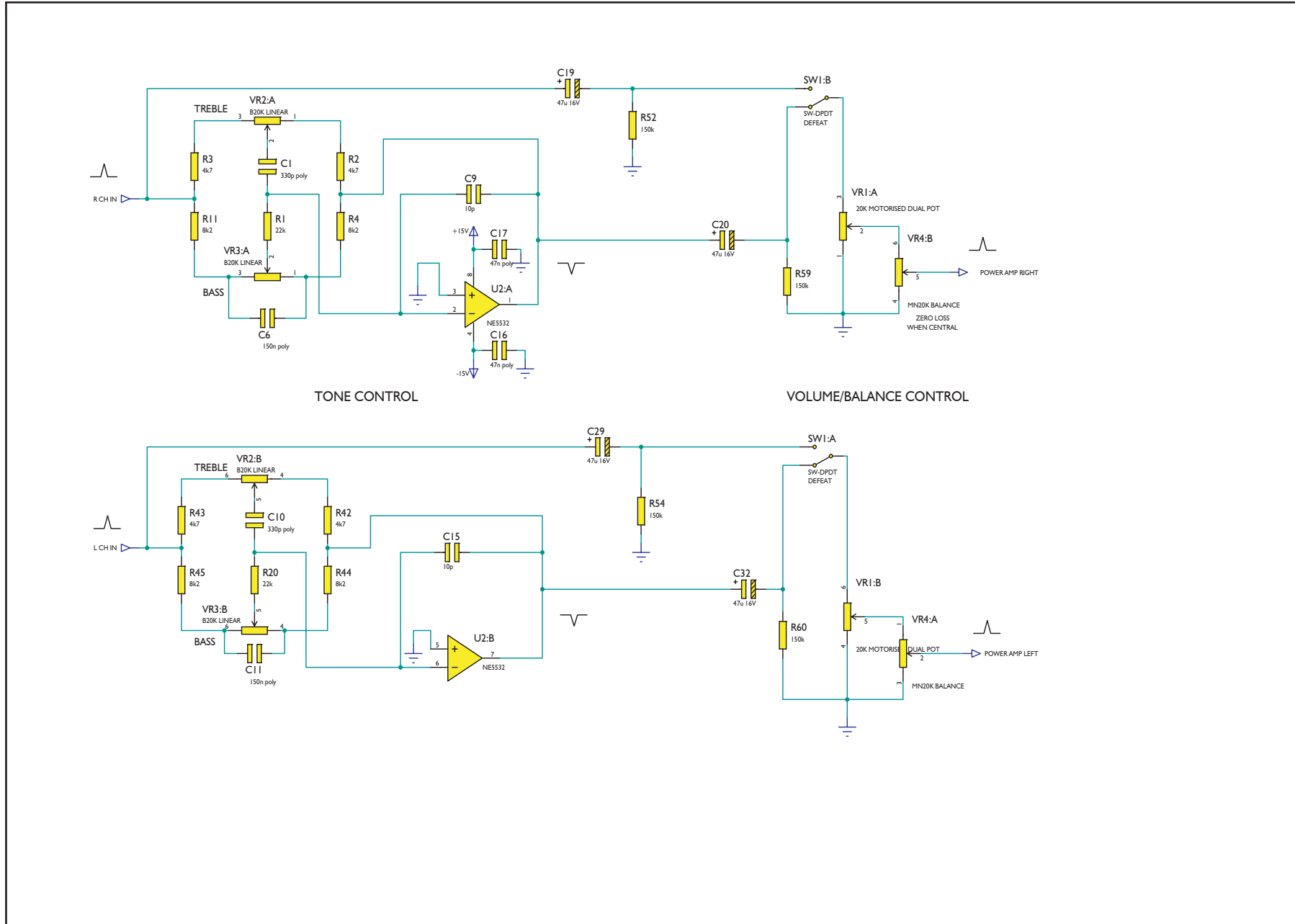
Cambridge Azur 340A Intergrated Amplifier



