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LCD TV

SERVICE MANUAL

CHASSIS : ML-012B

MODEL : RT/RZ-20LA60

CAUTION

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



CONTENTS

CONTENTS	2
PRODUCT SAFETY	3
DESCRIPTION OF CONTROLS	4
SPECIFICATION	9
ADJUSTMENT INSTRUCTION.....	11
TROUBLE SHOOTING	16
PRINTED CIRCUIT BOARD	17
BLOCK DIAGRAM.....	20
EXPLODED VIEW	22
EXPLODED VIEW PARTS LIST	23
REPLACEMENT PARTS LIST	24

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 Ω and 5.2M Ω . 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.)

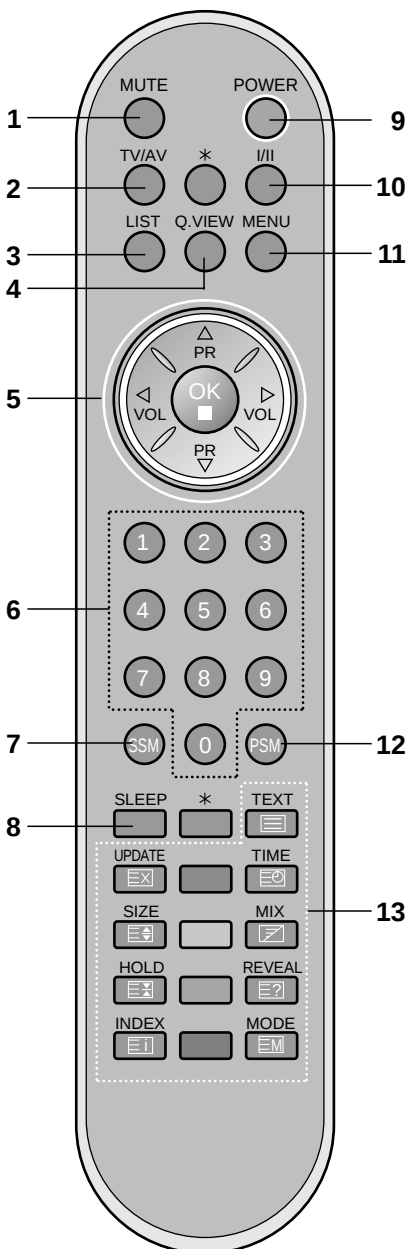
DESCRIPTION OF CONTROLS

RZ model

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 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.
- 5. D / E (Programme Up/Down)**
selects a programme or a menu item.
switches the set on from standby.
- F / G (Volume Up/Down)**
adjusts the volume.
adjusts menu settings.
- OK**
accepts your selection or displays the current mode.
- 6. NUMBER BUTTONS**
switches the set on from standby and selects a programme.
- 7. SSM (Sound Status Memory)**
recalls your preferred sound setting.
- 8. SLEEP**
sets the sleep timer.

RZ model

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 menu.

12. PSM (Picture Status Memory)

recalls your preferred picture setting.

13. TELETEXT BUTTONS (option)

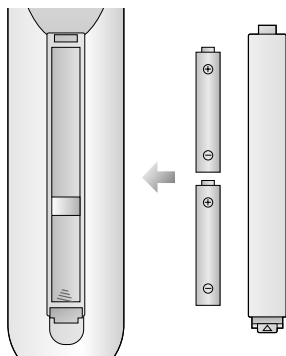
These buttons are used for teletext.
For further details, see the 'Teletext' section.

*** : No function**

COLOURED BUTTONS

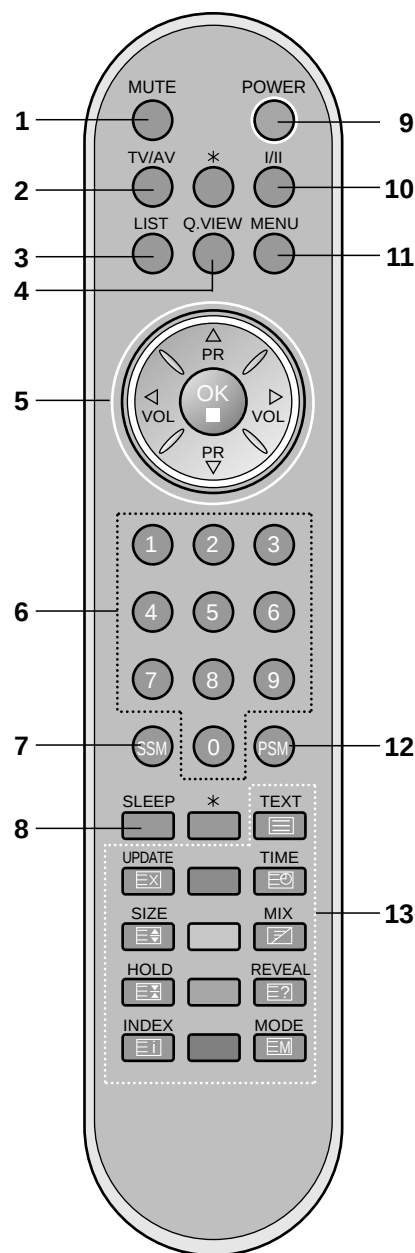
These buttons are used for teletext (only TELETEXT models) or programme edit.

Battery installation



The remote control handset is powered by two AAA/Alkaline type batteries. To load the batteries, turn the remote control handset over and open the battery compartment. Install two batteries as indicated by the polarity symbols (+ and -) marked inside the compartment.

Note : To avoid damage from possible battery leakage, remove the batteries if you do not plan to use the remote control handset for an extended period of time.

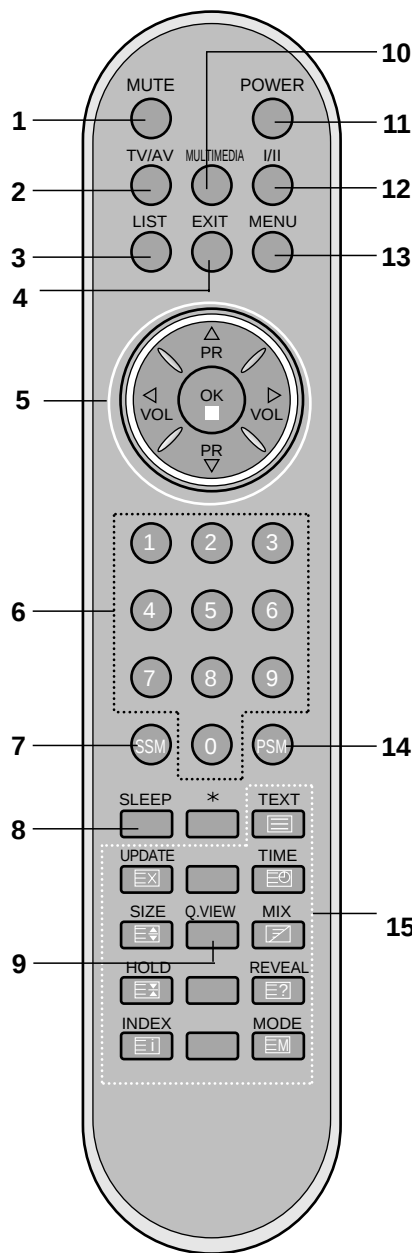


RT model

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 the remote operating mode.
clears the menu from the screen.
switches the set on from standby.
- 3. LIST**
displays the programme table.
- 4. EXIT**
clear all on-screen displays and returns to TV viewing from any menu.
- 5. D / E (Programme Up/Down)**
selects a programme or a menu item.
switches the set on from standby.
- F / G (Volume Up/Down)**
adjusts the volume.
- OK**
accepts your selection or displays the current mode.
- 6. NUMBER BUTTONS**
switches the set on from standby and selects a programme.
- 7. SSM (Sound Status Memory)**
recalls your preferred sound setting.
- 8. SLEEP**
sets the sleep timer.
- 9. Q.VIEW**
returns to the previously viewed programme.

(With TELETEXT)

RT model

10. MULTIMEDIA

selects TV or Component mode.
switches the set on from standby.

11. POWER

switches the set on from standby or off to standby.

12. I/II

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

13. MENU

selects a menu.

14. PSM (Picture Status Memory)

recalls your preferred picture setting.

