

# Service Manual



**Colour Television**

**TX-25AS10D/M  
TX-25AS10F/M**

**EURO-4H Chassis**

## SPECIFICATIONS

<b>Power Source:</b>	220-240V a.c., 50Hz	<b>AV2 IN</b>	Video (21 pin) 1V p-p 75Ω Audio (21 pin) 500mV rms 10kΩ
<b>Power Consumption:</b>	122W	<b>AV2 OUT</b>	Y: 1V p-p 75Ω (21-pin) C: 0,3V p-p 75Ω
<b>Stand-by Power Consumption:</b>	1,4W	<b>AV3 IN</b>	Video (21 pin) 1V p-p 75Ω Audio (21 pin) 500mV rms 1kΩ Selectable output (21 pin)
<b>Aerial Impedance:</b>	75Ω unbalanced, Coaxial Type	<b>High Voltage:</b>	Y: 1V p-p 75Ω
<b>Receiving System:</b>	PAL-I, B/G, H, D/K, PAL-525/60 SECAM L/L', B/G, D/K M.NTSC NTSC (AV only)	<b>Picture Tube:</b>	C: 0,3V p-p 75Ω
<b>Receiving Channels:</b>	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)	<b>Audio Output:</b>	500mV rms 10kΩ
<b>Intermediate Frequency:</b>		<b>Headphones:</b>	1V p-p 75Ω
<b>Video/Audio</b>		<b>Accessories supplied :</b>	30,5kV ± 1kV
Video	38,9MHz, 34MHz	<b>Picture Tube:</b>	A60LUQ085X05 59cm
Audio	32,9MHz, 33,16MHz, 33,4MHz 40,4MHz, 32,4MHz (A2 Stereo) 33,05MHz, 34,05MHz (NICAM) 32,66MHz, 32,4MHz (Czech Stereo)	<b>Audio Output:</b>	2 x 15W (Music Power) 8Ω Impedance
Colour	34,47MHz (PAL) 34,5MHz, 34,65MHz (SECAM)	<b>Headphones:</b>	8Ω Impedance 3,5mm
<b>Video/Audio Terminals:</b>		<b>Accessories supplied :</b>	Remote Control 2 x R6 (UM3) Batteries
AUDIO MONITOR OUT	Audio (RCAx2) 500mV rms 1kΩ	<b>Dimensions:</b>	
AV1 IN	Video (21 pin) 1V p-p 75Ω Audio (21 pin) 500mV rms 10kΩ RGB (21 pin)	Height:	528mm
AV1 OUT	Video (21 pin) 1V p-p 75Ω Audio (21 pin) 500mV rms 1kΩ	Width:	626mm
		Depth:	470mm
		<b>Net weight:</b>	34,5kg

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

**NOTE:** This Service Manual should be used in conjunction with the EURO-4H Technical guide.

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## SAFETY PRECAUTIONS

### 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 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  $2\text{k}\Omega$  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 above measurements.
6. The potential at any point should not exceed 1,4VRms. 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

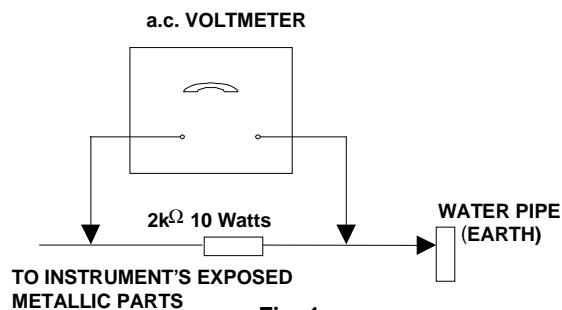


Fig. 1.

### 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 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  $30,5\text{kV} \pm 1\text{kV}$ .  
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 8 screws as shown in Fig.2.



Fig.2.

## LOCATION OF CONTROLS

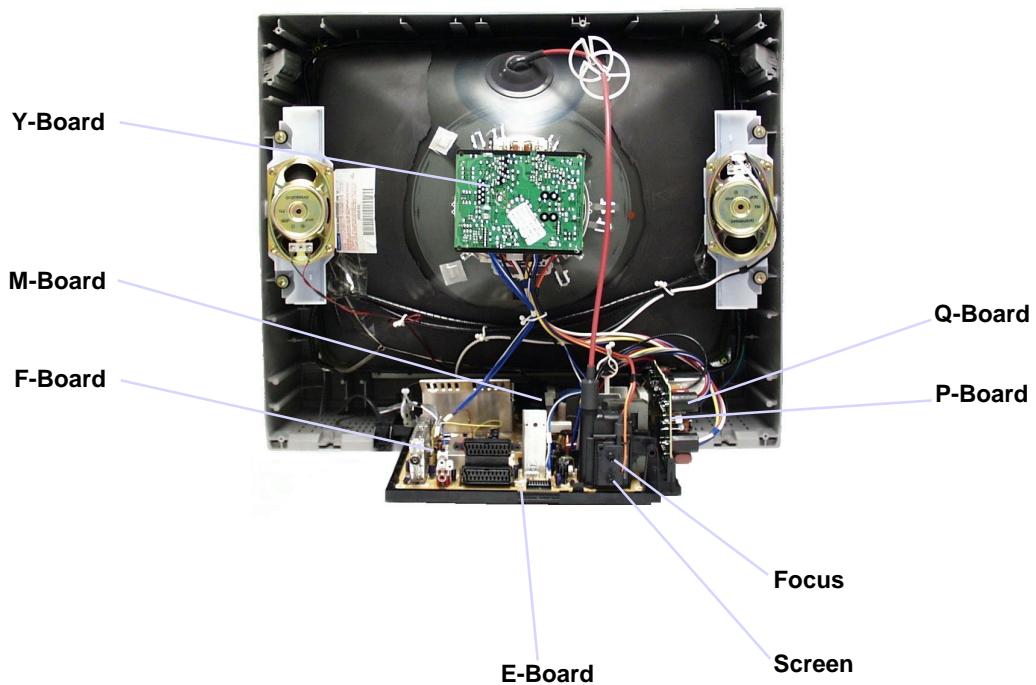


Fig.3.

