

Service Manual

Colour Television



**TX-32PS11D, TX-32PS11D/B,
TX-32PS11F, TX-32PS11P,
TX-29PS11D, TX-29PS11D/B,
TX-29PS11F, TX-29PS11P,
TX-28PS11D, TX-28PS11F**

GP2 Chassis

SPECIFICATIONS

(Information in brackets [] refers to models 29")
(Information in brackets { } refers to models 28")

Power Source: 220-240V a.c., 50Hz

Power Consumption: 101W [101W] {96W}

Stand-by Power Consumption: 0,9W

Aerial Impedance: 75Ω unbalanced, Coaxial Type

Receiving System: PAL-I, B/G, D/K, PAL-525/60
SECAM B/G, D/K, L/L'
M.NTSC (AV only)
NTSC (AV only)

Receiving Channels:
VHF E2-E12 VHF H1-H2 (ITALY)
VHF A-H (ITALY) VHF R1-R2
VHF R3-R5 VHF R6-R12
UHF E21-E69 CATV (S01-S05)
CATV S1-S10 (M1-M10) CATV S11-S20 (U1-U10)
CATV S21-S41 (HYPERBAND)

Intermediate Frequency:

Video/Audio

Video	38,9MHz, 33,9MHz
Sound	33,4MHz (B/G), 33,16MHz (A2) 33,05MHz (NICAM B/G,D/K,L)
Colour	32,4MHz (D/K),32,66MHz (CZ STEREO) 40,4MHz (L'), 39,75MHz (L'NICAM) 34,47MHz (PAL) 34,5MHz, 34,65MHz (SECAM) 38,3MHz, 38,15MHz (SECAM L')

Terminals:

AUDIO MONITOR OUT Audio (RCAx2) 500mV rms 1kΩ

AV1 IN	Video (21 pin) 1V p-p 75Ω Audio (21 pin) 500mV rms 10kΩ
AV1 OUT	RGB (21 pin) 0,7V p-p 75Ω

AV1 OUT	Video (21 pin) 1V p-p 75Ω Audio (21 pin) 500mV rms 1kΩ
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AV2 IN Video (21 pin) 1V p-p 75Ω
Audio (21 pin) 500mV rms 10kΩ

S-Video IN Y: 1V p-p 75Ω
(21-pin) 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 Y: 1V p-p 75Ω
(4-pin) C:0,3V p-p 75Ω

Audio (RCAx2) 500mV rms 10kΩ

Video (RCAx1) 1V p-p 75Ω

High Voltage: 32kV ± 1kV [31kV ± 1kV] {30,5kV ± 1kV}

Picture Tube: W76EKX50X71 76cm
[A68ELO50X71 68cm]
{W66EKT50X71 66cm}

Audio Output: 2x10W RMS, 2x20W MPO,
8Ω impedance

Headphones: 8Ω Impedance

Accessories supplied : Remote Control
2 x R6 (UM3) Batteries

Dimensions: Height: 567mm [585mm] {510mm}

Width: 902mm [776mm] {805mm}

Depth: 551mm [533mm] {533mm}

Net weight: 55,5kg [49,5kg] {43,3kg}

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

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SAFETY PRECAUTION

GENERAL GUIDE LINES

1. It is advisable to insert an isolation transformer in the a.c. supply before servicing a hot chassis.
2. When servicing, observe the original lead dress in the high voltage circuits. If a short circuit is found, replace all parts that have been overheated or damaged by the short circuit.
3. After servicing, see that all the protective devices such as insulation barriers, insulation papers, shields and isolation R-C combinations are correctly installed.
4. When the receiver is not being used for a long period of time, unplug the power cord from the a.c. outlet.
5. Potentials as high as 33kV [32kV] {31,5kV} are present when this receiver is in operation. Operation of the receiver without the rear cover involves the danger of a shock hazard from the receiver power supply. Servicing should not be attempted by anyone who is not familiar with the precautions necessary when working on high voltage equipment. Always discharge the anode of the tube.
6. After servicing make the following leakage current checks to prevent the customer from being exposed to shock hazard.

LEAKAGE CURRENT COLD CHECK

1. Unplug the a.c. cord and connect a jumper between the two prongs of the plug.
2. Turn on the receiver's power switch.
3. Measure the resistance value with an ohmmeter, between the jumpered a.c. plug and each exposed metallic cabinet part on the receiver, such as screw heads, aerials, connectors, control shafts etc. When the exposed metallic part has a return path to the chassis, the reading should be between 4M ohm and 20M ohm. When the exposed metal does not have a return path to the chassis, the reading must be infinite.

LEAKAGE CURRENT HOT CHECK

1. Plug the a.c. cord directly into the a.c. outlet. Do not use an isolation transformer for this check.
2. Connect a $2k\Omega$ 10W resistor in series with an exposed metallic part on the receiver and an earth, such as a water pipe.
3. Use an a.c. voltmeter with high impedance to measure the potential across the resistor.

4. Check each exposed metallic part and check the voltage at each point.
5. Reverse the a.c. plug at the outlet and repeat each of the previous measurements.
6. The potential at any point should not exceed 1,4 Vrms. In case a measurement is outside the limits specified, there is a possibility of a shock hazard, and the receiver should be repaired and rechecked before it is returned to the customer.

HOT CHECK CIRCUIT

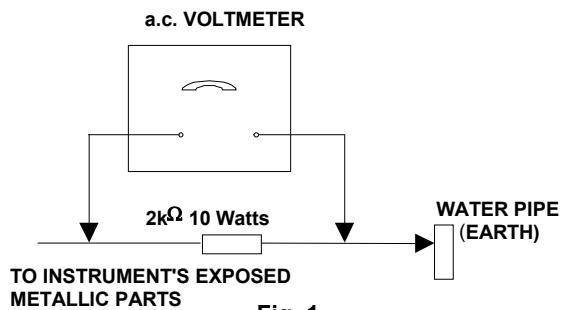


Fig. 1.

X-RADIATION WARNING

1. The potential sources of X-Radiation in TV sets are the high voltage section and the picture tube.
2. When using a picture tube test jig for service, ensure that the jig is capable of handling 33kV [32kV] {31,5kV} without causing X-Radiation.

NOTE: It is important to use an accurate periodically calibrated high voltage meter.

1. Set the brightness to minimum.
2. Measure the high voltage. The meter should indicate: $32kV \pm 1kV$ [31kV $\pm 1kV$] {30,5kV $\pm 1kV$ }. If the meter indication is out of tolerance, immediate service and correction is required to prevent the possibility of premature component failure.
3. To prevent any X-Radiation possibility, it is essential to use the specified tube.

SERVICE HINTS

How to remove the rear cover

1. Remove the 12 [11] screws as shown in Fig.2.



Fig. 2

LOCATION OF CONTROLS

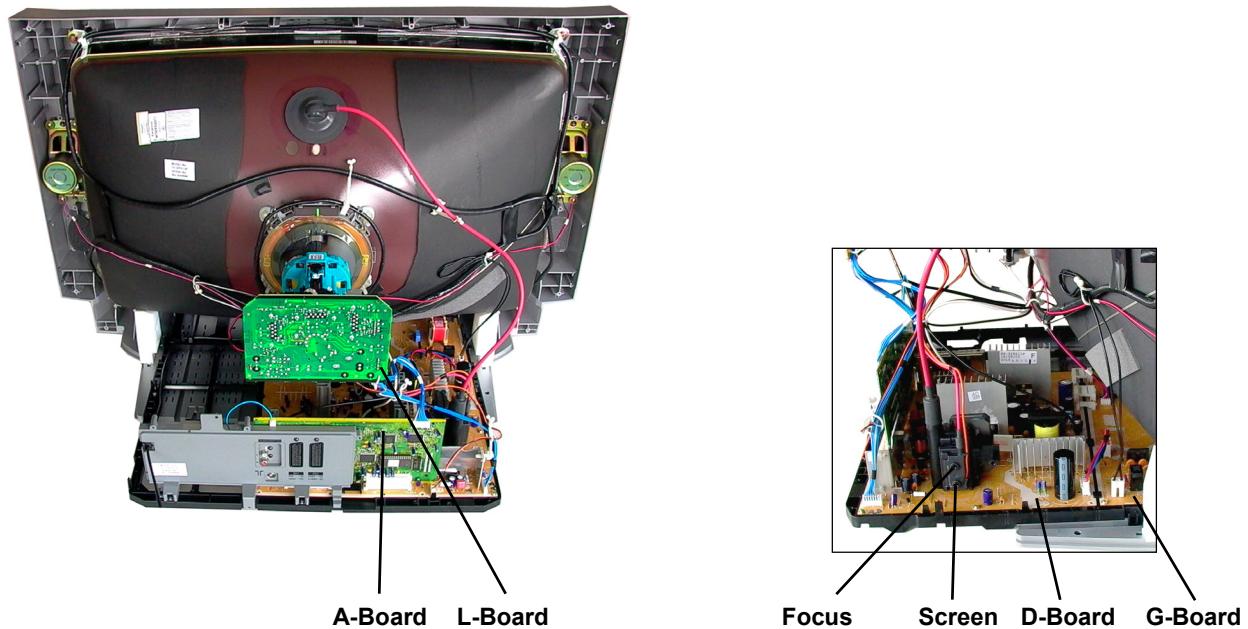
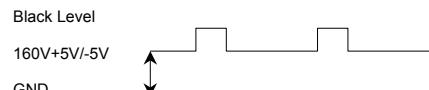


Fig. 3

ADJUSTMENT PROCEDURE

Item / Preparation	Adjustments																																																																
+B SET-UP	<p>Confirm the following voltages:</p> <table> <tbody> <tr> <td>TPD1</td><td>205</td><td>\pm</td><td>10V</td><td>D9 pin3</td><td>9</td><td>\pm</td><td>0,5V</td></tr> <tr> <td>TPD2</td><td>137</td><td>\pm</td><td>2V</td><td>D9 pin7</td><td>10,5</td><td>\pm</td><td>0,5V</td></tr> <tr> <td>TPD3</td><td>42</td><td>\pm</td><td>2V</td><td>D2 pin22</td><td>3,3</td><td>\pm</td><td>0,1V</td></tr> <tr> <td>TPD5</td><td>42</td><td>\pm</td><td>2V</td><td>D2 pin26</td><td>2,5</td><td>\pm</td><td>0,1V</td></tr> <tr> <td>TPD6</td><td>12,5</td><td>\pm</td><td>1V</td><td>D2 pin14</td><td>3,3</td><td>\pm</td><td>0,1V</td></tr> <tr> <td>TPD7</td><td>-12,5</td><td>\pm</td><td>1V</td><td>D9 pin5</td><td>5</td><td>\pm</td><td>0,5V</td></tr> <tr> <td>TPD8</td><td>33</td><td>\pm</td><td>2V</td><td>D9 pin11</td><td>6,5</td><td>\pm</td><td>0,5V</td></tr> <tr> <td>TPD11</td><td>5</td><td>\pm</td><td>0,5V</td><td></td><td></td><td></td><td></td></tr> </tbody> </table>	TPD1	205	\pm	10V	D9 pin3	9	\pm	0,5V	TPD2	137	\pm	2V	D9 pin7	10,5	\pm	0,5V	TPD3	42	\pm	2V	D2 pin22	3,3	\pm	0,1V	TPD5	42	\pm	2V	D2 pin26	2,5	\pm	0,1V	TPD6	12,5	\pm	1V	D2 pin14	3,3	\pm	0,1V	TPD7	-12,5	\pm	1V	D9 pin5	5	\pm	0,5V	TPD8	33	\pm	2V	D9 pin11	6,5	\pm	0,5V	TPD11	5	\pm	0,5V				
TPD1	205	\pm	10V	D9 pin3	9	\pm	0,5V																																																										
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TPD11	5	\pm	0,5V																																																														
CUT OFF / Ug2 Test	<p>To adjust Cutoff connect an oscilloscope to the Blue cathode. Adjust the screen VR until the black level is 160V +5V/-5V.</p> 																																																																