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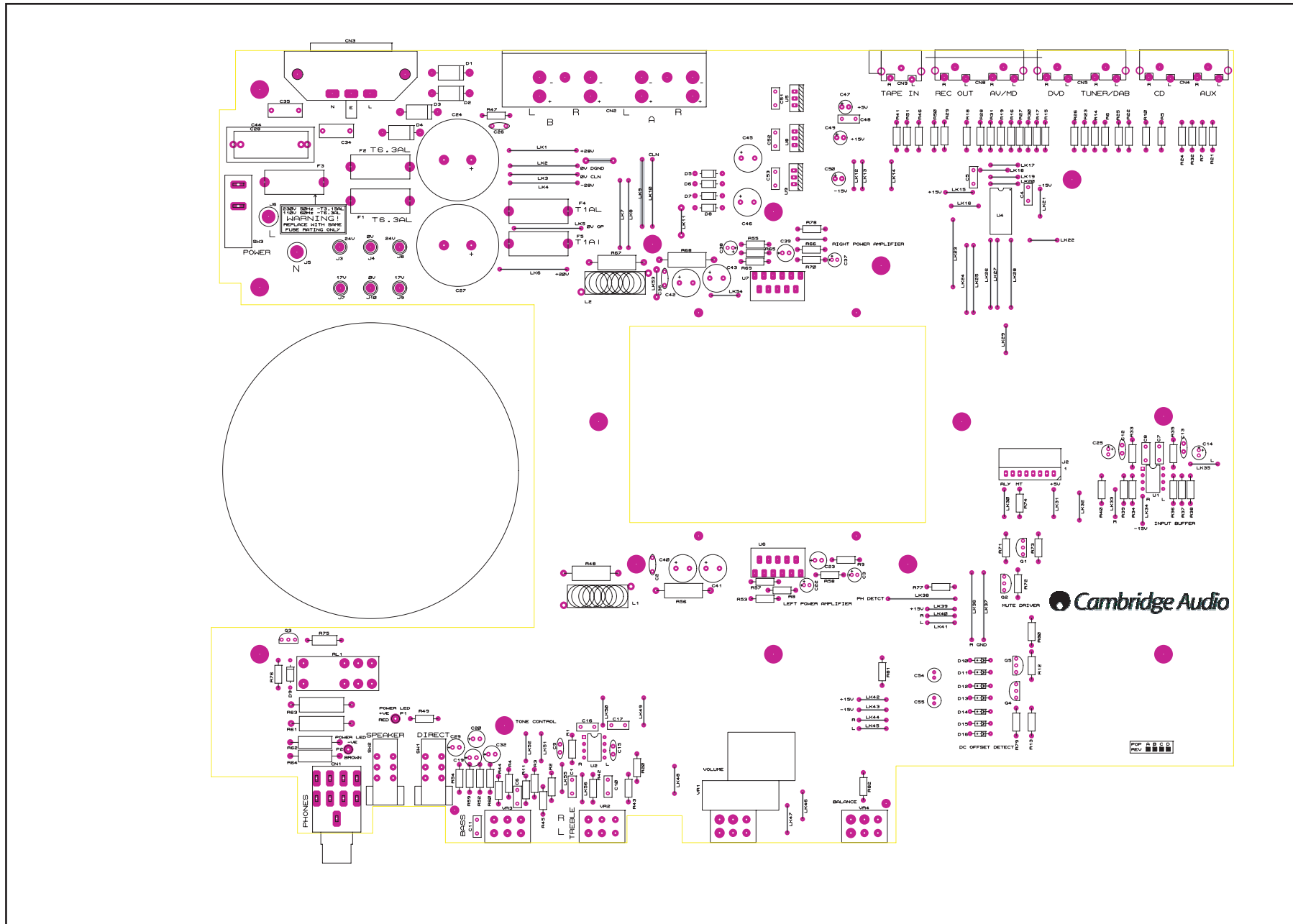
API4476/3 Main PCB Schematic (Power Supplies)

