



PRIMARE



**SP32 Surround Processor
Service Manual**

1. Schematics and Pcb.
2. Technical Specifications.

Confidential !

This document is not allowed to show for third part without written permission from Primare Systems AB.

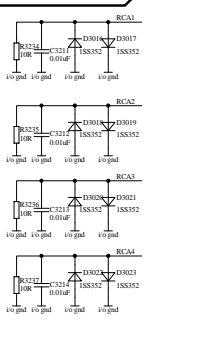
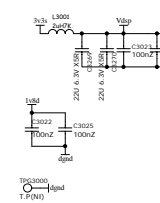
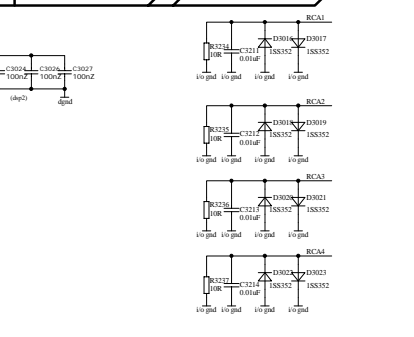
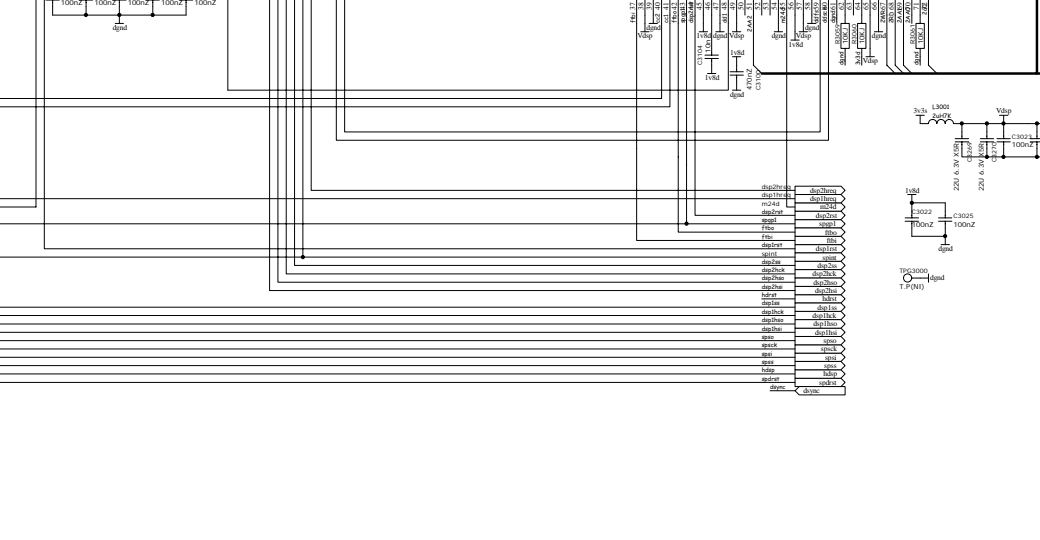
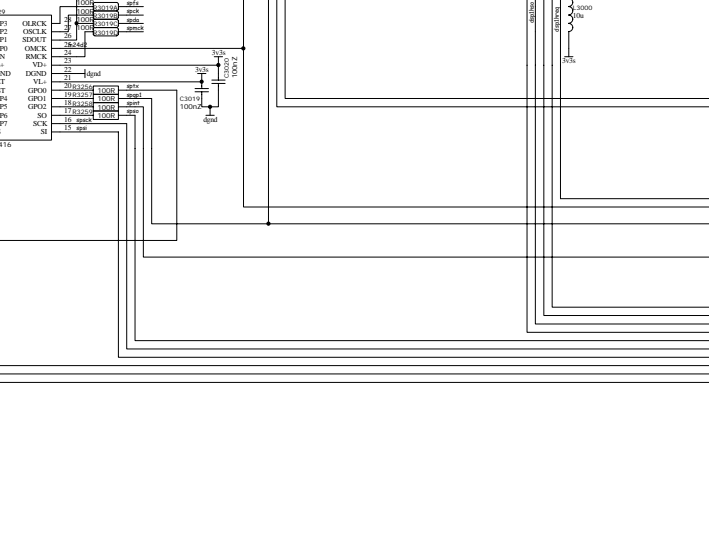
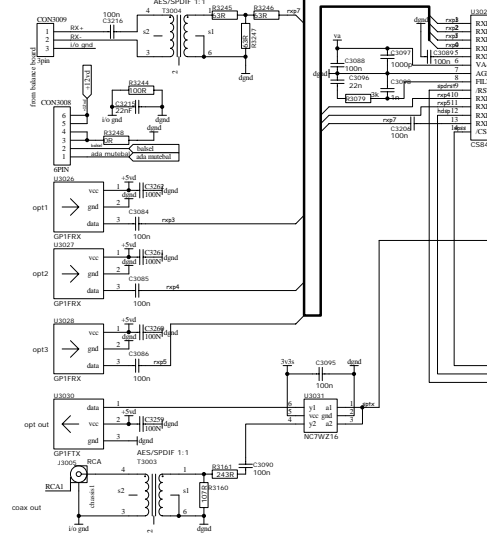
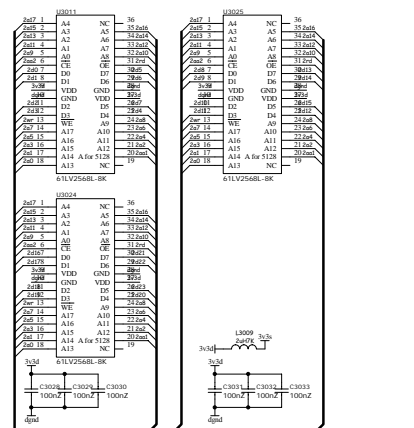
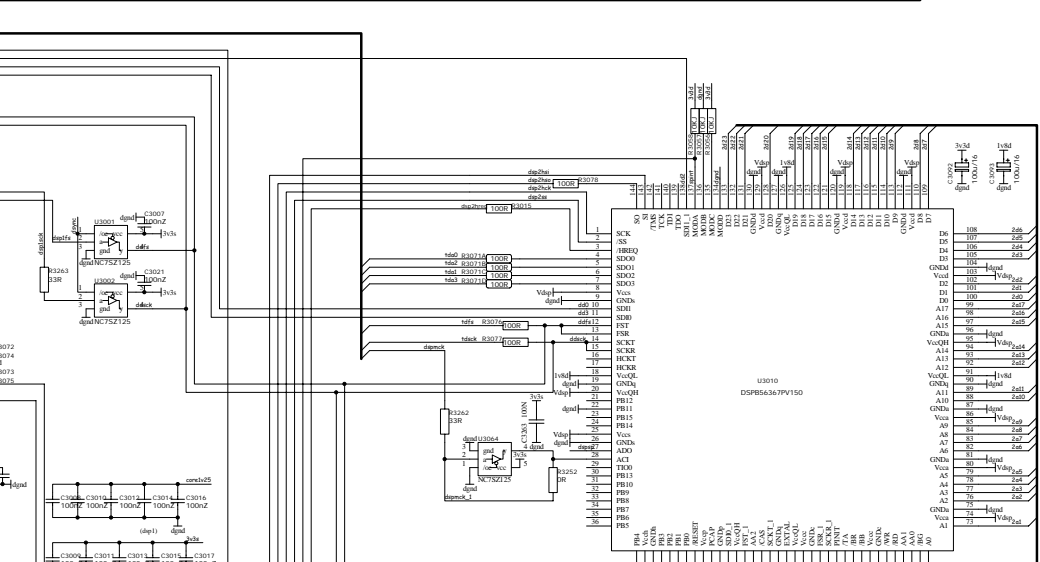
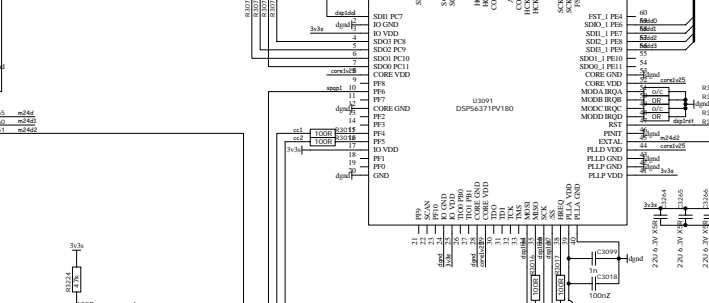
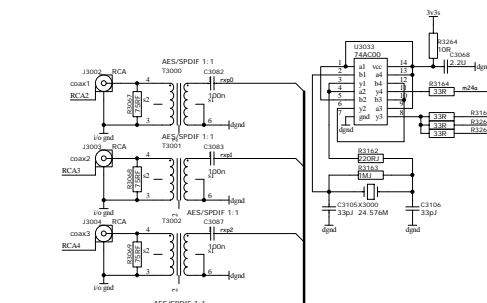
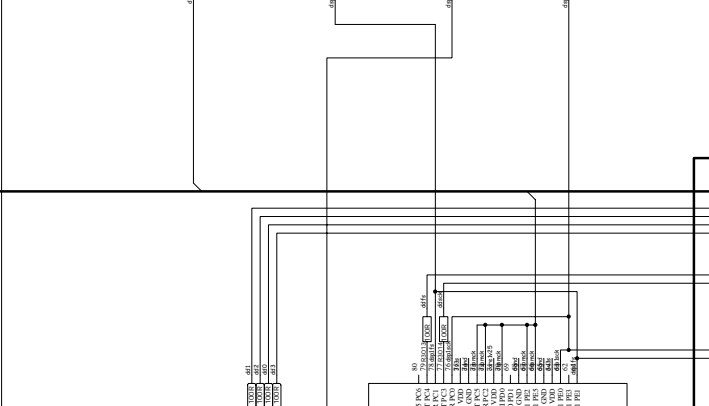
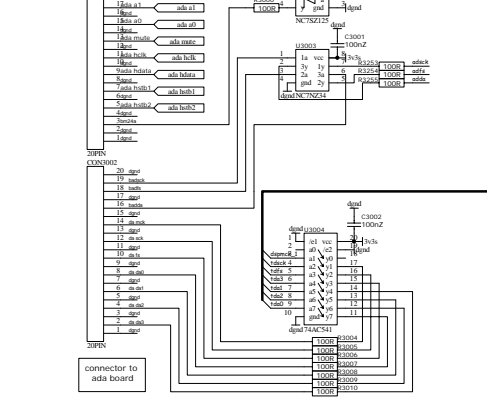
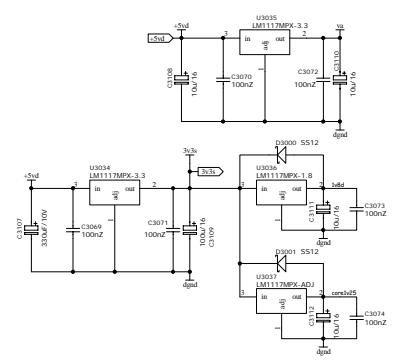
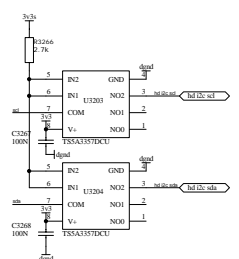
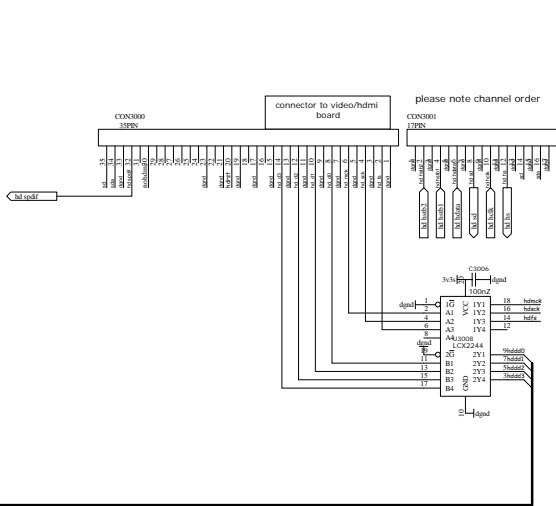
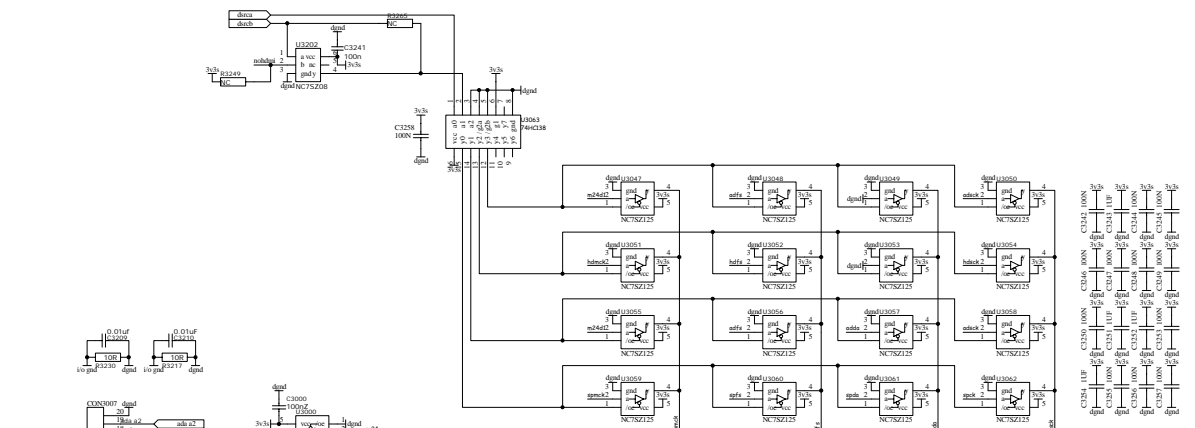
This document is subject to change without notice.

