

*Service Manual*

# A65/75

Issue 1.0

## DiVA A65, A75 & P75 Plus Amplifiers



ARCAM

# Contents List

- ❑ **Contents list**
- ❑ **Circuit description**
- ❑ **Service guide**
- ❑ **Circuit diagrams**
- ❑ **Component overlays**
- ❑ **Circuit board parts list**
- ❑ **General assembly parts list**

# A65/75/75P Plus Circuit Description

## PSU

In order get the output devices to turn fully on and achieve the greatest efficiency, an auxiliary rail is formed from a charge pump driven by the main AC outputs from the transformer. C304,305 & D301,302 charge on alternate cycles. In the other cycle the charge on C304,305 is pumped into C310,311 respectively. This creates a voltage much greater than the standard rails, but with low regulation and high ripple. This is then regulated to 38V via emitter followers Q300,302,303,305 from a zener stabilized voltage (D304,305)

The Pre-amp  $\pm 15V$  supply comes from linear regulators Z300,301.

The transformer is a dual voltage unit, the required voltage being selected by which fuse holder is fitted with the appropriate fuse. If an alternative to 115V or 230V is required then a different transformer is fitted. The secondary is centre tapped for the main rails, but a separate winding is added for the uC supply.

The star ground point SP300 is not a component on the PCB and is on the schematic only for layout purposes.

## Pre-amp

The direct signal path (line in, tone controls defeated) consists of a single op-amp gain stage, buffering the j-fet input multiplexers and Tape Monitor and AV switches. The selected input is AC coupled to the op-amp, the output is DC to the Pre-out, via a j-fet "pre-mute" switch. This switch is controlled by the uC in such a way that when ever the output relay changes state signal is removed from the power amplifier (A65/75).

The MM phono stage (by passable A75 only, SW100) is opamp based. The circuit is AC coupled to give RIAA/IEC low frequency response. The cartridge is loaded by R100,101,C119,120. The 1kHz gain is 56dB, and RIAA eq set by R110,112,111,113,C127,129,128,130.

Each line input has static protection afforded by the back to back diodes (e.g. D101,103), and RF filtering is set by R118,C134 etc. The selected input is buffered for Tape output by Z104 set as a follower. The output resistor is inside the feedback loop so to keep the output impedance low and short protection is catered for. C121,122 maintain stability into capacitive loads.

From the tape monitor switch (Z105) onwards the signal is AC coupled (C151,152). From there the signal is fed to the tone controls. These consist of two stages: Balance and buffer (Z160), and Bass/Treble Z161. The output of this stage is again AC coupled. Switch SW162 selects whether the tone adjusted signal or a direct signal reaches the gain section. In the A75 Z164 can be used to bypass the volume control when AV input is selected. This fixes the gain to allow an external AV processor to control the volume setting.

The gain stage (Z163) has a gain of 2.2, and the same low impedance output arrangement as the Tape output. The signal from this stage to the Pre- amp outputs and the Power amp input is controlled by a pre-mute (Z171). This removes thumps and clicks, and in the case of the Power amp relay changing state, removes signal so arcing will not take place.

## Power Amplifier

The new topology is a high gain voltage feedback design, with a bipolar output stage. Its signal path is designed to be fully symmetrical, despite not having a symmetrical circuit (symmetrical rail to rail). This is achieved with a new dual differential input gain block, where the input differential sees a symmetrical active load (Q600,601,700,701) before driving the second voltage amplification stage (VAS) differential (Q603,604,703,704). This could be described as two Wilson mirrors with their bases clamped together. The second differential also has an active load of a more traditional mirror (Q610,611,710,711), and this gives a push pull signal to the input of the output stage, improving on the traditional single ended current source of the often called "blameless" topology.

The input pair (Q606,607,618,619,706,707,718,719) are in a Darlington configuration to lower input current offset which in turn will lower DC offset at the output, as the impedances seen on the input nodes are necessarily high for the wide bandwidth required.

The output stage is a simple bipolar darlington (Q614,615,714,715). However, the devices used are Darlington devices with integral diodes. This means the bias temperature compensation is part of the output device enabling smaller number of devices, no extra devices on the heatsink (vital for this mechanical layout) and more consistent temperature compensation of bias. Also the resistors are also integral, saving a large amount of PCB real estate and hand insertion cost, while also able to be used as bias set test points and protection sensing.

Due to the decreased efficiency of this type of output stage over the previous bootstrapped Mosfet output, a separate set of rails is required for the VAS stage in order to saturate the output transistors. The operation of this is outlined in the Power supply section. However, these rails are individually regulated for each channel to decrease power supply crosstalk.

The protection of the output stage is taken care of by a proprietary IC (Z101). This takes care of the switch on delay (R150,C149), DC offset (R102,103,C147), Thermal trip (TH100), and safe operating area.

The safe operating area is monitored by a network which compensates for the voltage across the output devices, current through them, and duration of power (R627,606,625,605,C617 & symmetrical associated components) and this is sent to the protection IC via (Q605,612,613,616,617,712,713,716,717).

The output of the protection IC is sent to the micro controller (uC) to signal the output relay (RLY1) status. Also, for output muting purposes, the uC can switch the relay via Q100.

## Input Selection

The uC controls the operation of the unit. IR commands are received from RX900 on a break-off PCB found on the front panel and fed via LK900/LK903 3-way ribbon. On power on/off the current state of the pre-amp switching stored in an EEPROM Z906. The input switching is 5V logic level and is direct from the uC to the DPDT analogue switches in the case of Tape Monitor (Z105), AV (Z164,A75 only), Pre-mute (Z171) and Mute Q100. The source selector is achieved by 8 way analogue multiplexors (Z102,103) and the control signals are decoded from the uC from MUX1,2,3 by Z907 which also drives the appropriate front panel LED. The input selection is set by the remote control or the rotary encoder on the front panel display PCB. Tape monitor and AV mode(A75 only) is set by SW900.

## Volume Control

The volume control is a motorized manual type, where the signals are routed through the 8-way ribbon LK189. The motor drive comes from Z905, which is a logic level controllable motor driver. It has its own unregulated PSU (D907,C920),and the speed of the volume knob is dictated by the REF pin. The circuit (Q900,R905,901,C901) allows the speed to vary from just above stall to full as the volume control button is depressed on the remote.

## SIM Module

The connector PL161 (P75 only) allows the fitting of the ARCAM SIM module. In order to allow this to operate LK172 & LK173 must be removed. This will allow 12V trigger signals to operate the P75.

## Headphones

The Speaker outputs (SK600,700) are connected to the headphone socket (SK162) via an 8-way ribbon LK170,171. The output is attenuated by a resistor network R161,162,236,237. The Relay drive is fed through the headphone socket's switch (HPSW1,2) so that when headphones are inserted the speakers are disconnected. Switch SW163 allows the separate switching of the second speaker terminals on SK600,700.

# A65, A75 & P75 Service Guide

## Fault diagnostics

Fault	Action
No power	Check mains fuse Check transformer connections Check power supply rails
Stuck in protection	Check power supply rails Check protection circuit voltages Check for dry joints on o/p devices
Intermittent audio on one channel	Check for dry joints around o/p devices
Fails to respond to commands	Check supply to remote circuit Check IC Z900 Check remote flex foil cable Check for dry joints on selector pcb
Volume control rubs on front panel	Pull knob out from fascia
Audio crackles on o/p	Check for component break down using hot air gun & freezer spray Check transformer connections

## Power supply test points

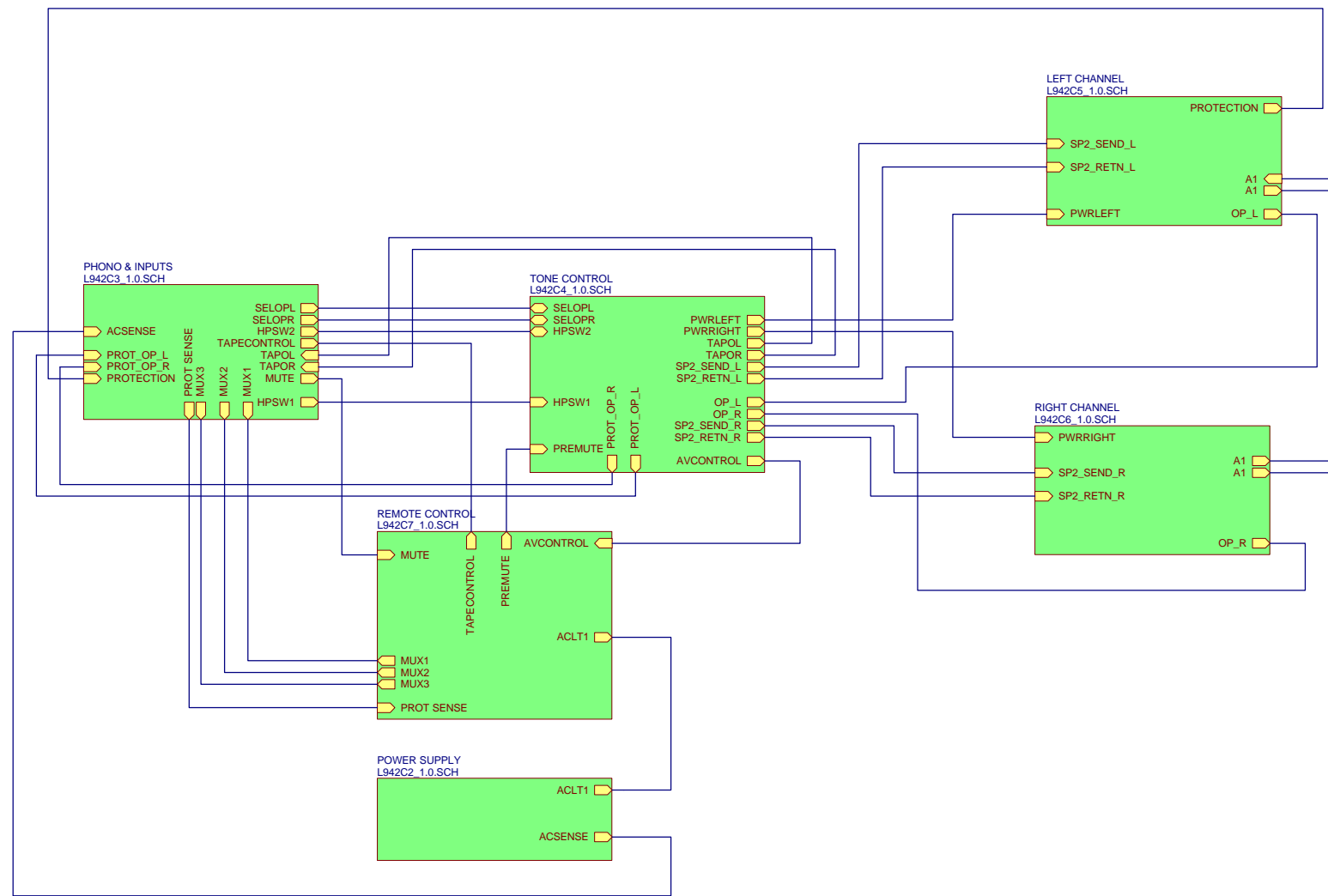
Position	Voltage
LK125	+37 volts DC
LK126	-37 volts DC
LK271 or black speaker terminal	0 volts
LK303	+15 volts DC
LK301	- 15 volts DC
Q300 emitter	+38 volts DC
Q304 emitter	+38 volts DC
Q302 emitter	-38 volts DC
Q305 emitter	-38 volts DC
D910 emitter	+5 volts DC remote supply

## IQ settings

Model	IQ setting	Comments - (22/01/02)
A65	37mV	
A75	37mV	
P75	37mV	
A85	12mV	Set for 8.5mV cold, reset for 12mV when warm
P85	12mV	Set for 8.5mV cold, reset for 12mV when warm
A65 plus	12 to 15mV	
A75 plus	12 to 15mV	
P75 plus	12 to 15mV	

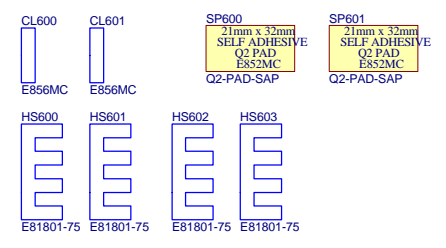
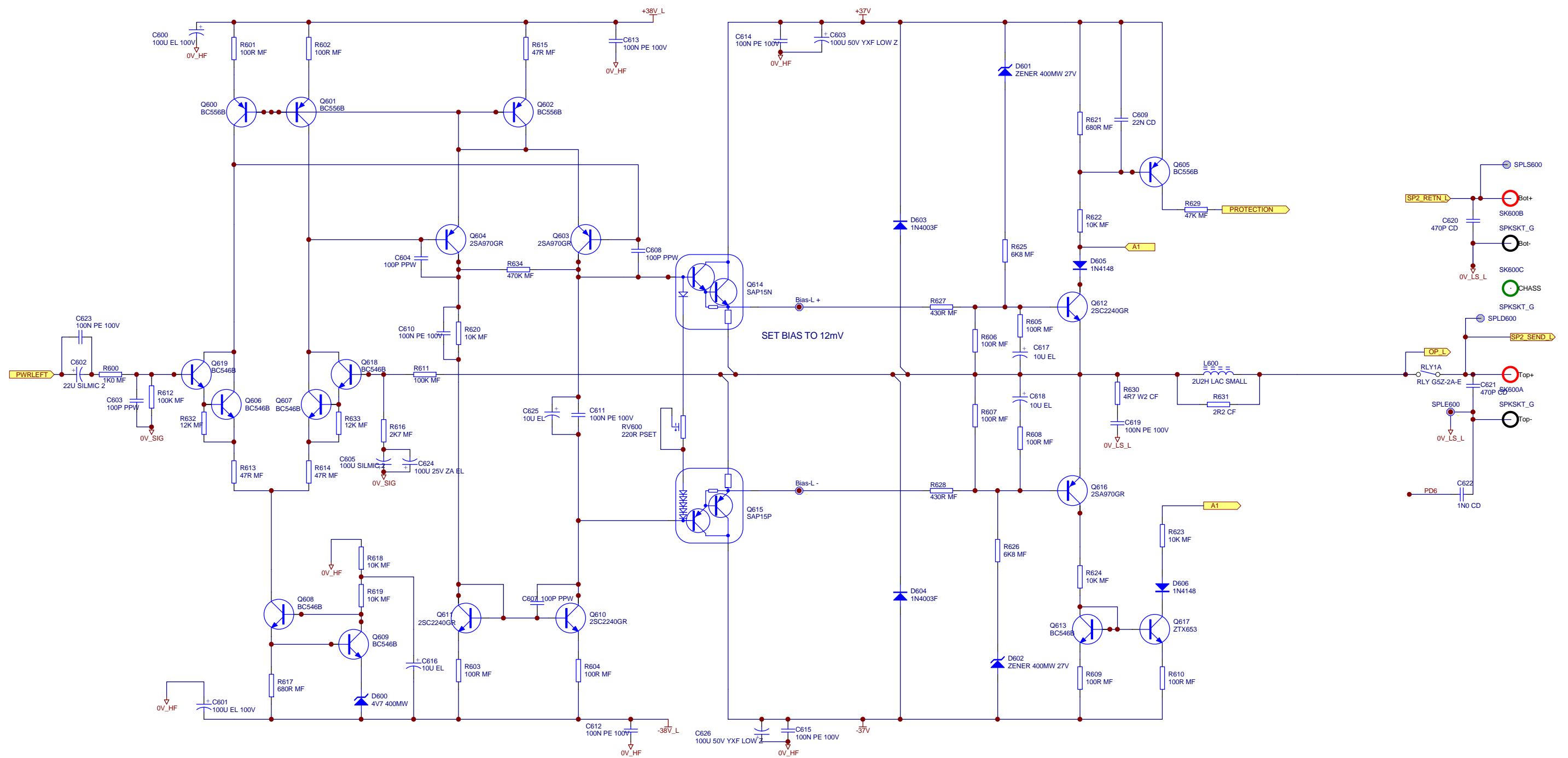
## Hints & tips

- ❑ To isolate a fault between pre and power stage remove C602 (left channel) or C702 (right channel).
- ❑ Always check and re-solder o/p device SAP15N and SAP15P pin connections.
- ❑ Replace Z900 IC if software version is below version 3 ( note version 82 is also ok ).
- ❑ Make sure R127 is not touching LK130.
- ❑ When replacing the top cover with a new top it may be necessary to re-drill the fixing holes.