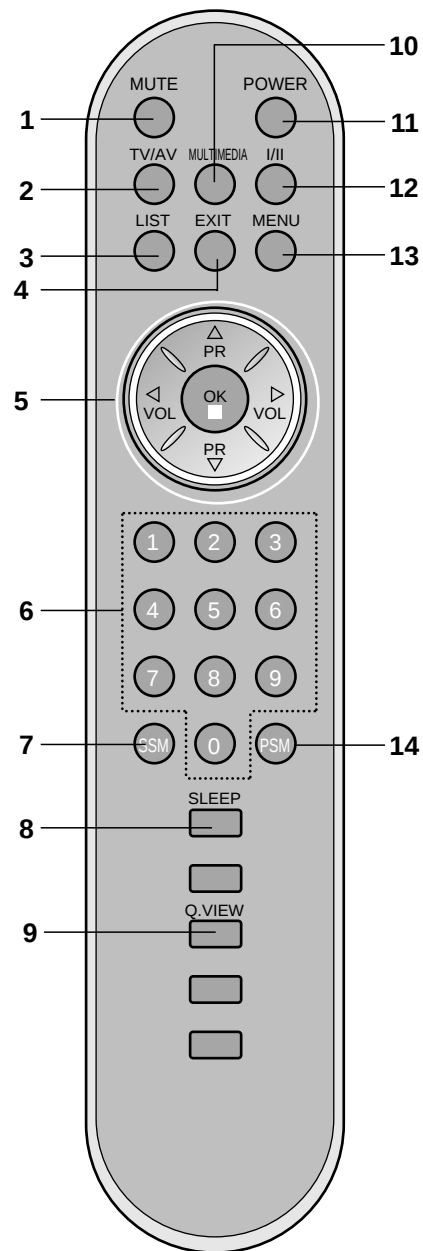
15. TELETEXT BUTTONS (option)

These buttons are used for teletext.
For further details, see the 'Teletext' section.

✱ : No function

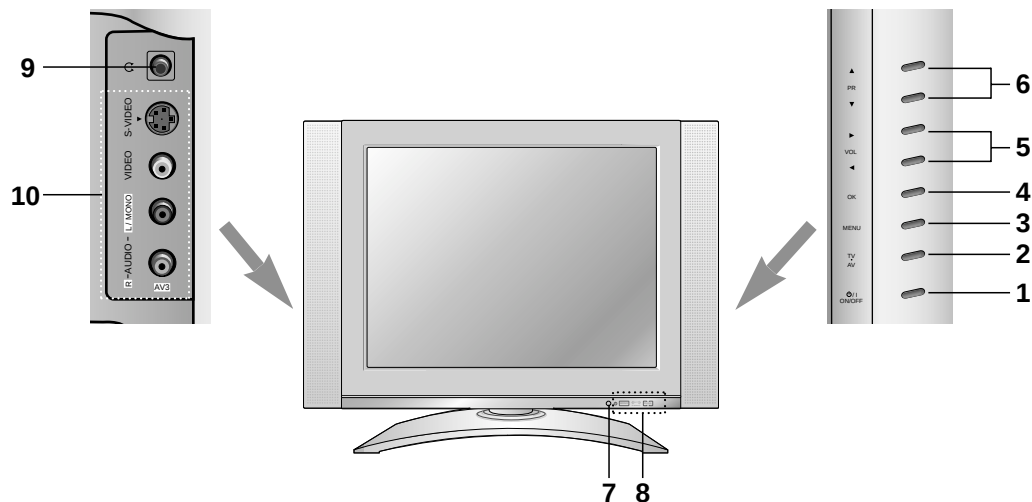
COLOURED BUTTONS

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



(Without TELETEXT)

Side panel



1. **ON/OFF (⏻ / ⏻)**
switches the set on from standby or off to standby.
2. **TV/AV**
selects TV or AV 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. **F / G (Volume Up/Down)**
adjusts the volume.
adjusts menu settings.
6. **D / E (Programme Up/Down)**
selects a programme or a menu item.
switches the set on from standby.
7. **REMOTE CONTROL SENSOR**
8. **LED (Light Emitting Diode) DISPLAY**
illuminates brightly when the set is switched on.
⏻ : POWER/STANDBY indicator
MONO : MONO indicator
STEREO : STEREO indicator
DUAL : DUAL indicator
9. **HEADPHONE SOCKET**
Connect the headphone plug to this socket.
10. **AUDIO/VIDEO IN SOCKETS (AV3)**
Connect the audio/video out sockets of external equipment to these sockets.
S-VIDEO/AUDIO IN SOCKETS (S-Video)
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 **AV3**.

SPECIFICATION

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

1. Application range

This specification is applied to ML-012B/C chassis.

2. Requirement for Test

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

- (1) Temperature: 25°C ± 5°C(But, CST must be tested 40°C ± 2°C (Humidity: 50%))
- (2) Humidity: 65% ± 10%
- (3) Power: Standard input voltage (AC 100-220V, 50/60Hz)
- (4) Measurement must be performed after heat-run more than 15min.
- (5) Adjusting standard for this chassis is followed a special standard.

3. Test and Inspection method

- (1) Capacity: Follow LG electronics TV Testing Standard.
- (2) Another Required Standard
Follow the standard of each nation.

4.General Specification

No.	Item	Specification				Remark
		Min	Typ	Max	Unit	
1	Receivable broadcasting system	1)PAL/SECAM-BG 2)PAL/SECAM-DK 3)PAL-I/I' 4)SECAM-L/L' 5)NTSC -M 6)NTSC 4.43(AV)				EU/Non-EU (PAL Market)
		7)PAL N/M 8)NTSC-M				NTSC Market
2	RF input channel	VHF: E02 ~ E12 UHF : E21 ~ E69 CATV : S1 ~ S20 HYPER : S21 ~ S41				PAL
		L/L' : B,C,D				FRANCE
		VHF : 2 ~13 UHF : 14 ~ 69 CATV : 1 ~ 125				NTSC
		HYPER : S21 ~S41 V/UHF : 1 ~ 62 CATV : C13 ~ C38				JAPAN
3	Input voltage	AC 110 - 220V ± 10%, 50/60Hz AC 230 - 240V/50Hz,AC 100V 50/60Hz				
4	Tuning system	FVS 100 program FS				PAL, 200PR.(option) NTSC
5	Picture size	38.4cm				20.1"
6	Operating temperature	0		40	deg	
7	Operating humidity	20		80	%	
8	Storage temperature	-20		50	deg	
9	Storage humidity	30		85	%	
10	Display	LCD Module				LG-PHILPS
11	D4 Jack	1:Y, 3: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				

5. Feature and Function

No.	Item	Specification	Remark
1	Teletext	TOP,FLOF,LIST 10 page	TOP(option)
2	REMOCON	RC-5 /NEC code(NTSC)	PAL/NTSC
3	AV input	1	Side & Rear
4	S-AV input	1	Side
5	Component input	1	Rear(option)
6	PERI TV Connector	Full SCART : 1	Rear(option,EU)
7	RGB input	1	D-Sub 15 pin (15 inch only)
8	D-Sub Audio input	1	Stereo(15 Inch only)
9	2 Carrier stereo	BG, DK	
10	NICAM stereo	BG, I, LL'	
11	2 Carrier dual	BG, DK	
12	NICAM dual	BG, I, LL'	
13	SSC(split screen) mode	X	
14	MUP(Multi Picture Display) mode	X	
15	Film mode	X	
16	Noise reduction	O	
17	Progressive scan	O	
18	Motion detection	X	
19	Dolby virtual	O	
20	Swivel speaker	X	

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±5°C of temperature and 65±10% of relative humidity if there is no specific designation.
- (4) The input voltage of the receiver must keep 100~220V, 50/60Hz in adjusting.
- (5) The set must be operated for 30 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.

3. Component input mode adjustment

3-1. Required Test Equipment

- (1) A pattern generator being in proportion to MSPG925LTH (or 801F, SETTOP box)
- (2) Adjustment Remote controller (SVC Remocon)

3-2. Preparation for Adjustment

- (1) Perform 'Heat-run' for more than 20 minutes in the White Pattern.
- (2) Connect the signal of Pattern generator with component input Jack(YP_bP_r) of LCD TV.

3-3. YP_bP_r Adjustment

- (1) Apply the DTV 1080i,color bar pattern by using MSPG925LTH. Or apply DTV 1080i color bar pattern of Pattern generator.
- (2) In SVC menu mode,operate YP_bP_r adjustment by using Volume + button.

4. Option1 data(200PR~A2 ST:1bit,SYS:2bit)

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	I/II 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	HIDEV
0	0	0	0
1	0	0	1
2	0	1	0
3	0	1	1
4	1	0	0
5	1	0	1
6	1	1	0
7	1	1	1

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

OPTION Data	IIC AFT	MD SAVE	MONO	CH+AUS
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

