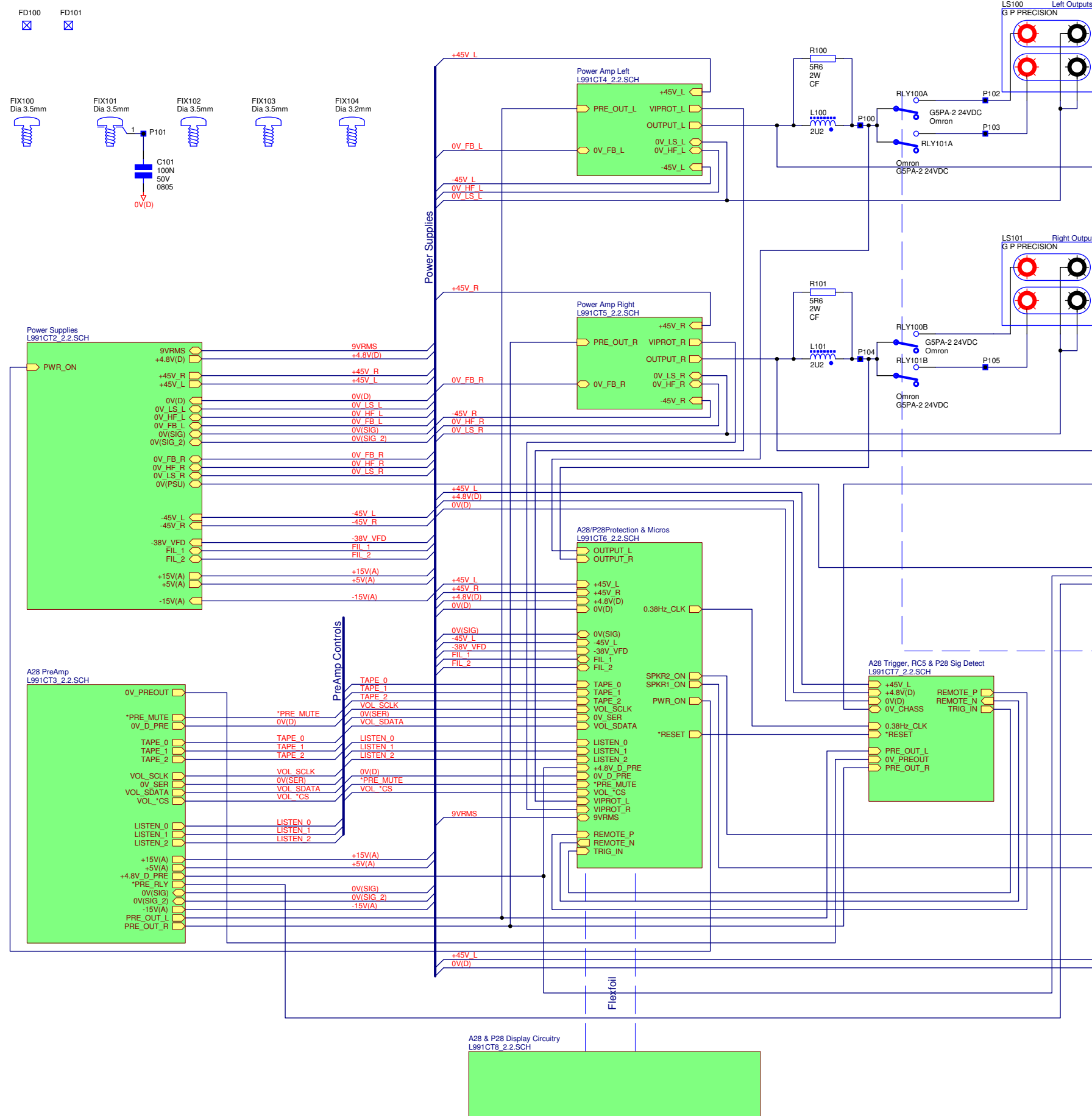


ITEM	QTY	PART No.	DESCRIPTION	NOTES
ITEM100	1	L991PB	Blank PCB A28 Power Supply And Amplifier	
ITEM102	1	8M101	Earth Lead Assy 75MM - This part is RoHS compliant.	Soldered to SKT200
ITEM103	4	F232	13/16 inch O-Ring	Rubber O-Rings fitted over UPPER HALF of amp supply caps (C228 - C231)
ITEM104	6	E827AP	Pad Damping 15x6x3MM Rubber	Placed on top of: output relays (RLY100, RLY101), mains relay (RLY200), output chokes (L100, L101) and preamp mute relay (RLY300)



GENERAL NOTES

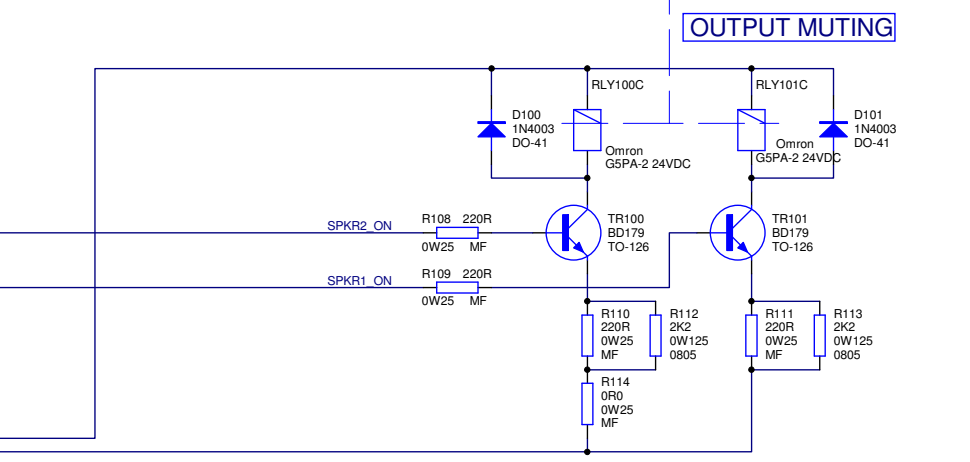
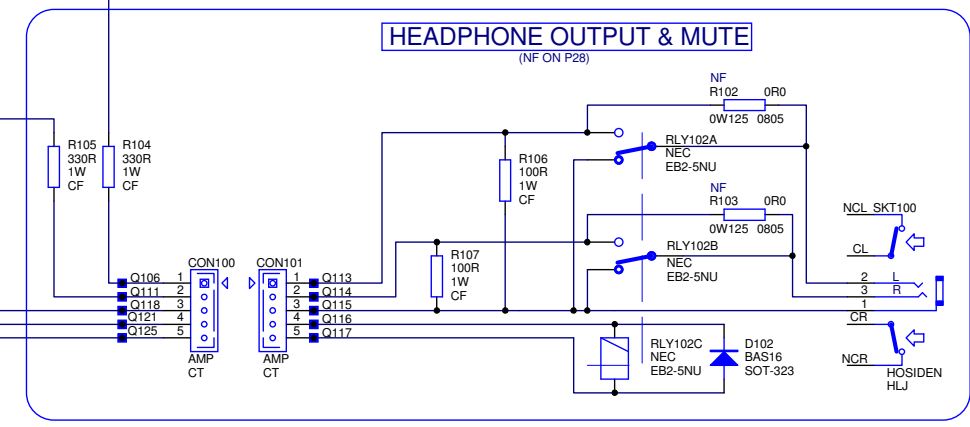
This is the Master Schematic for A28 (L991AY) and P28 PCB assemblies. Any changes to the schematics in this document must be reflected in the relevant child documents.