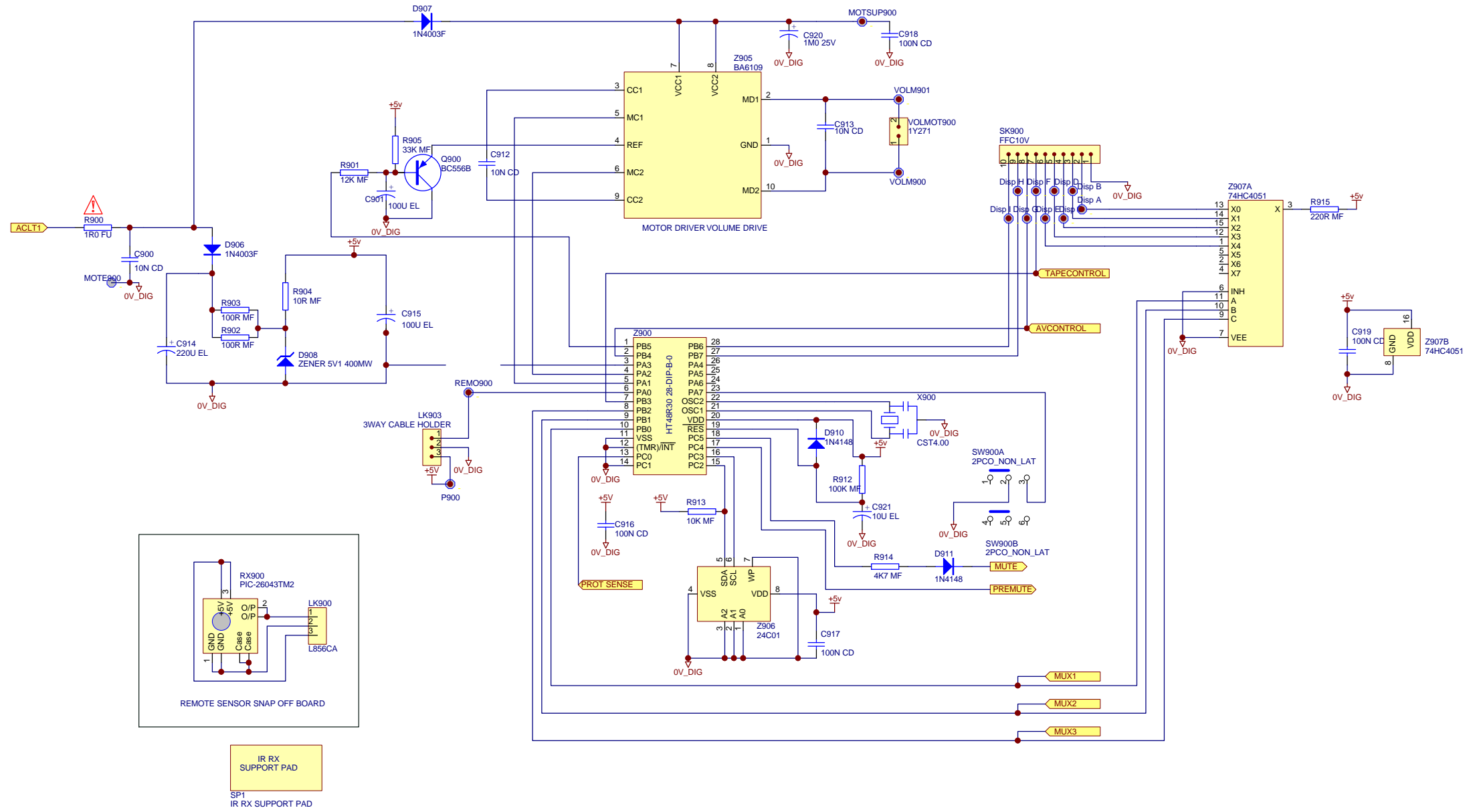
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Contact Engineer: Travis Pierce		Contact Tel: (01223) 203 200		ECO No.	INITIALS	DATE	DESCRIPTION OF CHANGE	ISSUE
						11-Dec-2001	Sheet 1 of 7	DRAWING NO. L942C1



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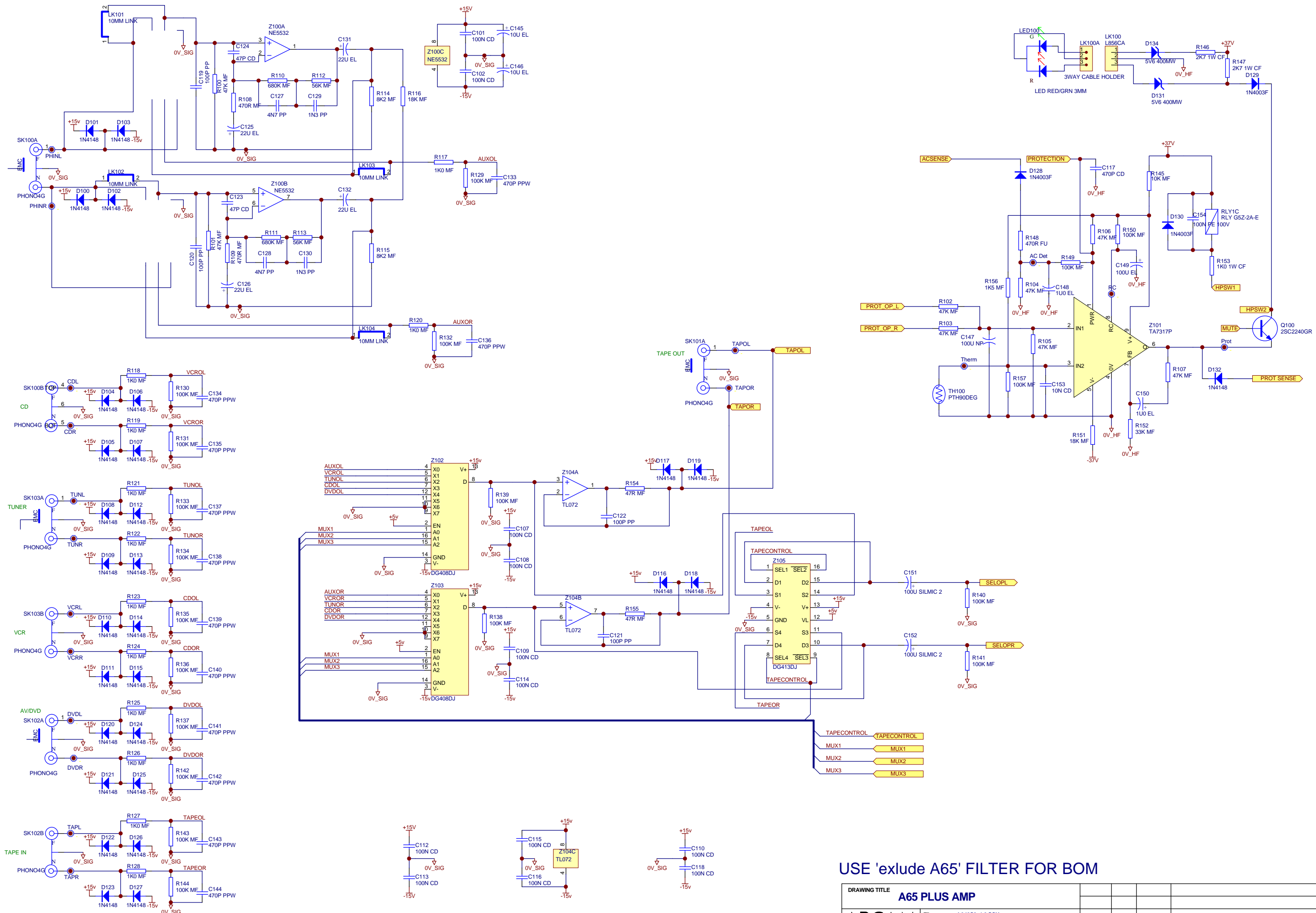
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		11-Dec-2001	Sheet 5 of 7	DRAWING NO. L942CS					



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<b>ARCAM</b>		Filename: L942C7_1.0.SCH							
Notes:		uC, Volume Drive & Remote Control							
A & R Cambridge Ltd. Pembroke Avenue Waterbeach Cambridge CB5 9PB		01_E020 TGP 12/12/01 PRODUCTION RELEASE							
Contact Engineer: Travis Pierce		Contact Tel: (01223) 203 200		Printed: 11-Dec-2001		Sheet 7 of 7		DRAWING NO. L942C7	

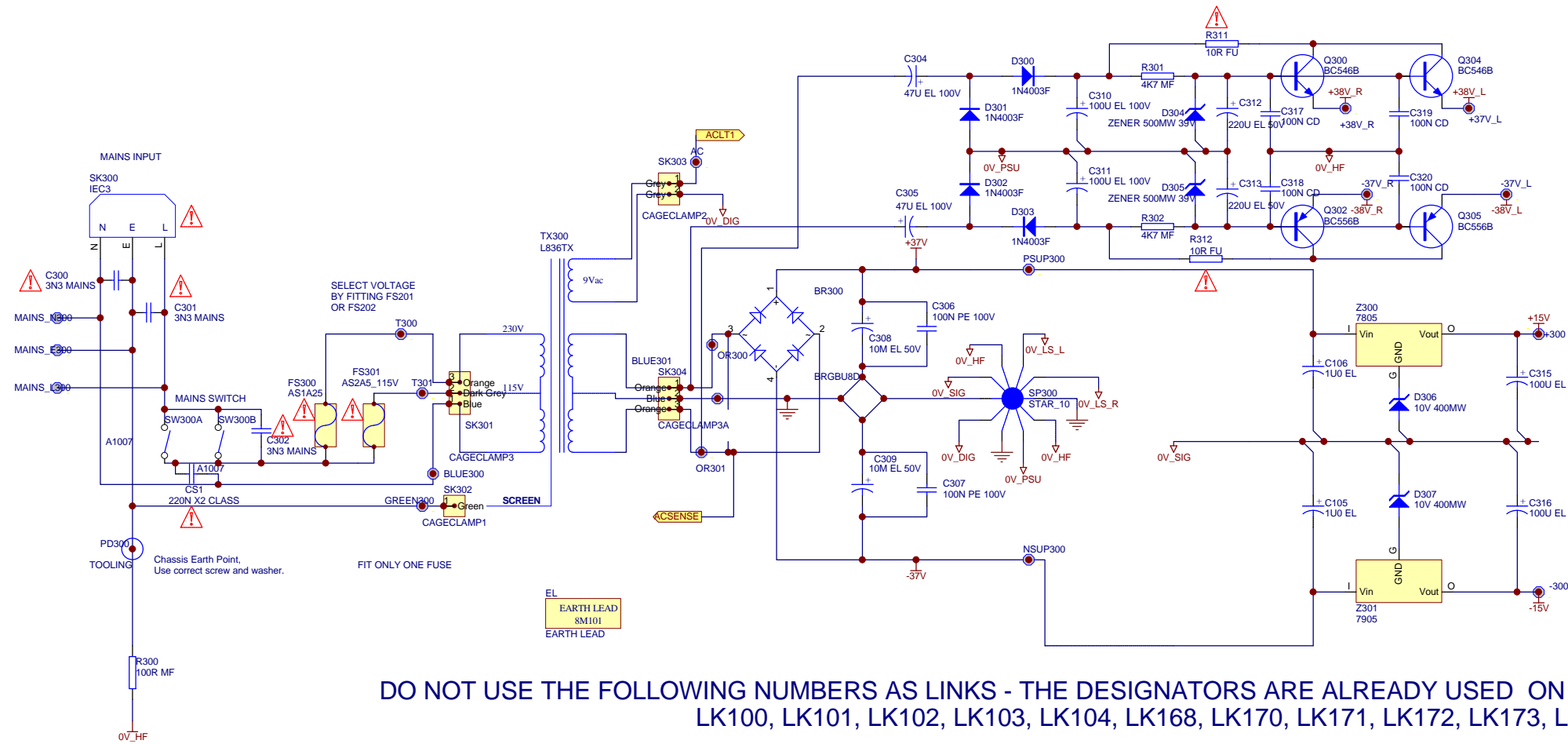
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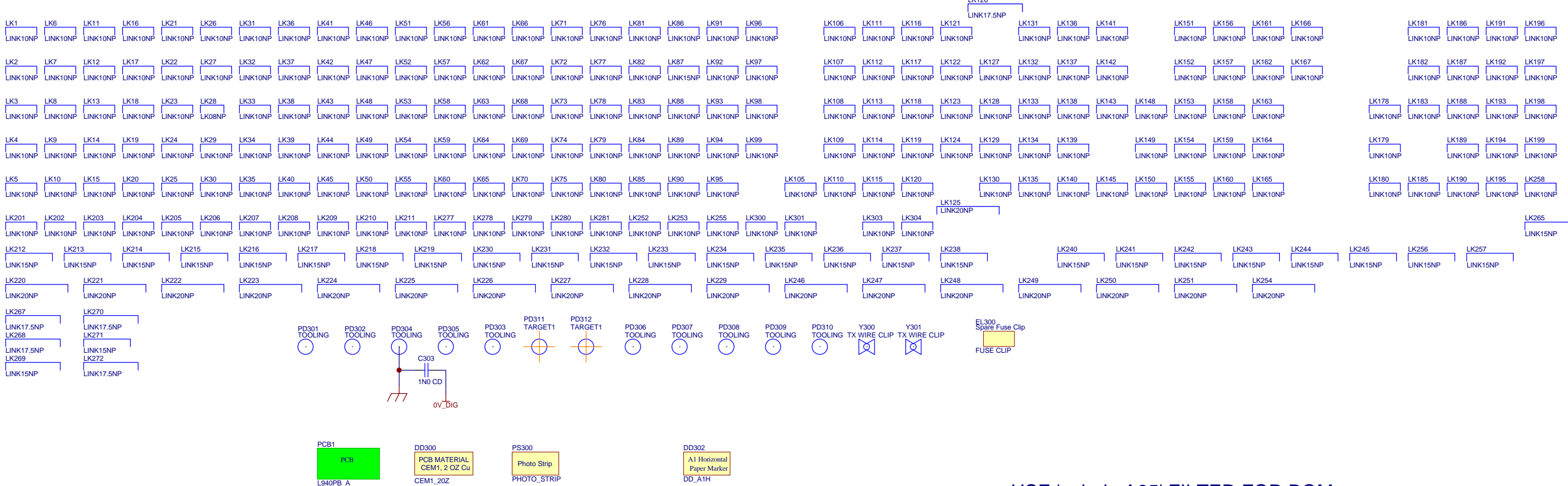
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Contact Engineer:	Travis Pierce	Contact Tel:	(01223) 203 200	Printed:	11-Dec-2001	Sheet	3 of 7	DRAWING NO.	L942C3





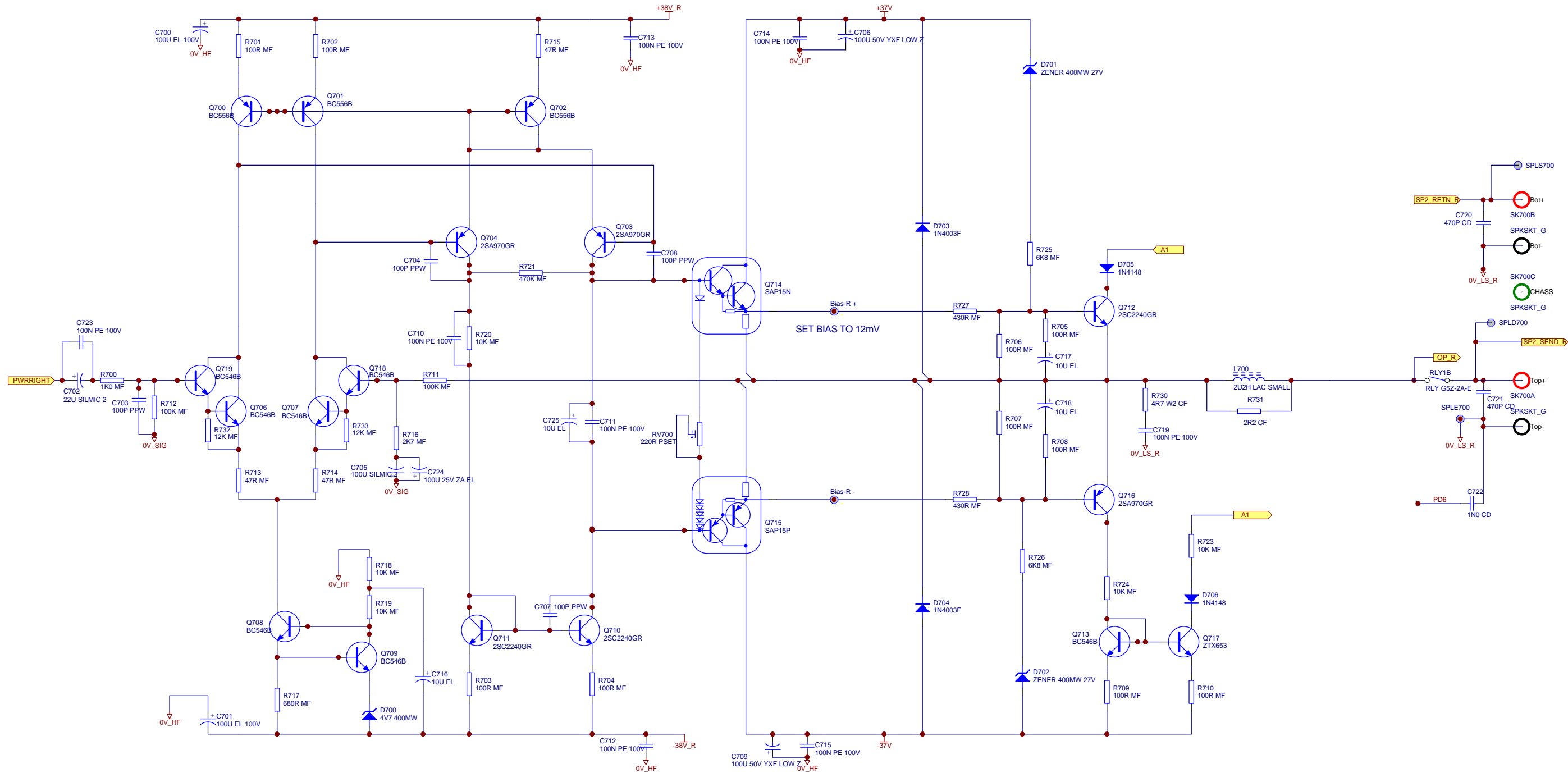
DO NOT USE THE FOLLOWING NUMBERS AS LINKS - THE DESIGNATORS ARE ALREADY USED ON OTHER PARTS OF THIS CCT!  
 LK100, LK101, LK102, LK103, LK104, LK168, LK170, LK171, LK172, LK173, LK174, LK175, LK176, LK177



