

Service Manual



Colour LCD Television

TX-32LE8F
TX-32LE8FS
TX-32LE8L
TX-32LE8P
TX-32LE8PS

GLP23A Chassis

Specifications

Power Source:	220-240V AC, 50Hz	
Power Consumption	121W	
Stand-by Power Consumption:	1W	
Aerial Impedance:	75Ω unbalanced, Coaxial Type	
Receiving System:	PAL-I/H, B/G, D/K, SECAM B/G, D/K, L/L' PAL-525/60 (AV only) M.NTSC (AV only) NTSC (AV only)	
Receiving Channels:	VHF E2-E12 VHF A-H (ITALY) VHF R3-R5 UHF E21-E69 CATV S1-S10 (M1-M10) CATV S21-S41 (Hyperband)	VHF H1-H2 (ITALY) VHF R1-R2 VHF R6-R12 CATV (S01-S05) CATV S11-S20 (U1-U10)
Operating Conditions:	Temperature: 0°C ÷ 35°C Humidity: 20% ÷ 80% RH (non condensing)	
Scanning format:	480i(60Hz), 480p(60Hz), 576i(50Hz), 576p(50Hz), 720p(60Hz), 720p(50Hz), 1.080i(60Hz), 1.080i(50Hz),	
Intermediate Frequency:		
Video/Audio		
Video	38,9MHz, 33,9MHz	
Audio	33,4MHz (B/G), 33,16MHz (A2) 33,05MHz (NICAM B/G, D/K, L) 32,4MHz (D/K), 32,66MHz (CZ STEREO) 40,4MHz (L'), 39,75MHz (L'NICAM)	
Colour	34,47MHz (PAL) 34,5MHz, 34,65MHz (SECAM) 38,3MHz, 38,15MHz (SECAM L')	

Terminals:	
AV1 IN	Video (21 pin) 1V p-p 75Ω Audio (21 pin) 500mV rms 10kΩ RGB (21 pin) 0,7V p-p 75Ω
AV1 OUT	Video (21 pin) 1V p-p 75Ω Audio (21 pin) 500mV rms 1kΩ
AV2 IN	Video (21 pin) 1V p-p 75Ω Audio (21 pin) 500mV rms 10kΩ RGB (21 pin) 0,7V p-p 75Ω S-video IN (21-pin)Y: 1V p-p 75Ω C:0,3V p-p 75Ω
AV2 OUT	Video (21 pin) 1V p-p 75Ω Audio (21 pin) 500mV rms 1kΩ
AV3 IN	S-Video IN (4-pin)Y: 1V p-p 75Ω C:0,3V p-p 75Ω Audio (RCAX2) 500mV rms 10kΩ Video (RCAX1) 1V p-p 75Ω
HDMI1, HDMI2	Type A Connector
COMPONENT	Video (RCAX3) Y:1V p-p 75Ω (including synchronization) Pb, Pr: ±0,35V p-p 75Ω
AUDIO IN	Audio (RCAX2) 500mV rms 10kΩ (for HDMI1, COMPONENT-AUDIO)
AUDIO OUT	Audio (RCAX2) 500mV rms 1kΩ (high impedance)
LCD screen:	L5EDD8Q00035 1366 x 768 XGA, 16:9 Visible Diagonal 800mm
Audio Output:	20W (2x10W)
Headphones:	3,5mm, 8Ω Impedance
Accessories supplied :	Remote Control 2 x R6 (UM3) Batteries
Dimensions:	
Including TV stand	Height: Width: Depth: 573mm 820mm 250mm
TV set only	535mm 820mm 108mm
Net weight:	
Including TV stand	15.5kg
TV set only	12.5kg

Specifications are subject to change without notice.
Weights and dimensions shown are approximate.

Warning

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products deal within this service information by anyone else could result in serious injury or death.

CONTENTS

SAFETY PRECAUTIONS	4	SELF-CHECK	11
GENERAL GUIDE LINES.....	4	ADJUSTMENT METHOD.....	12
TOUCH – CURRENT CHECK.....	4	WIRING DIAGRAM	13
PREVENTION OF ELECTROSTATIC DISCHARGE (ESD) TO ELECTROSTATICALLY SENSITIVE (ES) DEVICES	5	BLOCK DIAGRAMS	14
ABOUT LEAD FREE SOLDER (PBF).....	6	PARTS LOCATION.....	17
SUGGESTED PB FREE SOLDER	6	REPLACEMENT PARTS LIST	19
APPLICABLE SIGNALS.....	7	SCHEMATIC DIAGRAMS	28
SERVICE HINTS	8	A-BOARD (1 OF 5) SCHEMATIC DIAGRAM	29
CHASSIS BOARD LAYOUT	9	G-BOARD SCHEMATIC DIAGRAM	34
LOCATION OF LEAD WIRING.....	9	V-BOARD SCHEMATIC DIAGRAM	35
SETTING INSPECTION.....	10	K-BOARD SCHEMATIC DIAGRAM	36
		CONDUCTOR VIEWS	37

Safety Precautions

General Guide Lines

1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
2. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
3. After servicing, make the following touch current checks to prevent the customer from being exposed to shock hazards.
4. Always ensure panel TKP0E16001 is correctly replaced before returning to customer (see Fig.1).



Fig. 1

Touch-Current Check

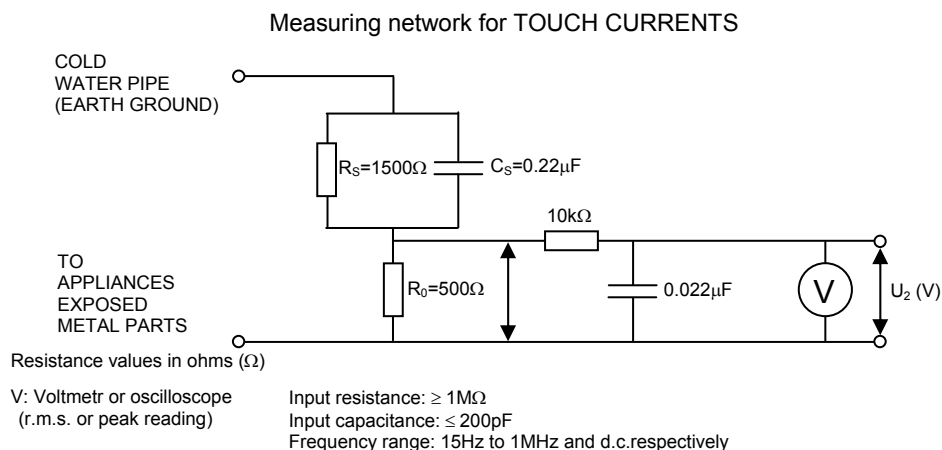
1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a measuring network for touch currents between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Fig. 2.
3. Use Leakage Current Tester (Simpson 228 or equivalent) to measure the potential across the measuring network.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reserve the AC plug in the AC outlet and repeat each of the above measure.
6. The potential at any point (TOUCH CURRENT) expressed as voltage U_1 and U_2 , does not exceed the following values:
For a. c.: $U_1 = 35 \text{ V}$ (peak) and $U_2 = 0.35 \text{ V}$ (peak);
For d. c.: $U_1 = 1.0 \text{ V}$,

Note:

The limit value of $U_2 = 0.35 \text{ V}$ (peak) for a. c. and $U_1 = 1.0 \text{ V}$ for d. c. correspond to the values 0.7 mA (peak) a. c. and 2.0 mA d. c.

The limit value $U_1 = 35 \text{ V}$ (peak) for a. c. correspond to the value 70 mA (peak) a. c. for frequencies greater than 100 kHz .

7. In case a measurement is out of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.



NOTE – Appropriate measures should be taken to obtain the correct value in case of non-sinusoidal waveforms

Fig. 2

Prevention of Electrostatic Discharge (ESD) to 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 electrostatic discharge (ESD).


1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, 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 aluminum foil, to prevent electrostatic charge build up 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 (ESD protected)" can generate electrical charge 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 (ESD) sufficient to damage an ES device).

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by  in schematic diagrams, exploded views and replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.

About lead free solder (PbF)

Note: Lead is listed as (Pb) in the periodic table of elements.


In the information below, Pb will refer to Lead solder, and PbF will refer to Lead Free Solder.

The Lead Free Solder used in our manufacturing process and discussed below is (Sn+Ag+Cu).

That is Tin (Sn), Silver (Ag) and Copper (Cu) although other types are available.

This model uses Pb Free solder in it's manufacture due to environmental conservation issues. For service and repair work, we'd suggest the use of Pb free solder as well, although Pb solder may be used.

PCBs manufactured using lead free solder will have the PbF within a leaf Symbol

 stamped on the back of PCB.

Caution

- Pb free solder has a higher melting point than standard solder. Typically the melting point is 50 ~ 70 °F (30~40°C) higher. Please use a high temperature soldering iron and set it to 700 ± 20 °F (370 ± 10 °C).
- Pb free solder will tend to splash when heated too high (about 1100 °F or 600 °C).
If you must use Pb solder, please completely remove all of the Pb free solder on the pins or solder area before applying Pb solder. If this is not practical, be sure to heat the Pb free solder until it melts, before applying Pb solder.
- After applying PbF solder to double layered boards, please check the component side for excess solder which may flow onto the opposite side. (see Fig.3)

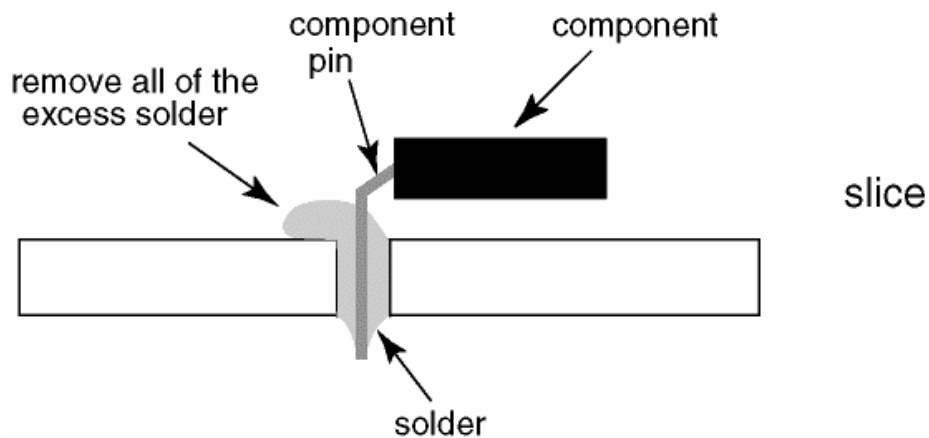


Fig.3

Suggested Pb free solder

There are several kinds of Pb free solder available for purchase. This product uses Sn+Ag+Cu (tin, silver, copper) solder. However, Sn+Cu (tin, copper), Sn+Zn+Bi (tin, zinc, bismuth) solder can also be used. (see Fig.4)

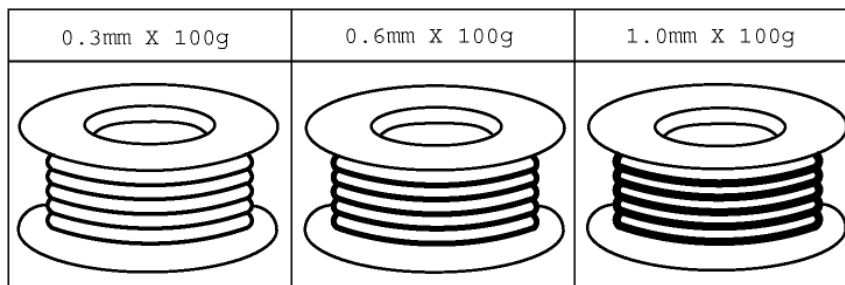


Fig.4

Applicable signals

Component (Y, Pb, Pr), HDMI

Signal name	COMPONENT	HDMI
525 (480) / 60i	*	*
525 (480) / 60p	*	*
625 (576) / 50i	*	*
625 (576) / 50p	*	*
750 (720) / 60p	*	*
750 (720) / 50p	*	*
1,125 (1,080) / 60i	*	*
1,125 (1,080) / 50i	*	*

Note:

- Signals other than above may not be displayed properly.
- The above signals are reformatted for optimal viewing on your display.

Service Hints

How to remove the backcover

Remove the 14 fixing screws. (see Fig.5)

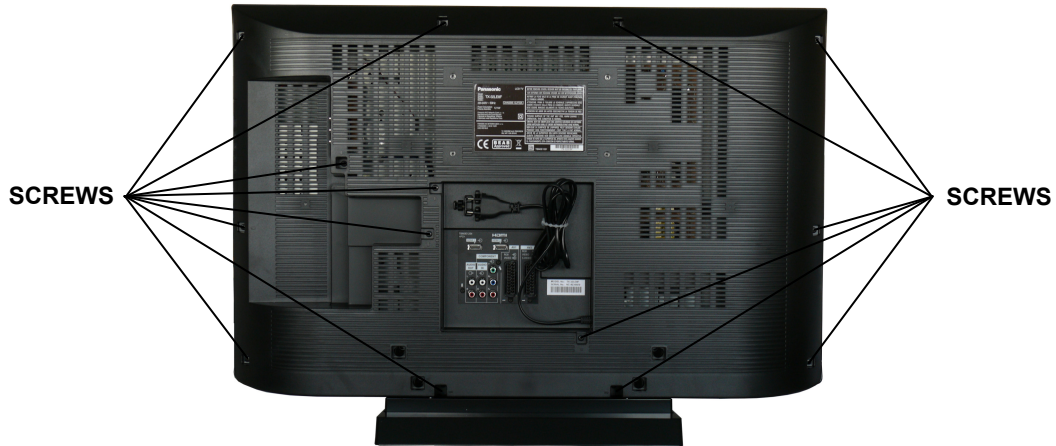


Fig.5

How to remove the Pedestal assembly

Lay the main unit face down. (see Fig.6)



Fig.6

Remove the 4 fixing screws and the pedestal assembly. (see Fig.7)

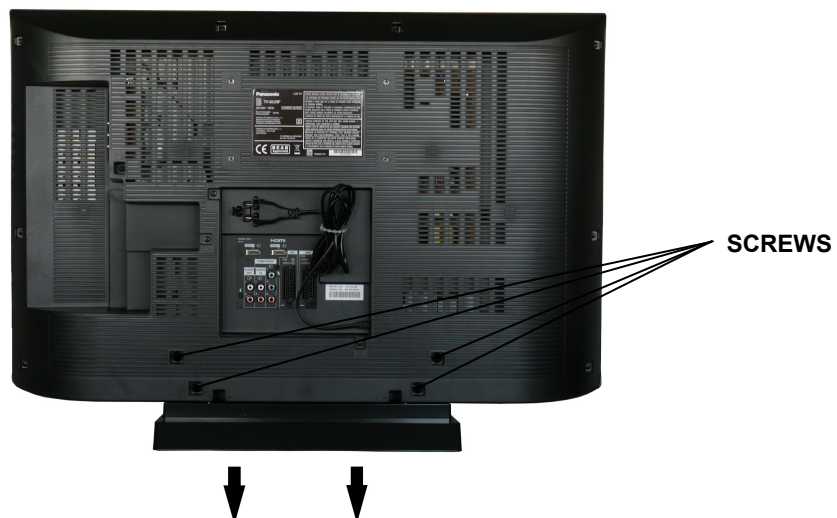
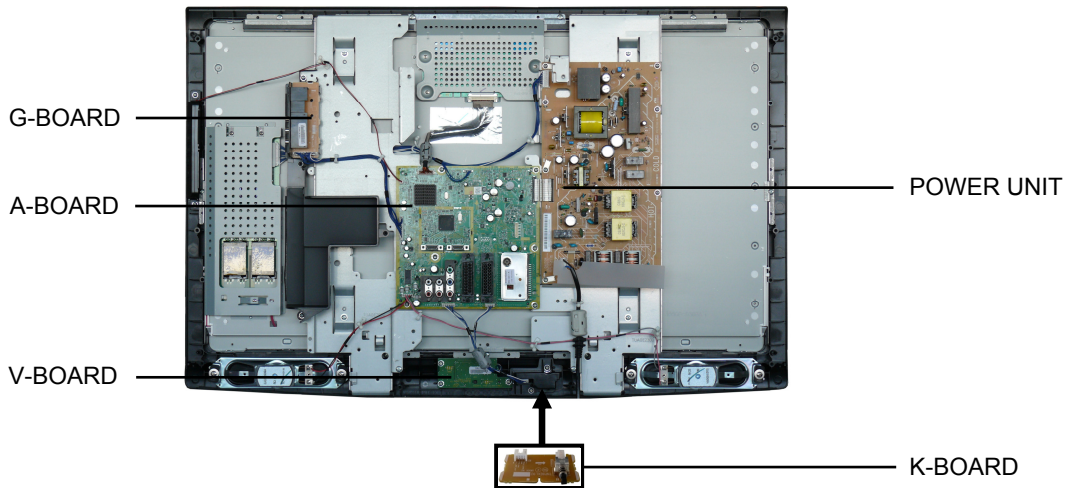


Fig.7

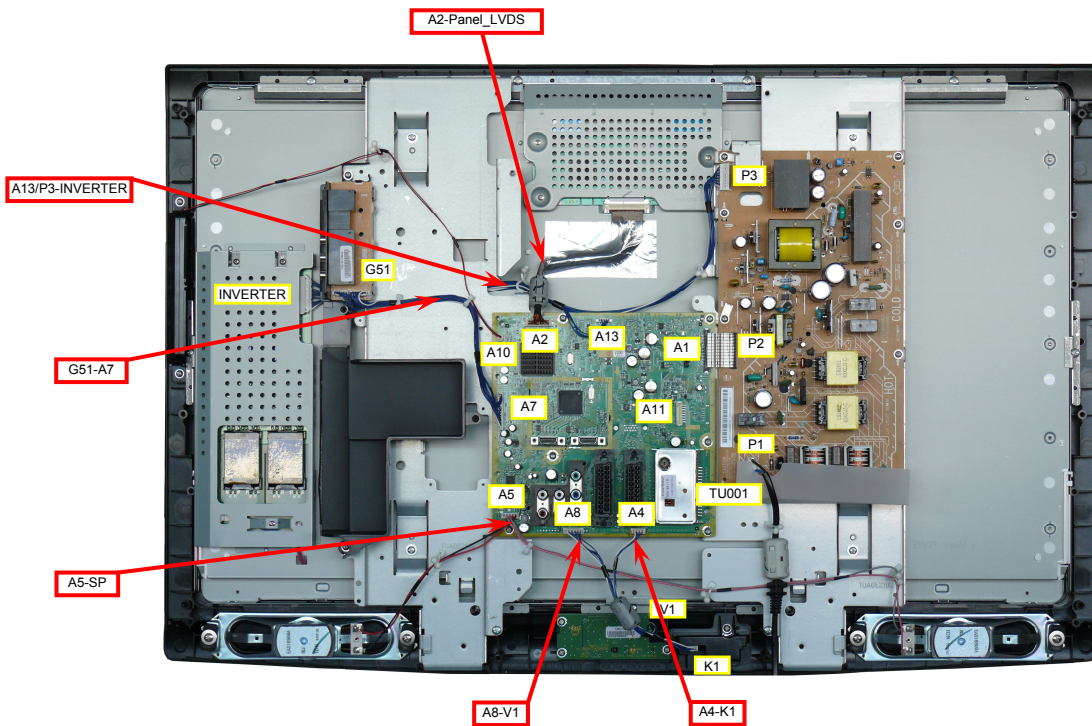
Chassis Board Layout



Board Name	Function
A-Board	AV Terminal, Audio Video Processor, Speaker out, TV tuner, HDMI, HDMI Receiver
G-Board	Side AV Terminal
V-Board	Remote Receiver, R&G LED, C.A.T.S.
K-Board	Main Switch
Power Unit	Main Input, Power Supply, Power Supply Regulator

Location of Lead Wiring

To find the Part Number of required wire in Replacement Parts List click on the wire name in red box.



