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LCD TV

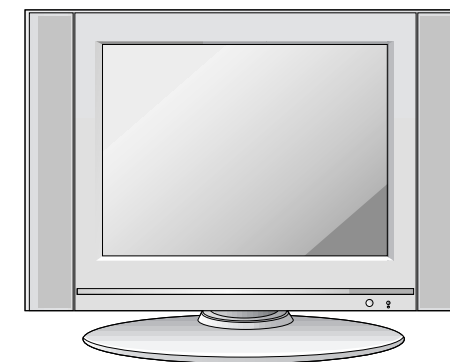
SERVICE MANUAL

CHASSIS : ML-024D

MODEL : RZ-20LA70

CAUTION

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



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PRODUCT SAFETY

IMPORTANT SAFETY NOTICE

This manual was prepared for use only by properly trained audiovisual service technicians. When servicing this product, under no circumstances should the original design be modified or altered without permission from LG Electronics Inc. All components should be replaced only with types identical to those in the original circuit and their physical location, wiring, and lead dress must conform to original layout upon completion of repairs. If any fuse (or Fusible Resistor) in this TV receiver is blown, replace it only with the factory specified fuse type and rating. When replacing a high wattage resistor (Oxide Metal Film Resistor, over 1W), keep the resistor 10mm away from PCB. Always keep wires away from high voltage or high temperature parts.

Special components are also used to prevent shock and fire hazard. These components are indicated by the letter "x" included in their component designators and are required to maintain safe performance. No deviations are allowed without prior approval by LG Electronics Inc. Service work should be performed only after you are thoroughly familiar with these safety checks and servicing guidelines.

Circuit diagrams may occasionally differ from the actual circuit used. This way, implementation of the latest safety and performance improvement changes into the set is not delayed until the new service literature is printed.

CAUTION: Do not attempt to modify this product in any way.
Never perform customized installations without manufacturer's approval.
Unauthorized modifications will not only void the warranty, but may lead to property damage or user injury.

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 to protect against 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.

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)

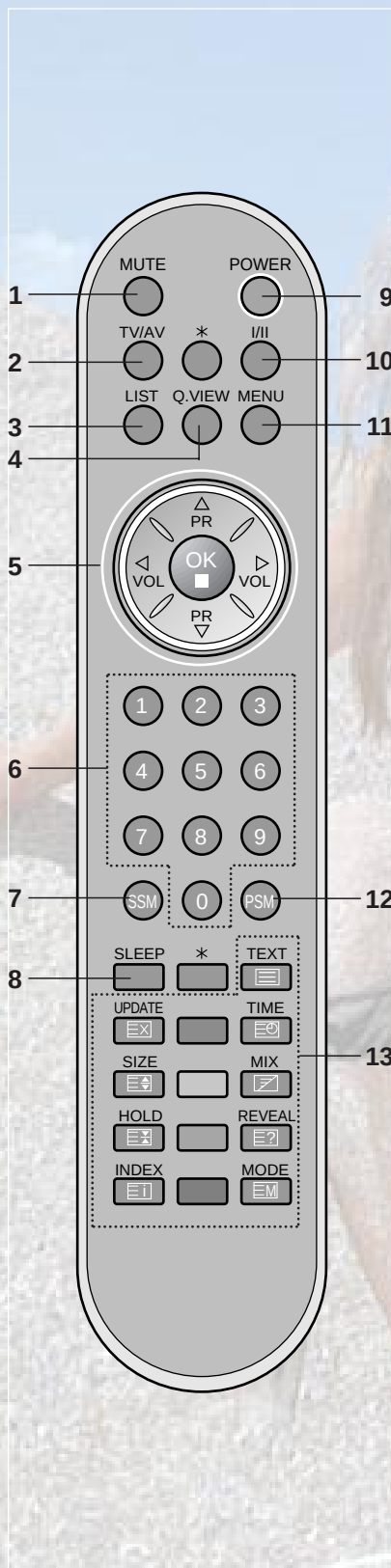
With the instrument's AC plug removed from AC source, connect an electrical jumper across the two AC plug prongs. Place the AC switch in the on position, connect one lead of ohm-meter to the AC plug prongs tied together, and touch other ohm-meter lead in turn to each exposed metallic parts such as antenna 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. Any other abnormality that exists must be corrected before the receiver is returned to the customer.

ELECTROSTATICALLY SENSITIVE 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 electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on the body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for 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 an ESD mat, 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 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 charge 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, seemingly harmless motion, such as the brushing together of your clothing or the lifting of your foot from a carpeted floor, can generate static electricity sufficient to damage an ES device.)

DESCRIPTION OF CONTROLS



All the functions can be controlled with the remote control handset. Some functions can also be adjusted with the buttons on the side panel of the set.

Remote control handset

Before you use the remote control handset, please install the batteries. See the next page.

- 1. MUTE**
switches the sound on or off.
- 2. TV/AV**
selects TV or AV monitor mode.
clears the menu from the screen.
switches the set on from standby.
- 3. LIST**
displays the programme table.
- 4. Q.VIEW**
returns to the previously viewed programme.
selects a favourite programme.
- 5. ▲ / ▼ (Programme Up/Down)**
selects a programme or a menu item.
switches the set on from standby.
◀ / ▶ (Volume Up/Down)
adjusts the volume.
OK
accepts your selection or displays the current mode.
- 6. NUMBER BUTTONS**
switches the set on from standby or directly select a number.
- 7. SSM (Sound Status Memory)**
recalls your preferred sound setting.
- 8. SLEEP**
sets the sleep timer.

9. POWER

switches the set on from standby or off to standby.

10. I/II

selects the language during dual language broadcast.
selects the sound output (option).

11. MENU

selects a me

12. PSM (Picture Status Memory)

recalls your preferred picture setting.

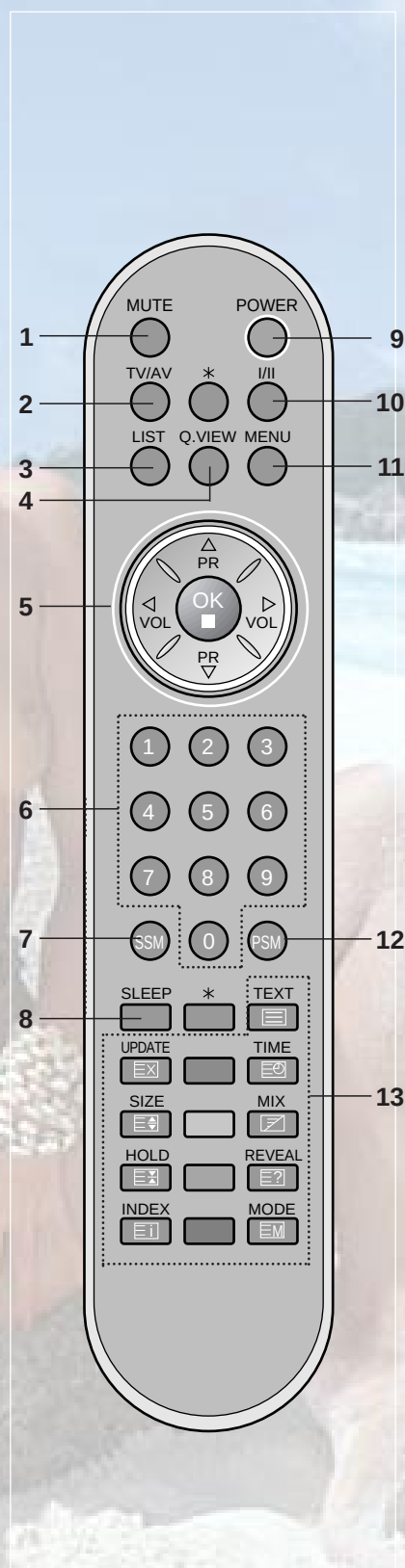
13. TELETEXT BUTTONS (option)

These buttons are used for teletext.

For further details, see the 'Teletext' section.

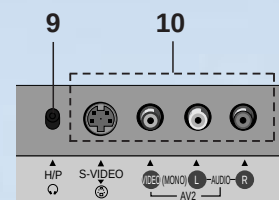
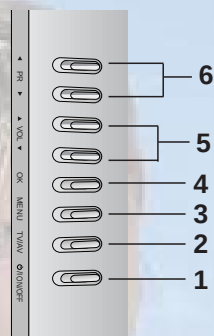
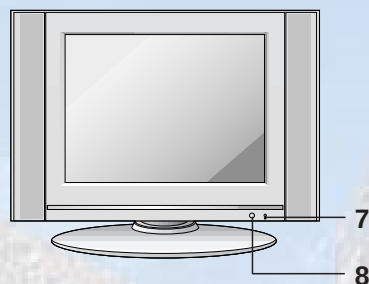
*** : No function**

COLOURED BUTTONS : These buttons are used for teletext (only TELETEXT models) or programme edit.



Side panel

• RZ- 20LA70 series



Back panel

1. **ON/OFF (O/I)**
switches the set on from standby or off to standby.
Note : Power line lives even when the power is off.
2. **TV/AV**
selects TV or AV monitor mode.
clears the menu from the screen.
switches the set on from standby.
3. **MENU**
selects a menu.
4. **OK**
accepts your selection or displays the current mode.
5. **◀ / ▶ (Volume Up/Down)**
adjusts the volume.
adjusts menu settings.
6. **▲ / ▼ (Programme Up/Down)**
selects a programme or a menu item.
switches the set on from standby.
7. **POWER/STANDBY INDICATOR (O)**
illuminates red in standby mode.
illuminates green when the set is switched on.
8. **REMOTE CONTROL SENSOR**
9. **HEADPHONE SOCKET**
Connect the headphone plug to this socket.
10. **AUDIO/VIDEO IN SOCKETS (AV2)**
Connect the audio/video out sockets of external equipment to these sockets.

S-VIDEO/AUDIO IN SOCKETS (SAV)

Connect the video out socket of an S-VIDEO VCR to the **S-VIDEO** socket.

Connects the audio out sockets of the S-VIDEO VCR to the audio sockets as in **AV2**.

ADJUSTMENT INSTRUCTION

1. Application Object

This instruction is for the application to the LCD TV.

2. Notes

- (1) This set uses an adapter, so connect the adapter and the set correctly before adjustment.
 - (2) The adjustment must be performed under the correct sequence.
 - (3) The adjustment must be performed in the circumstance of $25\pm 5^{\circ}\text{C}$ of temperature and $65\pm 10\%$ of relative humidity if there is no specific designation.
 - (4) The set must be operated for 15 minutes preliminarily before adjustment if there is no specific designation.
- * 'Heat Run' must be performed with the full white signal or TV noise signal in the internal part of the set.
 - * The time for 'Heat Run' can be changed owing to production plan.
 - * Line Test condition (TV): standard color signal $65\pm 1\text{dBuV}$

4. Option 1 data setting (200PR ~ A2 ST:1bit, SYS:2bit composition)

OPTION Data	200PR	TEXT	I/II SV	TOP	SCART	A2 ST	SYS
0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	1
2	0	0	0	0	0	0	2
3	0	0	0	0	0	0	3
4	0	0	0	0	0	1	0
5	0	0	0	0	0	1	1
6	0	0	0	0	0	1	2
7	0	0	0	0	0	1	3
8	0	0	0	0	1	0	0
9	0	0	0	0	1	0	1
10	0	0	0	0	1	0	2
11	0	0	0	0	1	0	3
12	0	0	0	0	1	1	0
13	0	0	0	0	1	1	1
14	0	0	0	0	1	1	2
15	0	0	0	0	1	1	3
16	0	0	0	1	0	0	0
17	0	0	0	1	0	0	1
18	0	0	0	1	0	0	2
19	0	0	0	1	0	0	3
20	0	0	0	1	0	1	0
21	0	0	0	1	0	1	1
22	0	0	0	1	0	1	2
23	0	0	0	1	0	1	3
24	0	0	0	1	1	0	0
25	0	0	0	1	1	0	1
26	0	0	0	1	1	0	2
27	0	0	0	1	1	0	3
28	0	0	0	1	1	1	0
29	0	0	0	1	1	1	1
30	0	0	0	1	1	1	2
31	0	0	0	1	1	1	3

OPTION Data	200PR	TEXT	I/II SV	TOP	SCART	A2 ST	SYS
32	0	0	1	0	0	0	0
33	0	0	1	0	0	0	1
34	0	0	1	0	0	0	2
35	0	0	1	0	0	0	3
36	0	0	1	0	0	1	0
37	0	0	1	0	0	1	1
38	0	0	1	0	0	1	2
39	0	0	1	0	0	1	3
40	0	0	1	0	1	0	0
41	0	0	1	0	1	0	1
42	0	0	1	0	1	0	2
43	0	0	1	0	1	0	3
44	0	0	1	0	1	1	0
45	0	0	1	0	1	1	1
46	0	0	1	0	1	1	2
47	0	0	1	0	1	1	3
48	0	0	1	1	0	0	0
49	0	0	1	1	0	0	1
50	0	0	1	1	0	0	2
51	0	0	1	1	0	0	3
52	0	0	1	1	0	1	0
53	0	0	1	1	0	1	1
54	0	0	1	1	0	1	2
55	0	0	1	1	0	1	3
56	0	0	1	1	1	0	0
57	0	0	1	1	1	0	1
58	0	0	1	1	1	0	2
59	0	0	1	1	1	0	3
60	0	0	1	1	1	1	0
61	0	0	1	1	1	1	1
62	0	0	1	1	1	1	2
63	0	0	1	1	1	1	3

OPTION Data	200PR	TEXT	I/II SV	TOP	SCART	A2 ST	SYS
64	0	1	0	0	0	0	0
65	0	1	0	0	0	0	1
66	0	1	0	0	0	0	2
67	0	1	0	0	0	0	3
68	0	1	0	0	0	1	0
69	0	1	0	0	0	1	1
70	0	1	0	0	0	1	2
71	0	1	0	0	0	1	3
72	0	1	0	0	1	0	0
73	0	1	0	0	1	0	1
74	0	1	0	0	1	0	2
75	0	1	0	0	1	0	3
76	0	1	0	0	1	1	0
77	0	1	0	0	1	1	1
78	0	1	0	0	1	1	2
79	0	1	0	0	1	1	3
80	0	1	0	1	0	0	0
81	0	1	0	1	0	0	1
82	0	1	0	1	0	0	2
83	0	1	0	1	0	0	3
84	0	1	0	1	0	1	0
85	0	1	0	1	0	1	1
86	0	1	0	1	0	1	2
87	0	1	0	1	0	1	3
88	0	1	0	1	1	0	0
89	0	1	0	1	1	0	1
90	0	1	0	1	1	0	2
91	0	1	0	1	1	0	3
92	0	1	0	1	1	1	0
93	0	1	0	1	1	1	1
94	0	1	0	1	1	1	2
95	0	1	0	1	1	1	3
96	0	1	1	0	0	0	0
97	0	1	1	0	0	0	1
98	0	1	1	0	0	0	2
99	0	1	1	0	0	0	3
100	0	1	1	0	0	1	0
101	0	1	1	0	0	1	1
102	0	1	1	0	0	1	2
103	0	1	1	0	0	1	3
104	0	1	1	0	1	0	0
105	0	1	1	0	1	0	1
106	0	1	1	0	1	0	2
107	0	1	1	0	1	0	3
108	0	1	1	0	1	1	0
109	0	1	1	0	1	1	1

OPTION Data	200PR	TEXT	I/II SV	TOP	SCART	A2 ST	SYS
110	0	1	1	0	1	1	2
111	0	1	1	0	1	1	3
112	0	1	1	1	0	0	0
113	0	1	1	1	0	0	1
114	0	1	1	1	0	0	2
115	0	1	1	1	0	0	3
116	0	1	1	1	0	1	0
117	0	1	1	1	0	1	1
118	0	1	1	1	0	1	2
119	0	1	1	1	0	1	3
120	0	1	1	1	1	0	0
121	0	1	1	1	1	0	1
122	0	1	1	1	1	0	2
123	0	1	1	1	1	0	3
124	0	1	1	1	1	1	0
125	0	1	1	1	1	1	1
126	0	1	1	1	1	1	2
127	0	1	1	1	1	1	3
128	1	0	0	0	0	0	0
129	1	0	0	0	0	0	1
130	1	0	0	0	0	0	2
131	1	0	0	0	0	0	3
132	1	0	0	0	0	1	0
133	1	0	0	0	0	1	1
134	1	0	0	0	0	1	2
135	1	0	0	0	0	1	3
136	1	0	0	0	1	0	0
137	1	0	0	0	1	0	1
138	1	0	0	0	1	0	2
139	1	0	0	0	1	0	3
140	1	0	0	0	1	1	0
141	1	0	0	0	1	1	1
142	1	0	0	0	1	1	2
143	1	0	0	0	1	1	3
144	1	0	0	1	0	0	0
145	1	0	0	1	0	0	1
146	1	0	0	1	0	0	2
147	1	0	0	1	0	0	3
148	1	0	0	1	0	1	0
149	1	0	0	1	0	1	1
150	1	0	0	1	0	1	2
151	1	0	0	1	0	1	3
152	1	0	0	1	1	0	0
153	1	0	0	1	1	0	1
154	1	0	0	1	1	0	2
155	1	0	0	1	1	0	3

OPTION Data	200PR	TEXT	I/II SV	TOP	SCART	A2 ST	SYS
156	1	0	0	1	1	1	0
157	1	0	0	1	1	1	1
158	1	0	0	1	1	1	2
159	1	0	0	1	1	1	3
160	1	0	1	0	0	0	0
161	1	0	1	0	0	0	1
162	1	0	1	0	0	0	2
163	1	0	1	0	0	0	3
164	1	0	1	0	0	1	0
165	1	0	1	0	0	1	1
166	1	0	1	0	0	1	2
167	1	0	1	0	0	1	3
168	1	0	1	0	1	0	0
169	1	0	1	0	1	0	1
170	1	0	1	0	1	0	2
171	1	0	1	0	1	0	3
172	1	0	1	0	1	1	0
173	1	0	1	0	1	1	1
174	1	0	1	0	1	1	2
175	1	0	1	0	1	1	3
176	1	0	1	1	0	0	0
177	1	0	1	1	0	0	1
178	1	0	1	1	0	0	2
179	1	0	1	1	0	0	3
180	1	0	1	1	0	1	0
181	1	0	1	1	0	1	1
182	1	0	1	1	0	1	2
183	1	0	1	1	0	1	3
184	1	0	1	1	1	0	0
185	1	0	1	1	1	0	1
186	1	0	1	1	1	0	2
187	1	0	1	1	1	0	3
188	1	0	1	1	1	1	0
189	1	0	1	1	1	1	1
190	1	0	1	1	1	1	2
191	1	0	1	1	1	1	3
192	1	1	0	0	0	0	0
193	1	1	0	0	0	0	1
194	1	1	0	0	0	0	2
195	1	1	0	0	0	0	3
196	1	1	0	0	0	1	0
197	1	1	0	0	0	1	1
198	1	1	0	0	0	1	2
199	1	1	0	0	0	1	3
200	1	1	0	0	1	0	0
201	1	1	0	0	1	0	1

OPTION Data	200PR	TEXT	I/II SV	TOP	SCART	A2 ST	SYS
202	01	1	0	0	1	0	2
203	1	1	0	0	1	0	3
204	1	1	0	0	1	1	0
205	1	1	0	0	1	1	1
206	1	1	0	0	1	1	2
207	1	1	0	0	1	1	3
208	1	1	0	1	0	0	0
209	1	1	0	1	0	0	1
210	1	1	0	1	0	0	2
211	1	1	0	1	0	0	3
212	1	1	0	1	0	1	0
213	1	1	0	1	0	1	1
214	1	1	0	1	0	1	2
215	1	1	0	1	0	1	3
216	1	1	0	1	1	0	0
217	1	1	0	1	1	0	1
218	1	1	0	1	1	0	2
219	1	1	0	1	1	0	3
220	1	1	0	1	1	1	0
221	1	1	0	1	1	1	1
222	1	1	0	1	1	1	2
223	1	1	0	1	1	1	3
224	1	1	1	0	0	0	0
225	1	1	1	0	0	0	1
226	1	1	1	0	0	0	2
227	1	1	1	0	0	0	3
228	1	1	1	0	0	1	0
229	1	1	1	0	0	1	1
230	1	1	1	0	0	1	2
231	1	1	1	0	0	1	3
232	1	1	1	0	1	0	0
233	1	1	1	0	1	0	1
234	1	1	1	0	1	0	2
235	1	1	1	0	1	0	3
236	1	1	1	0	1	1	0
237	1	1	1	0	1	1	1
238	1	1	1	0	1	1	2
239	1	1	1	0	1	1	3
240	1	1	1	1	0	0	0
241	1	1	1	1	0	0	1
242	1	1	1	1	0	0	2
243	1	1	1	1	0	0	3
244	1	1	1	1	0	1	0
245	1	1	1	1	0	1	1
246	1	1	1	1	0	1	2
247	1	1	1	1	0	1	3

