LCD-Monitor

Chassis LDO19WS
LDO19CS

Model 940MW
940MG

SERVICE Manual

LCD Monitor

Fashion Feature

- MFM Model
- VCT49xy
- W/W model
- High Contrast Ratio(700:1)
- High Luminance(300cd/m2)

LDO19WS Service Manual

First edition September 2005.

Printed in Korea.

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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*).

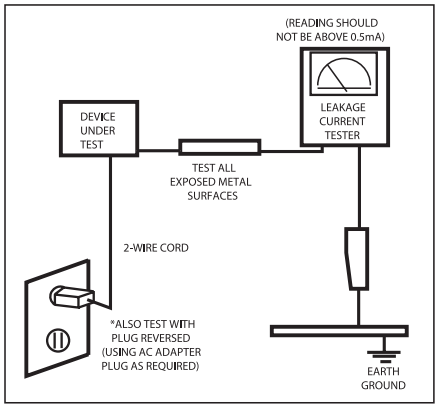

Figure 1-1. Leakage Current Test Circuit

4. With the unit completely reassembled, plug the AC line cord directly into a 120V AC outlet. With the unit's AC switch first in the ON position and then OFF, measure the current between a known earth ground (metal water pipe, conduit, etc.) and all exposed metal parts, including: metal cabinets, screwheads and control shafts. The current measured should not exceed 0.5 milliamp. Reverse the power-plug prongs in the AC outlet and repeat the test.

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 ⚠ 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.

1-2 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.

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2 Product Specifications

2-1 Fashion Feature

- MFM Model
- VCT49xy
- W/W model
- High Contrast Ratio(700:1)
- High Luminance(300cd/m2)

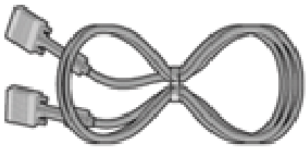
2-2 Specifications Comparison to the Old Model

Model	**LDO19WS / LDO19CS**	**MH17ES**
Area	World Wide	China / East-South Asia
Panel	LTM190M2-L01	EU-L21
Response Time	8ms	8ms
Scart Jack	O	X
Micom	VCT49xy (Embeded MCU)	TDA15021H
Scaler	SE6181	TSU396AWJ-LF
PBA		

2-3 Specifications

Item	Description
LCD Panel	TFT-LCD panel, RGB vertical stripe, normaly white, 19-Inch viewable, 0.2835mm pixel pitch
Scanning Frequency	30 kHz ~ 81 kHz(Automatic)
Display Colors	16.7 Million colors
Maximum Resolution	Horizontal:1440 Pixels Vertical: 900 Pixels
Input Video Signal	Analog, 0.7 Vp-p ± 1% positive at 75 Ω, internally terminated, DVI
Input Sync Signal	Type: Seperate H/V automatic synchronization without external switch of sync type, Composite Level: TTL level
Maximum Pixel Clock rate	140 MHz
Active Display Horizontal/Vertical	408.24(H) x 255.15(V)
AC power voltage & Frequency	AC 100 ~ 240 Volts (± 10%), 60/ 50 Hz ± 3 Hz
Power Consumption	55 W (max)
Dimensions Set (W x H x D)	18.3 x 16.0 x 8.5 Inches (466 X 406 X 217 mm)
Weight (Set/Package)	6.2 kg (14 lbs)
TV / Video	Color system : NTSC, PAL, SAM, PAL-M/N, NT43, PAL60
	Sound system : B/G, I, D/K
Antena Input	75Ω, Coaxial Cable
Environmental Considerations	Operating Temperature : 50°F ~ 104°F (10°C ~ 40°C) Operating Humidity : 10 % ~ 80 % Storage Temperature : -4°F ~ 113°F (-20°C ~ 45°C) Storage Humidity : 5 % ~ 95 %
• Designs and specifications are subject to change without prior notice.	

2-4 Option Specification

Item	Item Name	CODE.NO	Remark
	Quick Setup Guide	BH68-00376L	
	Warranty Card (Not available in all locations)	BH68-70438A	
	User's Guide, Monitor Driver, Natural Color software	BN59-00480D (940MW) BN59-00480W (940MG)	
	D-Sub(15 Pin) Cable	BN39-00244B	
	Audio Cable	BN39-00061B	
	Power Cord	3903-000042	
	Remote Control	BN59-00434C	
	Batteries (AAA X 2)	4301-000121	
	Connecter	3705-001191	

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3 Alignments and Adjustments

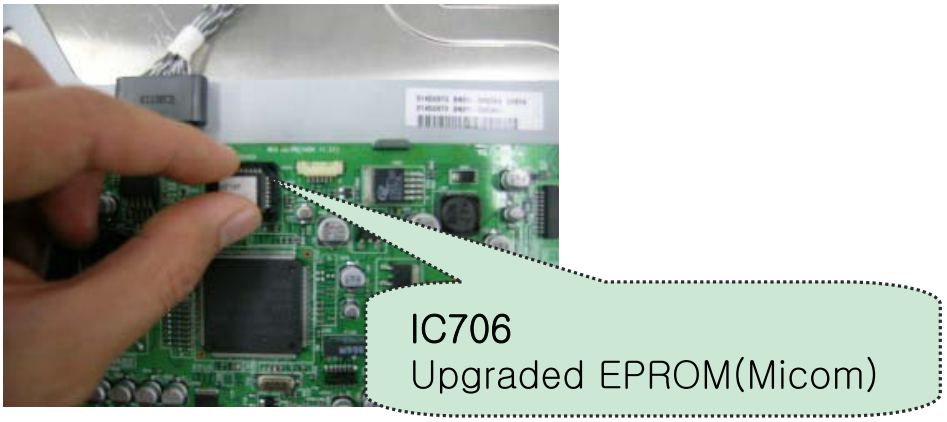
This section describes to adjust LCD monitor after replacing EEPROM, Main PBA or Panel.

3-1 Program Upgrade

Change MICOM
: If the similer happenings occur, EEPROM can be changed

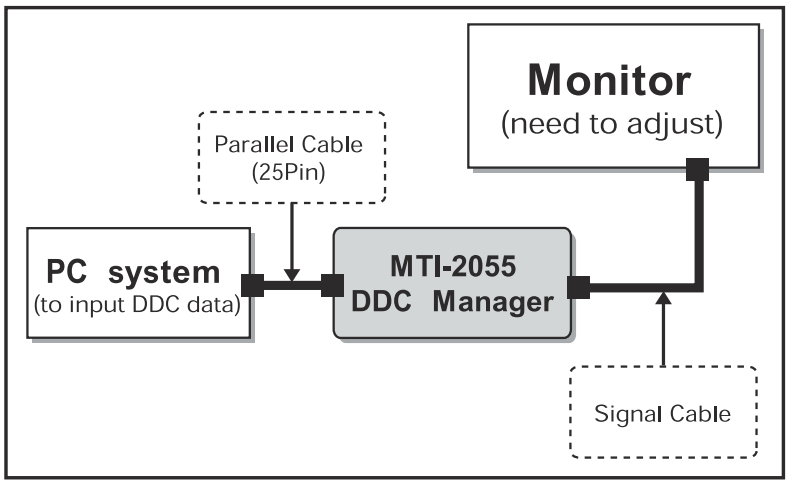
-. EX1) When screen appears but remote control and function key aren't working
-. EX2) When LED is on but the screen doesn't appear
-. EX3) After mass production, when the micom program version is up-graded

* MICOM replacement can be done when Service Bulletin issue is in practice.
The process of working need to be prepare on Service Bulletin.



As the visual sample shown, after disassembling the set (refer to SET disassemble), remove the Micom in the exist IC202 Socket and replace new Micom.
- Use appropriate JIG or any sharp tool and place in the both corners to assist in removing.
  (Be aware! If the socket cause any damage after replacement the monitor will not function properly.)
- When inserting, attend to IC No.1 direction and press with suitable amount of strength.
- After replacement, in case of EEPROM Clear, enter to Factory mode and perform into action.

3-2 DDC JIG installation



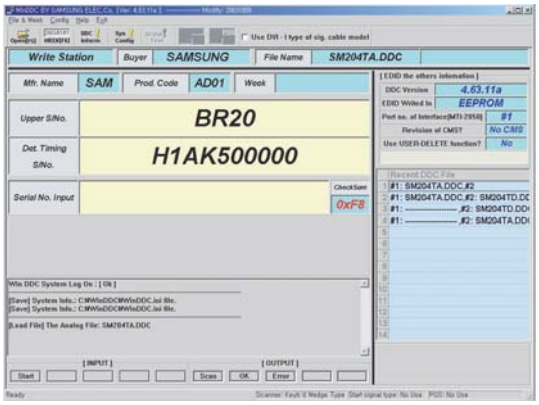
Connect DDC JIG.

PC parallel port ----- DDC JIG ----- Monitor

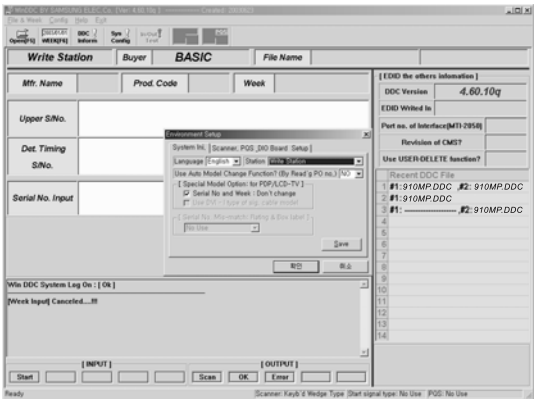
JIG cable

D_sub cable

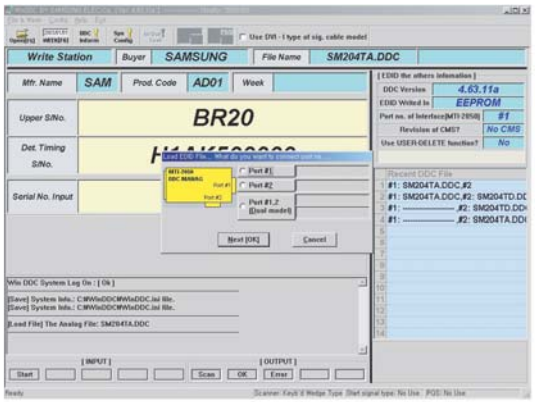
3-3 EDID Installation with Windows Program



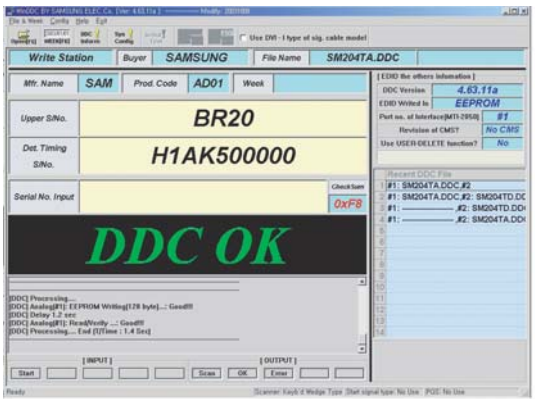
1. Execute "WinDDC.exe"



2. Click "Sys Config"
   Select "Station : Write station"
   Check "Serial No and Week : Don't change"
   Click "Save"



3. Click "Open" icon.
   Select "Connected Port #1" and Next "OK".
   * File Name - SM940MWA.DDC : Analog
   - SM940MWD.DDC : Digital
   Press enter key on your keyboard.



4. Confirm the "DDC OK".

- After Replacing the Main Board

- EDID Installation (Analog and Digital)

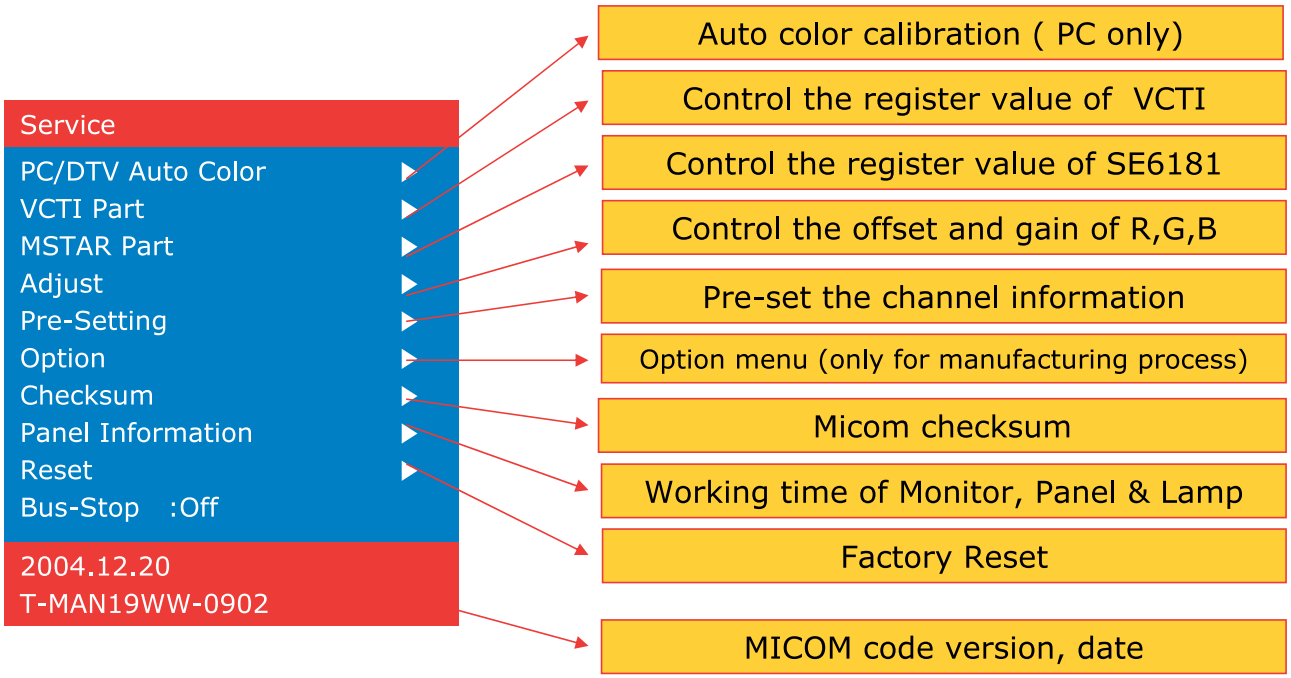
3-4 Factory Mode Adjustments

3-4-1 Factory Mode Admission

- PAL : Power off → Info → Menu → Power on

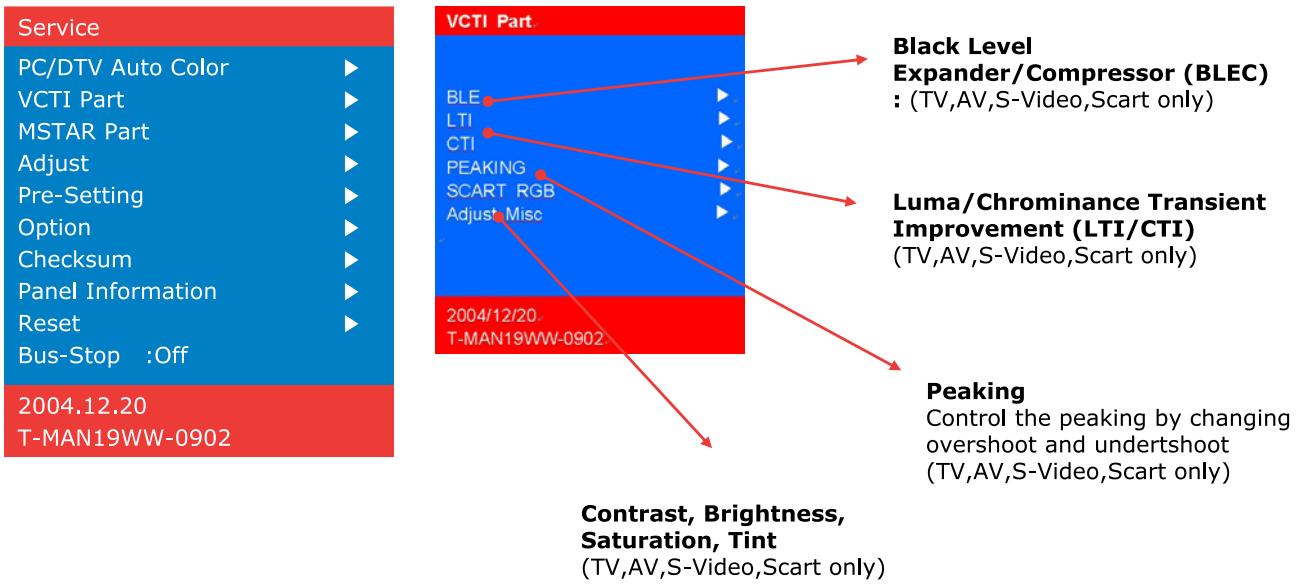
- NTC : Power off → MUTE → 1 → 8 → 2 → Power on

3-4-2 Service Mode Menu



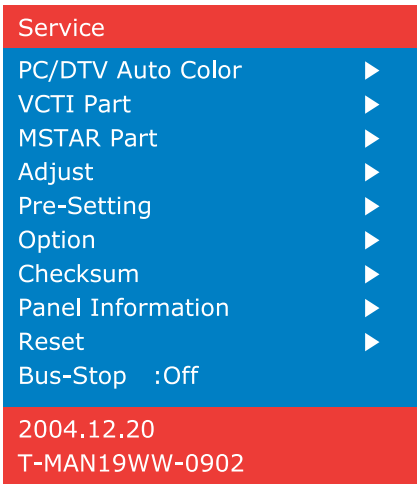
-. DDP Part

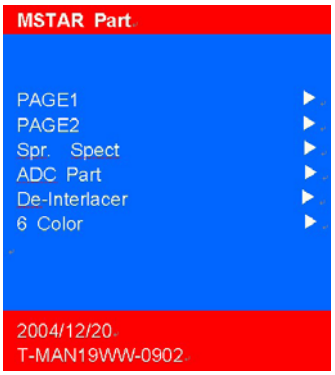
Only for picture quality setting at stage of development



-. MSTAR Part

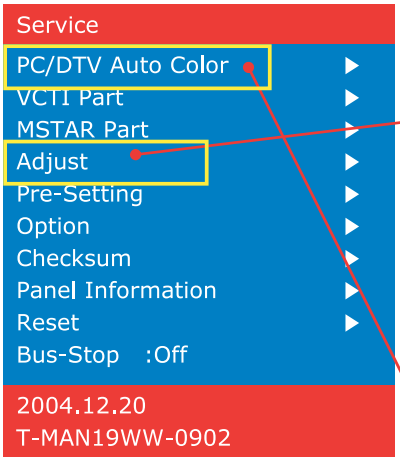
Only for picture quality setting at stage of development

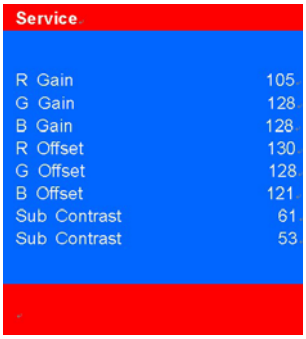




Scaler(SE6181) Control
Control the register value of each functional block of scaler, SE6181

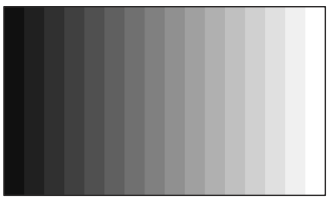
-. Adjust , PC/DTV Auto Color





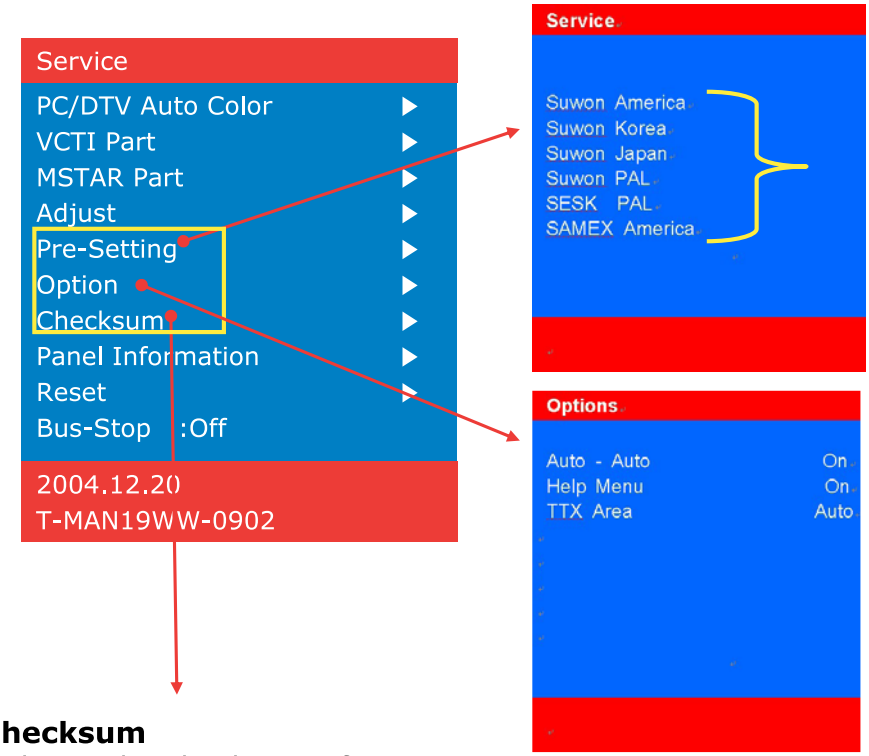
RGB input gain/offset

Only for picture quality setting at stage of development



PC/DTV Auto Color
▶ PC analog : 1280x1024/60Hz, 16Gray pattern

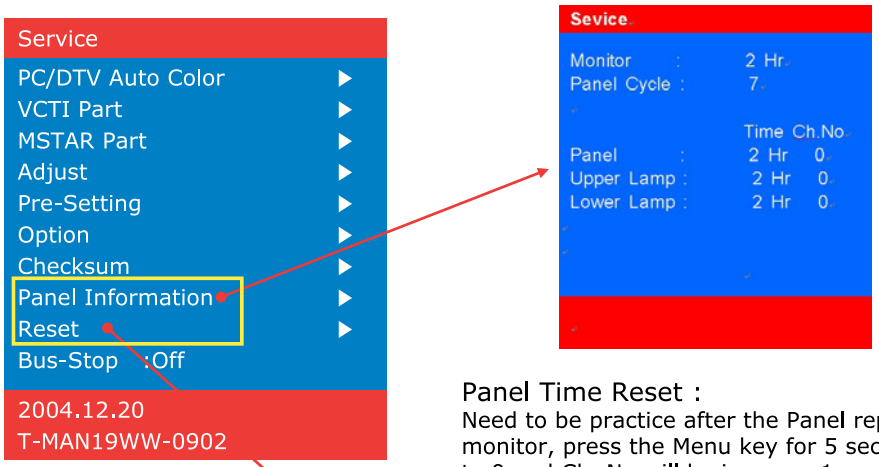
-. Pre-Setting, Options , Checksum



Set up channel for each factory

Checksum
Indicate the checksum of Micom

-. Panel Information , Reset

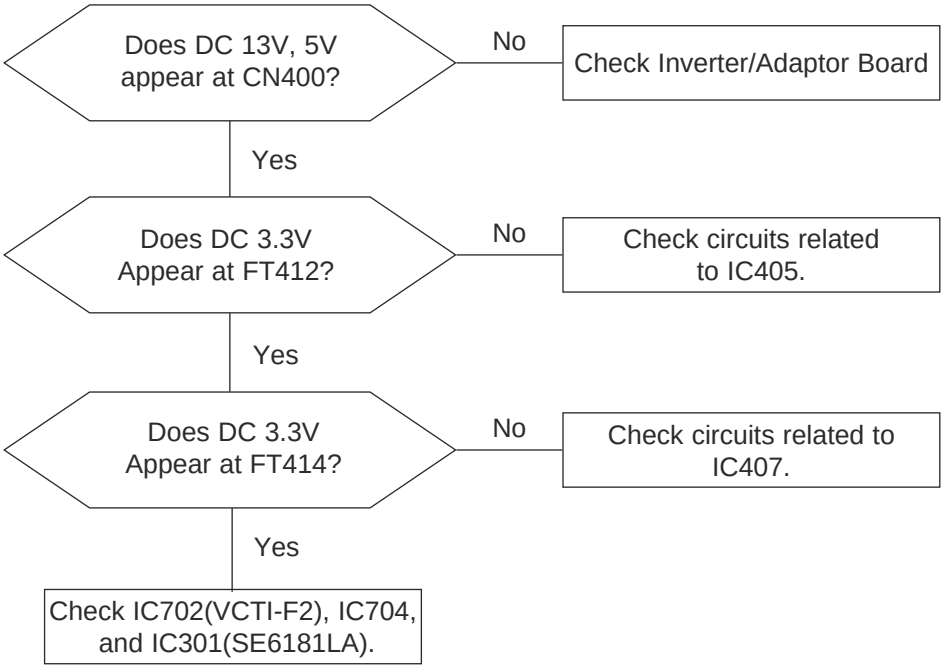


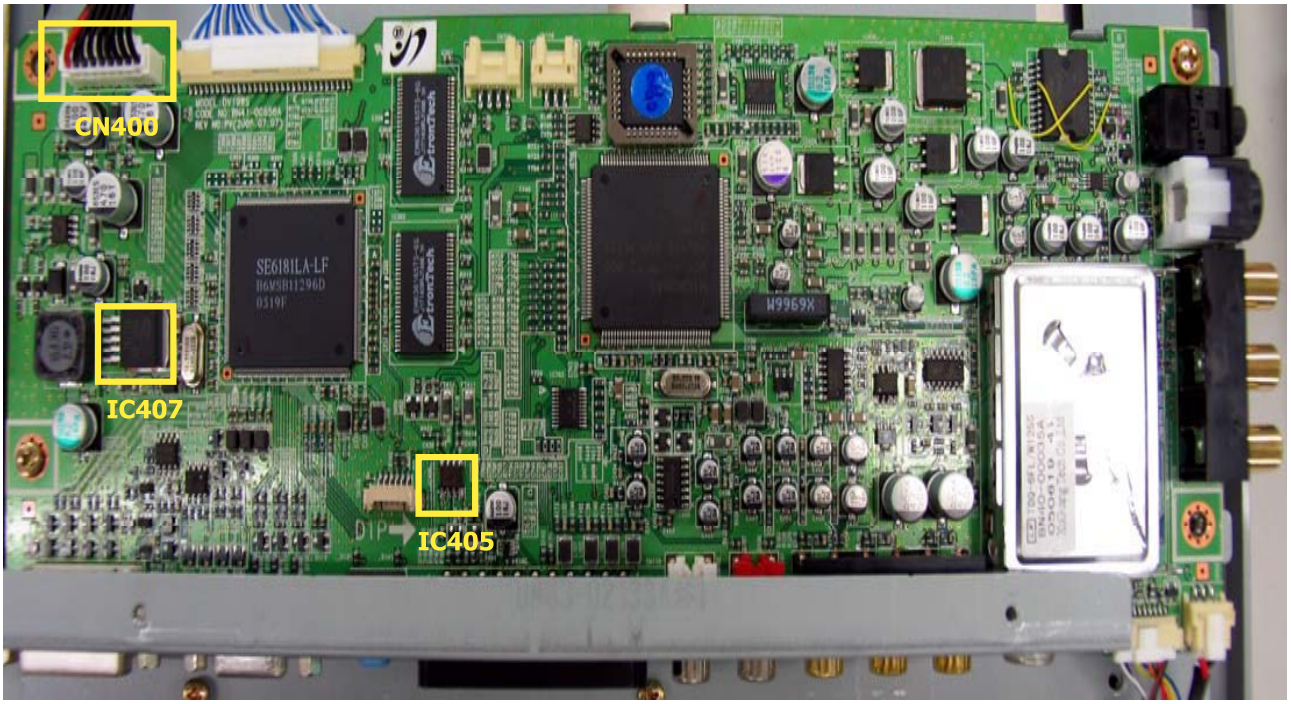
Panel Time Reset :
Need to be practice after the Panel replacement. In the front portion of the monitor, press the Menu key for 5 seconds, then the Time will be changed to 0 and Ch. No will be increase 1.

