

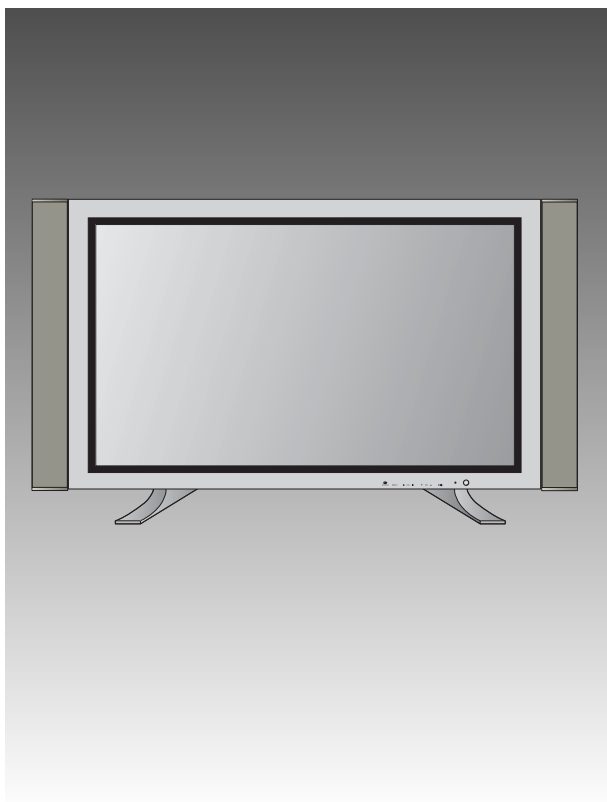


PLASMA DISPLAY TV

Chassis : D62B
Model: PPM50H3QX/EDC

SERVICE Manual

PLASMA DISPLAY TV



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1. Specifications

MODEL		PPM50H3Q
Dimensions	Display	1204.6(W) x 79(D) x 7245(H) mm / 47.43(W) x 3.11(D) x 28.5(H) inches
Weight	Display	43 Kg (without stand)
Screen Size		50 Inches
Voltage		AC 120V, 60Hz / AC 100-250V, 50/60Hz
Power Consumption		490 Watts
Number of Pixels		1366(H) X 768(V)
External Control		RS-232C IN(Mini jack), RS-232C OUT(D-SUB 9P)
AUDIO Input		VIDEO / S-VIDEO COMPONENT 1 COMPONENT 2 RGB(PC) 1/2 DVI
AUDIO Output		External Speaker (10W+10W) Audio Output (L/R RCA)
VIDEO Input		VIDEO S-VIDEO COMPONENT 1 - 480i / 480p / 720p / 1080i COMPONENT 2/RGB2(PC) IN (BNC, 5P, 480i~1080i, VGA~XGA) RGB1(PC1) - D-SUB 15P DVI
VIDEO Output		Monitor Output (RCA)

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2. Alignment and Adjustments

2-1 Service Mode

2-1-1 SERVICE MODE Entry Method (General Transmitter)

■ For the General Transmitter

1. Turn the power off and set to stand-by mode.
2. Press the buttons of the transmitter in this order; Info-Menu-Mute-Power or Mute-1-8-2-power to turn the set on.
3. The set turns on and enters service mode.

* If you fail to enter service mode, repeat steps 1 and 2 above.

2-1-2 Initial DISPLAY State of SERVICE MODE

2-1-2(A) OSD DISPLAY

SERVICE MAIN	
1. VSP9437-1	9. CXA2101
2. VSP9437-2	10. LOGIC
3. FLI2300	11. TP LOG-ASI
4. ASI500-1	12. Option
5. ASI500-2	13. CheckSum 0000
6. DNle	14. Reset
7. AD9888	
8. CXA2151	
Release : 2003-07-12 T_NEW 50MWW_1001	

2-1-2(B) Button Operations in SERVICE MODE

Menu	Displays all menus
UP / DOWN Key	Cursor move to select items
LEFT / RIGHT Key	Enable to increase and decrease the data of the selected items

2-1-3 Factory Data Initial Value

VSP9437-1(Video)				VSP9437-2(Video)	
V PEAKING	16	PAL 60	27	V PEAKING	16
HPLL SPEED	00	PAL M	01	HPLL SPEED	00
RGB/YUV CONT	36	PAL	01	PAL	01
RGB/YUV BRIGHT	00	SECAM	27	SECAM	27
YUV SATCB	26	NTSC	01	NTSC	01
YUV SATCR	26	NTSC 4.43	27	PAL AV	01
PAL B/G	01	PAL 60	27	SECAM AV	27
PAL D/K	01	NR	01	NTSC AV	01
PAL I	01				
SECAM B/G	27				
SECAM D/K	27				
SECAM L'/L	27				
NTSC M	01				
NTSC 4.43	27				
FLI2300		ASI500 (Video/PC,DVI)			
Y DELAY	05	R CONTRAST	32/30	FILTER YPASS	0
C DELAY	12	G CONTRAST	32/30	R GAMMA	32
CONTRAST	95	B CONTRAST	32/30	G GAMMA	32
BRIGHTNESS	185	R BRIGHTNESS	0	B GAMMA	32
SATURATION	110	G BRIGHTNESS	0	H POSITION	0
		B BRIGHTNESS	0	V POSITION	0
		TEXT ALPHA	1	H SIZE	0
		TEXT THRESHOLD	7	V SIZE	0
		FILTER ML	0	OVERSCAN R	50
		FILTER MR	0	OVERSCAN G	50
		FILTER FR	0	OVERSCAN B	50
		FILTER MC	16		
		FILTER UC	0		
		FILTER LC	0		

ASI500		DNle (Video/PC,DVI)			
PIP R CONT	32	BRIGHT OFFSET		TH CORING	02
PIP G CONT	32	Attachment		PATT SEL	00
PIP B CONT	32	CONTRA OFFSET		NOISE TH3	100
PIP R BRIGHT	0	Attachment		H CONT	32
PIP G BRIGHT	0	SCALE MAX Y	48	V CONT	32
PIP B BRIGHT	0	SCALE MIN Y	16	BLACK GAIN	375
PIP FILTER IC	0	TH HPF	00	WHITE GAIN	375
PIP FILTER ML	0	TH EDGE	04/05	WTE GAIN	300
PIP FILTER MR	0	NR SEL	02	CTE GAIN	176
PIP FILTER UC	0	CE UPPER	220/240	H SHARP GAIN	127/48
		CE CUTOFF	45	V SHARP GAIN	127/48
		CE GAIN	64/75	SHARPNESS	100
		DCE GAIN	190/96	CLK DLY	07
		SKIN ON	00	H POSI	12
		CTI GAIN	08		
		DE NOISE GAIN	08/10		
AD9888 Video/Comp/PC		CXA2101 (Video,COMP)			
R GAIN	71/128/83	PICTURE	16	SUB BRIGHT	35
G GAIN	77/122/81	HUE	31	CR OFFSET1	07
B GAIN	95/128/81	COLOR	16	CB OFFSET1	07
R OFFSET	63/79/64	BRIGHT	61	SUB CONT	12
G OFFSET	66/53/70	SHARPNESS	28	SUB COL	08
B OFFSET	64/82/68	R DRIVE	4	SUB HUE	08
V-PATH	PC	G DRIVE	4	R-Y/R	13
AUTO COLOR		B DRIVE	4	R-Y/B	15
OFF		R CUTOFF	32	G-Y/R	12
		G CUTOFF	32	G-Y/B	04
		B CUTOFF	32		