Cambridge Azur 340A Intergrated Amplifier



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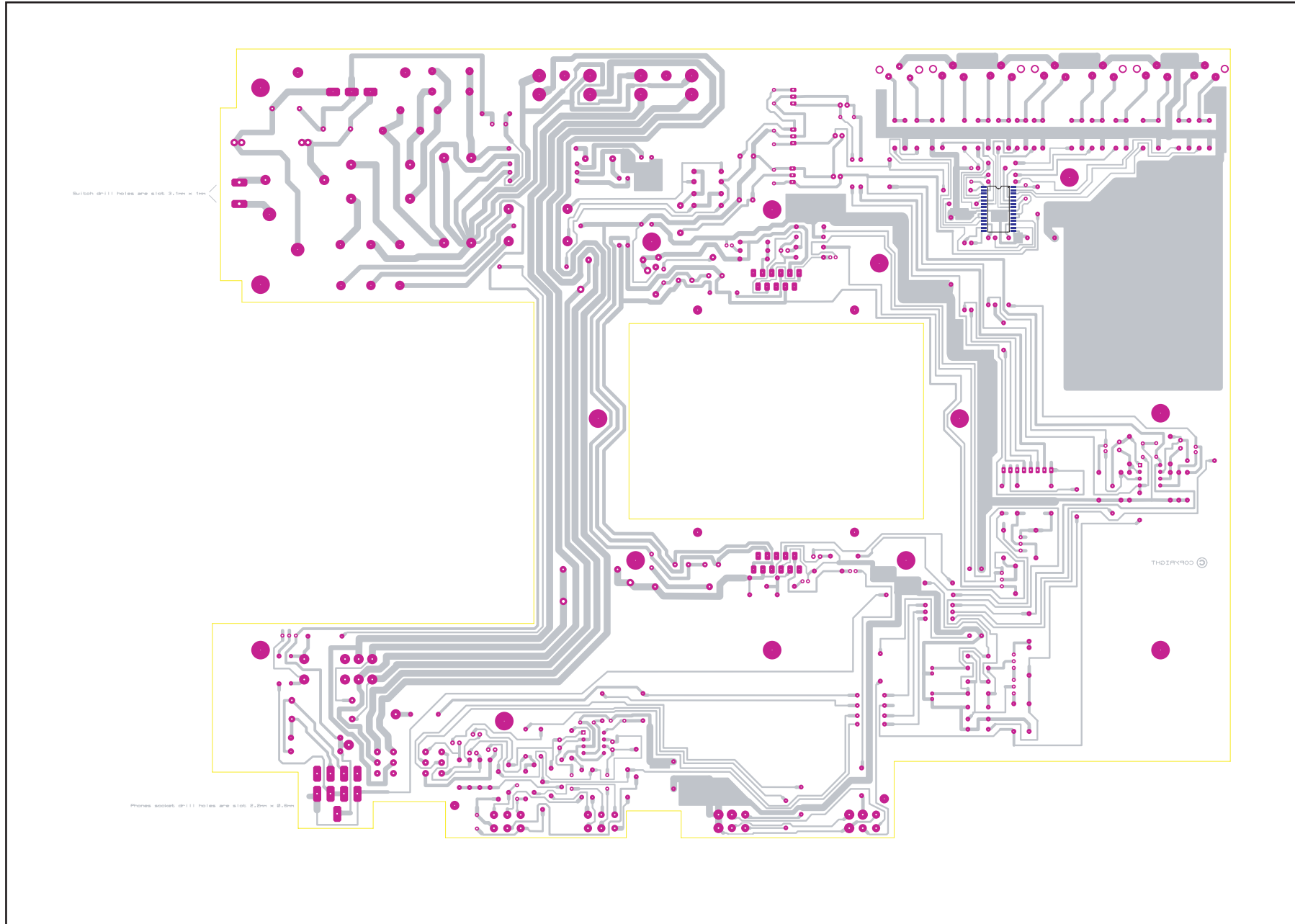
Cambridge Azur 340A Intergrated Amplifier



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API4476/4 Main PCB Board Layout (Top Side)

Cambridge Azur 340A Intergrated Amplifier



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API4476/4 Main PCB Board Layout (Bottom Side)