OPTION Data	200PR	TEXT	III SV	TOP	SCART	A2 ST	SYS
248	1	1	1	1	1	0	0
249	1	1	1	1	1	0	1
250	1	1	1	1	1	0	2
251	1	1	1	1	1	0	3
252	1	1	1	1	1	1	0
253	1	1	1	1	1	1	1
254	1	1	1	1	1	1	2
255	1	1	1	1	1	1	3

5. Option2 data(ACMS~BBACK:1bit,LANG:3bit)

OPTION Data	ACMS	VOL	BBACK	LANG
0	0	0	0	0
1	0	0	0	1
2	0	0	0	2
3	0	0	0	3
4	0	0	0	4
5	0	0	0	5
6	0	0	0	6
7	0	0	0	7
8	0	0	1	0
9	0	0	1	1
10	0	0	1	2
11	0	0	1	3
12	0	0	1	4
13	0	0	1	5
14	0	0	1	6
15	0	0	1	7
16	0	1	0	0
17	0	1	0	1
18	0	1	0	2
19	0	1	0	3
20	0	1	0	4
21	0	1	0	5
22	0	1	0	6
23	0	1	0	7
24	0	1	1	0
25	0	1	1	1
26	0	1	1	2
27	0	1	1	3
28	0	1	1	4
29	0	1	1	5
30	0	1	1	6
31	0	1	1	7

OPTION Data	ACMS	VOL	BBACK	LANG
32	1	0	0	0
33	1	0	0	1
34	1	0	0	2
35	1	0	0	3
36	1	0	0	4
37	1	0	0	5
38	1	0	0	6
39	1	0	0	7
40	1	0	1	0
41	1	0	1	1
42	1	0	1	2
43	1	0	1	3
44	1	0	1	4
45	1	0	1	5
46	1	0	1	6
47	1	0	1	7
48	1	1	0	0
49	1	1	0	1
50	1	1	0	2
51	1	1	0	3
52	1	1	0	4
53	1	1	0	5
54	1	1	0	6
55	1	1	0	7
56	1	1	1	0
57	1	1	1	1
58	1	1	1	2
59	1	1	1	3
60	1	1	1	4
61	1	1	1	5
62	1	1	1	6
63	1	1	1	7

6. Option3 data(IIC AFT~CH+AU:1bit)

OPTION Data	HiDEV	TSS	IIC T	MONO	CH+AUS
0	0	0	0	0	0
1	0	0	0	0	1
2	0	0	0	1	0
3	0	0	0	1	1
4	0	0	1	0	0
5	0	0	1	0	1
6	0	0	1	1	0
7	0	0	1	1	1
8	0	1	0	0	0
9	0	1	0	0	1
10	0	1	0	1	0
11	0	1	0	1	1
12	0	1	1	0	0
13	0	1	1	0	1
14	0	1	1	1	0
15	0	1	1	1	1
16	1	0	0	0	0
17	1	0	0	0	1
18	1	0	0	1	0
19	1	0	0	1	1
20	1	0	1	0	0
21	1	0	1	0	1
22	1	0	1	1	0
23	1	0	1	1	1
24	1	1	0	0	0
25	1	1	0	0	1
26	1	1	0	1	0
27	1	1	0	1	1
28	1	1	1	0	0
29	1	1	1	0	1
30	1	1	1	1	0
31	1	1	1	1	1

TROUBLE SHOOTING

1. General Features

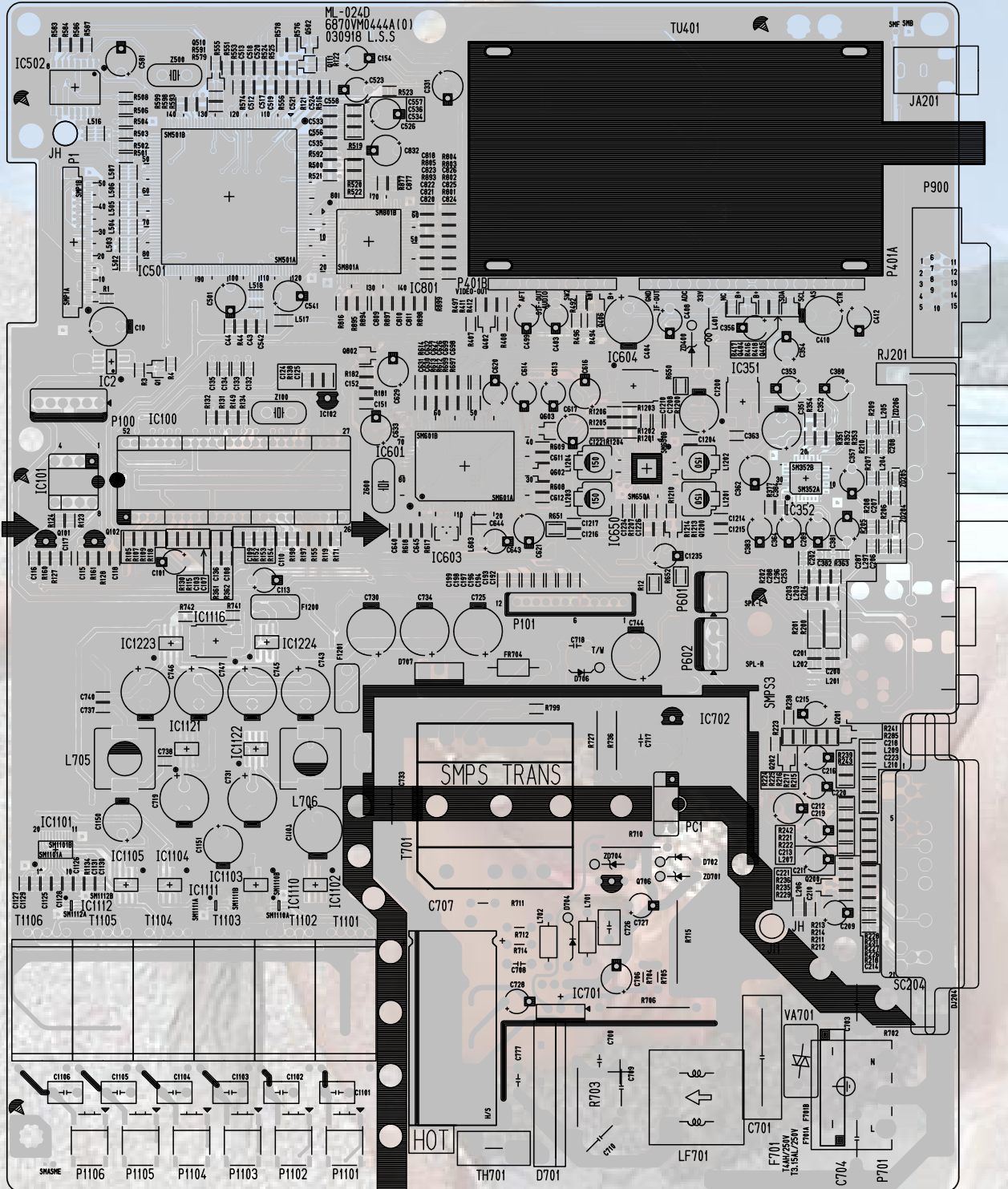
No.	Symptom	Cause	Check Point
1	No screen	Input error of inverter connector	1) Bend the pin legs of P802B connector -> recheck them 2) Check and repair IC805 SI4925.
		P1 and Pin 50 connector being slipped out	1) Check and fix P1 connector
		Cracked components and soldering at tuner board	1) Check and repair tuner board and main board 2) Solder Q403
2	Dark screen	1) Defective LCD lamp 2) Defective inverter 3) Input error of inverter connector	1) Replace the inverter 2) Replace the LCD lamp 3) Check the connector input.

2. TV and external input

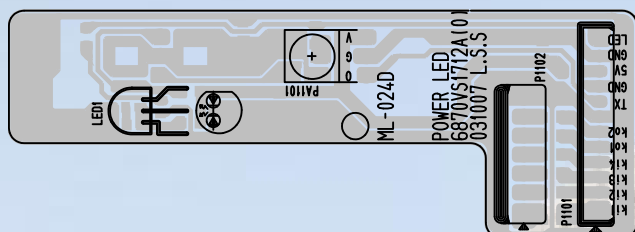
No.	Symptom	Cause	Check Point
1	No sound - Speaker - Earphone	Defective Reset IC of IC604. Defective MSP3410G of IC601. Defective B+(8V) of IC604.	1) Check volume and speaker. - Sound comes out only when being inputted into Audio L/R. 2) Check after replacing IC603. 3) Replace IC601. 4) Check and replace B+ of IC604.
2	Video color beat noise	Earphone shield case being touched.	Check the mould of shield and SJ209, Replace shield case.
		Soldering IC501.	1) Check signal of Video input. 2) Check signal of R.G.B output. 3) Re-soldering

PRINTED CIRCUIT BOARD

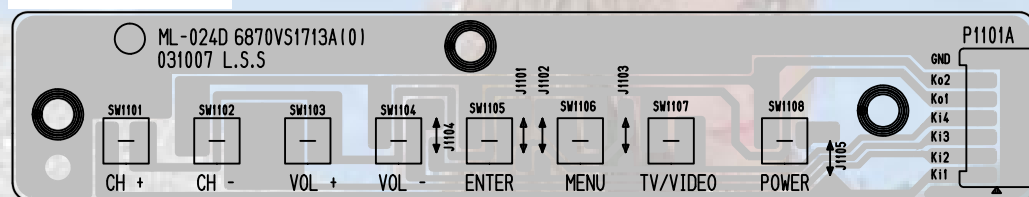
MAIN(TOP)



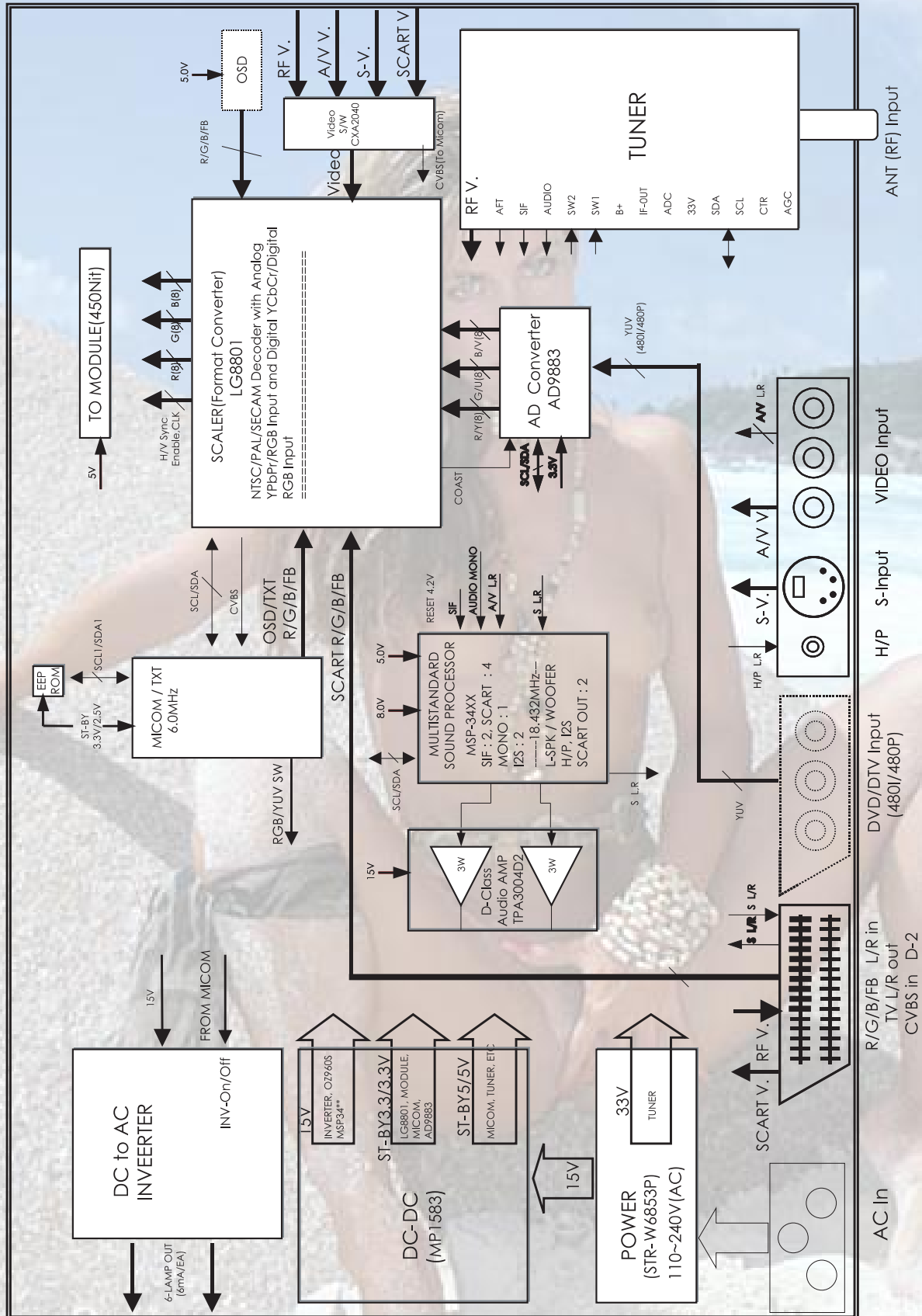
POWER



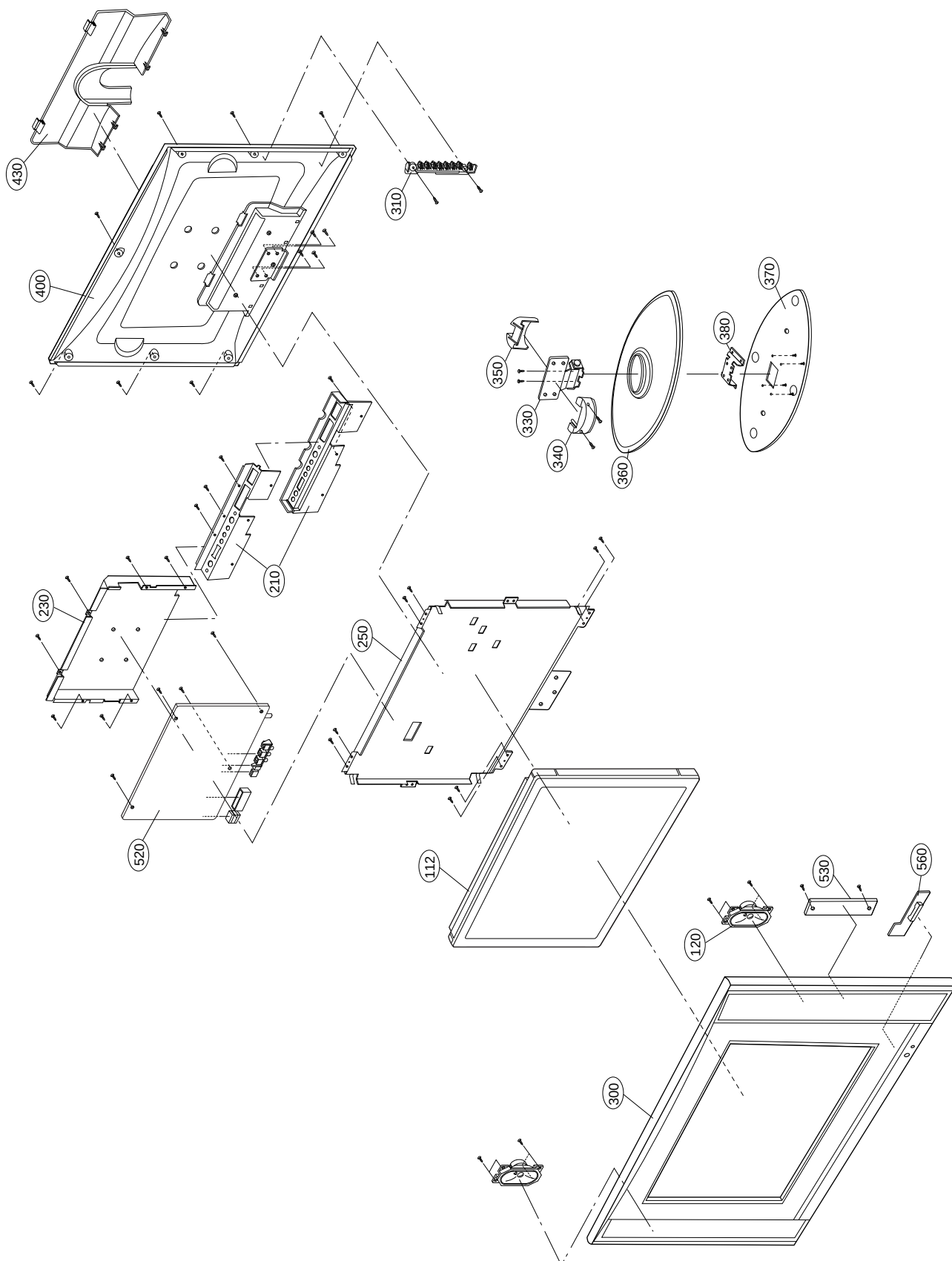
CONTROL



BLOCK DIAGRAM



EXPLODED VIEW



EXPLODED VIEW PARTS LIST

No.	PART NO.	DESCRIPTION
112	6306V20002A	LCD MODULE,V201V1-T01 VGA CHIMEI TFT COLOR
120	6400GKTX01A	SPEAKER,FULLRANGE F1527C-6428 K-TONE 8OHM 7/12W 83DB OTHERS
210	4811V00076A	BRACKET ASSEMBLY,REAR AV RZ-20LA70 ML024D .
230	4950V00192A	METAL,SHIELD SBHG ML024
	4950V00192C	METAL,SHIELD SBHG 20LA70 C/SKD
250	4950V00188A	METAL,FRAME SBHG FOR CMO MODULE
	4950V00188B	METAL,FRAME SBHG C/SKD
300	3091V00587A	CABINET ASSEMBLY,RZ-20LA70 NON NON ML024D SET,LGEIS
	3091V00587C	CABINET ASSEMBLY,RZ-20LA70 STEREO ML024D C/SKD
310	5020V00871A	BUTTON,CONTROL RZ-20LA70 ABS 8KEY .
330	4950V00157E	METAL,HINGE ASSY NON 20LA70
340	4810V00767A	BRACKET,STAND 20LA60 ML012B NON HINGE FRONT
350	4810V00768A	BRACKET,STAND 20LA60 ML012B NON HINGE COVER
360	4810V00924A	BRACKET,STAND RZ-20LA70 NON ABS .
370	4950V00193A	METAL,STAND SPCC(CR) BASE(20LA70)
380	4950V00194A	METAL,STAND SPCC(CR) SUPPORTER(LA70)
400	3809V00407A	BACK COVER ASSEMBLY,RZ-20LA70 NON (STUH),LGEIS
	3809V00407C	BACK COVER ASSEMBLY,RZ-20LA70 1SCART 3850VC0002F(LGERU)
	3809V00407D	BACK COVER ASSEMBLY,RZ-20LA70 1SCART C/SKD
430	3550V00383A	COVER,REAR AV RZ-20LA70 HIPS 60HR .
520	6871VMMR05A	PWB(PCB) ASSEMBLY,MAIN ML-024D RZ-20LA70
530	6871VSMQ31A	PWB(PCB) ASSEMBLY,SUB CONT ML024D 70TOOL CONTROL ASSY
560	6871VSMQ30A	PWB(PCB) ASSEMBLY,SUB POWER ML024D 70TOOL POWER ASSY

REPLACEMENT PARTS LIST

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

CC, CX, CK, CN : Ceramic	RD : Carbon Film
CQ : Polyester	RS : Metal Oxide Film
CE : Electrolytic	RN : Metal Film
	RF : Fusible