TROUBLESHOOTING

1. General Features

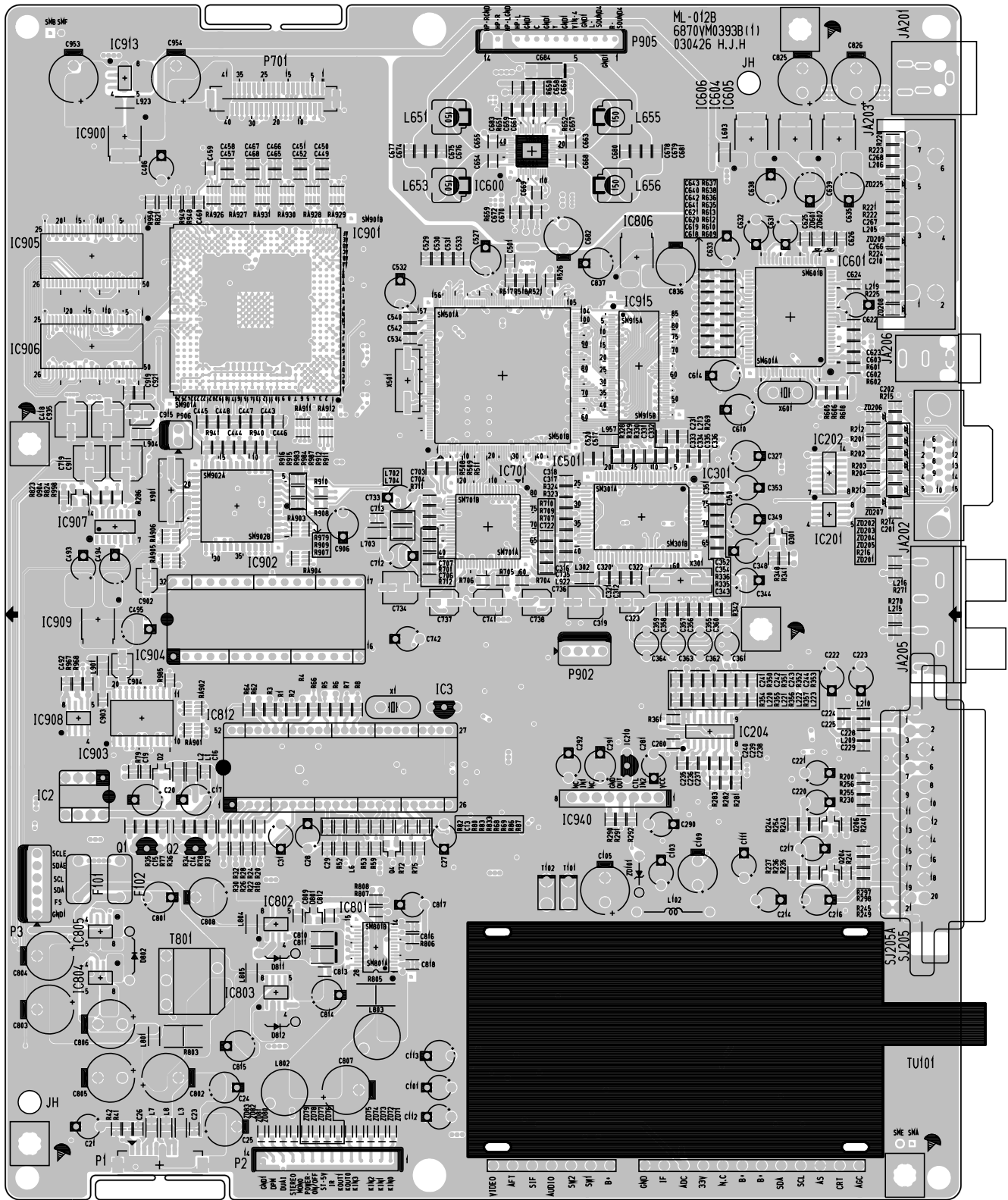
No.	Symptom	Cause	Check Point
1	No screen	Input error of inverter connector	1) Bend the pin legs of P1 connector -> recheck them 2) Check and repair the IC804 SI4963,805 SI4925
		Pin 40 connector being slipped out	1) Check and fix P701 connector 2) Check and fix the components at P701 LCD module and at main board. 3) Check Pin40.
		Cracked components and soldering at tuner board	1) Check and repair tuner board and main board 2) Solder 102.
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 2) Check the connector input.

2. TV and external input

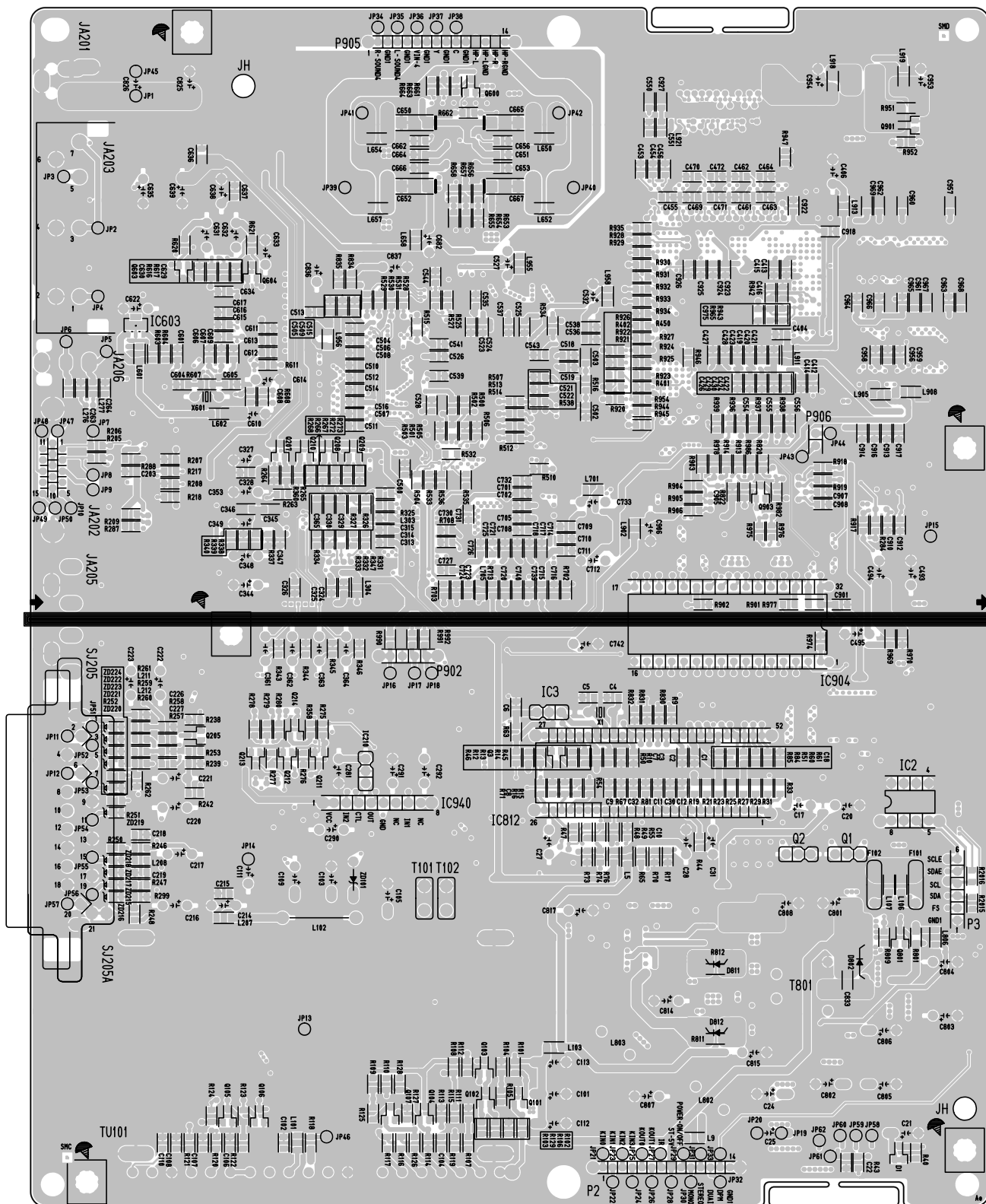
No.	Symptom	Cause	Check Point
8	No sound - Speaker - Earphone	Defective Reset IC of IC603 Defective MSP3421 of IC601 Defective B+(8V,5V) of IC604,605.	1) Check volume and speaker - Sound comes out only when being inputted into Audio L/R 2) Check after replacing IC603 3) Replace IC601 4) Check and replace B+ of IC604,605.
9	Video color beat noise	Earphone shield case being touched	Check the mould of shield and JA2000, Replace shield case
		Soldering IC301 and IC912	Re-soldering

PRINTED CIRCUIT BOARD

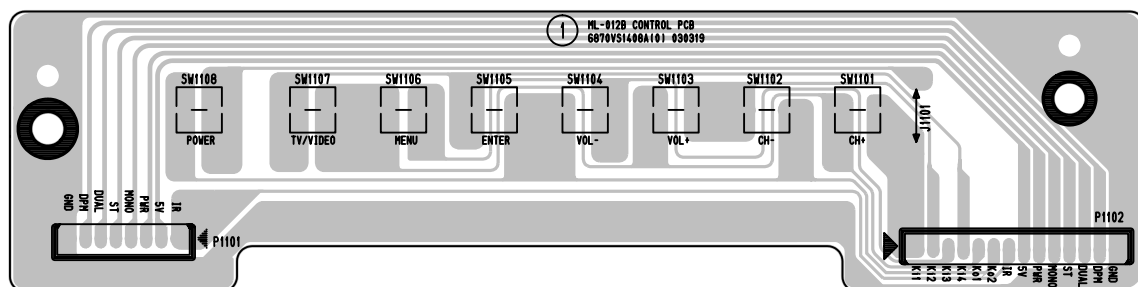
MAIN(TOP)