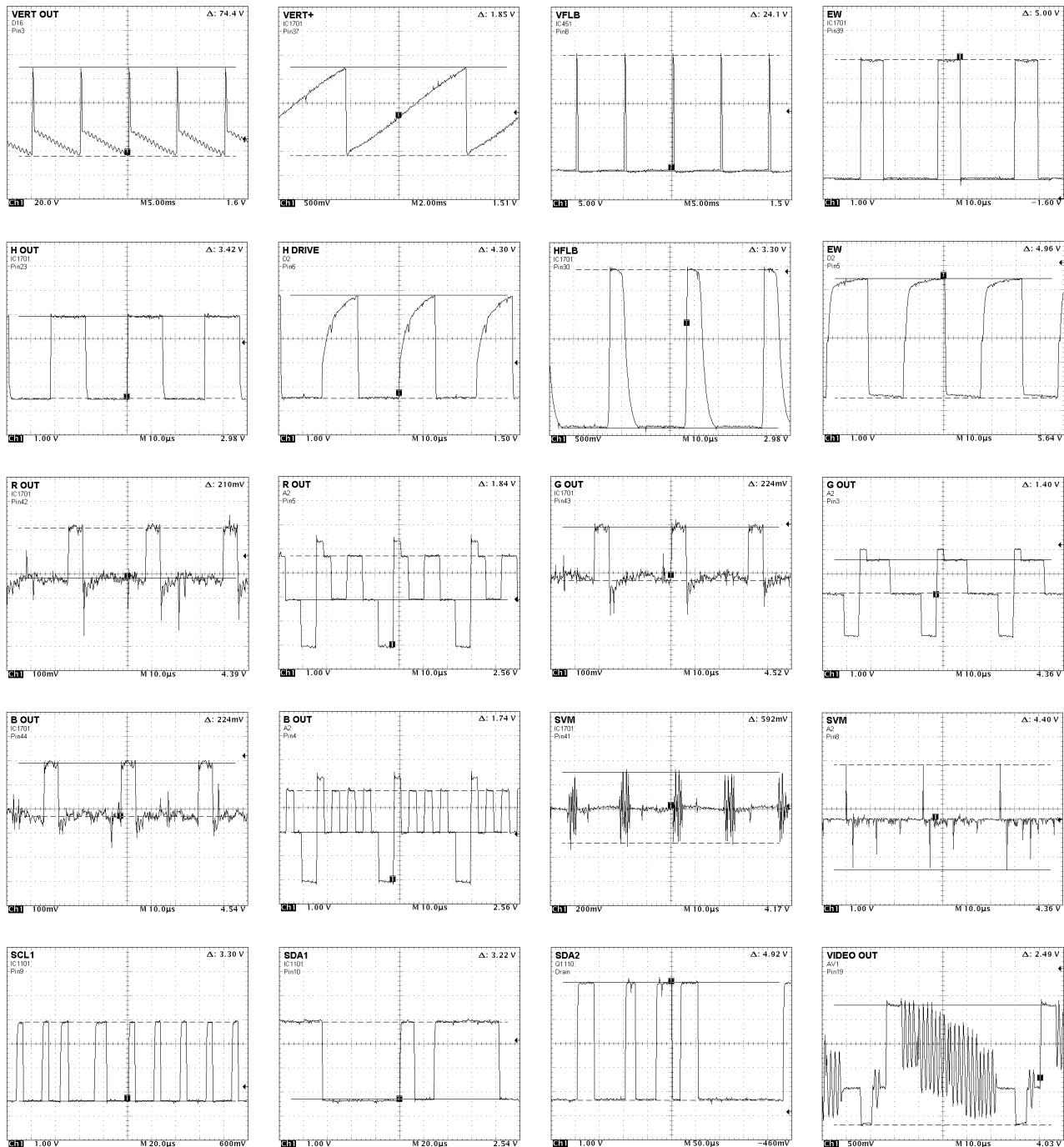
SELF CHECK

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

E2	O.K.	SUM	****
DDP	O.K.		
VSP	O.K.		
VPCD	O.K.		
AVSW	O.K.		
TUN	O.K.		
MSP	O.K.		
DPL	---		
MAS	---		
TX-32PS11D	TX-32PS11F	TX-29PS11D	TX-29PS11F
TX-32PS11D/B	TX-32PS11P	TX-29PS11D/B	TX-29PS11P
TX-28PS11D	TX-28PS11F		
OPTION 1	0F	0F	0F
OPTION 2	00	00	00
OPTION 3	B0	B0	A0
OPTION 4	11	11	11
OPTION 5	00	00	00
OPTION 6	05	05	05
OPTION 7	7F	7F	7F
OPTION 8	D0	50	D0
OPTION 9	00	00	00
OPTION 10	80	80	80
OPTION 11	1B	1B	1B
OPTION 12	00	00	00
OPTION 13	0C	0C	0C
CHECK	CB	4B	BB
			3B

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

WAVEFORM PATTERN TABLE



CONDITIONS: CONTRAST...MAX, BRIGHTNESS...MID, COLOUR...MID, SHARPNESS...MID

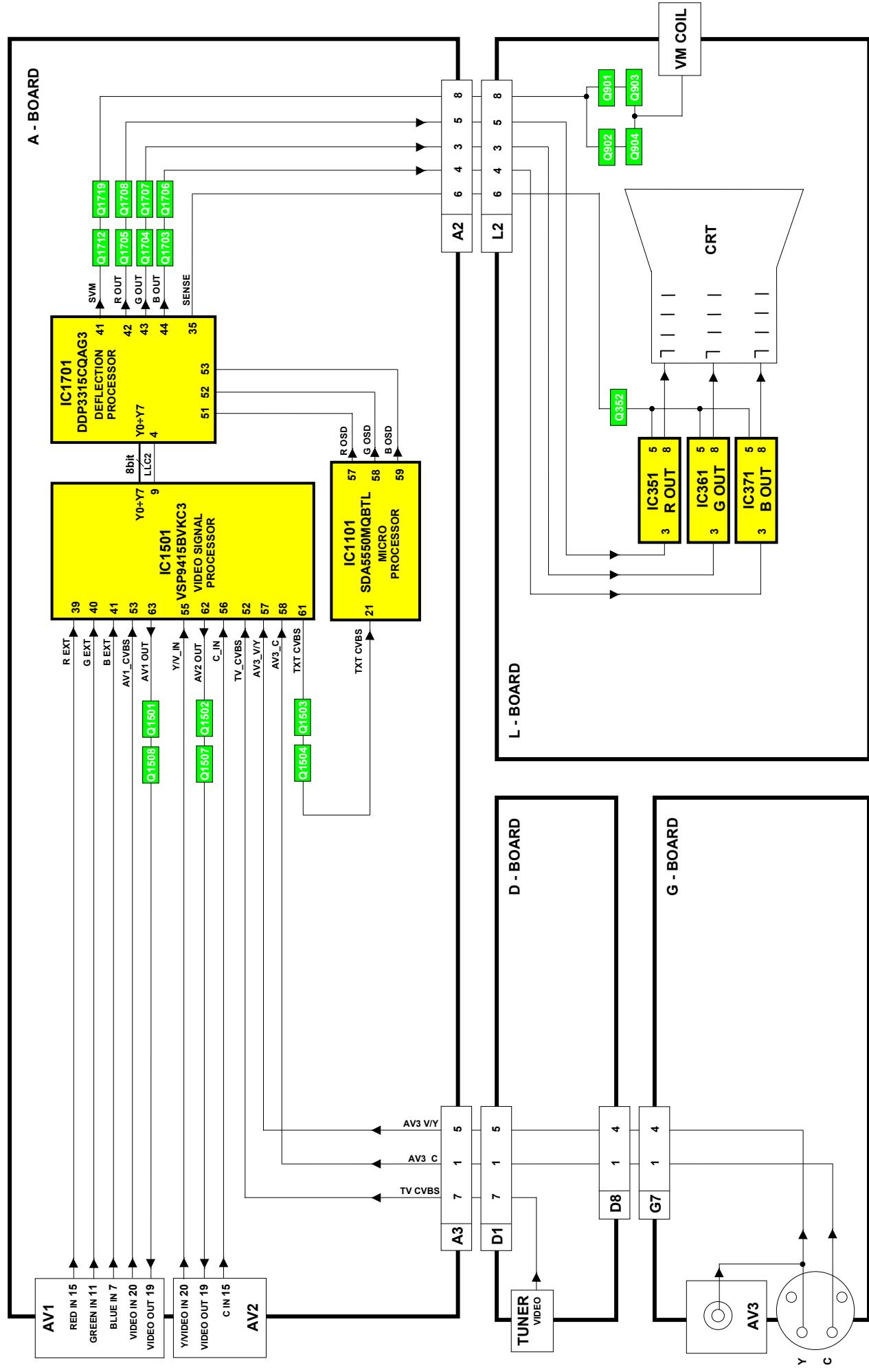
ALIGNMENT SETTINGS

(The figures below are nominal and used for representative purposes only.)