Cambridge Azur 340A Main PCB BOM

API51734

AP PART No.	DRAWING NO	DESCRIPTION	QTY	DESIGNATOR	NOTES
	2R2	2W Metal Film	2	R48, R67	Stand off PCB by 5mm
	10R	2W Metal Film	2	R56, R68	Stand off PCB by 5mm
	100R	0.25 W 1% Metal Film	13	R7, R10, R14, R17, R19, R24-R28, R41, R46, 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	4	R8, R18, R29, R65	
	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	1	R12	
	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	4	R33-R36	
	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	
	100K	0.25 W 1% Metal Film	4	R37-R40	
	150k	0.25 W 1% Metal Film	4	R52, R54, R59, R60	
	220K	0.25 W 1% Metal Film	12	R5, R6, R15, R16, R21-R23, R30-R32, R50, R51	
	270K	0.25 W 1% Metal Film	2	R53, R55	
	22pF	Ceramic NPO. Pitch= 3.0mm	2	C12, C13	
	10pF	Ceramic NPO. Pitch= 3.0mm	2	C9, C15	
	330pF	Polyester. Pitch= 5.0mm	2	C1, C10	
	10nF	X1 Mains rated Ceramic. Pitch= 5.0mm	2	C34, C35	EMC Suppression
	47nF	Polyester Pitch= 5.0mm	10	C4, C5, C7, C8, C16, C17, C48, C51-C53	
	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 16V Pitch= 2.0mm	4	C3, C14, C25, C37	
	22uF	Electrolytic 50V NP Pitch= 2.0mm	2	C54, C55	
	47uF	Electrolytic 16V Pitch= 2.5mm	6	C19, C20, C22, C29, C32, C38, C47	
	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	
	6800uF	Cambridge Audio Branded Electrolytic 50V Pitch= 10.0mm	2	C24, C27	Glue both capacitors to PCB
PY259	NE5532	Dual Low Noise Operational Amplifier	2	U1,U2	DIL package
PY476	TC9163AF	Input Switching	1	U4	surface mount package
	7805T	Voltage Regulator +5V	1	U5	TO220 package
PY644	LM3886T	High Performance Audio Power Amplifier	2	U6,U7	
	7815T	Voltage Regulator +15V	1	U8	TO220 package
	7915T	Voltage Regulator -15V	1	U9	TO220 package
PY219	BC327	PNP Small Signal	2	Q1, Q4	
PY214	BC337	NPN Small Signal	3	Q2, Q3, Q5	

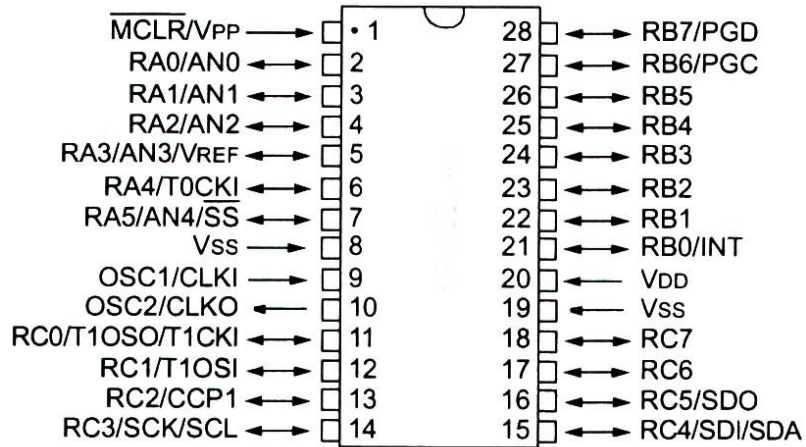
AP PART No.	DRAWING NO	DESCRIPTION	QTY	DESIGNATOR	NOTES
	IN5402	General Purpose Rectifier	4	D1-D4	
	IN4002	General Purpose Rectifier	4	D5-D8	
	IN4001	General Purpose Rectifier	1	D9	
	IN4148	High Speed Signal	6	D10-D15	
	BZX85-C5V1	Zener 400mW	1	D16	
PY649	T6.3AL	6.3A time delay Fuse-20mm low breaking capacity	2	F1, F2	Secondary fuses
PY595	T3.15AL	3.15A time delay Fuse-20mm low breaking capacity	1	F3	230V mains fuse
PY647	T1AL	1A time delay Fuse-20mm low breaking capacity	2	F4, F5	Secondary fuses
	4031-050100-001	Fuseholder 20mm	5	F1, 2, 3, 4, 5	
	4034-000030-000	Fuseholder cover	1	F3	Place on mains fuse holder F3
	H8 2.54mm	CONN-SIL8	1	J2	Vertical connector
	BLUE/WHITE	eyelet	1	J5	Terminate txfmr mains lead
	BROWN/BLACK	eyelet	1	J6	Terminate txfmr mains lead
	25X7MM INDUCTOR	3203-874801-000	2	L1, L2	As 540A amplifier
PY594	12V coil, 8A 250VAC Massuse Me-11 012-2Z4	Relay-s	1	RL1	
PY004	20K MOTORISED DUAL POT	Pot-Dual-Motor	1	VR1	As 540A amplifier. IMPORTANT leads must be cropped close to PCB
PY003	B20K LINEAR	Pot-Dual	2	VR2, VR3	As 540A amplifier. IMPORTANT leads must be cropped close to PCB
PY005	MN20K BALANCE	Pot-Dual	1	VR4	As 540A amplifier. IMPORTANT leads must be cropped close to PCB
	M3 x 10 Taptite	Power Amp IC Fix Screw	2		Fix IC tab to heatsink
	M3	Power Amp IC Insulating Bush	2		Insulate fix screw from IC tab
	Precut washer type K177-NA-617	Power Amp IC Insulating Washer	2		K177 is the material type. NA means "no adhesive". Self-adhesive version would be technically acceptable.
	Dwg no: API4899/I	Power Amp Heatsinks	2		Black anodised
	6510-150310-000 (Pressure board)	Power Amp IC Bracket	2		Holds IC body against heatsink
	M3 x 6 Taptite	Power Amp IC Bracket Fix Screws	4		Fix bracket to heatsink
	Screw M3.5x10mm BTB thread, Binding Head, cross recess, black plated	Heatsink Fixing Screws	4		7003-510003-111
	Metal Washer OD=10mm ID=3.5mm Thk=0.8mm	Heatsink Fixing Washers	4		7103-610008-022
	M4 x 12 machine screw	IEC socket fix screws	2		Fix IEC socket to PCB
	M4 locking washer	IEC socket fixing	2		Fix IEC socket to PCB
	M4 nut	IEC socket fixing	2		Fix IEC socket to PCB
	API5508/I	Power LED wireform	1		Solder to pads P1, P2
	10mm long	Wire link	37	LK11-22, LK29-37, LK39-56	
	25mm long	Wire link	19	LK1-10, LK23-28, LK36-38	
PY646	2330-005901-300	Headphone Jack	1	CN1	As 540A amplifier
PY647	WP8-21A	Spkr 4-Way	1	CN2	Note: red terminals at top. Modified mechanically as per our instructions.
PY226	2336-003910-002	IEC-Socket	1	CN3	As 540A amplifier
PY036	2330-006911-021	Quad Phono	3	CN4, CN5, CN8	As 540A amplifier, Zuanbao AV4-8.4-9
PY035	AV2-8.4-9	Dual Phono	1	CN9	