Factory Reset : All of OSD values are initialized
After Factory Reset, the monitor power is shut downed automatically

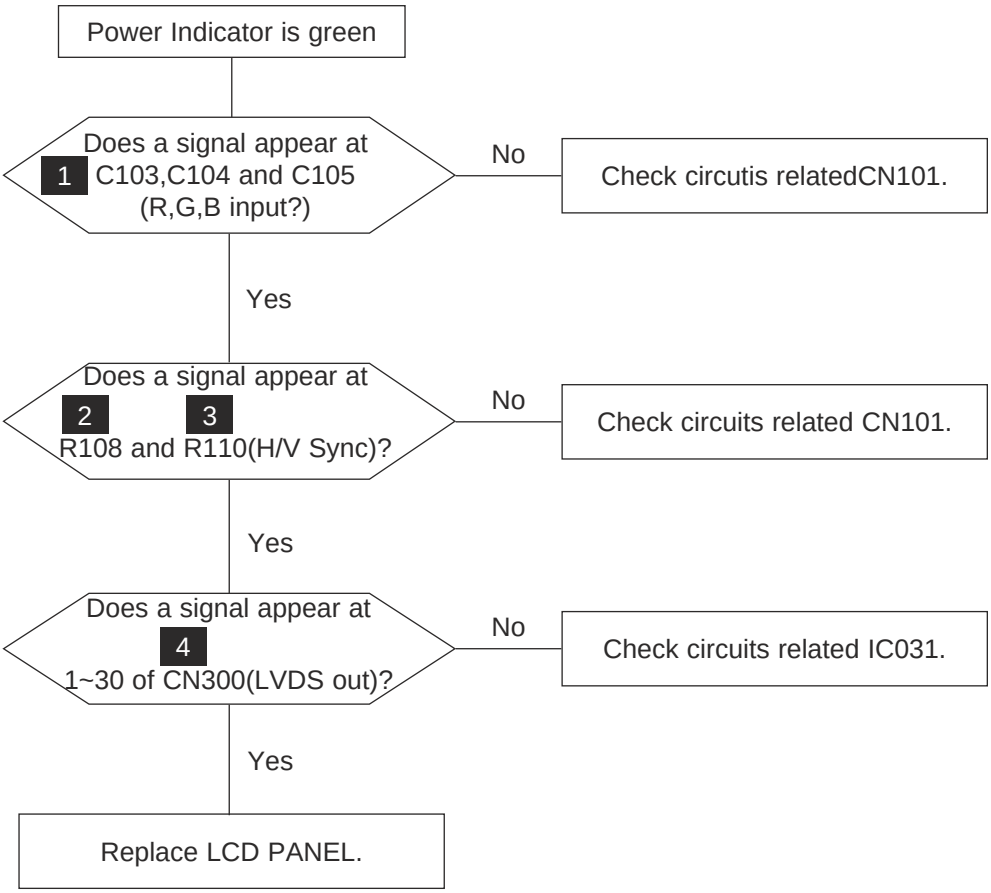
4 Troubleshooting

4-1 No Power





4-2 No Video (PC Signal)



WAVEFORMS

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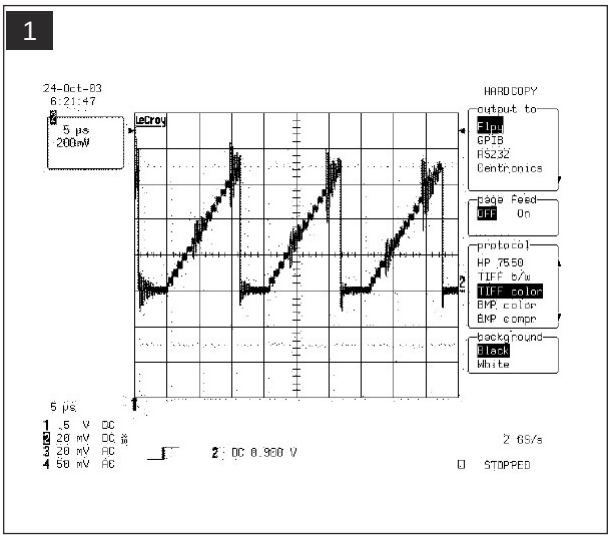

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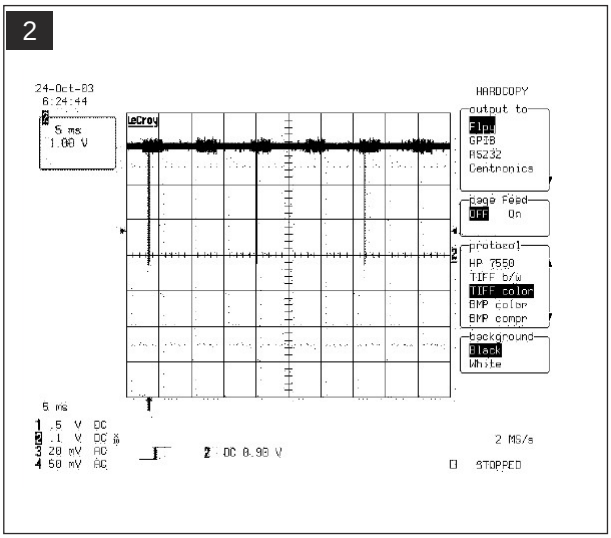

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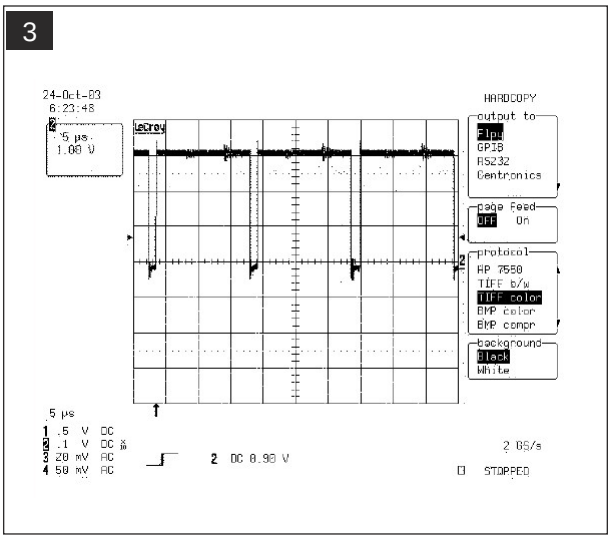

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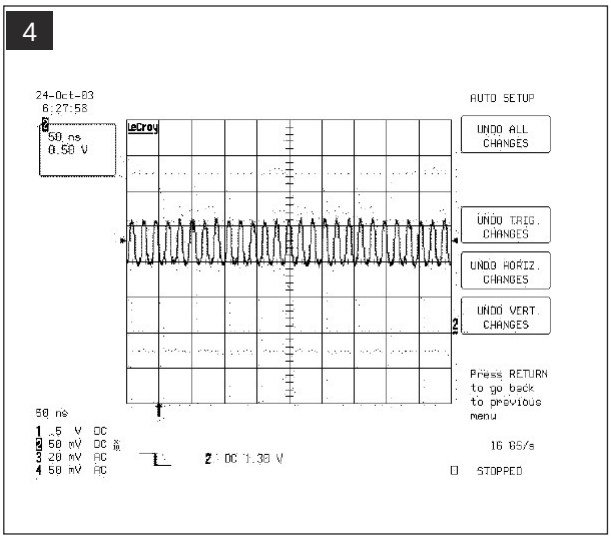
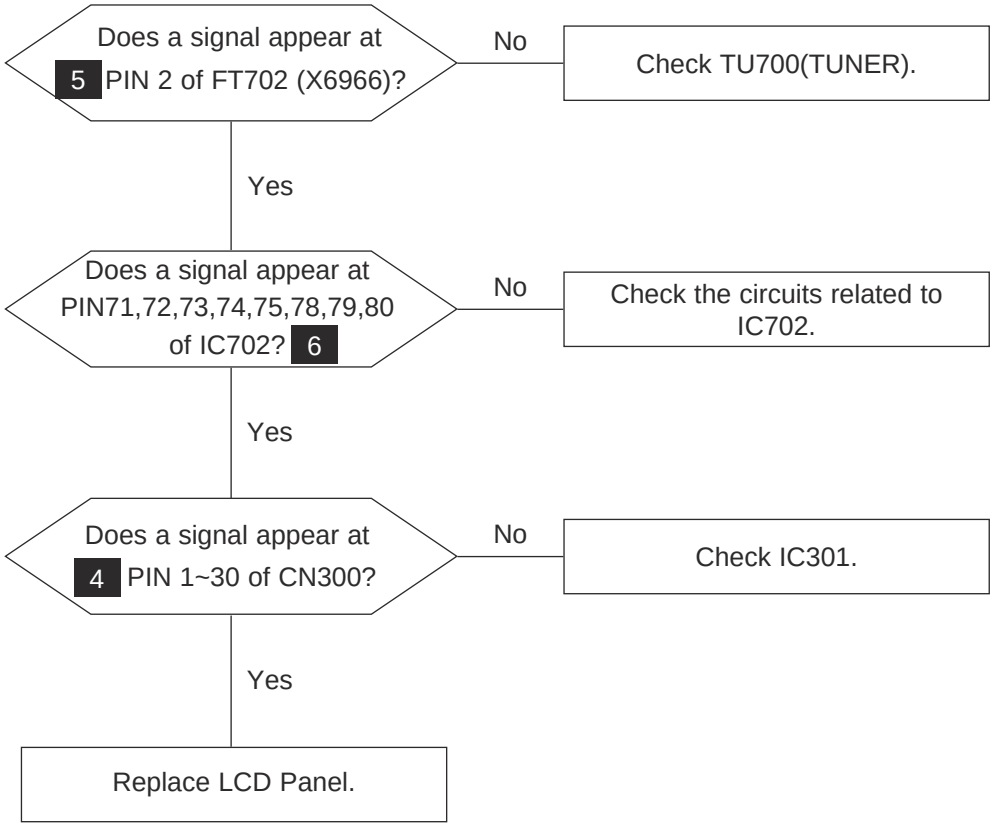


4-3 No Picture (TV)



WAVEFORMS

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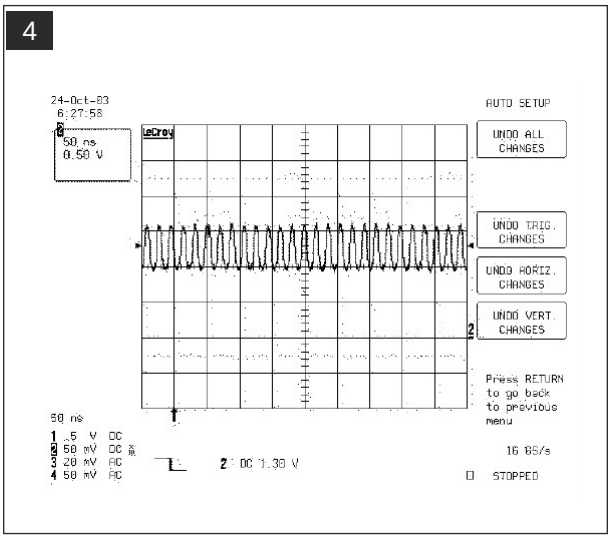

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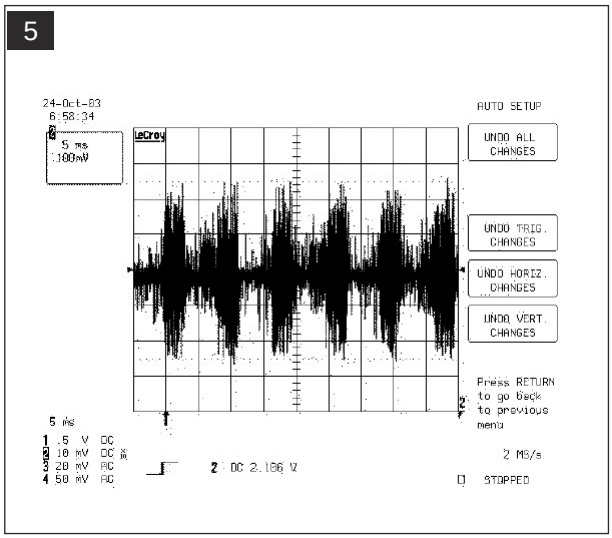

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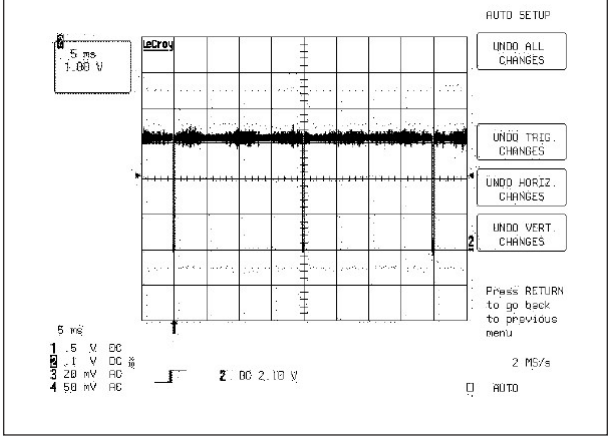
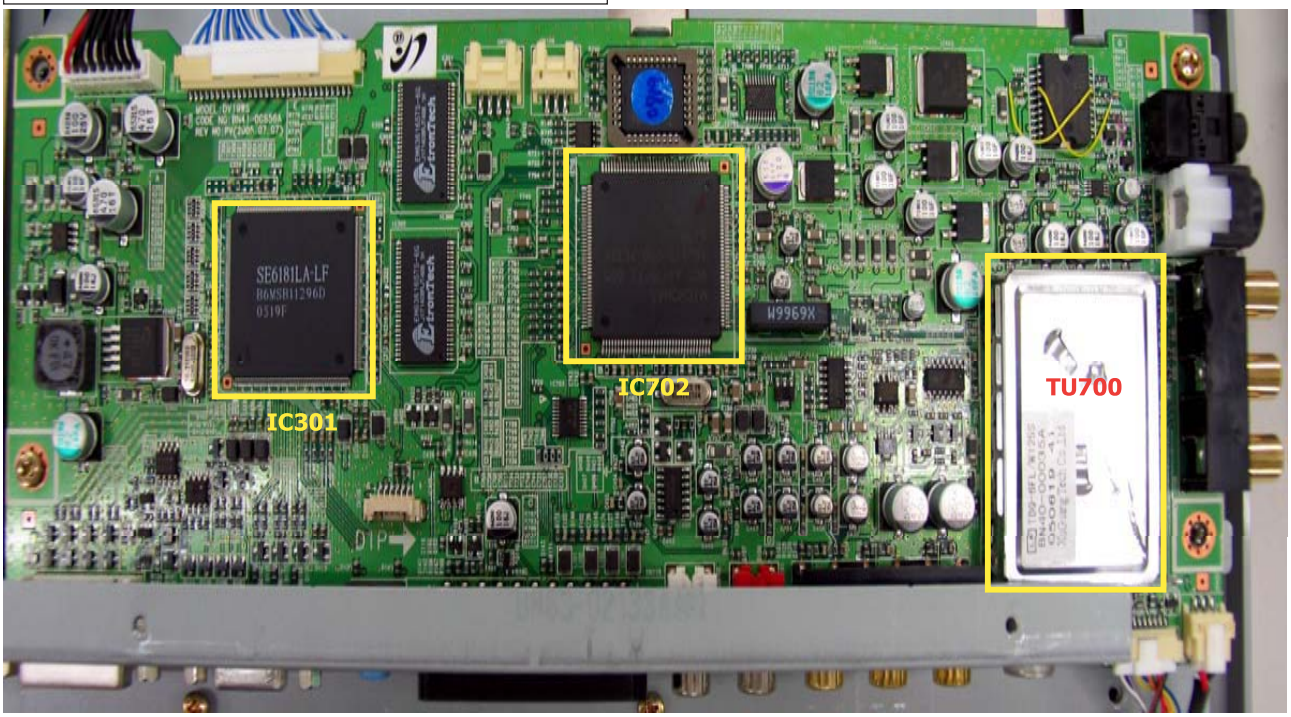
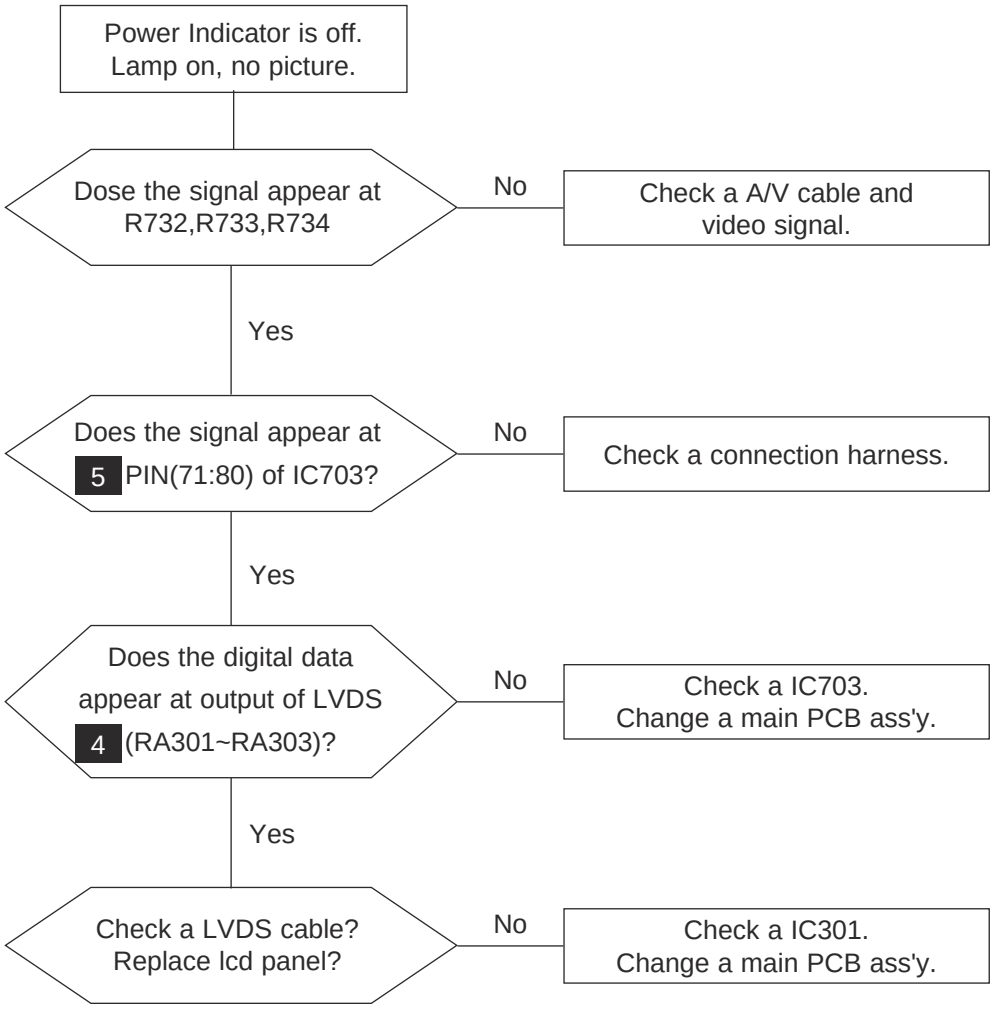




4-4 No Picture (Video/S-VIDEO/SCART)



WAVEFORMS

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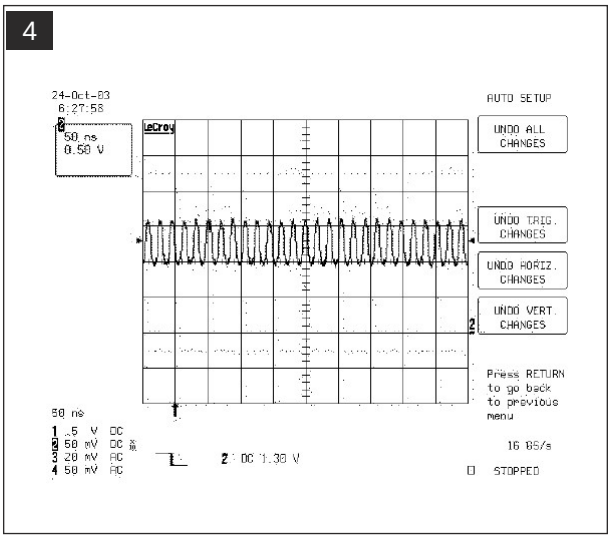

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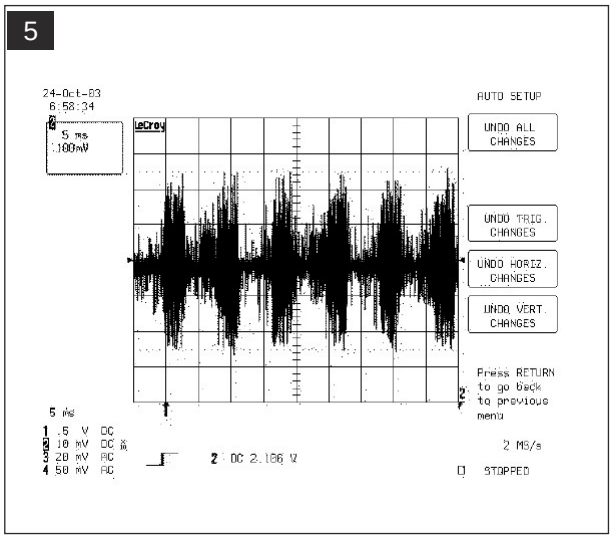
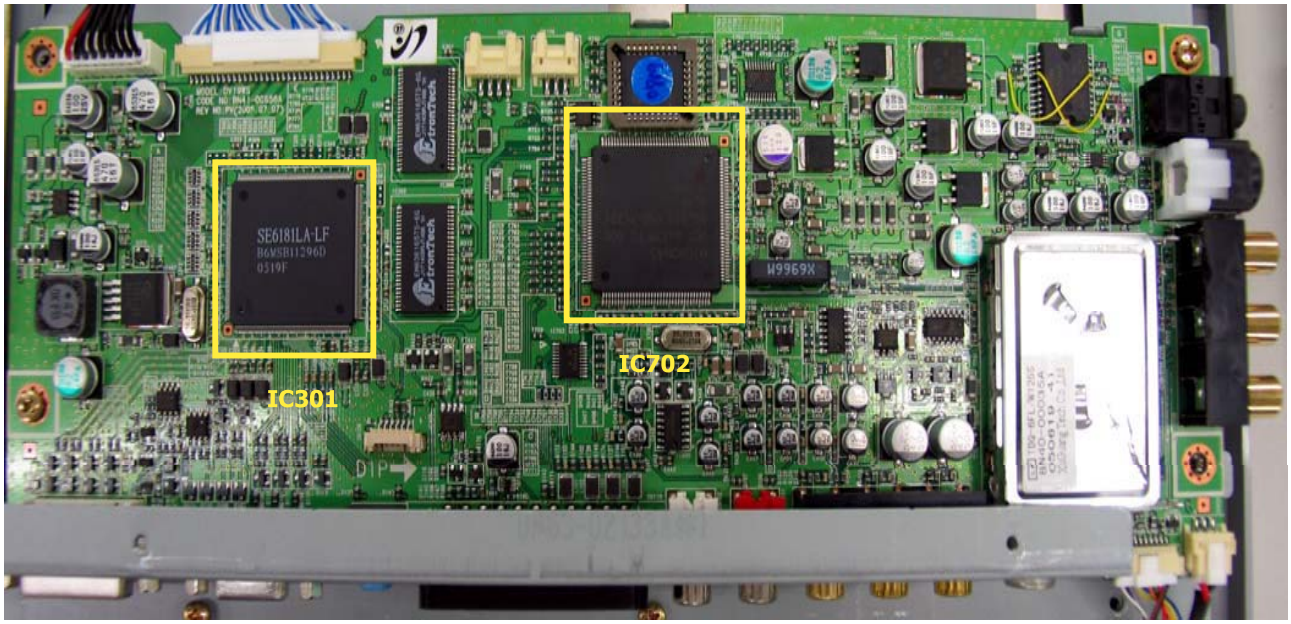
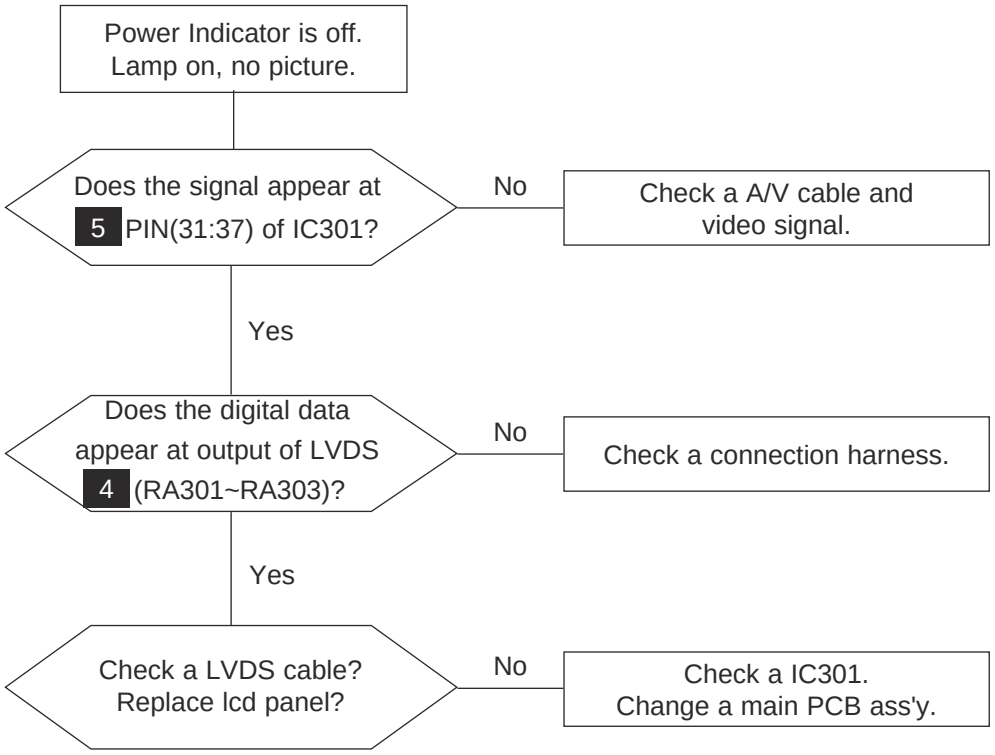




4-5 No Picture (COMPONENT)



WAVEFORMS

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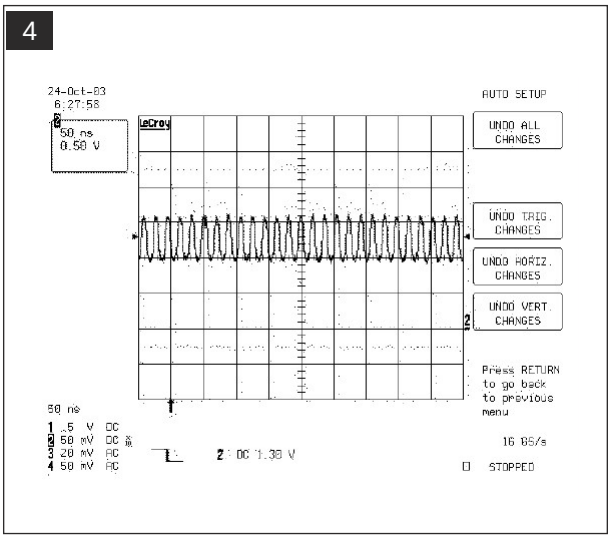