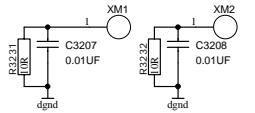
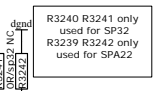
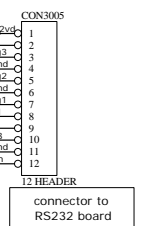
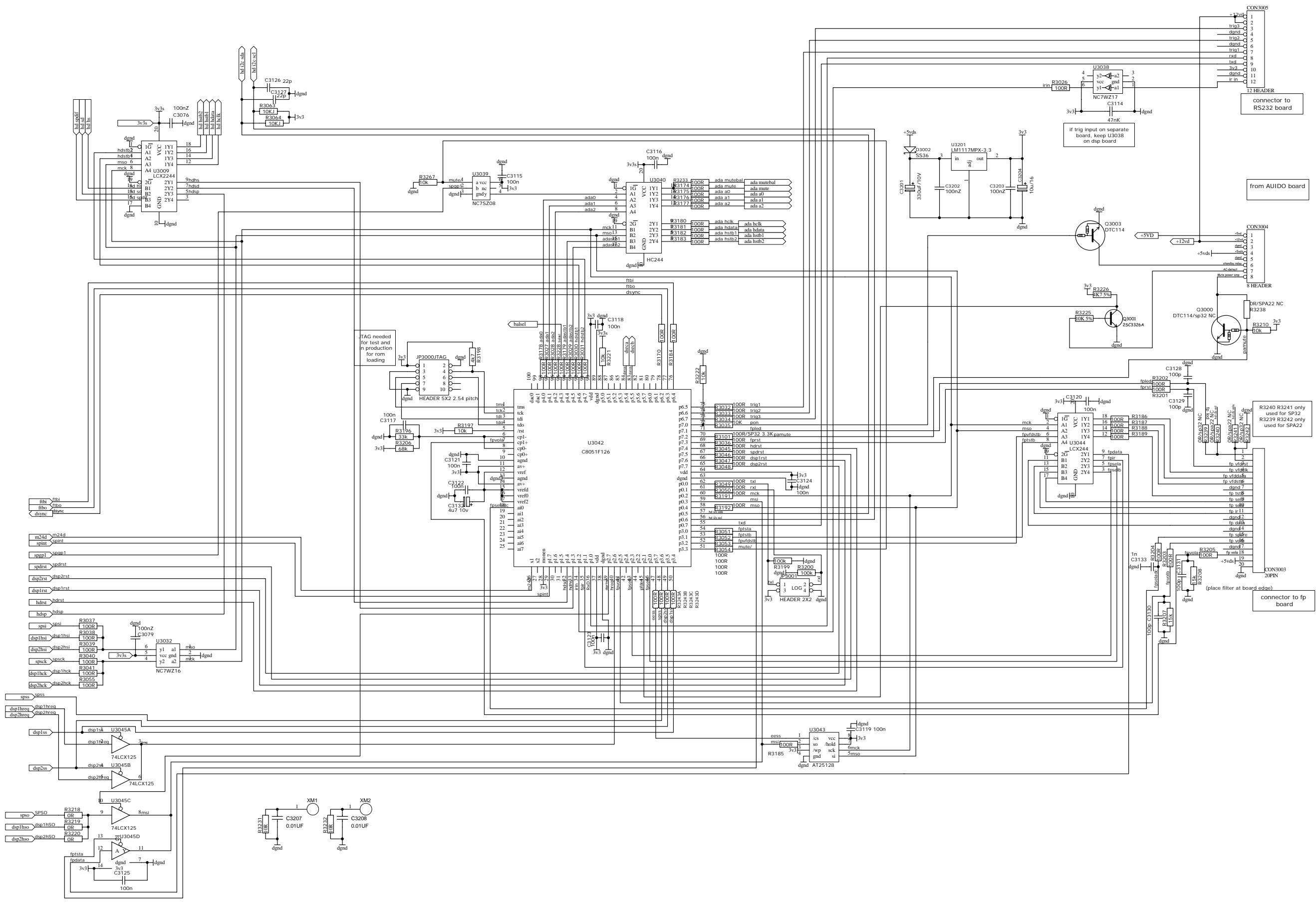
Author:

Bjorn Holmqvist

Primare AB

bjorn@primare.net



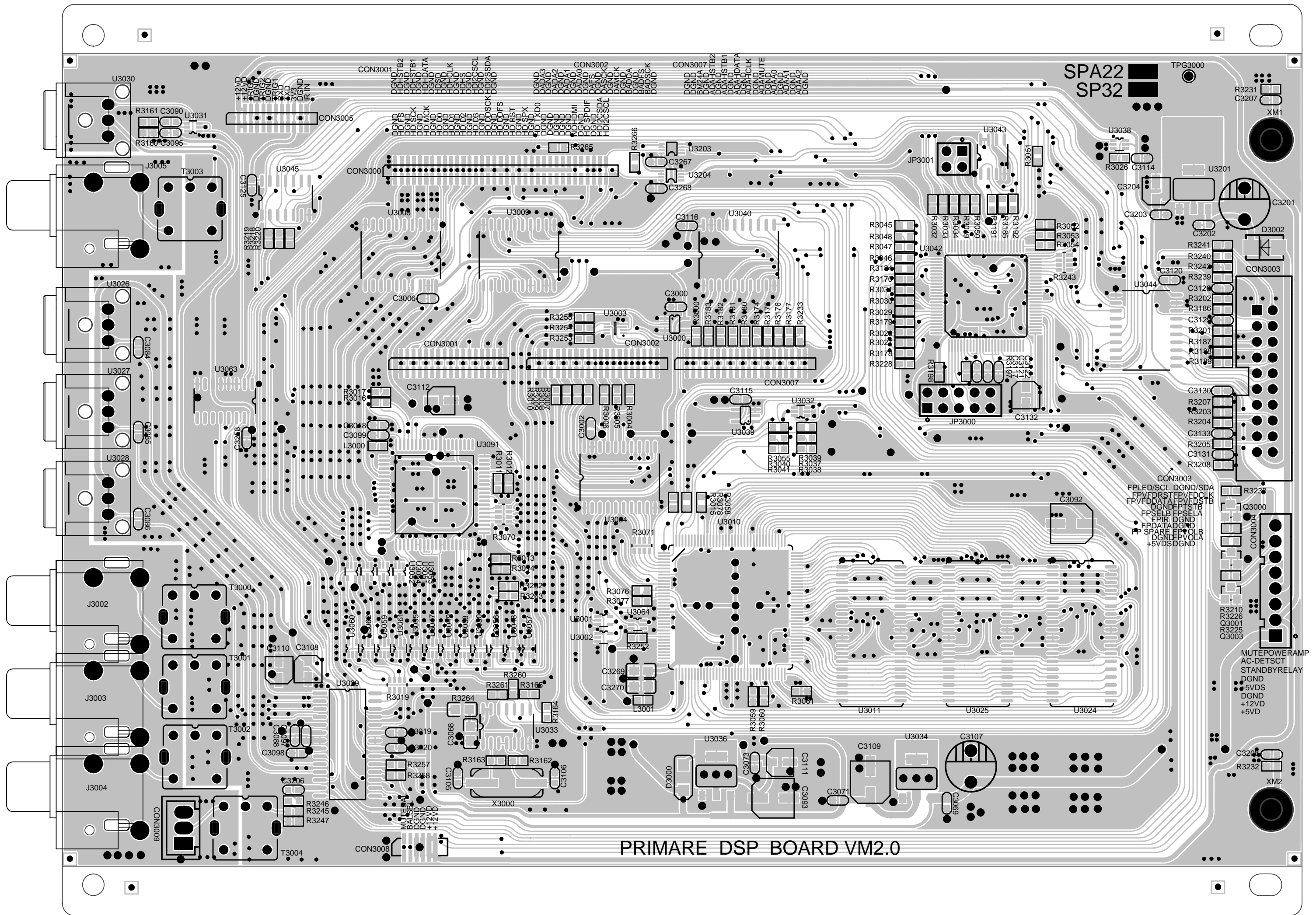


if trig input on separate board, keep U3038 on dsp board

TAG needed for test and in production for rom loading

R3240 R3241 only used for SP32
R3239 R3242 only used for SPA22

(place filter at board edge)