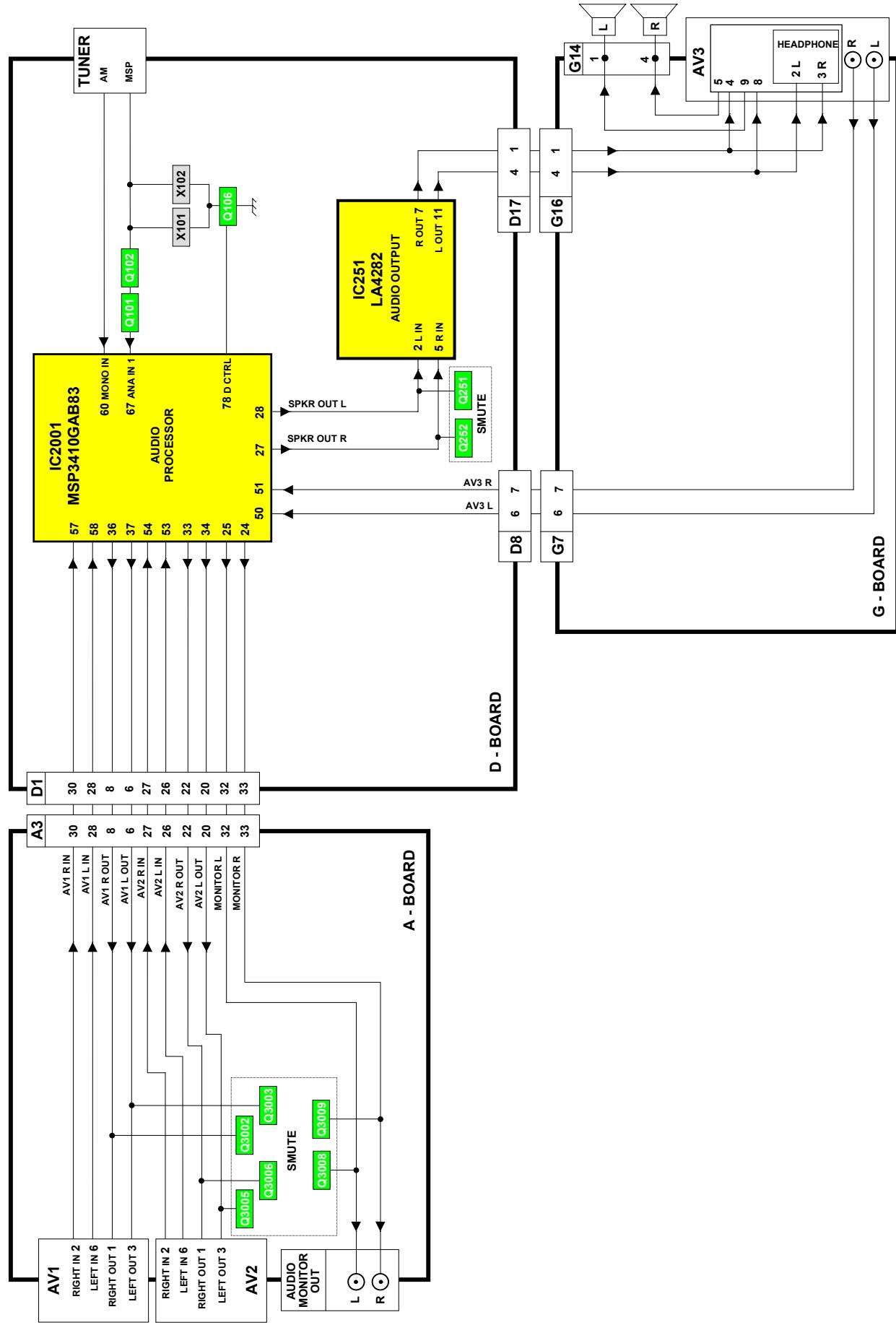
1. Set the Bass to maximum position, set the Treble to minimum position, set the Volume to minimum then press the down button (-/v) on the customer controls at the front of the TV and at the same time press the **INDEX** button on the remote control, this will place the TV into the Service Mode 1.
2. Press the **RED / GREEN** buttons to step up / down through the functions.
3. Press the **YELLOW / BLUE** buttons to alter the function values.
4. Press the **OK** button after each adjustment has been made to store the required values.
5. To exit the Service Mode, press the "N" button.

Alignment Function	Setting indication <i>Note: All setting values are approximate</i>	Settings / Special features
Horizontal Position	H-Pos 40	Optimum setting.
Vertical Position	V-Pos 30	Optimum setting.
Horizontal Amplitude	H-Amp 2	Optimum setting.
Vert. Amplitude	V-Amp -33	Optimum setting.
EW-amplitude	EW-Amp 1 - 36	Optimum setting.
Lower Corner	Lower Corner 1	Optimum setting.
Trapezium-comp	Trapez 1 -5	Optimum setting.
Upper Corner	Upper Corner 1	Optimum setting.
Vertical Linearity	V-Lin -5	Optimum setting.
Vertical Symmetry	V-Sym 38	Optimum setting.
Angle	Angle 0	Optimum setting.
Bow	Bow 0	Optimum setting.
DVCO	DVCO 0	Receive a PAL Colour Bar Pattern. For DVCO alignment press "Blue" button, wait until the figure colour is changed from red to black colour.
Highlight Lowlight	High 0403 0318 0350 Low 0130 0150 0160	Optimum setting.
Sub-Brightness	Sub-Brightness 13	Optimum setting.