## HOW TO MOVE THE CHASSIS INTO SERVICE POSITION

1. Remove 2 screws (**A**), as shown in **Fig.4.**, and remove speaker assembly.
2. Hold and lift the rear of the chassis and gently pull the chassis toward you, as shown in **Fig.5.**
3. Release the respective wiring clips and move the EHT lead around to the left side of the CRT neck.
4. Elevate the chassis as shown in **Fig .6.**
5. Using a speaker screw, screw the chassis frame into the top speaker fixing rib (**B**), as shown in **Fig.6.**.
6. After servicing replace the speaker, and ensure all wiring is returned to its original position before returning the receiver to the customer.

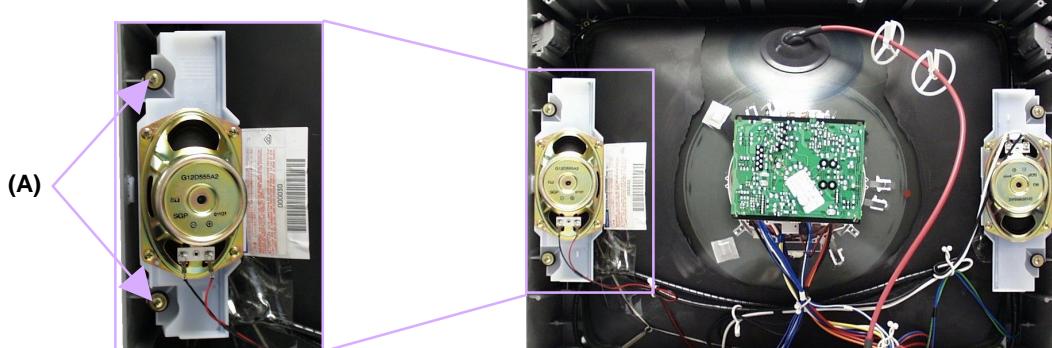


Fig .4.

Fig .5.

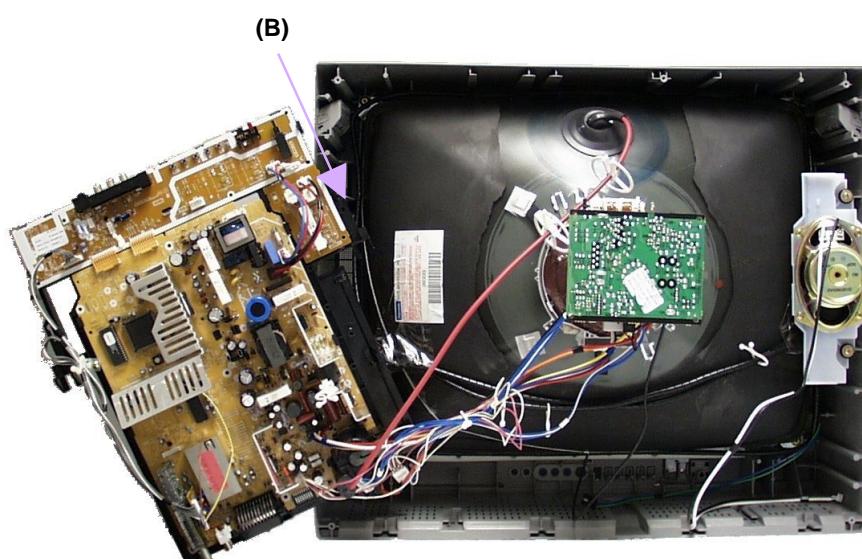


Fig .6.