LOGIC (PDP DRIVER)				TP LOG-ASI (TEST PAT LOGIC/SCALER)	
R DRIVE	Attachment	ACTIVE VPOS	12	LOG PATTERN	0
G DRIVE	Attachment	ACTIVE HPOS	19	LOG HIGH LEVEL	0
B DRIVE	Attachment	VSYNC POS	3	LOG LOW LEVEL	0
R CUTOFF	Attachment	HSYNC POS	32	ASI COLORBAR	0
G CUTOFF	Attachment	VSYNC WIDTH	2		
B CUTOFF	Attachment	HSYNC WIDTH	12		
GAMMA	1				
GTS SET	1				
ERD MODE	2				
RANDOM NOISE	1				
DIFF FILTER	1				
APC	1				
APC SET	0				
APC VALUE	127				

*CXA2151 Data

00. Gam Sel 01

01. CB Gain 07

02. CR Gain 07

03. Y Gain 01

04. V TC 01

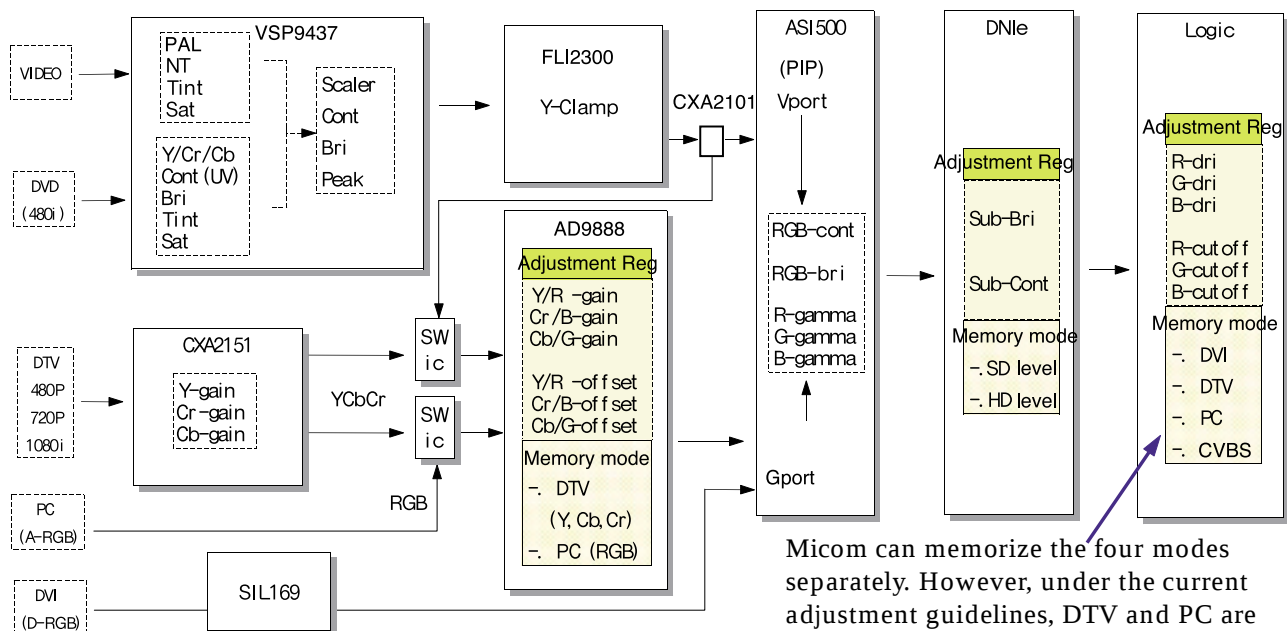
IC	Item	W/B Data			
		Video,S-VHS	Component	PC	DVI
SNI	Bright	41	44	39	39
	Contrast	58	57	67	49
Logic	R Gain	140	139	132	134
	G Gain	128	130	130	130
	B Gain	122	119	125	120
	R Cutoff	07	244	03	02
	G Cutoff	0	0	0	0
	B Cutoff	17	248	247	251

2-2 WHITE Balance Coordinates

2-2-1 White Balance Adjustment

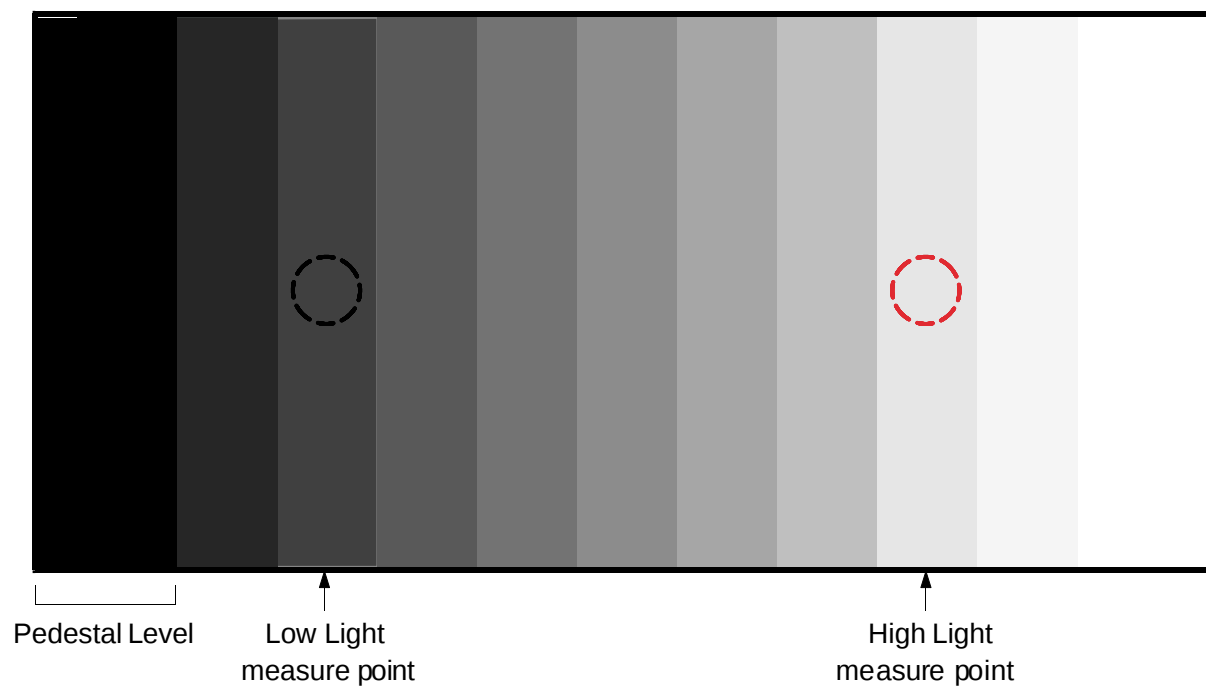
1. W/B Adjustment is required for the following four modes: DVI → DTV → PC → CVBS(VIDEO)
→ CVBS(VIDEO PIP)
2. Adjustment Method (DVI, DTV, PC : VG828, CVBS : Adjust RF signals to match the Toshiba pattern (in-house signal))
 - ① Adjust the target set by adjusting the panel logic and the video DNIe adjustment register in order to determine the referential W/B of the panel with a DVI input, which is the full digital path.
 - ② For DTV adjustment, adjust the adjustment register of ad9888 to align the DTV signal to the DNIe and logic panel value which was fixed with a DVI adjustment so that they are in effect considered to be the same signals. (At this time, do not adjust the gain of AD9888 → the Highlight W/B does not need to be adjusted since its deviation falls within valid distribution range.)
 - ③ PC adjustment is same as DTV adjustment. (The offset can be applied to the values obtained through DTV adjustment. However, additional adjustment is required for Y, Cb, and Cr of DTV since PC processes R, G, and B signals.)
 - ④ cvbs adjustment is performed with the Toshiba pattern (in-house signal) and differs from the VG828 signals in the above three modes. Hence, it should be performed with the same method of ① DVI adjustment.
 - ⑤ Finally, activate PIP in video mode, and repeat W/B adjustment.