LOCA. NO	PART NO	DESCRIPTION
IC		
IC100	0ISM555000B	SDA555XFL 52DIP ST FLASH MEMORY
IC101	0IAL241610B	AT24C16A-10PI-2.7 8PIN DIP ST EEPROM
IC102	0IFA752700A	KA75270Z 3 TP RE-SET IC MC-007
IC1101	0IMCRO2001A	OZ960S O2MICRO 20P SSOP R/TP
IC1110	0IMCRRH005A	UM6K1N ROHM 6P SOT363 R/TP 30V 0.1A
IC1111	0IMCRRH005A	UM6K1N ROHM 6P SOT363 R/TP 30V 0.1A
IC1112	0IMCRRH005A	UM6K1N ROHM 6P SOT363 R/TP 30V 0.1A
IC1121	0IMCRMZ001A	MP1583DN 8P TSOP R/TP DC-DC
IC1122	0IMCRMZ001A	MP1583DN 8P TSOP R/TP DC-DC
IC351	0IMCRFA010A	KA7809R, FAIRCHILD 2P D-PAK, R/TP
IC352	0ISO204000A	CXA2040AQ 32P,QFP BK IIC BUS VIDEO
IC501	0IMCRTW001B	LG8801-H TECHWELL 160P QFPD TRAY
IC502	0ICTMMO005A	SC786109DWR2 MOTOROLA SOIC 16P
IC601	0IMCRMN011D	MSP3410G QA B8 V3 MICRONAS 80P QFP
IC603	0IKE704200J	KIA7042AF SOT-89 TP 4.2V VOLTAGE
IC604	0IMCRFA009A	KA78M08RTM, FAIRCHILD 2P D-PAK
IC650	0IMCRTI022D	TPA3004D2 48P PQFP TRAY 9WSTEREO
IC701	0IPMGSK012A	STR-W6853P SANKEN 6P TO-220 ST
IC702	0IMCRFA007A	KA431Z FAIRCHILD 3DIP,TO-92 TP
PC1	0ILI817000G	LTV817M-VB 4P,DIP BK PHOTO COUPLER
PC2	0ILI817000G	LTV817M-VB 4P,DIP BK PHOTO COUPLER
Q101	0IFA270000A	2N7000TA TO-92, 3P TP LEVEL SHIFT
Q102	0IFA270000A	2N7000TA TO-92, 3P TP LEVEL SHIFT
TRANSISTOR		
IC1102	0TFFC80044A	FDS8958A FAIRCHILD R/TP SO-8 30V 7A
IC1103	0TFFC80044A	FDS8958A FAIRCHILD R/TP SO-8 30V 7A
IC1104	0TFFC80044A	FDS8958A FAIRCHILD R/TP SO-8 30V 7A
IC1105	0TFFC80044A	FDS8958A FAIRCHILD R/TP SO-8 30V 7A
IC1223	0TF492509AA	SI4925DY TP TEMIC 30V 6.1A SO-8
IC1224	0TF492509AA	SI4925DY TP TEMIC 30V 6.1A SO-8
IC2	0TF492509AA	SI4925DY TP TEMIC 30V 6.1A SO-8
Q1	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q100	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q1101	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q1101	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q1102	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q1103	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q1200	0TR150400BA	CHIP 2SA1504S(ASY) KEC
Q200	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q202	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q353	0TR150400BA	CHIP 2SA1504S(ASY) KEC
Q402	0TR150400BA	CHIP 2SA1504S(ASY) KEC
Q403	0TR150400BA	CHIP 2SA1504S(ASY) KEC

LOCA. NO	PART NO	DESCRIPTION
Q404	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q405	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q406	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q407	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q501	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q502	0TR150400BA	CHIP 2SA1504S(ASY) KEC
Q510	0TR150400BA	CHIP 2SA1504S(ASY) KEC
Q551	0TR150400BA	CHIP 2SA1504S(ASY) KEC
Q602	0TR150400BA	CHIP 2SA1504S(ASY) KEC
Q603	0TR150400BA	CHIP 2SA1504S(ASY) KEC
Q701	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q703	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q706	0TR322709AA	KTC3227-Y,TP(KTC1627A),KEC
Q801	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q802	0TR150400BA	CHIP 2SA1504S(ASY) KEC
R1211	0TF492509AA	SI4925DY TP TEMIC 30V 6.1A SO-8
R1212	0TF492509AA	SI4925DY TP TEMIC 30V 6.1A SO-8
DIODE		
D100	0DD181009AB	KDS181 TP KEC - 85V - - - 300MA
D1101	0DD181009AB	KDS181 TP KEC - 85V - - - 300MA
D1102	0DD181009AB	KDS181 TP KEC - 85V - - - 300MA
D1103	0DD181009AB	KDS181 TP KEC - 85V - - - 300MA
D1104	0DD181009AB	KDS181 TP KEC - 85V - - - 300MA
D1105	0DD181009AB	KDS181 TP KEC - 85V - - - 300MA
D1106	0DD181009AB	KDS181 TP KEC - 85V - - - 300MA
D701	0DRSA00150A	RBV-406 BK USC 600V 4A 80VA .SEC
D702	0DD100009AM	EU1ZV(1) TP SANKEN
D704	0DD100009AM	EU1ZV(1) TP SANKEN
D706	0DR060009AA	TVR06J TP DO41 600V 0.6A - - -
D707	0DRSD00091A	SF20JC10 ST FTO220(4115) 100V 20A
D710	0DR340009AA	MBRS340 TP - 40V 3A 80A - 2MA
D711	0DR340009AA	MBRS340 TP - 40V 3A 80A - 2MA
ZD1101	0DZRM00178A	UDZS TE-17 5.1B 0.2W 5.1V 5MA -PF
ZD1102	0DZRM00178A	UDZS TE-17 5.1B 0.2W 5.1V 5MA -PF
ZD202	0DZRM00178A	UDZS TE-17 5.1B 0.2W 5.1V 5MA -PF
ZD203	0DZRM00178A	UDZS TE-17 5.1B 0.2W 5.1V 5MA -PF
ZD400	0DZ330009BA	ZENER HZT33 TAPING
ZD701	0DZ910009AJ	MTZJ9.1B TP DO34 0.5W 9.1V 5UA -
ZD704	0DZ110009AD	MTZJ11B TP DO34 - 11V 5UA -
CAPACITOR		
C10	0CE227DF618	220UF STD 16V M FL TP5
C101	0CE107BF618	100UF KME 16V M FL TP5
C1101	0CC15003G06	15PF D 3KV 10%,-10% SL FMTW

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LOCA. NO	PART NO	DESCRIPTION
C1102	OCC15003G06	15PF D 3KV 10%,-10% SL FMTW
C1103	OCC15003G06	15PF D 3KV 10%,-10% SL FMTW
C1104	OCC15003G06	15PF D 3KV 10%,-10% SL FMTW
C1105	OCC15003G06	15PF D 3KV 10%,-10% SL FMTW
C1106	OCC15003G06	15PF D 3KV 10%,-10% SL FMTW
C1107	OCE4772J618	470UF KMF 35V 20% TP 5 FL
C1127	OCK105DF64A	1UF 2012 16V 20% R/TP F(Y5V)
C1128	OCK105DF64A	1UF 2012 16V 20% R/TP F(Y5V)
C113	OCE107BF618	100UF KME 16V M FL TP5
C1140	OCK225DFK4A	2.2UF 2012 16V 20%,-20% F(Y5V) R/TP
C1141	OCK225DFK4A	2.2UF 2012 16V 20%,-20% F(Y5V) R/TP
C1142	OCK225DFK4A	2.2UF 2012 16V 20%,-20% F(Y5V) R/TP
C1143	OCK225DFK4A	2.2UF 2012 16V 20%,-20% F(Y5V) R/TP
C1144	OCK225DFK4A	2.2UF 2012 16V 20%,-20% F(Y5V) R/TP
C1145	OCK225DFK4A	2.2UF 2012 16V 20%,-20% F(Y5V) R/TP
C1146	OCK225DFK4A	2.2UF 2012 16V 20%,-20% F(Y5V) R/TP
C1147	OCK225DFK4A	2.2UF 2012 16V 20%,-20% F(Y5V) R/TP
C1150	OCE227BH618	220UF KME 25V M FL TP5
C1151	OCE227BH618	220UF KME 25V M FL TP5
C1200	OCE227DH618	220UF STD 25V M FL TP5
C1201	OCN475FH67A	4.7UF 3225 25V 20% R/TP X5R
C1202	OCN475FH67A	4.7UF 3225 25V 20% R/TP X5R
C1207	OCK105DF64A	1UF 2012 16V 20% R/TP F(Y5V)
C1208	OCK105DF64A	1UF 2012 16V 20% R/TP F(Y5V)
C1209	OCK105DF64A	1UF 2012 16V 20% R/TP F(Y5V)
C1210	OCK105DF64A	1UF 2012 16V 20% R/TP F(Y5V)
C1211	OCK105DF64A	1UF 2012 16V 20% R/TP F(Y5V)
C1222	OCN475FH67A	4.7UF 3225 25V 20% R/TP X5R
C1223	OCN475FH67A	4.7UF 3225 25V 20% R/TP X5R
C1226	OCK105DF64A	1UF 2012 16V 20% R/TP F(Y5V)
C1227	OCK105DF64A	1UF 2012 16V 20% R/TP F(Y5V)
C1228	OCK105DF64A	1UF 2012 16V 20% R/TP F(Y5V)
C1229	OCK105DF64A	1UF 2012 16V 20% R/TP F(Y5V)
C1230	OCN475FH67A	4.7UF 3225 25V 20% R/TP X5R
C1231	OCK105DF64A	1UF 2012 16V 20% R/TP F(Y5V)
C1234	OCK105DF64A	1UF 2012 16V 20% R/TP F(Y5V)
C1235	OCE107DD618	100UF STD 10V M FL TP5
C200	OCK105DF64A	1UF 2012 16V 20% R/TP F(Y5V)
C201	OCK105DF64A	1UF 2012 16V 20% R/TP F(Y5V)
C209	OCE476DF618	47UF STD 16V M FL TP5
C211	OCE106DF618	10UF STD 16V M FL TP5
C212	OCE227DD618	220UF STD 10V M FL TP5
C215	OCE106DF618	10UF STD 16V M FL TP5
C216	OCE106DF618	10UF STD 16V M FL TP5
C219	OCE226DF618	22UF STD 16V M FL TP5
C220	OCE226DF618	22UF STD 16V M FL TP5
C289	OCE104DK618	0.1000UF STD 50V M FL TP5
C331	OCE107DF618	100UF STD 16V M FL TP5

LOCA. NO	PART NO	DESCRIPTION
C351	OCE227DF618	220UF STD 16V M FL TP5
C353	OCE475DK618	4.7UF STD 50V 20% FL TP 5
C354	OCE476DF618	47UF STD 16V M FL TP5
C356	OCE106DF618	10UF STD 16V M FL TP5
C357	OCE106DF618	10UF STD 16V M FL TP5
C362	OCE107DF618	100UF STD 16V M FL TP5
C364	OCE336DF618	33UF STD 16V M FL TP5
C380	OCE105DK618	1UF STD 50V M FL TP5
C381	OCE106DF618	10UF STD 16V M FL TP5
C383	OCE106DF618	10UF STD 16V M FL TP5
C403	OCE476DH618	47UF STD 25V 20% FL TP 5
C404	OCE108DD618	1000UF STD 10V M FL TP5
C408	OCE106DK618	10UF STD 50V M FL TP5
C410	OCE227DF618	220UF STD 16V M FL TP5
C412	OCE105DK618	1UF STD 50V M FL TP5
C413	OCK224DF56A	220000PF 2012 16V 10% R/TP X7R
C499	OCE476DK618	47UF STD 50V M FL TP5
C501	OCE107DF618	100UF STD 16V M FL TP5
C523	OCE104DK618	0.1000UF STD 50V M FL TP5
C526	OCE107DF618	100UF STD 16V M FL TP5
C541	OCE107DF618	100UF STD 16V M FL TP5
C581	OCE107DF618	100UF STD 16V M FL TP5
C613	OCE106DF618	10UF STD 16V M FL TP5
C614	OCE106DF618	10UF STD 16V M FL TP5
C616	OCE107DF618	100UF STD 16V M FL TP5
C617	OCE107BH618	100UF KME 25V M FL TP5
C617	OCE107BF618	100UF KME 16V M FL TP5
C620	OCE335DK618	3.3UF STD 50V 20% FL TP 5
C621	OCE107BF618	100UF KME 16V M FL TP5
C624	OCK224DF56A	220000PF 2012 16V 10% R/TP X7R
C625	OCK224DF56A	220000PF 2012 16V 10% R/TP X7R
C629	OCE107DF618	100UF STD 16V M FL TP5
C633	OCE107DF618	100UF STD 16V M FL TP5
C643	OCE476BF618	47UF KME TYPE 16V 20% FL TP 5
C700	181-091D	DEHR33A102KN2A 1000PF 1KV 10%,-10%
C701	OCF474285B0	0.47UF S 275V 10% PCX2 337 BULK
C703	181-120P	470 PF 4KV K JE R FL 10
C704	181-120P	470 PF 4KV K JE R FL 10
C706	OCE226DK618	22UF STD 50V M FL TP5
C707	OCE1072V610	100UF KMF 450V 20% FL BULK
C708	181-091D	DEHR33A102KN2A 1000PF 1KV 10%,-10%
C709	181-120K	2200PF 4KV M E FMTW LEAD 4.5
C710	181-120K	2200PF 4KV M E FMTW LEAD 4.5
C717	181-091D	DEHR33A102KN2A 1000PF 1KV 10%,-10%
C718	181-091D	DEHR33A102KN2A 1000PF 1KV 10%,-10%
C719	OCE227DJ618	220UF STD 35V M FL TP5
C720	181-091D	DEHR33A102KN2A 1000PF 1KV 10%,-10%
C725	OCE4772J618	470UF KMF 35V 20% TP 5 FL

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CC, CX, CK, CN : Ceramic	RD : Carbon Film
CQ : Polyester	RS : Metal Oxide Film
CE : Electrolytic	RN : Metal Film
	RF : Fusible

LOCA. NO	PART NO	DESCRIPTION
C726	0CK10101515	100PF D 1KV 10% B(Y5P) TR
C727	0CE226DK618	22UF STD 50V M FL TP5
C728	0CE476BK618	47UF KME 50V M FL TP5
C730	0CE4772J618	470UF KMF 35V 20% TP 5 FL
C731	0CE227DJ618	220UF STD 35V M FL TP5
C733	181-120K	2200PF 4KV M E FMTW LEAD 4.5
C734	0CE4772J618	470UF KMF 35V 20% TP 5 FL
C743	0CE477DD618	470UF STD 10V M FL TP5
C744	0CE227DK618	220UF STD 50V M FL TP5
C745	0CE477DD618	470UF STD 10V M FL TP5
C746	0CE477DD618	470UF STD 10V M FL TP5
C747	0CE477DD618	470UF STD 10V M FL TP5
C777	181-091D	DEHR33A102KN2A 1000PF 1KV 10%,-10%
C832	0CE107DF618	100UF STD 16V M FL TP5
COIL & INDUCTOR		
L1201	6140VR0005B	COIL,ENERGY SLF7045T-330MR82
L1202	6140VR0005B	COIL,ENERGY SLF7045T-330MR82
L1203	6140VR0005B	COIL,ENERGY SLF7045T-330MR82
L1204	6140VR0005B	COIL,ENERGY SLF7045T-330MR82
L174	0LC0233002A	INDUCTOR,CHIP 3.3UH CERATECH R/TP
L175	0LC0233002A	INDUCTOR,CHIP 3.3UH CERATECH R/TP
L176	0LC0233002A	INDUCTOR,CHIP 3.3UH CERATECH R/TP
L177	0LC0233002A	INDUCTOR,CHIP 3.3UH CERATECH R/TP
L401	0LA0272K139	INDUCTOR,AXIAL LEAD 27UH K 4X10.5 TP
L705	6140VR0008B	COIL,ENERGY SLF12575T-150M3R2 15UH
L706	6140VR0008B	COIL,ENERGY SLF12575T-150M3R2 15UH
T1101	6170VH0002A	TRANSFORMER,UI-11.7 860000UH 1-CH
T1102	6170VH0002A	TRANSFORMER,UI-11.7 860000UH 1-CH
T1103	6170VH0002A	TRANSFORMER,UI-11.7 860000UH 1-CH
T1104	6170VH0002A	TRANSFORMER,UI-11.7 860000UH 1-CH
T1105	6170VH0002A	TRANSFORMER,UI-11.7 860000UH 1-CH
T1106	6170VH0002A	TRANSFORMER,UI-11.7 860000UH 1-CH
T701	6170VMCA65A	TRANSFORMER,SMPS[COIL] EER3019
CONNECTOR		
P1	6602T10002D	ETC 50P FH12-50S-0.5H HIROSE .
P100	366-932E	2.5MM 6P GIL-G LG CABLE S (STICK)
P101	6602V20005L	2.0MM 12P GIL-S LG CABLE STRAIGHT
P1101	6631V20014E	12P 2.0MM 300MM (LGC)GIL-S (LGC)GIL-T
P1102	387-A07B	7P 2.5MM 150MM GIL-G GIL-J NON
P601	366-932B	2.5MM 3P GIL-G LG CABLE S (STICK)
P602	366-932C	2.5MM 4P GIL-G LG CABLE S (STICK)
RESISTOR		
FR704	ORP0020J809	0.02 OHM 1 W 20% TA52
L502	0RRZVTA001A	MNR-14-E0A-J-101 R OHM 100 OHM 5%
L503	0RRZVTA001A	MNR-14-E0A-J-101 R OHM 100 OHM 5%

LOCA. NO	PART NO	DESCRIPTION
L504	0RRZVTA001A	MNR-14-E0A-J-101 R OHM 100 OHM 5%
L505	0RRZVTA001A	MNR-14-E0A-J-101 R OHM 100 OHM 5%
L506	0RRZVTA001A	MNR-14-E0A-J-101 R OHM 100 OHM 5%
L507	0RRZVTA001A	MNR-14-E0A-J-101 R OHM 100 OHM 5%
L518	0RRZVTA001A	MNR-14-E0A-J-101 R OHM 100 OHM 5%
R702	0RKZVTA001C	8.2M OHM 1/2 W 5% TA52 UL
R703	0RKZVTA001K	0.47M OHM 1/2 W 5% TA52
R704	0RS5602K619	56K OHM 2 W 5.00% TR
R705	0RS5602K619	56K OHM 2 W 5.00% TR
R706	0RS5602K619	56K OHM 2 W 5.00% TR
R706	0RS1203K607	120K OHM 2 W 5.00% TA62
R711	0RS5602K619	56K OHM 2 W 5.00% TR
R712	0RS5602K619	56K OHM 2 W 5.00% TR
R714	0RS5602K619	56K OHM 2 W 5.00% TR
R715	180-A01E	2 W RW ROUND G 2W 0.33J TA31(63)
R727	ORD0472H609	47 OHM 1/2 W 5.00% TA52
R736	ORD0472H609	47 OHM 1/2 W 5.00% TA52
SWITCH		
SW1101	140-313A	TACT 2LEAD 100G(TA) NON 5V 0.001A
SW1102	140-313A	TACT 2LEAD 100G(TA) NON 5V 0.001A
SW1103	140-313A	TACT 2LEAD 100G(TA) NON 5V 0.001A
SW1104	140-313A	TACT 2LEAD 100G(TA) NON 5V 0.001A
SW1105	140-313A	TACT 2LEAD 100G(TA) NON 5V 0.001A
SW1106	140-313A	TACT 2LEAD 100G(TA) NON 5V 0.001A
SW1107	140-313A	TACT 2LEAD 100G(TA) NON 5V 0.001A
SW1108	140-313A	TACT 2LEAD 100G(TA) NON 5V 0.001A
FILTER & CRYSTAL		
L101	6210TCE001G	HH-1M3216-501 3216MM R/TP
L1101	6210TCE001A	HB-1S2012-080JT 2012MM CHIP-BEAD
L1101	6210TCE001G	HH-1M3216-501 3216MM R/TP
L119	6210TCE001A	HB-1S2012-080JT 2012MM CHIP-BEAD
L1200	6210TCE001G	HH-1M3216-501 3216MM R/TP
L1205	6210TCE001G	HH-1M3216-501 3216MM R/TP
L1206	6210TCE001G	HH-1M3216-501 3216MM R/TP
L200	6200JB8010L	MLB-201209-1000L-N2
L200	6210TCE001A	HB-1S2012-080JT 2012MM CHIP-BEAD
L201	6210TCE001A	HB-1S2012-080JT 2012MM CHIP-BEAD
L201	6200JB8010L	MLB-201209-1000L-N2
L202	6210TCE001A	HB-1S2012-080JT 2012MM CHIP-BEAD
L202	6200JB8010L	MLB-201209-1000L-N2
L204	6210TCE001A	HB-1S2012-080JT 2012MM CHIP-BEAD
L205	6210TCE001A	HB-1S2012-080JT 2012MM CHIP-BEAD
L206	6210TCE001G	HH-1M3216-501 3216MM R/TP
L207	6200JB8010L	MLB-201209-1000L-N2
L208	6210TCE001A	HB-1S2012-080JT 2012MM CHIP-BEAD
L209	6210TCE001A	HB-1S2012-080JT 2012MM CHIP-BEAD