Setting Inspection

Voltage Confirmation

Confirm the following voltages:			
A board			
Description	Test point	Position	Range
30V	TP3822	D3865	28V - 32V
12V	TP3824	C3864	11,4V – 12,6V
AUDO_15V		A1, pin20,21	14V - 16V
8V	TP3823	C3858, +pin	7,6V – 8,7V
STBY3.3V	TP3817	C3844, +pin	3,2V – 3,45V
STBY1.8V	TP3803	C3818, +pin	1,77V – 1,89V
STBY5V	TP3813	C3801	4,8V – 5,4V
CEC3.8V	TP3814	C1212	3,5V - 4,2V
3V3_HD	TP3834	IC3808, pin 5	3V - 3,6V
1V8_HD	TP3816	D3890	1,62V - 1,98V
5V_SIG	TP3826	C3873	4,83V – 5,25V

Self Check

Self-check is used to automatically check the bus lines and hexadecimal code of the TV set. To enter Self-Check mode, keep pressing the down (-/v) button on the TV set and press the **STATUS**  button on the remote control. To exit Self Check, switch off the TV set at the power button.

TX-32LE8F
TX-32LE8FS

Panasonic GLP23A			
SW	V1.07		25/04/08
E2	V04	CodeSum	65E1

Self Check Complete			
E2	O.K.	E2CRC:	E3
VCTP	O.K.	OPTION 1	0F
TUN	O.K.	OPTION 2	00
HDMI	O.K.	OPTION 3	B9
		OPTION 4	11
		OPTION 5	00
		OPTION 6	45
		OPTION 7	7D
		OPTION 8	D8
		OPTION 9	00
Chasssis	22	OPTION 10	00
Model	04	OPTION 11	53
Size	32	OPTION 12	20
		OPTION 13	18
VCTP	B3	CHECK	FE

TX-32LE8P
TX-32LE8PS

Panasonic GLP23A			
SW	V1.07		25/04/08
E2	V04	CodeSum	65E1

Self Check Complete			
E2	O.K.	E2CRC:	BF
VCTP	O.K.	OPTION 1	0F
TUN	O.K.	OPTION 2	00
HDMI	O.K.	OPTION 3	B9
		OPTION 4	11
		OPTION 5	00
		OPTION 6	45
		OPTION 7	7D
		OPTION 8	58
		OPTION 9	00
Chasssis	22	OPTION 10	00
Model	05	OPTION 11	53
Size	32	OPTION 12	20
		OPTION 13	18
VCTP	B3	CHECK	7E

TX-32LE8L

Panasonic GLP23A			
SW	V1.07		25/04/08
E2	V04	CodeSum	65E1

Self Check Complete			
E2	O.K.	E2CRC:	6B
VCTP	O.K.	OPTION 1	0F
TUN	O.K.	OPTION 2	00
HDMI	O.K.	OPTION 3	B9
		OPTION 4	11
		OPTION 5	00
		OPTION 6	45
		OPTION 7	3D
		OPTION 8	58
		OPTION 9	00
Chasssis	22	OPTION 10	00
Model	06	OPTION 11	53
Size	32	OPTION 12	28
		OPTION 13	08
VCTP	B3	CHECK	36

Display	Ref.No.	Description	P.C.B
E2	IC1120	EEPROM	A-Board
VCTP	IC1501	AUDIO VIDEO PROCESSOR	A-Board
TUN	TU001	TUNER	A-Board
HDMI	IC5003	HDMI RECEIVER	A-Board

If the CCU ports have been checked and found to be incorrect or not located then " - - " will appear in place of "O.K.".

Adjustment Method

How to enter Service 1

- Set the Bass to maximum position, set the Treble to minimum position then keep pressing the **INDEX** button on the remote control and press the down button (-/V) on the TV set, this will place the TV set into the Service Mode 1.

Key Command

- Press the **RED / GREEN** buttons to step up / down through the functions.
- Press the **YELLOW / BLUE** buttons to alter the function values, to alter White Rasters use +/- buttons
- Press the **OK** button after each adjustment has been made to store the required values.
- To exit the Service Mode, press the "N" button.

Keep adjusting sequence: DVCO, Sub-Contrast, other items.

Item	Setting indication Note: All setting values are approximate	Settings / Special features										
Sub-Contrast	Sub-Contrast 35	Receive a 80% white level Philips Pattern with correct sound system (B/G, D/K) via aerial input. For Sub-Contrast alignment press " Blue " button, wait until the figure colour is changed from red to black colour. Press the OK .										
DVCO	DVCO 1	Receive a 80% white level Philips Pattern via aerial input. For DVCO alignment press " Blue " button, wait until the figure colour is changed from red to black colour. Press the OK .										
Highlight Lowlight	<table border="1"> <tr> <td>High</td> <td>12</td> <td>0330</td> <td>0300</td> <td>0304</td> </tr> <tr> <td>Low</td> <td>4</td> <td>0048</td> <td>0032</td> <td>0042</td> </tr> </table>	High	12	0330	0300	0304	Low	4	0048	0032	0042	For correct setting see White Balance Adjustment
High	12	0330	0300	0304								
Low	4	0048	0032	0042								
Sub-Brightness	Sub-Brightness 0	Optimum setting.										

White Balance Adjustment

Instrument

- Remote Control
- LCD WB meter (Minolta CA-210 or equivalent)

Condition

- Switch on the TV Set. Enter Service1. Step down to Highlight line and keep the aging time more than 20 minutes.

Procedure

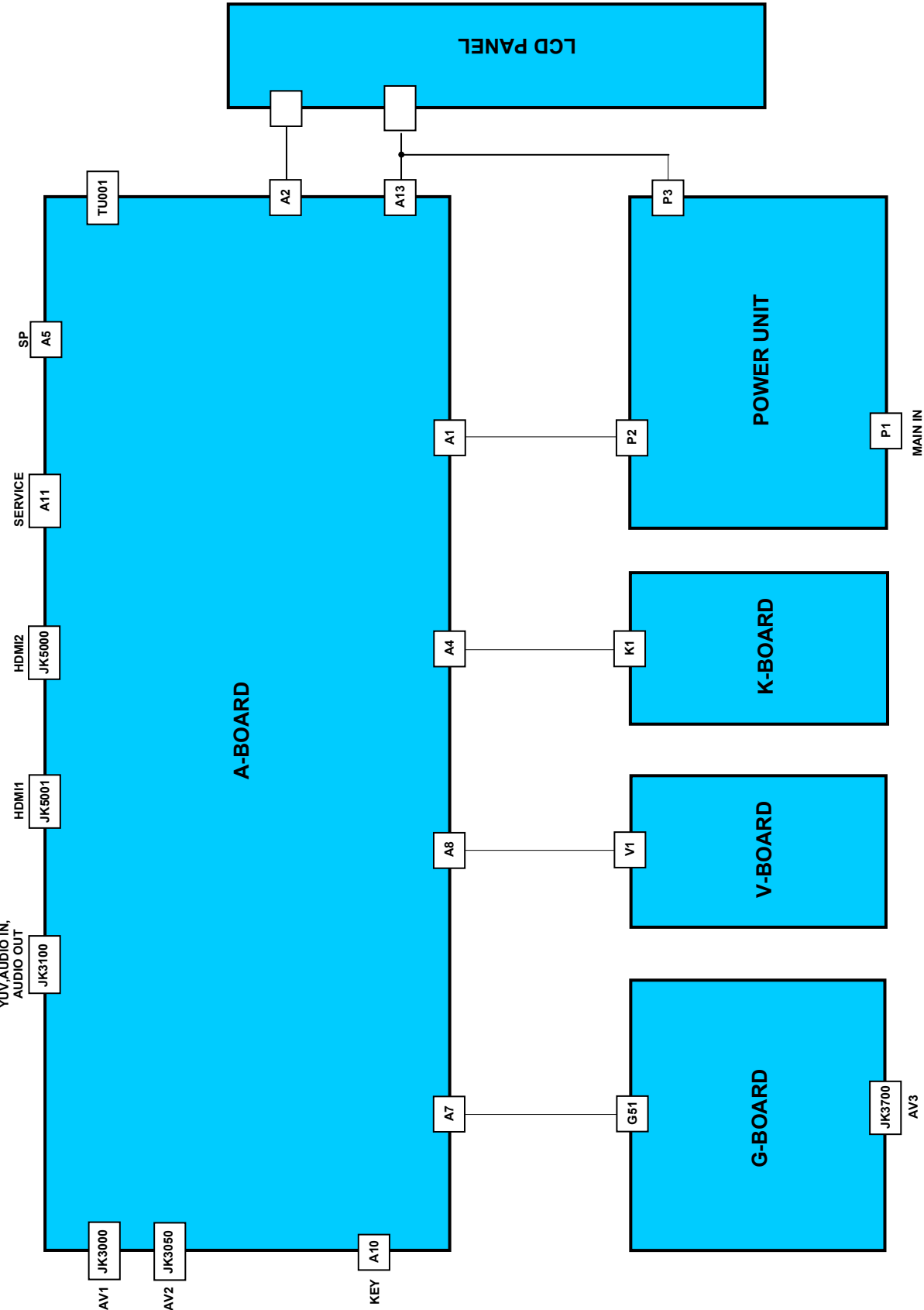
- After aging time above set White Raster No.12 for Highlight and No.4 for Lowlight

High	12
Low	4

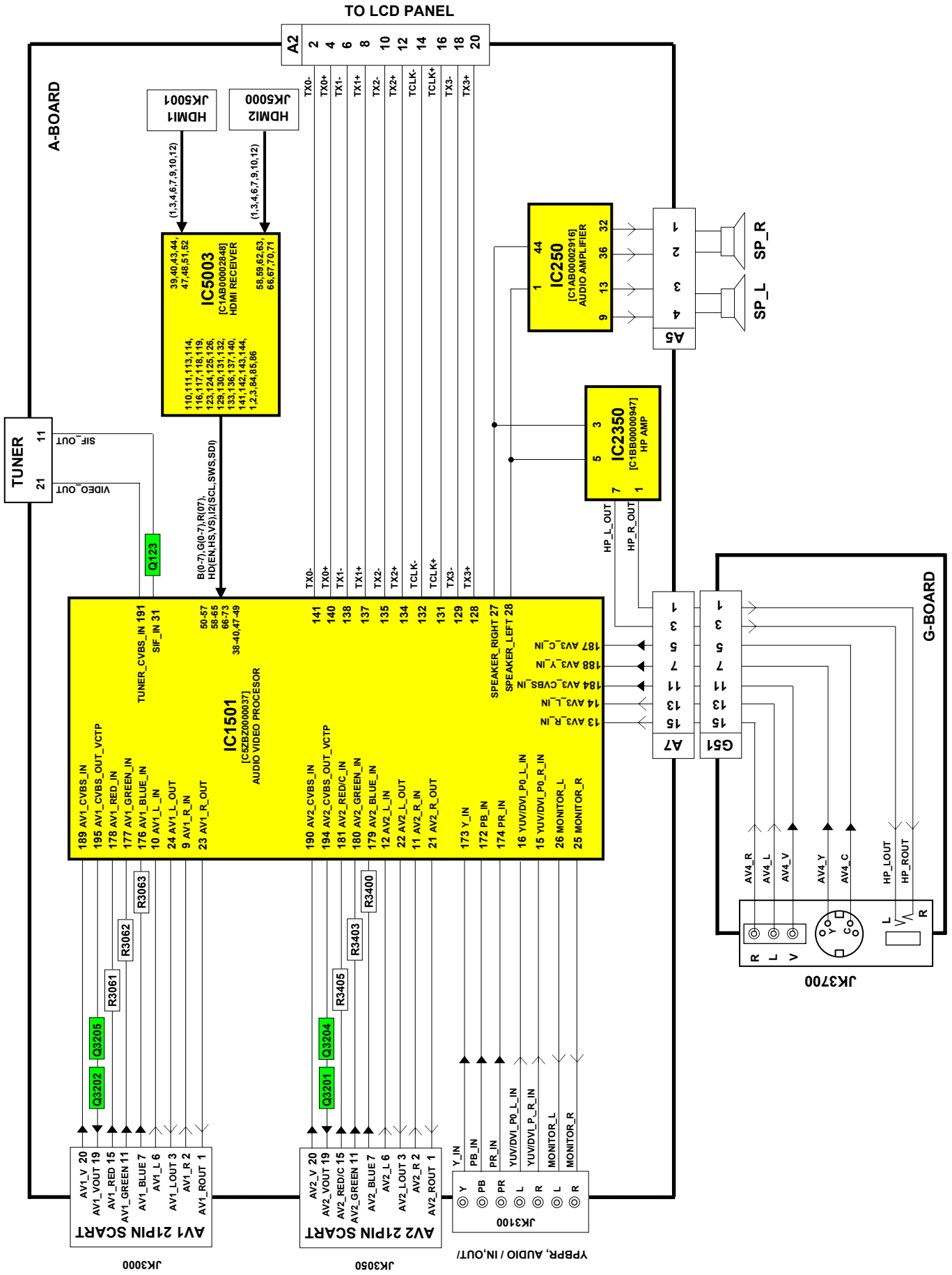
 . Press the **OK** button to store.
- Put Minolta Sensor to the center of the LCD Panel with 25mm gap between Minolta Sensor and LCD Panel. Adjust "x" and "y" values by changing Red and Blue values.
- Press **OK** button to store setting.

Item		Value
Highlight	x	0,277 ± 0,015
	y	0,290 ± 0,015
Lowlight	x	0,282 ± 0,015
	y	0,284 ± 0,015

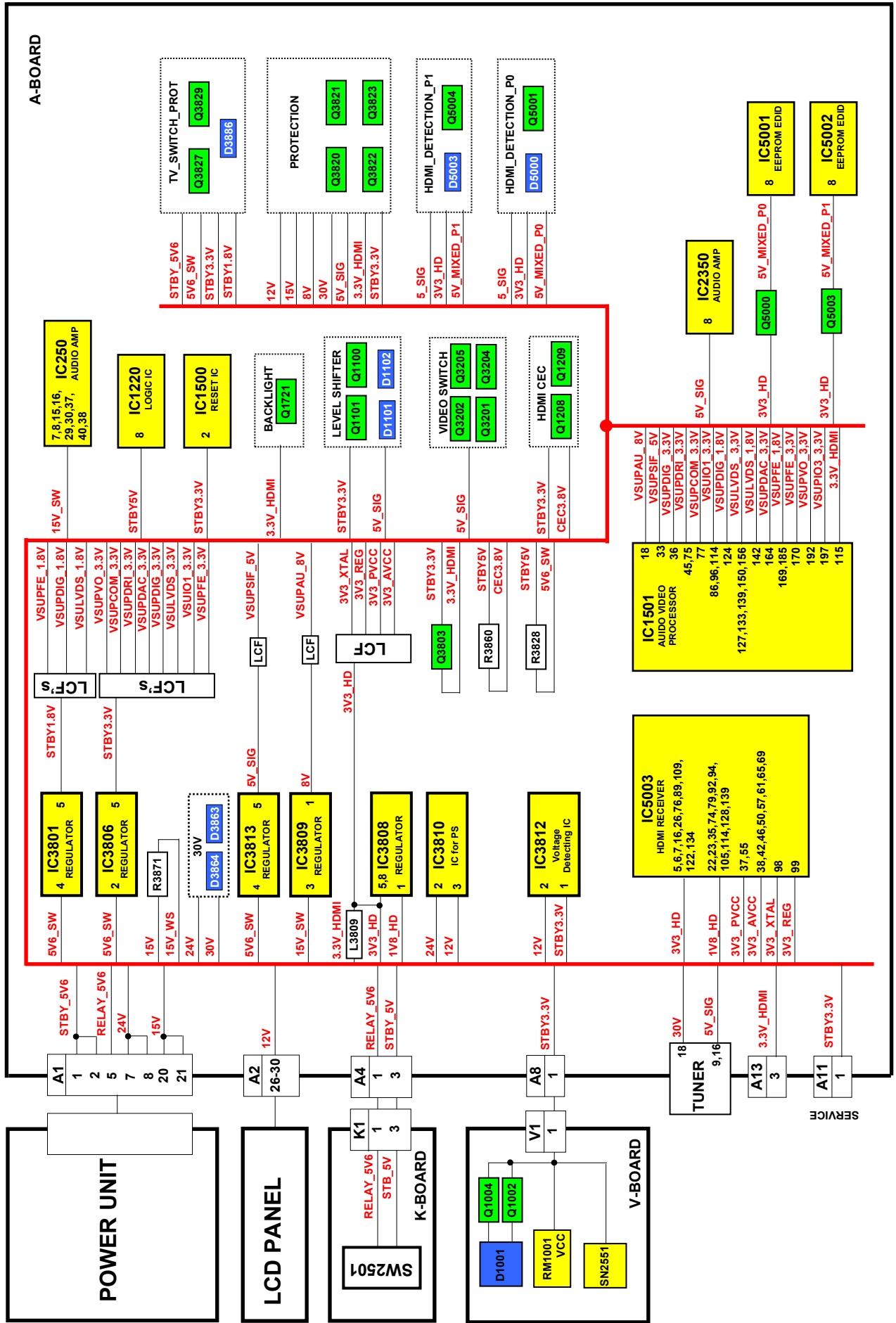
Wiring diagram



Video & Stereo Audio Block Diagram



Power Supply Block Diagram



Parts Location

NOTE:

The numbers on the exploded view below refer to the exploded view section of the Replacement Parts List.

