



TFT-LCD TV

Chassis	GSA32MUS
	GSA37MUS
	GSA40MUS

Model	LE32S62B
	LE37S62B
	LE40S62B

SERVICE Manual

TFT-LCD TV



Fashion Feature

- Luxurious Slim Design
- Supreme Picture Quality
- Supreme Sound Quality
- Supreme Convenience Quality
- Convenience for Users

Copyright

© 2007 by Samsung Electronics Co., Ltd.

All rights reserved.

This manual may not, in whole or in part, be copied, photocopied, reproduced, translated, or converted to any electronic or machine readable form without prior written permission of Samsung Electronics Co., Ltd.

LE32S62B / LE37S62B / LE40S62B Service Manual

First edition June 2007.

Printed in Korea.

Trademarks

Samsung is the registered trademark of Samsung Electronics Co., Ltd.

LE32S62B / LE37S62B / LE40S62B and Macmaster Cable Adapter are trademarks of Samsung Electronics Co., Ltd.

Macintosh and Power Macintosh are trademarks of Apple Computer, Inc.

All other trademarks are the property of their respective owners.

Contents

1. Precautions	1-1
1-1 Safety Precautions	1-1
1-2 Servicing Precautions	1-2
1-3 Static Electricity Precautions	1-2
1-4 Installation Precautions	1-3
2. Product specifications	2-1
2-1 Fashion Feature	2-1
2-2 LE32S62B Specifications	2-2
2-3 LE37S62B Specifications	2-3
2-4 LE40S62B Specifications	2-4
2-5 Spec Comparison	2-5
2-6 Option Specification	2-6
3. Alignments and Adjustments	3-1
3-1 Service Instruction	3-1
3-2 How to Access Service Mode	3-2
3-3 Factory Data	3-3
3-4 Service Adjustment	3-6
3-5 Software Upgrade	3-9
4. Troubleshooting	4-1
4-1 First Checklist for Troubleshooting	4-1
4-2 Checkpoints by Error Mode	4-2
5. Exploded View and Parts List	5-1
5-1 LE32S62B Exploded View	5-1
5-2 LE32S62B Parts list	5-2
5-3 LE37S62B Exploded View	5-3
5-4 LE37S62B Parts list	5-4
5-5 LE40S62B Exploded View	5-5
5-6 LE40S62B Parts list	5-6
6. Electrical Parts List	6-1
6-1 LE32S62B Parts List	6-1
6-2 LE37S62B Parts List	6-19
6-3 LE40S62B Parts List	6-33
7. Block Diagram	7-1

Contents

8. Wiring Diagram	8-1
8-1 Wiring Diagram	8-1
8-2 Main Board Layout	8-2
8-3 PIN characteristic	8-3
8-4 Power Board Layout	8-6
9. Schematic Diagrams	9-1
10. Operating Instructions and Installation	10-1
10-1 Front	10-1
10-2 Connection Panel	10-2
10-3 Remote control	10-4
10-4 Installing the Stand	10-5
10-5 Installing the Wall Mount Kit	10-5
11. Disassembly and Reassembly	11-1
11-1 Disassembly	11-1
11-2 Reassembly	11-5
12. PCB Diagram	12-1
12-1 Main PCB Diagram	12-1
12-2 32" SMPS	12-2
12-3 37" SMPS	12-3
12-4 40" SMPS	12-4
13. Circuit Descriptions	13-1
13-1 Block description	13-1
13-2 Main Block	13-3
13-3 SMPS Board	13-4
14. Reference Infomation	14-1
14-1 Technical Terms	14-1
14-2 Pin Assignments	14-4
14-3 Timing Chart	14-7
14-4 Panel Description	14-11



GSPN(Global Service Partner Network)

Area	Web Site
North America	http://service.samsungportal.com
Latin America	http://latin.samsungportal.com
CIS	http://cis.samsungportal.com
Europe	http://europe.samsungportal.com
China	http://china.samsungportal.com
Asia	http://asia.samsungportal.com
Mideast & Africa	http://mea.samsungportal.com

This Service Manual is a property of Samsung Electronics Co.,Ltd.

Any unauthorized use of Manual can be punished under applicable International and/or domestic law.

©2007 Samsung Electronics Co.,Ltd.
All rights reserved.

Printed in Korea
P/N : BN82-00218A-00

3 Alignments and Adjustments

3-1 Service Instruction

1. Usually, a color TV-VCR needs only slight touch-up adjustment upon installation.
Check the basic characteristics such as height, horizontal and vertical sync.
2. Use the specified test equipment or its equivalent.
3. Correct impedance matching is essential.
4. Avoid overload. Excessive signal from a sweep generator might overload the front-end of the TV. When inserting signal markers, do not allow the marker generator to distort test result.
5. Connect the TV only to an AC power source with voltage and frequency as specified on the backcover nameplate.
6. Do not attempt to connect or disconnect any wire while the TV is turned on. Make sure that the power cord is disconnected before replacing any parts.
7. To protect against shock hazard, use an isolation transform.

3-2 How to Access Service Mode

3-2-1 Entering Factory Mode

1. To enter "Service Mode" Press the remote -control keys in this sequence :

- If you do not have Factory remote - control



- If you have Factory remote - control



- The buttons are active in the service mode.

1. Remote - Control Key : Power, Arrow Up, Arrow Down, Arrow Left
Arrow Right, Menu, Enter, Number Key(0~9)
2. Function - Control Key : Power, CH +, CH -, VOL +, VOL -,
Menu, TV/VIDEO(Enter)

3-2-2 Panel Check

Specially for LE32,37,40S62*, You have to check Panel Maker Because of different adjustments as follows. First of all, Check the label rating!

1) Label Rating File



If Panel Mark is "C", Set the factory mode indicating as follows.(LE32S62BX/**)

Panel BOM(Bill of material) : BN07-00425A
Connector between Panel and Power Unit
: BN39-00712C (300mm)

* Option Byte

1. Panel Vender : CPT
2. Dimming : ANA-P3
3. Gamma : OFF

If Panel Mark is "C".

Set the factory mode indicating as follows.
(LE37S62BX/**)

Panel BOM(Bill of material) : BN07-00446A
Connector between Panel and Power Unit
: BN39-00712J (400mm)

* Option Byte

1. Panel Vender : CPT
2. Dimming : ANA-P3
3. Gamma : S4

If Panel Mark is "A" , Set the Factory mode indicating as follows. (LE40S62BX/**)

Panel BOM(Bill of Material) : BN07-00448A
Connecotor between Panel and Powe Unit :
BN39-00712E (400mm)

* Option Byte

1. Panel Vender : AUO
2. Dimming : ANA-P3
3. Gamma : S5

Others are same shown below.

3-3 Factory Data (MTK)

1. Calibration
2. Option Byte XX XX XX XX
3. W/B
4. W/B Movie
5. MTK8202
6. Sound
7. YC Delay
8. Adjust
9. Bus Stop
10. Password 70 80 75 88
11. Checksum 0000
12. Spread Spectrum
13. Reset

T_SNMMPEU-1000 (Main Micom Ver) Month/ Day / Year / Hour/ Min./Sec.

Panel On Time(Hour) XXXXX

0 0

1. Calibration
 - 1) AV Calibration ----- Failure../Success.. ----- Master(MSPG-925F) : model #2, Pattern #24
 - 2) DTV Calibration ----- Failure../Success.. ----- Master(MSPG-925F) : model #6, Pattern #24
 - 3) PC Calibration ----- Failure../Success.. ----- Master(MSPG-925F) : model #21, Pattern #24
 - 4) HDMI Calibration ---- Failure../Success.. ----- Master(MSPG-925F) : model #6, Pattern #24

2. Option Byte

Panel Inch	32	V-Chip	Off
Panel Vender	CPT	Caption	Off
Dimming	ANA-P3	ID TV Mode	Off
Gamma	Off	ID TV Country	UK
Auto Power	On	Memory Type	ETRON
Hotel Mode	Off	Volume Table	Small
Shop Mode	Off		
Auto FM	Off		
High Devi	Off		
Carrier Mute	Off		
TTX	On		
TTX List	Flof		
TTX Group	User OSD		

3. White Balance

ITEM	RF/AV(Initial value)	Component(Initial value)	PC	HDMI(Initial value)
SubBright	128	128	138 (Fixed value)	128
Roffset	128	128	128 (Fixed value)	128
Goffset	128	128	128 (Fixed value)	128
Boffset	128	128	128 (Fixed value)	128
SubContrast	131	128	115 (Fixed value)	128
RGain	128	128	128 (Fixed value)	128
GGain	128	128	128 (Fixed value)	128
BGain	128	128	128 (Fixed value)	128

3 Alignments and Adjustments

4. W/B Movie

Service P Mode	Dynamic	Cool1 Blue Offset	128
Service Color Tone	Cool1	Normal Red Gain	134
Mov. Contrast	80	Normal Blue Gain	121
Mov. Brightness	50	Normal Red Offset	127
Mov. Color	25	Normal Blue Offset	126
Mov. Sharpness	45	Warm1 Red Gain	143
Cool2 Red Gain	128	Warm1 Blue Gain	111
Cool2 Blue Gain	134	Warm1 Red Offset	128
Cool2 Red Offset	128	Warm1 Blue Offset	127
Cool2 Blue Offset	128	Warm2 Red Gain	142
Cool1 Red Gain	128	Warm2 Blue Gain	101
Cool1 Blue Gain	128	Warm2Red Offset	127
Cool1 Red Offset	128	Warm2 Blue Offset	128

5. MTK8202

1) Cal. Adjustment

R_Offset	41	CVBS Gain	50
G_Offset	23	CVBS U	0
B_Offset	28	CVBS V	0
R_Gain	92	HDMI R_Gain Ref.	229
G_Gain	96	HDMI G_Gain Ref.	229
B_Gain	92	HDMI B_Gain Ref.	229
Y_Offset	23	HDMI R_Offset Ref.	16
Cb_Offset	28	HDMI G_Offset Ref.	16
Cr_Offset	31	HDMI B_Offset Ref.	16
Y_Gain	43	LVDS control	55
Cb_Gain	43		
Cr_Gain	43		
CVBS Offset	50		

2) Cal. Target

AV_offset Target	15	PC_G_Offset Target	1
AV_offset Delta	1	PC_B_Offset Target	1
AV_Gain Target	220	PC_R_Offset Delta	0
AV_Gain Delta	2	PC_G_Offset Delta	0
Component_Y_Gain Target	234	PC_B_Offset Delta	0
Component_Y_Gain Delta	2	PC_R_Gain Target	254
Component_Y_Offset Target	15	PC_G_Gain Target	254
Component_Pb_Offset Target	128	PC_B_Gain Target	254
Component_Pr_Offset Target	127	PC_R_Gain Delta	0
Component_Y_Offset Delta	1	PC_G_Gain Delta	0
Component_Pb_Offset Delta	0	PC_B_Gain Delta	0
Component_Pr_Offset Delta	0		
PC_R_Offset Target	1		

3) Scart RGB

SC1_R_Offset	112
SC1_G_Offset	112
SC1_B_Offset	112
SC1_R_Gain	80
SC1_G_Gain	80
SC1_B_Gain	80

4) Picture Enhance

Cut Off	2
Upper	29
Center L Lmt	8
Center R Lmt	24
Ugain Max	40
Lgain Max	40

6. Sound

AM Mute	Off	Num of Double Chk	30
AM_mute Th_High	176	Mono Weight	1
AM_mute Th_Low	144	Stereo Weight	1
FM_mute Th_High	34	Dual Weight	1
FM_mute Th_Low	32	M2S Threshold	10
Carrier Shift	Off	S2M Threshold	10
Saturation Mute	Off	NICAM FINE VOL	20
Correct Threshold	6	FM FINE VOL	20
Sync Loop	201	AM FINE VOL	20
Error Threshold	8	FINE TUNE VOL	20
Parity Error Thrd	48		
Every Num Frames	512		
Num of Check	10		

7. YC Delay

RF PAL-B/G	10	AV NTSC4.43	10
RF PAL-D/K	10	AV PAL60	10
RF PAL- I	10		
RF PAL- L/L'	10		
RF SECAM-B/G	10		
RF SECAM-D/K	10		
RF SECAM-I	10		
RF SECAM-L/L'	10		
RF NTSC3.58	10		
RF NTSC4.43	10		
AV PAL	10		
AV SECAM	10		
AV NTSC 3.58	10		

3 Alignments and Adjustments

8. Adjust

1) User Control Initial

TTX PWM	25	N_Dyn.Contrast	Off
Dyn. Contrast	100	Dynamic CE	Off
Dyn. Brightness	45	Dynamic Dimming	Off
Dyn. Color	55	Channel Table	Suwon
Dyn. Sharpness	75	Video Mute Time	5
Std. Contrast	80	Language	English
Std. Brightness	50		
Std. Color	55		
Std. Sharpness	50		
Melody Volume	10		
Sub Color	50		
Contrast Gain	64		
Dynamic Contrast	Off		

2) LNA PLUS

RF_Db-1	0
RF_Db-2	0
RF_Db-3	0

3) Hotel Option

Power On Channel	1
Power On Band	0
Power On Volume	10
Max Volume	100
Local Key Lock	OFF
Power On Source	Auto

4) HDCP Write

9. Bus Stop

Main Loop	Off
Eeprom	Off
Tuner	Off
Normal	Off
Watch Dog	On

10. Password : 70 80 75 88

11. Checksum XXXX

12. Spread Spectrum

Spread Spectrum	On	Step_1024_768	90
Step_480I/576I	90	Range_1024_768	43
Range_480I/576I	32	Step_1360_768	90
Step_480P/576P	112	Range_1360_768	43
Range_480P/576P	41		
Step_720P	90		
Range_720P	32		
Step_1080I	90		
Range_1080I	32		
Step_640_480	90		
Range_640_480	43		
Step_800_600	90		
Range_800_600	43		

13. Reset

3 Alignments and Adjustments

3-4 Service Adjustment

3-4-1 White Balance - Calibration

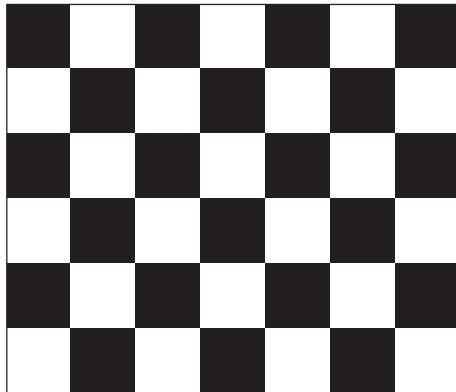
If picture color is wrong, do calibration first.

Equipment : CA210, Patten : chess pattern

Execute calibration in Factory Mode

Source AV : PAL composite, Component : 1280*720/60Hz

PC : 1024*768/60Hz



(chess patten)

3-4-2 White Balance - Adjustment

If picture color is wrong, check White Balance condition.

Equipment : CA210, Patten : NEW White Balance

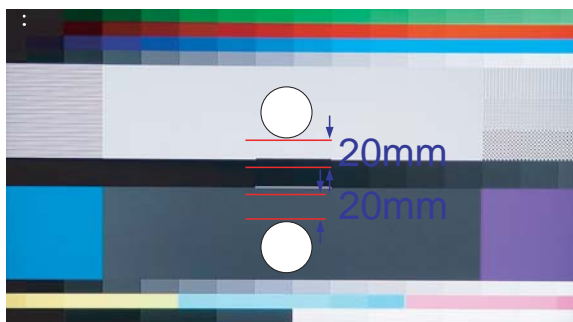
Adjust W/B in Factory Mode

Sub brightness and R/G/B Offset controls low light region

Sub contrast and R/G/B Gain controls high light region

Source AV : PAL composite, Component : 1280*720/60Hz

HDMI[DVI] : 1280*720/60Hz



[Test Pattern : MSPG-945 Series Pattern #92]

*Color temperature

1500K +/-500, -6 ~-20 MPCD

*Color coordinate

H/L : 272/278 +/- 2 35.0 Ft +/- 2.0Ft

L/L : 272/278 +/- 3 1.5 Ft +/- 0.2Ft

NEW W/B Patten

3-4-3 Conditions for Measurement

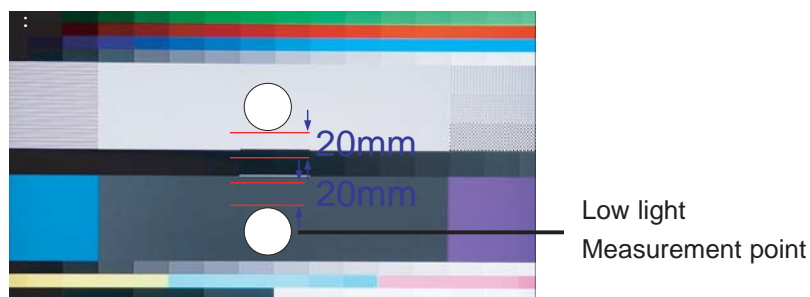
1. On the basis of toshiba ABL pattern : High Light level (57 IRE)
 - INPUT SIGNAL GENERATOR : MSPG-925LTH
 - * Mode NO 2 : 744X484@60 Hz
 - NO 6 : 1280X720@60 Hz
 - NO 21 : 1024X768@60 Hz
 - * Pattern NO 36 : 16 Color Pattern
 - NO 16 : Toshiba ABL Pattern
2. Optical measuring device : CA210 (FL)

Please use the MSPG-925 LTH generator for model LE32S62B, LE37S62B, LE40S62B.

3-4-4 Method of Adjustment

1. Adjust the white balance of AV, Component and DVI Modes.
 - (AV → Component)
 - a) Set the input to the mode in which the adjustment will be made
(RF → DTV → PC → DVI).
 - * Input signal - VIDEO Mode : Model #2 (744*484 Mode), Pattern #92
 - DTV,DVI Mode : Model #6 (1280*720 Mode), Pattern #92
 - HDMI Mode: Model #6(1280*720 Mode), Pattern #92
 - b) Enter factory color control, confirm the data.
 - c) Adjust the low light. (Refer to table 1, 2 in adjustment position by mode)
 - Adjust sub - Brightness to set the 'Y' value.
 - Adjust red offset ('x') and blue offset ('y') to the color coordinates.

Picture 4-2 Flat W/B Pattern

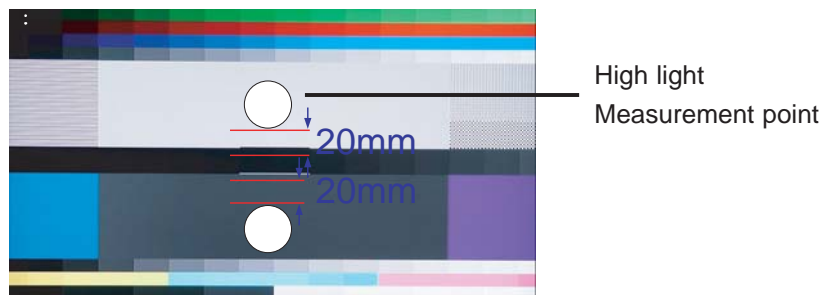


- * Do not adjust green offset data.
- d) Adjust the high light. (Refer to table 1, 2 in adjustment position by mode)
 - Adjust red gain ('x') and blue gain ('y') to the color coordinates.
 - * Do not adjust the green gain and sub-contrast (Y) data.

3 Alignments and Adjustments

- d) Adjust the high light. (Refer to table 1, 2 in adjustment position by mode)
- Adjust red gain ('x') and blue gain ('y') to the color coordinates.
 - * Do not adjust the green gain and sub-contrast (Y) data.

Picture 4-3 Flat W/B Pattern



3-5 Software Upgrade

3-5-1 How to Update Flash ROM

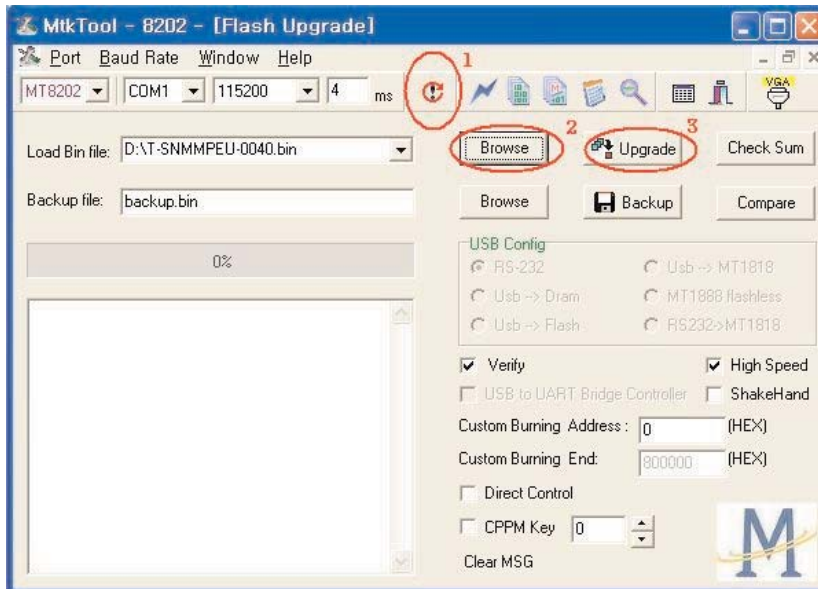
1. Install the Flash Downloader

Connect Set (Service Jack) and Jig Cable to execute Program Update.



2. Flash Downloader program update (MTK)

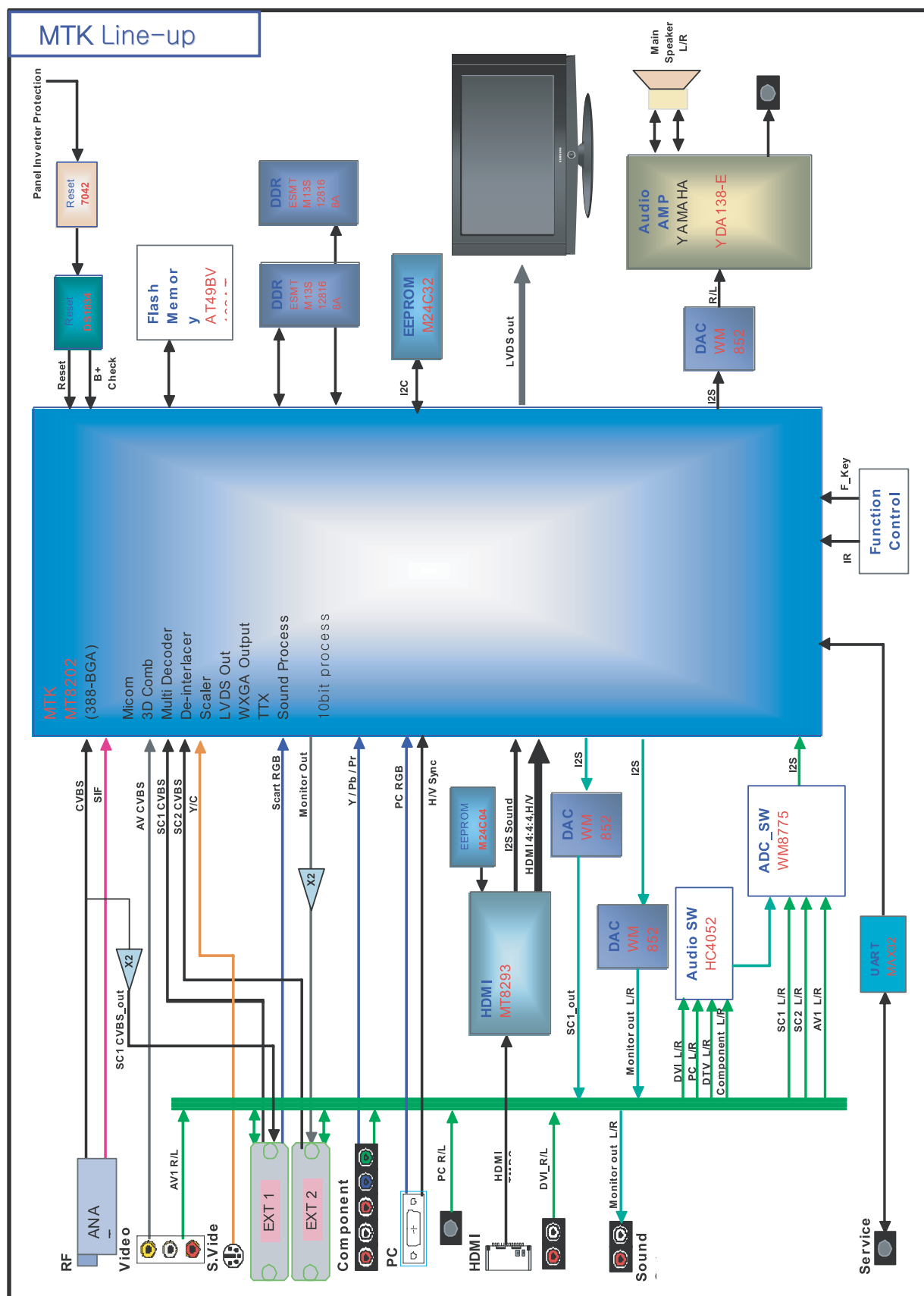
- After Turning on the set, Click '1'(reset button)button two or more.
- Click 'Browse' button, and find micom file for update.
- Click 'Upgrade' button.
- Turn on the set.



Memo

7 Block Diagram

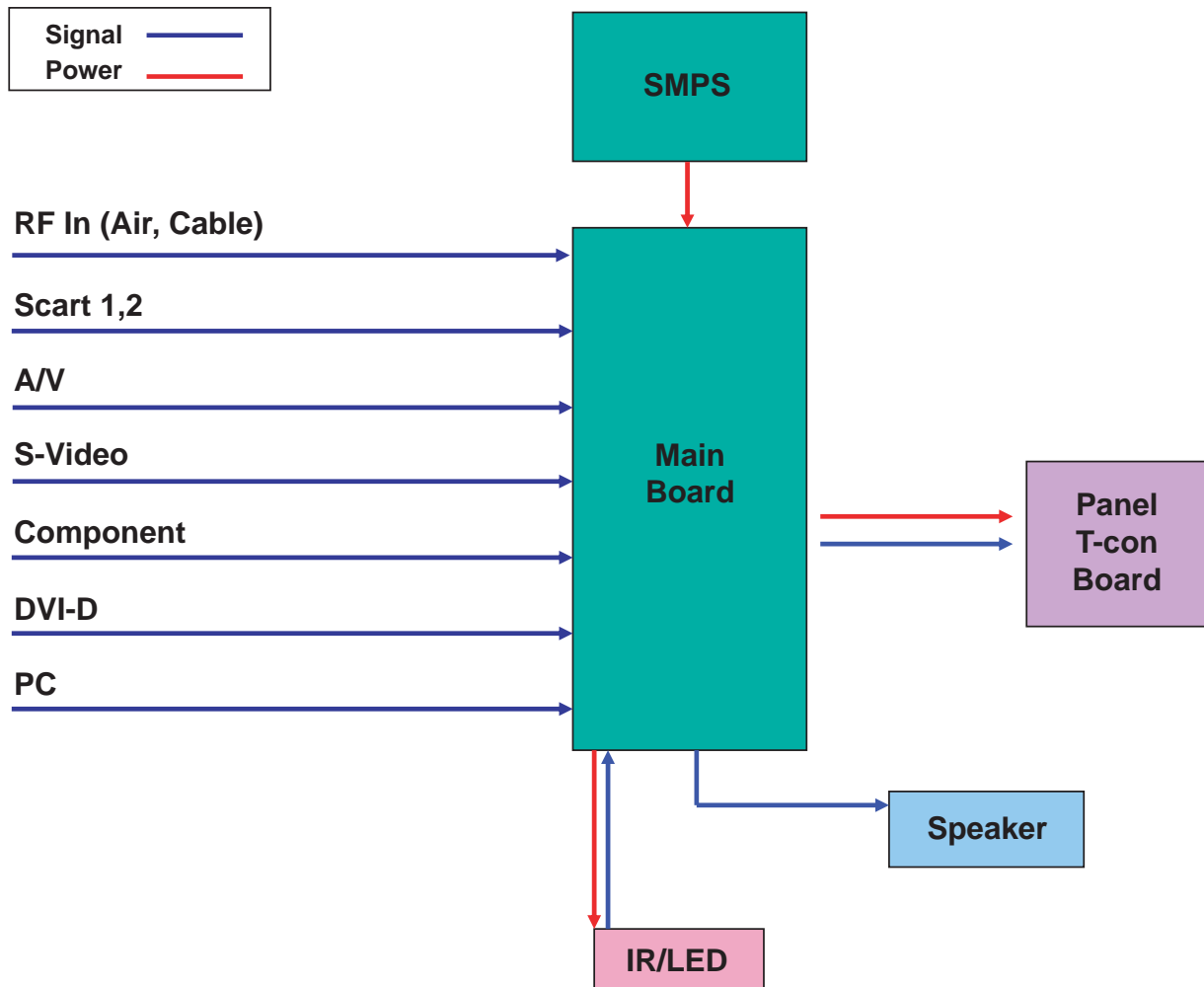
- This Document can not be used without Samsung's authorization



Memo

13 Circuit Descriptions

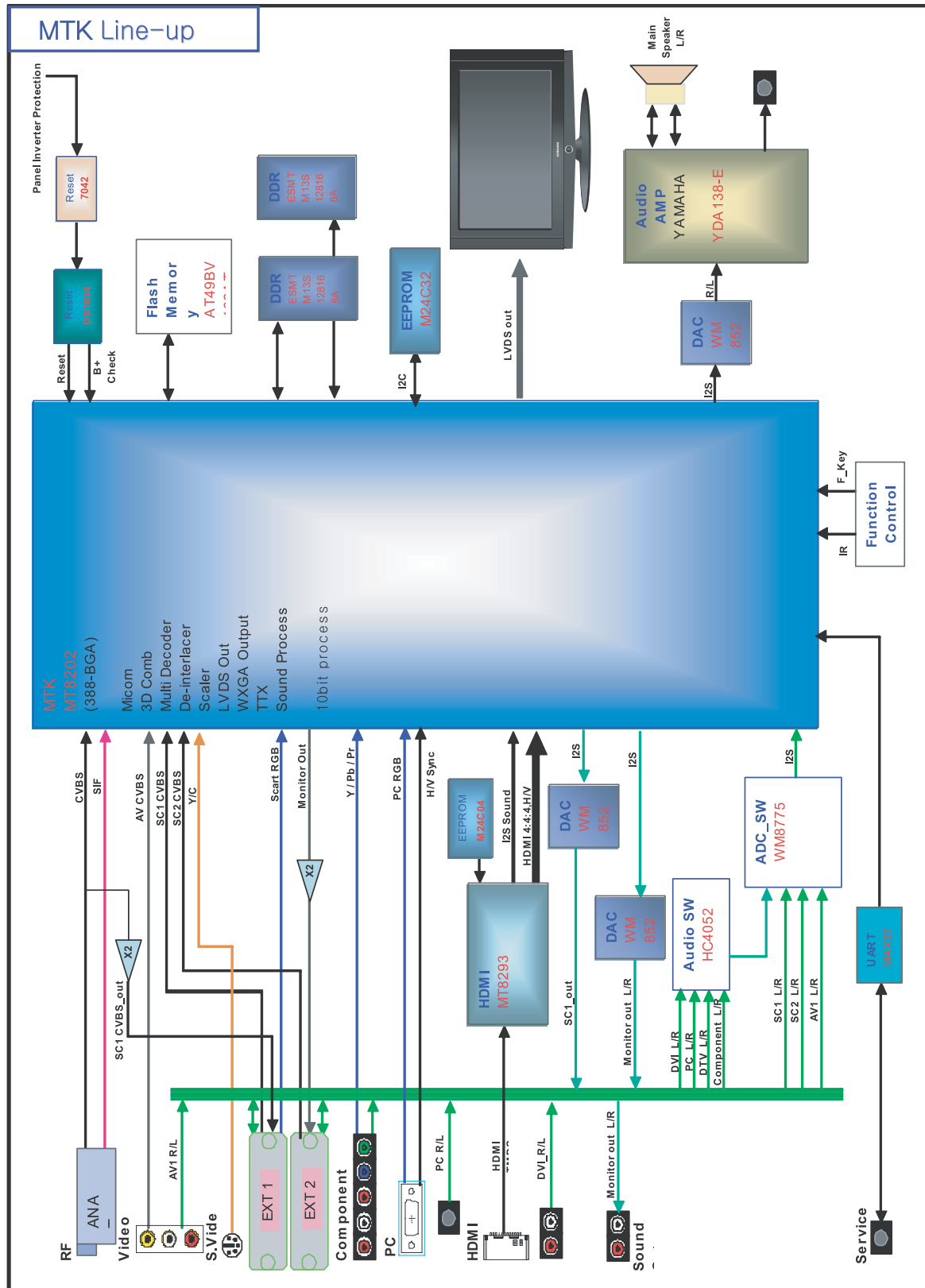
13-1 Block description



Bordeaux consists of three main blocks

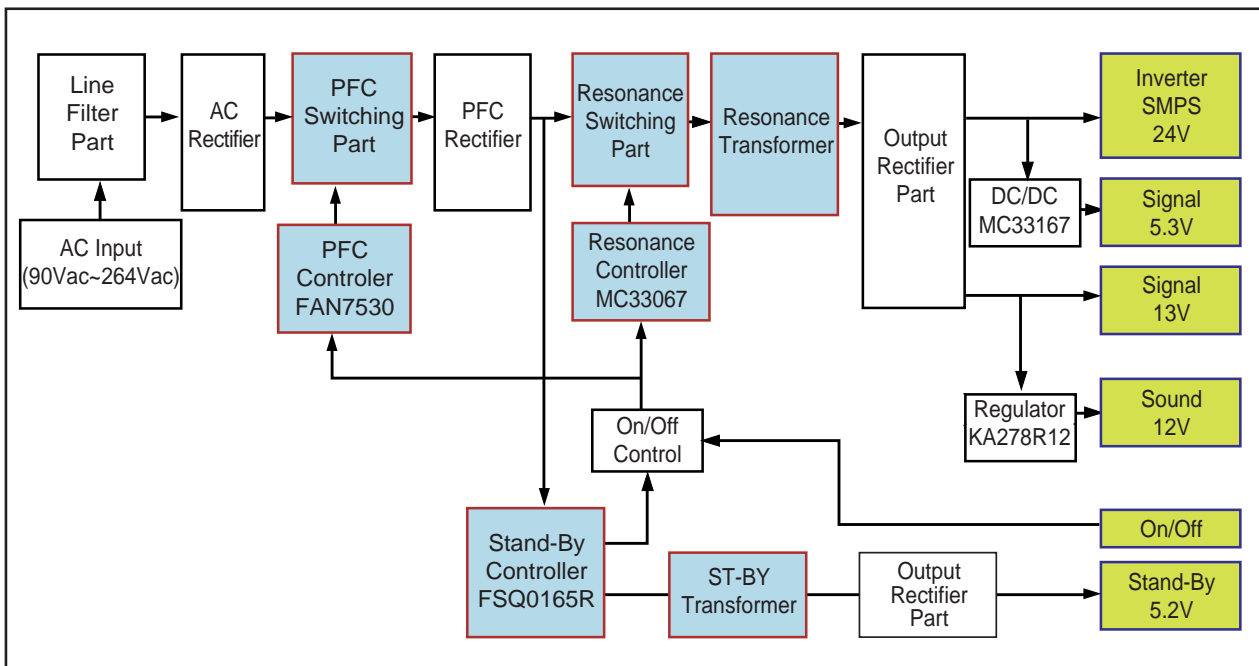
1. Main board : Video signal processing
2. IP board : Power supply & Inverter
3. T-con board : LCD Panel control