When generating BOMs for L991AY, ensure that the relevant components are fitted or not fitted (those with "NF" or "FIT" in the nearby text).

These schematics follow a simple heirarchy scheme. Sheet symbols on the top sheet represent a child or sub-sheet. Net labels on sub-sheets are local or specific to that sheet. Ports on the sub-sheets connect to sheet entries on the parent sheet, where they are connected together.

Primary power nets are denoted by type in parenthesis, e.g. 0V(D). Secondary nets are denoted by underscores, e.g. 0V_LS_L.

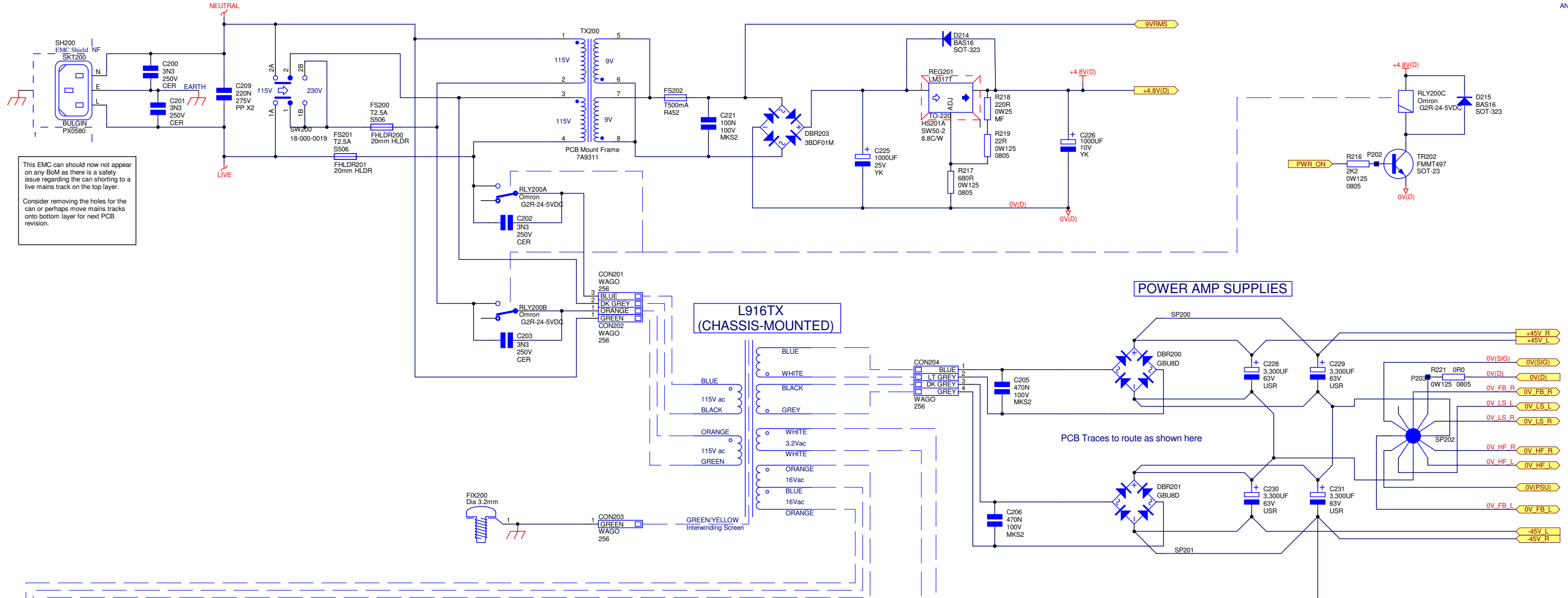
To perform an electrical rule check or synchronise with the PCB, set Net Identifier Scope to Sheet Symbols/Port Connections.



DRAWING TITLE							
A28/P28 - Top Level Sheet							
ARCAM A & R Cambridge Ltd. Pembroke Avenue Waterbeach Cambridge CB5 9PB	Filename:	L991CT1_2.2.SCH	08_E076	MJT	07/04/08	Removed 4-off handbag links (ITEM300, 400, 500, 700)	2.2
	Notes:	A28	08_E069	MJT	25/03/08	Added rubber damping pads on top of components.	2.1
ECO No.	INITIALS	DATE	DESCRIPTION OF CHANGE	ISSUE			
07_E226	PK	28/11/07	Correct O ring quantity	2.0			
07_E156	SLRR	12/09/2007	None to this sheet	1.0			
07_E068	PK	20/04/2007	Output devices replaced, separate emitter resistors added	B.0			
Contact Engineer: Andrew Dutton		Contact Tel: (01223) 203 200	Printed: 25-Apr-2008	Sheet 1 of 8	DRAWING NO. L991C1		