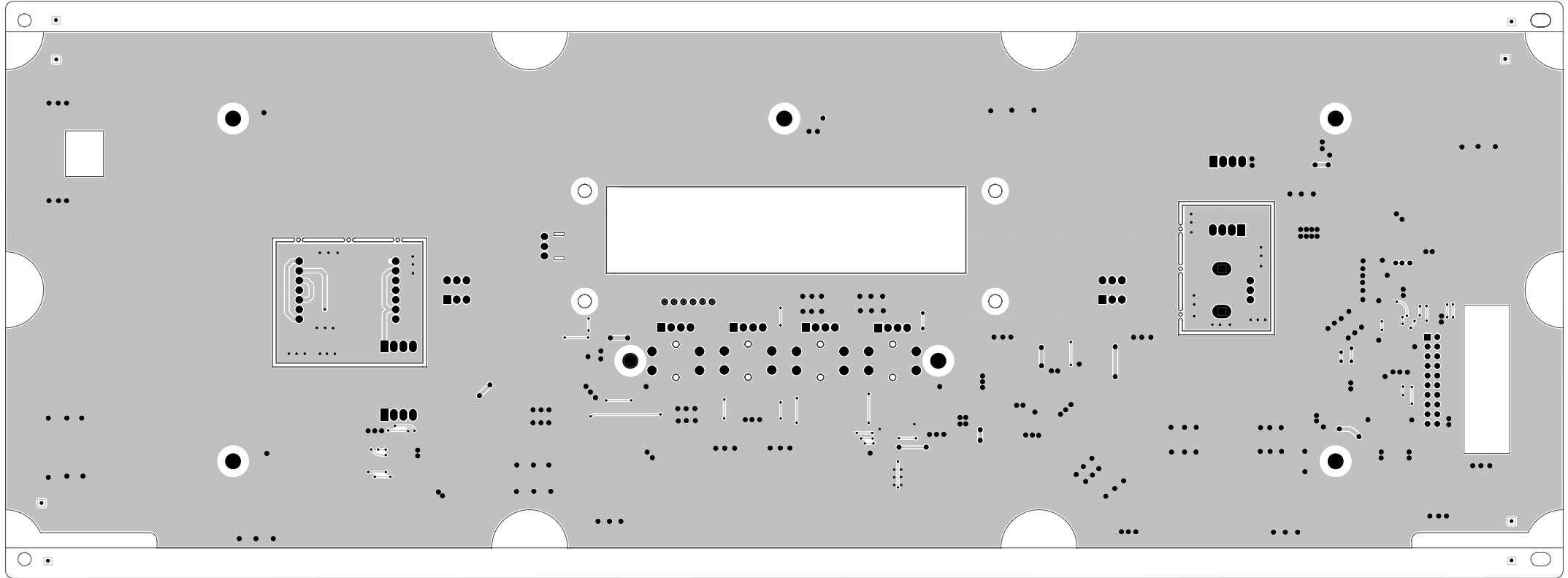
SPA22
SP32

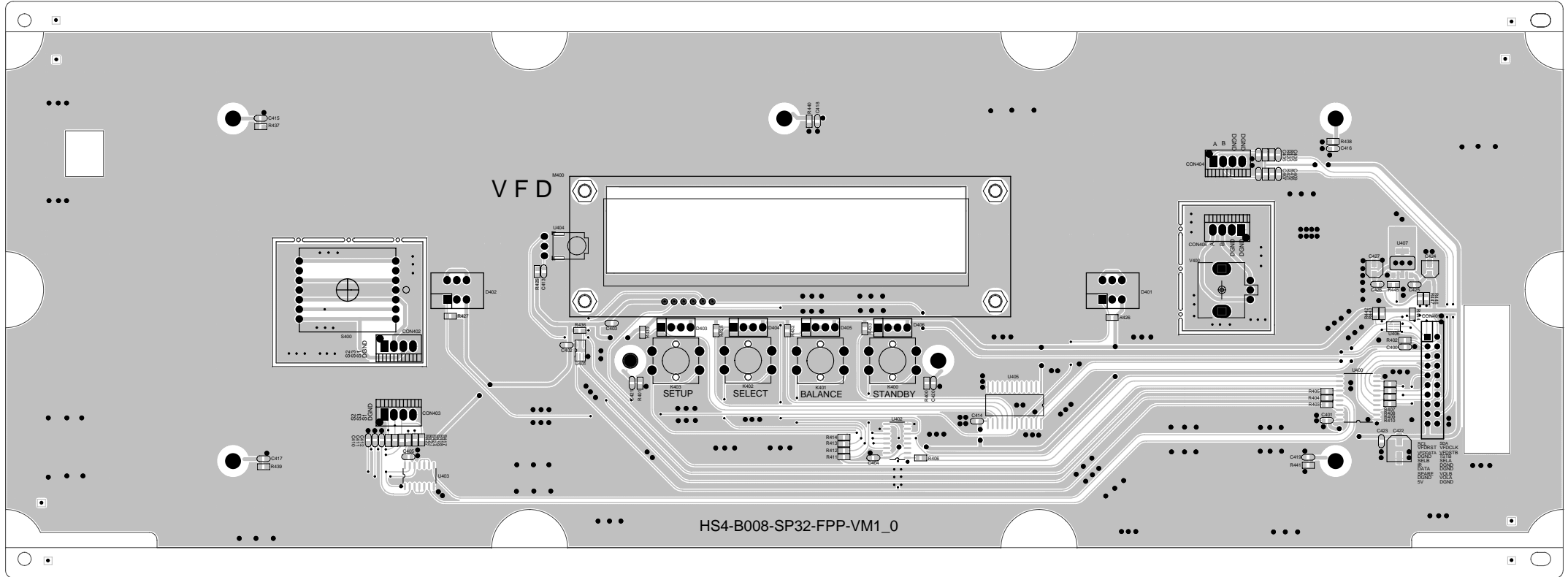
TPG3000

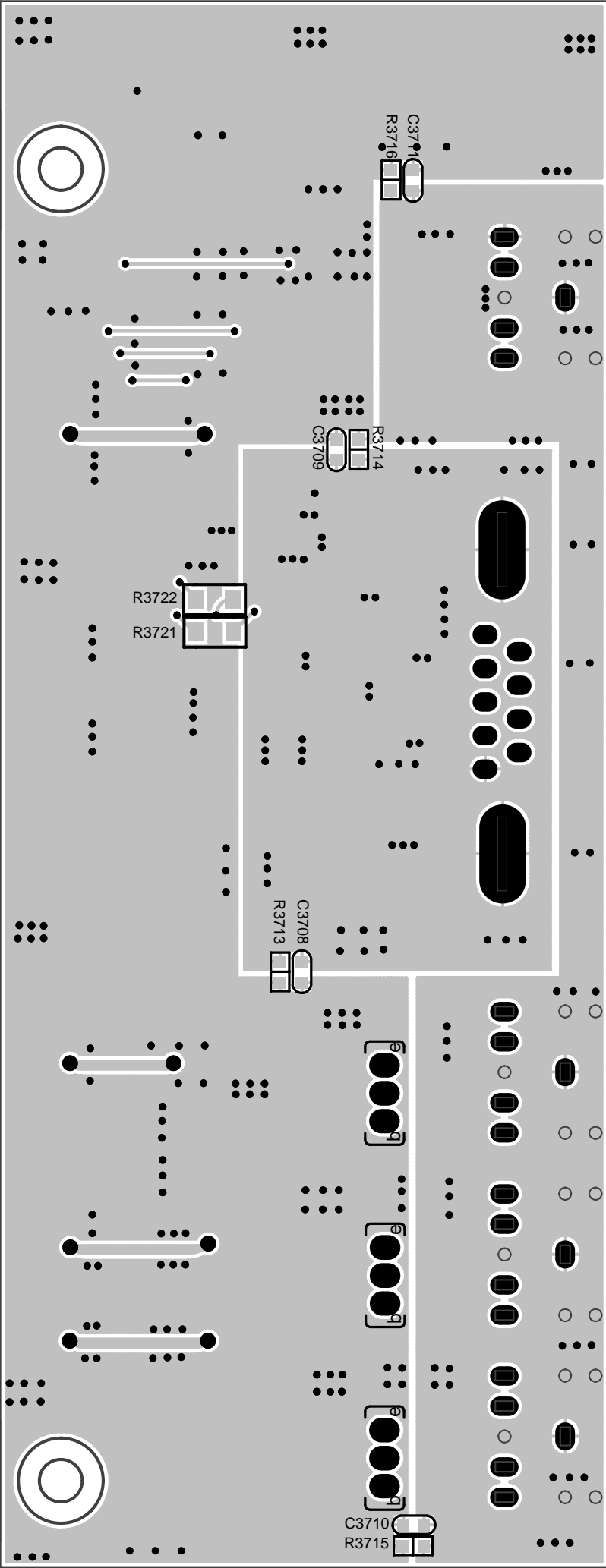
PRIMARE DSP BOARD VM2.0

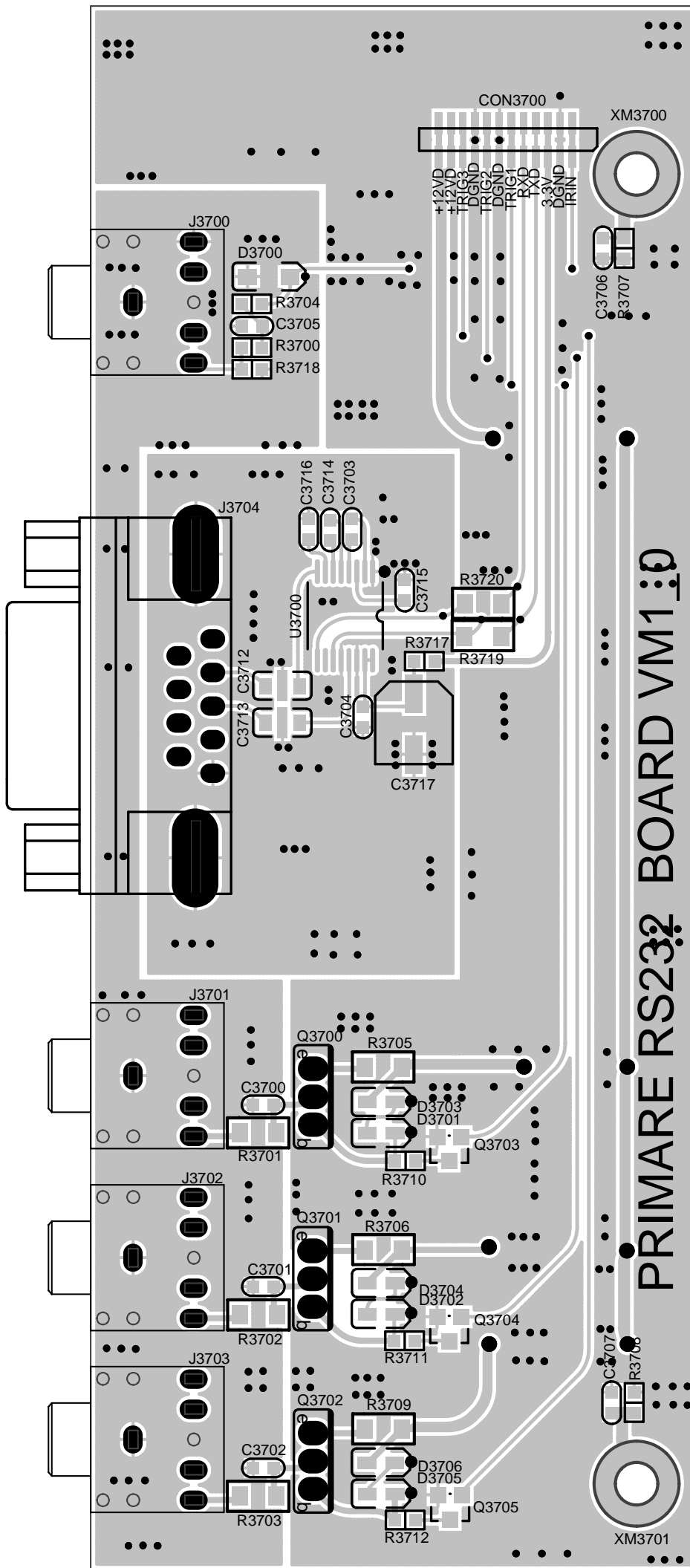
CON3003
FPLED/SCL DGN/SDA
FPVFDSTFPVFDCLK
FPVFDATAFPVFDSTB
DGNDFPTSTB
FPSELB FPSELA
FIR DGN
FPDATA DGN
FP SPARE FPOLB
DGNDFVOLA
+5VDS DGN