6



(UK)

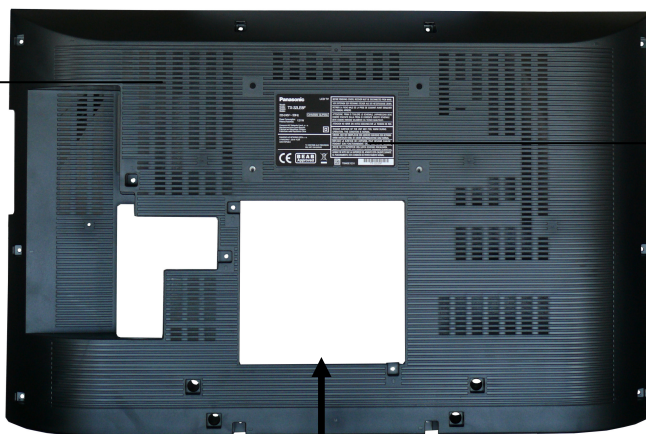


(CONTINENTAL)



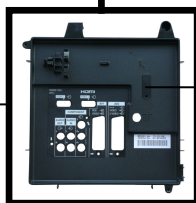
23

11



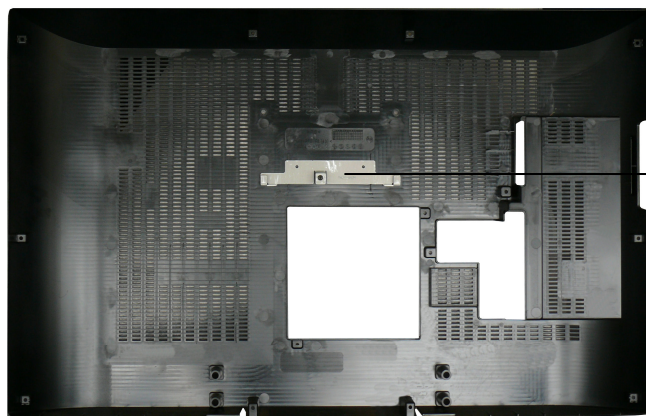
25

9



7

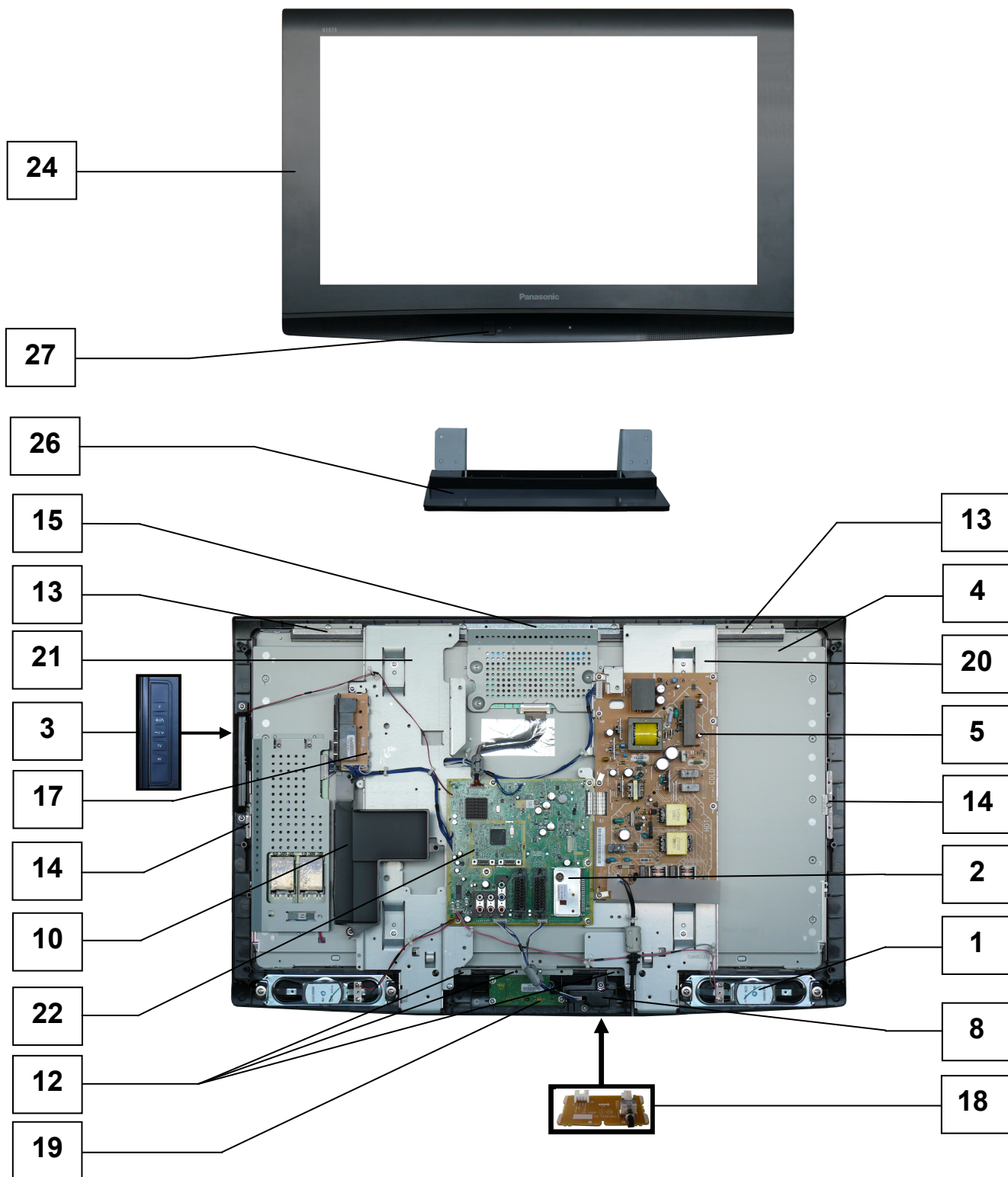
16



Parts Location


NOTE:

The numbers on the exploded view below refer to the exploded view section of the Replacement Parts List.



Replacement Parts List










Important Safety Notice

Components Identified by  mark have special characteristics important for safety.
 * When replacing any of these components, use only manufacturers specified parts.
 In case of ordering these spare parts, please always add the complete Model-Type number to your order.

RTL (Retention Time Limited)

Note: The marking (RTL) indicates that the Retention Time is Limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependent on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.

X The marking (X) indicates that board should be exchanged for service.

Cct Ref	Parts Number	Description	
COMMON PARTS			
EXPLODED VIEW			
1	EAS16S09A	SPEAKER	
2	ENG37E08GF	TUNER	
3	K0RB00500028	CONTROL PANEL	
4	L5EDD8Q00035	LCD PANEL	
5	N0AC3GJ00014	POWER UNIT	RTL 
6	N2QAYB000223	REMOTE CONTROL	
7	TKP0E16001	CONNECTOR COVER	
8	TKP0E30701	POWER BUTTON BRACKET	
9	TKP0E30801	REAR AV BRACKET	
10	TKP0E91301	SIDE AV BRACKET	
11	TKU0E1701	BACK COVER	
12	TKZ0E9160	LCD BRACKET	
13	TKZ0E9162	LCD BRACKET	
14	TKZ0E9164	LCD BRACKET	
15	TKZ0E9182	TOP LCD BRACKET	
16	TKZ0E9575	VESA METAL	
17	TNP8EGL91AA	G P.C.B.	RTL 
18	TNP8EKL92AA	K P.C.B.	RTL 
19	TNP8EVL91AB	V P.C.B.	RTL 
20	TUA0E2300-1	L CHASSIS FRAME BRACKE	
21	TUA0E2900	R CHASSIS FRAME BRACKE	
MISCELLANEOUS COMPONENTS			
.	J0KF00000018	FERRITE CORE	
.	J0KG00000100	FERRITE CORE	
.	R6RC/2P	BATTERY	
.	TBM0E1204	SIDE AV LABEL	
.	TBM0E1254	REAR AV LABEL	
.	THTF012J	SCREW	
.	TMM8E18048	TAB-RELEASE CABLE	
.	XTB3+8GFJ	SCREW	
.	XTB4+15JFJ	SCREW	
.	XTB4+15JFJK	SCREW	
.	XTV3+10JFJK	SCREW	
.	XTW3+10TFJ	SCREW	
.	XYN4+C12FJ	SCREW	
.	XYN4+F10FJ	SCREW	
BOTCUS	TPD0E2020	BOTTOM CUSHION	
CARTON	TPC0E48800	CARTON	
TOPCUS	TPD0E1047	TOP CUSHION	
I.C.s			
IC250	C1AB00002916	AUDIO AMPLIFIER	

Cct Ref	Parts Number	Description
IC1220	C0JBAS000215	LOGIC IC
IC1500	C0EBE0000120	I.C. RESET
IC1501	C5ZBZ0000037	AUDIO/VIDEO PROCESSOR
IC2350	C1BB00000947	AUDIO AMPLIFIER
IC3801	C0DBAYY00372	REGULATOR
IC3806	C0DBAYY00372	REGULATOR
IC3808	C0CBCAD00082	REGULATOR
IC3809	AN78L08M-E1	REGULATOR
IC3810	C0DBEYY00084	IC FOR POWER SUPPLY
IC3812	C0EBH0000298	VOLTAGE DETECTING IC
IC3813	C0DBZYY00284	REGULATOR
IC5001	GLP23AEDID1	EEPROM EDID
IC5002	GLP23AEDID2	EEPROM EDID
IC5003	C1AB00002848	HDMI RECEIVER
RM2501	PNA4701M05TV	LED RECEIVER
SN2551	B3JB00000046	PHOTO IC DIODE
DIODES		
D271	MA22D3900L	DIODE
D272	B0ACCK000015	DIODE
D273	B0ACCK000015	DIODE
D301	B0ACCK000015	DIODE
D302	MA22D3900L	DIODE
D303	B0ACCK000015	DIODE
D1101	MA24D5000B	DIODE
D1102	MA24D5000B	DIODE
D1201	MA2J72800L	DIODE
D1503	MAZ80820ML	DIODE
D2501	B3CKE0000007	DIODE
D3808	MA24D5000B	DIODE
D3813	MAZ80510ML	ZENER DIODE
D3851	MA2J11100L	DIODE
D3852	MA2J11100L	DIODE
D3853	MA2J11100L	DIODE
D3854	MA2J11100L	DIODE
D3855	MA2J11100L	DIODE
D3856	MA2J11100L	DIODE
D3861	MA24D5000B	DIODE
D3863	MA22F2000L	DIODE
D3864	MA22F2000L	DIODE
D3865	MAZ81500ML	DIODE
D3866	MAZ81500ML	DIODE
D3867	MA22D3900L	DIODE
D3869	MA24D5000B	DIODE
D3874	MA3X152E0L	DIODE
D3875	MA3X152E0L	DIODE
D3876	MAZ82700ML	DIODE
D3877	MAZ81800ML	DIODE
D3878	MAZ80820ML	DIODE

Cct Ref	Parts Number	Description
D3879	MAZ81300HL	ZENER DIODE
D3880	MA2J11100L	DIODE
D3881	MA2J11100L	DIODE
D3882	MA2J11100L	DIODE
D3883	MAZ802400L	DIODE
D3884	MAZ80470LL	ZENER DIODE
D3885	MAZ80330LL	ZENER DIODE
D3886	MA3X152E0L	DIODE
D3887	MA2J11100L	DIODE
D3888	MAZ80560HL	ZENER DIODE
D3890	MA22D3900L	DIODE
D5000	MA22D3900L	DIODE
D5001	MA2J11100L	DIODE
D5003	MA22D3900L	DIODE
D5004	MA2J11100L	DIODE
D5006	MAZ30560ML	DIODE
D5007	MAZ30560ML	DIODE
D5010	EZJZ0V80008B	VARISTOR
D5011	EZJZ0V80008B	VARISTOR
D5012	EZJZ0V80008B	VARISTOR
D5013	EZJZ0V80008B	VARISTOR
D5016	EZJZ0V80008B	VARISTOR
D5017	EZJZ0V80008B	VARISTOR
D5018	EZJZ0V80008B	VARISTOR
D5019	EZJZ0V80008B	VARISTOR
D5020	EZJZ0V80008B	VARISTOR
D5021	EZJZ0V80008B	VARISTOR
D5022	EZJZ0V80008B	VARISTOR
D5023	EZJZ0V80008B	VARISTOR
D5024	EZJZ0V80008B	VARISTOR
D5025	EZJZ0V80008B	VARISTOR
D5026	EZJZ0V80008B	VARISTOR
D5027	EZJZ0V80008B	VARISTOR
D5028	EZJZ0V80008B	VARISTOR
D5029	EZJZ0V80008B	VARISTOR
D5030	EZJZ0V80008B	VARISTOR
D5031	EZJZ0V80008B	VARISTOR
D5032	MA2J11100L	DIODE
D5033	MA2J11100L	DIODE
TRANSISTORS		
Q123	BC847B	TRANSISTOR
Q254	BC847B	TRANSISTOR
Q272	B1ADCE000023	TRANSISTOR
Q276	BC847B	TRANSISTOR
Q277	BC847B	TRANSISTOR
Q1100	B1CFGG000007	TRANSISTOR
Q1101	B1CFGG000007	TRANSISTOR
Q1130	B1HFCFA000037	TRANSISTOR
Q1207	BC847B	TRANSISTOR
Q1208	BC847B	TRANSISTOR
Q1209	BC847B	TRANSISTOR
Q1217	B1ADCE000023	TRANSISTOR
Q1221	BC847B	TRANSISTOR
Q1222	BC847B	TRANSISTOR
Q1229	BC847B	TRANSISTOR
Q1230	BC847B	TRANSISTOR
Q1231	BC847B	TRANSISTOR
Q1232	BC847B	TRANSISTOR
Q1721	B1CFGG000007	TRANSISTOR
Q2504	2SD601ATX	TRANSISTOR
Q2505	2SB0709ASL	TRANSISTOR
Q2506	2SB0709ASL	TRANSISTOR
Q3201	B1ADCE000023	TRANSISTOR
Q3202	B1ADCE000023	TRANSISTOR
Q3204	BC847B	TRANSISTOR
Q3205	BC847B	TRANSISTOR
Q3803	B1DHDC000028	TRANSISTOR

Cct Ref	Parts Number	Description
Q3804	BC847B	TRANSISTOR
Q3805	B1DHCC000024	TRANSISTOR
Q3813	B1DHCC000024	TRANSISTOR
Q3818	BC847B	TRANSISTOR
Q3820	BC847B	TRANSISTOR
Q3821	BC847B	TRANSISTOR
Q3822	BC847B	TRANSISTOR
Q3823	B1ADCE000023	TRANSISTOR
Q3824	2SD0601ASL	TRANSISTOR
Q3825	2SB0709ASL	TRANSISTOR
Q3826	BC847B	TRANSISTOR
Q3827	B1DHDC000028	TRANSISTOR
Q3828	2SD0601ASL	TRANSISTOR
Q3829	2SB0709ASL	TRANSISTOR
Q3831	BC847B	TRANSISTOR
Q3832	BC847B	TRANSISTOR
Q5000	B1MBACA00008	TRANSISTOR
Q5001	2SK122800L	TRANSISTOR
Q5002	B1CFGG000007	TRANSISTOR
Q5003	B1MBACA00008	TRANSISTOR
Q5004	2SK122800L	TRANSISTOR
Q5005	B1CFGG000007	TRANSISTOR
Q5007	B1CFGG000007	TRANSISTOR
Q5008	B1CFGG000007	TRANSISTOR
Q5011	BC847B	TRANSISTOR
Q5012	BC847B	TRANSISTOR
COILS		
L101	ELJFC2R2KFB	COIL
L102	ELJFC2R2KFB	COIL
L103	TALV35VB100K	COIL
L250	G1C330MA0291	INDUCTOR
L251	G1C330MA0291	INDUCTOR
L253	JOJHC0000034	COIL
L254	JOJHC0000034	COIL
L255	JOJHC0000034	COIL
L256	JOJHC0000034	COIL
L257	G1C330MA0291	INDUCTOR
L258	G1C330MA0291	INDUCTOR
L335	JOJHC0000078	COIL
L336	JOJHC0000078	COIL
L337	JOJHC0000015	COIL
L1100	ELJFC2R2KFB	COIL
L1101	ELJFC2R2KFB	COIL
L1500A	JOJHC0000078	COIL
L1501A	JOJHC0000078	COIL
L1502A	JOJHC0000078	COIL
L1503A	JOJHC0000078	COIL
L1504A	JOJHC0000078	COIL
L1505A	JOJHC0000078	COIL
L1506A	JOJHC0000078	COIL
L1507A	JOJHC0000078	COIL
L1509A	JOJHC0000078	COIL
L1514A	JOJHC0000078	COIL
L1515A	JOJHC0000078	COIL
L1518	JOJHC0000078	COIL
L1519	JOJHC0000078	COIL
L1520	JOJHC0000078	COIL
L1721	JOJHC0000078	COIL
L1722	JOJHC0000078	COIL
L1723	JOJHC0000078	COIL
L1724	JOJHC0000078	COIL
L1725	JOJHC0000078	COIL
L2350A	JOJHC0000078	COIL
L3700	JOJCC0000100	INDUCTOR
L3701	JOJCC0000100	INDUCTOR
L3702	JOJCC0000364	INDUCTOR
L3703	JOJCC0000364	INDUCTOR