13-2 Main Block

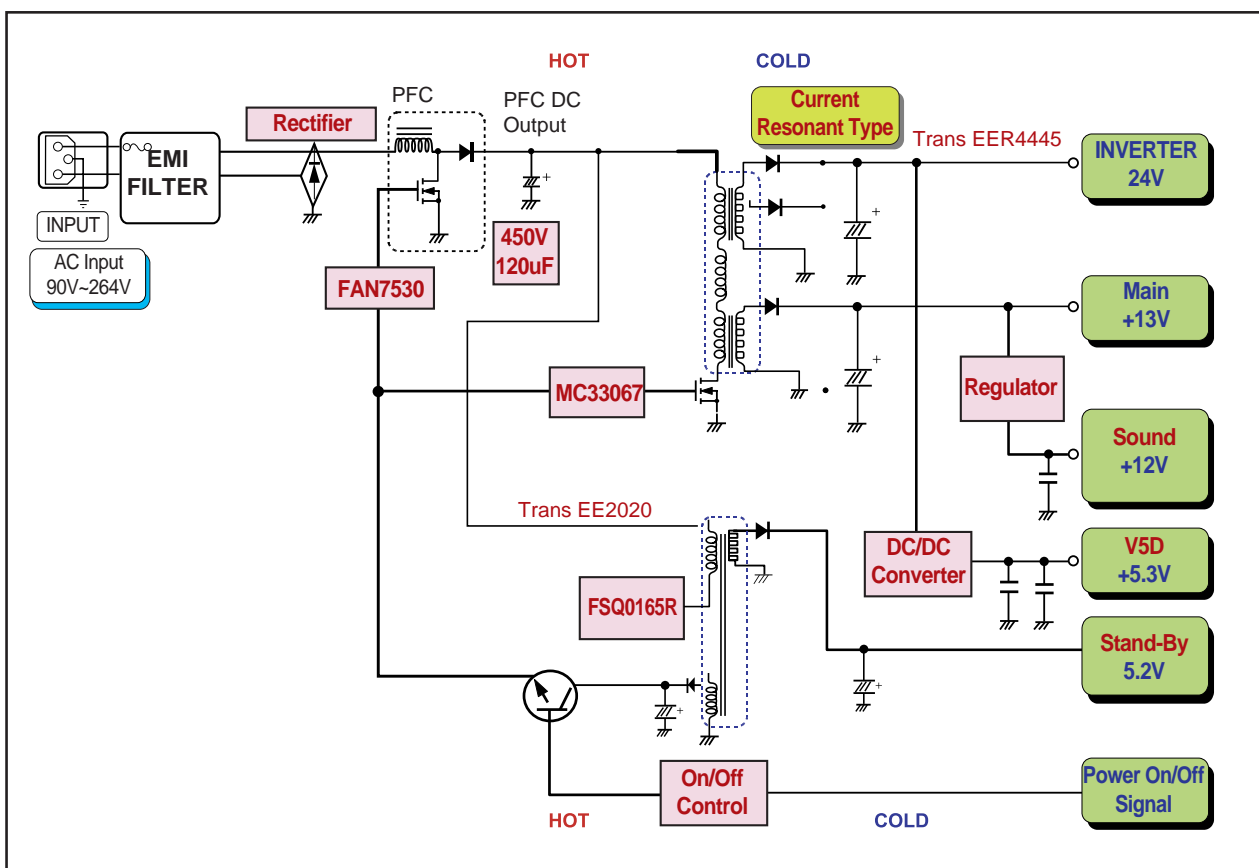


13-3 SMPS Board

13-3-1 32" Power Block



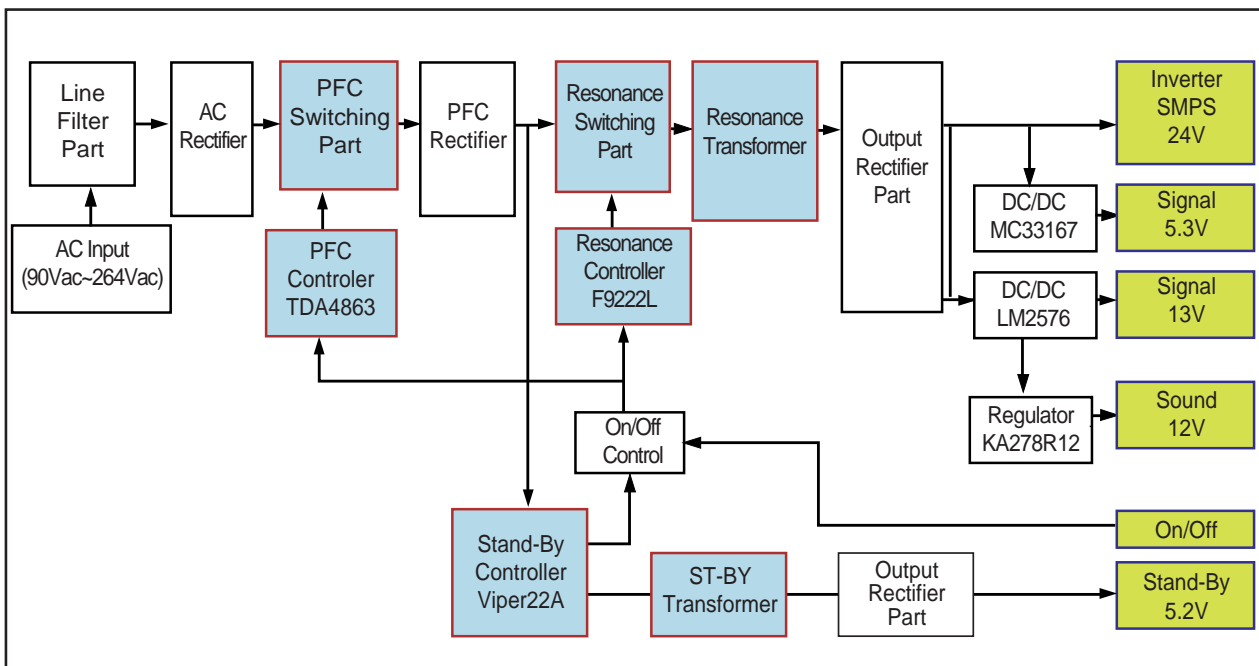
13-3-2 32" SMPS Diagram



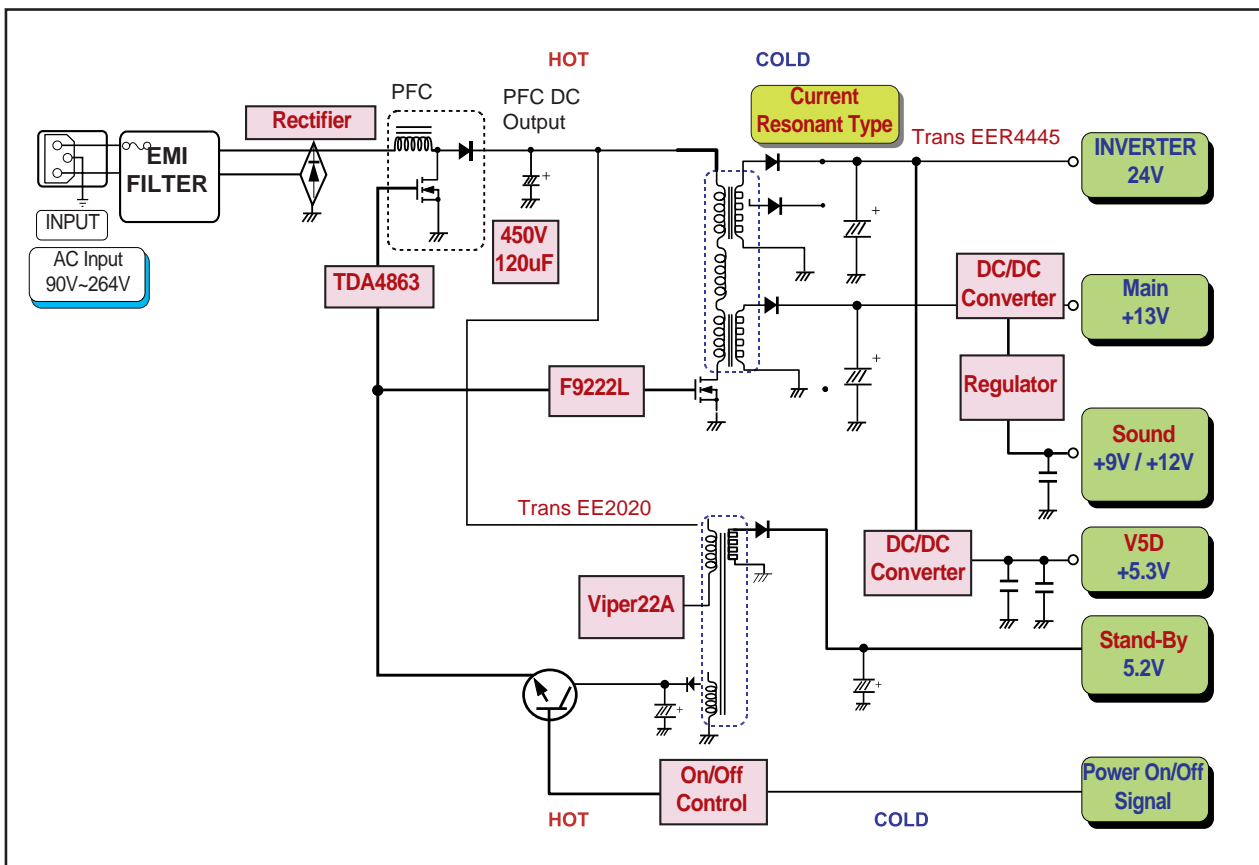
13 Circuit Descriptions

Output Name	Output Voltage			Output Current			Load Characteristics	PCB Loc.	Usage	Remark
	Normal	Regulation(%)	Variable Range	Min	Typical	Peak				
24V	24.5V	± 4	23.52V ~25.48V	0.1V	3.0V	4.0V	Pulsating	Main B'D	Drive	-
5.3V	5.3V	± 5	5.13V ~5.67V	0.1V	3.0V	5.0V	Constant	Main B'D	Drive, Logic, Buffer, Image Digital	-
13V	12.7V	± 7	11.9V ~13.7V	0.01V	0.3V	0.5V	Constant	Main B'D	Image Analog	-
Vamp	9.2V	± 4	8.83V ~9.57V	0.01V	0.3V	1.1V	Constant	Main B'D	Sound	-
ST-BY	8.0V	± 5	5.58V ~8.5V	0.1V	0.3V	0.6V	Constant	Main B'D	Stand-by	-

13-3-5 37" Power Block



13-3-6 37" SMPS Diagram





11 Disassembly and Reassembly

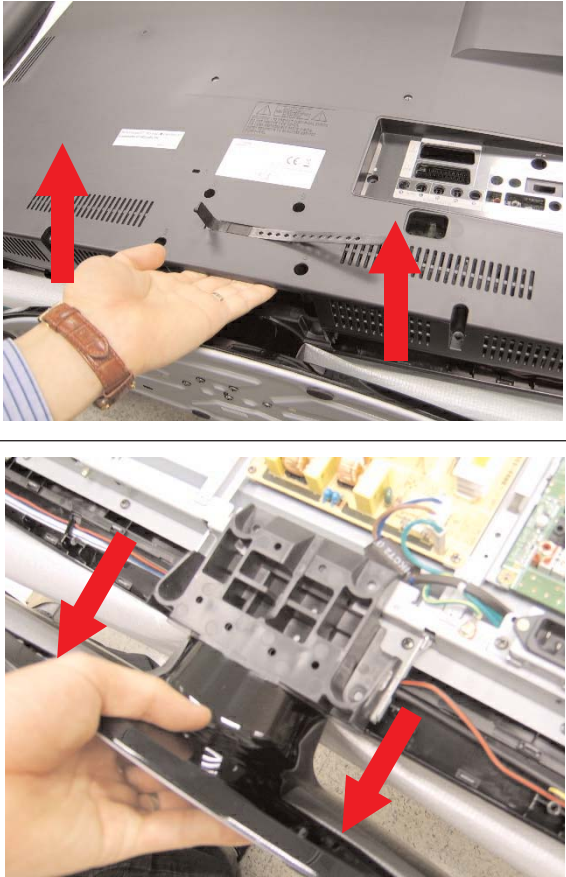
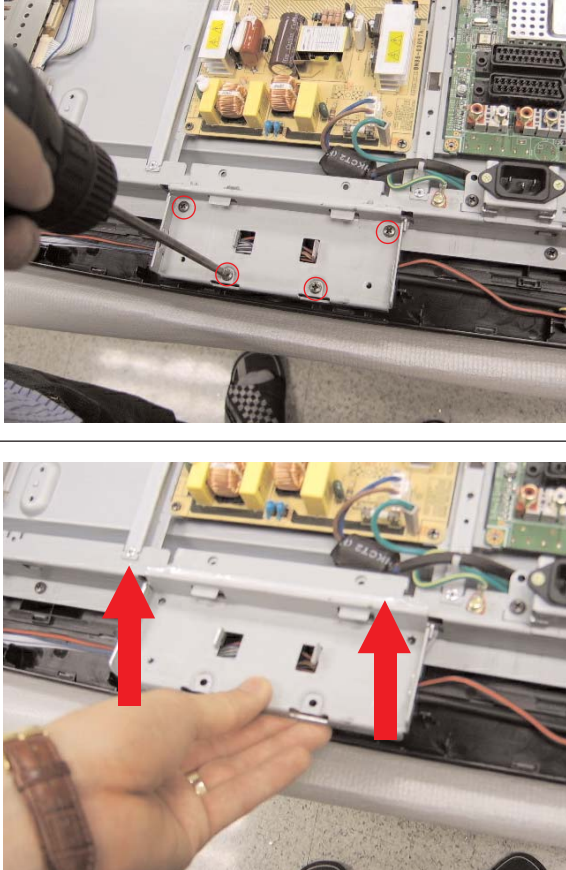
This section of the service manual describes the disassembly and reassembly procedures for the TFT-LCD TV.

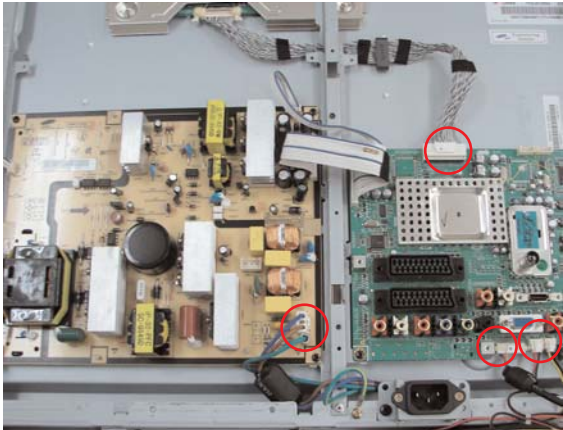
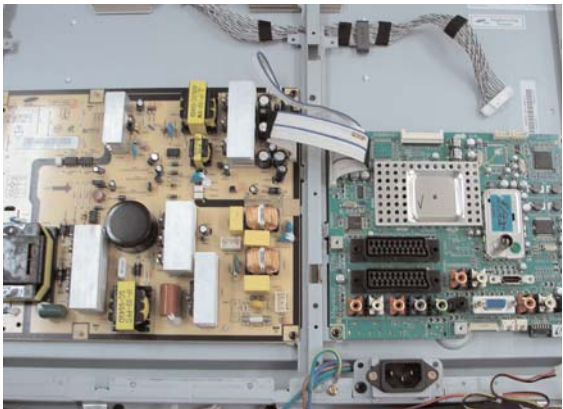
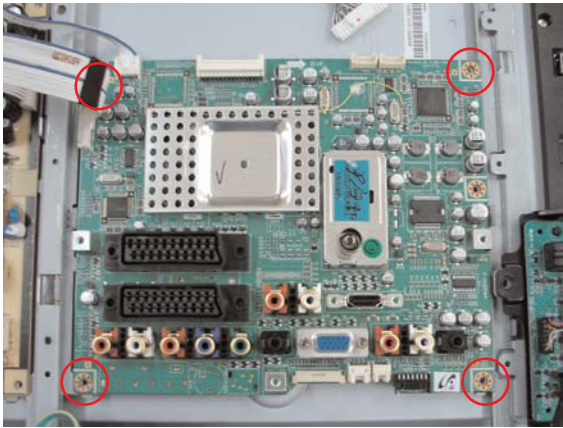
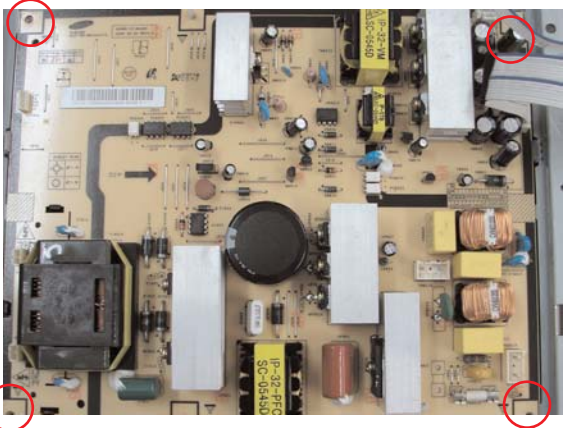
⚠ WARNING : This monitor contains electrostatically sensitive devices. Use caution when handling these components.

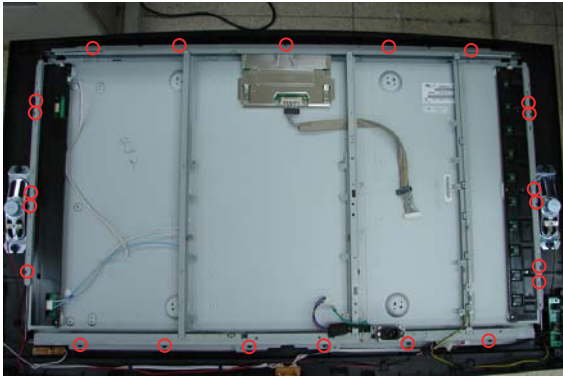
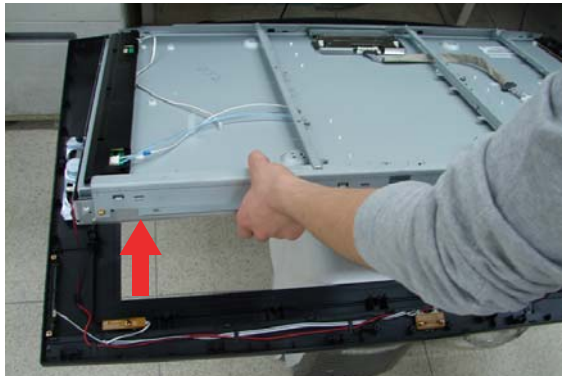

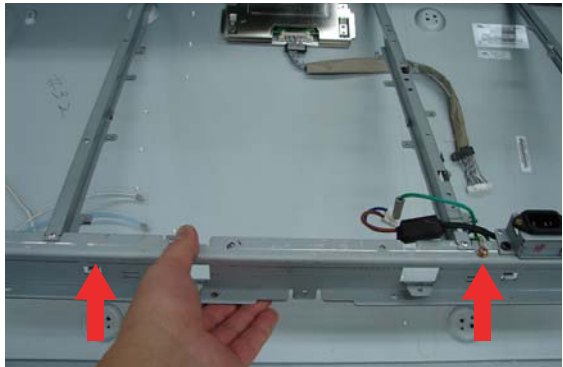
11-1 Disassembly


- ⚠ Cautions :**
- 1. Disconnect the monitor from the power source before disassembly.**
 - 2. Follow these directions carefully; never use metal instruments to pry apart the cabinet.**

Description	Picture Description
1. Place monitor face down on cushioned table. Remove screws from the rear cover. Remove screws from the stand.	
	

Description	Picture Description
<p>2. Lift up the rear cover and remove the stand.</p>	 <p>The top photograph shows the back of a device with the rear cover being lifted. Two red arrows point upwards from the bottom corners of the cover. The bottom photograph shows the internal chassis with the stand being detached. Two red arrows point downwards from the stand's attachment points.</p>
<p>3. Remove Screws from the stand BRKT and lift up the stand BRKT.</p>	 <p>The top photograph shows a screwdriver being used to remove screws from a bracket inside the chassis. Four red circles highlight the screw locations. The bottom photograph shows the bracket being lifted out of the chassis. Two red arrows point upwards from the bracket.</p>

Description	Picture Description
<p>4. Disconnect cable from the boards.</p>	
	
<p>5. Remove screws from the boards and lift up the boards.</p>	
	

Description	Description Picture
<p>6. Remove screws and Lift up the Lcd panel.</p>	
	
<p>7. Remove 5 screws from the BRKT. Lift up the BRKT.</p>	
	

Description	Description Picture
	

11-2 Reassembly

Reassembly procedures are in the reverse order of disassembly procedures.

Memo

6-3 LE40S62BX Parts List

Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
		LE40S62BX/BWT	LE40S62B,Q62A/40S60-GSA,40,LCD-TV,RUSSIA		
0.1	M0001	BN90-00857U	ASSY COVER FRONT;40T71,EO,ABS+PMMA,HB,BK	1	S.N.A
..2	M0081	6006-001096	SCREW-TAPTITE;BH,+,WP,B,M4.0,L12,ZPC(BLK	4	S.N.A
..2	T0175	BN96-03247C	ASSY SPEAKER P;8ohm,EMI Core,Left,10W,65	1	S.A
..2	T0175	BN96-03248C	ASSY SPEAKER P;8ohm,EMI Core,Right,10W,1	1	S.A
..2	T0003	BN96-03394P	ASSY COVER P-FRONT;-40T70,EO,-,ABS+PMMA	1	S.A
...3	M0081	6003-001188	SCREW-TAPTITE;BH,+,B,M4,L10,ZPC(WHT),S	2	S.N.A
...3	M0081	6003-001188	SCREW-TAPTITE;BH,+,B,M4,L10,ZPC(WHT),S	1	S.N.A
...3	M0081	6003-001188	SCREW-TAPTITE;BH,+,B,M4,L10,ZPC(WHT),S	2	S.N.A
...3	M0162	6502-001067	CABLE CLAMP;DAFC-1300,ID2.2,T5.2,NYLIN6/	2	S.N.A
...3	T0069	AA60-00073B	SPACER-FELT;PJT,FELT,T1.0,600X7	1	S.N.A
...3	T0069	AA60-00171V	SPACER-FELT;BE46PS,FELT,500,T0.35,10	2	S.N.A
...3	T0069	AA63-60001Q	SPACER-FELT;-FELT,-,-,BLK,T0.35,-150	1	S.N.A
...3	T0060	BN61-01655A	SPRING ETC;STS-304 SUS,D8,L12,T0.5	1	S.N.A
...3	CCM1	BN63-02183H	COVER-SHEET;Rhcm,PE Vinyl,T0.05,1300mm,2	2.21	S.N.A
...3	T0056	BN63-02414B	COVER-DECORATION;SONOMA,40,HIPS,-,-,HB	1	S.N.A
...3	M0112	BN63-02552H	COVER-FRONT;40T70,EO,ABS+PMMA,HB,BK23,S/	1	S.N.A
...3	T0059	BN64-00379A	INDICATOR LED;ROME-II,23,PC,CLEAR	1	S.N.A
...3	T0061	BN64-00453A	WINDOW-REMOCON;32R71,PC,V0,VIOLET,DIFFUS	1	S.N.A
...3	T0022	BN64-00467A	KNOB CONTROL;SONOMA26,32,40,ABS,-,-,V0	1	S.N.A
...3	T0023	BN64-00476F	KNOB POWER;07,SONOMA,26,32,40,HIPS,HB,GR	1	S.N.A
...3	T0054	BN64-00477A	KNOB-DECORATION;SONOMA26,32,40,ABS,HB,GR	1	S.N.A
...3	M0146	BN96-03438A	ASSY BOARD P-POWER & IR;BORDEAUX2,CT5000	1	S.A
...3	M0145	BN96-03466A	ASSY BOARD P-FUNCTION;SONOMA,SJ06-01-008	1	S.A
0.1	M0002	BN90-00878P	ASSY COVER REAR;40S70,EO,HIPS,HB,BK500,S	1	S.N.A
..2	T0081	6002-001294	SCREW-TAPPING;BH,+,M4,L16,ZPC(BLK)	12	S.A
..2	T0081	6002-001294	SCREW-TAPPING;BH,+,M4,L16,ZPC(BLK)	3	S.A
..2	M0013	BN96-03839D	ASSY COVER P-REAR;-40T70,EO,-,HIPS,HB,-	1	S.A
...3	M0081	6003-001188	SCREW-TAPTITE;BH,+,B,M4,L10,ZPC(WHT),S	2	S.N.A
...3	T0069	AA60-00091K	SPACER-FELT;-FELT,330X10,-,BLK,T0.35,	5	S.N.A
...3	T0101	BN61-02032A	BRACKET-WALL;32,MGM,SECC,T1.6	1	S.N.A
...3	M0006	BN63-02660A	COVER-REAR;40S71,HIPS,-,-,HB,-,BK500,S	1	S.N.A
...3	T0071	BN64-00444A	INLAY-TERMINAL;26R71,PS SHEET,T0.5,-,-,B	1	S.N.A
...3	T0064	BN65-00002A	CLAMPER CORE;BORDEAUX,PP,V0,BLK	1	S.N.A
0.1	M0216	BN90-00966D	ASSY STAND;40S70,EO,SO,-,ABS+PMMA,HB,BK2	1	S.N.A
..2	T0081	6002-001294	SCREW-TAPPING;BH,+,M4,L16,ZPC(BLK)	4	S.A
..2	M0027	BN96-03697B	ASSY STAND P-BASE;-SONOMA,40,-,ABS+PMMA	1	S.A
...3	T0081	6002-001294	SCREW-TAPPING;BH,+,M4,L16,ZPC(BLK)	7	S.A
...3	M0081	6003-001239	SCREW-TAPTITE;FH,+,B,M4,L10,ZPC(WHT),S	11	S.A
...3		BN61-01811A	BRACKET-STAND BOTTOM;40 MILANO,SECC,T3.0	1	S.N.A
...3	T0920	BN61-02361B	GUIDE-STAND;SONOMA,40,HIPS,V0,BK500,NON	1	S.N.A
...3	CCM1	BN63-02183E	COVER-SHEET;Rhcm,PE Vinyl,T0.05,750mm,20	0.45	S.N.A
...3	T0004	BN63-02698A	COVER-STAND BASE;GML40,ABS+PMMA,HB,BK23,	1	S.N.A
...3	T0132	BN73-00052A	RUBBER FOOT;ARES 17,CR Rubber Gray,T1.5	9	S.N.A
0.1		BN91-01558H	ASSY CHASSIS-AUO-VE;LE40S62BX/**	1	S.A
..2		BN94-01304J	ASSY PCB MAIN-AUO-VE;LE40S62BX/**	1	S.N.A
...3	T0245	0202-001492	SOLDER-WIRE FLUX;HSE-02 LFM48 SR-34 S,-	0.25	S.N.A
...3	JA306	3701-001294	CONNECTOR-DSUB;15P,3R,FEMALE,STRAIGHT,AU	1	S.A
...3	CN330	3711-004379	HEADER-BOARD TO CABLE;BOX,4P,1R,2mm,STRA	1	S.A
...3	CN330	3711-004484	HEADER-BOARD TO CABLE;BOX,5P,1R,2mm,STRA	1	S.A
...3	CN330	3711-005606	HEADER-BOARD TO CABLE;BOX,30P,2R,2mm,STR	1	S.A
...3	CN330	3711-005942	HEADER-BOARD TO CABLE;BOX,16P,1R,2mm,STR	1	S.A
...3	JA202_EU	3722-000498	JACK-SCART;21P,-,SN,BLK,NO	1	S.A
...3	JA207_EU	3722-000498	JACK-SCART;21P,-,SN,BLK,NO	1	S.A
...3	JA330	3722-001061	JACK-PHONE;1P,3.6PI,AG,BLK,N	1	S.A
...3	JA330	3722-001061	JACK-PHONE;1P,3.6PI,AG,BLK,N	1	S.A
...3	JA330	3722-001061	JACK-PHONE;1P,3.6PI,AG,BLK,N	1	S.A
...3	JA332	3722-001734	JACK-VHS;4P,SN,BLK,STRAIGHT	1	S.A
...3	JA333	3722-002360	JACK-PIN;3P,AU,GRN/BLU/RED,STRAIGHT	1	S.A
...3	JA333	3722-002362	JACK-PIN;2P,Sn,WHT/RED,STRAIGHT	1	S.A
...3	JA333	3722-002362	JACK-PIN;2P,Sn,WHT/RED,STRAIGHT	1	S.A
...3	JA333	3722-002362	JACK-PIN;2P,Sn,WHT/RED,STRAIGHT	1	S.A
...3	JA333	3722-002363	JACK-PIN;3P,Sn,YEL/WHT/RED,STRAIGHT	1	S.A
...3	T0562	6046-001013	STAND OFF;M3,L5,Ni PLT,SUM24L,#4-40	2	S.N.A
...3	CIS3	BN40-00079A	TUNER;TCPW3001PD32S(H),TCPW3001PD32S(H),	1	S.A
...3	M0107	BN63-01847A	SHIELD-COVER;ROME,SECC,T0.3,49.5,79.5,HE	1	S.N.A
...3	CCMM1	BN73-00024D	SILICON/RUBBER;BORDEAUX,SILICON,28x28XT6	1	S.N.A
...3	HDCP	BN97-00688A	ASSY HDCP;BN46-00018A,PS-42V6S,D73A,GENE	1	S.N.A

6 Electrical Parts List

Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
...4		BN46-00018A	KEY CODE-CERTIFICATE;(HDCP KEY)PPM42M5S,	1	S.N.A
...3		BN97-01594K	ASSY SMD-AUO-VE;LE40S62BX/**	1	S.N.A
...4	SUB05	0202-001477	SOLDER-CREAM;LST309-M,-,D20-45##,96.5Sn/	2.724	S.N.A
...4	D101	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
...4	D102	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
...4	D103	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
...4	D105	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
...4	D304	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
...4	D305	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
...4	D311	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
...4	D312	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
...4	D313	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
...4	D314	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
...4	D315	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
...4	D316	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
...4	D317	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
...4	D318	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
...4	D803	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
...4	D804	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
...4	D0254	0402-000553	DIODE-SCHOTTKY;SS24/B240,40V,200mA,DO-2	1	S.A
...4	D104	0403-000258	DIODE-ZENER;BZX84C5V6,5.2-6V,225mW,SOT-2	1	S.A
...4	D207	0403-000620	DIODE-ZENER;RLZ5.6B,5.45-5.73V,500mW,LL-	1	S.A
...4	D211	0403-000620	DIODE-ZENER;RLZ5.6B,5.45-5.73V,500mW,LL-	1	S.A
...4	D225	0403-000620	DIODE-ZENER;RLZ5.6B,5.45-5.73V,500mW,LL-	1	S.A
...4	D306_27	0403-000620	DIODE-ZENER;RLZ5.6B,5.45-5.73V,500mW,LL-	1	S.A
...4	D307_27	0403-000620	DIODE-ZENER;RLZ5.6B,5.45-5.73V,500mW,LL-	1	S.A
...4	D321_27	0403-000620	DIODE-ZENER;RLZ5.6B,5.45-5.73V,500mW,LL-	1	S.A
...4	D331	0403-000620	DIODE-ZENER;RLZ5.6B,5.45-5.73V,500mW,LL-	1	S.A
...4	D332	0403-000620	DIODE-ZENER;RLZ5.6B,5.45-5.73V,500mW,LL-	1	S.A
...4	D333	0403-000620	DIODE-ZENER;RLZ5.6B,5.45-5.73V,500mW,LL-	1	S.A
...4	D334	0403-000620	DIODE-ZENER;RLZ5.6B,5.45-5.73V,500mW,LL-	1	S.A
...4	D335	0403-000620	DIODE-ZENER;RLZ5.6B,5.45-5.73V,500mW,LL-	1	S.A
...4	D336	0403-000620	DIODE-ZENER;RLZ5.6B,5.45-5.73V,500mW,LL-	1	S.A
...4	D337	0403-000620	DIODE-ZENER;RLZ5.6B,5.45-5.73V,500mW,LL-	1	S.A
...4	D504	0403-000620	DIODE-ZENER;RLZ5.6B,5.45-5.73V,500mW,LL-	1	S.A
...4	D801	0403-000620	DIODE-ZENER;RLZ5.6B,5.45-5.73V,500mW,LL-	1	S.A
...4	D301	0403-001016	DIODE-ZENER;RLZ6.2B,5.96-6.27V,500mW,LL-	1	S.A
...4	D501	0403-001052	DIODE-ZENER;RD8.2MB,7.7-8.7V,200mW,SOT-2	1	S.A
...4	D106	0403-001425	DIODE-ZENER;BZX84C33,31-35V,350mW,SOT-23	1	S.A
...4	D201	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
...4	D202	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
...4	D203_EU	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
...4	D204	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
...4	D205_EU	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
...4	D206	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
...4	D208	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
...4	D209	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
...4	D210	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
...4	D212	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
...4	D213_EU	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
...4	D214	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
...4	D215	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
...4	D216	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
...4	D217_EU	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
...4	D218	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
...4	D219	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
...4	D221	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
...4	D222	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
...4	D223	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
...4	D224	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
...4	D226_EU	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
...4	D227_EU	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
...4	D302_27	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
...4	D303_27	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
...4	D308_27	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
...4	D309_27	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
...4	D310_27	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
...4	D319	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
...4	D320	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
...4	D322_27	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
...4	D323_27	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
...4	D324	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A

Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
....4	D325	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
....4	D328	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
....4	D329	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
....4	D330	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
....4	D338	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
....4	D339	0406-001172	DIODE-TVS;CDS3C30GTH,48V,SMD	1	S.A
....4	D326	0407-000123	DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT-	1	S.A
....4	D327	0407-000123	DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT-	1	S.A
....4	D503	0407-000123	DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT-	1	S.A
....4	Q101	0501-000445	TR-SMALL SIGNAL;KTC3875S-Y,NPN,150mW,SOT	1	S.A
....4	Q105	0501-000445	TR-SMALL SIGNAL;KTC3875S-Y,NPN,150mW,SOT	1	S.A
....4	Q202	0501-000445	TR-SMALL SIGNAL;KTC3875S-Y,NPN,150mW,SOT	1	S.A
....4	Q203	0501-000445	TR-SMALL SIGNAL;KTC3875S-Y,NPN,150mW,SOT	1	S.A
....4	Q205	0501-000445	TR-SMALL SIGNAL;KTC3875S-Y,NPN,150mW,SOT	1	S.A
....4	Q206	0501-000445	TR-SMALL SIGNAL;KTC3875S-Y,NPN,150mW,SOT	1	S.A
....4	Q301	0501-000445	TR-SMALL SIGNAL;KTC3875S-Y,NPN,150mW,SOT	1	S.A
....4	Q302	0501-000445	TR-SMALL SIGNAL;KTC3875S-Y,NPN,150mW,SOT	1	S.A
....4	Q501	0501-000445	TR-SMALL SIGNAL;KTC3875S-Y,NPN,150mW,SOT	1	S.A
....4	Q701	0501-000445	TR-SMALL SIGNAL;KTC3875S-Y,NPN,150mW,SOT	1	S.A
....4	Q801	0501-000445	TR-SMALL SIGNAL;KTC3875S-Y,NPN,150mW,SOT	1	S.A
....4	Q802	0501-000445	TR-SMALL SIGNAL;KTC3875S-Y,NPN,150mW,SOT	1	S.A
....4	Q803	0501-000445	TR-SMALL SIGNAL;KTC3875S-Y,NPN,150mW,SOT	1	S.A
....4	Q806	0501-000445	TR-SMALL SIGNAL;KTC3875S-Y,NPN,150mW,SOT	1	S.A
....4	Q505	0501-000669	TR-SMALL SIGNAL;KTA1505Y,PNP,150mW,SOT-2	1	S.A
....4	Q508	0501-000669	TR-SMALL SIGNAL;KTA1505Y,PNP,150mW,SOT-2	1	S.A
....4	Q804	0501-000669	TR-SMALL SIGNAL;KTA1505Y,PNP,150mW,SOT-2	1	S.A
....4	Q805	0501-000669	TR-SMALL SIGNAL;KTA1505Y,PNP,150mW,SOT-2	1	S.A
....4	Q102	0501-002080	TR-SMALL SIGNAL;2SC2412K,NPN,200mW,SC-59	1	S.A
....4	Q103	0501-002080	TR-SMALL SIGNAL;2SC2412K,NPN,200mW,SC-59	1	S.A
....4	Q104	0501-002080	TR-SMALL SIGNAL;2SC2412K,NPN,200mW,SC-59	1	S.A
....4	Q504	0501-002080	TR-SMALL SIGNAL;2SC2412K,NPN,200mW,SC-59	1	S.A
....4	Q506	0501-002080	TR-SMALL SIGNAL;2SC2412K,NPN,200mW,SC-59	1	S.A
....4	Q507	0501-002080	TR-SMALL SIGNAL;2SC2412K,NPN,200mW,SC-59	1	S.A
....4	Q509	0501-002080	TR-SMALL SIGNAL;2SC2412K,NPN,200mW,SC-59	1	S.A
....4	Q409	0505-000110	FET-SILICON;2N7002,N,60V,115mA,7.5ohm,0.	1	S.A
....4	Q409	0505-000110	FET-SILICON;2N7002,N,60V,115mA,7.5ohm,0.	1	S.A
....4	Q409	0505-000110	FET-SILICON;2N7002,N,60V,115mA,7.5ohm,0.	1	S.A
....4	Q409	0505-000110	FET-SILICON;2N7002,N,60V,115mA,7.5ohm,0.	1	S.A
....4	Q409	0505-001170	FET-SILICON;SI9933ADY-T1,P,-20V,3.4A,0.0	1	S.A
....4	IC801	1001-000164	IC-ANALOG MULTIPLEX;74HC4052,CMOS,SOP,16	1	S.A
....4	IC107	1002-001482	IC-D/A CONVERTER;WM8521H9GED/R,16bit,SOI	1	S.A
....4	IC107	1002-001482	IC-D/A CONVERTER;WM8521H9GED/R,16bit,SOI	1	S.A
....4	IC107	1002-001482	IC-D/A CONVERTER;WM8521H9GED/R,16bit,SOI	1	S.A
....4	IC108	1002-001483	IC-A/D CONVERTER;WM8775SEDS/R,24Bit,SSOP	1	S.A
....4	IC110	1006-001076	IC-DRIVER/RECEIVER;MAX232ECWE+T,SOP,16P,	1	S.A
....4	IC112	1103-000129	IC-EEPROM;24C02,2Kbit,256x8Bit,SOP,8P,5x	1	S.A
....4	IC112	1103-000129	IC-EEPROM;24C02,2Kbit,256x8Bit,SOP,8P,5x	1	S.A
....4	IC112	1103-001023	IC-EEPROM;24C08,8Kbit,1Kx8Bit,SOP,8P,5x4	1	S.A
....4	IC112	1103-001279	IC-EEPROM;24C32,32Kbit,4Kx8Bit,SOP,8P,5x	1	S.A
....4	IC502	1105-001715	IC-VIDEO RAM;M13S128168,K4D261638,GDDR,1	1	S.A
....4	IC503	1105-001715	IC-VIDEO RAM;M13S128168,K4D261638,GDDR,1	1	S.A
....4	DU410	1201-000166	IC-OP AMP;LM358,SOP,ST,8P,150MIL,DUAL,10	1	S.A
....4	T0085	1201-002367	IC-AUDIO AMP;YDA138-EZ,SSOP,42P,17.5x8.4	1	S.A
....4	T0087	1203-001815	IC-POSI.FIXED REG.;78M09,TO-252,3P,-,PLA	1	S.A
....4	T0087	1203-002842	IC-POSI.FIXED REG.;AP1117D-33A,TO-252,3P	1	S.A
....4	T0087	1203-002842	IC-POSI.FIXED REG.;AP1117D-33A,TO-252,3P	1	S.A
....4	T0087	1203-002855	IC-POSI.FIXED REG.;MC33269DTRK-5.0,DPRK,	1	S.A
....4	T0087	1203-002974	IC-POSI.FIXED REG.;AP1117D-25A,TO-252,3P	1	S.A
....4	T0170	1203-003059	IC-SWITCH VOL. REG.;MP1583,SOIC,8P,4.9x3	1	S.A
....4	IC012	1203-003544	IC-POSI.ADJUST REG.;RT9173BPS,SOP-8,8P,5	1	S.A
....4	T0087	1203-003703	IC-POSI.FIXED REG.;AP1117E-18A,SOT-223,3	1	S.A
....4	IC507	1203-004363	IC-VOL. DETECTOR;RT9818C-29PV,SOT-23,3P,	1	S.A
....4	IC508	1203-004364	IC-VOL. DETECTOR;RT9818C-42PV,SOT-23,3P,	1	S.A
....4	IC807	1203-004364	IC-VOL. DETECTOR;RT9818C-42PV,SOT-23,3P,	1	S.A
....4	IC118	1204-002651	IC-VIDEO PROCESS;MT8202EG,BGA,388P,27x27	1	S.A
....4	IC704	1205-003067	IC-RECEIVER;MT8293,LQFP,128P,14x14mm,PLA	1	S.A
....4	R885_OP	2007-000033	R-CHIP;0ohm,5%,1/4W,TP,3216	1	S.A
....4	R886_OP	2007-000033	R-CHIP;0ohm,5%,1/4W,TP,3216	1	S.A
....4	R524	2007-000052	R-CHIP;10Kohm,1%,1/10W,TP,1608	1	S.A
....4	R826	2007-000052	R-CHIP;10Kohm,1%,1/10W,TP,1608	1	S.A
....4	R830	2007-000052	R-CHIP;10Kohm,1%,1/10W,TP,1608	1	S.A
....4	R847	2007-000052	R-CHIP;10Kohm,1%,1/10W,TP,1608	1	S.A