WARNING SAFETY CRITICAL COMPONENT  
 REPLACE WITH IDENTICAL PART

USE 'exlude A65' FILTER FOR BOM

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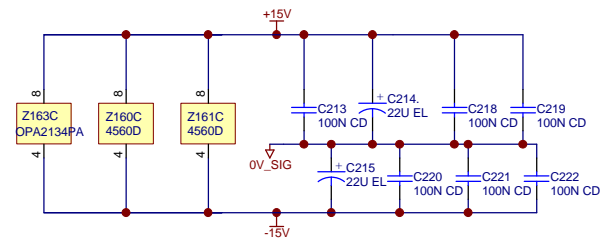
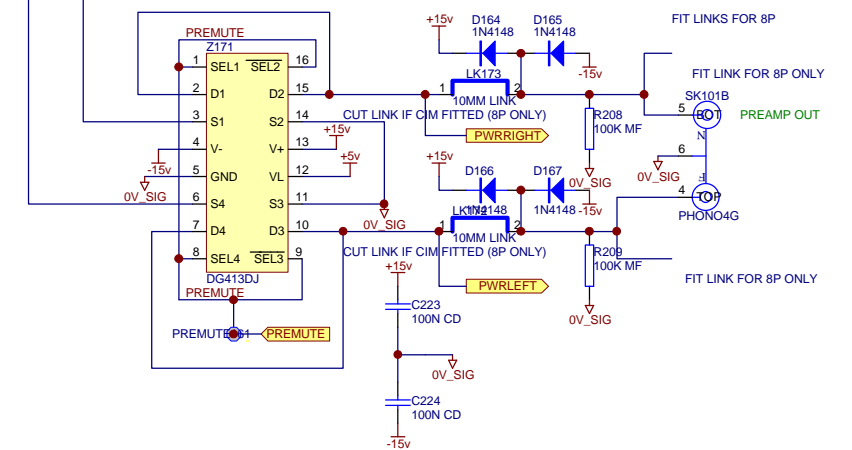
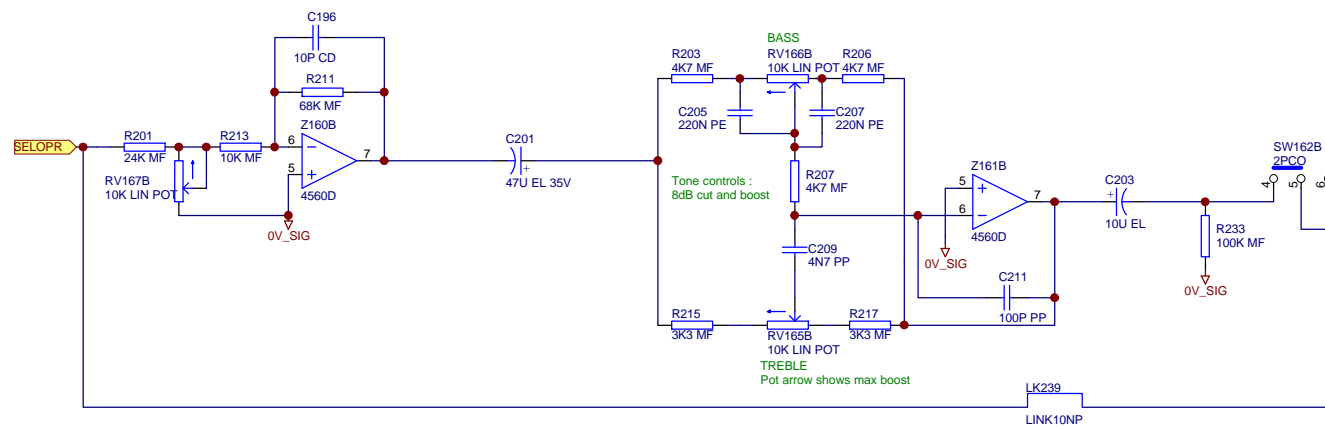
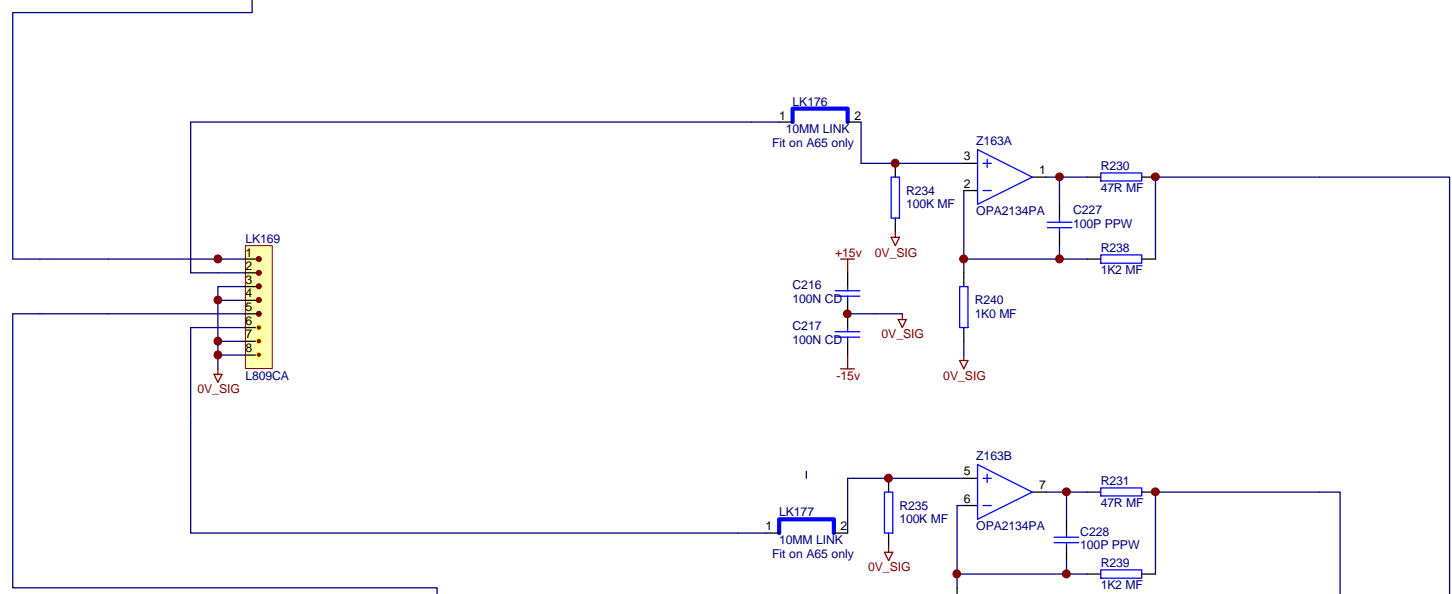
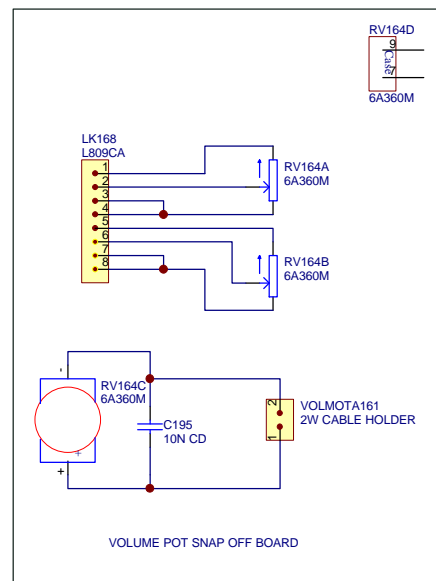
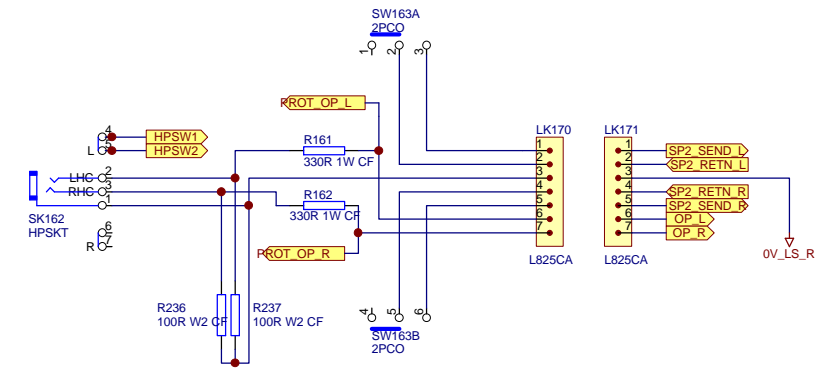
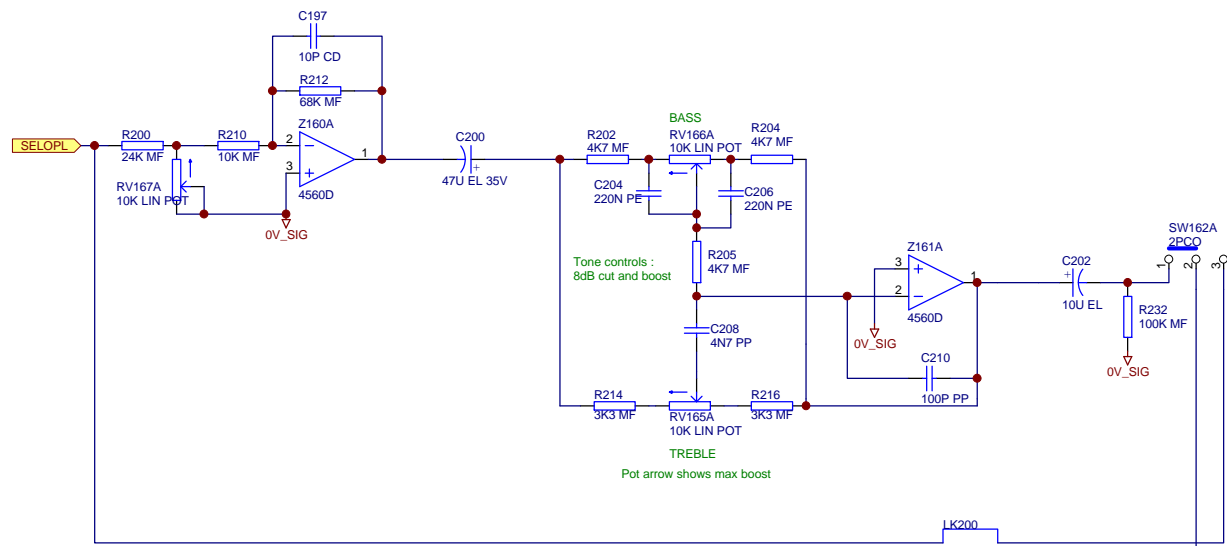


SP700  
21mm x 32mm  
SELF ADHESIVE  
Q2 PAD  
EKS2MC  
Q2-PAD-SAP

SP701  
21mm x 32mm  
SELF ADHESIVE  
Q2 PAD  
EKS2MC  
Q2-PAD-SAP

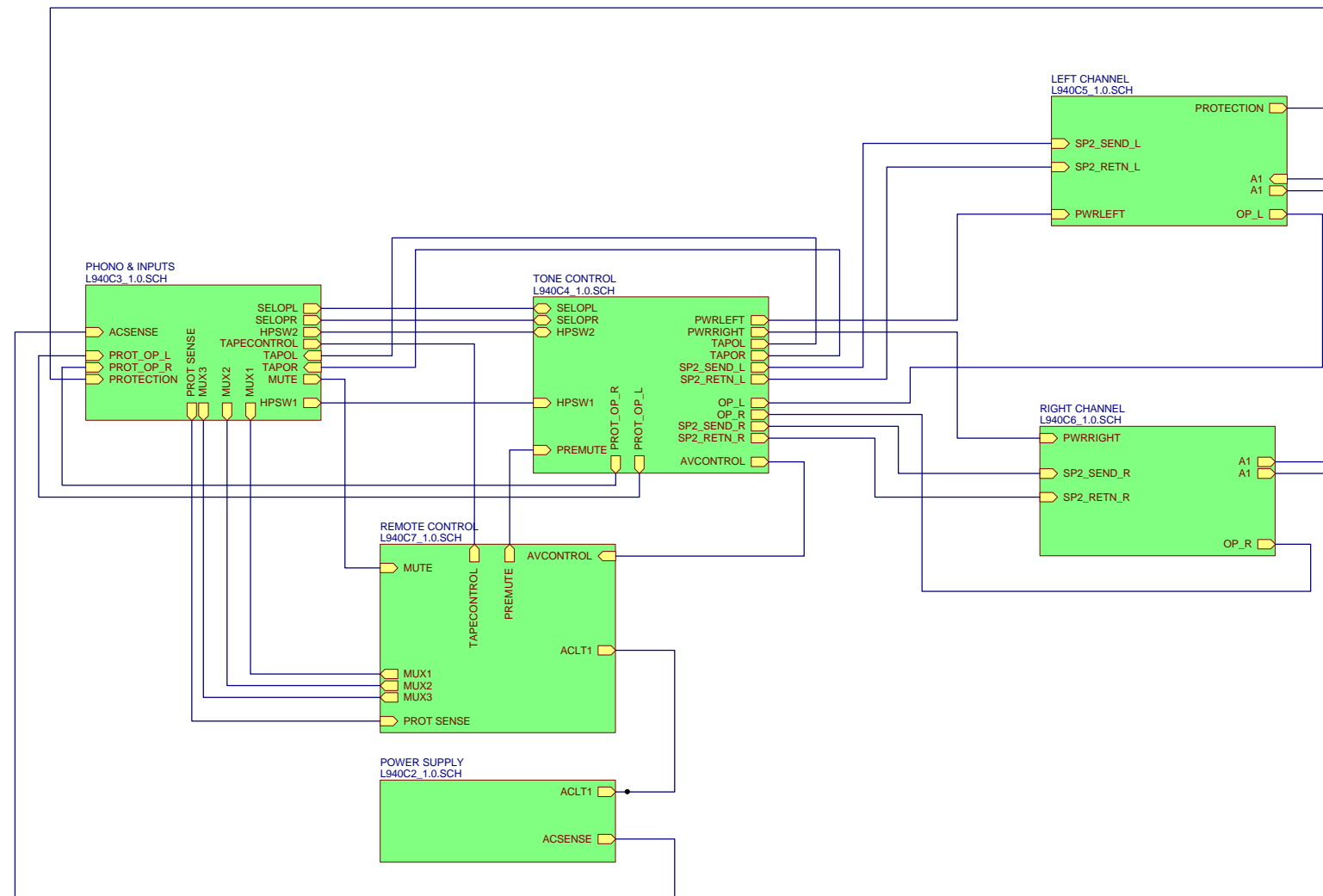
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		11-Dec-2001	Sheet 6 of 7	DRAWING NO. L942C6	