MUTEPOWERAMP
AC-DETSCT
STANDBYRELAY
DGN
+5VDS
DGN
+12VD
+5VD

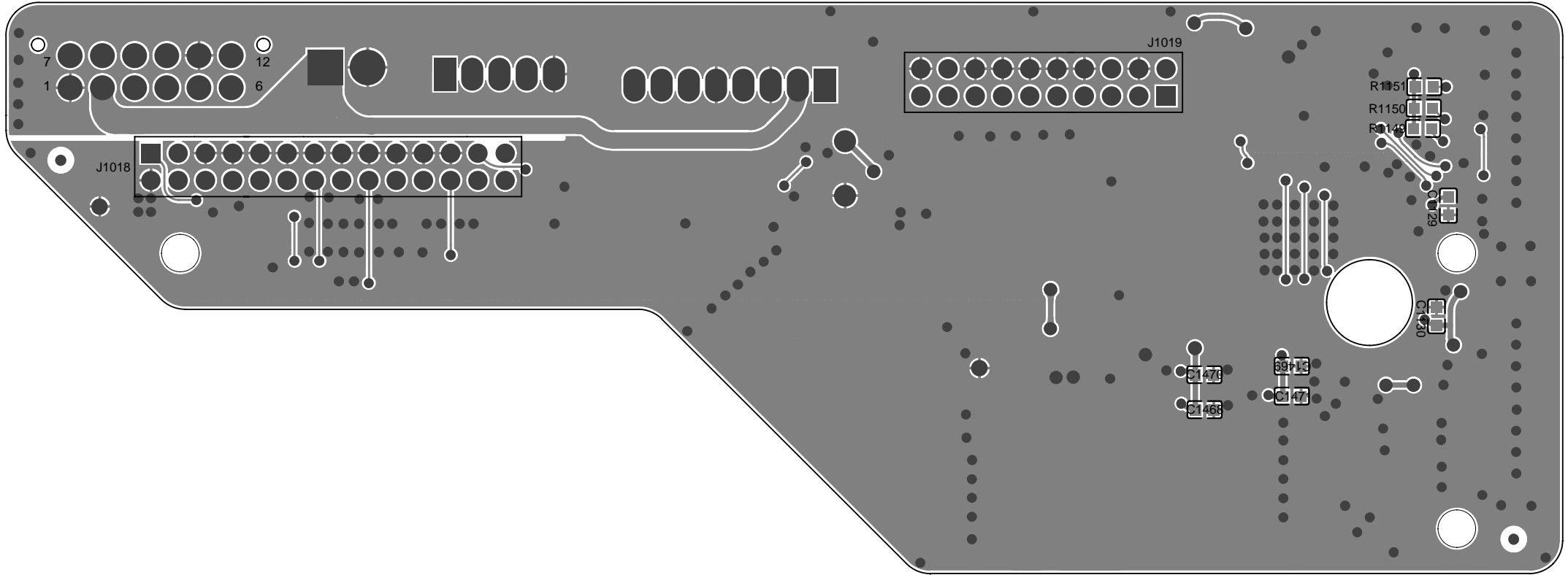








PRIMARE RS232 BOARD VM1



J1019

R1151

R1150

R1149

C129

C120

C1470

C1468

R9913

C1471

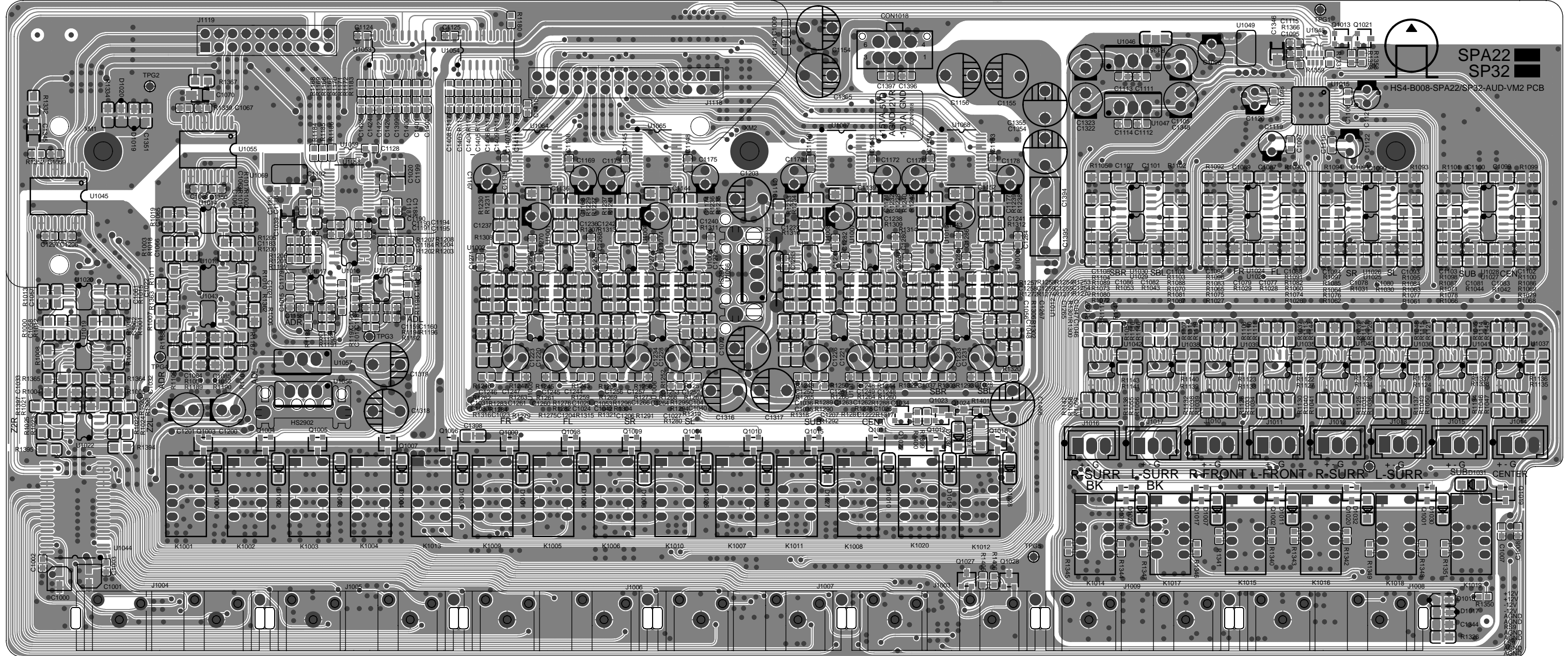
J1018

7

12

1

6

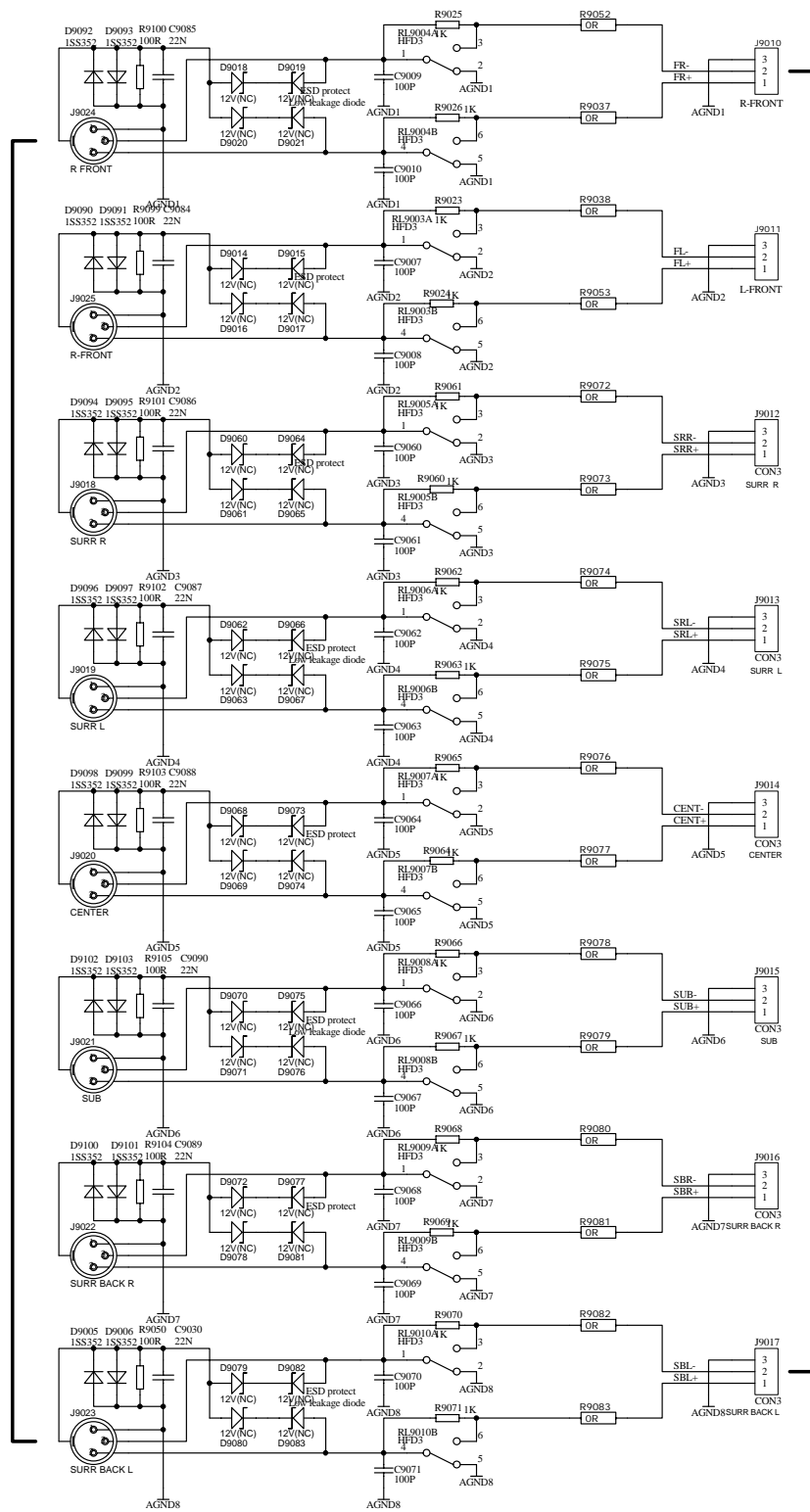


SPA22
SP32

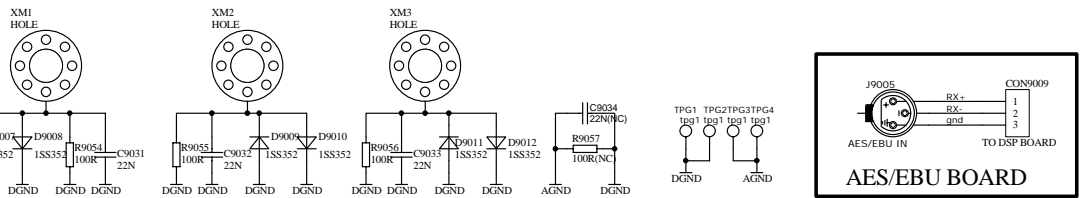
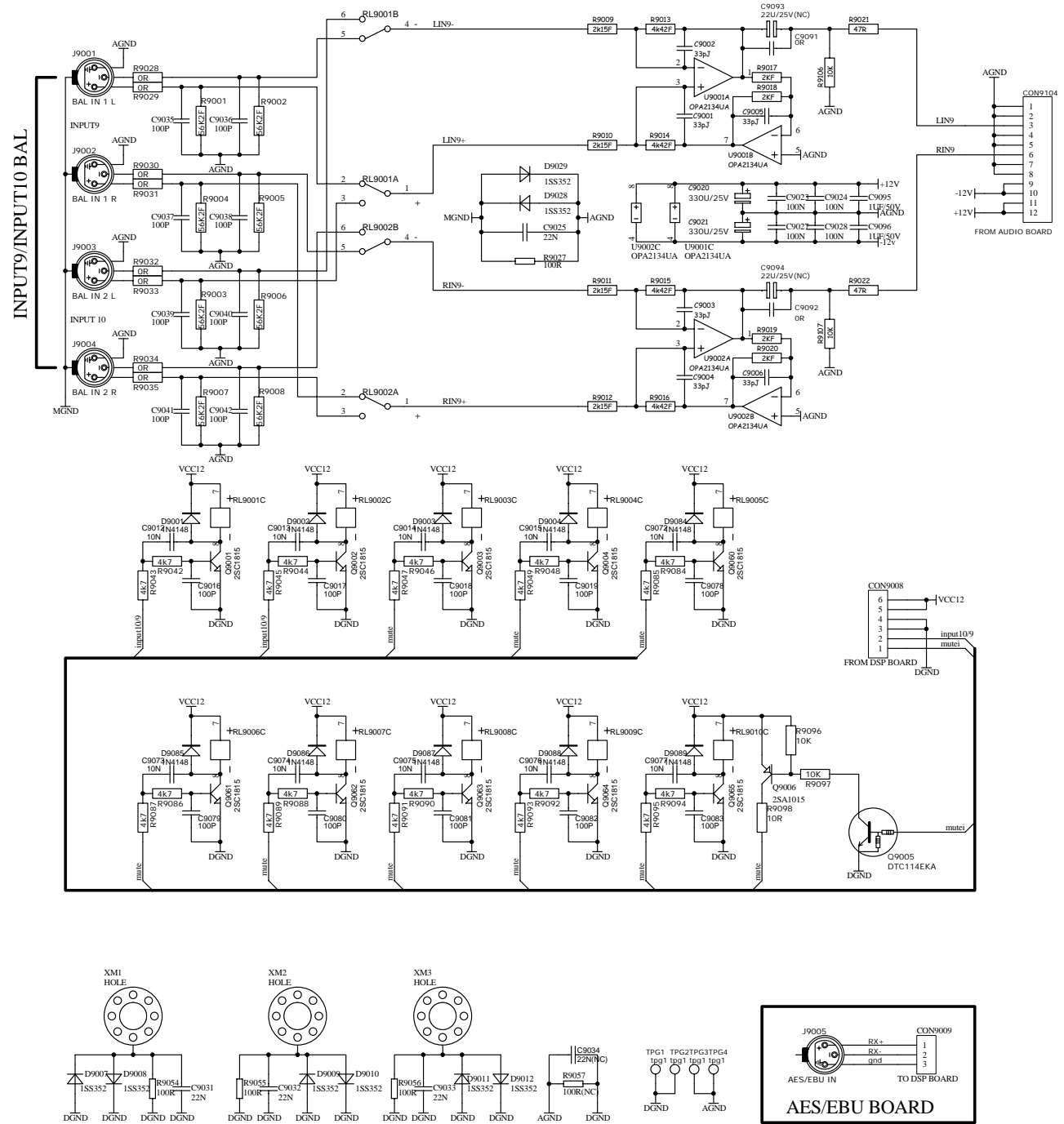
HS4-B008-SPA22/SP32-AUD-VM2 PCB

SURRE L-SURRE R-FRONT L-FRONT R-SURRE L-SURRE
BK BK

7.1 BALANCE OUTPUT



7.1 CH OUTPUT FROM AUDIO BOARD



REV.	ECN No.	DESCRIPTION	Date	APPRO.