6 Electrical Parts List

Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
....4	R855	2007-000052	R-CHIP;10Kohm,1%,1/10W,TP,1608	1	SA
....4	R860	2007-000052	R-CHIP;10Kohm,1%,1/10W,TP,1608	1	SA
....4	R611	2007-000060	R-CHIP;100Kohm,1%,1/10W,TP,1608	1	SA
....4	40_	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R123	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R222	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R231	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R233	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R239	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R260_EU	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R306_27	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R307_27	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R308_27	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R317	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R330_27	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R331_27	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R332_27	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R333_27	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R607	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R608	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R616	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R618	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R642	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R644	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R701	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R706	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R716	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R717	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R719	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R720	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R721	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R722	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R723	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R724	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R725	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R726	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R730	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R746	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R883	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	SA
....4	R366	2007-000071	R-CHIP;22ohm,5%,1/10W,TP,1608	1	SA
....4	R374	2007-000071	R-CHIP;22ohm,5%,1/10W,TP,1608	1	SA
....4	R617	2007-000071	R-CHIP;22ohm,5%,1/10W,TP,1608	1	SA
....4	R620	2007-000071	R-CHIP;22ohm,5%,1/10W,TP,1608	1	SA
....4	R621	2007-000071	R-CHIP;22ohm,5%,1/10W,TP,1608	1	SA
....4	R622	2007-000071	R-CHIP;22ohm,5%,1/10W,TP,1608	1	SA
....4	R624	2007-000071	R-CHIP;22ohm,5%,1/10W,TP,1608	1	SA
....4	R625	2007-000071	R-CHIP;22ohm,5%,1/10W,TP,1608	1	SA
....4	R643	2007-000071	R-CHIP;22ohm,5%,1/10W,TP,1608	1	SA
....4	R738	2007-000071	R-CHIP;22ohm,5%,1/10W,TP,1608	1	SA
....4	R739	2007-000071	R-CHIP;22ohm,5%,1/10W,TP,1608	1	SA
....4	R740	2007-000071	R-CHIP;22ohm,5%,1/10W,TP,1608	1	SA
....4	R741	2007-000071	R-CHIP;22ohm,5%,1/10W,TP,1608	1	SA
....4	R742	2007-000071	R-CHIP;22ohm,5%,1/10W,TP,1608	1	SA
....4	R743	2007-000071	R-CHIP;22ohm,5%,1/10W,TP,1608	1	SA
....4	R744	2007-000071	R-CHIP;22ohm,5%,1/10W,TP,1608	1	SA
....4	R745	2007-000071	R-CHIP;22ohm,5%,1/10W,TP,1608	1	SA
....4	R117	2007-000072	R-CHIP;47ohm,5%,1/10W,TP,1608	1	SA
....4	R118	2007-000072	R-CHIP;47ohm,5%,1/10W,TP,1608	1	SA
....4	R343	2007-000072	R-CHIP;47ohm,5%,1/10W,TP,1608	1	SA
....4	R344	2007-000072	R-CHIP;47ohm,5%,1/10W,TP,1608	1	SA
....4	R365	2007-000072	R-CHIP;47ohm,5%,1/10W,TP,1608	1	SA
....4	R367	2007-000072	R-CHIP;47ohm,5%,1/10W,TP,1608	1	SA
....4	R857	2007-000072	R-CHIP;47ohm,5%,1/10W,TP,1608	1	SA
....4	R858	2007-000072	R-CHIP;47ohm,5%,1/10W,TP,1608	1	SA
....4	R125	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	SA
....4	R129	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	SA
....4	R202_EU	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	SA
....4	R204_EU	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	SA
....4	R214	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	SA
....4	R245	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	SA
....4	R246	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	SA
....4	R247	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	SA

Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
....4	R252	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R259	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R303	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R326	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R329	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R345	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R372	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R504	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R505	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R507	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R508	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R509	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R510	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R511	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R512	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R513	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R514	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R526	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R528	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R542	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R632	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R633	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R649	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R702	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R736	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R737	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R875	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R101	2007-000075	R-CHIP;220ohm,5%,1/10W,TP,1608	1	S.A
....4	R703	2007-000075	R-CHIP;220ohm,5%,1/10W,TP,1608	1	S.A
....4	R731_OP	2007-000075	R-CHIP;220ohm,5%,1/10W,TP,1608	1	S.A
....4	R110	2007-000076	R-CHIP;330ohm,5%,1/10W,TP,1608	1	S.A
....4	R206	2007-000077	R-CHIP;470ohm,5%,1/10W,TP,1608	1	S.A
....4	R207	2007-000077	R-CHIP;470ohm,5%,1/10W,TP,1608	1	S.A
....4	R209	2007-000077	R-CHIP;470ohm,5%,1/10W,TP,1608	1	S.A
....4	R210	2007-000077	R-CHIP;470ohm,5%,1/10W,TP,1608	1	S.A
....4	R253	2007-000077	R-CHIP;470ohm,5%,1/10W,TP,1608	1	S.A
....4	R255	2007-000077	R-CHIP;470ohm,5%,1/10W,TP,1608	1	S.A
....4	R322	2007-000077	R-CHIP;470ohm,5%,1/10W,TP,1608	1	S.A
....4	R325	2007-000077	R-CHIP;470ohm,5%,1/10W,TP,1608	1	S.A
....4	R341	2007-000077	R-CHIP;470ohm,5%,1/10W,TP,1608	1	S.A
....4	R342	2007-000077	R-CHIP;470ohm,5%,1/10W,TP,1608	1	S.A
....4	R368	2007-000077	R-CHIP;470ohm,5%,1/10W,TP,1608	1	S.A
....4	R369	2007-000077	R-CHIP;470ohm,5%,1/10W,TP,1608	1	S.A
....4	R525	2007-000077	R-CHIP;470ohm,5%,1/10W,TP,1608	1	S.A
....4	R529	2007-000077	R-CHIP;470ohm,5%,1/10W,TP,1608	1	S.A
....4	R533	2007-000077	R-CHIP;470ohm,5%,1/10W,TP,1608	1	S.A
....4	R534	2007-000077	R-CHIP;470ohm,5%,1/10W,TP,1608	1	S.A
....4	R535	2007-000077	R-CHIP;470ohm,5%,1/10W,TP,1608	1	S.A
....4	R539	2007-000077	R-CHIP;470ohm,5%,1/10W,TP,1608	1	S.A
....4	R709	2007-000077	R-CHIP;470ohm,5%,1/10W,TP,1608	1	S.A
....4	R817	2007-000077	R-CHIP;470ohm,5%,1/10W,TP,1608	1	S.A
....4	R828	2007-000077	R-CHIP;470ohm,5%,1/10W,TP,1608	1	S.A
....4	R842	2007-000077	R-CHIP;470ohm,5%,1/10W,TP,1608	1	S.A

6 Electrical Parts List

[illegible]

Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
....4	R811	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R812	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R827	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R829	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R831	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R832	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R880	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R894	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R895	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R896	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R897	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R612	2007-000091	R-CHIP;12Kohm,5%,1/10W,TP,1608	1	S.A
....4	R613	2007-000091	R-CHIP;12Kohm,5%,1/10W,TP,1608	1	S.A
....4	R120	2007-000092	R-CHIP;15Kohm,5%,1/10W,TP,1608	1	S.A
....4	R121	2007-000092	R-CHIP;15Kohm,5%,1/10W,TP,1608	1	S.A
....4	R113	2007-000094	R-CHIP;22Kohm,5%,1/10W,TP,1608	1	S.A
....4	R208_EU	2007-000094	R-CHIP;22Kohm,5%,1/10W,TP,1608	1	S.A
....4	R211_EU	2007-000094	R-CHIP;22Kohm,5%,1/10W,TP,1608	1	S.A
....4	R256	2007-000094	R-CHIP;22Kohm,5%,1/10W,TP,1608	1	S.A
....4	R257	2007-000094	R-CHIP;22Kohm,5%,1/10W,TP,1608	1	S.A
....4	R530	2007-000096	R-CHIP;30Kohm,5%,1/10W,TP,1608	1	S.A
....4	R543	2007-000096	R-CHIP;30Kohm,5%,1/10W,TP,1608	1	S.A
....4	R130	2007-000097	R-CHIP;47Kohm,5%,1/10W,TP,1608	1	S.A
....4	R201_EU	2007-000097	R-CHIP;47Kohm,5%,1/10W,TP,1608	1	S.A
....4	R203_EU	2007-000097	R-CHIP;47Kohm,5%,1/10W,TP,1608	1	S.A
....4	R250	2007-000097	R-CHIP;47Kohm,5%,1/10W,TP,1608	1	S.A
....4	R251	2007-000097	R-CHIP;47Kohm,5%,1/10W,TP,1608	1	S.A
....4	R312	2007-000097	R-CHIP;47Kohm,5%,1/10W,TP,1608	1	S.A
....4	R889	2007-000097	R-CHIP;47Kohm,5%,1/10W,TP,1608	1	S.A
....4	R541	2007-000098	R-CHIP;56Kohm,5%,1/10W,TP,1608	1	S.A
....4	R102	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	S.A
....4	R111	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	S.A
....4	R127	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	S.A
....4	R601	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	S.A
....4	R603	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	S.A
....4	R801	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	S.A
....4	R802	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	S.A
....4	R803	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	S.A
....4	R804	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	S.A
....4	R805	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	S.A
....4	R806	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	S.A
....4	R807	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	S.A
....4	R808	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	S.A
....4	R818	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	S.A
....4	R819	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	S.A
....4	R820	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	S.A
....4	R821	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	S.A
....4	R822	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	S.A
....4	R823	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	S.A
....4	R824	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	S.A
....4	R825	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	S.A
....4	R122	2007-000106	R-CHIP;220Kohm,5%,1/10W,TP,1608	1	S.A
....4	R128_OP	2007-000106	R-CHIP;220Kohm,5%,1/10W,TP,1608	1	S.A
....4	R609	2007-000113	R-CHIP;33ohm,5%,1/10W,TP,1608	1	S.A
....4	R610	2007-000113	R-CHIP;33ohm,5%,1/10W,TP,1608	1	S.A
....4	R628	2007-000113	R-CHIP;33ohm,5%,1/10W,TP,1608	1	S.A
....4	R629	2007-000113	R-CHIP;33ohm,5%,1/10W,TP,1608	1	S.A
....4	R630	2007-000113	R-CHIP;33ohm,5%,1/10W,TP,1608	1	S.A
....4	R634	2007-000113	R-CHIP;33ohm,5%,1/10W,TP,1608	1	S.A
....4	R635	2007-000113	R-CHIP;33ohm,5%,1/10W,TP,1608	1	S.A
....4	R636	2007-000113	R-CHIP;33ohm,5%,1/10W,TP,1608	1	S.A
....4	R637	2007-000113	R-CHIP;33ohm,5%,1/10W,TP,1608	1	S.A
....4	R638	2007-000113	R-CHIP;33ohm,5%,1/10W,TP,1608	1	S.A
....4	R639	2007-000113	R-CHIP;33ohm,5%,1/10W,TP,1608	1	S.A
....4	R640	2007-000113	R-CHIP;33ohm,5%,1/10W,TP,1608	1	S.A
....4	R641	2007-000113	R-CHIP;33ohm,5%,1/10W,TP,1608	1	S.A
....4	R810	2007-000113	R-CHIP;33ohm,5%,1/10W,TP,1608	1	S.A
....4	R813	2007-000113	R-CHIP;33ohm,5%,1/10W,TP,1608	1	S.A
....4	R815	2007-000113	R-CHIP;33ohm,5%,1/10W,TP,1608	1	S.A
....4	R834	2007-000113	R-CHIP;33ohm,5%,1/10W,TP,1608	1	S.A
....4	R835	2007-000113	R-CHIP;33ohm,5%,1/10W,TP,1608	1	S.A
....4	R839	2007-000113	R-CHIP;33ohm,5%,1/10W,TP,1608	1	S.A

6 Electrical Parts List

Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
....4	R844	2007-000113	R-CHIP;33ohm,5%,1/10W,TP,1608	1	SA
....4	R846	2007-000113	R-CHIP;33ohm,5%,1/10W,TP,1608	1	SA
....4	R851	2007-000113	R-CHIP;33ohm,5%,1/10W,TP,1608	1	SA
....4	R864	2007-000113	R-CHIP;33ohm,5%,1/10W,TP,1608	1	SA
....4	R865	2007-000113	R-CHIP;33ohm,5%,1/10W,TP,1608	1	SA
....4	R869	2007-000113	R-CHIP;33ohm,5%,1/10W,TP,1608	1	SA
....4	R531	2007-000120	R-CHIP;680ohm,5%,1/10W,TP,1608	1	SA
....4	R105	2007-000123	R-CHIP;1.5Kohm,5%,1/10W,TP,1608	1	SA
....4	R106	2007-000123	R-CHIP;1.5Kohm,5%,1/10W,TP,1608	1	SA
....4	R107	2007-000123	R-CHIP;1.5Kohm,5%,1/10W,TP,1608	1	SA
....4	R109	2007-000124	R-CHIP;2.2Kohm,5%,1/10W,TP,1608	1	SA
....4	R523	2007-000124	R-CHIP;2.2Kohm,5%,1/10W,TP,1608	1	SA
....4	R537	2007-000124	R-CHIP;2.2Kohm,5%,1/10W,TP,1608	1	SA
....4	R705	2007-000124	R-CHIP;2.2Kohm,5%,1/10W,TP,1608	1	SA
....4	R614	2007-000127	R-CHIP;9.1Kohm,5%,1/10W,TP,1608	1	SA
....4	R527	2007-000134	R-CHIP;33Kohm,5%,1/10W,TP,1608	1	SA
....4	R221	2007-000287	R-CHIP;100OHM,1%,1/10W,TP,1608	1	SA
....4	R223	2007-000287	R-CHIP;100OHM,1%,1/10W,TP,1608	1	SA
....4	R228	2007-000287	R-CHIP;100OHM,1%,1/10W,TP,1608	1	SA
....4	R232	2007-000287	R-CHIP;100OHM,1%,1/10W,TP,1608	1	SA
....4	R238	2007-000287	R-CHIP;100OHM,1%,1/10W,TP,1608	1	SA
....4	R240	2007-000287	R-CHIP;100OHM,1%,1/10W,TP,1608	1	SA
....4	R350	2007-000287	R-CHIP;100OHM,1%,1/10W,TP,1608	1	SA
....4	R354	2007-000287	R-CHIP;100OHM,1%,1/10W,TP,1608	1	SA
....4	R357	2007-000287	R-CHIP;100OHM,1%,1/10W,TP,1608	1	SA
....4	R243	2007-000293	R-CHIP;100ohm,5%,1/4W,TP,3216	1	SA
....4	R318	2007-000309	R-CHIP;10ohm,5%,1/10W,TP,1608	1	SA
....4	R319	2007-000309	R-CHIP;10ohm,5%,1/10W,TP,1608	1	SA
....4	R320	2007-000309	R-CHIP;10ohm,5%,1/10W,TP,1608	1	SA
....4	R321	2007-000309	R-CHIP;10ohm,5%,1/10W,TP,1608	1	SA
....4	R323	2007-000309	R-CHIP;10ohm,5%,1/10W,TP,1608	1	SA
....4	R324	2007-000309	R-CHIP;10ohm,5%,1/10W,TP,1608	1	SA
....4	R327	2007-000309	R-CHIP;10ohm,5%,1/10W,TP,1608	1	SA
....4	R328	2007-000309	R-CHIP;10ohm,5%,1/10W,TP,1608	1	SA
....4	R623	2007-000402	R-CHIP;150ohm,5%,1/10W,TP,1608	1	SA
....4	R215	2007-000458	R-CHIP;18Kohm,5%,1/10W,TP,1608	1	SA
....4	R258	2007-000458	R-CHIP;18Kohm,5%,1/10W,TP,1608	1	SA
....4	R879	2007-000882	R-CHIP;4.7ohm,5%,1/10W,TP,1608	1	SA
....4	R884	2007-000882	R-CHIP;4.7ohm,5%,1/10W,TP,1608	1	SA
....4	R887	2007-000882	R-CHIP;4.7ohm,5%,1/10W,TP,1608	1	SA
....4	R888	2007-000882	R-CHIP;4.7ohm,5%,1/10W,TP,1608	1	SA
....4	R732	2007-000903	R-CHIP;430ohm,1%,1/10W,TP,1608	1	SA
....4	R213_EU	2007-000950	R-CHIP;47ohm,5%,1/4W,TP,3216	1	SA
....4	R216	2007-000950	R-CHIP;47ohm,5%,1/4W,TP,3216	1	SA
....4	R218	2007-000950	R-CHIP;47ohm,5%,1/4W,TP,3216	1	SA
....4	R220	2007-000950	R-CHIP;47ohm,5%,1/4W,TP,3216	1	SA
....4	R225	2007-000950	R-CHIP;47ohm,5%,1/4W,TP,3216	1	SA
....4	R227	2007-000950	R-CHIP;47ohm,5%,1/4W,TP,3216	1	SA
....4	R235	2007-000950	R-CHIP;47ohm,5%,1/4W,TP,3216	1	SA
....4	R237	2007-000950	R-CHIP;47ohm,5%,1/4W,TP,3216	1	SA
....4	R241	2007-000950	R-CHIP;47ohm,5%,1/4W,TP,3216	1	SA
....4	R262_EU	2007-000950	R-CHIP;47ohm,5%,1/4W,TP,3216	1	SA
....4	R301	2007-000950	R-CHIP;47ohm,5%,1/4W,TP,3216	1	SA
....4	R302	2007-000950	R-CHIP;47ohm,5%,1/4W,TP,3216	1	SA
....4	R314	2007-000950	R-CHIP;47ohm,5%,1/4W,TP,3216	1	SA
....4	R315	2007-000950	R-CHIP;47ohm,5%,1/4W,TP,3216	1	SA
....4	R348	2007-000950	R-CHIP;47ohm,5%,1/4W,TP,3216	1	SA
....4	R351	2007-000950	R-CHIP;47ohm,5%,1/4W,TP,3216	1	SA
....4	R352	2007-000950	R-CHIP;47ohm,5%,1/4W,TP,3216	1	SA
....4	R355	2007-000950	R-CHIP;47ohm,5%,1/4W,TP,3216	1	SA
....4	R370	2007-001002	R-CHIP;510ohm,5%,1/10W,TP,1608	1	SA
....4	R371	2007-001002	R-CHIP;510ohm,5%,1/10W,TP,1608	1	SA
....4	R124	2007-001010	R-CHIP;51Kohm,5%,1/10W,TP,1608	1	SA
....4	R346	2007-001134	R-CHIP;68ohm,5%,1/10W,TP,1608	1	SA
....4	R347	2007-001134	R-CHIP;68ohm,5%,1/10W,TP,1608	1	SA
....4	R384	2007-001134	R-CHIP;68ohm,5%,1/10W,TP,1608	1	SA
....4	R385	2007-001134	R-CHIP;68ohm,5%,1/10W,TP,1608	1	SA
....4	R606_EU	2007-001134	R-CHIP;68ohm,5%,1/10W,TP,1608	1	SA
....4	R126	2007-001164	R-CHIP;75ohm,1%,1/10W,TP,1608	1	SA
....4	R217	2007-001164	R-CHIP;75ohm,1%,1/10W,TP,1608	1	SA
....4	R219	2007-001164	R-CHIP;75ohm,1%,1/10W,TP,1608	1	SA
....4	R224	2007-001164	R-CHIP;75ohm,1%,1/10W,TP,1608	1	SA

Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
....4	R226	2007-001164	R-CHIP;75ohm,1%,1/10W,TP,1608	1	S.A
....4	R229_EU	2007-001164	R-CHIP;75ohm,1%,1/10W,TP,1608	1	S.A
....4	R234	2007-001164	R-CHIP;75ohm,1%,1/10W,TP,1608	1	S.A
....4	R236	2007-001164	R-CHIP;75ohm,1%,1/10W,TP,1608	1	S.A
....4	R242_EU	2007-001164	R-CHIP;75ohm,1%,1/10W,TP,1608	1	S.A
....4	R244	2007-001164	R-CHIP;75ohm,1%,1/10W,TP,1608	1	S.A
....4	R264_EU	2007-001164	R-CHIP;75ohm,1%,1/10W,TP,1608	1	S.A
....4	R309_27	2007-001164	R-CHIP;75ohm,1%,1/10W,TP,1608	1	S.A
....4	R310_27	2007-001164	R-CHIP;75ohm,1%,1/10W,TP,1608	1	S.A
....4	R334_27	2007-001164	R-CHIP;75ohm,1%,1/10W,TP,1608	1	S.A
....4	R532	2007-001164	R-CHIP;75ohm,1%,1/10W,TP,1608	1	S.A
....4	R349	2007-001167	R-CHIP;75ohm,5%,1/10W,TP,1608	1	S.A
....4	R353	2007-001167	R-CHIP;75ohm,5%,1/10W,TP,1608	1	S.A
....4	R356	2007-001167	R-CHIP;75ohm,5%,1/10W,TP,1608	1	S.A
....4	R116	2007-001179	R-CHIP;8.2Kohm,5%,1/10W,TP,1608	1	S.A
....4	R854	2007-001179	R-CHIP;8.2Kohm,5%,1/10W,TP,1608	1	S.A
....4	R856	2007-001179	R-CHIP;8.2Kohm,5%,1/10W,TP,1608	1	S.A
....4	RA606	2011-000002	R-NET;22ohm,5%,1/16W,L,CHIP,8P,TP,3216	1	S.A
....4	RA608	2011-000002	R-NET;22ohm,5%,1/16W,L,CHIP,8P,TP,3216	1	S.A
....4	RA609	2011-000002	R-NET;22ohm,5%,1/16W,L,CHIP,8P,TP,3216	1	S.A
....4	RA610	2011-000002	R-NET;22ohm,5%,1/16W,L,CHIP,8P,TP,3216	1	S.A
....4	R734	2011-000585	R-NET;47ohm,5%,1/16W,L,CHIP,8P,TP,3.2x1.	1	S.A
....4	RA602	2011-000585	R-NET;47ohm,5%,1/16W,L,CHIP,8P,TP,3.2x1.	1	S.A
....4	RA603	2011-000585	R-NET;47ohm,5%,1/16W,L,CHIP,8P,TP,3.2x1.	1	S.A
....4	RA604	2011-000585	R-NET;47ohm,5%,1/16W,L,CHIP,8P,TP,3.2x1.	1	S.A
....4	RA605	2011-000585	R-NET;47ohm,5%,1/16W,L,CHIP,8P,TP,3.2x1.	1	S.A
....4	RA611	2011-000585	R-NET;47ohm,5%,1/16W,L,CHIP,8P,TP,3.2x1.	1	S.A
....4	RA612	2011-000585	R-NET;47ohm,5%,1/16W,L,CHIP,8P,TP,3.2x1.	1	S.A
....4	RA613	2011-000585	R-NET;47ohm,5%,1/16W,L,CHIP,8P,TP,3.2x1.	1	S.A
....4	RA614	2011-000585	R-NET;47ohm,5%,1/16W,L,CHIP,8P,TP,3.2x1.	1	S.A
....4	R747	2011-000881	R-NET;33ohm,5%,1/16W,L,CHIP,8P,TP,3.2x1.	1	S.A
....4	R748	2011-000881	R-NET;33ohm,5%,1/16W,L,CHIP,8P,TP,3.2x1.	1	S.A
....4	RA601	2011-000881	R-NET;33ohm,5%,1/16W,L,CHIP,8P,TP,3.2x1.	1	S.A
....4	RA607	2011-000881	R-NET;33ohm,5%,1/16W,L,CHIP,8P,TP,3.2x1.	1	S.A
....4	RA615	2011-000881	R-NET;33ohm,5%,1/16W,L,CHIP,8P,TP,3.2x1.	1	S.A
....4	RA701	2011-000881	R-NET;33ohm,5%,1/16W,L,CHIP,8P,TP,3.2x1.	1	S.A
....4	RA702	2011-000881	R-NET;33ohm,5%,1/16W,L,CHIP,8P,TP,3.2x1.	1	S.A
....4	RA703	2011-000881	R-NET;33ohm,5%,1/16W,L,CHIP,8P,TP,3.2x1.	1	S.A
....4	RA704	2011-000881	R-NET;33ohm,5%,1/16W,L,CHIP,8P,TP,3.2x1.	1	S.A
....4	RA705	2011-000881	R-NET;33ohm,5%,1/16W,L,CHIP,8P,TP,3.2x1.	1	S.A
....4	RA706	2011-000881	R-NET;33ohm,5%,1/16W,L,CHIP,8P,TP,3.2x1.	1	S.A
....4	RA707	2011-000881	R-NET;33ohm,5%,1/16W,L,CHIP,8P,TP,3.2x1.	1	S.A
....4	R515	2011-001011	R-NET;10Kohm,5%,1/16W,L,CHIP,8P,TP,3.2x1	1	S.A
....4	R733	2011-001011	R-NET;10Kohm,5%,1/16W,L,CHIP,8P,TP,3.2x1	1	S.A
....4	R838	2011-001011	R-NET;10Kohm,5%,1/16W,L,CHIP,8P,TP,3.2x1	1	S.A
....4	R849	2011-001011	R-NET;10Kohm,5%,1/16W,L,CHIP,8P,TP,3.2x1	1	S.A
....4	RA501	2011-001093	R-NET;100OHM,5%,1/16W,L,CHIP,8P,TP,3216	1	S.A
....4	RA502	2011-001093	R-NET;100OHM,5%,1/16W,L,CHIP,8P,TP,3216	1	S.A
....4	RA503	2011-001093	R-NET;100OHM,5%,1/16W,L,CHIP,8P,TP,3216	1	S.A
....4	RA504	2011-001093	R-NET;100OHM,5%,1/16W,L,CHIP,8P,TP,3216	1	S.A
....4	RA505	2011-001093	R-NET;100OHM,5%,1/16W,L,CHIP,8P,TP,3216	1	S.A
....4	RA506	2011-001093	R-NET;100OHM,5%,1/16W,L,CHIP,8P,TP,3216	1	S.A
....4	RA507	2011-001093	R-NET;100OHM,5%,1/16W,L,CHIP,8P,TP,3216	1	S.A
....4	RA508	2011-001093	R-NET;100OHM,5%,1/16W,L,CHIP,8P,TP,3216	1	S.A
....4	RA509	2011-001093	R-NET;100OHM,5%,1/16W,L,CHIP,8P,TP,3216	1	S.A
....4	RA510	2011-001093	R-NET;100OHM,5%,1/16W,L,CHIP,8P,TP,3216	1	S.A
....4	RA511	2011-001093	R-NET;100OHM,5%,1/16W,L,CHIP,8P,TP,3216	1	S.A
....4	RA512	2011-001093	R-NET;100OHM,5%,1/16W,L,CHIP,8P,TP,3216	1	S.A
....4	RA513	2011-001093	R-NET;100OHM,5%,1/16W,L,CHIP,8P,TP,3216	1	S.A
....4	C101	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C103	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C106	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C112	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C113	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C115	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C117	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C128	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C150	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C154	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C155	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C156	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C157	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A

6 Electrical Parts List

[illegible]

Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
....4	C726	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C805	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C814	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C816	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C821	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C823	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C824	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C832	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C834	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C841	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C843	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C847	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C849	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C850	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C854	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C856	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C859	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C860	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C861	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C863	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C864	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C165	2203-000236	C-CER,CHIP;0.1nF,5%,50V,C0G,1608	1	S.A
....4	C166	2203-000236	C-CER,CHIP;0.1nF,5%,50V,C0G,1608	1	S.A
....4	C201_EU	2203-000236	C-CER,CHIP;0.1nF,5%,50V,C0G,1608	1	S.A
....4	C202	2203-000236	C-CER,CHIP;0.1nF,5%,50V,C0G,1608	1	S.A
....4	C203_EU	2203-000236	C-CER,CHIP;0.1nF,5%,50V,C0G,1608	1	S.A
....4	C204	2203-000236	C-CER,CHIP;0.1nF,5%,50V,C0G,1608	1	S.A
....4	C205	2203-000236	C-CER,CHIP;0.1nF,5%,50V,C0G,1608	1	S.A
....4	C206	2203-000236	C-CER,CHIP;0.1nF,5%,50V,C0G,1608	1	S.A
....4	C226_EU	2203-000236	C-CER,CHIP;0.1nF,5%,50V,C0G,1608	1	S.A
....4	C228	2203-000236	C-CER,CHIP;0.1nF,5%,50V,C0G,1608	1	S.A
....4	C229	2203-000236	C-CER,CHIP;0.1nF,5%,50V,C0G,1608	1	S.A
....4	C230	2203-000236	C-CER,CHIP;0.1nF,5%,50V,C0G,1608	1	S.A
....4	C231	2203-000236	C-CER,CHIP;0.1nF,5%,50V,C0G,1608	1	S.A
....4	C232_EU	2203-000236	C-CER,CHIP;0.1nF,5%,50V,C0G,1608	1	S.A
....4	C329	2203-000236	C-CER,CHIP;0.1nF,5%,50V,C0G,1608	1	S.A
....4	C514	2203-000236	C-CER,CHIP;0.1nF,5%,50V,C0G,1608	1	S.A
....4	C515	2203-000236	C-CER,CHIP;0.1nF,5%,50V,C0G,1608	1	S.A
....4	C102	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	S.A
....4	C116	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	S.A
....4	C118	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	S.A
....4	C121	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	S.A
....4	C122	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	S.A
....4	C124	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	S.A
....4	C125	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	S.A
....4	C137	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	S.A
....4	C139	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	S.A
....4	C140	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	S.A
....4	C158	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	S.A
....4	C171	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	S.A
....4	C207	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	S.A
....4	C208	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	S.A

6 Electrical Parts List

Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
....4	C216	2203-000384	C-CER,CHIP;0.015nF,5%,50V,C0G,1608	1	SA
....4	C217	2203-000384	C-CER,CHIP;0.015nF,5%,50V,C0G,1608	1	SA
....4	C222	2203-000384	C-CER,CHIP;0.015nF,5%,50V,C0G,1608	1	SA
....4	C223	2203-000384	C-CER,CHIP;0.015nF,5%,50V,C0G,1608	1	SA
....4	C169	2203-000405	C-CER,CHIP;0.18nF,5%,50V,C0G,1608	1	SA
....4	C510	2203-000440	C-CER,CHIP;1nF,10%,50V,X7R,1608	1	SA
....4	C511	2203-000440	C-CER,CHIP;1nF,10%,50V,X7R,1608	1	SA
....4	C872	2203-000440	C-CER,CHIP;1nF,10%,50V,X7R,1608	1	SA
....4	C873	2203-000440	C-CER,CHIP;1nF,10%,50V,X7R,1608	1	SA
....4	C881	2203-000440	C-CER,CHIP;1nF,10%,50V,X7R,1608	1	SA
....4	C882	2203-000440	C-CER,CHIP;1nF,10%,50V,X7R,1608	1	SA
....4	C138	2203-000491	C-CER,CHIP;2.2nF,10%,50V,X7R,1608	1	SA
....4	C626	2203-000681	C-CER,CHIP;0.027nF,5%,50V,C0G,1608	1	SA
....4	C627	2203-000681	C-CER,CHIP;0.027nF,5%,50V,C0G,1608	1	SA
....4	C661	2203-000681	C-CER,CHIP;0.027nF,5%,50V,C0G,1608	1	SA
....4	C662	2203-000681	C-CER,CHIP;0.027nF,5%,50V,C0G,1608	1	SA
....4	C663	2203-000681	C-CER,CHIP;0.027nF,5%,50V,C0G,1608	1	SA
....4	C673	2203-000681	C-CER,CHIP;0.027nF,5%,50V,C0G,1608	1	SA
....4	C674	2203-000681	C-CER,CHIP;0.027nF,5%,50V,C0G,1608	1	SA
....4	C675	2203-000681	C-CER,CHIP;0.027nF,5%,50V,C0G,1608	1	SA
....4	C170	2203-000715	C-CER,CHIP;3.3nF,10%,50V,X7R,1608	1	SA
....4	C304_27	2203-000783	C-CER,CHIP;0.33nF,5%,50V,C0G,1608	1	SA
....4	C305_27	2203-000783	C-CER,CHIP;0.33nF,5%,50V,C0G,1608	1	SA
....4	C308	2203-000783	C-CER,CHIP;0.33nF,5%,50V,C0G,1608	1	SA
....4	C309	2203-000783	C-CER,CHIP;0.33nF,5%,50V,C0G,1608	1	SA
....4	C310_27	2203-000783	C-CER,CHIP;0.33nF,5%,50V,C0G,1608	1	SA
....4	C311_27	2203-000783	C-CER,CHIP;0.33nF,5%,50V,C0G,1608	1	SA
....4	C312_27	2203-000783	C-CER,CHIP;0.33nF,5%,50V,C0G,1608	1	SA
....4	C325	2203-000783	C-CER,CHIP;0.33nF,5%,50V,C0G,1608	1	SA
....4	C326	2203-000783	C-CER,CHIP;0.33nF,5%,50V,C0G,1608	1	SA
....4	C520	2203-000815	C-CER,CHIP;0.033nF,5%,50V,C0G,1608	1	SA
....4	C521	2203-000815	C-CER,CHIP;0.033nF,5%,50V,C0G,1608	1	SA
....4	C142	2203-000888	C-CER,CHIP;4.7nF,10%,50V,X7R,1608	1	SA
....4	C225	2203-000888	C-CER,CHIP;4.7nF,10%,50V,X7R,1608	1	SA
....4	C317	2203-000888	C-CER,CHIP;4.7nF,10%,50V,X7R,1608	1	SA
....4	C607	2203-000888	C-CER,CHIP;4.7nF,10%,50V,X7R,1608	1	SA
....4	C817	2203-000888	C-CER,CHIP;4.7nF,10%,50V,X7R,1608	1	SA
....4	C819	2203-000888	C-CER,CHIP;4.7nF,10%,50V,X7R,1608	1	SA
....4	C837	2203-000888	C-CER,CHIP;4.7nF,10%,50V,X7R,1608	1	SA
....4	C844	2203-000888	C-CER,CHIP;4.7nF,10%,50V,X7R,1608	1	SA
....4	C869	2203-000888	C-CER,CHIP;4.7nF,10%,50V,X7R,1608	1	SA
....4	C314	2203-000903	C-CER,CHIP;0.0047nF,0.25pF,50V,C0G,1608	1	SA
....4	C318	2203-000903	C-CER,CHIP;0.0047nF,0.25pF,50V,C0G,1608	1	SA
....4	C321	2203-000903	C-CER,CHIP;0.0047nF,0.25pF,50V,C0G,1608	1	SA
....4	C134	2203-000972	C-CER,CHIP;47nF,10%,16V,X7R,1608	1	SA
....4	C611	2203-000975	C-CER,CHIP;47nF,10%,25V,X7R,TP,1608,-	1	SA
....4	C612	2203-000975	C-CER,CHIP;47nF,10%,25V,X7R,TP,1608,-	1	SA
....4	C613	2203-000975	C-CER,CHIP;47nF,10%,25V,X7R,TP,1608,-	1	SA
....4	C614	2203-000975	C-CER,CHIP;47nF,10%,25V,X7R,TP,1608,-	1	SA
....4	C615	2203-000975	C-CER,CHIP;47nF,10%,25V,X7R,TP,1608,-	1	SA
....4	C616	2203-000975	C-CER,CHIP;47nF,10%,25V,X7R,TP,1608,-	1	SA
....4	C617	2203-000975	C-CER,CHIP;47nF,10%,25V,X7R,TP,1608,-	1	SA
....4	C123	2203-000998	C-CER,CHIP;0.047nF,5%,50V,C0G,1608	1	SA
....4	C172	2203-000998	C-CER,CHIP;0.047nF,5%,50V,C0G,1608	1	SA
....4	C227	2203-000998	C-CER,CHIP;0.047nF,5%,50V,C0G,1608	1	SA
....4	C233_EU	2203-000998	C-CER,CHIP;0.047nF,5%,50V,C0G,1608	1	SA
....4	C301_OP	2203-000998	C-CER,CHIP;0.047nF,5%,50V,C0G,1608	1	SA
....4	C302	2203-000998	C-CER,CHIP;0.047nF,5%,50V,C0G,1608	1	SA
....4	C303_EU	2203-000998	C-CER,CHIP;0.047nF,5%,50V,C0G,1608	1	SA
....4	C327	2203-001083	C-CER,CHIP;0.0050nF,0.1pF,50V,NP0,1608	1	SA
....4	C328	2203-001083	C-CER,CHIP;0.0050nF,0.1pF,50V,NP0,1608	1	SA
....4	C135	2203-001607	C-CER,CHIP;0.22nF,5%,50V,NP0,1608	1	SA
....4	C866	2203-001652	C-CER,CHIP;470nF,+80-20%,16V,Y5V,1608	1	SA
....4	C876	2203-001652	C-CER,CHIP;470nF,+80-20%,16V,Y5V,1608	1	SA
....4	C114	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	SA
....4	C129	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	SA
....4	C131	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	SA
....4	C133	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	SA
....4	C146	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	SA
....4	C148	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	SA
....4	C153	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	SA
....4	C167	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	SA