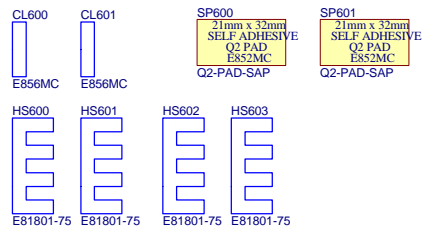
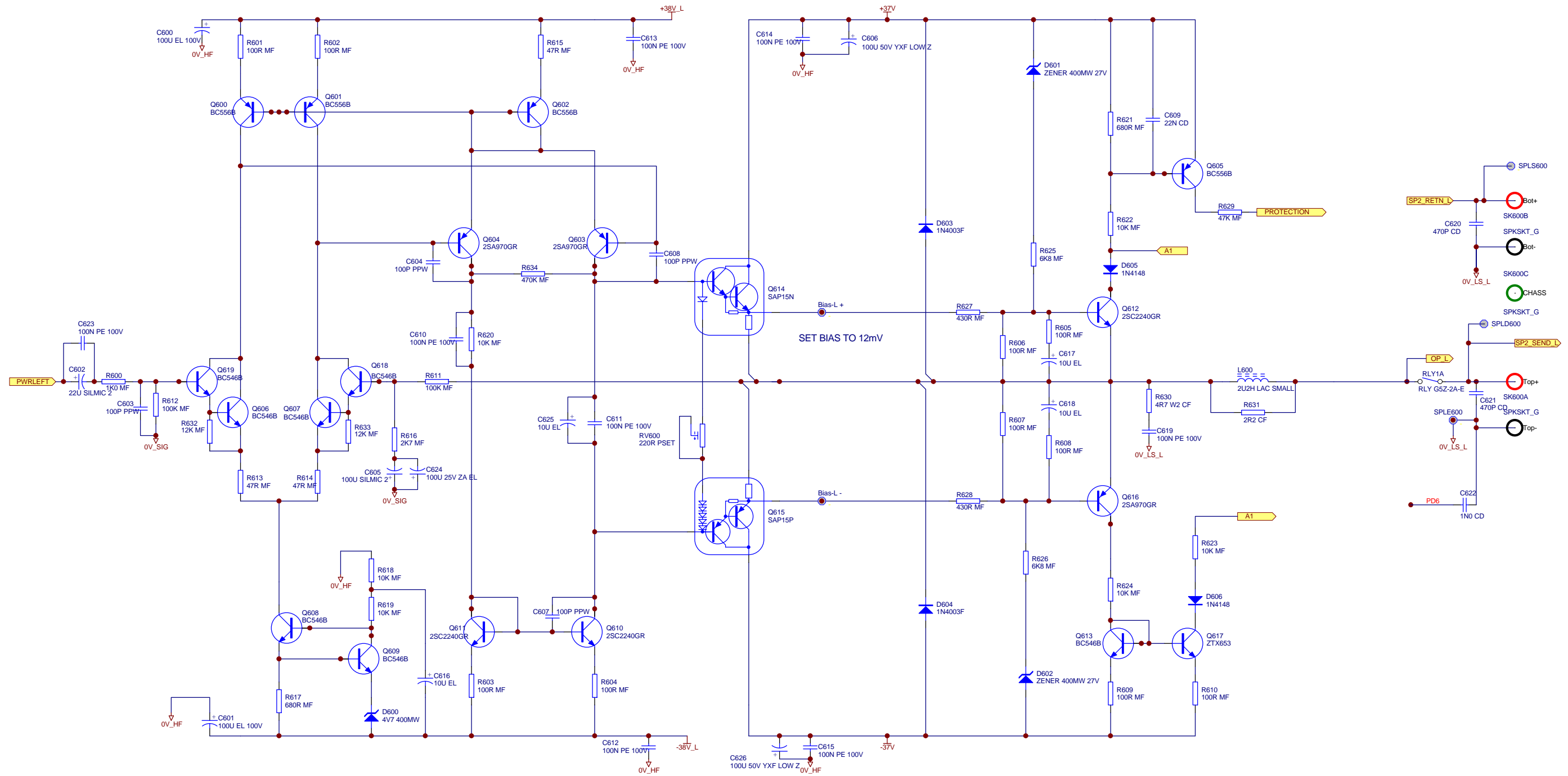
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Contact Engineer: Travis Pierce		Contact Tel: (01223) 203 200	Printed: 11-Dec-2001
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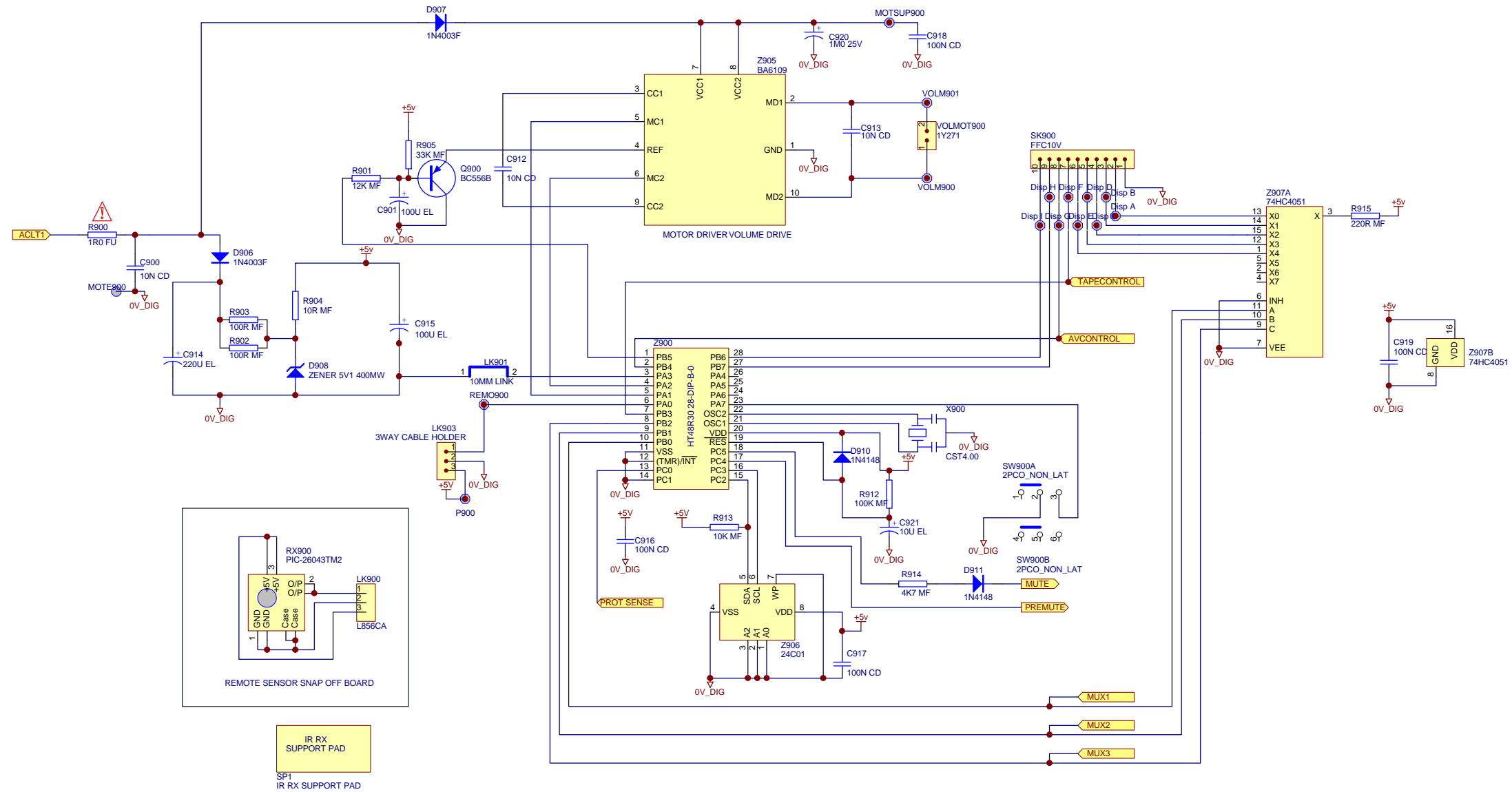
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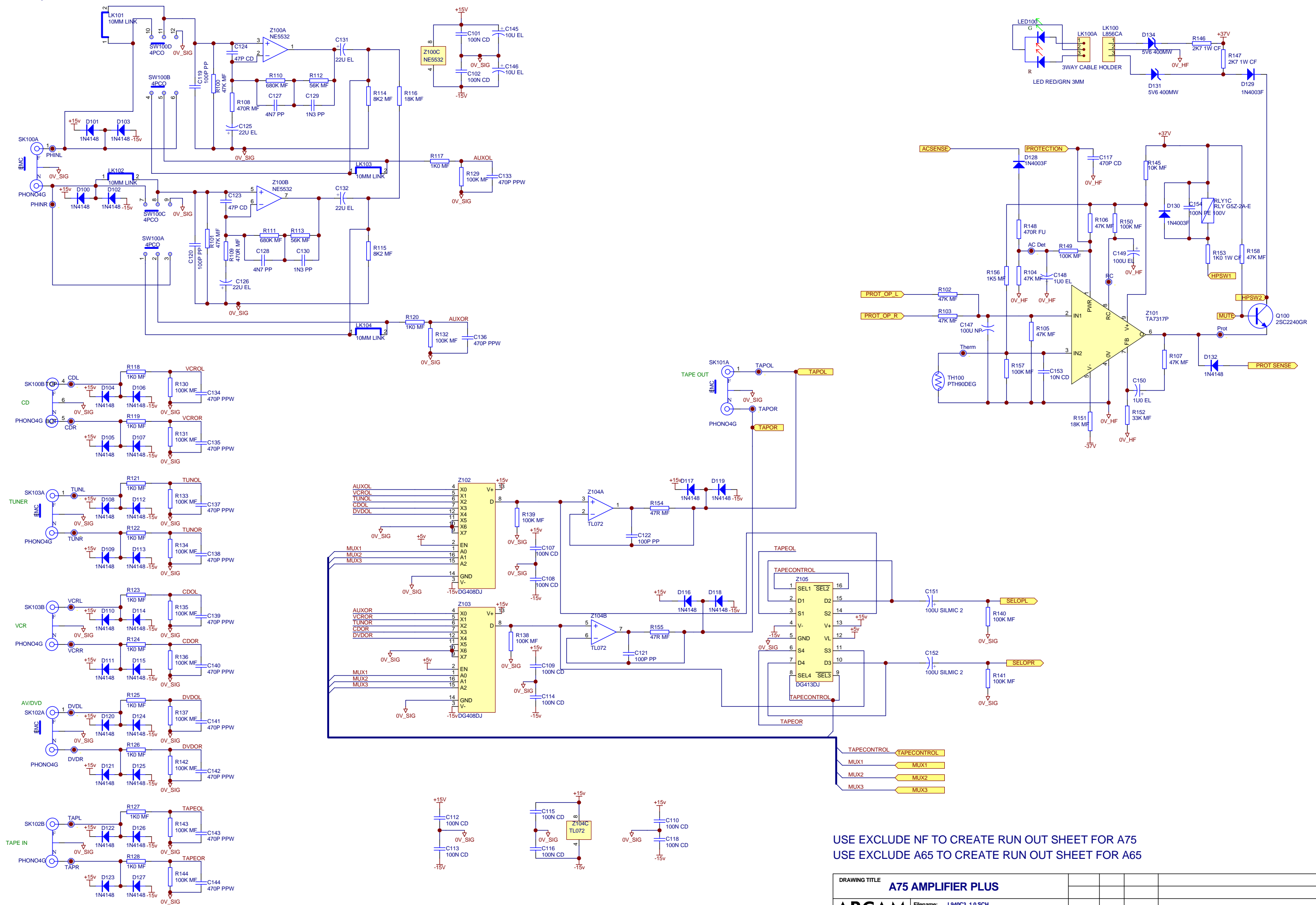
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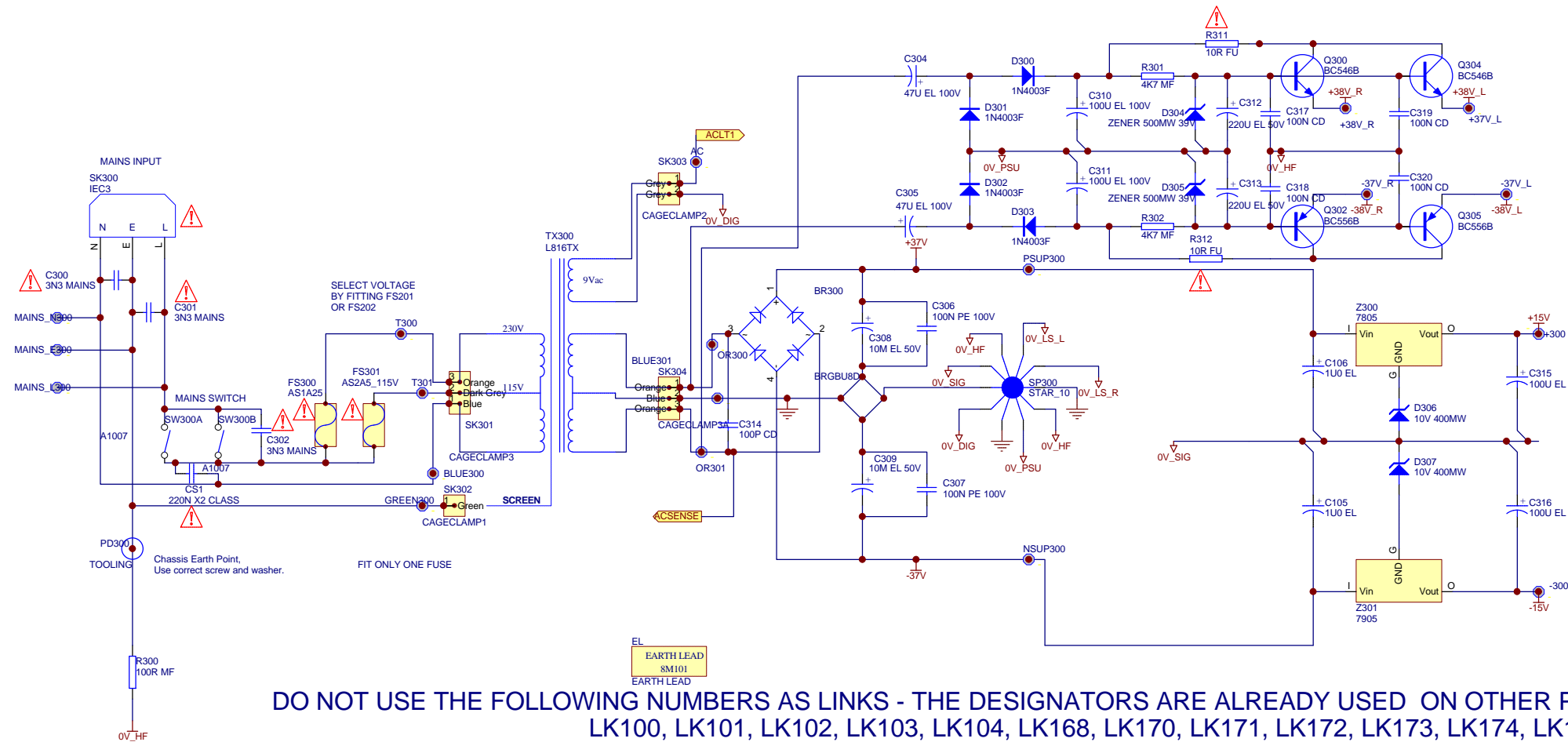
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A & R Cambridge Ltd. Pembroke Avenue Waterbeach Cambridge CB5 9PB		uC, Volume Drive & Remote Control		01_E020 TGP 12/12/01 PRODUCTION RELEASE		1.0	
Contact Engineer: Travis Pierce		Contact Tel: (01223) 203 200		Printed: 11-Dec-2001		Sheet 7 of 7	
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WARNING SAFETY CRITICAL COMPONENT  
 REPLACE WITH IDENTICAL PART



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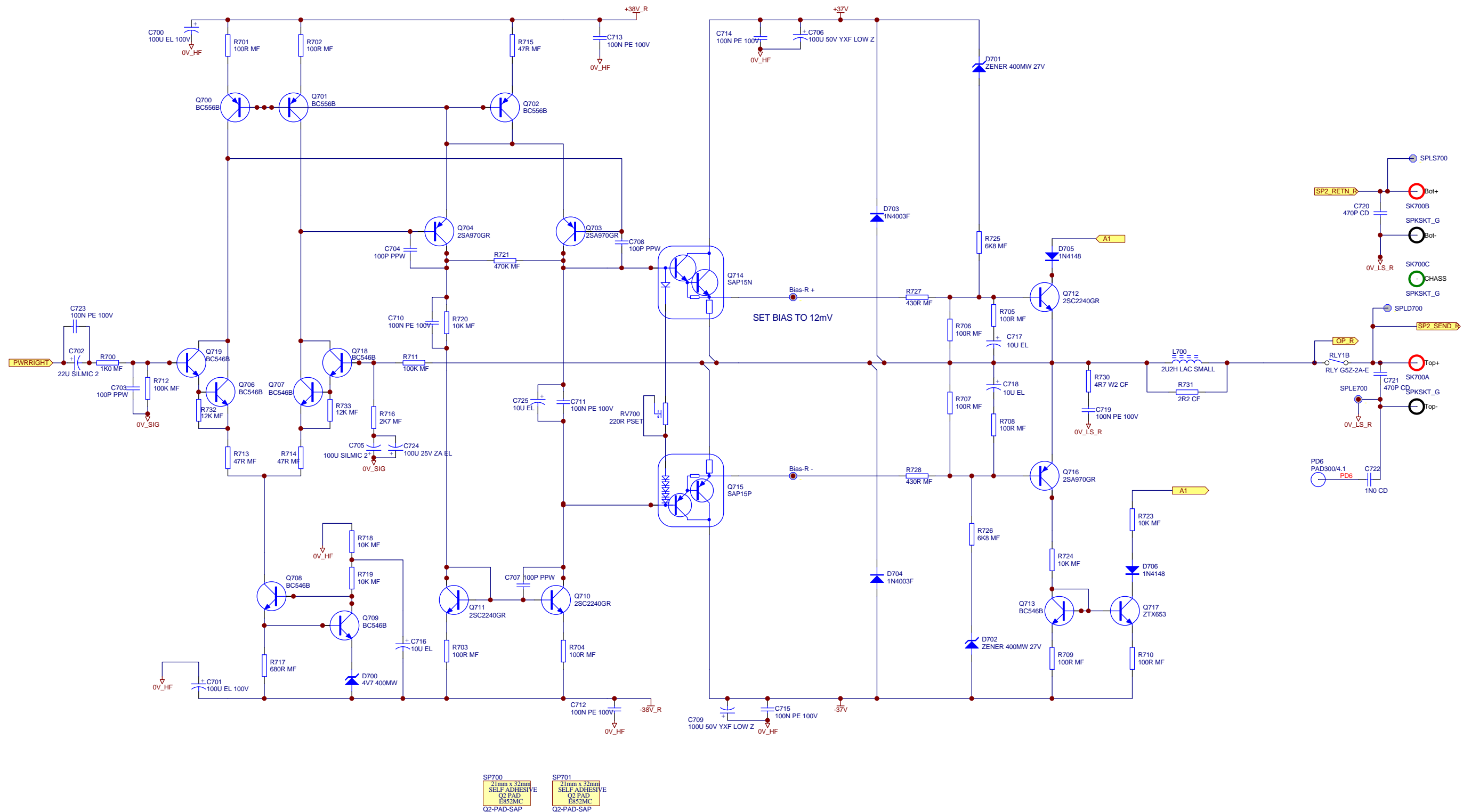
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Contact Engineer: Travis Pierce			Contact Tel: (01223) 203 200
Printed: 11-Dec-2001			Sheet 3 of 7
DRAWING NO.			L940C3



