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LCD TV

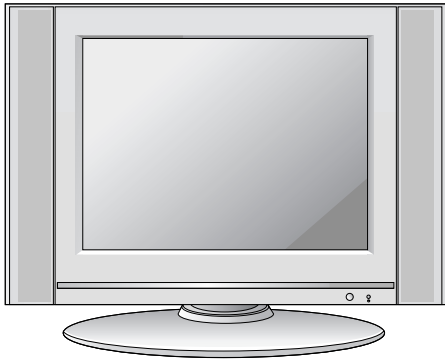
SERVICE MANUAL

CHASSIS : ML-041B

MODEL : RZ-20LA90/RT-20LA90

CAUTION

BEFORE SERVICING THE CHASSIS,
READ THE SAFETY PRECAUTIONS IN THIS MANUAL.



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SAFETY PRECAUTIONS

IMPORTANT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These parts are identified by \triangle in the Schematic Diagram and Replacement Parts List.

It is essential that these special safety parts should be replaced with the same components as recommended in this manual to prevent X-RADIATION, Shock, Fire, or other Hazards.

Do not modify the original design without permission of manufacturer.

General Guidance

An **isolation Transformer should always be used** during the servicing of a receiver whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks.

It will also protect the receiver and its components from being damaged by accidental shorts of the circuitry that may be inadvertently introduced during the service operation.

If any fuse (or Fusible Resistor) in this TV receiver is blown, replace it with the specified.

When replacing a high wattage resistor (Oxide Metal Film Resistor, over 1W), keep the resistor 10mm away from PCB.

Keep wires away from high voltage or high temperature parts.

X-RAY Radiation

Warning:

The source of X-RAY RADIATION in this TV receiver is the High Voltage Section and the LCD PANEL.

For continued X-RAY RADIATION protection, the replacement panel must be the same type panel as specified in the Replacement Parts List.

To determine the presence of high voltage, use an accurate high impedance HV meter.

Adjust brightness, color, contrast controls to minimum.

Measure the high voltage.

The meter reading should indicate

$23.5 \pm 1.5KV$: 14-19 inch, $26 \pm 1.5KV$: 19-21 inch,

$29.0 \pm 1.5KV$: 25-29 inch, $30.0 \pm 1.5KV$: 32 inch

If the meter indication is out of tolerance, immediate service and correction is required to prevent the possibility of premature component failure.

Before returning the receiver to the customer,

always perform an **AC leakage current check** on the exposed metallic parts of the cabinet, such as antennas, terminals, etc., to be sure the set is safe to operate without damage of electrical shock.

Leakage Current Cold Check(Antenna Cold Check)

With the instrument AC plug removed from AC source, connect an electrical jumper across the two AC plug prongs. Place the AC switch in the on position, connect one lead of ohm-meter to the AC plug prongs tied together and touch other ohm-meter lead in turn to each exposed metallic parts such as antenna terminals, phone jacks, etc.

If the exposed metallic part has a return path to the chassis, the measured resistance should be between $1M\Omega$ and $5.2M\Omega$.

When the exposed metal has no return path to the chassis the reading must be infinite.

An other abnormality exists that must be corrected before the receiver is returned to the customer.

Leakage Current Hot Check (See below Figure)

Plug the AC cord directly into the AC outlet.

Do not use a line Isolation Transformer during this check.

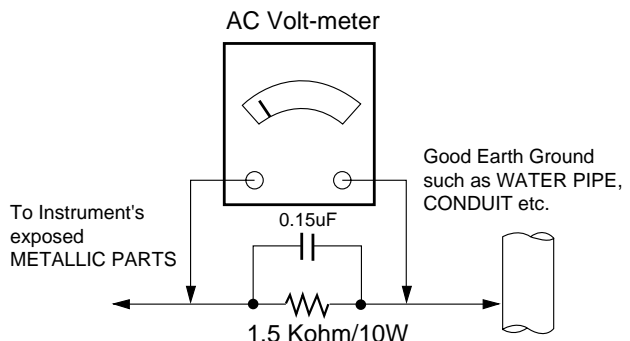
Connect 1.5K/10watt resistor in parallel with a 0.15uF capacitor between a known good earth ground (Water Pipe, Conduit, etc.) and the exposed metallic parts.

Measure the AC voltage across the resistor using AC voltmeter with 1000 ohms/volt or more sensitivity.

Reverse plug the AC cord into the AC outlet and repeat AC voltage measurements for each exposed metallic part. Any voltage measured must not exceed 0.75 volt RMS which corresponds to 0.5mA.

In case any measurement is out of the limits specified, there is possibility of shock hazard and the set must be checked and repaired before it is returned to the customer.

Leakage Current Hot Check circuit



SERVICING PRECAUTIONS

CAUTION: Before servicing receivers covered by this service manual and its supplements and addenda, read and follow the *SAFETY PRECAUTIONS* on page 3 of this publication.

NOTE: If unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions on page 3 of this publication, always follow the safety precautions. Remember: Safety First.

General Servicing Precautions

1. Always unplug the receiver AC power cord from the AC power source before;
 - a. Removing or reinstalling any component, circuit board module or any other receiver assembly.
 - b. Disconnecting or reconnecting any receiver electrical plug or other electrical connection.
 - c. Connecting a test substitute in parallel with an electrolytic capacitor in the receiver.
CAUTION: A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.

2. Test high voltage only by measuring it with an appropriate high voltage meter or other voltage measuring device (DVM, FETVOM, etc) equipped with a suitable high voltage probe. Do not test high voltage by "drawing an arc".

3. Do not spray chemicals on or near this receiver or any of its assemblies.

4. Unless specified otherwise in this service manual, clean electrical contacts only by applying the following mixture to the contacts with a pipe cleaner, cotton-tipped stick or comparable non-abrasive applicator; 10% (by volume) Acetone and 90% (by volume) isopropyl alcohol (90%-99% strength)

CAUTION: This is a flammable mixture.

Unless specified otherwise in this service manual, lubrication of contacts is not required.

5. Do not defeat any plug/socket B+ voltage interlocks with which receivers covered by this service manual might be equipped.
6. Do not apply AC power to this instrument and/or any of its electrical assemblies unless all solid-state device heat sinks are correctly installed.
7. Always connect the test receiver ground lead to the receiver chassis ground before connecting the test receiver positive lead.

Always remove the test receiver ground lead last.

8. Use with this receiver only the test fixtures specified in this service manual.

CAUTION: Do not connect the test fixture ground strap to any heat sink in this receiver.

Electrostatically Sensitive (ES) Devices

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

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed to prevent potential shock reasons prior to applying power to the

unit under test.

2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static type solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, 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 bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

General Soldering Guidelines

1. Use a grounded-tip, low-wattage soldering iron and appropriate tip size and shape that will maintain tip temperature within the range or 500° F to 600° F.
2. Use an appropriate gauge of RMA resin-core solder composed of 60 parts tin/40 parts lead.
3. Keep the soldering iron tip clean and well tinned.
4. Thoroughly clean the surfaces to be soldered. Use a mall wire-bristle (0.5 inch, or 1.25cm) brush with a metal handle. Do not use freon-propelled spray-on cleaners.
5. Use the following unsoldering technique
 - a. Allow the soldering iron tip to reach normal temperature. (500° F to 600° F)
 - b. Heat the component lead until the solder melts.
 - c. Quickly draw the melted solder with an anti-static, suction-type solder removal device or with solder braid.
CAUTION: Work quickly to avoid overheating the circuitboard printed foil.
6. Use the following soldering technique.
 - a. Allow the soldering iron tip to reach a normal temperature (500° F to 600° F)
 - b. First, hold the soldering iron tip and solder the strand against the component lead until the solder melts.
 - c. Quickly move the soldering iron tip to the junction of the component lead and the printed circuit foil, and hold it there only until the solder flows onto and around both the component lead and the foil.
CAUTION: Work quickly to avoid overheating the circuit board printed foil.
 - d. Closely inspect the solder area and remove any excess or splashed solder with a small wire-bristle brush.

IC Remove/Replacement

Some chassis circuit boards have slotted holes (oblong) through which the IC leads are inserted and then bent flat against the circuit foil. When holes are the slotted type, the following technique should be used to remove and replace the IC. When working with boards using the familiar round hole, use the standard technique as outlined in paragraphs 5 and 6 above.

Removal

1. Desolder and straighten each IC lead in one operation by gently prying up on the lead with the soldering iron tip as the solder melts.
2. Draw away the melted solder with an anti-static suction-type solder removal device (or with solder braid) before removing the IC.

Replacement

1. Carefully insert the replacement IC in the circuit board.
2. Carefully bend each IC lead against the circuit foil pad and solder it.
3. Clean the soldered areas with a small wire-bristle brush.
(It is not necessary to reapply acrylic coating to the areas).

"Small-Signal" Discrete Transistor

Removal/Replacement

1. Remove the defective transistor by clipping its leads as close as possible to the component body.
2. Bend into a "U" shape the end of each of three leads remaining on the circuit board.
3. Bend into a "U" shape the replacement transistor leads.
4. Connect the replacement transistor leads to the corresponding leads extending from the circuit board and crimp the "U" with long nose pliers to insure metal to metal contact then solder each connection.

Power Output, Transistor Device

Removal/Replacement

1. Heat and remove all solder from around the transistor leads.
2. Remove the heat sink mounting screw (if so equipped).
3. Carefully remove the transistor from the heat sink of the circuit board.
4. Insert new transistor in the circuit board.
5. Solder each transistor lead, and clip off excess lead.
6. Replace heat sink.

Diode Removal/Replacement

1. Remove defective diode by clipping its leads as close as possible to diode body.
2. Bend the two remaining leads perpendicular y to the circuit board.
3. Observing diode polarity, wrap each lead of the new diode around the corresponding lead on the circuit board.
4. Securely crimp each connection and solder it.
5. Inspect (on the circuit board copper side) the solder joints of the two "original" leads. If they are not shiny, reheat them and if necessary, apply additional solder.

Fuse and Conventional Resistor

Removal/Replacement

1. Clip each fuse or resistor lead at top of the circuit board hollow stake.
2. Securely crimp the leads of replacement component around notch at stake top.
3. Solder the connections.

CAUTION: Maintain original spacing between the replaced component and adjacent components and the circuit board to prevent excessive component temperatures.

Circuit Board Foil Repair

Excessive heat applied to the copper foil of any printed circuit board will weaken the adhesive that bonds the foil to the circuit board causing the foil to separate from or "lift-off" the board. The following guidelines and procedures should be followed whenever this condition is encountered.

At IC Connections

To repair a defective copper pattern at IC connections use the following procedure to install a jumper wire on the copper pattern side of the circuit board. (Use this technique only on IC connections).

1. Carefully remove the damaged copper pattern with a sharp knife. (Remove only as much copper as absolutely necessary).
2. Carefully scratch away the solder resist and acrylic coating (if used) from the end of the remaining copper pattern.
3. Bend a small "U" in one end of a small gauge jumper wire and carefully crimp it around the IC pin. Solder the IC connection.
4. Route the jumper wire along the path of the out-away copper pattern and let it overlap the previously scraped end of the good copper pattern. Solder the overlapped area and clip off any excess jumper wire.

At Other Connections

Use the following technique to repair the defective copper pattern at connections other than IC Pins. This technique involves the installation of a jumper wire on the component side of the circuit board.

1. Remove the defective copper pattern with a sharp knife. Remove at least 1/4 inch of copper, to ensure that a hazardous condition will not exist if the jumper wire opens.
2. Trace along the copper pattern from both sides of the pattern break and locate the nearest component that is directly connected to the affected copper pattern.
3. Connect insulated 20-gauge jumper wire from the lead of the nearest component on one side of the pattern break to the lead of the nearest component on the other side. Carefully crimp and solder the connections.
CAUTION: Be sure the insulated jumper wire is dressed so the it does not touch components or sharp edges.

SPECIFICATION

NOTE : Specifications and others are subject to change without notice for improvement.

1. Application range

This specification is applied to ML-041B chassis.

2. Requirement for Test

Testing for standard of each part must be followed in below condition.

- (1) Temperature: 25°C ± 2°C
- (2) Humidity: 65% ± 10%
- (3) Power: Standard input voltage (AC 100-240V, 50/60Hz)
- (4) Measurement must be performed after heat-run more than 30min.
- (5) Adjusting standard for this chassis is followed a special standard.

3.General Specification

No.	Item		Specification	Remark
1	Maker		LPL	LPL
	Type		TFT Color LCD Module	
	ActiveDisplay Area		20.1 inches(510mm) diagonal	
	Pixel Pitch [mm]		0.6375mm(H)x0.6375mm(V)xRGB	
	Electrical Interface		TTL	
	Color Depth		8BIT, 16,777,216 colors	
	Size [mm]		450(H)x 348.7(V)x20(D)	
	Surface Treatment		Glare, Hard Coating(3H)	
	Operating Mode		Normally Black	
	Back light Unit		6 CCFL(6 lamps)	
	R/T	Typ.	16ms(R.T.:7/10ms + F.T.:18/20ms)	
2	Maker		CMO	CMO
	Type		TFT Color LCD Module	
	ActiveDisplay Area		20.1 inches(510.00mm) diagonal	
	Pixel Pitch [mm]		0. 2125mm(H)x0.6375mm(V)xRGB	
	Electrical Interface		TTL	
	Color Depth		8-BIT 16,777.216 Colors	
	Size [mm]		448.6(H)x339.6(V)x25(D)	
	Surface Treatment		Anti Glare, Hard Coating(3H)	
	Operating Mode		Normally Black	
	Back light Unit		6 CCFL(6 lamps)	
	R/T	Typ.	16ms(R.T.:5/7ms + F.T.:11/14ms)	

4. Feature and Function

No.	Item	Specification	Remark
1	Teletext	TOP, FLOF	Top(option)
2	REMOCON	NEC Code	PAL/ NTSC
3	CVBS VIDEO Input	1	Rear
4	S-VIDEO Input	1	Rear
5	Component input	1	Rear (option:NTSC, Non-EU)
6	PERI TV Connector	Full SCART : 1	Rear (option:EU)
7	H/p input	1	
8	RS-232	1	Only Commercial Model
9	Discrete IR	1	Only Commercial Model
10	2 Carrier Stereo	BG, DK	
11	NICAM Stereo	BG, I, LL'	
12	2 Carrier Dual	BG, DK	
13	NICAM Dual	BG, I, LL'	
14	DW(Double Window) Mode	X	
15	MW(Multi Window) Mode	X	
16	Film Mode	X	
17	Noise Reduction	X	
18	Progressive Scan	O	
19	Motion Detection	X	
20	SRS WOW	X	
21	wivel Speaker	X	
22	Ez-pip	X	
23	ARC	X	
24	DRP	X	
25	DCDI	X	
26	HDCP	X	

5. Optical Character

No.	Item	Specification				Remark	
			LPL	CMO			
1	Viewing Angle <CR ≥ 10>	R/L,	88/88	80/80			
		U/D	88/88	70/70			
2	Luminance	Luminance(cd/ m ²)	450	450		Typical	
		Variation	1.3	1.3		MAX/MIN	
3	Contrast Ratio		350	500		ALL white/All black	
4	CIE Color Coordinates	WHITE	W _x	Typ.	0.289	0.285	
			W _y	Typ.	0.335	0.293	
		RED	W _r	Typ.	0.692	0.692	
			Y _r	Typ.	0.335	0.332	
		Green	X _g	Typ.	0.289	0.276	
			Y _g	Typ.	0.583	0.601	
Blue	X _b	Typ.	0.143	0.142			
	Y _b	Typ.	0.909	0.075			

6.Engineering Specification

No.	Item	Specification			Remark
1	Power Supply	H/V Sync	Video	Power Consumption	LED Color
	Normal	On/On	Active	≤ 65W	GREEN
	Suspend Mode	Off/Off	Off	≤ 1W	LED
	Cut-off Switch off	-	-	0W	OFF
				PBP SWAP ► ON/OFF	
	ITEM	Specification			Remark
2	D-SUB Pin Configuraion	1: RED 3: Blue 5: S.T(GND) 7: Green GND 9: N.C 11: ID0(GND) 13: H-Sync 15: SCL	2: Green 4: ID2(GND) 6: RED GND 8: Blue GND 10: D-GND 12: SDA 14: V-Sync Shell: GND		For Service Only
3	Control Function	1) Contrast/Brightness 2) H-Position/V-Position 3) Tracking : Clock/ Phase 4) Auto Configure RESET			
4	Comoponent Jack (480i, 480p)	1: Y 3: Pb 5: Pr			Middle east/ NTSC Area
5	D2 Jack (525i, 525p)	1: Y GND 2: Pb 5: Pr 7: LINE1 Ready 9: Line2 11: Line3 13: Line3 ready	2: Y GND 4: Pb GND 6: Pr GND 8: LINE1 10: Line2 Ready 12: SWITCH GND 14: SWITCH		JAPAN Only

6-2.Power

NO	Item	Min	Typ	Max	Unit	Remark
1	AC Power Shut Down Voltage	90		264	V	
2	DC Voltage, Inverter	11.4	12	11.4	V	
3	DC Voltage, LCD Panel	11.4	12	12.6	V	
		4.5	5	4.5	V	
4	DC Voltage, Audio	14.0	15	16.0	V	
5	DC Voltage, Tuner(5)	4.5	5	5.5	V	
6	DC Voltage, Tuning(33)	31	33	35	V	
7	DC Voltage, VCTi(5)	4.5	5	5.5	V	
		7.5	8	8.5	V	
8	DC Voltage, VCTi(3.3)	3.1	3.3	3.5	V	
		1.6	1.8	2.0	V	
9	DC Voltage, GM2221 (3.3)	3.1	3.3	3.5	V	
		1.6	1.8	2.0	V	
10	DC Voltage, Digital (3.3)	2.8	3.3	3.8	V	
11	DC Voltage, Digital (5)	4.5	5	5.5	V	

6-3. External Interface

NO	Item	Min	Typ	Max	Unit	Remark
1.	Video Input Level	0.85	1	1.15	Vpp	EN-50049
2.	Audio Input Level	0.4	0.5	0.6	V	NTSC:0.4Vrms(Typ)
3.	Audio Input Frequency Response	0.1		7	KHz	
4.	Audio Input S/N	40			DB	
5.	Audio Input Distortion			2	%	
6.	Audio Input Dynamic Range	2			V	
7.	Video Output Level	0.85	1	1.15	Vpp	
8.	Video Output Frequency Response	3.8			MHz	
9.	Video Output S/N	40			DB	
10.	Audio Output Level	0.4	0.5	0.6	V	
11.	Audio Output Frequency Response	0.1		7	KHz	
12.	Audio Output S/N	40			DB	
13.	Audio Output Distortion			2	%	
14.	Video Input Level, R/G/B	0.6	0.7	0.8	Vpp	75 ohm
15.	Video Input Level, Component(Y, PB, PR)	0.6	0.7	0.8	Vpp	75 ohm
16.	RGB Input Resolution, Vertical		480		Pixel	Only 20" 640 Pixel
17.	RGB Input Resolution, Horizontal		640		Pixel	480
18.	RGB Input Horizontal Frequency				KHz	See table 5-5
19.	RGB Input Frame Rate				Hz	See table 5-5

6-4. The Others

NO	Item	Min	Typ	Max	Unit	Remark
1	Search Sensitivity			-85	dBm	
2	Soft Ware Functionality Test					LGE Specification
3	REMOCON Working Sensitivity, Straight	0.1		10	m	
4	REMOCON Working Sensitivity, T/B/L/R	0.1		9	m	30 degree
5	Closed Caption Sensitivity			-70	dBm	NTSC ONLY
6	Teletext Sensitivity			-70	dBm	

ADJUSTMENT INSTRUCTION

1. Application Object

This instruction is for the application to the LCD TV.

2. Adjustment

2.1 Adjustment Details

The machine can be adjusted by it self automatically but even for self-adjustment it needs someone to operate it.

2.2 Auto Gain/Offset adjustment

2.2.1 RF Mode adjustment (*RZ-20LA90, RT-20LA90*)

2.2.1.1 Adjustment preparation

- Execution of RF no signal during Heat Run over 30min...