## Adjustment Procedure

Item / Preparation	Adjustments																								
<b>+B SET-UP</b> <ol style="list-style-type: none"> <li>1. Receive a Greyscale signal.</li> <li>2. Set the controls :-           <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Brightness</td> <td style="width: 15%;">Minimum</td> <td style="width: 15%; text-align: right;"><b>B9</b> 5 ± 0,25V</td> <td style="width: 15%; text-align: right;"><b>B10</b> 5 ± 0,25V</td> </tr> <tr> <td>Contrast</td> <td>Minimum</td> <td style="text-align: right;"><b>B5</b> 12 ± 0,5V</td> <td style="text-align: right;"><b>B11</b> 33 ± 1,5V</td> </tr> <tr> <td>Volume</td> <td>Minimum</td> <td style="text-align: right;"><b>B4</b> 15 ± 1V</td> <td style="text-align: right;"><b>B7</b> 8 ± 0,5V</td> </tr> <tr> <td></td> <td></td> <td style="text-align: right;"><b>B12</b> 26 ± 2V</td> <td style="text-align: right;"><b>B8</b> 6 ± 1V</td> </tr> <tr> <td></td> <td></td> <td style="text-align: right;"><b>B3</b> 36 ± 1,5V</td> <td style="text-align: right;"><b>B13</b> 13 ± 1V</td> </tr> <tr> <td></td> <td></td> <td style="text-align: right;"><b>B1</b> 205 ± 10V</td> <td style="text-align: right;"><b>B14</b> 14 ± 1V</td> </tr> </table> </li> </ol>	Brightness	Minimum	<b>B9</b> 5 ± 0,25V	<b>B10</b> 5 ± 0,25V	Contrast	Minimum	<b>B5</b> 12 ± 0,5V	<b>B11</b> 33 ± 1,5V	Volume	Minimum	<b>B4</b> 15 ± 1V	<b>B7</b> 8 ± 0,5V			<b>B12</b> 26 ± 2V	<b>B8</b> 6 ± 1V			<b>B3</b> 36 ± 1,5V	<b>B13</b> 13 ± 1V			<b>B1</b> 205 ± 10V	<b>B14</b> 14 ± 1V	<ol style="list-style-type: none"> <li>1. Set the +B voltage up as follows:- Adjust <b>R811</b> so that <b>B2</b> shows <math>148V \pm 1V</math>.</li> <li>2. Confirm the following voltages.</li> </ol>