Level	Loc. No.	Code No.	Description & Specification	Q'ty	S/A/SNA
....4	C175	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C330	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C331	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C501	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C502	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C503	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C504	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C506	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C507	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C508	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C509	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C516	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C522	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C525	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C527	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C528	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C529	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C530	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C532	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C533	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C534	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C676	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C677	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C702	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C703	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C707	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C802	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C867	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C868	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C870	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C871	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C874	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C875	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C877	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C878	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C879	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C880	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C883	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C884	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C110	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C513	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C705	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C706	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C858	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C865	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C812	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	S.A
....4	C813	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	S.A
....4	C815	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	S.A
....4	C818	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	S.A
....4	C820	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	S.A
....4	C822	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	S.A

6 Electrical Parts List

Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
....4	C838	2203-005533	C-CER,CHIP;1000nF,20%,6.3V,X7R,TP,1608	1	SA
....4	C885	2203-005533	C-CER,CHIP;1000nF,20%,6.3V,X7R,TP,1608	1	SA
....4	C163	2203-006333	C-CER,CHIP;10000nF,20%,16V,X5R,TP,3216	1	SA
....4	C164	2203-006333	C-CER,CHIP;10000nF,20%,16V,X5R,TP,3216	1	SA
....4	C174	2203-006333	C-CER,CHIP;10000nF,20%,16V,X5R,TP,3216	1	SA
....4	C306	2203-006333	C-CER,CHIP;10000nF,20%,16V,X5R,TP,3216	1	SA
....4	C323	2203-006333	C-CER,CHIP;10000nF,20%,16V,X5R,TP,3216	1	SA
....4	C505	2203-006333	C-CER,CHIP;10000nF,20%,16V,X5R,TP,3216	1	SA
....4	C523	2203-006333	C-CER,CHIP;10000nF,20%,16V,X5R,TP,3216	1	SA
....4	C524	2203-006333	C-CER,CHIP;10000nF,20%,16V,X5R,TP,3216	1	SA
....4	C526	2203-006333	C-CER,CHIP;10000nF,20%,16V,X5R,TP,3216	1	SA
....4	C531	2203-006333	C-CER,CHIP;10000nF,20%,16V,X5R,TP,3216	1	SA
....4	C605	2203-006333	C-CER,CHIP;10000nF,20%,16V,X5R,TP,3216	1	SA
....4	C619	2203-006333	C-CER,CHIP;10000nF,20%,16V,X5R,TP,3216	1	SA
....4	C630	2203-006333	C-CER,CHIP;10000nF,20%,16V,X5R,TP,3216	1	SA
....4	C642	2203-006333	C-CER,CHIP;10000nF,20%,16V,X5R,TP,3216	1	SA
....4	C648	2203-006333	C-CER,CHIP;10000nF,20%,16V,X5R,TP,3216	1	SA
....4	C678	2203-006333	C-CER,CHIP;10000nF,20%,16V,X5R,TP,3216	1	SA
....4	C679	2203-006333	C-CER,CHIP;10000nF,20%,16V,X5R,TP,3216	1	SA
....4	C701	2203-006333	C-CER,CHIP;10000nF,20%,16V,X5R,TP,3216	1	SA
....4	C711	2203-006333	C-CER,CHIP;10000nF,20%,16V,X5R,TP,3216	1	SA
....4	C721	2203-006333	C-CER,CHIP;10000nF,20%,16V,X5R,TP,3216	1	SA
....4	C801	2203-006333	C-CER,CHIP;10000nF,20%,16V,X5R,TP,3216	1	SA
....4	C806	2203-006333	C-CER,CHIP;10000nF,20%,16V,X5R,TP,3216	1	SA
....4	C810	2203-006333	C-CER,CHIP;10000nF,20%,16V,X5R,TP,3216	1	SA
....4	C825	2203-006333	C-CER,CHIP;10000nF,20%,16V,X5R,TP,3216	1	SA
....4	C826	2203-006333	C-CER,CHIP;10000nF,20%,16V,X5R,TP,3216	1	SA
....4	C845	2402-001086	C-AL,SMD;100UF,20%,16V,WT,TP,6.6X6.6X5.3	1	SA
....4	C104	2402-001128	C-AL,SMD;100##F,20%,16V,-,TP,6.3X5.7mm	1	SA
....4	C105	2402-001128	C-AL,SMD;100##F,20%,16V,-,TP,6.3X5.7mm	1	SA
....4	C120	2402-001128	C-AL,SMD;100##F,20%,16V,-,TP,6.3X5.7mm	1	SA
....4	C126	2402-001128	C-AL,SMD;100##F,20%,16V,-,TP,6.3X5.7mm	1	SA
....4	C127	2402-001128	C-AL,SMD;100##F,20%,16V,-,TP,6.3X5.7mm	1	SA
....4	C151	2402-001128	C-AL,SMD;100##F,20%,16V,-,TP,6.3X5.7mm	1	SA
....4	C152	2402-001128	C-AL,SMD;100##F,20%,16V,-,TP,6.3X5.7mm	1	SA
....4	C161	2402-001128	C-AL,SMD;100##F,20%,16V,-,TP,6.3X5.7mm	1	SA
....4	C603	2402-001128	C-AL,SMD;100##F,20%,16V,-,TP,6.3X5.7mm	1	SA
....4	C602	2402-001129	C-AL,SMD;47UF,20%,16V,WT,TP,6.3X5.2MM	1	SA
....4	C604	2402-001129	C-AL,SMD;47UF,20%,16V,WT,TP,6.3X5.2MM	1	SA
....4	C846	2402-001160	C-AL,SMD;330UF,20%,16V,WT,TP,1008	1	SA
....4	C848	2402-001160	C-AL,SMD;330UF,20%,16V,WT,TP,1008	1	SA
....4	C147	2402-001178	C-AL,SMD;10uF,20%,16V,WT,TP,4.3x4.3x5.8m	1	SA
....4	C518	2402-001178	C-AL,SMD;10uF,20%,16V,WT,TP,4.3x4.3x5.8m	1	SA
....4	C519	2402-001178	C-AL,SMD;10uF,20%,16V,WT,TP,4.3x4.3x5.8m	1	SA
....4	C109	2402-001183	C-AL,SMD;22UF,20%,16V,WT,TP,5.3X5.3X6MM	1	SA
....4	C111	2402-001183	C-AL,SMD;22UF,20%,16V,WT,TP,5.3X5.3X6MM	1	SA
....4	C119	2402-001183	C-AL,SMD;22UF,20%,16V,WT,TP,5.3X5.3X6MM	1	SA
....4	C130	2402-001183	C-AL,SMD;22UF,20%,16V,WT,TP,5.3X5.3X6MM	1	SA
....4	C132	2402-001183	C-AL,SMD;22UF,20%,16V,WT,TP,5.3X5.3X6MM	1	SA
....4	C136	2402-001183	C-AL,SMD;22UF,20%,16V,WT,TP,5.3X5.3X6MM	1	SA
....4	C145	2402-001183	C-AL,SMD;22UF,20%,16V,WT,TP,5.3X5.3X6MM	1	SA
....4	C708	2402-001183	C-AL,SMD;22UF,20%,16V,WT,TP,5.3X5.3X6MM	1	SA
....4	C141	2402-001238	C-AL,SMD;1uF,20%,50V,HR,TP,4.3x4.3x5.2mm	1	SA
....4	C857	2402-001257	C-AL,SMD;470uF,20%,16V,-,TP,8.3*10	1	SA
....4	C862	2402-001257	C-AL,SMD;470uF,20%,16V,-,TP,8.3*10	1	SA
....4	C159	2409-001029	C-ORGANIC,SMD;120##F,20%,6.3V,WT,TP,8.3x	1	SA
....4	T0052	2703-000125	INDUCTOR-SMD;10uH,10%,2012	1	SA
....4	T0052	2703-000125	INDUCTOR-SMD;10uH,10%,2012	1	SA
....4	T0052	2703-000398	INDUCTOR-SMD;10uH,10%,3225	1	SA
....4	T0052	2703-000398	INDUCTOR-SMD;10uH,10%,3225	1	SA
....4	T0052	2703-000398	INDUCTOR-SMD;10uH,10%,3225	1	SA
....4	T0052	2703-000398	INDUCTOR-SMD;10uH,10%,3225	1	SA
....4	T0052	2703-000398	INDUCTOR-SMD;10uH,10%,3225	1	SA
....4	T0052	2703-000398	INDUCTOR-SMD;10uH,10%,3225	1	SA
....4	T0052	2703-000417	INDUCTOR-SMD;220uH,5%,3225	1	SA
....4	T0052	2703-001426	INDUCTOR-SMD;680uH,20%,7070	1	SA
....4	T0052	2703-002327	INDUCTOR-SMD;3.9uH,5%,3225	1	SA
....4	T0052	2703-002722	INDUCTOR-SMD;22uH,20%,12x12mm	1	SA
....4	T0052	2703-002915	INDUCTOR-SMD;22uH,20%,8080	1	SA
....4	T0052	2703-002915	INDUCTOR-SMD;22uH,20%,8080	1	SA
....4	T0052	2703-002915	INDUCTOR-SMD;22uH,20%,8080	1	SA
....4	T0052	2703-002915	INDUCTOR-SMD;22uH,20%,8080	1	SA
....4	X601	2801-003954	CRYSTAL-SMD;27MHz,30ppm,28-AAN,16pF,50oh	1	SA

[illegible]

6 Electrical Parts List

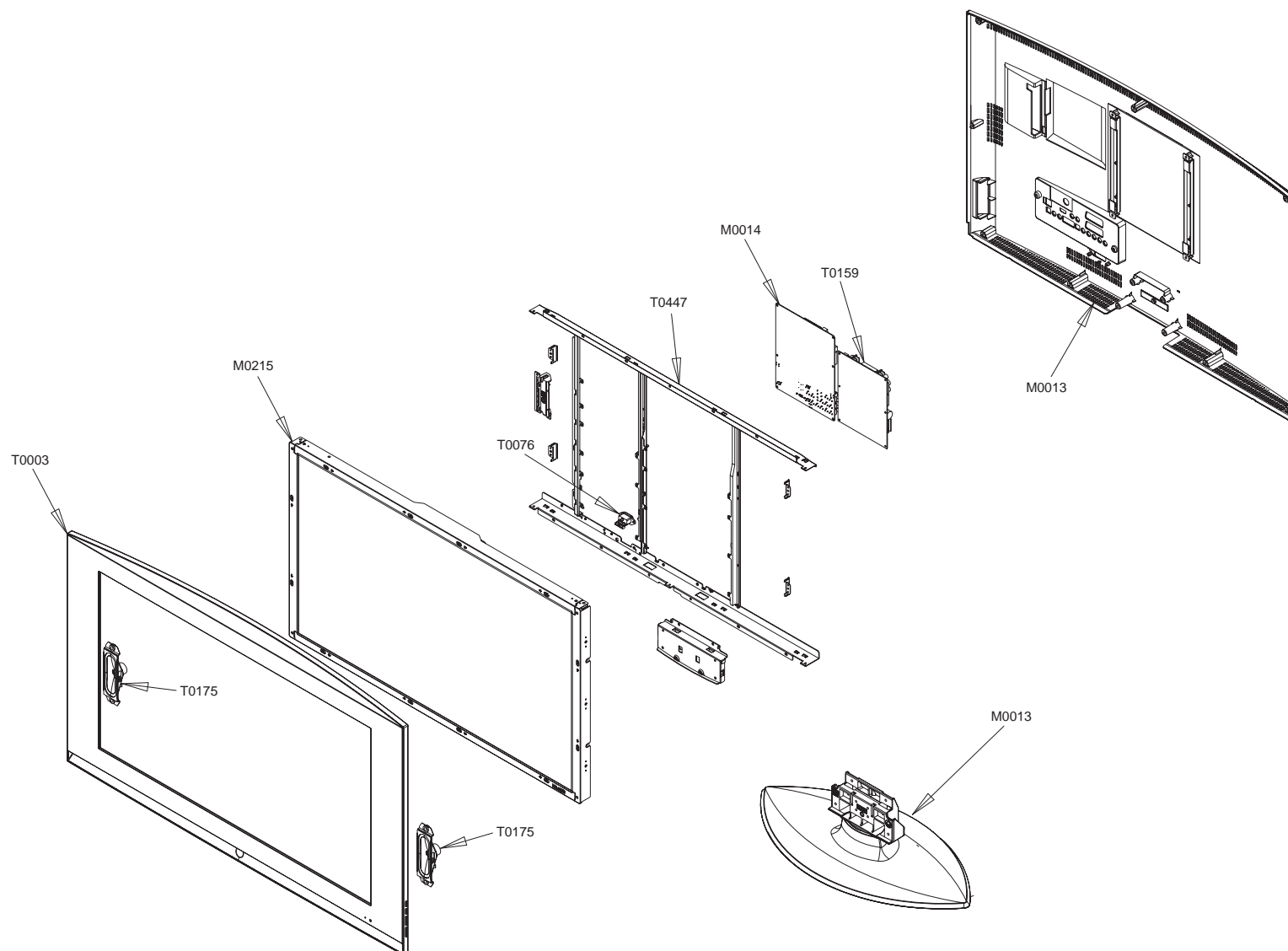
Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
...3	T0578	BN61-02365B	HOLDER-SIDE AV;SONOMA,32,HIPS,HB,BK500	1	S.N.A
...3		BN64-00454L	INLAY AV;SONOMA-2,PS,SHEET,T0.3,BLACK,NO	1	S.N.A
0.1	M0215	BN91-01688D	ASSY LCD-AUO VE;LE40S67BDX/***,72%	1	S.N.A
..2		BN07-00448B	LCD-PANEL;T400XW01 V1,8bit,40inch,16.7M,	1	S.A
0.1	M0003	BN92-02633F	ASSY BOX;40T71,E0(CIS),SONOMA-2	1	S.N.A
..2		BN69-01533A	BOX INNER;40T7,DY-04,AB,YEL,C-01,W790,L1	1.02	S.N.A
..2		BN69-01534R	BOX-SET,OUT;40S62,CB,DY-06,AB,YEL,C3,CIS	1.02	S.N.A
0.1	M0113	BN92-02638A	ASSY P/MATERIAL;40T71,UO	1	S.N.A
..2	T0214	BN74-00008A	TAPE-OPP MASKING;OPP-2,T0.05,W100,L800M,	1.36	S.N.A
..2	T0376	6902-000001	BAG AIR;LDPE,T0.2,L1800,W1000,TRP,,,LDPE	0.022	S.N.A
..2	T0376	6902-000061	BAG AIR;LDPE,T0.2,L1000,W500,TRP,,,	0.065	S.N.A
..2	T0524	6902-000411	BAG PE;HDPE/NITRON,T0.015/T0.5,W1300,L12	1	S.N.A
..2	T0214	AA60-40006A	PIN-STAPLE;AUTO,33X17.8X2.4,H18,33X17.8X	2	S.N.A
..2	T0214	AA61-20285A	HOLDER-BOX;CTV,PP,NTR,HB	2	S.N.A
..2		6922-000003	BAND PP;PP,T0.8,W18,L1650M,TRP,DA69-9014	5.2	S.N.A
0.1	M0019	BN92-02658B	ASSY LABEL;LE40S62BX/*	1	S.N.A
0.1	M0045	BN92-02659J	ASSY ACCESSORY;LE40S61BX/BWT	1	S.N.A
..2	M0045	BN96-05419K	ASSY ACCESSORY;LE40S62BX/BWT,-,-,-,-,-	1	S.A
...3	T0268	3903-000145	CBF-POWER CORD;DT,EU,FP3/YES,U(I)EC C13-R	1	S.A
...3	T0524	6902-000110	BAG PE;LDPE,T0.05,W250,L400,TRP,28.2	2	S.N.A
...3	T0511	AA68-03242K	MANUAL FLYER-SAFETY GUIDE;comm,Samsung,8	1	S.N.A
...3	T0175	AA68-03278B	MANUAL FLYER-01,WARRANTY CARD;CIS All mo	1	S.N.A
...3	ACCESSORY	AA68-03576A	MANUAL FLYER-01,REGISTRATION C;BWT,RU,RU	1	S.N.A
...3	T0074	BN59-00507A	REMOCON;Bordeaux,TM86,SAMSUNG,45Key,PIP,	1	S.A
...3	ACCESSORY	BN63-02368A	CLOTH;LS07BTT,SUEDE,0.6,160,120	1	S.N.A
...3	T0531	BN63-02416B	COVER-BOTTOM;SONOMA,40,HIPS,HB,BK500	1	S.A
...3	T0511	BN68-01234E	MANUAL USERS;COMM,SAMSUNG,Eng/Rus,CIS/BW	1	S.N.A
...3	M0126	BN69-01052A	BOX ACCESSORY-00;ALL,CB-SW1,YEL,W603,D67	1	S.N.A
...3	ACCESSORY	BP68-00597A	MANUAL FLYER-01,W/C;COMM,SAMSUNG,RUS,RUS	1	S.N.A

5 Exploded View and Parts List

- You can search for updated part codes through ITSELF web site.

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

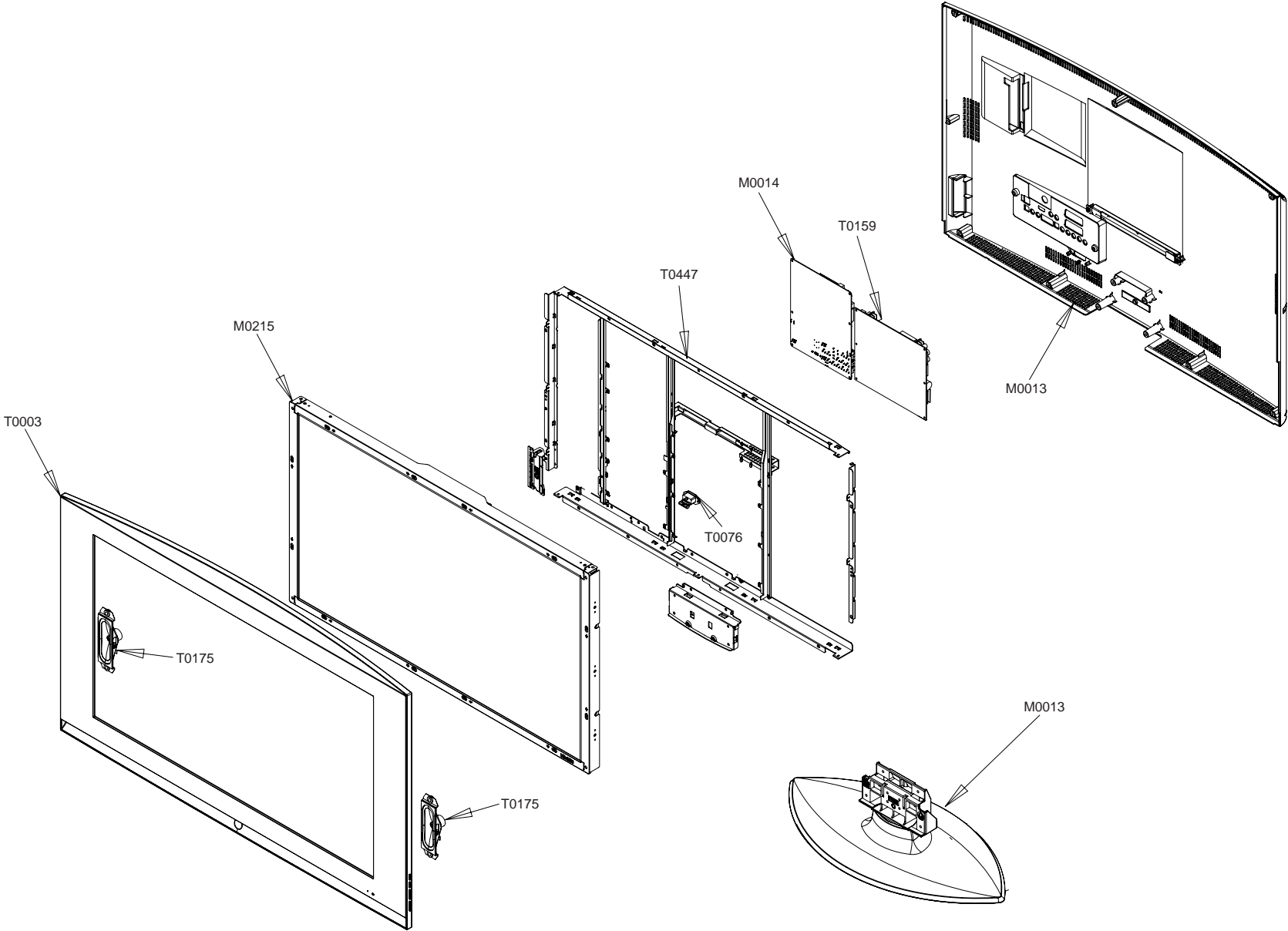
5-1 LE32S62B Exploded View



5-2 LE32S62B Parts list

Location	Code.No	Item & Specification	Q'ty	SA/SNA	Remark
T0003	BN96-03628Q	ASSY COVER P-FRONT;32T70,EO,ABS+PMMA,HB,	1	S.A	
T0175	BN96-05397A	ASSY SPEAKER P;8ohm,2pin,Left,10W,Sniper	1	S.A	
T0175	BN96-05398A	ASSY SPEAKER P;8ohm,3pin,Right,10W,Snipe	1	S.A	
M0215	BN07-00425A	LCD-PANEL;CLAA320WB02SL,8bit,37inch,16.7	1	S.A	
T0447	BN96-02999E	ASSY BRACKET P-PANEL;BORDEAUX,32,AUO,SMP	1	S.N.A	
M0014	BN94-01304A	ASSY PCB MAIN-CPT;LE32S62BX/*CPT	1	S.A	
M0013	BN96-03838D	ASSY COVER P-REAR;32T70,EO,-,HIPS,HB,BK5	1	S.A	
M0027	BN96-03698B	ASSY STAND P-BASE;SONOMA,32,ABS+PMMA,HB,	1	S.A	

5-3 LE37S62B Exploded View

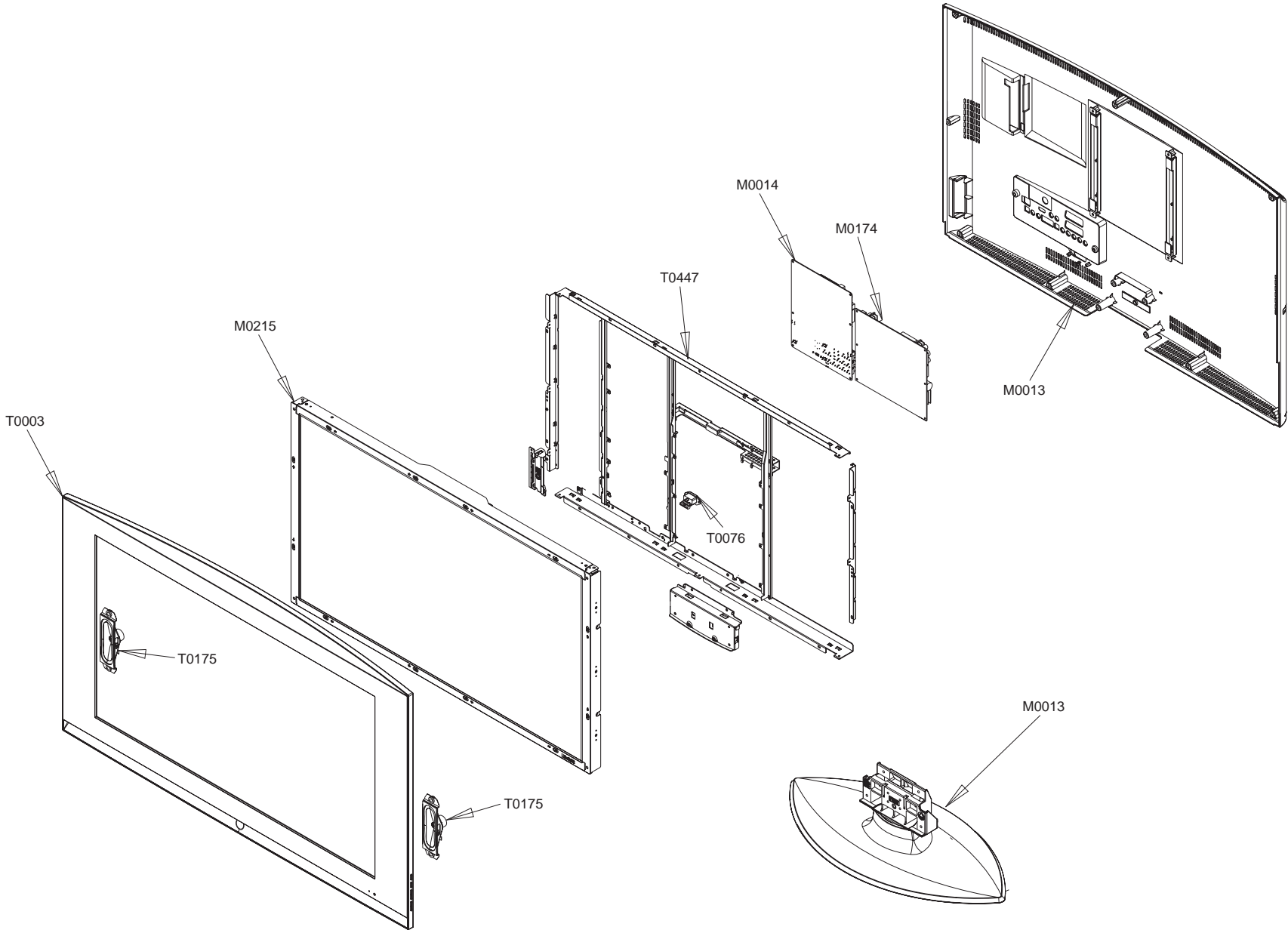


5 Exploded View & Parts List

5-4 LE37S62B Parts list

Location	Code.No	Item & Specification	Q'ty	SA/SNA	Remark
T0003	BN96-04044J	ASSY COVER P-FRONT;37T70,EO,ABS+PMMA,HB,	1	S.A	
T0175	BN96-05399A	ASSY SPEAKER P;8ohm,2pin,Left,10W,Sniper	1	S.A	
T0175	BN96-05400A	ASSY SPEAKER P;8ohm,3pin,Right,10W,Snipe	1	S.A	
M0215	BN07-00424A	LCD-PANEL;CLAA370WA03SL,8bit,37inch,16.7	1	S.A	
T0447	BN96-03253A	ASSY BRACKET P-PANEL;BORDEAUX-2,37,AUO,S	1	S.N.A	
T0076	BN39-00615D	CBF HARNESS;BORDEAUX,1617#22,3P,1P,RING,	1	S.A	
M0014	BN94-01304B	ASSY PCB MAIN-CPT;LE37S62BX/"CPT	1	S.A	
M0027	BN96-03697B	ASSY STAND P-BASE;SONOMA,40,ABS+PMMA,HB,	1	S.A	
M0013	BN96-04045D	ASSY COVER P-REAR;37T70,EO,HIPS,HB,BK500	1	S.A	

5-5 LE40S62B Exploded View



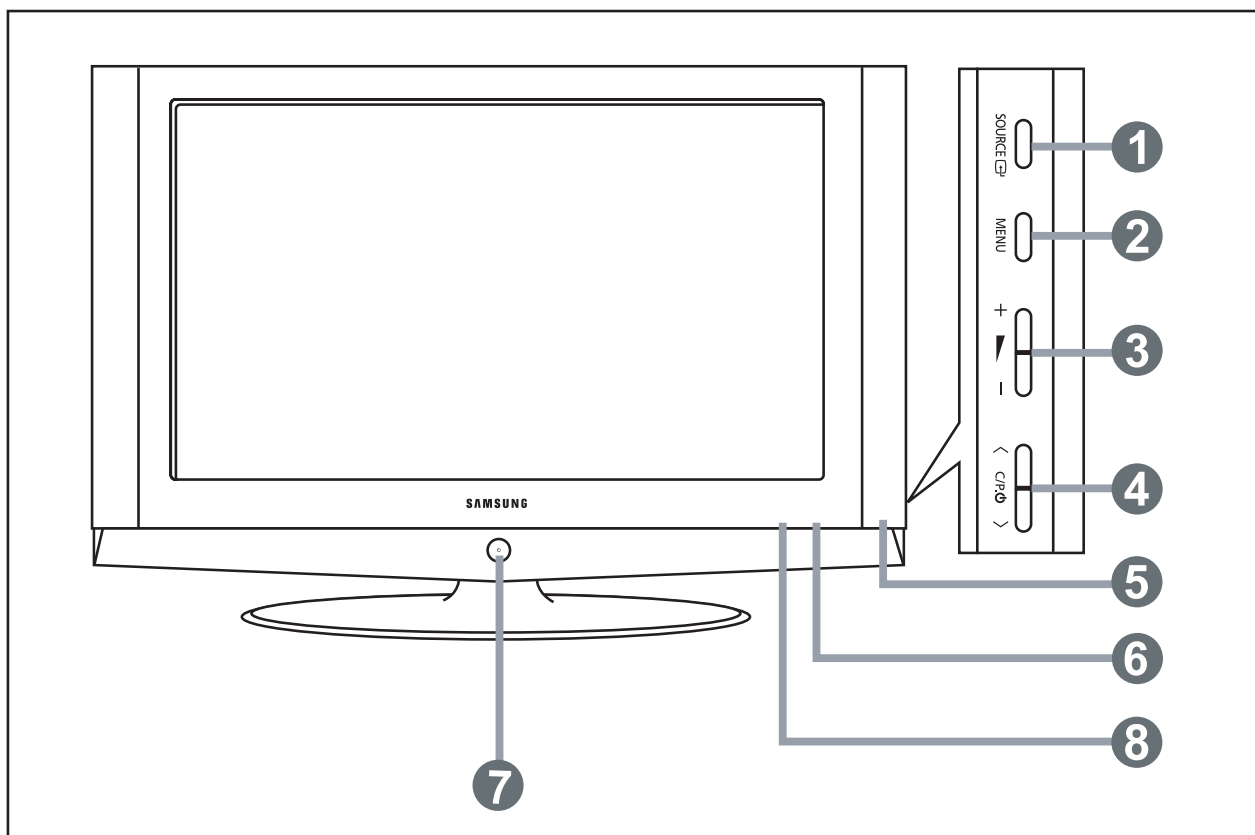
5 Exploded View & Parts List

5-6 LE40S62B Parts list

Location	Code.No	Item & Specification	Q'ty	SA/SNA	Remark
T0003	BN96-03394P	ASSY COVER P-FRONT;- ,40T70,EO,- ,ABS+PMMA	1	S.A	
T0175	BN96-03247C	ASSY SPEAKER P;8ohm,EMI Core,Left,10W,65	1	S.A	
T0175	BN96-03248C	ASSY SPEAKER P;8ohm,EMI Core,Right,10W,1	1	S.A	
M0215	BN07-00448B	LCD-PANEL;T400XW01 V1,8bit,40inch,16.7M,	1	S.A	
T0447	BN96-03528E	ASSY BRACKET P-PANEL;- ,SONOMA,40EO,READY	1	S.N.A	
T0076	BN39-00615D	CBF HARNESS;BORDEAUX,1617#22,3P,1P,RING,	1	S.A	
M0174	BN44-00134D	IP BOARD;PSIV230601A,40" Neo Mosel,44mA,	1	S.A	
M0115	BN61-02258A	BRACKET-STAND LINK;Bordeaux 40,SECC,T1.6	1	S.A	
M0013	BN96-03839D	ASSY COVER P-REAR;- ,40T70,EO,- ,HIPS,HB,-	1	S.A	
M0027	BN96-03697B	ASSY STAND P-BASE;- ,SONOMA,40,- ,ABS+PMMA	1	S.A	

10 Operating Instructions and Installation

10-1 Front



- The product colour and shape may vary depending on the model.

1. SOURCE

Toggles between all the available input sources (TV, Ext.1 , Ext.2, AV, S-Video, Component, PC, HDMI).

In the on-screen menu, use this button as you use the ENTER button on the remote control.

2. MENU

Press to see an on-screen menu of your TV's features.

3. + -

Press to decrease or increase the volume.

In the on-screen menu, use the + - buttons as you use the and buttons on the remote control.

4. < C/P. >

Press to change channels.

In the on-screen menu, use the < C/P. > buttons as you use the and buttons on the remote control. (Without the Remote Control, you can turn on the TV by using the Channel buttons.)

5. Speakers

6. Remote Control Sensor

Aim the remote control towards this spot on the TV.

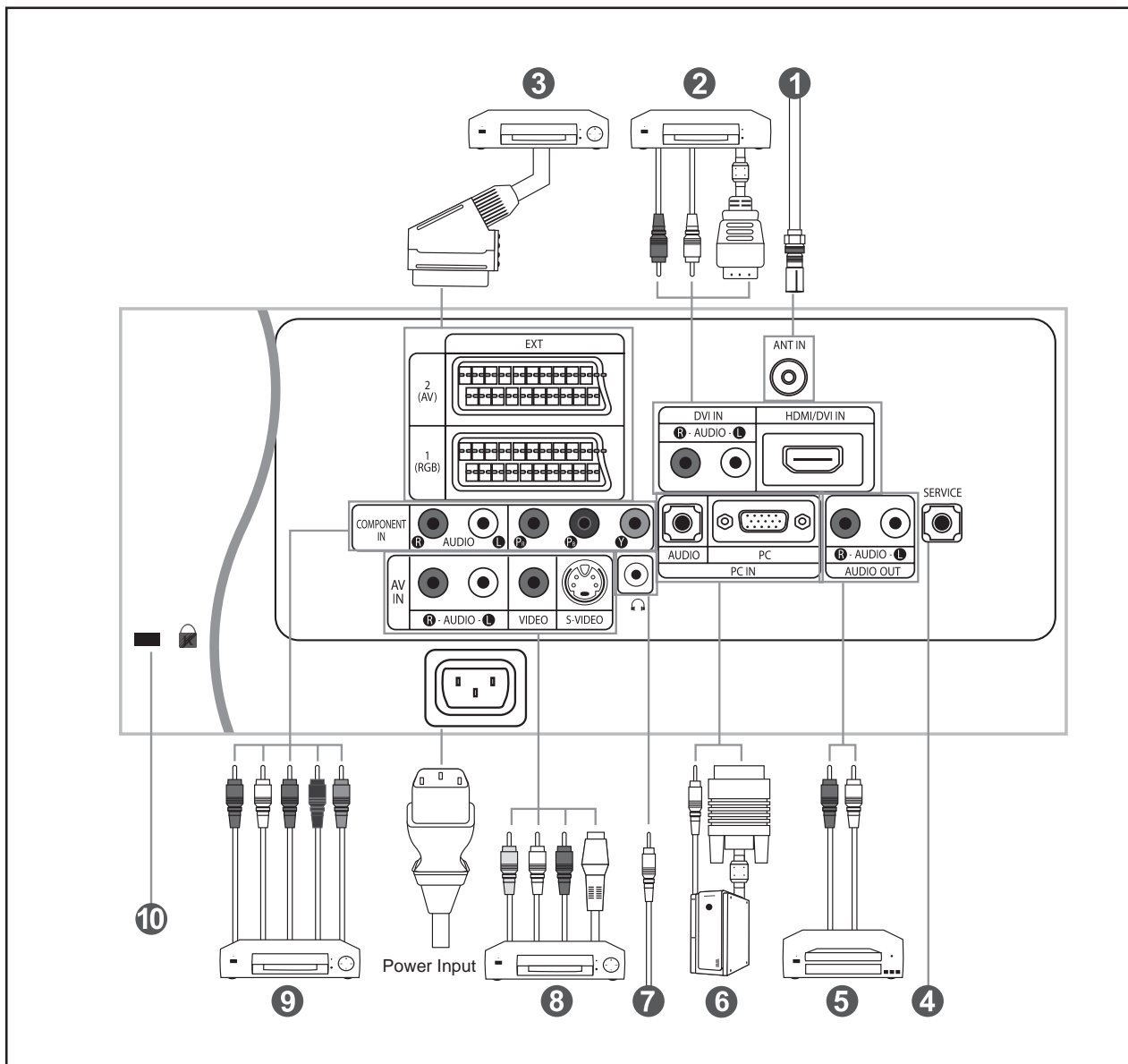
7. (Power)

Press to turn the TV on and off.

8. Power Indicator

Blinks and turns off when the power is on and lights up in stand-by mode.

10-2 Connection Panel



- Whenever you connect an external device to your TV, make sure that power on the unit is turned off.
- When connecting an external device, match the colour of the connection terminal to the cable.

1. Connecting HDMI/DVI

- Supports connections between HDMI-connection-enabled AV devices (Set-Top Boxes, DVD players, AV receivers and digital TVs).

- No additional Audio connection is needed for an HDMI to HDMI connection.

- ▶ What is HDMI?