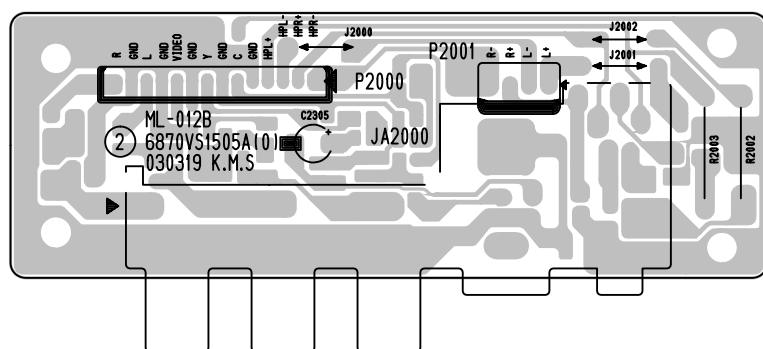
MAIN BOARD(BOTTOM)



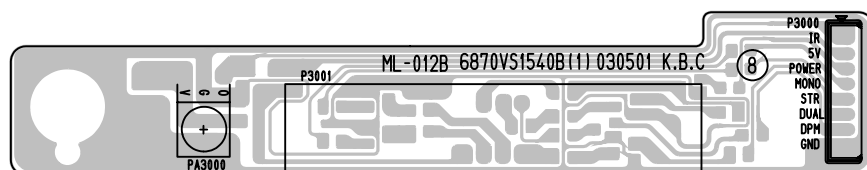
CONTROL BOARD



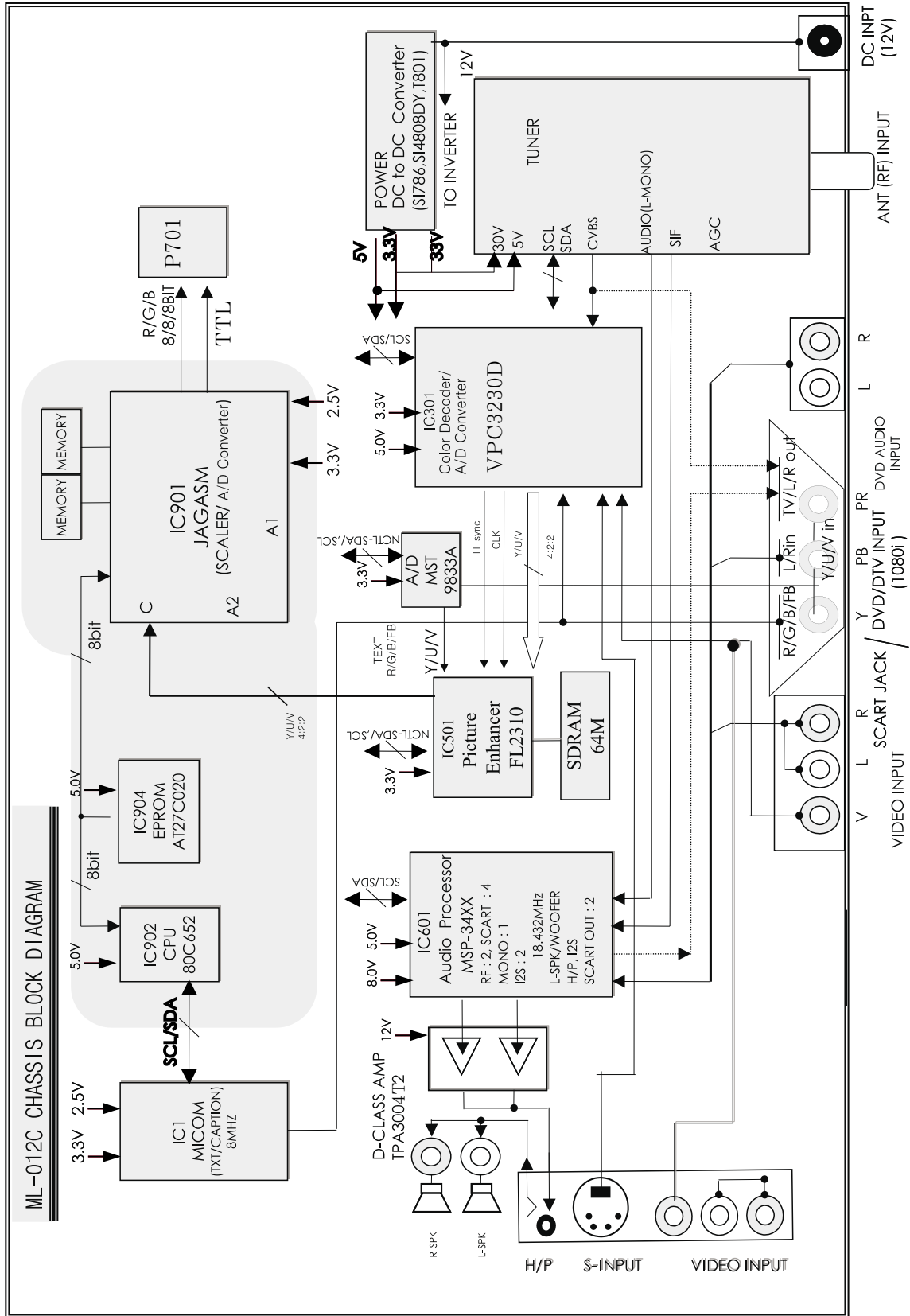
SIDE AV BOARD



LED BOARD

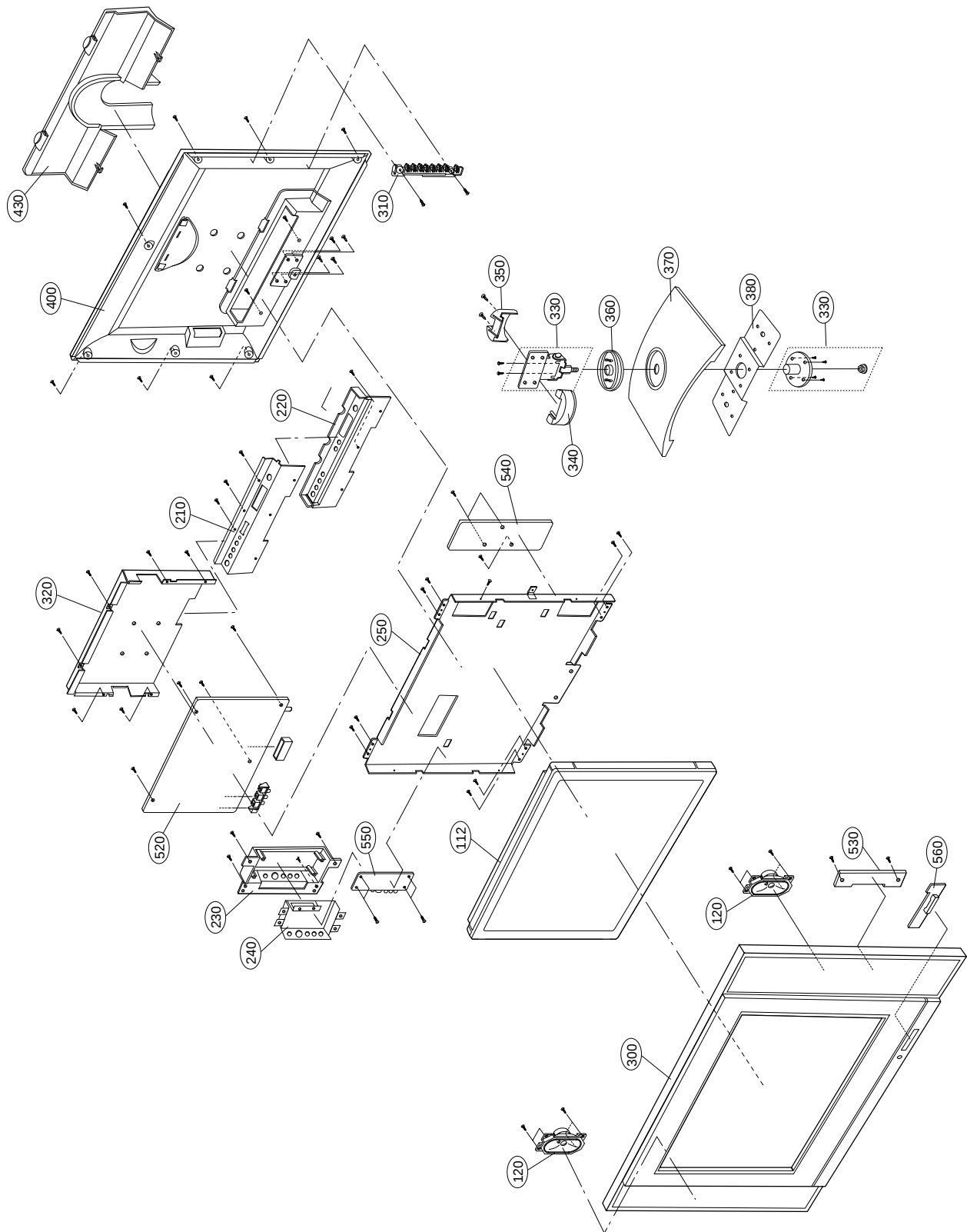


BLOCK DIAGRAM



MEMO

EXPLODED VIEW



EXPLODED VIEW PARTS LIST

No.	PART NO.	DESCRIPTION
112	6304VT2011B	LCD MODULE,LC201V02-A3(IPS) COLOR 20.1" 640*RGB*480 450CD/M2
120	6400GKTX01A	SPEAKER,FULLRANGE 8OHM 7/12W 83DB OTHERS 34.5X71
	6400GKTX01B	SPEAKER,FULLRANGE F1527C-6428-2 K-TONE (RT-, ALPHA)
210	4950V00141A	METAL, SHIELD NON REAR AV (RT-20LA60, ALPHA)
	4950V00141C	METAL,BRACKET SBHG .
220	4810V00764F	BRACKET,REAR AV RZ-20LA60 ML012B HIPS 407AF
	4810V00764K	BRACKET,REAR AV RP-20LA60 ML012B HIPS 60HR(ALPHA)
230	4810V00765D	BRACKET,SIDE AV 15/20LA60 ML012B HIPS 60HR .
	4810V00765J	BRACKET,SIDE AV RT-20LA60 ML012B (ALPHA)
240	4950V00142A	METAL,SHIELD NON SIDE AV, 20LA60/15LA60
250	4950V00132A	METAL,MAIN FRAME NON 20LA60
	4950V00132B	METAL,FRAME SBHG RZ-20LA60 C/SKD(BN,FS,IS,ES)
300	3091V00491D	CABINET ASSEMBLY,RZ-20LA60 STEREO ML012B .
	3091V00491G	CABINET ASSEMBLY,RZ-20LA60 STEREO ML012B C/SKD(BN,FS,IS,ES)
310	5020V00776B	BUTTON,CONTROL RU-20LA60 ABS, HF-380 8KEY .
320	4950V00140B	METAL,SHIELD SBHG 20LA60
	4950V00140D	METAL,COVER SBHG 20LA60
330	4950V00157C	METAL,HINGE ASSY SPCC(CR) 20LA60
340	4810V00767B	BRACKET,STAND HINGE FRONT RU-20LA60 ML012B ABS, HF-380 .
350	4810V00768B	BRACKET,STAND HINGE COVER RU-20LA60 ML012B ABS, HF-380 .
360	4810V00766B	BRACKET,DECO STAND RU-20LA60 ML012B ABS, HF-380 .
370	4810V00769B	BRACKET,STAND RU-20LA60 ML012B ABS, HF-380 BASE
380	4950V00133B	METAL,BASE SPCC(CR) .
400	3809V00339E	BACK COVER ASSEMBLY,1SCART 3850VC0002G(LGEAK,KIEV,LGERU)
	3809V00339H	BACK COVER ASSEMBLY,RT-20LA60 ML012B NON(ALPHA)
	3809V00339J	BACK COVER ASSEMBLY,RZ-20LA60 1SCART C/SKD(BN,FS,IS,ES)
	3809V00339K	BACK COVER ASSEMBLY,1SCART 3850VC0002F(V-LUX,LGEPL)
430	3550V00297A	COVER,AV COVER 20LA60 NON REAR
520	6871VMMP85B	PWB(PCB) ASSEMBLY,MAIN ML012B RZ-20LA60(LGEPL,V-LUX))
	6871VMMP85C	PWB(PCB) ASSEMBLY,MAIN ML012B RZ-20LA60(C/SKD)(BN,FS,IS,ES)
	6871VMMP85E	PWB(PCB) ASSEMBLY,MAIN ML012B RZ-20LA60(CIS-AK,KIEV,RU)
	6871VMMQ69B	PWB(PCB) ASSEMBLY,MAIN ML012B RT-20LA60(ALPHA)
530	6871VSMV38A	PWB(PCB) ASSEMBLY,SUB CONT ML012B RZ-15/20LA60 CONTROL ASSY
540	6633VA0003Q	INVERTER ASSEMBLY,15V NON K.S. LC201V02-A3 IPS
550	6871VSMV40D	PWB(PCB) ASSEMBLY,SUB A/V ML012B RZ-15/20LA60 SIDE AV ASSY
	6871VSMV40G	PWB(PCB) ASSEMBLY,SUB A/V ML012B RT-15/20LA60 SIDE AV (ALPHA)