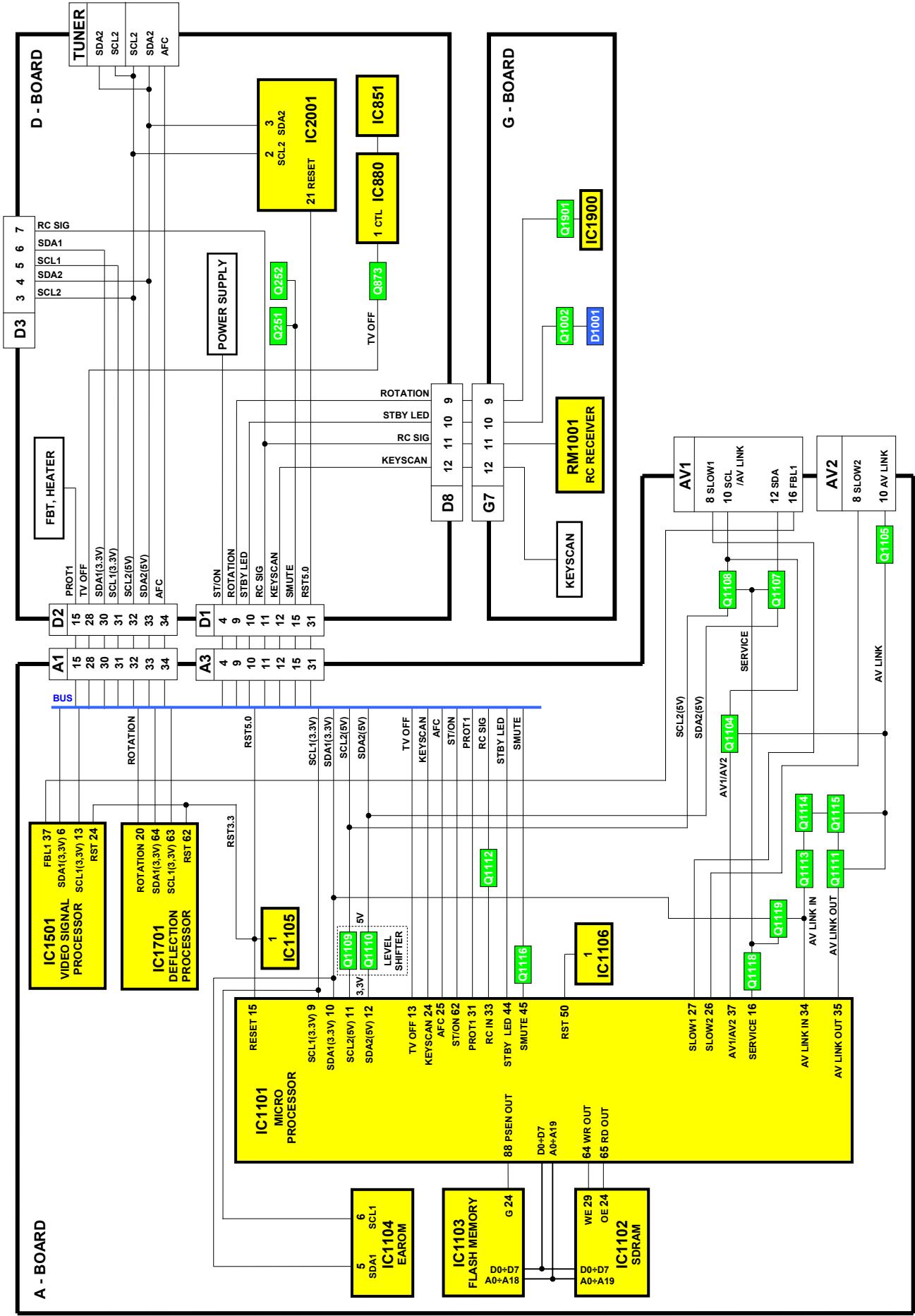
VIDEO BLOCK DIAGRAM



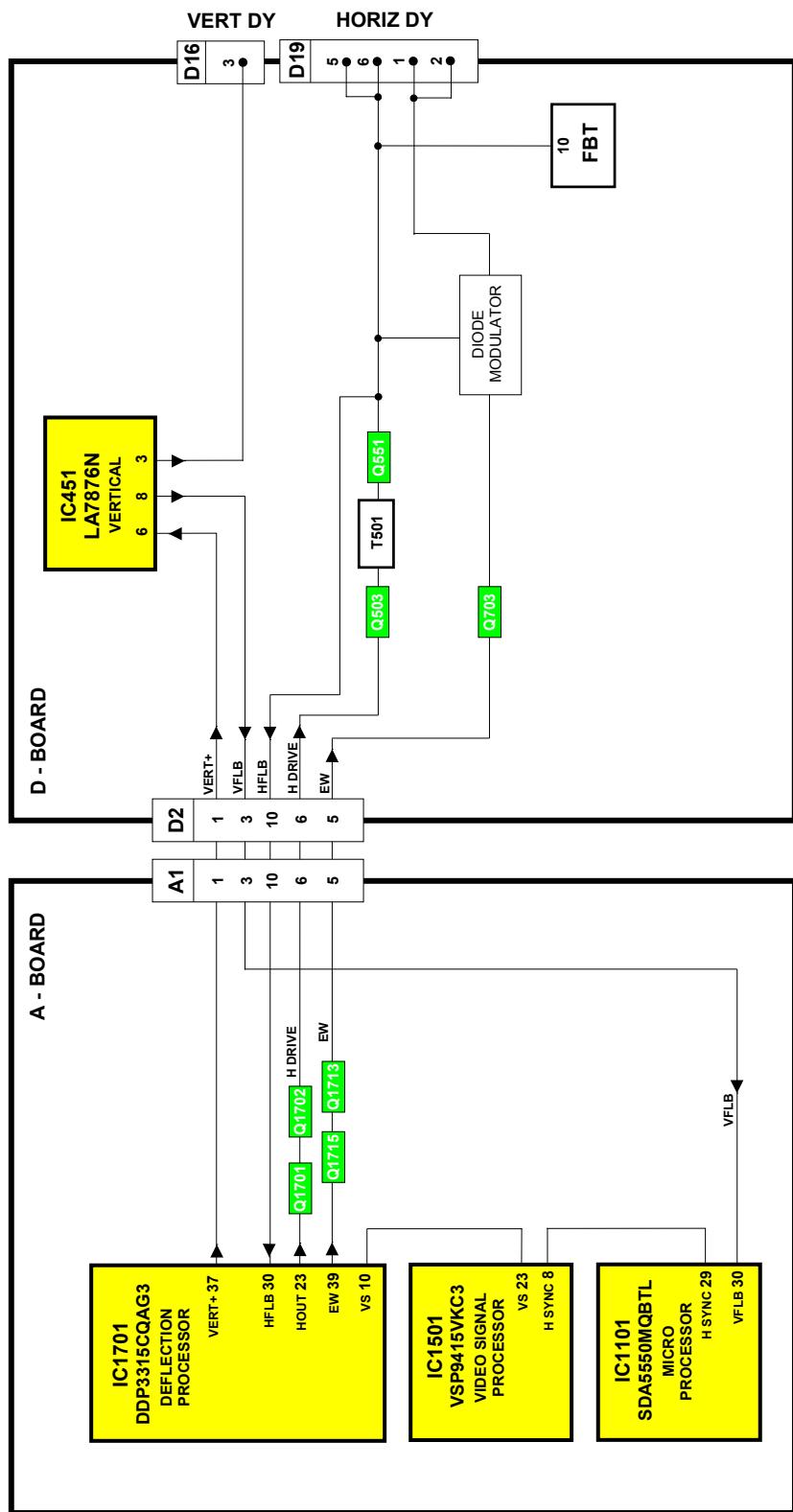
AUDIO BLOCK DIAGRAM



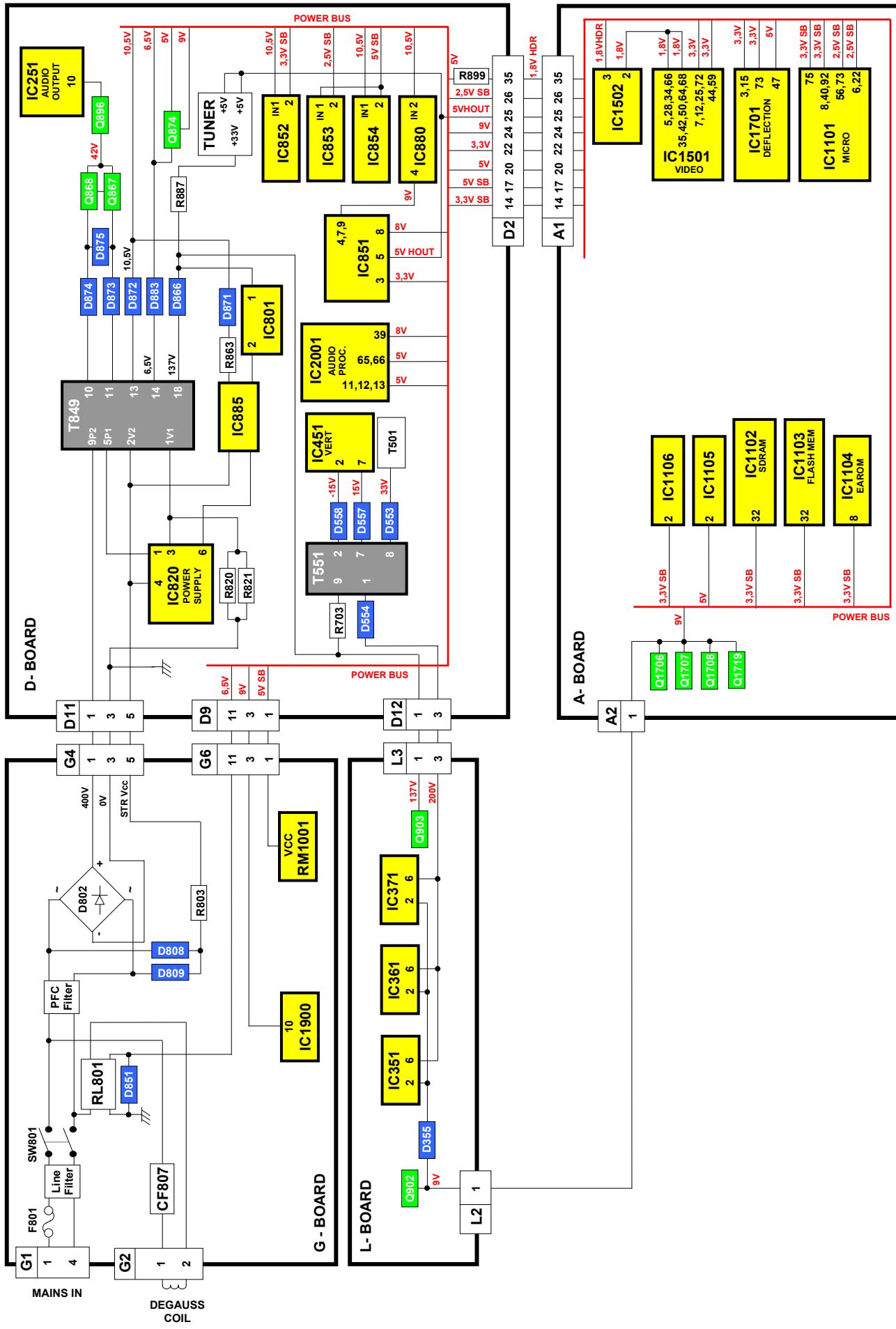
CONTROL BLOCK DIAGRAM



DEFLECTION BLOCK DIAGRAM



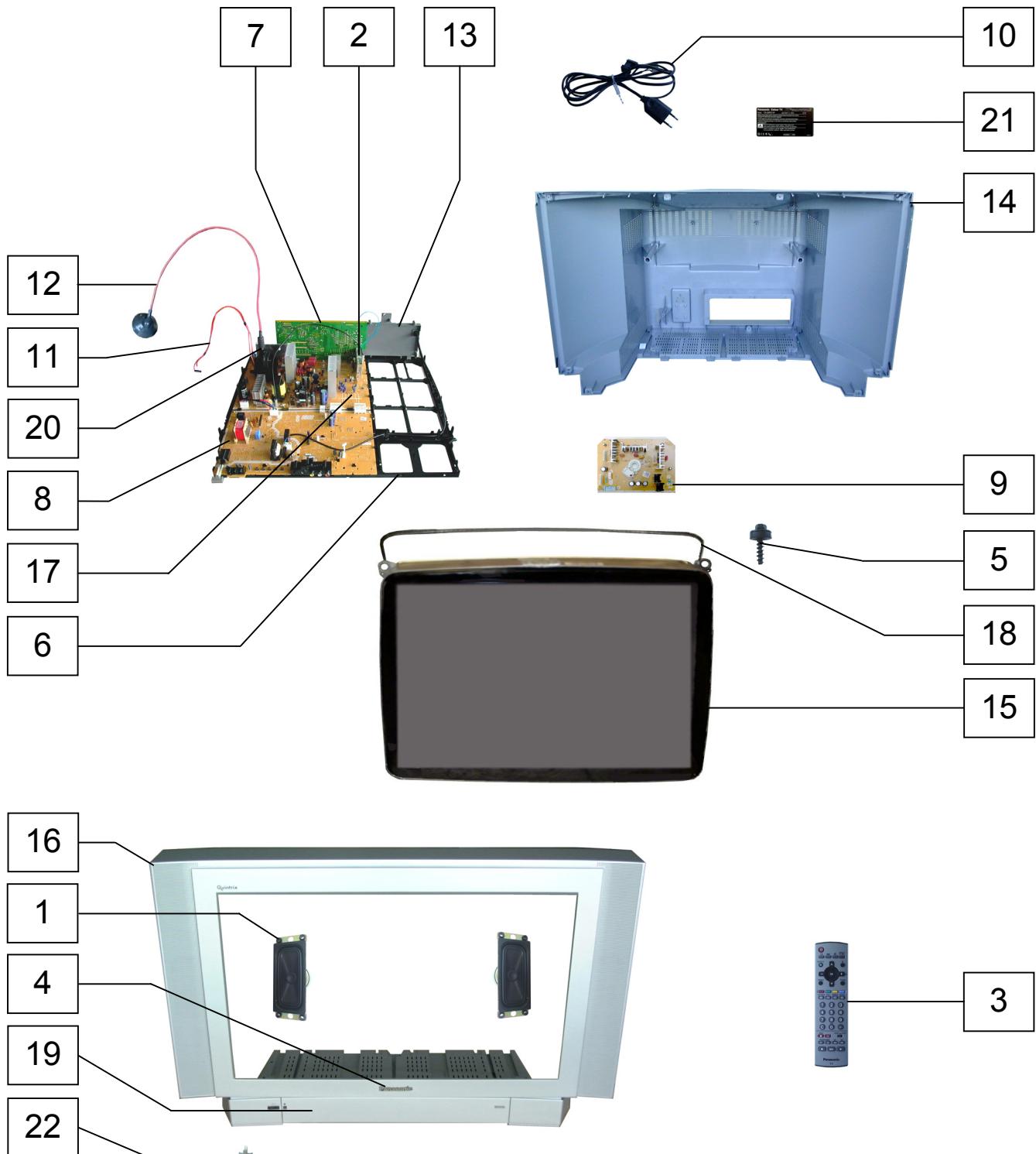
POWER SUPPLY BLOCK DIAGRAM



PARTS LOCATION

NOTE:

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



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.

Cct Ref	Parts Number	Description
COMMON PARTS		
EXPLODED VIEW		
1	EASG12S500C2	SPEAKER
2	ENG29525G	TUNER
3	EUR7628010	REMOTE CONTROL
4	TBMA060	PANASONIC BADGE
5	THT1062	CRT FIXING SCREW
6	TMX0E404-1	CHASSIS FRAME
7	TNP8EA021AN	A P.C.B.
8	TNP8EG020AD	G P.C.B.
9	TNP8EL021AD	L P.C.B.
10	TXASX01DBYG1	AC CORD
11	TXJ/FC0DEG1	FOCUS LEAD ASSY
12	ZTBZAD550A	ANODE LEAD
MISCELLANEOUS COMPONENTS		
.	R6RC/2P	BATTERY
.	TBLG3019	SET FOOT (FRONT)
.	TBLG3020	SET FOOT (REAR)
.	TBM0E0033	PRESET LABEL
.	TBM0E0034	PRESET LABEL
.	TEK6935	LID SWITCH
.	TKK0E9507	CRT SUPPORT BRACKET R
.	TKK0E9508	CRT SUPPORT BRACKET L
.	TKP0E10701	IR WINDOW
.	TLK8E05196	ROTATION COIL
.	TMW8E050-2	LED HOLDER
CKN2	TMM8E18027	SPACER
I.C.s		
IC251	LA4282	AUDIO OUTPUT
IC351	TDA6111Q/N4	RGB OUTPUT
IC361	TDA6111Q/N4	RGB OUTPUT
IC371	TDA6111Q/N4	RGB OUTPUT
IC451	LA7876N	VERTICAL OUTPUT
IC801	SE130N	ERROR AMPLIFIER
IC820	STRW6754LF06	POWER SUPPLY
IC851	C0DAFKE00001	REGULATOR
IC852	TA48M033F	REGULATOR
IC853	TA48025F	REGULATOR
IC854	TA4805SLBS1	REGULATOR
IC880	BA09ST-V5	REGULATOR
IC1101	SDA5550MQBTL	MICRO PROCESSOR
IC1102	K6X4008T1FV7	SRAM
IC1105	MN1381TU	RESET
IC1106	MN1381JU	RESET
IC1501	VSP9415BVKC3	VIDEO PROCESSOR