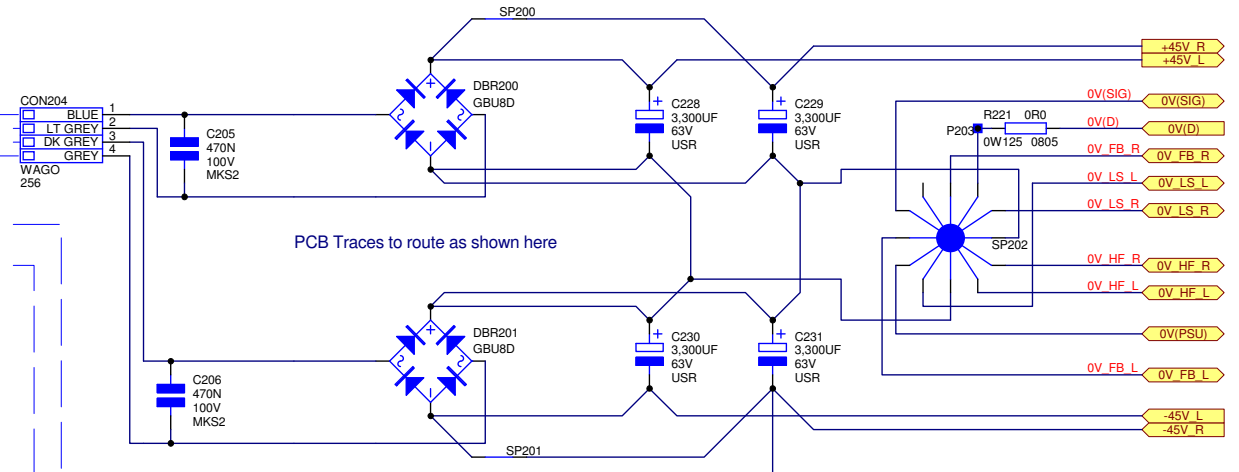
ANNOTATION

MAINS WIRING AND AUXILIARY SUPPLY

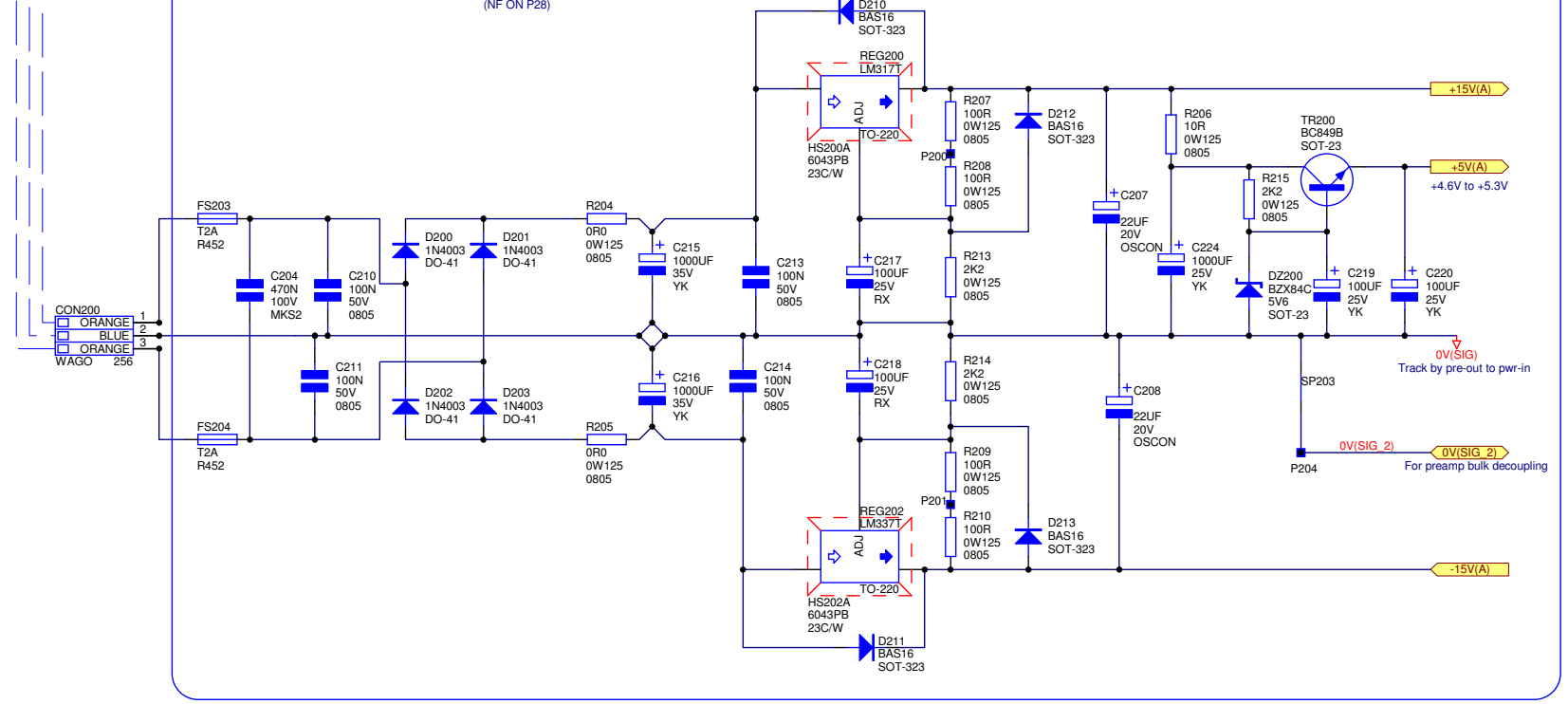


This EMC can should now not appear on any BoM as there is a safety issue regarding the can shorting to a live mains track on the top layer. Consider removing the holes for the can or perhaps move mains tracks onto bottom layer for next PCB revision.

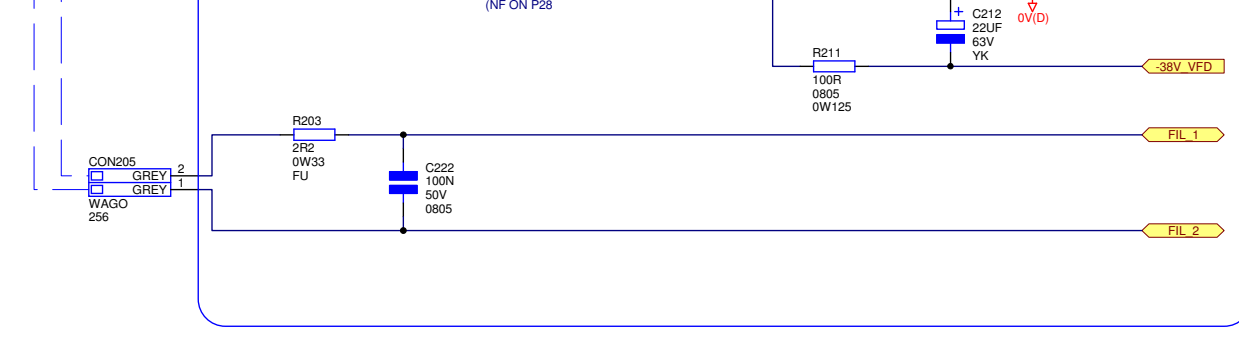
POWER AMP SUPPLIES



ANALOGUE OP-AMP SUPPLIES
(NF ON P28)



VFD SUPPLY
(NF ON P28)