- "High Definition Multimedia interface" allows the transmission of high definition digital video data and multiple channels of digital audio (5.1 channels).
- The HDMI/DVI terminal supports DVI connection to an extended device with the appropriate cable (not supplied). The difference between HDMI and DVI is that the HDMI device is smaller in size, has the HDCP (High Bandwidth Digital Copy Protection) coding feature installed, and supports multi - channel digital audio.

- ▶ You should use the DVI-to-HDMI cable or DVI-HDMI Adapter for the connection, and the "R - AUDIO - L" terminal on DVI for sound output.

- When connecting this product via HDMI or DVI to a Set Top Box, DVD Player or Games Console etc, make sure that it has been set to a compatible video output mode as shown in the table below.

Failure to observe this may result in picture distortion, image breakup or no picture.

- ▶ Supported modes for DVI or HDMI

	480i	480p	576i	576p	720p	1080i
50Hz	X	O	X	O	O	O
60Hz	X	O	X	X	O	O
Component	O	O	O	O	O	O

- Do not attempt to connect the HDMI/DVI connector to a PC or Laptop Graphics Card.
(This will result in a blank screen being displayed)

3. Connecting Set-Top Box, VCR or DVD

- Connect the VCR or DVD SCART cable to the SCART connector of the VCR or DVD.
- If you wish to connect both the Set-Top Box and VCR (or DVD), you should connect the Set-Top Box to the VCR (or DVD) and connect the VCR (or DVD) to your set.

5. Connecting External A/V Devices

- Connect RCA or S-VIDEO cable to an appropriate external A/V device such as VCR, DVD or Camcorder.
- Connect RCA audio cables to "R - AUDIO - L" on the rear of your set and the other ends to corresponding audio out connectors on the A/V device.
- Headphone may be connected to the headphone output (4) on the rear of your set. While the headphone is connected, the sound from the built-in speakers will be disabled.

6. SERVICE

- Service connection for qualified service engineer.

7. Connecting AUDIO

- Connect RCA audio cables to "R - AUDIO - L" on the rear of your set and the other ends to corresponding audio in connectors on the Amplifier or DVD Home Theater.

8. Connecting Computer

- Connect the D- Sub cable (optional) to "PC (PC IN)" on the rear of your set and the other end to the Video Card of your computer.
- Connect the stereo audio cable (optional) to "AUDIO (PC IN)" on the rear of your set and the other end to "Audio Out" of the sound card on your computer.

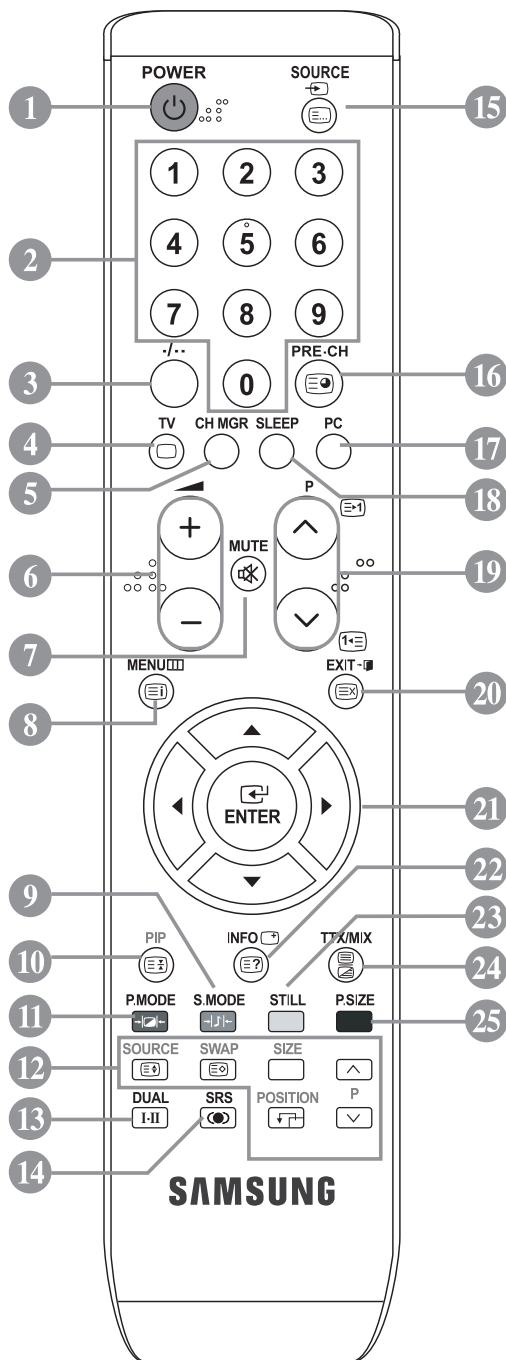
9. Connecting Component Devices (DTV/DVD)

- Connect component video cables (optional) to component connector ("Pr", "Pb", "Y") on the rear of your set and the other ends to corresponding component video out connectors on the DTV or DVD.
- If you wish to connect both the Set-Top Box and DTV (or DVD), you should connect the Set-Top Box to the DTV (or DVD) and connect the DTV (or DVD) to component connector ("Pr", "Pb", "Y") on your set.
- The PR, PB and Y connectors on your component devices (DTV or DVD) are sometimes labeled Y, B-Y and R-Y or Y, Cb and Cr.
- Connect RCA audio cables (optional) to "R - AUDIO - L" on the rear of your set and the other ends to corresponding audio out connectors on the DTV or DVD.
- This LCD TV displays its optimum picture resolution in 720p mode.
- This LCD TV displays its maximum picture resolution in 1 080i mode.

10. Kensington Lock

- The Kensington lock (optional) is a device used to physically fix the system when used in a public place.
- If you want to use a locking device, contact the dealer where you purchased the TV.
- The place of the Kensington Lock may be different depending on its model.

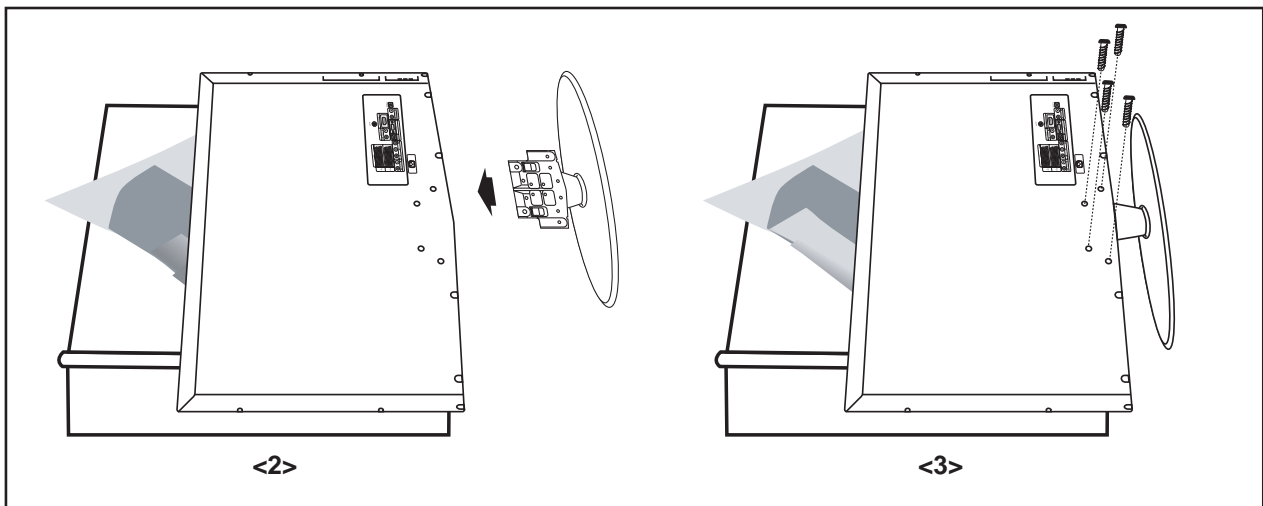
10-3 Remote Control



1. Television Standby button
2. Number buttons for direct channel access
3. One/Two-digit channel selection
4. Selects the TV mode directly
5. It display "Channel Manager" on the screen.
6. ⊕ Volume increase
7. ⊖ Volume decrease
8. Temporary sound switch-off
9. Menu display and change confirmation
10. Sound mode selection
11. Picture-In-Picture On / Off
12. Picture effect selection
13. **PIP FUNCTIONS**
14. SOURCE: Input source selection
15. SWAP: Interchange the main and sub picture
16. SIZE: PIP size selection
17. POSITION: PIP position selection
18. P ⊙ : Next channel
19. P ⊙ : Previous channel
20. Sound effect selection
21. SRS TSXT selection
22. Available source selection
23. Previous channel
24. Selects the PC mode directly
25. P ⊙ : Next channel
26. P ⊙ : Previous channel
27. Exit the OSD
28. Control the cursor in the menu
29. Use to see information on the current broadcast
30. Picture freeze
31. Picture size selection
32. **Teletext Functions**
33. Exit from the teletext display
34. Teletext index
35. Teletext hold
36. SOURCE: Teletextsize selection
37. SWAP: Teletextstore
38. Teletext mode selection (LIST/FLOF)
39. Teletext sub page
40. P ⊙ : Teletext next page
41. P ⊙ : Teletext previous page
42. Teletext cancel
43. Teletext reveal
44. Alternately select Teletext, Double, or Mix.
45. 11. 23. 25 Fastext topic selection

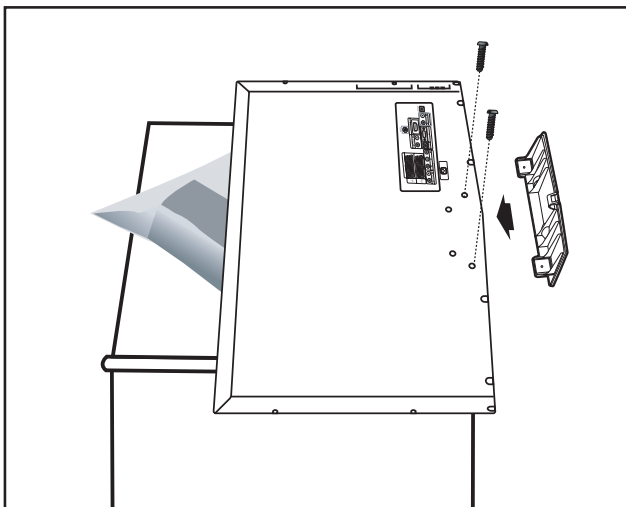
- ▶ The performance of the remote control may be affected by bright light.
- ▶ This is a special remote contro for the visually impaired, and has Braille points on the Power, Channel and Volume buttons.

10-4 Installing the Stand



1. Place the TV fdown on a soft cloth or cushion on a table.
2. Put the stand into the hole at the bottom of the TV.
3. Insert screw into the hole indicated and tighten.
 - ▶ The stand is installed for models with the screen size of 40 inch and above.

10-5 Installing the Wall Mount Kit



Wall mount items (sold separately) allow you to mount the TV on the wall.

For detailed information on installing the wall mount, see the instructions provided with the Wall Mount items. Contact a technician for assistance when installing the wall mounted bracket.

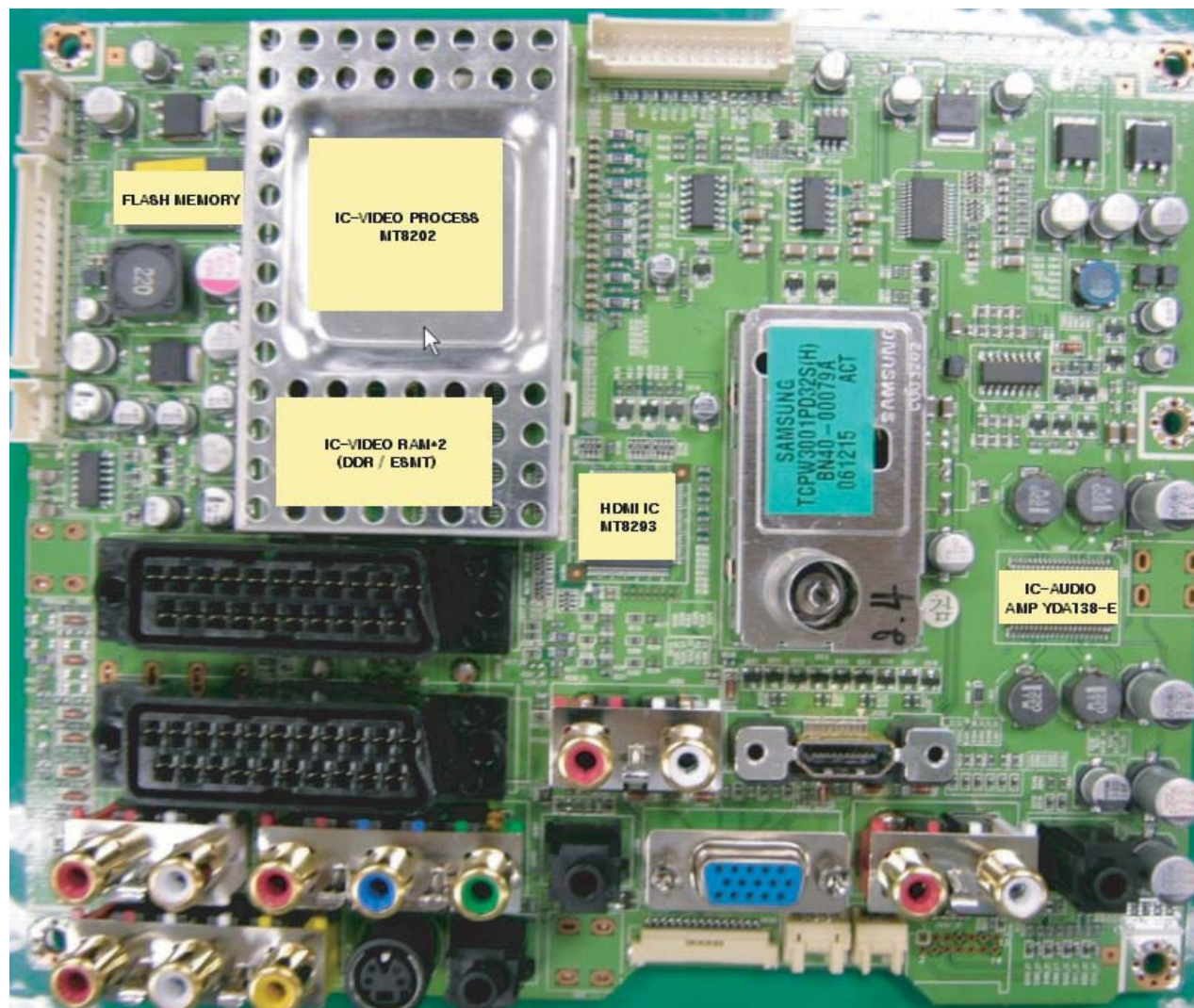
Samsung Electronics is not responsible for any damage to the product or injury to yourself or others if you elect to install the TV on your own.

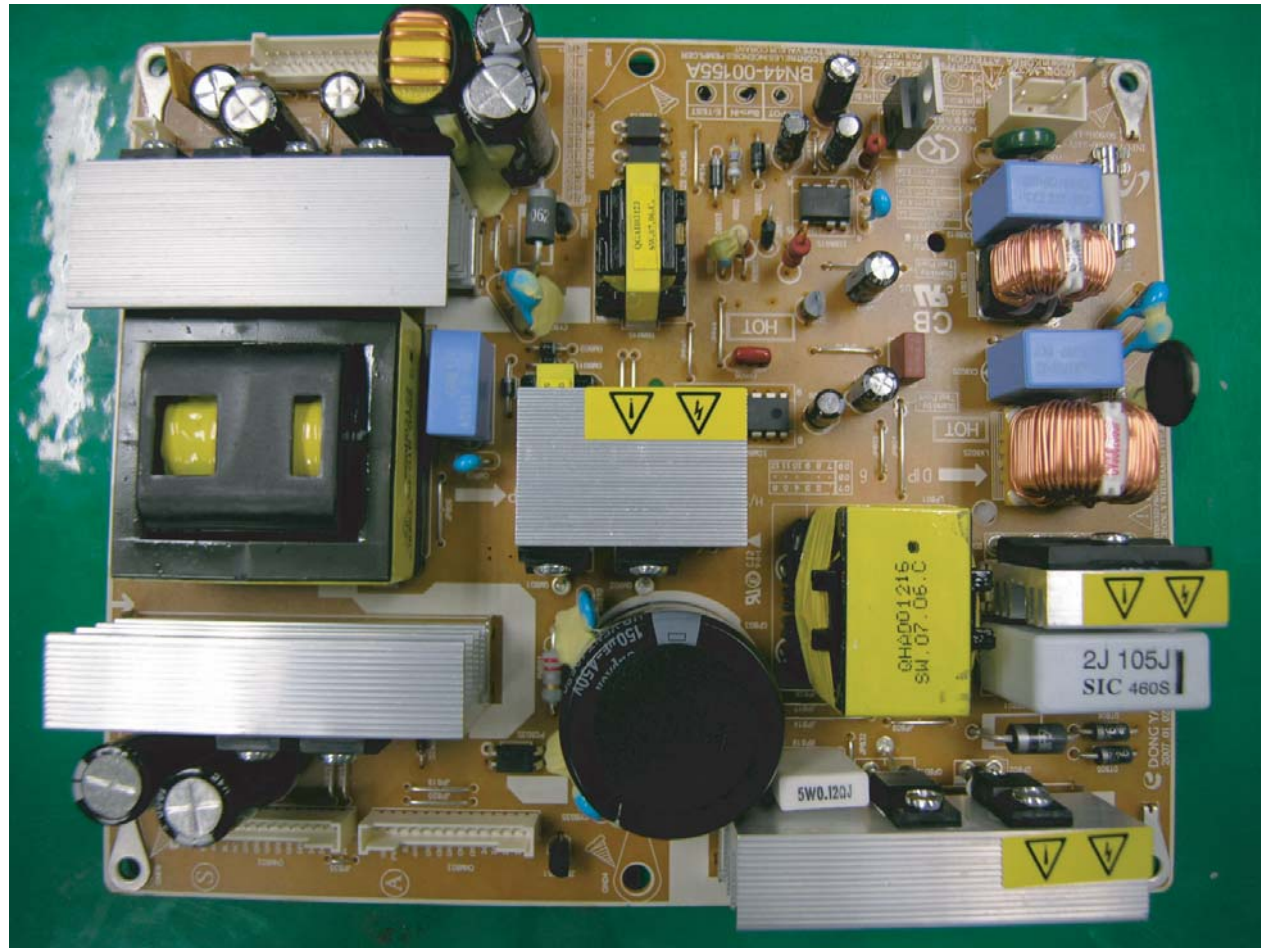
- ▶ Remove the stand and cover the bottom hole with a cap and fasten with two screws.

Memo

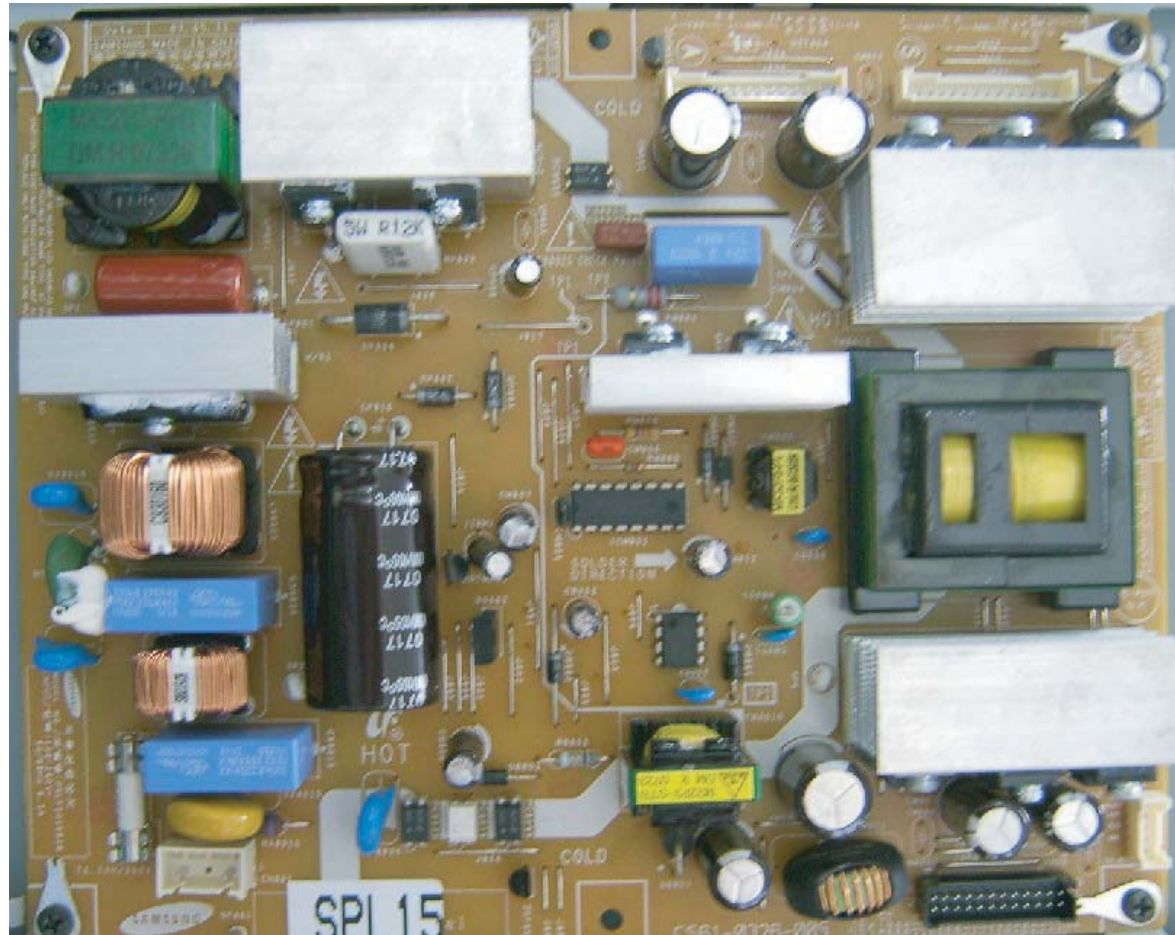
12 PCB Diagram

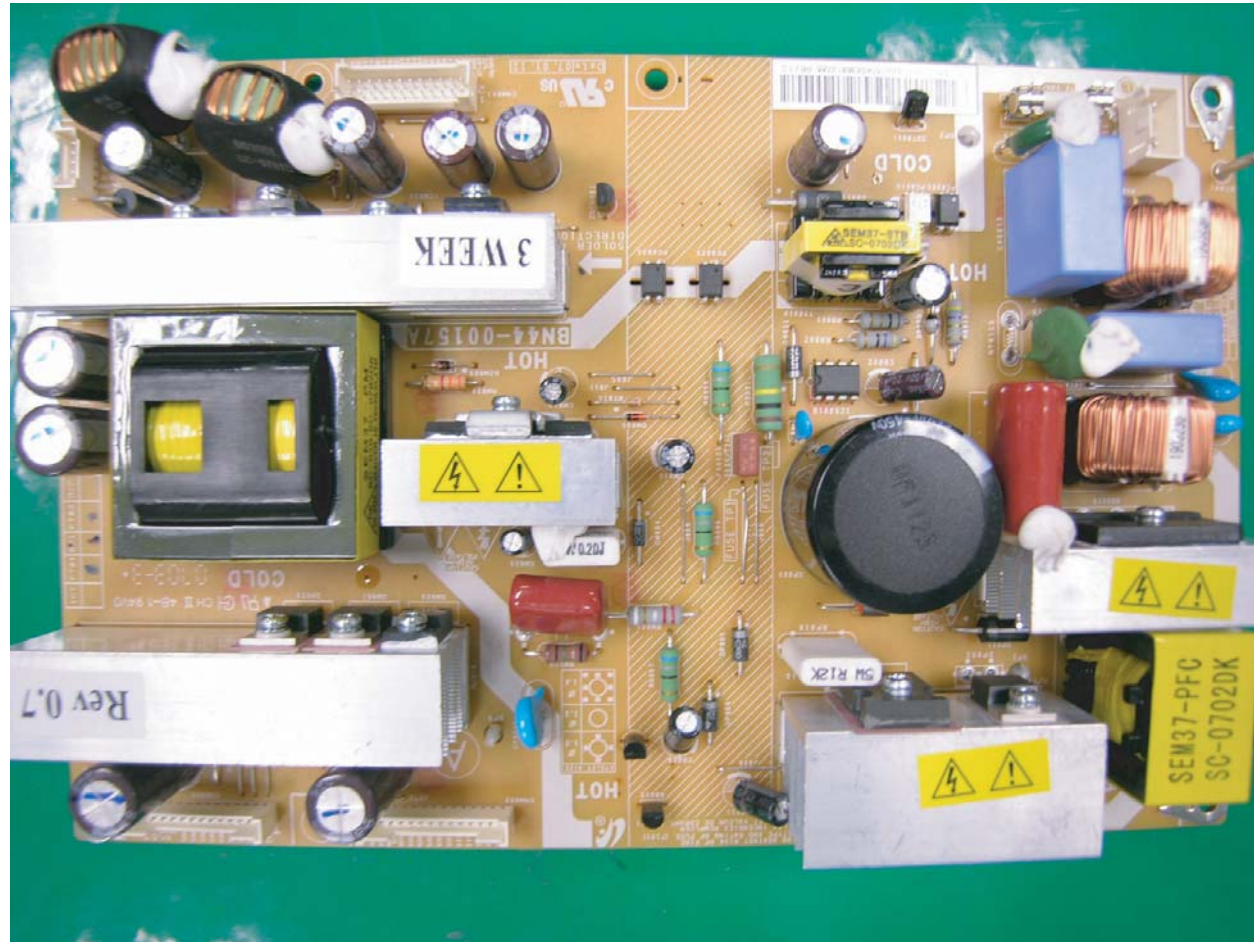
12-1 Main PCB Diagram



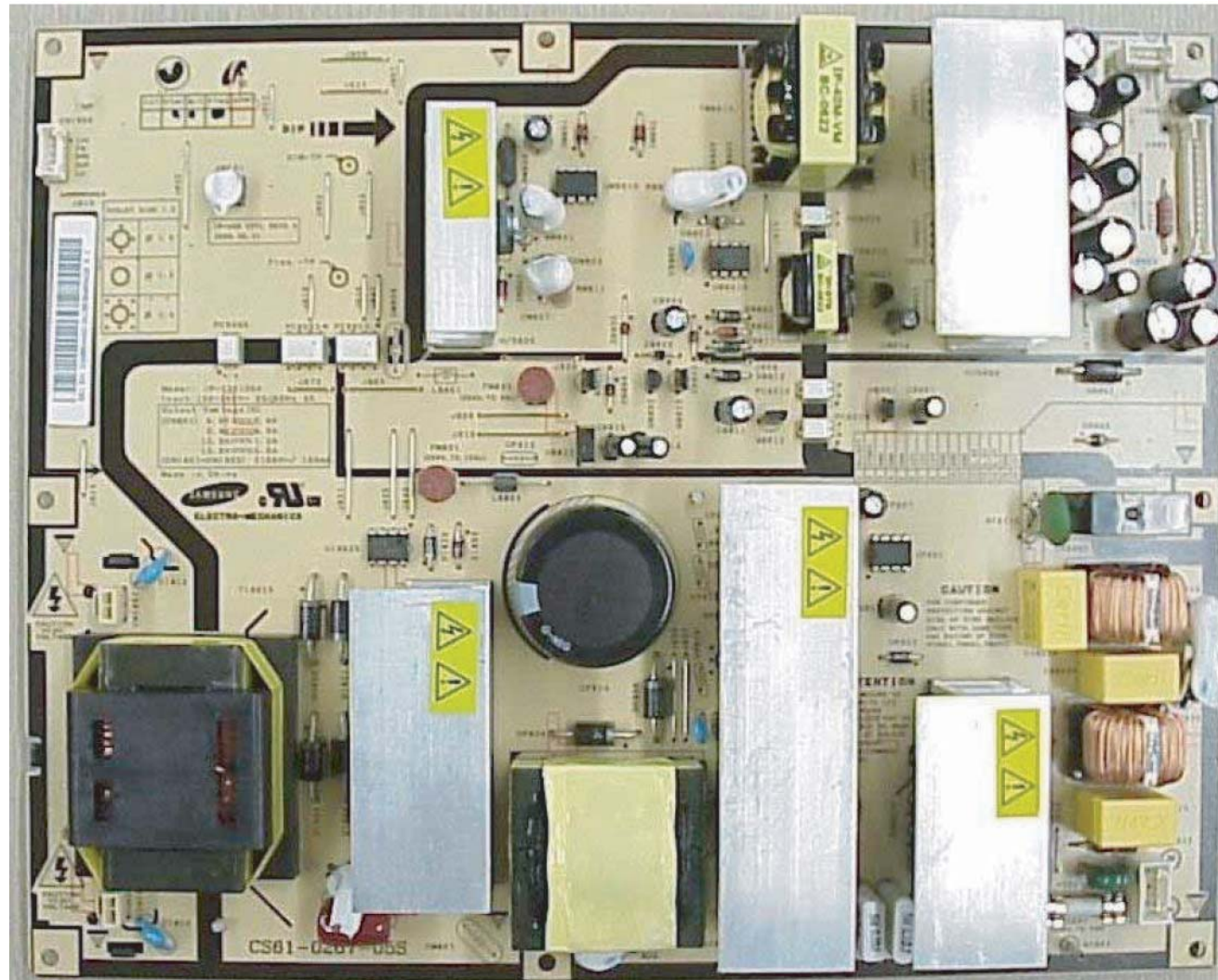


12-3 32" SMPS VE





12-6 40" SMPS



Memo

1 Precautions

Follow these safety, servicing and ESD precautions to prevent damage and to protect against potential hazards such as electrical shock.

1-1 Safety Precautions

1-1-1 Warnings

1. For continued safety, do not attempt to modify the circuit board.
2. Disconnect the AC power and DC Power Jack before servicing.

1-1-2 Servicing the LCD Monitor

1. When servicing the LCD Monitor Disconnect the AC line cord from the AC outlet.
2. It is essential that service technicians have an accurate voltage meter available at all times. Check the calibration of this meter periodically.

1-1-3 Fire and Shock Hazard

Before returning the monitor to the user, perform the following safety checks:

1. Inspect each lead dress to make certain that the leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the monitor.
2. Inspect all protective devices such as nonmetallic control knobs, insulating materials, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacitor networks, mechanical insulators, etc.
3. Leakage Current Hot Check (Figure 1-1):
WARNING: Do not use an isolation transformer during this test.

Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI C101.1, *Leakage Current for Appliances*), and Underwriters Laboratories (UL Publication UL1410, 59.7).

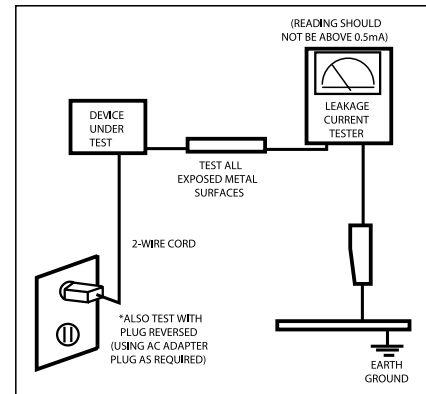


Figure 1-1. Leakage Current Test Circuit

1-1-4 Product Safety Notices

Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection. The protection they give may not be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified by \triangle on schematics and parts lists. A substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire and/or other hazards. Product safety is under review continuously and new instructions are issued whenever appropriate.

1 Precautions

1-2 Servicing Precautions

WARNING: An electrolytic capacitor installed with the wrong polarity might explode.

Caution: Before servicing units covered by this service manual, read and follow the Safety Precautions section of this manual.

Note: If unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions, always follow the safety precautions.

1-2-1 General Servicing

Precautions

1. Always unplug the unit's AC power cord from the AC power source and disconnect the DC Power Jack before attempting to:
(a) remove or reinstall any component or assembly, (b) disconnect PCB plugs or connectors, (c) connect a test component in parallel with an electrolytic capacitor.
2. Some components are raised above the printed circuit board for safety. An insulation tube or tape is sometimes used. The internal wiring is sometimes clamped to prevent contact with thermally hot components. Reinstall all such elements to their original position.
3. After servicing, always check that the screws, components and wiring have been correctly reinstalled. Make sure that the area around the serviced part has not been damaged.
4. Check the insulation between the blades of the AC plug and accessible conductive parts (examples: metal panels, input terminals and earphone jacks).
5. Insulation Checking Procedure: Disconnect the power cord from the AC source and turn the power switch ON. Connect an insulation resistance meter (500 V) to the blades of the AC plug.
The insulation resistance between each blade of the AC plug and accessible conductive parts (see above) should be greater than 1 megohm.
6. Always connect a test instrument's ground lead to the instrument chassis ground before connecting the positive lead; always remove the instrument's ground lead last.

1-3 Static Electricity Precautions

Some semiconductor (solid state) devices can be easily damaged by static electricity. Such components are commonly called Electrostatically Sensitive Devices (ESD). Examples of typical ESD are integrated circuits and some field-effect transistors. The following techniques will reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor components or assemblies, drain the electrostatic charge from your body by touching a known earth ground. Alternatively, wear a discharging wrist-strap device. To avoid a shock hazard, be sure to remove the wrist strap before applying power to the monitor.
2. After removing an ESD-equipped assembly, place it on a conductive surface such as aluminum foil to prevent accumulation of an electrostatic charge.
3. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ESDs.
4. Use only a grounded-tip soldering iron to solder or desolder ESDs.
5. Use only an anti-static solder removal device. Some solder removal devices not classified as anti-static can generate electrical charges sufficient to damage ESDs.
6. Do not remove a replacement ESD from its protective package until you are ready to install it. Most replacement ESDs are packaged with leads that are electrically shorted together by conductive foam, aluminum foil or other conductive materials.
7. Immediately before removing the protective material from the leads of a replacement ESD, touch the protective material to the chassis or circuit assembly into which the device will be installed.
Caution: Be sure no power is applied to the chassis or circuit and observe all other safety precautions.
8. Minimize body motions when handling unpackaged replacement ESDs. Motions such as brushing clothes together, or lifting your foot from a carpeted floor can generate enough static electricity to damage an ESD.

1-4 Installation Precautions

1. For safety reasons, more than two people are required for carrying the product.
2. Keep the power cord away from any heat emitting devices, as a melted covering may cause fire or electric shock.
3. Do not place the product in areas with poor ventilation such as a bookshelf or closet. The increased internal temperature may cause fire.
4. Bend the external antenna cable when connecting it to the product. This is a measure to protect it from being exposed to moisture. Otherwise, it may cause a fire or electric shock.
5. Make sure to turn the power off and unplug the power cord from the outlet before repositioning the product. Also check the antenna cable or the external connectors if they are fully unplugged. Damage to the cord may cause fire or electric shock.
6. Keep the antenna far away from any high-voltage cables and install it firmly. Contact with the high-voltage cable or the antenna falling over may cause fire or electric shock.
7. When installing the product, leave enough space (10cm) between the product and the wall for ventilation purposes.
A rise in temperature within the product may cause fire.

1 Precautions

Memo

2 Product specifications

2-1 Fashion Feature

Supreme Digital Interface & Networking

-With a built-in HD digital tuner, it supports HD broadcasting with no particular set-top box and provides simple access with a single remote control.

Excellent Picture Quality

-DNIe technology provides life-like clear images.

Dynamic Contrast

-Automatically detects the input visual signal and adjusts to create optimum contrast.

SRS TruSurround XT

-SRS TruSurround XT provides a virtual Dolby surround system.

Convenience

-The TV utilizes the HDMI system to implement perfect digital sound and picture quality.