LOCA. NO	PART NO	DESCRIPTION
L351	6210TCE001G	HH-1M3216-501 3216MM R/TP
L400	6210TCE001G	HH-1M3216-501 3216MM R/TP
L402	6210TCE001G	HH-1M3216-501 3216MM R/TP
L501	6210TCE001G	HH-1M3216-501 3216MM R/TP
L515	6210TCE001G	HH-1M3216-501 3216MM R/TP
L516	6210VC0004A	BK3216 4S600 3.2X1.6X0.8MM R/TP
L517	6210TCE001G	HH-1M3216-501 3216MM R/TP
L580	6210TCE001A	HB-1S2012-080JT 2012MM CHIP-BEAD
L581	6210TCE001A	HB-1S2012-080JT 2012MM CHIP-BEAD
L601	6210TCE001G	HH-1M3216-501 3216MM R/TP
L602	6210TCE001G	HH-1M3216-501 3216MM R/TP
L603	6210TCE001G	HH-1M3216-501 3216MM R/TP
L701	125-022K	FERRITE 1UH TAPING
L702	125-022K	FERRITE 1UH TAPING
L703	6210TCE001G	HH-1M3216-501 3216MM R/TP
L704	6210TCE001G	HH-1M3216-501 3216MM R/TP
L801	6210TCE001G	HH-1M3216-501 3216MM R/TP
L802	6210TCE001G	HH-1M3216-501 3216MM R/TP
L803	6210TCE001G	HH-1M3216-501 3216MM R/TP
L99	6210TCE001G	HH-1M3216-501 3216MM R/TP
LF701	6200JB8012Q	OR 14*7*7.5H SMC BK 6.0-11.0MH
R1108	6200JB8010L	MLB-201209-1000L-N2
R1109	6200JB8010L	MLB-201209-1000L-N2
R1110	6200JB8010L	MLB-201209-1000L-N2
R1111	6200JB8010L	MLB-201209-1000L-N2
R1112	6200JB8010L	MLB-201209-1000L-N2
R226	6200JB8010L	MLB-201209-1000L-N2
R228	6200JB8010L	MLB-201209-1000L-N2
R229	6200JB8010L	MLB-201209-1000L-N2
R230	6200JB8010L	MLB-201209-1000L-N2
R505	6210TCE001A	HB-1S2012-080JT 2012MM CHIP-BEAD
R710	125-022K	FERRITE 1UH TAPING
Z100	156-A01L	RESONATOR,CRYSTAL HC49U 6.000MHZ
Z500	156-A02X	RESONATOR,CRYSTAL HC49U 27.000MHZ
Z600	156-A02M	RESONATOR,CRYSTAL 18.432MHZ 30PPM

ACCESSORIES

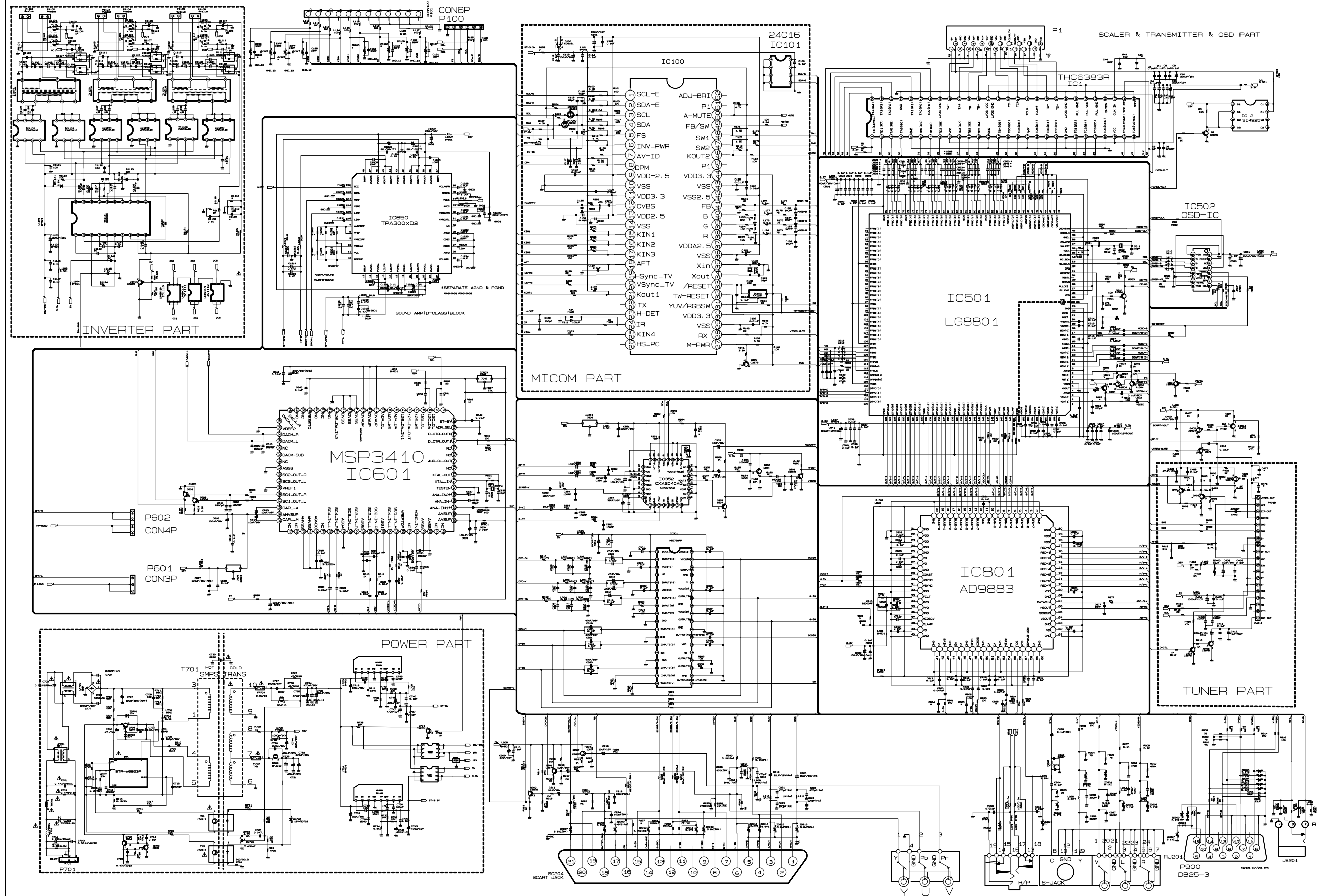
A1	3828VA0448B	MANUAL,OWNERS ML024D LGEBN
A1	3828VA0448C	MANUAL,OWNERS ML024D LGEHS
A1	3828VA0448D	MANUAL,OWNERS ML024D LGEUK
A1	3828VA0448F	MANUAL,OWNERS ML024D LGEIS
A1	3828VA0448G	MANUAL,OWNERS ML024D LGEES
A1	3828VA0448H	MANUAL,OWNERS ML024D STUH
A1	3828VA0448J	MANUAL,OWNERS ML024D LGEFS
A1	3828VA0448K	MANUAL,OWNERS ML024D LGESW
A1	3828VA0448R	MANUAL,OWNERS ML024D LGERU
A2	6710V00091G	REMOTE CONTROLLER,ML012B FULL .
A3	6410VPH001A	POWER CORD,SP023+IS034 (LGERU)

LOCA. NO	PART NO	DESCRIPTION
A3	6410VEH008A	POWER CORD,SP022+ISO34 (LGEBN)
A3	6410VEH008C	POWER CORD,SP023+ISO34 (STUH)
A3	6410VEH008D	POWER CORD,SP28+IS-034 (LGEIS)
A3	6410VBH005A	POWER CORD,SP60+IS034 (LGEUK)

MISCELLANEOUS

F701	131-098B	FUSE,SLOW BLOW 4000MA 250 V 5.2X20
LED1	ODL200000CA	LED SAM5670(DL-2LRG) BK Y-GREEN -
P701	6620VZ0002A	SOCKET (CIRC),DRAWING IS7007
PA1101	6726VV0006D	REMOTE CONTROLLER RECEIVER ,38.0KHZ
RJ201	6613V00008F	JACK ASSY,PMJ014F E/P(ST)+S-VHS+3P H6.5
SC204	381-091B	JACK,SCART S-091B UGCOM SCART 21
TH701	163-048D	THERMISTOR,KL15L2R5 +/- 15% 125V
TU401	6700PF0002A	TUNER,TAFH-S321D LG PAL FS 4SYS
VA701	164-003K	VARISTOR,SVC621D-14A ILJIN 620V 0%

CIRCUIT DIAGRAM FOR MLO24D CHASSIS







website:<http://biz.LGservice.com>
e-mail:<http://www.LGService.com/techsup.html>



LCD TV

SERVICE MANUAL

CHASSIS : ML-041B

MODEL : RZ-20LA70(RZ-20LA70 Rev A)

CAUTION *() ID LABEL Model No.

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



*Same looking with new chassis

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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 Ω and 5.2M Ω .

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.

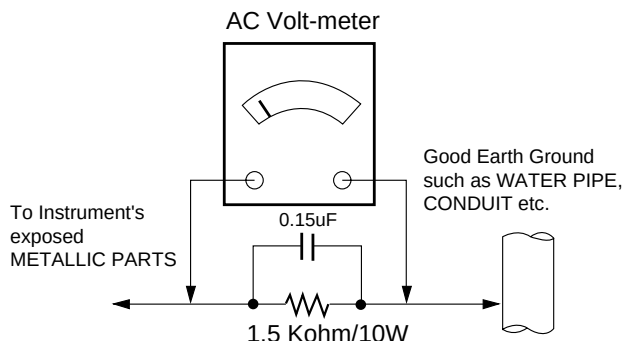
Connect 1.5K/10watt resistor in parallel with a 0.15uF capacitor between a known good earth ground (Water Pipe, Conduit, etc.) and the exposed metallic parts.

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(380.16mm) diagonal(Aspect 4:3)	
	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		AUO	AUO
	Type		TFT Color LCD Module	
	ActiveDisplay Area		20.1 inches(510.00mm) diagonal	
	Pixel Pitch [mm]		0. 6376mm(H)x0.6375mm(V)xRGB	
	Electrical Interface		TTL	
	Color Depth		8-BIT 16,777.216 Colors	
	Size [mm]		434(H)x331.6(V)x29.6(D)	
	Surface Treatment		Hard Coating, AR,Glare (3H)	
	Operating Mode		Normally Black	
	Back light Unit		6 CCFL(6 lamps)	
	R/T	Typ.	16ms	
3	Maker		CMO	CMO
	Type		TFT Color LCD Module	
	ActiveDisplay Area		20.1 inches(510.00mm) diagonal	
	Pixel Pitch [mm]		0. 6375mm(H)x0.6375mm(V)xRGB	
	Electrical Interface		TTL	
	Color Depth		8-BIT 16,777.216 Colors	
	Size [mm]		448(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, NT)
6	PERI TV Connector	Full SCART : 1	Rear (option,EU)
7	H/p input	1	Rear
8	RS-232	NO	
9	Discrete IR	YES	
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	X	
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	CMO	
1	Viewing Angle <CR ≥10>	R/L, U/D			85/85 85/85	80/80 75/65	85/85 90/90	
2	Luminance	Luminance(cd/ m²)			400	450	450	Typical
		Variation			1.3	1.3	1.3	MAX/MIN
3	Contrast Ratio				400	500	600	ALL white/All black
4	CIE Color Coordinates	WHITE	W _X	Typ.	0.289	0.285	0.31	
			W _Y	Typ.	0.335	0.293	0.33	
		RED	W _r	Typ.	0.692	0.692	0.64	
			Y _r	Typ.	0.335	0.332	0.34	
		Green	X _g	Typ.	0.289	0.276	0.29	
			Y _g	Typ.	0.583	0.601	0.61	
		Blue	X _b	Typ.	0.143	0.142	0.14	
Y _b	Typ.		0.909	0.075	0.07			



6.Engineering Specification

No.	Item	Specification			Remark
1	Power Supply	H/V Sync	Video	Power Consumption	LED Color
	Normal	On/On	Active	$\leq 65W$	GREEN
	Stand By	Off/On	Off	$\leq 1W$	LED
	Suspend Mode	On/Off		$\leq 1W$	
	DPM Off Mode	Off/Off		$\leq 1W$	
	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		10: Digital GND
3	Control Function	1) Contrast/Brightness 2) H-Position/V-Position 3) Tracking : Clock/ Phase 4) Auto Configure RESET			
4	Comoponent Jack	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	22.8	24	25.2	V	
3	DC Voltage, LCD Panel	11.4	12	12.6	V	
4	DC Voltage, Audio	14.0	15	16.0	V	
5	DC Voltage, Tuner(5)	4.5	5	5.5	V	Japan only
	DC Voltage, Tuner(9)	8.5	9	9.5	V	
6	DC Voltage, Tuning(31)	31	33	35	V	
7	DC Voltage, VCTi(5)	4.5	5	5.5	V	
	DC Voltage, VCTi(8)	7.5	8	8.5	V	
8	DC Voltage, VCTi(3.3)	3.1	3.3	3.5	V	
	DC Voltage, VCTi(1.8)	1.6	1.8	2.0	V	
9	DC Voltage, GM2221 (3.3)	3.1	3.3	3.5	V	
	DC Voltage, GM2221 (1.8)	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		768		Pixel	Only 20" 640 Pixel
17.	RGB Input Resolution, Horizontal		1280		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 overview

The unit is set to automatically adjust using the factory automation equipment. However when errors occur, it should be adjusted manually.

2.2 Auto Gain/Offset adjustment

2.2.1 RF Mode adjustment

2.2.1.1 Adjustment preparation

- Conduct Heat Run at the RF fog signals for more than 30 minutes.

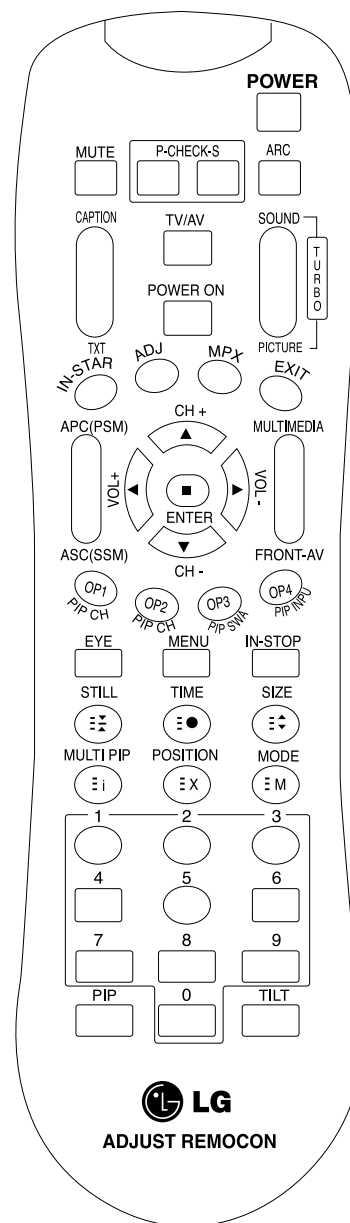
2.2.1.2 Auto Gain/Offset adjustment

- Press IN-START Key to convert to the adjustment mode using the adjustment (SVC) remote controller, and press VOL+ Key at the Auto Gain menu.
- Once the adjustment is completed, press the Enter Key to save and finish the adjustment.