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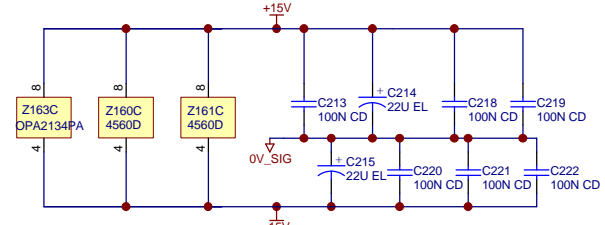
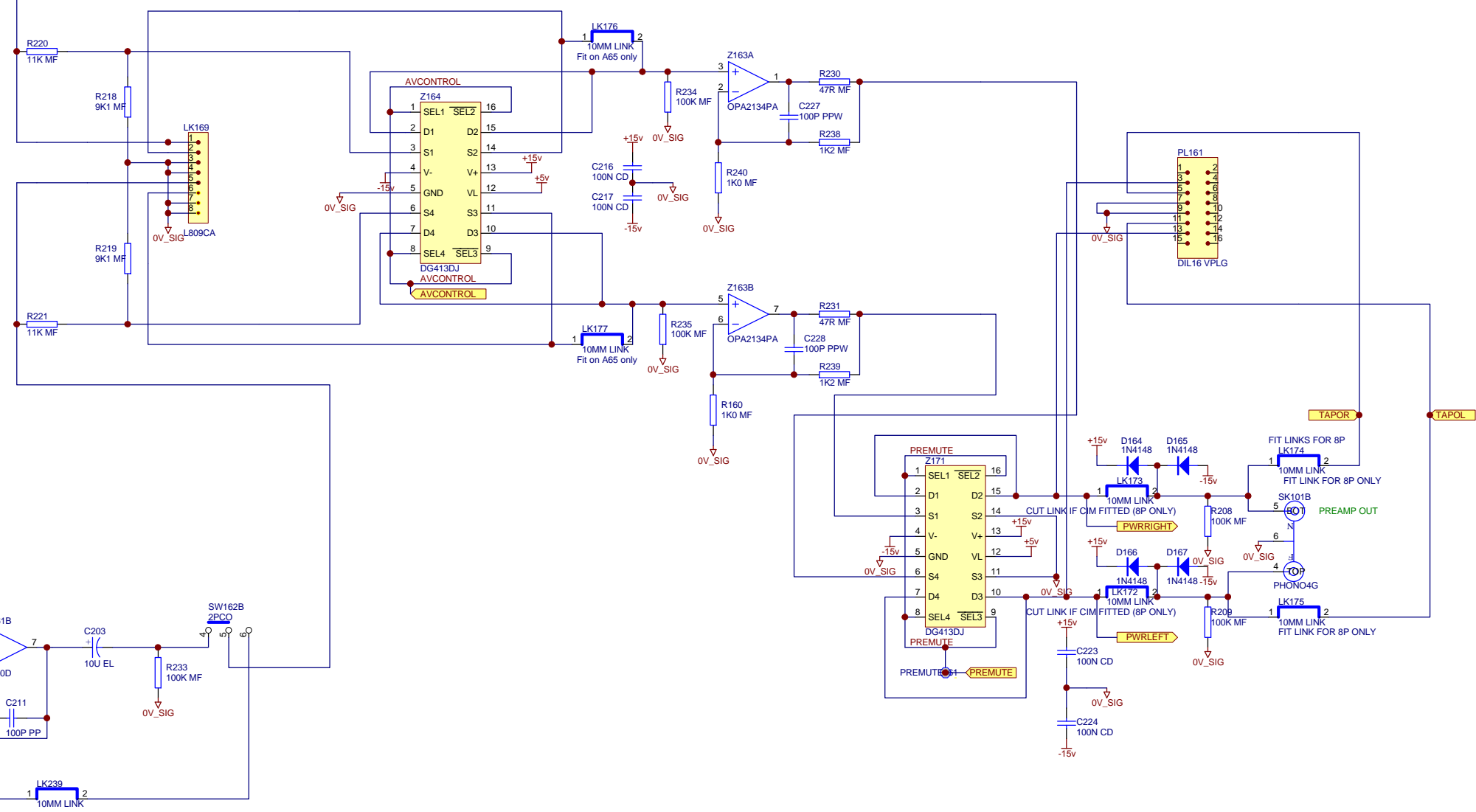
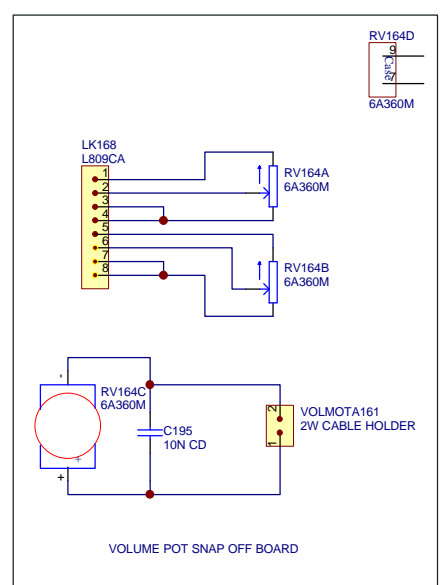
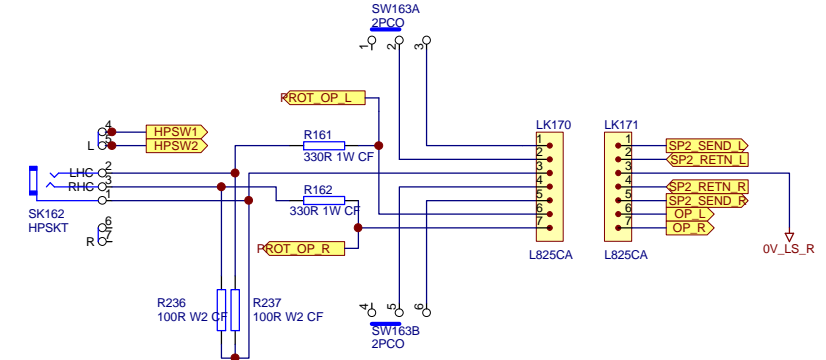
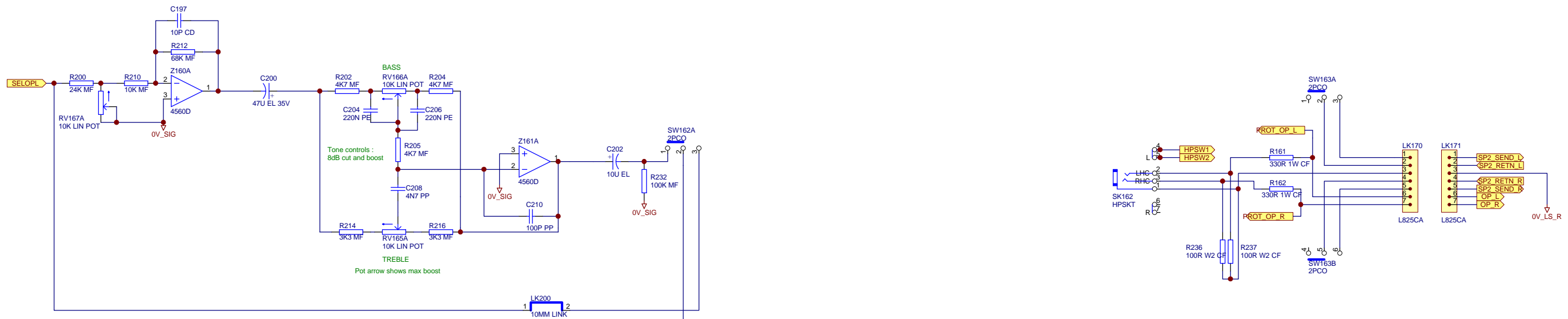
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A & R Cambridge Ltd. Pembroke Avenue Waterbeach Cambridge CB5 9PB		Notes: <b>POWER SUPPLY</b>					
Contact Engineer: Travis Pierce	Contact Tel: (01223) 203 200	Printed: 11-Dec-2001	Sheet 2 of 7	DRAWING NO. L940C2		1.0	





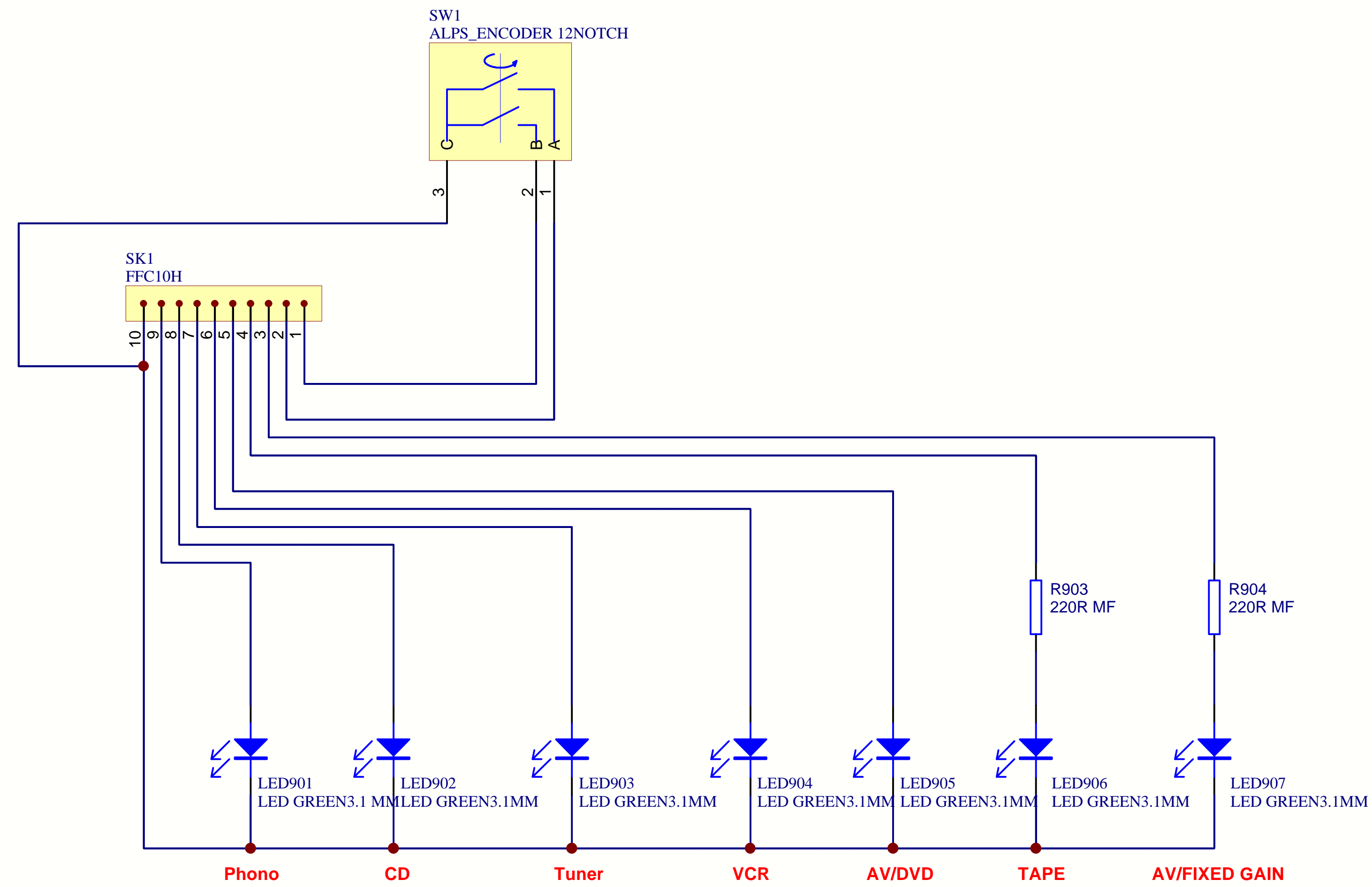
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ECO No.	INITIALS	DATE	DESCRIPTION OF CHANGE				ISSUE
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Contact Engineer:	Travis Pierce	Contact Tel:	(01223) 203 200	Printed:	11-Dec-2001	Sheet 6 of 7	DRAWING NO. L940C6



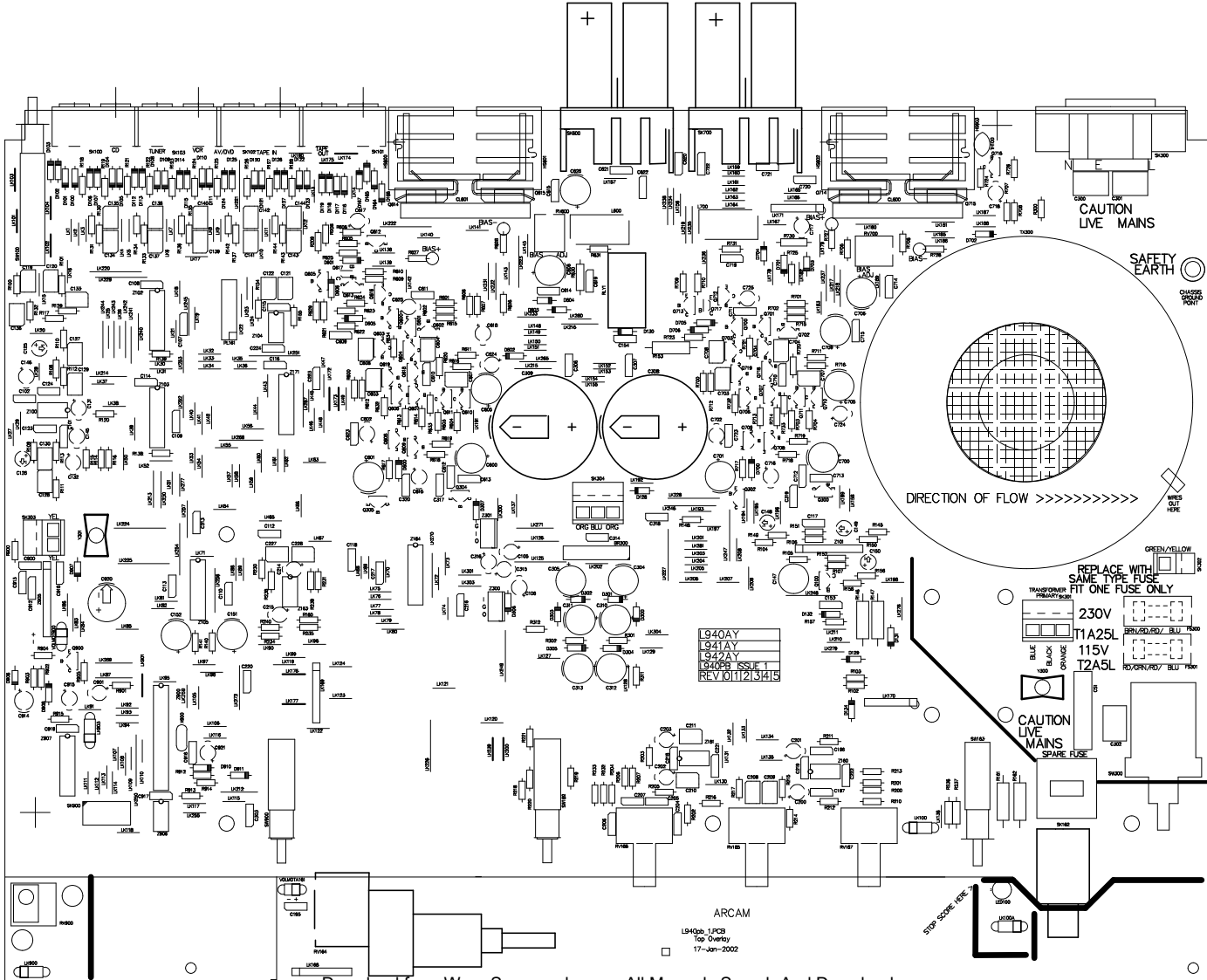
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Printed:	11-Dec-2001	Sheet	4 of 7
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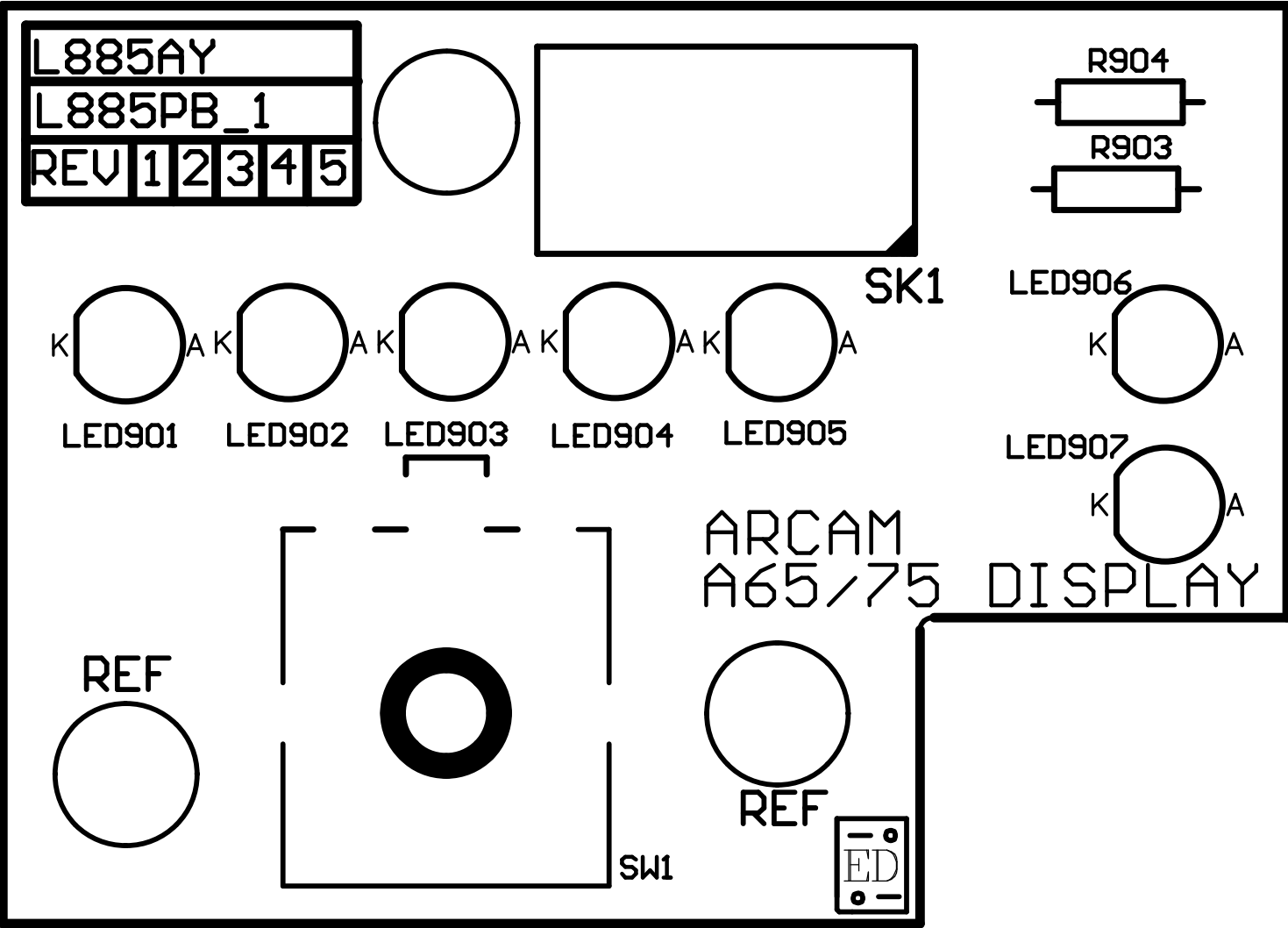


PCB  
**PCB**  
 L885PB\_1

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ARCAM  
 L94qdo.1PCB  
 Top Overlay  
 17-Jan-2002



## A65/75 Display Board L885\_1.1

Reference	Description	Part Number
LED901-907	LED GREEN 3.1MM SLR-37MG3F	3D007
PCB	PRINTED CIRCUIT BOARD	L885PB_1
R903	RES MF W4 1% 220R	1H122
R904	RES MF W4 1% 220R	1H122
SK1	10-WAY FFC CONN HORIZ	8K8110
SW1	ALPS ENCODER 12 NOTCH VERT EC16B12204F15	A1507

Document title: A65 Plus Amplifier PCB			
Document number: L942RS	Issue: 1	Revision: 0	ECO number: 01_E020
Date: 17/12/01	Created by: TGP		Page 1 of 6

(Excluding parts for A65.)