560	6871VSMV43A	PWB(PCB) ASSEMBLY,SUB SUB ML012B 20 INDEX LED 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 CQ : Polyester CE : Electrolytic	RD : Carbon Film RS : Metal Oxide Film RN : Metal Film RF : Fusible
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LOCA. NO	PART NO	DESCRIPTION
IC		
IC2	0IAL241610B	IC, 8PIN DIP ST EEPROM NON
IC204	0IPH860100B	IC, TDA8601T 16P-SOP BK FAST
IC3	0IFA752700A	IC, KA75270Z 3 TP RE-SET IC MC-007
IC301	0IIT323000E	IC, VPC3230D C5 80P QFP TRAY VIDEO
IC501	0IMCRGN001B	IC, FLI2310BC 208P PQFP TRAY DIGITAL
IC600	0IMCRTI022D	IC, TPA3004D2 48P PQFP TRAY 9W AUDIO
IC603	0IKE704200J	IC, KIA7042AF SOT-89 TP 4.2V VOLTAGE
IC604	0IMCRFA009A	IC, KA78M08RTM,2P D-PAK, R/TP
IC605	0IMCRFA008A	IC, KA78M05RTM,2P D-PAK, R/TP
IC606	0IMCRKE010A	IC, KIA7812AF KEC 2P DPACK R/TP 12V
IC701	0IMCRM3001A	IC, MST9883A 80P A/D CONVERTER(RT MODEL)
IC801	0ITC786000A	IC, SI786 28SSOP TP DUAL-OUTPUT
IC806	0IMCRFA020A	IC, R/TP 2.5V 3A L/DROP REGU.
IC900	0IMCRKE010A	IC, KIA7812AF KEC 2P DPACK R/TP 12V
IC901	0IMCRG2004B	IC, JAGASM A4 SAGE 352BALL TRAY
IC902	0IPH806520A	IC, 80C652 40 PLCC ST 8-BIT
IC903	0IPH743730E	IC, 74HCT373 D 20SOP R/TP ADDRESS
IC905	0ISS416162C	IC, 50TSOP R/TP SDRAM 512K*16BIT*2B
IC906	0ISS416162C	IC, 50TSOP R/TP SDRAM 512K*16BIT*2B
IC907	0IPH740400G	IC, 74HC04D HEX INVERTER 14P,SOP TP .
IC908	0IMCRAL006A	IC, AT24C16AN-10SI-2.7 8P SOIC R/TP EEPROM
IC909	0IMCRFA020A	IC, RC1587DT_363P TO252 DPAK R/TP 2.5V 3A
IC915	0IMMRHY033A	IC, 86P TSOP TRAY 64M F/MEMORY
IC940	0ISA701600A	IC, LA7016 8S ANALOG S/W - - -
Q1	0IFA270000A	IC, 3P TP LEVEL SHIFT 60V/0.2A,MC007A
Q2	0IFA270000A	IC, 3P TP LEVEL SHIFT 60V/0.2A,MC007A
DIODE		
D1	0DD181009AB	DIODE, KDS181 TP KEC - 85V - - - 300MA
D2	0DD181009AB	DIODE, KDS181 TP KEC - 85V - - - 300MA
D801	0DD181009AB	DIODE, KDS181 TP KEC - 85V - - - 300MA
D802	0DD100009AM	DIODE, EU1ZV(1) TP SANKEN
D811	0DD414809ED	DIODE, 1N4148 TP GRANDE - - - - -
D812	0DD414809ED	DIODE, 1N4148 TP GRANDE - - - - -
ZD101	0DZ330009BA	DIODE, ZENER HZT33 TAPING
ZD3000	0DZRM00178A	DIODE, R/TP SMD 0.2W 5.1V 5MA -PF
ZD3001	0DZRM00178A	DIODE, R/TP SMD 0.2W 5.1V 5MA -PF
ZD71	0DZRM00178A	DIODE, R/TP SMD 0.2W 5.1V 5MA -PF
ZD72	0DZRM00178A	DIODE, R/TP SMD 0.2W 5.1V 5MA -PF
ZD73	0DZRM00178A	DIODE, R/TP SMD 0.2W 5.1V 5MA -PF
ZD74	0DZRM00178A	DIODE, R/TP SMD 0.2W 5.1V 5MA -PF
ZD75	0DZRM00178A	DIODE, R/TP SMD 0.2W 5.1V 5MA -PF
ZD76	0DZRM00178A	DIODE, R/TP SMD 0.2W 5.1V 5MA -PF
ZD77	0DZRM00178A	DIODE, R/TP SMD 0.2W 5.1V 5MA -PF
ZD79	0DZRM00178A	DIODE, R/TP SMD 0.2W 5.1V 5MA -PF
ZD80	0DZRM00178A	DIODE, R/TP SMD 0.2W 5.1V 5MA -PF
ZD81	0DZRM00178A	DIODE, R/TP SMD 0.2W 5.1V 5MA -PF