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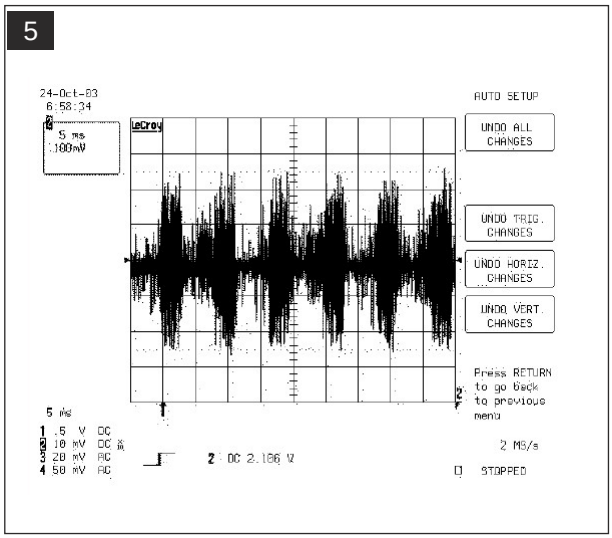
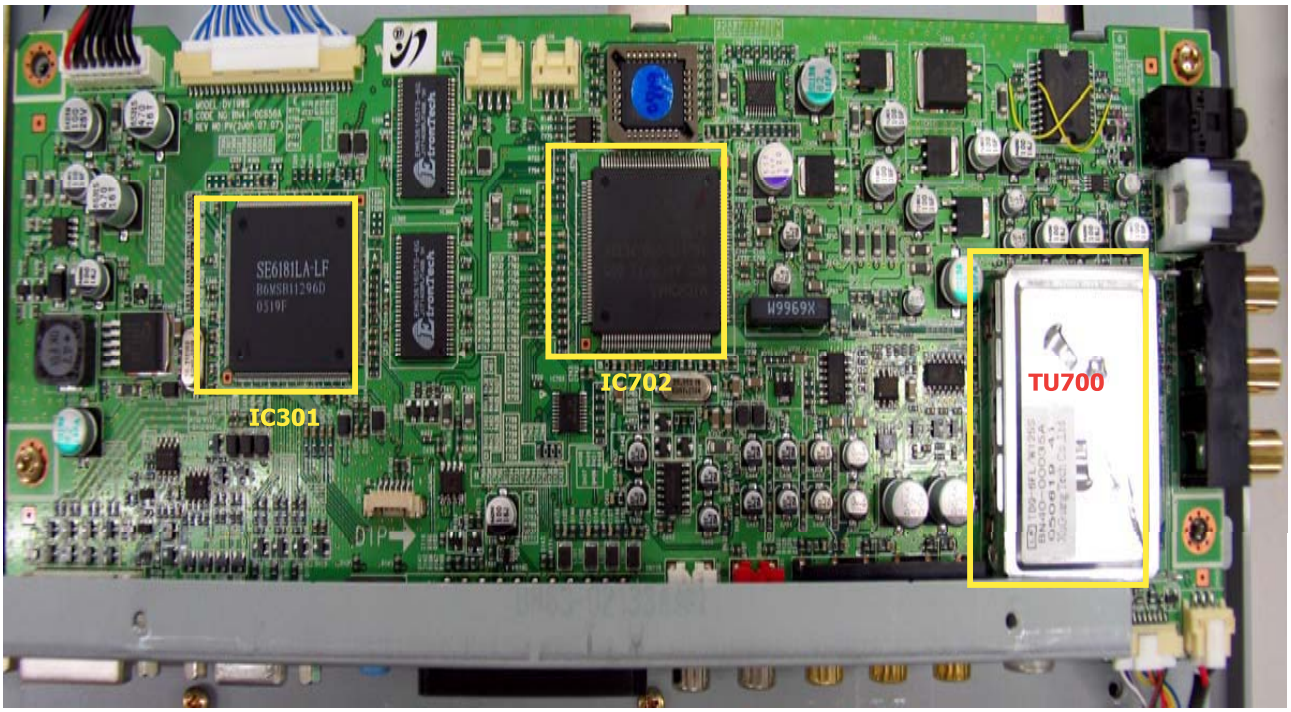
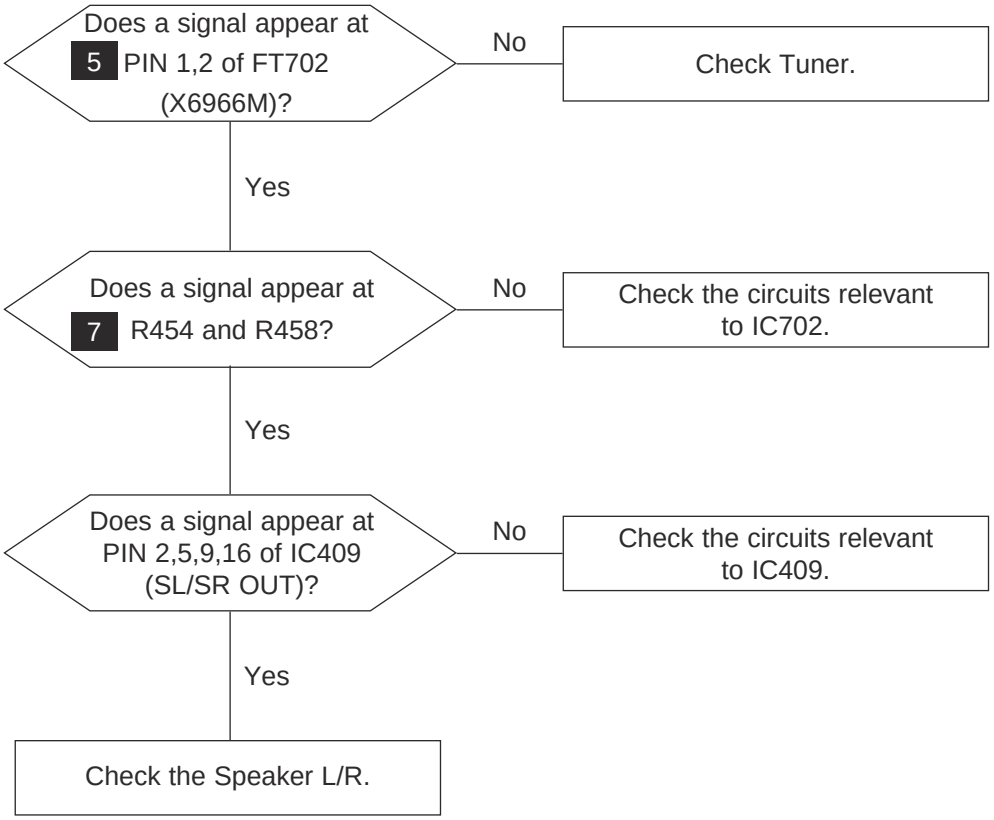


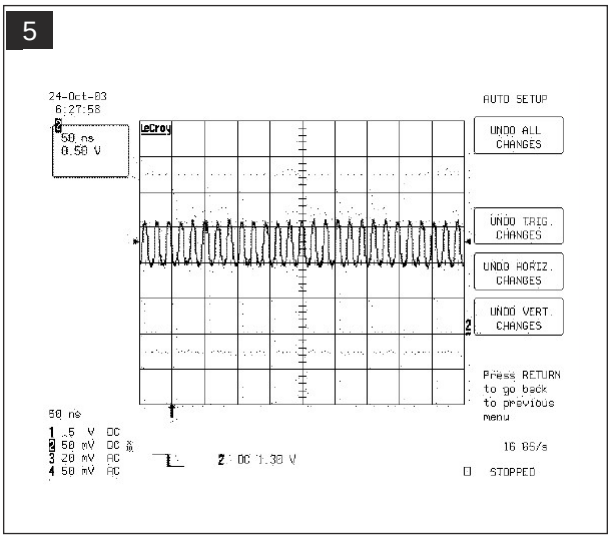


4-6 No Sound (TV)

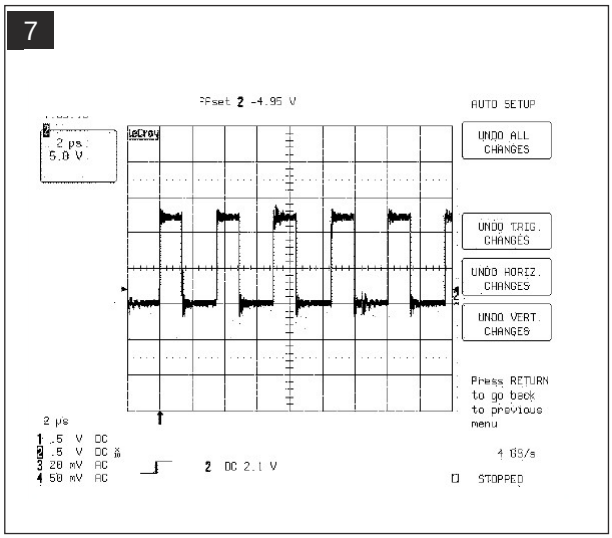


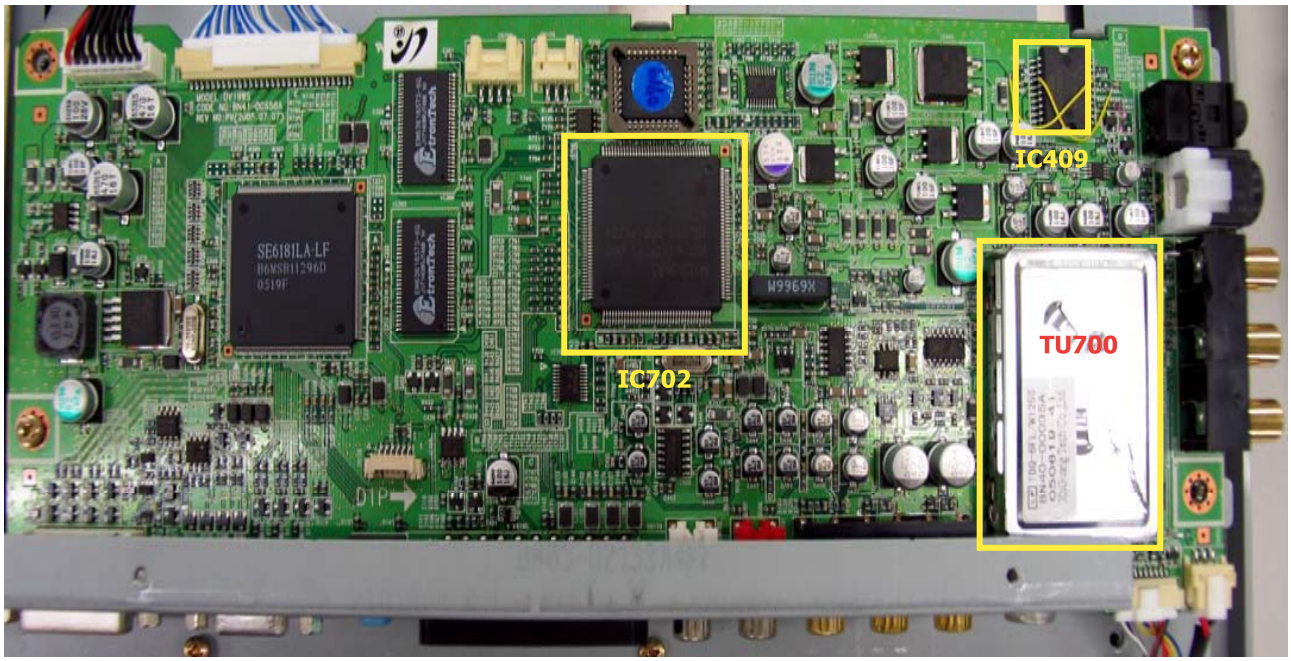
WAVEFORMS

5

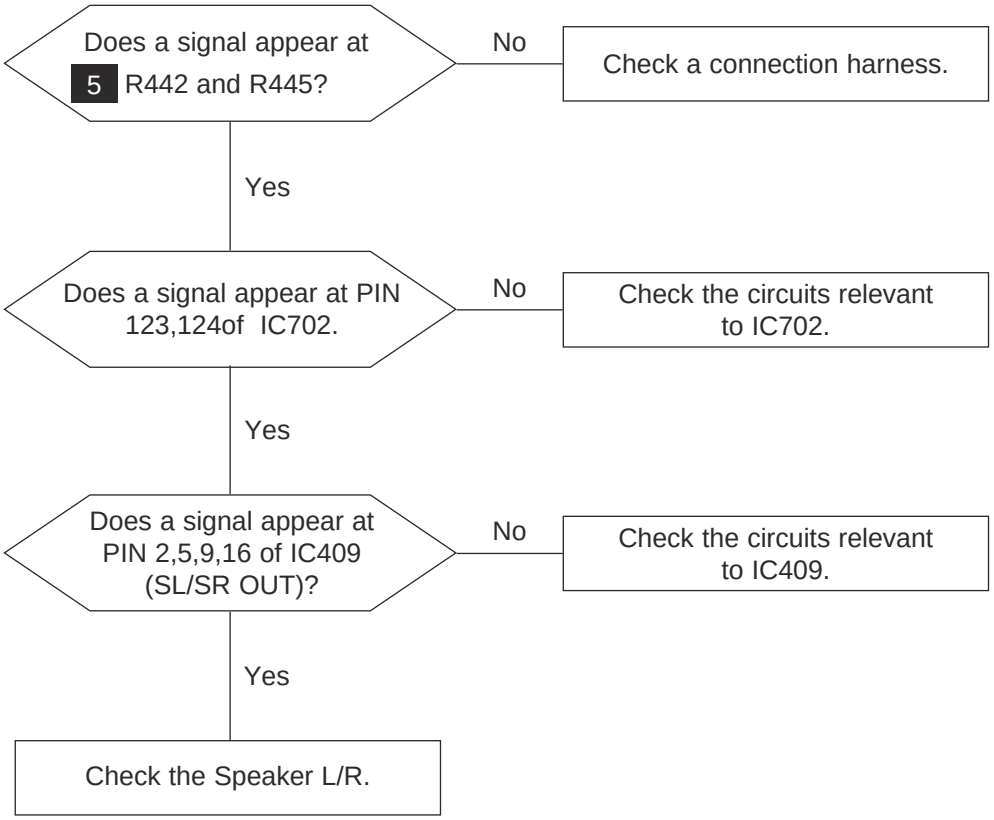


7



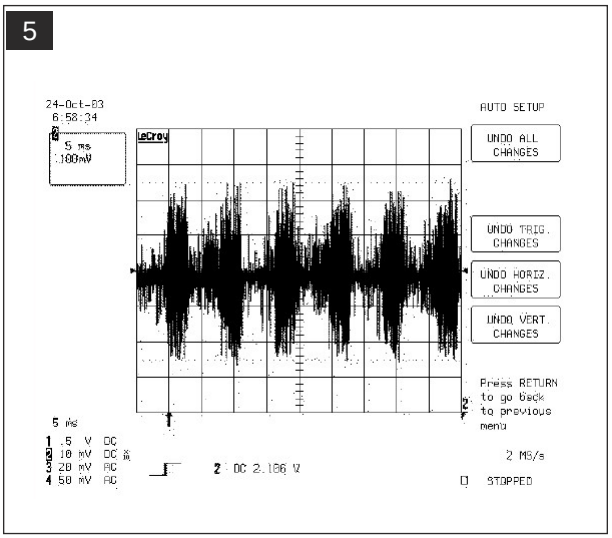


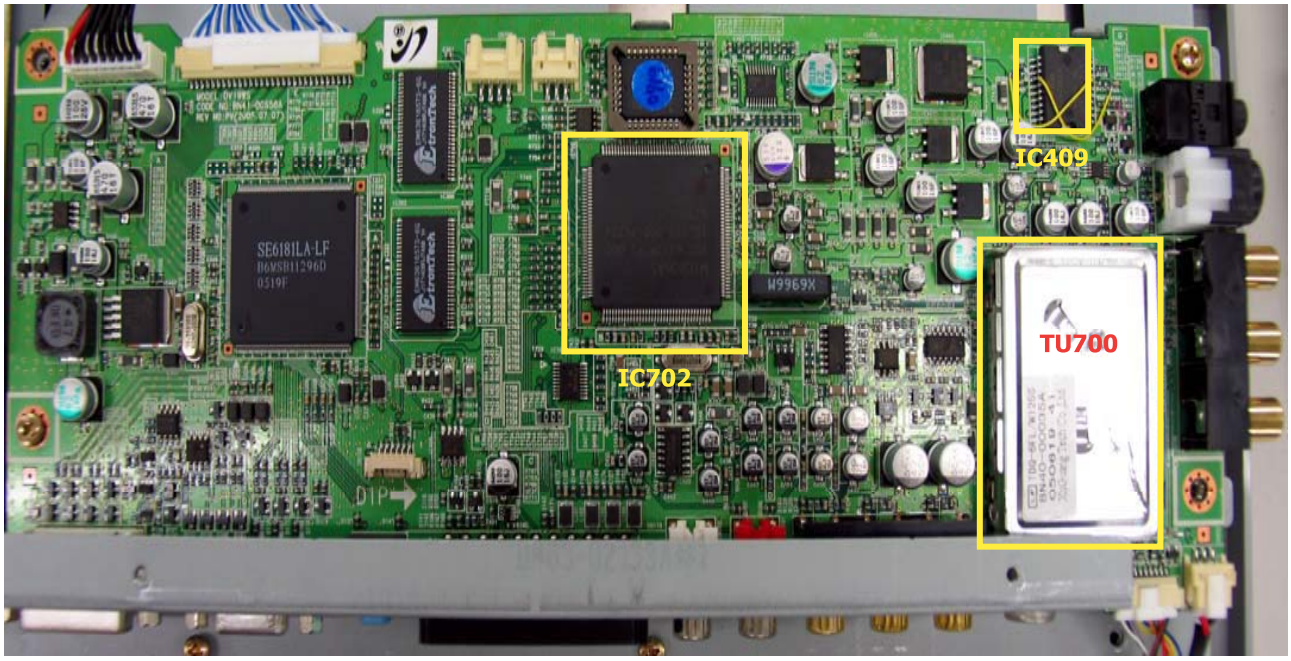
4-7 No Sound (COMPONENT)



WAVEFORMS

5


24-Oct-03
6:58:34
AUTO SETUP
UNDO ALL CHANGES
UNDO TRIG. CHANGES
UNDO HORIZ. CHANGES
UNDO VERT. CHANGES
Press RETURN to go back to previous menu
5 ms
100mV
5 ms
1 .5 V DC
2 10 mV DC
3 20 mV AC
4 50 mV AC
2 DC 2.186 V
2 MS/s
STOPPED

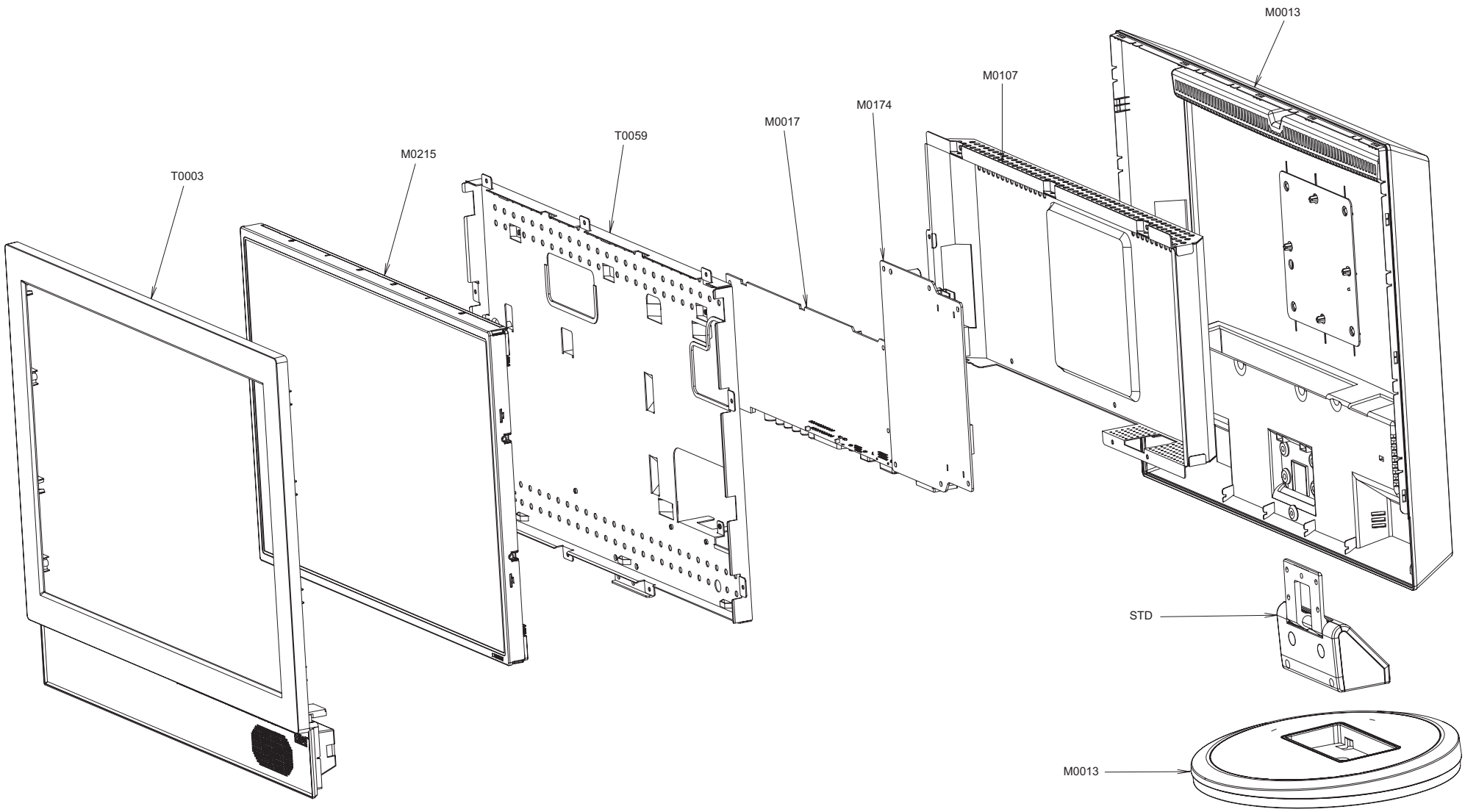

IC409
IC702
TU700
SE6181LA-LF
W9969X

Memo

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 LS19DOCSSK/EDC Exploded View



5-2 LS19DOCSSK/EDC Parts List

Location.No	CODE-NO	SPECIFICATION & DESCRIPTION	Q'TY	SA/SNA	REMARK
T0003	BN96-03793B	ASSY COVER P-FRONT;LS19DOC(940MG),ABS HB	1	S.A	
M0215	BN07-00287A	LCD-PANEL;LTM190M2-L02,Dvorak,6BIT FRC,4	1	S.A	
T0059	BN96-02505A	ASSY SHIELD P-PANEL;LS19DOW,SECC,T0.8,AM	1	S.N.A	
M0017	BN91-00957E	ASSY CHASSIS;LS19DOWSS4/XSJ,DO19WS,GLARE	1	S.A	
M0174	BN44-00116B	IP BOARD;48135T(WN),DVORAK 19",3.2 ~4.8m	1	S.A	
M0107	BN63-02132A	SHIELD-COVER;DV19WS,SECC,T0.8	1	S.N.A	
M0013	BN96-02503A	ASSY COVER P-REAR;LS19DOW,HIPS HB,BK24	1	S.A	
STD	BN96-02966A	ASSY STAND P-BODY;LS19DOW,HIPS HB,BK24,Z	1	S.A	
M0013	BN96-02332D	ASSY STAND P-BASE;HA19AS/BS,HIPS,GR70 &	1	S.A	

6 Electrical Parts List

-You can search for updated part codes through ITSELF web site.
URL : http://itself.sec.samsung.co.kr/

6-1 LS19DOCSSK/EDC Parts List

Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
		LS19DOCSSK/EDC	940MG,SGN4/S19AV-LDO,19,LCD-MO,NETHERLAN		
0.1	M0001	BN90-00803K	ASSY COVER FRONT;LS19DOCSSK/XSA,940MW,TC	1	S.N.A
..2	M0081	6003-000275	SCREW-TAPTITE;BH,+,-,B,M3,L10,ZPC(BLK),S	3	S.N.A
..2	T0003	BN96-03793B	ASSY COVER P-FRONT;LS19DOC(940MG),ABS HB	1	S.A
...3	M0081	6003-000275	SCREW-TAPTITE;BH,+,-,B,M3,L10,ZPC(BLK),S	3	S.N.A
...3	M0081	6006-001096	SCREW-TAPTITE;BH,+,WP,B,M4.0,L12,ZPC(BLK	4	S.N.A
...3	M0112	BN63-02613B	COVER-FRONT;LS19DOC(940MG),ABS,T2.5,HB,G	1	S.N.A
...3	M0007	BN64-00408A	KNOB-FUNCTION;DV19WS,ABS,T2.0,HB	1	S.N.A
...3	T0059	BN64-00409A	INDICATOR LED;DV19WS,ACRYL HB,CLEAR	1	S.N.A
...3	M0145	BN96-02793A	ASSY BOARD P-FUNCTION;DVORAK,CT5000-3880	1	S.A
...3	T0175	BN96-03734A	ASSY SPEAKER P;16¥Ø,Dvorak, 19, VE Type,	1	S.A
...3	T0069	AA63-60001Q	SPACER-FELT;-,FELT,-,-,-,BLK,T0.35,-,150	6	S.N.A
...3	T0175	BN96-03733B	ASSY SPEAKER P;16ohm,Dvorak 19",3W,2pin,	1	S.A
0.1	M0002	BN90-00813A	ASSY COVER REAR;LS19DOWSS/XAA,DO19WS	1	S.N.A
..2	M0013	BN96-02503A	ASSY COVER P-REAR;LS19DOW,HIPS HB,BK24	1	S.A
...3	M0113	BN61-00377A	BRACKET-VESA;GOYA19"(193V),SECC,T1.0	1	S.N.A
...3	M0279	BN63-01140A	FELT;MUSE20",FELT,1.0,122,122	1	S.N.A
...3	M0006	BN63-02127A	COVER-REAR;LS19DOW,HIPS,T2.5,HB,BK24	1	S.N.A
0.1	M0216	BN90-00814A	ASSY STAND;LS19DOWSS/XAA,DO19WS	1	S.N.A
..2	STD	BN96-02966A	ASSY STAND P-BODY;LS19DOW,HIPS HB,BK24,Z	1	S.A
...3	M0081	6003-000275	SCREW-TAPTITE;BH,+,-,B,M3,L10,ZPC(BLK),S	4	S.N.A
...3		BN63-02128A	COVER-STAND FRONT;LS19DOW,HIPS,T2.5,HB,B	1	S.N.A
...3		BN63-02129A	COVER-STAND REAR;LS19DOW,HIPS,T2.5,HB,BK	1	S.N.A
...3	T0054	BN96-02967A	ASSY HINGE P;LS19DOW,ZNDC	1	S.N.A
0.1	M0017	BN91-00957E	ASSY CHASSIS;LS19DOWSS4/XSJ,DO19WS,GLARE	1	S.A
..2	M0014	BN94-00763E	ASSY PCB MAIN;LS19DOWSS4/XSJ,DO19WS,GLAR	1	S.N.A
...3	T0245	0202-001492	SOLDER-WIRE FLUX;HSE-02 LFM48 SR-34 S,-,	1	S.N.A
...3	IC012	1203-000165	IC-POSI.ADJUST REG.;78R12,TO-220,4P,-,PL	1	S.A
...3	FT702	2904-001179	FILTER-SAW;36.125MHz,-,32.65-39.6MHz/0.5	1	S.A
...3	CN104	3701-001173	CONNECTOR-DVI;24P,3R,FEMALE,ANGLE,AUF	1	S.A
...3	CN101	3701-001219	CONNECTOR-DSUB;15P,3R,FEMALE,ANGLE,AUF	1	S.A
...3	CN330	3711-004712	HEADER-BOARD TO CABLE;BOX,9P,1R,2mm,STRA	1	S.A
...3	JA330	3722-000143	JACK-PHONE;1P(VER),AG,BLK,ANGLE	1	S.A
...3	CN110	3722-000183	JACK-SCART;21P,SN,BLK	1	S.A
...3	JA333	3722-001782	JACK-PIN;1P,SN,WHT,ANGLE	1	S.A
...3	JA333	3722-001784	JACK-PIN;1P,SN,RED,ANGLE	1	S.A
...3	CN107	3722-002081	JACK-EAR PHONE;5P/2C,-,SnPb,L-BLU,-	1	S.A
...3	JA333	3722-002267	JACK-PIN;3P,AU,RED/WHT/YEL,ANGLE	1	S.A
...3	CN105	3722-002275	JACK-DIN;4P,-,SN,BLK,-	1	S.A
...3	JA333	3722-002389	JACK-PIN;3P,AU,RED/BLU/GRN,ANGLE	1	S.A
...3	CIS3	BN40-00035A	TUNER;TDQ-6FL/W125S,TDQ-6FL/W125S,PAL Hy	1	S.A
...3	CIS7	BN63-02133A	SHIELD-JACK;DV19WS,SECC,T0.8	1	S.N.A
...3	T0376	BN63-02134A	SHIELD-VIDEO;LS19DOW,SPTE,T0.2	1	S.N.A
...3	T0174	BN97-00674D	ASSY SMD;LS19DOWSS4/XSJ,DO19WS	1	S.N.A
....4	CIS5	0202-001477	SOLDER-CREAM;LST309-M,-,D20~45§-,96.5Sn/	3	S.N.A
....4	D100	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
....4	D101	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
....4	D113	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
....4	D114	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
....4	D115	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
....4	D119	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
....4	D120	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
....4	D121	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
....4	D122	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
....4	D123	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
....4	D124	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
....4	D125	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
....4	D126	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
....4	D130	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
....4	D700	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
....4	D701	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A

Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
....4	D702	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	1	S.A
....4	D400	0402-000553	DIODE-SCHOTTKY;SS24/B240,40V,2000mA,DO-2	1	S.A
....4	D102	0403-000579	DIODE-ZENER;BZX84C5V1,4.8-5.4V,200mW,SOT	1	S.A
....4	D108	0403-000579	DIODE-ZENER;BZX84C5V1,4.8-5.4V,200mW,SOT	1	S.A
....4	D109	0403-000579	DIODE-ZENER;BZX84C5V1,4.8-5.4V,200mW,SOT	1	S.A
....4	D110	0403-000579	DIODE-ZENER;BZX84C5V1,4.8-5.4V,200mW,SOT	1	S.A
....4	D111	0403-000579	DIODE-ZENER;BZX84C5V1,4.8-5.4V,200mW,SOT	1	S.A
....4	D112	0403-000579	DIODE-ZENER;BZX84C5V1,4.8-5.4V,200mW,SOT	1	S.A
....4	D116	0403-000579	DIODE-ZENER;BZX84C5V1,4.8-5.4V,200mW,SOT	1	S.A
....4	D117	0403-000579	DIODE-ZENER;BZX84C5V1,4.8-5.4V,200mW,SOT	1	S.A
....4	D118	0403-000579	DIODE-ZENER;BZX84C5V1,4.8-5.4V,200mW,SOT	1	S.A
....4	D145	0403-000579	DIODE-ZENER;BZX84C5V1,4.8-5.4V,200mW,SOT	1	S.A
....4	ZD700	0403-001382	DIODE-ZENER;UDZ33B,32.15-33.79V,200mW,SO	1	S.A
....4	D131	0403-001435	DIODE-ZENER;QZX363C5V6,5.32-5.88V,200MW,	1	S.A
....4	D146	0403-001435	DIODE-ZENER;QZX363C5V6,5.32-5.88V,200MW,	1	S.A
....4	D147	0403-001435	DIODE-ZENER;QZX363C5V6,5.32-5.88V,200MW,	1	S.A
....4	D103	0406-001163	DIODE-TVS;CDS3C05GTA,6.4V/-/-,-,SMD	1	S.A
....4	D104	0406-001163	DIODE-TVS;CDS3C05GTA,6.4V/-/-,-,SMD	1	S.A
....4	D105	0406-001163	DIODE-TVS;CDS3C05GTA,6.4V/-/-,-,SMD	1	S.A
....4	D106	0406-001163	DIODE-TVS;CDS3C05GTA,6.4V/-/-,-,SMD	1	S.A
....4	D107	0406-001163	DIODE-TVS;CDS3C05GTA,6.4V/-/-,-,SMD	1	S.A
....4	D127	0406-001163	DIODE-TVS;CDS3C05GTA,6.4V/-/-,-,SMD	1	S.A
....4	D128	0406-001163	DIODE-TVS;CDS3C05GTA,6.4V/-/-,-,SMD	1	S.A
....4	D129	0406-001163	DIODE-TVS;CDS3C05GTA,6.4V/-/-,-,SMD	1	S.A
....4	D132	0406-001163	DIODE-TVS;CDS3C05GTA,6.4V/-/-,-,SMD	1	S.A
....4	D133	0406-001163	DIODE-TVS;CDS3C05GTA,6.4V/-/-,-,SMD	1	S.A
....4	D134	0406-001163	DIODE-TVS;CDS3C05GTA,6.4V/-/-,-,SMD	1	S.A
....4	D135	0406-001163	DIODE-TVS;CDS3C05GTA,6.4V/-/-,-,SMD	1	S.A
....4	D136	0406-001163	DIODE-TVS;CDS3C05GTA,6.4V/-/-,-,SMD	1	S.A
....4	D137	0406-001163	DIODE-TVS;CDS3C05GTA,6.4V/-/-,-,SMD	1	S.A
....4	D138	0406-001163	DIODE-TVS;CDS3C05GTA,6.4V/-/-,-,SMD	1	S.A
....4	D139	0406-001163	DIODE-TVS;CDS3C05GTA,6.4V/-/-,-,SMD	1	S.A
....4	D140	0406-001163	DIODE-TVS;CDS3C05GTA,6.4V/-/-,-,SMD	1	S.A
....4	D141	0406-001163	DIODE-TVS;CDS3C05GTA,6.4V/-/-,-,SMD	1	S.A
....4	D142	0406-001163	DIODE-TVS;CDS3C05GTA,6.4V/-/-,-,SMD	1	S.A
....4	D143	0406-001163	DIODE-TVS;CDS3C05GTA,6.4V/-/-,-,SMD	1	S.A
....4	D144	0406-001163	DIODE-TVS;CDS3C05GTA,6.4V/-/-,-,SMD	1	S.A
....4	Q102	0501-000280	TR-SMALL SIGNAL;KSA1182,PNP,150MW,SOT-23	1	S.A
....4	Q700	0501-000344	TR-SMALL SIGNAL;KSC1623-G,NPN,200mW,SOT-	1	S.A
....4	Q100	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	Q300	0501-002080	TR-SMALL SIGNAL;2SC2412K,NPN,200mW,SC-59	1	S.A
....4	Q400	0501-002080	TR-SMALL SIGNAL;2SC2412K,NPN,200mW,SC-59	1	S.A
....4	Q401	0501-002080	TR-SMALL SIGNAL;2SC2412K,NPN,200mW,SC-59	1	S.A
....4	Q402	0501-002080	TR-SMALL SIGNAL;2SC2412K,NPN,200mW,SC-59	1	S.A
....4	Q403	0501-002080	TR-SMALL SIGNAL;2SC2412K,NPN,200mW,SC-59	1	S.A
....4	Q404	0501-002080	TR-SMALL SIGNAL;2SC2412K,NPN,200mW,SC-59	1	S.A
....4	Q405	0501-002080	TR-SMALL SIGNAL;2SC2412K,NPN,200mW,SC-59	1	S.A
....4	Q406	0501-002080	TR-SMALL SIGNAL;2SC2412K,NPN,200mW,SC-59	1	S.A
....4	Q407	0501-002080	TR-SMALL SIGNAL;2SC2412K,NPN,200mW,SC-59	1	S.A
....4	Q408	0501-002080	TR-SMALL SIGNAL;2SC2412K,NPN,200mW,SC-59	1	S.A
....4	Q409	0501-002080	TR-SMALL SIGNAL;2SC2412K,NPN,200mW,SC-59	1	S.A
....4	Q410	0501-002080	TR-SMALL SIGNAL;2SC2412K,NPN,200mW,SC-59	1	S.A
....4	Q409	0505-001170	FET-SILICON;SI9933ADY-T1,P,-20V,3.4A,0.0	1	S.A
....4	Q409	0505-001170	FET-SILICON;SI9933ADY-T1,P,-20V,3.4A,0.0	1	S.A
....4	IC104	0801-002404	IC-CMOS LOGIC;74VHC4066,ANALOG SWITCH,SO	1	S.A
....4	IC104	0801-002709	IC-CMOS LOGIC;74HC373,D FLIP-FLOP,TSSOP,	1	S.A
....4	IC104	0801-002899	IC-CMOS LOGIC;CD4069UBC,INVERTER,SOIC,14	1	S.A
....4	IC104	0802-001025	IC-CMOS LOGIC;74LCX374,D FILP-FLOP,TSSOP	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	1103-001279	IC-EEPROM;24C32,32Kbit,4Kx8Bit,SOP,8P,5x	1	S.A
....4	IC113	1105-001284	IC-DRAM;636165,-,16Mbit,1Mx16Bit,TSOP,50	1	S.A
....4	IC113	1105-001284	IC-DRAM;636165,-,16Mbit,1Mx16Bit,TSOP,50	1	S.A
....4	T0085	1201-001980	IC-AUDIO AMP;TDA7266D,SO,20P,16X11.1MM,-	1	S.A
....4	T0085	1201-002136	IC-AUDIO AMP;LM4810,MSOP,8P,3x3mm,DUAL,-	1	S.A
....4	IC705	1203-001212	IC-VOL. DETECTOR;7029,SOT-89,3P,-,PLASTI	1	S.A
....4	T0087	1203-001488	IC-POSI.FIXED REG.;7805,T0-252,3P,-,PLAS	1	S.A
....4	IC704	1203-001559	IC-RESET;DS1834A,SOIC,8P,150MIL,PLASTIC,	1	S.A
....4	T0087	1203-001816	IC-POSI.FIXED REG.;78M08,TO-252,3P,-,PLA	1	S.A

Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
....4	IC406	1203-002796	IC-DC/DC CONVERTER;AP1501-33K5A,TO-263-5	1	S.A
....4	IC109	1205-002738	IC-LCD CONTROLLER;SE6181LA-LF,LQFP,256P,	1	S.A
....4	R107	2007-000043	R-CHIP;1Kohm,1%,1/10W,TP,1608	1	S.A
....4	R109	2007-000043	R-CHIP;1Kohm,1%,1/10W,TP,1608	1	S.A
....4	R159	2007-000043	R-CHIP;1Kohm,1%,1/10W,TP,1608	1	S.A
....4	R164	2007-000043	R-CHIP;1Kohm,1%,1/10W,TP,1608	1	S.A
....4	R165	2007-000043	R-CHIP;1Kohm,1%,1/10W,TP,1608	1	S.A
....4	R720	2007-000043	R-CHIP;1Kohm,1%,1/10W,TP,1608	1	S.A
....4	R138	2007-000072	R-CHIP;47ohm,5%,1/10W,TP,1608	1	S.A
....4	R140	2007-000072	R-CHIP;47ohm,5%,1/10W,TP,1608	1	S.A
....4	R141	2007-000072	R-CHIP;47ohm,5%,1/10W,TP,1608	1	S.A
....4	R143	2007-000072	R-CHIP;47ohm,5%,1/10W,TP,1608	1	S.A
....4	R144	2007-000072	R-CHIP;47ohm,5%,1/10W,TP,1608	1	S.A
....4	R145	2007-000072	R-CHIP;47ohm,5%,1/10W,TP,1608	1	S.A
....4	R146	2007-000072	R-CHIP;47ohm,5%,1/10W,TP,1608	1	S.A
....4	R147	2007-000072	R-CHIP;47ohm,5%,1/10W,TP,1608	1	S.A
....4	R412	2007-000072	R-CHIP;47ohm,5%,1/10W,TP,1608	1	S.A
....4	R413	2007-000072	R-CHIP;47ohm,5%,1/10W,TP,1608	1	S.A
....4	R102	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R103	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R111	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R112	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R113	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R114	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R115	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R117	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R118	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R122	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R126	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R127	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R128	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R129	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R130	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R131	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R137	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R150	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R151	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R152	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R156	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R157	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R158	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R160	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R161	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R174	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R175	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R176	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R304	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R419	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R430	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R431	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R432	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R433	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R434	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R435	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R436	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R437	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R438	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R439	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R440	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R441	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R442	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R443	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R445	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R446	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R704	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R705	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R717	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R719	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R723	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R724	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A

Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
....4	R725	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R726	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R728	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R732	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R733	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R734	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R735	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R750	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R751	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	S.A
....4	R424	2007-000076	R-CHIP;330ohm,5%,1/10W,TP,1608	1	S.A
....4	R425	2007-000076	R-CHIP;330ohm,5%,1/10W,TP,1608	1	S.A
....4	R116	2007-000077	R-CHIP;470ohm,5%,1/10W,TP,1608	1	S.A
....4	R166	2007-000077	R-CHIP;470ohm,5%,1/10W,TP,1608	1	S.A
....4	R727	2007-000077	R-CHIP;470ohm,5%,1/10W,TP,1608	1	S.A
....4	R307	2007-000078	R-CHIP;1Kohm,5%,1/10W,TP,1608	1	S.A
....4	R450	2007-000078	R-CHIP;1Kohm,5%,1/10W,TP,1608	1	S.A
....4	R454	2007-000078	R-CHIP;1Kohm,5%,1/10W,TP,1608	1	S.A
....4	R459	2007-000078	R-CHIP;1Kohm,5%,1/10W,TP,1608	1	S.A
....4	R716	2007-000078	R-CHIP;1Kohm,5%,1/10W,TP,1608	1	S.A
....4	R738	2007-000078	R-CHIP;1Kohm,5%,1/10W,TP,1608	1	S.A
....4	R739	2007-000078	R-CHIP;1Kohm,5%,1/10W,TP,1608	1	S.A
....4	R748	2007-000078	R-CHIP;1Kohm,5%,1/10W,TP,1608	1	S.A
....4	R749	2007-000078	R-CHIP;1Kohm,5%,1/10W,TP,1608	1	S.A
....4	R105	2007-000081	R-CHIP;2.7Kohm,5%,1/10W,TP,1608	1	S.A
....4	R177	2007-000082	R-CHIP;3.3Kohm,5%,1/10W,TP,1608	1	S.A
....4	R133	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	S.A
....4	R134	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	S.A
....4	R135	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	S.A
....4	R300	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	S.A
....4	R302	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	S.A
....4	R303	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	S.A
....4	R306	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	S.A
....4	R308	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	S.A
....4	R417	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	S.A
....4	R420	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	S.A
....4	R448	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	S.A
....4	R449	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	S.A
....4	R452	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	S.A
....4	R453	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	S.A
....4	R457	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	S.A
....4	R703	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	S.A
....4	R729	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	S.A
....4	R730	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	S.A
....4	R713	2007-000087	R-CHIP;6.8Kohm,5%,1/10W,TP,1608	1	S.A
....4	R714	2007-000087	R-CHIP;6.8Kohm,5%,1/10W,TP,1608	1	S.A
....4	R715	2007-000087	R-CHIP;6.8Kohm,5%,1/10W,TP,1608	1	S.A
....4	R100	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R101	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R104	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R106	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R132	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R148	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R149	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R154	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R155	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R172	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R173	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R310	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R311	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R314	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R315	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R316	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R317	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R318	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R320	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R405	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R406	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R407	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R410	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R411	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A

Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
....4	R418	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R421	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R422	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R423	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R444	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R447	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R455	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R458	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R460	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R706	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R737	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	S.A
....4	R408	2007-000097	R-CHIP;47Kohm,5%,1/10W,TP,1608	1	S.A
....4	R409	2007-000097	R-CHIP;47Kohm,5%,1/10W,TP,1608	1	S.A
....4	R451	2007-000097	R-CHIP;47Kohm,5%,1/10W,TP,1608	1	S.A
....4	R426	2007-000098	R-CHIP;56Kohm,5%,1/10W,TP,1608	1	S.A
....4	R427	2007-000098	R-CHIP;56Kohm,5%,1/10W,TP,1608	1	S.A
....4	R402	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	S.A
....4	R403	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	S.A
....4	R404	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	S.A
....4	R414	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	S.A
....4	R416	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	S.A
....4	R707	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	S.A
....4	R791	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	S.A
....4	R305	2007-000118	R-CHIP;390ohm,5%,1/10W,TP,1608	1	S.A
....4	R701	2007-000234	R-CHIP;1.3Kohm,5%,1/10W,TP,1608	1	S.A
....4	R169	2007-000402	R-CHIP;150ohm,5%,1/10W,TP,1608	1	S.A
....4	R702	2007-000402	R-CHIP;150ohm,5%,1/10W,TP,1608	1	S.A
....4	R167	2007-000458	R-CHIP;18Kohm,5%,1/10W,TP,1608	1	S.A
....4	R711	2007-000659	R-CHIP;27ohm,5%,1/10W,TP,1608	1	S.A
....4	R136	2007-000869	R-CHIP;4.7Kohm,1%,1/10W,TP,1608	1	S.A
....4	R428	2007-000869	R-CHIP;4.7Kohm,1%,1/10W,TP,1608	1	S.A
....4	R429	2007-000869	R-CHIP;4.7Kohm,1%,1/10W,TP,1608	1	S.A
....4	R721	2007-000869	R-CHIP;4.7Kohm,1%,1/10W,TP,1608	1	S.A
....4	R722	2007-000869	R-CHIP;4.7Kohm,1%,1/10W,TP,1608	1	S.A
....4	R712	2007-000882	R-CHIP;4.7ohm,5%,1/10W,TP,1608	1	S.A
....4	R153	2007-001002	R-CHIP;510ohm,5%,1/10W,TP,1608	1	S.A
....4	R710	2007-001002	R-CHIP;510ohm,5%,1/10W,TP,1608	1	S.A
....4	R708	2007-001134	R-CHIP;68ohm,5%,1/10W,TP,1608	1	S.A
....4	R119	2007-001164	R-CHIP;75ohm,1%,1/10W,TP,1608	1	S.A
....4	R120	2007-001164	R-CHIP;75ohm,1%,1/10W,TP,1608	1	S.A
....4	R121	2007-001164	R-CHIP;75ohm,1%,1/10W,TP,1608	1	S.A
....4	R123	2007-001167	R-CHIP;75ohm,5%,1/10W,TP,1608	1	S.A
....4	R124	2007-001167	R-CHIP;75ohm,5%,1/10W,TP,1608	1	S.A
....4	R125	2007-001167	R-CHIP;75ohm,5%,1/10W,TP,1608	1	S.A
....4	R163	2007-001167	R-CHIP;75ohm,5%,1/10W,TP,1608	1	S.A
....4	R168	2007-001167	R-CHIP;75ohm,5%,1/10W,TP,1608	1	S.A
....4	R752	2007-001167	R-CHIP;75ohm,5%,1/10W,TP,1608	1	S.A
....4	R753	2007-001167	R-CHIP;75ohm,5%,1/10W,TP,1608	1	S.A
....4	R754	2007-001167	R-CHIP;75ohm,5%,1/10W,TP,1608	1	S.A
....4	R755	2007-001167	R-CHIP;75ohm,5%,1/10W,TP,1608	1	S.A
....4	R756	2007-001167	R-CHIP;75ohm,5%,1/10W,TP,1608	1	S.A
....4	R757	2007-001167	R-CHIP;75ohm,5%,1/10W,TP,1608	1	S.A
....4	R758	2007-001167	R-CHIP;75ohm,5%,1/10W,TP,1608	1	S.A
....4	R790	2007-001179	R-CHIP;8.2Kohm,5%,1/10W,TP,1608	1	S.A
....4	R171	2007-007852	R-CHIP;140ohm,1%,1/10W,TP,1608	1	S.A
....4	RA300	2011-000881	R-NET;33ohm,5%,1/16W,L,CHIP,8P,TP,3.2x1.	1	S.A
....4	RA301	2011-000881	R-NET;33ohm,5%,1/16W,L,CHIP,8P,TP,3.2x1.	1	S.A
....4	RA302	2011-000881	R-NET;33ohm,5%,1/16W,L,CHIP,8P,TP,3.2x1.	1	S.A
....4	RA303	2011-000881	R-NET;33ohm,5%,1/16W,L,CHIP,8P,TP,3.2x1.	1	S.A
....4	RA304	2011-000881	R-NET;33ohm,5%,1/16W,L,CHIP,8P,TP,3.2x1.	1	S.A
....4	C116	2203-000140	C-CER,CHIP;1.5nF,10%,50V,X7R,1608	1	S.A
....4	C117	2203-000140	C-CER,CHIP;1.5nF,10%,50V,X7R,1608	1	S.A
....4	C120	2203-000140	C-CER,CHIP;1.5nF,10%,50V,X7R,1608	1	S.A
....4	C125	2203-000140	C-CER,CHIP;1.5nF,10%,50V,X7R,1608	1	S.A
....4	C126	2203-000140	C-CER,CHIP;1.5nF,10%,50V,X7R,1608	1	S.A
....4	C127	2203-000140	C-CER,CHIP;1.5nF,10%,50V,X7R,1608	1	S.A
....4	C452	2203-000140	C-CER,CHIP;1.5nF,10%,50V,X7R,1608	1	S.A
....4	C453	2203-000140	C-CER,CHIP;1.5nF,10%,50V,X7R,1608	1	S.A
....4	C455	2203-000140	C-CER,CHIP;1.5nF,10%,50V,X7R,1608	1	S.A
....4	C456	2203-000140	C-CER,CHIP;1.5nF,10%,50V,X7R,1608	1	S.A

Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
....4	C457	2203-000140	C-CER,CHIP;1.5nF,10%,50V,X7R,1608	1	S.A
....4	C458	2203-000140	C-CER,CHIP;1.5nF,10%,50V,X7R,1608	1	S.A
....4	C459	2203-000140	C-CER,CHIP;1.5nF,10%,50V,X7R,1608	1	S.A
....4	C460	2203-000140	C-CER,CHIP;1.5nF,10%,50V,X7R,1608	1	S.A
....4	C463	2203-000140	C-CER,CHIP;1.5nF,10%,50V,X7R,1608	1	S.A
....4	C464	2203-000140	C-CER,CHIP;1.5nF,10%,50V,X7R,1608	1	S.A
....4	C728	2203-000140	C-CER,CHIP;1.5nF,10%,50V,X7R,1608	1	S.A
....4	C737	2203-000140	C-CER,CHIP;1.5nF,10%,50V,X7R,1608	1	S.A
....4	C739	2203-000140	C-CER,CHIP;1.5nF,10%,50V,X7R,1608	1	S.A
....4	C745	2203-000140	C-CER,CHIP;1.5nF,10%,50V,X7R,1608	1	S.A
....4	C754	2203-000140	C-CER,CHIP;1.5nF,10%,50V,X7R,1608	1	S.A
....4	C757	2203-000140	C-CER,CHIP;1.5nF,10%,50V,X7R,1608	1	S.A
....4	C760	2203-000140	C-CER,CHIP;1.5nF,10%,50V,X7R,1608	1	S.A
....4	C765	2203-000140	C-CER,CHIP;1.5nF,10%,50V,X7R,1608	1	S.A
....4	C103	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C104	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C105	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	C107	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C110	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C320	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C329	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C351	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C403	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C406	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C407	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C413	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C414	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C416	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C422	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C423	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C426	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C441	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C702	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C703	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C704	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C706	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C712	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C713	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C714	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C731	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C740	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C741	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C747	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C762	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C767	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C768	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C769	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C771	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C772	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C773	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C774	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C775	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C777	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	S.A
....4	C102	2203-000236	C-CER,CHIP;0.1nF,5%,50V,C0G,1608	1	S.A
....4	C115	2203-000236	C-CER,CHIP;0.1nF,5%,50V,C0G,1608	1	S.A
....4	C308	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	S.A
....4	C427	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	S.A
....4	C701	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	S.A
....4	C710	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	S.A
....4	C711	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	S.A
....4	C715	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	S.A
....4	C720	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	S.A
....4	C790	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	S.A
....4	C325	2203-000440	C-CER,CHIP;1nF,10%,50V,X7R,1608	1	S.A
....4	C709	2203-000440	C-CER,CHIP;1nF,10%,50V,X7R,1608	1	S.A
....4	C723	2203-000440	C-CER,CHIP;1nF,10%,50V,X7R,1608	1	S.A
....4	C730	2203-000440	C-CER,CHIP;1nF,10%,50V,X7R,1608	1	S.A
....4	C733	2203-000440	C-CER,CHIP;1nF,10%,50V,X7R,1608	1	S.A
....4	C735	2203-000440	C-CER,CHIP;1nF,10%,50V,X7R,1608	1	S.A