Cct Ref	Parts Number	Description
IC1502	LD1117S18TR	REGULATOR
IC1701	DDP3315CQAG3	DEFLECTION PROCESSOR
IC1900	LA6515	EARTH CORRECTION
IC2001	MSP3410GAB83	AUDIO PROCESSOR
RM1001	RPM-6937	LED RECEIVER
FUSES		
F801-L	EYF52BC	FUSE HOLDER
F801-R	EYF52BC	FUSE HOLDER
F801	S5055AC	FUSE
F870	TSF19252	FS LINK
F871	TSF19632	FS LINK
DIODES		
CF807	59890T60B110	THERMISTOR
D101	MA3020TX	DIODE
D102	MA3020TX	DIODE
D251	MA700ATA	DIODE
D252	MA700ATA	DIODE
D351	1SS355TE-17	DIODE
D354	1SS355TE-17	DIODE
D355	MA723TA	DIODE
D361	1SS355TE-17	DIODE
D371	1SS355TE-17	DIODE
D454	EU02V0	DIODE
D457	1SS133T-77	DIODE
D458	EU02V0	DIODE
D501	1SS133T-77	DIODE
D502	EU02V0	DIODE
D503	1SS133T-77	DIODE
D504	1SS133T-77	DIODE
D505	MTZJT-7710D	DIODE
D553	EU02V0	DIODE
D554	EU02V0	DIODE
D555	1SS133T-77	DIODE
D556	UDZSTE-1722B	DIODE
D557	ERB93-02E	DIODE
D558	ERB93-02E	DIODE
D559	1SS133T-77	DIODE
D560	RH3GLF102	DIODE
D563	EU02V0	DIODE
D565	EU02V0	DIODE
D566	EU02V0	DIODE
D575	MTZJT-775.1C	DIODE
D576	EU02V0	DIODE
D580	FMV-3GULF730	DIODE
D706	EU02V0	DIODE
D707	EU02V0	DIODE
D710	MTZJT-7716C	DIODE
D711	MA4056MTA	DIODE
D712	1SS133T-77	DIODE
D713	MA4130MTA	DIODE
D714	MTZJT-775.6A	DIODE

Cct Ref	Parts Number	Description
D717	MA4020LTA	DIODE
D802	RBV-408LF-B	DIODE
D803	BZX79B75A26A	DIODE
D804	BZX79B75A26A	DIODE
D808	AU02AV0	DIODE
D809	AU02AV0	DIODE
D820	MTZJT-776.8B	DIODE
D822	SARS01V1	DIODE
D823	1SR124-4AT82	DIODE
D824	1SR124-4AT82	DIODE
D825	1SS133T-77	DIODE
D851	1SS133T-77	DIODE
D865	RU2BLFC4	DIODE
D866	RU4BLF-L1	DIODE
D867	1SR124-4AT82	DIODE
D868	MTZJT-773.3B	DIODE
D869	MTZJT-775.1B	DIODE
D870	1SS133T-77	DIODE
D871	1SR124-4AT82	DIODE
D872	RK46LF-M1	DIODE
D873	FMGG26S	DIODE
D874	1SR124-4AT82	DIODE
D875	MTZJT-7727A	DIODE
D877	1SS133T-77	DIODE
D878	1SS133T-77	DIODE
D880	1SS133T-77	DIODE
D881	MTZJT-7736A	DIODE
D883	RK46LF-M1	DIODE
D887	1SR124-4AT82	DIODE
D888	1SS133T-77	DIODE
D889	1SR124-4AT82	DIODE
D890	1SS133T-77	DIODE
D891	1SS133T-77	DIODE
D892	1SS133T-77	DIODE
D893	BZX79B75A26A	DIODE
D894	MTZJT-7722C	DIODE
D895	MTZJT-775.1B	DIODE
D896	1SS133T-77	DIODE
D898	MTZJT-7720B	DIODE
D1001	LNH201RFCF6	L.E.D.
D1004	MTZJT-778.2C	DIODE
D1102	1SS355TE-17	DIODE
D1104	1SS355TE-17	DIODE
D1105	1SS355TE-17	DIODE
D1701	DAN217T146	DIODE
D1702	DAN217T146	DIODE
D1703	1SS355TE-17	DIODE
D1705	1SR124-4AT82	DIODE
D2005	1SS133T-77	DIODE
D2006	1SS133T-77	DIODE
D2007	1SS133T-77	DIODE
D2008	1SS133T-77	DIODE
D2009	1SS133T-77	DIODE
D2010	MTZJT-774.7C	DIODE
D3201	MTZJT-778.2C	DIODE
D3202	MTZJT-778.2C	DIODE
D3203	MTZJT-778.2C	DIODE
D3204	UDZSTE-1716B	DIODE
IC885	PC123FY2	PHOTO COUPLER
TRANSISTORS		
Q101	BC847B	TRANSISTOR
Q102	BC847B	TRANSISTOR
Q106	BC847B	TRANSISTOR
Q251	BC847B	TRANSISTOR
Q252	BC847B	TRANSISTOR
Q351	BC857B	TRANSISTOR

Cct Ref	Parts Number	Description
Q352	BC857B	TRANSISTOR
Q503	2SD1223TE16L	TRANSISTOR
Q551	2SC5905000RK	TRANSISTOR
Q552	2SC1473ATA	TRANSISTOR
Q556	BC847B	TRANSISTOR
Q701	BC847B	TRANSISTOR
Q702	BC847B	TRANSISTOR
Q703	2SK2231TE16L	TRANSISTOR
Q704	BC847B	TRANSISTOR
Q705	BC547B/126	TRANSISTOR
Q706	BC847B	TRANSISTOR
Q707	2SA1018QTA	TRANSISTOR
Q850	BC847B	TRANSISTOR
Q852	BC847B	TRANSISTOR
Q865	2SA1668LF603	TRANSISTOR
Q866	MPSA42/RA	TRANSISTOR
Q867	2SA1534A-RTA	TRANSISTOR
Q868	BC557B/126	TRANSISTOR
Q870	BC847B	TRANSISTOR
Q871	BC857B	TRANSISTOR
Q873	BC847B	TRANSISTOR
Q874	2SD2396/K	TRANSISTOR
Q896	2SK2231TE16L	TRANSISTOR
Q898	BC847B	TRANSISTOR
Q901	BC857B	TRANSISTOR
Q902	BC847B	TRANSISTOR
Q903	2SA1535ARLB	TRANSISTOR
Q904	2SC3944ARLB	TRANSISTOR
Q1002	BC847B	TRANSISTOR
Q1103	BC847B	TRANSISTOR
Q1104	BC847B	TRANSISTOR
Q1105	BC847B	TRANSISTOR
Q1106	BC847B	TRANSISTOR
Q1107	BC847B	TRANSISTOR
Q1108	BC847B	TRANSISTOR
Q1109	2N7002	TRANSISTOR
Q1110	2N7002	TRANSISTOR
Q1111	BC847B	TRANSISTOR
Q1112	BC847B	TRANSISTOR
Q1113	BC847B	TRANSISTOR
Q1114	BC847B	TRANSISTOR
Q1115	BC847B	TRANSISTOR
Q1116	BC857B	TRANSISTOR
Q1117	BC847B	TRANSISTOR
Q1118	BC847B	TRANSISTOR
Q1119	BC847B	TRANSISTOR
Q1501	BC847B	TRANSISTOR
Q1502	BC847B	TRANSISTOR
Q1503	BC847B	TRANSISTOR
Q1504	BC857B	TRANSISTOR
Q1507	BC857B	TRANSISTOR
Q1508	BC857B	TRANSISTOR
Q1701	BC847B	TRANSISTOR
Q1702	BC847B	TRANSISTOR
Q1703	BC847B	TRANSISTOR
Q1704	BC847B	TRANSISTOR
Q1705	BC847B	TRANSISTOR
Q1706	FMY4AT148	TRANSISTOR
Q1707	FMY4AT148	TRANSISTOR
Q1708	FMY4AT148	TRANSISTOR
Q1711	BC847B	TRANSISTOR
Q1712	BC847B	TRANSISTOR
Q1713	BC847B	TRANSISTOR
Q1715	BC847B	TRANSISTOR
Q1719	BC847B	TRANSISTOR
Q1901	BC847B	TRANSISTOR

Cct Ref	Parts Number	Description			
.	TPD0E1007	SUB CUSHION			
INSTRUCTION BOOKS					
.	TQB0E0012M1M	BULGARIAN			
.	TQB0E0012N1M	ROMANIAN			
.	TQB0E0012P1M	POLISH			
.	TQB0E0012Q1M	HUNGARIAN			
.	TQB0E0012R1M	CZECH			
.	TQB0E0012U1M	ENGLISH			
I.C.s					
IC1103	15E0/040/0E	4MEG EPROM M27W401-80B			
IC1104	1500/3AP	32K EAROM 24C32A10PI27			
DIODES					
D456	MTZJT-776.2B	DIODE			
COILS					
L584	ELH5L7719	COIL			
RESISTORS					
R461	ERX2SJS1R2H	FUSIBLE	2W	5%	1R2 Ω
CAPACITORS					
C109	ECJ2VB1H102K	S.M.CAP	50V	1nF	
C551	ECKW3D331JBR	CERAMIC	2kV	330pF	
C561	ECA1EM471B	ELECT	25V	470μF	
C567	ECA1EM471B	ELECT	25V	470μF	
C581	ECWF4684JBB	FILM	400V	680nF	
C1112	ECJ1VC1H121J	S.M.CAP	50V	120pF	

Cct Ref	Parts Number	Description			

NOTES

SCHEMATIC DIAGRAMS FOR MODELS

TX-32PS11D, TX-32PS11F, TX-32PS11P, TX-32PS11D/B TX-29PS11D, TX-29PS11F, TX-29PS11P, TX-29PS11D/B TX-28PS11D, TX-28PS11F (GP2 CHASSIS)

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) ($k=1,000$, $M=1,000,000$)

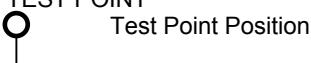
2. CAPACITORS

All capacitors are ceramic 50V unless marked otherwise.
Unit of capacitance is μF unless otherwise stated.

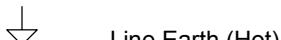
3. COIL

Unit of inductance is μH , unless otherwise stated.

4. TEST POINT



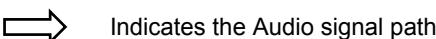
5. EARTH SYMBOL



6. VOLTAGE MEASUREMENT

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

7.