Part	Qty	Iss	Description	Designators
***** PCB Finish items:				
***** (For drawing office use only. Will be				
***** kitted from mechanical run-out sheet.)				
C12126	1		FUSE 20mm 1.25A AS	FS300
E856MC	2		A75 HEATSINK CLAMP	CL600 CL601
F022	2		INS COVER PCB FUSEHOLDER	FS300 FS301
F062	1		FUSE CLIP WCK-180-01A	EL300
F185	2		TX WIRE RESTRAINT	Y300 Y301
L836TX	1		ALPHA 7 AMP MULTI VOLTAGE TRANSFORMER	TX300
***** PCB Build items:				
1B822	2		RES CF W4 5% 2R2	R631 R731
1D110	2		RES CF W2 100R 5%	R236 R237
1D847	2		RES CF W2 4R7 5%	R630 R730
1E133	2		RES CF 1W 330R 5%	R161 R162
1E210	1		RES CF 1W 1K0 5%	R153
1E227	2		RES CF 1W 2K7 5%	R146 R147
1G010	2		RES MF FU W3 10R 5% NFR25	R311 R312
1G147	1		RES MF FU W3 470R 5% NFR25	R148
1G810	1		RES MF FU W3 1R0 5% NFR25	R900
1H010	1		RES MF W4 1% 10R	R904
1H047	10		RES MF W4 1% 47R	R154 R155 R230 R231 R613 R614 R615 R713 R714 R715
1H110	23		RES MF W4 1% 100R	R300 R601 R602 R603 R604 R605 R606 R607 R608 R609 R610 R701 R702 R703 R704 R705 R706 R707 R708 R709 R710 R902 R903
1H122	1		RES MF W4 1% 220R	R915
1H143	4		RES MF W4 1% 430R	R627 R628 R727 R728
1H147	2		RES MF W4 1% 470R	R108 R109
1H168	3		RES MF W4 1% 680R	R617 R621 R717
1H210	16		RES MF W4 1% 1K0	R117 R118 R119 R120 R121 R122 R123 R124 R125 R126 R127 R128 R160 R240 R600 R700
1H212	2		RES MF W4 1% 1K2	R238 R239
1H215	1		RES MF W4 1% 1K5	R156
1H227	2		RES MF W4 1% 2K7	R616 R716
1H233	4		RES MF W4 1% 3K3	R214 R215 R216 R217
1H247	9		RES MF W4 1% 4K7	R202 R203 R204 R205 R206 R207 R301 R302 R914
1H268	4		RES MF W4 1% 6K8	R625 R626 R725 R726
1H282	2		RES MF W4 1% 8K2	R114 R115
1H310	15		RES MF W4 1% 10K	R145 R210 R213 R618 R619 R620 R622 R623 R624 R718 R719 R720 R723 R724 R913
1H312	5		RES MF W4 1% 12K	R632 R633 R732 R733 R901
1H318	2		RES MF W4 1% 18K	R116 R151

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**PCB Bill of Materials**

Document title: A65 Plus Amplifier PCB			
Document number: L942RS	Issue: 1	Revision: 0	ECO number: 01_E020
Date: 17/12/01	Created by: TGP		Page 2 of 6

1H324	2	RES MF W4 1% 24K	R200 R201
1H333	2	RES MF W4 1% 33K	R152 R905
1H347	9	RES MF W4 1% 47K	R100 R101 R102 R103 R104 R105 R106 R107 R629
1H356	2	RES MF W4 1% 56K	R112 R113
1H368	2	RES MF W4 1% 68K	R211 R212
1H410	30	RES MF W4 1% 100K	R129 R130 R131 R132 R133 R134 R135 R136 R137 R138 R139 R140 R141 R142 R143 R144 R149 R150 R157 R208 R209 R232 R233 R234 R235 R611 R612 R711 R712 R912
1H447	2	RES MF W4 1% 470K	R634 R721
1H468	2	RES MF W4 1% 680K	R110 R111
1T002	1	THERMISTOR SIEMENS B59008	TH100
1X008A	1	LINK PLAIN 8mm	LK28
1X010A	210	LINK PLAIN 10mm	LK101 LK102 LK103 LK104 LK172 LK173 LK176 LK177 LK1 LK2 LK3 LK4 LK5 LK6 LK7 LK8 LK9 LK10 LK11 LK12 LK13 LK14 LK15 LK16 LK17 LK18 LK19 LK20 LK21 LK22 LK23 LK24 LK25 LK26 LK27 LK29 LK30 LK31 LK32 LK33 LK34 LK35 LK36 LK37 LK38 LK39 LK40 LK41 LK42 LK43 LK44 LK45 LK46 LK47 LK48 LK49 LK50 LK51 LK52 LK53 LK54 LK55 LK56 LK57 LK58 LK59 LK60 LK61 LK62 LK63 LK64 LK65 LK66 LK67 LK68 LK69 LK70 LK71 LK72 LK73 LK74 LK75 LK76 LK77 LK78 LK79 LK80 LK81 LK82 LK83 LK84 LK85 LK86 LK87 LK88 LK89 LK90 LK91 LK92 LK93 LK94 LK95 LK96 LK97 LK98 LK99 LK105 LK106 LK107 LK108 LK109 LK110 LK111 LK112 LK113 LK114 LK115 LK116 LK117 LK118 LK119 LK120 LK121 LK122 LK123 LK124 LK127 LK128 LK129 LK130 LK131 LK132 LK133 LK134 LK135 LK136 LK137 LK138 LK139 LK140 LK141 LK142 LK143 LK145 LK148 LK149 LK150 LK151



Document title: A65 Plus Amplifier PCB			
Document number: L942RS	Issue: 1	Revision: 0	ECO number: 01_E020
Date: 17/12/01	Created by: TGP		Page 3 of 6

			LK152 LK153 LK154
			LK155 LK156 LK157
			LK158 LK159 LK160
			LK161 LK162 LK163
			LK164 LK165 LK166
			LK167 LK178 LK179
			LK180 LK181 LK182
			LK183 LK185 LK186
			LK187 LK188 LK189
			LK191 LK192 LK193
			LK194 LK195 LK196
			LK197 LK198 LK199
			LK200 LK201 LK202
			LK203 LK204 LK205
			LK206 LK207 LK208
			LK209 LK210 LK211
			LK239 LK252 LK253
			LK255 LK258 LK277
			LK278 LK279 LK280
			LK281 LK300 LK301
			LK303 LK304
1X015A	27	LINK PLAIN 15mm	LK212 LK213 LK214
			LK215 LK216 LK217
			LK218 LK219 LK230
			LK231 LK232 LK233
			LK234 LK235 LK236
			LK237 LK238 LK240
			LK241 LK242 LK243
			LK244 LK245 LK256
			LK257 LK265 LK271
1X017A	6	LINK PLAIN 17.5mm	LK126 LK267 LK268
			LK269 LK270 LK272
1X020A	18	LINK PLAIN 20mm	LK125 LK220 LK221
			LK222 LK223 LK224
			LK225 LK226 LK227
			LK228 LK229 LK246
			LK247 LK248 LK249
			LK250 LK251 LK254
1Y271	1	JUMPER 2 W LEAD APL5	VOLMOT900
2A010	2	CERD 10P 63V 20% RA	C196 C197
2A047	2	CERD 47P 63V 20% RA	C123 C124
2A147	5	CERD 470P 63V 20% RA	C117 C620 C621 C720
			C721
2A210	3	CERD 1N0 63V 20% RA	C303 C622 C722
2A310	5	CERD 10N 63V 20% RA	C153 C195 C900 C912
			C913
2A322	1	CERD 22N 63V -20% +80% RA	C609
2A410	30	CERD 100N 63V -20% +80% RA	C101 C102 C107 C108
			C109 C110 C112 C113
			C114 C115 C116 C118
			C213 C216 C217 C218
			C219 C220 C221 C222
			C223 C224 C317 C318
			C319 C320 C916 C917
			C918 C919
2D110N	6	PPRO 100P 63V 5% RA	C119 C120 C121 C122
			C210 C211
2D110W	10	PPRO W 100P 63V 5% RA	C227 C228 C603 C604
			C607 C608 C703 C704
			C707 C708

Document title: A65 Plus Amplifier PCB			
Document number: L942RS	Issue: 1	Revision: 0	ECO number: 01_E020
Date: 17/12/01	Created by: TGP		Page 4 of 6

2D147W	12	PPRO W 470P 63V 5% RA	C133 C134 C135 C136 C137 C138 C139 C140 C141 C142 C143 C144
2D213N	2	PPRO 1N3 63V 5% RA	C129 C130
2D247N	4	PPRO 4N7 63V 5% RA	C127 C128 C208 C209
2D422	1	220NF CLASS X2 CAP 275VRMS	CS1
2K233	3	SUPPR CAP 3N3 250V	C300 C301 C302
2K410A	19	MMK5 100VDC 100N 20% Polyester cap 5mm pitch	C154 C306 C307 C610 C611 C612 C613 C614 C615 C619 C623 C710 C711 C712 C713 C714 C715 C719 C723
2K422	4	PEST 220N 63V 10%	C204 C205 C206 C207
2N510	4	ELST 1U0 50V 20% RA	C105 C106 C148 C150
2N610	13	ELST 10U 50V	C145 C146 C202 C203 C616 C617 C618 C625 C716 C717 C718 C725 C921
2N622	6	ELST 22U 63V	C125 C126 C131 C132 C214. C215
2N647	2	ELST 47 35V	C200 C201
2N647B	2	ELST 47u 100V	C304 C305
2N710	5	ELST 100U 25V	C149 C315 C316 C901 C915
2N710B	6	ELST 100U 100V	C310 C311 C600 C601 C700 C701
2N722	1	ELST 220U 16V	C914
2N722B	2	ELST 220u 50V	C312 C313
2N810	1	ELST 1M0 25V	C920
2N910	2	ELST 10m 50V RA 32mm	C308 C309
2P622AS2	2	ELEC 22U 16V SILMIC 2 RFS	C602 C702
2P710AS2	4	ELEC 100u 16V SILMIC 2 RFS	C151 C152 C605 C705
2P710ZA	2	ELST 100U 25V ZA RUBYCON	C624 C724
2V710	1	ELST NON POLAR 100UF 16V	C147
2Z710D	3	EL 100UF 50V LOW Z YXF	C626 C706 C709
3A4148	39	SSDIODE 1N4148 75V	D100 D101 D102 D103 D104 D105 D106 D107 D108 D109 D110 D111 D112 D113 D114 D115 D116 D117 D118 D119 D120 D121 D122 D123 D124 D125 D126 D127 D132 D164 D165 D166 D167 D605 D606 D705 D706 D910 D911
3B4003	13	RECTIFIER 1N4003F 1A 200V	D128 D129 D130 D300 D301 D302 D303 D603 D604 D703 D704 D906 D907
3BGBU8D	1	BRIDGE RECTIFIER 8A 200V	BR300
3C04704	2	ZENER 4V7 400MW	D600 D700
3C05104	1	Diode 5V1 400mW	D908
3C05604	2	ZENER 5V6 400MW	D131 D134
3C11004	2	ZENER 10V 400MW	D306 D307
3C22704	4	ZENER 27V 400MW	D601 D602 D701 D702
3C23905	2	ZENER 39V 500MW	D304 D305
3D006	1	LED RED/GREEN 3MM L-93WEGW	LED100
4A2240GR	7	TRANS LF SS N 2SC2240GR	Q100 Q610 Q611 Q612 Q710 Q711 Q712

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**PCB Bill of Materials**

Document title: A65 Plus Amplifier PCB			
Document number: L942RS	Issue: 1	Revision: 0	ECO number: 01_E020
Date: 17/12/01	Created by: TGP		Page 5 of 6

4A546	16	TRANS LF SS N BC546B	Q300 Q304 Q606 Q607 Q608 Q609 Q613 Q618 Q619 Q706 Q707 Q708 Q709 Q713 Q718 Q719
4A556	10	TRANS LF SS P BC556B	Q302 Q305 Q600 Q601 Q602 Q605 Q700 Q701 Q702 Q900
4A970GR	6	TRANS LF SS P 2SA970GR	Q603 Q604 Q616 Q703 Q704 Q716
4B653	2	ZTX653 NPN Transistor	Q617 Q717
4CSAP15N	2	TRANS POWER NPN SAP15N	Q614 Q714
4CSAP15P	2	TRANS POWER PNP SAP15P	Q615 Q715
5A5532	1	IC AUDIO DUAL NE5532N	Z100
5B072	1	IC AUDIO DUAL TL072	Z104
5B2134D	1	IC OPAMP DUAL OPA2134PA	Z163
5B4560	2	IC AUDIO DUAL 4560D	Z160 Z161
5B483028	1	IC CMOS MICRO HT48R30 28-DIP-B-0	Z900
5D7805	1	IC VREG POS 7805	Z300
5D7905	1	IC VREG NEG 7905	Z301
5G2401	1	IC CMOS EPROM 24C01	Z906
5J744051	1	IC HCMOS PC74HC4051	Z907
5M7317	1	IC COMPARATOR TA7317P	Z101
5Q6109	1	MOTOR DRIVER 5Q6109	Z905
5S408DJ	2	IC 8 TO 1 MUX DG408DJ DIL	Z102 Z103
5S413DJ	2	IC QUAD SPST CMOS SW DG413DJ DIL	Z105 Z171
6A310E	3	POT 10KB*2LIN	RV165 RV166 RV167
6A360M	1	POT 20KA DUAL 18MM MOTORISED	RV164
6F122	2	PRES 220R LIN HORIZ	RV600 RV700
7D002C	2	INDUCT 2U2 12x20mm	L600 L700
7W005	1	CER RESON 4.00MHZ	X900
8A001	1	IEC MAINS CONN PCB INS PX	SK300
8D225	4	PHONO SKT 4-WAY EMC GOLD	SK100 SK101 SK102 SK103
8D301	1	STEREO JACK PCB	SK162
8D420G	2	SPEAKER SOCKET GOLD 4MM DUAL PAIR CHUNKY	SK600 SK700
8K8010	1	10-WAY FFC CONN VERT	SK900
8M101	1	EARTH LEAD	EL
8Q001	1	CAGE CLAMP 16A 3 WAY ARC001-236	SK301
8Q003	1	CAGE CLAMP 16A 1 WAY ARC003-236	SK302
8Q004	1	CAGE CLAMP 16A 3 WAY ARC004-236	SK304
8Q005	1	CAGE CLAMP 16A 2WAY 236-402/000-009	SK303
8R002	2	MOLEX 2W 2.5MM P HOLDER	VOLMOT900 VOLMOTA161
8R003	4	MOLEX 3W 2.5MM P HOLDER	LK100 LK100A LK900 LK903
8S004	2	FUSEHOLDER 20mm PCB	FS300 FS301
A1007	1	SW PUSH MAINS SDDSA32MZU	SW300
A1008	2	SW PUSH 2PCO	SW162 SW163
A1009	1	SW PUSH 2PCO NON LATCHING	SW900
A207	1	RELAY G5Z-2A-E 24V	RLY1
B2107	1	REMOTE RX PIC-26043TM2 38KHZ	RX900
E66901	1	MAINS SWITCH SPACER	SW300
E81801	4	X ALPHA AMP 75/65 HEATSINK	HS600 HS601 HS602 HS603
E822AP	1	IR RX SUPPORT PAD	SP1
E852MC	4	SAP TRANS Q2 PAD 21mm x 32mm	SP600 SP601 SP700 SP701
E862MC	4	ALPHA AMP 65/75 HS CLIP	HS600 HS601 HS602 HS603
HP007	2	COPPER RIVET TCP/D48 BS	SK300 SK300

**ARCAM**

## PCB Bill of Materials

Document title: A65 Plus Amplifier PCB			
Document number: L942RS	Issue: 1	Revision: 0	ECO number: 01_E020
Date: 17/12/01	Created by: TGP		Page 6 of 6

L809CA	2	JUMPER 8-WAY LEAD	LK168 LK169
L825CA	1	7-WAY RIBBON 250mm	LK170
L856CA	2	JUMPER 3 WAY x 175mm	LK100 LK900
L940PB_A	1	X PRINTED CIRCUIT BOARD	PCB1

\*\*\*\*\* Obsolete, absent, redundant, or incorrect issue in PDM:

E81801	4	X ALPHA AMP 75/65 HEATSINK	HS600 HS601 HS602
			HS603
L940PB_A	1	X PRINTED CIRCUIT BOARD	PCB1

Document title: A75 Plus Amplifier PCB			
Document number: L940RS	Issue: 1	Revision: 0	ECO number: 01_E020
Date: 17/12/01	Created by: TGP		Page 1 of 6

(Excluding parts for NF.)