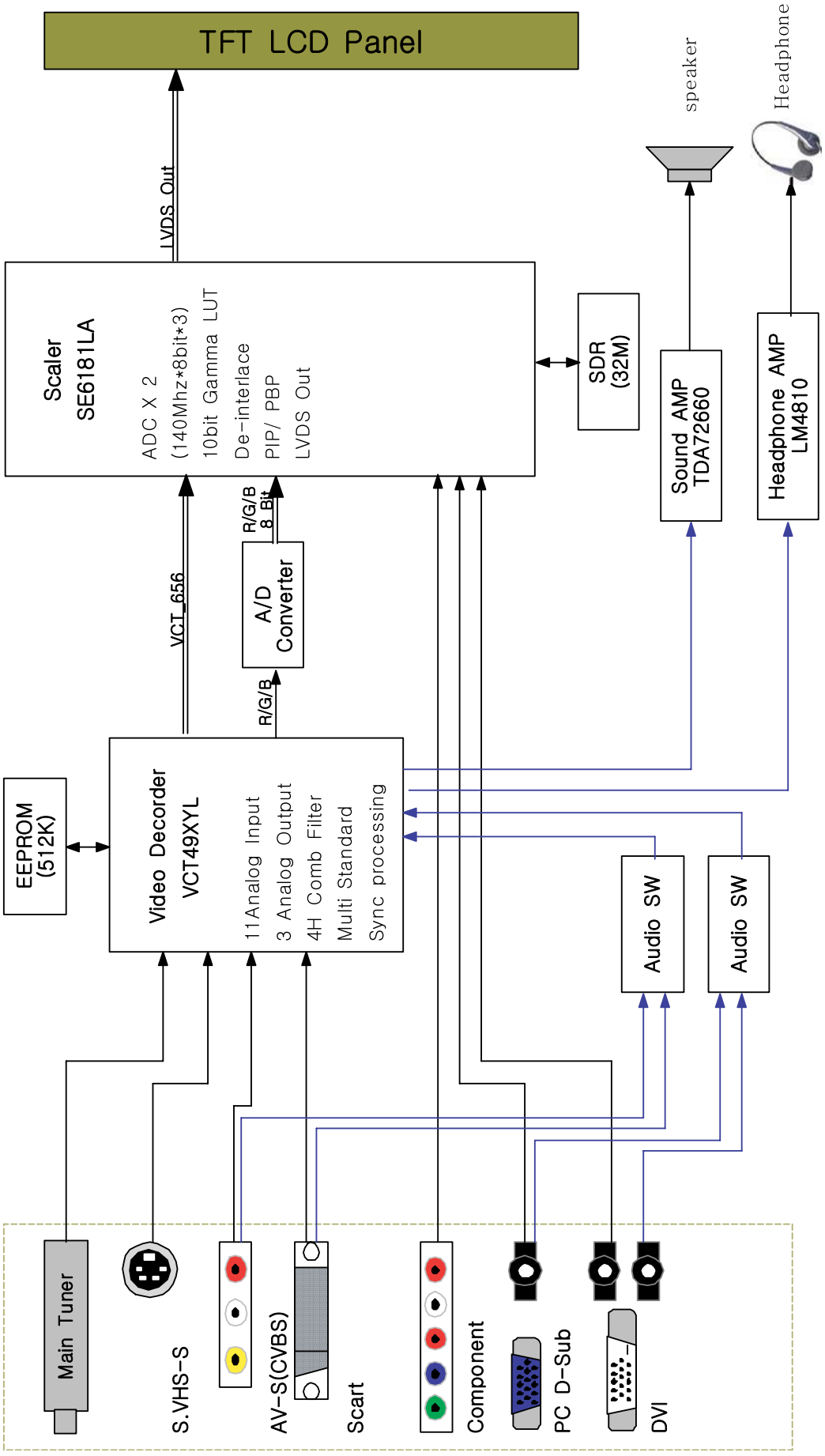
Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
....4	C766	2203-000440	C-CER,CHIP;1nF,10%,50V,X7R,1608	1	S.A
....4	C717	2203-000552	C-CER,CHIP;0.02nF,5%,50V,C0G,1608	1	S.A
....4	C718	2203-000552	C-CER,CHIP;0.02nF,5%,50V,C0G,1608	1	S.A
....4	C101	2203-000626	C-CER,CHIP;0.022nF,5%,50V,C0G,1608	1	S.A
....4	C309	2203-000626	C-CER,CHIP;0.022nF,5%,50V,C0G,1608	1	S.A
....4	C310	2203-000626	C-CER,CHIP;0.022nF,5%,50V,C0G,1608	1	S.A
....4	C748	2203-000626	C-CER,CHIP;0.022nF,5%,50V,C0G,1608	1	S.A
....4	C751	2203-000626	C-CER,CHIP;0.022nF,5%,50V,C0G,1608	1	S.A
....4	C108	2203-000972	C-CER,CHIP;47nF,10%,16V,X7R,1608	1	S.A
....4	C109	2203-000972	C-CER,CHIP;47nF,10%,16V,X7R,1608	1	S.A
....4	C111	2203-000972	C-CER,CHIP;47nF,10%,16V,X7R,1608	1	S.A
....4	C323	2203-000972	C-CER,CHIP;47nF,10%,16V,X7R,1608	1	S.A
....4	C324	2203-000972	C-CER,CHIP;47nF,10%,16V,X7R,1608	1	S.A
....4	C326	2203-000972	C-CER,CHIP;47nF,10%,16V,X7R,1608	1	S.A
....4	C122	2203-001071	C-CER,CHIP;0.056nF,5%,50V,C0G,1608	1	S.A
....4	C727	2203-001656	C-CER,CHIP;0.47nF,5%,50V,NP0,1608	1	S.A
....4	C729	2203-001656	C-CER,CHIP;0.47nF,5%,50V,NP0,1608	1	S.A
....4	C736	2203-001656	C-CER,CHIP;0.47nF,5%,50V,NP0,1608	1	S.A
....4	C738	2203-001656	C-CER,CHIP;0.47nF,5%,50V,NP0,1608	1	S.A
....4	C744	2203-001656	C-CER,CHIP;0.47nF,5%,50V,NP0,1608	1	S.A
....4	C753	2203-001656	C-CER,CHIP;0.47nF,5%,50V,NP0,1608	1	S.A
....4	C756	2203-001656	C-CER,CHIP;0.47nF,5%,50V,NP0,1608	1	S.A
....4	C759	2203-001656	C-CER,CHIP;0.47nF,5%,50V,NP0,1608	1	S.A
....4	C764	2203-001656	C-CER,CHIP;0.47nF,5%,50V,NP0,1608	1	S.A
....4	C402	2203-002793	C-CER,CHIP;1000nF,+80-20%,25V,Y5V,2012	1	S.A
....4	C440	2203-002793	C-CER,CHIP;1000nF,+80-20%,25V,Y5V,2012	1	S.A
....4	C100	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C319	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C322	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C327	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C328	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C400	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C401	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C404	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C431	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C465	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C722	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C750	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	S.A
....4	C112	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C113	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C114	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C118	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C121	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C123	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C124	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C300	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C301	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C302	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C303	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C304	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C305	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C306	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C312	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C313	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C314	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C315	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C316	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C317	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C318	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C321	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C330	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C331	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C332	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C333	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C334	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C335	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C336	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C337	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C338	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C339	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A

Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
....4	C340	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C341	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C342	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C343	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C344	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C345	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C346	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C347	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C348	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C349	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C350	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C411	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C417	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C418	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C424	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C425	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C461	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C700	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C742	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C763	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C770	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	S.A
....4	C779	2203-005249	C-CER,CHIP;100nF,10%,50V,X7R,1608	1	S.A
....4	C311	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	S.A
....4	C415	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	S.A
....4	C428	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	S.A
....4	C436	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	S.A
....4	C721	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	S.A
....4	C724	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	S.A
....4	C726	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	S.A
....4	C732	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	S.A
....4	C734	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	S.A
....4	C743	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	S.A
....4	C749	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	S.A
....4	C752	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	S.A
....4	C755	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	S.A
....4	C758	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	S.A
....4	C761	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	S.A
....4	C776	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	S.A
....4	C705	2402-000176	C-AL,SMD;10uF,20%,16V,GP,TP,4.3x4.3x5.4	1	S.A
....4	C412	2402-001044	C-AL,SMD;100UF,20%,25V,GP,TP,8.3X8.3X6.3	1	S.A
....4	C707	2402-001080	C-AL,SMD;47uF,20%,50V,WT,TP,8x10mm	1	S.A
....4	C708	2402-001080	C-AL,SMD;47uF,20%,50V,WT,TP,8x10mm	1	S.A
....4	C408	2402-001081	C-AL,SMD;100uF,20%,25V,WT,TP,8.3x8.3x10	1	S.A
....4	C451	2402-001081	C-AL,SMD;100uF,20%,25V,WT,TP,8.3x8.3x10	1	S.A
....4	C490	2402-001081	C-AL,SMD;100uF,20%,25V,WT,TP,8.3x8.3x10	1	S.A
....4	C491	2402-001081	C-AL,SMD;100uF,20%,25V,WT,TP,8.3x8.3x10	1	S.A
....4	C307	2402-001086	C-AL,SMD;100UF,20%,16V,WT,TP,6.6X6.6X5.3	1	S.A
....4	C405	2402-001086	C-AL,SMD;100UF,20%,16V,WT,TP,6.6X6.6X5.3	1	S.A
....4	C409	2402-001086	C-AL,SMD;100UF,20%,16V,WT,TP,6.6X6.6X5.3	1	S.A
....4	C433	2402-001086	C-AL,SMD;100UF,20%,16V,WT,TP,6.6X6.6X5.3	1	S.A
....4	C437	2402-001086	C-AL,SMD;100UF,20%,16V,WT,TP,6.6X6.6X5.3	1	S.A
....4	C716	2402-001086	C-AL,SMD;100UF,20%,16V,WT,TP,6.6X6.6X5.3	1	S.A
....4	C119	2402-001128	C-AL,SMD;100¥íF,20%,16V,-,TP,6.3X5.7mm	1	S.A
....4	C410	2402-001128	C-AL,SMD;100¥íF,20%,16V,-,TP,6.3X5.7mm	1	S.A
....4	C419	2402-001128	C-AL,SMD;100¥íF,20%,16V,-,TP,6.3X5.7mm	1	S.A
....4	C420	2402-001128	C-AL,SMD;100¥íF,20%,16V,-,TP,6.3X5.7mm	1	S.A
....4	C429	2402-001128	C-AL,SMD;100¥íF,20%,16V,-,TP,6.3X5.7mm	1	S.A
....4	C430	2402-001128	C-AL,SMD;100¥íF,20%,16V,-,TP,6.3X5.7mm	1	S.A
....4	C432	2402-001128	C-AL,SMD;100¥íF,20%,16V,-,TP,6.3X5.7mm	1	S.A
....4	C480	2402-001128	C-AL,SMD;100¥íF,20%,16V,-,TP,6.3X5.7mm	1	S.A
....4	C421	2402-001158	C-AL,SMD;1UF,20%,50V,WT,TP,4X5.2MM	1	S.A
....4	C438	2402-001159	C-AL,SMD;3.3UF,20%,50V,WT,TP,4X5.2MM	1	S.A
....4	C439	2402-001159	C-AL,SMD;3.3UF,20%,50V,WT,TP,4X5.2MM	1	S.A
....4	C442	2402-001165	C-AL,SMD;4.7UF,20%,35V,WT,TP,4X5.8MM	1	S.A
....4	C443	2402-001165	C-AL,SMD;4.7UF,20%,35V,WT,TP,4X5.8MM	1	S.A
....4	C444	2402-001165	C-AL,SMD;4.7UF,20%,35V,WT,TP,4X5.8MM	1	S.A
....4	C445	2402-001165	C-AL,SMD;4.7UF,20%,35V,WT,TP,4X5.8MM	1	S.A
....4	C446	2402-001165	C-AL,SMD;4.7UF,20%,35V,WT,TP,4X5.8MM	1	S.A
....4	C447	2402-001165	C-AL,SMD;4.7UF,20%,35V,WT,TP,4X5.8MM	1	S.A
....4	C448	2402-001165	C-AL,SMD;4.7UF,20%,35V,WT,TP,4X5.8MM	1	S.A

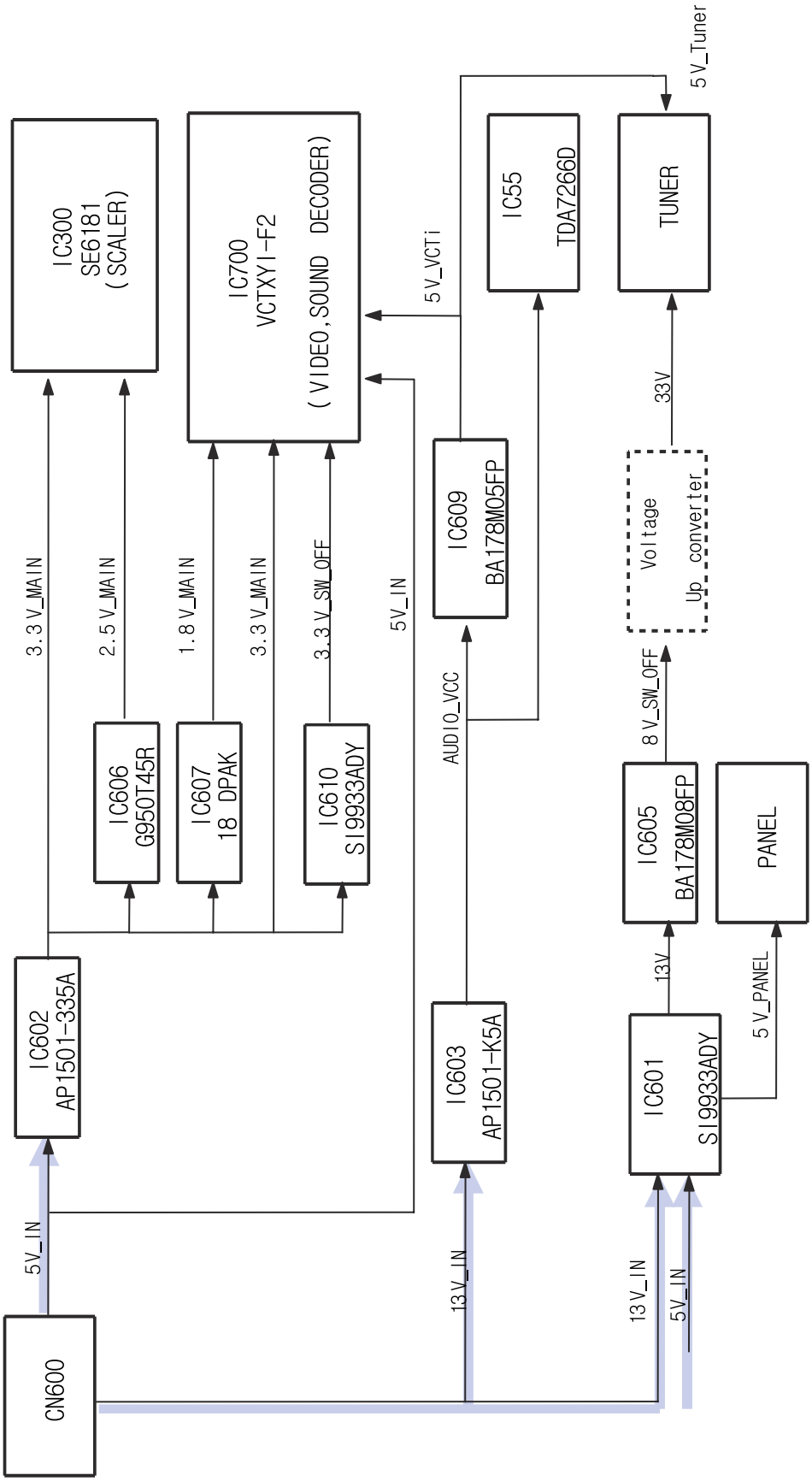
Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
....4	C449	2402-001165	C-AL,SMD;4.7UF,20%,35V,WT,TP,4X5.8MM	1	S.A
....4	C450	2402-001165	C-AL,SMD;4.7UF,20%,35V,WT,TP,4X5.8MM	1	S.A
....4	C454	2402-001165	C-AL,SMD;4.7UF,20%,35V,WT,TP,4X5.8MM	1	S.A
....4	C746	2402-001165	C-AL,SMD;4.7UF,20%,35V,WT,TP,4X5.8MM	1	S.A
....4	C462	2402-001178	C-AL,SMD;10uF,20%,16V,WT,TP,4.3x4.3x5.8m	1	S.A
....4	C434	2402-001183	C-AL,SMD;22UF,20%,16V,WT,TP,5.3X5.3X6MM	1	S.A
....4	C435	2402-001183	C-AL,SMD;22UF,20%,16V,WT,TP,5.3X5.3X6MM	1	S.A
....4	C725	2402-001222	C-AL,SMD;3.3UF,20%,50V,HR,TP,4.3X4.3X5.8	1	S.A
....4	T0052	2703-000222	INDUCTOR-SMD;560nH,10%,2012	1	S.A
....4	T0052	2703-001334	INDUCTOR-SMD;1.5uH,10%,2012	1	S.A
....4	T0052	2703-001334	INDUCTOR-SMD;1.5uH,10%,2012	1	S.A
....4	T0052	2703-001334	INDUCTOR-SMD;1.5uH,10%,2012	1	S.A
....4	T0052	2703-001778	INDUCTOR-SMD;3.3uH,20%,3225	1	S.A
....4	T0052	2703-001778	INDUCTOR-SMD;3.3uH,20%,3225	1	S.A
....4	T0052	2703-001778	INDUCTOR-SMD;3.3uH,20%,3225	1	S.A
....4	T0052	2703-001778	INDUCTOR-SMD;3.3uH,20%,3225	1	S.A
....4	T0052	2703-001778	INDUCTOR-SMD;3.3uH,20%,3225	1	S.A
....4	T0052	2703-001778	INDUCTOR-SMD;3.3uH,20%,3225	1	S.A
....4	T0052	2703-001778	INDUCTOR-SMD;3.3uH,20%,3225	1	S.A
....4	T0052	2703-001778	INDUCTOR-SMD;3.3uH,20%,3225	1	S.A
....4	T0052	2703-001778	INDUCTOR-SMD;3.3uH,20%,3225	1	S.A
....4	T0052	2703-001778	INDUCTOR-SMD;3.3uH,20%,3225	1	S.A
....4	T0052	2703-001778	INDUCTOR-SMD;3.3uH,20%,3225	1	S.A
....4	T0052	2703-001778	INDUCTOR-SMD;3.3uH,20%,3225	1	S.A
....4	T0052	2703-001778	INDUCTOR-SMD;3.3uH,20%,3225	1	S.A
....4	X300	2801-003667	CRYSTAL-SMD;14.31818MHz,30ppm,28-AAN,16,	1	S.A
....4	X700	2801-004004	CRYSTAL-SMD;20.25MHz,20ppm,28-AAN,13pF,2	1	S.A
....4	T0568	3301-001145	BEAD-SMD;60ohm,4516,TP,70ohm/45MHz,82ohm	1	S.N.A
....4	T0568	3301-001145	BEAD-SMD;60ohm,4516,TP,70ohm/45MHz,82ohm	1	S.N.A
....4	T0568	3301-001145	BEAD-SMD;60ohm,4516,TP,70ohm/45MHz,82ohm	1	S.N.A
....4	T0568	3301-001145	BEAD-SMD;60ohm,4516,TP,70ohm/45MHz,82ohm	1	S.N.A
....4	T0568	3301-001145	BEAD-SMD;60ohm,4516,TP,70ohm/45MHz,82ohm	1	S.N.A
....4	T0568	3301-001145	BEAD-SMD;60ohm,4516,TP,70ohm/45MHz,82ohm	1	S.N.A
....4	T0568	3301-001145	BEAD-SMD;60ohm,4516,TP,70ohm/45MHz,82ohm	1	S.N.A
....4	T0568	3301-001145	BEAD-SMD;60ohm,4516,TP,70ohm/45MHz,82ohm	1	S.N.A
....4	T0568	3301-001145	BEAD-SMD;60ohm,4516,TP,70ohm/45MHz,82ohm	1	S.N.A
....4	T0568	3301-001145	BEAD-SMD;60ohm,4516,TP,70ohm/45MHz,82ohm	1	S.N.A
....4	T0568	3301-001145	BEAD-SMD;60ohm,4516,TP,70ohm/45MHz,82ohm	1	S.N.A
....4	T0568	3301-001145	BEAD-SMD;60ohm,4516,TP,70ohm/45MHz,82ohm	1	S.N.A
....4	T0568	3301-001145	BEAD-SMD;60ohm,4516,TP,70ohm/45MHz,82ohm	1	S.N.A
....4	T0568	3301-001145	BEAD-SMD;60ohm,4516,TP,70ohm/45MHz,82ohm	1	S.N.A
....4	T0568	3301-001145	BEAD-SMD;60ohm,4516,TP,70ohm/45MHz,82ohm	1	S.N.A
....4	T0568	3301-001145	BEAD-SMD;60ohm,4516,TP,70ohm/45MHz,82ohm	1	S.N.A
....4	T0568	3301-001145	BEAD-SMD;60ohm,4516,TP,70ohm/45MHz,82ohm	1	S.N.A
....4	T0568	3301-001145	BEAD-SMD;60ohm,4516,TP,70ohm/45MHz,82ohm	1	S.N.A
....4	T0568	3301-001236	BEAD-SMD;60ohm,1608,-,-,-	1	S.N.A
....4	T0568	3301-001236	BEAD-SMD;60ohm,1608,-,-,-	1	S.N.A
....4	T0568	3301-001236	BEAD-SMD;60ohm,1608,-,-,-	1	S.N.A
....4	T0568	3301-001288	BEAD-SMD;30ohm,1608,TP,-,-	1	S.A
....4	CN330	3711-003057	HEADER-BOARD TO CABLE;BOX,6P,1R,1.25MM,S	1	S.A
....4	CN330	3711-005292	HEADER-BOARD TO CABLE;BOX,3P,1R,2MM,SMD-	1	S.A
....4	CN330	3711-005292	HEADER-BOARD TO CABLE;BOX,3P,1R,2MM,SMD-	1	S.A
....4	CN330	3711-005470	HEADER-BOARD TO CABLE;BOX,30P,1R,1.25mm,	1	S.A
....4	CN330	3711-005477	HEADER-BOARD TO CABLE;BOX,4P,1R,2mm,SMD-	1	S.A
....4	CN330	3711-005498	HEADER-BOARD TO CABLE;BOX,10P,1R,1.25mm,	1	S.A
....4	IC702	BN09-00016A	IC MICOM MTP;VCT4977,VCT49X7R-XX,F2,POLL	1	S.A
....4	L402	BN27-00002A	COIL-CHOKE(SMD);47uH,47uH,20%,12*12*8mm,	1	S.A
....4	L701	BN27-00017A	COIL CHOKE-SMD;PO5845-330,LT17N2,33uH,10	1	S.A
....4	T0077	BN41-00656D	PCB MAIN;DVORAK,FR-4,4L,1.3,1.6,275*105,	1	S.N.A
....4	T0087	1203-003696	IC-POSI.FIXED REG.;NCP1117DT18T5G,DPAK,3	1	S.A
....4	T0087	1203-003696	IC-POSI.FIXED REG.;NCP1117DT18T5G,DPAK,3	1	S.A
....4	M0018	BN97-00675E	ASSY MICOM;LS19DOWSS4/XSJ,DO19WS	1	S.A
.....5	IC902	1102-001129	IC-EPROM;M27W401,512KX8BIT,PLCC,32P,11.3	1	S.N.A
0.1	M0112	BN91-00958A	ASSY SHIELD;LS19DOWSS*,DO19WS, STZ TN ZP	1	S.N.A
..2	M0081	6003-000115	SCREW-TAPTITE;BH,+,B,M3,L6,ZPC(BLK),SWRC	2	S.A
..2	M0081	6003-000115	SCREW-TAPTITE;BH,+,B,M3,L6,ZPC(BLK),SWRC	8	S.A
..2	M0081	6003-000115	SCREW-TAPTITE;BH,+,B,M3,L6,ZPC(BLK),SWRC	6	S.A
..2	M0081	6003-000275	SCREW-TAPTITE;BH,+,-,B,M3,L10,ZPC(BLK),S	9	S.N.A
..2	M0081	6003-001439	SCREW-TAPTITE;BH,+,S,M4,L8,ZPC(YEL)	1	S.N.A

Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
..2	M2893	BN39-00666C	LEAD CONNECTOR-LVDS;DVORAK,UL1571#30,30P	1	S.A
..2	CIS	BN61-01997A	HOLDER-JACK;DV19WS,ABS HB,T2.0	1	S.N.A
..2	M0107	BN63-02132A	SHIELD-COVER;DV19WS,SECC,T0.8	1	S.N.A
..2	T0059	BN96-02505A	ASSY SHIELD P-PANEL;LS19DOW,SECC,T0.8,AM	1	S.N.A
...3	T0514	BN61-01998A	BRACKET-SUPPORT;LS19DOW,SECC,T1.2	1	S.N.A
...3	M0125	BN63-02131A	SHIELD-PANEL;LS19DOW,SECC,T0.8,AMLCD	1	S.N.A
..2	T0081	6002-001294	SCREW-TAPPING;BH,+,,M4,L16,ZPC(BLK)	4	S.A
..2	CCMM1	BN73-00122A	SILICON/RUBBER;Dvorak 19,SILICON+ALUMINA	1	S.N.A
..2	CCMM1	BN73-00122B	SILICON/RUBBER;Dvorak 19,SILICON+ALUMINA	1	S.N.A
..2	M0174	BN44-00116B	IP BOARD;48135T(WN),DVORAK 19",3.2 ~4.8m	1	S.A
0.1	M0019	BN91-00963D	ASSY LCD;LS19DOWSS5/XSJ,GLARE	1	S.N.A
..2	M0215	BN07-00287A	LCD-PANEL;LTM190M2-L02,Dvorak,6BIT FRC,4	1	S.A
0.1	M0113	BN92-01583A	ASSY P/MATERIAL;LS19DOWSS/XAA,DO19WS	1	S.N.A
..2	T0376	6902-000061	BAG AIR;LDPE,T0.2,L1000,W500,TRP,,,	0.005	S.N.A
..2	T0376	6902-000379	BAG AIR;LDPE,T0.2,W1000,L1800,TRP,-,--	0.002	S.N.A
..2	T0524	6902-000520	BAG PE;HDPE/NITRON(DOUBLE),T0.015/T0.5(D	1	S.N.A
..2	T0003	6902-000604	BAG WRAPPING;LDPE,T0.02,W500,L10000,TRP,	1.31	S.N.A
..2	M0081	6902-000609	BAG ROLL;LDPE,T0.05,W2400,L1000,TRP,-,-	0.032	S.N.A
0.1	M0045	BN92-01584R	ASSY ACCESSORY;LS19DOCSSK/EDC,GLARE,DVI-	1	S.N.A
..2	M0114	BN39-00244B	CBF SIGNAL;MO15PS,15P/15P,20276-N,1830mm	1	S.A
..2	M0125	BN39-00246F	CBF SIGNAL-DVI(D);1703FP,24P/24P,20276-D	1	S.A
..2	T0074	BN59-00434C	REMOCON;Manet_Multi,TM79,17.5 * 4.3 * 2,	1	S.A
..2	M0013	BN96-02332D	ASSY STAND P-BASE;HA19AS/BS,HIPS,GR70 &	1	S.A
...3	M0081	6003-000282	SCREW-TAPTITE;BH,+,-,B,M3,L8,ZPC(BLK),SW	4	S.N.A
...3	T0524	6902-000389	BAG PE;HDPE/NITRON/HDPE,T0.015/T0.5/T0.0	1	S.N.A
...3		BN61-01235A	SUPPORT-BRKT BASE;MJ19AS/BS,SECC,T1.6	1	S.N.A
...3	CIS4	BN61-01717A	HOLDER-STAND;BIZET,NI PLT,CH,+,M4,L11(5)	1	S.N.A
...3	T0004	BN63-01991B	COVER-STAND BASE;HA19AS/BS,HIPS,T2.5,BK2	1	S.N.A
...3	M0174	BN63-01992D	COVER-STAND TOP;HA19AS/BS,HIPS,T2.5,GR70	1	S.N.A
...3		BN68-00786F	MANUAL FLYER-02,QSG;Bizet Stand Manual,S	1	S.N.A
...3	T0132	BN73-00077A	RUBBER FOOT;MATISSE,BUMPON,¨ª13.5,T2.0,6	4	S.N.A
..2	M0045	BN96-02763P	ASSY ACCESSORY;LS19DOCSSK/EDC,S/M940MG	1	S.A
...3	CN906	3705-001191	CONNECTOR-COAXIAL;PAL,ADAPTER(J/P),-,-,-	1	S.A
...3	T0268	3903-000042	CBF-POWER CORD;DT,EU,FP3/YES,IEC320 C13/	1	S.A
...3	T0524	6902-000110	BAG PE;LDPE,T0.05,W250,L400,TRP,28,2	1	S.N.A
...3	T0238	BH68-00633A	MANUAL FLYER-WARRANTY CARD;comm,Samsung,	1	S.N.A
...3	ACCESSORY	BH68-70448A	CARD-01;TFT LCD,SRC,RUSSIA,S/W,120,W210*	1	S.N.A
...3	T0128	BN39-00061B	CBF SIGNAL-STEREO;MH15NS,1P,UL2851#26,20	1	S.A
...3	T0059	BN68-00907A	MANUAL FLYER-CARD;COMM,SAMSUNG,18 LANG,E	1	S.N.A
...3	M0215	BN96-02318W	ASSY MANUAL P-IB+QSG;940MG,SyncMaster,W/	1	S.N.A
....4	I/B	BN59-00480W	S/W DRIVER-01;940MG,W/W,SyncMaster,Dvora	1	S.N.A
....4	QSG	BN68-00952A	MANUAL FLYER-01,QSG;Dvorak 940MW W/W QSG	1	S.N.A
0.1	M0019	BN92-01585E	ASSY LABEL;LS19DOCSSK/EDC	1	S.N.A
0.1	M0003	BN92-01586M	ASSY BOX;LS19DOCSSK/EDC,S/M940MG	1	S.N.A
..2	M0045	BN69-01157C	BOX-MONITOR;S/M940MG(LS19DOW),CB-SY-01,Y	1.02	S.N.A
..2	M0103	BN72-60001A	LEVER-TOP;LSD210TL,PE-LD,WHITE,TFT_LCD	1	S.N.A