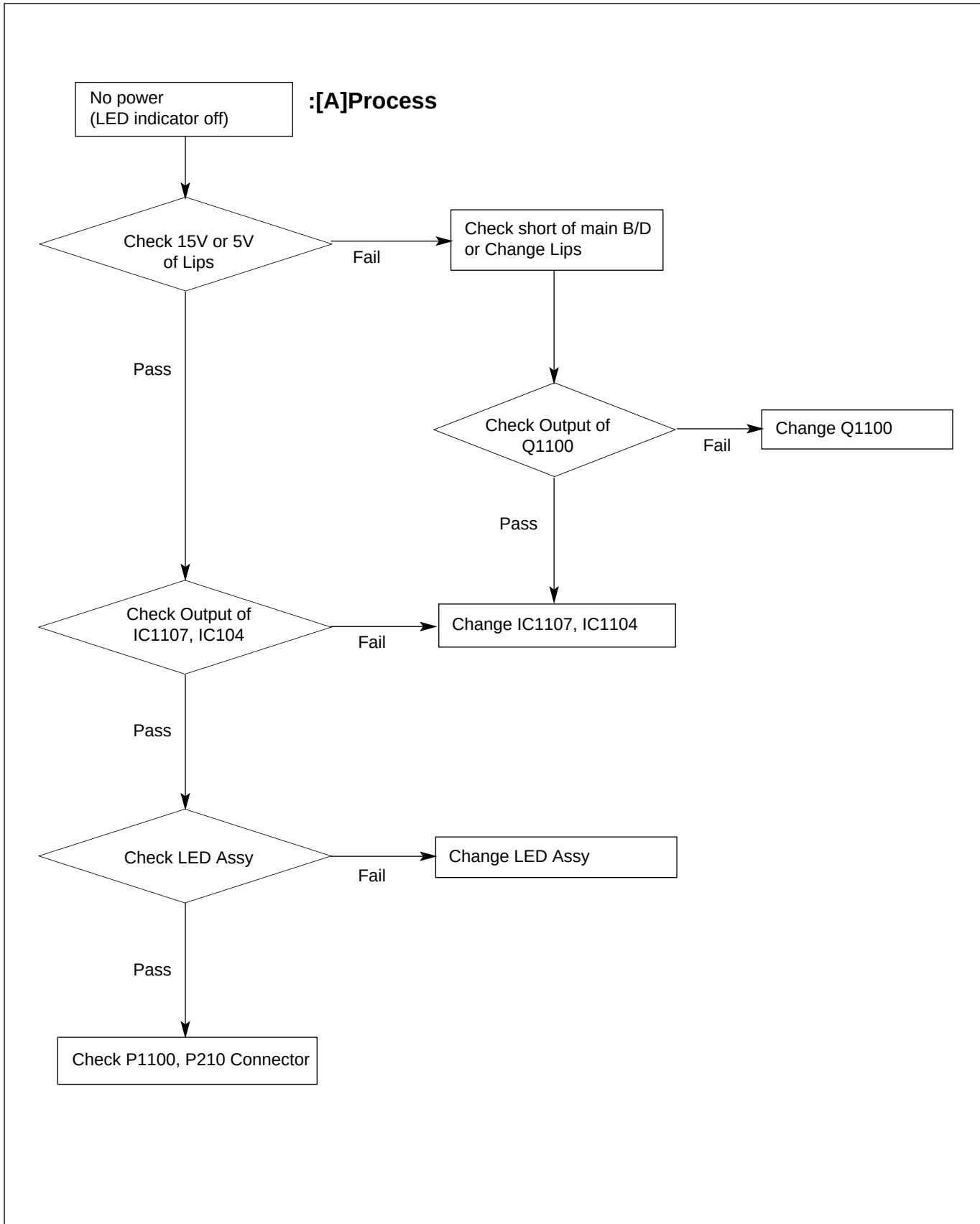


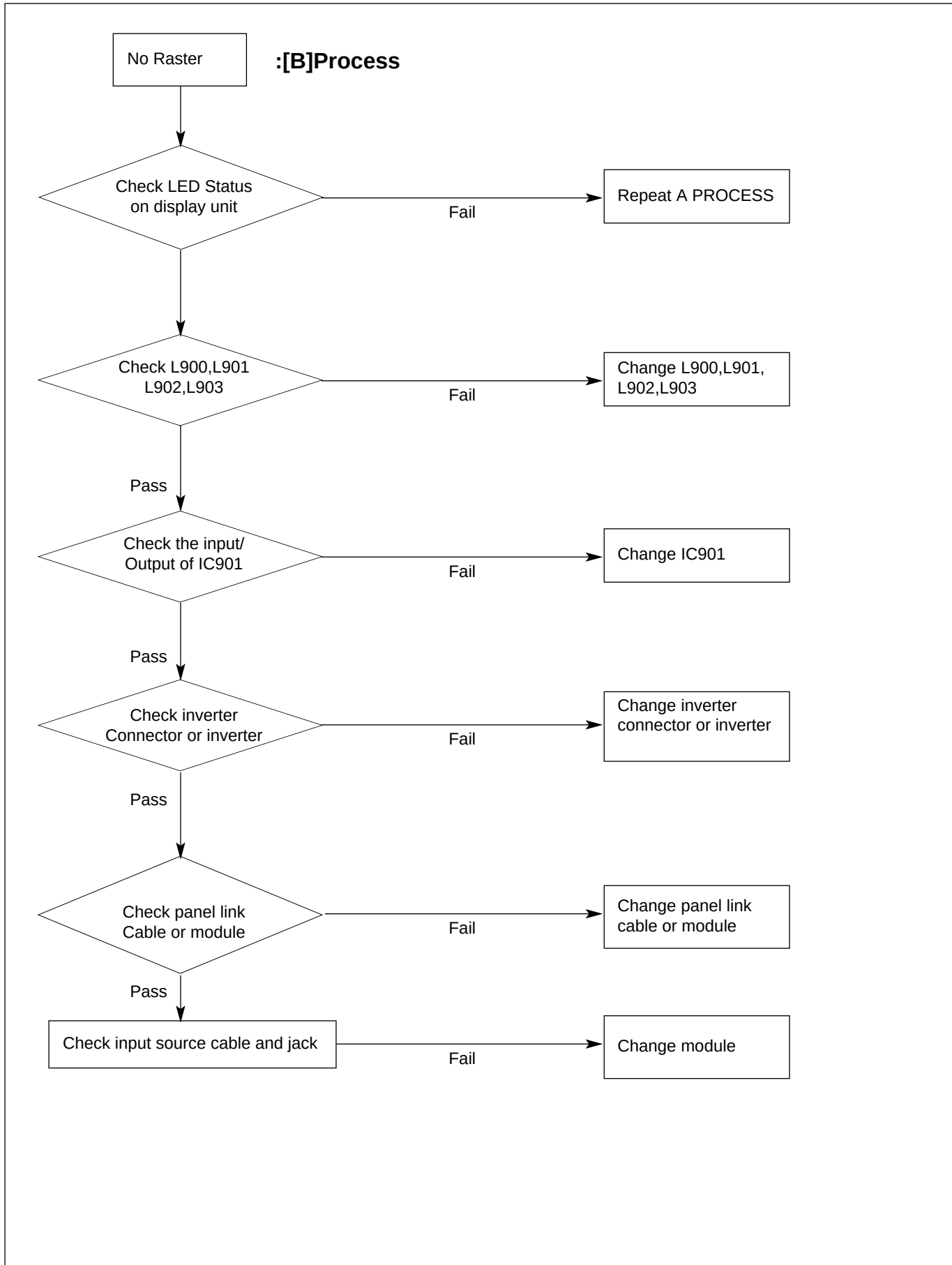
SVC REMOCON

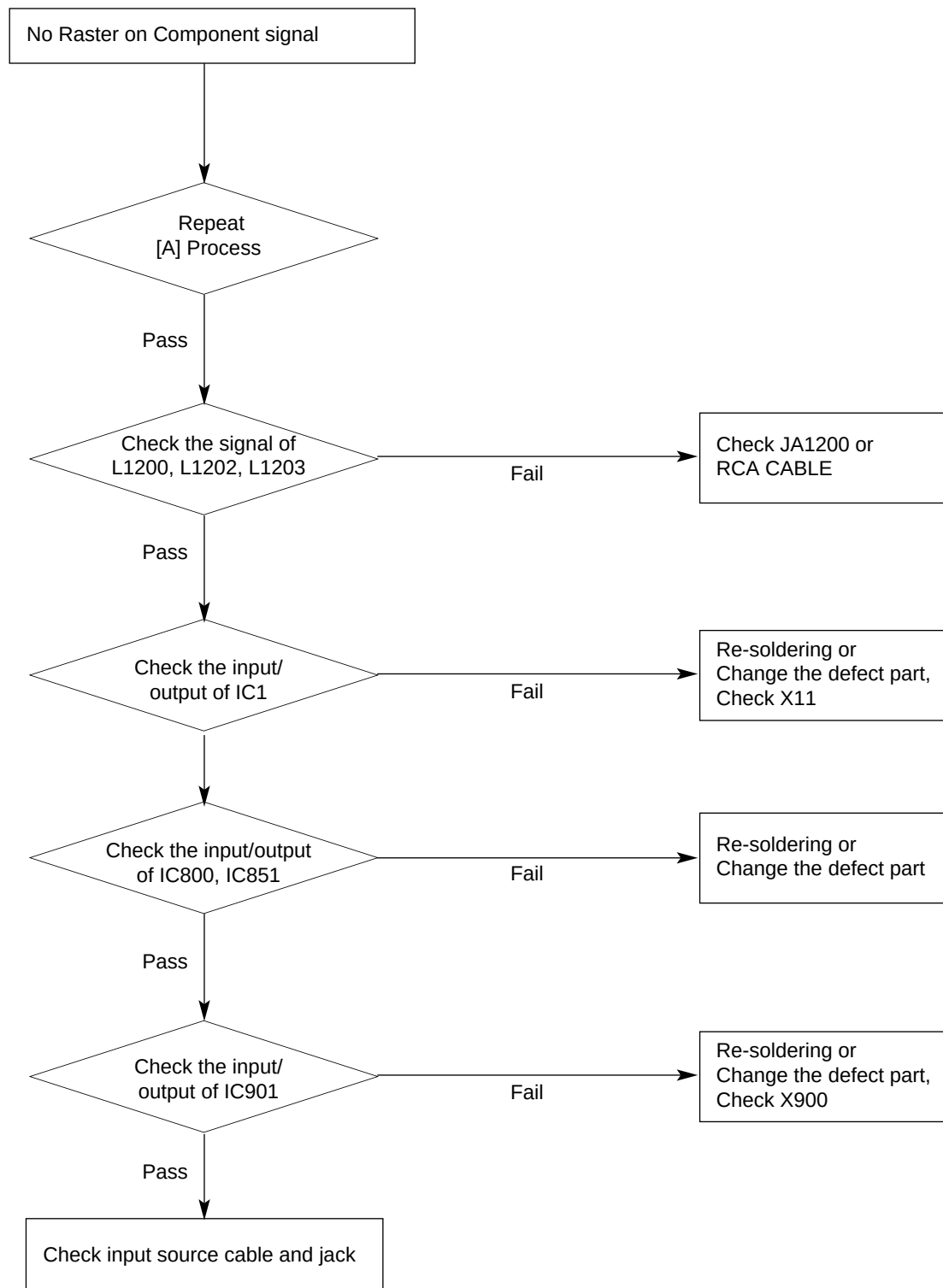
NO	KEY	FUNTION	REMARK
1	POWER	To turn the TV on or off	
2	POWER ON	To turn the TV on automatically if the power is supplied to the TV. (Use the POWER key to deactivate): It should be deactivated when delivered.	
3	MUTE	To activate the mute function.	
4	P-CHECK	To check TV screen image easily.	Shortcut 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.	

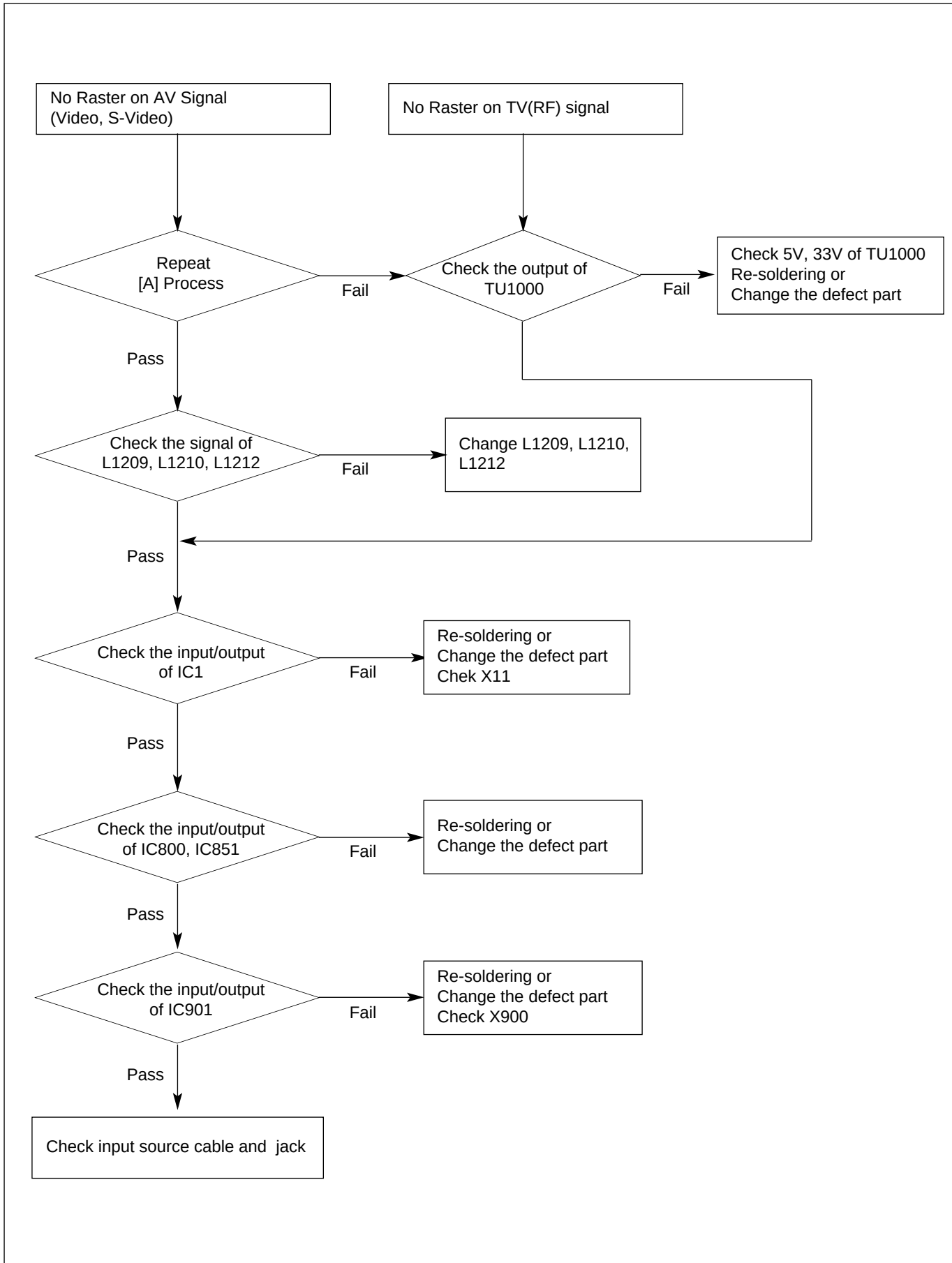


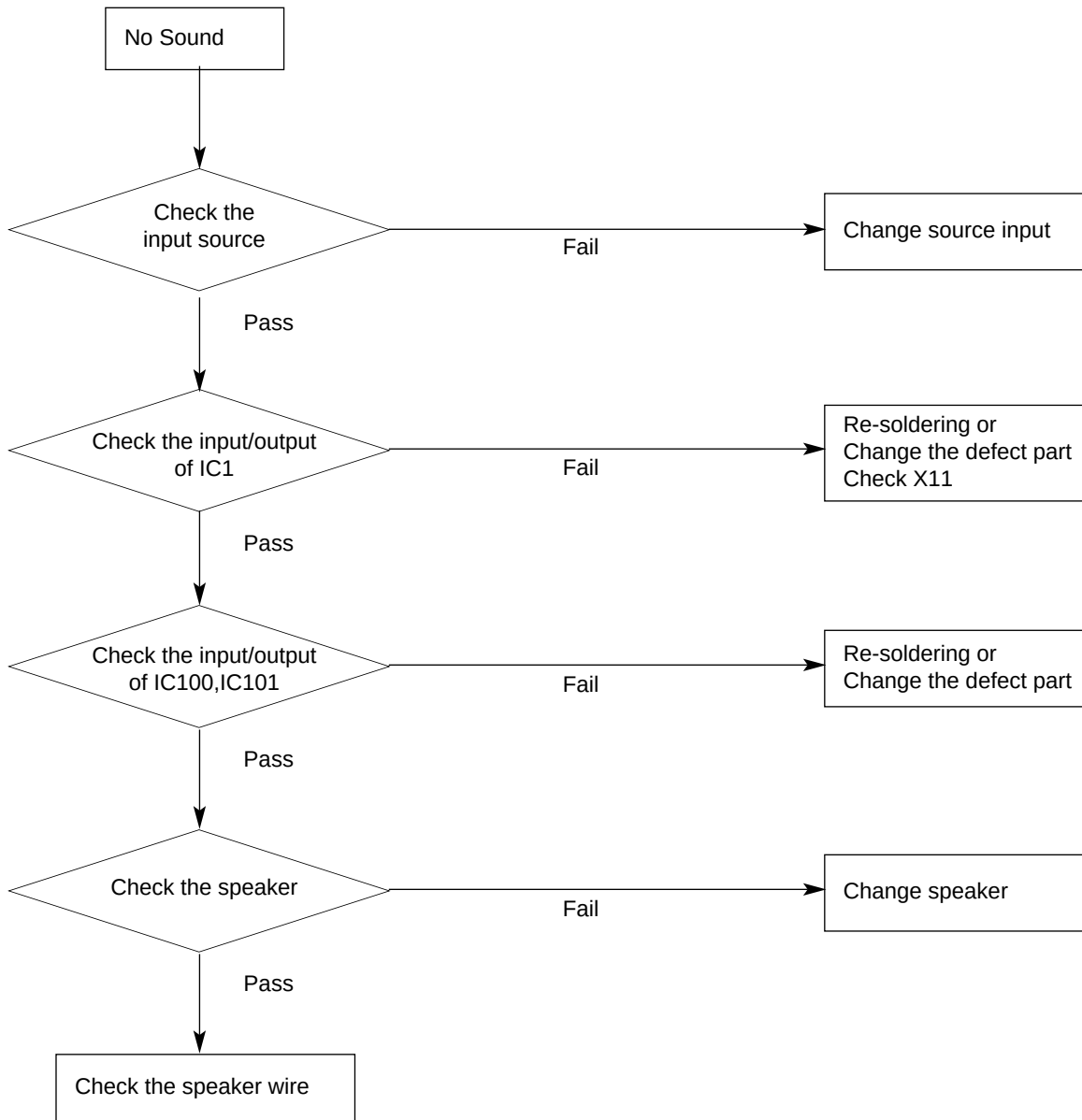
TROUBLESHOOTING





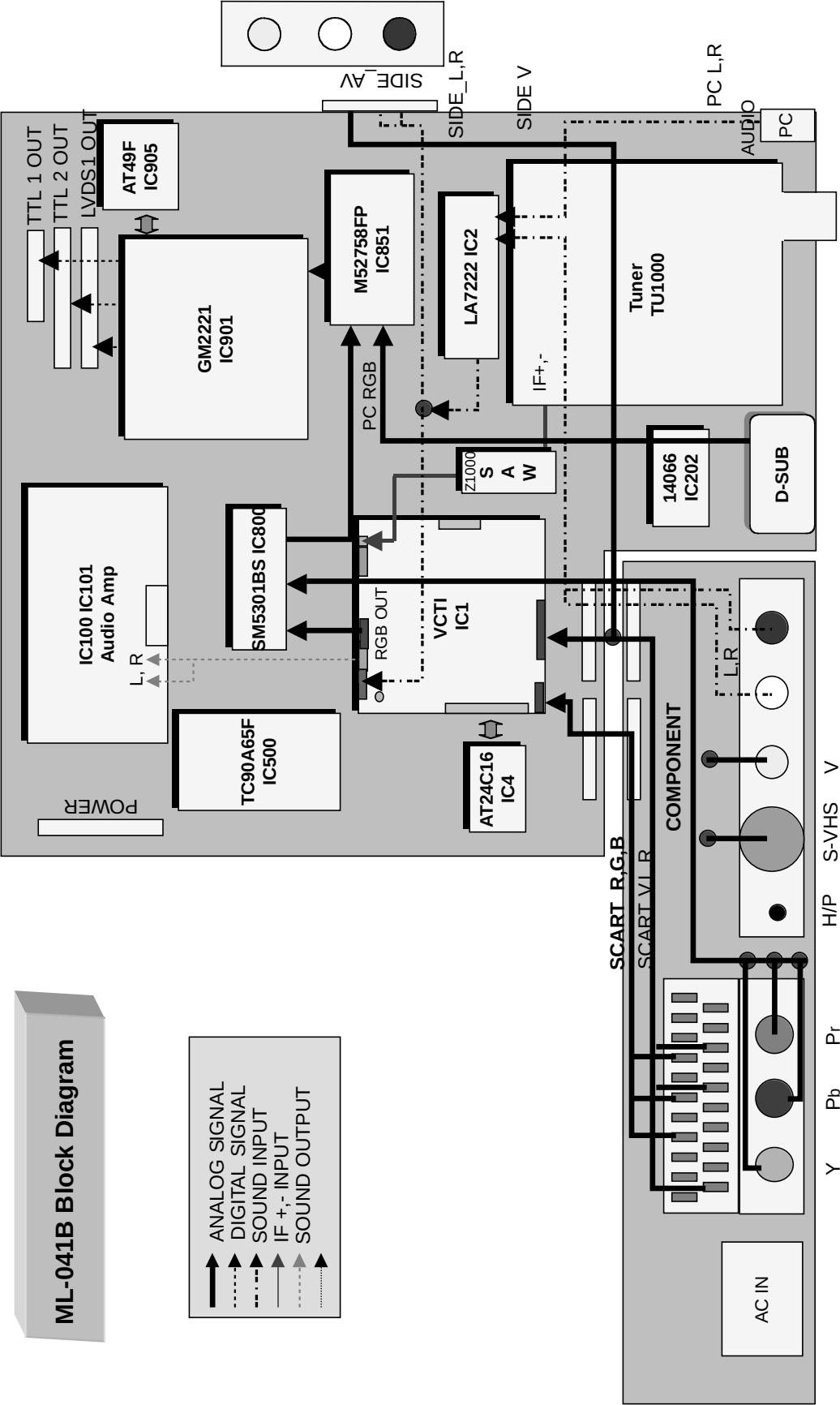








BLOCK DIAGRAM



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.