Cct Ref	Parts Number	Description
L3801	ELL6SH100ME	COIL
L3802	J0JHC0000078	COIL
L3803	J0JHC0000078	COIL
L3804	J0JHC0000078	COIL
L3807	ELL6SH100ME	COIL
L3808	J0JCC0000241	INDUCTOR
L3809	J0JHC0000045	COIL BLM18PG121SN1D
L3810	J0JHC0000045	COIL BLM18PG121SN1D
L3812	GOA100ZA0041	COIL
L5003	J0JHC0000034	COIL
L5004	J0JHC0000034	COIL
L5005	J0JHC0000034	COIL
L5006	J0JHC0000034	COIL
L5007	J0JHC0000045	COIL BLM18PG121SN1D
L5008	J0JHC0000045	COIL BLM18PG121SN1D
L5010	J0JHC0000045	COIL BLM18PG121SN1D
L5012	J0JHC0000045	COIL BLM18PG121SN1D
L5013	J0JCC0000166	COIL
CRYSTALS		
X1500	H1Z2025A0001	CRYSTAL
X5000	H0J283500018	CRYSTAL
RESISTORS		
JS2502	D0GBR00Z0002	SMD 0.1W - 0 Ω
JSA250	ERJ6GEY0R00	S.M.CARB 0.1W - 0 Ω
JSA251	ERJ6GEY0R00	S.M.CARB 0.1W - 0 Ω
JSA254	ERJ6GEY0R00	S.M.CARB 0.1W - 0 Ω
JSA255	ERJ6GEY0R00	S.M.CARB 0.1W - 0 Ω
JSA258	ERJ6GEY0R00	S.M.CARB 0.1W - 0 Ω
JSA259	ERJ6GEY0R00	S.M.CARB 0.1W - 0 Ω
JSA276	D0GBR00Z0002	SMD 0.1W - 0 Ω
JSA3071	D0GBR00Z0002	SMD 0.1W - 0 Ω
JSA3072	D0GBR00Z0002	SMD 0.1W - 0 Ω
JSA3073	D0GBR00Z0002	SMD 0.1W - 0 Ω
JSA3074	D0GBR00Z0002	SMD 0.1W - 0 Ω
R124	ERJ3GEYJ223V	S.M.CARB 0.1W 5% 22K Ω
R127	D0GBR00Z0002	SMD 0.1W - 0 Ω
R128	D0GBR00Z0002	SMD 0.1W - 0 Ω
R132	D0GB101JA041	SMD 0.1W 5% 100 Ω
R133	D0GB102JA041	SMD 0.1W 5% 1K Ω
R135	D0GBR00Z0002	SMD 0.1W - 0 Ω
R136	D0GBR00Z0002	SMD 0.1W - 0 Ω
R222	ERJ6GEYJ221	S.M.CARB 0.1W 5% 220 Ω
R228	ERJ3GEYJ473V	S.M.CARB 0.1W 5% 47K Ω
R229	D0GB103JA041	SMD 0.1W 5% 10K Ω
R250	D0GB103JA041	SMD 0.1W 5% 10K Ω
R252	D0GB103JA041	SMD 0.1W 5% 10K Ω
R254	ERJ3GEYJ473V	S.M.CARB 0.1W 5% 47K Ω
R265	ERJ3GEYJ471	SMD 0.1W 5% 470 Ω
R266	ERJ3GEYJ471	SMD 0.1W 5% 470 Ω
R267	D0GB104JA041	SMD 0.1W 5% 100K Ω
R268	D0GB104JA041	SMD 0.1W 5% 100K Ω
R273	ERJ3GEYJ223V	S.M.CARB 0.1W 5% 22K Ω
R274	ERJ3GEY0R00	SMD 0.1W - 0 Ω
R277	D0GB102JA041	SMD 0.1W 5% 1K Ω
R308	D0GB104JA041	SMD 0.1W 5% 100K Ω
R309	D1BB2202A055	SMD 0.1W 1% 22K Ω
R310	D1BB2202A055	SMD 0.1W 1% 22K Ω
R313	D1BB6042A055	SMD 0.1W 1% 60K4 Ω
R324	D0GB104JA041	SMD 0.1W 5% 100K Ω
R325	ERJ3GEYJ333V	SMD 0.1W 5% 33K Ω
R326	D0GB102JA041	SMD 0.1W 5% 1K Ω
R327	D0GB104JA041	SMD 0.1W 5% 100K Ω
R328	ERJ3GEYJ153V	S.M.CARB 0.1W 5% 15K Ω
R329	D0GB103JA041	SMD 0.1W 5% 10K Ω
R330	ERJ3GEYJ472	SMD 0.1W 5% 4K7 Ω
R332	D0GB104JA041	SMD 0.1W 5% 100K Ω
R340	ERJ3GEYJ472	SMD 0.1W 5% 4K7 Ω

Cct Ref	Parts Number	Description
R1102	D0GB101JA041	SMD 0.1W 5% 100 Ω
R1103	ERJ3GEYJ472	SMD 0.1W 5% 4K7 Ω
R1104	D0GB101JA041	SMD 0.1W 5% 100 Ω
R1105	ERJ3GEYJ472	SMD 0.1W 5% 4K7 Ω
R1106	ERJ3GEYJ822	SMD 0.1W 5% 8K2 Ω
R1107	ERJ3GEYJ822	SMD 0.1W 5% 8K2 Ω
R1120	D0GB101JA041	SMD 0.1W 5% 100 Ω
R1121	D0GB101JA041	SMD 0.1W 5% 100 Ω
R1122	D0GB101JA041	SMD 0.1W 5% 100 Ω
R1123	D0GB104JA041	SMD 0.1W 5% 100K Ω
R1124	D0GB104JA041	SMD 0.1W 5% 100K Ω
R1131	ERJ3GEYJ103	SMD 0.1W 5% 10K Ω
R1132	ERJ3GEYJ273	SMD 0.1W 5% 27K Ω
R1133	ERJ3GEYJ103	SMD 0.1W 5% 10K Ω
R1134	ERJ3GEYJ273	SMD 0.1W 5% 27K Ω
R1135	ERJ3GEYJ222	SMD 0.1W 5% 2K2 Ω
R1142	ERJ3GEYJ472	SMD 0.1W 5% 4K7 Ω
R1143	D0GB101JA041	SMD 0.1W 5% 100 Ω
R1144	D0GB101JA041	SMD 0.1W 5% 100 Ω
R1145	D0GB101JA041	SMD 0.1W 5% 100 Ω
R1216	ERJ3GEYJ474	SMD 0.1W 5% 470K Ω
R1231	D0GB103JA041	SMD 0.1W 5% 10K Ω
R1233	ERJ3GEYJ473V	S.M.CARB 0.1W 5% 47K Ω
R1234	ERJ3GEYJ472	SMD 0.1W 5% 4K7 Ω
R1235	ERJ3GEYJ273	SMD 0.1W 5% 27K Ω
R1236	D0GB101JA041	SMD 0.1W 5% 100 Ω
R1237	ERJ3GEYJ472	SMD 0.1W 5% 4K7 Ω
R1238	ERJ3GEYJ224V	S.M.CARB 0.1W 5% 220K Ω
R1239	D0GB104JA041	SMD 0.1W 5% 100K Ω
R1249	ERJ3GEYJ225	SMD 0.1W 5% 2M2 Ω
R1250	ERJ3GEYJ333V	SMD 0.1W 5% 33K Ω
R1251	D0GB104JA041	SMD 0.1W 5% 100K Ω
R1252	ERJ3GEYJ683	SMD 0.1W 5% 68K Ω
R1256	D0GB104JA041	SMD 0.1W 5% 100K Ω
R1257	ERJ3GEYJ223V	S.M.CARB 0.1W 5% 22K Ω
R1263	ERJ3GEYJ472	SMD 0.1W 5% 4K7 Ω
R1264	ERJ3GEYJ473V	S.M.CARB 0.1W 5% 47K Ω
R1265	ERJ3GEYJ225	SMD 0.1W 5% 2M2 Ω
R1266	D0GB104JA041	SMD 0.1W 5% 100K Ω
R1267	ERJ3GEYJ224V	S.M.CARB 0.1W 5% 220K Ω
R1268	D1BB2702A055	CHIP RES 0.1W 1% 27K Ω
R1269	D0GB104JA041	SMD 0.1W 5% 100K Ω
R1270	ERJ3GEYJ221	SMD 0.1W 5% 220 Ω
R1271	ERJ3GEYJ223V	S.M.CARB 0.1W 5% 22K Ω
R1297	ERJ3GEYJ334	SMD 0.1W 5% 330K Ω
R1298	ERJ3GEYJ472	SMD 0.1W 5% 4K7 Ω
R1500	D0GB101JA041	SMD 0.1W 5% 100 Ω
R1501	ERJ8GEYJ750	SMD 0.25W 5% 75 Ω
R1502	ERJ3GEYJ750	SMD 0.1W 5% 75 Ω
R1503	D0GB101JA041	SMD 0.1W 5% 100 Ω
R1504	D0GB101JA041	SMD 0.1W 5% 100 Ω
R1505	ERJ3GEYJ123	SMD 0.1W 5% 12K Ω
R1506	ERJ3GEYJ123	SMD 0.1W 5% 12K Ω
R1507	ERJ8GEYJ750	SMD 0.25W 5% 75 Ω
R1512	ERJ6GEYJ750	S.M.CARB 0.1W 5% 75 Ω
R1513	ERJ3GEYJ302V	SMD 0.1W 5% 3K Ω
R1514	ERJ6GEYJ750	S.M.CARB 0.1W 5% 75 Ω
R1515	ERJ3GEYJ302V	SMD 0.1W 5% 3K Ω
R1516	D0GB101JA041	SMD 0.1W 5% 100 Ω
R1517	D0GB101JA041	SMD 0.1W 5% 100 Ω
R1518	ERJ3GEYJ750	SMD 0.1W 5% 75 Ω
R1521	EXB2HV101JV	SMD .063W 5% 100 Ω
R1527	ERJ3GEYJ750	SMD 0.1W 5% 75 Ω
R1528	ERJ6GEYJ750	S.M.CARB 0.1W 5% 75 Ω
R1529	D0GB101JA041	SMD 0.1W 5% 100 Ω
R1530	ERJ3GEYJ682	SMD 0.1W 5% 6K8 Ω
R1531	ERJ6GEYJ750	S.M.CARB 0.1W 5% 75 Ω
R1532	ERJ6GEYJ750	S.M.CARB 0.1W 5% 75 Ω

Cct Ref	Parts Number	Description			
R1533	D0GB101JA041	SMD	0.1W	5%	100 Ω
R1536	D0GBR00Z0002	SMD	0.1W	-	0 Ω
R1537	D0GB101JA041	SMD	0.1W	5%	100 Ω
R1540	EXB38V101JV	CHIP RES	.063W	5%	100 Ω
R1542	ERJ3GEYJ472	SMD	0.1W	5%	4K7 Ω
R1544	ERJ3GEYJ472	SMD	0.1W	5%	4K7 Ω
R1545	D0GB101JA041	SMD	0.1W	5%	100 Ω
R1546	D0GB101JA041	SMD	0.1W	5%	100 Ω
R1548	D0GB101JA041	SMD	0.1W	5%	100 Ω
R1549	ERJ6GEYJ622	S.M.CARB	0.1W	5%	6K2 Ω
R1556	EXB2HV101JV	SMD	.063W	5%	100 Ω
R1568	D0GB101JA041	SMD	0.1W	5%	100 Ω
R1569	D0GB101JA041	SMD	0.1W	5%	100 Ω
R1579	D0GB103JA041	SMD	0.1W	5%	10K Ω
R1580	D0GB103JA041	SMD	0.1W	5%	10K Ω
R1592	ERJ3GEYJ330	SMD	0.1W	5%	33 Ω
R1593	ERJ3GEYJ330	SMD	0.1W	5%	33 Ω
R1595	ERJ3GEYJ472	SMD	0.1W	5%	4K7 Ω
R1600	ERJ3GEYJ472	SMD	0.1W	5%	4K7 Ω
R1601	ERJ3GEYJ330	SMD	0.1W	5%	33 Ω
R1602	ERJ3GEYJ330	SMD	0.1W	5%	33 Ω
R1603	ERJ3GEYJ330	SMD	0.1W	5%	33 Ω
R1605	D0GB103JA041	SMD	0.1W	5%	10K Ω
R1606	D0GB103JA041	SMD	0.1W	5%	10K Ω
R1607	D0GB103JA041	SMD	0.1W	5%	10K Ω
R1608	D0GB103JA041	SMD	0.1W	5%	10K Ω
R1609	ERJ3GEYJ151	SMD	0.1W	5%	150 Ω
R1610	ERJ3GEYJ151	SMD	0.1W	5%	150 Ω
R1611	ERJ3GEYJ151	SMD	0.1W	5%	150 Ω
R1612	ERJ3GEYJ151	SMD	0.1W	5%	150 Ω
R1613	ERJ3GEYJ151	SMD	0.1W	5%	150 Ω
R1614	ERJ3GEYJ151	SMD	0.1W	5%	150 Ω
R1615	D0GB101JA041	SMD	0.1W	5%	100 Ω
R1616	D0GB101JA041	SMD	0.1W	5%	100 Ω
R1617	D0GB101JA041	SMD	0.1W	5%	100 Ω
R1618	D0GB101JA041	SMD	0.1W	5%	100 Ω
R1619	D0GB103JA041	SMD	0.1W	5%	10K Ω
R1624	D0GB102JA041	SMD	0.1W	5%	1K Ω
R1625	D0GB102JA041	SMD	0.1W	5%	1K Ω
R1626	D0GB102JA041	SMD	0.1W	5%	1K Ω
R1627	D0GB103JA041	SMD	0.1W	5%	10K Ω
R1628	D0GB103JA041	SMD	0.1W	5%	10K Ω
R1701	D0GBR00Z0002	SMD	0.1W	-	0 Ω
R1715	D0GB104JA041	SMD	0.1W	5%	100K Ω
R1724	ERJ3GEYJ222	SMD	0.1W	5%	2K2 Ω
R1729	ERJ3GEYJ472	SMD	0.1W	5%	4K7 Ω
R1765	EXB24VR000X	SMD	0W	-	0 Ω
R1766	EXB24VR000X	SMD	0W	-	0 Ω
R1767	EXB24VR000X	SMD	0W	-	0 Ω
R1768	EXB24VR000X	SMD	0W	-	0 Ω
R1769	EXB24VR000X	SMD	0W	-	0 Ω
R2323	D0GB104JA041	SMD	0.1W	5%	100K Ω
R2324	D0GB104JA041	SMD	0.1W	5%	100K Ω
R2351	ERJ3GEYJ681V	SMD	0.1W	5%	680 Ω
R2352	ERJ3GEYJ681V	SMD	0.1W	5%	680 Ω
R2353	D0GB101JA041	SMD	0.1W	5%	100 Ω
R2354	D0GB101JA041	SMD	0.1W	5%	100 Ω
R2355	ERJ3GEYJ153V	S.M.CARB	0.1W	5%	15K Ω
R2356	D0GB104JA041	SMD	0.1W	5%	100K Ω
R2357	D0GB104JA041	SMD	0.1W	5%	100K Ω
R2358	ERJ3GEYJ153V	S.M.CARB	0.1W	5%	15K Ω
R2359	ERJ3GEYJ153V	S.M.CARB	0.1W	5%	15K Ω
R2360	ERJ8GEYJ151V	SMD	0.25W	5%	150 Ω
R2361	ERJ8GEYJ151V	SMD	0.25W	5%	150 Ω
R2503	ERJ6GEYJ821	S.M.CARB	0.1W	5%	820 Ω
R2504	ERJ6GEYJ561	S.M.CARB	0.1W	5%	560 Ω
R2513	ERJ8GEYJ470V	SMD	0.25W	5%	47 Ω
R2514	ERJ6GEYJ223	S.M.CARB	0.1W	5%	22K Ω

Cct Ref	Parts Number	Description			
R2515	ERJ6GEYJ224	S.M.CARB	0.1W	5%	220K Ω
R2516	ERJ6GEYJ473	S.M.CARB	0.1W	5%	47K Ω
R2517	ERJ6GEYJ563	S.M.CARB	0.1W	5%	56K Ω
R2518	ERJ6GEYJ563	S.M.CARB	0.1W	5%	56K Ω
R2519	ERJ6GEY0R00	S.M.CARB	0.1W	-	0 Ω
R2520	ERJ6GEY0R00	S.M.CARB	0.1W	-	0 Ω
R2523	D0GD103JA036	SMD	.125W	5%	10K Ω
R2525	D0GD103JA036	SMD	.125W	5%	10K Ω
R2551	D0GB101JA041	SMD	0.1W	5%	100 Ω
R2552	D0GB104JA041	SMD	0.1W	5%	100K Ω
R2553	ERJ6GEYJ470	S.M.CARB	0.1W	5%	47 Ω
R3000	D0GB101JA041	SMD	0.1W	5%	100 Ω
R3001	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75 Ω
R3007	ERJ3GEYJ563V	S.M.CARB	0.1W	5%	56K Ω
R3008	ERJ3GEYJ563V	S.M.CARB	0.1W	5%	56K Ω
R3009	D0GB104JA041	SMD	0.1W	5%	100K Ω
R3010	D0GB104JA041	SMD	0.1W	5%	100K Ω
R3011	D0GB101JA041	SMD	0.1W	5%	100 Ω
R3012	D0GB101JA041	SMD	0.1W	5%	100 Ω
R3021	ERJ3GEYJ563V	S.M.CARB	0.1W	5%	56K Ω
R3022	D0GB101JA041	SMD	0.1W	5%	100 Ω
R3023	ERJ3GEYJ563V	S.M.CARB	0.1W	5%	56K Ω
R3024	D0GB101JA041	SMD	0.1W	5%	100 Ω
R3050	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75 Ω
R3053	ERJ3GEYJ563V	S.M.CARB	0.1W	5%	56K Ω
R3055	ERJ3GEYJ563V	S.M.CARB	0.1W	5%	56K Ω
R3057	D0GB101JA041	SMD	0.1W	5%	100 Ω
R3058	D0GB104JA041	SMD	0.1W	5%	100K Ω
R3059	D0GB101JA041	SMD	0.1W	5%	100 Ω
R3060	D0GB104JA041	SMD	0.1W	5%	100K Ω
R3061	D0GBR00Z0002	SMD	0.1W	-	0 Ω
R3062	D0GBR00Z0002	SMD	0.1W	-	0 Ω
R3063	D0GBR00Z0002	SMD	0.1W	-	0 Ω
R3069	D0GB101JA041	SMD	0.1W	5%	100 Ω
R3070	D0GB101JA041	SMD	0.1W	5%	100 Ω
R3075	D0GBR00Z0002	SMD	0.1W	-	0 Ω
R3076	D0GBR00Z0002	SMD	0.1W	-	0 Ω
R3077	D0GBR00Z0002	SMD	0.1W	-	0 Ω
R3078	D0GBR00Z0002	SMD	0.1W	-	0 Ω
R3204	ERJ3GEYJ221	SMD	0.1W	5%	220 Ω
R3205	ERJ3GEYJ221	SMD	0.1W	5%	220 Ω
R3208	ERJ3GEYJ152	SMD	0.1W	5%	1K5 Ω
R3209	ERJ3GEYJ221	SMD	0.1W	5%	220 Ω
R3210	ERJ3GEYJ152	SMD	0.1W	5%	1K5 Ω
R3211	ERJ3GEYJ221	SMD	0.1W	5%	220 Ω
R3214	ERJ3GEYJ123	SMD	0.1W	5%	12K Ω
R3215	ERJ3GEYJ682	SMD	0.1W	5%	6K8 Ω
R3216	ERJ3GEYJ123	SMD	0.1W	5%	12K Ω
R3217	ERJ3GEYJ682	SMD	0.1W	5%	6K8 Ω
R3400	D0GBR00Z0002	SMD	0.1W	-	0 Ω
R3403	D0GBR00Z0002	SMD	0.1W	-	0 Ω
R3405	D0GBR00Z0002	SMD	0.1W	-	0 Ω
R3406	ERJ3GEYJ750	SMD	0.1W	5%	75 Ω
R3407	ERJ3GEYJ750	SMD	0.1W	5%	75 Ω
R3408	ERJ3GEYJ750	SMD	0.1W	5%	75 Ω
R3409	ERJ3GEYJ750	SMD	0.1W	5%	75 Ω
R3410	ERJ3GEYJ750	SMD	0.1W	5%	75 Ω
R3411	ERJ3GEYJ750	SMD	0.1W	5%	75 Ω
R3507	D0GB101JA041	SMD	0.1W	5%	100 Ω
R3700	ERJ6GEYJ393	S.M.CARB	0.1W	5%	39K Ω
R3701	ERJ6GEYJ393	S.M.CARB	0.1W	5%	39K Ω
R3702	ERJ6GEYJ184	S.M.CARB	0.1W	5%	180K Ω
R3703	ERJ6GEYJ184	S.M.CARB	0.1W	5%	180K Ω
R3807	ERJ3GEYJ334	SMD	0.1W	5%	330K Ω
R3808	ERJ6RED204V	SMD	0.1W	0.5	200K Ω
R3809	ERJ6RED244V	SMD	0.1W	0.5	240K Ω
R3828	ERJ3GEYJ180	SMD	0.1W	5%	18 Ω
R3833	D0GB103JA041	SMD	0.1W	5%	10K Ω