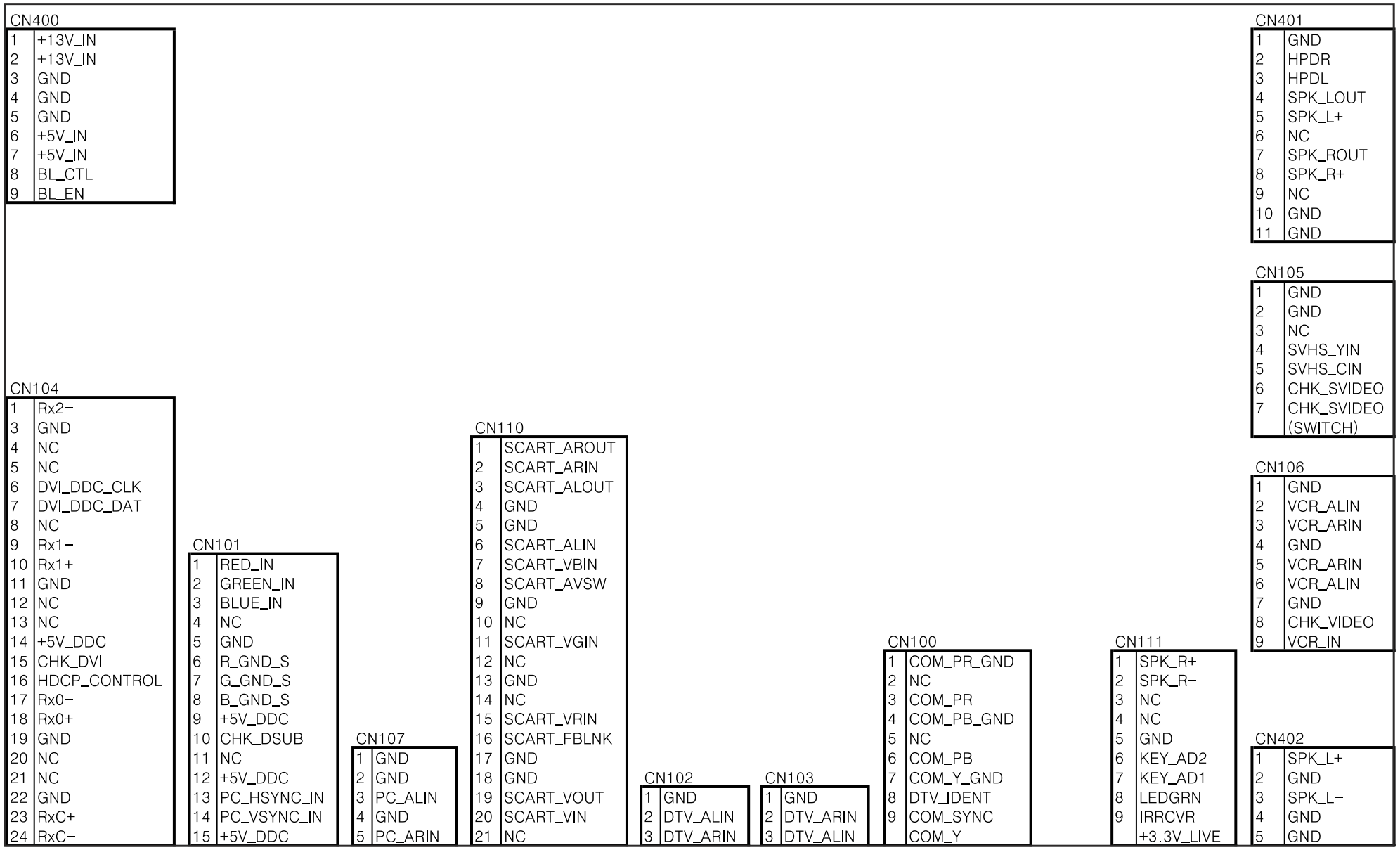
7 Block Diagram



Power Tree


CN600
5V_IN
IC602
AP1501-335A
3.3V_MAIN
IC606
G950T45R
2.5V_MAIN
IC607
18 DPAK
1.8V_MAIN
IC610
SI9933ADY
3.3V_MAIN
3.3V_SW_OFF
IC300
SE6181
(SCALER)
IC700
VCTXY1-F2
(VIDEO,SOUND DECODER)
5V_IN
IC603
AP1501-K5A
13V_IN
AUDIO_VCC
IC609
BA178M05FP
5V_VCTi
IC55
TDA7266D
5V_Tuner
TUNER
33V
Voltage
Up converter
8V_SW_OFF
IC605
BA178M08FP
13V
IC601
SI9933ADY
13V_IN
5V_IN
5V_PANEL
PANEL

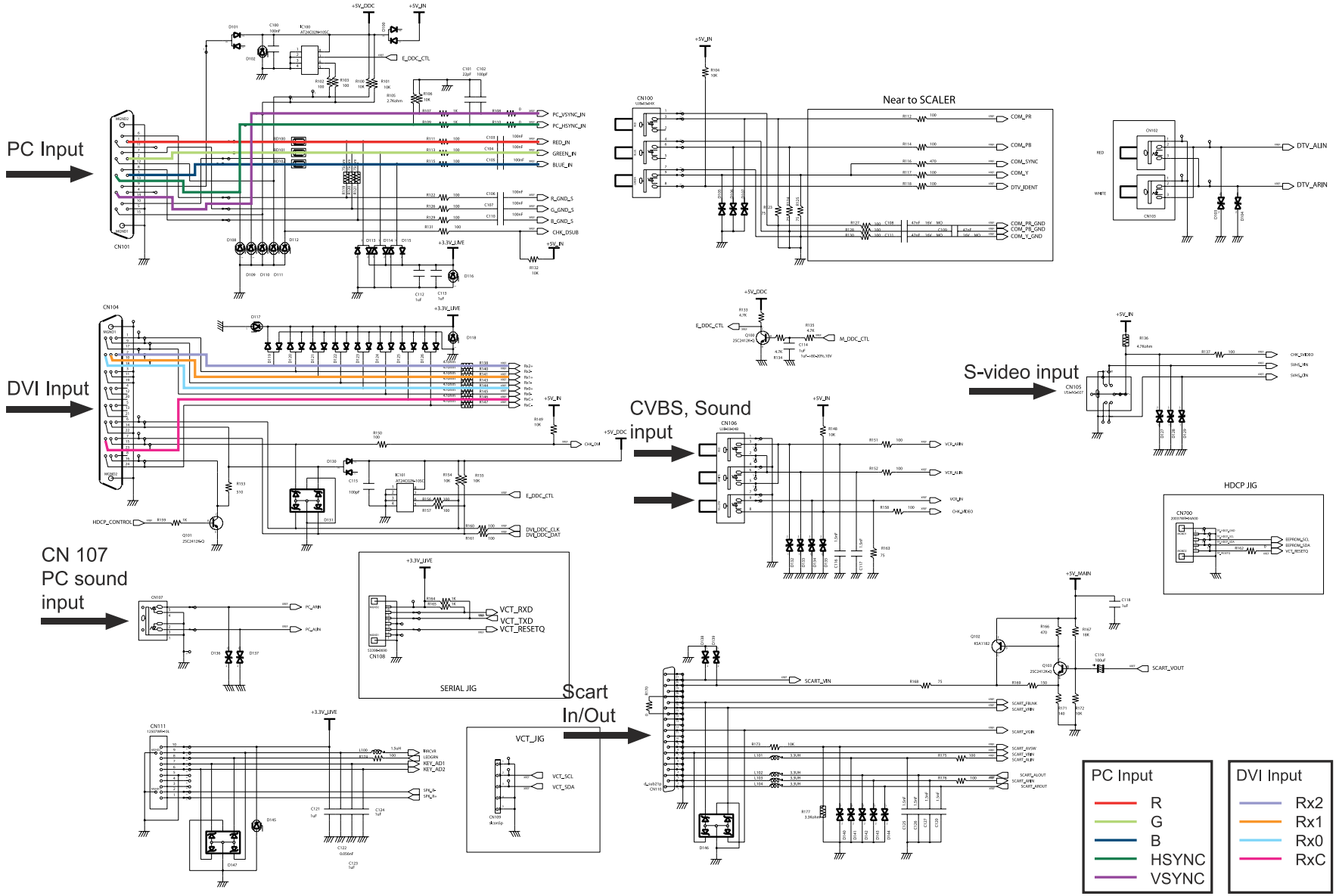
8 Wiring Diagram

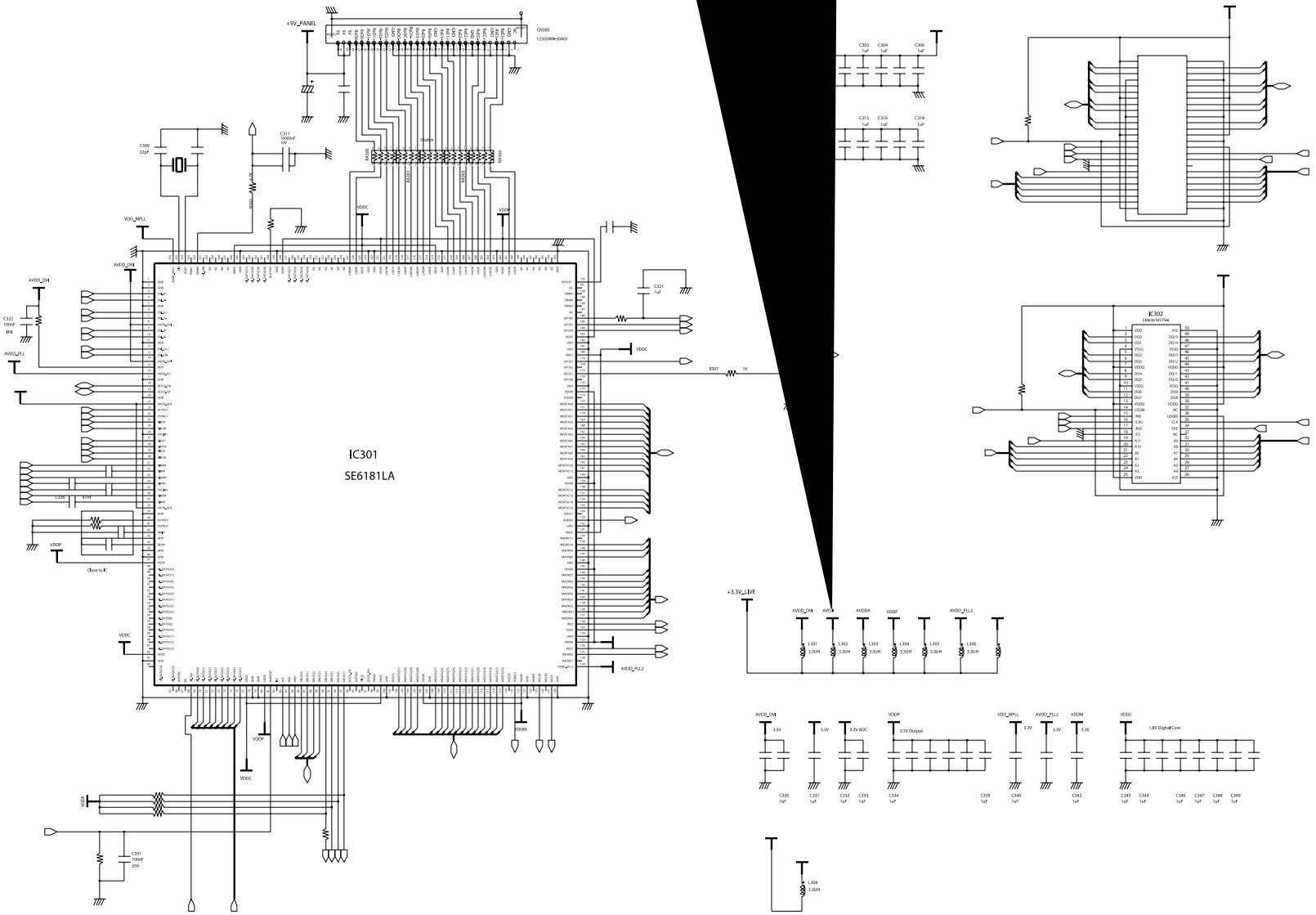


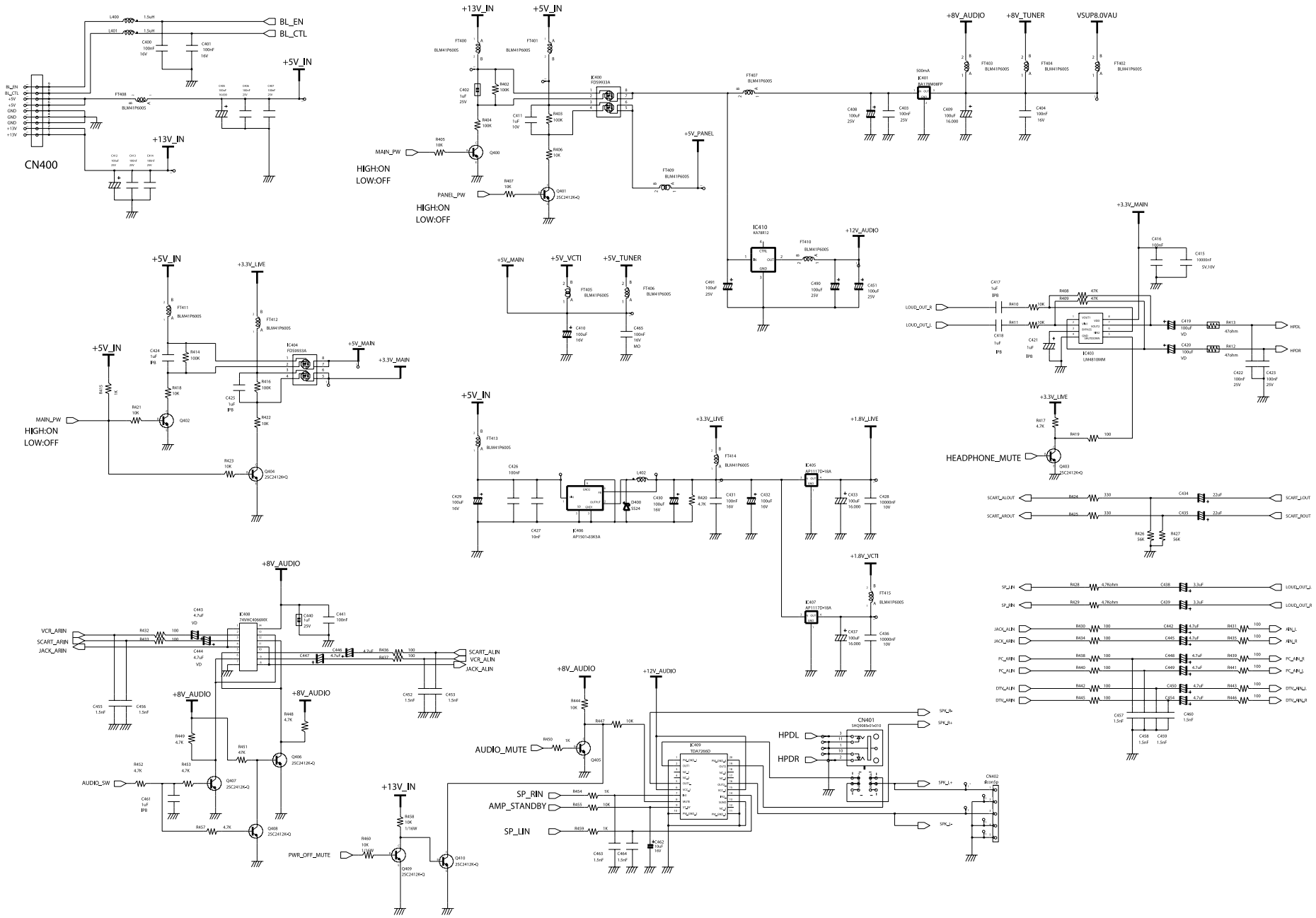
Memo

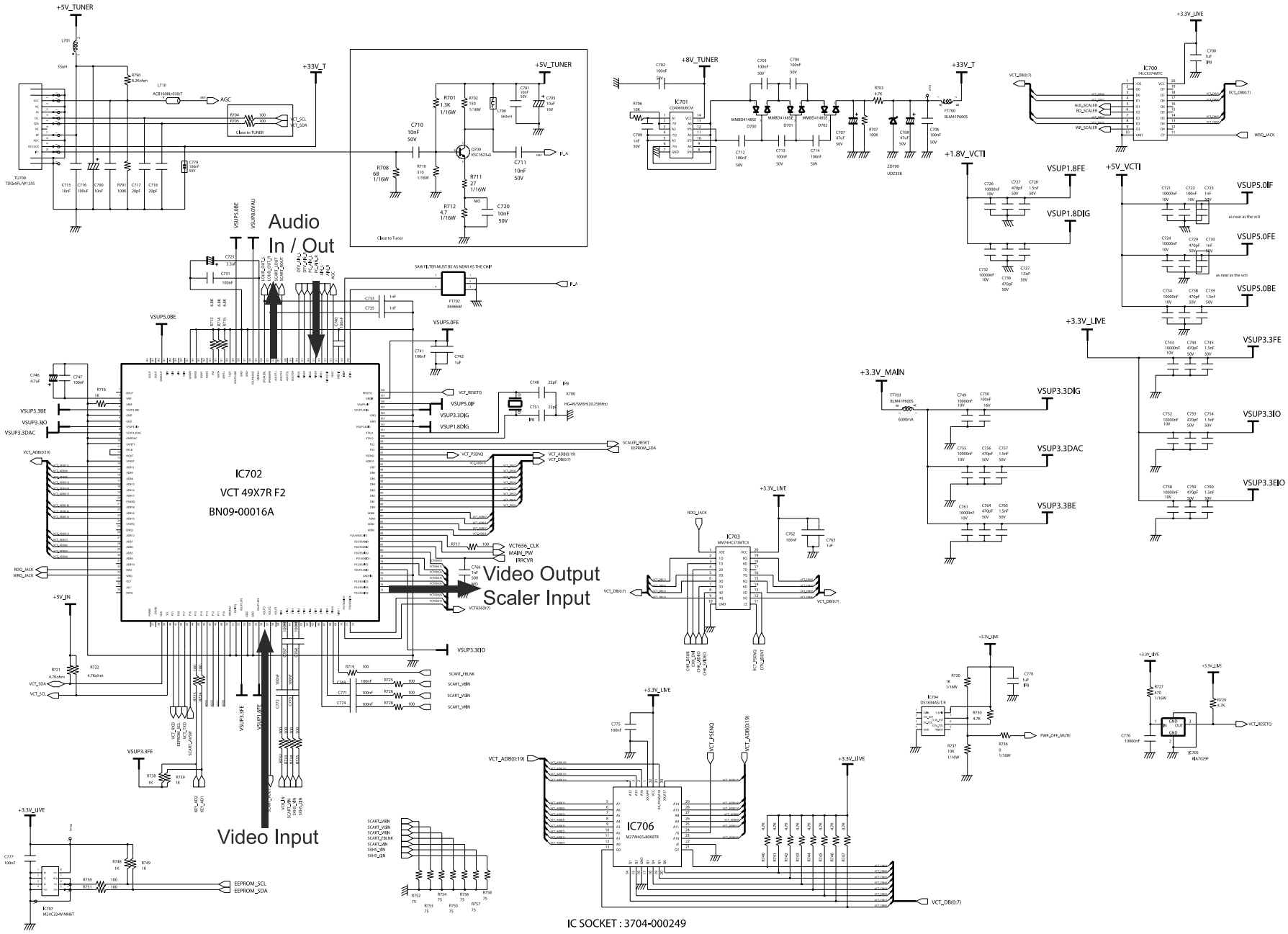
9 Schematic Diagrams

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



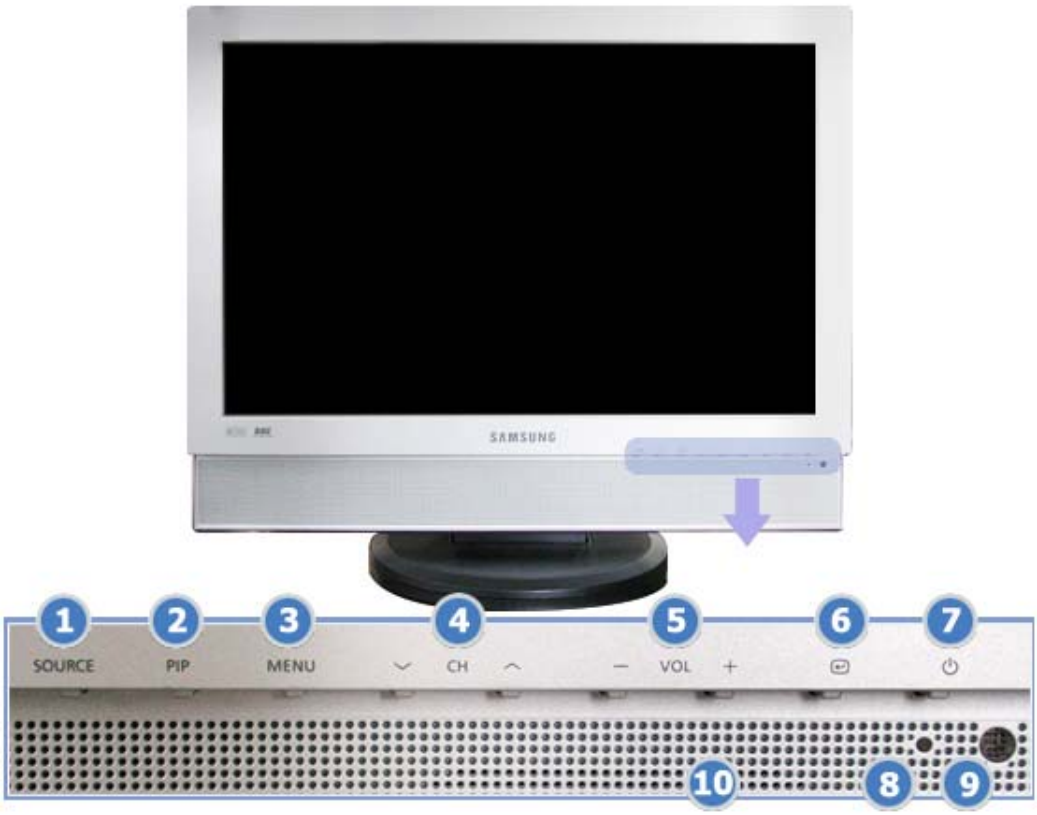

IC301
SE6181LA
IC302
+5V_PANEL
+3.3V_LIVE
VDDC
VDDP
VDDM
AVDD_DVI
AVDD_PLL
AVDD_PLL2
VDD_MPLL
Close to IC
3.3V
3.3V ADC
3.3V Output
1.8V Digital Core


CN400
BL_EN
BL_CTL
+5V_IN
+13V_IN
+5V_IN
+13V_IN
MAIN_PW
HIGH:ON
LOW:OFF
PANEL_PW
HIGH:ON
LOW:OFF
+5V_PANEL
+8V_AUDIO
+8V_TUNER
VSUP8.0VAU
+5V_IN
+3.3V_LIVE
+5V_IN
MAIN_PW
HIGH:ON
LOW:OFF
+5V_MAIN
+3.3V_MAIN
+5V_MAIN
+5V_VCTI
+5V_TUNER
IC410
+12V_AUDIO
+3.3V_MAIN
LOUD_OUT_R
LOUD_OUT_L
HPDL
HPDR
+5V_IN
+3.3V_LIVE
+1.8V_LIVE
+3.3V_LIVE
HEADPHONE_MUTE
SCART_ALOUT
SCART_AROUT
SCART_LOUT
SCART_ROUT
+1.8V_VCTI
+8V_AUDIO
VCR_ARIN
SCART_ARIN
JACK_ARIN
SCART_ALIN
VCR_ALIN
JACK_ALIN
+8V_AUDIO
+8V_AUDIO
AUDIO_SW
+8V_AUDIO
+12V_AUDIO
AUDIO_MUTE
HPDL
HPDR
CN401
SP_RIN
AMP_STANDBY
SP_LIN
+13V_IN
PWR_OFF_MUTE
SP_LIN
SP_RIN
JACK_ALIN
JACK_ARIN
PC_ARIN
PC_ALIN
DTV_ALIN
DTV_ARIN
AIN_L
AIN_R
PC_AIN_R
PC_AIN_L
DTV_AIN_L
DTV_AIN_R


Audio
In / Out
Video Output
Scaler Input
Video Input
IC702
VCT 49X7R F2
BN09-00016A
IC706
IC SOCKET : 3704-000249

10 Operating Instructions and Installation

10-1 Front



1. SOURCE
Switches from PC Mode to Video mode.
Changing the source is allowed only in external devices that are connected to the monitor at the time.
To switch Screen modes:
[PC] - [DVI] - [TV] - [Ext.] - [AV] - [S-Video] - [Component]

2. PIP (Available in PC/DVI/Component Mode)
In PC Mode, turns on Video or TV screens in PIP mode.

3. MENU
Use this button for open the on-screen menu and exits from the menu screen or closes screen adjustment menu.

4. ∨ CH ∧
Moves from one menu item to another vertically or adjusts selected menu values.
In TV mode, selects TV channels.

5. − VOL +
Moves from one menu item to another horizontally or adjusts selected menu values.
Adjusts the audio volume.

6. [⏎] Enter button
Activates a highlighted menu item.

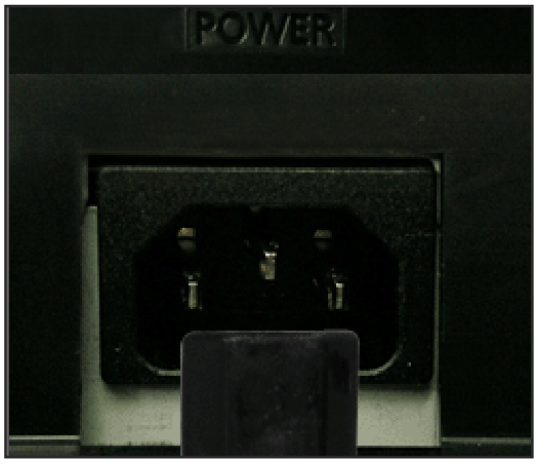
7. [⏻] Power button
Use this button to turn the monitor on and off.

8. Power indicator
Power Indicator shows PowerSaver mode by green blinking.

9. Remote Control Sensor
Aim the remote control towards this spot on the monitor.

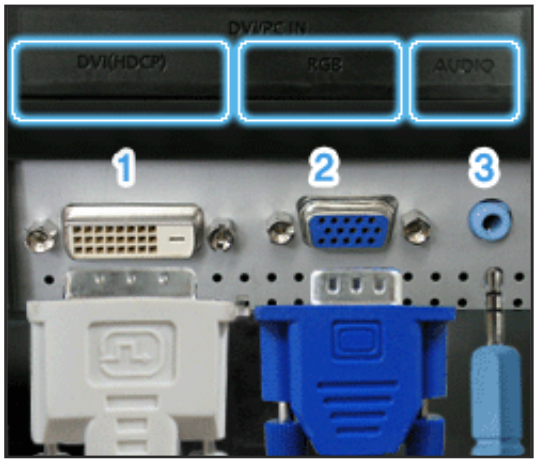
10. Speaker
You can hear sound by connecting the soundcard of your PC to the monitor.

10-2 Rear



1. POWER

Power terminal
Connect the power cord for your monitor to the POWER on the back of the monitor.
This product may be used with 100 ~ 240VAC (+/- 10%).