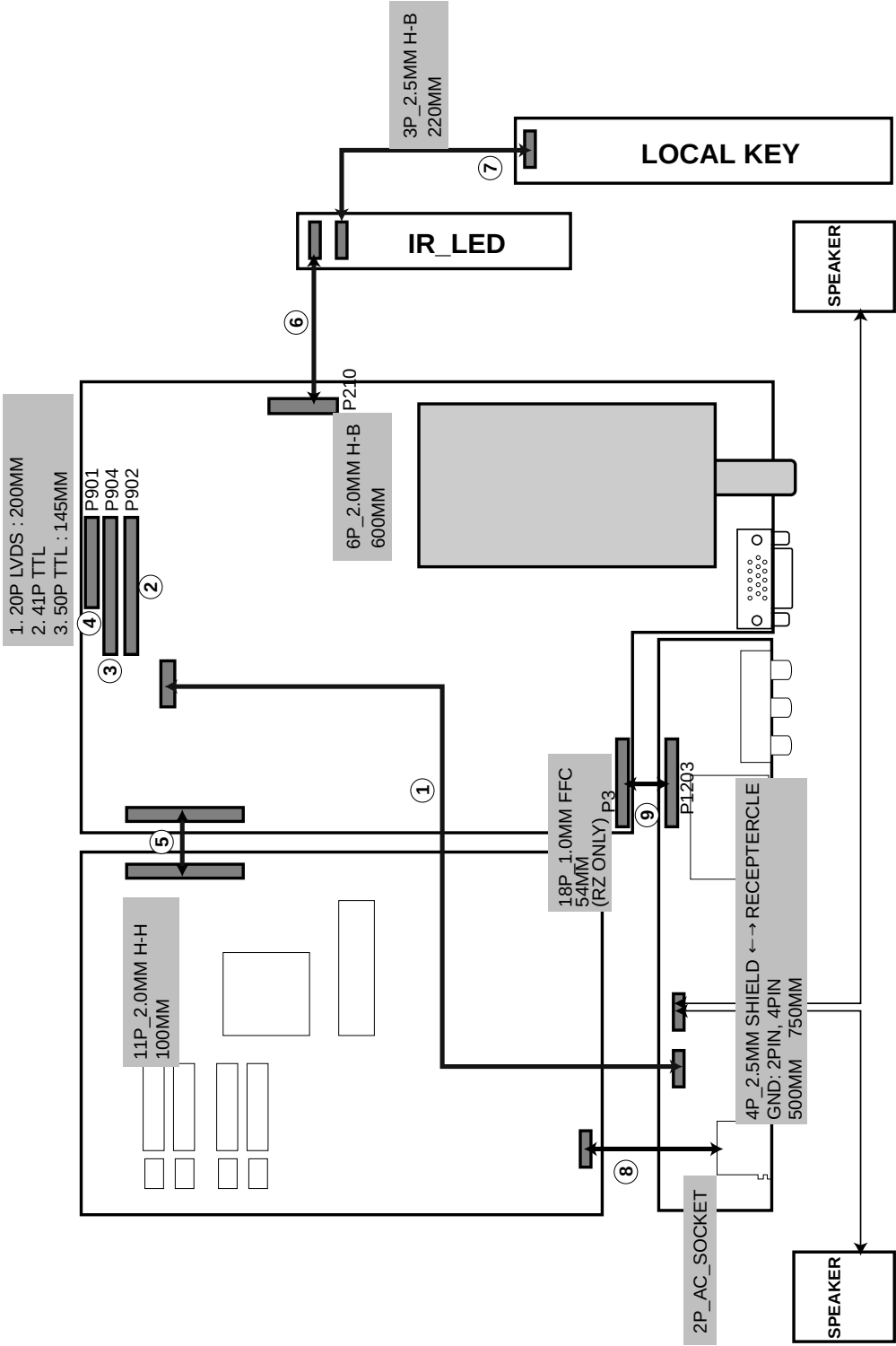
2. Power Supply Unit

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

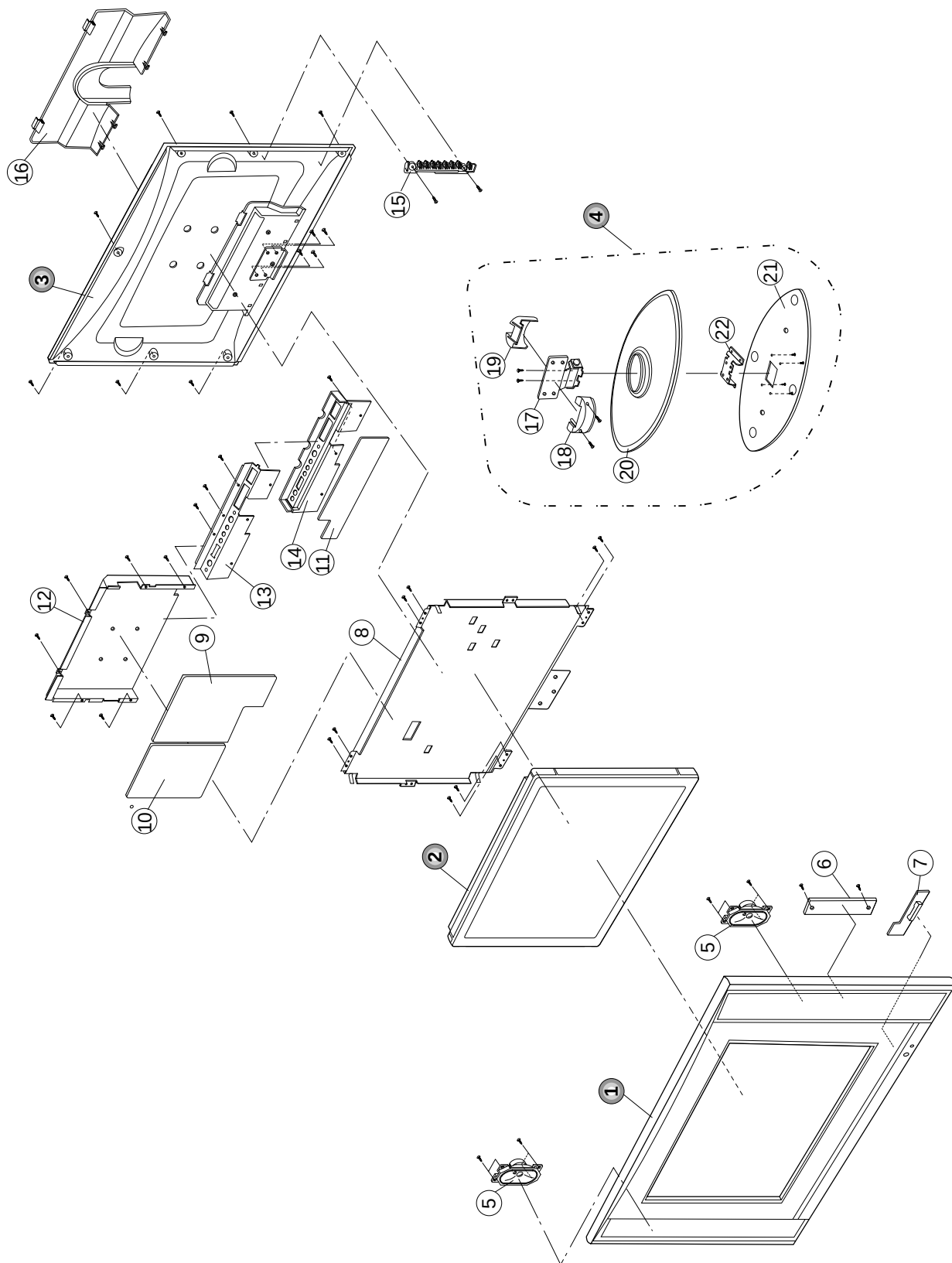


Wiring Part List

No.	Part No.
1	6631T25019Y
2	6631T11017P-CMO
	6631T11017Q-AUO
3	6631T11021A
4	6631T11012R
5	6631T20028G
6	6631T20029X
7	6631T25021A
8	6620K00007C or 6620K00007A
9	6631T11017R



EXPLODED VIEW



EXPLODED VIEW PARTS LIST



No.	PART NO.	DESCRIPTION
1	3091V00587A	CABINET ASSEMBLY RZ-20LA70 NON NON ML024D
	3091V00587C	CABINET ASSEMBLY RZ-20LA70 STEREO ML024D C/SKD
2	6306V20002A	LCD(LIQUID CRYSTAL DISPLAY), V201V1-T02 VGA CHIMEI TFT COLOR NON
	6304FAU017A	LCD(LIQUID CRYSTAL DISPLAY), A201SN01N01-V6 AU TFT COLOR TN 500NITS 16MS
3	3809TKD002R	BACK COVER ASSEMBLY, RM-20LA70 3808V00427 FOR RUSSIA (ML041B)
	3809TKD002M	BACK COVER ASSEMBLY, RZ-20LA70 3808V00427 ML041B(SCART)
	3809TKD002P	BACK COVER ASSEMBLY, RM-20LA70 3808V00427 FOR RUSSIA(ML-041B)
4	4811V00073A	BRACKET ASSEMBLY, STAND RZ-20LA70 NON .
	4811V00073C	BRACKET ASSEMBLY, STAND RZ-20LA70 ML024D C/SKD.
5	6400GKTX01C	SPEAKER,FULLRANGE, F1527C-6428-4 K-TONE FULL-RANGE(GENERAL) 4 OHM 7/12W 85DB OTHERS 40*70MM TRACK TYPE
6	6871TST562A	PWB(PCB) ASSEMBLY,SUB, RM-20LA77 ML041B SUB TOTAL BRAND CONTROL BOARD ASSY
7	6871TST563A	PWB(PCB) ASSEMBLY,SUB, RM-20LA77 ML041B SUB TOTAL BRAND IR BOARD ASSY
8	4951TKS175C	METAL ASSEMBLY, FRAME METAL, ASSY 20LA70(CMO)
	4951TKS175A	METAL ASSEMBLY, FRAME METAL, ASSY 20LA70(AUO)
	4951TKS175E	METAL ASSEMBLY, FRAME METAL, ASSY 20LA70(AUO,CKD)
	4951TKS175G	METAL ASSEMBLY, FRAME METAL, ASSY 20LA70(CMO, CKD)
9	3313TP2029A	MAIN TOTAL ASSEMBLY, RZ-20LA70(CMO) BRAND ML-041B
10	6871TPT280A	PWB(PCB) ASSEMBLY,POWER, RM-20LA77 POWER TOTAL LIEN CHANG LIPS FOR CMO/AUO
11	6871TST615A	PWB(PCB) ASSEMBLY,SUB, RZ-17LZ50 SUB TOTAL BRAND JACK(SCART) BOARD ASSY
12	4951TKK186E	METAL ASSEMBLY, SHIELD REAR RZ-20LA70
	4951TKK186F	METAL ASSEMBLY, SHIELD REAR RZ-20LA70 CKD
13	4950TKK916B	METAL, PLATE 15, 20LA70 REAR A/V "B" T
14	4810V00925B	BRACKET, REAR AV RZ-15LA70 ML024E HIPS .
15	5020V00871A	BUTTON, CONTROL RZ-20LA70 ABS 8KEY .
16	3550V00383A	COVER, REAR AV RZ-20LA70 HIPS 60HR .
17	4950V00157E	METAL, HINGE ASSY NON 20LA70
18	4810V00767A	BRACKET, STAND 20LA60 ML012B NON HINGE FRONT
19	4810V00768A	BRACKET, STAND 20LA60 ML012B NON HINGE COVER
20	4810V00924A	BRACKET, STAND RZ-20LA70 NON ABS .
21	4950V00194A	METAL, STAND SPCC(CR) SUPPORTER(LA70)
22	4950V00193A	METAL, STAND SPCC(CR) BASE(20LA70)



REPLACEMENT PARTS LIST

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. 6. 16.				
*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
		C203	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
		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
		C863	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

DATE: 2004. 06.16.				
*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
			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
			C923	0CH6050K116 5PF 50V D NP0 2012 R/TP
			C924	0CH6050K116 5PF 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 R
			C1007	0CH3103K516 10000PF 50V 10% B(Y5P) 2012 R
			C1010	0CK273DK51A 27000PF 2012 50V 10% B(Y5P) R
			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(Y5V)"
			C109	0CH3103K516 10000PF 50V 10% B(Y5P) 2012 R
			C110	0CH3103K516 10000PF 50V 10% B(Y5P) 2012 R
			C113	0CK225DFK4A "2.2UF 2012 16V 20%,-20% F(Y5V)"
			C900	0CH3103K516 10000PF 50V 10% B(Y5P) 2012 R
			C902	0CH3103K516 10000PF 50V 10% B(Y5P) 2012 R
			C955	0CH5390K416 39PF 50V 5% NP0 2012 R/TP
			C1001	0CK103CK51A 0.01UF 1608 50V 10% R/TP B(Y5
			C1002	0CK103CK51A 0.01UF 1608 50V 10% R/TP B(Y5
			C1004	0CK103CK51A 0.01UF 1608 50V 10% R/TP B(Y5
			C11	0CK104CK56A 0.1UF 1608 50V 10% R/TP X7R
			C114	0CK225DFK4A "2.2UF 2012 16V 20%,-20% F(Y5V)"



DATE: 2004. 06.16.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		C115	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C116	0CK562CK51A	5600PF 1608 50V 10% R/TP B(Y5
		C117	0CK562CK51A	5600PF 1608 50V 10% R/TP B(Y5
		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(Y5"
		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(Y5"
		C31	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C32	0CK334CF94A	"0.33UF 1608 16V 80%,-20% F(Y5"
		C33	0CK334CF94A	"0.33UF 1608 16V 80%,-20% F(Y5"
		C34	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C35	0CK334CF94A	"0.33UF 1608 16V 80%,-20% F(Y5"
		C37	0CK334CF94A	"0.33UF 1608 16V 80%,-20% F(Y5"
		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	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C861	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C865	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C901	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5
		C903	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5
		C904	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5
		C905	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5
		C906	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5
		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
		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

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		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
		C1	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD) S
		C1106	0CE477BD618	470UF KME TYPE 10V 20% FL TP
		C108	0CE476VH6DC	47UF MV 25V 20% R/TP(SMD) SMD
		C1102	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD) S
		C1103	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD) S
		C1105	0CH8476F691	47UF 16V 20% 105STD (CYL) R/T
		C1109	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD) S
		C111	0CE475WJ6DC	4.7UF MVK 35V 20% R/TP(SMD) S
		C1118	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD) S
		C112	0CE475WJ6DC	4.7UF MVK 35V 20% R/TP(SMD) S
		C1124	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD) S
		C1130	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD) S
		C1132	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD) S
		C1134	0CE227WF6DC	220UF MVK 16V 20% R/TP(SMD) S
		C1135	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD) S
		C1137	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD) S
		C1149	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD) S
		C119	0CH8106F691	10UF 16V 20% 105STD (CYL) R/T
		C120	0CH8106F691	10UF 16V 20% 105STD (CYL) R/T
		C17	0CE475WJ6DC	4.7UF MVK 35V 20% R/TP(SMD) S
		C5	0CE475WJ6DC	4.7UF MVK 35V 20% R/TP(SMD) S
		C55	0CE475VK6DC	4.7UF MV 50V 20% R/TP(SMD) SM
		C60	0CE475VK6DC	4.7UF MV 50V 20% R/TP(SMD) SM
		C852	0CH8476F691	47UF 16V 20% 105STD (CYL) R/T
		C856	0CH8476F691	47UF 16V 20% 105STD (CYL) R/T
		C859	0CH8476F691	47UF 16V 20% 105STD (CYL) R/T
		C87	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD) S
		C876	0CH8106F691	10UF 16V 20% 105STD (CYL) R/T
DIODEs				
		D100	0DRFC00288A	SS14 FAIR CHILD R/TP SMA 20-1
		D101	0DRFC00288A	SS14 FAIR CHILD R/TP SMA 20-1
		D1150	0DRGS00199A	UF4001 GENERAL SEMICONDUCTOR
		D102	0DS181009AA	KDS181 TP KEC SOT-23 80V 30
		D103	0DS181009AA	KDS181 TP KEC SOT-23 80V 30
		D107	0DS226009AA	KDS226 TP KEC SOT-23 80V 300
		ZD104	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 200
		ZD105	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 200
		ZD207	0DZ510009EE	UDZ S 5.1B TP ROHM-K SOD323 2
		ZD208	0DZ510009EE	UDZ S 5.1B TP ROHM-K SOD323 2
		ZD209	0DZ510009EE	UDZ S 5.1B TP ROHM-K SOD323 2
		ZD211	0DZ510009EE	UDZ S 5.1B TP ROHM-K SOD323 2
		ZD200	0DZ510009EE	UDZ S 5.1B TP ROHM-K SOD323 2
		ZD201	0DZ510009EE	UDZ S 5.1B TP ROHM-K SOD323 2
		ZD202	0DZ510009EE	UDZ S 5.1B TP ROHM-K SOD323 2
		ZD203	0DZ510009EE	UDZ S 5.1B TP ROHM-K SOD323 2
		ZD204	0DZ510009EE	UDZ S 5.1B TP ROHM-K SOD323 2
		ZD205	0DZ510009EE	UDZ S 5.1B TP ROHM-K SOD323 2
		ZD206	0DZ510009EE	UDZ S 5.1B TP ROHM-K SOD323 2
		D1151	0DZ330009DF	MTZJ33B TP ROHM-K DO34 0.5W 3



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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
IC				
		IC905	0IZZTSA003A	ML-041B VGA PAL ATMEL 32P PLC- CMO
		IC905	0IZZTSA005A	ML-041B VGA PAL ATMEL 32P PLC- AUO
		IC3	0IKE702700D	"KIA7027AF 3, SOT-89 TP RESET"
		IC200	0IMMRSG036A	"M24C02-WMN6T SGS-THOMSON 8P,S"
		IC4	0IMCRAL006A	AT24C16AN-10SI-2.7 ATMEL 8P S
		IC903	0IMCRAL006A	AT24C16AN-10SI-2.7 ATMEL 8P S
		IC100	0IMCRMZ002A	MP7720 MONOLITHIC POWER SYSTE
		IC101	0IMCRMZ002A	MP7720 MONOLITHIC POWER SYSTE
		IC202	0IMO140662A	"MC14066BDR2 14P,SOIC TP BILAT"
		IC1	0IPRPMN003C	VCT49XYF C7(NTSC+PAL) MICRONA
		IC901	0IPRPGN015A	"GM2221 GENESIS 208P,QFP TRAY"
		IC1101	0IPMGFA061A	"FAN1587AD33X FAIRCHILD 3P,DPA"
		IC1103	0IPMGSG018D	"LD1086DT18TR SGS-THOMSON 3P,D"
		IC1108	0IMCRKE010A	KIA7812AF KEC 2P DPACK R/TP 1
		IC1111	0IMCRFA015A	KA7805R FAIRCHILD 2P D-PAK R/
		IC1105	0IPMGFA061A	"FAN1587AD33X FAIRCHILD 3P,DPA"
		IC1106	0IPMGSG018D	"LD1086DT18TR SGS-THOMSON 3P,D"
		IC1114	0IPMGFA061A	"FAN1587AD33X FAIRCHILD 3P,DPA"
		IC1115	0IPMGFA061A	"FAN1587AD33X FAIRCHILD 3P,DPA"
		IC1110	0ISS780800J	"KA78M08R 3P,D-PAK TP VOL. REG"
		IC1113	0ISS780800J	"KA78M08R 3P,D-PAK TP VOL. REG"
COIL & CORE & INDUCTOR				
		L104	6140TBZ045A	"38.5UH(DIP), 6A, P7.5, DR8.3X"
		L105	6140TBZ045A	"38.5UH(DIP), 6A, P7.5, DR8.3X"
		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 2012M
		L1104	6210TCE001A	HB-1S2012-080JT CERATEC 2012M
		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 2012M
		L201	6210TCE001A	HB-1S2012-080JT CERATEC 2012M
		L202	6210TCE001A	HB-1S2012-080JT CERATEC 2012M
		L203	6210TCE001A	HB-1S2012-080JT CERATEC 2012M
		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 2012M
		L800	6210TCE001G	HH-1M3216-501 CERATEC 3216MM
		L906	6210TCE001G	HH-1M3216-501 CERATEC 3216MM
		L907	6210TCE001G	HH-1M3216-501 CERATEC 3216MM
		L10	0LC1032101A	10UH 10% 3216 R/TC FI-C3216-1
		L1001	0LC1020101A	1UH 10% 2012 R/TC FI-B2012-10
		L1002	0LC1032101A	10UH 10% 3216 R/TC FI-C3216-1
		L15	0LC1032101A	10UH 10% 3216 R/TC FI-C3216-1
		L2	0LC1032101A	10UH 10% 3216 R/TC FI-C3216-1
		L8	0LC1032101A	10UH 10% 3216 R/TC FI-C3216-1
		L888	0LC0233002A	3.3UH CERATECH R/TP
		L889	0LC0233002A	3.3UH CERATECH R/TP
		L890	0LC0233002A	3.3UH CERATECH R/TP

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
FET & TRANSISTOR				
		IC1107	0TF492509AA	SI4925DY TP TEMIC 30V 6.1A S
		Q1150	0TR322809AB	KTC3228-Y(KTC2383) TP KEC TO9
		Q1	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC --
		Q603	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC --
		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 --
		Q2	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC --
		Q3	0TR150400BA	CHIP 2SA1504S(ASY) BK KEC --
		IC902	0TFVI80005A	VISHAY SI4963DY R/TP SO-8 -20
		IC1104	0TFVI80005A	VISHAY SI4963DY R/TP SO-8 -20
RESISTORS				
		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
		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
		R201	0RH4701D622	4.7K 1/10W 5 D.R/TP
		R204	0RH4701D622	4.7K 1/10W 5 D.R/TP
		R211	0RH0752D622	75 1/10W 5 D.R/TP
		R212	0RH0752D622	75 1/10W 5 D.R/TP
		R213	0RH0752D622	75 1/10W 5 D.R/TP
		R214	0RH4703D622	470K 1/10W 5 D.R/TP
		R217	0RH4703D622	470K 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
		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
		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