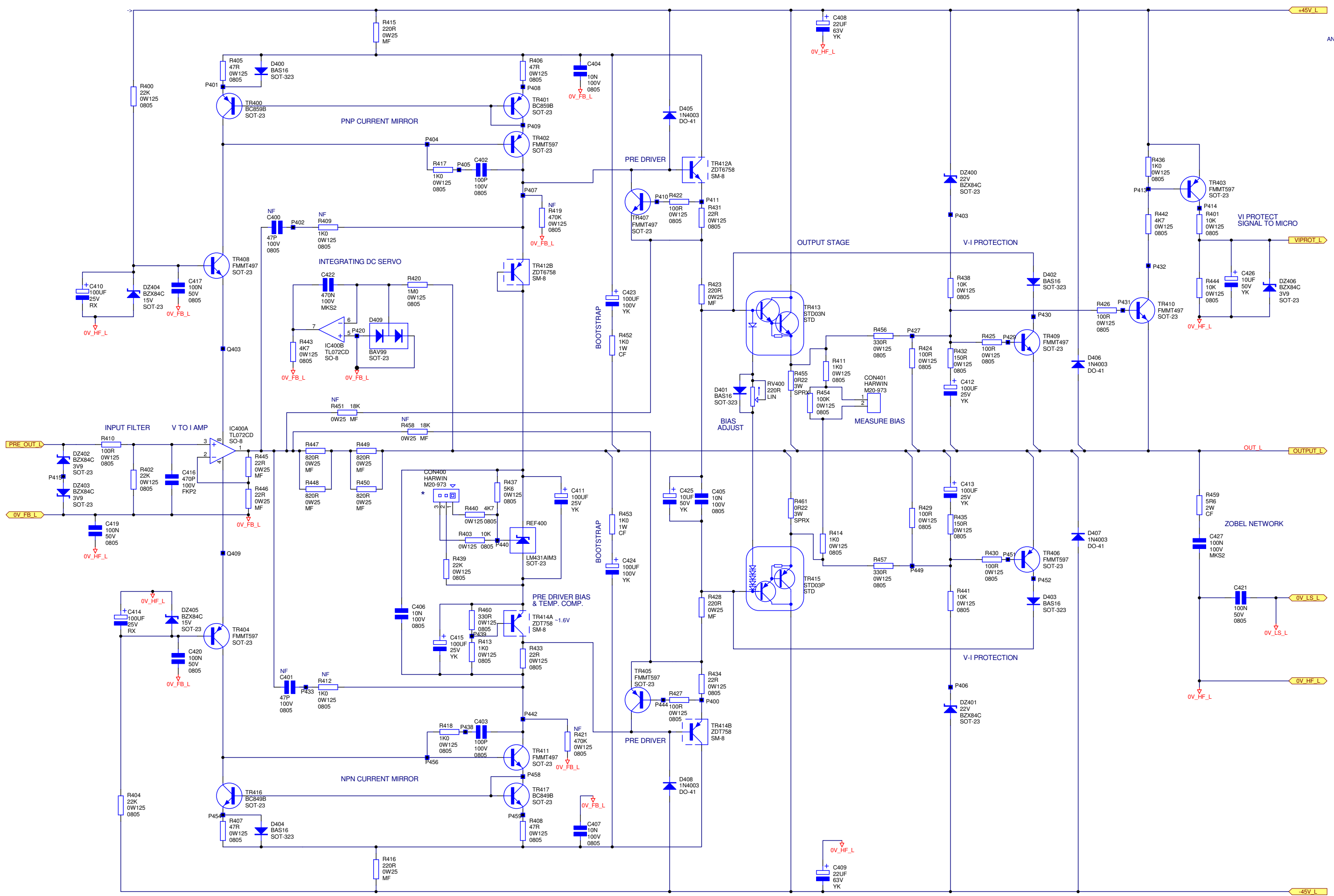


DRAWING TITLE				
A28/P28 Power Supplies				
Filename: L991CT2_2.2.SCH				
Notes: A28				
Contact Engineer: Andrew Dutton				
Contact Tel: (01223) 203 200				
Printed: 25-Apr-2008				
Sheet 2 of 8				
DRAWING NO. L991C2				

ECO No.	INITIALS	DATE	DESCRIPTION OF CHANGE	ISSUE
08_E088	MN	25/04/08	No changes to this sheet	2.3
08_E076	MJT	07/04/08	None to this sheet	2.2
08_E069	MJT	25/03/08	C217, C218 changed series for voicing	2.1
07_E226	PK	28/11/07	None to this sheet	2.0
07_E156	PK	12/09/2007	R211 changed to 100R to reduce voltage drop to VFD supply	1.0

ANNOTATION

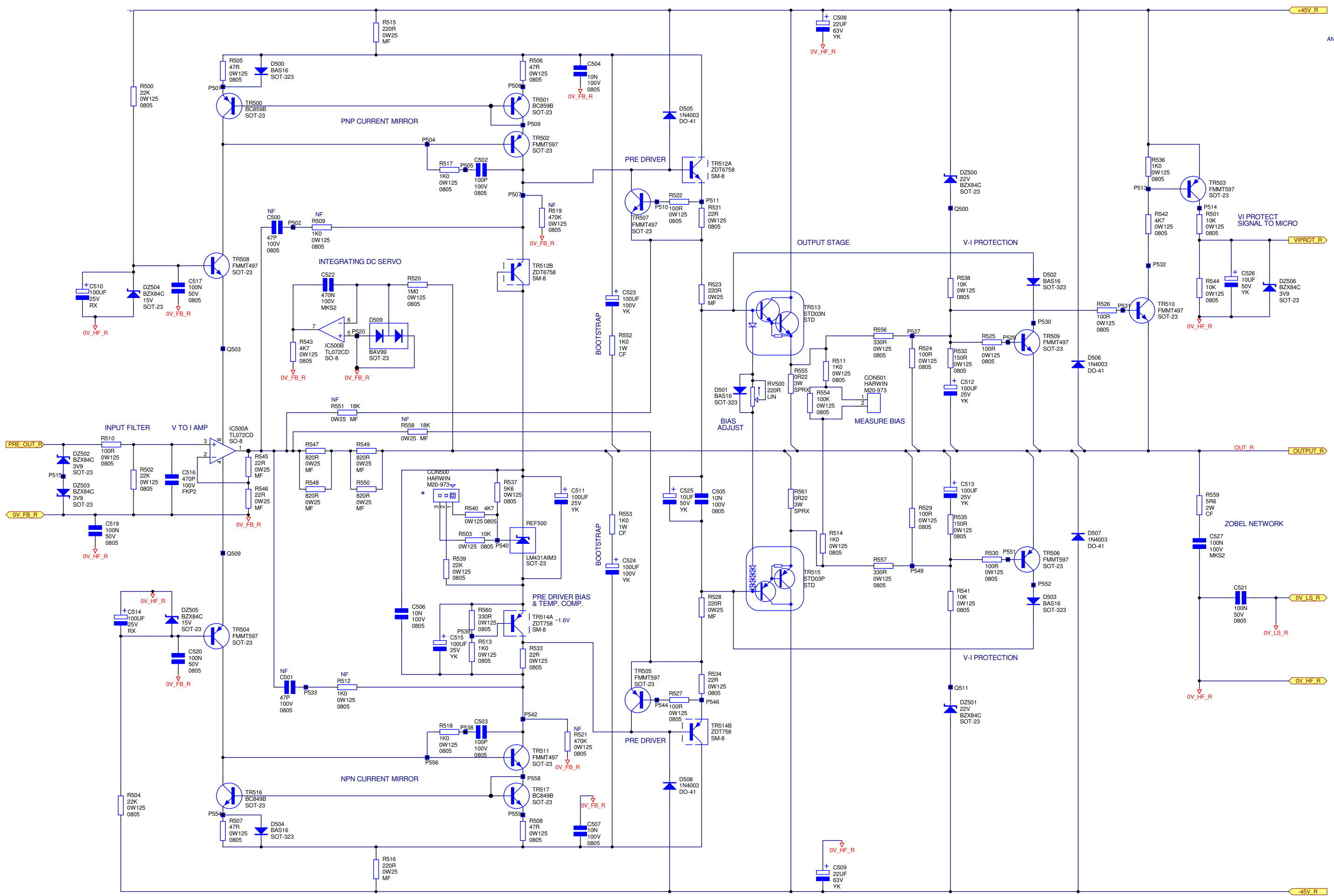
SHEET 3



* - Default jumper setting is NOT FITTED.
 Fit jumper on pins:
 2 & 3 to increase bias voltage;
 1 & 2 to increase bias voltage even more.