Brightness	Minimum	<b>B9</b> 5 ± 0,25V	<b>B10</b> 5 ± 0,25V																						
Contrast	Minimum	<b>B5</b> 12 ± 0,5V	<b>B11</b> 33 ± 1,5V																						
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		<b>B1</b> 205 ± 10V	<b>B14</b> 14 ± 1V																						
<b>CUT OFF / Ug2 Test</b> <ol style="list-style-type: none"> <li>1. Receive a Greyscale signal.</li> <li>2. Degauss the tube externally.</li> <li>3. Set the TV into Service Mode 1.</li> <li>4. Select Cut off mode.</li> </ol>	To adjust Cutoff connect an oscilloscope to the Blue cathode. Press "STR" and adjust "cutoff" value using the "Yellow" and "Blue" buttons until the black level is $160V \pm 5V$ , press "STR" to store the value. Remove the oscilloscope. Select Ug2 adjustment and adjust the screen VR until the display shows "O.K."																								

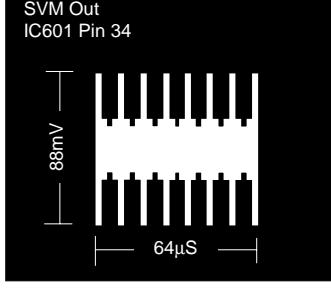
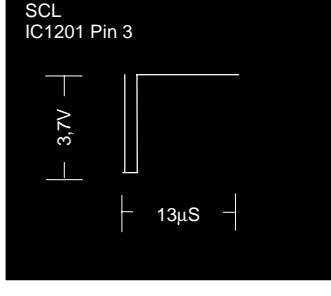
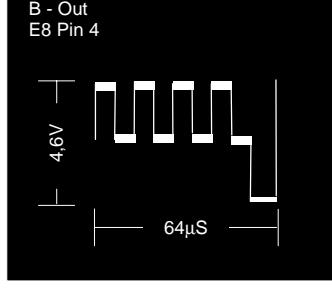
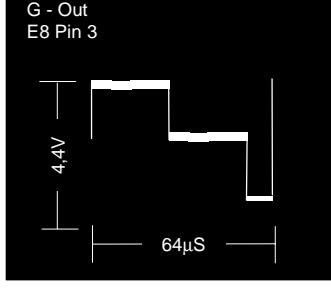
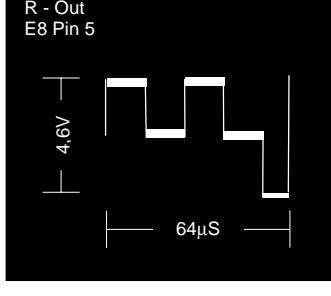
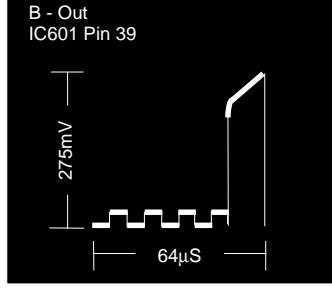
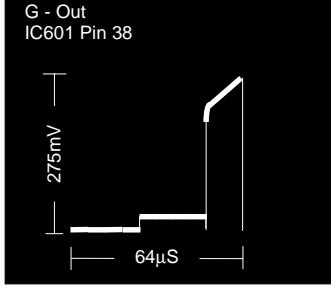
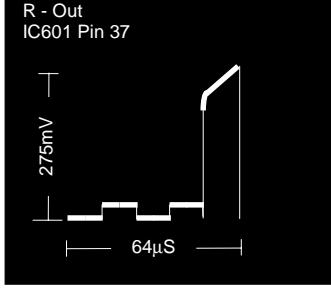
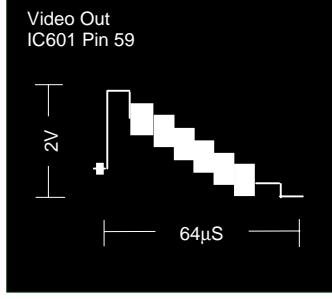
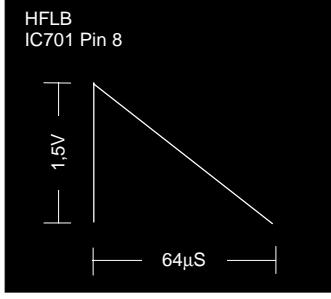
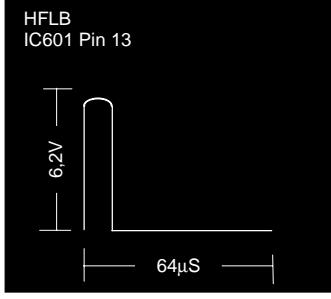
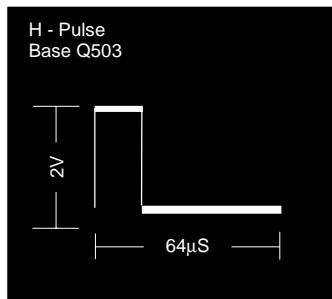
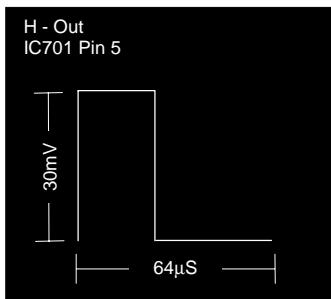
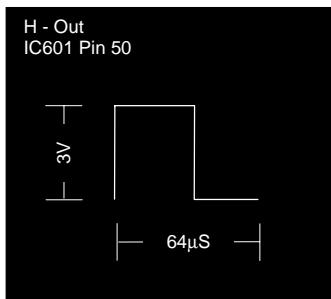
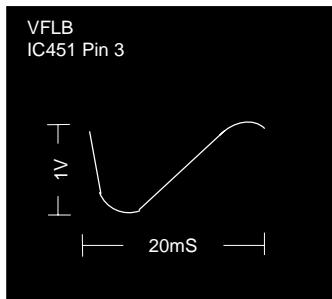
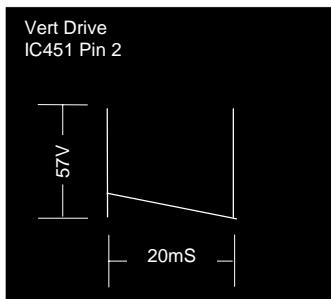
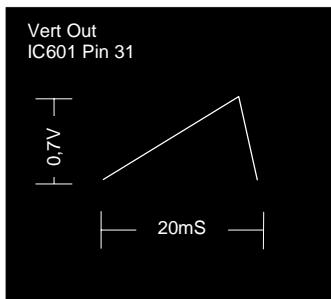
## FACTORY SETTINGS