AP PART No.	DRAWING NO	DESCRIPTION	QTY	DESIGNATOR	NOTES
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
	Gerber API4477/4		1	Schematic API4476/4 Gerber file is API4477/4 PCB Construction details API4478/4	Please mark board POP REV A
	NOTES:				
	Note 1: C23, C39 Components not fitted				
	Note 2: All resistors larger than 0.25W to be stood off the board by 5mm				
	Note 3: All resistors 1% tolerance				
	Note 4: All capacitors 85 degC rating or above				

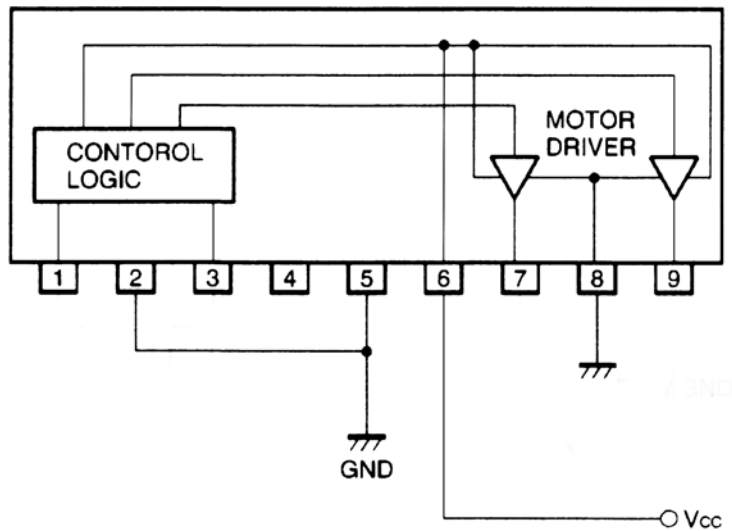
Cambridge Audio Azur 340A Amplifier IC Pin Layout Details