✱ Thus, Micom saves the W/B data separately for each memory mode of the block (See the block diagram given below) during W/B adjustment.



Micom can memorize the four modes separately. However, under the current adjustment guidelines, DTV and PC are memorized with the same value during DVI adjustment and CVBS is memorized with a separate value.

2-2-2 White Balance Coordinates by Mode

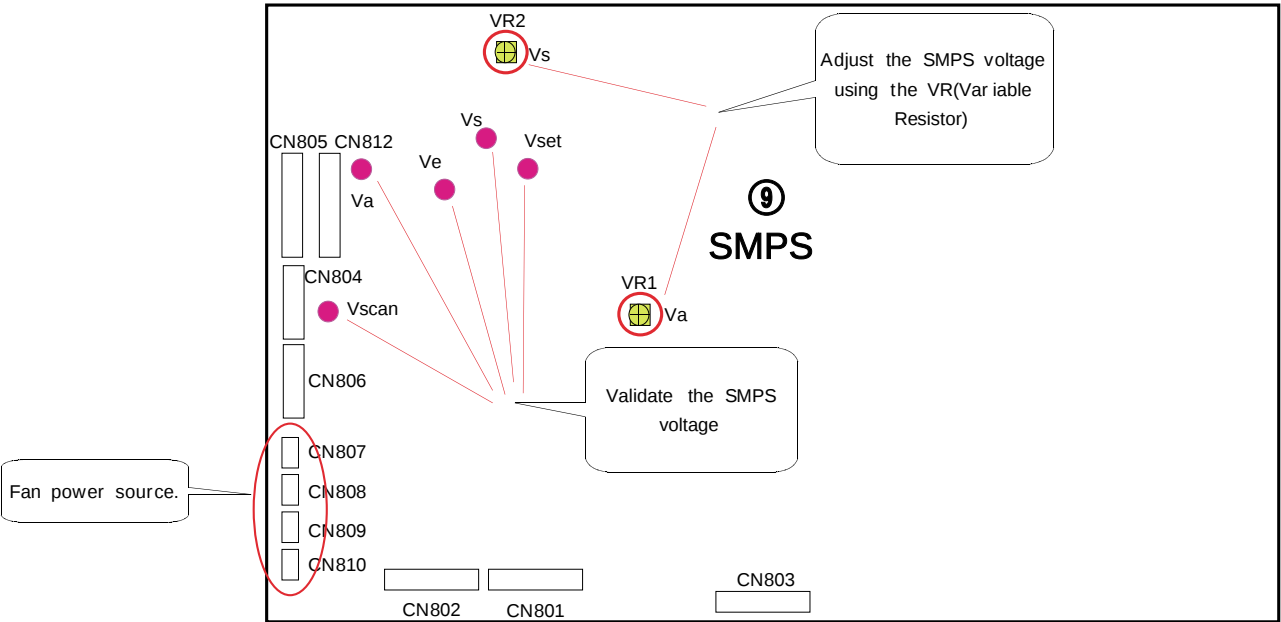


		Video	Component	PC	DVI
H/L	x	278	280	280	280
	y	285	287	295	295
	Y(fL)	33	34	28	31
L/L	x	278	280	285	285
	y	285	287	295	295
	Y(fL)	1.3	0.6	1.2	1.0

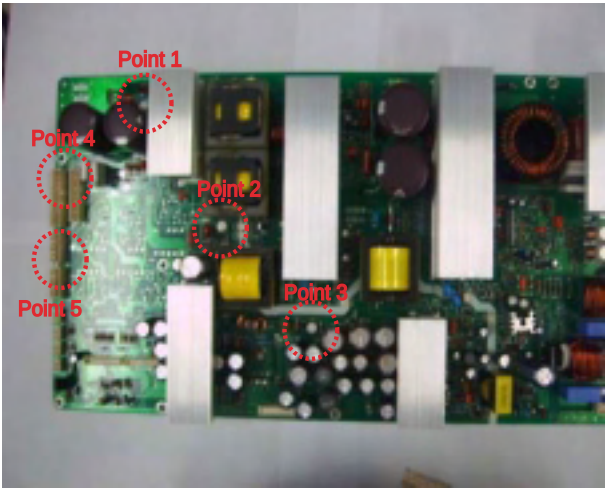
2-3 Voltage Adjustment

- Test Point
- VR : Variable Resistor
- Pin Connector

Output	Va	Vsc	Vs	Ve	Vset
Voltage	See the labels attached on the base chassis				



SMPS Volume Resistor Adjustment



Point 1	Volume Resistor VR2 for "Vs" Adjustment	
Point 2	Volume Resistor VR1 for "Va" Adjustment	
Point 3	Volume Resistor VR6 is a Factory Setting Point. Don't touch.	
Point 4	Test Point for "Vs" Adjustment CN 805 Pin No. 9, 10 or CN 804 Pin No. 8, 9	
Point 5	Test Point for "Va" Adjustment CN 812 Pin No. 1, 2 or CN 806 Pin No. 1, 2	