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

VPC	O.K.	PCB	O.K.
CIP	O.K.	Cab	O.K.
SRC	O.K.	Sum	Factory use only
DDP	O.K.		
TUN	O.K.		
E2	O.K.		
MSP	O.K.		
DPL	--		
<b>TX-25AS10D/M</b>		<b>TX-25AS10F/M</b>	
OPTION1 39		OPTION1 39	
OPTION2 1C		OPTION2 1C	
OPTION3 0F		OPTION3 0F	
OPTION4 40		OPTION4 40	
OPTION5 FF		OPTION5 FD	
OPTION6 A5		OPTION6 A5	

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

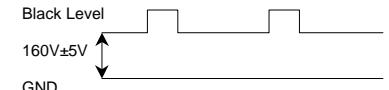
## WAVEFORM PATTERN TABLE



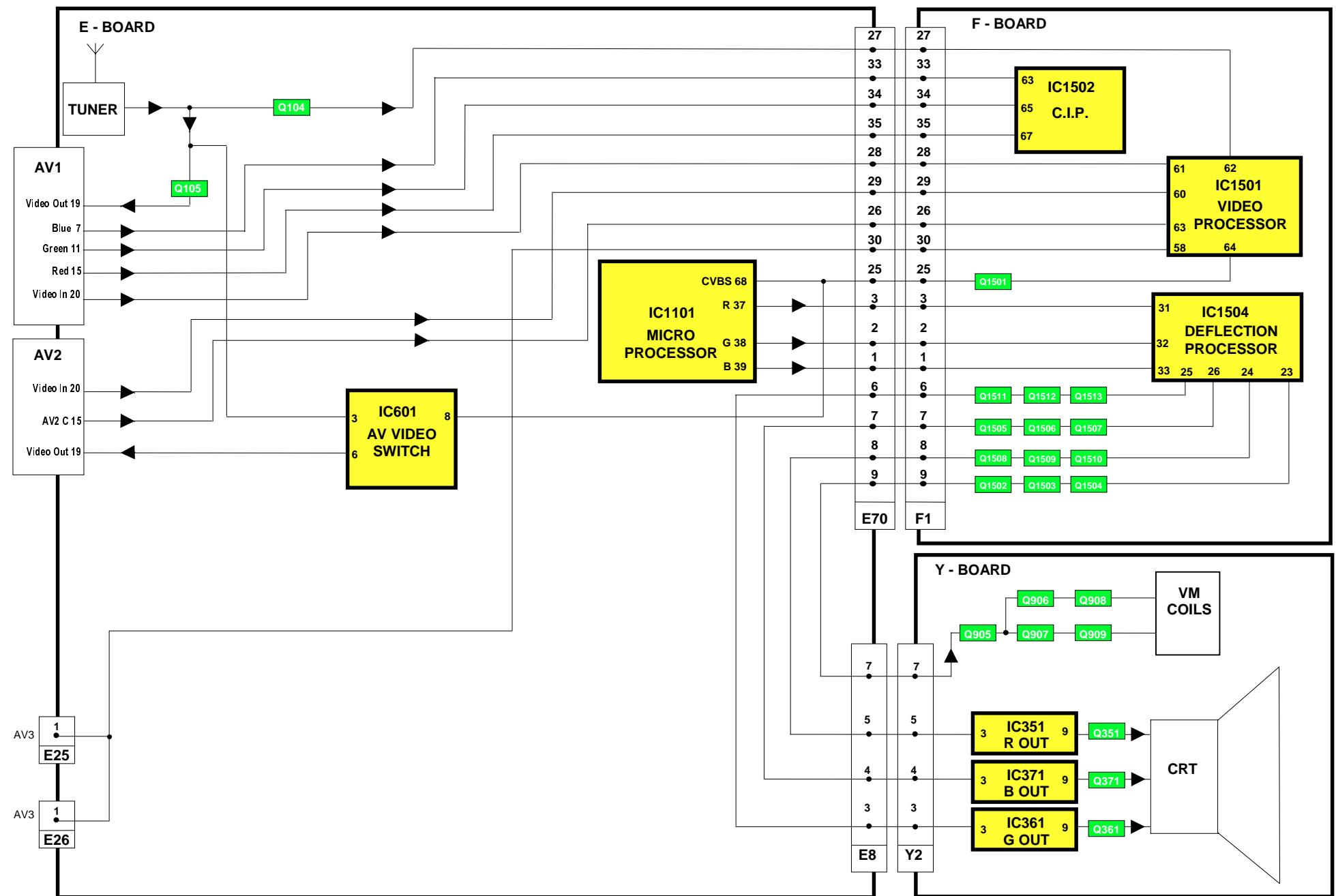
## ALIGNMENT SETTINGS

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

1. Set the Bass to maximum position, set the Treble to minimum position, press the volume 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.
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 **STR** button after each adjustment has been made to store the required values.
5. To exit the Service Mode, press the "**N**" button.

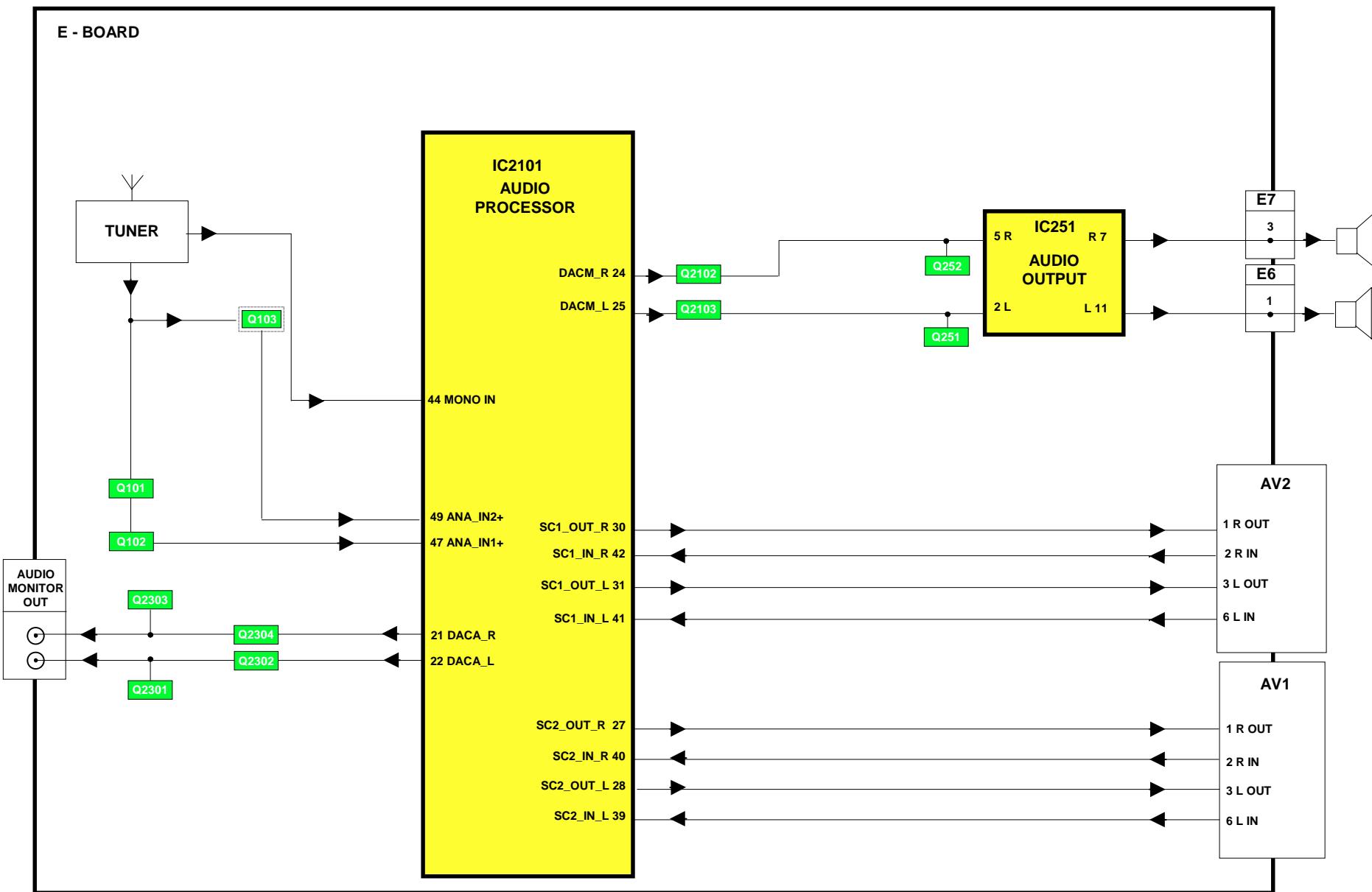
Alignment Function		Settings / Special features
Horizontal Position	H-Pos 061	Optimum setting.