ITEM400	0	8K004	Con Jumper Socket 0.1N Gold Blue - This part is RoHS compliant.	Not Fitted. See note above
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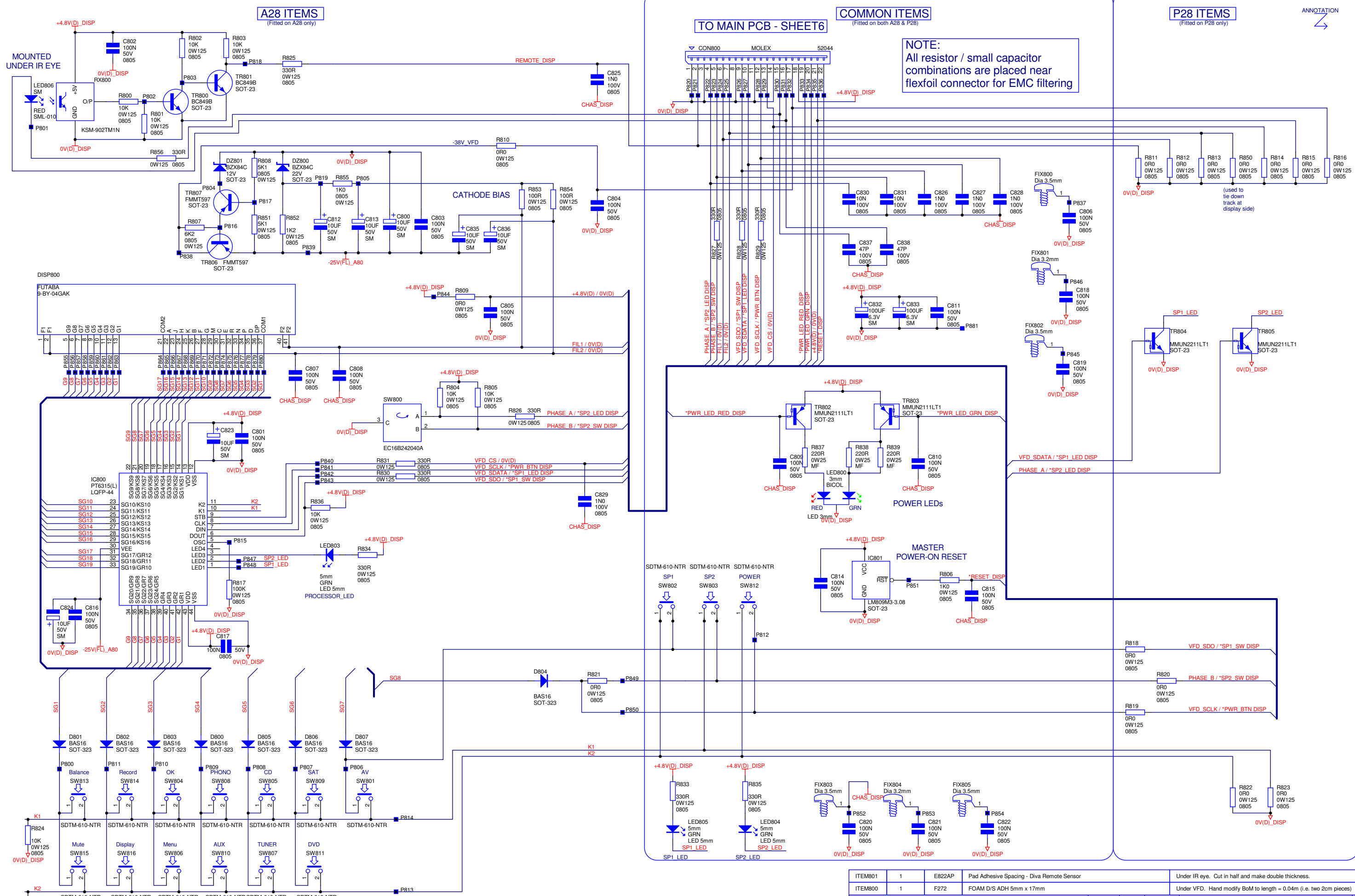
DRAWING TITLE				
A28/P28 - Power Amp Left				
ARCAM				
A & R Cambridge Ltd. Pembroke Avenue Waterbeach Cambridge CB5 9PB				
File name:	L991CT4_2.2.SCH			
Notes:	A28			
ECO No.	INITIALS	DATE	DESCRIPTION OF CHANGE	ISSUE
08_E088	MN	25/04/08	No changes to this sheet	2.3
08_E076	MJT	07/04/08	Removed handbag link ITEM400	2.2
08_E069	MJT	25/03/08	C410, C414 changed. R410 now 100R. Corrected jumper notes.	2.1
07_E226	PK	28/11/07	R432,435 now 150R. R436 now 1k0	2.0
07_E156	SLRR	12/09/2007	Emitter resistors value change, output device footprint change	1.0
Printed: 25-Apr-2008			Sheet 4 of 8	DRAWING NO. L991C4



* - Default jumper setting is NOT FITTED.
 Fit jumper on pins:
 2 & 3 to increase bias voltage;
 1 & 2 to increase bias voltage even more.