Hansong (Nanjing) Technology Ltd.
 No.HS/QR-RD-25

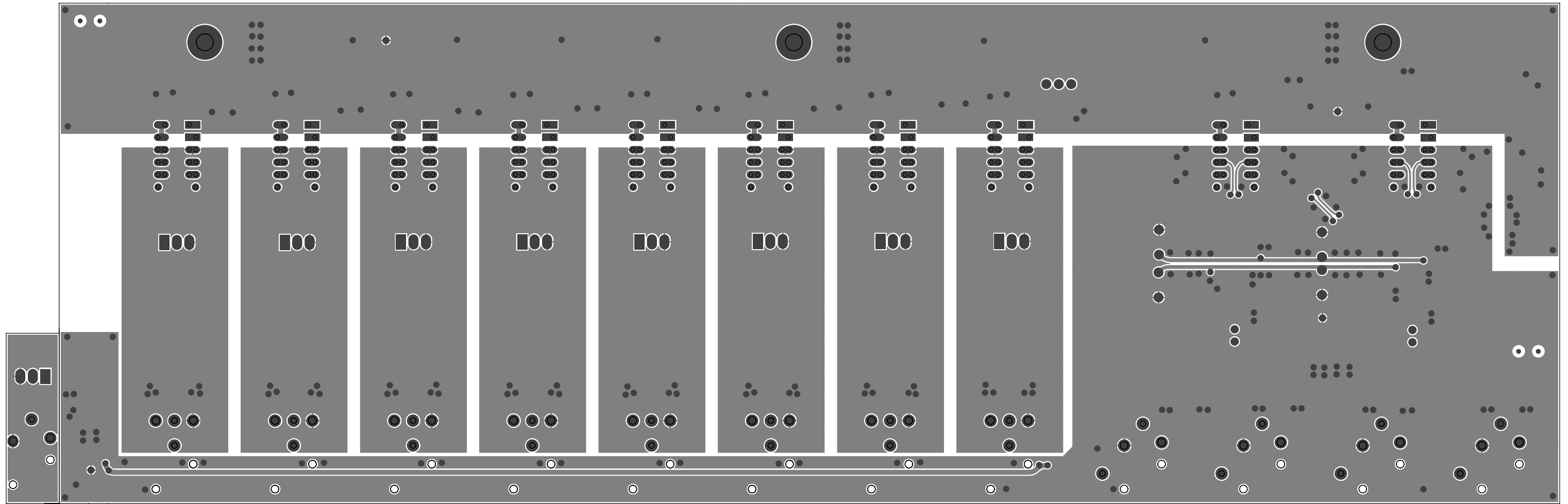
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF HANSONG TECHNOLOGY CO.,LTD. ANY REPRODUCTION IN PART OF WHOLE WITHOUT THE WRITTEN PERMISSION OF HANSONG TECHNOLOGY CO.,LTD. IS PROHIBITED

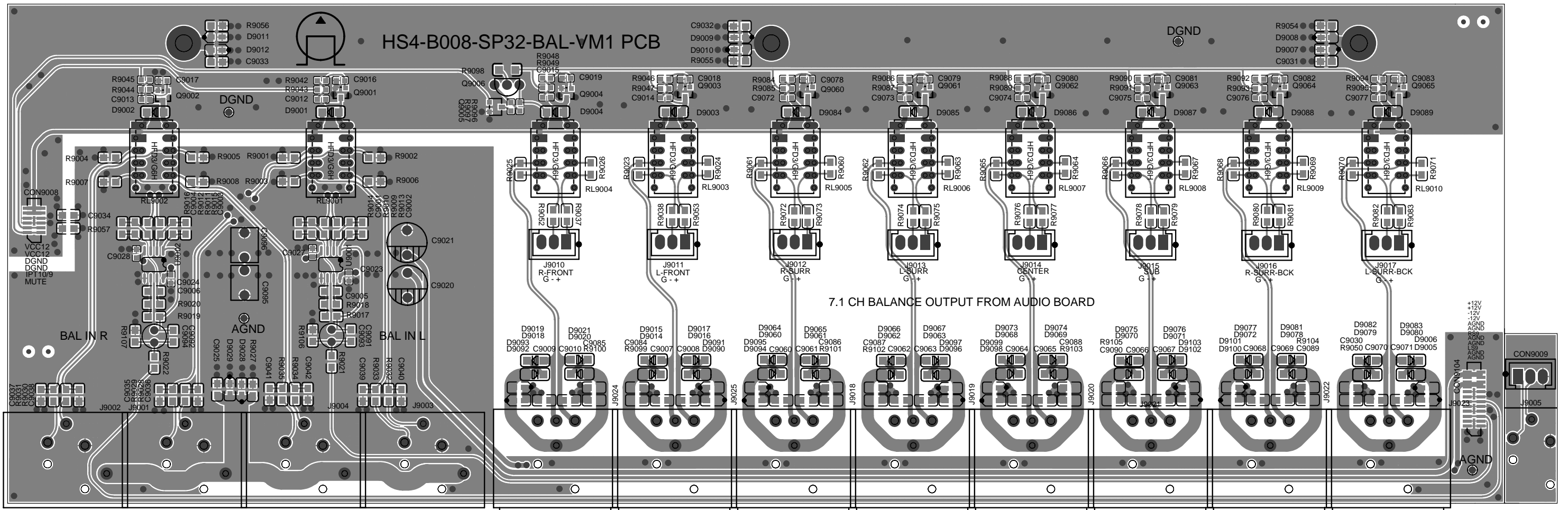
Document Number: HS40-SP32_B09 VM1-BAL.SCH Sheet: 1/1

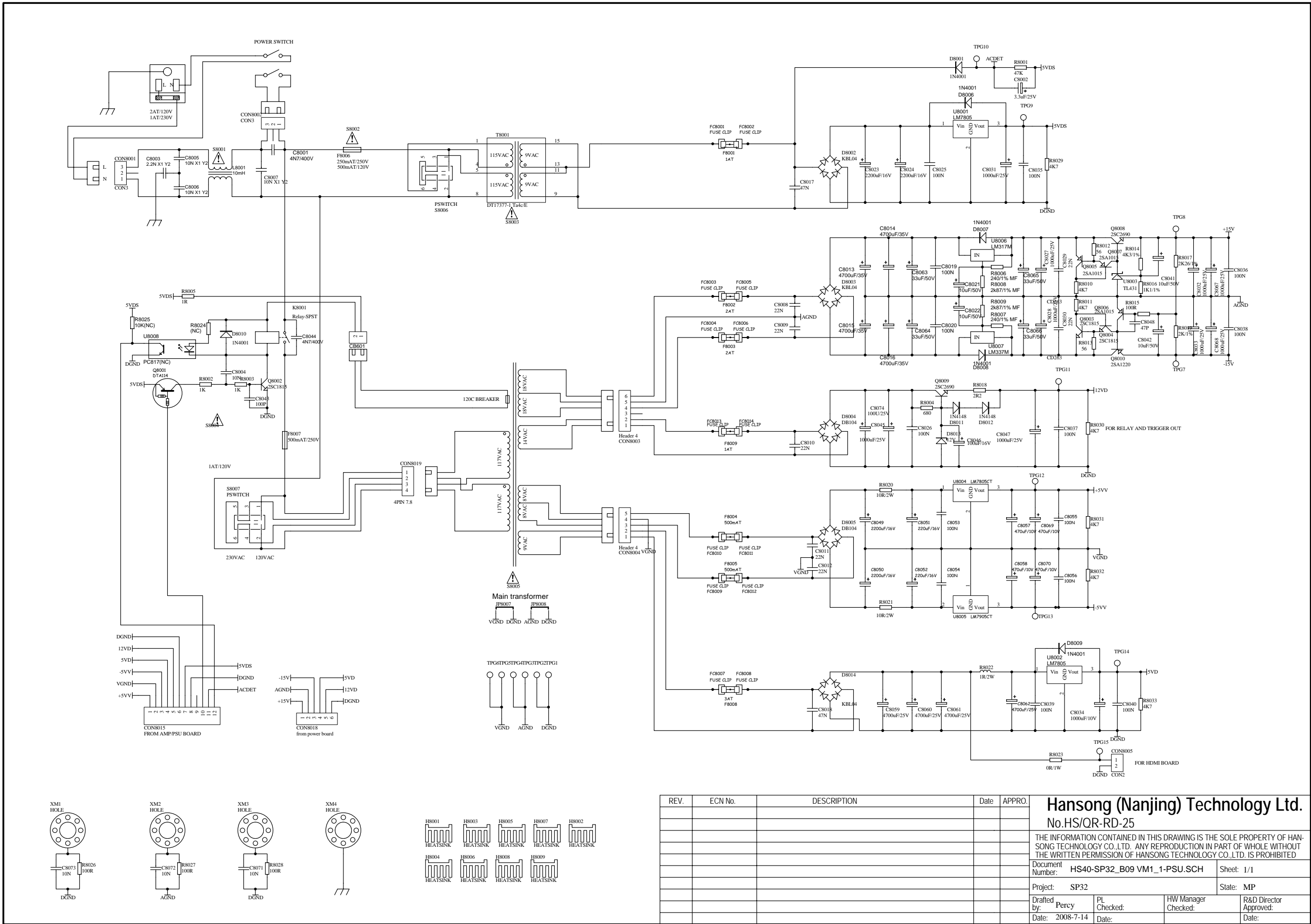
Project: SP32 State: MP

Drafted by: Percy PL Checked: HW Manager Checked: R&D Director Approved:

Date: 20080715 Date: Date: Date:







REV.	ECN No.	DESCRIPTION	Date	APPRO.

Hansong (Nanjing) Technology Ltd.
 No.HS/QR-RD-25

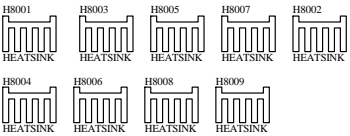
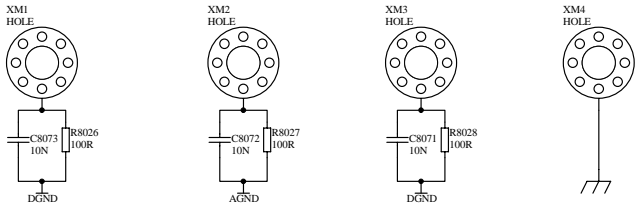
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF HANSONG TECHNOLOGY CO.,LTD. ANY REPRODUCTION IN PART OF WHOLE WITHOUT THE WRITTEN PERMISSION OF HANSONG TECHNOLOGY CO.,LTD. IS PROHIBITED

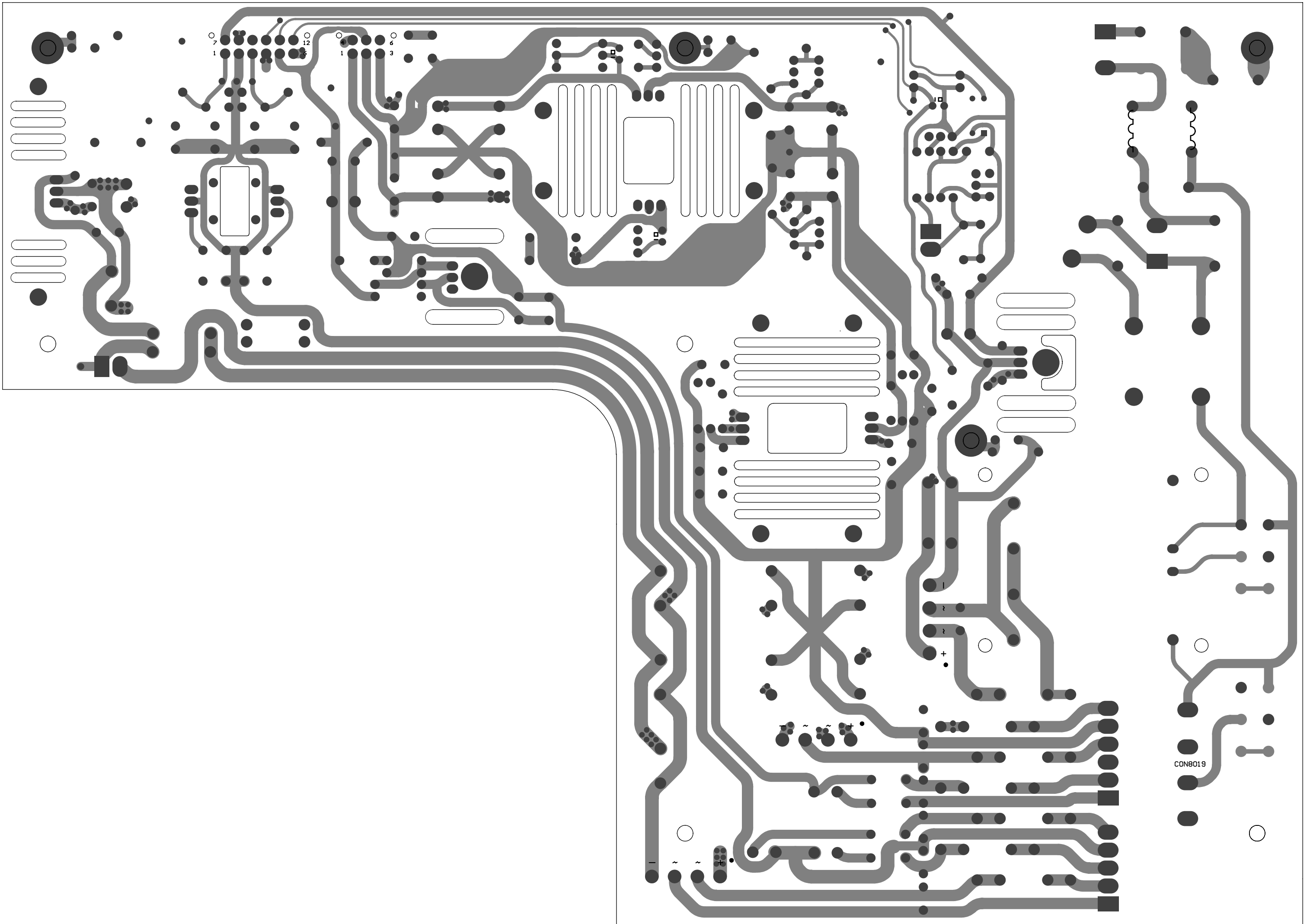
Document Number: **HS40-SP32_B09 VM1_1-PSU.SCH** Sheet: 1/1