LOCA. NO	PART NO	DESCRIPTION
ZD82	0DZRM00178A	DIODE, R/TP SMD 0.2W 5.1V 5MA -PF
ZD83	0DZRM00178A	DIODE, R/TP SMD 0.2W 5.1V 5MA -PF
TRANSISTOR		
IC802	0TFVI80001A	TR, R/TP SO-8 30V 7.5A OLD
IC803	0TFVI80001A	TR, R/TP SO-8 30V 7.5A OLD
IC804	0TFVI80005A	TR, R/TP SO-8 -20V 6.2A
IC805	0TF492509AA	TR, SI4925DY TP TEMIC 30V 6.1A SO-8
IC913	0TF492509AA	TR, SI4925DY TP TEMIC 30V 6.1A SO-8
Q101	0TR150400BA	TR, CHIP 2SA1504S(ASY) KEC
Q102	0TR387500AA	TR, CHIP 2SC3875S(ALY) KEC
Q105	0TR387500AA	TR, CHIP 2SC3875S(ALY) KEC
Q106	0TR387500AA	TR, CHIP 2SC3875S(ALY) KEC
Q107	0TR387500AA	TR, CHIP 2SC3875S(ALY) KEC
Q204	0TR387500AA	TR, CHIP 2SC3875S(ALY) KEC
Q205	0TR387500AA	TR, CHIP 2SC3875S(ALY) KEC
Q206	0TR387500AA	TR, CHIP 2SC3875S(ALY) KEC
Q211	0TR387500AA	TR, CHIP 2SC3875S(ALY) KEC
Q212	0TR387500AA	TR, CHIP 2SC3875S(ALY) KEC
Q213	0TR387500AA	TR, CHIP 2SC3875S(ALY) KEC
Q214	0TR387500AA	TR, CHIP 2SC3875S(ALY) KEC
Q3	0TR387500AA	TR, CHIP 2SC3875S(ALY) KEC
Q3000	0TR387500AA	TR, CHIP 2SC3875S(ALY) KEC
Q3001	0TR387500AA	TR, CHIP 2SC3875S(ALY) KEC
Q3002	0TR387500AA	TR, CHIP 2SC3875S(ALY) KEC
Q3003	0TR387500AA	TR, CHIP 2SC3875S(ALY) KEC
Q3004	0TR387500AA	TR, CHIP 2SC3875S(ALY) KEC
Q3005	0TR387500AA	TR, CHIP 2SC3875S(ALY) KEC
Q301	0TR387500AA	TR, CHIP 2SC3875S(ALY) KEC
Q4	0TR387500AA	TR, CHIP 2SC3875S(ALY) KEC
Q603	0TR150400BA	TR, CHIP 2SA1504S(ASY) KEC
Q604	0TR150400BA	TR, CHIP 2SA1504S(ASY) KEC
Q801	0TR387500AA	TR, CHIP 2SC3875S(ALY) KEC
Q901	0TR387500AA	TR, CHIP 2SC3875S(ALY) KEC
Q902	0TR387500AA	TR, CHIP 2SC3875S(ALY) KEC
Q903	0TR387500AA	TR, CHIP 2SC3875S(ALY) KEC
Q904	0TR387500AA	TR, CHIP 2SC3875S(ALY) KEC
CAPACITOR		
C101	0CE476DH618	47UF STD 25V 20% FL TP 5
C103	0CE106DK618	10UF STD 50V M FL TP5
C105	0CE687DD618	680UF STD 10V 20% FL TP 5
C109	0CE227DF618	220UF STD 16V M FL TP5
C111	0CE105DK618	1UF STD 50V M FL TP5
C112	0CE476DF618	47UF STD 16V M FL TP5
C113	0CE107DF618	100UF STD 16V M FL TP5
C17	0CE107DF618	100UF STD 16V M FL TP5
C20	0CE107DF618	100UF STD 16V M FL TP5
C21	0CE106DF618	10UF STD 16V M FL TP5

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LOCA. NO	PART NO	DESCRIPTION
C214	0CE4763F618	47UF SRE 16V M FL TP5
C216	0CE227DD618	220UF STD 10V M FL TP5
C217	0CE476DD618	47UF STD 10V 20% FL TP 5
C220	0CE476DD618	47UF STD 10V 20% FL TP 5
C221	0CE476DD618	47UF STD 10V 20% FL TP 5
C222	0CE226DF618	22UF STD 16V M FL TP5
C223	0CE226DF618	22UF STD 16V M FL TP5
C2300	0CH2103K516	10000P 50V K B 2.0X1.25 R/TP
C2301	0CH2103K516	10000P 50V K B 2.0X1.25 R/TP
C2302	0CH3104K566	0.1UF 50V 10% X7R 2012 R/TP
C2304	0CH5331K416	330PF 50V J NP0 2012 R/TP
C2305	0CE225DK618	2.2UF STD 50V 20% FL TP 5
C2306	0CH5331K416	330PF 50V J NP0 2012 R/TP
C2307	0CH5391K416	390PF 50V J NP0 2012 R/TP
C2309	0CH5471K416	470PF 50V J NP0 2012 R/TP
C2310	0CH5471K416	470PF 50V J NP0 2012 R/TP
C24	0CE107DF618	100UF STD 16V M FL TP5
C25	0CE227DF618	220UF STD 16V M FL TP5
C281	0CE106DF618	10UF STD 16V M FL TP5
C290	0CE106DK618	10UF STD 50V M FL TP5
C291	0CE107DF618	100UF STD 16V M FL TP5
C292	0CE106DK618	10UF STD 50V M FL TP5
C319	0CE107SF6DC	100UF MVG 16V M SMD R/TP
C323	0CE106DF618	10UF STD 16V M FL TP5
C323	0CE106SF6DC	10UF MVG 16V 20% R/TP(SMD) SMD
C327	0CE107DF618	100UF STD 16V M FL TP5
C334	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C335	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C336	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C344	0CE476DF618	47UF STD 16V M FL TP5
C347	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C348	0CE226DF618	22UF STD 16V M FL TP5
C349	0CE107DF618	100UF STD 16V M FL TP5
C353	0CE476DF618	47UF STD 16V M FL TP5
C354	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C361	0CE105CK636	1UF SHL,SD 50V M FM5 BP(D) TP
C361	0CE105DK618	1UF STD 50V M FL TP5
C362	0CE105CK636	1UF SHL,SD 50V M FM5 BP(D) TP
C362	0CE105DK618	1UF STD 50V M FL TP5
C363	0CE105CK636	1UF SHL,SD 50V M FM5 BP(D) TP
C363	0CE105DK618	1UF STD 50V M FL TP5
C364	0CE105CK636	1UF SHL,SD 50V M FM5 BP(D) TP
C364	0CE105DK618	1UF STD 50V M FL TP5
C365	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C406	0CE476DF618	47UF STD 16V M FL TP5
C418	0CE107SF6DC	100UF MVG 16V M SMD R/TP
C493	0CE106DF618	10UF STD 16V M FL TP5
C494	0CE107DF618	100UF STD 16V M FL TP5
C495	0CE107DF618	100UF STD 16V M FL TP5
C527	0CE107DF618	100UF STD 16V M FL TP5
C532	0CE107DF618	100UF STD 16V M FL TP5
C610	0CE107DF618	100UF STD 16V M FL TP5

LOCA. NO	PART NO	DESCRIPTION
C614	0CE107DF618	100UF STD 16V M FL TP5
C618	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C619	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C620	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C621	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C622	0CE476DF618	47UF STD 16V M FL TP5
C631	0CE106DF618	10UF STD 16V M FL TP5
C632	0CE106DF618	10UF STD 16V M FL TP5
C633	0CE335DK618	3.3UF STD 50V 20% FL TP 5
C635	0CE107DF618	100UF STD 16V M FL TP5
C638	0CE107DF618	100UF STD 16V M FL TP5
C639	0CE107DF618	100UF STD 16V M FL TP5
C640	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C641	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C642	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C643	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C656	0CK105DF64A	1UF 2012 16V 20% R/TP F(Y5V)
C658	0CK105DF64A	1UF 2012 16V 20% R/TP F(Y5V)
C659	0CK105DF64A	1UF 2012 16V 20% R/TP F(Y5V)
C662	0CK105DF64A	1UF 2012 16V 20% R/TP F(Y5V)
C669	0CK105DF64A	1UF 2012 16V 20% R/TP F(Y5V)
C670	0CK105DF64A	1UF 2012 16V 20% R/TP F(Y5V)
C671	0CK105DF64A	1UF 2012 16V 20% R/TP F(Y5V)
C672	0CK105DF64A	1UF 2012 16V 20% R/TP F(Y5V)
C673	0CK105DF64A	1UF 2012 16V 20% R/TP F(Y5V)
C676	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C677	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C680	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C681	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C682	0CE227DF618	220UF STD 16V M FL TP5
C683	0CK105DF64A	1UF 2012 16V 20% R/TP F(Y5V)
C685	0CE107DD618	100UF STD 10V M FL TP5
C712	0CE107SF6DC	100UF MVG 16V M SMD R/TP
C719	0CE107SF6DC	100UF MVG 16V M SMD R/TP
C733	0CE107DD618	100UF STD 10V M FL TP5
C734	0CE107SF6DC	100UF MVG 16V M SMD R/TP
C742	0CE107SF6DC	100UF MVG 16V M SMD R/TP
C801	0CE476DK618	47UF STD 50V M FL TP5
C802	0CE477DF618	470UF STD 16V 20% FL TP 5
C803	0CE477DF618	470UF STD 16V 20% FL TP 5
C804	0CE477DF618	470UF STD 16V 20% FL TP 5
C805	0CE477DF618	470UF STD 16V 20% FL TP 5
C806	0CE477DF618	470UF STD 16V 20% FL TP 5
C807	0CE477DF618	470UF STD 16V 20% FL TP 5
C808	0CE227DH618	220UF STD 25V M FL TP5
C814	0CE107DH618	100UF STD 25V M FL TP5
C815	0CE107DH618	100UF STD 25V M FL TP5
C817	0CE475DK618	4.7UF STD 50V 20% FL TP 5
C825	0CE337DH618	330UF STD 25V M FL TP5
C826	0CE337DH618	330UF STD 25V M FL TP5
C836	0CE227DF618	220UF STD 16V M FL TP5
C837	0CE227DD618	220UF STD 10V M FL TP5