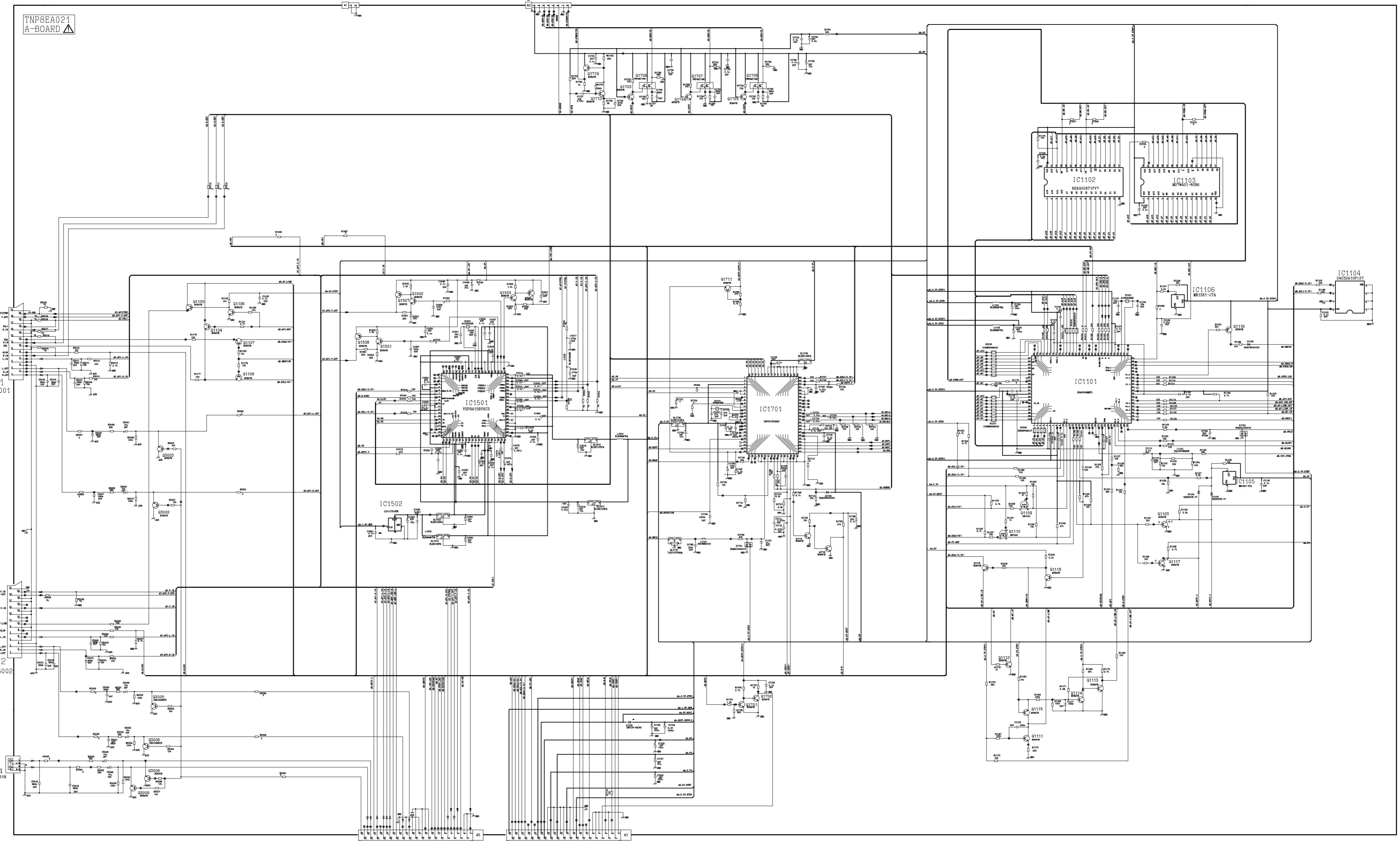
These schematic diagrams are the latest at time of printing and are subject to change without notice.

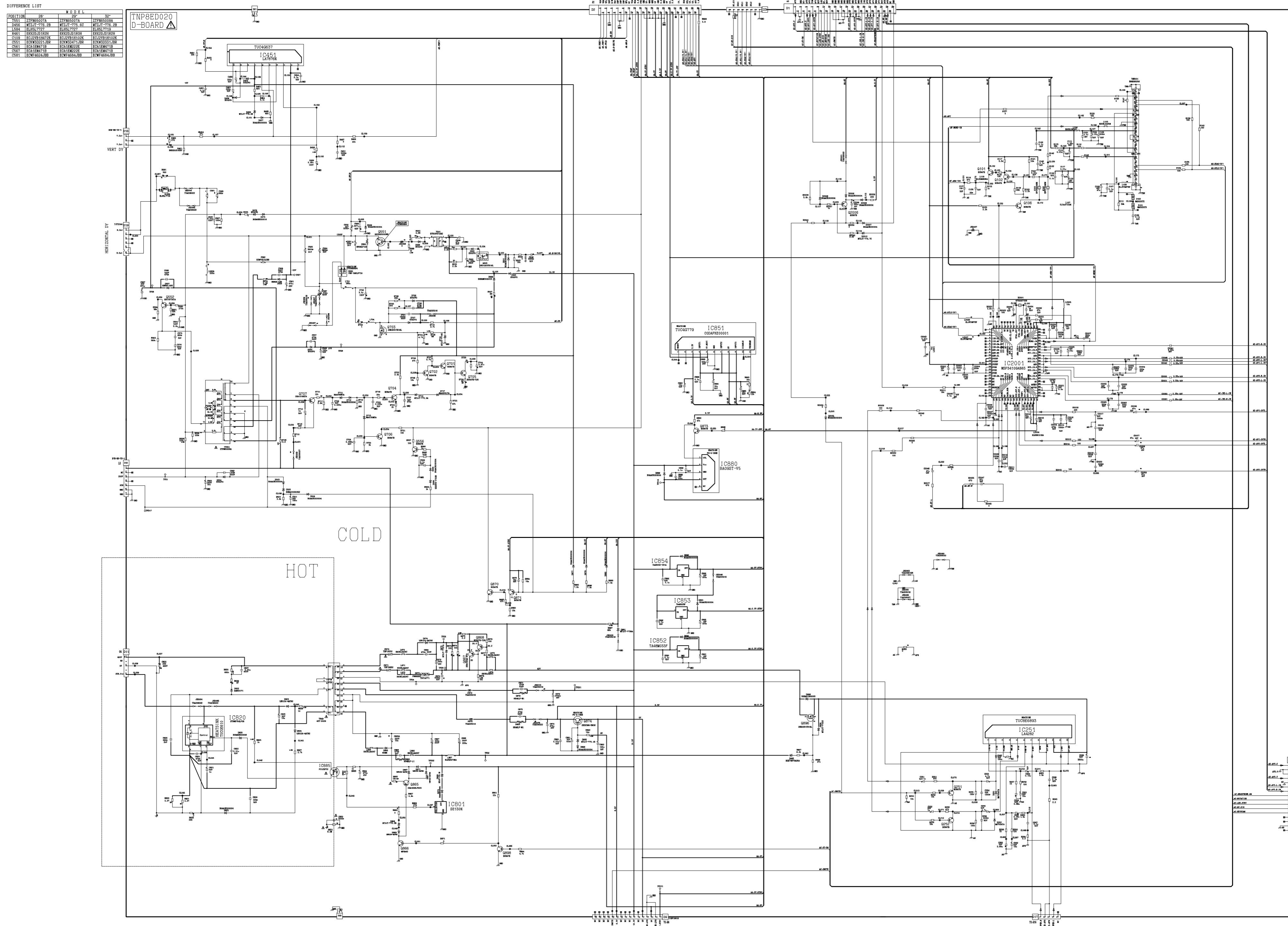
REMARKS

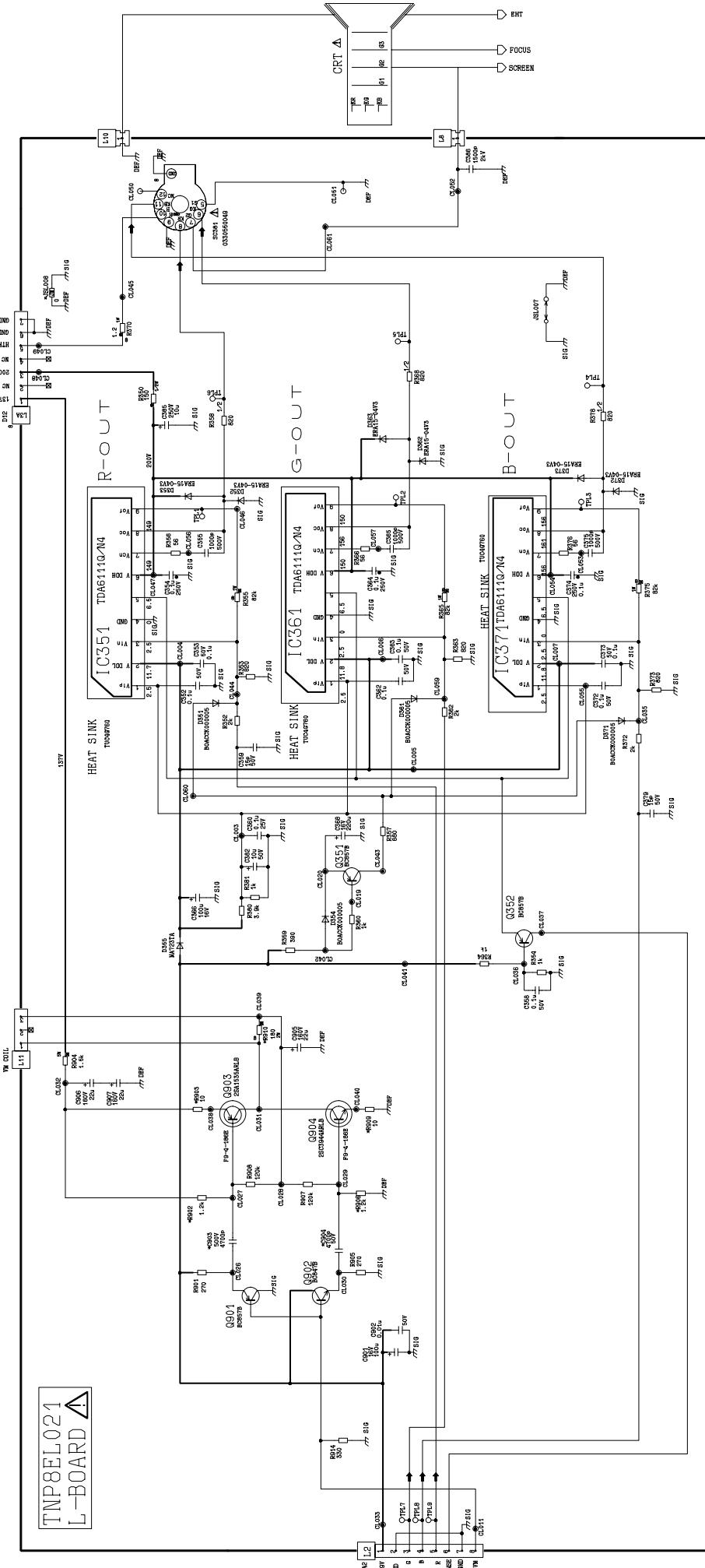
- a. Do not touch the hot part, or the hot and cold parts at the same time, as you are liable to a shock hazard.
- b. Do not short circuit the hot and cold circuits as electrical components may be damaged.
- c. Do not connect an instrument, such as an oscilloscope, to the hot and cold circuits simultaneously 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.