Notes

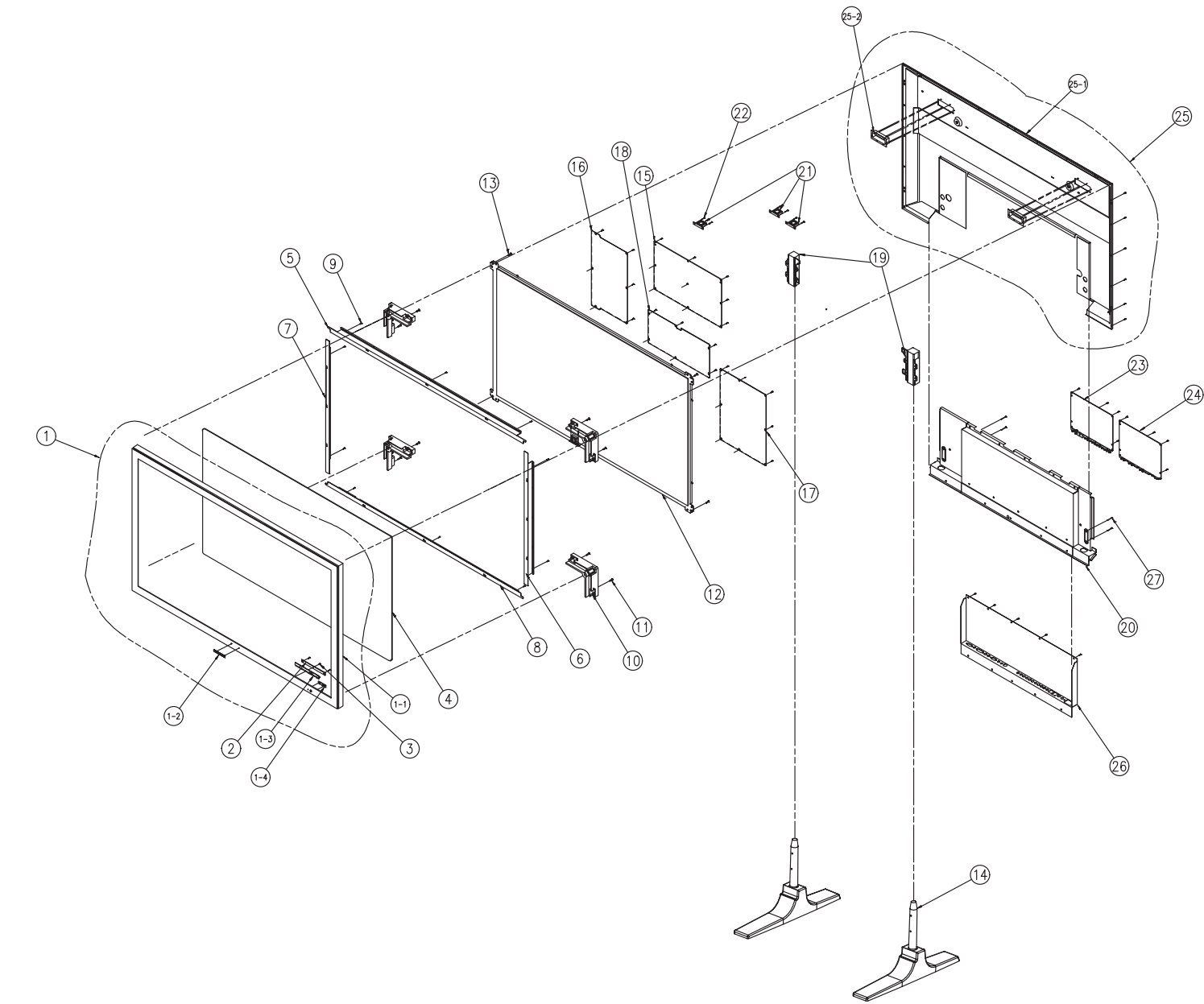
1. When the SMPS-PCB is replaced, the Va, Vsc, Vs, Ve and Vset voltages must be checked and adjusted to the proper levels indicated on the panel sticker.

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3. Exploded View & Parts List

3-1 PPM50H3QX/EDC

You can search for the updated part code through ITSELF web site.
URL : <http://itself.sec.samsung.co.kr>



No	Code No	Description;Specification	Q'ty	Remark	
1	BN96-00172Q	ASSY COVER P-FRONT;50P3H(VMB),ASIA,HIPS	1	M0003	
1-1	BN64-00098N	CABINET-FRONT;50P3 VMB,HIPS,HB,HF-1690H,	1	T0003	S.N.A
1-2	BP64-00177A	BADGE-BRAND;ALL,AL,T1.5,70,11.3,BLK,SILI	1	T0057	S.N.A
1-3	BP64-00045B	KNOB CONTROL;P3,ABS,HB,GRY,SVM3012	1	T0022	S.N.A
1-4	BN64-00074B	WINDOW-REMOTE;42P3S,PMMA,,,,,CLEAR	1		S.N.A
2	BN94-00494C	ASSY PCB MISC-CONTROL;SPD-50P3H,D56A/D59	1	T0098	
3	6003-001026	SCREW-TAPTITE;RH,+,B,M4,L15,ZPC(BLK),SWR	3	T0081	S.N.A
4	BN64-00125A	SCREEN-EMI,FILTER;FILTER,50P3,T47%,1155+6	1	T0055	
5	BN61-00262D	BRACKET-FILTER TOP ASSY;50P3H,AL5052,T1.	1		S.N.A
6	BN61-00263D	BRACKET-FILTER SIDE LEFT;50P3H,AL5052,T1	1		S.N.A
7	BN61-00197A	BRACKET-FILTER,SIDE;50P3H,AL5052,T1.2	1		S.N.A
8	BN61-00264D	BRACKET-FILTER BOT ASSY;50P3H,AL5052,T1.	1		S.N.A
9	6003-001026	SCREW-TAPTITE;RH,+,B,M4,L15,ZPC(BLK),SWR	10	T0081	S.N.A
10	BN61-00967A	HOLDER-MODULE;50P3H,AL DIECASTING	4		S.N.A
11	6003-001026	SCREW-TAPTITE;RH,+,B,M4,L15,ZPC(BLK),SWR	8	T0081	S.N.A
12	BN96-00985A	ASSY PDP P-MODULE;M3,S50HW-XD03,D66A,D3.	1	T0044	
13	6006-001126	SCREW-MACHINE;WSP,PH,+,M5,L12,NI PLT,SWR	4	CCM1	
14	BN61-00674A	STAND-BASE;PPM42S3,PPS	2	M0412	
15	BN94-00494U	ASSY PCB MISC-SMPS;SPD-50P4HD,D66A,DAVIN	1	T0124	
16	BN96-00999A	ASSY PDP P-X MAIN BOARD;LJ92-00852A,S50H	1	T0073	
17	BN96-01001A	ASSY PDP P-Y MAIN BOARD;LJ92-00853A,S50H	1	T0096	
18	BN96-01012A	ASSY PDP P-LOGIC MAIN BOARD;LJ92-00949A,	1	T0037	
19		GUIDE-STAND;50P3H,AL DIECASTING	2		
20	BN96-00266D	ASSY COVER P-BACK SUB;PPM50H3,AL3032 T1.	1	T0008	S.N.A
21	BN31-00001A	FAN-ASSY;G4020S05B2-RS,PBTP,UL94-Vo,Brac	3	T0243	
22	6006-001035	SCREW-ASS'Y MACH;WSP,PH,+,M3,L8,ZPC(YEL)	8	EL013	S.N.A
23	BN94-00559A	ASSY PCB MISC-DIGITAL;PPM50H3QX/XEU,D62B	1	T0132	S.N.A
24	BN94-00560A	ASSY PCB MISC-ANALOG;PPM50H3QX/XEU,D62B,	1	T0145	S.N.A
25	BN96-00173C	ASSY COVER P-BACK;PPM50H3,AL3032 T1.2,DG	1	T0001	
25-1	BN63-00531B	COVER-BACK SUB;PPM50H3,AL3032,1.2,VMB,DG	1		S.N.A
25-2	BN61-00202B	BRACKET-HANDLE;42P3,T1.5,DGM5233	2		S.N.A
26	BN96-00286F	ASSY MISC P-BRACKET TERMINAL;P3,VMB	1		S.N.A
27	6006-001194	SCREW-ASSY TAPT;WP,BH,+,M4,L20,ZPC(BLK),SWRCH18A	4		

4. SERVICE ITEM

You can search for the updated part code through ITSELF web site.