2.DVI/PC IN

1) DVI(HDCP)
: Connect the DVI cable to the DVI(HDCP) port on the back of your monitor.
2) RGB
: Connect the signal cable to the RGB port on the back of your monitor.
3) AUDIO
: PC sound terminal (input)

3. EXT(RGB)

External device terminal
EXT(RGB) is mainly used in Europe.

As for EXT(RGB) port of the monitor, it makes TV or Video signal input and output.

4. COMPONENT IN

1) R - AUDIO - L
: DVD/DTV sound input terminal (left/right)
2) PR, PB,Y
: DVD/DTV video input terminal(PR, PB,Y)

5. ANT IN

TV antenna terminal

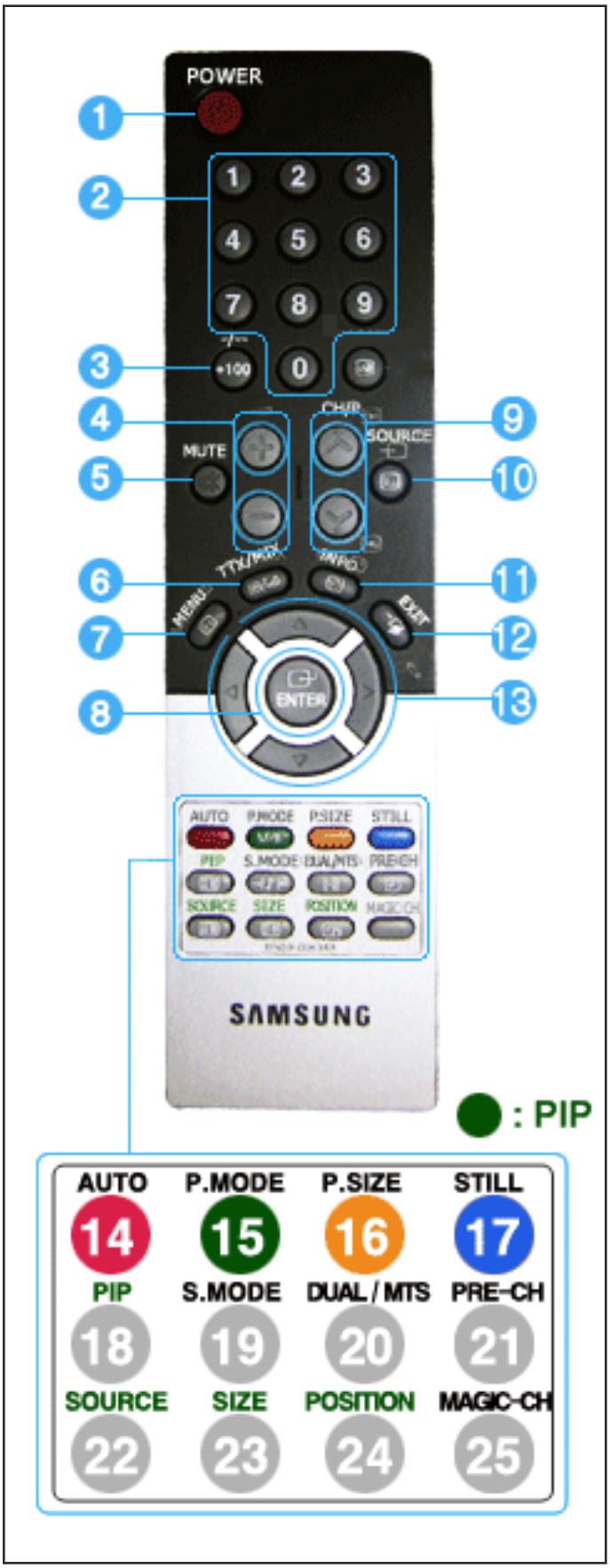
6. AV connection terminal

1) 🎧
   : Headphone sound output terminal
2) S-VIDEO
   : External device (S-video) input terminal
3) VIDEO
   : External device (video) input terminal
4) R - AUDIO - L
   : External device sound input terminal

7. Kensington Lock

The Kensington lock is a device used to physically fix the system when using it in a public place.
(The locking device has to be purchased separately.)
For using a locking device, contact where you purchase it.

10-3 Remote Control



1. POWER
2. Number button
3. +100, -/--
4. - +
5. MUTE
6. TTX/MIX
7. MENU
8. ENTER
9. CH/P
10. SOURCE
11. INFO
12. EXIT
13. Up-Down Left-Right buttons
14. AUTO
15. P.MODE, M/B (MagicBright¢â)
16. P.SIZE
17. STILL
18. PIP
19. S.MODE
20. DUAL/MTS
21. PRE-CH
22. SOURCE
23. SIZE
24. POSITION
25. MAGIC-CH

1. POWER
Use this button to turn the monitor on and off.

2. Number button
Selects TV channels in the TV mode.
You may use this button in PIP mode as well.

3. +100
Press to select channels over 100.
For example, to select channel 121, press "+100", then press "2" and "1".
-/-- (One/Two-Digit channel selection)

Use to select a channel numbered ten or over.
Press this button, and the "--" symbol is displayed.
Enter the two-digit channel number.
This function is available only in Europe.

**4. - + **
Adjusts the audio volume.

5. MUTE
Pauses (mutes) the audio output temporarily.
Displays on the lower left corner of the screen.
The audio resumes if mute or - + is pressed in the Mute mode.

6. TTX/MIX
TV channels provide written information services via teletext.
This function is available only in Europe.

7. MENU
Use this button to open the on-screen menu and exit from the menu screen or close screen adjustment menu.

8. ENTER
Activates a highlighted menu item.

9. CH/P
In TV mode, selects TV channels.

10. SOURCE
Switches from PC Mode to Video mode.
Changing the source is allowed only in external devices that are connected to the monitor at the time.

11. INFO
Current picture information is displayed on the upper left corner of the screen.

12. EXIT
Exits from the menu screen.

13. Up-Down Left-Right buttons
Moves from one menu item to another horizontally, vertically or adjusts selected menu values.

14. AUTO - Available in PC Mode Only
Adjusts the screen display automatically.

15. P.MODE, M/B (MagicBright¢â)
When you press this button, current mode is displayed on the lower center of the screen.

TV / AV / Ext. / S-Video /Component Mode :
P.MODE(Picture Mode)
The monitor has four automatic picture settings that are preset at the factory.
Then push button again to circle through available preconfigured modes.
(Dynamic ¡æ Standard ¡æ Movie ¡æ Custom)

PC / DVI Mode : M/B (MagicBright¢â)
MagicBright¢â is a new feature providing the optimum viewing environment depending on the contents of the image you are watching.
Then push button again to circle through available preconfigured modes.
(Entertain¡æ Internet ¡æ Text ¡æ Custom)

16. P.SIZE - Not available in PC/DVI Mode
Press to change the screen size.
(Auto Wide ¡æ Wide ¡æ Panorama ¡æ Zoom1 ¡æ Zoom2 ¡æ 4:3)
Panorama, Zoom1, Zoom2 are not available in 1080i(or over 720p) of DTV.

17. STILL - Not available in PC/DVI/Component Mode
Press the button once to freeze the screen. Press it again to unfreeze.

18. PIP - Available in PC/DVI/Component Mode
Push the PIP button to turn PIP screen On/Off.

19. S.MODE (Sound Mode)
When you press this button, current mode is displayed on the lower center of the screen.
The monitor has a built-in high fidelity stereo amplifier.
Then push button again to circle through available preconfigured modes.
(Standard ¡æ Music ¡æ Movie ¡æ Speech ¡æ Custom)

20. DUAL / MTS
DUAL : STEREO/MONO, DUAL I / DUAL II and MONO/NICAM MONO/NICAM STEREO can be operated depending on broadcasting type by using DUAL button on the remote control while watching TV.

MTS : You can select the MTS (Multichannel Television Stereo) mode.
- Mono, Stereo, SAP (Separate Audio Program)
Set 'MTS' to ON to choose Mono, Stereo or SAP.

21. PRE-CH
This button is used to return to the immediately previous channel.

22. SOURCE - Available in PIP Mode
Selects the Video source.

23. SIZE - Available in PIP Mode
You can switch the PIP picture size.

24. POSITION - Available in PIP Mode
Changes the Position of the PIP window.

25. MAGIC-CH
MagicChannel enables you to watch only certain channels.
This function is available only in Korea.

Memo

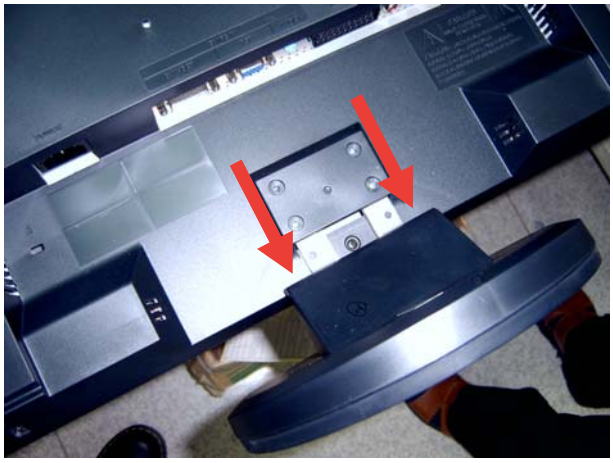
11 Disassembly and Reassembly

This section of the service manual describes the disassembly and reassembly procedures for the LDO19WS TFT-LCD monitors.

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

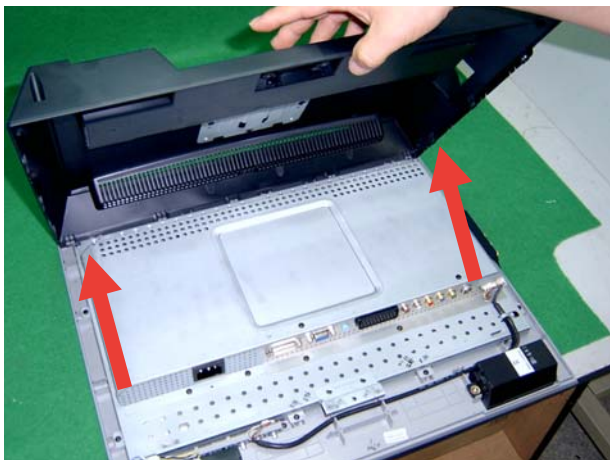
11-1 Disassembly

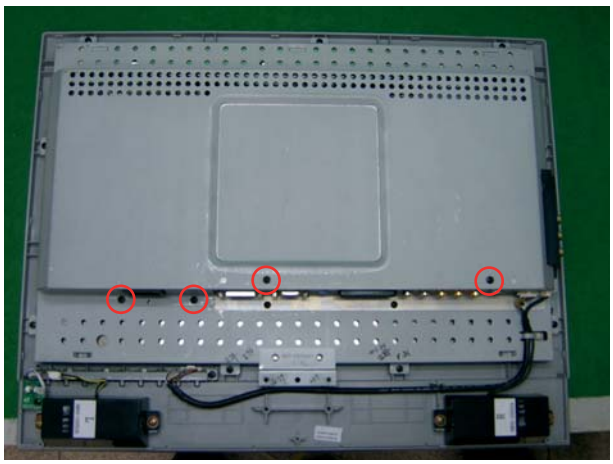
⚠ **Cautions:** 1. Disconnect the monitor from the power source before disassembly.
2. Follow these directions carefully; never use metal instruments to pry apart the cabinet.



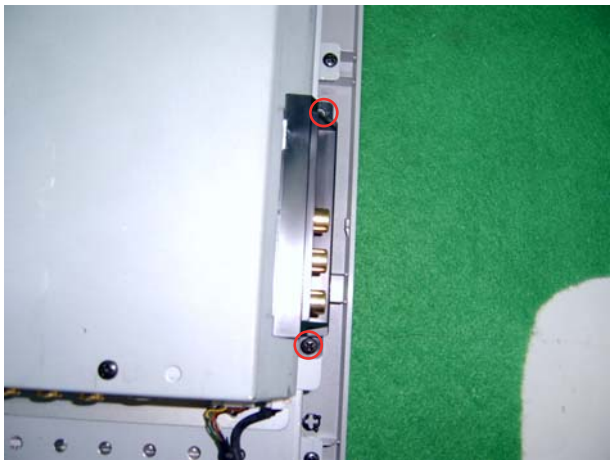
1. Place monitor face down on cushioned table. Remove 4 screws from the stand.

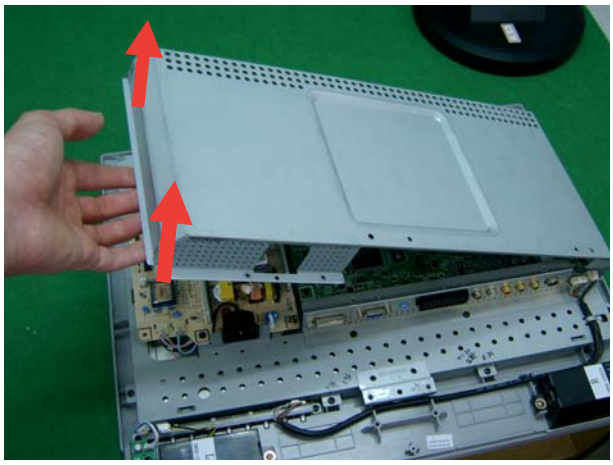
2. Remove 3 screws from the rear-cover. Lift up the rear-cover.



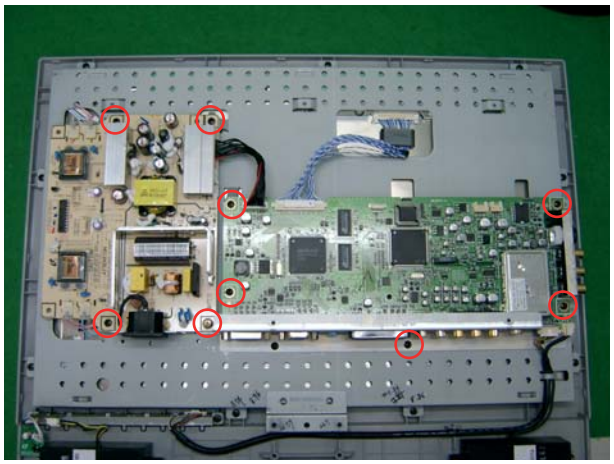


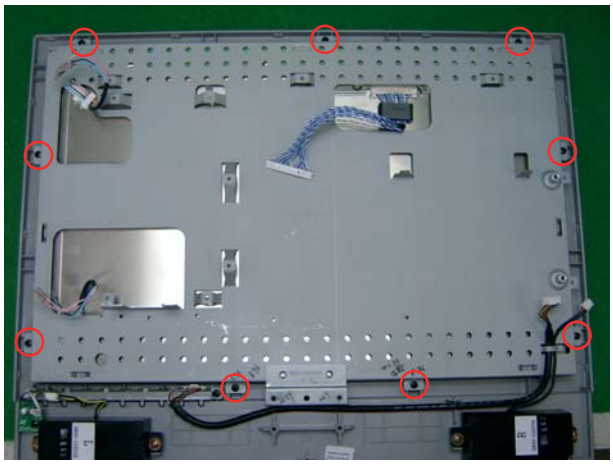
3. Remove 4 screws from the shield-cover.



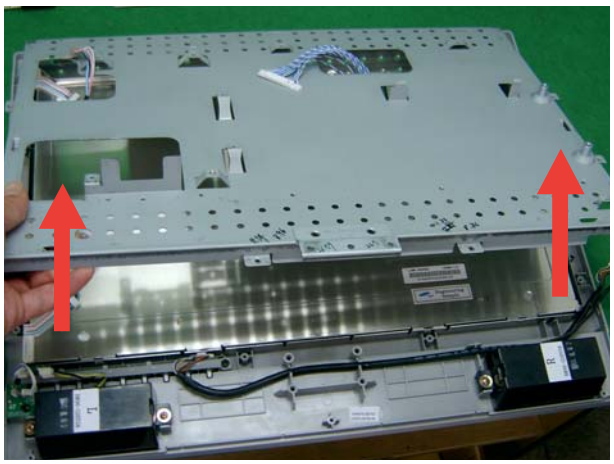


4. Remove 2 screws from the side connector. Lift up the shield-cover.





5. Remove 9 screws from the boards. Remove 9 screws from the BRKT.



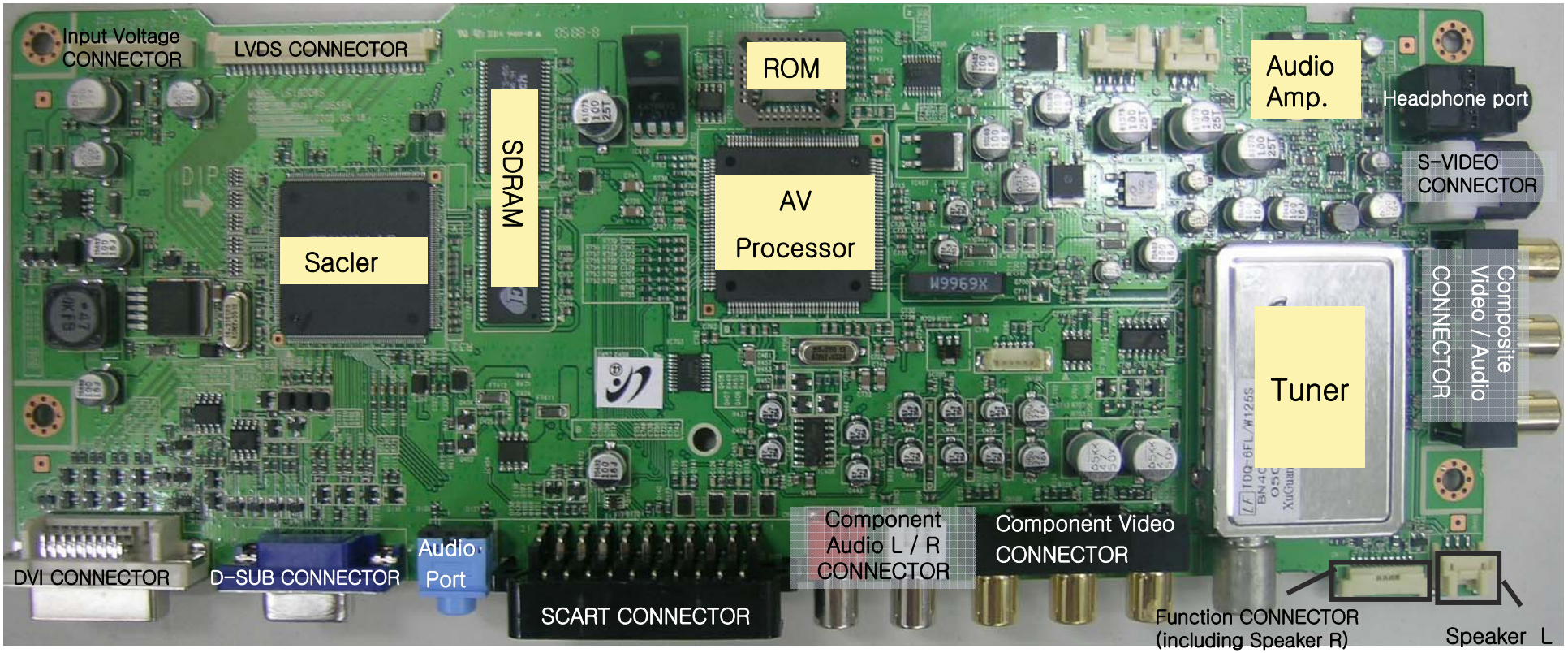
6. Lift up the Panel-BRKT.

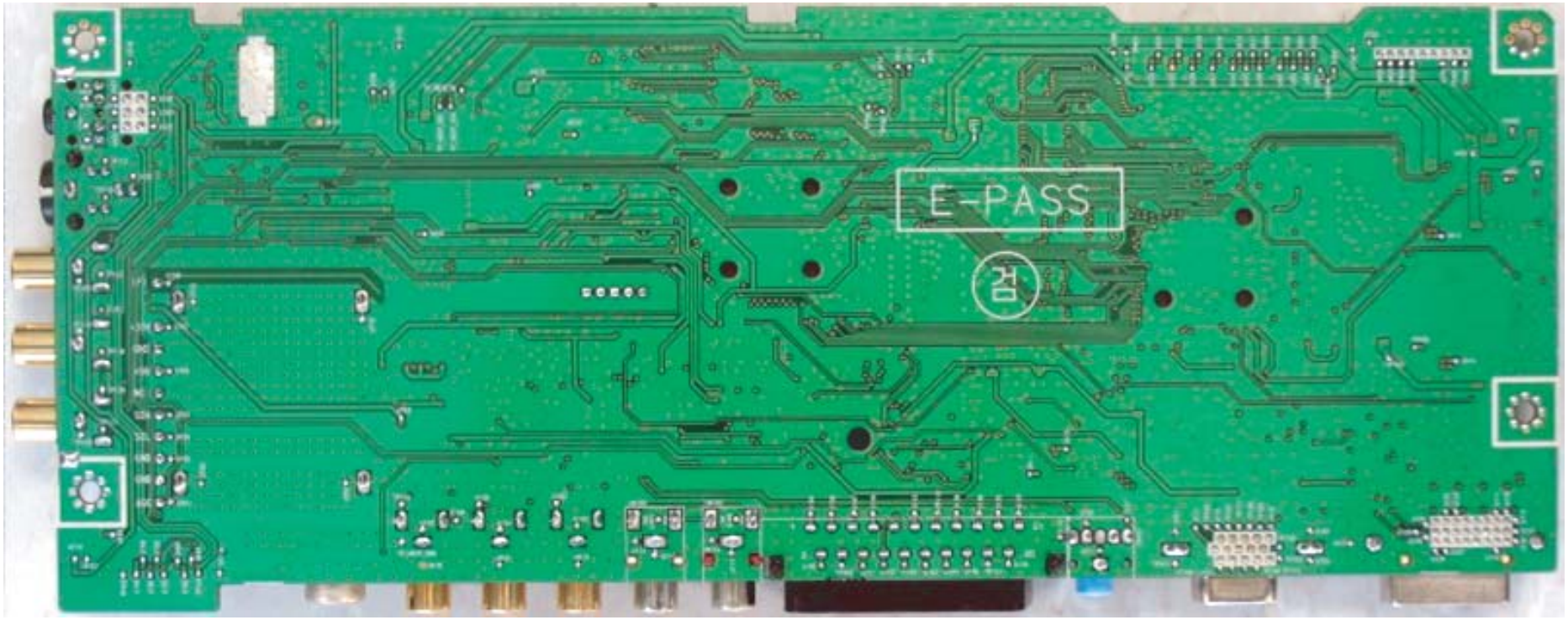
11-2 Reassembly

-Reassembly procedures are in the reverse order of disassembly procedures.

Memo

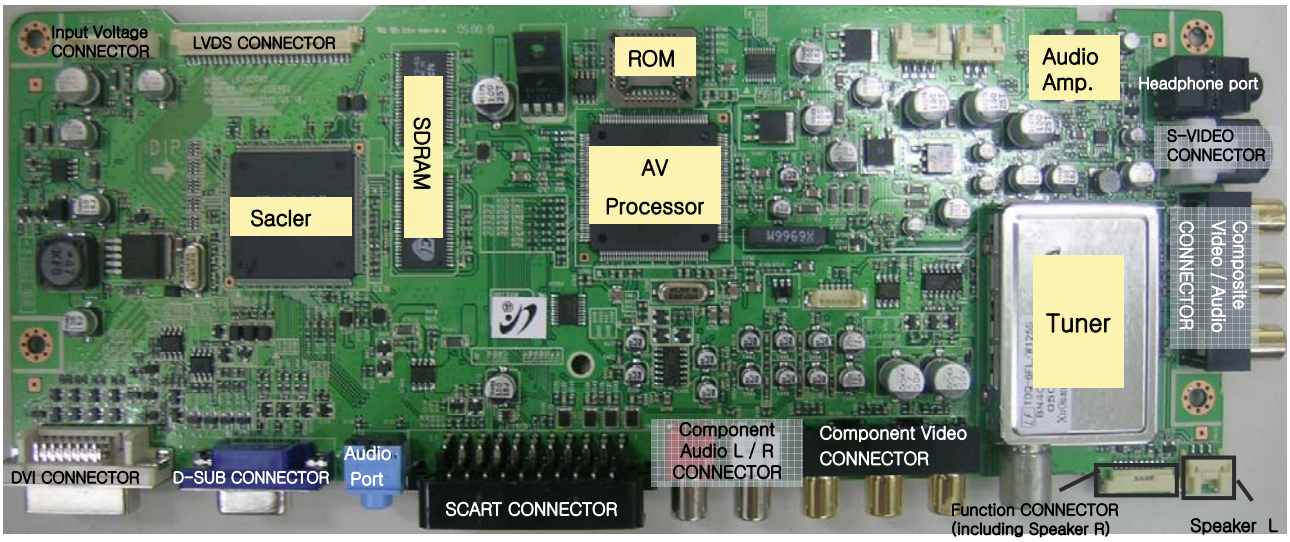
12 PCB Diagram




E-PASS
검

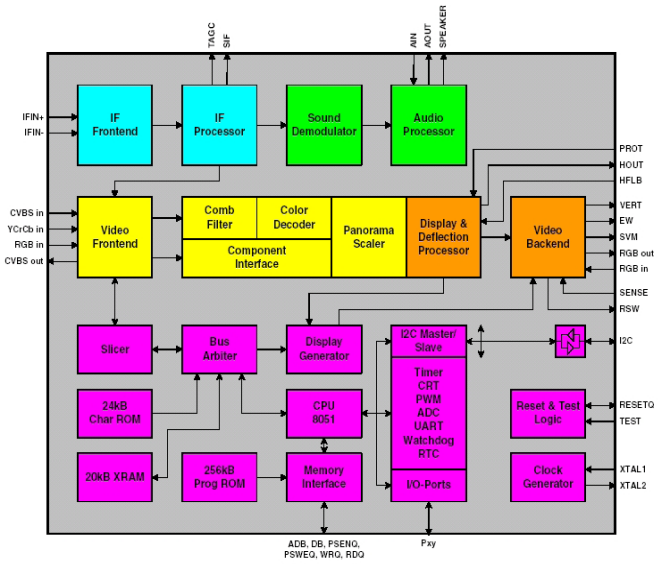
13 Circuit Descriptions

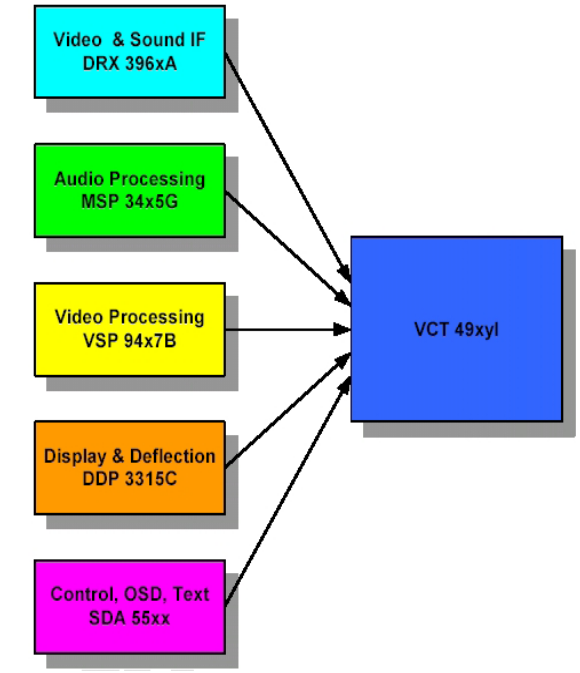
13-1 Block description



No	Block	Description	Name
1	UOCⅢ	Versatile signal processor (VSP)	TDA15021H
2	Scaler	SXGA LCD Controller with Analog Interface and Dual TTL/LVDS Transmitter	TSU396AWJ-LF
3	Tuner	Antenna RF in	TDQ-6FL
4	D_sub Input	D_sub input connector	
5	Function connector	Function key connector	
6	Speaker connector	Left, Right Speaker Ass'y connector	
7	Audio jack	JACK-EAR PHONE	
8	Filter	Video SAW Filter	K7257M
		Sound SAW Filter	K9652M
9	Audio IC	VOLUME CONTROL	TDA7496L
10	IP Board connector	Power in	