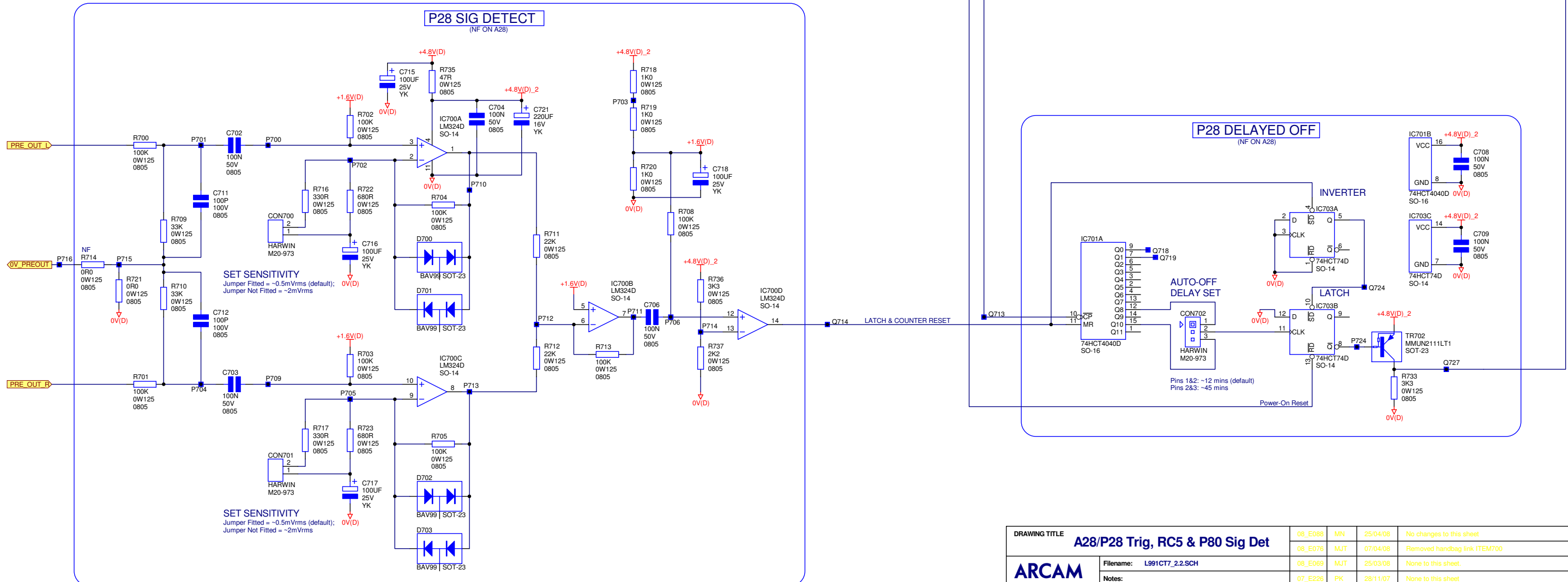
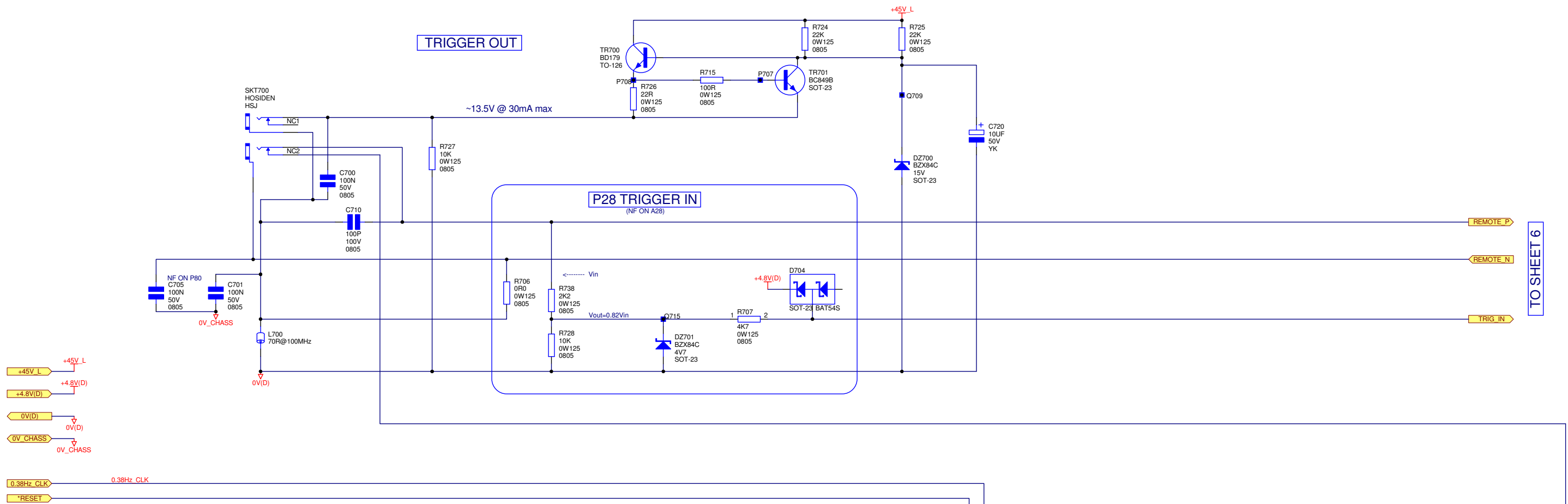
ITEM500	0	8K004	Con Jumper Socket 0.1N Gold Blue - This part is RoHS compliant.	Not Fitted. See note above
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DRAWING TITLE		08_E088 MN 25/04/08 No changes to this sheet 2.3		
A28/P28 - Power Amp Right		08_E076 MJT 07/04/08 Removed handbag link ITEM500 2.2		
ARCAM		08_E069 MJT 25/03/08 C510, C514 changed. R510 now 100R. Corrected jumper notes. 2.1		
File Name: L991CT5_2.2.SCH		07_E226 PK 28/11/07 R532,535 now 150R. R536 now 1k0 2.0		
Notes: A28		07_E156 SLRR 12/09/2007 Emitter resistors value change, output device footprint change 1.0		
A & R Cambridge Ltd. Pembroke Avenue Waterbeach Cambridge CB5 9PB		ECO No. INITIALS DATE DESCRIPTION OF CHANGE ISSUE		
Contact Engineer: Andrew Dutton		Contact Tel: (01223) 203 200		Printed: 25-Apr-2008 Sheet 5 of 8 DRAWING NO. L991C5



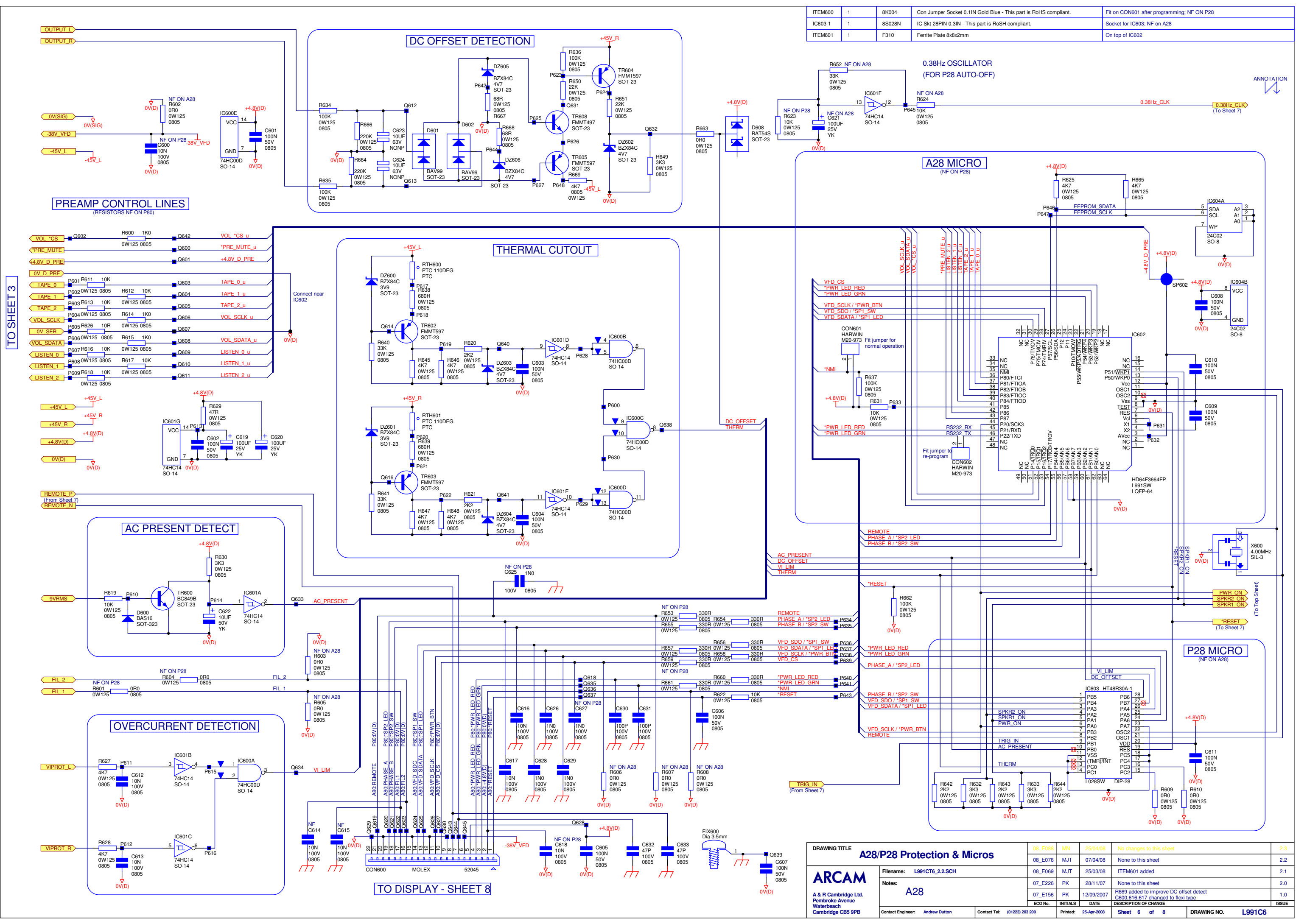
NOTE:
All resistor / small capacitor combinations are placed near flexfoil connector for EMC filtering