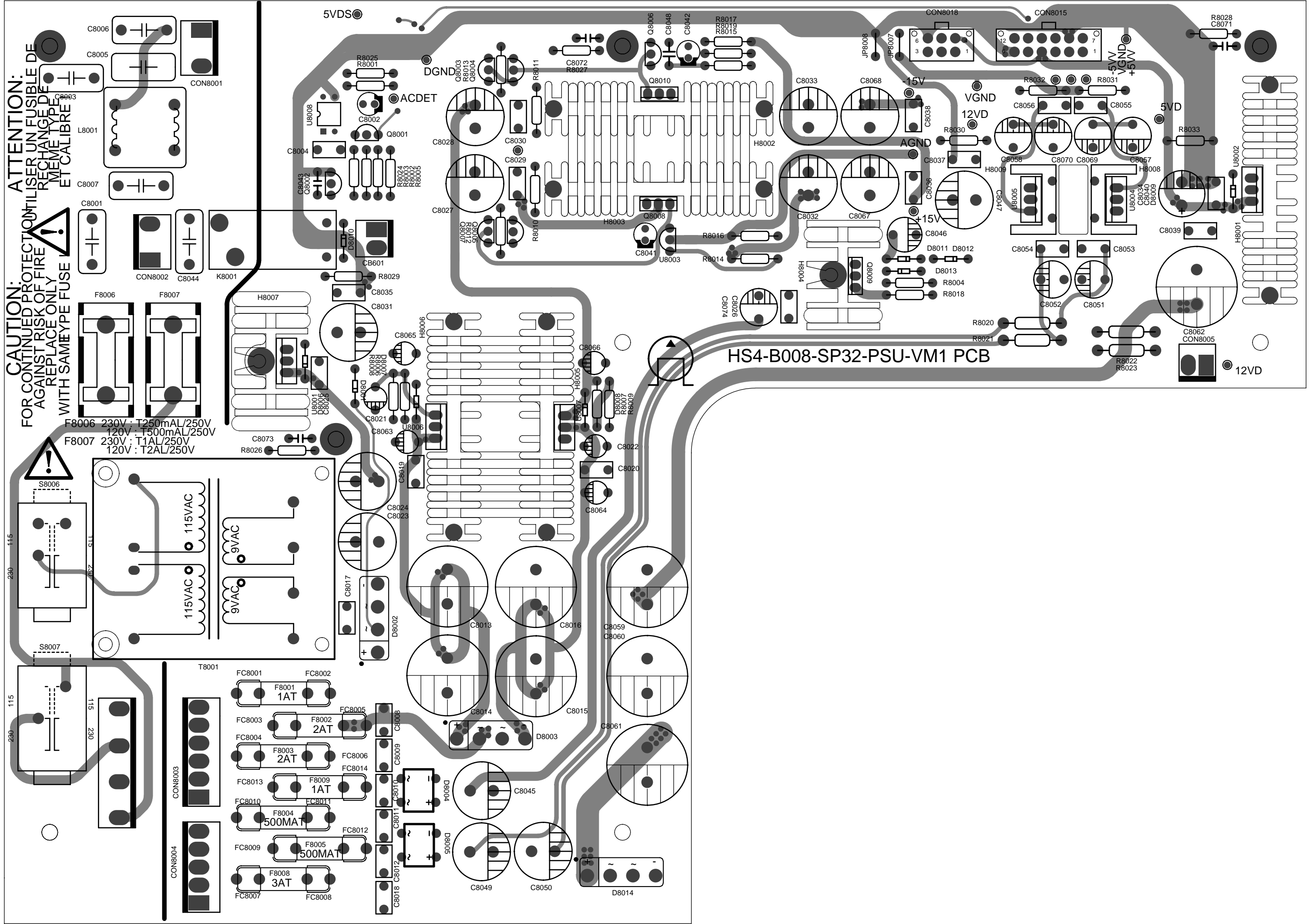
Project: **SP32** State: **MP**

Drafted by: **Percy** PL Checked: HW Manager Checked: R&D Director Approved:

Date: **2008-7-14** Date: Date: Date:





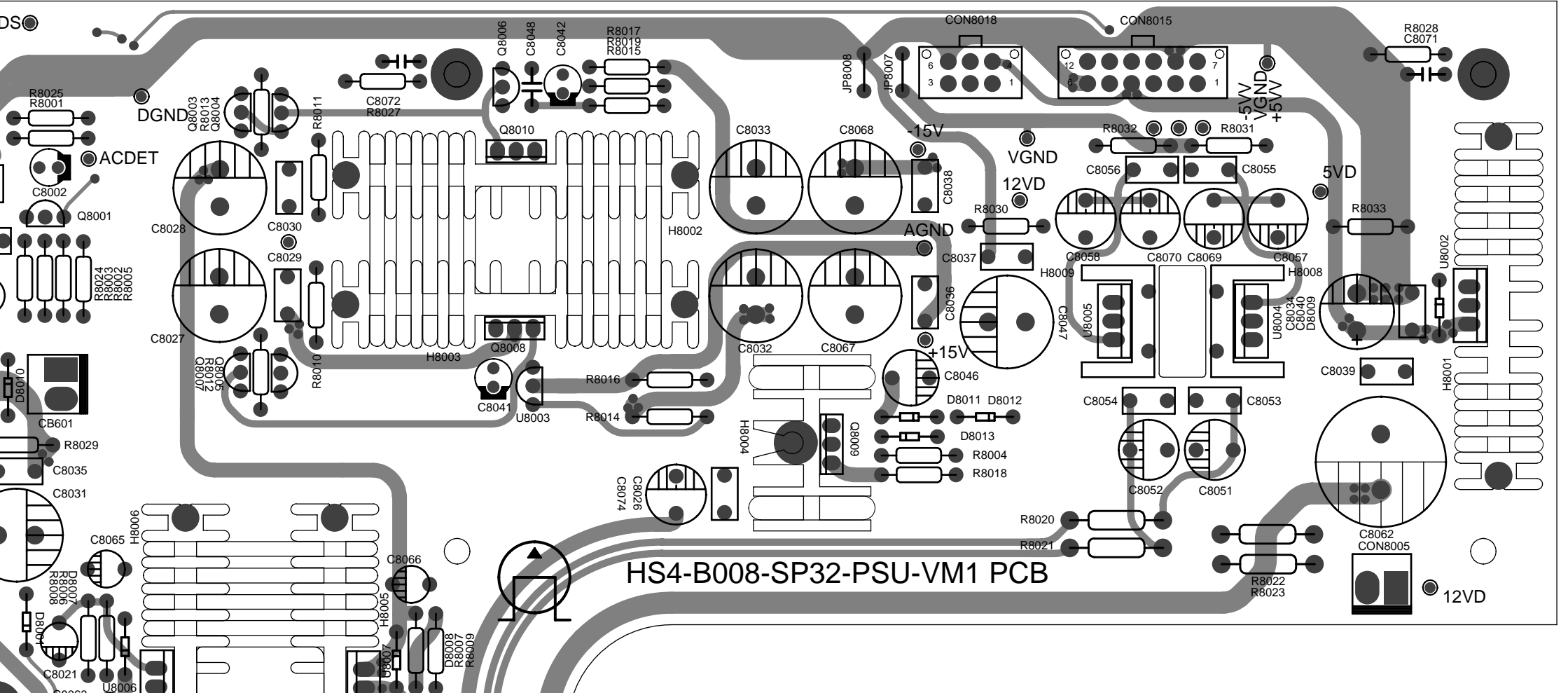
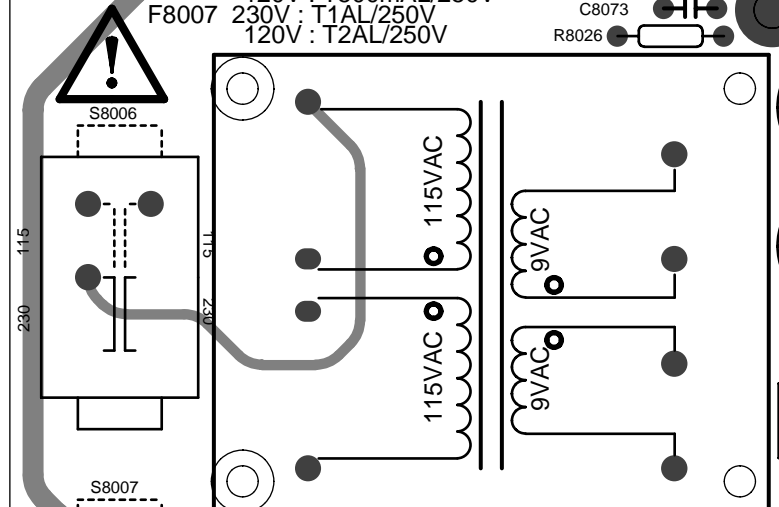
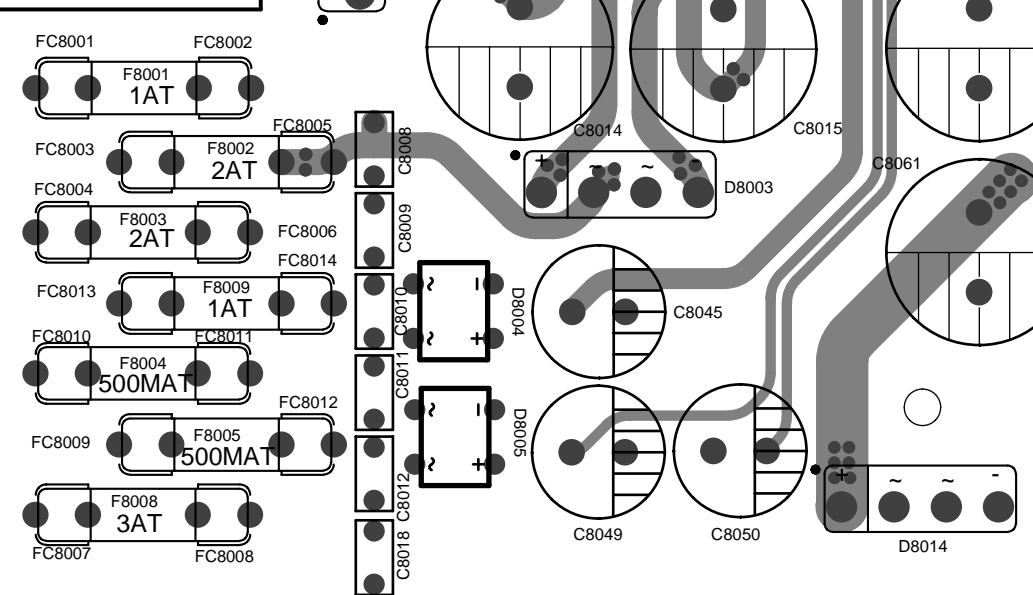
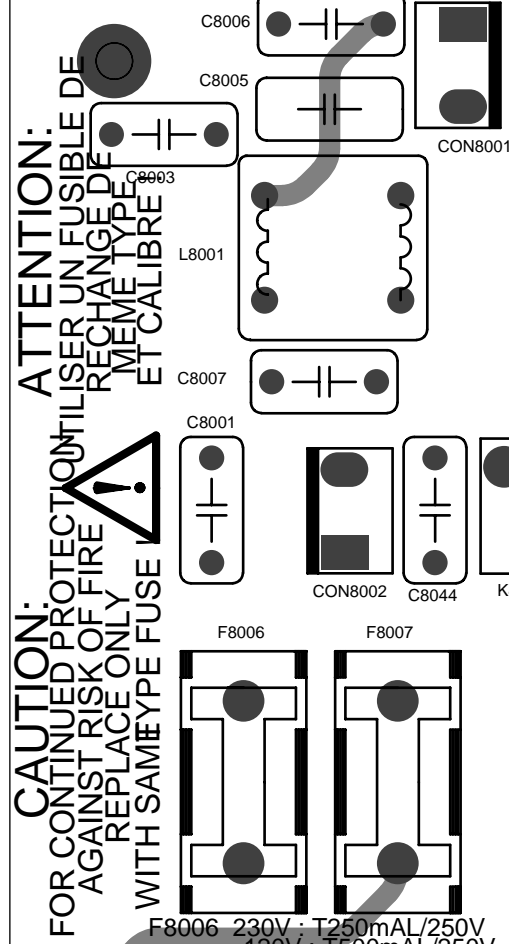