Cct Ref	Parts Number	Description			
R3858	ERJ3GEYJ180	SMD	0.1W	5%	18 Ω
R3860	ERJ3GEYJ821	SMD	0.1W	5%	820 Ω
R3861	ERJ3GEYJ272	SMD	0.1W	5%	2K7 Ω
R3864	ERJ3GEYJ153V	S.M.CARB	0.1W	5%	15K Ω
R3865	ERJ3GEYJ153V	S.M.CARB	0.1W	5%	15K Ω
R3868	ERJ3GEYJ334	SMD	0.1W	5%	330K Ω
R3869	ERJ3RBD104V	SMD	.063W	0.5	100K Ω
R3870	ERJ3RBD433V	SMD	.063W	0.5	43K Ω
R3871	ERJ8GEY0R00	S.M.CARB	.125W	-	0 Ω
R3878	ERJ6GEYJ242	S.M.CARB	0.1W	5%	2K4 Ω
R3884	ERJ3EKF1302V	SMD	0.1W	1%	13K Ω
R3885	ERJ3EKF1503V	SMD	0.1W	1%	150K Ω
R3886	ERJ3EKF1503V	SMD	0.1W	1%	150K Ω
R3887	ERJ3GEYJ563V	S.M.CARB	0.1W	5%	56K Ω
R3888	D0GD103JA036	SMD	.125W	5%	10K Ω
R3890	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7 Ω
R3891	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7 Ω
R3894	ERJ3GEYJ473V	S.M.CARB	0.1W	5%	47K Ω
R3895	D0GB101JA041	SMD	0.1W	5%	100 Ω
R3896	D0GB103JA041	SMD	0.1W	5%	10K Ω
R3897	D0GB103JA041	SMD	0.1W	5%	10K Ω
R3898	D0GB103JA041	SMD	0.1W	5%	10K Ω
R3899	ERJ3GEYJ333V	SMD	0.1W	5%	33K Ω
R3900	ERJ3GEYJ153V	S.M.CARB	0.1W	5%	15K Ω
R3901	ERJ3GEYJ153V	S.M.CARB	0.1W	5%	15K Ω
R3902	ERJ3GEYJ473V	S.M.CARB	0.1W	5%	47K Ω
R3903	ERJ3GEYJ153V	S.M.CARB	0.1W	5%	15K Ω
R3905	ERJ3GEYJ472	SMD	0.1W	5%	4K7 Ω
R3908	D0GB222JA041	SMD	0.1W	5%	2K2 Ω
R3910	D0GB222JA041	SMD	0.1W	5%	2K2 Ω
R3912	D0GB102JA041	SMD	0.1W	5%	1K Ω
R3913	ERJ3GEYJ472	SMD	0.1W	5%	4K7 Ω
R3914	ERJ3GEYJ472	SMD	0.1W	5%	4K7 Ω
R3915	ERJ3GEYJ472	SMD	0.1W	5%	4K7 Ω
R3916	ERJ3GEYJ472	SMD	0.1W	5%	4K7 Ω
R3917	D0GB102JA041	SMD	0.1W	5%	1K Ω
R3918	ERJ3GEYJ472	SMD	0.1W	5%	4K7 Ω
R3919	ERJ3GEYJ472	SMD	0.1W	5%	4K7 Ω
R3920	ERJ3GEYJ472	SMD	0.1W	5%	4K7 Ω
R3921	ERJ3GEYJ472	SMD	0.1W	5%	4K7 Ω
R3922	D0GB102JA041	SMD	0.1W	5%	1K Ω
R3923	D0GB102JA041	SMD	0.1W	5%	1K Ω
R3924	ERJ3GEYJ473V	S.M.CARB	0.1W	5%	47K Ω
R3925	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470 Ω
R3926	D0GB103JA041	SMD	0.1W	5%	10K Ω
R3927	ERJ3GEYJ472	SMD	0.1W	5%	4K7 Ω
R3929	ERJ3GEYJ273	SMD	0.1W	5%	27K Ω
R3930	ERJ3GEYJ273	SMD	0.1W	5%	27K Ω
R3933	ERJ3GEYJ103	SMD	0.1W	5%	10K Ω
R3934	ERJ3GEYJ822	SMD	0.1W	5%	8K2 Ω
R3935	ERJ3GEYJ333V	SMD	0.1W	5%	33K Ω
R3936	ERJ3GEYJ471	SMD	0.1W	5%	470 Ω
R3937	ERJ3GEYJ912V	SMD	0.1W	5%	9K1 Ω
R3940	D0GBR00Z0002	SMD	0.1W	-	0 Ω
R3942	D0GBR00Z0002	SMD	0.1W	-	0 Ω
R3943	D0GD103JA036	SMD	.125W	5%	10K Ω
R5001	ERJ3GEYJ473V	S.M.CARB	0.1W	5%	47K Ω
R5002	ERJ3GEYJ220	SMD	0.1W	5%	22 Ω
R5003	ERJ3GEYJ220	SMD	0.1W	5%	22 Ω
R5004	ERJ3GEYJ472	SMD	0.1W	5%	4K7 Ω
R5005	ERJ3GEYJ472	SMD	0.1W	5%	4K7 Ω
R5006	ERJ3GEYJ472	SMD	0.1W	5%	4K7 Ω
R5008	ERJ3GEYJ220	SMD	0.1W	5%	22 Ω
R5009	D0GB102JA041	SMD	0.1W	5%	1K Ω
R5010	ERJ3GEYJ203V	SMD	0.1W	5%	20K Ω
R5013	ERJ3GEYJ472	SMD	0.1W	5%	4K7 Ω
R5015	ERJ3GEYJ473V	S.M.CARB	0.1W	5%	47K Ω
R5016	ERJ3GEYJ220	SMD	0.1W	5%	22 Ω

Cct Ref	Parts Number	Description			
R5017	ERJ3GEYJ220	SMD	0.1W	5%	22 Ω
R5018	ERJ3GEYJ472	SMD	0.1W	5%	4K7 Ω
R5019	ERJ3GEYJ472	SMD	0.1W	5%	4K7 Ω
R5020	ERJ3GEYJ472	SMD	0.1W	5%	4K7 Ω
R5022	ERJ3GEYJ220	SMD	0.1W	5%	22 Ω
R5023	D0GB102JA041	SMD	0.1W	5%	1K Ω
R5024	ERJ3GEYJ203V	SMD	0.1W	5%	20K Ω
R5027	ERJ3GEYJ472	SMD	0.1W	5%	4K7 Ω
R5028	ERJ3GEYJ220	SMD	0.1W	5%	22 Ω
R5030	ERJ3GEYJ220	SMD	0.1W	5%	22 Ω
R5031	ERJ3GEY0R00	SMD	0.1W	-	0 Ω
R5032	ERJ3GEY0R00	SMD	0.1W	-	0 Ω
R5033	ERJ2GEJ2R7X	SMD	.063W	5%	2R7 Ω
R5034	ERJ2GEJ2R7X	SMD	.063W	5%	2R7 Ω
R5035	ERJ2GEJ2R7X	SMD	.063W	5%	2R7 Ω
R5036	ERJ2GEJ2R7X	SMD	.063W	5%	2R7 Ω
R5037	ERJ2GEJ2R7X	SMD	.063W	5%	2R7 Ω
R5038	ERJ2GEJ2R7X	SMD	.063W	5%	2R7 Ω
R5039	ERJ2GEJ2R7X	SMD	.063W	5%	2R7 Ω
R5040	ERJ2GEJ2R7X	SMD	.063W	5%	2R7 Ω
R5041	ERJ2GEJ2R7X	SMD	.063W	5%	2R7 Ω
R5042	ERJ2GEJ2R7X	SMD	.063W	5%	2R7 Ω
R5043	ERJ2GEJ2R7X	SMD	.063W	5%	2R7 Ω
R5044	ERJ2GEJ2R7X	SMD	.063W	5%	2R7 Ω
R5045	ERJ2GEJ2R7X	SMD	.063W	5%	2R7 Ω
R5046	ERJ2GEJ2R7X	SMD	.063W	5%	2R7 Ω
R5047	ERJ2GEJ2R7X	SMD	.063W	5%	2R7 Ω
R5048	ERJ2GEJ2R7X	SMD	.063W	5%	2R7 Ω
R5049	D0GB101JA041	SMD	0.1W	5%	100 Ω
R5050	ERJ3GEYJ220	SMD	0.1W	5%	22 Ω
R5051	ERJ3GEYJ472	SMD	0.1W	5%	4K7 Ω
R5052	ERJ3GEYJ220	SMD	0.1W	5%	22 Ω
R5054	ERJ3GEYJ683	SMD	0.1W	5%	68K Ω
R5058	D0GB101JA041	SMD	0.1W	5%	100 Ω
R5059	ERJ3GEYJ472	SMD	0.1W	5%	4K7 Ω
R5060	ERJ3GEYJ220	SMD	0.1W	5%	22 Ω
R5061	ERJ3GEYJ220	SMD	0.1W	5%	22 Ω
R5066	ERJ3GEYJ272	SMD	0.1W	5%	2K7 Ω
R5067	ERJ3GEYJ272	SMD	0.1W	5%	2K7 Ω
R5068	D0GB103JA041	SMD	0.1W	5%	10K Ω
R5069	D0GB103JA041	SMD	0.1W	5%	10K Ω
R5070	D0GB103JA041	SMD	0.1W	5%	10K Ω
R5071	D0GB103JA041	SMD	0.1W	5%	10K Ω
R5072	ERJ3GEYJ220	SMD	0.1W	5%	22 Ω
R5073	ERJ3GEYJ220	SMD	0.1W	5%	22 Ω
R5074	ERJ3GEYJ220	SMD	0.1W	5%	22 Ω
R5075	ERJ3GEYJ220	SMD	0.1W	5%	22 Ω
R5076	ERJ3GEYJ220	SMD	0.1W	5%	22 Ω
R5077	ERJ3GEYJ220	SMD	0.1W	5%	22 Ω
R5080	EXB28V330JX	SMD	.031W	5%	33 Ω
R5085	D0GB105JA041	SMD	0.1W	5%	1M Ω
R5086	ERJ3GEYJ821	SMD	0.1W	5%	820 Ω
R5088	ERJ3GEYJ472	SMD	0.1W	5%	4K7 Ω
R5089	D0GB103JA041	SMD	0.1W	5%	10K Ω
R5090	D0GB102JA041	SMD	0.1W	5%	1K Ω
R5093	ERJ3GEYJ472	SMD	0.1W	5%	4K7 Ω
R5096	ERJ3GEYJ680	SMD	0.1W	5%	68 Ω
R5097	EXB2HV330JV	CHIP RES	.063W	5%	33 Ω
R5098	EXB2HV330JV	CHIP RES	.063W	5%	33 Ω
R5099	EXB2HV330JV	CHIP RES	.063W	5%	33 Ω
R5113	ERJ3GEYJ682	SMD	0.1W	5%	6K8 Ω
R5114	ERJ3GEYJ682	SMD	0.1W	5%	6K8 Ω
R5117	ERJ3GEYJ472	SMD	0.1W	5%	4K7 Ω
R5118	ERJ3GEYJ472	SMD	0.1W	5%	4K7 Ω
R5119	ERJ3GEYJ472	SMD	0.1W	5%	4K7 Ω
R5120	ERJ3GEYJ472	SMD	0.1W	5%	4K7 Ω
R5122	ERJ3GEYJ683	SMD	0.1W	5%	68K Ω
R5130	ERJ3GEYJ220	SMD	0.1W	5%	22 Ω

Cct Ref	Parts Number	Description			
CAPACITORS					
C100	F2A1A102A993	ELECT	10V	1000µF	
C103	F1H1H103A970	S.M.CAP	50V	10nF	
C104	F1H1H103A970	S.M.CAP	50V	10nF	
C110	F1H1H103A970	S.M.CAP	50V	10nF	
C120	F1H1H103A970	S.M.CAP	50V	10nF	
C121	F2A1HR33A776	ELECT	50V	0.33µF	
C131	F1H1E104A129	S.M.CAP	25V	100nF	
C238	F1H1E104A129	S.M.CAP	25V	100nF	
C250	ECJ1VB1C105K	SMD	16V	1000nF	
C251	ECJ1VB1C105K	SMD	16V	1000nF	
C252	F2A1E100A936	ELECT	25V	10µF	
C253	ECJ1VB1C105K	SMD	16V	1000nF	
C254	ECJ3YB1E106M	S.M.CAP	25V	10µF	
C255	F1H1E104A129	S.M.CAP	25V	100nF	
C256	F1J1E105A171	S.M.CAP	25V	1µF	
C257	F1H1E104A129	S.M.CAP	25V	100nF	
C258	F1H1E104A129	S.M.CAP	25V	100nF	
C259	F1H1E104A129	S.M.CAP	25V	100nF	
C260	F1H1E104A129	S.M.CAP	25V	100nF	
C263	F2A1H3R3A776	ELECT	50V	3.3µF	
C275	F2A1V331A985	ELECT	35V	330µF	
C283	ECJ3YB1E106M	S.M.CAP	25V	10µF	
C284	F1J1C474A194	S.M.CAP	16V	470nF	
C285	F1H1H223A970	S.M.CAP	50V	22nF	
C286	F1H1E104A129	S.M.CAP	25V	100nF	
C287	F1H1E104A129	S.M.CAP	25V	100nF	
C288	F1J1E105A171	S.M.CAP	25V	1µF	
C289	F1H1E104A129	S.M.CAP	25V	100nF	
C290	F1H1E104A129	S.M.CAP	25V	100nF	
C291	F1J1E105A171	S.M.CAP	25V	1µF	
C292	F1J1C474A194	S.M.CAP	16V	470nF	
C293	ECJ3YB1E106M	S.M.CAP	25V	10µF	
C294	F1H1E104A129	S.M.CAP	25V	100nF	
C295	F2A1E471B372	ELECT	25V	470µF	
C300	F1J1E105A171	S.M.CAP	25V	1µF	
C1207	ECJ2FB0J106M	S.M.CAP	6.3V	10µF	
C1211	F1H1H221A971	S.M.CAP	50V	220pF	
C1212	F1G1C104A116	S.M.CAP	16V	100nF	
C1223	F1H1A1050032	S.M.CAP	10V	1000nF	
C1224	F1H1H221A971	S.M.CAP	50V	220pF	
C1225	F1H1H221A971	S.M.CAP	50V	220pF	
C1259	F1G1C104A116	S.M.CAP	16V	100nF	
C1501	ECJ3YB1A106M	S.M.CAP	10V	10µF	
C1502	ECJ2FB0J106M	S.M.CAP	6.3V	10µF	
C1503	ECJ2FB0J106M	S.M.CAP	6.3V	10µF	
C1504	ECJ2FB0J106M	S.M.CAP	6.3V	10µF	
C1505	ECJ2FB0J106M	S.M.CAP	6.3V	10µF	
C1506	ECJ2FB0J106M	S.M.CAP	6.3V	10µF	
C1507	ECJ2FB0J106M	S.M.CAP	6.3V	10µF	
C1508	ECJ3YB1A106M	S.M.CAP	10V	10µF	
C1509	F1H1E104A129	S.M.CAP	25V	100nF	
C1510	F1H1E104A129	S.M.CAP	25V	100nF	
C1511	F1H1E104A129	S.M.CAP	25V	100nF	
C1512	F1H1E104A129	S.M.CAP	25V	100nF	
C1513	F1H1E104A129	S.M.CAP	25V	100nF	
C1514	F1H1E104A129	S.M.CAP	25V	100nF	
C1515	F1H1E104A129	S.M.CAP	25V	100nF	
C1516	F1H1E104A129	S.M.CAP	25V	100nF	
C1517	F1H1H102A970	S.M.CAP	50V	1nF	
C1518	F1H1E104A129	S.M.CAP	25V	100nF	
C1519	F1H1E104A129	S.M.CAP	25V	100nF	
C1520	F1H1H102A970	S.M.CAP	50V	1nF	
C1521	F1H1E104A129	S.M.CAP	25V	100nF	
C1522	F1H1E104A129	S.M.CAP	25V	100nF	
C1523	F1H1A1050032	S.M.CAP	10V	1000nF	
C1524	F1H1E104A129	S.M.CAP	25V	100nF	