ITEM801	1	E822AP	Pad Adhesive Spacing - Diva Remote Sensor	Under IR eye. Cut in half and make double thickness.			
ITEM800	1	F272	FOAM D/S ADH 5mm x 17mm	Under VFD. Hand modify BoM to length = 0.04m (i.e. two 2cm pieces)			
DRAWING TITLE							
A28/P28 Display Circuitry			08_E088	MN	25/04/08	SW800 changed to Alps part A1211	2.3
			08_E076	MJT	07/04/08	None to this sheet	2.2
			08_E069	MJT	25/03/08	Added ITEM800, ITEM801 adhesive pads.	2.1
			07_E226	PK	28/11/07	Replace VFD, driver IC & encoder	2.0
			07_E156	PK	12/09/2007	VFD supply changed to stop display flashing as HT rail sags	1.0
			ECO No.	INITIALS	DATE	DESCRIPTION OF CHANGE	ISSUE
ARCAM A & R Cambridge Ltd. Pembroke Avenue Waterbeach Cambridge CB5 9QR			Filename: L991C78_2.2.SCH A28		Contact Engineer: Andrew Dutton Contact Tel: (01223) 203 200		Printed: 25-Apr-2008 Sheet 8 of 8 A2 DRAWING NO. L991C8



TO SHEET 6

DRAWING TITLE				08_E088	MN	25/04/08	No changes to this sheet	2.3
A28/P28 Trig, RC5 & P80 Sig Det				08_E076	MJT	07/04/08	Removed handbag link ITEM700	2.2
				08_E069	MJT	25/03/08	None to this sheet.	2.1
ARCAM				07_E226	PK	28/11/07	None to this sheet	2.0
				07_E156	SLRR	12/09/2007	None to this sheet	1.0
A & R Cambridge Ltd. Pembroke Avenue Waterbeach Cambridge CB5 9PB				ECO No.	INITIALS	DATE	DESCRIPTION OF CHANGE	ISSUE
Filename: L991C7_2.2.SCH Notes: A28 Contact Engineer: Andrew Dutton Contact Tel: (01223) 203 200				Printed: 25-Apr-2008		Sheet 7 of 8		DRAWING NO. L991C7

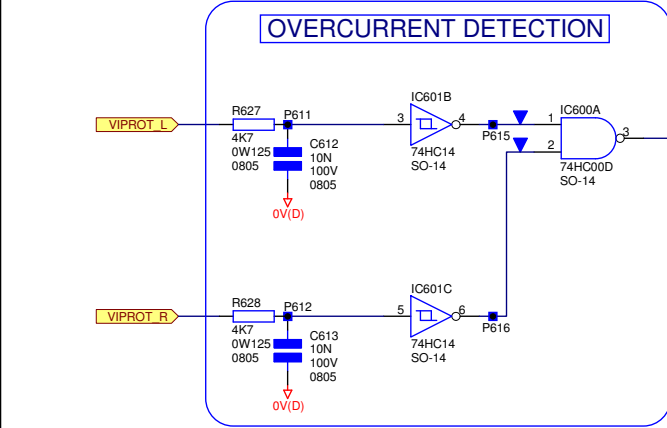
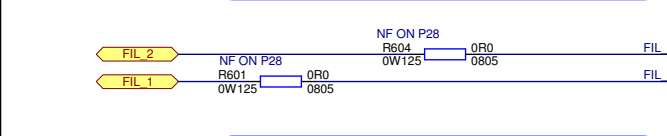
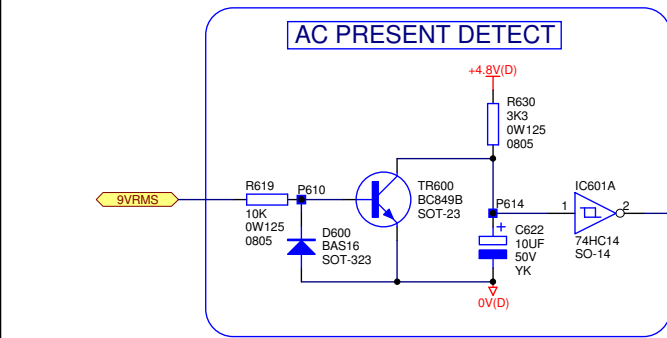
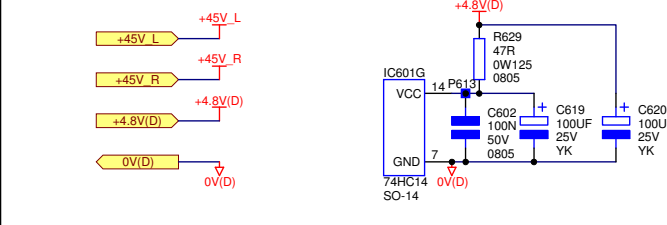
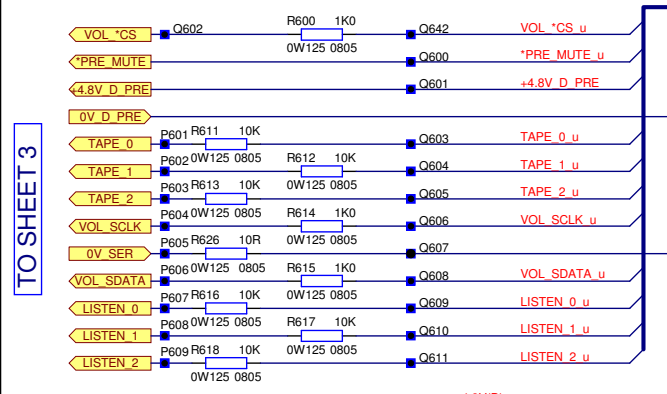