URL : <http://itself.sec.samsung.co.kr>

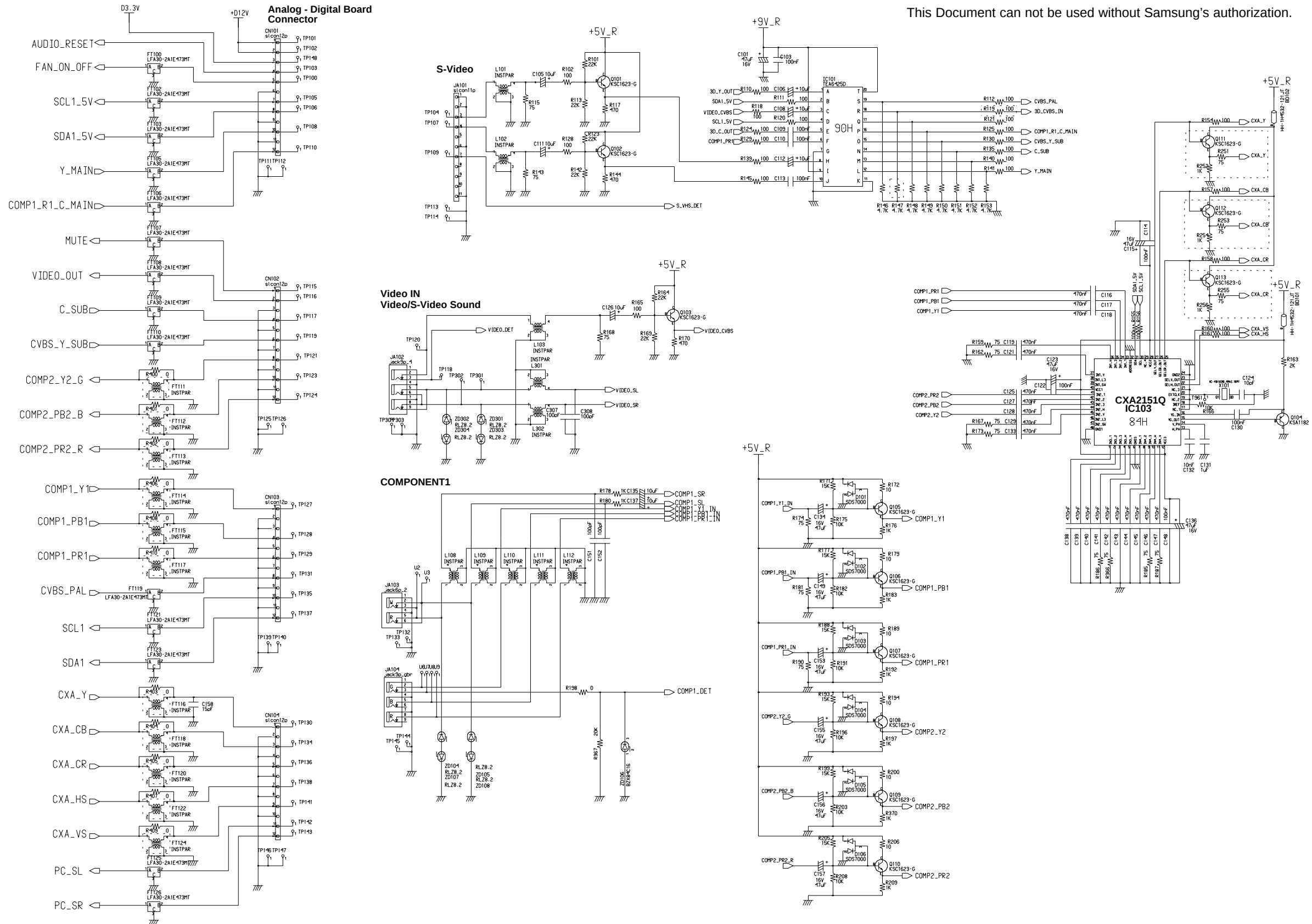
Loc.	Code No	Description;Specification	Q'ty	S.N.A
D0254	AA32-00013B	MODULE REMOCON;346HF5,38KHz,940mm,MESH,H	1	
T0074	BN59-00366A	REMOCON;TM76,D61A,42,G6148,PPM42S3,EX	1	
T0055	BN64-00125A	SCREEN-EMI,FITER;FILTER,50P3,T47%,1155+6	1	
T0098	BN94-00494C	ASSY PCB MISC-CONTROL;SPD-50P3H,D56A/D59	1	
T0124	BN94-00494U	ASSY PCB MISC-SMPS;SPD-50P4HD,D66A,DAVIN	1	
M0003	BN96-00172Q	ASSY COVER P-FRONT;50P3H(VMB),ASIA,HIPS	1	
T0001	BN96-00173C	ASSY COVER P-BACK;PPM50H3,AL3032 T1.2,DG	1	
M0764	BN96-00756A	ASSY STAND P-SCREW;PPM50H3,SCREW+PE-BAG,	1	
T0044	BN96-00985A	ASSY PDP P-MODULE;M3,S50HW-XD03,D66A,D3.	1	
T0073	BN96-00999A	ASSY PDP P-X MAIN BOARD;LJ92-00852A,S50H	1	
T0096	BN96-01001A	ASSY PDP P-Y MAIN BOARD;LJ92-00853A,S50H	1	
T0111	BN96-01002A	ASSY PDP P-Y BUFF UPPER BOARD;LJ92-00880	1	
T0112	BN96-01003A	ASSY PDP P-Y BUFF DOWN BOARD;LJ92-00881A	1	
T0113	BN96-01004A	ASSY PDP P-E BUFFER BOARD;LJ92-00917A,S5	1	
T0114	BN96-01005A	ASSY PDP P-F BUFFER BOARD;LJ92-00918A,S5	1	
T0115	BN96-01006A	ASSY PDP P-G BUFFER BOARD;LJ92-00919A,S5	1	
T0116	BN96-01007A	ASSY PDP P-H BUFFER BOARD;LJ92-00920A,S5	1	
T0117	BN96-01008A	ASSY PDP P-I BUFFER BOARD;LJ92-00921A,S5	1	
T0118	BN96-01009A	ASSY PDP P-J BUFFER BOARD;LJ92-00922A,S5	1	
	BN96-01010A	ASSY PDP P;LJ92-00923A,S50HW-XD03,D66A,D	1	
T0119	BN96-01011A	ASSY PDP P-LOGIC SUB(RIGHT)BD;LJ92-00959	1	
T0037	BN96-01012A	ASSY PDP P-LOGIC MAIN BOARD;LJ92-00949A,	1	