2.2.1.2 Auto Gain/Offset adjustment

- Press IN-START Key by using the Remote Controller (SVC), after converting to Adjustment-Mode, Press VOL+Key consecutively in Scaler Auto gain menu.
- After adjustment is complete, pressing ener key, stores and completes the process

2.2.1 Component Mode adjustment (*Only RT-20LA90*)

2.2.1.1 Adjustment preparation

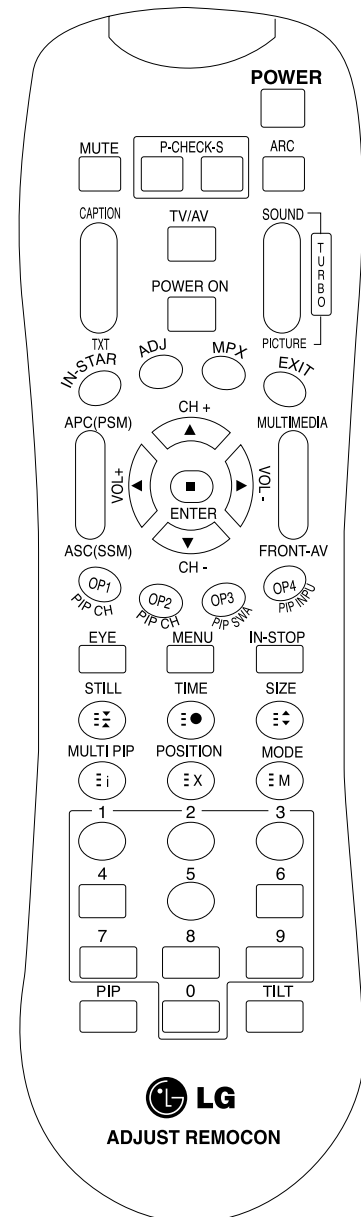
- Execution of RF no signal during Heat Run over 30min...
- The component jack(Y, Pb, Pr) of LCD TV is connected to Y, Pb, Pr Output Signal of Pattern Generator (MSPG-925 SERISE)

2.2.1.2 Auto Gain/Offset adjustment

- Convert to Component Mode in Input-Mode.
- Select MODEL : 228 (480p MODE, Y:100%, Pb/Pr:75%) in Pattern Generator
Select PATTERN : 33 (Color Bar Pattern signal) in Pattern Generator (MSPG-925 SERISE)
- Press IN-START Key by using the Remote Controller(SVC), after converting to Adjustment-Mode, press VOL+Key consecutively in Auto Gain Menu.
- After adjustment is complete, pressing enter key, stores and completes the process

SVC REMOCON

NO	KEY	FUNTION	REAMARK
1	POWER	To turn the TV on or off	
2	POWER ON	To turn the TV on automatically if the power is supplied to the TV. (Use the POWER key to deactivate): It should be deactivated when delivered.	
3	MUTE	To activate the mute function.	
4	P-CHECK	To check TV screen image easily.	Shortcut keys
5	S-CHECK	To check TV screen sound easily	Shortcut keys
6	ARC	To select size of the main screen (Normal, Spectacle, Wide or Zoom)	Shortcut keys
7	CAPTION	Switch to closed caption broadcasting	
8	TXT	To toggle on/off the teletext mode	
9	TV/AV	To select an external input for the TV screen	
10	TURBO SOUND	To start turbo sound	
11	TURBO PICTURE	To start turbo picture	
12	IN-START	To enter adjustment mode when manufacturing the TV sets.	Use the AV key to enter the screen W/B adjustment mode.
		To adjust the screen voltage (automatic): In-start → mute → Adjust → AV(Enter into W/B adjustment mode)	
		W/B adjustment (automatic): After adjusting the screen →W/B adjustment →Exit two times (Adjustment completed)	
13	ADJ	To enter into the adjustment mode. To adjust horizontal line and sub-brightness.	
14	MPX	To select the multiple sound mode (Mono, Stereo or Foreign language)	
15	EXIT	To release the adjustment mode	
16	APC(PSM)	To easily adjust the screen according to surrounding brightness	
17	ASC(SSM)	To easily adjust sound according to the program type	
18	MULTIMEDIA	To check component input	Shortcut keys
19	FRONT-AV	To check the front AV	Shortcut keys
20	CH±	To move channel up/down or to select a function displayed on the screen.	
21	VOL±	To adjust the volume or accurately control a specific function.	
22	ENTER	To set a specific function or complete setting.	
23	PIP CH-(OP1)	To move the channel down in the PIP screen. To use as a red key in the teletext mode	
24	PIP CH+(OP2)	To move the channel in the PIP screen To use as a green key in the teletext mode	
25	PIP SWAP(OP3)	To switch between the main and sub screens To use as a yellow key in the teletext mode	
26	PIP INPUT(OP4)	To select the input status in the PIP screen To use as a blue key in the teletext mode	
27	EYE	To set a function that will automatically adjust screen status to match the surrounding brightness so natural color can be displayed.	
28	MENU	To select the functions such as video, voice, function or channel.	
29	IN-STOP	To set the delivery condition status after manufacturing the TV set.	
30	STILL	To halt the main screen in the normal mode, or the sub screen at the PIP screen. Used as a hold key in the teletext mode (Page updating is stopped.)	
31	TIME	Displays the teletext time in the normal mode Enables to select the sub code in the teletext mode	
32	SIZE	Used as the size key in the PIP screen in the normal mode Used as the size key in the teletext mode	
33	MULTI PIP	Used as the index key in the teletext mode (Top index will be displayed if it is the top text.)	
34	POSITION	To select the position of the PIP screen in the normal mode Used as the update key in the teletext mode (Text will be displayed if the current page is updated.)	
35	MODE	Used as Mode in the teletext mode	
36	PIP	To select the simultaneous screen	
37	TILT	To adjust screen tilt	Shortcut keys
38	0~9	To manually select the channel.	



HOTEL MODE

1. Hotel Option Configuration

When using the service remote control, press the In-Start key, and when using the user remote control, press the menu of the local key and the menu of the user remote control simultaneously for 10 seconds to enter the service mode.

Press the menu key one more time with the service mode OSD displayed and move th the hotel option setup page to set up.

LG Hotel mode set up	
Channel Menu Display	YES
Channel Change	YES
Input Mode Change	YES
Fixed Volume	YES
Max Volume 30	
OSD Display YES	
Remocon Operation	YES
Local Key Operation	YES
On Monitor Operation	YES
Volume	On
	30
Channel	On
	1
Auto Off Operation	YES
Hotel Mode Operation	YES

▲▼ ◀▶ OK

1.1. Channel Menu Display

- Decide to enter 'Channel Menu' or not in the 'Main Menu' by setting 'Channel Menu Display' as Yes(Enter Possible) or No(Enter Impossible) on the "LG Hotel Mode" OSD.

1.2. Channel Change

- Decide to change channel or not by setting 'Channel Change' as Yes(Change Possible) or No(Change Impossible) when present source is TV.
- When 'Channel Change' is set to No(Change Impossible), Channel Key, Numeral Key, List Key, Q.View Key doesn't work and entering 'Channel Menu' in the Main Menu OSD is impossible.
- When 'Channel Change' is set to Yes(Change Possible), Channel Key, Numeral Key, List Key, Q.View Key does work and entering 'Channel Menu' in the Main Menu OSD is possible.
- When 'Channel Change' is set to No(Change Impossible), 'Channel' item in 'On Time' menu will be fixed.
- When 'Channel Change' is set to No(Change Impossible), entering 'Channel Menu' in the 'Main Menu' OSD is impossible regardless of 'Channel Menu Display' item.

1.3. Input Source Change

- Decide to change input source or not by setting 'Input Source Change' as Yes(Change possible) or No(Change impossible).
- When 'Input Source Change' is set to No(Change impossible), TV/AV key and Multimedia key doesn't work, and entering 'Input' item in the 'Main Menu OSD' is impossible.
- When 'Input Source Change' is set to No(Change impossible), user's input (pressing Channel key, numeral key, List key, Q.View key in all Input source except TV source) doesn't work and when entering 'Channel Menu' item in the 'Main Menu OSD' except TV mode doesn't accepted. Because entering 'Channel Menu' item makes present mode as TV mode even though present mode is not TV mode. for the function that turns to TV mode doesn't work.
- When 'Input Source Change' is set to Yes(Change possible), then changing input source is available.
- When 'Input Source Change' is set to No(Change Impossible), TV set always turns on fixed input source and volume information regardless of already set channel information.
- When 'Input Source Change' is set to No(Change Impossible), entering 'Channel Menu' except TV mode doesn't possible regardless of 'Channel Change' or 'Channel Menu Display' item.

1.4. Fixed Volume

- Decide to fix volume or not by setting 'Fixed Volume' as Yes(Change possible) or No(Change impossible).
- When 'Fixed Volume' is set to Yes(Set), it fixed present volume and volume key doesn't work.
- When 'Fixed Volume' is set to Yes(Set), volume doesn't change during 'Mute On' but release mute.
- When 'Fixed Volume' is set to No(Not Set), user can change volume.
- In the case of both 'Fixed Volume' and 'On Time' is set to Yes(Set), but just the value is different, then Fixed Volume value has priority.
- When 'Fixed Volume' is set to Yes(Set), user cannot select 'Max Volume' item.
- When 'Fixed Volume' is set to Yes(Set), 'On Time' menu's Volume item fixed to present volume.

1.5. Max Volume

- Decide 'Max Volume' between changing range 0 ~ 100.
- When 'Max Volume' is set, user can change up to set volume value.
- In the case of 'Fixed Volume' is set to Yes, 'Max Volume' item cannot be selected.
- When 'Max Volume' is set, volume just goes up to the 'Max Volume' value in 'On Time Menu'.

1.6. OSD Display

- Decide to display OSD or not by setting 'OSD Display' as Yes(Mark) or No(No Mark).
- When 'OSD Display' is set to No(No Mark), just Channel OSD and STEREO OSD doesn't display.

1.7. Remocon (Remote Control) Operation

- Decide to operate Remote Control or not by setting "Remocon Operation" as Yes(Work) or No(Do Not Work).
- When "Remocon Operation" is set to No(Do Not Work), all remocon key doesn't work include Power Key.
- When "Remocon Operation" is set to No(Do Not Work), In-start key and In-stop key still work.
- When "Remocon Operation" is set to No(Do Not Work), 'Remocon Operation' working in service mode is available.
- When "Remocon Operation" is set to Yes(Work), all Remocon keys work properly.

1.8. Local Key Operation

- Decide to operate 'Local Key' or not by setting "Local Key Operation" as Yes(Work) or No(Do Not Work).
- When 'Local Key Operation' is set to No(Do Not Work), all Local Key doesn't work include Power Key.
- When 'Local Key Operation' is set to No(Do Not Work), Local Key working in service mode is still available.
- When 'Local Key Operation' is set to Yes(Work), all Local Key working is available.
- When set both 'Local Key' and 'Remocon Operation' as No(Do Not Work), Power key of Remocon work as exceptional case.

1.9. On Monitor Operation

- Decide to set Channel and Volume value or not those are displaying when Power On by setting 'On Monitor Operation' as Yes(Work) or No(Do Not Work).
- When 'On Monitor Operation' is set to No(Do Not Work), user cannot enter inside of 'channel' and 'volume' item.
- When 'On Monitor Operation' is set to Yes(Work), user can enter inside of menu and set value.
- When 'Channel' item of 'On Monitor Operation' is set to No(Do Not Work), and 'On Monitor Operation' is set to Yes(Work), then TV saves present input source and always turn on as the saved input source when turn on. If user enters Hotel Mode as other input source that user wants (except TV mode), and set 'Channel' item as Yes(Work), then it will work.
- When 'On Monitor Operation' is set to No(Do Not Work), TV will be turned on as last memorized channel or input source.

1.10. Channel

- Decide to turn on TV as set channel or last memorized channel or not by setting 'Channel' as On(Work) or Off(Do Not Work).
- When 'On Monitor Operation' is set to Yes(Work), then user can enter 'Channel' and set the value.
- When 'On Monitor Operation' is set to On(Work), setting 'Channel' value of "On Monitor Operation" is possible and TV always turns on as set 'Channel' value.
- When 'On Monitor Operation' is set to Off(Do Not Work), setting 'Channel' value of 'On Monitor Operation' is impossible and TV turns on last memorized channel.
- If user wants to turn on by other Input source except TV, change Input source as you want and enter to 'Hotel Mode', then select 'Channel' item as Off(Do Not Work) or Do Not select this item On(Work) from the beginning.
- In the case of both 'Channel' and 'On Time' is set, but just the value is different, then 'Channel' value has priority.

1.11. Auto Off Operation

- If there's no key input during 2 hours after turn on TV by 'Power On' function of the 'On Time', then turn off TV by 'Auto Off' function of 'Time Menu'. This item decide to turn on TV by 'Auto Off Operation' regardless of 'Auto off' function of 'Time Menu' or not by setting as Yes(Work) or No(Do Not Work).
- When 'Auto Off Operation' is set to Yes(Work), 'Auto Off Operation' work as configuration.
- When 'Auto Off Operation' is set to No(Do Not Work), 'Auto Off Operation' Do Not work regardless of configuration.

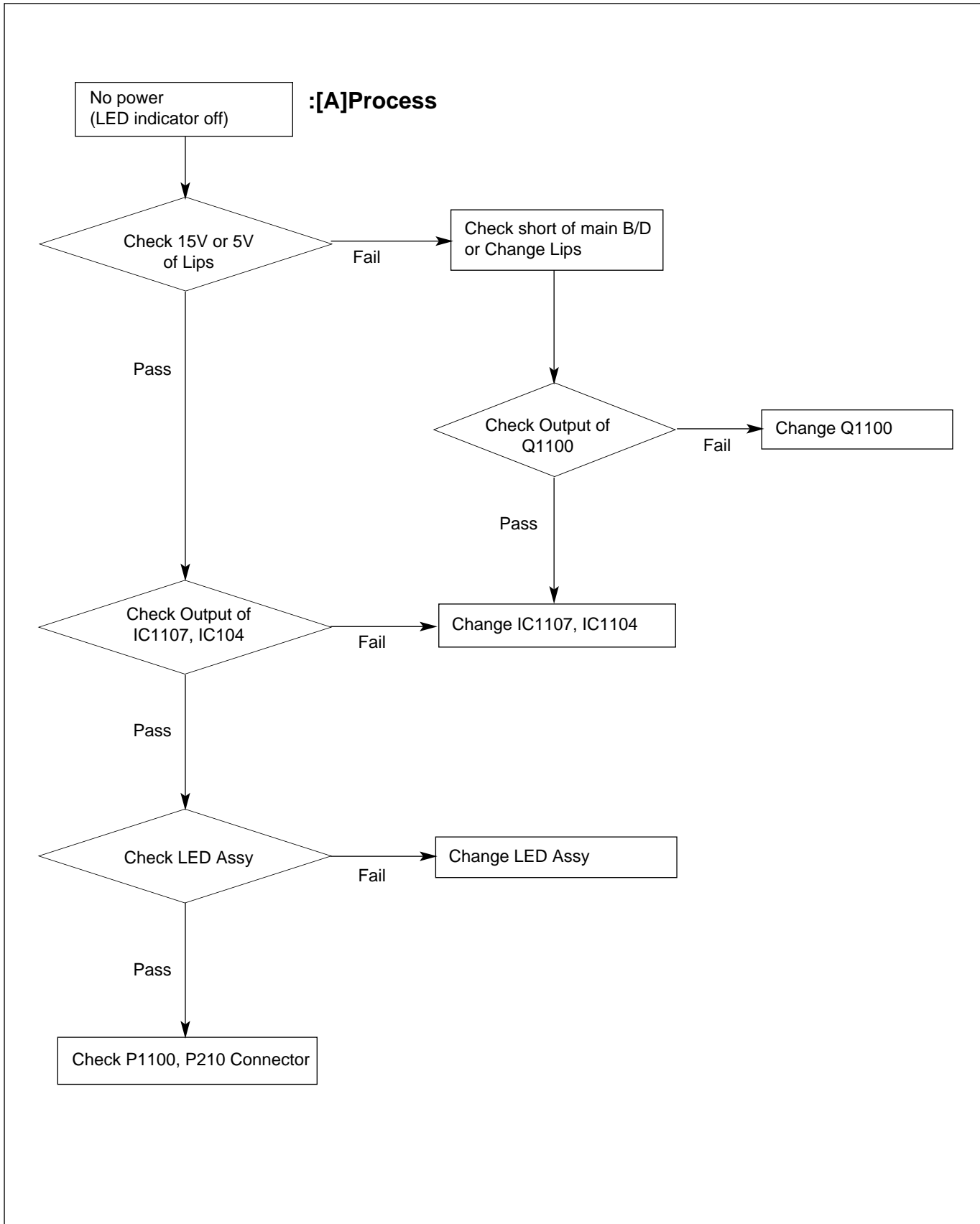
1.12. Hotel Mode Operation

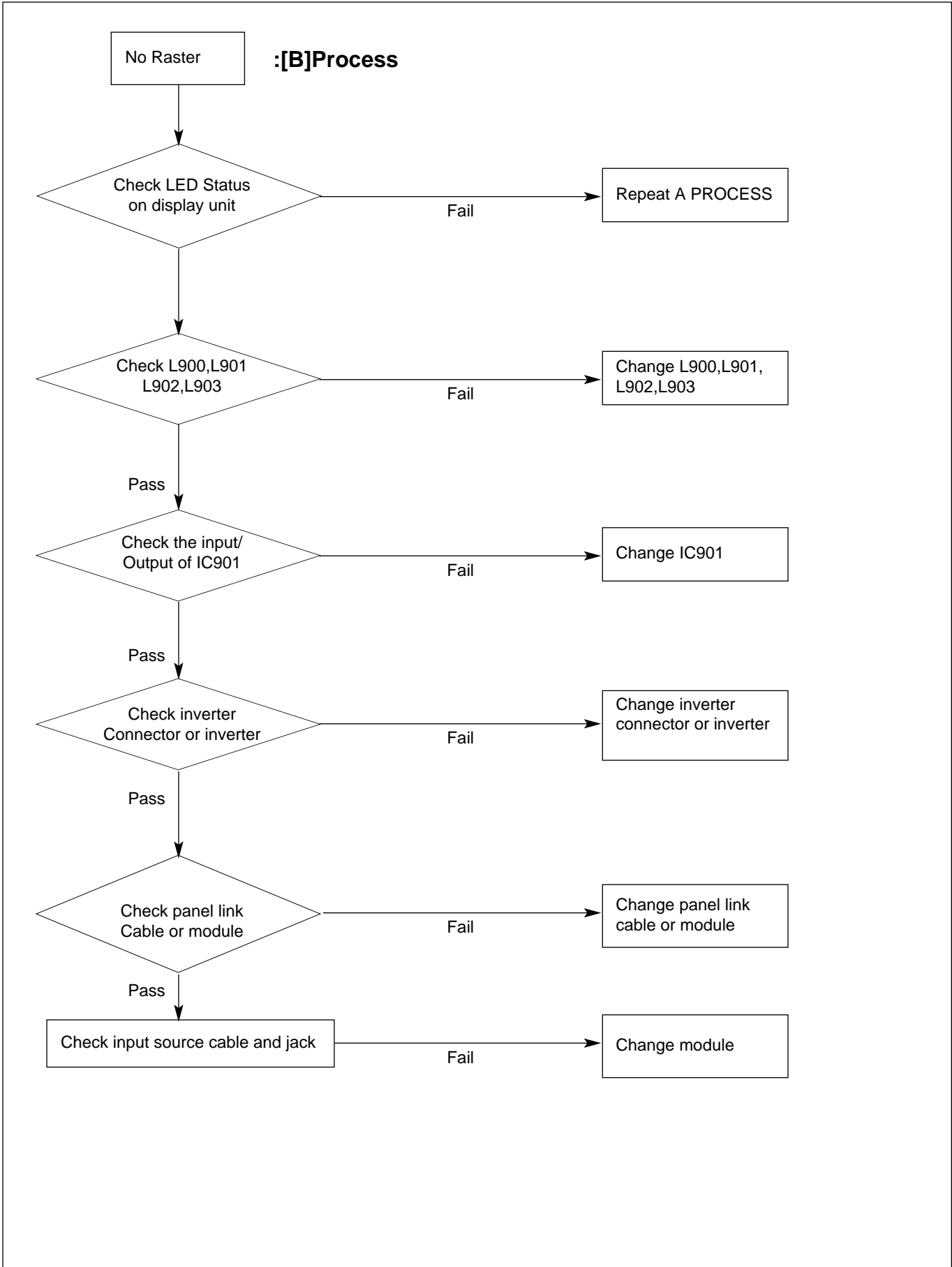
- Decide to work all functions of 'Hotel Mode Operation' or not by setting 'Hotel Mode Operation' as Yes(Work) or No(Do Not Work).
- When 'Hotel Mode Operation' is set to Yes(Work), all functions of Hotel Mode apply.
- When 'Hotel Mode Operation' is set to No(Do Not Work), all functions of Hotel Mode Do Not apply.