2-2 LE32S62B Specifications

Item	Description	
LCD Panel	TFT-LCD panel, RGB vertical stripe, normally Black, 31.5-Inch viewable, 0.511 (H) x 0.511 (V) mm pixel pitch	
Scanning Frequency	Horizontal : 30 kHz ~ 61 kHz (Automatic) / Vertical : 60 Hz ~ 75 Hz (Automatic)	
Display Colors	16,777,216 colors	
Maximum Resolution	Horizontal : 1360 Pixels Vertical : 768 Pixels	
Input Video Signal	Analog 0.7 Vp-p \pm 5% positive at 75 Ω , internally terminated	
Input Sync Signal	Type : Seperate H/V Level : TTL level	
Maximum Pixel Clock rate	80 MHz	
Active Display Horizontal/Vertical	697.68 mm / 392.26 mm	
AC power voltage & Frequency	AC 220 ~ 240V, 50 ~ 60 Hz	
Power Consumption	152 W < 1W	
Dimensions(W x D x H) Set	892.5 x 249 x 615 mm (35.13 x 9.8 x 24.21 inches) After installation Stand 892.5 x 82 x 544 mm (35.13 x 3.22 x 21.41 inches) Without stand	
Weight Set(After installation Stand)	13.9 kg (30.6 lbs)	
TV System	Tuning	Frequency Synthesize
	System	PAL, SECAM
	Sound	MONO, STEREO, NICAM
Environmental Considerations	Operating Temperature : 10°C ~ 40°C Operating Humidity : 10 % ~ 80 %, non-condensing Storage Temperature : -20°C ~ 45°C Storage Humidity : 5 % ~ 95 %, non-condensing	
Antenna Input	75 Ω	
Sound Characteristic	-MAX Internal speaker Out : Right : 10W / Left : 10W -BASS Control Range : -8 dB ~ + 8dB -TREBLE Control Range : -8 dB ~ +8 dB -Headphone Out : 10 mW MAX -Output Frequency : RF : 80 Hz ~ 15 kHz AV : 80 Hz ~ 20 kHz	

2-3 LE37S62B Specifications

Item	Description	
LCD Panel	TFT-LCD panel, RGB vertical stripe, normally Black, 37-Inch viewable, 0.6 (H) x 0.6 (V) mm pixel pitch	
Scanning Frequency	Horizontal : 30 kHz ~ 61 kHz (Automatic) / Vertical : 60 Hz ~ 75 Hz (Automatic)	
Display Colors	16,777,216 colors	
Maximum Resolution	Horizontal : 1360 Pixels Vertical : 768 Pixels	
Input Video Signal	Analog 0.7 Vp-p \pm 5% positive at 75 Ω , internally terminated	
Input Sync Signal	Type : Separate H/V Level : TTL level	
Maximum Pixel Clock rate	80 MHz	
Active Display Horizontal/Vertical	819.6 mm / 460.8 mm	
AC power voltage & Frequency	AC 220 ~ 240V, 50 ~ 60 Hz	
Power Consumption	170 W < 1W	
Dimensions(W x D x H) Set	1026.5 x 330 x 698.8mm (40.4 x 13.0 x 27.51 inches) After installation Stand 1026.5 x 94.1 x 698.8mm (40.4 x 3.70 x 27.51 inches) Without stand	
Weight Set(After installation Stand)	22.5 kg (49.6 lbs)	
TV System	Tuning	Frequency Synthesize
	System	PAL, SECAM
	Sound	MONO, STEREO, NICAM
Environmental Considerations	Operating Temperature : 10°C ~ 40°C Operating Humidity : 10 % ~ 80 %, non-condensing Storage Temperature : -20°C ~ 45°C Storage Humidity : 5 % ~ 95 %, non-condensing	
Antenna Input	75 Ω	
Sound Characteristic	-MAX Internal speaker Out : Right : 10W / Left : 10W -BASS Control Range : -8 dB ~ +8dB -TREBLE Control Range : -8 dB ~ +8 dB -Headphone Out : 10 mW MAX -Output Frequency : RF : 80 Hz ~ 15 kHz AV : 80 Hz ~ 20 kHz	


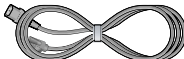
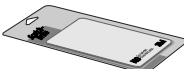
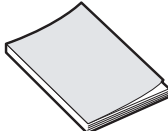
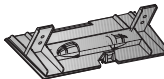
2-4 LE40S62B Specifications

Item	Description	
LCD Panel	TFT-LCD panel, RGB vertical stripe, normally Black, 40-Inch viewable, 0.648(H) x 0.648(V) mm pixel pitch	
Scanning Frequency	Horizontal : 30 kHz ~ 61 kHz (Automatic) / Vertical : 60 Hz ~ 75 Hz (Automatic)	
Display Colors	16,777,216 colors	
Maximum Resolution	Horizontal : 1360 Pixels Vertical : 768 Pixels	
Input Video Signal	Analog 0.7 Vp-p \pm 5% positive at 75 Ω , internally terminated	
Input Sync Signal	Type : Separate H/V Level : TTL level	
Maximum Pixel Clock rate	80 MHz	
Active Display Horizontal/Vertical	885.17 mm / 497 mm	
AC power voltage & Frequency	AC 220 ~ 240V, 50 ~ 60 Hz	
Power Consumption	210 W < 1W	
Dimensions(W x D x H) Set	1100.5 x 330 x 732.5 mm(43.32 x 12.99 x 28.83 inches) After installation Stand 1100.5 x 95 x 661 mm(43.32 x 3.74 x 26.02 inches) Without stand	
Weight Set(After installation Stand)	23.7 kg (52.2 lbs)	
TV System	Tuning	Frequency Synthesize
	System	PAL, SECAM
	Sound	MONO, STEREO, NICAM
Environmental Considerations	Operating Temperature : 10°C ~ 40°C Operating Humidity : 10 % ~ 80 %, non-condensing Storage Temperature : -20°C ~ 45°C Storage Humidity : 5 % ~ 95 %, non-condensing	
Antenna Input	75 Ω	
Sound Characteristic	-MAX Internal speaker Out : Right : 10W / Left : 10W -BASS Control Range : -8 dB ~ +8dB -TREBLE Control Range : -8 dB ~ +8 dB -Headphone Out : 10 mW MAX -Output Frequency : RF : 80 Hz ~ 15 kHz AV : 80 Hz ~ 20 kHz	

2-5 Spec Comparison

Model	LE32S62B / LE37S62B / LE40S62B	LE27S71B / LE32S71B/ LE37S71B / LE40S71B
Design		
Frequency		
Horizontal	30 ~ 61 kHz	30 ~ 61 kHz
Vertical	60 ~ 75 Hz	60 ~ 75 Hz
Display Color	16,777,216 colors	16,777,216 colors
PC Resolution		
Maximum mode	WXGA, 1360 x 768 @ 60 Hz	WXGA, 1360 x 768 @ 60 Hz
Input Signal		
Sync Signal	H/V Separate, TTL, P. or N.	H/V Separate, TTL, P. or N.
Video Signal	0.7 Vp-p @ 75ohm	0.7 Vp-p @ 75ohm
Power Consumption		
Normal	152W / 170W / 210W	140W /152W /170W / 205W
Power Saving	< 1W	< 1W

2-6 Option Specification

Item	Item Name	Code.No	Remark
	Remote Control & Batteries (AAA x 2)	BN59-00507A	
	Power Cord	3903-000145	
	Cleaning Cloth	BN63-02368A	
	Owner's Instructions	BN68-01234D	
	Stand	32": BN90-00967D 37": BN90-00966D 40": BN90-00966D	
	Cover-Bottom	32" : BN63-02415B 37" : BN63-02416B 40" : BN63-02416B	

14 Reference Information

14-1 Technical Terms

- TFT-LCD

(Thin film Transistor Liquid Crystal Display)

ADC(Analog to Digital Converter)

This is a circuit that converts from analog signal to digital signals.

- PLL(Phase Locked Loop)

During progressing ADC, Device makes clock synchronizing HSYNC with Video clock

- Inverter

Device that supply Power to LCD panel lamp.
this device generate about 1,500~2,000V.

- AC Adapter

Device that converts AC (90V~240V) to DC
(+12V or 14V)

- SMPS(Switching Mode Power Supply)

Switching Mode Power supply.

This design technology is used to step up/down the input power by switching on/off

- FRC(Frame Rate Controller)

Technology that change image frame quantity displayed on screen for one second.

Actually TFT-LCD panel require 60 pcs of frame for one second.

so, this technology is needed to convert input image to 60 pcs regardless input frame quantity.

- Image Scaler

Technology that convert various input resolution to other resolution.(ex. 640 x 480 to 1024 x768)

- Auto Configuration(Auto adjustment)

This is an algorithm to adjust monitor to optimum condition by pushing one key.

- OSD(On Screen Display)

On screen display. customer can control the screen easily with this.

- Image Lock

This means "Fineness adjustment" in LCD Monitor, the features are "Fine" and "Coarse"

- FINE

"Fine" adjustment is used to adjust visibility by control phase difference.

- COARSE

This is a adjustment by tuning with Video colck and PLL clock.

- DVI (Digital Visual Interface)

This provides a high speed digital connection for visual data types that is display technology independent. this interface is primarily focused at providing a connection between a computer and its display device.

- L.V.D.S.(Low Voltage Differential Signaling)

a kind of transmission method for Digital.It can be used from Main PBA to Panel.

- DVI (Digital Visual Interface)

This provides a high speed digital connection for visual data types that is display technology independent.

this interface is primarily focused at providing a connection between a computer and its display device.

- T.M.D.S

(Transition minimized Differential Signaling)
a kind of transmission method for Digital.
It can be used from Video card to Main PBA.

- DDC(Display data channel)

It is a communication method between Host Computer and related equipment.
It can make it Plug and Play between PC and Monitor.

- EDID

Extended Display Identification Data PC can recognize the monitor information as Product data, Product name, Display mode, Serial number and Signal source, etc through DDC Line communicating with PC and Monitor.

- Dot Pitch

The image on a monitor is composed of red, green and blue dots. The closer the dots, the higher the resolution. The distance between two dots of the same color is called the 'Dot Pitch'. Unit: mm

- Vertical Frequency

The screen must be redrawn several times per second in order to create and display an image for the user. The frequency of this repetition per second is called Vertical Frequency or Refresh Rate. Unit: Hz

Example: If the same light repeats itself 60 times per second, this is regarded as 60 Hz.

- Horizontal Frequency

The time to scan one line connecting the right edge to the left edge of the screen horizontally is called Horizontal Cycle. The inverse number of the Horizontal Cycle is called Horizontal Frequency. Unit: kHz

- Interlace and Non-Interlace Methods

Showing the horizontal lines of the screen from the top to the bottom in order is called the Non-Interlace method while showing odd lines and then even lines in turn is called the Interlace method. The Non-Interlace method is used for the majority of monitors to ensure a clear image. The Interlace method is the same as that used in TVs.

- Plug & Play

This is a function that provides the best quality screen for the user by allowing the computer and the monitor to exchange information automatically. This monitor follows the international standard VESA DDC for the Plug & Play function.

- Resolution

The number of horizontal and vertical dots used to compose the screen image is called 'resolution'. This number shows the accuracy of the display. High resolution is good for performing multiple tasks as more image information can be shown on the screen.

Example: If the resolution is 1280 x 1024, this means the screen is composed of 1280 horizontal dots (horizontal resolution) and 1024 vertical lines (vertical resolution).

- BTSC

Broadcast Television System Committee
The stereo broadcasting system that is used in most of the countries that have adopted the NTSC system, including the United States, Canada, Chile, Venezuela and Taiwan. It also refers to the organization that has been organized to promote its development and management.

- EIAJ

Electronic Industries Association of Japan.

- RF Cable

A round signal cable generally used for TV antennas.

- Satellite Broadcasting

Broadcasting service provided via satellite. Enables high picture quality and clear sound throughout the country regardless of the location of the viewer.

- Sound Balance

Balances the levels of the sound coming from each speaker in televisions with two speakers.

- Cable TV

Whereas the terrestrial broadcasting is delivered via frequency signals through the air, cable broadcasting is transmitted via a cable network. In order to view cable TV, one must purchase a cable receiver and hook it up to the cable network.

- CATV

"CATV" refers to the broadcasting service offered at hotels, schools and other buildings through their own broadcasting system, apart from VHF or UHF broadcasting by terrestrial broadcasters. The CATV programs may include movies, entertainment and educational programs. (Different from cable TV.)

CATV can be viewed only within the area in which the CATV service is offered.

- S-Video

Short for "Super Video." S-Video allows up to 800 lines of horizontal resolution, enabling high-quality video.

- VHF/UHF

VHF indicates TV channels 2 to 13, and UHF indicates channels 14 through 69.

- Channel Fine Tuning

This feature allows the viewer to fine-tune the TV channel to obtain the best viewing conditions. The Samsung LCD TV has both automatic and manual channel fine-tuning features to enable the viewer to adjust their desired settings.

- External Device Input

External device input refers to video input from such external video devices as VCRs, camcorders and DVD players, separate from a TV broadcast.

14-2 Pin Assignments

14-2-1 DVI-D

<div>Sync Type</div> <div>Pin No.</div>	24P DVI-D			
1	Rx2-	13	NC	
2	Rx2+	14	DDC Input power (+5V)	
3	GND	15	IDENT-DVI	
4	NC	16	Output Signal (HDCP Control)	
5	NC	17	Rx0-	
6	DDC - SCL	18	Rx0+	
7	DDC - SDA	19	GND	
8	NC	20	NC	
9	Rx1-	21	NC	
10	Rx1+	22	GND	
11	GND	23	RxC+	
12	NC	24	RxC-	

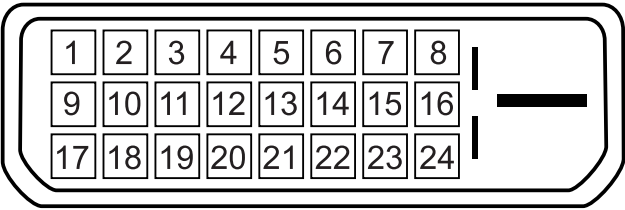


Figure 1.

14-2-2 Component

RCA Green	Y
	GND
RCA Blue	Pb (Cb)
	GND
RCA Red	Pr (Cr)
	GND
RCA White	Audio L
	GND
RCA Red	Audio R
	GND

14-2-4 A/V

RCA Yellow	CVBS
RCA White	Audio L
	GND
RCA Red	Audio R
	GND

14-2-3 S-Video

Pin	Separate
1	GND
2	Y
3	C
4	GND
5	GND

14-2-5 D-SUB

Pin	Separate
1	Red
2	Green
3	Blue
4	GND
5	GND
6	GND Red
7	GND Green
8	GND Blue
9	DDC Input power(+5V)
10	IDENT PC
11	GND
12	DDC Data(SDA)
13	H SYNC
14	V SYNC
15	DDC Clock(SCL)

14-2-6 PC Display mode

Both screen position and size will vary depending on the type of PC monitor and its resolution.

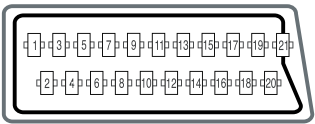
The resolutions in the table are recommended. (All resolutions between the supported limits are supported)

Mode	Resolution	Horizontal Frequency(kHz)	Vertical Frequency(Hz)	Pixel Clock Frequency(MHz)	Sync Polarity (H/V)
IBM	640 x 480	31.469	59.940	25.175	- / -
	720 x 400	31.469	70.087	28.322	- / +
VESA	640 x 480	37.864	72.809	31.500	- / -
	640 x 480	37.500	75.000	31.500	- / -
	800 x 600	37.879	60.317	40.000	+ / +
	800 x 600	48.077	72.188	50.000	+ / +
	800 x 600	46.875	75.000	49.500	+ / +
	1024 x 768	48.364	60.000	65.000	- / -
	1024 x 768	56.476	70.069	75.000	- / -
	1024 x 768	60.023	75.029	78.750	+ / +
	1360 x 768	47.712	60.015	85.800	+ / +

- The interlace mode is not supported.
- The set might operate abnormally if a non-standard video format is selected.
- DVI dose not support PC function.

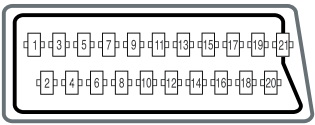
14 Reference Information

14-2-7 Scart 1



Pin	Signal	Pin	Signal
1	Audio output R	12	NC
2	Audio input R	13	Video GND (RGB red)
3	Audio output L	14	GND
4	Audio common GND	15	RGB red input
5	Video GND (RGB blue)	16	Fast Blanking signal (RGB switching)
6	Audio input L	17	Video output GND
7	RGB blue input	18	Video input GND
8	Switching voltage	19	Video output (CVBS out)
9	Video GND (RGB green)	20	Video input (CVBS in)
10	NC	21	Common GND
11	RGB green input		

14-2-8 Scart 2



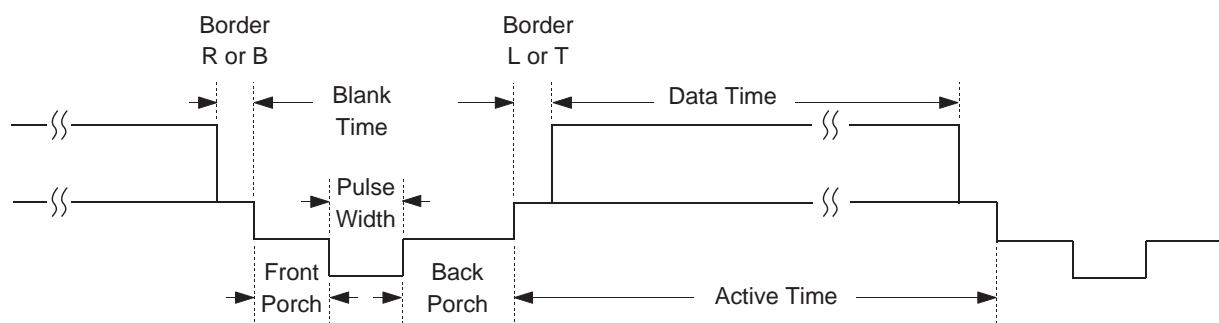
Pin	Signal	Pin	Signal
1	Audio output R	12	NC
2	Audio input R	13	Video GND (RGB red)
3	Audio output L	14	GND
4	Audio common GND	15	RGB red input
5	Video GND (RGB blue)	16	NC
6	Audio input L	17	Video output GND
7	RGB blue input	18	Video input GND
8	Switching voltage	19	Video output (CVBS out)
9	Video GND (RGB green)	20	Video input (CVBS in)
10	NC	21	Common GND
11	RGB green input		

14-3 Timing Chart

This section of the service manual describes the timing that the computer industry recognizes as standard for computer-generated video signals.

14-3-1 LCD Panel Mode1 mode

Timing No.	LTA400W2
Originator	VESA
Mode Name	1366/60Hz
Resolution (H x V)	1366 x 768
HORIZONTAL	
Frequency	47.712kHz
Total time	20.959 μ s
Active time	15.906 μ s
Blank time	5.053 μ s
Border (L / R)	0.000 μ s
Data time	15.906 μ s
Front porch	0.749 μ s
Sync.width	1.702 μ s
Back porch	2.994 μ s
Sync. polarity	Positive
VERTICAL	
Frequency	60.015kHz
Total time	16.662ms
Active time	16.097ms
Blank time	0.566ms
Border (L / R)	0.000ms
Data time	16.097ms
Front porch	0.063ms
Sync.width	0.105ms
Back porch	0.377ms
Sync. polarity	Positive
Dot Clock	85.500MHz
Sync. Type	Separate
Scan Type	N / I



14-3-2 Supported Modes (1)

Timing No.	2	3	11	17	32
Originator	IBM	IBM	VESA	VESA	MAC
Mode Name	VGA2	VGA3	640/72Hz	640/75Hz	640/67Hz
Resolution (H x V)	720 x 400	640 x 480	720 x 400	720 x 400	640 x 480
HORIZONTAL					
Frequency	31.169kHz	31.469kHz	37.861kHz	37.500kHz	37.000kHz
Total time	31.777 μ s	31.778 μ s	26.413 μ s	26.667 μ s	28.571 μ s
Active time	26.058 μ s	26.058 μ s	20.825 μ s	20.317 μ s	21.164 μ s
Blank time	5.720 μ s	5.720 μ s	5.588 μ s	6.350 μ s	7.407 μ s
Border (L / R)	0.318 μ s	0.318 μ s	0.254 μ s	0.000 μ s	0.000 μ s
Data time	25.422 μ s	25.422 μ s	20.317 μ s	20.317 μ s	21.164 μ s
Front porch	0.318 μ s	0.318 μ s	0.508 μ s	0.508 μ s	2.116 μ s
Sync.width	3.813 μ s	3.813 μ s	1.270 μ s	2.032 μ s	2.116 μ s
Back porch	1.589 μ s	1.589 μ s	3.810 μ s	3.810 μ s	3.175 μ s
Sync. polarity	Negative	Negative	Negative	Negative	Negative
VERTICAL					
Frequency	70.087kHz	59.940kHz	72.809kHz	75.000kHz	66.667kHz
Total time	14.268ms	16.683ms	13.735ms	13.333ms	15.000ms
Active time	13.155ms	15.761ms	13.100ms	12.800ms	13.714ms
Blank time	1.113ms	0.922ms	0.635ms	0.533ms	1.286ms
Border (L / R)	0.222ms	0.254ms	0.211ms	0.000ms	0.000ms
Data time	12.711ms	15.253ms	12.678ms	12.800ms	13.714ms
Front porch	0.191ms	0.064ms	0.026ms	0.027ms	0.086ms
Sync.width	0.064ms	0.064ms	0.079ms	0.080ms	0.086ms
Back porch	0.858ms	0.794ms	0.528ms	0.427ms	1.114ms
Sync. polarity	Positive	Negative	Negative	Negative	Negative
Dot Clock	28.322MHz	25.175MHz	31.500MHz	31.500MHz	30.240MHz
Sync. Type	Separate	Separate	Separate	Separate	Separate
Scan Type	N / I	N / I	N / I	N / I	N / I

14-3-3 Supported Modes (2)

Timing No.	13	14	18
Originator	VESA	VESA	VESA
Mode Name	800/60Hz	800/72Hz	800/75Hz
Resolution (H x V)	800 x 600	800 x 600	800 x 600
HORIZONTAL			
Frequency	37.879kHz	48.077kHz	46.875kHz
Total time	26.400 μ s	20.800 μ s	21.333 μ s
Active time	20.000 μ s	16.000 μ s	16.162 μ s
Blank time	6.400 μ s	4.800 μ s	5.171 μ s
Border (L / R)	0.000 μ s	0.000 μ s	0.000 μ s
Data time	20.000 μ s	16.000 μ s	16.162 μ s
Front porch	1.000 μ s	1.120 μ s	0.323 μ s
Sync.width	3.200 μ s	2.400 μ s	1.616 μ s
Back porch	3.200 μ s	1.280 μ s	3.232 μ s
Sync. polarity	Positive	Positive	Positive
VERTICAL			
Frequency	60.317kHz	72.188kHz	75.000kHz
Total time	16.579ms	13.853ms	13.333ms
Active time	15.840ms	12.480ms	12.800ms
Blank time	0.739ms	1.373ms	0.533ms
Border (L / R)	0.000ms	0.000ms	0.000ms
Data time	15.840ms	12.480ms	12.800ms
Front porch	0.026ms	0.770ms	0.021ms
Sync.width	0.106ms	0.125ms	0.064ms
Back porch	0.607ms	0.478ms	0.448ms
Sync. polarity	Positive	Positive	Positive
Dot Clock	40.000MHz	50.000MHz	49.500MHz
Sync. Type	Separate	Separate	Separate
Scan Type	N / I	N / I	N / I

14-3-4 Supported Modes (3)

Timing No.	15	16	19	
Originator	VESA	VESA	VESA	VESA
Mode Name	1024/60Hz	1024/70Hz	1024/75Hz	1360/60Hz
Resolution (H x V)	1024 x 768	1024 x 768	1024 x 768	1360 x 768
HORIZONTAL				
Frequency	48.363kHz	56.476kHz	60.023kHz	47.712kHz
Total time	20.677 μ s	17.707 μ s	16.660 μ s	20.959 μ s
Active time	15.754 μ s	13.653 μ s	13.003 μ s	15.906 μ s
Blank time	4.923 μ s	4.053 μ s	3.777 μ s	5.053 μ s
Border (L / R)	0.000 μ s	0.000 μ s	0.000 μ s	0.000 μ s
Data time	15.754 μ s	13.653 μ s	13.003 μ s	15.906 μ s
Front porch	0.369 μ s	0.320 μ s	0.323 μ s	0.749 μ s
Sync.width	2.092 μ s	1.813 μ s	1.219 μ s	1.702 μ s
Back porch	2.462 μ s	1.920 μ s	2.235 μ s	2.994 μ s
Sync. polarity	Negative	Negative	Positive	Positive
VERTICAL				
Frequency	60.004kHz	70.069kHz	75.029kHz	60.015kHz
Total time	16.666ms	14.272ms	13.328ms	16.662ms
Active time	15.880ms	13.599ms	12.795ms	16.097ms
Blank time	0.786ms	0.672ms	0.533ms	0.566ms
Border (L / R)	0.000ms	0.000ms	0.000ms	0.000ms
Data time	15.880ms	13.599ms	12.795ms	16.097ms
Front porch	0.062ms	0.053ms	0.017ms	0.063ms
Sync.width	0.124ms	0.106ms	0.050ms	0.105ms
Back porch	0.600ms	0.513ms	0.466ms	0.377ms
Sync. polarity	Negative	Negative	Positive	Positive
Dot Clock	65.000MHz	75.000MHz	78.750MHz	85.500MHz
Sync. Type	Separate	Separate	Separate	Separate
Scan Type	N / I	N / I	N / I	N / I

14-4 Panel Description

Maker	VENDOR P/N	PANEL_CODE	PANEL_ABB	STICKER_CODE	Remarks
SEC	LT140X1-002	BN07-00004A	SA	BN68-00239H	-
SEC	LT150XS-L01	BN07-00009A	SB		-
SEC	LT150XS-L01-B	BN07-00022A	SC		-
SEC	LTM150XS-L02	BN07-00005A	SD		-
SEC	LT181E2-132	BN07-00001A	SE		-
SEC	LT150XS-T01	BN07-00010A	SF		-
SEC	LTM181E3-132	BN07-00019A	SG		-
SEC	LT170E2-131	BN07-10001D	SH		-
SEC	LT181E2-131	BN07-10001E	SJ		-
SEC	LTM170E4-L01	BN07-00018A	SK		-
SEC	LTM240W1-L01	BN07-00015A	SL		-
SEC	LTM213U3-L01	BN07-00016A	SM		-
SEC	LTM150XH-L01	BN07-00026A	SN		-
SEC	LTM150XH-L03	BN07-00027A	SP		-
SEC	LTM150XS-L01	BN07-00032A	SQ		DELL(ZPD)
SEC	LTM181E4-L01	BN07-00034A	SR		PVA
SEC	LTM170EH-L01	BN07-00036A	SS		TN
SEC	LTM170E5-L01	BN07-00037A	SU		PVA
SEC	LTM150XH-L11	BN07-00041A	SV		-
SEC	LTM213U4-L01	BN07-00039A	SW		PVA
SEC	LTM150XH-L01(ZPD)	BN07-00045A	SX		ZPD
SEC	LTM150XH-L04	BN07-00046A	SY		New panel with high brightness
SEC	LTM170W1-L01	BN07-00047A	SZ		Panel for TV
SEC	LTM150XH-L06	BN07-00053A	EA		Panel for TV/ High luminance for 450cd _ SONY&EOS Team Panel for TV
SEC	LTM153W1-L01	BN07-00054A	EB		Use NIKE MODEL
SEC	LTM170EH-L05	BN07-00055A	EC		Panel EOS proj. for high brightness of 17" EH-L05
SEC	LTM170E5-L03	BN07-00056A	ED		Dell 1702FP pro. E4. EH mechanical Compatible
SEC	LTM190E1-L01	BN07-00057A	EE		DELL 1900 FP
SEC	LTM181E5-L01	BN07-00061A	EF		18" narrow bezel GH18PS
SEC	LTM150XP-L01	BN07-00065A	EG		AMLCD PVA PANEL
SEC	LTM240W1-L02	BN07-00062A	EH		Panel for 15" Wide TV
SEC	LTM170EU-L01	BN07-00071A	EJ		Slim design, TN
SEC	LTM170E5-L04	BN07-00072A	EK		E5-L04 6 bits FRC... for IBM
SEC	LTA220W1-L01	BN07-00074A	EL		Panel for 22" TV
SEC	LTM170E6-L02	BN07-00075A	EM		AMLCD Narrow & slim design 17" PVA mode
SEC	LTM170W1-L01	BN07-00082A	EN		LTM170W1-L01 ZPD panel
SEC	LTM170EH-L01	BN07-00080A	EP		LTM170EH-L01 ZPD panel
SEC	LTM170E5-L01	BN07-00081A	EQ		LTM170E5-L01 ZPD panel
SEC	LTM170EH-L05	BN07-00083A	ER		LTM170EH-L05 ZPD panel
SEC	LTM170E5-L03	BN07-00084A	ES		LTM170E5-L03 ZPD panel
SEC	LTM170EU-L01	BN07-00085A	ET		LTM170EU-L01 ZPD panel
SEC	LTM170E5-L04	BN07-00086A	EU		LTM170E5-L04 ZPD panel
SEC	LTM170E6-L02	BN07-00087A	EV		LTM170E6-L02 ZPD panel
SEC	LTM150XH-L06	BN07-00091A	EW		Color coordinates change for LCD TV
SEC	LTM153W1-L01	BN07-00092A	EX		AMLCD WIDE 15",9/10
SEC	LTM170W1-L01	BN07-00100A	EY		Color Coordinates change code management
SEC	LTM170EH-L05	BN07-00097A	EZ		LTM170E5-L05 Color Coordinates Change Panel Code

14 Reference Information

Maker	VENDOR P/N	PANEL_CODE	PANEL_ABB	STICKER_CODE	Remarks
SEC	LTA400W1-L01	BN07-00109A	S1		PANEL of AMLCD 40" TV
SEC	LTM153W1-L01	BN07-00110A	S2		Color coordinates change 0.280/0.290, 10000k & ZPD Panel
SEC	LTM150XH-L06	BN07-00111A	S3		Color coordinates change 0.280/0.290, 10000k & ZPD Panel
SEC	LTM170W1-L01	BN07-00112A	S4		Color coordinates change 0.280/0.290, 10000k & ZPD Panel
SEC	LTM170EH-L05	BN07-00113A	S5		Color coordinates change 0.280/0.290, 10000k & ZPD Panel
SEC	LTM220W1-L01	BN07-00114A	S6		ZPD Panel for AMLCD 22" TV
SEC	LTM150XH-L06	BN07-00117A	S7		ZPD Panel code
SEC	LTM153W1-L01	BN07-00118A	S8		ZPD Panel code
SEC	LTM170WP-L01	BN07-00119A	S9		PVA Panel for NIKE
SEC	LTM213U4-L01	BN07-00039A	E1		21.3" NARROW
SEC	LTA260W1-L01	BN07-00121A	E2		VENUS
SEC	LTA220W1-L01	BN07-00074B	E3		"Panel B-level panel code for 22" TV Panel "
SEC	LTA320W1-L01	BN07-00108A	E4		"Panel for AMLCD 32" TV"
SEC	LTM213U4-L01	BN07-00124A	E5		NARROW BEZEL 21 " PANEL
SEC	LTM170E6-L04	BN07-00129A	E6		"HIGHLAND 17"" LOW PANEL (Panel only for TCO03)"
SEC	LTM190E1-L01	BN07-00088A	E7		LTM190E1-L01 ZPD panel
SEC	M150X4-L06	BN07-00137A	E8		15" Narrow & Slim panel
SEC	LTA170V1	BN07-00139A	E9		"17"" Panel for Muse 4:3 VGA TV"
SEC	LTM190E1-L02	BN07-00128A	E10		"New Panel from AMLCDI, Specification : 6bit Driver IC"
SEC	LTM170EX-L01	BN07-00143A	E11		"Development new Panel from AMLCD"
SEC	LTM170E8-L01	BN07-00144A	E12		"Development new Panel from AMLCD"
SEC	LTM170E6-L04	BN07-00129B	E13		"ZPD panel for AMLCD (Panel only for TCO03)"
SEC	LTA320W1-L02	BN07-00108B	E14		"Creat B-level Panel code for AMLCD 32" TV"
SEC	LTM190E1-L03	BN07-00151A	E15		"Development new 19"" Panel form AMLCD (Panel only for TCO03)"
SEC	LTM240W1-L03	BN07-00134A	E16		"AMLCD 24"" panel development"
SEC	LTM190E1-L02	BN07-00128B	E17		"New Panel from AMLCD, Specification : 6bit Driver IC(ZPD)"
SEC	LTM190E4-L01	BN07-00145A	E18		"AMLCD 24"" new panel development"
SEC	LTM170E8-L01	BN07-00158A	E19		"ZPD code derivation"
SEC	LTM170EX-L01	BN07-00159A	E20		"ZPD code derivation"
SEC	LTM190E1-L03	BN07-00151B	E21		"Creat new panel code for AMLCD 19"" (Panel only for TCO03)"
SEC	LTA460H1-L01	BN07-00157A	E22		"creat panel code for AMLCD 46"" TV "
SEC	LTM170EU-L11	BN07-00160A	E23		"creat new panel code for AMLCD 17"" (Panel only for TCO03)"
SEC	LTM240W1-L03	BN07-00134B	E24		"24"" panel ZPD code derivation"
SEC	LTM190E4-L01	BN07-00145B	E25		"AMLCD 19"" ZPD Panel code derivation"
SEC	LTM240W1-L03	BN07-00134B	E26		"24"" panel ZPD code derivation"
SEC	LTM150XO-L01	BN07-00164A	E27		"AMLCD 15"" XO-L01 new panel development"
SEC	LTM150XO-L01	BN07-00164B	E28		"AMLCD 15"" XO-L01 ZPD code derivation"
SEC	LTM170EU-L11	BN07-00160B	E29		"AMLCD 17"" NEW panel code derivation"
SEC	LTA320W2-L01	BN07-00172A	SPZ		AMLCD 32" NEW panel
SEC	LTM213U4-L01	BN07-00124B	SPZ		21.3" Narrow PANEL ZPD Panel derivation
SEC	LTM170EU-L11	BN07-00189A	STH		AMLCD EU-L11 Pb free panel code derivation
SEC	LTM170EU-L11	BN07-00189B	STZ		AMLCD EU-L11 Pb free panel ZPD code derivation
SEC	LTM240W1-L04	BN07-00188A	SPH		24" A-DCC new panel development
SEC	LTM240W1-L04	BN07-00188B	SPZ		24" A-DCC panel ZPD code derivation
SEC	LTM190EX-L01	BN07-00191A	STH		AMLCD 19" TN new Panel
SEC	LTM190EX-L02	BN07-00191B	STZ		AMLCD 19" TN new Panel ZPD derivation
SEC	LTA230W1-L02	BN07-00184A	SPZ		AMLCD 23" 16:9 new Panel

Maker	VENDOR P/N	PANEL_CODE	PANEL_ABB	STICKER_CODE	Remarks
SEC	LTA260W2-L01	BN07-00185A	SPZ		AMLCD 26" 16:9 new Panel
SEC	LTM240M1-L01	BN07-00195A	SPH		24" panel with high brightness deveipment
SEC	LTA400W2-L01	BN07-00186A	SPZ		AMLCD 40" 16:9 new Panel
SEC	LTM150XO-L01	BN07-00197A	STH		AMLCD 15" XO-L01 Pb free panel code
SEC	LTM150XO-L01	BN07-00197B	STZ		AMLCD 15" XO-L01 Pb free panel ZPD code
SEC	LTM170EU-L21	BN07-00202A	STZ		AMLCD EU-L21 ZPD new code derivation
SEC	LTA460W2-L03	BN07-00187A	SPZ		BEETOVEN 46"ZPD new panel
SEC	LTM240M1-L01	BN07-00195B	SPZ		24" igh brightness panel ZPD code derivation
SEC	M170EX-L21	BN07-00206A	STZ		AMLCD LTM170EX-L21 ZPD new code derivation
SEC	LTA460H3-L01	BN07-00200A	SPZ		AMLCD 46" LED BLU panel
SEC	LTM170EU-L15	BN07-00214A	STZ		AMLCD EU-L15 TV high brightness ZPD new code derivation
SEC	LTM170E8-L21	BN07-00218A	SPZ		AMLCD LTM170E8-L21 PVA ZPD new code derivation
SEC	LTM190EX-L21	BN07-00222A	STZ		DISPLAY LCD
SEC	LTM201U1-L01	BN07-00190B	SPZ		AMLCD 20.1" Normal panel ZPD code derivation
SEC	LTM190E4-L21	BN07-00223A	SPZ		HAYDN 17" PZD code PANEL derivation
SEC	LTA570H1-L01	BN07-00196A	SPZ		AMLCD 57" new panel development
SEC	LTM150XO-L21	BN07-00229A	STZ		AMLCD 15" XO-L21 8ms panel code
SEC	LTA260W2-L11	BN07-00239A	SPZ		AMLCD 26" 16:9 7Line new Panel
SEC	LTA400WS-LH1	BN07-00245A	SPZ		AMLCD 40" 16:9 SPVA 90% new Panel
SEC	LTM213U6-L01	BN07-00231A	SPZ		AMLCD 21.3" PVA new Panel Code
SEC	LTA320WS-LH2	BN07-00244A	SPZ		AMLCD 32" 16:9 SPVA 90% new Panel
SEC	LTA400WS-LH1	BN07-00245A	SPZ		AMLCD 40" 16:9 SPVA 90% new Panel
SEC	LTA320WT-L06	BN07-00453A	SPZ		16:9 SMVA 72% New Panel
SEC	LTA400WT-L07	BN07-00451A	SPZ		16:9 SMVA 72% New Panel
CPT	CLAA150XG09	BN07-00141A	PA		"CPT 15"" Monitor new panel development"
CPT	CLAA170EA02	BN07-00148A	PB		"17"" CPT NEW development panel"
CPT	CLAA170EA02	BN07-00148B	PC		"17"" CPT ZPD panel code derivation"
CPT	CLAA150XG09	BN07-00141B	PTZ		"CPT 15"" panel ZPD code derivation (GOYA-PJT)"
CPT	CLAA150XP01	BN07-00173A	PTH		CPT 15" PSWG code derivation
CPT	CLAA150XP01	BN07-00173B	PTZ		CPT 15" PSWG panel ZPD code
CPT	CLAA170EA07	BN07-00174A	PTH		"CPT 17"" PSWG panel code derivation
CPT	CLAA170EA07	BN07-00174B	PTZ		CPT 17"" PSWG type new Panel code""
CPT	CLAA170EA07	BN07-00174B	PTZ		CPT 17" PSWG type new Panel code
CPT	CLAA170EA07Q	BN07-00220A	PTZ		CPT 17" PSWG R/T 8msec code derivation
CPT	CLAA170EA07Q	BN07-00220B	PTH		CPT 17" PSWG R/T 8msec HPD code derivation
CPT	CLAA150XP01F	BN07-00236A	PTZ		CPT 15" PSWG panel ZPD & Lead free code derivation
TOSHIBA	LTM15C419(A)	BN07-00002A	TA		-
TOSHIBA	LTM15C423(B)	BN07-00006A	TB		-
TOSHIBA	LTM18C161	BN07-00008A	TC		-
TOSHIBA	LTM15C443	BN07-00031A	TD		-
TOSHIBA	LTM15C458	BN07-00043A	TE		-
TOSHIBA	LTM15C458S	BN07-00077A	TF		"TSB 15"" high brightness Panel"
TOSHIBA	LTM15C458	BN07-00078A	TG		Toshiba ZPD panel
TOSHIBA	LTM15C458S	BN07-00099A	TH		TSB LTM15C458S (ZPD)
HANNSTAR	HSD150MX41A(A)	BN07-00020A	NA		"TTL type"
HANNSTAR	HSD150MX12	BN07-00030A	NB		"TTL type"
HANNSTAR	HSD170ME13	BN07-00180A	NTH		Hannstar 17" TN new panel development