For Capacitor & Resistors, the characters at 2nd and 3rd digit in the P/No. means as follows;	CC, CX, CK, CN : Ceramic CQ : Polyester CE : Electrolytic	RD : Carbon Film RS : Metal Oxide Film RN : Metal Film RF : Fusible
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LOCA. NO	PART NO	DESCRIPTION
C902	0CE106SF6DC	10UF MVG 16V 20% R/TP(SMD) SMD
C904	0CE106SF6DC	10UF MVG 16V 20% R/TP(SMD) SMD
C906	0CE107DF618	100UF STD 16V M FL TP5
C911	0CE107SF6DC	100UF MVG 16V M SMD R/TP
C915	0CE106SF6DC	10UF MVG 16V 20% R/TP(SMD) SMD
C935	0CE107SF6DC	100UF MVG 16V M SMD R/TP
C953	0CE477DF618	470UF STD 16V 20% FL TP 5
C954	0CE477DF618	470UF STD 16V 20% FL TP 5
R2011	0CH5391K416	390PF 50V J NP0 2012 R/TP

JACK

JA2000	6613V00018A	JACK ASSY, RD-WH-YL-S/VHS-E/P(7PIN) 008F
JA201	6612VAH001C	JACK, 4PIN POWER JACK .
JA203	6613V00004P	JACK ASSY ,RCA 3P GOLD PLATED
JA205A	380-336E	JACK,RCA,WA6013E1P WH
JA205B	380-336F	JACK,RCA WA6013E RCA RED 1P
SJ205	6612M00001A	JACK,SCART UGCOM 21PIN W/SHLD

COIL & TRANSFORMER

L102	0LA0272K139	INDUCTOR,AXIAL LEAD27UH K 4X10.5 TP
L208	0LC1020101A	INDUCTOR,10% 2012 R/TC
L2102	0LC0233002A	INDUCTOR,CHIP3.3UH H R/TP
L2103	0LC0233002A	INDUCTOR,CHIP3.3UH H R/TP
L2104	0LC0233002A	INDUCTOR,CHIP3.3UH H R/TP
L219	0LC0233002A	INDUCTOR,CHIP3.3UH H R/TP
L220	0LC0233002A	INDUCTOR,CHIP3.3UH H R/TP
L221	0LC0233002A	INDUCTOR,CHIP3.3UH H R/TP
L222	0LC0233002A	INDUCTOR,CHIP3.3UH H R/TP
L223	0LC0233002A	INDUCTOR,CHIP3.3UH H R/TP
L802	6140VB0004B	COIL,CHOKE 26UH 1UEWPHY 22.5TURN
L803	6140VB0004A	COIL,CHOKE 9.5UH 1UEWPHY 13.5TURN
T801	6170VTCA30A	TRANSFORMER,SMPS[COIL]EPC 13-Z 320UH

CONNECTOR

P1101	366-169G	CONNECTOR, 2.0MM 8P GIL-S
P1102	6631V20016G	CONNECTOR, 14P 2.0MM 400MM H-B
P2000	6631V20016C	CONNECTOR, 14P 2.0MM 200MM H-B
P2001	366-922C	CONNECTOR, 2.5MM 4P R/A (B TO C)
P3	366-932E	CONNECTOR, 2.5MM 6P S (STICK)