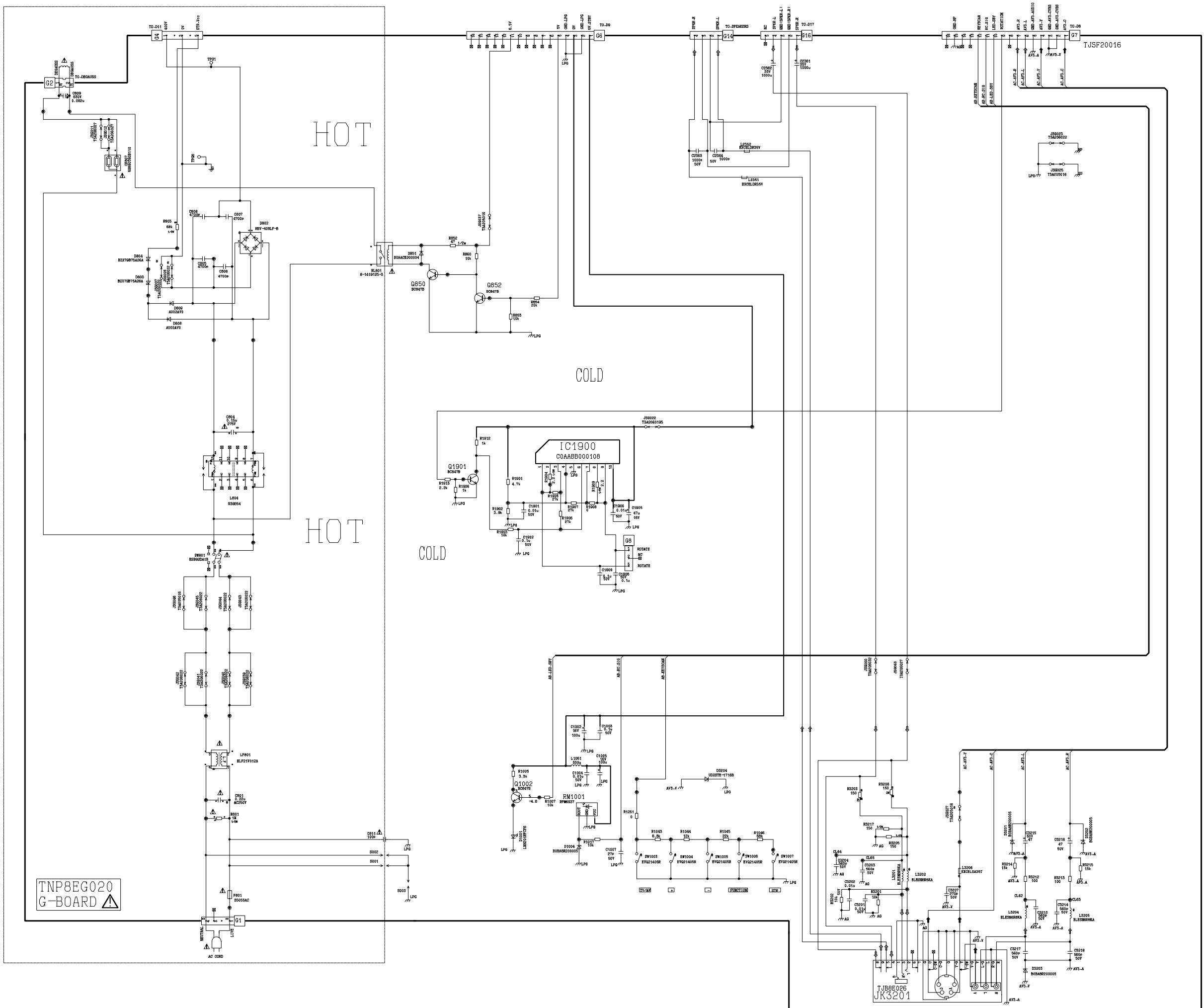
NOTE

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.



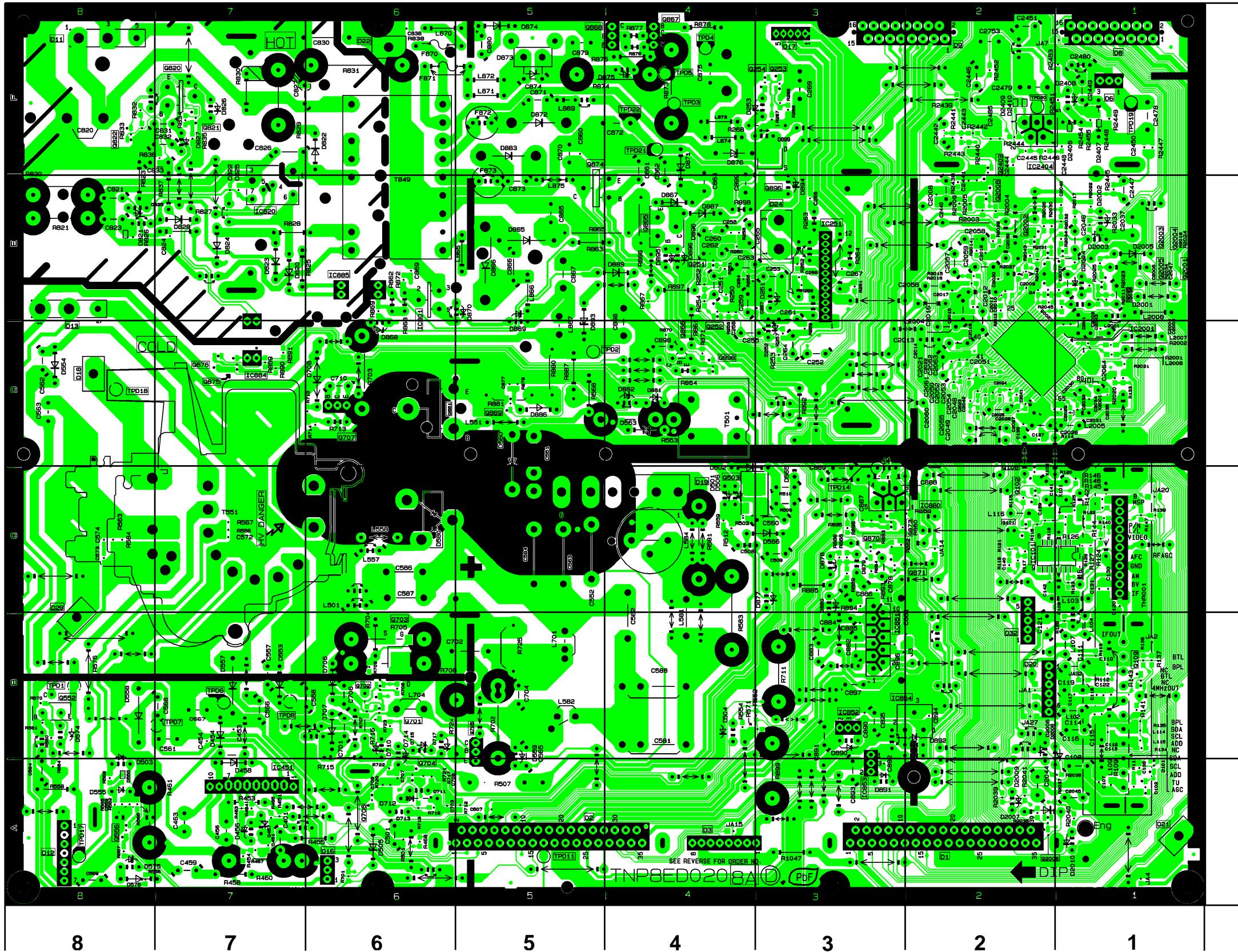






CONDUCTOR VIEWS FOR MODELS
TX-32PS11D, TX-32PS11F, TX-32PS11P, TX-32PS11D/B
TX-29PS11D, TX-29PS11F, TX-29PS11P, TX-29PS11D/B
TX-28PS11D, TX-28PS11F