Vertical Position	V-Pos 005	Optimum setting.
Horizontal Amplitude	H-Amp 055	Optimum setting.
Vert. Amplitude	V-Amp 054	Optimum setting.
EW-amplitude	E/W-Amp1 -128	Optimum setting.
EW-amplitude	E/W-Amp2 006	Optimum setting.
Trapezium-comp	Trapez-1 047	Optimum setting.
Trapezium-comp	Trapez-2 -128	Optimum setting.
Vertical Linearity	V-Lin 006	Optimum setting.
Vertical Symmetry	V-Sym 002	Optimum setting.
DVCO	DVCO -005	Receive a PAL Colour Bar Pattern. For DVCO alignment press " <b>Blue</b> " button, wait until the colours are changing slowly and press " <b>STR</b> ".
Cut-off DC	Cut-off 0171	To adjust Cutoff connect an oscilloscope to the blue cathode. Press " <b>STR</b> " and adjust "cutoff" value using the " <b>Yellow</b> " and " <b>Blue</b> " buttons until the black level is $160V \pm 5V$ press " <b>STR</b> " to store the value. Remove the oscilloscope.
Ug2 Test	Ug2 055 O.K.	Select Ug2 adjustment and adjust the screen VR until the display shows "O.K." 
Highlight Lowlight	High 0902 0777 0864 Low 0117 0132 0112	Optimum setting.
Sub-Brightness	Sub-Brightness 255	Optimum setting.