14 Reference Information

Maker	VENDOR P/N	PANEL_CODE	PANEL_ABB	STICKER_CODE	Remarks
HANNSTAR	HSD170ME13	BN07-00180B	NTZ		Hannstar 17" TN new panel development ZPD code derivation
HANNSTAR	HSD190ME12	BN07-00210A	NTZ		Hannstar 19" TN new panel development
HANNSTAR	HSD150MX17-A	BN07-00226A	NTZ		Hannstar 15" slim panel ZPD code derivation
TORISAN	TM150XG-22L03(A)	BN07-00021A	RA		-
TORISAN	TM150XG-26L06	BN07-00042A	RB		-
TORISAN	TM181SX-76N01	BN07-00048A	RC		-
TORISAN	TM150XG-26L06	BN07-00059A	RD		15" XGA TN MODE(ZPD)
TORISAN	TM290WX-71N31	BN07-00063A	RE		"RS24NS (TORISAN 29"" NEW PANEL)"
TORISAN	TM396WX-71N31	BN07-00064A	RF		"RS24NS (TORISAN 40"" NEW PANEL)"
TORISAN	TM150XG-26L09	BN07-00073A	RG		"Panel for 15"" TV"
TORISAN	TM150XG-26L10	BN07-00089A	RH		"L10(change except D/IC) ZPD"
TORISAN	TM150XG-26L10	BN07-00090A	RJ		L10 NORMAL
TORISAN	TM190SX-70N01	BN07-00098A	RK		Torisan 19" Panel
TORISAN	TM181SX-76N01	BN07-00106A	RL		ZPD Panel code
TORISAN	TM190SX-70N01	BN07-00107A	RM		ZPD Panel code
TORISAN	TM290WX-71N31	BN07-00115A	RN		"Color Coordinates change panel for TORISAN 29"" TV"
TORISAN	TM396WX-71N31	BN07-00116A	RP,Q		"Color Coordinates change panel for TORISAN 40"" TV"
TORISAN	TM22OWX-71N31	BN07-00125A	RR		"Development TORISAN 22"" TV PANEL (ZPD)"
TORISAN	TM22OWX-71N31	BN07-00127A	RS		"Development TORISAN 22"" TV PANEL (HPD)"
TORISAN	TM396WX-71N32A	BN07-00150A	RT		120V inverter Exclusive panel
TORISAN	TM190SX-70N02	BN07-00154A	RMH		Torisan 6bit panel code Derivation
TORISAN	TM190SX-70N02	BN07-00154B	RMZ		Torisan 6bit panel code Derivation
TORISAN	TM150XG-A01	BN07-00162A	RTH		Torisan 15" Narrow & Slim panel development
TORISAN	TM150XG-A01	BN07-00162B	RTZ		Torisan 15" N&S panel ZPD code Derivation
SHARP	LQ181E1DG11(A)	BN07-10001C	PA		-
SHARP	LQ150X1LW71	BN07-00067A	PB		SHARP 15" PVA PANEL
SHARP	LQ370T3LZ41	BN07-00216A	FAZ		Rome2
HITACHI	TX38D12VC0CAA(A)	BN07-00003A	HA		-
HITACHI	TX43DVCOCAB	BN07-00060A	HB		17" SXGA PVA MODE
HITACHI	TX43D15VC0CAB	BN07-00101A	HC		ZPD Panel
HITACHI	TX51D11VC0CAB	BN07-00122A	HD		20.1" NARROW
HITACHI	TX54D11VC0CAB	BN07-00123A	HE		21.3" NARROW
HITACHI	TX80D12VC0CAB	BN07-00169A	HIZ		"Development new panel for Hitachi 32"" TV (ZPD)"
HITACHI	TX54D11VC0CAB	BN07-00123B	HIZ		Hitachi 21.3"ZPD panel
IBM	ITSX94S	BN07-00017A	IA		-
UNIPAC	UM170E0	BN07-00028A	UA		Loaded by cisdba
HYUNDAI	HT15X13	BN07-00035A	DA		-
HYUNDAI	HT17E11-200	BN07-00049A	DB		TN MODE
HYUNDAI	HT17E11-300	BN07-00093A	DC		HT17E11-300 ZPD panel
HYUNDAI	HT17E11-400	BN07-00094A	DD		HT17E11-400 normal panel
HYUNDAI	HT17E11-400	BN07-00095A	DE		HT17E11-400 ZPD panel code
HYUNDAI	HT17E12	BN07-00096A	DF		HT17E12 (Narrow & slim Design)
HYUNDAI	HT17E12	BN07-00105A	DG		ZPD Panel code
HYUNDAI	HT15X15-D00	BN07-00146A	DH		"Development for Ares 15"" Hydis TV"
HYUNDAI	HT15X15-D01	BN07-00146B	DJ		"Derivation panel HPD for Ares 15"" Hydis TV "
HYUNDAI	HT17E13-100	BN07-00167A	DTH		"PINEHURST-2(IBM) PJT 17"" HYDIS PANEL Derivation"
HYUNDAI	HT17E13-100	BN07-00167B	DTZ		"PINEHURST-2(IBM) Hydis 17"" ZPD code Derivation"

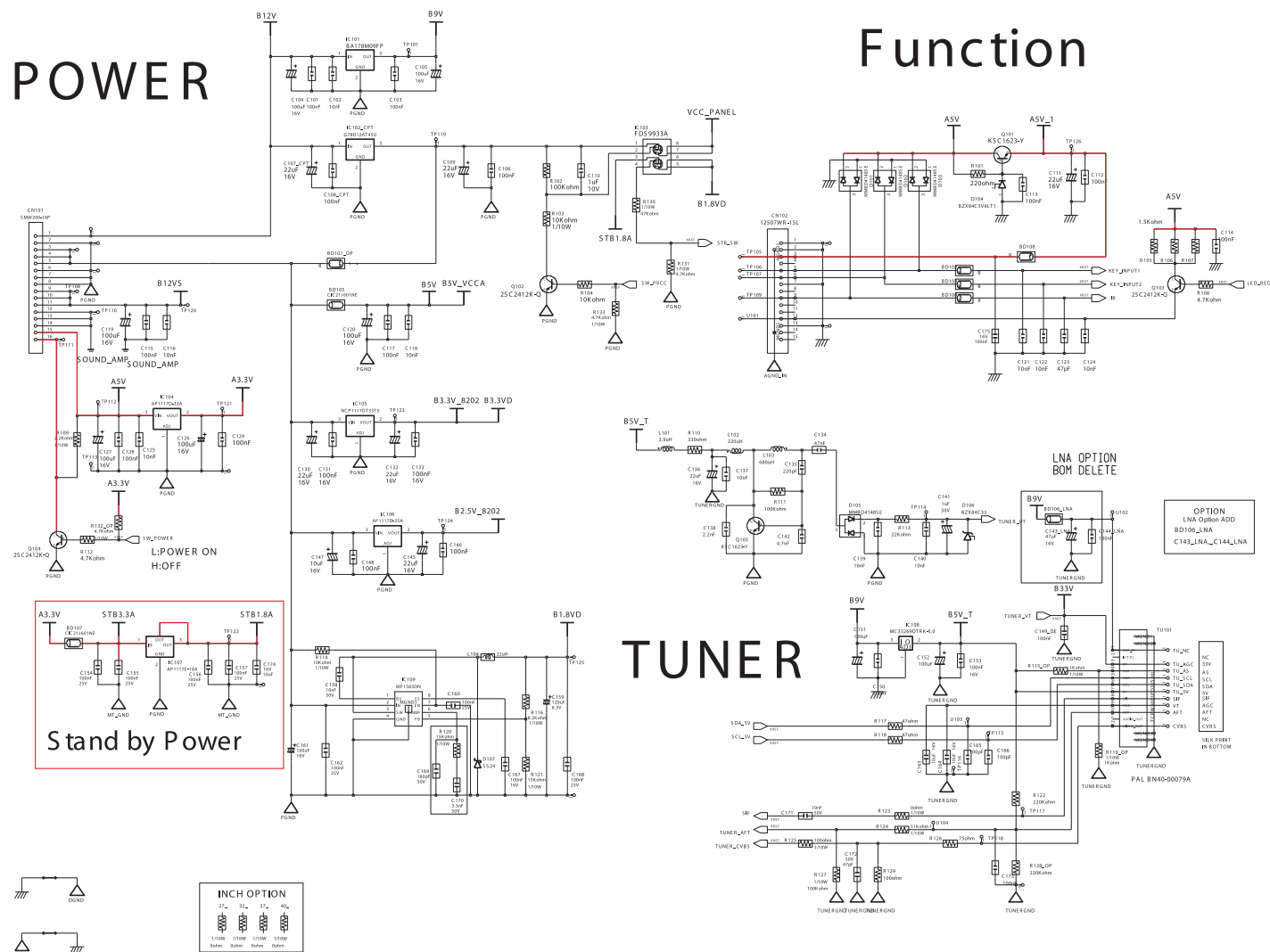
Maker	VENDOR P/N	PANEL_CODE	PANEL_ABB	STICKER_CODE	Remarks
ACER	L170E3	BN07-00044A	AA		TN(ADT)
ACER	M170EN05	BN07-00076A	AB		AU 17" Panel (Narrow & slim design)
ACER	M170EN05	BN07-00102A	AC		ZPD Panel code
ACER	M190EN02	BN07-00170A	AMH		"AU Monitor 19"" new panel development (P19-1S)"
ACER	M190EN02	BN07-00170B	AMZ		"AU 19"" ZPD code derivation (ZPD)"
ACER	M170EN06	BN07-00171A	ATH		"AU Monitor 17"" New panel development "
ACER	T260XW01	BN07-00163A	AMZ		"AU 26"" new panel development (NF26EO)"
ACER	A201SN01	BN07-00177A	ATZ		"AU TV panel 20.1"" TN SVGA new panel development"
ACER	M170EN06	BN07-00171B	ATZ		AU Monitor 17" ZPD code derivation
ACER	T315XW01	BN07-00194A	AMZ		AU 32" new
ACER	M170EG01	BN07-00192A	ATH		AU TN PSWG type new Panel code
ACER	M170EG01	BN07-00192B	ATZ		AU TN PSWG type NEW panel code derivation
ACER	M190EN04	BN07-00203A	ATH		AU Monitor 19" ZPD new Panel code
ACER	T260XW02	BN07-00208A	AMZ		AUO 26" ZPD panel
ACER	M170EG01 V8	BN07-00221A	ATZ		AU TN PSWG type new Panel (8msec) ZPD code derivation
ACER	T260XW02	BN07-00233A	AMZ		AUO 26" Panel new (Cosmetic spec down grade)
ACER	T315XW01	BN07-00234A	AMZ		AUO 32" Grade new (Cosmetic spec down grade)
ACER	M190EN03	BN07-00224A	AMZ		AU Monitor 19" MVA new code derivation
ACER	T315XW01	BN07-00237A	AMZ		LCD TV VE project new
ACER	T315XW01	BN07-00238A	AMZ		LCD TV VE project new
ACER	M201UN02 V3	BN07-00168A	AMZ		
CHIMEI	M170E3-L01	BN07-00050A	CA		TN PANEL
CHIMEI	M150X3-L01	BN07-00051A	CB		COMPATIBLE
CHIMEI	M170E4-L01	BN07-00052A	CC		MVA PANEL
CHIMEI	M150X2-L01	BN07-00066A	CD		CHIMEI 15" PVA PANEL
CHIMEI	M150X3-L01	BN07-00079A	CE		Chimei ZPD panel
CHIMEI	M170E3-L01	BN07-00103A	CF		ZPD Panel code
CHIMEI	M170E4-L01	BN07-00104A	CG		ZPD Panel code
CHIMEI	V296W1-L01	BN07-00120A	CH		MVA
CHIMEI	M170E6-L02	BN07-00126A	CJ		HIGHLAND 17" LOW PANEL
CHIMEI	M190E2-L01	BN07-00131A	CK		GH19AS,BS CHIMEI PANEL
CHIMEI	M150X4-L06	BN07-00137A	CL		15" Narrow & Slim panel
CHIMEI	M170E6-L01	BN07-00133A	CM		"2003-03-11 vendor change"
CHIMEI	M170E6-L01	BN07-00133B	CN		ZPD derivation panel
CHIMEI	V201V1-T01	BN07-00135A	CP		CHIMEI 20.1" panel development
CHIMEI	M170E6-L02	BN07-00126B	CQ		"HIGHLAND 17"" LOW PANEL ZPD derivation panel"
CHIMEI	M170E6-L05	BN07-00152A	CR		"CMO 17"" new panel development code"
CHIMEI	M170E6-L05	BN07-00152B	CS		"CMO 17"" ZPD panel code derivation"
CHIMEI	M150X4-L06	BN07-00137B	CT		Chimei 15" Narrow & Slim panel ZPD derivation
CHIMEI	M170E5-L05	BN07-00165A	CTH		CMO 17" new panel development code (GOYA2-PJT)
CHIMEI	M170E5-L05	BN07-00165B	CTZ		CMO 17" ZPD panel(GOYA2-PJT)
CHIMEI	V230W1-L02	BN07-00209A	CMZ		CMO 23" development
CHIMEI	V320B1-L01	BN07-00207A	CMZ		CMO 32" development
CHIMEI	V270W1-L01	BN07-00136A	CMZ		CHI MEI 27" panel development
NEC	SVA150XG04TB	BN07-00225A	BTZ		SVA NEC 15" panel ZPD code

Memo

9 Schematic Diagrams

- This Document can not be used without Samsung's authorization.

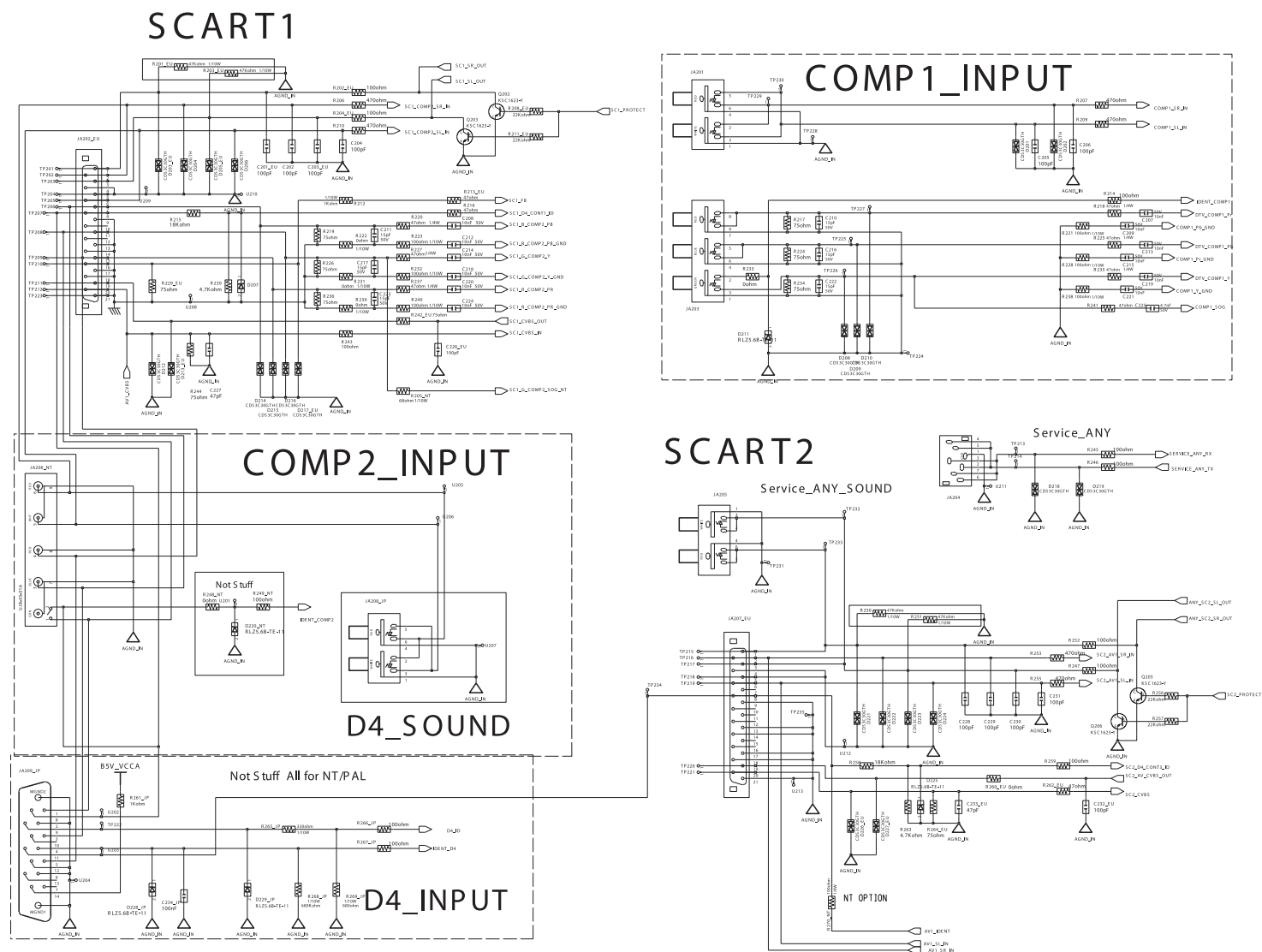
9-1 Power/Function/TUNER Schematic Diagram



9 Schematic Diagrams

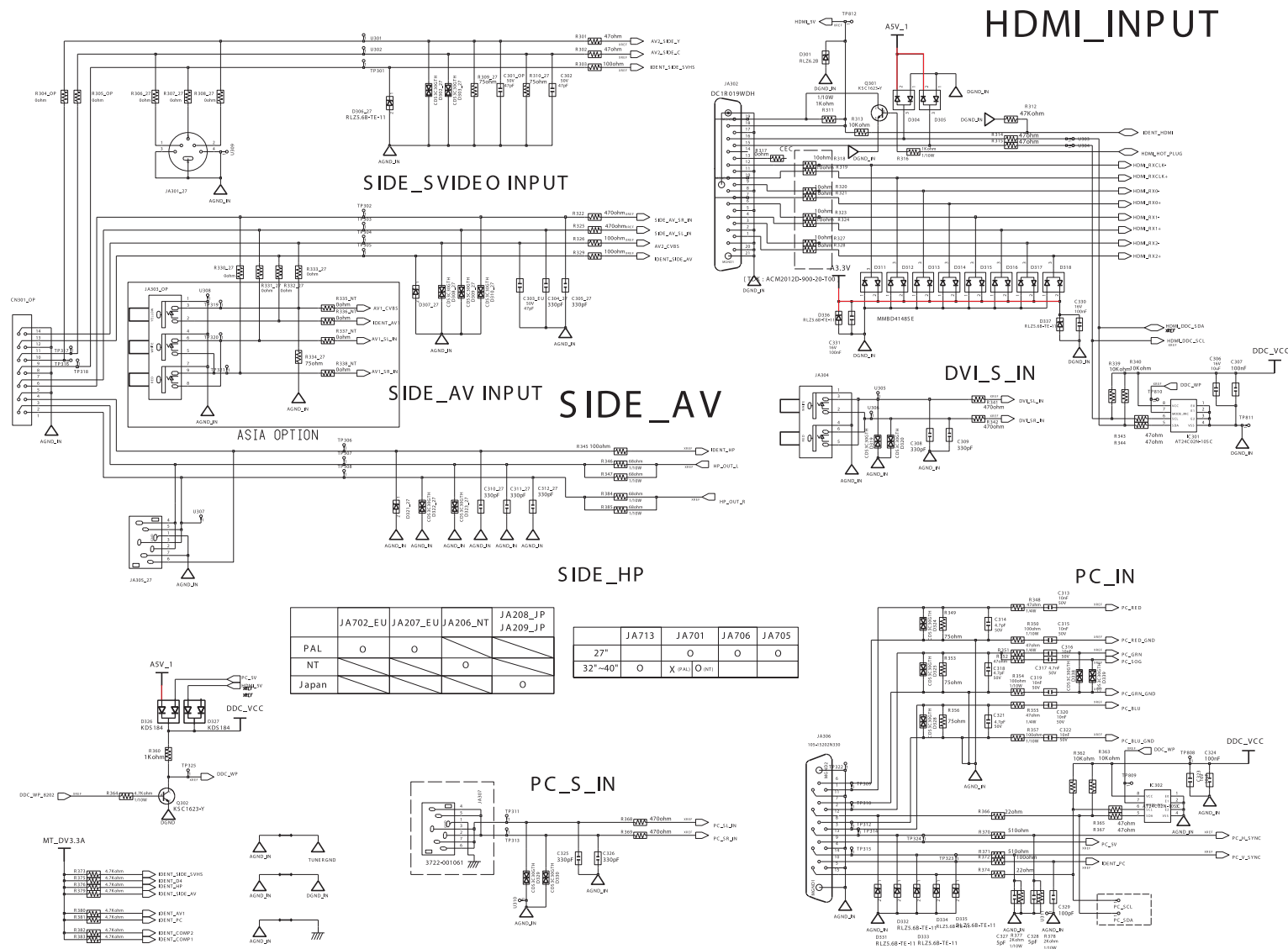
- This Document can not be used without Samsung's authorization.

9-2 Schematic Diagram



- This Document can not be used without Samsung's authorization.

9-3 SIDE_AV Schematic Diagram

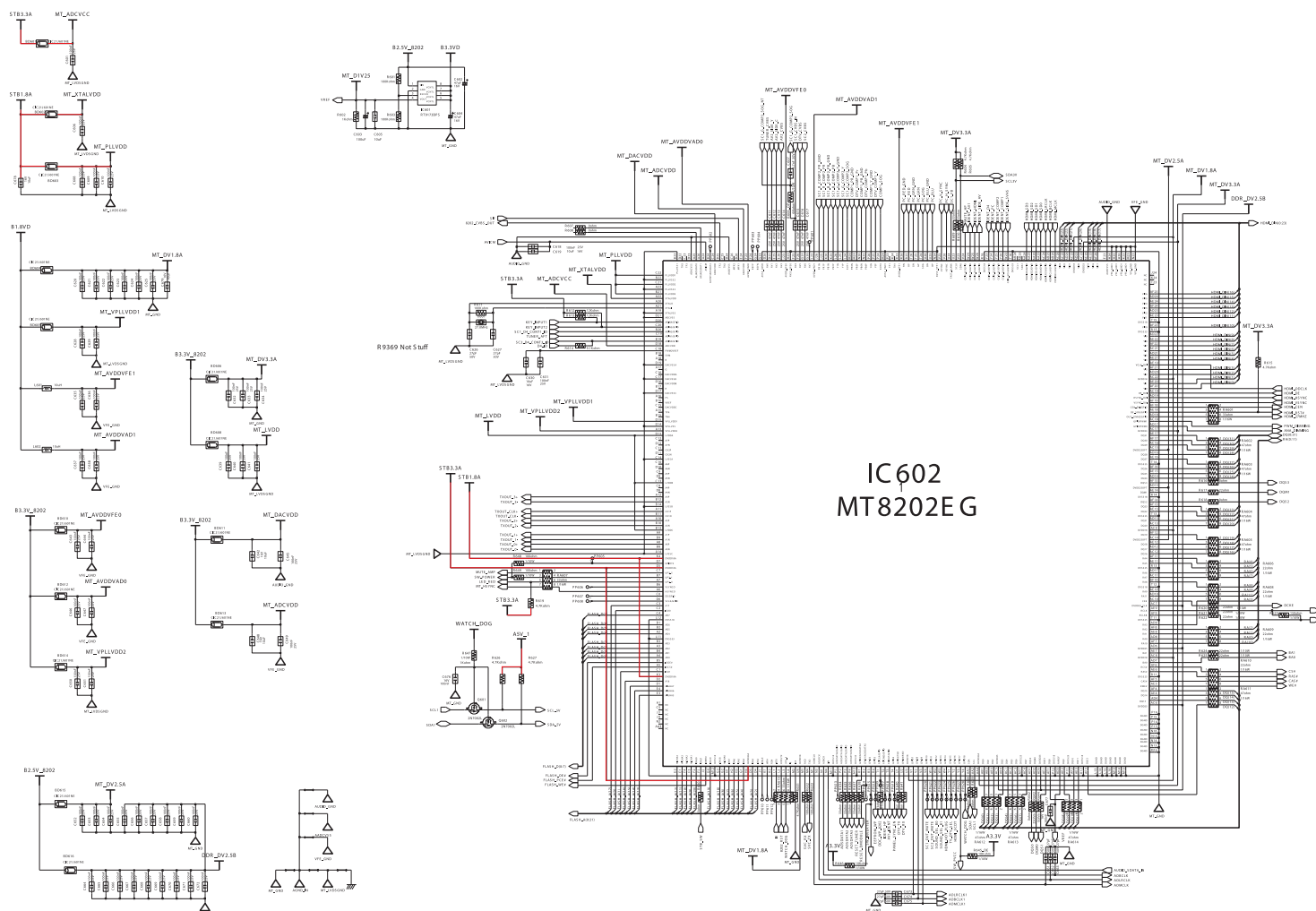


9-4 Schematic Diagram



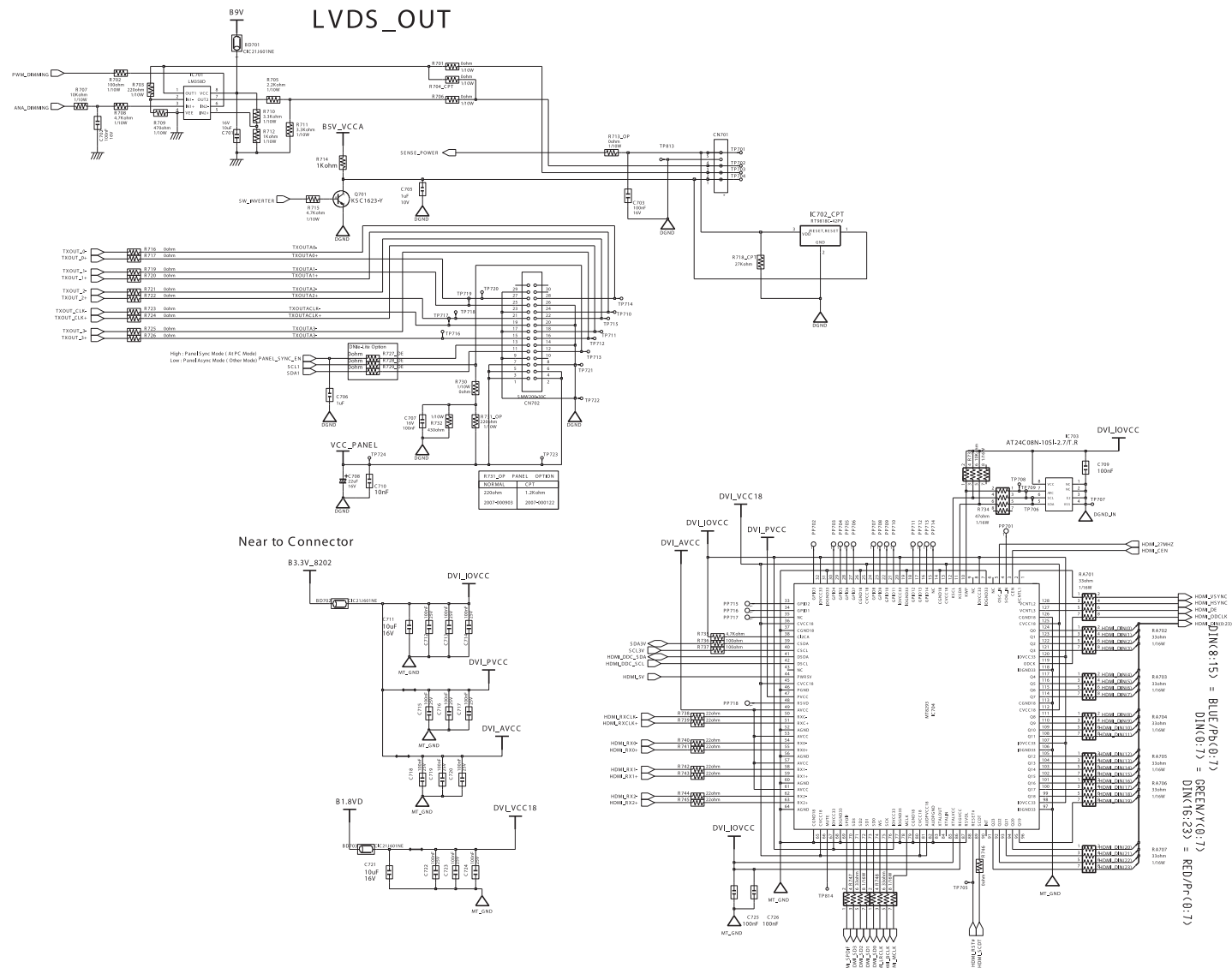
- This Document can not be used without Samsung's authorization.

9-5 IC602 MT8202EG Schmatic Diagram



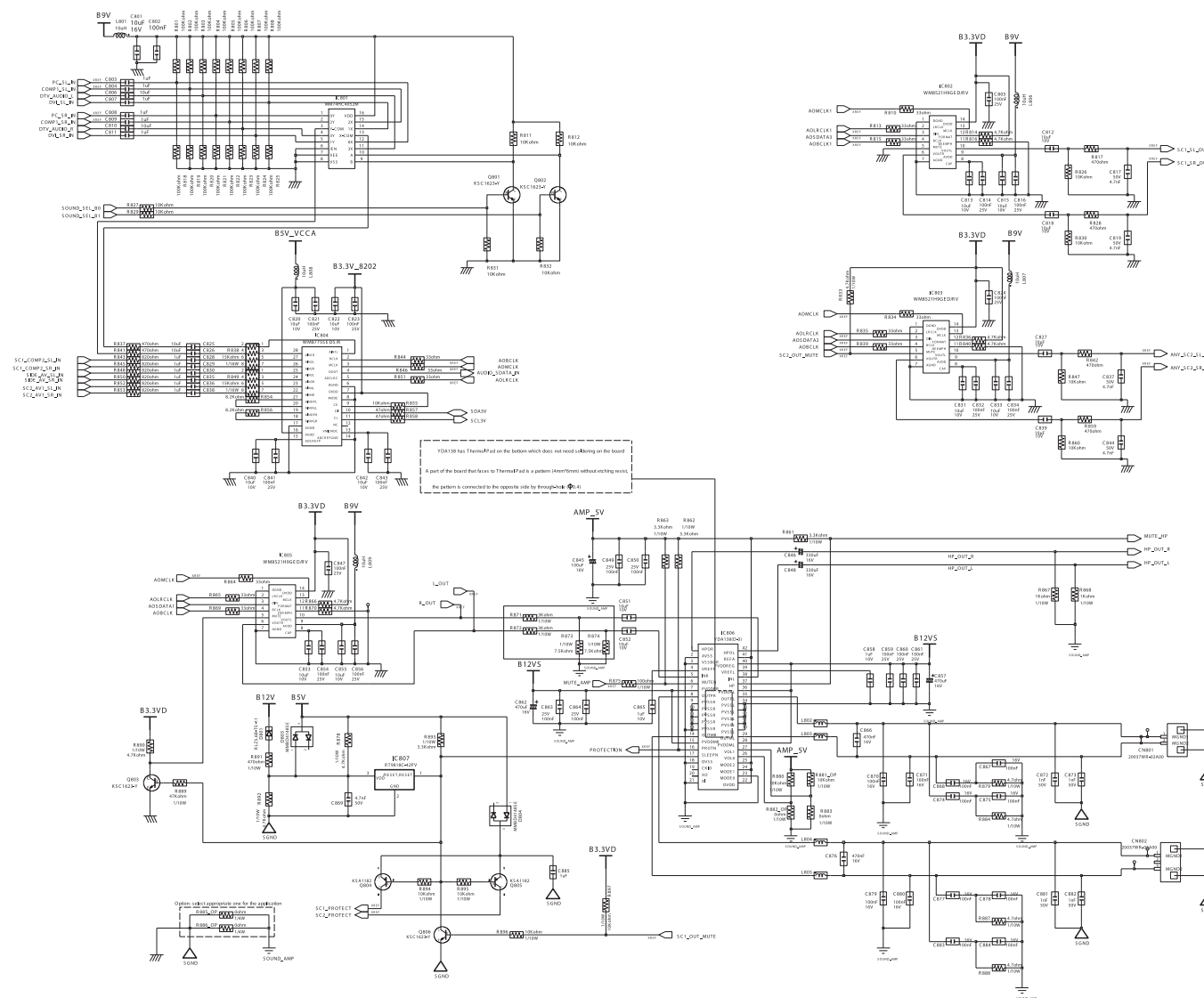
- This Document can not be used without Samsung's authorization.

9-6 LVDS_OUT Schmetic Diagram



- This Document can not be used without Samsung's authorization.

9-7 Schmetic Diagram



Memo

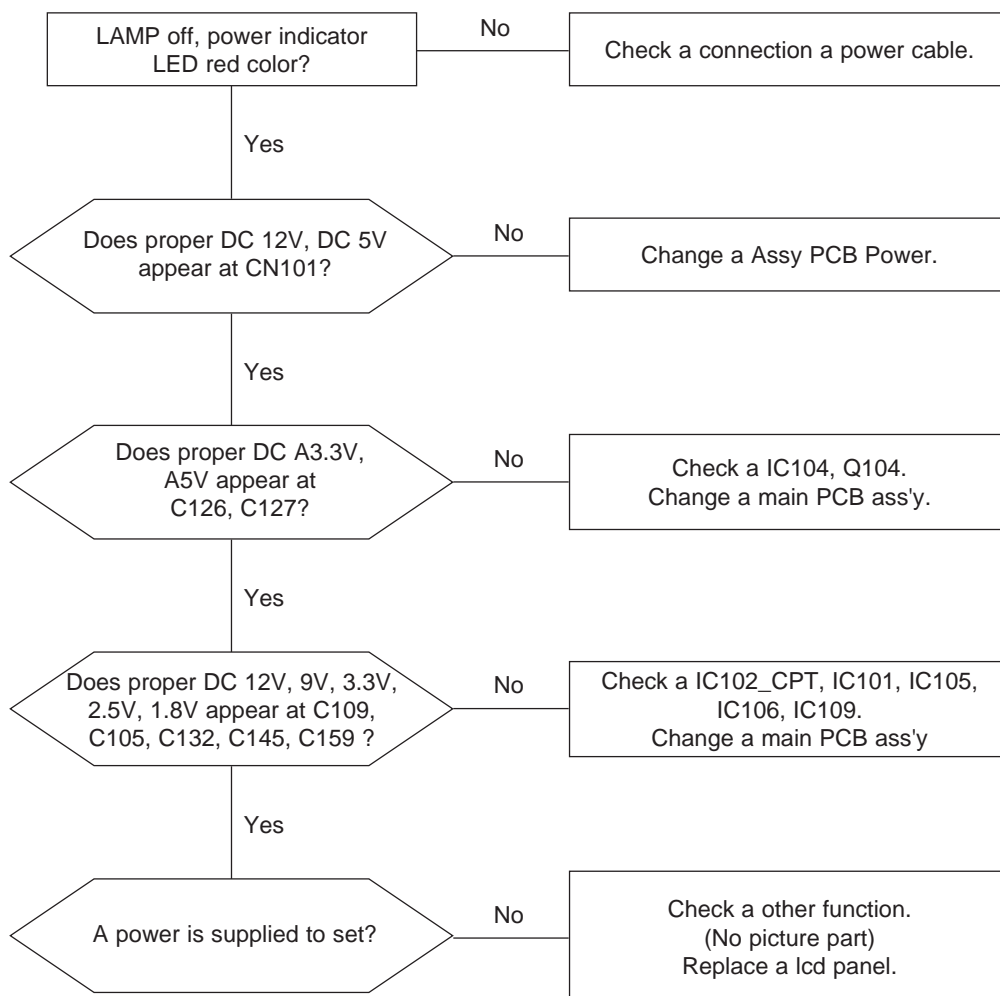
4 Troubleshooting

4-1 First Checklist for Troubleshooting

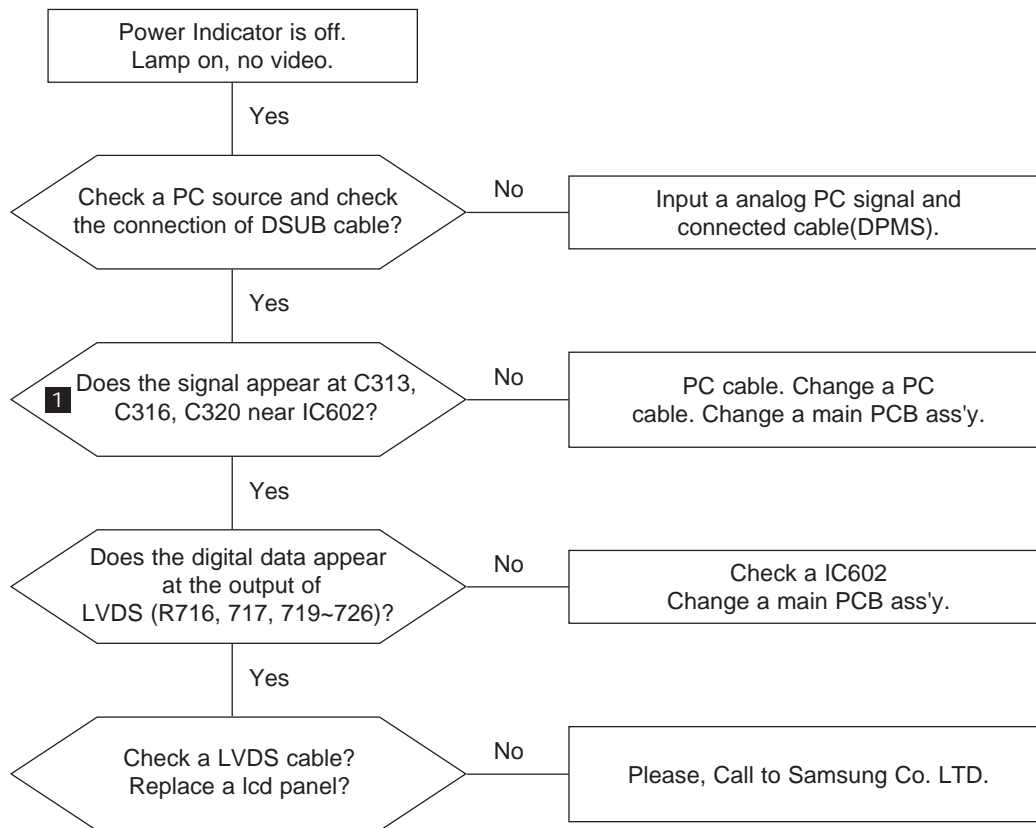
1. Check the various cable connections first.
 - Check to see if there is a burnt or damaged cable.
 - Check to see if there is a disconnected cable connection or a connection is too loose.
 - Check to see if the cables are connected according to the connection diagram.
2. Check the power input to the Main Board.
3. Check the voltage in and out between the SMPS ↔ Main Board, between the SMPS ↔ INVERTER Board, and between the Main LVDS Boards.