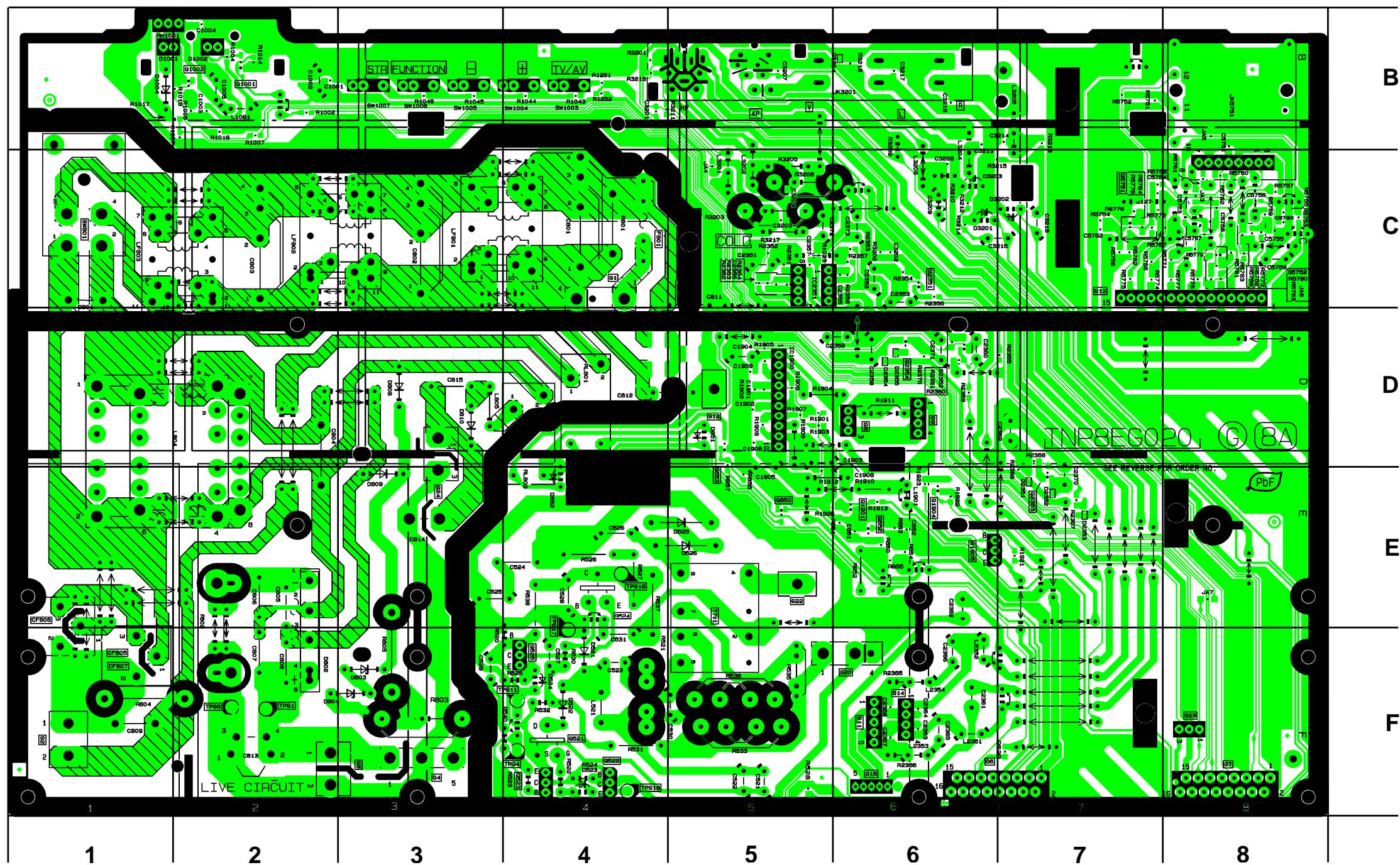
D - BOARD TNP8ED020



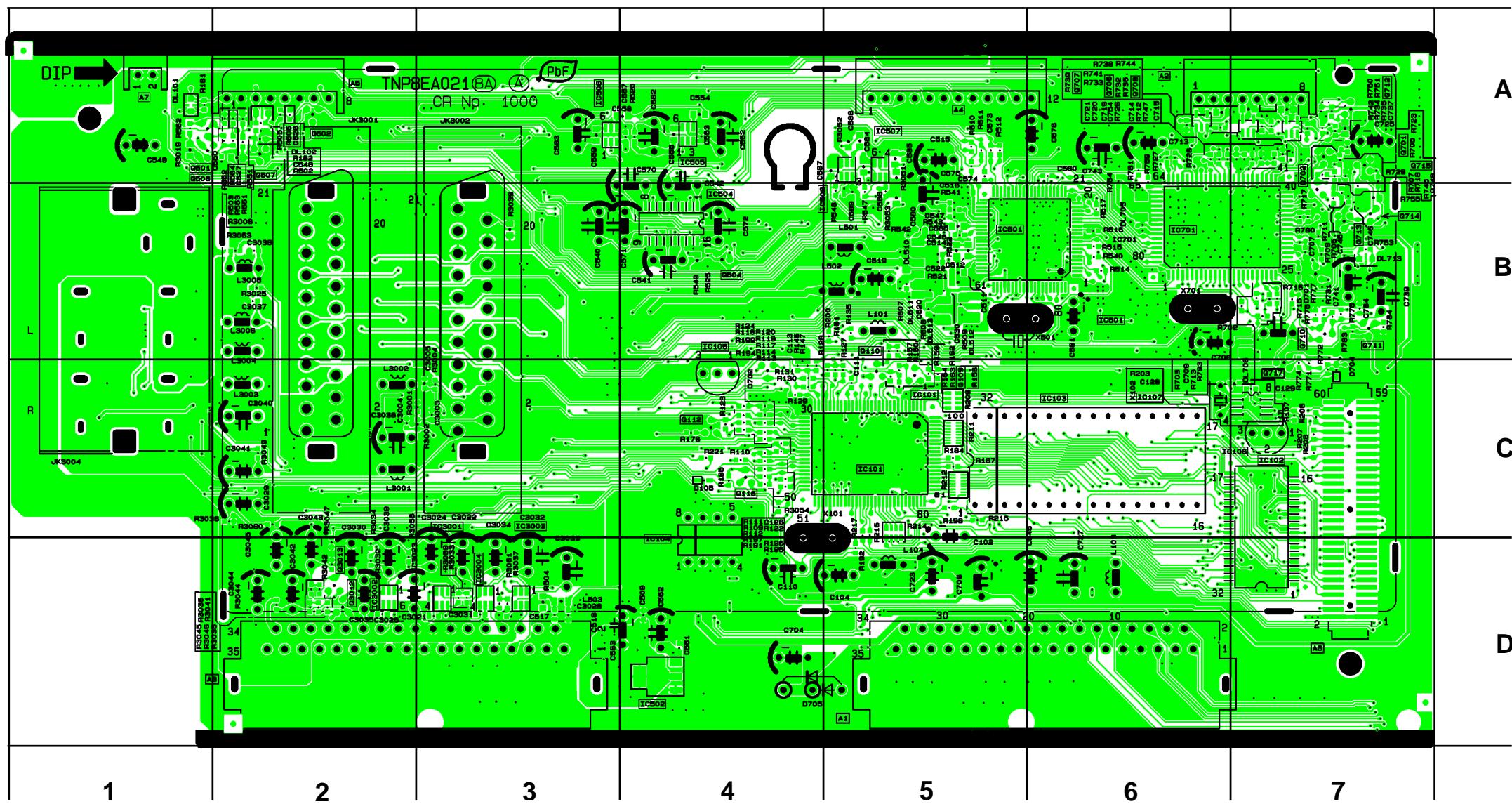
TRAN'S	D502	C4	D881	D4
Q101	C2	D503	A8	D883
Q102	C2	D504	B4	D887
Q106	C2	D505	A6	D888
Q2006	A2	D553	B7	D889
Q251	E4	D554	D8	D890
Q252	E4	D555	A8	D891
Q503	C4	D556	A8	D892
Q551	D6	D557	B7	D893
Q552	B8	D558	B8	D894
Q556	A8	D559	B5	D895
Q701	B6	D560	D5	D896
Q702	B6	D563	D4	D898
Q703	B6	D565	C4	
Q704	A6	D566	C4	IC'S
Q705	B5	D575	A8	IC2001
Q706	A6	D576	A8	IC251
Q707	D6	D580	C6	IC451
Q865	E4	D706	B6	IC801
Q866	D4	D707	B6	IC820
Q867	F4	D710	B6	IC851
Q868	F4	D711	A6	IC852
Q870	C3	D712	A6	IC853
Q871	C3	D713	A6	IC854
Q873	C3	D714	B6	IC880
Q874	E5	D717	B6	IC885
Q896	F3	D820	E7	
Q898	D4	D822	F6	
	D823	E7	TP'S	
DIODES	D824	E7	TPD1	B8
D101	A1	D825	E8	TPD11
D102	A1	D865	E5	TPD14
D2005	E1	D866	E5	TPD17
D2006	B2	D867	E4	TPD18
D2007	A2	D868	D6	TPD19
D2008	B1	D869	D5	TPD2
D2009	A2	D870	E5	TPD20
D2010	A1	D871	F4	TPD21
D251	E3	D872	F5	TPD22
D252	D3	D873	F5	TPD3
D454	B7	D874	F5	TPD4
D456	A7	D875	F4	TPD5
D457	A7	D877	C3	TPD6
D458	A7	D878	C3	TPD7
D501	C4	D880	C3	TPD8

G - BOARD TNP8EG020

TRAN'S	D808	D3
Q1002	B2	D809
Q1901	E6	D851
Q850	E5	
Q852	E6	IC'S
		IC1900 D5
DIODE	RM1001 B1	
D1001	B1	
D1004	B1	TP'S
D3201	C6	TPG1 F2
D3202	C7	TPG11 F4
D3203	C6	TPG16 E4
D3204	B6	TPG17 F4
D802	E2	TPG18 F4
D803	F3	TPG4 F4
D804	F3	TPG6 F2



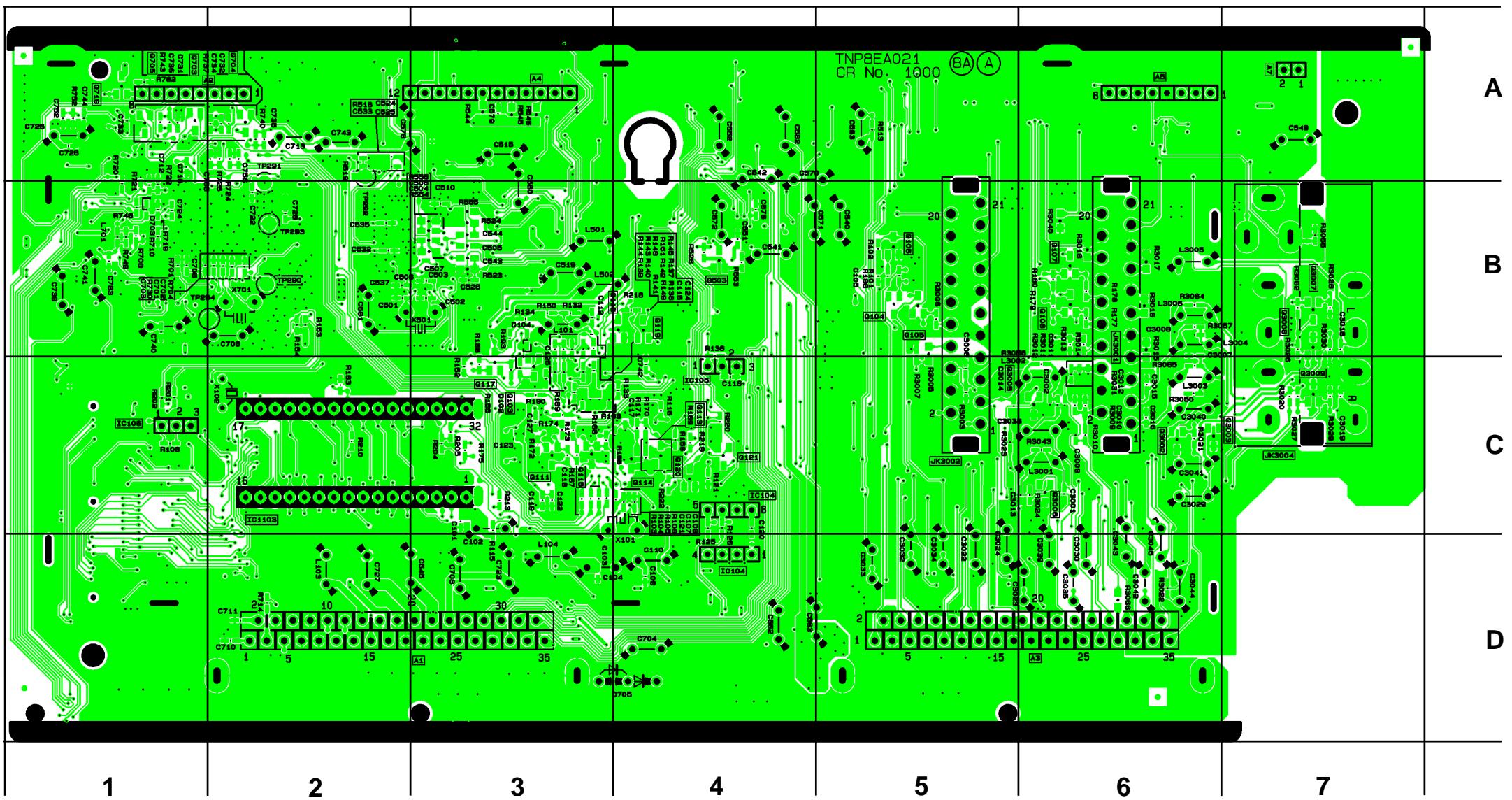
A - BOARD TNP8EA021 - TOP



TRAN'S	DIODE
Q1109 C5	D1105 C4
Q1110 C5	D1701 B7
Q1112 C4	D1702 C4
Q1116 C4	D1705 D4
Q1501 A1	
Q1502 A2	IC'S
Q1504 B4	IC1101 C5
Q1507 A2	IC1102 C7
Q1508 A1	IC1103 C6
Q1701 A7	IC1104 D4
Q1702 A7	IC1105 C4
Q1706 A7	IC1106 C7
Q1707 A6	IC1501 B6
Q1708 A7	IC1502 D4
Q1711 C7	IC1701 B6
Q1712 A7	
Q1713 B7	
Q1715 A7	

A - BOARD TNP8EA021 - BOTTOM

TRAN'S	
Q1103	C3
Q1104	B5
Q1105	B5
Q1106	B5
Q1107	B6
Q1108	B6
Q1111	C3
Q1113	C4
Q1114	C4
Q1115	C3
Q1117	C3
Q1118	B4
Q1119	B4
Q1503	B4
	DIODE
Q1102	C3
D1104	B3
D1703	B1



NOTES

L - BOARD TNP8EL021



TRAN'S	DIODE	IC'S	TP'S
Q351 D4	D351 D3	IC351 D4	TPL1 D2
Q352 C1	D354 D4	IC361 C4	TPL2 C4
Q901 B4	D355 D1	IC371 C1	TPL3 C1
Q902 B4	D361 C3		TPL4 C2
Q903 A4	D371 D2		TPL5 B3
Q904 B4			TPL6 C3
			TPL7 C1
			TPL8 C1
			TPL9 C1