# VIDEO BLOCK DIAGRAM

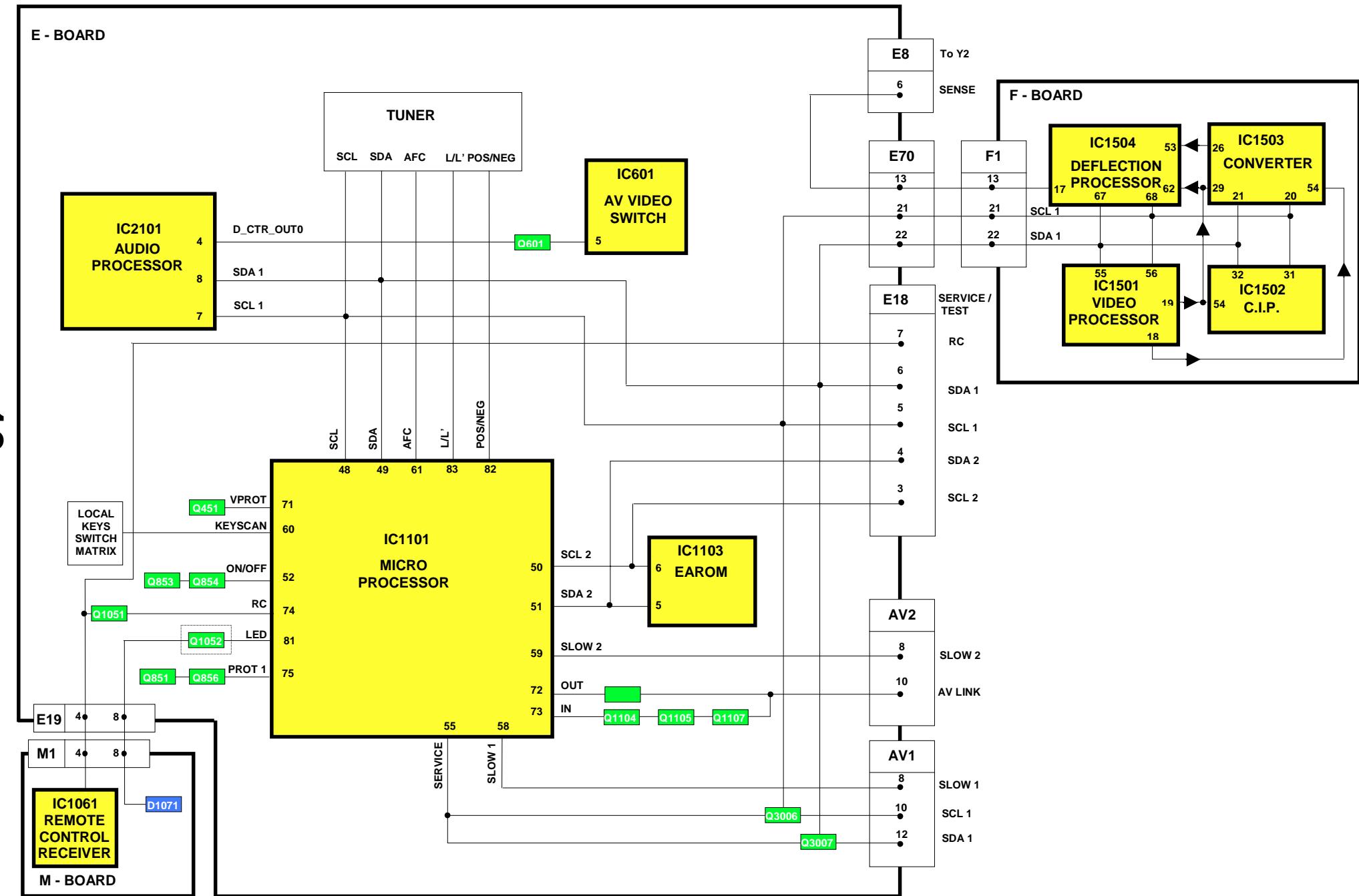


# AUDIO BLOCK DIAGRAM

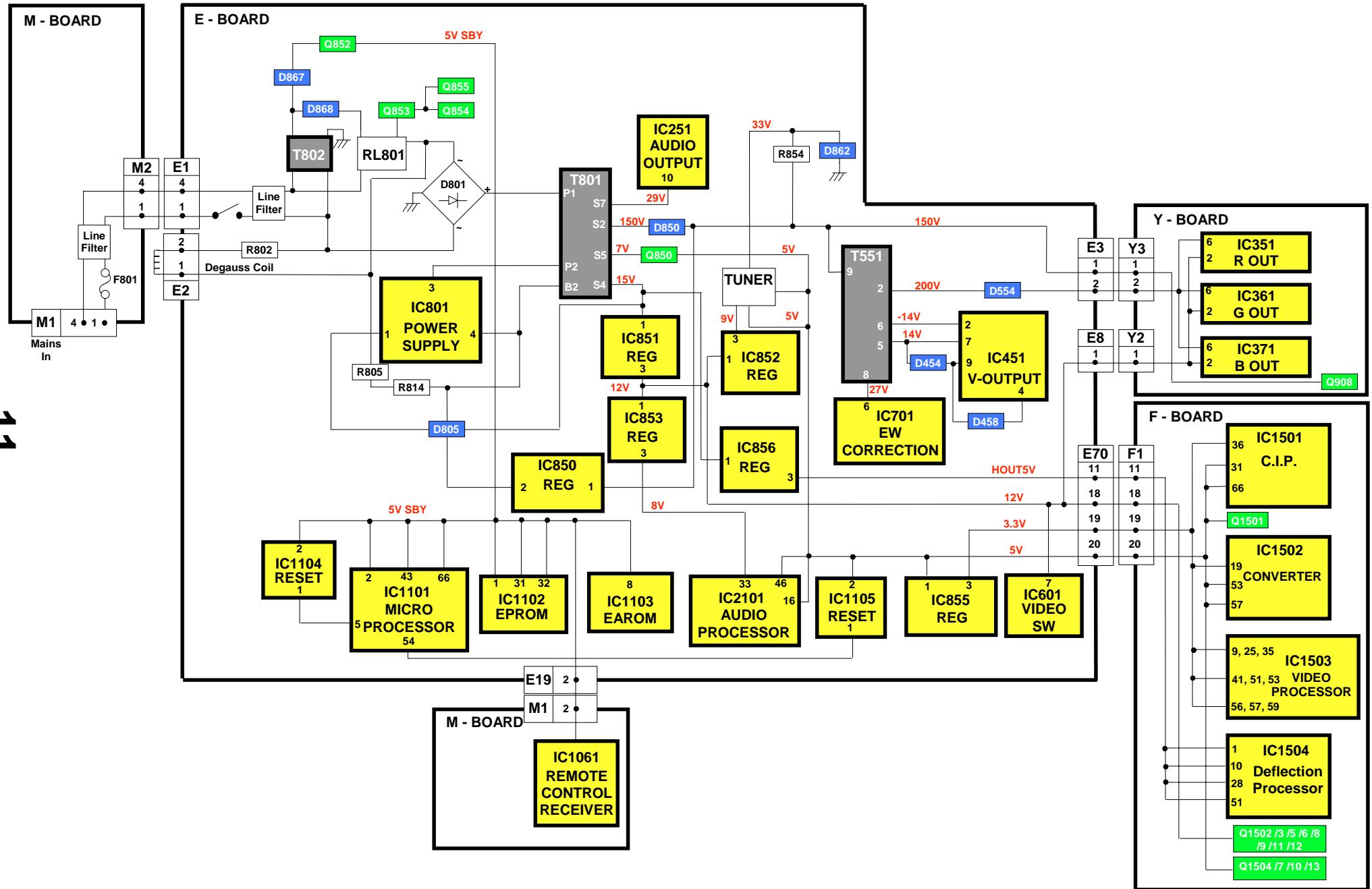
6



# CONTROL BLOCK DIAGRAM



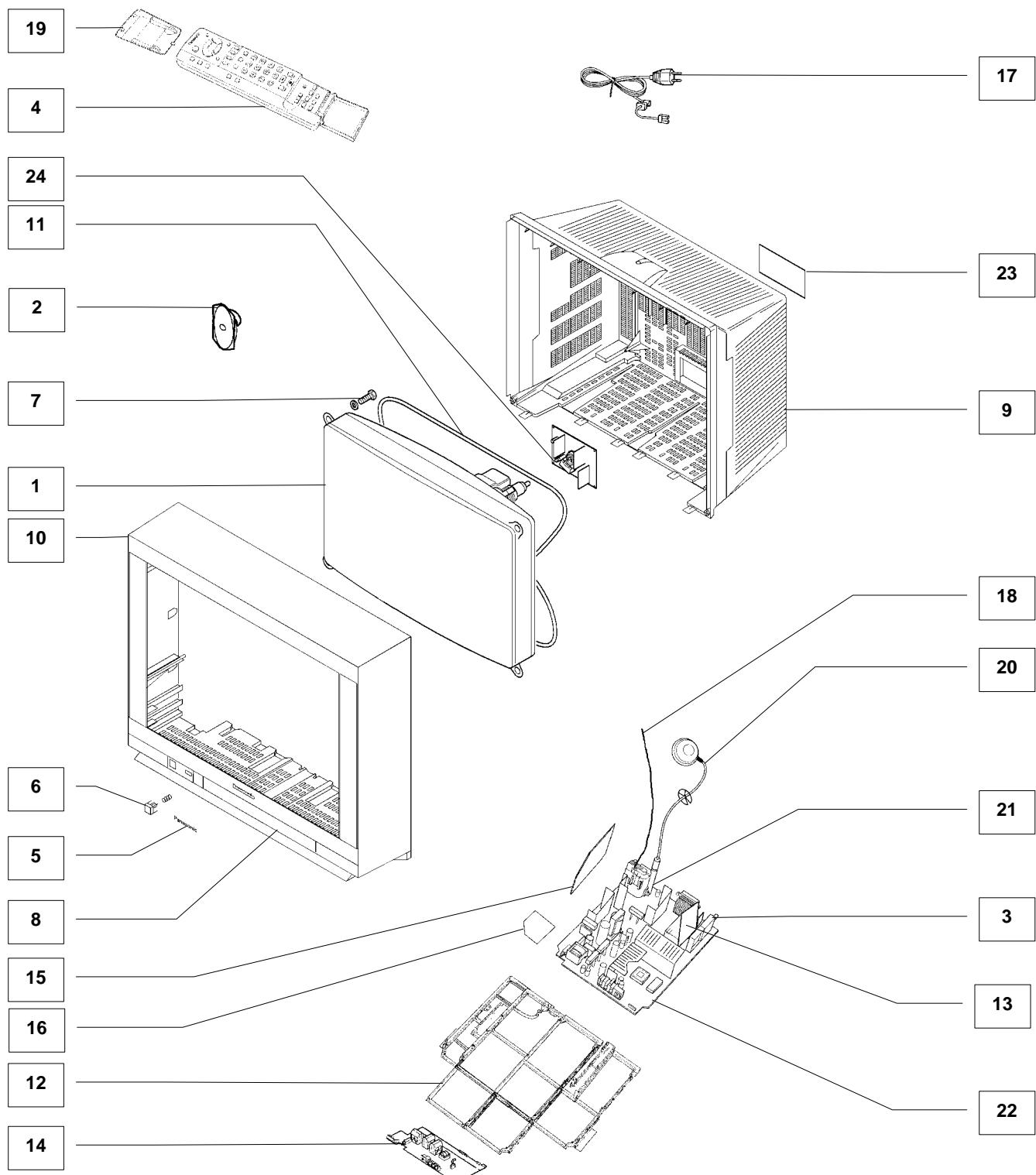
# POWER SUPPLY BLOCK DIAGRAM



## PARTS LOCATION

**NOTE:**

The numbers on the exploded view below refer to the mechanical 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
<b>COMMON PARTS</b>		
<b>EXPLODED VIEW</b>		
1	A60LUQ085X05	C.R.T.
2	EABG12147F2	SPEAKER
3	ENG29505GR	TUNER
4	EUR511211	REMOTE CONTROL
5	TBMA060	PANASONIC BADGE
6	TBX8E088	POWER BUTTON
7	THT1065R	CRT FIXING SCREW
8	TKP8E1329	DOOR LID
9	TKU8E00630	REAR COVER
10	TKY8E601	CABINET
11	TLK8E05161	DEGAUSS COIL
12	TMX8E046	CHASSIS FRAME
13	TNP8EF007AB	F P.C.B.