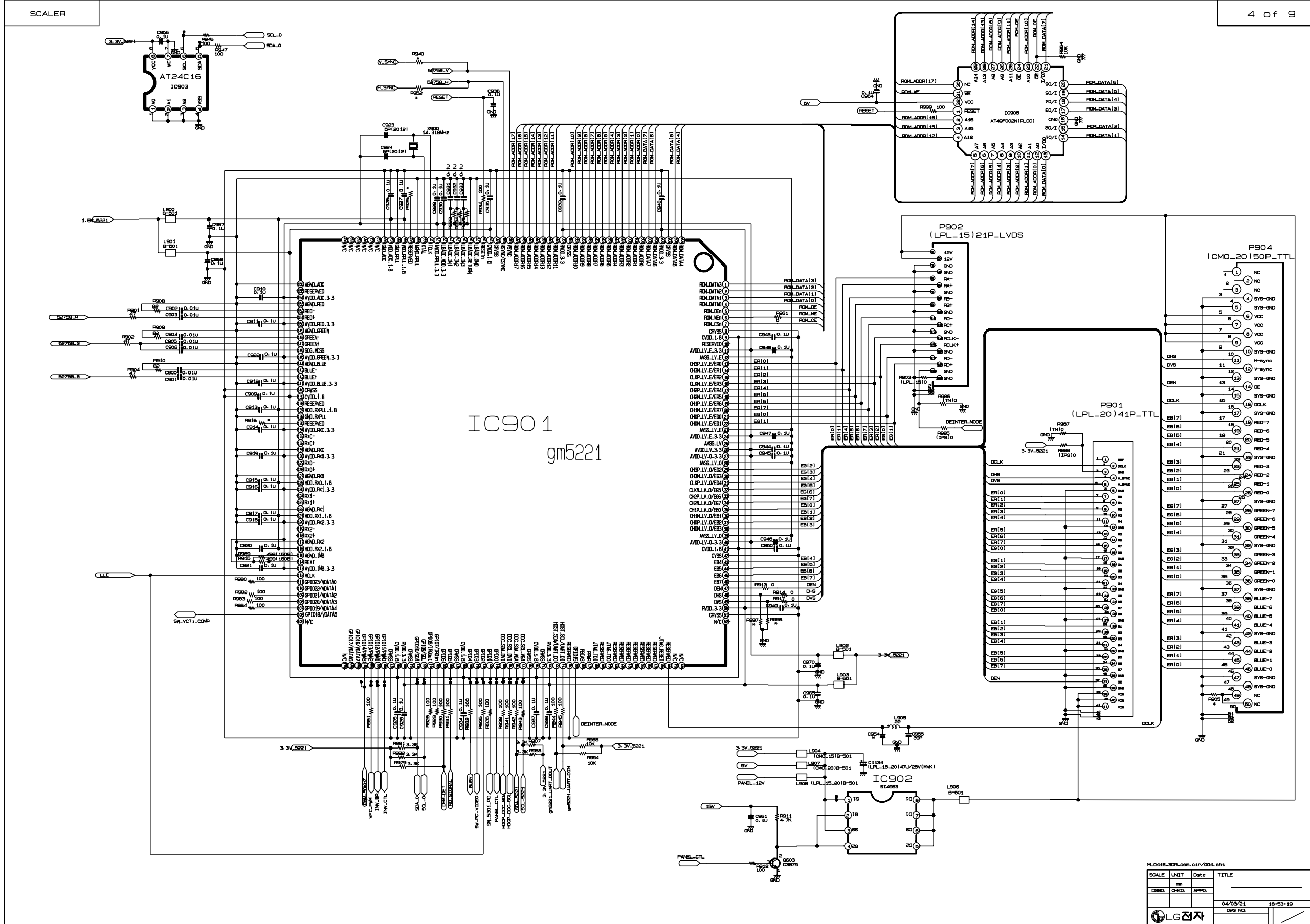
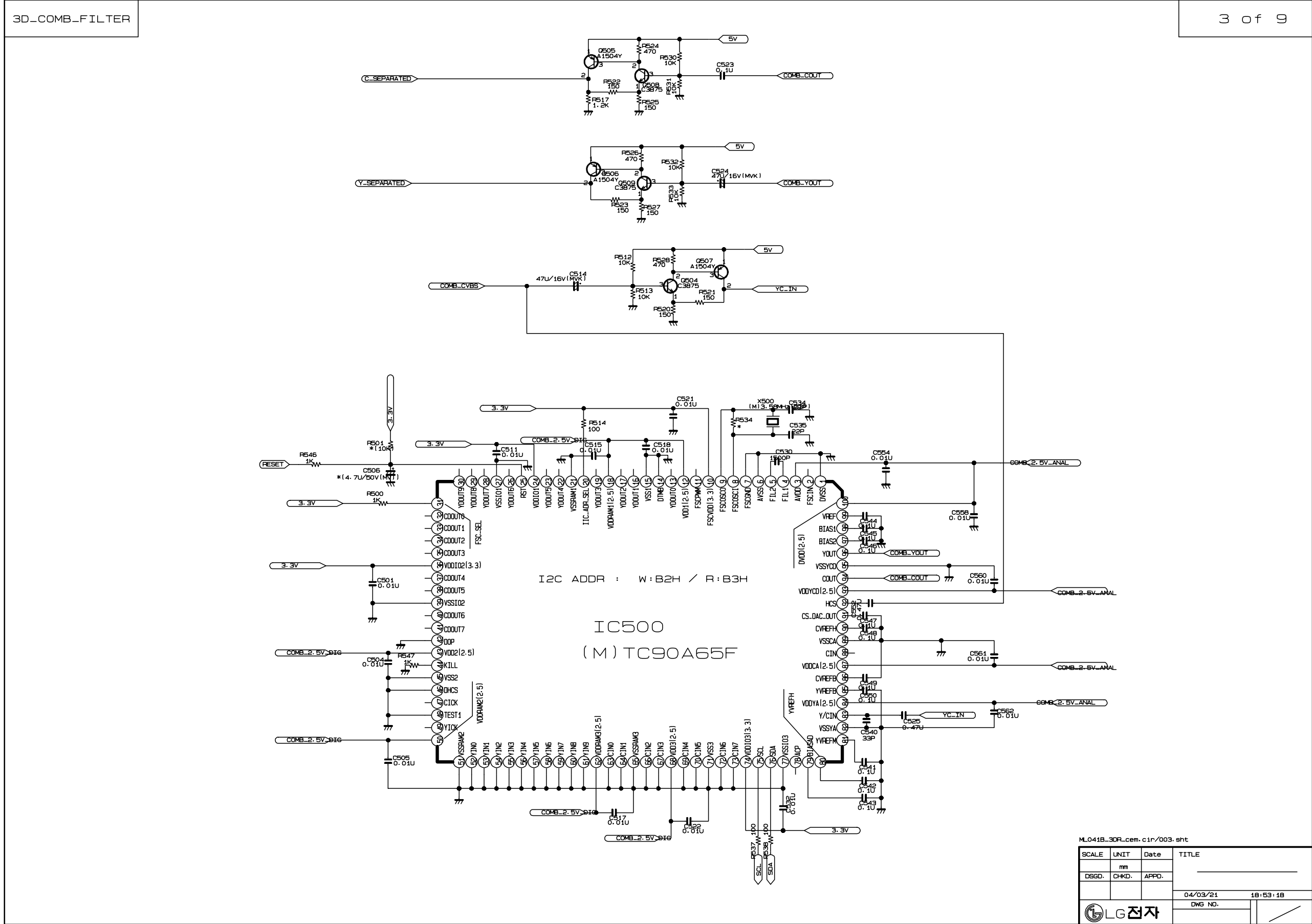
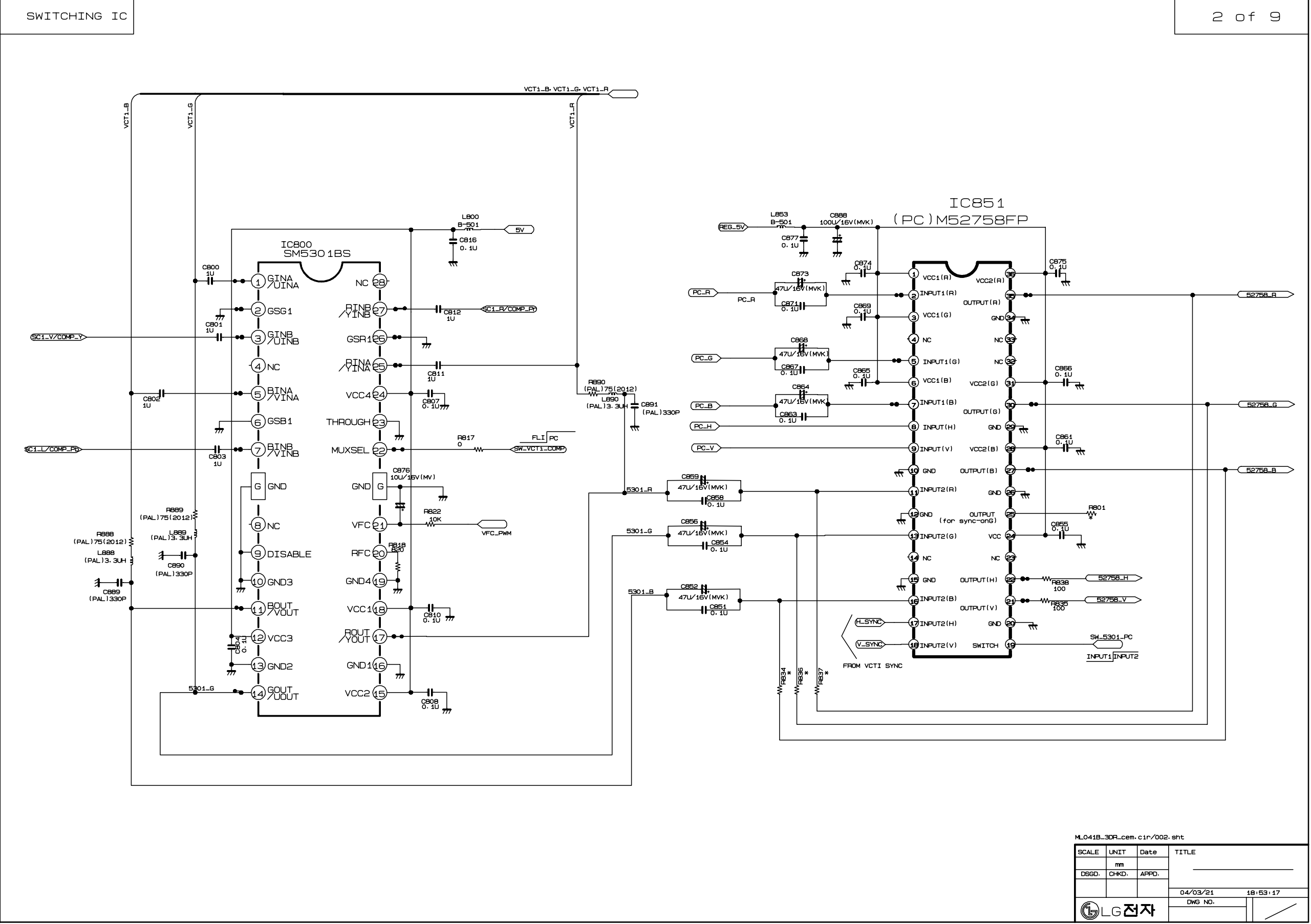
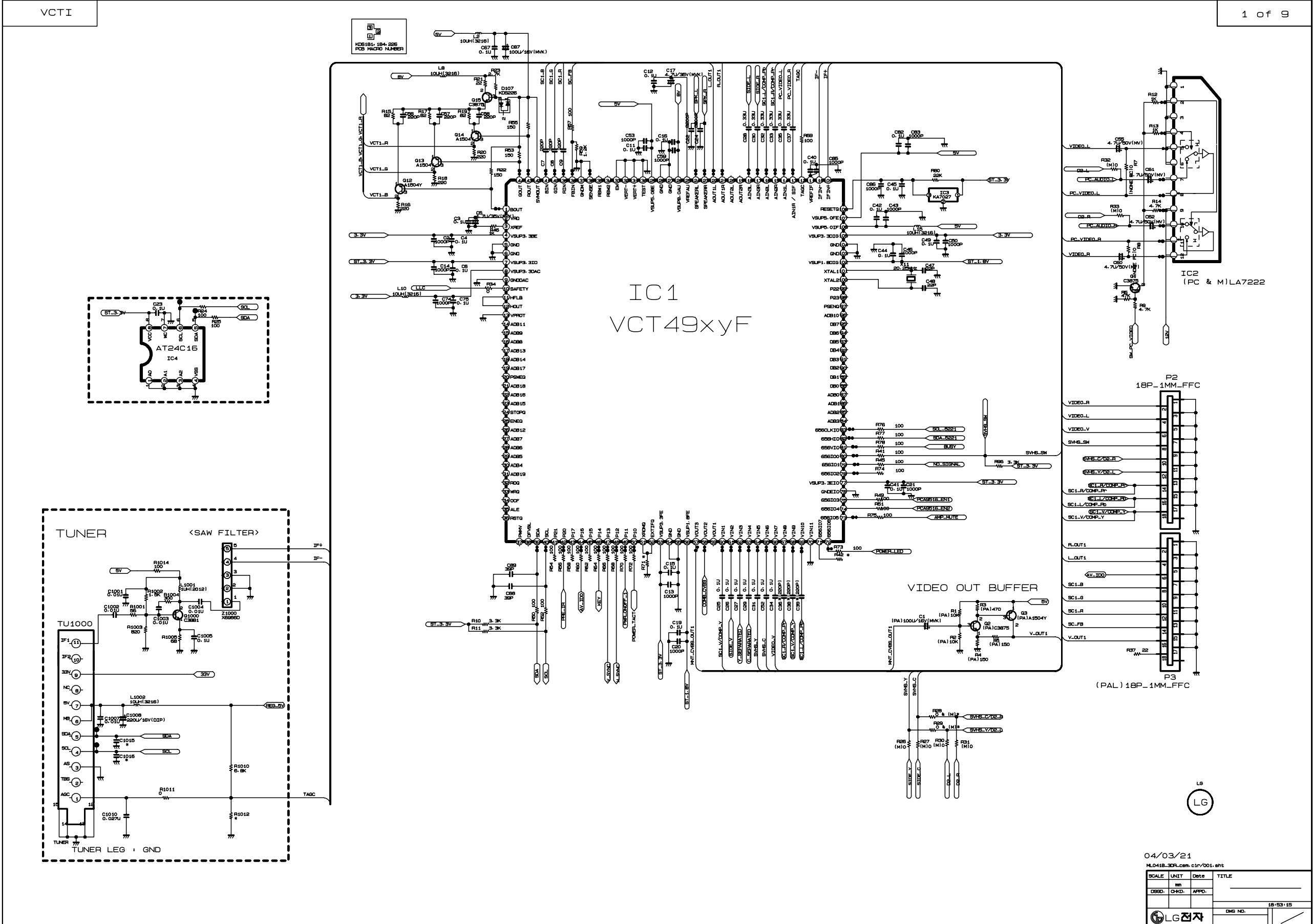
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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		C931	ORH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		C932	ORH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		C933	ORH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		L905	ORH0222D622	22 OHM 1 / 10 W 2012 5.00% D
		R1002	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% D
		R1152	ORH1001D622	1K OHM 1 / 10 W 2012 5.00% D
		R12	ORH1001D622	1K OHM 1 / 10 W 2012 5.00% D
		R128	ORH1002D622	10K OHM 1 / 10 W 2012 5.00% D
		R129	ORH1002D622	10K OHM 1 / 10 W 2012 5.00% D
		R13	ORH1001D622	1K OHM 1 / 10 W 2012 5.00% D
		R202	ORH0222D622	22 OHM 1 / 10 W 2012 5.00% D
		R208	ORH0222D622	22 OHM 1 / 10 W 2012 5.00% D
		R209	ORH0222D622	22 OHM 1 / 10 W 2012 5.00% D
		R210	ORH0222D622	22 OHM 1 / 10 W 2012 5.00% D
		R36	ORH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		R37	ORH0222D622	22 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% D
		R834	ORH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		R836	ORH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		R837	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% D
		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% D
		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
		R205	ORJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R206	ORJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R207	ORJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R21	ORJ0222D677	22 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
		R23	ORJ2701D677	2.7K OHM 1/10 W 5% 1608 R/TP

DATE: 2004. 06.16.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		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
		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
		R49	ORJ1000D677	100 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
		R74	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
		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

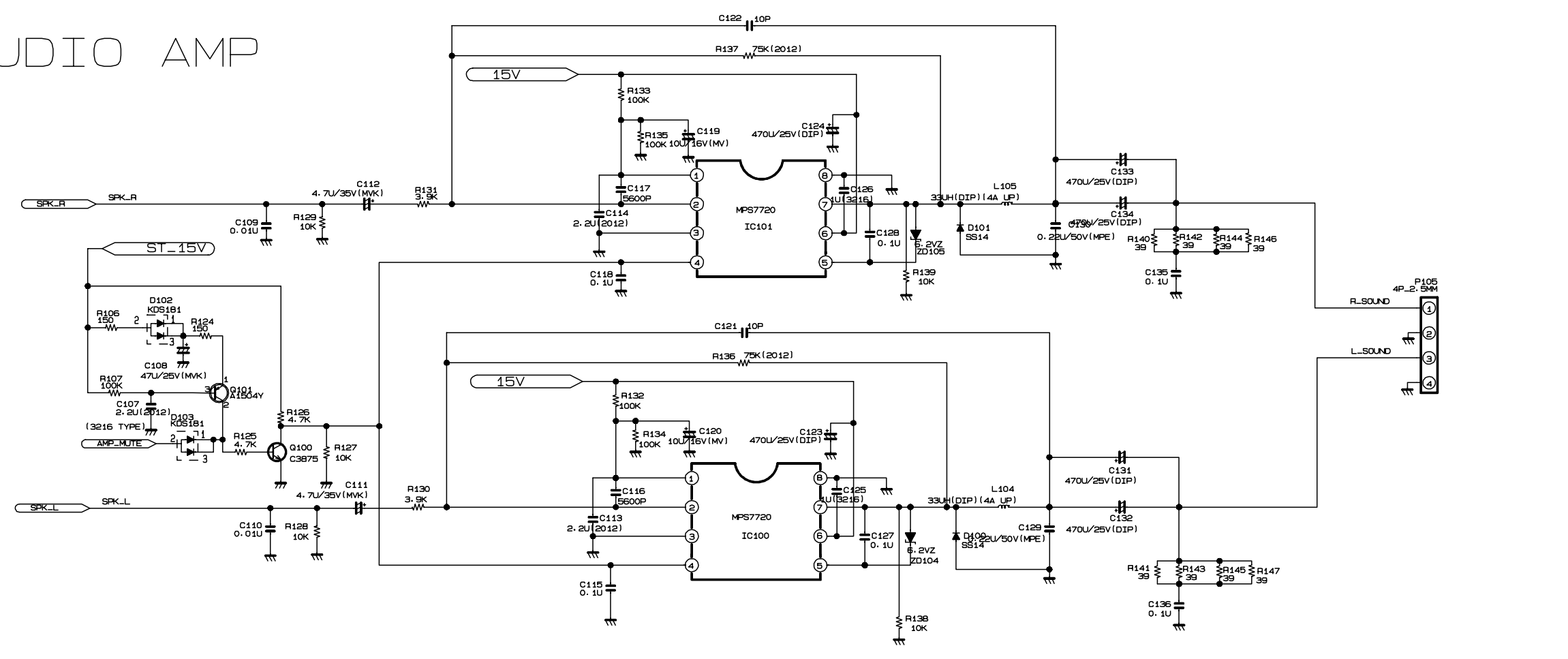


DATE: 2004. 06.16.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R943	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R944	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R945	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R946	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R947	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		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, 6200QL"
		X11	6202VDT002E	SX-1SMD SUNNY RADIAL 20250000
		X900	6202VDT002B	SX-1 SUNNY SC14.3MHZ +/- 30 P
		IC905	6620F00017A	CCSD-32T-SM WOYOYOUNG 32P PLCC
		TU1000	6700VS0003A	TAEW-G051D LG INOTEK MULTI VS
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	140-313A	TACT 2LEAD 100G(TA) LG C&D NO
		SW2201	140-313A	TACT 2LEAD 100G(TA) LG C&D NO
		SW2202	140-313A	TACT 2LEAD 100G(TA) LG C&D NO
		SW2203	140-313A	TACT 2LEAD 100G(TA) LG C&D NO
		SW2204	140-313A	TACT 2LEAD 100G(TA) LG C&D NO
		SW2205	140-313A	TACT 2LEAD 100G(TA) LG C&D NO
		SW2206	140-313A	TACT 2LEAD 100G(TA) LG C&D NO
		SW2207	140-313A	TACT 2LEAD 100G(TA) LG C&D NO
IR BOARD				
		C2101	0CH3104K566	0.1UF 50V 10% X7R 2012 R/TP
		L2101	6210TCE001A	HB-1S2012-080JT CERATEC 2012M
		LED2100	0DL200000CA	SAM5670(DL-2LRG) BK Y-GREEN -
		PA2101	6726TV0001A	TSOP4838SO1 VISHAY 38.0KHZ HO
		R2101	0RH1000D622	100 1/10W 5 D.R/TP
		R2102	0RH1000D622	100 1/10W 5 D.R/TP
		R2106	0RH1000D622	100 1/10W 5 D.R/TP
		R2111	0RH4301D622	4.3K 1/10W 5 TA
		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
		R2113	0RH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		Q2101	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC - -
		Q2102	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC - -