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5. Schematic Diagrams

5-1 ANALOG 1

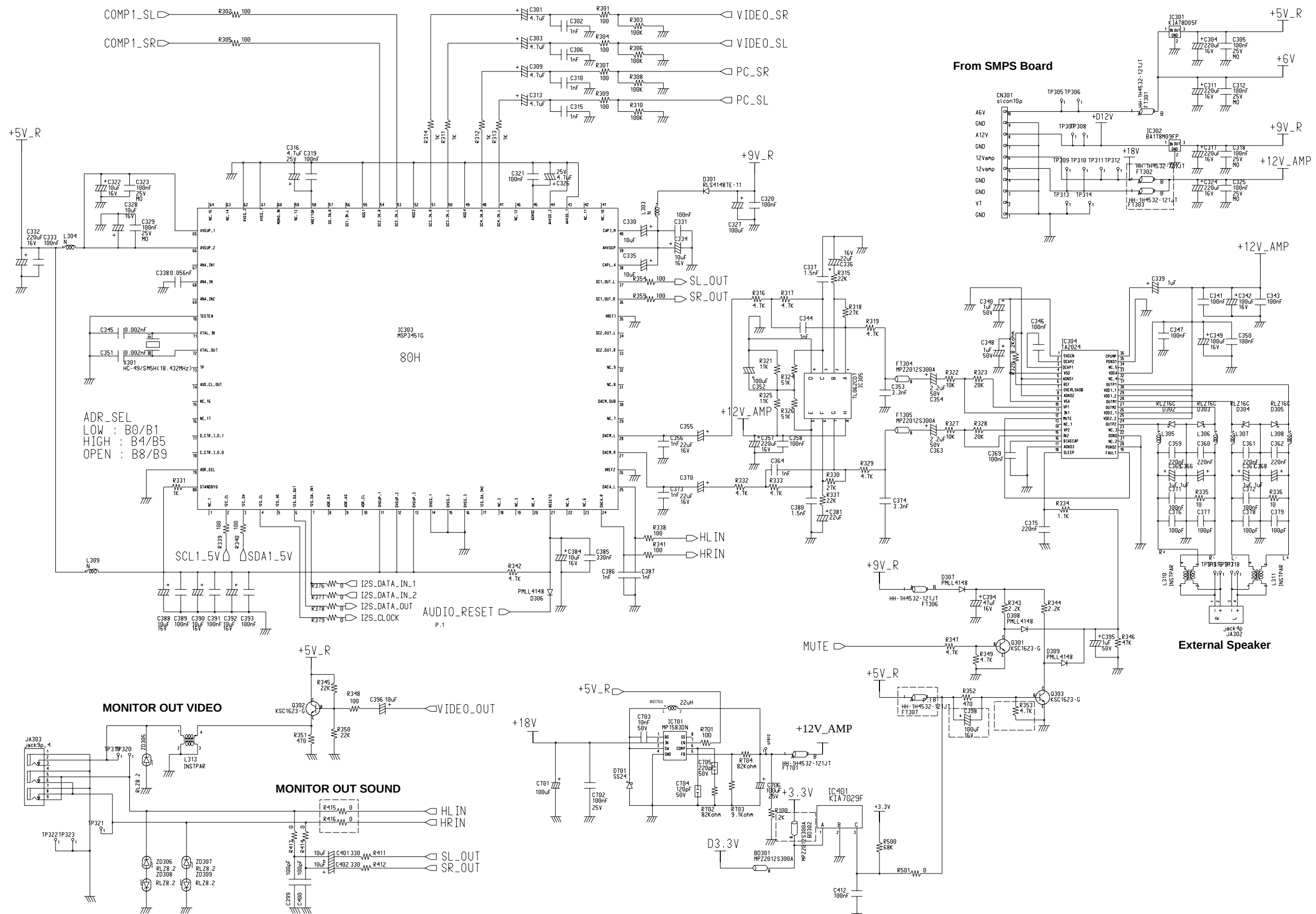
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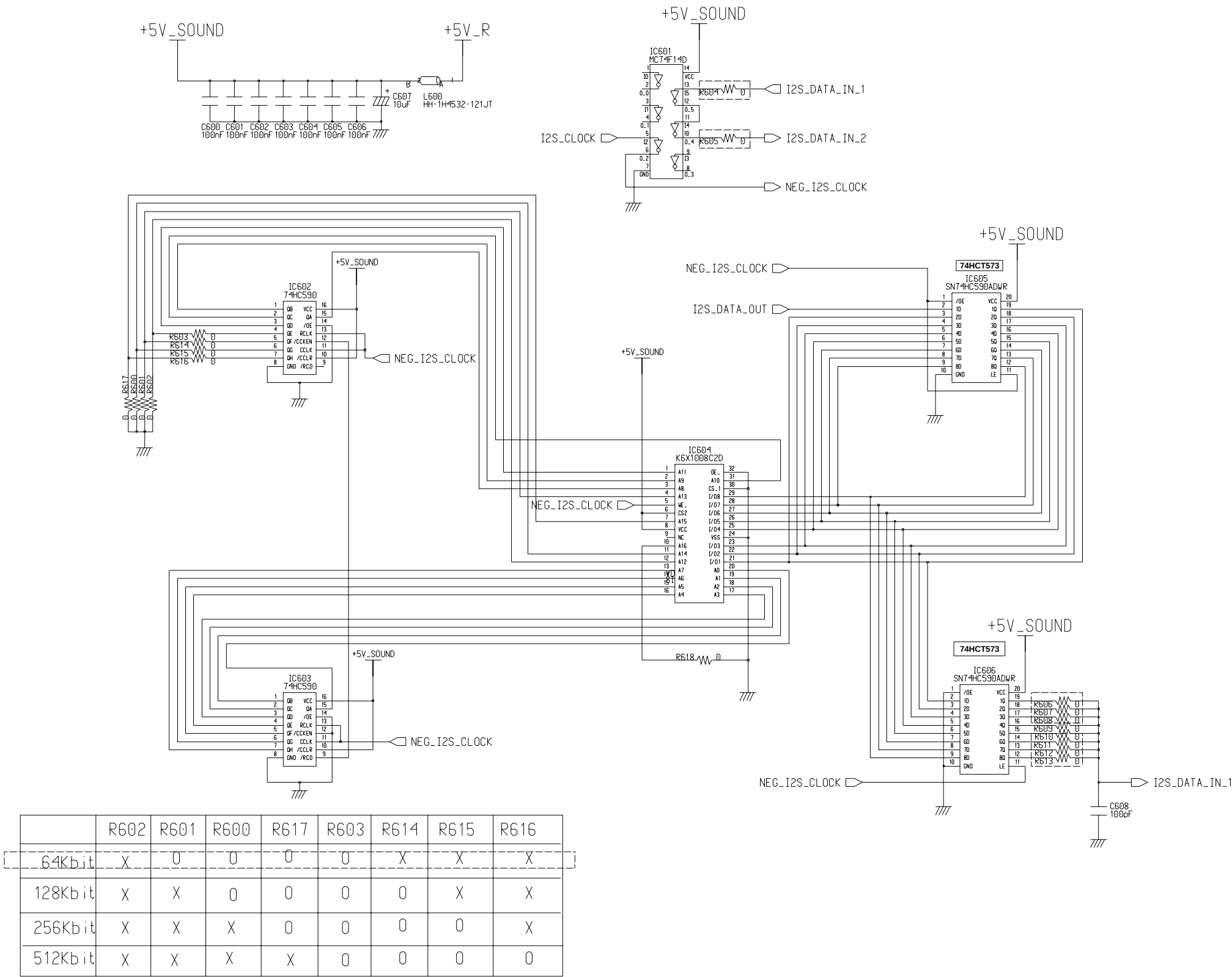
5-3 ANALOG 3