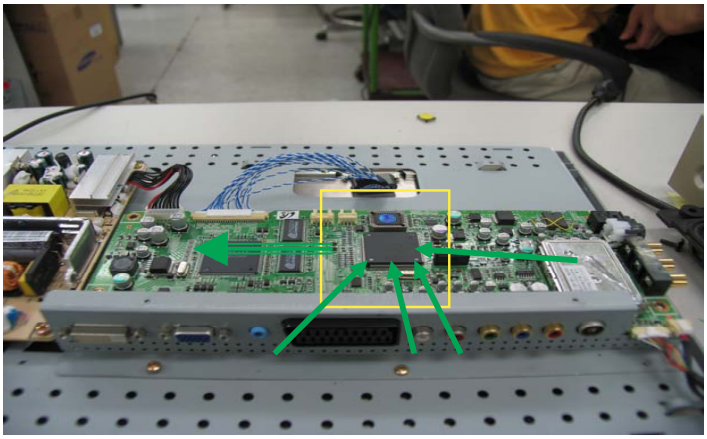
13-1-1 VCT49XYI (IC700)

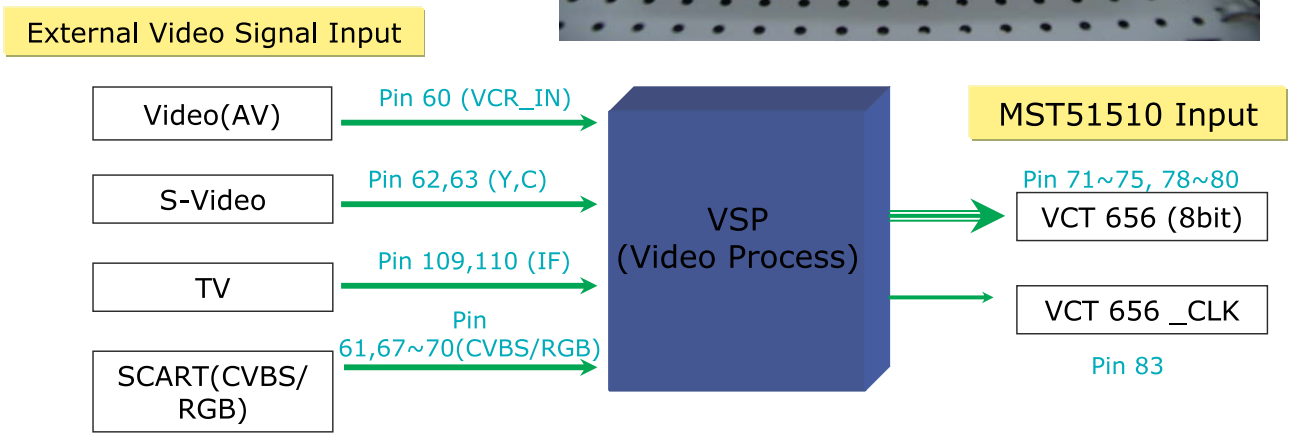




13-1-2 VSP Block

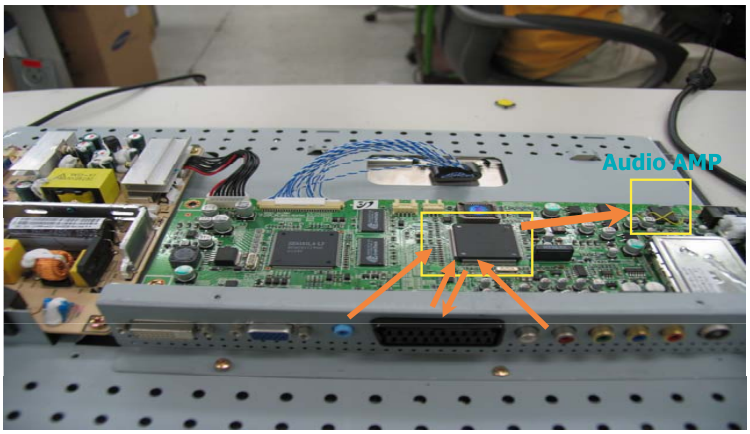
: CVBS, S-Video, RF(IF), SCART (RGB) Convert 656 format to video input and transfer to MST51510

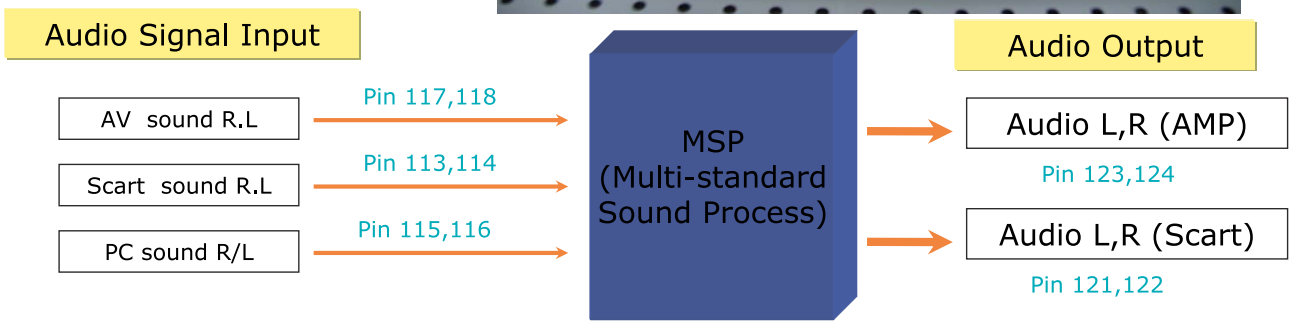




13-1-3 MSP Block

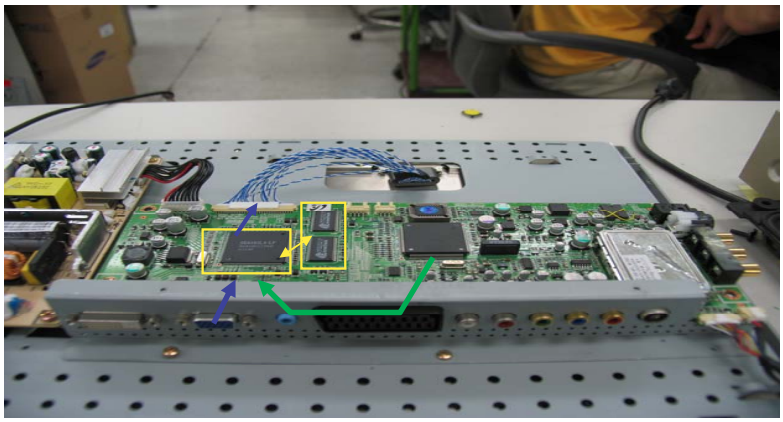
: PC, Sound L/R, SCART, Receive audio input and send out to AMP.

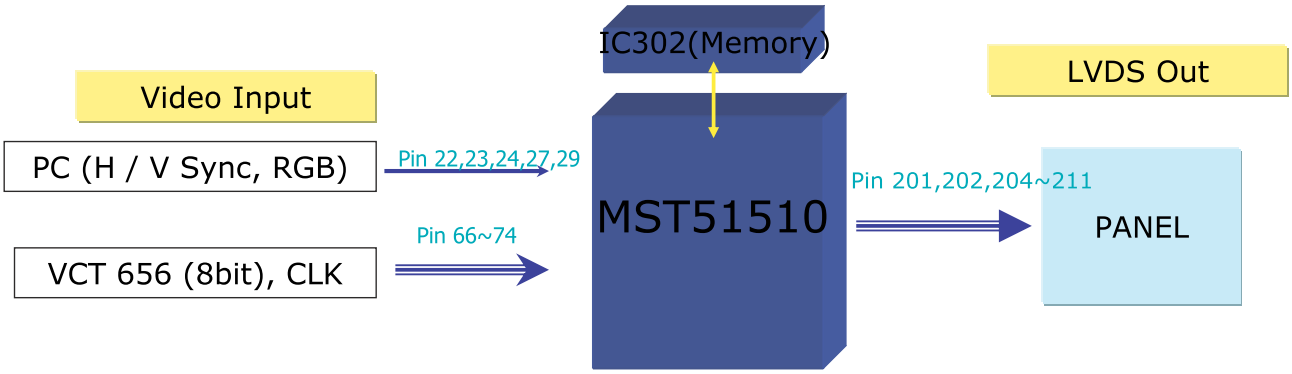




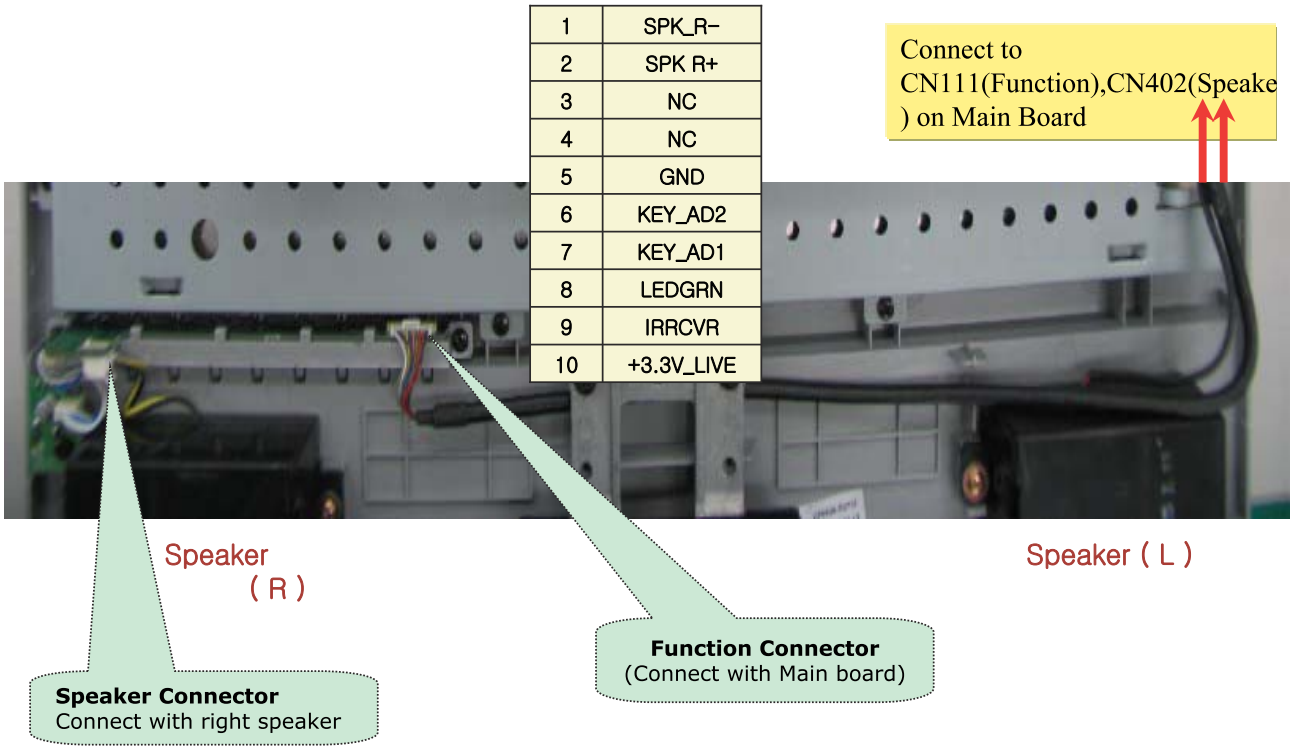
13-1-4 SE6181(IC301)

- Scaler(MFM)
- Support Digital Video Input
- Internal LVDS IC
- Support PIP
- OSD controller engine





13-1-5 Connect a Function Board to a Main Board



14 Reference Infomation

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 gernerate 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* 480 to 1024*768)

- 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 forcused 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.

- 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).

- DVD
A type of digital disk technology that takes up only the benefits of CD and LD, to implement a high resolution/quality, which enables the user to enjoy clearer images.

- DTV
Broadcasting (Digital TV Broadcasting)
An enhanced broadcasting technology to process digital video signals using a set-top box, which implements a high resolution and clearer digital images on the screen.

- A2
This system uses two carriers to transmit voice data. Countries such as South Korea and Germany use this system.

- 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 device as VCR, camcorder and DVD player, separate from a TV broadcast.

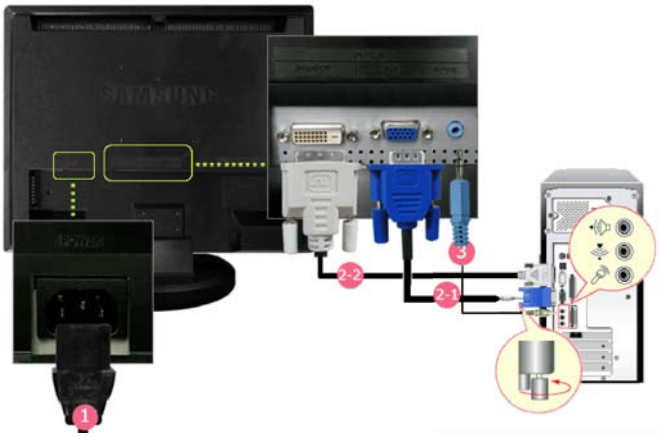
- LNA (Low Noise Amplifier)
This derives from artificial satellite technology that amplifies weak signals even in poor reception areas for sharper images.

- Antenna Converter
A connection part that is used to link a wide antenna cable (feeder cable) to the TV.

- English Caption (= Caption Setting)
A kind of language selection feature that provides English subtitles (caption) or character information services from broadcasting services (ex: AFKN) or video tapes (marked CC), and which are especially useful for studying English.

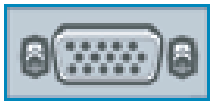
14-2 Connecting the Monitor

- Connecting to a monitor



1. Connect the power cord for your monitor to the POWER on the back of the monitor.
   Plug the power cord for the monitor into a nearby outlet.

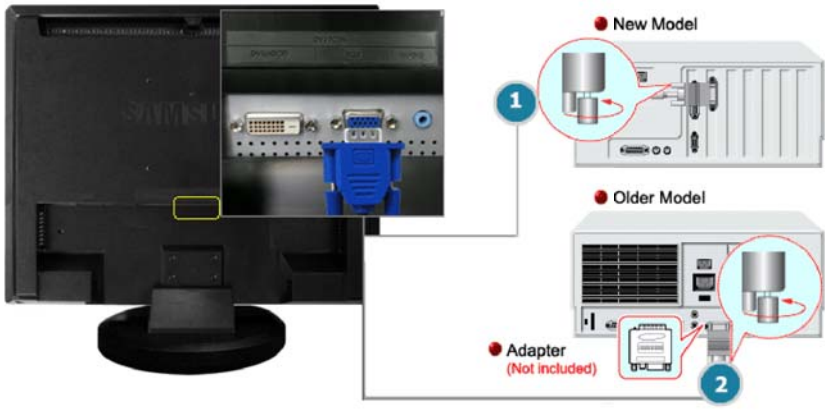
2-1. Using the D-sub (Analog) connector on the video card.
   Connect the signal cable to the 15-pin, RGB port on the back of your monitor.



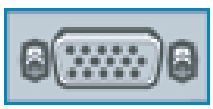
2-2. Using the DVI (Digital) connector on the video card.
   Connect the DVI Cable to the DVI Port on the back of your Monitor.

3. Connect the audio cable for your monitor to the audio port on the back of your computer.
4. Turn on both your computer and the monitor.

-Connecting to a Macintosh



1. Using the D-sub (Analog) connector on the video card.
   Connect the signal cable to the D-SUB port on the Macintosh computer.

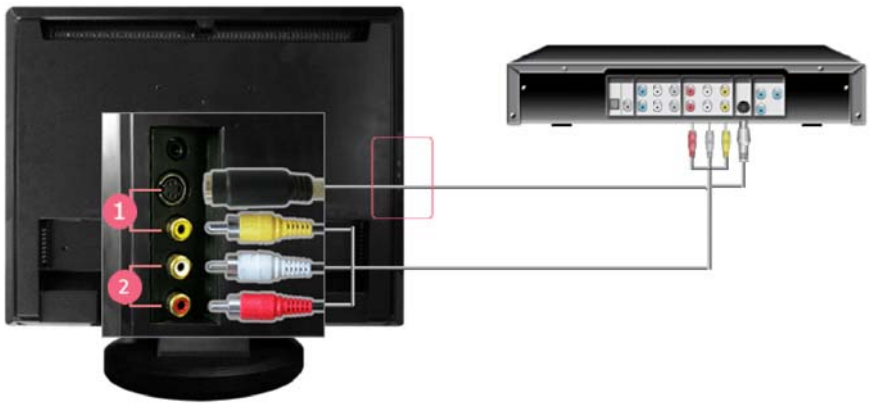


2. For older model Macintoshes, you need to adjust the resolution control DIP switch on the Macintosh adapter (optional) referring to the switch configuration table shown on its rear.

3. Turn on the monitor and Macintosh.

14-3 Connecting to Other devices

- Connecting AV Devices



1. Input devices such as DVD, VCR or Camcorder are connected to the VIDEO or S-VIDEO terminal of the monitor using the Video or S-Video cable.

∗ S-Video, Video cable and EXT(RGB) cable is optional.

2. Connect the Audio (R) and Audio (L) terminals of a DVD, VCR or Camcorders to the monitor's R and L audio input terminals using audio cables.

3. Then, start the DVD, VCR or Camcorders with a DVD disc or tape inserted.

4. Select AV or S-Video using the SOURCE.

- Connecting EXT.(RGB) - It only applies to AV DEVICE that supports SCART.

1. Connect a video cable between the EXT(RGB) jacks on the monitor and the EXT(RGB) jacks on the DVD Player.

2. Select Ext. using the SOURCE.

- Connecting TV

1. Connect the CATV or antenna coaxial cable to the Antenna terminal on the rear of the monitor.
   You need to use a coaxial antenna cable.

   - When using an interior antenna terminal:
     Check the antenna terminal on the wall first and connect the antenna cable.
   - When using an outdoor antenna:
     If you are using an outdoor antenna, use a professional for installation if possible.
   - To connect the RF cable to the antenna input terminal:
     Keep the copper wire portion of the RF cable straight.

2. Turn on the monitor.

3. Select TV using SOURCE button among the external signal adjustment buttons.

4. Select a desired TV channel.

- Connecting DVD/DTV Set Top Box

1. Connect the Audio (R) and Audio (L) outputs on the DVD / DTV set top box to the Audio (R) and Audio (L) inputs on the monitor using audio cables.

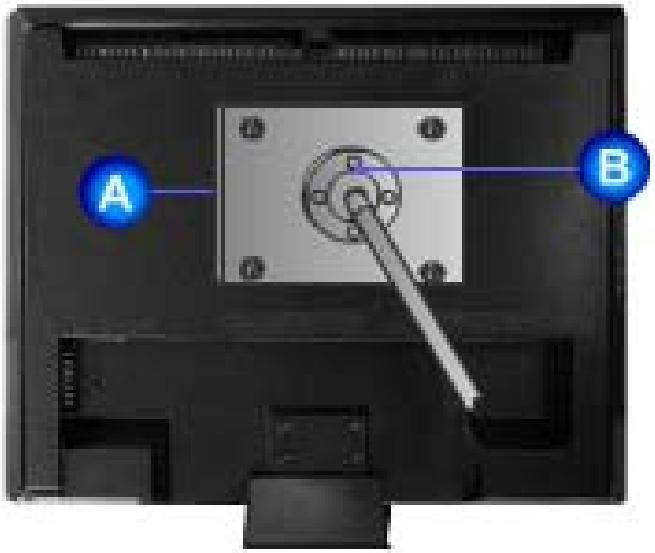
2. Connect a video cable between the component(P_R, P_B,Y) jacks on the monitor and the P_R, P_B,Y jacks on the DVD / DTV set top box.

3. Select Component using the SOURCE.

- Connecting Headphone

1. Connect your headphones to the Headphone connection terminal.

-Attaching a Base



* **This monitor accepts a 100 mm x 100 mm VESA-compliant mounting interface pad.**

A. Monitor

B. Mounting interface pad (Sold separately)

1. Turn off your monitor and unplug its power cord.
2. Lay the LCD monitor face-down on a flat surface with a cushion beneath it to protect the screen.
3. Remove four screws and then remove the Stand from the LCD monitor.
4. Align the Mounting Interface Pad with the holes in the Rear Cover Mounting Pad and secure it with four screws that came with the arm-type base, wall mount hanger or other base.

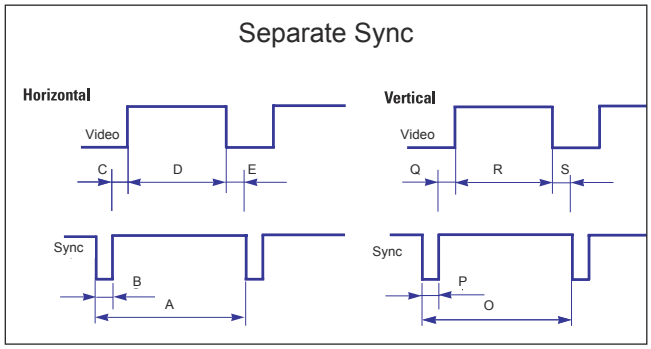
14-4 Pin Assignments

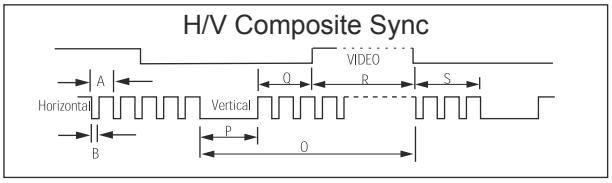
Sync Type / Pin No.	15-Pin Signal Cable Connector	
	Separate	**Composite**
1	Red	Red
2	Green	Green
3	Blue	Blue
4	GND	GND
5	GND (DDC Return)	GND (DDC Return)
6	GND-Red	GND-Red
7	GND-Green	GND-Green
8	GND-Blue	GND-Blue
9	DDC +5V	DDC +5V
10	CHK D_SUB	CHK D_SUB
11	GND	GND
12	DDC Data	DDC Data
13	Horizontal sync	H/V-Sync
14	Vertical sync	Not Used
15	DDC Clock	DDC Clock

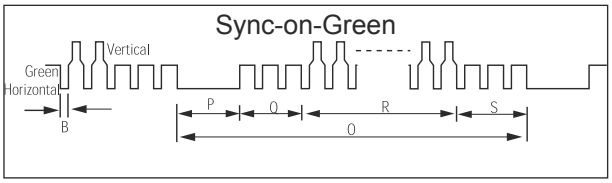
14-5 Timing Chart

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

Mode / Timing	IBM		VESA								
	VGA2/ 70 Hz 720 x 400	VGA3/ 60 Hz 640 x 480	640/75 Hz 640 x 480	800/60 Hz 800 x 600	800/75 Hz 800 x 600	1024/60Hz 1024 x 768	1024/75Hz 1024 x 768	1280/60Hz 1280x1024	1280/75Hz 1280x1024 (Analog Only)	1440/60Hz 1440x900	1440/75Hz 1440x900
fH (kHz)	31.469	31.469	37.500	35.879	46.875	48.363	60.023	63.981	79.976	55.935	75.000
A µsec	31.777	31.778	26.667	26.400	21.333	20.677	16.660	11.852	12.504	17.878	14.157
B µsec	3.813	3.813	2.032	3.200	1.616	2.092	1.219	1.037	1.067	1.427	1.112
C µsec	1.589	1.589	3.810	2.200	3.232	2.462	2.235	2.296	1.837	2.178	1.814
D µsec	26.058	26.058	20.317	20.000	16.162	15.754	13.003	9.259	9.481	13.521	10.530
E µsec	0.318	0.318	0.508	1.000	0.323	0.369	0.203	0.444	0.119	0.751	0.702
fV (Hz)	70.087	59.940	75.000	60.317	75.000	60.004	75.029	60.020	75.025	59.887	75.000
O msec	14.268	16.683	13.333	16.579	13.333	16.666	13.328	60.020	13.329	16.698	13.336
P msec	0.064	0.064	0.080	0.106	0.064	0.124	0.050	0.047	0.038	0.107	0.085
Q msec	0.858	0.794	0.427	0.607	0.448	0.600	0.466	0.594	0.475	0.447	0.467
R msec	13.155	15.761	12.800	15.840	12.800	15.880	12.795	15.630	12.804	16.090	12.741
S msec	0.191	0.064	0.027	0.026	0.021	0.062	0.017	0.016	0.013	0.054	0.042
Clock Freq. (MHz)	28.322	25.175	31.500	40.000	49.500	75.000	78.750	108.000	135.000	106.500	136.750
Polarity H.Sync	Negative	Negative	Negative	Positive	Positive	Negative	Positive	Positive	Positive	Negative	Negative
V.Sync	Positive	Negative	Negative	Positive	Positive	Negative	Positive	Positive	Positive	Positive	Positive
Remark	Separate	Separate	Separate	Separate	Separate	Separate	Separate	Separate	Separate	Separate	Separate







A : Line time total	B : Horizontal sync width	O : Frame time total	P : Vertical sync width
C : Back porch	D : Active time	Q : Back porch	R : Active time
E : Front porch		S : Front porch	

14-6 Preset Timing Modes

-If the signal transferred from the computer is the same as the following Preset Timing Modes, the screen will be adjusted automatically. However, if the signal differs, the screen may go blank while the power LED is on. Refer to the video card manual and adjust the screen as follows.

Table 1. Preset Timing

Display Mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)
MAC, 640 x 480	35.000	66.667	30.240	-/-
MAC, 832 x 624	49.726	74.551	57.284	-/-
MAC,1152 x870	68.681	75.062	100.000	-/-
IBM, 640 x 350	31.469	70.086	25.175	+/-
IBM, 640 x 480	31.469	59.940	25.175	-/-
IBM, 720 x 400	31.469	70.087	28.322	-/+
VESA, 640 x 480	37.500	75.000	31.500	-/-
VESA, 640 x 480	37.861	72.809	31.500	-/-
VESA, 800 x 600	35.156	56.250	36.000	+,-/+,-
VESA, 800 x 600	37.879	60.317	40.000	+/+
VESA, 800 x 600	48.077	72.188	50.000	+/+
VESA, 800 x 600	46.875	75.000	49.500	+/+
VESA, 1024 x 768	48.363	60.004	65.000	-/-
VESA, 1024 x 768	56.476	70.069	75.000	-/-
VESA, 1024 x 768	60.023	75.029	78.750	+/+
VESA, 1280 X 960	60.000	60.000	108.00	+/+
VESA, 1280 X1024	63.981	60.020	108.00	+/+
VESA, 1280X1024	79.976	75.025	135.00	+/+
VESA, 1440 x 900	55.935	59.887	106.5	-/+

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

Vertical Frequency
Like a fluorescent lamp, the screen has to repeat the same image many times per second to display an image to the user. The frequency of this repetition is called Vertical Frequency or Refresh Rate. Unit: Hz

14-7 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

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 AMLCDl, 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 deveiopment
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
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
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

Maker	VENDOR P/N	PANEL_CODE	PANEL_ABB	STICKER_CODE	Remarks
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 (Narow & 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"
ACER	L170E3	BN07-00044A	AA		TN(ADT)
ACER	M170EN05	BN07-00076A	AB		AU 17" Panel (Narrow & slim design)

Maker	VENDOR P/N	PANEL_CODE	PANEL_ABB	STICKER_CODE	Remarks
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-LO1	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		CHIME 15"I 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

Samsung Electronics Co.,Ltd.
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Gyeonggi-Do, Korea, 443-742
Printed in Korea
P/N : BN82-00125C-01
URL : http://itself.sec.samsung.co.kr/