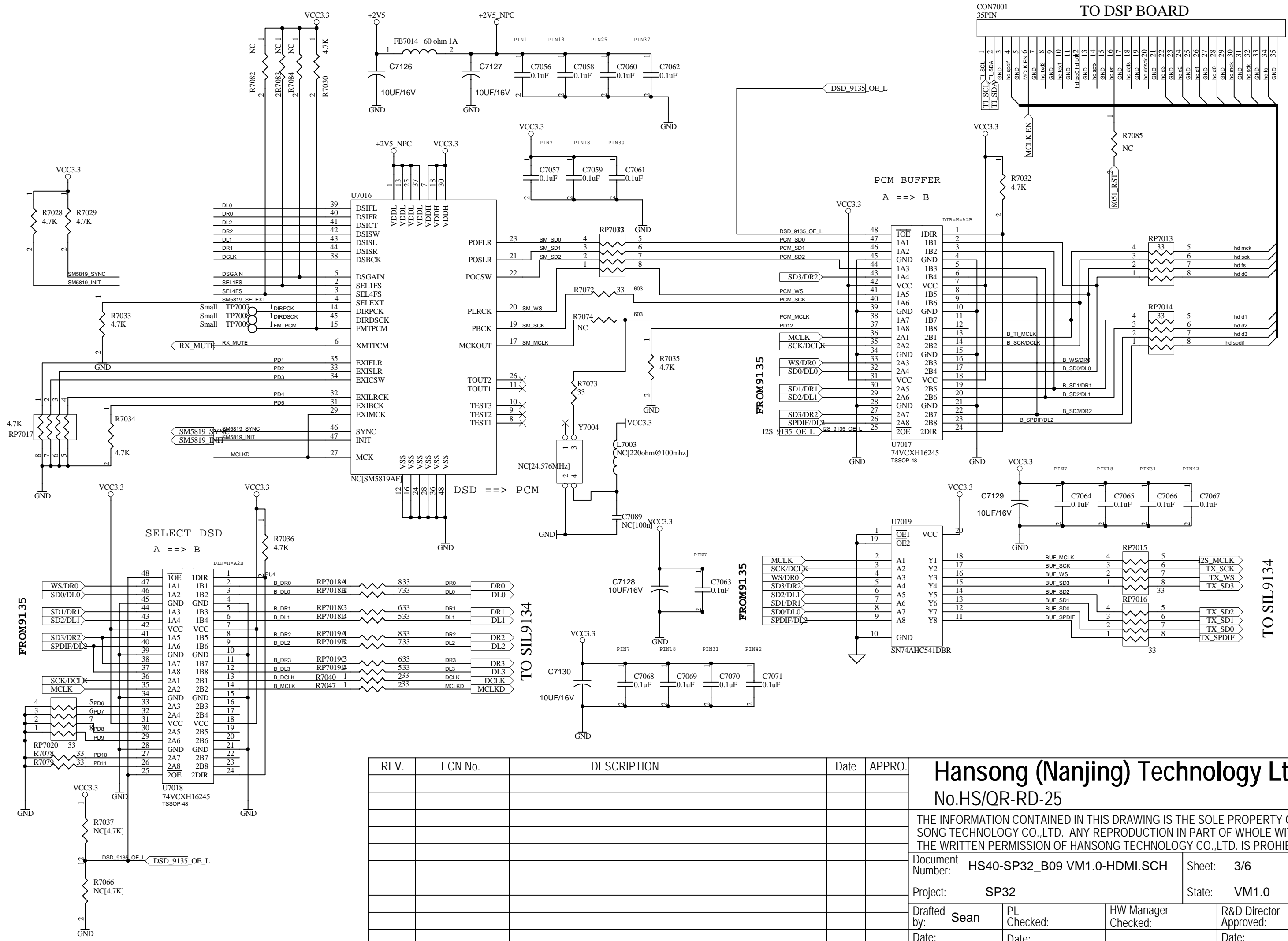
ATTENTION:
 FOR CONTINUED PROTECTION, UTILISEZ UN FUSIBLE DE RECHANGE TYPE MEME TYPE ET CALIBRE AVEC LE MEME TYPE DE FUSIBLE.

CAUTION:
 AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE FUSE.

F8006 230V : T250mA/250V
 120V : T500mA/250V
 F8007 230V : T1A/250V
 120V : T2A/250V

HS4-B008-SP32-PSU-VM1 PCB



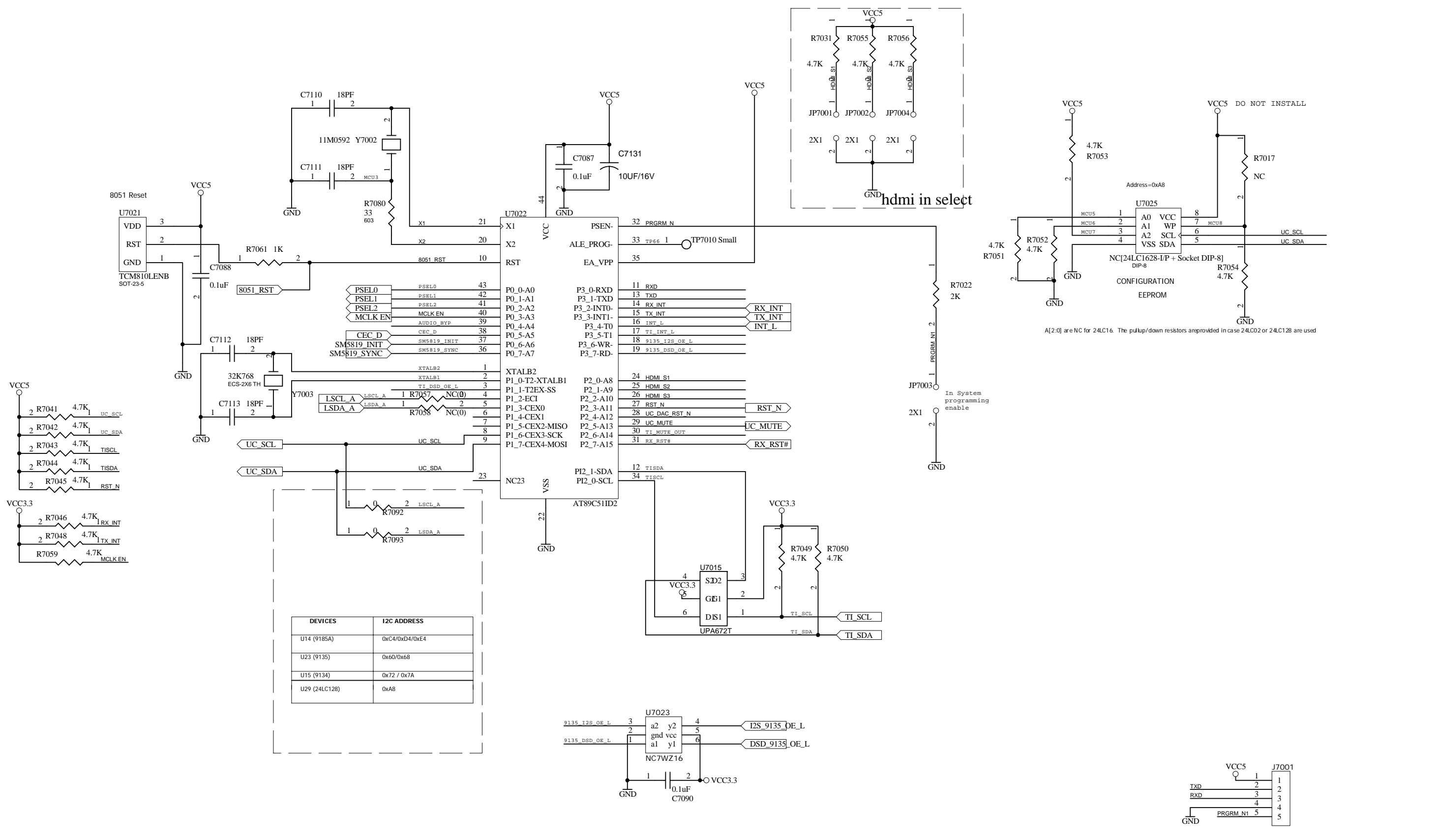


REV.	ECN No.	DESCRIPTION	Date	APPRO.

Hansong (Nanjing) Technology Ltd.
No.HS/OR-RD-25

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF HANSONG TECHNOLOGY CO.,LTD. ANY REPRODUCTION IN PART OF WHOLE WITHOUT THE WRITTEN PERMISSION OF HANSONG TECHNOLOGY CO.,LTD. IS PROHIBITED

Document Number: HS40-SP32_B09 VM1.0-HDMI.SCH	Sheet: 3/6
Project: SP32	State: VM1.0
Drafted by: Sean	PL Checked:
Date:	HW Manager Checked:
	R&D Director Approved:
	Date:



REV.	ECN No.	DESCRIPTION	Date	APPRO.

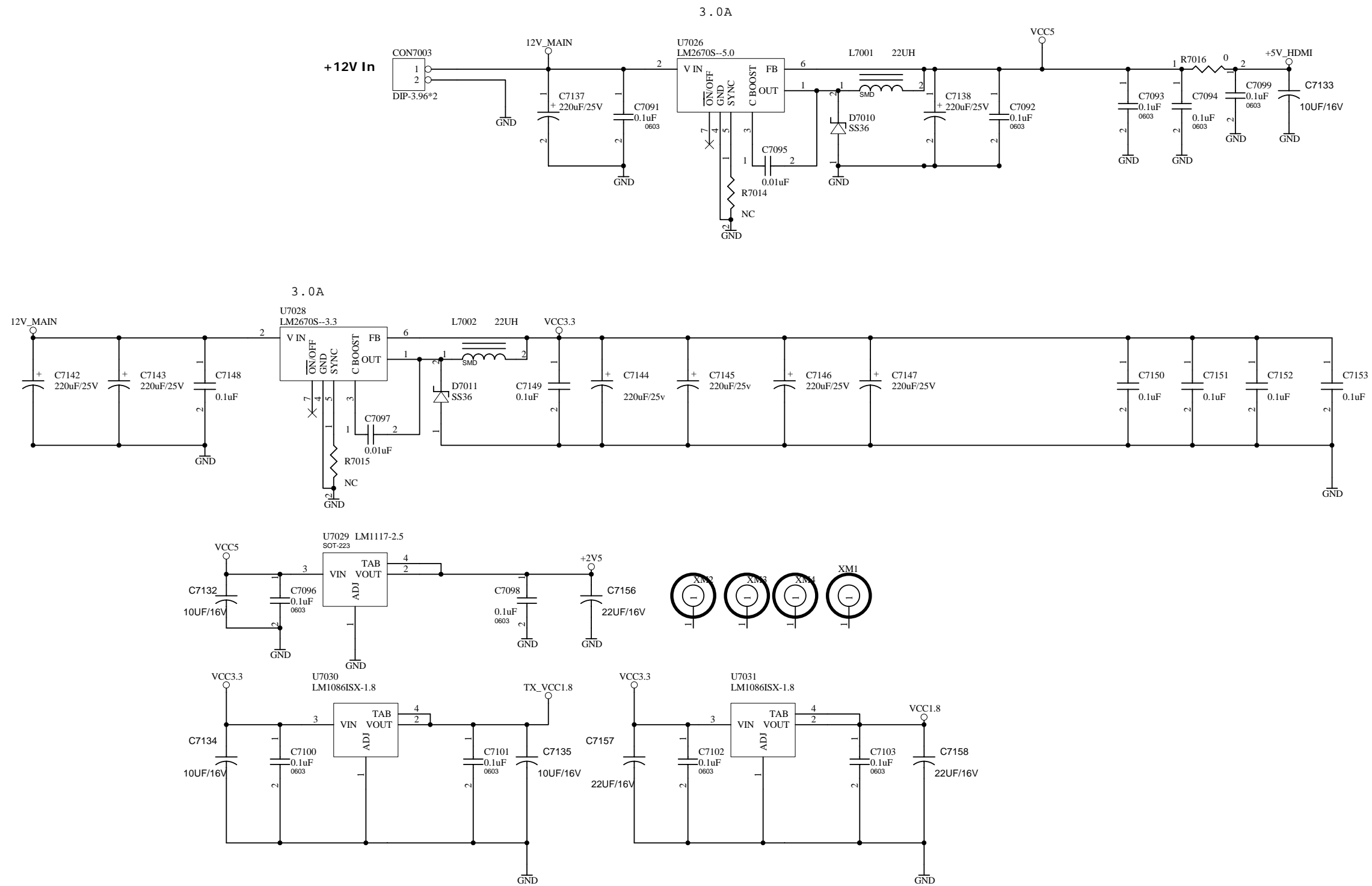
Hansong (Nanjing) Technology Ltd.
 No.HS/QR-RD-25

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF HANSONG TECHNOLOGY CO.,LTD. ANY REPRODUCTION IN PART OF WHOLE WITHOUT THE WRITTEN PERMISSION OF HANSONG TECHNOLOGY CO.,LTD. IS PROHIBITED.