4-2 Checkpoints by Error Mode

4-2-1 No Power

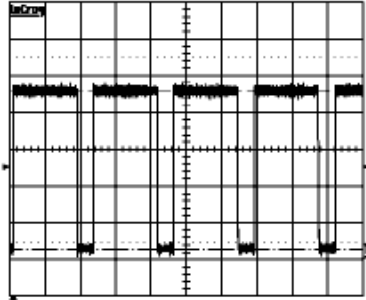


4-2-2 No Video (Analog PC)



WAVEFORMS

1 R,G,B Output Signal of IC602

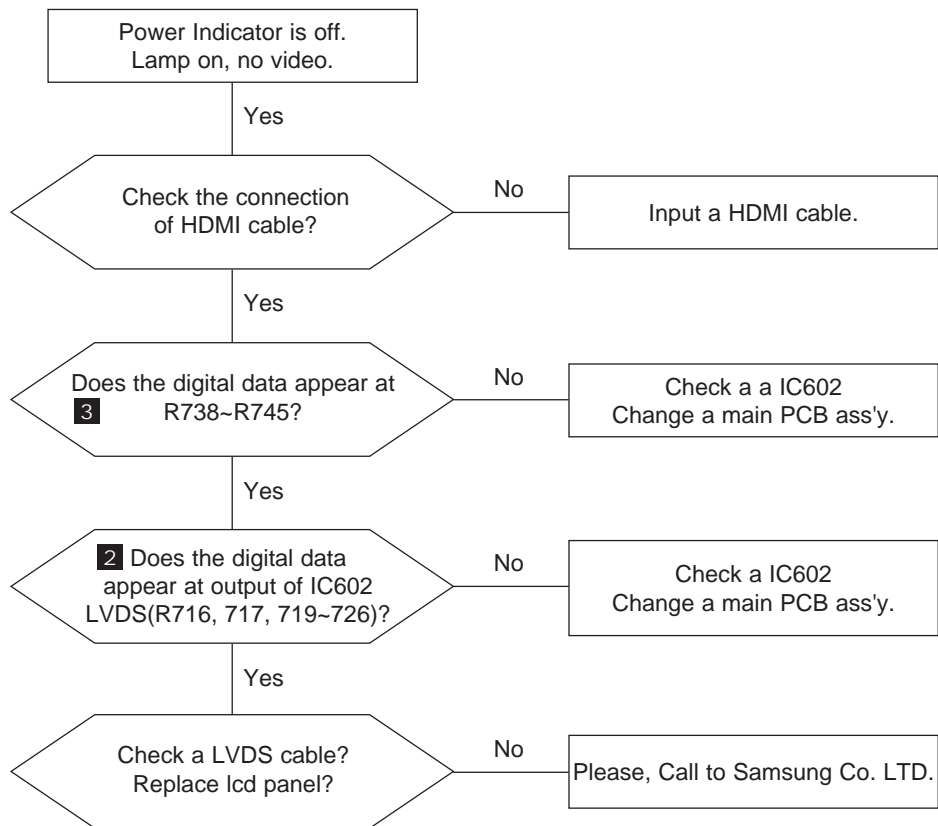
27-Sep-02
1:42:1910 μ s
200mV
652mV10 μ s1 20 mV DC $\frac{1}{2}$
2 1 V DC $\frac{1}{2}$
3 1 V DC $\frac{1}{2}$
4 5 V DC $\frac{1}{2}$ 

1 DC 0.492 V

1 65/s

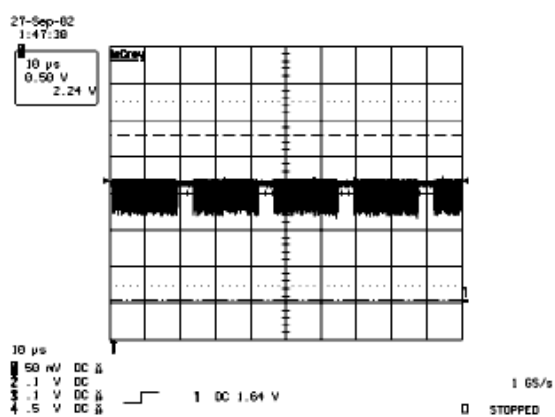
STOPPED

4-2-3 No Video (Digital-HDMI)

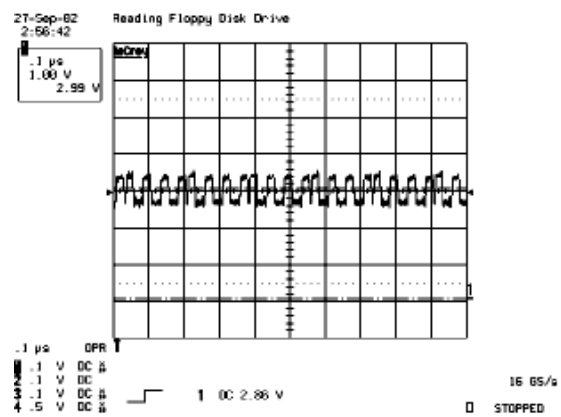


4 Troubleshooting

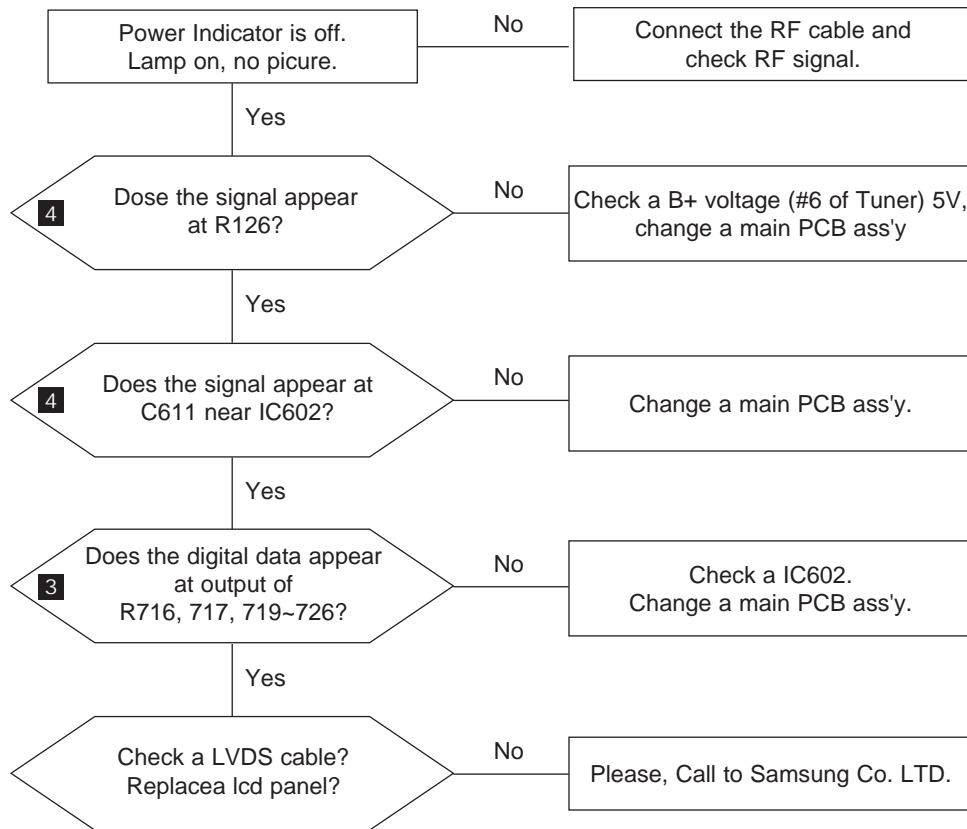
2 Digital Output Data of IC602



3 Signal of HDMI(Data)



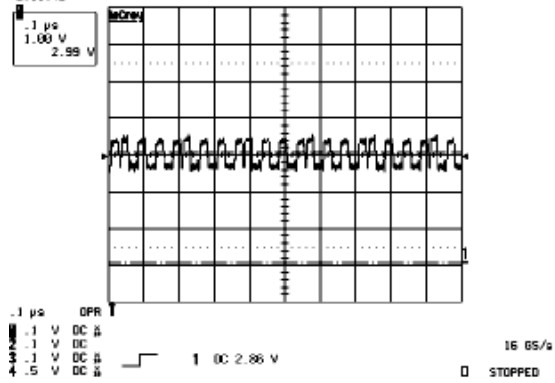
4-2-4 No Picture (Tuner_CVBS)



4 Troubleshooting

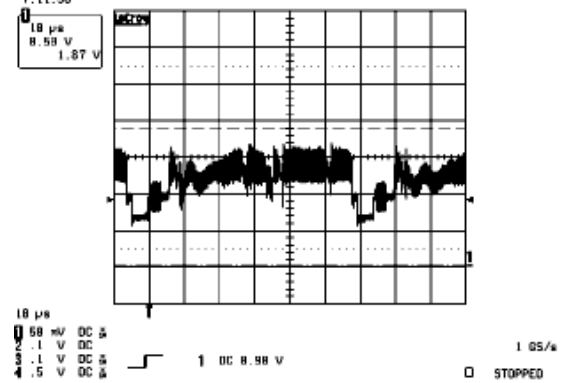
3 CVBS Output Signal

27-Sep-82 2:56:42 Reading Floppy Disk Drive

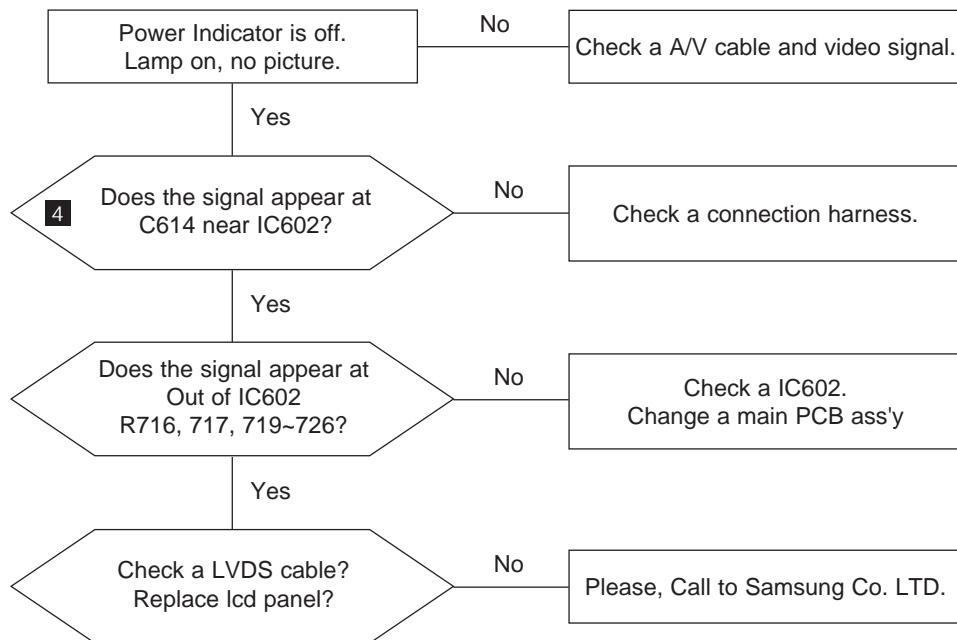


4 Tuner_CVBS Output Signal

27-Sep-82 7:11:36

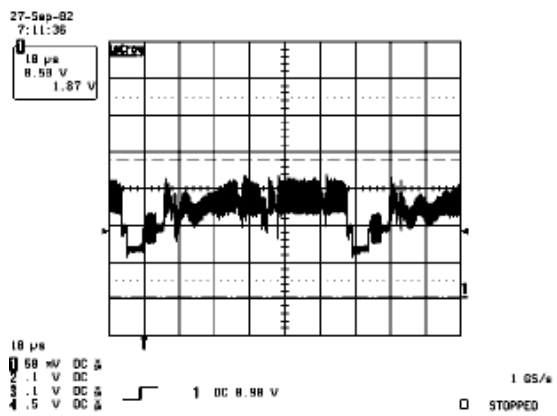


4-2-5 No Picture (Video_CVBS)

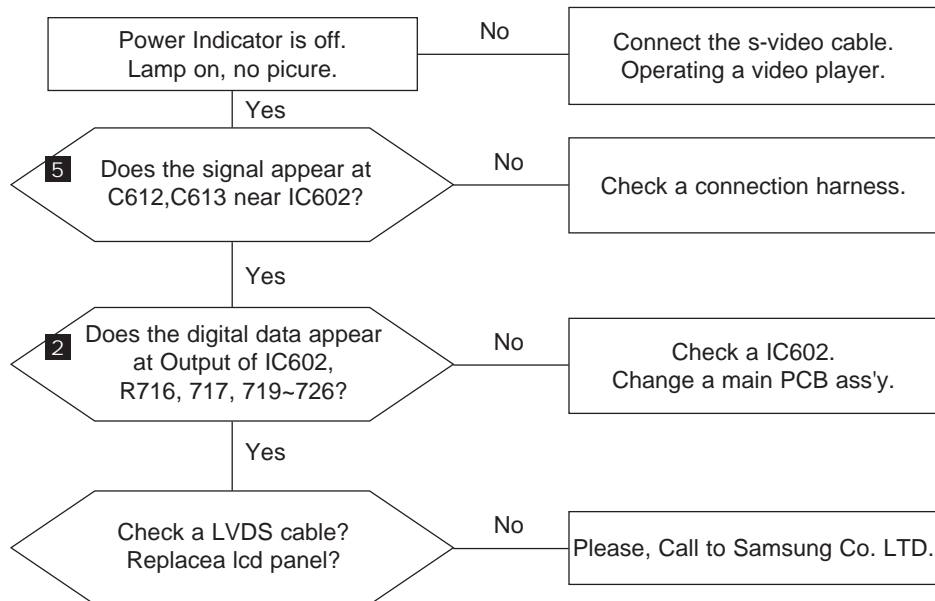


WAVEFORMS

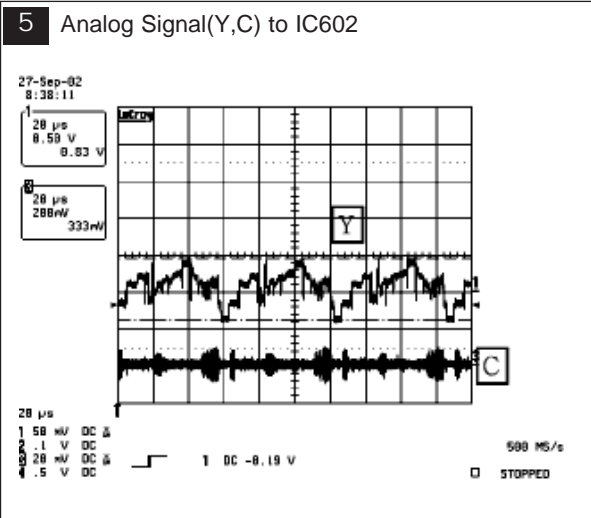
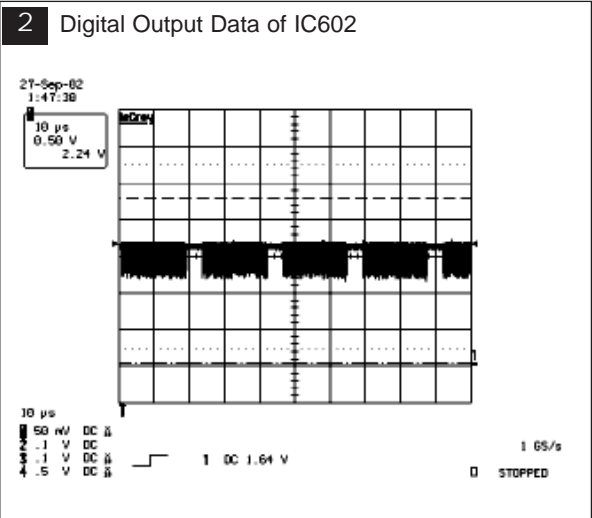
4 CVBS Output Signal



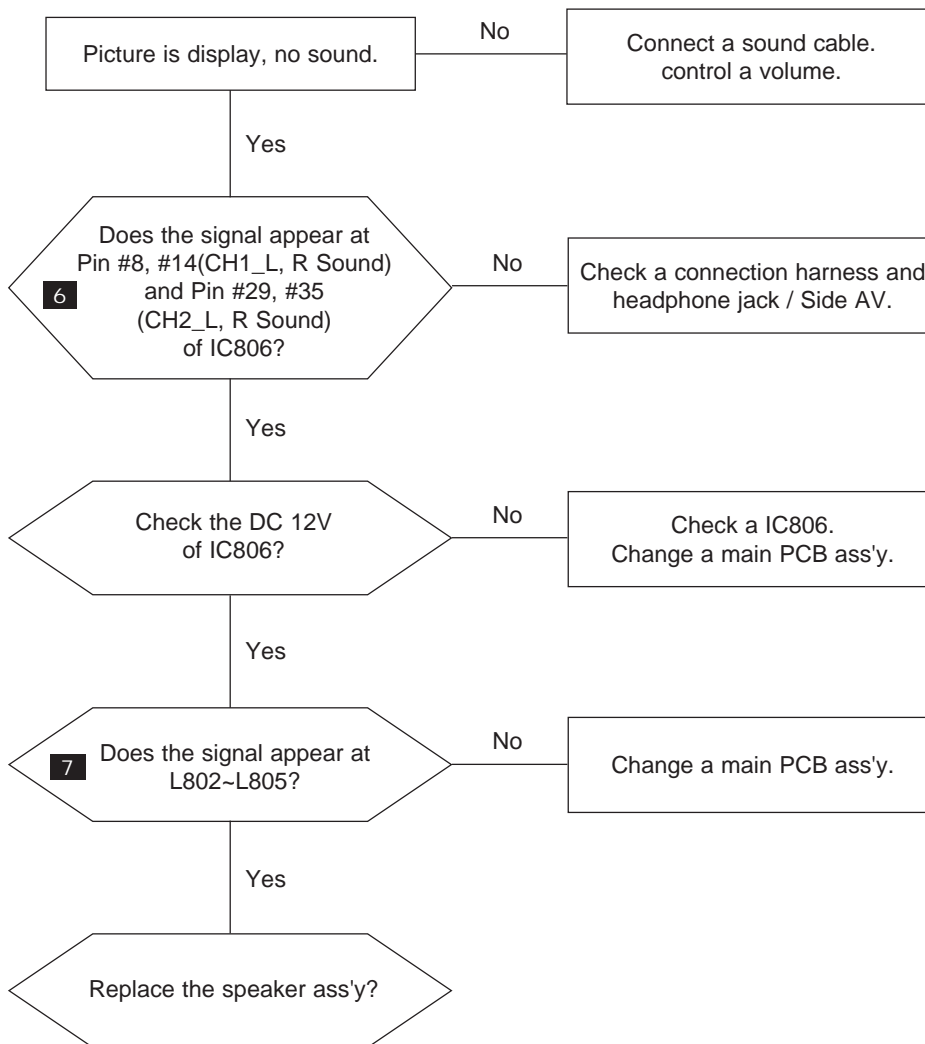
4-2-6 No Picture (S-VIDEO_Y,C)



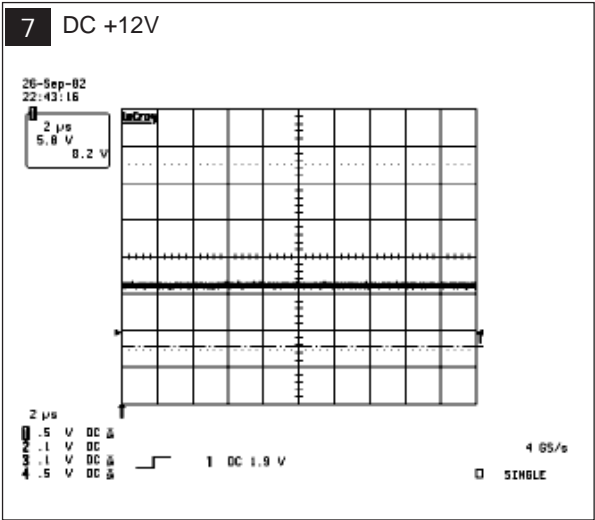
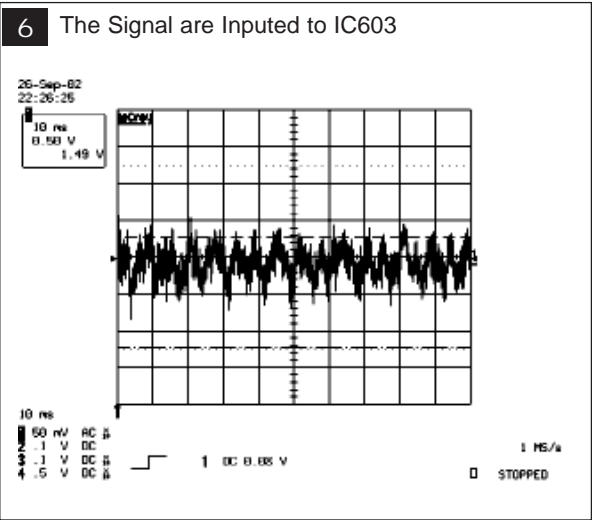
WAVEFORMS



4-2-7 No Sound

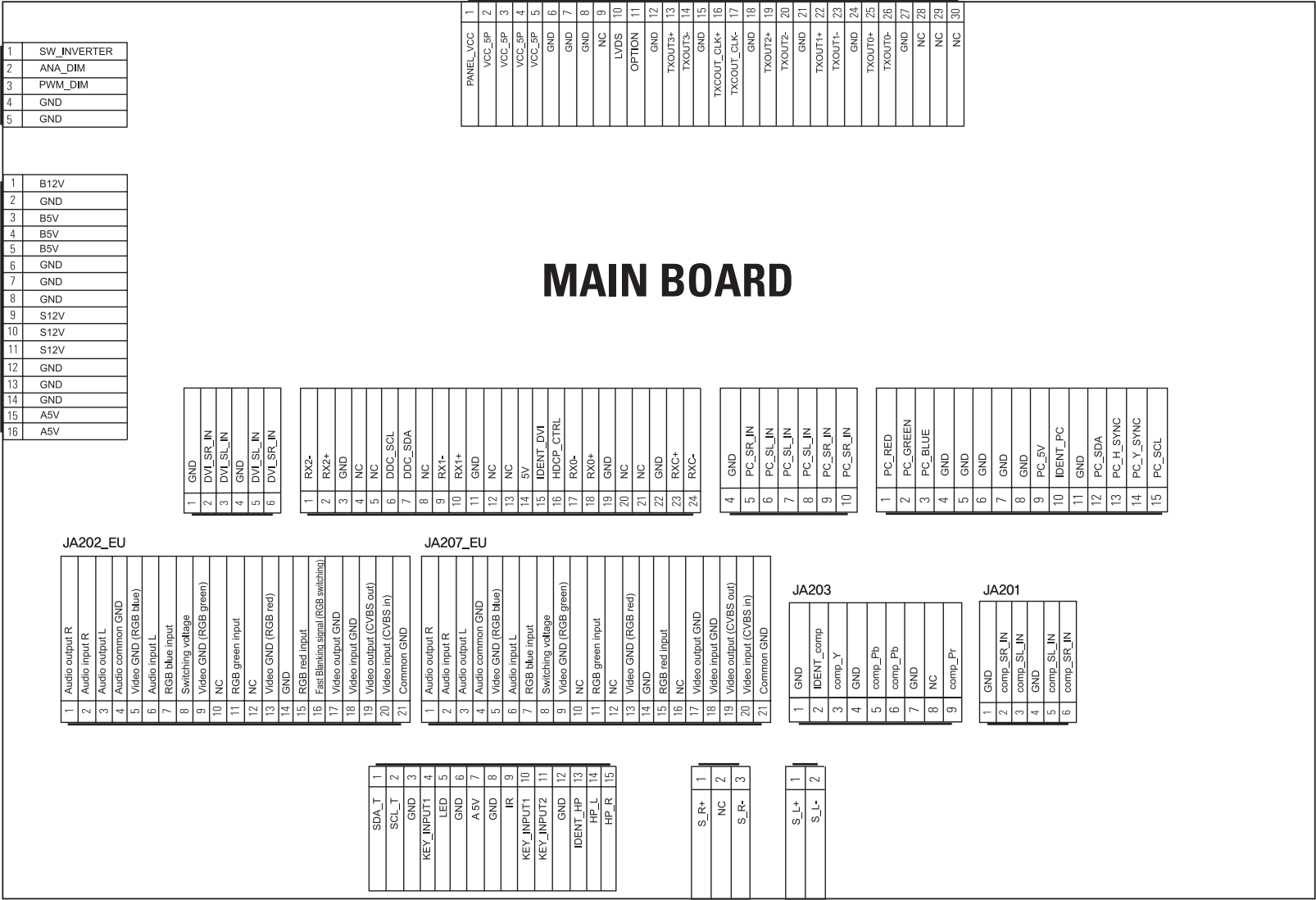


WAVEFORMS

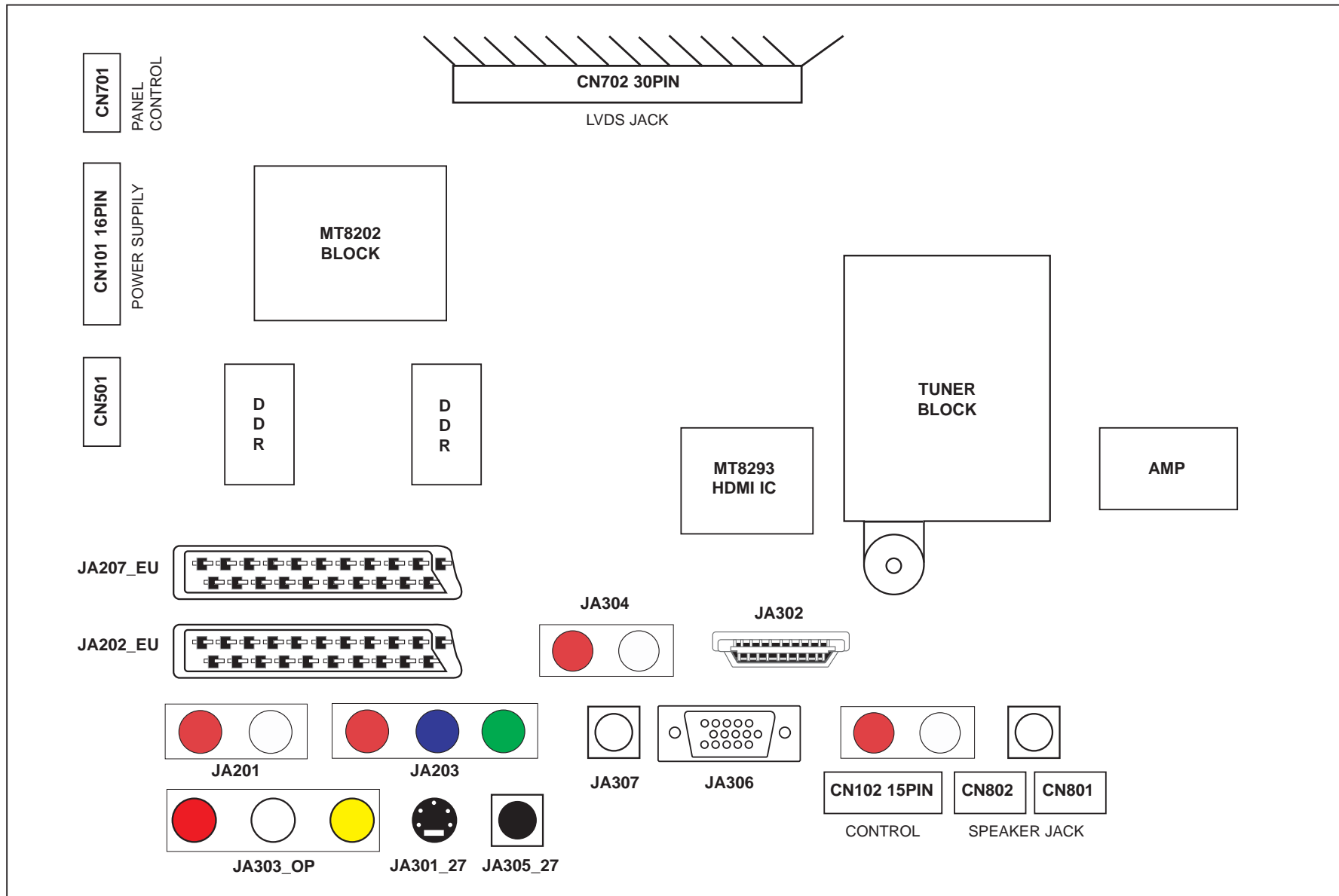


8 Wiring Diagram

8-1 Wiring Diagram



8-2 Main Board Layout



8-3 PIN characteristic

CN101 - Main Board power supply

PIN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
NAME	B12V	GND	B5V	B5V	B5V	GND	GND	GND	B12VS	B12VS	B12VS	GND	GND	GND	A5V	A5V

Function Define

- B12V B8V, B5V-T
- B5V B5V-1, B5V, 5V-P, B1.8V
- B12VS B12VS
- A5V A5V, A3.3V-3, A3.3V, A3.3V-1, B3.3V, A1.8V

CN600 / CN601 - SPEAKER CONNECTOR

PIN	1	2	3
NAME	R+	NC	R-

PIN	1	2
NAME	L+	L-

CN102 - Front control

PIN No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
NAME	SDA-T	SCL-T	GND	KEY INPUT1	LED	GND	A5V	GND	IR	KEY INPUT1	KEY INPUT2	GND	IDENT HP	HP-L	HP-R

Function Define

- A5V Front control board poewr supply
- KEY INPUT1,2/SDA/SCL Key control, from the memu, change up/down Etc.
- IR Remote control signal
- LED Control the timing and stand by LED color

CN701 - Panel control

PIN	1	2	3	4	5
NAME	SW_inverter	Ana_dimming	PWM_dimming	GND	GND

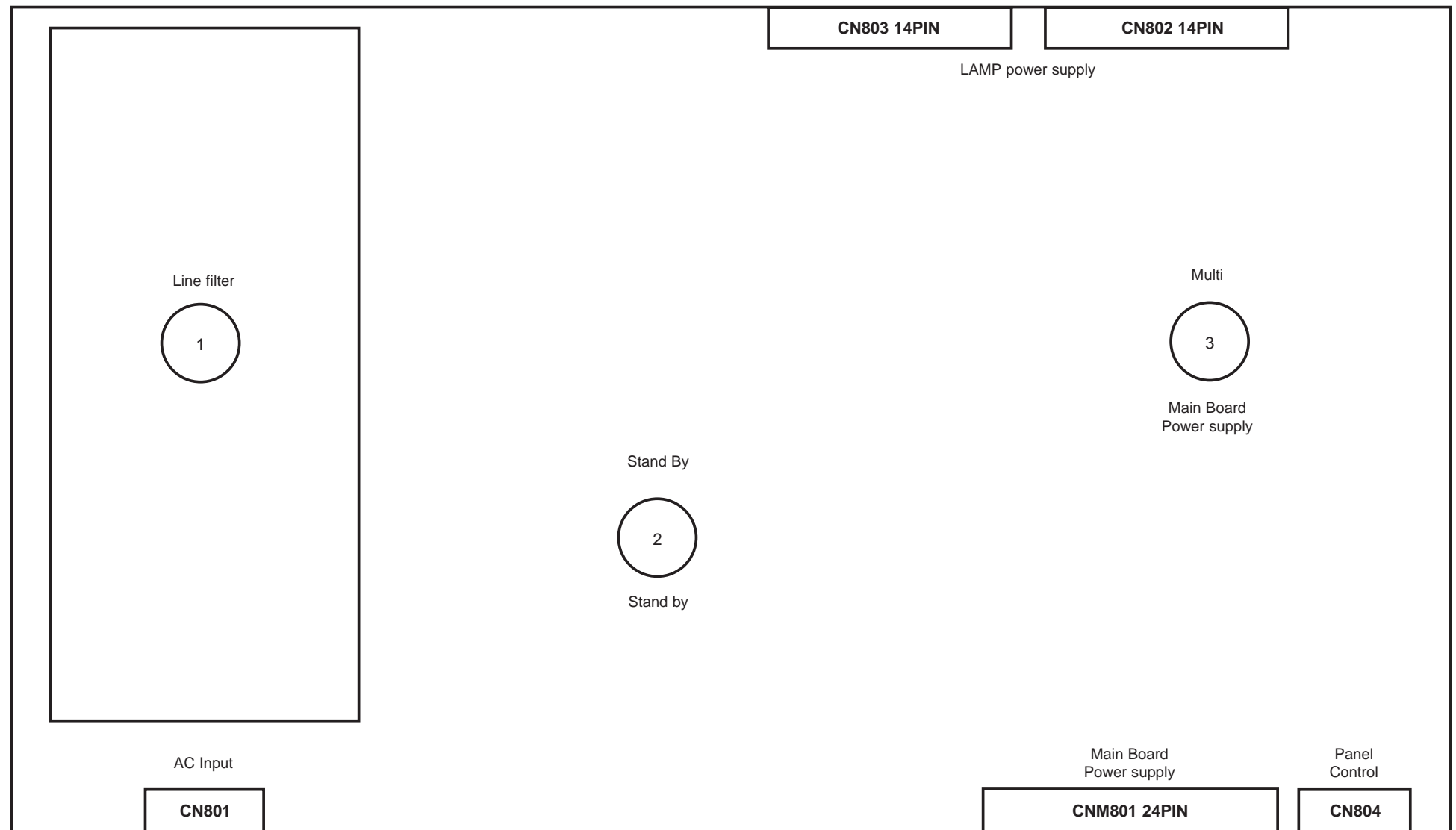
Function Define

- SW_inverter panel inverter control, about 3.3V
- Ana_dimming panel dimming control
- PWM_dimming panel PWM control, duty 40% ~ 90%

CN702 - LVDS Signal

PIN	NAME	PIN	NAME
1	VCC	16	TXOUTCLK +
2	VCC5P	17	TXOUTCLK -
3	VCC5P	18	GND
4	VCC5P	19	TXOUT2 +
5	VCC5P	20	TXOUT2 -
6	GND	21	GND
7	GND	22	TXOUT1 +
8	NOP (NOT USE)	23	TXOUT1 -
9	SDA 1	24	GND
10	SCL 1	25	TXOUT0 +
11	PANEL_SYNC_EN	26	TXOUT0 -
12	GND	27	GND
13	TXOUT3 +	28	SW_INVERTER
14	TXOUT3 -	29	ANA_DIMMING
15	GND	30	PWM_DIMMING

8-4 Power Block Layout



CN801 - AC Input

PIN	1	2
NAME	Live	Netural
VOLTAGE	AC	AC

Functioning Define

- Refer to : AC Input

CNM801 - Main Board power supply

PIN No	1	2	3	4	5	6	7	8	9	10	11	12
Signal	POWER-ON/OFF	N/C	STBY	GND-STBY	GND-13V	GND-13V	13V	13V	GND-5V	GND-5V	GND-5V	GND-5V

PIN No	13	14	15	16	17	18	19	20	21	22	23	24
Signal	5V	5V	5V	5V	GND-12V	GND-12V	GND-12V	GND-12V	12V	12V	N.C	N.C

Functioning Define

- ST7V Stand-By Output
- PWR Power On/Off Control

- Refer to : CN801 function define

CNM804 - Panel control

PIN	1	2	3	4	5
NAME	SW_inverter	Ana_dimming	Ana_dimming	GND	SENSOR POWER

Functioning Define

- Refer to : CN815 function define

CN802 - Inverter power supply

PIN	1	2	3	4	5	6	7	8	9	10	11	12	13	14
NAME	24V	24V	24V	24V	24V	GND	GND	GND	GND	GND	NC	BL	ADIM	PWM

Functioning Define

- AMLCD Panel Inverter Power
- 24V LAMP INVERTER Voltage
- BL Brightness sensor power
- ADIM ANA_DIMMING
- PWM PWM_DIMMING

CN803 - Inverter power supply

PIN	1	2	3	4	5	6	7	8	9	10	11	12	13	14
NAME	24V	24V	24V	24V	24V	GND	GND	GND	GND	GND	ADIM	BL	PWM	GND

Functioning Define

- AUO Panel Inverter Power
- 24V LAMP INVERTER Voltage
- ADIM Brightness sensor power
- PWM PWM_DIMMING