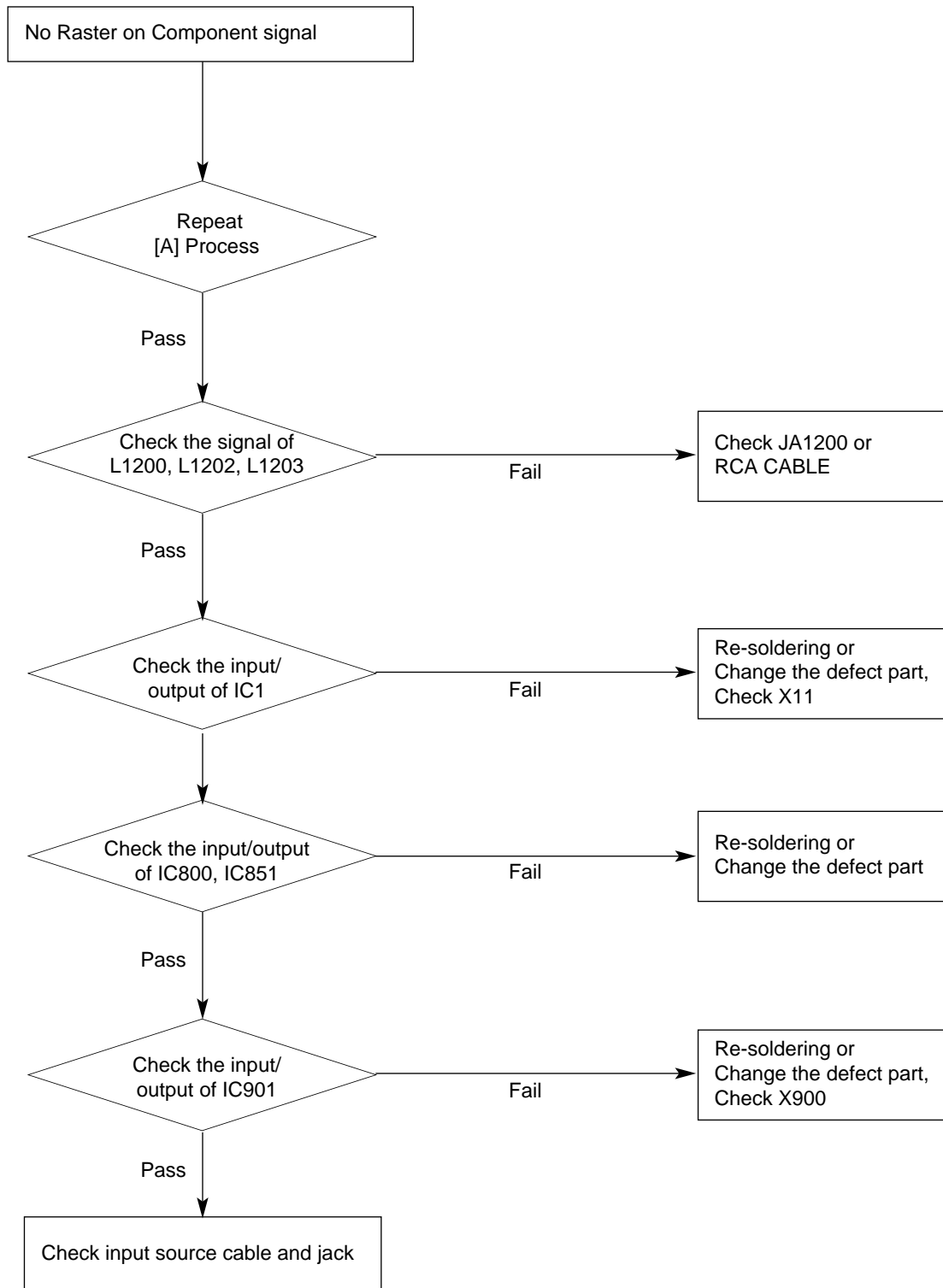
2. Initial Configuration and Configuration Detail

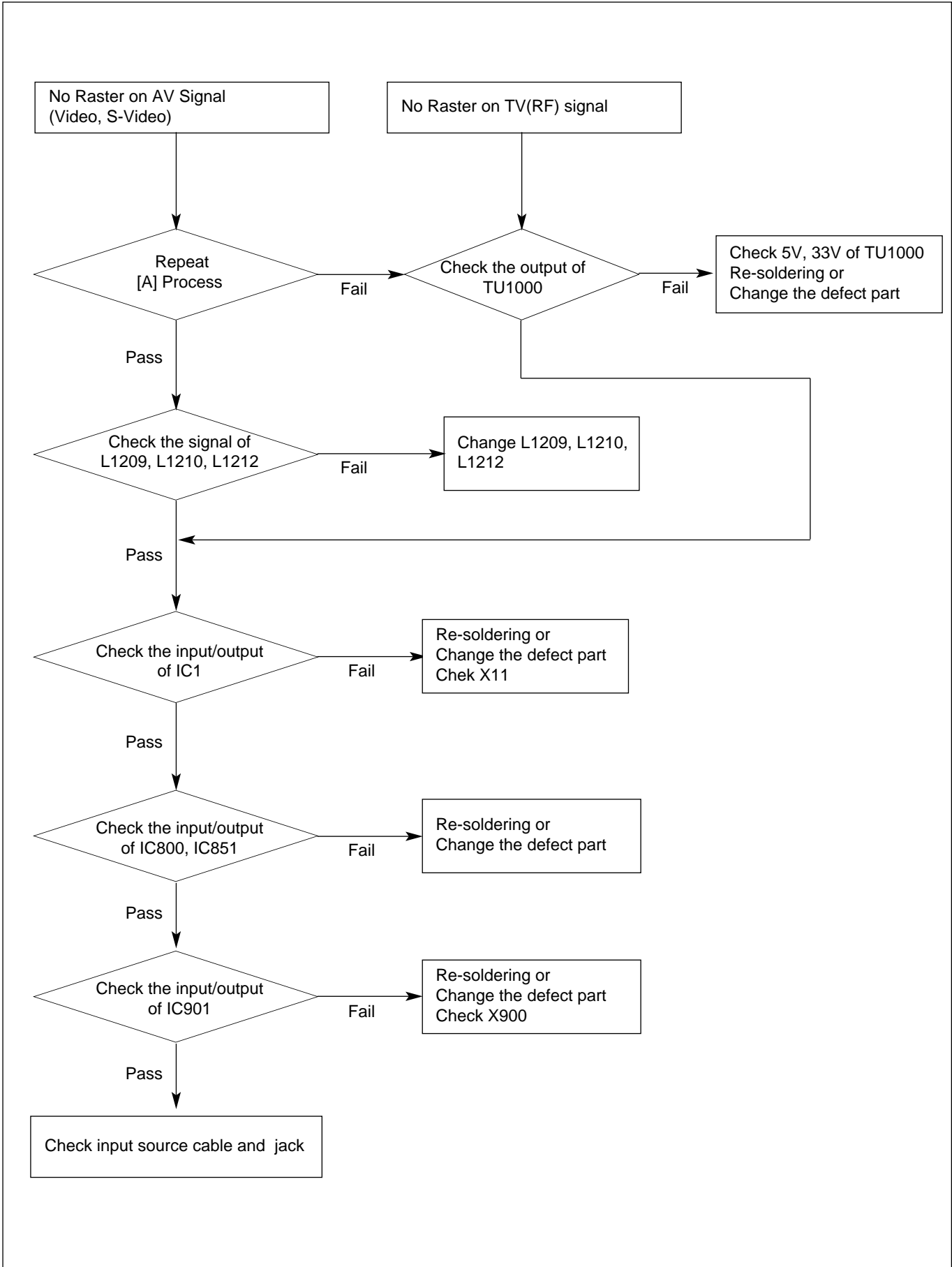
Setting Item	Activated	Deactivated	Default
Channel Menu	Yes	No	Yes
Channel Change	Yes	No	Yes
Input Mode Change	Yes	No	Yes
Fixed Volume	Yes	No	No
Max Volume	0 ~ 100		100
OSD Display	Yes	No	Yes
Remote Operation	Yes	No	Yes
Local Key Operation	Yes	No	Yes
On Monitor Operation	Yes	No	No
Volume	On	Off	Off
Volume Level	0 ~ 100		30
Channel	On	Off	Off
Channel Number	0 ~ 99		1
Auto Off Operation	Yes	No	Yes
Hotel Mode Operation	Yes	No	No

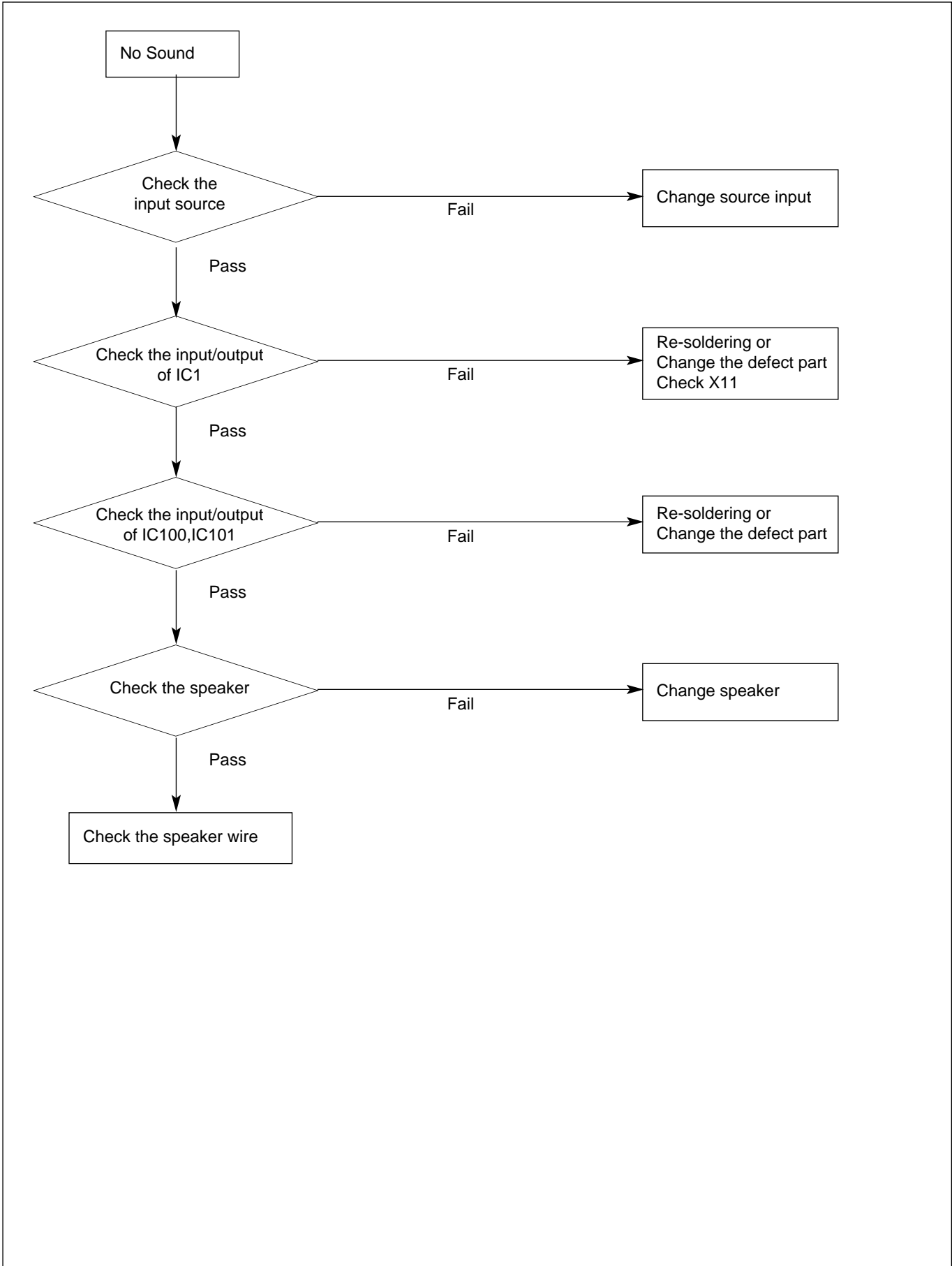
TROUBLESHOOTING



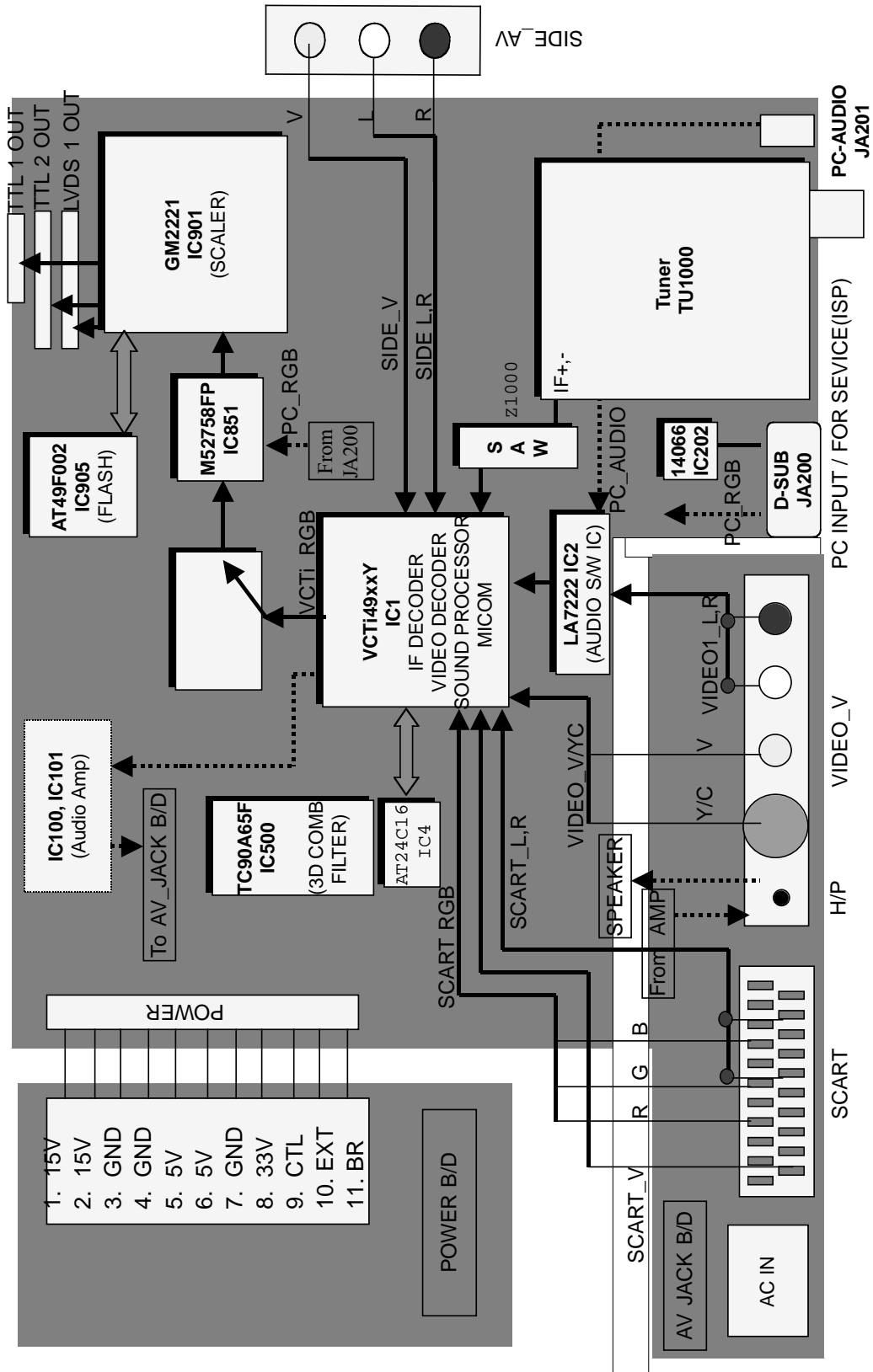








BLOCK DIAGRAM



BLOCK DIAGRAM DESCRIPTION

1. Video Controller Unit & Display Data Conversion Unit

The video controller unit receives the video signals inputted through the tuner, AV port (AV1, AV2, S-Video, component), and converts them into an analog RGB signal through the microcomputer (VCTI) combined with the video decoder that integrates various functions in one chip.

Either the analog RGB, component YPbPr or PC RGB signal is selected by the switching IC and inputted to a scaler (GM2221), which is sent to the LCD module after being modified to an LVDS signal through the integrated LVDS IC.

Or, it is sent to the LCD module as a TTL output.

VCTi is the main microprocessor that handles video signal processing and sound signal processing. It also manages the RF signals received from the tuner.

The scaler can control timing to fit into the LCD panel, and can also control the size and position of the input signal.

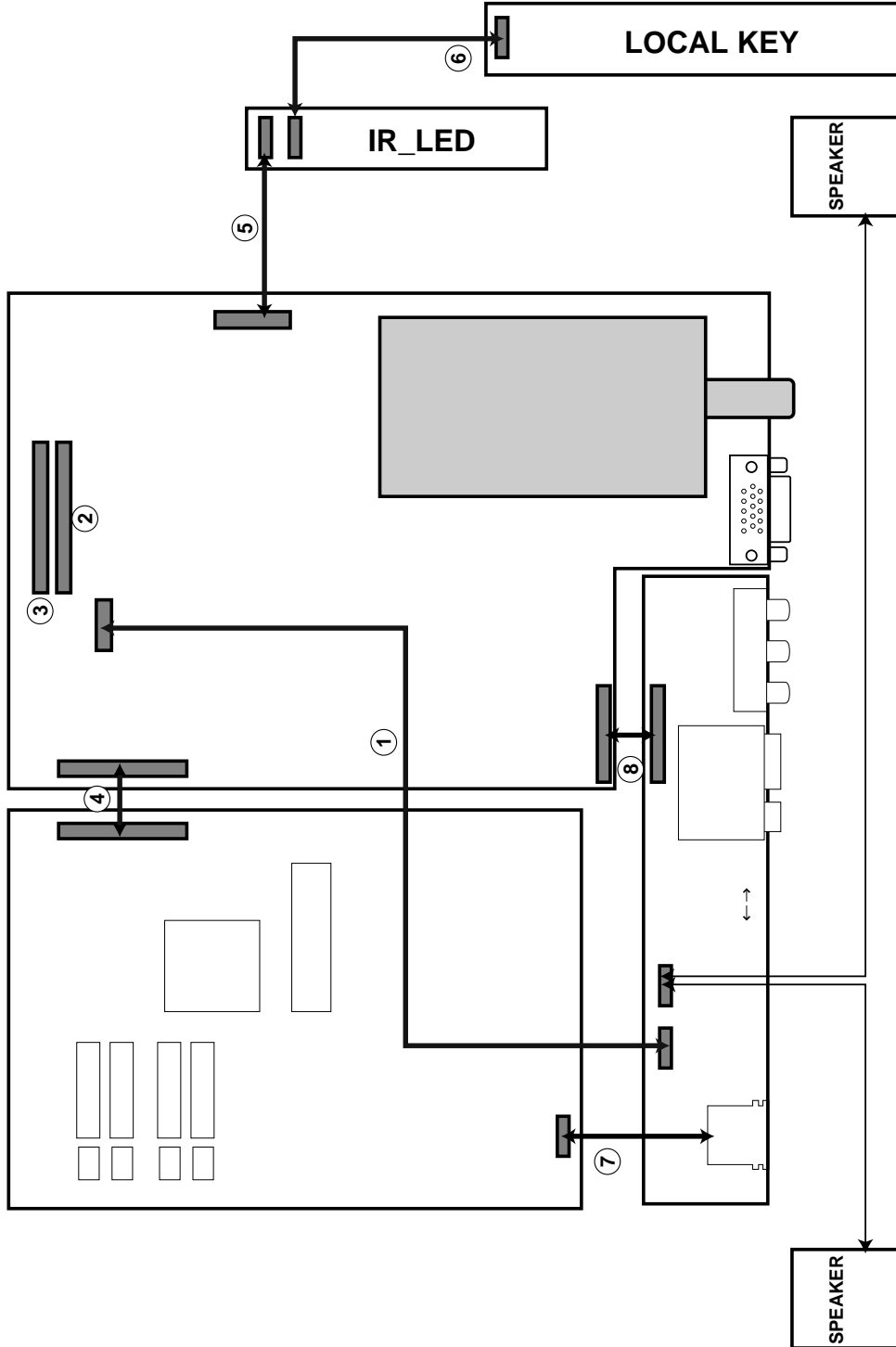
2. Power Supply Unit

The power supply unit provides 15V and 5V DC power to the mainboard.

The PWM Step-Up DC/DC Converter circuit is used to generate the 33V used for the tuner.

15V power is directly used by the sound amplifier IC and is also used to generate 5V power through the regulator. 12V power is used for the LCD panel power, and 5V power is converted to 3.3V and 1.8V power through the regulator, which in turn supplies electrical power for ICs such as VCTI and scaler.