Front Panel PCB

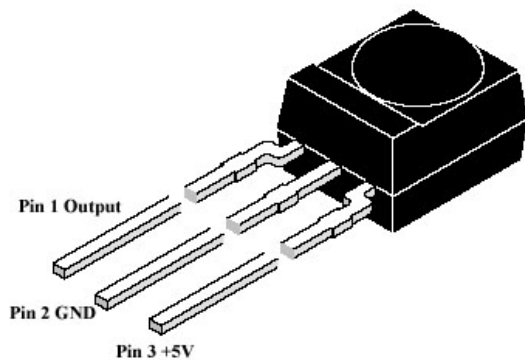
PIC16F72-I/SP (U1)



BA6218 (U2)

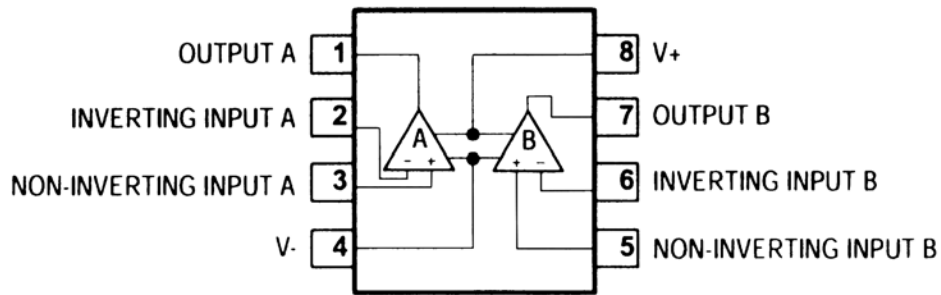


TSOP1836/37 (U3)

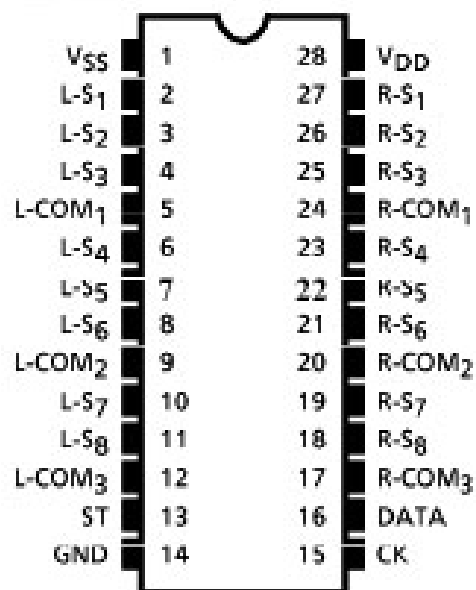


Main PCB

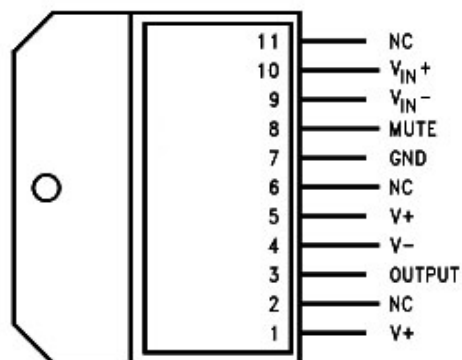
NE5532 (U1 & U2)



TC9163AF (U4)



LM3886T (U6 & U7)



Cambridge Azur 340A Silver - Black Differences BOM**API58421**

AP PART No.	DRAWING NO	DESCRIPTION	QTY	COMMENTS
		CARTON LABEL (MODEL NO.) UK BLACK	1	FOR BOX
PY593		CAMBRIDGE SELECTOR KNOB MK3 Black	3	
PY591		CAMBRIDGE NEW RANGE AMP VOLUME KNOB Black	1	
PY639		CAMBRIDGE FRONT PANEL (PUNCHED AND PRINTED) Black	1	SCREENED WITH ARTWORK AP13679/2
		CAMBRIDGE NEW RANGE AMP 7mm TAC SWITCH BUTTON	6	POSITION IN PLACE ON THE FRONT PANEL
		CAMBRIDGE NEW RANGE AMP 7mm PUSH SWITCH BUTTON	2	POSITION IN PLACE ON THE FRONT PANEL
PY531		CAMBRIDGE NEW RANGE FOOT MOULDING	4	POSITION IN PLACE ON BOTTOM PANEL
PY641		340A Top Panel (Black)	1	POSITION ON TOP OF THE PRODUCT
PY515		M2.6 x 8 MC Torx Recessed Black	8	TOP PANEL SCREWS