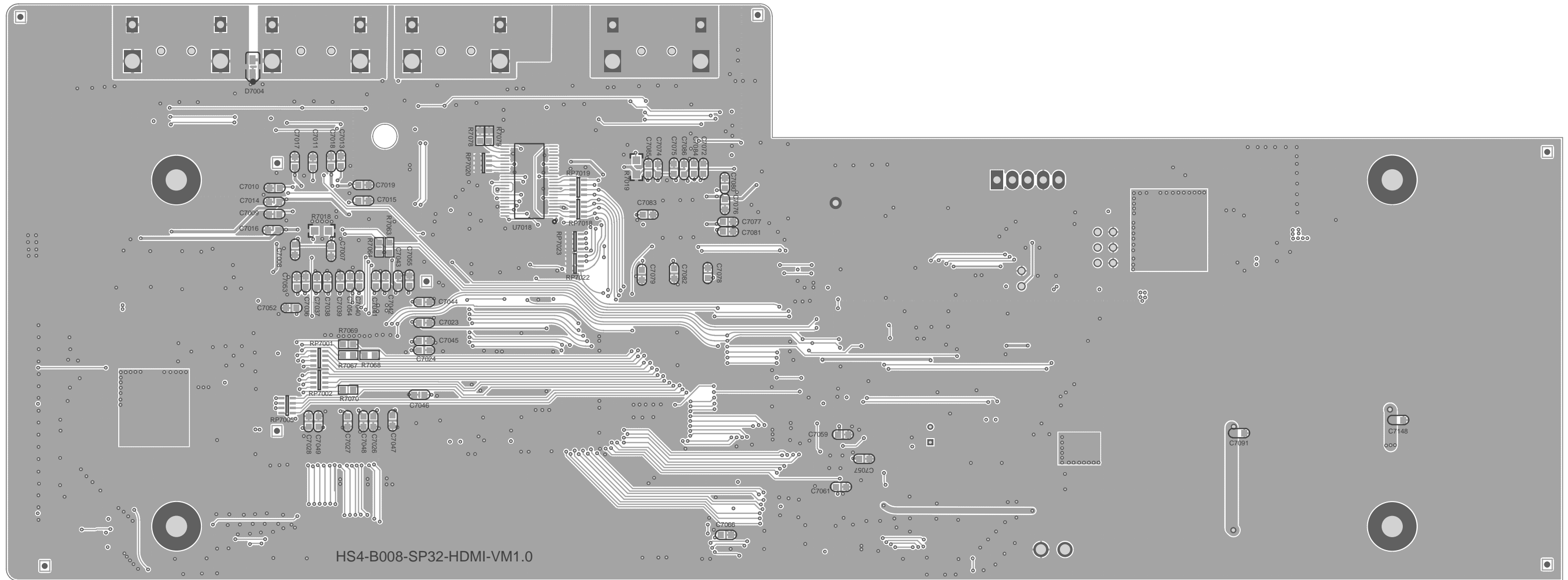
Document Number: **HS40-SP32_B09 VM1.0-HDMI.SCH** Sheet: **5/6**

Project: **SP32** State: **VM1.0**

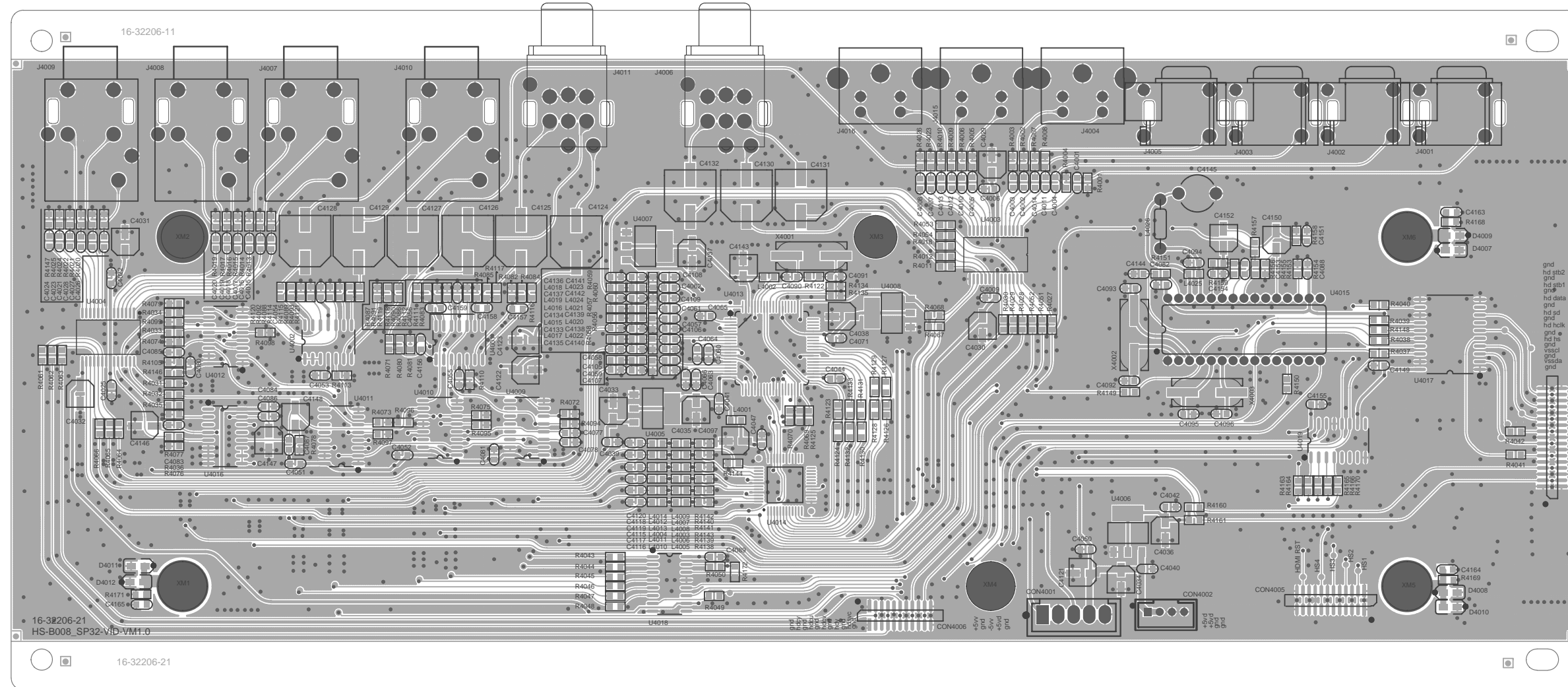
Drafted by: **Sean** PL Checked: HW Manager Checked: R&D Director Approved:
 Date: Date: Date:



REV.	ECN No.	DESCRIPTION	Date	APPRO.	Hansong (Nanjing) Technology Ltd. No.HS/QR-RD-25			
					THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF HANSONG TECHNOLOGY CO.,LTD. ANY REPRODUCTION IN PART OF WHOLE WITHOUT THE WRITTEN PERMISSION OF HANSONG TECHNOLOGY CO.,LTD. IS PROHIBITED			
					Document Number: HS40-SP32_B09 VM1.0-HDMI.SCH	Sheet: 6/6		
					Project: SP32	State: VM1.0		
					Drafted by: Sean	PL Checked:	HW Manager Checked:	R&D Director Approved:
					Date:	Date:		Date:



HS4-B008-SP32-HDMI-VM1.0



REV.	ECN No.	DESCRIPTION	Date	APPRO.

Hansong (Nanjing) Technology Ltd.
No.HS/QR-RD-24

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF HANSONG TECHNOLOGY CO., LTD. ANY REPRODUCTION IN PART OR WHOLE WITHOUT WRITTEN PERMISSION OF HANSONG TECHNOLOGY CO., LTD. IS PROHIBITED.

Document Number :	HS40-SP32_B10 VM1.0-VIDEO.PCB	Sheet :	1/1
Project :	SP32	State :	VM1.0
Draft by :	Sean	PL Checked :	
Date :		HW Manager Checked :	
		R&D Director Approved :	
		Date :	

SP32 surround Sound Processor

The SP32 is Primare's new flagship for home theatre. Equipped with the latest sound and video processing, its modular upgradable design will allow the SP32 to remain at the leading edge of technological advance, while timeless understated Scandinavian styling will keep the SP32 looking beautiful throughout its long life. Featuring full RS-232 control, comprehensive video switching via 1.3 compliant HDMI, on-screen menus on all analogue video outputs and balanced inputs and outputs, the SP32 will provide Primare quality, performance and design for movie purists everywhere .

Technical Specifications

<u>General</u>		<u>Video</u>	
Analogue Inputs	2 Balanced, 8 RCA, incl 7.1 inputs		10 bit digital video conversion system supporting NTSC/PAL, Component, S-video and Composite, with OSD.
Digital Inputs	1 Balanced, 3 RCA, 3 TOS-Link		
Video Inputs	3 HDMI, 3 Component, 3 S-Video, 4 Composite	Other out-/inputs	1 IR Input 3 12v outputs (triggers) 1 RS232
Balanced Analogue outputs	Front (left and right) Center, Sub, Surr (left and right) Surr back (left and right)	Power Consumption operate:	<60W
Analogue Outputs	Front (left and right) Center, Sub, Surr (left and right) Surr back (left and right)	Power consumption Standby:	<5W
Analogue Record Output	1 RCA (left and right)	<u>Analog Data</u>	
Analog Zone2 Output	1 RCA (left and right)	THD	<0.005%, 20 Hz-20kHz
Digital Output	1 RCA, 1TOS-Link	Signal-to-Noise	-110 dB
Video Output	1 HDMI, 1 Component, 1 S-Video, 1 Composite	Frequency Response	10 Hz-100 kHz, 1dB
Video Output Zone2	1 S-Video,1 Composite	Input Impedance	47 K Ω , unbalanced
Modes	Stereo Bypass Party Dolby Prologic IIx Music Dolby Prologic IIx Moive DTS NEO:6 MUSIC DTS NEO:6 CINEMA	Input Impedance	3 K Ω , balanced
Decoding Formats	Dolby Digital Dolby Digital EX Dolby Prologic II Dolby Prologic IIx DTS DTS ES DTS Neo:6 DTS 96/24 MULTI/2 CH PCM/LPCM	Output Impedance	47 R unbalanced 47R Balanced
Sampling rates	32KHz,44.1KHz,48KHz, 88.2KHz,96KHz,192KHz (AES/EBU)	<u>Digital Data</u>	
		Frequency Response	20 Hz-20 kHz \pm 0.2dB
		THD+Noise	0,005% @1 kHz(AES17 filter)
		Dimensions (WxDxH)	430 x 385 x 180 mm
		Weight	12 Kg

All specifications may be subject to change without further notice