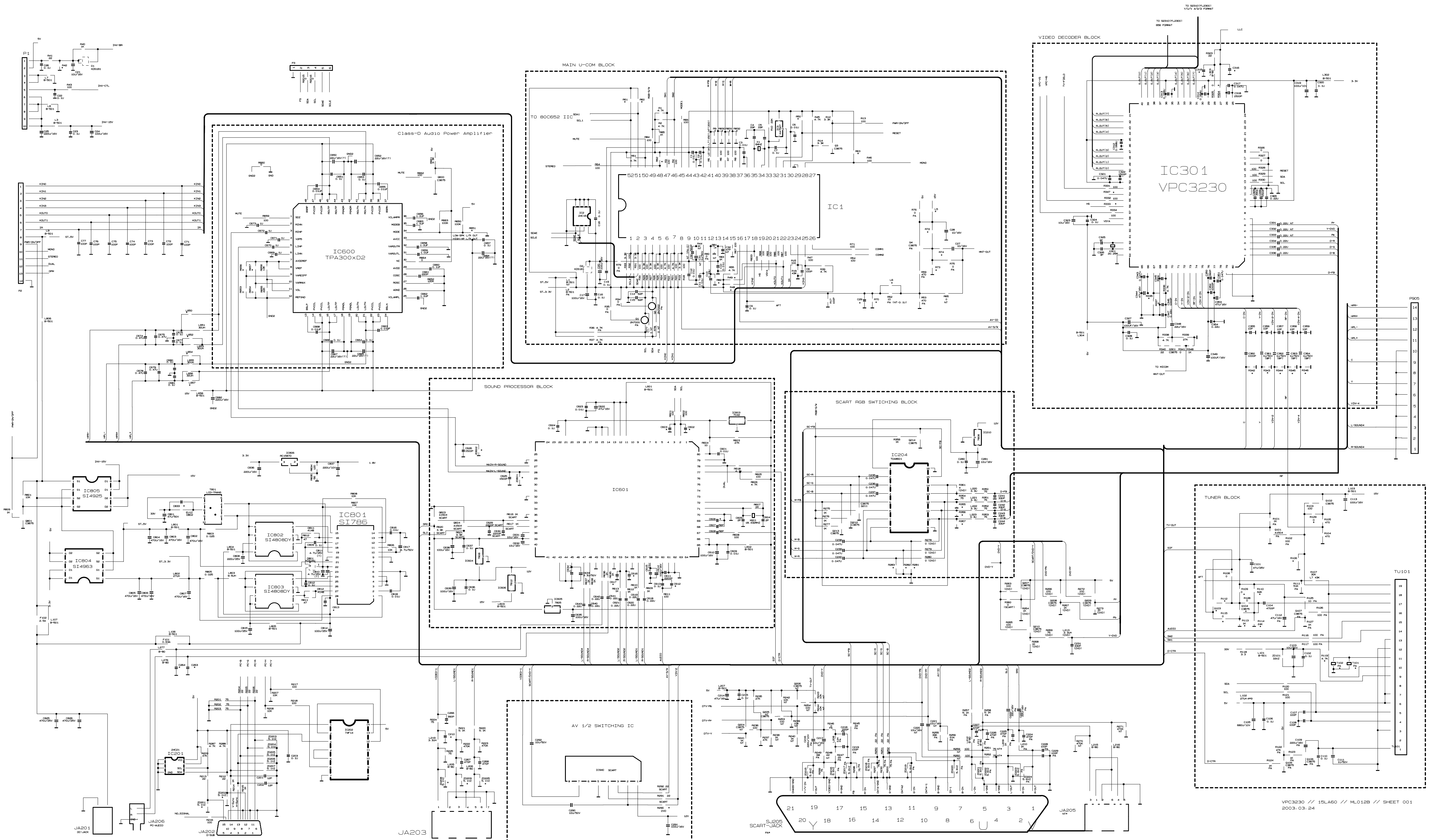
RESISTOR

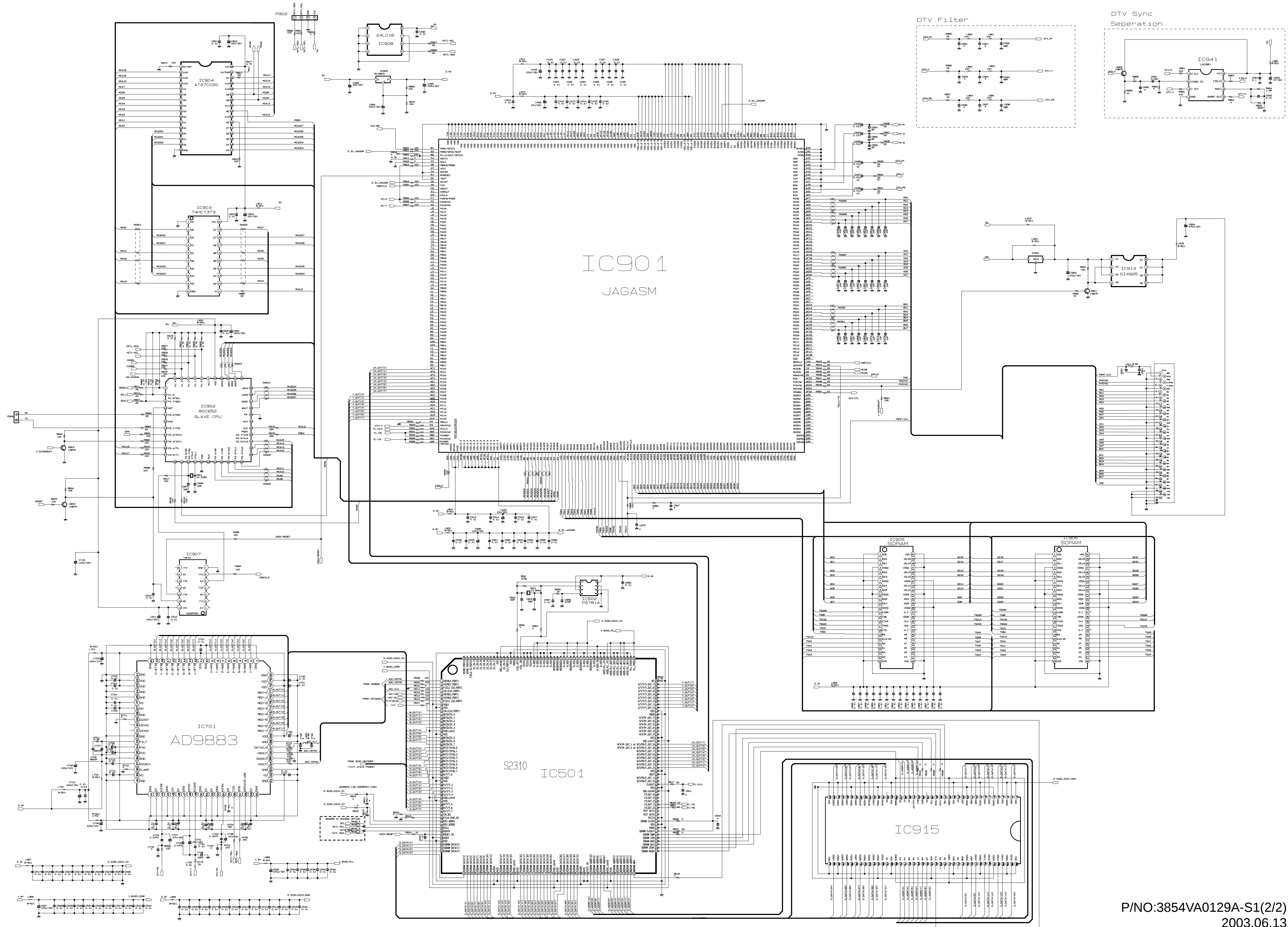
C2307	0RH4703D622	470K OHM 1 / 10 W 2012 5.00% D
R2002	ORD1200H609	120 OHM 1/2 W 5.00% TA52
R2003	ORD1200H609	120 OHM 1/2 W 5.00% TA52
R2004	0RH0472D622	47 OHM 1 / 10 W 2012 5.00% D
R2005	0RH0752D622	75 OHM 1 / 10 W 2012 5.00% D
R2006	0RH0752D622	75 OHM 1 / 10 W 2012 5.00% D
R2007	0RH0752D622	75 OHM 1 / 10 W 2012 5.00% D
R2008	0RH0752D622	75 OHM 1 / 10 W 2012 5.00% D
R2009	0RH0752D622	75 OHM 1 / 10 W 2012 5.00% D
R2010	0RH5101D622	5.1K OHM 1 / 10 W 2012 5.00% D
R2011	0RH4703D622	470K OHM 1 / 10 W 2012 5.00% D

LOCA. NO	PART NO	DESCRIPTION
R2012	0RH5101D622	5.1K OHM 1 / 10 W 2012 5.00% D
R2013	0RH4703D622	470K OHM 1 / 10 W 2012 5.00% D
R2014	0RH0000D622	0 OHM 1 / 10 W 2012 5.00% D
RA901	0RRZVTA001A	R OHM 100 OHM 5% CHIP 100 OHM*4
RA902	0RRZVTA001A	R OHM 100 OHM 5% CHIP 100 OHM*4
RA903	0RRZVTA001A	R OHM 100 OHM 5% CHIP 100 OHM*4
RA904	0RRZVTA001A	R OHM 100 OHM 5% CHIP 100 OHM*4
RA905	0RRZVTA001A	R OHM 100 OHM 5% CHIP 100 OHM*4
RA906	0RRZVTA001A	R OHM 100 OHM 5% CHIP 100 OHM*4
RA911	0RRZVTA001A	R OHM 100 OHM 5% CHIP 100 OHM*4
RA912	0RRZVTA001A	R OHM 100 OHM 5% CHIP 100 OHM*4
RA926	0RRZVTA001A	R OHM 100 OHM 5% CHIP 100 OHM*4
RA927	0RRZVTA001A	R OHM 100 OHM 5% CHIP 100 OHM*4
RA928	0RRZVTA001A	R OHM 100 OHM 5% CHIP 100 OHM*4
RA929	0RRZVTA001A	R OHM 100 OHM 5% CHIP 100 OHM*4
RA930	0RRZVTA001A	R OHM 100 OHM 5% CHIP 100 OHM*4
RA931	0RRZVTA001A	R OHM 100 OHM 5% CHIP 100 OHM*4

CRYSTAL & FILTER

L1000	6210TCE001G	FILTER,EMC HH-1M3216-5013216MM R/TP
L1001	6210TCE001G	FILTER,EMC HH-1M3216-5013216MM R/TP
L101	6210TCE001G	FILTER,EMC HH-1M3216-5013216MM R/TP
L103	6210TCE001G	FILTER,EMC HH-1M3216-5013216MM R/TP
L106	6210TCE001G	FILTER,EMC HH-1M3216-5013216MM R/TP
L107	6210TCE001G	FILTER,EMC HH-1M3216-5013216MM R/TP
L2	6210TCE001G	FILTER,EMC HH-1M3216-5013216MM R/TP
L205	6210TCE001A	FILTER,EMC HB-1S2012-080JT2012MM
L206	6210TCE001A	FILTER,EMC HB-1S2012-080JT2012MM
L2100	6210TCE001A	FILTER,EMC HB-1S2012-080JT2012MM
L2101	6210TCE001A	FILTER,EMC HB-1S2012-080JT2012MM
L2105	6210TCE001A	FILTER,EMC HB-1S2012-080JT2012MM
L2106	6210TCE001A	FILTER,EMC HB-1S2012-080JT2012MM
L2107	6210TCE001A	FILTER,EMC HB-1S2012-080JT2012MM
L2108	6210TCE001G	FILTER,EMC HH-1M3216-5013216MM R/TP
L2109	6210TCE001G	FILTER,EMC HH-1M3216-5013216MM R/TP
L211	6210TCE001A	FILTER,EMC HB-1S2012-080JT2012MM
L212	6210TCE001A	FILTER,EMC HB-1S2012-080JT2012MM
L3	6210TCE001G	FILTER,EMC HH-1M3216-5013216MM R/TP
L302	6210TCE001G	FILTER,EMC HH-1M3216-5013216MM R/TP
L303	6210TCE001A	FILTER,EMC HB-1S2012-080JT2012MM
L304	6210TCE001G	FILTER,EMC HH-1M3216-5013216MM R/TP
L601	6210TCE001G	FILTER,EMC HH-1M3216-5013216MM R/TP
L602	6210TCE001G	FILTER,EMC HH-1M3216-5013216MM R/TP
L603	6210TCE001G	FILTER,EMC HH-1M3216-5013216MM R/TP
L658	6210TCE001G	FILTER,EMC HH-1M3216-5013216MM R/TP
L7	6210TCE001G	FILTER,EMC HH-1M3216-5013216MM R/TP
L8	6210TCE001G	FILTER,EMC HH-1M3216-5013216MM R/TP
L801	6210TCE001G	FILTER,EMC HH-1M3216-5013216MM R/TP
L804	6210TCE001G	FILTER,EMC HH-1M3216-5013216MM R/TP
L805	6210TCE001G	FILTER,EMC HH-1M3216-5013216MM R/TP
L806	6210TCE001G	FILTER,EMC HH-1M3216-5013216MM R/TP
L901	6210TCE001G	FILTER,EMC HH-1M3216-5013216MM R/TP







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