Cct Ref	Parts Number	Description			
C1525	F1H1E104A129	S.M.CAP	25V	100nF	
C1526	F1H1E104A129	S.M.CAP	25V	100nF	
C1527	F1H1E104A129	S.M.CAP	25V	100nF	
C1529	F1H1A1050032	S.M.CAP	10V	1000nF	
C1530	F1H1E104A129	S.M.CAP	25V	100nF	
C1532	F1H1E104A129	S.M.CAP	25V	100nF	
C1533	F1H1H103A970	S.M.CAP	50V	10nF	
C1534	ECJ2FB0J106M	S.M.CAP	6.3V	10µF	
C1535	F1H1C563A143	S.M.CAP	16V	56nF	
C1539	ECJ2FB0J106M	S.M.CAP	6.3V	10µF	
C1540	ECJ2FB0J106M	S.M.CAP	6.3V	10µF	
C1541	ECJ3YB1A106M	S.M.CAP	10V	10µF	
C1546	F1J1C474A194	S.M.CAP	16V	470nF	
C1547	F1J1C474A194	S.M.CAP	16V	470nF	
C1548	F1J1C474A194	S.M.CAP	16V	470nF	
C1549	F1J1C474A194	S.M.CAP	16V	470nF	
C1550	F1J1C474A194	S.M.CAP	16V	470nF	
C1551	F1J1C474A194	S.M.CAP	16V	470nF	
C1559	F1J1C475A170	SMD	16V	4700nF	
C1560	F1H1E104A129	S.M.CAP	25V	100nF	
C1561	F1H1H560A971	S.M.CAP	50V	56pF	
C1562	F1H1H560A971	S.M.CAP	50V	56pF	
C1565	F1H1H220A971	S.M.CAP	50V	22pF	
C1566	F1H1H220A971	S.M.CAP	50V	22pF	
C1569	ECJ2FB0J106M	S.M.CAP	6.3V	10µF	
C1572	F1H1E104A129	S.M.CAP	25V	100nF	
C1573	F1H1E104A129	S.M.CAP	25V	100nF	
C1574	F1H1E104A129	S.M.CAP	25V	100nF	
C1575	F1H1E104A129	S.M.CAP	25V	100nF	
C1576	F1H1E104A129	S.M.CAP	25V	100nF	
C1577	F1H1E104A129	S.M.CAP	25V	100nF	
C1578	F1H1E104A129	S.M.CAP	25V	100nF	
C1579	F1H1E104A129	S.M.CAP	25V	100nF	
C1580	F1H1E104A129	S.M.CAP	25V	100nF	
C1581	ECJ1VB1H102	S.M.CAP	50V	1nF	
C1582	F1H1E104A129	S.M.CAP	25V	100nF	
C1583	F1H1E104A129	S.M.CAP	25V	100nF	
C1584	F1H1E104A129	S.M.CAP	25V	100nF	
C1585	F1H1E104A129	S.M.CAP	25V	100nF	
C1586	F1H1E104A129	S.M.CAP	25V	100nF	
C1587	F1H1E104A129	S.M.CAP	25V	100nF	
C1590	F1H1E104A129	S.M.CAP	25V	100nF	
C1591	ECJ2FB0J106M	S.M.CAP	6.3V	10µF	
C1593	ECJ2FB0J106M	S.M.CAP	6.3V	10µF	
C1596	ECJ2FB0J106M	S.M.CAP	6.3V	10µF	
C1597	F1J1C474A194	S.M.CAP	16V	470nF	
C1598	F1J1C474A194	S.M.CAP	16V	470nF	
C1710	F1H1E104A129	S.M.CAP	25V	100nF	
C1711	ECJ1VB1H102	S.M.CAP	50V	1nF	
C1712	ECJ1VB1H102	S.M.CAP	50V	1nF	
C1713	ECJ1VB1H102	S.M.CAP	50V	1nF	
C2323	F1H1H102A970	S.M.CAP	50V	1nF	
C2324	F1H1H102A970	S.M.CAP	50V	1nF	
C2326	F2A1C220A263	ELECT	16V	22µF	
C2327	F2A1C220A263	ELECT	16V	22µF	
C2350	F2A1C101A263	ELECT	16V	100µF	
C2351	F2A1C101A263	ELECT	16V	100µF	
C2352	F1H1A1050032	S.M.CAP	10V	1000nF	
C2353	F2A1C470A824	ELECT	16V	47µF	
C2354	F1H1H103A970	S.M.CAP	50V	10nF	
C2355	F2A1C470A824	ELECT	16V	47µF	
C2356	F1H1A1050032	S.M.CAP	10V	1000nF	
C2357	F1H1H102A219	CERAMIC	50V	1nF	
C2358	F1H1H102A219	CERAMIC	50V	1nF	
C2359	F1H1A1050032	S.M.CAP	10V	1000nF	
C2511	ECJ1VB1H104	S.M.CAP	50V	100nF	
C2514	F2G0J470A019	ELECT	6.3V	47µF	
C2515	F1J1H103A834	S.M.CAP	50V	10nF	

Cct Ref	Parts Number	Description		
C2551	F1K1C105A023	S.M.CAP	16V	1000nF
C2552	F2G0J220A019	ELECT	6.3V	22µF
C3002	F1H1H102A970	S.M.CAP	50V	1nF
C3003	F1H1H102A970	S.M.CAP	50V	1nF
C3004	F1H1H331A971	S.M.CAP	50V	330pF
C3005	F1H1H331A971	S.M.CAP	50V	330pF
C3021	F1H1H331A971	S.M.CAP	50V	330pF
C3022	F1H1H331A971	S.M.CAP	50V	330pF
C3052	F1H1H331A971	S.M.CAP	50V	330pF
C3053	F1H1H102A970	S.M.CAP	50V	1nF
C3054	F1H1H102A970	S.M.CAP	50V	1nF
C3055	F1H1H331A971	S.M.CAP	50V	330pF
C3056	F2A1C220A263	ELECT	16V	22µF
C3057	F2A1C220A263	ELECT	16V	22µF
C3058	F2A1C220A263	ELECT	16V	22µF
C3059	F2A1C220A263	ELECT	16V	22µF
C3201	F1H1E104A129	S.M.CAP	25V	100nF
C3202	F1H1E104A129	S.M.CAP	25V	100nF
C3204	EEEHP0J470P	ELECT	6.3V	47µF
C3205	EEEHP0J470P	ELECT	6.3V	47µF
C3700	F1J1H561A836	S.M.CAP	50V	560pF
C3702	F1J1H561A836	S.M.CAP	50V	560pF
C3705	ECJ1VF1H104Z	S.M.CAP	50V	100nF
C3707	ECJ1VF1H104Z	S.M.CAP	50V	100nF
C3801	F1H1A1050032	S.M.CAP	10V	1000nF
C3802	F1J1C475A170	SMD	16V	4700nF
C3803	MZA1VS331MJ4	ELECT	35V	330µF
C3817	F1H1H103A970	S.M.CAP	50V	10nF
C3818	EEUFC1A102B	ELECT	10V	1000µF
C3819	F1H1H470A971	S.M.CAP	50V	47pF
C3842	MZA1VS331MJ4	ELECT	35V	330µF
C3843	F1H1H103A970	S.M.CAP	50V	10nF
C3844	EEUFC1A102B	ELECT	10V	1000µF
C3845	F1H1H470A971	S.M.CAP	50V	47pF
C3851	EEUEB1H100SB	ELECT	50V	10µF
C3852	F1J1E224A227	S.M.CAP	25V	220nF
C3853	F1J1E224A227	S.M.CAP	25V	220nF
C3854	F1G1E103A123	S.M.CAP	25V	10nF
C3855	F1H1A1050032	S.M.CAP	10V	1000nF
C3856	F1H1A1050032	S.M.CAP	10V	1000nF
C3857	F1H1E104A129	S.M.CAP	25V	100nF
C3858	F2A1E470A211	ELECT	25V	47µF
C3861	ECJ3YB1E106M	S.M.CAP	25V	10µF
C3862	F1J1H473A835	S.M.CAP	50V	47nF
C3864	ECJ3YB1E106M	S.M.CAP	25V	10µF
C3865	F1H1H103A970	S.M.CAP	50V	10nF
C3866	F1G1H271A730	S.M.CAP	50V	270pF
C3867	F1H1H101A971	S.M.CAP	50V	100pF
C3868	F1J1H473A835	S.M.CAP	50V	47nF
C3870	ECJ1VB1H104	S.M.CAP	50V	100nF
C3873	ECJ1VF1A225Z	S.M.CAP	10V	2.2µF
C3875	EEUEB1H100SB	ELECT	50V	10µF
C3876	ECJ2FB1C105K	S.M.CAP	16V	1000nF
C3877	F1H1C103A143	S.M.CAP	16V	10nF
C3878	F1H1A1050032	S.M.CAP	10V	1000nF
C3879	F1H1A1050032	S.M.CAP	10V	1000nF
C3880	F1H1A1050032	S.M.CAP	10V	1000nF
C3881	F1H1A1050032	S.M.CAP	10V	1000nF
C3882	F1H1E104A129	S.M.CAP	25V	100nF
C3883	F1H1A1050032	S.M.CAP	10V	1000nF
C3884	F1H1H103A970	S.M.CAP	50V	10nF
C3885	ECJ1VB1H102	S.M.CAP	50V	1nF
C3886	MZA1VS331MJ4	ELECT	35V	330µF
C3887	F1H1H103A970	S.M.CAP	50V	10nF
C3890	ECJ1VB1H102	S.M.CAP	50V	1nF
C3891	ECJ1VB1H103	S.M.CAP	50V	10nF
C3892	ECJ1VF1A225Z	S.M.CAP	10V	2.2µF
C5008	F1H1E104A129	S.M.CAP	25V	100nF

Cct Ref	Parts Number	Description		
C5009	ECJ2FB0J106M	S.M.CAP	6.3V	10µF
C5010	F1H1E104A129	S.M.CAP	25V	100nF
C5011	F1H1E104A129	S.M.CAP	25V	100nF
C5012	F1H1E104A129	S.M.CAP	25V	100nF
C5013	F1H1E104A129	S.M.CAP	25V	100nF
C5014	F1H1E104A129	S.M.CAP	25V	100nF
C5015	F1H1E104A129	S.M.CAP	25V	100nF
C5016	F1H1E104A129	S.M.CAP	25V	100nF
C5017	F1H1E104A129	S.M.CAP	25V	100nF
C5018	F1H1H102A219	CERAMIC	50V	1nF
C5019	F1H1E104A129	S.M.CAP	25V	100nF
C5020	F1H1H102A219	CERAMIC	50V	1nF
C5021	ECJ2FB0J106M	S.M.CAP	6.3V	10µF
C5022	F1H1H102A219	CERAMIC	50V	1nF
C5023	F1H1H102A219	CERAMIC	50V	1nF
C5024	F1H1E104A129	S.M.CAP	25V	100nF
C5025	F1H1H102A219	CERAMIC	50V	1nF
C5026	F1H1E104A129	S.M.CAP	25V	100nF
C5027	F1H1H102A219	CERAMIC	50V	1nF
C5028	F1H1H102A219	CERAMIC	50V	1nF
C5029	F1H1H102A219	CERAMIC	50V	1nF
C5030	F1H1H102A219	CERAMIC	50V	1nF
C5031	F1H1H102A219	CERAMIC	50V	1nF
C5032	ECJ2FB0J106M	S.M.CAP	6.3V	10µF
C5033	ECJ2FB0J106M	S.M.CAP	6.3V	10µF
C5034	ECJ2FB0J106M	S.M.CAP	6.3V	10µF
C5035	ECJ2FB0J106M	S.M.CAP	6.3V	10µF
C5036	F1H1E104A129	S.M.CAP	25V	100nF
C5037	F1H1E104A129	S.M.CAP	25V	100nF
C5038	F1H1E104A129	S.M.CAP	25V	100nF
C5039	F1H1E104A129	S.M.CAP	25V	100nF
C5040	F1H1E104A129	S.M.CAP	25V	100nF
C5041	F1H1E104A129	S.M.CAP	25V	100nF
C5042	F1H1E104A129	S.M.CAP	25V	100nF
C5043	F1H1E104A129	S.M.CAP	25V	100nF
C5044	F1H1E104A129	S.M.CAP	25V	100nF
C5045	F1H1E104A129	S.M.CAP	25V	100nF
C5046	F1H1E104A129	S.M.CAP	25V	100nF
C5047	F1H1E104A129	S.M.CAP	25V	100nF
C5048	F1H1E104A129	S.M.CAP	25V	100nF
C5049	F1H1E104A129	S.M.CAP	25V	100nF
C5050	F1H1E104A129	S.M.CAP	25V	100nF
C5051	F1H1E104A129	S.M.CAP	25V	100nF
C5052	F1H1H102A219	CERAMIC	50V	1nF
C5053	F1H1H102A219	CERAMIC	50V	1nF
C5054	F1H1H102A219	CERAMIC	50V	1nF
C5055	F1H1H102A219	CERAMIC	50V	1nF
C5056	F1H1H102A219	CERAMIC	50V	1nF
C5057	F1H1H102A219	CERAMIC	50V	1nF
C5058	F1H1H102A219	CERAMIC	50V	1nF
C5059	F1H1H102A219	CERAMIC	50V	1nF
C5060	F1H1H102A219	CERAMIC	50V	1nF
C5061	F1H1H102A219	CERAMIC	50V	1nF
C5062	F1H1H102A219	CERAMIC	50V	1nF
C5063	F1H1H102A219	CERAMIC	50V	1nF
C5064	F1H1H102A219	CERAMIC	50V	1nF
C5065	F1H1H102A219	CERAMIC	50V	1nF
C5066	F1H1H102A219	CERAMIC	50V	1nF
C5067	F1H1H102A219	CERAMIC	50V	1nF
C5068	F1H1E104A129	S.M.CAP	25V	100nF
C5069	F1H1C105A008	S.M.CAP	16V	1000nF
C5070	F1H1E104A129	S.M.CAP	25V	100nF
C5071	F1H1E104A129	S.M.CAP	25V	100nF
C5072	F1H1H102A219	CERAMIC	50V	1nF
C5073	F1H1H103A970	S.M.CAP	50V	10nF
C5074	F1H1H102A219	CERAMIC	50V	1nF
C5075	F1H1C105A008	S.M.CAP	16V	1000nF
C5076	F1H1E104A129	S.M.CAP	25V	100nF

Cct Ref	Parts Number	Description		
C5077	F1H1H103A970	S.M.CAP	50V	10nF
C5078	F1H1E104A129	S.M.CAP	25V	100nF
C5081	F1H1E104A129	S.M.CAP	25V	100nF
C5084	F1H1E104A129	S.M.CAP	25V	100nF
C5085	F1H1E104A129	S.M.CAP	25V	100nF
C5087	F1H1H150A971	S.M.CAP	50V	15pF
C5088	F1H1H150A971	S.M.CAP	50V	15pF
TERMINALS AND LINKS				
A1	K1KY23AA0607	23P CONNECTOR		
A2	K1KA30AA0250	30P CONNECTOR		
A2-PA	TXJTA2NCB	A2-PANEL WIRE_LVDS		
A4	K1KA04AA0192	4P CONNECTOR		
A4-K1	TXJ/K80MDQ	A4-K1 WIRE		
A5	K1KA05AA0192	5P CONNECTOR		
A5-SP	TXAJTA5NEB	A5-SP WIRE		
A7	K1KA15AA0194	15P CONNECTOR		
A8	K1KA06AA0192	6P CONNECTOR		
A8-V1	TXJ/A8NEB	A8-V1 WIRE		
A10	K1KA02A00787	2P CONNECTOR		
A11	K1KA08AA0714	8P CONNECTOR		
A13	K1KA06AA0104	6P CONNECTOR		
A13-P3	TXJ/A13NCB	A13/P3-INVERTER WIRE		
G51	K1KA15AA0194	15P CONNECTOR		
G51-A7	TXJ/A7NEB	G51-A7 WIRE		
JK3000	K1FY121A0004	SCART SOCKET		
JK3050	K1FY121A0004	SCART SOCKET		
JK3100	K2HA7YYA0001	YUV TERMINAL_ AUD I/O		
JK3700	K4AK30B00001	AV3 TERMINAL		
JK5000	K1FY119D0002	HDMI TERMINAL		
JK5001	K1FY119D0002	HDMI TERMINAL		
K1	K1KA04BA0061	4P CONNECTOR		
V1	K1KA08B00270	8P CONNECTOR		
SWITCHES				
SW2501	K0F162B00002	SWITCH		
DIFFERENCES FOR MODEL TX--32LE8F				
EXPLODED VIEW				
22	A-32LE8F	A P.C.B.	RTL	△
23	TXASX01NXA-1	AC CORD ASSY		△
24	TTY0E0270	CABINET ASSY		△
25	TBM0E1231	MODEL LABEL		△
26	TTX0E0005-1	PEDESTAL ASSY		
27	TBX0E84500	POWER BUTTON		
MISCELLANEOUS COMPONENTS				
.	TKP0E91901	IR/LED PANEL		
INSTRUCTION BOOKS				
.	TQB0E0561A	GERMAN		△
.	TQB0E0561B	DUTCH		△
.	TQB0E0561C	ITALIAN		△
.	TQB0E0561D	FRENCH		△
.	TQB0E0561E	SPANISH		△
.	TQB0E0561F	SWEDISH		△
.	TQB0E0561G	NORWEGIAN		△
.	TQB0E0561H	FINNISH		△
.	TQB0E0561I	LITHUANIAN		△
.	TQB0E0561J	PORTUGUESE		△
.	TQB0E0561K	DANISH		△
.	TQB0E0561M	BULGARIAN		△
.	TQB0E0561N	ROMANIAN		△
.	TQB0E0561O	LATVIAN		△
.	TQB0E0561P	POLISH		△
.	TQB0E0561Q	HUNGARIAN		△
.	TQB0E0561R	CZECH		△
.	TQB0E0561S	GREEK		△
.	TQB0E0561T	TURKISH		△