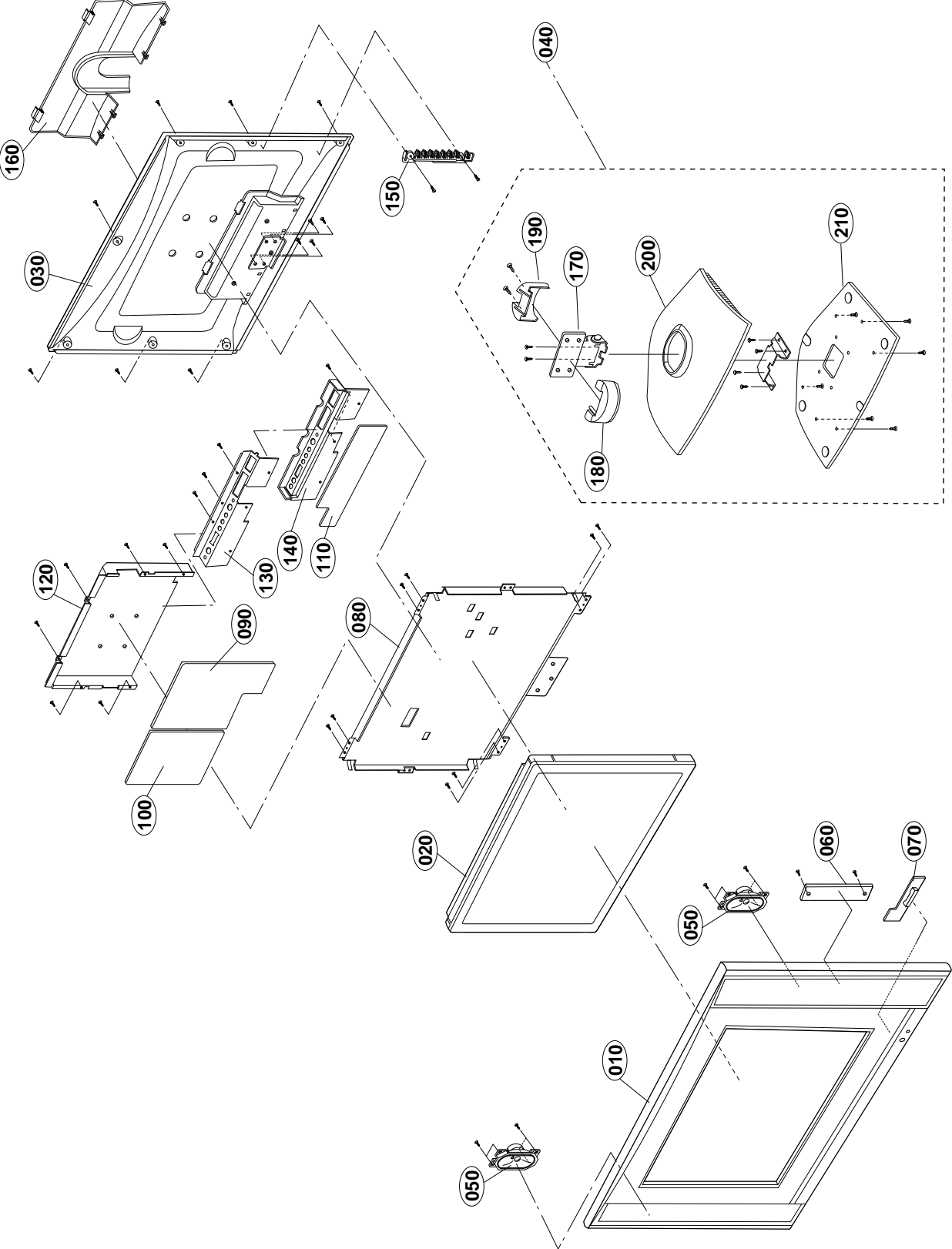
WIRING DIAGRAM



Wiring Part List

No.	Part No.
1	6631T25019Y
2	6631T11017P-CMO
3	6631T11021A-LPL
4	6631T20028G
5	6631T20033W
6	6631T25021F
7	6620K00007C
	or 6620K00007A
8	6631T11017R

EXPLODED VIEW



EXPLODED VIEW PARTS LIST(RZ-20LA90)

No.	PART NO.	DESCRIPTION
010	3091TKL116A	CABINET ASSEMBLY, RZ-20LA90 BRAND 3090TKL102 20" LCD TV
	3091TKL116C	CABINET ASSEMBLY, RZ/RT-20LA90 BRAND 3091TKL116A C/SKD
020	6306V20002A	LCD(LIQUID CRYSTAL DISPLAY), V201V1-T02 VGA CHIMEI TFT COLOR NON
	6304FLP171A	LCD(LIQUID CRYSTAL DISPLAY), LC201V02-A3K7 LG PHILIPS TFT COLOR VGA, 450NIT, 25MS, POL CHANGE
030	3809TKD002M	BACK COVER ASSEMBLY, RZ-20LA70 3808V00427 ML041B(SCART)
	3809TKD002R	BACK COVER ASSEMBLY, RM-20LA70 3808V00427 FOR RUSSIA (ML041B)
	3809TKD002P	BACK COVER ASSEMBLY, RZ-20LA70 3808V00427 ML041B SKD EU
	3809TKD009B	BACK COVER ASSEMBLY, RZ-20LA70 3808V00427 LGEMA EXPORT
	3809TKD009D	BACK COVER ASSEMBLY, RZ-20LA70 3808V00427 FOR RUSSIA (ML041B), PHANTOM OF 3809TKD002P
040	3043TKK167D	TILT SWIVEL ASSEMBLY, RT/RZ-20LA90, RM-20LA91 . HINGE ASSY SUBSTITUTION
	3043TKK167G	TILT SWIVEL ASSEMBLY, RT/RZ-20LA90 3090TKL101 C/SKD
050	6400GKTX01C	SPEAKER,FULLRANGE, F1527C-6428-4 K-TONE FULL-RANGE(GENERAL) 4 OHM 7/12W 85DB OTHERS 40*70MM TRACK TYPE
060	6871TST562A	PWB(PCB) ASSEMBLY,SUB, RM-20LA77 ML041B SUB TOTAL BRAND CONTROL BOARD ASSY
070	6871TST563B	PWB(PCB) ASSEMBLY,SUB, RZ-20LA90 ML-041B SUB TOTAL BRAND IR BOARD ASSY
080	4951TKS183B	METAL ASSEMBLY, FRAME RZ-20LA80/90 (CMO)
	4951TKS175B	METAL ASSEMBLY, FRAME METAL, ASSY 20LA70(LPL)
	4951TKS183D	METAL ASSEMBLY, FRAME RZ-20LA80/90 (CMO/CKD)
	4951TKS175F	METAL ASSEMBLY, FRAME METAL, ASSY 20LA70(LPL, CKD)
090	3313TP2029A	MAIN TOTAL ASSEMBLY, RZ-20LA70(CMO) BRAND ML-041B
	3313TP2030A	MAIN TOTAL ASSEMBLY, RZ-20LA70(LPL) BRAND ML-041B
100	6871TPT280A	PWB(PCB) ASSEMBLY,POWER, RM-20LA77 POWER TOTAL LIEN CHANG LIPS FOR CMO/AUO
	6871TPT280B	PWB(PCB) ASSEMBLY,POWER, RM-20LA77 POWER TOTAL LIEN CHANG LIPS FOR LPL
110	6871TST615A	PWB(PCB) ASSEMBLY,SUB, RZ-17LZ50 SUB TOTAL BRAND JACK(SCART) BOARD ASSY
120	4951TKK186A	METAL ASSEMBLY, SHIELD REAR RM-20LA77
	4951TKK186K	METAL ASSEMBLY, SHIELD METAL (LPL IPS MODULE) 20LA66/70/90
	4951TKK186B	METAL ASSEMBLY, SHIELD RM-20LA77, CKD
	4951TKK186L	METAL ASSEMBLY, SHIELD METAL (LPL IPS MODULE) C/SKD 20LA90
130	4950TKK916B	METAL, PLATE 15,20LA70 REAR A/V SCART
140	4810V00925B	BRACKET, REAR AV RZ-15LA70 ML024E HIPS.
150	5020V00871A	BUTTON, CONTROL RZ-20LA70 ABS 8KEY .
160	3550V00383A	COVER, REAR AV RZ-20LA70 HIPS 60HR .
170	4950V00157E	METAL, HINGE ASSY NON 20LA70
180	4810V00767A	BRACKET, STAND 20LA60 ML012B NON HINGE FRONT
190	4810V00768A	BRACKET, STAND 20LA60 ML012B NON HINGE COVER
200	4810V00962A	BRACKET, STAND RN-23LZ40 NON NON BASE
210	4950TKK872A	METAL, STAND BASE

EXPLODED VIEW PARTS LIST(RT-20LA90)

No.	PART NO.	DESCRIPTION
010	3091TKL116C	CABINET ASSEMBLY, RZ/RT-20LA90 BRAND 3091TKL116A C/SKD
020	6304FLP171A	LCD(LIQUID CRYSTAL DISPLAY), LC201V02-A3K7 LG PHILIPS TFT COLOR VGA, 450NIT, 25MS, POL CHANGE
	or 6304FLP188A	LCD(LIQUID CRYSTAL DISPLAY), LC201V02-A3KA LG PHILIPS TFT COLOR PB FREE MODULE , SS D-IC
030	3809TKD009C	BACK COVER ASSEMBLY, RZ-20LA70 3808V00427 ML041B, PHANTOM OF 3809TKD002U
040	3043TKK167G	TILT SWIVEL ASSEMBLY, RT/RZ-20LA90 3090TKL101 C/SKD
050	6400GKTX01C	SPEAKER,FULLRANGE, F1527C-6428-4 K-TONE FULL-RANGE(GENERAL) 4 OHM 7/12W 85DB OTHERS 40*70MM TRACK TYPE
060	6871TST562A	PWB(PCB) ASSEMBLY,SUB, RM-20LA77 ML041B SUB TOTAL BRAND CONTROL BOARD ASSY
070	6871TST563B	PWB(PCB) ASSEMBLY,SUB, RZ-20LA90 ML-041B SUB TOTAL BRAND IR BOARD ASSY
080	4951TKS175F	METAL ASSEMBLY, FRAME METAL, ASSY 20LA70(LPL, CKD)
090	3313TP2027A	MAIN TOTAL ASSEMBLY, RT-20LA70(LPL) BRAND ML-041B
100	6871TPT280B	PWB(PCB) ASSEMBLY,POWER, RM-20LA77 POWER TOTAL LIEN CHANG LIPS FOR LPL
110	6871TST561A	PWB(PCB) ASSEMBLY,SUB, RM-20LA70 ML041B SUB TOTAL BRAND JACK(DVD) BOARD ASSY
120	4951TKK186L	METAL ASSEMBLY, SHIELD METAL (LPL IPS MODULE) C/SKD 20LA90
130	4950TKK916A	METAL, PLATE 15,20LA70 REAR A/V PHONE
140	4810V00925B	BRACKET, REAR AV RZ-15LA70 ML024E HIPS .
150	5020V00871A	BUTTON, CONTROL RZ-20LA70 ABS 8KEY .
160	3550V00383A	COVER, REAR AV RZ-20LA70 HIPS 60HR .
170	4950V00157E	METAL, HINGE ASSY NON 20LA70
180	4810V00767A	BRACKET, STAND 20LA60 ML012B NON HINGE FRONT
190	4810V00768A	BRACKET, STAND 20LA60 ML012B NON HINGE COVER
200	4810V00962A	BRACKET, STAND RN-23LZ40 NON NON BASE
210	4950TKK872A	METAL, STAND BASE

REPLACEMENT PARTS LIST(RZ-20LA90)

For Capacitor & Resistors, the characters at 2nd and 3rd digit in the P/No. means as follows;

CC, CX, CK, CN, CH : Ceramic
CQ : Polyester
CE : Electrolytic
CF : Fixed Film

RD : Carbon Film
RS : Metal Oxide Film
RN : Metal Film
RH : CHIP, Metal Glazed(Chip)
RR : Drawing

DATE: 2004. 11. 25.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
MAIN BOARD				
CAPACITOR				
			C1008	OCE227CF638 "220UF SHL,SD 16V M FM5 TP 5"
			C1101	OCE227BH638 220U KME 25V M FM5 TP5
			C1104	OCE227BH638 220U KME 25V M FM5 TP5
			C1107	OCE477BH618 470UF KME TYPE 25V M FL TP 5
			C1140	OCE227BH638 220U KME 25V M FM5 TP5
			C1152	OCE107BK638 100UF KME 50V M FM5 TP5
			C123	OCE477BH618 470UF KME TYPE 25V M FL TP 5
			C124	OCE477BH618 470UF KME TYPE 25V M FL TP 5
			C131	OCE477BH618 470UF KME TYPE 25V M FL TP 5
			C132	OCE477BH618 470UF KME TYPE 25V M FL TP 5
			C133	OCE477BH618 470UF KME TYPE 25V M FL TP 5
			C134	OCE477BH618 470UF KME TYPE 25V M FL TP 5
			C1150	0CH3105F946 1UF 16V Z F 2012 R/TP
			C1151	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C127	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C128	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C135	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C136	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C15	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C16	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C19	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C4	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C41	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C44	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C49	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C6	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C7	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C8	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C803	0CH3105F946 1UF 16V Z F 2012 R/TP
			C804	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C808	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C810	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C812	0CH3105F946 1UF 16V Z F 2012 R/TP
			C851	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C854	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C855	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C858	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C861	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C863	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C865	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C866	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C867	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C869	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C871	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C874	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C875	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C877	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C9	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C909	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C910	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C917	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C920	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C925	0CH3104K946 100000PF 50V Z F 2012 R/TP

DATE: 2004. 11. 25.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
			C926	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C927	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C928	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C929	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C930	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C934	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C935	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C936	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C937	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C938	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C939	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C940	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C943	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C944	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C945	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C946	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C947	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C948	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C949	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C950	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C956	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C964	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C965	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C967	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C968	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C97	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C970	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C13	0CH6102K406 1000PF 50V J SL 2012 R/TP
			C14	0CH6102K406 1000PF 50V J SL 2012 R/TP
			C2	0CH6102K406 1000PF 50V J SL 2012 R/TP
			C20	0CH6102K406 1000PF 50V J SL 2012 R/TP
			C21	0CH6102K406 1000PF 50V J SL 2012 R/TP
			C46	0CH6102K406 1000PF 50V J SL 2012 R/TP
			C50	0CH6102K406 1000PF 50V J SL 2012 R/TP
			C59	0CH6102K406 1000PF 50V J SL 2012 R/TP
			C923	0CH6080K116 8PF 50V D NP0 2012 R/TP
			C924	0CH6080K116 8PF 50V D NP0 2012 R/TP
			C129	181-007F "MPE ECQ-V1H224JL3(TR), 50V 0"
			C130	181-007F "MPE ECQ-V1H224JL3(TR), 50V 0"
			C1003	0CH3103K516 10000PF 50V 10% B(Y5P) 2012
			C1007	0CH3103K516 10000PF 50V 10% B(Y5P) 2012
			C1010	0CK273DK51A 27000PF 2012 50V 10% B(Y5P)
			C1015	0CH5390K416 39PF 50V 5% NP0 2012 R/TP
			C1016	0CH5390K416 39PF 50V 5% NP0 2012 R/TP
			C107	0CK225DFK4A "2.2UF 2012 16V 20%,-20% F(Y5)"
			C109	0CH3103K516 10000PF 50V 10% B(Y5P) 2012
			C110	0CH3103K516 10000PF 50V 10% B(Y5P) 2012
			C1108	0CK106EF56A 10UF 3216 16V 10% X7R R/TP
			C1112	0CK225DFK4A "2.2UF 2012 16V 20%,-20% F(Y5)"
			C1113	0CK225DFK4A "2.2UF 2012 16V 20%,-20% F(Y5)"
			C1114	0CK225DFK4A "2.2UF 2012 16V 20%,-20% F(Y5)"
			C113	0CK225DFK4A "2.2UF 2012 16V 20%,-20% F(Y5)"
			C900	0CH3103K516 10000PF 50V 10% B(Y5P) 2012
			C902	0CH3103K516 10000PF 50V 10% B(Y5P) 2012

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		C955	0CH5390K416	39PF 50V 5% NP0 2012 R/TP
		C1001	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		C1002	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		C1004	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		C1005	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		C11	0CK474CH94A	"0.47UF 1608 25V 80%,-20% R/T"
		C114	0CK225DFK4A	"2.2UF 2012 16V 20%,-20% F(Y5"
		C115	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C116	0CK562CK51A	5600PF 1608 50V 10% R/TP B(Y
		C117	0CK562CK51A	5600PF 1608 50V 10% R/TP B(Y
		C118	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C12	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C125	0CK105EK56A	1UF 3216 50V 10% X7R R/TP
		C126	0CK105EK56A	1UF 3216 50V 10% X7R R/TP
		C200	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C22	0CK822CK56A	8200PF 1608 50V 10% X7R R/TP
		C23	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C24	0CK822CK56A	8200PF 1608 50V 10% X7R R/TP
		C25	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C26	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C27	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C28	0CK334CF94A	"0.33UF 1608 16V 80%,-20% F(Y"
		C29	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C3	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C30	0CK334CF94A	"0.33UF 1608 16V 80%,-20% F(Y"
		C31	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C32	0CK334CF94A	"0.33UF 1608 16V 80%,-20% F(Y"
		C33	0CK334CF94A	"0.33UF 1608 16V 80%,-20% F(Y"
		C34	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C35	0CK334CF94A	"0.33UF 1608 16V 80%,-20% F(Y"
		C37	0CK334CF94A	"0.33UF 1608 16V 80%,-20% F(Y"
		C40	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C42	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C45	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C52	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C67	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C75	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C800	0CK105CF94A	"1UF 1608 16V 80%,-20% R/TP F"
		C801	0CK105CF94A	"1UF 1608 16V 80%,-20% R/TP F"
		C802	0CK105CF94A	"1UF 1608 16V 80%,-20% R/TP F"
		C807	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C811	0CK105CF94A	"1UF 1608 16V 80%,-20% R/TP F"
		C816	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C82	0CK474CH94A	"0.47UF 1608 25V 80%,-20% R/T"
		C901	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		C903	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		C904	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		C905	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		C906	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		C911	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C912	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C913	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C914	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C915	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C916	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C918	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C919	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C921	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C922	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C961	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C121	0CC100CK41A	10PF 1608 50V 5% R/TP NP0
		C122	0CC100CK41A	10PF 1608 50V 5% R/TP NP0

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		C43	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		C47	0CC220CK41A	22PF 1608 50V 5% R/TP NP0
		C48	0CC220CK41A	22PF 1608 50V 5% R/TP NP0
		C53	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		C56	0CC221CK41A	220PF 1608 50V 5% R/TP NP0
		C57	0CC221CK41A	220PF 1608 50V 5% R/TP NP0
		C58	0CC221CK41A	220PF 1608 50V 5% R/TP NP0
		C74	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		C83	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		C85	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		C86	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		C88	0CC390CK41A	39PF 1608 50V 5% R/TP NP0
		C889	0CC331CK41A	330PF 1608 50V 5% R/TP NP0
		C89	0CC390CK41A	39PF 1608 50V 5% R/TP NP0
		C890	0CC331CK41A	330PF 1608 50V 5% R/TP NP0
		C891	0CC331CK41A	330PF 1608 50V 5% R/TP NP0
		C98	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		C1106	0CE477BD618	470UF KME TYPE 10V 20% FL TP
		C1	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		C108	0CE476VH6DC	47UF MV 25V 20% R/TP(SMD) SM
		C1100	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		C1102	0CE227WF6DC	220UF MVK 16V 20% R/TP(SMD)
		C1103	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		C1105	0CH8476F691	47UF 16V 20% 105STD (CYL) R/
		C1109	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		C111	0CE475WJ6DC	4.7UF MVK 35V 20% R/TP(SMD)
		C1118	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		C112	0CE475WJ6DC	4.7UF MVK 35V 20% R/TP(SMD)
		C1124	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		C1130	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		C1132	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		C1134	0CE227WF6DC	220UF MVK 16V 20% R/TP(SMD)
		C1135	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		C1137	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		C1149	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		C119	0CH8106F691	10UF 16V 20% 105STD (CYL) R/
		C120	0CH8106F691	10UF 16V 20% 105STD (CYL) R/
		C17	0CE475WJ6DC	4.7UF MVK 35V 20% R/TP(SMD)
		C5	0CE475WJ6DC	4.7UF MVK 35V 20% R/TP(SMD)
		C55	0CE475VK6DC	4.7UF MV 50V 20% R/TP(SMD) S
		C60	0CE475VK6DC	4.7UF MV 50V 20% R/TP(SMD) S
		C852	0CH8476F691	47UF 16V 20% 105STD (CYL) R/
		C856	0CH8476F691	47UF 16V 20% 105STD (CYL) R/
		C859	0CH8476F691	47UF 16V 20% 105STD (CYL) R/
		C87	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		C876	0CH8106F691	10UF 16V 20% 105STD (CYL) R/
		C96	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		C99	0CH8106F691	10UF 16V 20% 105STD (CYL) R/
DIODEs				
		D100	0DRFC00288A	SS14 FAIR CHILD R/TP SMA 20-
		D101	0DRFC00288A	SS14 FAIR CHILD R/TP SMA 20-
		D1150	0DRGS00199A	UF4001 GENERAL SEMICONDUCTOR
		D102	0DS181009AA	KDS181 TP KEC SOT-23 80V 3
		D103	0DS181009AA	KDS181 TP KEC SOT-23 80V 3
		D107	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		ZD104	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 20
		ZD105	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 20
		ZD200	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 20
		ZD209	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 20
		ZD201	0DZ510009EE	UDZ S 5.1B TP ROHM-K SOD323