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5-4 ANALOG 4

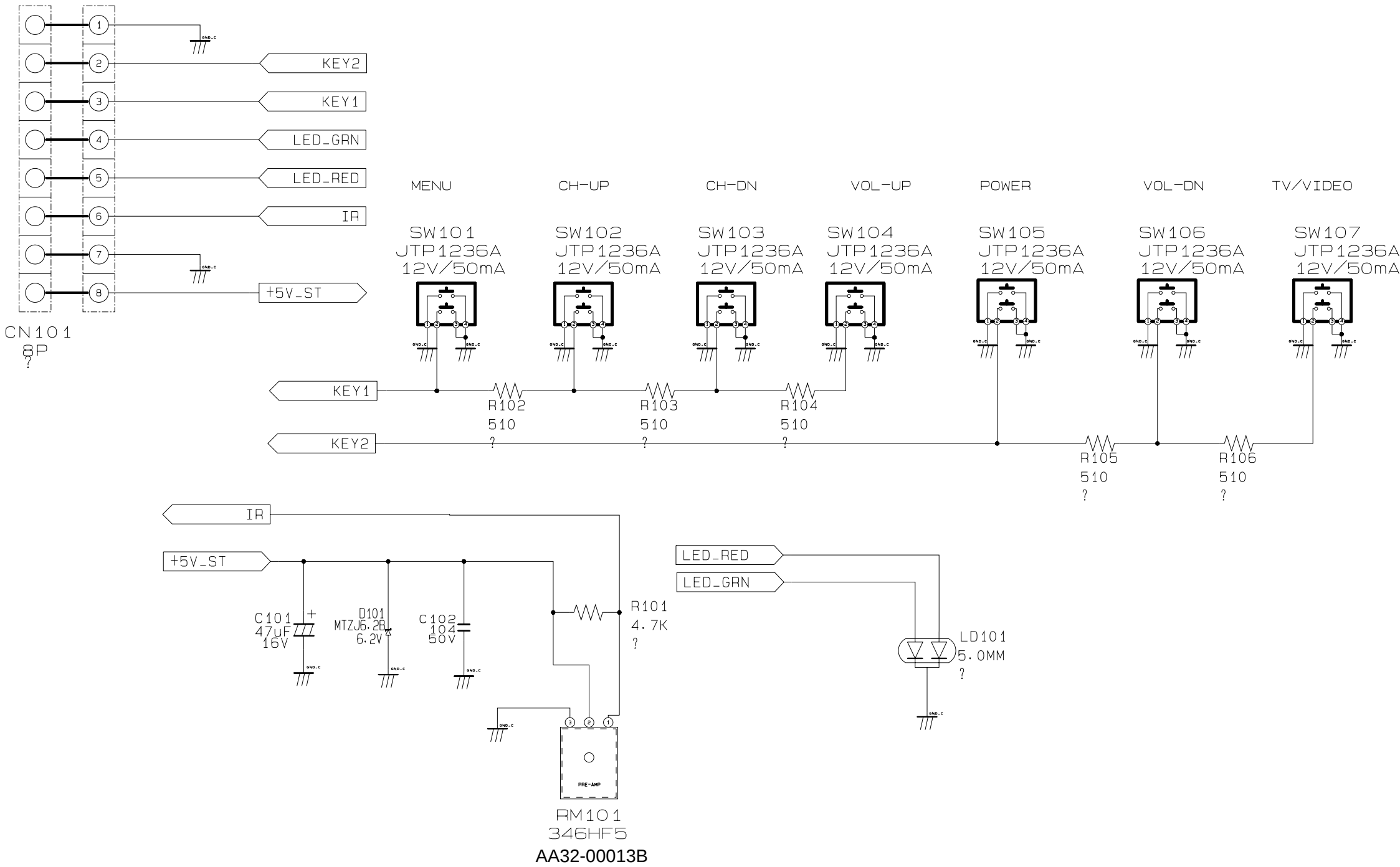
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5-5 CONTROL

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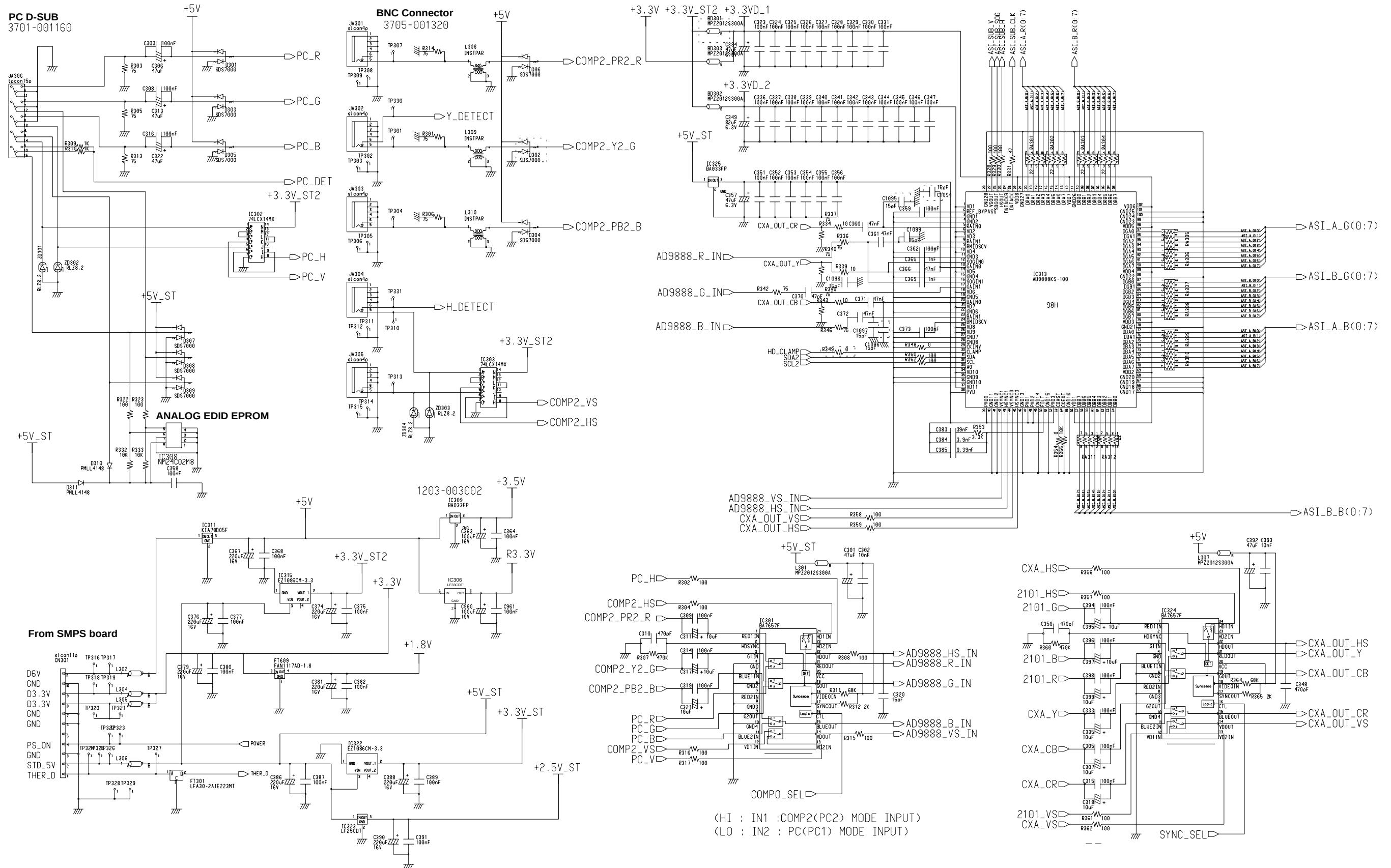
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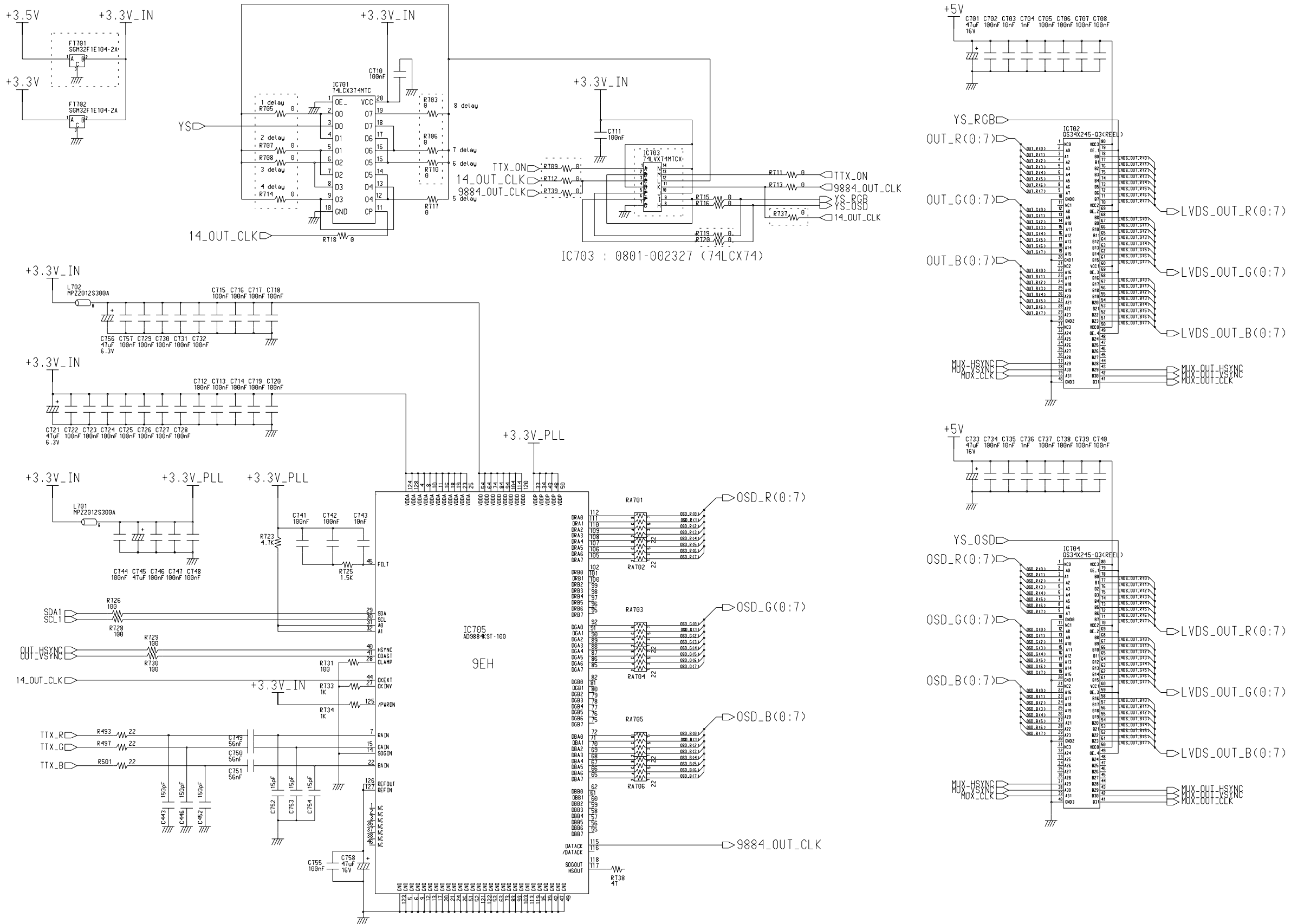
5-7 DIGITAL 2