Cct Ref	Parts Number	Description		
.	TQB0E0561U	ENGLISH		△
.	TQB0E0561V	CROATIAN		△
.	TQB0E0561W	SLOVAKIAN		△
.	TQB0E0561X	CD ROM		△
.	TQB0E0561Z	ESTONIAN		△
I.C.s				
IC1120	X24C32LE8F	EEPROM		
DIFFERENCES FOR MODEL TX--32LE8FS				
EXPLODED VIEW				
22	A-32LE8F	A P.C.B.	RTL	△
23	TXASX01NXA-1	AC CORD ASSY		△
24	TTY0E0373	CABINET ASSY		△
25	TBM0E1424	MODEL LABEL		△
26	TTX0E0010-1	PEDESTAL ASSY		
27	TBX0E85700	POWER BUTTON		
MISCELLANEOUS COMPONENTS				
.	TKP0E92401	IR/LED PANEL		
INSTRUCTION BOOKS				
.	TQB0E0644A	GERMAN		△
.	TQB0E0644B	DUTCH		△
.	TQB0E0644C	ITALIAN		△
.	TQB0E0644D	FRENCH		△
.	TQB0E0644E	SPANISH		△
.	TQB0E0644F	SWEDISH		△
.	TQB0E0644G	NORWEGIAN		△
.	TQB0E0644H	FINNISH		△
.	TQB0E0644I	LITHUANIAN		△
.	TQB0E0644J	PORTUGUESE		△
.	TQB0E0644K	DANISH		△
.	TQB0E0644M	BULGARIAN		△
.	TQB0E0644N	ROMANIAN		△
.	TQB0E0644O	LATVIAN		△
.	TQB0E0644P	POLISH		△
.	TQB0E0644Q	HUNGARIAN		△
.	TQB0E0644R	CZECH		△
.	TQB0E0644S	GREEK		△
.	TQB0E0644T	TURKISH		△
.	TQB0E0644U	ENGLISH		△
.	TQB0E0644V	CROATIAN		△
.	TQB0E0644W	SLOVAKIAN		△
.	TQB0E0644X	CD ROM		△
.	TQB0E0644Z	ESTONIAN		△
I.C.s				
IC1120	X24C32LE8F	EEPROM		
DIFFERENCES FOR MODEL TX--32LE8L				
EXPLODED VIEW				
22	A-32LE8L	A P.C.B.	RTL	△
23	TXASX01NJA-1	AC CORD ASSY		△
24	TTY0E0270	CABINET ASSY		△
25	TBM0E1233-1	MODEL LABEL		△
26	TTX0E0005-1	PEDESTAL ASSY		
27	TBX0E84500	POWER BUTTON		
MISCELLANEOUS COMPONENTS				
.	TKP0E91901	IR/LED PANEL		
INSTRUCTION BOOKS				
.	TQB0E0563-1	ENGLISH		△
I.C.s				
IC1120	X24C32LE8L	EEPROM		
DIFFERENCES FOR MODEL TX--32LE8P				

Cct Ref	Parts Number	Description		
EXPLODED VIEW				
22	A-32LE8P	A P.C.B.	RTL	△
23	TXASX01NXA-1	AC CORD ASSY		△
24	TTY0E0270	CABINET ASSY		△
25	TBM0E1232	MODEL LABEL		△
26	TTX0E0005-1	PEDESTAL ASSY		
27	TBX0E84500	POWER BUTTON		
MISCELLANEOUS COMPONENTS				
.	TKP0E91901	IR/LED PANEL		
INSTRUCTION BOOKS				
.	TQB0E0562A	GERMAN		△
.	TQB0E0562B	DUTCH		△
.	TQB0E0562C	ITALIAN		△
.	TQB0E0562D	FRENCH		△
.	TQB0E0562E	SPANISH		△
.	TQB0E0562F	SWEDISH		△
.	TQB0E0562G	NORWEGIAN		△
.	TQB0E0562H	FINNISH		△
.	TQB0E0562I	LITHUANIAN		△
.	TQB0E0562J	PORTUGUESE		△
.	TQB0E0562K	DANISH		△
.	TQB0E0562M	BULGARIAN		△
.	TQB0E0562N	ROMANIAN		△
.	TQB0E0562O	LATVIAN		△
.	TQB0E0562P	POLISH		△
.	TQB0E0562Q	HUNGARIAN		△
.	TQB0E0562R	CZECH		△
.	TQB0E0562S	GREEK		△
.	TQB0E0562T	TURKISH		△
.	TQB0E0562U	ENGLISH		△
.	TQB0E0562V	CROATIAN		△
.	TQB0E0562W	SLOVAKIAN		△
.	TQB0E0562X	CD ROM		△
.	TQB0E0562Z	ESTONIAN		△
I.C.s				
IC1120	X24C32LE8P	EEPROM		
DIFFERENCES FOR MODEL TX--32LE8PS				
EXPLODED VIEW				
22	A-32LE8P	A P.C.B.	RTL	△
23	TXASX01NXA-1	AC CORD ASSY		△
24	TTY0E0373	CABINET ASSY		△
25	TBM0E1426	MODEL LABEL		△
26	TTX0E0010-1	PEDESTAL ASSY		
27	TBX0E85700	POWER BUTTON		
MISCELLANEOUS COMPONENTS				
.	TKP0E92401	IR/LED PANEL		
INSTRUCTION BOOKS				
.	TQB0E0651A	GERMAN		△
.	TQB0E0651B	DUTCH		△
.	TQB0E0651C	ITALIAN		△
.	TQB0E0651D	FRENCH		△
.	TQB0E0651E	SPANISH		△
.	TQB0E0651F	SWEDISH		△
.	TQB0E0651G	NORWEGIAN		△
.	TQB0E0651H	FINNISH		△
.	TQB0E0651I	LITHUANIAN		△
.	TQB0E0651J	PORTUGUESE		△
.	TQB0E0651K	DANISH		△
.	TQB0E0651M	BULGARIAN		△
.	TQB0E0651N	ROMANIAN		△
.	TQB0E0651O	LATVIAN		△
.	TQB0E0651P	POLISH		△
.	TQB0E0651Q	HUNGARIAN		△

Cct Ref	Parts Number	Description	
.	TQB0E0651R	CZECH	△
.	TQB0E0651S	GREEK	△
.	TQB0E0651T	TURKISH	△
.	TQB0E0651U	ENGLISH	△
.	TQB0E0651V	CROATIAN	△
.	TQB0E0651W	SLOVAKIAN	△
.	TQB0E0651X	CD ROM	△
.	TQB0E0651Z	ESTONIAN	△
I.C.s			
IC1120	X24C32LE8P	EEPROM	

Schematic Diagrams

IMPORTANT SAFETY NOTICE

Components identified by  mark have special characteristics important for safety. When replacing any of these components, use only manufacturers' specified parts.

NOTE

1. RESISTOR
All resistors are carbon 1/4W resistor, unless marked otherwise.
Unit of resistance is OHM (Ω) (k=1,000, M=1,000,000)
2. CAPACITORS
All capacitors are ceramic 50V unless marked otherwise.
Unit of capacitance is μ F unless otherwise stated.
3. COIL
Unit of inductance is μ H, unless otherwise stated.

4. TEST POINT



Test Point Position

5. EARTH SYMBOL



Chassis Earth (Cold)



Line Earth (Hot)

6. VOLTAGE MEASUREMENT

Voltage is measured by a D.C. voltmeter.
Measurement conditions are as follows:
Power source 220V-240V AC, 50Hz
Receiving Signal Colour Bar signal (RF)
All customer controls Maximum position

7.



Indicates the Video signal path



Indicates the Audio signal path

These schematic diagrams are the latest at time of printing and are subject to change without notice.

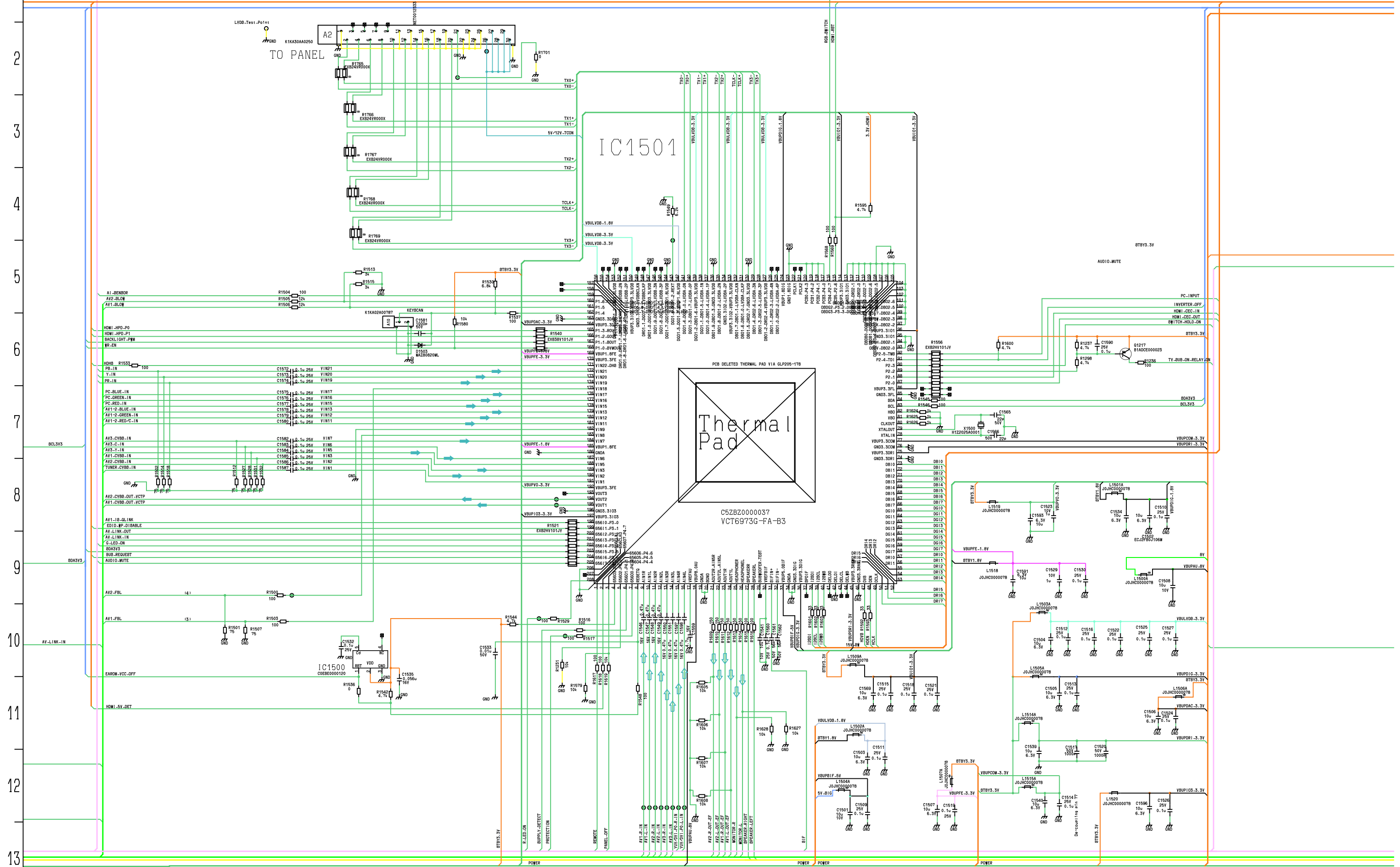
REMARKS

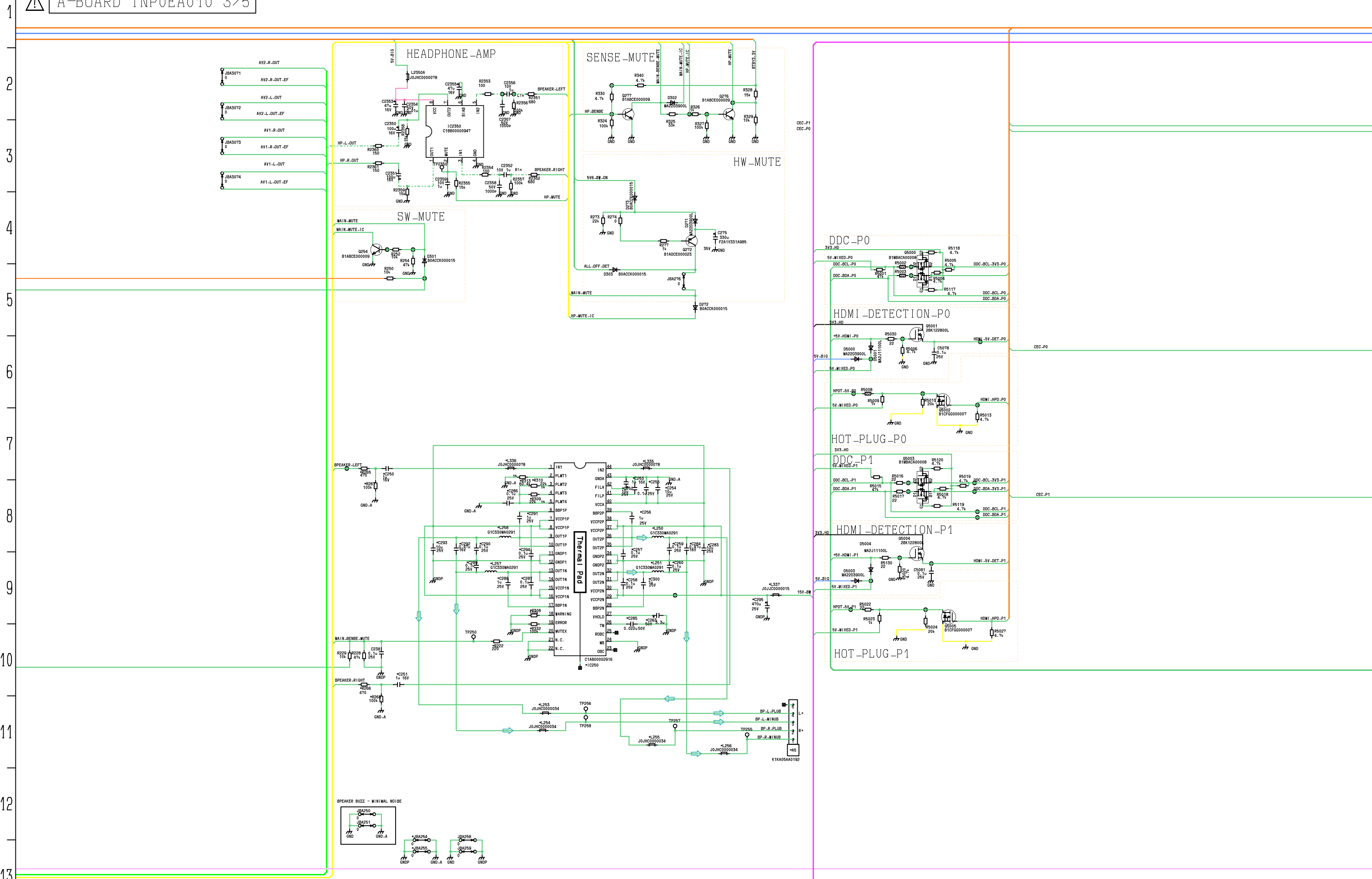
- a. Do not touch the hot part, or the hot and cold parts at the same time, as you are liable to a shock hazard.
- b. Do not short circuit the hot and cold circuits as electrical components may be damaged.
- c. Do not connect an instrument, such as an oscilloscope, to the hot and cold circuits simultaneously as this may cause fuse failure. Connect the earth of the instruments to the earth connection of the circuit being measured.
- d. Make sure to disconnect the power plug before removing the chassis.

NOTE

1. The Power Supply Circuit contains a circuit area, which uses a separate power supply to isolate the earth connection. The circuit is defined by HOT and COLD indications in the schematic diagram. All circuits, except the Power Circuit, are COLD.