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		ZD211 D1151	0DZ510009EE 0DZ330009DF	UDZ S 5.1B TP ROHM-K SOD323 MTZJ33B TP ROHM-K DO34 0.5W
IC				
		IC905 IC3 IC4 IC903 IC100 IC101 IC1 IC901 IC1101 IC1103 IC1108 IC1111 IC1112 IC1105 IC1106 IC1114 IC1115 IC1110 IC1113 IC202	0IZZTSA003A 0IKE702700D 0IMCRAL006A 0IMCRAL006A 0IMCRMZ002A 0IMCRMZ002A 0IPRPMN003C 0IPRPGN015A 0IPMGFA061A 0IPMGSG018D 0IMCRKE010A 0IMCRFA015A 0IMCRKE010A 0IPMGFA061A 0IPMGSG018D 0IPMGFA061A 0IPMGFA061A 0ISS780800J 0ISS780800J 0IMO140662A	"ML-041B VGA PAL 20" "KIA7027AF 3, SOT-89 TP RESET" AT24C16AN-10SI-2.7 ATMEL 8P AT24C16AN-10SI-2.7 ATMEL 8P MP7720 MONOLITHIC POWER SYST MP7720 MONOLITHIC POWER SYST VCT49XYF C7(NTSC+PAL) MICRON "GM2221-BC GENESIS 208P,QFP T" "FAN1587AD33X FAIRCHILD 3P,DP" "LD1086DT18TR SGS-THOMSON 3P," KIA7812AF KEC 2P DPACK R/TP KA7805R FAIRCHILD 2P D-PAK R KIA7812AF KEC 2P DPACK R/TP-LPL "FAN1587AD33X FAIRCHILD 3P,DP" "LD1086DT18TR SGS-THOMSON 3P," "FAN1587AD33X FAIRCHILD 3P,DP" "FAN1587AD33X FAIRCHILD 3P,DP" "KA78M08R 3P,D-PAK TP VOL. RE" "KA78M08R 3P,D-PAK TP VOL. RE" "MC14066BDR2 14P,SOIC TP BILA"
COIL & CORE & INDUCTOR				
		L104 L105 L1150 L1100 L1101 L1103 L1105 L1106 L1107 L200 L201 L202 L203 L204 L853 L900 L901 L902 L903 L1102 L205 L800 L906 L907 L908 L10 L1001 L1002 L15 L2 L8 L888 L889 L890	6140TBZ045A 6140TBZ045A 150-985B 6210TCE001G 6210TCE001G 6210TCE001A 6210TCE001G 6210TCE001G 6210TCE001G 6210TCE001G 6210TCE001A 6210TCE001A 6210TCE001A 6210TCE001A 6210TCE001G 6210TCE001G 6210TCE001G 6210TCE001G 6210TCE001G 6210TCE001G 6210TCE001G 6210TCE001G 6210TCE001G 6210TCE001A 6210TCE001G 6210TCE001G 6210TCE001G 6210TCE001G 6210TCE001G 6210TCE001G 6210TCE001G 6210TCE001G 6210TCE001G 6210TCE001G 0LC1032101A 0LC1020101A 0LC1032101A 0LC1032101A 0LC1032101A 0LC1032101A 0LC0233002A 0LC0233002A 0LC0233002A	"38.5UH(DIP), 6A, P7.5, DR8.3" "38.5UH(DIP), 6A, P7.5, DR8.3" DR8*11 2.4MH 0.16MM 270.5T HH-1M3216-501 CERATEC 3216MM HH-1M3216-501 CERATEC 3216MM HB-1S2012-080JT CERATEC 2012 HH-1M3216-501 CERATEC 3216MM HH-1M3216-501 CERATEC 3216MM HH-1M3216-501 CERATEC 3216MM HB-1S2012-080JT CERATEC 2012 HB-1S2012-080JT CERATEC 2012 HB-1S2012-080JT CERATEC 2012 HB-1S2012-080JT CERATEC 2012 HH-1M3216-501 CERATEC 3216MM HH-1M3216-501 CERATEC 3216MM HH-1M3216-501 CERATEC 3216MM HH-1M3216-501 CERATEC 3216MM HH-1M3216-501 CERATEC 3216MM HH-1M3216-501 CERATEC 3216MM HH-1M3216-501 CERATEC 3216MM HH-1M3216-501 CERATEC 3216MM HH-1M3216-501 CERATEC 3216MM HH-1M3216-501 CERATEC 3216MM HH-1M3216-501 CERATEC 3216MM HH-1M3216-501 CERATEC 3216MM HH-1M3216-501 CERATEC 3216MM-LPL 10UH 10% 3216 R/TC FI-C3216- 1UH 10% 2012 R/TC FI-B2012-1 10UH 10% 3216 R/TC FI-C3216- 10UH 10% 3216 R/TC FI-C3216- 10UH 10% 3216 R/TC FI-C3216- 10UH 10% 3216 R/TC FI-C3216- 3.3UH CERATECH R/TP 3.3UH CERATECH R/TP 3.3UH CERATECH R/TP

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
FET & TRANSISTOR				
		IC1107 Q1 Q603 Q100 Q1000 Q101 Q1100 Q1151 Q12 Q13 Q14 Q15 Q2 Q3 IC902 IC902 IC1104	0TF492509AA 0TR387500AA 0TR387500AA 0TR387500AA 0TR388109AA 0TR150400BA 0TR387500AA 0TR387500AA 0TR150400BA 0TR150400BA 0TR150400BA 0TR387500AA 0TR387500AA 0TR150400BA 0TR150400BA 0TR387500AA 0TR150400BA 0TFV180005A 0TF492509AA 0TFV180005A	SI4925DY TP TEMIC 30V 6.1A CHIP 2SC3875S(ALY) BK KEC - CHIP 2SC3875S(ALY) BK KEC - CHIP 2SC3875S(ALY) BK KEC - KTC3881 CHIP TP KEC -- CHIP 2SA1504S(ASY) BK KEC - CHIP 2SC3875S(ALY) BK KEC - CHIP 2SC3875S(ALY) BK KEC - CHIP 2SA1504S(ASY) BK KEC - CHIP 2SA1504S(ASY) BK KEC - CHIP 2SA1504S(ASY) BK KEC - CHIP 2SC3875S(ALY) BK KEC - CHIP 2SC3875S(ALY) BK KEC - CHIP 2SA1504S(ASY) BK KEC - VISHAY SI4963DY R/TP SO-8 -2 SI4925DY TP TEMIC 30V 6.1A-LPL VISHAY SI4963DY R/TP SO-8 -2
RESISTORS				
		L1104 R1004 R1010 R1012 R106 R107 R1108 R1109 R1151 R1153 R126 R132 R133 R134 R135 R14 R140 R141 R142 R143 R144 R145 R146 R147 R57 R59 R6 R74 R818 R9 R908 R910 R915 R934 R988 R989 R995 R999 R136 R137 C931	0RH2202D622 0RH3000D622 0RH7501D622 0RH7502D622 0RH1500D622 0RH1003D622 0RH1003D622 0RH1003D622 0RH4700D622 0RH1000D622 0RH4701D622 0RH1003D622 0RH1003D622 0RH1003D622 0RH1003D622 0RH4701D622 0RH0392D622 0RH0392D622 0RH0392D622 0RH0392D622 0RH0392D622 0RH0392D622 0RH0392D622 0RH0392D622 0RH0392D622 0RH1000D622 0RH1201D622 0RH4702D622 0RH1000D622 0RH8200D622 0RH4701D622 0RH0822D622 0RH0822D622 0RH3600D622 0RH1000D622 0RJ3301D677 0RH8200D622 0RH0000D622 0RH1000D622 0RH8202D622 0RH8202D622 0RH0000D622	22K 1/10W 5 D.R/TP 300 1/10W 5 D.R/TP 7.5K 1/10W 5 D.R/TP 75K 1/10W 5 D.R/TP 150 1/10W 5 D.R/TP 100K 1/10W 5 D.R/TP 100K 1/10W 5 D.R/TP 100K 1/10W 5 D.R/TP 470 1/10W 5 D.R/TP 100 1/10W 5 D.R/TP 4.7K 1/10W 5 D.R/TP 100K 1/10W 5 D.R/TP 100K 1/10W 5 D.R/TP 100K 1/10W 5 D.R/TP 100K 1/10W 5 D.R/TP 4.7K 1/10W 5 D.R/TP 39 1/10W 5 D.R/TP 39 1/10W 5 D.R/TP 39 1/10W 5 D.R/TP 39 1/10W 5 D.R/TP 39 1/10W 5 D.R/TP 39 1/10W 5 D.R/TP 39 1/10W 5 D.R/TP 39 1/10W 5 D.R/TP 39 1/10W 5 D.R/TP 100 1/10W 5 D.R/TP 1.2K 1/10W 5 D.R/TP 47K 1/10W 5 D.R/TP 100 1/10W 5 D.R/TP 820 1/10W 5 D.R/TP 4.7K 1/10W 5 D.R/TP 82 1/10W 5 D.R/TP 82 1/10W 5 D.R/TP CHIP 360-J 1/10 W 100 1/10W 5 D.R/TP 3.3K OHM 1/10 W 5% 1608 R/TP-LPL 820 1/10W 5 D.R/TP 0 OHM 1 / 10 W 2012 5.00% D-LPL 100 1/10W 5 D.R/TP 82K 1/10W 5 D.R/TP 82K 1/10W 5 D.R/TP 0 OHM 1 / 10 W 2012 5.00% D

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		C932	ORH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		C933	ORH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		L905	ORH0222D622	22 OHM 1 / 10 W 2012 5.00% D
		R1002	ORH1501D622	1.5K OHM 1 / 10 W 2012 5.00%
		R1011	ORH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		R1106	ORH1002D622	10K OHM 1 / 10 W 2012 5.00%
		R1152	ORH1001D622	1K OHM 1 / 10 W 2012 5.00% D
		R1154	ORH0000D622	0 OHM 1 / 10 W 2012 5.00% D-LPL
		R1155	ORH1002D622	10K OHM 1 / 10 W 2012 5.00%
		R12	ORH1001D622	1K OHM 1 / 10 W 2012 5.00% D
		R128	ORH1002D622	10K OHM 1 / 10 W 2012 5.00%
		R129	ORH1002D622	10K OHM 1 / 10 W 2012 5.00%
		R13	ORH1001D622	1K OHM 1 / 10 W 2012 5.00% D
		R148	ORH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		R149	ORH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		R36	ORH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		R7	ORH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		R817	ORH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		R822	ORH1002D622	10K OHM 1 / 10 W 2012 5.00%
		R919	ORH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		R961	ORH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		R964	ORH1002D622	10K OHM 1 / 10 W 2012 5.00%
		R1	ORJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R10	ORJ3301D677	3.3K OHM 1/10 W 5% 1608 R/TP
		R1001	ORJ0562D677	56 OHM 1/10 W 5% 1608 R/TP
		R1003	ORJ8200D677	820 OHM 1/10 W 5% 1608 R/TP
		R1005	ORJ0682D677	68 OHM 1/10 W 5% 1608 R/TP
		R1014	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R11	ORJ3301D677	3.3K OHM 1/10 W 5% 1608 R/TP
		R1105	ORJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R1107	ORJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R1149	ORH1002D622	10K OHM 1 / 10 W 2012 5.00%
		R1150	ORJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R124	ORJ1500D677	150 OHM 1/10 W 5% 1608 R/TP
		R125	ORJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R127	ORJ2701D677	2.7K OHM 1/10 W 5% 1608 R/TP
		R130	ORJ1202D677	12K OHM 1/10 W 5% 1608 R/TP
		R131	ORJ1202D677	12K OHM 1/10 W 5% 1608 R/TP
		R138	ORJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R139	ORJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R15	ORJ0822D677	82 OHM 1/10 W 5% 1608 R/TP
		R16	ORJ2200D677	220 OHM 1/10 W 5% 1608 R/TP
		R17	ORJ0822D677	82 OHM 1/10 W 5% 1608 R/TP
		R18	ORJ2200D677	220 OHM 1/10 W 5% 1608 R/TP
		R19	ORJ0822D677	82 OHM 1/10 W 5% 1608 R/TP
		R2	ORJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R20	ORJ2200D677	220 OHM 1/10 W 5% 1608 R/TP
		R203	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R21	ORJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R218	ORJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R219	ORJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R22	ORJ1500D677	150 OHM 1/10 W 5% 1608 R/TP
		R221	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R224	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R225	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R226	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R227	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R229	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R23	ORJ2701D677	2.7K OHM 1/10 W 5% 1608 R/TP
		R24	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R240	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R25	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R28	ORJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R29	ORJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R3	ORJ4700D677	470 OHM 1/10 W 5% 1608 R/TP
		R34	ORJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R4	ORJ1500D677	150 OHM 1/10 W 5% 1608 R/TP
		R41	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R45	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R46	ORJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R5	ORJ1500D677	150 OHM 1/10 W 5% 1608 R/TP
		R50	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R51	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R52	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R53	ORJ1500D677	150 OHM 1/10 W 5% 1608 R/TP
		R54	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R55	ORJ1500D677	150 OHM 1/10 W 5% 1608 R/TP
		R56	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R58	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R60	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R62	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R64	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R66	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R68	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R69	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R70	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R72	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R73	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R75	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R76	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R77	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R78	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R8	ORJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R80	ORJ2202D677	22K OHM 1/10 W 5% 1608 R/TP
		R834	ORJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R836	ORJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R837	ORJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R888	ORJ0752D677	75 OHM 1/10 W 5% 1608 R/TP
		R889	ORJ0752D677	75 OHM 1/10 W 5% 1608 R/TP
		R890	ORJ0752D677	75 OHM 1/10 W 5% 1608 R/TP
		R901	ORJ0472D677	47 OHM 1/10 W 5% 1608 R/TP
		R902	ORJ0472D677	47 OHM 1/10 W 5% 1608 R/TP
		R904	ORJ0472D677	47 OHM 1/10 W 5% 1608 R/TP
		R907	ORJ3301D677	3.3K OHM 1/10 W 5% 1608 R/TP
		R909	ORJ0822D677	82 OHM 1/10 W 5% 1608 R/TP
		R911	ORJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R912	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R913	ORJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R914	ORJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R917	ORJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R928	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R929	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R930	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R931	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R932	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R935	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R936	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R938	ORJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R939	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R940	ORJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R941	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R942	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R943	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R944	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R945	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R946	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R947	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R950	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R951	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R952	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R953	0RJ3301D677	3.3K OHM 1/10 W 5% 1608 R/TP
		R954	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R96	0RJ3301D677	3.3K OHM 1/10 W 5% 1608 R/TP
		R979	0RJ3301D677	3.3K OHM 1/10 W 5% 1608 R/TP
		R980	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R981	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R982	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R983	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R984	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R991	0RJ3301D677	3.3K OHM 1/10 W 5% 1608 R/TP
		R992	0RJ3301D677	3.3K OHM 1/10 W 5% 1608 R/TP
OTHERs				
		Z1000	6200QL3002F	"X6966M EPCOS ST SIP5K, 6200Q"
		X11	6202TST003C	HC-49/SM5H KONY CHIP 20.25MH
		X900	6202VDT002B	SX-1 SUNNY SC14.3MHZ +/- 30
		IC905	6620F00017A	CCSD-32T-SM WOYOYOUNG 32P PLC
		Q1150	0TR322809AB	KTC3228-Y(KTC2383) TP KEC TO
		TU1000	6700VS0003A	TAEW-G051D LG INOTEK MULTI V
CONTROL BOARD				
		R2200	ORN1101F409	1.10K 1/6W 1% TA52
		R2201	ORN8200F409	820 1/6W 1% TA52
		R2202	ORN5600F409	560 1/6W 1% TA52
		R2203	ORN4700F409	470 1/6W 1 TA52
		R2204	ORN3900F409	390 1/6W 1% TA52
		R2205	ORN3300F409	330 1/6W 1% TA52
		R2206	ORN2700F409	270 1/6W 1% TA52
		R2207	ORN3301F409	3.30K 1/6W 1% TA52
		R2208	ORN2000F409	200 1/6W 1% TA52
		SW2200	140-313B	TACT 2LEAD 160G(TA) LG C&D N
		SW2201	140-313B	TACT 2LEAD 160G(TA) LG C&D N
		SW2202	140-313B	TACT 2LEAD 160G(TA) LG C&D N
		SW2203	140-313B	TACT 2LEAD 160G(TA) LG C&D N
		SW2204	140-313B	TACT 2LEAD 160G(TA) LG C&D N
		SW2205	140-313B	TACT 2LEAD 160G(TA) LG C&D N
		SW2206	140-313B	TACT 2LEAD 160G(TA) LG C&D N
		SW2207	140-313B	TACT 2LEAD 160G(TA) LG C&D N
IR BOARD				
		C2101	0CH3104K566	0.1UF 50V 10% X7R 2012 R/TP
		L2101	6210TCE001A	HB-1S2012-080JT CERATEC 2012
		Q2101	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC -
		Q2102	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC -
		Q2103	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC -
		R2101	0RH1000D622	100 1/10W 5 D.R/TP
		R2102	0RH1000D622	100 1/10W 5 D.R/TP
		R2103	0RH1001D622	1K OHM 1 / 10 W 2012 5.00% D
		R2104	0RH1001D622	1K OHM 1 / 10 W 2012 5.00% D
		R2105	0RH1001D622	1K OHM 1 / 10 W 2012 5.00% D
		R2106	0RH1000D622	100 1/10W 5 D.R/TP
		R2111	0RH4301D622	4.3K 1/10W 5 TA
		R2113	0RH0000D622	0 OHM 1 / 10 W 2012 5.00% D

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
			LED2100	0DL200000CA SAM5670(DL-2LRG) BK Y-GREEN
JACK BOARD				
			C1201	0CH6221K416 220PF 50V J NP0 2012 R/TP
			C1202	0CH6101K416 100PF 50V J NP0 2012 R/TP
			C1207	0CH6471K416 470F 50V J NP0 2012 R/TP
			C1208	0CH6471K416 470F 50V J NP0 2012 R/TP
			C1215	0CH3103K516 10000PF 50V 10% B(Y5P) 2012
			C1216	0CH3103K516 10000PF 50V 10% B(Y5P) 2012
			C1221	0CH6331K416 330PF 50V J NP0 2012 R/TP
			C1223	0CH6471K416 470F 50V J NP0 2012 R/TP
			C1224	0CH6471K416 470F 50V J NP0 2012 R/TP
			L1200	0LC1020101A 1UH 10% 2012 R/TC FI-B2012-1
			L1202	6210TCE001A HB-1S2012-080JT CERATEC 2012
			L1203	6210TCE001A HB-1S2012-080JT CERATEC 2012
			L1206	6210TCE001A HB-1S2012-080JT CERATEC 2012
			L1207	6210TCE001A HB-1S2012-080JT CERATEC 2012
			L1208	6210TCE001A HB-1S2012-080JT CERATEC 2012
			L1211	6210TCE001A HB-1S2012-080JT CERATEC 2012
			L1212	0LC0233002A 3.3UH CERATECH R/TP
			L1213	6210TCE001A HB-1S2012-080JT CERATEC 2012
			L1214	6210TCE001A HB-1S2012-080JT CERATEC 2012
			L1215	6210TCE001A HB-1S2012-080JT CERATEC 2012
			R1200	0RH0682D622 68 1/10W 5 D.R/TP
			R1201	0RH0222D622 22 OHM 1 / 10 W 2012 5.00% D
			R1202	0RH0752D622 75 1/10W 5 D.R/TP
			R1205	0RH0222D622 22 OHM 1 / 10 W 2012 5.00% D
			R1206	0RH0752D622 75 1/10W 5 D.R/TP
			R1217	0RH4703D622 470K 1/10W 5 D.R/TP
			R1218	0RH5101D622 5.1K 1/10W 5 D.R/TP
			R1219	0RH5101D622 5.1K 1/10W 5 D.R/TP
			R1220	0RH4703D622 470K 1/10W 5 D.R/TP
			R1224	0RJ1000H680 100 OHM 1/2 W 5% 5025 R/TP
			R1225	0RJ1000H680 100 OHM 1/2 W 5% 5025 R/TP
			R1230	0RH0752D622 75 1/10W 5 D.R/TP
			R1231	0RH0752D622 75 1/10W 5 D.R/TP
			R1232	0RH5101D622 5.1K 1/10W 5 D.R/TP
			R1233	0RH4703D622 470K 1/10W 5 D.R/TP
			R1234	0RH5101D622 5.1K 1/10W 5 D.R/TP
			R1235	0RH4703D622 470K 1/10W 5 D.R/TP
			ZD1200	0DZ620009HB UDZ S 6.2B TP ROHM SOD323 20
			ZD1206	0DZ620009HB UDZ S 6.2B TP ROHM SOD323 20
			ZD1207	0DZ620009HB UDZ S 6.2B TP ROHM SOD323 20
			ZD1212	0DZ620009HB UDZ S 6.2B TP ROHM SOD323 20
			ZD1213	0DZ620009HB UDZ S 6.2B TP ROHM SOD323 20
			ZD1214	0DZ620009HB UDZ S 6.2B TP ROHM SOD323 20
			C1200	0CE107WF6DC 100UF MVK 16V 20% R/TP(SMD)
			C1209	0CH8226F691 22UF 16V 20% 105STD (CYL) R/
			C1210	0CH6471K416 470F 50V J NP0 2012 R/TP
			C1211	0CH8226F691 22UF 16V 20% 105STD (CYL) R/
			C1212	0CH6471K416 470F 50V J NP0 2012 R/TP
			C1213	0CH6101K416 100PF 50V J NP0 2012 R/TP
			C1214	0CH6101K416 100PF 50V J NP0 2012 R/TP
			C1217	0CH3104K946 10000PF 50V Z F 2012 R/TP
			C1218	0CH6331K416 330PF 50V J NP0 2012 R/TP
			C1219	0CH6331K416 330PF 50V J NP0 2012 R/TP
			C1220	0CH6331K416 330PF 50V J NP0 2012 R/TP
			L1204	0RH3001D622 3.0K 1/10W 5 D.R/TP
			L1205	0RH3001D622 3.0K 1/10W 5 D.R/TP
			L1209	0LC0233002A 3.3UH CERATECH R/TP
			L1210	0LC0233002A 3.3UH CERATECH R/TP