ITEM600	1	8K004	Con Jumper Socket 0.1IN Gold Blue - This part is RoHS compliant.	Fit on CON601 after programming; NF ON P28
IC603-1	1	8S028N	IC SKT 28PIN 0.3IN - This part is RoHS compliant.	Socket for IC603; NF ON A28
ITEM601	1	F310	Ferrite Plate 8x8x2mm	On top of IC602

TO SHEET 3

ANNOTATION

PREAMP CONTROL LINES
(RESISTORS NF ON P80)



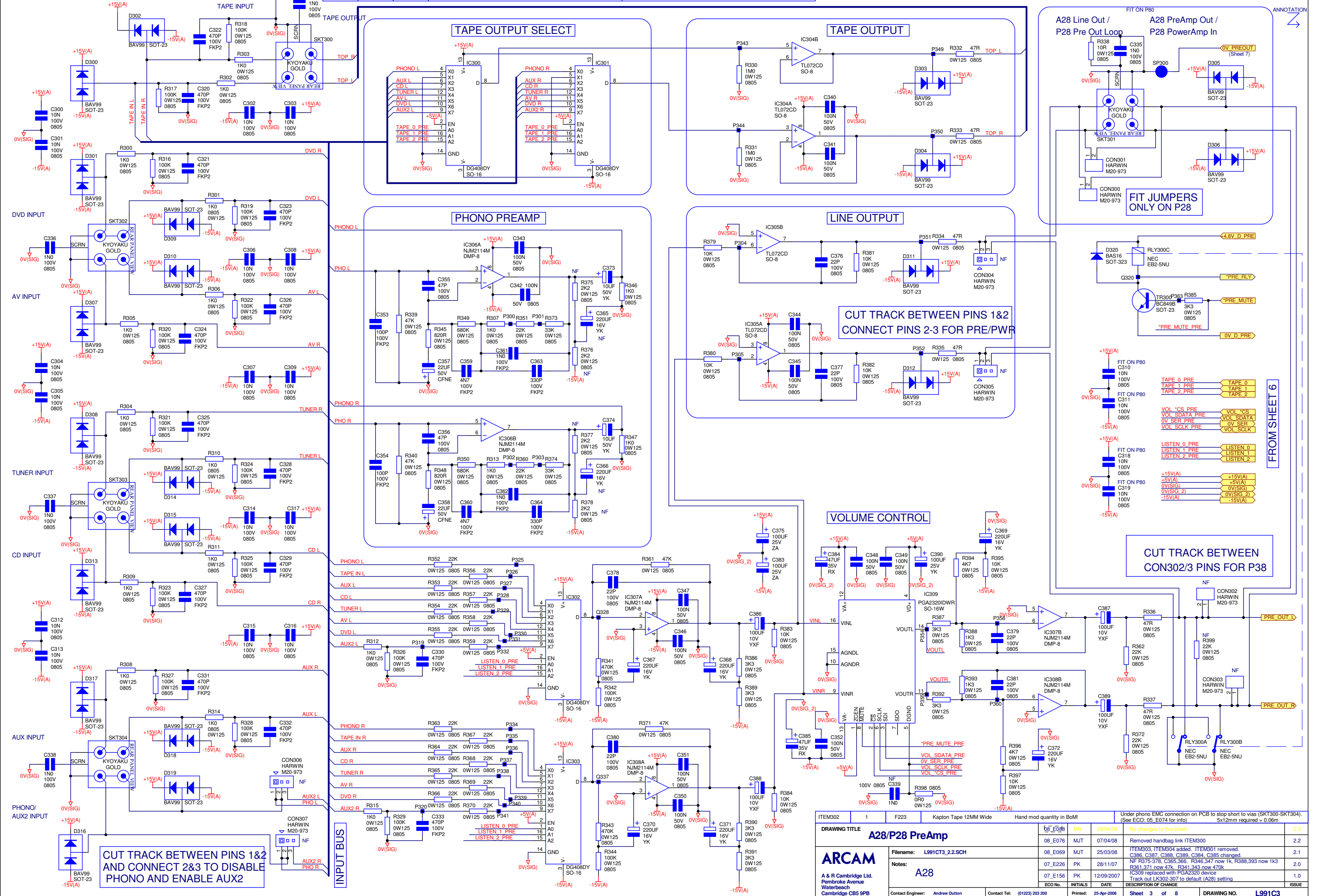
TO DISPLAY - SHEET 8

DRAWING TITLE
A28/P28 Protection & Micros

Filename:	L991CT6_2.2.SCH
Notes:	A28
Contact Engineer:	Andrew Dutton
Contact Tel:	(01223) 203 200

ECO No.	INITIALS	DATE	DESCRIPTION OF CHANGE	ISSUE
08_E088	MN	25/04/08	No changes to this sheet	2.3
08_E076	MJT	07/04/08	None to this sheet	2.2
08_E069	MJT	25/03/08	ITEM601 added	2.1
07_E226	PK	28/11/07	None to this sheet	2.0
07_E156	PK	12/09/2007	R669 added to improve DC offset detect C600.616.617 changed to flexi type	1.0

ITEM303	1	F310	Ferrite Plate 8x8x2mm	On top of IC309	ITEM300	0	8K004	Con Jumper Socket 0.1IN Gold Blue - This part is RoHS compliant.	Not Fitted on A28
ITEM304	1	E828AP	Pad Damping 7.5x6x3MM Rubber	On top of ITEM303, which is on top of IC309 (double stack)					



CUT TRACK BETWEEN PINS 1&2 AND CONNECT 2&3 TO DISABLE PHONO AND ENABLE AUX2

CUT TRACK BETWEEN PINS 1&2 CONNECT PINS 2-3 FOR PRE/PWR

CUT TRACK BETWEEN CON302/3 PINS FOR P38

FROM SHEET 6

ITEM302	1	F223	Kapton Tape 12MM Wide	Hand mod quantity in BoM	Under phono EMC connection on PCB to stop short to vias (SKT300-SKT304). 5x12mm required = 0.06m
DRAWING TITLE					
A28/P28 PreAmplifier					
ARCAM					
A & R Cambridge Ltd. Pembroke Avenue Waterbeach Cambridge CB5 9PB					
Contact Engineer: Andrew Dutton Contact Tel: (01223) 203 200					
File name:	L991C13_2.2.SCH				
Notes:	A28				
ECO No.	INITIALS	DATE	DESCRIPTION OF CHANGE		ISSUE
06_E068	MN	25/04/08	No changes to this sheet		2.3
08_E076	MJT	07/04/08	Removed handbag link ITEM300		2.2
08_E069	MJT	25/03/08	ITEM303, ITEM304 added. ITEM301 removed.		2.1
07_E226	PK	28/11/07	C386, C387, C388, C389, C394, C395 changed.		2.0
07_E156	PK	12/09/2007	NF R375-378, C365, C366, R346, R347 now 1k. R388, R393 now 1k3. R361, R371 now 47k. R341, R343 now 470k.		1.0
Track out LK302-307 to default (A28) setting					
ECO No.	INITIALS	DATE	DESCRIPTION OF CHANGE		ISSUE
		25-Apr-2008	Sheet 3 of 8		DRAWING NO. L991C3