Part	Qty	Iss	Description	Designators
***** PCB Finish items:				
***** (For drawing office use only. Will be				
***** kitted from mechanical run-out sheet.)				
C12126	1		FUSE 20mm 1.25A AS	FS300
E856MC	2		A75 HEATSINK CLAMP	CL600 CL601
F022	2		INS COVER PCB FUSEHOLDER	FS300 FS301
F062	1		FUSE CLIP WCK-180-01A	EL300
F185	2		TX WIRE RESTRAINT	Y300 Y301
L816TX	1		ALPHA 8 AMP MULTI VOLTAGE TRANSFORMER	TX300
***** PCB Build items:				
1B822	2		RES CF W4 5% 2R2	R631 R731
1D110	2		RES CF W2 100R 5%	R236 R237
1D847	2		RES CF W2 4R7 5%	R630 R730
1E133	2		RES CF 1W 330R 5%	R161 R162
1E210	1		RES CF 1W 1K0 5%	R153
1E227	2		RES CF 1W 2K7 5%	R146 R147
1G010	2		RES MF FU W3 10R 5% NFR25	R311 R312
1G147	1		RES MF FU W3 470R 5% NFR25	R148
1G810	1		RES MF FU W3 1R0 5% NFR25	R900
1H010	1		RES MF W4 1% 10R	R904
1H047	10		RES MF W4 1% 47R	R154 R155 R230 R231 R613 R614 R615 R713 R714 R715
1H110	23		RES MF W4 1% 100R	R300 R601 R602 R603 R604 R605 R606 R607 R608 R609 R610 R701 R702 R703 R704 R705 R706 R707 R708 R709 R710 R902 R903
1H122	1		RES MF W4 1% 220R	R915
1H143	4		RES MF W4 1% 430R	R627 R628 R727 R728
1H147	2		RES MF W4 1% 470R	R108 R109
1H168	3		RES MF W4 1% 680R	R617 R621 R717
1H210	16		RES MF W4 1% 1K0	R117 R118 R119 R120 R121 R122 R123 R124 R125 R126 R127 R128 R160 R240 R600 R700
1H212	2		RES MF W4 1% 1K2	R238 R239
1H215	1		RES MF W4 1% 1K5	R156
1H227	2		RES MF W4 1% 2K7	R616 R716
1H233	4		RES MF W4 1% 3K3	R214 R215 R216 R217
1H247	9		RES MF W4 1% 4K7	R202 R203 R204 R205 R206 R207 R301 R302 R914
1H268	4		RES MF W4 1% 6K8	R625 R626 R725 R726
1H282	2		RES MF W4 1% 8K2	R114 R115
1H291	2		RES MF W4 1% 9K1	R218 R219
1H310	15		RES MF W4 1% 10K	R145 R210 R213 R618 R619 R620 R622 R623 R624 R718 R719 R720 R723 R724 R913
1H311	2		RES MF W4 1% 11K	R220 R221
1H312	5		RES MF W4 1% 12K	R632 R633 R732 R733

Document title: A75 Plus Amplifier PCB			
Document number: L940RS	Issue: 1	Revision: 0	ECO number: 01_E020
Date: 17/12/01	Created by: TGP		Page 2 of 6

1H318	2	RES MF W4 1% 18K	R901
1H324	2	RES MF W4 1% 24K	R116 R151
1H333	2	RES MF W4 1% 33K	R200 R201
1H347	9	RES MF W4 1% 47K	R152 R905
			R100 R101 R102 R103
			R104 R105 R106 R107
			R629
1H356	2	RES MF W4 1% 56K	R112 R113
1H368	2	RES MF W4 1% 68K	R211 R212
1H410	30	RES MF W4 1% 100K	R129 R130 R131 R132
			R133 R134 R135 R136
			R137 R138 R139 R140
			R141 R142 R143 R144
			R149 R150 R157 R208
			R209 R232 R233 R234
			R235 R611 R612 R711
			R712 R912
			R634 R721
			R110 R111
1H447	2	RES MF W4 1% 470K	TH100
1H468	2	RES MF W4 1% 680K	LK28
1T002	1	THERMISTOR SIEMENS B59008	LK172 LK173 LK200
1X008A	1	LINK PLAIN 8mm	LK239 LK901 LK1 LK2
1X010A	205	LINK PLAIN 10mm	LK3 LK4 LK5 LK6 LK7
			LK8 LK9 LK10 LK11
			LK12 LK13 LK14 LK15
			LK16 LK17 LK18 LK19
			LK20 LK21 LK22 LK23
			LK24 LK25 LK26 LK27
			LK29 LK30 LK31 LK32
			LK33 LK34 LK35 LK36
			LK37 LK38 LK39 LK40
			LK41 LK42 LK43 LK44
			LK45 LK46 LK47 LK48
			LK49 LK50 LK51 LK52
			LK53 LK54 LK55 LK56
			LK57 LK58 LK59 LK60
			LK61 LK62 LK63 LK64
			LK65 LK66 LK67 LK68
			LK69 LK70 LK71 LK72
			LK73 LK74 LK75 LK76
			LK77 LK78 LK79 LK80
			LK81 LK82 LK83 LK84
			LK85 LK86 LK87 LK88
			LK89 LK90 LK91 LK92
			LK93 LK94 LK95 LK96
			LK97 LK98 LK99
			LK105 LK106 LK107
			LK108 LK109 LK110
			LK111 LK112 LK113
			LK114 LK115 LK116
			LK117 LK118 LK119
			LK120 LK121 LK122
			LK123 LK124 LK127
			LK128 LK129 LK130
			LK131 LK132 LK133
			LK134 LK135 LK136
			LK137 LK138 LK139
			LK140 LK141 LK142
			LK143 LK145 LK148

Document title: A75 Plus Amplifier PCB			
Document number: L940RS	Issue: 1	Revision: 0	ECO number: 01_E020
Date: 17/12/01	Created by: TGP		Page 3 of 6

			LK149 LK150 LK151
			LK152 LK153 LK154
			LK155 LK156 LK157
			LK158 LK159 LK160
			LK161 LK162 LK163
			LK164 LK165 LK166
			LK167 LK178 LK179
			LK180 LK181 LK182
			LK183 LK185 LK186
			LK187 LK188 LK189
			LK191 LK192 LK193
			LK194 LK195 LK196
			LK197 LK198 LK199
			LK201 LK202 LK203
			LK204 LK205 LK206
			LK207 LK208 LK209
			LK210 LK211 LK252
			LK253 LK255 LK258
			LK277 LK278 LK279
			LK280 LK281 LK300
			LK301 LK303 LK304
1X015A	26	LINK PLAIN 15mm	LK212 LK213 LK214
			LK215 LK216 LK217
			LK218 LK219 LK230
			LK231 LK232 LK233
			LK234 LK235 LK236
			LK237 LK238 LK240
			LK241 LK242 LK243
			LK244 LK245 LK257
			LK265 LK271
1X017A	7	LINK PLAIN 17.5mm	LK126 LK256 LK267
			LK268 LK269 LK270
			LK272
1X020A	18	LINK PLAIN 20mm	LK125 LK220 LK221
			LK222 LK223 LK224
			LK225 LK226 LK227
			LK228 LK229 LK246
			LK247 LK248 LK249
			LK250 LK251 LK254
1Y271	1	JUMPER 2 W LEAD APL5	VOLMOT900
2A010	2	CERD 10P 63V 20% RA	C196 C197
2A047	2	CERD 47P 63V 20% RA	C123 C124
2A147	5	CERD 470P 63V 20% RA	C117 C620 C621 C720
			C721
2A210	3	CERD 1N0 63V 20% RA	C303 C622 C722
2A310	5	CERD 10N 63V 20% RA	C153 C195 C900 C912
			C913
2A322	1	CERD 22N 63V -20% +80% RA	C609
2A410	30	CERD 100N 63V -20% +80% RA	C101 C102 C107 C108
			C109 C110 C112 C113
			C114 C115 C116 C118
			C213 C216 C217 C218
			C219 C220 C221 C222
			C223 C224 C317 C318
			C319 C320 C916 C917
			C918 C919
2D110N	6	PPRO 100P 63V 5% RA	C119 C120 C121 C122
			C210 C211
2D110W	10	PPRO W 100P 63V 5% RA	C227 C228 C603 C604
			C607 C608 C703 C704

Document title: A75 Plus Amplifier PCB			
Document number: L940RS	Issue: 1	Revision: 0	ECO number: 01_E020
Date: 17/12/01	Created by: TGP		Page 4 of 6

2D147W	12	PPRO W 470P 63V 5% RA	C707 C708 C133 C134 C135 C136 C137 C138 C139 C140 C141 C142 C143 C144
2D213N	2	PPRO 1N3 63V 5% RA	C129 C130
2D247N	4	PPRO 4N7 63V 5% RA	C127 C128 C208 C209
2D422	1	220NF CLASS X2 CAP 275VRMS	CS1
2K233	3	SUPPR CAP 3N3 250V	C300 C301 C302
2K410A	19	MMK5 100VDC 100N 20% Polyester cap 5mm pitch	C154 C306 C307 C610 C611 C612 C613 C614 C615 C619 C623 C710 C711 C712 C713 C714 C715 C719 C723
2K422	4	PEST 220N 63V 10%	C204 C205 C206 C207
2N510	4	ELST 1U0 50V 20% RA	C105 C106 C148 C150
2N610	13	ELST 10U 50V	C145 C146 C202 C203 C616 C617 C618 C625 C716 C717 C718 C725 C921
2N622	6	ELST 22U 63V	C125 C126 C131 C132 C214 C215
2N647	2	ELST 47 35V	C200 C201
2N647B	2	ELST 47u 100V	C304 C305
2N710	5	ELST 100U 25V	C149 C315 C316 C901 C915
2N710B	6	ELST 100U 100V	C310 C311 C600 C601 C700 C701
2N722	1	ELST 220U 16V	C914
2N722B	2	ELST 220u 50V	C312 C313
2N810	1	ELST 1M0 25V	C920
2N910	2	ELST 10m 50V RA 32mm	C308 C309
2P622AS2	2	ELEC 22U 16V SILMIC 2 RFS	C602 C702
2P710AS2	4	ELEC 100u 16V SILMIC 2 RFS	C151 C152 C605 C705
2P710ZA	2	ELST 100U 25V ZA RUBYCON	C624 C724
2V710	1	ELST NON POLAR 100UF 16V	C147
2Z710D	4	EL 100UF 50V LOW Z YXF	C606 C626 C706 C709
3A4148	39	SSDIODE 1N4148 75V	D100 D101 D102 D103 D104 D105 D106 D107 D108 D109 D110 D111 D112 D113 D114 D115 D116 D117 D118 D119 D120 D121 D122 D123 D124 D125 D126 D127 D132 D164 D165 D166 D167 D605 D606 D705 D706 D910 D911
3B4003	13	RECTIFIER 1N4003F 1A 200V	D128 D129 D130 D300 D301 D302 D303 D603 D604 D703 D704 D906 D907
3BGBU8D	1	BRIDGE RECTIFIER 8A 200V	BR300
3C04704	2	ZENER 4V7 400MW	D600 D700
3C05104	1	Diode 5V1 400mW	D908
3C05604	2	ZENER 5V6 400MW	D131 D134
3C11004	2	ZENER 10V 400MW	D306 D307
3C22704	4	ZENER 27V 400MW	D601 D602 D701 D702
3C23905	2	ZENER 39V 500MW	D304 D305
3D006	1	LED RED/GREEN 3MM L-93WEGW	LED100
4A2240GR	7	TRANS LF SS N 2SC2240GR	Q100 Q610 Q611 Q612



**ARCAM**

**PCB Bill of Materials**

Document title: A75 Plus Amplifier PCB			
Document number: L940RS	Issue: 1	Revision: 0	ECO number: 01_E020
Date: 17/12/01	Created by: TGP		Page 5 of 6

4A546	16	TRANS LF SS N BC546B	Q710 Q711 Q712 Q300 Q304 Q606 Q607 Q608 Q609 Q613 Q618 Q619 Q706 Q707 Q708 Q709 Q713 Q718 Q719
4A556	10	TRANS LF SS P BC556B	Q302 Q305 Q600 Q601 Q602 Q605 Q700 Q701 Q702 Q900
4A970GR	6	TRANS LF SS P 2SA970GR	Q603 Q604 Q616 Q703 Q704 Q716 Q617 Q717
4B653	2	ZTX653 NPN Transistor	Q614 Q714
4CSAP15N	2	TRANS POWER NPN SAP15N	Q615 Q715
4CSAP15P	2	TRANS POWER PNP SAP15P	Z100
5A5532	1	IC AUDIO DUAL NE5532N	Z104
5B072	1	IC AUDIO DUAL TL072	Z163
5B2134D	1	IC OPAMP DUAL OPA2134PA	Z160 Z161
5B4560	2	IC AUDIO DUAL 4560D	Z900
5B483028	1	IC CMOS MICRO HT48R30 28-DIP-B-0	Z300
5D7805	1	IC VREG POS 7805	Z301
5D7905	1	IC VREG NEG 7905	Z906
5G2401	1	IC CMOS EPROM 24C01	Z907
5J744051	1	IC HCMOS PC74HC4051	Z101
5M7317	1	IC COMPARITOR TA7317P	Z905
5Q6109	1	MOTOR DRIVER 5Q6109	Z102 Z103
5S408DJ	2	IC 8 TO 1 MUX DG408DJ DIL	Z105 Z164 Z171
5S413DJ	3	IC QUAD SPST CMOS SW DG413DJ DIL	RV165 RV166 RV167
6A310E	3	POT 10KB*2LIN	RV164
6A360M	1	POT 20KA DUAL 18MM MOTORISED	RV600 RV700
6F122	2	PRES 220R LIN HORIZ	L600 L700
7D002C	2	INDUCT 2U2 12x20mm	X900
7W005	1	CER RESON 4.00MHz	SK300
8A001	1	IEC MAINS CONN PCB INS PX	SK100 SK101 SK102
8D225	4	PHONO SKT 4-WAY EMC GOLD	SK103
8D301	1	STEREO JACK PCB	SK162
8D420G	2	SPEAKER SOCKET GOLD 4MM DUAL PAIR CHUNKY	SK600 SK700
8K8010	1	10-WAY FFC CONN VERT	SK900
8M101	1	EARTH LEAD	EL
8Q001	1	CAGE CLAMP 16A 3 WAY ARC001-236	SK301
8Q003	1	CAGE CLAMP 16A 1 WAY ARC003-236	SK302
8Q004	1	CAGE CLAMP 16A 3 WAY ARC004-236	SK304
8Q005	1	CAGE CLAMP 16A 2WAY 236-402/000-009	SK303
8R002	2	MOLEX 2W 2.5MM P HOLDER	VOLMOT900 VOLMOTA161
8R003	4	MOLEX 3W 2.5MM P HOLDER	LK100A LK100 LK900 LK903
8S004	2	FUSEHOLDER 20mm PCB	FS300 FS301
A1007	1	SW PUSH MAINS SDDSA32MZU	SW300
A1008	2	SW PUSH 2PCO	SW162 SW163
A1009	1	SW PUSH 2PCO NON LATCHING	SW900
A1013	1	SW PUSH 4PCO	SW100
A207	1	RELAY G5Z-2A-E 24V	RLY1
B2107	1	REMOTE RX PIC-26043TM2 38KHZ	RX900
E66901	1	MAINS SWITCH SPACER	SW300
E81801	4	X ALPHA AMP 75/65 HEATSINK	HS600 HS601 HS602 HS603
E822AP	1	IR RX SUPPORT PAD	SP1
E852MC	4	SAP TRANS Q2 PAD 21mm x 32mm	SP600 SP601 SP700 SP701
E862MC	4	ALPHA AMP 65/75 HS CLIP	HS600 HS601 HS602

**ARCAM**

Document title: A75 Plus Amplifier PCB			
Document number: L940RS	Issue: 1	Revision: 0	ECO number: 01_E020
Date: 17/12/01	Created by: TGP		Page 6 of 6

HP007	2	COPPER RIVET TCP/D48 BS	HS603
L809CA	1	JUMPER 8-WAY LEAD	SK300 SK300
L825CA	1	7-WAY RIBBON 250mm	LK168
L856CA	2	JUMPER 3 WAY x 175mm	LK170
L940PB_1	1	X PRINTED CIRCUIT BOARD	LK100 LK900
			PCB1
***** Obsolete, absent, redundant, or incorrect issue in PDM:			
E81801	4	X ALPHA AMP 75/65 HEATSINK	HS600 HS601 HS602
			HS603
L940PB_1	1	X PRINTED CIRCUIT BOARD	PCB1

**ARCAM**

Document title: P75 Plus Amplifier PCB			
Document number: L941RS	Issue: 1	Revision: 0	ECO number: 01_E020
Date: 17/12/01	Created by: TGP		Page 1 of 3

Part	Qty	Iss	Description	Designators
***** PCB Finish items:				
***** (For drawing office use only. Will be				
***** kitted from mechanical run-out sheet.)				
C12126	1		FUSE 20mm 1.25A AS	FS300
E856MC	2		A75 HEATSINK CLAMP	CL600 CL601
F022	2		INS COVER PCB FUSEHOLDER	FS300 FS301
F062	1		FUSE CLIP WCK-180-01A	EL300
F185	2		TX WIRE RESTRAINT	Y300 Y301
L816TX	1		ALPHA 8 AMP MULTI VOLTAGE TRANSFORMER	TX300
***** PCB Build items:				
1B822	2		RES CF W4 5% 2R2	R631 R731
1D110	2		RES CF W2 100R 5%	R236 R237
1D847	2		RES CF W2 4R7 5%	R630 R730
1E133	2		RES CF 1W 330R 5%	R161 R162
1E210	1		RES CF 1W 1K0 5%	R153
1E227	2		RES CF 1W 2K7 5%	R146 R147
1G010	2		RES MF FU W3 10R 5% NFR25	R311 R312
1G147	1		RES MF FU W3 470R 5% NFR25	R148
1H047	6		RES MF W4 1% 47R	R613 R614 R615 R713 R714 R715
1H110	21		RES MF W4 1% 100R	R300 R601 R602 R603 R604 R605 R606 R607 R608 R609 R610 R701 R702 R703 R704 R705 R706 R707 R708 R709 R710
1H143	4		RES MF W4 1% 430R	R627 R628 R727 R728
1H168	3		RES MF W4 1% 680R	R617 R621 R717
1H210	2		RES MF W4 1% 1K0	R600 R700
1H215	1		RES MF W4 1% 1K5	R156
1H227	2		RES MF W4 1% 2K7	R616 R716
1H247	2		RES MF W4 1% 4K7	R301 R302
1H268	4		RES MF W4 1% 6K8	R625 R626 R725 R726
1H310	12		RES MF W4 1% 10K	R145 R618 R619 R620 R622 R623 R624 R718 R719 R720 R723 R724
1H312	4		RES MF W4 1% 12K	R632 R633 R732 R733
1H318	1		RES MF W4 1% 18K	R151
1H333	1		RES MF W4 1% 33K	R152
1H347	8		RES MF W4 1% 47K	R102 R103 R104 R105 R106 R107 R158 R629
1H410	9		RES MF W4 1% 100K	R149 R150 R157 R208 R209 R611 R612 R711 R712
1H447	2		RES MF W4 1% 470K	R634 R721
1T002	1		THERMISTOR SIEMENS B59008	TH100
1X010A	83		LINK PLAIN 10mm	LK172 LK173 LK174 LK175 LK12 LK13 LK14 LK22 LK23 LK24 LK45 LK49 LK56 LK127 LK128 LK129 LK136 LK137 LK138 LK139 LK140 LK141 LK142 LK143 LK145 LK148 LK149 LK150