DATE: 2004. 06.16.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		Q2103	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC - -
JACK BOARD				
		C1217	0CH3104K946	100000PF 50V Z F 2012 R/TP
		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
		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
		C1210	0CH6471K416	470F 50V J NP0 2012 R/TP
		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
		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
		C1215	0CH3103K516	10000PF 50V 10% B(Y5P) 2012 R
		C1216	0CH3103K516	10000PF 50V 10% B(Y5P) 2012 R
		C1200	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD) S
		C1209	0CH8226F691	22UF 16V 20% 105STD (CYL) R/T
		C1211	0CH8226F691	22UF 16V 20% 105STD (CYL) R/T
		L1202	6210TCE001A	HB-1S2012-080JT CERATEC 2012M
		L1203	6210TCE001A	HB-1S2012-080JT CERATEC 2012M
		L1206	6210TCE001A	HB-1S2012-080JT CERATEC 2012M
		L1207	6210TCE001A	HB-1S2012-080JT CERATEC 2012M
		L1208	6210TCE001A	HB-1S2012-080JT CERATEC 2012M
		L1211	6210TCE001A	HB-1S2012-080JT CERATEC 2012M
		L1213	6210TCE001A	HB-1S2012-080JT CERATEC 2012M
		L1214	6210TCE001A	HB-1S2012-080JT CERATEC 2012M
		L1215	6210TCE001A	HB-1S2012-080JT CERATEC 2012M
		ZD1200	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 200
		ZD1206	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 200
		ZD1207	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 200
		ZD1212	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 200
		ZD1213	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 200
		ZD1214	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 200
		ZD1210	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 200
		ZD1211	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 200
		ZD1215	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 200
		ZD1216	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 200
		ZD1217	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 200
		ZD1218	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 200
		ZD1219	0DZ620009HB	UDZ S 6.2B TP ROHM SOD323 200
		L1200	0LC1020101A	1UH 10% 2012 R/TC FI-B2012-10
		L1212	0LC0233002A	3.3UH CERATECH R/TP
		L1209	0LC0233002A	3.3UH CERATECH R/TP
		L1210	0LC0233002A	3.3UH CERATECH R/TP
		JA1201	6613V00008F	PMJ014F PARK ELEC E/P(ST)+S-V
		JA1200	381-091C	UPJ-R1-019 UGCOM 21PIN W/SHIE
		R1200	0RH0682D622	68 1/10W 5 D.R/TP
		R1202	0RH0752D622	75 1/10W 5 D.R/TP
		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
		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

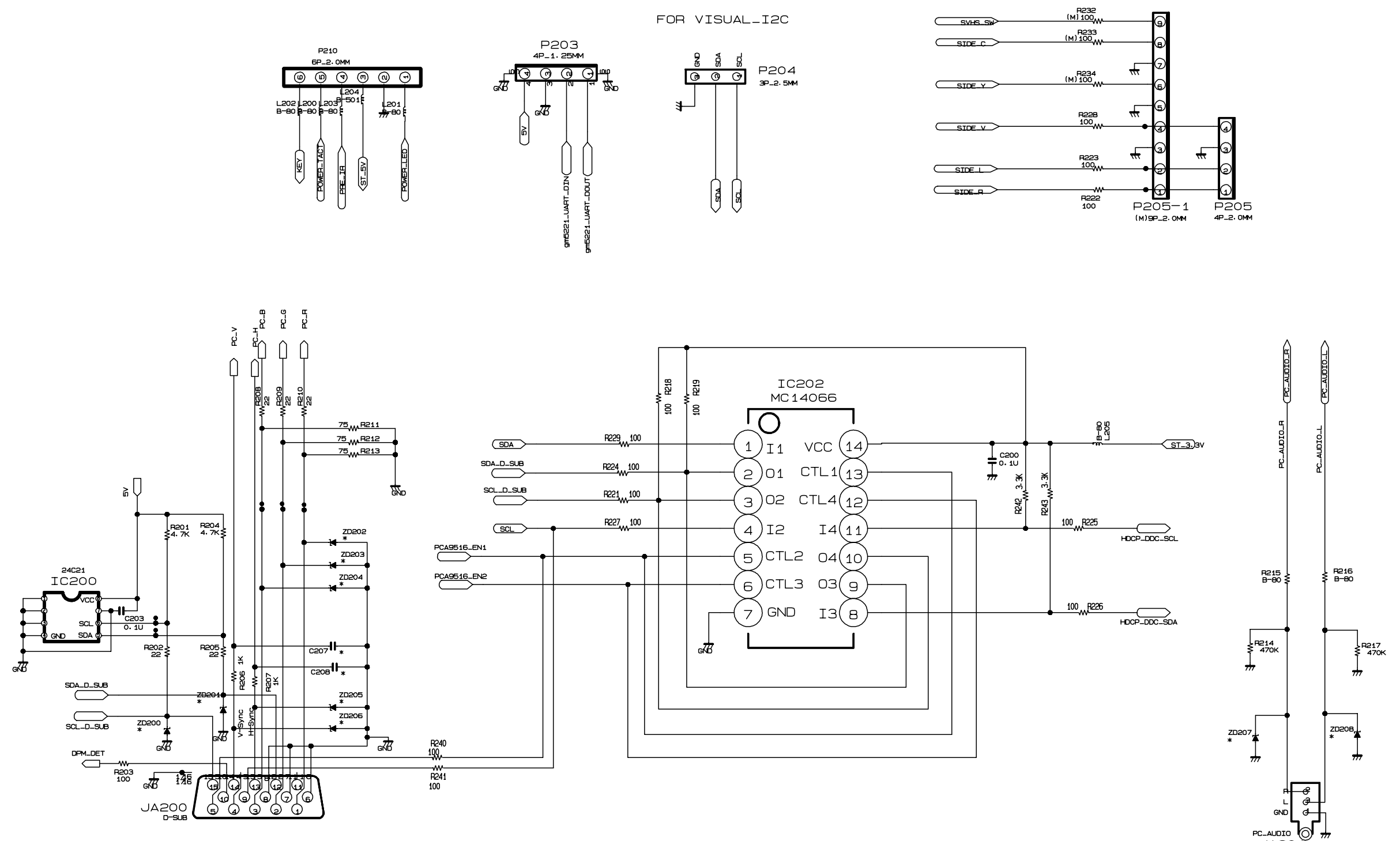


AUDIO AMP



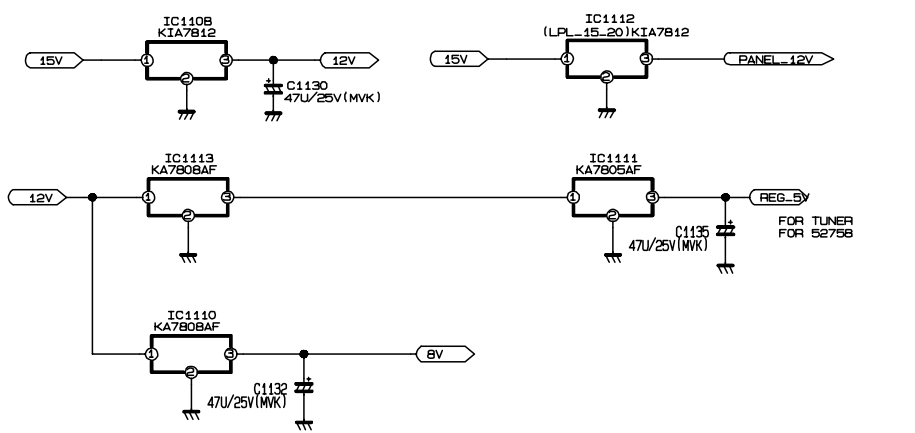
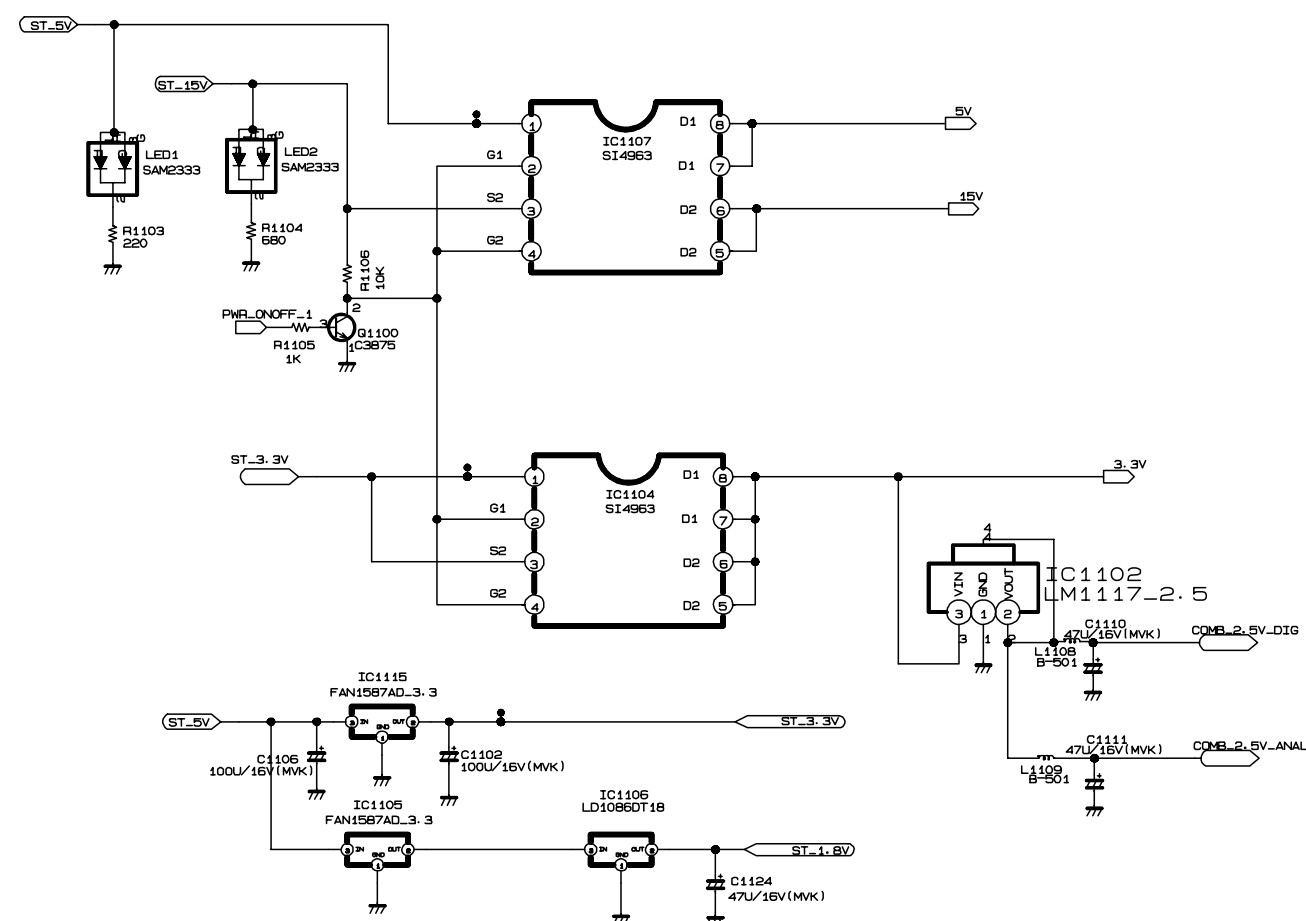
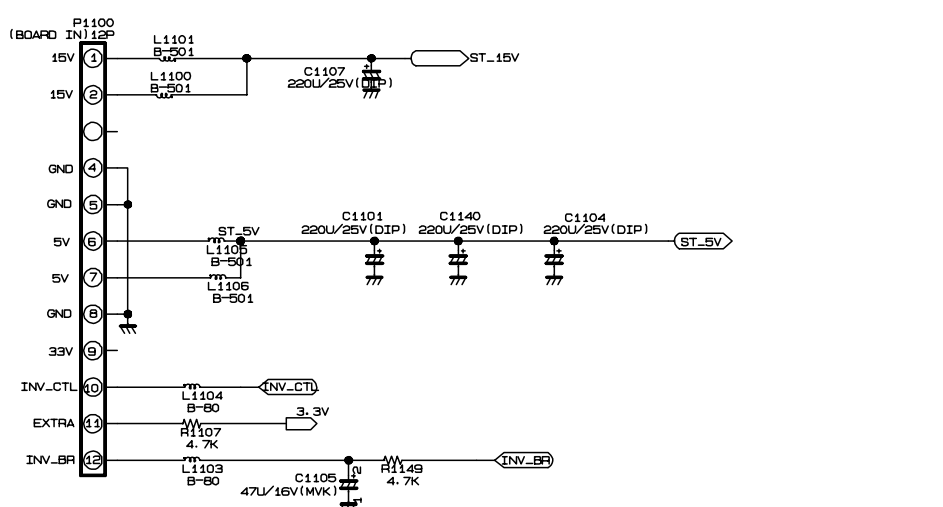
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DSGD.	CHKD.	APPD.		
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 전자			DWG NO.	

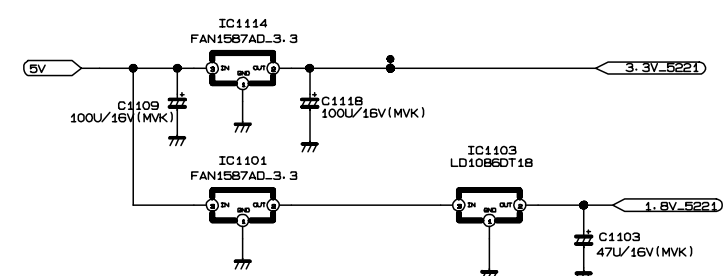
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SCALE	UNIT	Date	TITLE	
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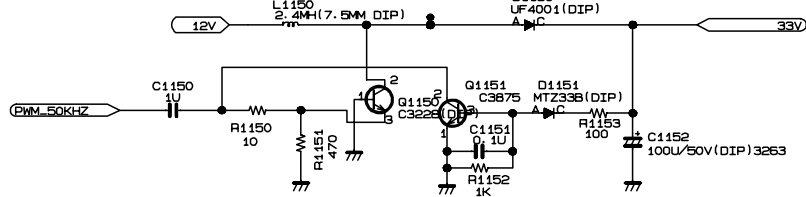
FROM LIPS



GM2321 VOLTAGE REGULATOR



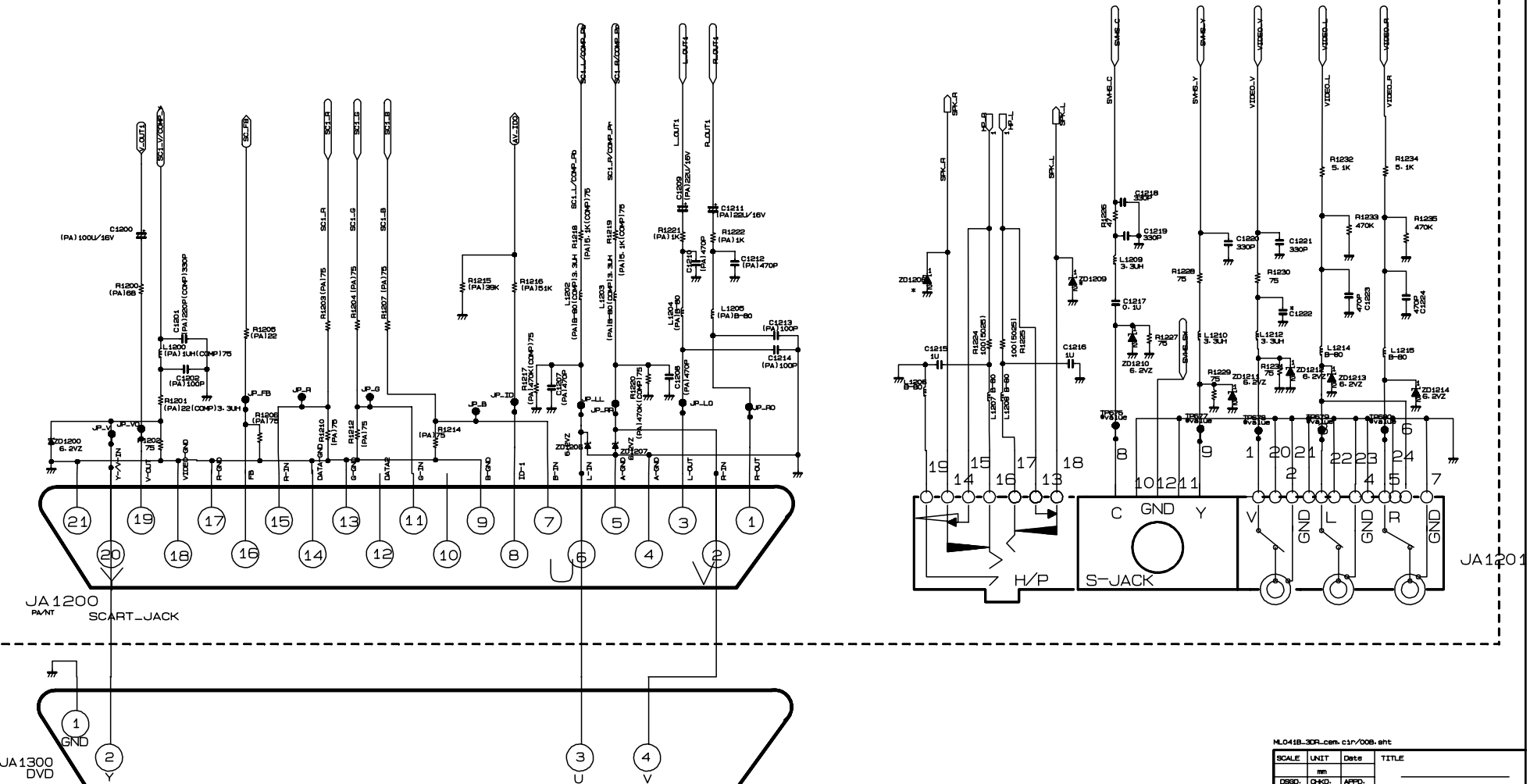
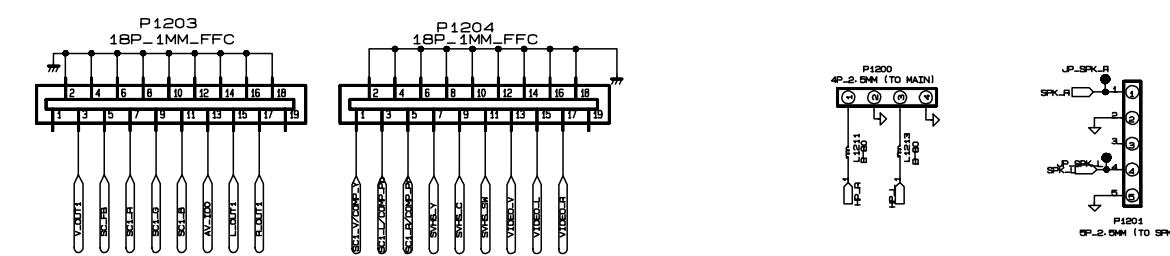
33V GENERATING CIRCUIT



M-041B-30A-con.cir/007.sht

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			DWG. NO.	

AV BOARD

ML0-41B-30R.com.ctn/000.sht

SCALE	UNIT	Date	TITLE
	mm		
DESIG.	CHG.	APP.	
		04/03/21	18/53.1
		CHG NO.	
 전자			



P/NO : 3828TSL103L

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