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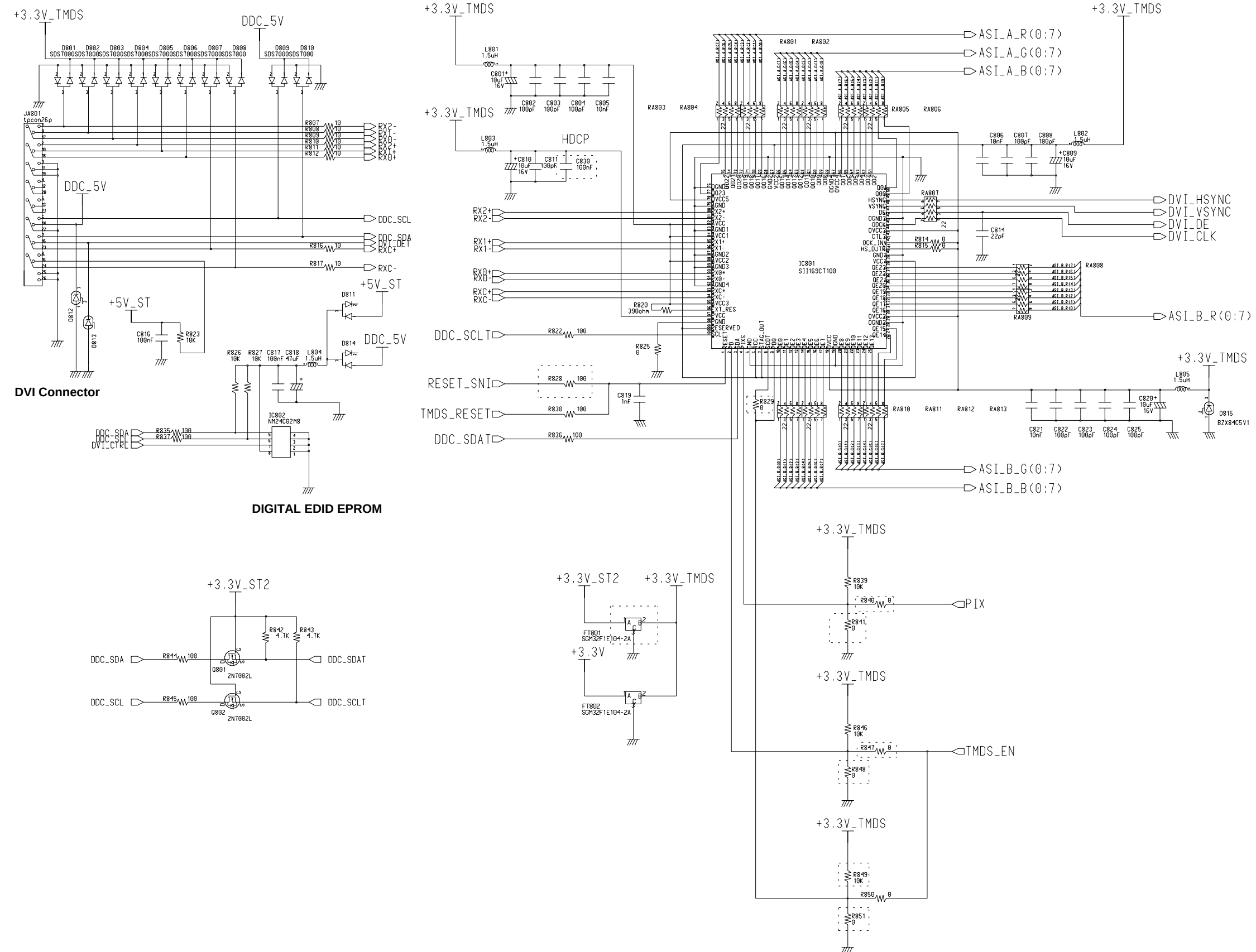
5-8 DIGITAL 3

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5-9 DIGITAL 4

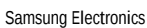
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