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R1203	0RH0752D622	75 1/10W 5 D.R/TP
		R1204	0RH0752D622	75 1/10W 5 D.R/TP
		R1207	0RH0752D622	75 1/10W 5 D.R/TP
		R1210	0RH0752D622	75 1/10W 5 D.R/TP
		R1212	0RH0752D622	75 1/10W 5 D.R/TP
		R1214	0RH0752D622	75 1/10W 5 D.R/TP
		R1215	0RH3902D622	39K OHM 1 / 10 W 2012 5.00%
		R1216	0RH5102D622	51K 1/10W 5 D.R/TP
		R1221	0RH1001D622	1K OHM 1 / 10 W 2012 5.00% D
		R1222	0RH1001D622	1K OHM 1 / 10 W 2012 5.00% D
		R1226	0RH0472D622	47 1/10W 5 D.R/TP
		R1227	0RH0752D622	75 1/10W 5 D.R/TP
		R1228	0RH0752D622	75 1/10W 5 D.R/TP
		R1229	0RH0752D622	75 1/10W 5 D.R/TP
		ZD1210	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 20
		ZD1211	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 20
		ZD1215	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 20
		ZD1216	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 20
		ZD1217	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 20
		ZD1218	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 20
		ZD1219	0DZ120009CF	UDZ 12B TP ROHM-K SOD323 200

REPLACEMENT PARTS LIST(RT-20LA90)

For Capacitor & Resistors, the characters at 2nd and 3rd digit in the P/No. means as follows;

CC, CX, CK, CN, CH : Ceramic
 CQ : Polyester
 CE : Electrolytic
 CF : Fixed Film

RD : Carbon Film
 RS : Metal Oxide Film
 RN : Metal Film
 RH : CHIP, Metal Glazed(Chip)
 RR : Drawing

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
MAIN BOARD				
CAPACITOR				
			C1008	0CE227CF638 "220UF SHL,SD 16V M FM5 TP 5"
			C1101	0CE227BH638 220U KME 25V M FM5 TP5
			C1104	0CE227BH638 220U KME 25V M FM5 TP5
			C1107	0CE477BH618 470UF KME TYPE 25V M FL TP 5
			C1140	0CE227BH638 220U KME 25V M FM5 TP5
			C1152	0CE107BK638 100UF KME 50V M FM5 TP5
			C123	0CE477BH618 470UF KME TYPE 25V M FL TP 5
			C124	0CE477BH618 470UF KME TYPE 25V M FL TP 5
			C131	0CE477BH618 470UF KME TYPE 25V M FL TP 5
			C132	0CE477BH618 470UF KME TYPE 25V M FL TP 5
			C133	0CE477BH618 470UF KME TYPE 25V M FL TP 5
			C134	0CE477BH618 470UF KME TYPE 25V M FL TP 5
			C1150	0CH3105F946 1UF 16V Z F 2012 R/TP
			C1151	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C127	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C128	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C135	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C136	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C15	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C16	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C19	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C4	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C41	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C44	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C49	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C6	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C803	0CH3105F946 1UF 16V Z F 2012 R/TP
			C804	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C808	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C810	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C812	0CH3105F946 1UF 16V Z F 2012 R/TP
			C851	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C855	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C858	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C861	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C863	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C865	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C866	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C867	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C869	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C871	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C874	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C875	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C877	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C909	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C910	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C917	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C920	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C925	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C926	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C927	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C928	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C929	0CH3104K946 100000PF 50V Z F 2012 R/TP

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
			C930	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C934	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C935	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C936	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C937	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C938	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C939	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C940	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C943	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C944	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C945	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C946	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C947	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C948	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C949	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C950	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C956	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C964	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C965	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C967	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C968	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C97	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C970	0CH3104K946 100000PF 50V Z F 2012 R/TP
			C13	0CH6102K406 1000PF 50V J SL 2012 R/TP
			C14	0CH6102K406 1000PF 50V J SL 2012 R/TP
			C2	0CH6102K406 1000PF 50V J SL 2012 R/TP
			C20	0CH6102K406 1000PF 50V J SL 2012 R/TP
			C21	0CH6102K406 1000PF 50V J SL 2012 R/TP
			C46	0CH6102K406 1000PF 50V J SL 2012 R/TP
			C50	0CH6102K406 1000PF 50V J SL 2012 R/TP
			C59	0CH6102K406 1000PF 50V J SL 2012 R/TP
			C7	0CH6221K416 220PF 50V J NP0 2012 R/TP
			C8	0CH6221K416 220PF 50V J NP0 2012 R/TP
			C9	0CH6221K416 220PF 50V J NP0 2012 R/TP
			C907	0CH6331K416 330PF 50V J NP0 2012 R/TP
			C923	0CH6080K116 8PF 50V D NP0 2012 R/TP
			C924	0CH6080K116 8PF 50V D NP0 2012 R/TP
			C129	181-007F "MPE ECQ-V1H224JL3(TR), 50V 0"
			C130	181-007F "MPE ECQ-V1H224JL3(TR), 50V 0"
			C1003	0CH3103K516 10000PF 50V 10% B(Y5P) 2012
			C1007	0CH3103K516 10000PF 50V 10% B(Y5P) 2012
			C1010	0CK273DK51A 27000PF 2012 50V 10% B(Y5P)
			C1015	0CH5390K416 39PF 50V 5% NP0 2012 R/TP
			C1016	0CH5390K416 39PF 50V 5% NP0 2012 R/TP
			C107	0CK225DFK4A "2.2UF 2012 16V 20%,-20% F(Y5)"
			C109	0CH3103K516 10000PF 50V 10% B(Y5P) 2012
			C110	0CH3103K516 10000PF 50V 10% B(Y5P) 2012
			C1108	0CK106EF56A 10UF 3216 16V 10% X7R R/TP
			C1112	0CK225DFK4A "2.2UF 2012 16V 20%,-20% F(Y5)"
			C1113	0CK225DFK4A "2.2UF 2012 16V 20%,-20% F(Y5)"
			C1114	0CK225DFK4A "2.2UF 2012 16V 20%,-20% F(Y5)"
			C113	0CK225DFK4A "2.2UF 2012 16V 20%,-20% F(Y5)"
			C900	0CH3103K516 10000PF 50V 10% B(Y5P) 2012
			C902	0CH3103K516 10000PF 50V 10% B(Y5P) 2012

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		C955	0CH5390K416	39PF 50V 5% NP0 2012 R/TP
		C1001	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		C1002	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		C1004	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		C1005	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		C11	0CK474CH94A	"0.47UF 1608 25V 80%,-20% R/T"
		C114	0CK225DFK4A	"2.2UF 2012 16V 20%,-20% F(Y5"
		C115	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C116	0CK562CK51A	5600PF 1608 50V 10% R/TP B(Y
		C117	0CK562CK51A	5600PF 1608 50V 10% R/TP B(Y
		C118	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C12	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C125	0CK105EK56A	1UF 3216 50V 10% X7R R/TP
		C126	0CK105EK56A	1UF 3216 50V 10% X7R R/TP
		C200	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C22	0CK822CK56A	8200PF 1608 50V 10% X7R R/TP
		C23	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C24	0CK822CK56A	8200PF 1608 50V 10% X7R R/TP
		C25	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C26	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C27	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C28	0CK334CF94A	"0.33UF 1608 16V 80%,-20% F(Y"
		C29	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C3	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C30	0CK334CF94A	"0.33UF 1608 16V 80%,-20% F(Y"
		C31	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C32	0CK334CF94A	"0.33UF 1608 16V 80%,-20% F(Y"
		C33	0CK334CF94A	"0.33UF 1608 16V 80%,-20% F(Y"
		C34	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C35	0CK334CF94A	"0.33UF 1608 16V 80%,-20% F(Y"
		C37	0CK334CF94A	"0.33UF 1608 16V 80%,-20% F(Y"
		C40	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C42	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C45	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C52	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C67	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C75	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C800	0CK105CF94A	"1UF 1608 16V 80%,-20% R/TP F"
		C801	0CK105CF94A	"1UF 1608 16V 80%,-20% R/TP F"
		C802	0CK105CF94A	"1UF 1608 16V 80%,-20% R/TP F"
		C807	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C811	0CK105CF94A	"1UF 1608 16V 80%,-20% R/TP F"
		C816	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C82	0CK474CH94A	"0.47UF 1608 25V 80%,-20% R/T"
		C901	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		C903	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		C904	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		C905	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		C906	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		C911	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C912	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C913	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C914	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C915	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C916	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C918	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C919	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C921	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C922	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C961	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C121	0CC100CK41A	10PF 1608 50V 5% R/TP NP0
		C122	0CC100CK41A	10PF 1608 50V 5% R/TP NP0

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		C43	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		C47	0CC220CK41A	22PF 1608 50V 5% R/TP NP0
		C48	0CC220CK41A	22PF 1608 50V 5% R/TP NP0
		C53	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		C56	0CC221CK41A	220PF 1608 50V 5% R/TP NP0
		C57	0CC221CK41A	220PF 1608 50V 5% R/TP NP0
		C58	0CC221CK41A	220PF 1608 50V 5% R/TP NP0
		C74	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		C83	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		C85	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		C86	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		C88	0CC390CK41A	39PF 1608 50V 5% R/TP NP0
		C89	0CC390CK41A	39PF 1608 50V 5% R/TP NP0
		C98	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		C1106	0CE477BD618	470UF KME TYPE 10V 20% FL TP
		C108	0CE476VH6DC	47UF MV 25V 20% R/TP(SMD) SM
		C1100	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		C1102	0CE227WF6DC	220UF MVK 16V 20% R/TP(SMD)
		C1103	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		C1109	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		C111	0CE475WJ6DC	4.7UF MVK 35V 20% R/TP(SMD)
		C1118	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		C112	0CE475WJ6DC	4.7UF MVK 35V 20% R/TP(SMD)
		C1124	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		C1130	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		C1132	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		C1134	0CE227WF6DC	220UF MVK 16V 20% R/TP(SMD)
		C1135	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		C1137	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		C1149	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		C119	0CH8106F691	10UF 16V 20% 105STD (CYL) R/
		C120	0CH8106F691	10UF 16V 20% 105STD (CYL) R/
		C17	0CE475WJ6DC	4.7UF MVK 35V 20% R/TP(SMD)
		C5	0CE475WJ6DC	4.7UF MVK 35V 20% R/TP(SMD)
		C55	0CE475VK6DC	4.7UF MV 50V 20% R/TP(SMD) S
		C60	0CE475VK6DC	4.7UF MV 50V 20% R/TP(SMD) S
		C852	0CH8476F691	47UF 16V 20% 105STD (CYL) R/
		C859	0CH8476F691	47UF 16V 20% 105STD (CYL) R/
		C87	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		C876	0CH8106F691	10UF 16V 20% 105STD (CYL) R/
		C96	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		C99	0CH8106F691	10UF 16V 20% 105STD (CYL) R/
DIODEs				
		D100	0DRFC00288A	SS14 FAIR CHILD R/TP SMA 20-
		D101	0DRFC00288A	SS14 FAIR CHILD R/TP SMA 20-
		D1150	0DRGS00199A	UF4001 GENERAL SEMICONDUCTOR
		D102	0DS181009AA	KDS181 TP KEC SOT-23 80V 3
		D103	0DS181009AA	KDS181 TP KEC SOT-23 80V 3
		D107	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		ZD104	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 20
		ZD105	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 20
		ZD200	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 20
		ZD209	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 20
		ZD201	0DZ510009EE	UDZ S 5.1B TP ROHM-K SOD323
		ZD211	0DZ510009EE	UDZ S 5.1B TP ROHM-K SOD323
		D1151	0DZ330009DF	MTZJ33B TP ROHM-K DO34 0.5V
IC				
		IC905	0IZZTSA003A	"ML-041B VGA PAL 20"" CMO ATME"

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		IC3	0IKE702700D	"KIA7027AF 3, SOT-89 TP RESET"
		IC4	0IMCRAL006A	AT24C16AN-10SI-2.7 ATMEL 8P
		IC903	0IMCRAL006A	AT24C16AN-10SI-2.7 ATMEL 8P
		IC100	0IMCRMZ002A	MP7720 MONOLITHIC POWER SYST
		IC101	0IMCRMZ002A	MP7720 MONOLITHIC POWER SYST
		IC1	0IPRPMN003C	VCT49XYF C7(NTSC+PAL) MICRON
		IC800	0IPRPNP001A	"SM5301BS(ATSC DTV) NPC 28P,H"
		IC901	0IPRPGN015A	"GM2221-BC GENESIS 208P,QFP T"
		IC1101	0IPMGFA061A	"FAN1587AD33X FAIRCHILD 3P,DP"
		IC1103	0IPMGSG018D	"LD1086DT18TR SGS-THOMSON 3P,"
		IC1108	0IMCRKE010A	KIA7812AF KEC 2P DPACK R/TP
		IC1111	0IMCRFA015A	KA7805R FAIRCHILD 2P D-PAK R
		IC1112	0IMCRKE010A	KIA7812AF KEC 2P DPACK R/TP
		IC1105	0IPMGFA061A	"FAN1587AD33X FAIRCHILD 3P,DP"
		IC1106	0IPMGSG018D	"LD1086DT18TR SGS-THOMSON 3P,"
		IC1114	0IPMGFA061A	"FAN1587AD33X FAIRCHILD 3P,DP"
		IC1115	0IPMGFA061A	"FAN1587AD33X FAIRCHILD 3P,DP"
		IC1110	0ISS780800J	"KA78M08R 3P,D-PAK TP VOL. RE"
		IC1113	0ISS780800J	"KA78M08R 3P,D-PAK TP VOL. RE"
		IC202	0IMO140662A	"MC14066BDR2 14P,SOIC TP BILA"
COIL & CORE & INDUCTOR				
		L104	6140TBZ045A	"38.5UH(DIP), 6A, P7.5, DR8.3"
		L105	6140TBZ045A	"38.5UH(DIP), 6A, P7.5, DR8.3"
		L1150	150-985B	DR8*11 2.4MH 0.16MM 270.5T
		L1100	6210TCE001G	HH-1M3216-501 CERATEC 3216MM
		L1101	6210TCE001G	HH-1M3216-501 CERATEC 3216MM
		L1103	6210TCE001A	HB-1S2012-080JT CERATEC 2012
		L1105	6210TCE001G	HH-1M3216-501 CERATEC 3216MM
		L1106	6210TCE001G	HH-1M3216-501 CERATEC 3216MM
		L1107	6210TCE001G	HH-1M3216-501 CERATEC 3216MM
		L200	6210TCE001A	HB-1S2012-080JT CERATEC 2012
		L201	6210TCE001A	HB-1S2012-080JT CERATEC 2012
		L202	6210TCE001A	HB-1S2012-080JT CERATEC 2012
		L203	6210TCE001A	HB-1S2012-080JT CERATEC 2012
		L204	6210TCE001G	HH-1M3216-501 CERATEC 3216MM
		L853	6210TCE001G	HH-1M3216-501 CERATEC 3216MM
		L900	6210TCE001G	HH-1M3216-501 CERATEC 3216MM
		L901	6210TCE001G	HH-1M3216-501 CERATEC 3216MM
		L902	6210TCE001G	HH-1M3216-501 CERATEC 3216MM
		L903	6210TCE001G	HH-1M3216-501 CERATEC 3216MM
		L1102	6210TCE001G	HH-1M3216-501 CERATEC 3216MM
		L205	6210TCE001A	HB-1S2012-080JT CERATEC 2012
		L800	6210TCE001G	HH-1M3216-501 CERATEC 3216MM
		L906	6210TCE001G	HH-1M3216-501 CERATEC 3216MM
		L908	6210TCE001G	HH-1M3216-501 CERATEC 3216MM
		L10	0LC1032101A	10UH 10% 3216 R/TC FI-C3216-
		L1001	0LC1020101A	1UH 10% 2012 R/TC FI-B2012-1
		L1002	0LC1032101A	10UH 10% 3216 R/TC FI-C3216-
		L15	0LC1032101A	10UH 10% 3216 R/TC FI-C3216-
		L2	0LC1032101A	10UH 10% 3216 R/TC FI-C3216-
		L8	0LC1032101A	10UH 10% 3216 R/TC FI-C3216-
FET & TRANSISTOR				
		IC902	0TF492509AA	SI4925DY TP TEMIC 30V 6.1A
		IC1107	0TF492509AA	SI4925DY TP TEMIC 30V 6.1A
		Q1150	0TR322809AB	KTC3228-Y(KTC2383) TP KEC TO
		Q1	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC -
		Q603	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC -
		Q900	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC -

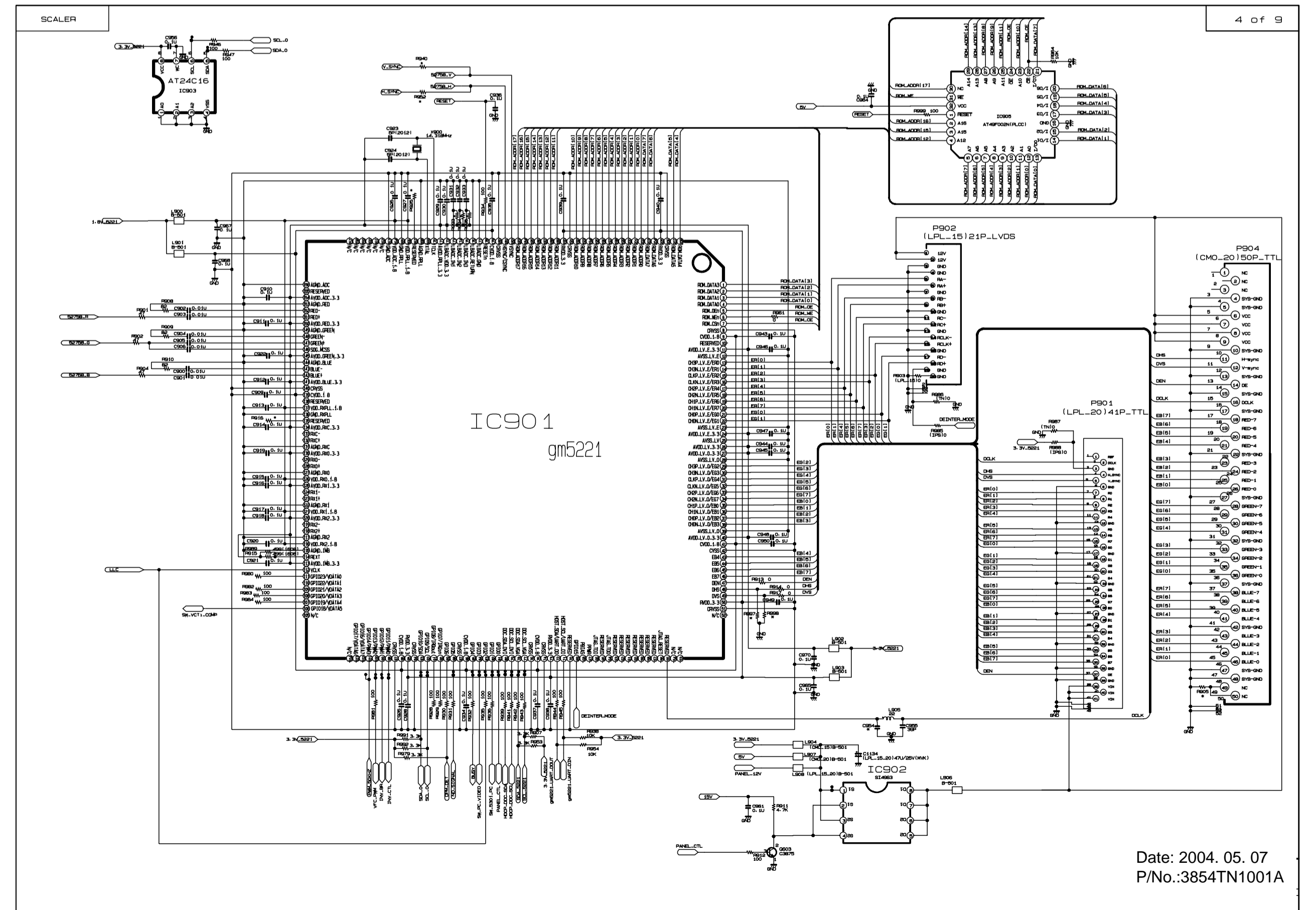
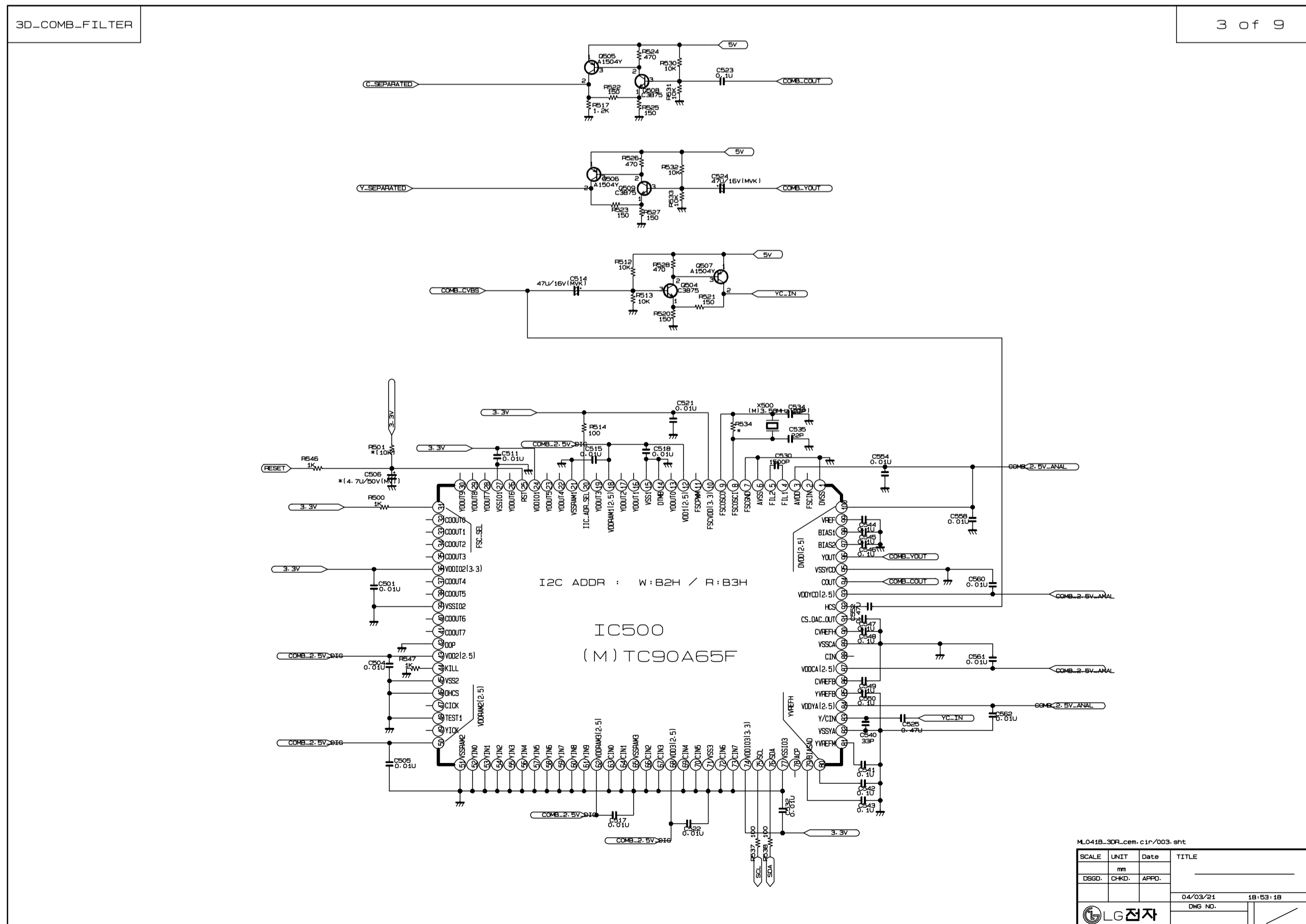
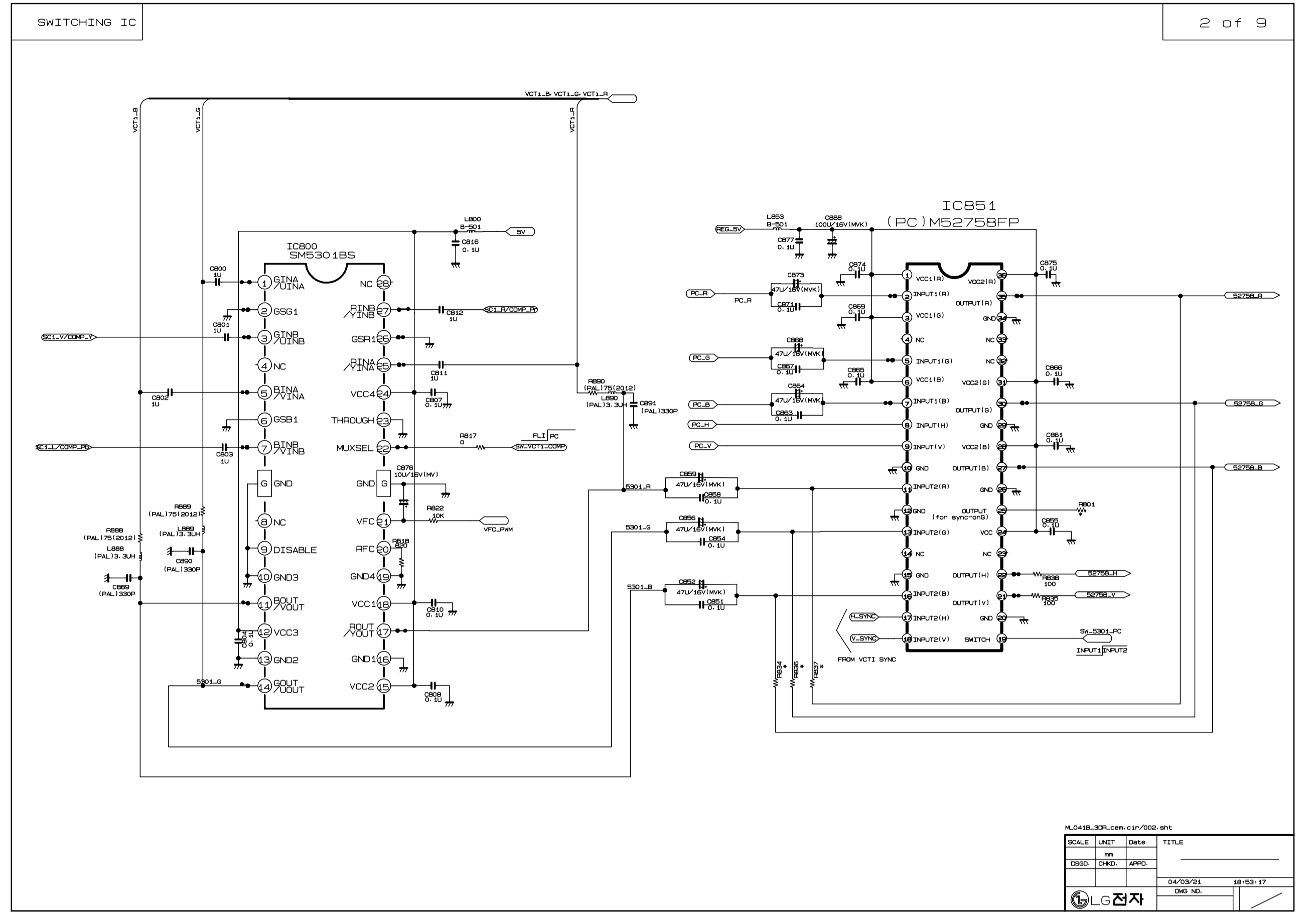
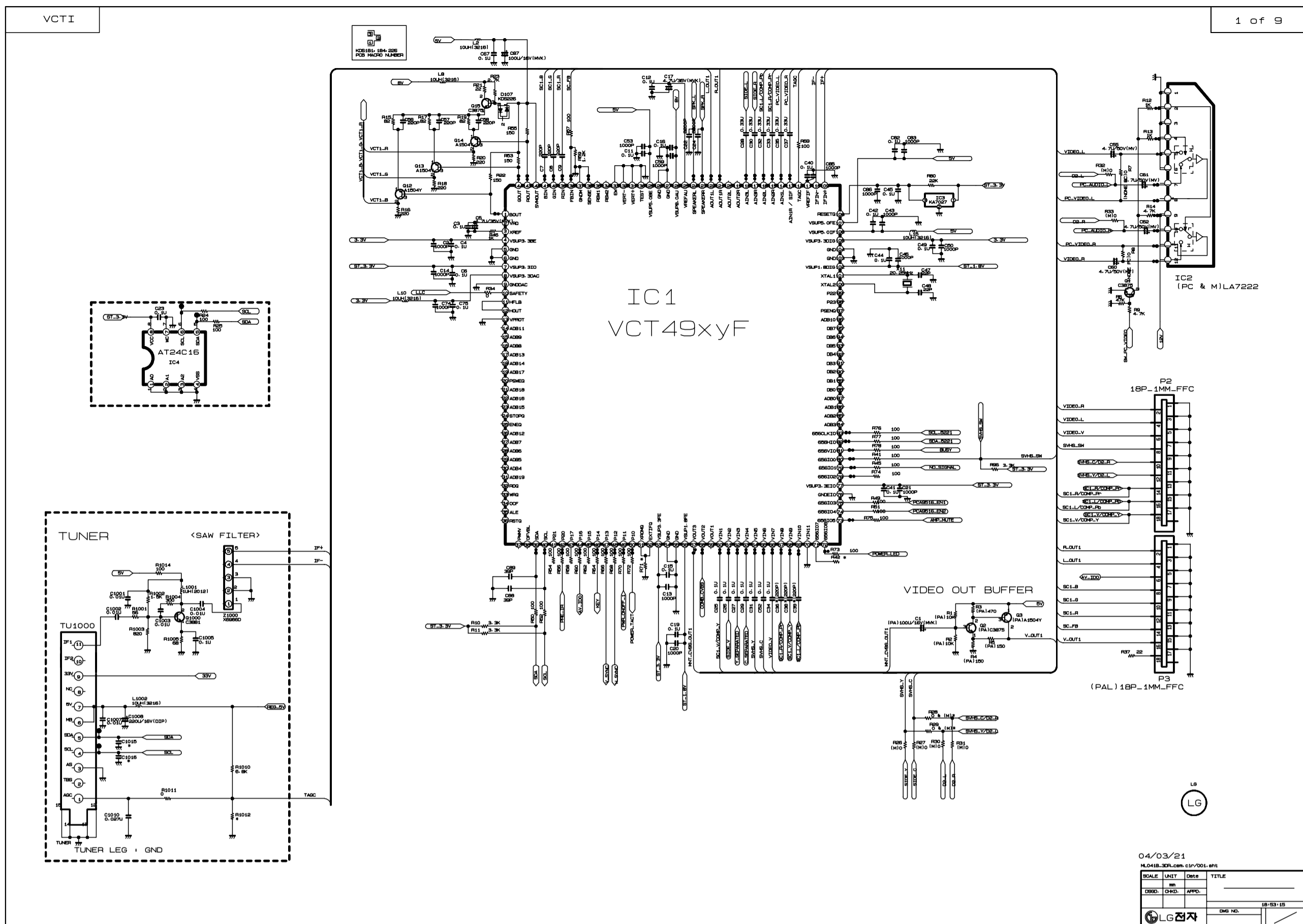
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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		Q100	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC -
		Q1000	0TR388109AA	KTC3881 CHIP TP KEC - -
		Q101	0TR150400BA	CHIP 2SA1504S(ASY) BK KEC -
		Q1100	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC -
		Q1151	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC -
		Q12	0TR150400BA	CHIP 2SA1504S(ASY) BK KEC -
		Q13	0TR150400BA	CHIP 2SA1504S(ASY) BK KEC -
		Q14	0TR150400BA	CHIP 2SA1504S(ASY) BK KEC -
		Q15	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC -
		IC1104	0TFV180005A	VISHAY SI4963DY R/TP SO-8 -2
RESISTORS				
		L1104	0RH2202D622	22K 1/10W 5 D.R/TP
		R1004	0RH3000D622	300 1/10W 5 D.R/TP
		R1010	0RH7501D622	7.5K 1/10W 5 D.R/TP
		R1012	0RH7502D622	75K 1/10W 5 D.R/TP
		R106	0RH1500D622	150 1/10W 5 D.R/TP
		R107	0RH1003D622	100K 1/10W 5 D.R/TP
		R1108	0RH1003D622	100K 1/10W 5 D.R/TP
		R1109	0RH1003D622	100K 1/10W 5 D.R/TP
		R1151	0RH4700D622	470 1/10W 5 D.R/TP
		R1153	0RH1000D622	100 1/10W 5 D.R/TP
		R126	0RH4701D622	4.7K 1/10W 5 D.R/TP
		R132	0RH1003D622	100K 1/10W 5 D.R/TP
		R133	0RH1003D622	100K 1/10W 5 D.R/TP
		R134	0RH1003D622	100K 1/10W 5 D.R/TP
		R135	0RH1003D622	100K 1/10W 5 D.R/TP
		R14	0RH4701D622	4.7K 1/10W 5 D.R/TP
		R140	0RH0392D622	39 1/10W 5 D.R/TP
		R141	0RH0392D622	39 1/10W 5 D.R/TP
		R142	0RH0392D622	39 1/10W 5 D.R/TP
		R143	0RH0392D622	39 1/10W 5 D.R/TP
		R144	0RH0392D622	39 1/10W 5 D.R/TP
		R145	0RH0392D622	39 1/10W 5 D.R/TP
		R146	0RH0392D622	39 1/10W 5 D.R/TP
		R147	0RH0392D622	39 1/10W 5 D.R/TP
		R57	0RH1000D622	100 1/10W 5 D.R/TP
		R59	0RH1201D622	1.2K 1/10W 5 D.R/TP
		R6	0RH4702D622	47K 1/10W 5 D.R/TP
		R74	0RH1000D622	100 1/10W 5 D.R/TP
		R818	0RH8200D622	820 1/10W 5 D.R/TP
		R9	0RH4701D622	4.7K 1/10W 5 D.R/TP
		R908	0RH0822D622	82 1/10W 5 D.R/TP
		R910	0RH0822D622	82 1/10W 5 D.R/TP
		R915	0RH3600D622	CHIP 360-J 1/10 W
		R920	0RH2200D622	220 1/10W 5 D.R/TP
		R934	0RH1000D622	100 1/10W 5 D.R/TP
		R989	0RH8200D622	820 1/10W 5 D.R/TP
		R999	0RH1000D622	100 1/10W 5 D.R/TP
		R136	0RH8202D622	82K 1/10W 5 D.R/TP
		R137	0RH8202D622	82K 1/10W 5 D.R/TP
		C250	0RH2002D622	20K OHM 1 / 10 W 2012 5.00%
		C251	0RH2002D622	20K OHM 1 / 10 W 2012 5.00%
		C854	0RH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		C931	0RH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		C932	0RH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		L905	0RH0222D622	22 OHM 1 / 10 W 2012 5.00% D
		R1002	0RH1501D622	1.5K OHM 1 / 10 W 2012 5.00%
		R1011	0RH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		R1106	0RH1002D622	10K OHM 1 / 10 W 2012 5.00%
		R1152	0RH1001D622	1K OHM 1 / 10 W 2012 5.00% D

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R1154	ORH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		R1155	ORH1002D622	10K OHM 1 / 10 W 2012 5.00%
		R12	ORH1001D622	1K OHM 1 / 10 W 2012 5.00% D
		R128	ORH1002D622	10K OHM 1 / 10 W 2012 5.00%
		R129	ORH1002D622	10K OHM 1 / 10 W 2012 5.00%
		R13	ORH1001D622	1K OHM 1 / 10 W 2012 5.00% D
		R148	ORH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		R149	ORH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		R36	ORH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		R7	ORH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		R817	ORH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		R822	ORH1002D622	10K OHM 1 / 10 W 2012 5.00%
		R918	ORH1001D622	1K OHM 1 / 10 W 2012 5.00% D
		R961	ORH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		R964	ORH1002D622	10K OHM 1 / 10 W 2012 5.00%
		R995	ORH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		R10	ORJ3301D677	3.3K OHM 1/10 W 5% 1608 R/TP
		R1001	ORJ0562D677	56 OHM 1/10 W 5% 1608 R/TP
		R1003	ORJ8200D677	820 OHM 1/10 W 5% 1608 R/TP
		R1005	ORJ0682D677	68 OHM 1/10 W 5% 1608 R/TP
		R1014	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R11	ORJ3301D677	3.3K OHM 1/10 W 5% 1608 R/TP
		R1105	ORJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R1107	ORJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R1150	ORJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R124	ORJ1500D677	150 OHM 1/10 W 5% 1608 R/TP
		R125	ORJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R127	ORJ2701D677	2.7K OHM 1/10 W 5% 1608 R/TP
		R130	ORJ1202D677	12K OHM 1/10 W 5% 1608 R/TP
		R131	ORJ1202D677	12K OHM 1/10 W 5% 1608 R/TP
		R138	ORJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R139	ORJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R15	ORJ0822D677	82 OHM 1/10 W 5% 1608 R/TP
		R16	ORJ2200D677	220 OHM 1/10 W 5% 1608 R/TP
		R17	ORJ0822D677	82 OHM 1/10 W 5% 1608 R/TP
		R18	ORJ2200D677	220 OHM 1/10 W 5% 1608 R/TP
		R19	ORJ0822D677	82 OHM 1/10 W 5% 1608 R/TP
		R20	ORJ2200D677	220 OHM 1/10 W 5% 1608 R/TP
		R203	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R21	ORJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R218	ORJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R219	ORJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R22	ORJ1500D677	150 OHM 1/10 W 5% 1608 R/TP
		R221	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R224	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R225	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R226	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R227	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R229	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R23	ORJ2701D677	2.7K OHM 1/10 W 5% 1608 R/TP
		R24	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R240	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R25	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R28	ORJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R29	ORJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R34	ORJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R41	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R45	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R46	ORJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R50	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R51	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R52	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP

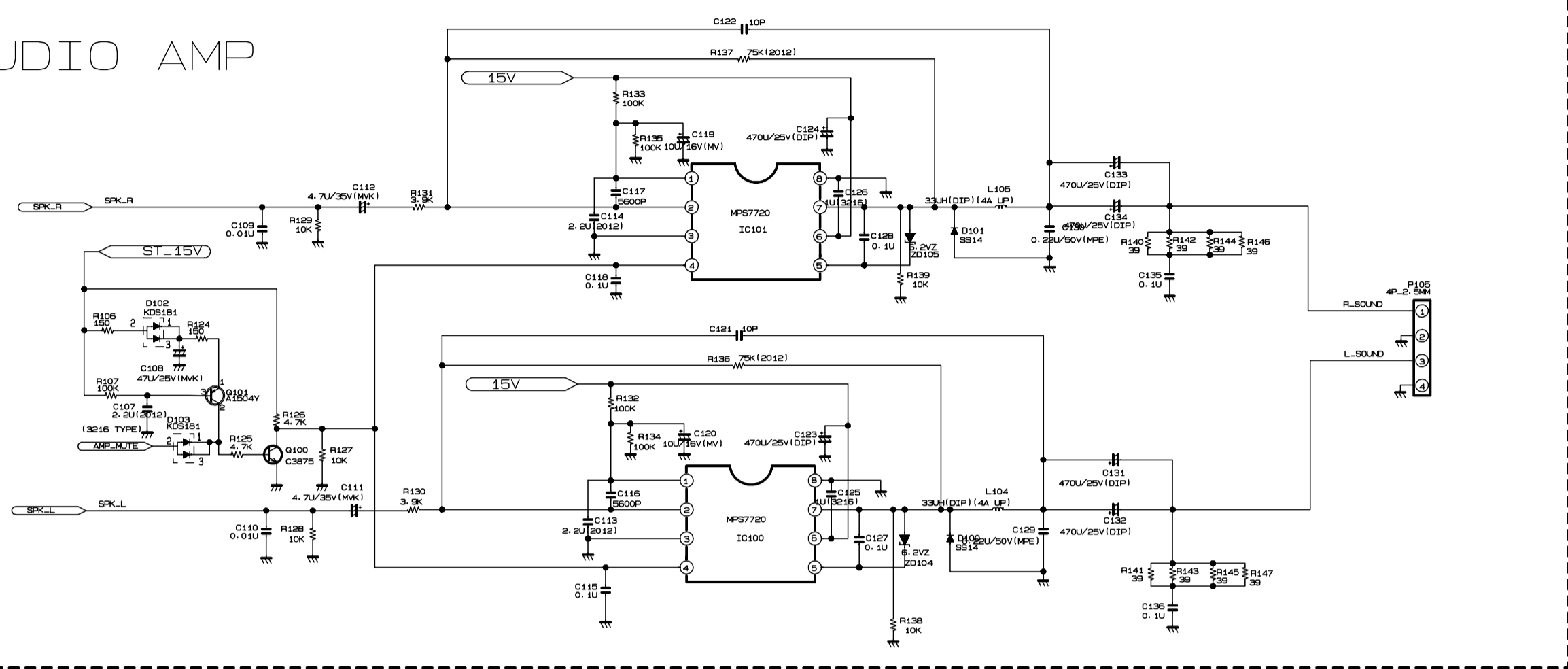
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		R53	ORJ1500D677	150 OHM 1/10 W 5% 1608 R/TP
		R54	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R55	ORJ1500D677	150 OHM 1/10 W 5% 1608 R/TP
		R56	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R58	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R60	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R62	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R64	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R66	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R68	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R69	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R70	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R72	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R73	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R75	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R76	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R77	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R78	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R8	ORJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R80	ORJ2202D677	22K OHM 1/10 W 5% 1608 R/TP
		R834	ORJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R836	ORJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R837	ORJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R901	ORJ0472D677	47 OHM 1/10 W 5% 1608 R/TP
		R902	ORJ0472D677	47 OHM 1/10 W 5% 1608 R/TP
		R904	ORJ0472D677	47 OHM 1/10 W 5% 1608 R/TP
		R907	ORJ3301D677	3.3K OHM 1/10 W 5% 1608 R/TP
		R909	ORJ0822D677	82 OHM 1/10 W 5% 1608 R/TP
		R911	ORJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R912	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R913	ORJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R914	ORJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R917	ORJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R928	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R929	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R930	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R931	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R932	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R935	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R936	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R938	ORJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R939	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R940	ORJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R941	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R942	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R943	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R944	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R945	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R946	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R947	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R950	ORJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R952	ORJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R953	ORJ3301D677	3.3K OHM 1/10 W 5% 1608 R/TP
		R954	ORJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R96	ORJ3301D677	3.3K OHM 1/10 W 5% 1608 R/TP
		R979	ORJ3301D677	3.3K OHM 1/10 W 5% 1608 R/TP
		R980	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R981	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R982	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R983	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R984	ORJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R988	ORJ3301D677	3.3K OHM 1/10 W 5% 1608 R/TP

DATE: 2004. 11. 25.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R991	0RJ3301D677	3.3K OHM 1/10 W 5% 1608 R/TP
		R992	0RJ3301D677	3.3K OHM 1/10 W 5% 1608 R/TP
OTHERS				
		Z1000	6200QL3002F	"X6966M EPCOS ST SIP5K, 6200Q"
		X11	6202TST003C	HC-49/SM5H KONY CHIP 20.25MH
		X900	6202VDT002B	SX-1 SUNNY SC14.3MHZ +/- 30
		IC905	6620F00017A	CCSD-32T-SM WOYOYOUNG 32P PLC
		TU1000	6700VS0003A	TAEW-G051D LG INOTEK MULTI V
CONTROL BOARD				
		R2200	ORN1101F409	1.10K 1/6W 1% TA52
		R2201	ORN8200F409	820 1/6W 1% TA52
		R2202	ORN5600F409	560 1/6W 1% TA52
		R2203	ORN4700F409	470 1/6W 1 TA52
		R2204	ORN3900F409	390 1/6W 1% TA52
		R2205	ORN3300F409	330 1/6W 1% TA52
		R2206	ORN2700F409	270 1/6W 1% TA52
		R2207	ORN3301F409	3.30K 1/6W 1% TA52
		R2208	ORN2000F409	200 1/6W 1% TA52
		SW2200	140-313B	TACT 2LEAD 160G(TA) LG C&D N
		SW2201	140-313B	TACT 2LEAD 160G(TA) LG C&D N
		SW2202	140-313B	TACT 2LEAD 160G(TA) LG C&D N
		SW2203	140-313B	TACT 2LEAD 160G(TA) LG C&D N
		SW2204	140-313B	TACT 2LEAD 160G(TA) LG C&D N
		SW2205	140-313B	TACT 2LEAD 160G(TA) LG C&D N
		SW2206	140-313B	TACT 2LEAD 160G(TA) LG C&D N
		SW2207	140-313B	TACT 2LEAD 160G(TA) LG C&D N
IR BOARD				
		C2101	0CH3104K566	0.1UF 50V 10% X7R 2012 R/TP
		L2101	6210TCE001A	HB-1S2012-080JT CERATEC 2012
		Q2101	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC -
		Q2102	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC -
		Q2103	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC -
		R2101	0RH1000D622	100 1/10W 5 D.R/TP
		R2102	0RH1000D622	100 1/10W 5 D.R/TP
		R2103	0RH1001D622	1K OHM 1 / 10 W 2012 5.00% D
		R2104	0RH1001D622	1K OHM 1 / 10 W 2012 5.00% D
		R2105	0RH1001D622	1K OHM 1 / 10 W 2012 5.00% D
		R2106	0RH1000D622	100 1/10W 5 D.R/TP
		R2111	0RH4301D622	4.3K 1/10W 5 TA
		R2113	0RH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		LED2100	0DL200000CA	SAM5670(DL-2LRG) BK Y-GREEN
		PA2101	6726TV0001A	TSOP4838SO1 VISHAY 38.0KHZ H
JACK BOARD				
		C1215	0CH3103K516	10000PF 50V 10% B(Y5P) 2012
		C1216	0CH3103K516	10000PF 50V 10% B(Y5P) 2012
		C1221	0CH6331K416	330PF 50V J NP0 2012 R/TP
		C1223	0CH6471K416	470F 50V J NP0 2012 R/TP
		C1224	0CH6471K416	470F 50V J NP0 2012 R/TP
		L1200	0RH0752D622	75 1/10W 5 D.R/TP
		L1202	0RH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		L1203	0RH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		L1206	6210TCE001A	HB-1S2012-080JT CERATEC 2012
		L1207	6210TCE001A	HB-1S2012-080JT CERATEC 2012
		L1208	6210TCE001A	HB-1S2012-080JT CERATEC 2012

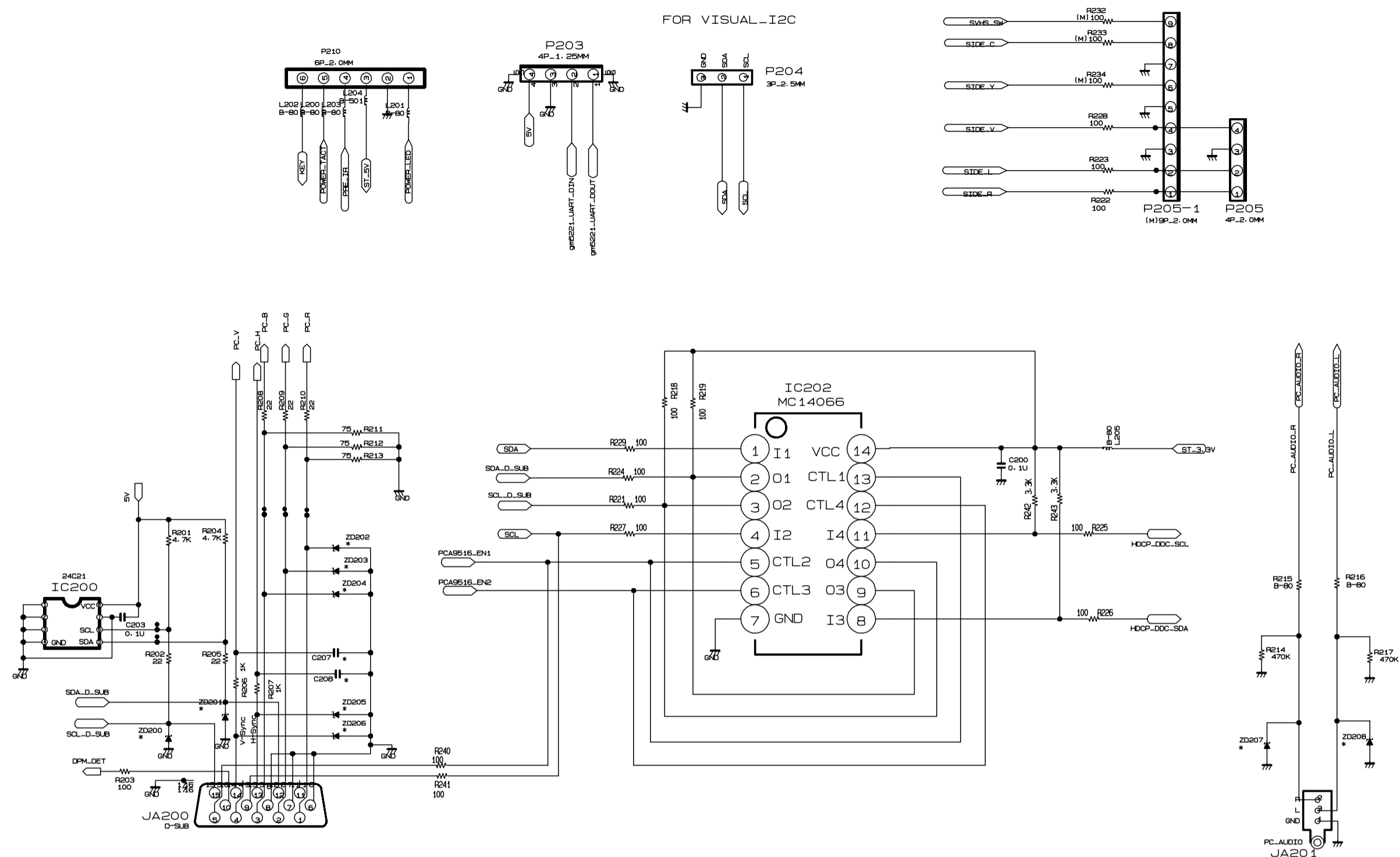
DATE: 2004. 11. 25.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		L1211	6210TCE001A	HB-1S2012-080JT CERATEC 2012
		L1212	0LC0233002A	3.3UH CERATECH R/TP
		L1213	6210TCE001A	HB-1S2012-080JT CERATEC 2012
		L1214	6210TCE001A	HB-1S2012-080JT CERATEC 2012
		L1215	6210TCE001A	HB-1S2012-080JT CERATEC 2012
		R1201	0RH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		R1202	0RH0752D622	75 1/10W 5 D.R/TP
		R1217	0RH0752D622	75 1/10W 5 D.R/TP
		R1218	0RH0752D622	75 1/10W 5 D.R/TP
		R1219	0RH0752D622	75 1/10W 5 D.R/TP
		R1220	0RH0752D622	75 1/10W 5 D.R/TP
		R1224	0RJ1000H680	100 OHM 1/2 W 5% 5025 R/TP
		R1225	0RJ1000H680	100 OHM 1/2 W 5% 5025 R/TP
		R1230	0RH0752D622	75 1/10W 5 D.R/TP
		R1231	0RH0752D622	75 1/10W 5 D.R/TP
		R1232	0RH5101D622	5.1K 1/10W 5 D.R/TP
		R1233	0RH4703D622	470K 1/10W 5 D.R/TP
		R1234	0RH5101D622	5.1K 1/10W 5 D.R/TP
		R1235	0RH4703D622	470K 1/10W 5 D.R/TP
		ZD1200	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 20
		ZD1206	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 20
		ZD1207	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 20
		ZD1212	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 20
		ZD1213	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 20
		ZD1214	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 20
		C1217	0CH3104K946	100000PF 50V Z F 2012 R/TP
		C1218	0CH6331K416	330PF 50V J NP0 2012 R/TP
		C1219	0CH6331K416	330PF 50V J NP0 2012 R/TP
		C1220	0CH6331K416	330PF 50V J NP0 2012 R/TP
		L1209	0LC0233002A	3.3UH CERATECH R/TP
		L1210	0LC0233002A	3.3UH CERATECH R/TP
		R1226	0RH0472D622	47 1/10W 5 D.R/TP
		R1227	0RH0752D622	75 1/10W 5 D.R/TP
		R1228	0RH0752D622	75 1/10W 5 D.R/TP
		R1229	0RH0752D622	75 1/10W 5 D.R/TP
		ZD1210	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 20
		ZD1211	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 20



AUDIO AMP

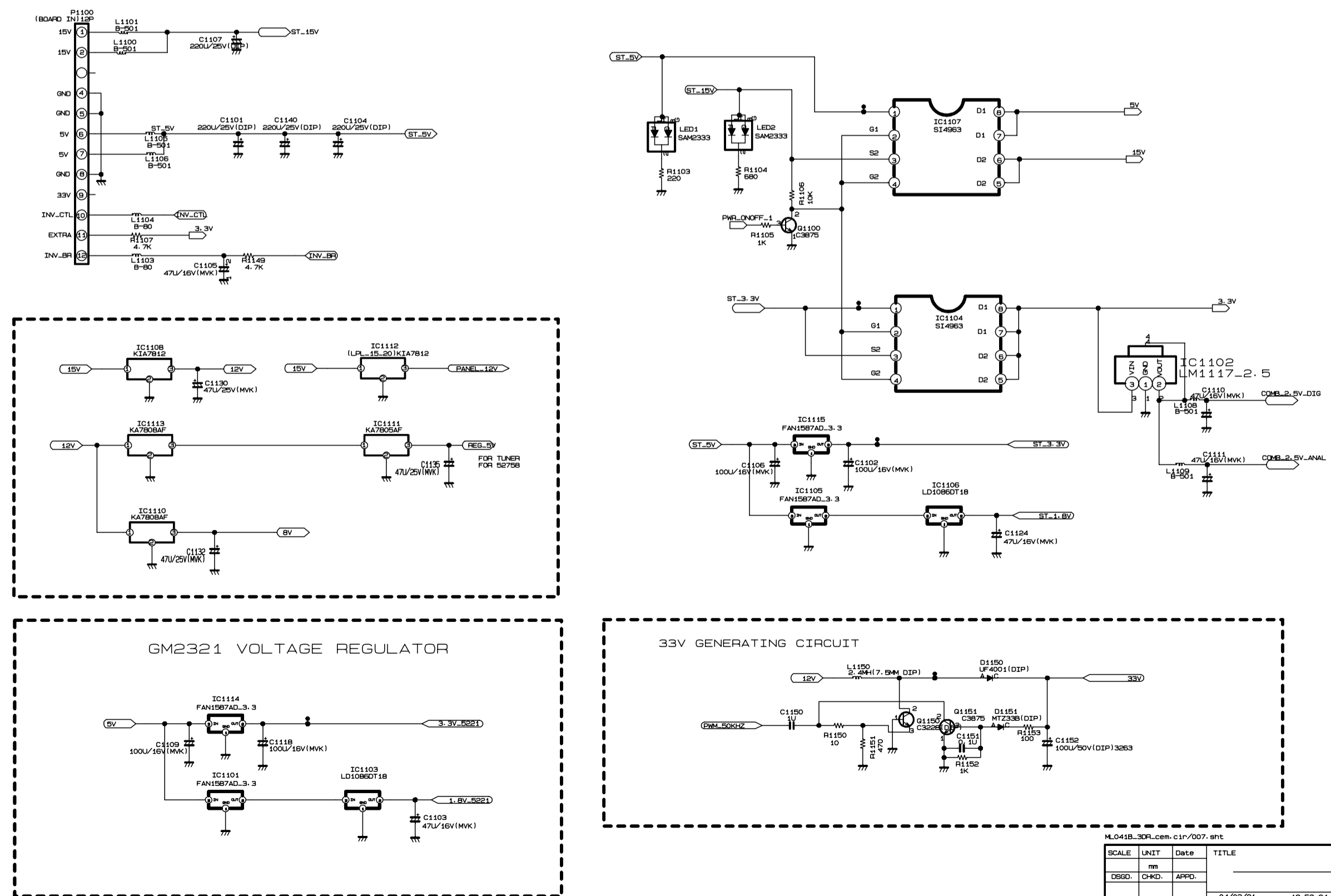


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		04/03/21	18/13/21
		DWG NO.	



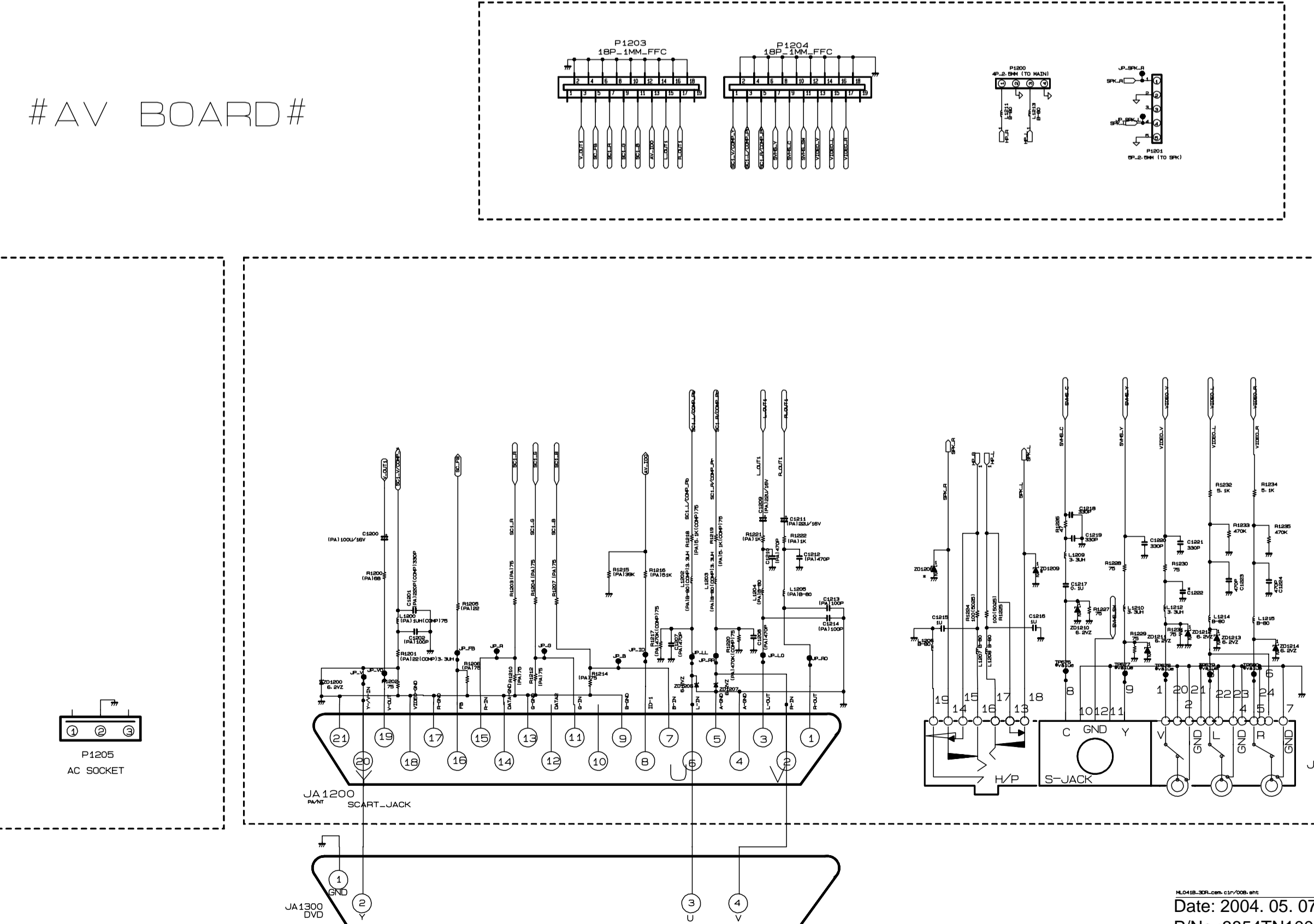
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		DWG NO.	

FROM LIPS



SCALE	UNIT	Date	TITLE
	mm		
DESIG.	CHKD.	APPRD.	
		04/03/21	18/13/24
		DWG NO.	

AV BOARD





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