Document title: P75 Plus Amplifier PCB			
Document number: L941RS	Issue: 1	Revision: 0	ECO number: 01_E020
Date: 17/12/01	Created by: TGP		Page 2 of 3

			LK151 LK152 LK153
			LK154 LK155 LK156
			LK157 LK158 LK159
			LK160 LK161 LK162
			LK163 LK164 LK165
			LK166 LK167 LK178
			LK179 LK180 LK181
			LK182 LK183 LK185
			LK186 LK187 LK188
			LK189 LK190 LK191
			LK192 LK193 LK194
			LK195 LK196 LK197
			LK198 LK199 LK201
			LK202 LK203 LK204
			LK205 LK206 LK207
			LK208 LK209 LK210
			LK211 LK278 LK279
			LK280 LK281 LK300
			LK304
1X015A	14	LINK PLAIN 15mm	LK215 LK216 LK217
			LK218 LK219 LK231
			LK232 LK233 LK234
			LK235 LK236 LK237
			LK238 LK265
1X017A	1	LINK PLAIN 17.5mm	LK271
1X020A	7	LINK PLAIN 20mm	LK222 LK223 LK227
			LK228 LK246 LK247
			LK248
2A147	5	CERD 470P 63V 20% RA	C117 C620 C621 C720
			C721
2A210	2	CERD 1N0 63V 20% RA	C622 C722
2A310	1	CERD 10N 63V -20% +80% RA	C153
2A322	1	CERD 22N 63V -20% +80% RA	C609
2A410	4	CERD 100N 63V -20% +80% RA	C317 C318 C319 C320
2D110W	8	PPRO W 100P 63V 5% RA	C603 C604 C607 C608
			C703 C704 C707 C708
2D422	1	220NF CLASS X2 CAP 275VRMS	CS1
2K233	3	SUPPR CAP 3N3 250V	C300 C301 C302
2K410A	19	MMK5 100VDC 100N 20% Polyester cap 5mm pitch	C154 C306 C307 C610
			C611 C612 C613 C614
			C615 C619 C623 C710
			C711 C712 C713 C714
			C715 C719 C723
2N510	2	ELST 1U0 50V 20% RA	C148 C150
2N610	8	ELST 10U 50V	C616 C617 C618 C625
			C716 C717 C718 C725
2N647B	2	ELST 47u 100V	C304 C305
2N710	1	ELST 100U 25V	C149
2N710B	6	ELST 100U 100V	C310 C311 C600 C601
			C700 C701
2N722B	2	ELST 220u 50V	C312 C313
2N910	2	ELST 10m 50V RA 32mm	C308 C309
2P622AS2	2	ELEC 22U 16V SILMIC 2 RFS	C602 C702
2P710AS2	2	ELEC 100u 16V SILMIC 2 RFS	C605 C705
2P710ZA	2	ELST 100U 25V ZA RUBYCON	C624 C724
2V710	1	ELST NON POLAR 100UF 16V	C147
2Z710D	3	EL 100UF 50V LOW Z YXF	C626 C706 C709
3A4148	8	SSDIODE 1N4148 75V	D164 D165 D166 D167
			D605 D606 D705 D706

**ARCAM**

**PCB Bill of Materials**

Document title: P75 Plus Amplifier PCB			
Document number: L941RS	Issue: 1	Revision: 0	ECO number: 01_E020
Date: 17/12/01	Created by: TGP		Page 3 of 3

3B4003	11	RECTIFIER 1N4003F 1A 200V	D128 D129 D130 D300 D301 D302 D303 D603 D604 D703 D704
3BGBU8D	1	BRIDGE RECTIFIER 8A 200V	BR300
3C04704	2	ZENER 4V7 400MW	D600 D700
3C05604	2	ZENER 5V6 400MW	D131 D134
3C22704	4	ZENER 27V 400MW	D601 D602 D701 D702
3C23905	2	ZENER 39V 500MW	D304 D305
3D006	1	LED RED/GREEN 3MM L-93WEGW	LED100
4A2240GR	7	TRANS LF SS N 2SC2240GR	Q100 Q610 Q611 Q612 Q710 Q711 Q712
4A546	16	TRANS LF SS N BC546B	Q300 Q304 Q606 Q607 Q608 Q609 Q613 Q618 Q619 Q706 Q707 Q708 Q709 Q713 Q718 Q719
4A556	9	TRANS LF SS P BC556B	Q302 Q305 Q600 Q601 Q602 Q605 Q700 Q701 Q702
4A970GR	6	TRANS LF SS P 2SA970GR	Q603 Q604 Q616 Q703 Q704 Q716
4B653	2	ZTX653 NPN Transistor	Q617 Q717
4CSAP15N	2	TRANS POWER NPN SAP15N	Q614 Q714
4CSAP15P	2	TRANS POWER PNP SAP15P	Q615 Q715
5M7317	1	IC COMPARITOR TA7317P	Z101
6F122	2	PRES 220R LIN HORIZ	RV600 RV700
7D002C	2	INDUCT 2U2 12x20mm	L600 L700
8A001	1	IEC MAINS CONN PCB INS PX	SK300
8D225	1	PHONO SKT 4-WAY EMC GOLD	SK101
8D301	1	STEREO JACK PCB	SK162
8D420G	2	SPEAKER SOCKET GOLD 4MM DUAL PAIR CHUNKY	SK600 SK700
8K6316	1	16 WAY DIL PIN HEADER	PL161
8M101	1	EARTH LEAD	EL
8Q001	1	CAGE CLAMP 16A 3 WAY ARC001-236	SK301
8Q003	1	CAGE CLAMP 16A 1 WAY ARC003-236	SK302
8Q004	1	CAGE CLAMP 16A 3 WAY ARC004-236	SK304
8Q005	1	CAGE CLAMP 16A 2WAY 236-402/000-009	SK303
8R003	2	MOLEX 3W 2.5MM P HOLDER	LK100A LK100
8S004	2	FUSEHOLDER 20mm PCB	FS300 FS301
A1007	1	SW PUSH MAINS SDDSA32MZU	SW300
A1008	1	SW PUSH 2PCO	SW163
A207	1	RELAY G5Z-2A-E 24V	RLY1
E66901	1	MAINS SWITCH SPACER	SW300
E81801	4	X ALPHA AMP 75/65 HEATSINK	HS600 HS601 HS602 HS603
E852MC	4	SAP TRANS Q2 PAD 21mm x 32mm	SP600 SP601 SP700 SP701
E862MC	4	ALPHA AMP 65/75 HS CLIP	HS600 HS601 HS602 HS603
HP007	2	COPPER RIVET TCP/D48 BS	SK300 SK300
L825CA	2	7-WAY RIBBON 250mm	LK170 LK171
L856CA	1	JUMPER 3 WAY x 175mm	LK100
L940PB_A	1	X PRINTED CIRCUIT BOARD	PCB1
***** Obsolete, absent, redundant, or incorrect issue in PDM:			
E81801	4	X ALPHA AMP 75/65 HEATSINK	HS600 HS601 HS602 HS603
L940PB_A	1	X PRINTED CIRCUIT BOARD	PCB1

## A65 Plus General Assembly

ITEM	230V	115V	100V	SILVER	BLACK	DESCRIPTION	WHERE USED	QTY
A	L817RC					REMOTE CONTROL		1
9				E091AY	E091AYB	FRONT PANEL ASSY		1
7				E829CP	E830CP	COVER PLATE		1
43				HA4V06S	HA4V06B	M4 X 6mm SCREW		4
21	5B483028					HOLTECH + L818SW	WA65I 1A	1
17	C12126 1.25A T	C12256 2.5A T	C12256 2.5A T			FUSE	FUSE AND SPARE	2
1	E033RP					REAR PANEL		1
73	E802AP					DAMPING PAD	(1 PER) L600 L700 (2 PER) RLY1 SEE L881AY FOR POSITIONING	4
76	E804AP					BLK FELT WASHER		4
55	E806MI					MAINS INSULATOR	UNDER MOTHER PCB	1
3	E062AY					DIVA LOW AMP & TUNER CHASSIS ASSY		1
2	E812SP					SUB PANEL		1
59	E827PM					SUPPORT SPACER	UNDER TX	1
36	E82801					FOAM PAD	RES. CAPS	1
57	E83001					TX GASKET	UNDER TX	1
10	E855PM					SELECTOR KNOB		1
69	E856MC					HEAT SINK CLAMP		2
15	E856PM					BAS/TRB/BAL KNOB		3
11	E861PM					PUSH BUTTON		3
14	E863PM					VOLUME KNOB		1
12	E072AY					DIVA EXTENDED POWER BUTTON		1
13	E879PM					FOOT		4
67	E879SL					CONFIGURATION LABEL		1
71	E908MC					KOOL PAD		2
16	F022					FUSEHOLDER COVER		2
5	F037					TOROID CLAMP 70MM	FOR TX1	1
56	F038					RUBBER WASHER 90MM OD	ON TOP OF TX	1
66	F062					FUSE CLIP	PCB	1
64	F065					CABLE CLIP	FOR PROCESSOR SWITCH WIRE & TX SCREEN	1
74	F164					DAMPING STRIP	TOP OF FRONT	400MM
51	F185					SNAP-IN SPACER		2
52	H006					SNAP-IN SPACER	PCB	1
75	HA3V06A					MC TORX P/H M3X6 STZP	Sub panel/display	7
42	HA3V10A					M3 x 10mm SCREW	MOTHER PCB	6
46	HA4A12B					M4 x 12mm SCREW	RR PAN 'E'	2
47	HA4A45B					M4 x 45mm SCREW	HEAT SINK FXGS	4
48	HA6K50A					M6 x 50MM HEX BOLT	TX FXG	1
40	HE6V06B					No. 6 x 6mm SCREW	COVER, PCB, SUB-PAN	7
41	HF4V09B					No. 4 x 9mm SCREW	RR PAN. PHONOS, COVER	13
49	HJ4A00A					M4 NUT	RR PAN 'E'	2
50	HJ4C00D					M4 WAISTED NUT	RR PAN 'E'	1

## A65 Plus General Assembly

ITEM	230V	115V	100V	SILVER	BLACK	DESCRIPTION	WHERE USED	QTY
43	HL4SA					M4 SHAKE PROOF	RR PAN 'E'	3
44	HL4SB					M4 SHAKE PROOF	RR PAN 'E'	1
72	K5406					LIGHT PIPE SLEEVING		7
	L819CA					FLEXFOIL 10WAY		1
30	L836TX	L836TX	L837TX			ALPHA 7R TRANSFORMER	TX	1
70	L885AY					A75 DISPLAY ASSY		1
18	L942AY					A65 PLUS PCB ASSEMBLY		1

## A75 Plus General Assembly

ITEM	230V	115V	100V	SILVER	BLACK	DESCRIPTION	WHERE USED	QTY
A	L813RC					REMOTE CONTROL		1
9				E092AY	E092AYB	FASCIA ASSY		1
7				E829CP	E830CP	COVER PLATE		1
43				HA4V06S	HA4V06B	M4 X 6mm SCREW		4
21	5B483028					PIC CHIP + L818SW		1
17	C12126 1.25A T	C12256 2.5A T	C12256 2.5A T			FUSE	FUSE AND SPARE	2
1	E033AY					REAR PANEL ASSEMBLY		1
80	E802AP					DAMPING PAD	(1 PER) L600 L700 (2 PER) RLY1 SEE L881AY FOR POSITIONING	4
75	E804AP					BLACK FELT WASHERS	BEHIND KNOBS	4
68	E805HK					HEAT SINK		2
55	E806MI					MAINS INSULATOR	UNDER MOTHER PCB	1
3	E062AY					DIVA LOW AMP & TUNER CHASSIS ASSY		1
2	E812SP					SUB PANEL		1
59	E827PM					SUPPORT SPACER	UNDER TX	1
36	E82801					FOAM PAD	RES. CAPS	1
57	E83001					TX GASKET	UNDER TX	1
4	E855PM					SELECTOR KNOB		1
69	E856MC					HEAT SINK CLAMP		2
8	E861PM					PUSH BUTTON		3
14	E863PM					VOLUME KNOB		1
12	E072AY					DIVA EXTENDED POWER BUTTON		1
13	E879PM					FOOT		4
67	E879SL					CONFIGURATION LABEL		1
15	E889PM					BAS/TRB/BAL KNOB		3
79	E908MC					KOOL PAD		2
16	F022					FUSEHOLDER COVER		2
5	F037					TOROID CLAMP 90MM	FOR TX1	1
56	F038					RUBBER WASHER 90MM OD	ON TOP OF TX	1
66	F062					FUSE CLIP	PCB	1
64	F065					CABLE CLIP	FOR REMOTE WIRE & TX SCREEN	1
76	F164					DAMPING STRIP	TOP OF FRONT	400MM
51	F185					SNAP-IN SPACER	TX WIRES	2
52	H006					SNAP-IN SPACER	PCB	1
72	HA3V06A					M3 X 6	PCB'S TO SUB PANEL	7
42	HA3V10A					M3 x 10mm SCREW	MOTHER PCB	6
49	HA4A12B					M4 X 12mm SCREW		2
47	HA4A45B					M4 x 45mm SCREW BLK	HEAT SINK FXGS	4
48	HA6K50A					M6 x 50mm HEX BOLT	TX FXG	1
40	HE6V06B					No. 6 x 6mm SCREW BLK	SUB-PAN, PCB, FRONT	7
41	HF4V09B					No. 4 x 9mm SCREW BLK	RR PAN, PHONO, SPKR TERMS, COVERPLATE	13
46	HJ4A00A					M4 NUT		2



## A75 Plus General Assembly

ITEM	230V	115V	100V	SILVER	BLACK	DESCRIPTION	WHERE USED	QTY
71	HJ4COOD					BRASS NUT	EARTH	1
43	HL4SA					M4 SHAKE PROOF		3
44	HL4SB					M4 SHAKE PROOF		1
74	K5406					LIGHT PIPE SLEEVE (15mm)	OVER LIGHT PIPES	7
	K5408					LIGHT PIPE SLEEVE (6mm)	OVER LIGHT PIPES	1
30	L816TX	L816TX	L820TX			ALPHA 8 TRANSFORMER	TX1	1
73	L819CA					FLEX FOIL	DISPLAY TO MOTHER PCB	1
70	L885AY					A75 DISPLAY		1
18	L940AY					A75 PCB ASSEMBLY		1

## P75 Plus General Assembly

ITEM	230V	115V	100V	SILVER	BLACK	DESCRIPTION	WHERE USED	QTY
				E829CP	E830CP	COVER PLATE		1
				E093AY	E093AYB	FASCIA ASSY		1
				HA4V06S	HA4V06B	M4 X 6mm SCREW		4
	8K006					SHORTING LINK	FOR REAR PANEL	1
	C12126 1.25A T	C12256 2.5A T	C12256 2.5A T			FUSE	FUSE AND SPARE	2
	E802AP					DAMPING PAD	(1 PER) L600 L700 (2 PER) RLY1	4
	E805HK					HEAT SINK		2
	E806MI					MAINS INSULATOR	UNDER MOTHER PCB	1
	E062AY					DIVA LOW AMP & TUNER CHASSIS ASSY		1
	E812SP					SUB PANEL		1
	E82201					HEATSHUNT CLAMP		2
	E827PM					SUPPORT SPACER	UNDER TX	1
	E82801					FOAM PAD	RES. CAPS	1
	E83001					TX GASKET	UNDER TX	1
	E030AY					REAR PANEL ASSEMBLY		1
	E856MC					HEAT SINK CLAMP		2
	E861PM					PUSH BUTTON		1
	E072AY					DIVA EXTENDED POWER BUTTON		1
	E879PM					FOOT		4
	E879SL					CONFIGURATION LABEL		1
	E908MC					KOOL PAD	HEAT SINKS TO REAR PANEL	2
	F018					HEYCO RUBBER GROMMET	FOR SHORTING LINK	2
	F022					FUSEHOLDER COVER		2
	F037					TOROID CLAMP 90MM	FOR TX1	1
	F038					RUBBER WASHER 90MM OD	ON TOP OF TX	1
	F062					FUSE CLIP	PCB	1
	F065					CABLE CLIP	FOR PROCESSOR SWITCH WIRE & TX SCREEN	3
	F086					KOOLPAD		2
	F164					DAMPING STRIP	FRONT EDGE	400MM
	F185					SNAP-IN SPACER	TX WIRES	2
	H006					SNAP-IN SPACER	PCB	1
	HA3V06A					MC TORX P/H M3X6 STZP	LED PCB TO SUB PANEL	2
	HA3V10A					M3 x 10mm SCREW	MOTHER PCB	6
	HA4A12B					M4 X 12mm SCREW		1
	HA4A45B					M4 x 45mm SCREW BLK	HEAT SINK FXGS	4
	HA6K50A					M6 x 50mm HEX BOLT	TX FXG	1
	HE6V06B					No. 6 x 6mm SCREW BLK	SUB-PAN, PCB	11
	HF4V09B					No. 4 x 9mm SCREW BLK	RR PAN, PHONO, SPKR TERMS, COVER	13
	HL4SA					M4 SHAKE PROOF		2
	K5408					LIGHT PIPE SLEEVING (6mm)		1
	L816TX	L816TX	L820TX			ALPHA 8 TRANSFORMER	TX1	1
	L941AY					A75P PCB ASSEMBLY		1

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