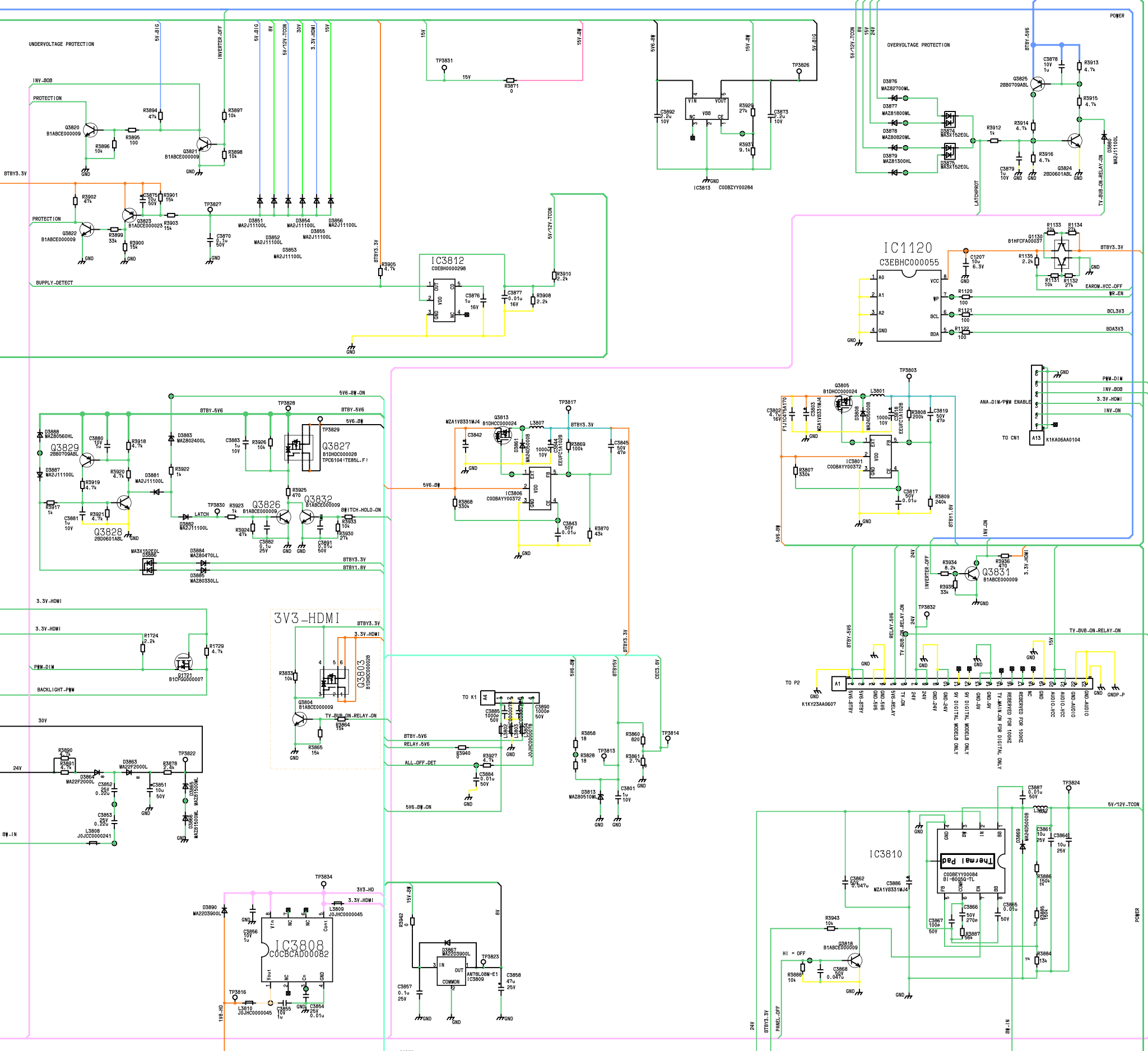
A-BOARD TNPOEA010 2/5





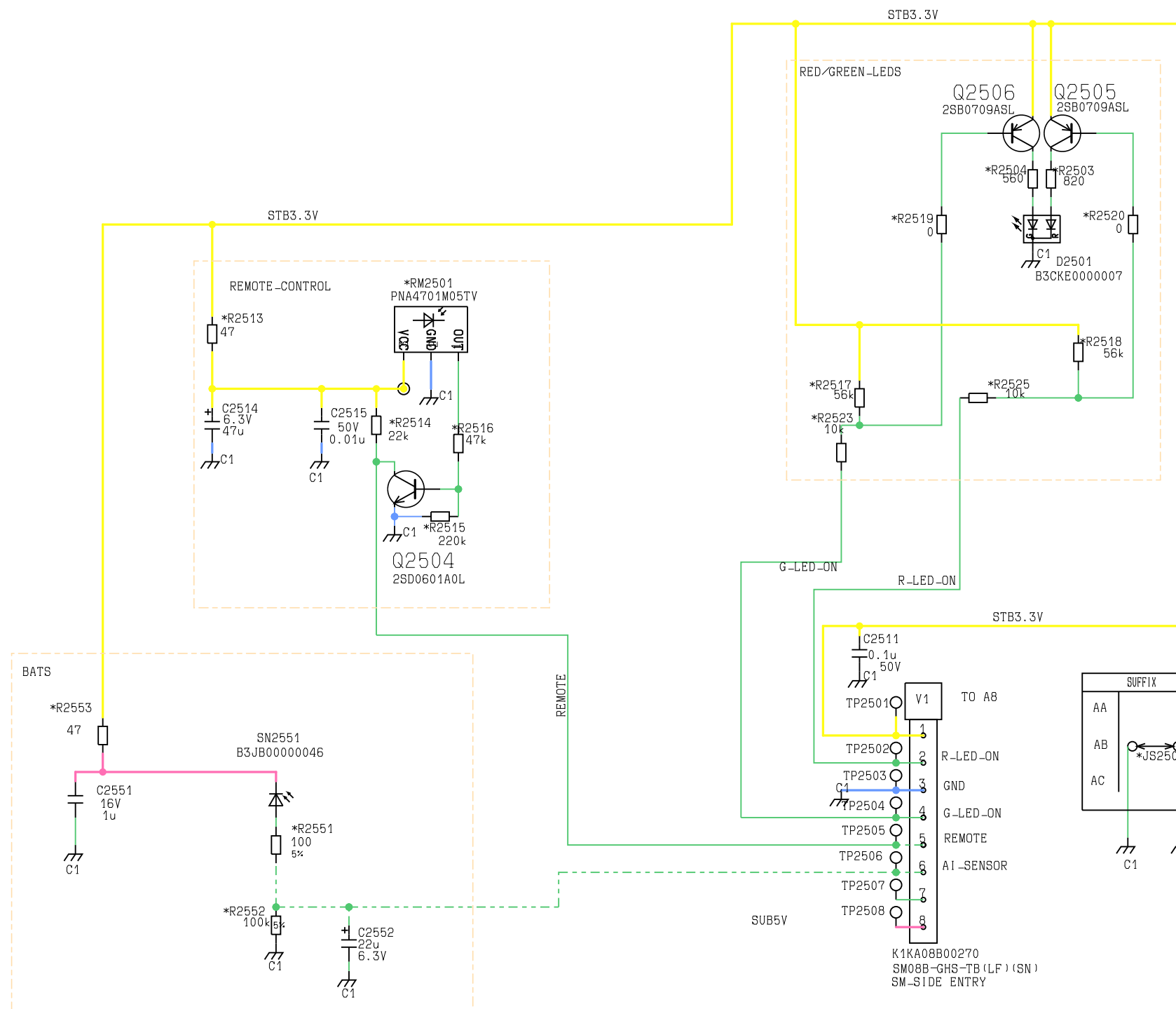
! A-BOARD TNPOEA010 5/5

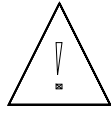
1
2
3
4
5
6
7
8
9
10
11
12
13



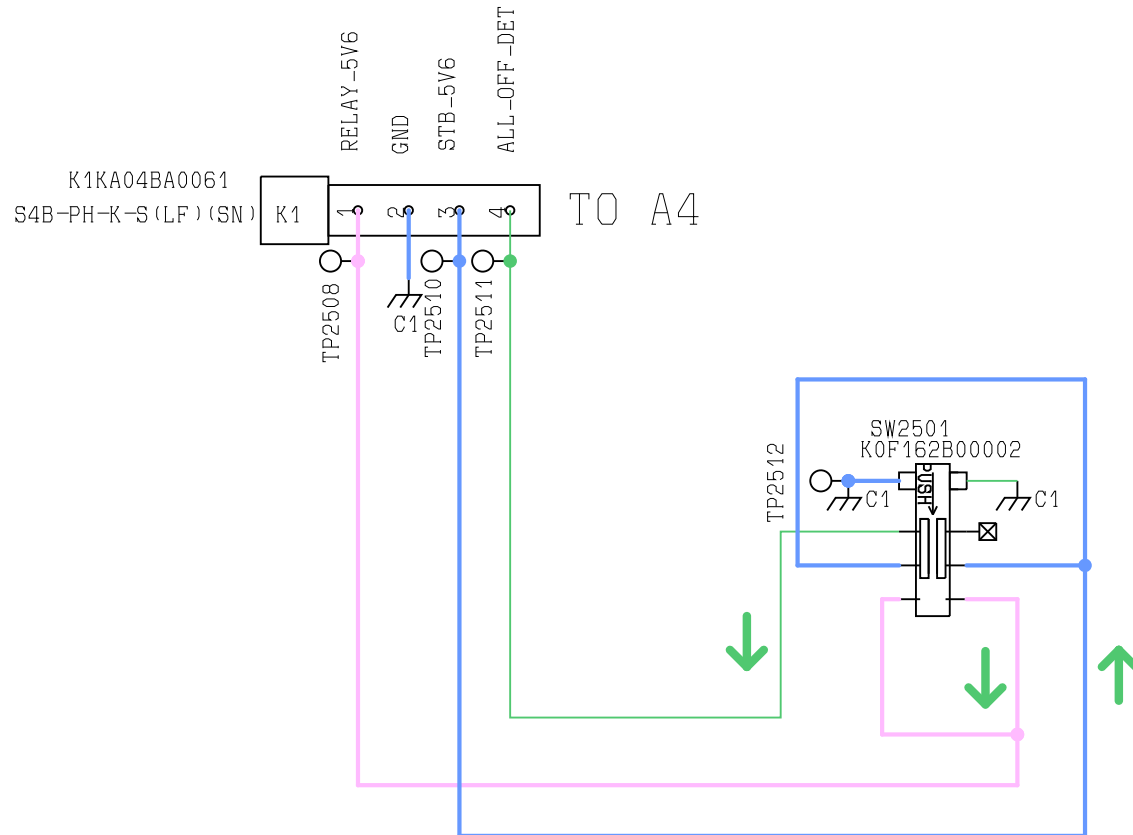


V-BOARD TNP8EVL91





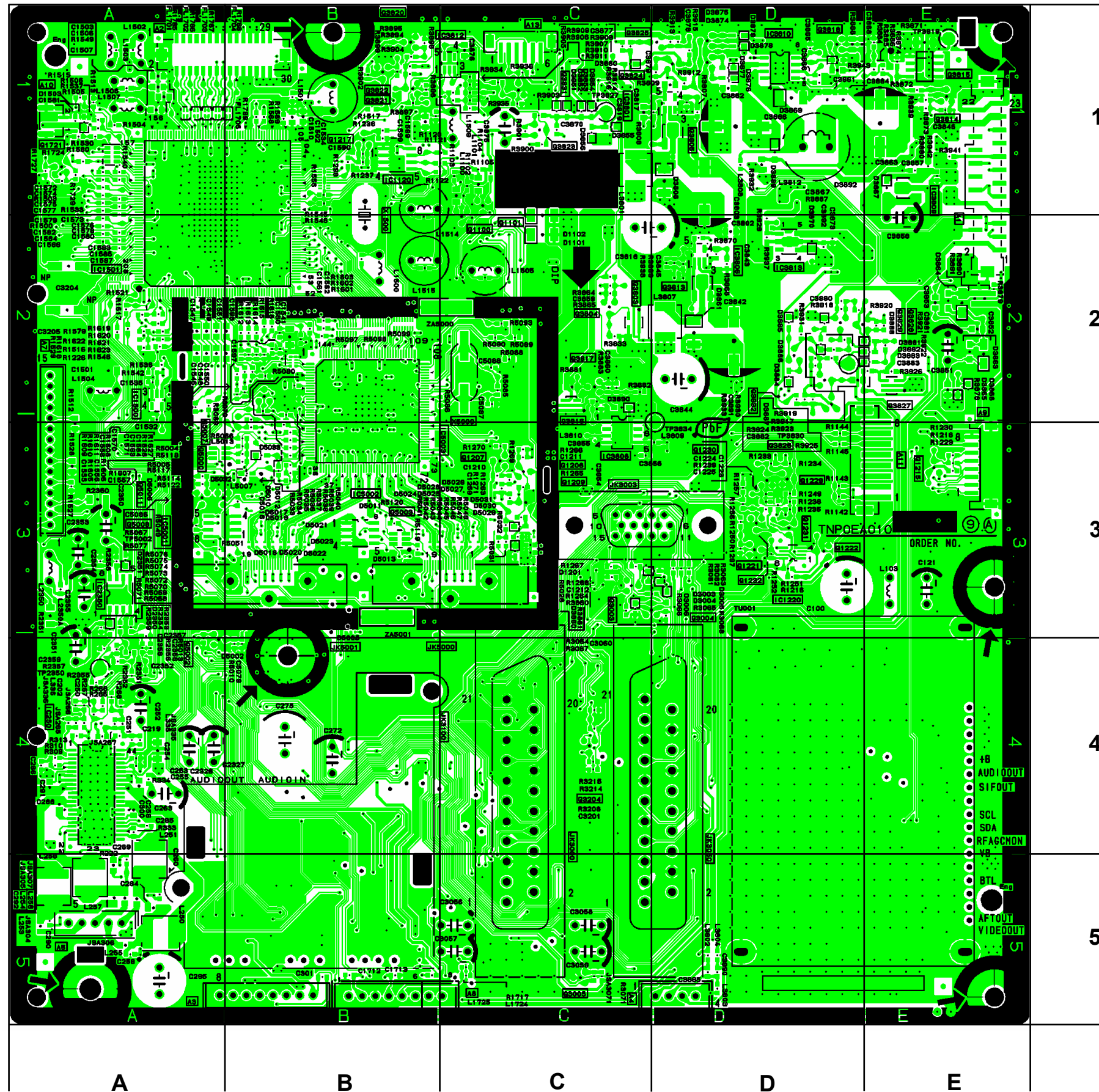
K-BOARD TNP8EKL92



Conductor Views

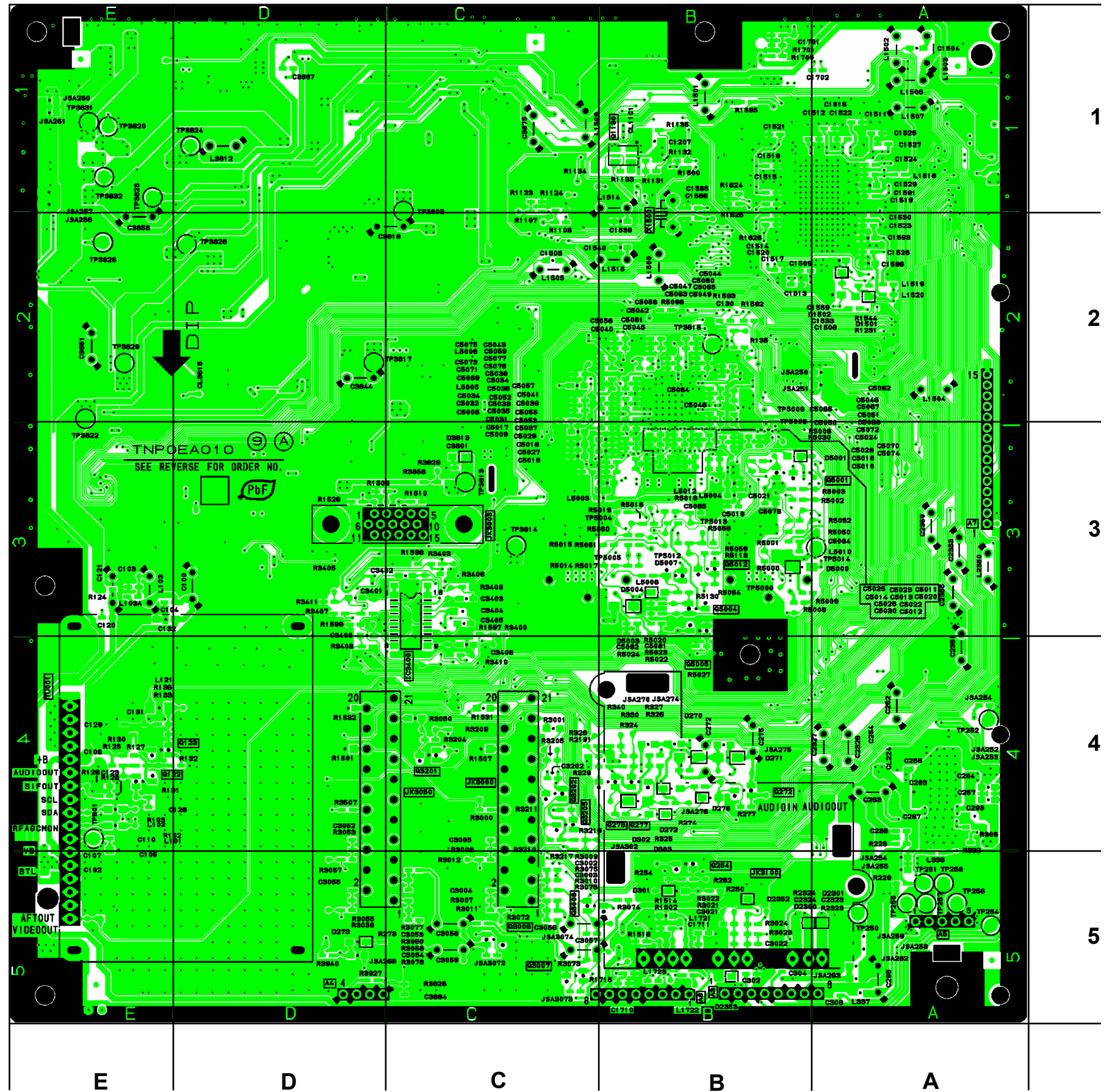
A-BOARD TNP0EA010 - top

TRAN'S		D1201	C3	D5021	B3
Q1100	C2	D1503	A1	D5022	B3
Q1101	C2	D3808	D1	D5023	B3
Q1207	C3	D3851	C1	D5024	B3
Q1208	C3	D3852	C1	D5025	C3
Q1209	C3	D3853	C1	D5026	C3
Q1217	B1	D3854	C1	D5027	C3
Q1221	D3	D3855	C1	D5028	C3
Q1222	D3	D3856	C1	D5029	C3
Q1229	D3	D3861	D2	D5030	C3
Q1230	D3	D3863	E2	D5031	C3
Q1231	D3	D3864	E2	D5032	B3
Q1232	D3	D3865	E2	D5033	B3
Q1721	A1	D3866	E2		
Q3204	C4	D3867	E1		
		IC'S			
Q3803	C2	D3869	D1	IC250	A4
Q3804	C2	D3874	D1	IC1120	B1
Q3805	D1	D3875	D1	IC1220	D3
Q3813	D2	D3876	D1	IC1500	A2
Q3818	D1	D3877	D1	IC1501	A1
Q3820	B1	D3878	D1	IC2350	A3
Q3821	B1	D3879	D1	IC3801	D1
Q3822	B1	D3880	C1	IC3806	D2
Q3823	C1	D3881	E2	IC3808	C3
Q3824	D1	D3882	E2	IC3809	E1
Q3825	D1	D3883	E2	IC3810	D1
Q3826	D2	D3884	D2	IC3812	C1
Q3827	E2	D3885	D2	IC3813	D2
Q3828	D2	D3886	D2	IC5001	A3
Q3829	D2	D3887	D2	IC5002	B3
Q3831	C1	D3888	D2	IC5003	B2
Q3832	D2	D3890	C2		
		TP'S			
Q5000	A3	D5006	A3		
Q5002	A3	D5010	B3	TP2350	A4
Q5003	B3	D5011	B3	TP3819	E1
Q5007	B2	D5012	B3	TP3827	C1
Q5008	B3	D5013	B3	TP3830	D2
Q5011	A3	D5016	B3	TP3834	D2
		D5017	B3		
DIODE'S					
D1101	C2	D5019	B3		
D1102	C1	D5020	B3		



A-BOARD TNP0EA010 - bottom

TRAN'S		TP'S	
Q123	E4	TP250	A5
Q254	B5	TP251	A5
Q272	B4	TP254	A5
Q276	B4	TP255	A5
Q277	B4	TP256	A5
Q1130	B1	TP257	A5
Q3201	C4	TP257	A5
Q3202	C4	TP801	E4
Q3205	C4	TP3803	C1
Q5001	B3	TP3813	C3
Q5004	B3	TP3814	C3
Q5005	B3	TP3816	B2
Q5012	B3	TP3817	D2
		TP3820	E1
DIODE'S		TP'S	
D271	B4	TP3823	E1
D272	B4	TP3824	D1
D273	D5	TP3826	D2
D301	B5	TP3828	E2
D302	B4	TP3829	E2
D303	B4	TP3831	E1
D3813	C3	TP3832	E1
D5000	B3	TP5014	B3
D5001	B3		
D5003	B3		
D5004	B3		
D5007	B3		



V-BOARD TNP8EVL91-top

TRAN'S		TP'S	
Q2504	A1	TP2501	A1
Q2505	A1	TP2502	A1
Q2506	A1	TP2503	A1
		TP2504	A1
DIODE'S		TP2505	A2
D2501	A2	TP2506	A1
		TP2507	A2
IC'S		TP2508	A1
RM2501	A1		
SN2551	A1		