14	TNP8EM024AA	M P.C.B.
15	TNP8EP017AP	P P.C.B.
16	TNP8EQ003AB	Q-P.C.B.
17	TXASX01CEFG	AC CORD
18	TXJ/FC0DEG	FOCUS LEAD ASSY
19	UR51EC904A	BATTERY COVER (REMOTE)
20	ZTBZAD550A	ANODE CABLE
21	ZTFM05013A	F.B.T.
<b>MISCELLANEOUS COMPONENTS</b>		
.	PCSZT-084A-1	IC SOCKET
.	TBL8E008	SET FOOT
.	TBL8E009	SET FOOT
.	TBM8E2145	RESET LABEL
.	TEK6940	LID CATCH
.	TES2298	CRT EARTH SPRING
.	TKK4G8533	LED PANEL
.	TKP4G11460	SMOKED PANEL
.	TKROA0304	HANDLE
.	TMW8E020-1	LED HOLDER
.	TMX8E041	PCB BRACKET
.	TPC8E4840	CARTON
.	TPD8E732	TOP CUSHONS
.	TPD8E733	BOTTOM CUSHION
.	UM-3DJ-2P	BATTERY PACK
<b>I.C.s</b>		
IC251	LA4282	AUDIO OUTPUT
IC351	TDA6101Q/N3	R.G.B. PROCESSOR
IC361	TDA6101Q/N3	R.G.B. PROCESSOR
IC371	TDA6101Q/N3	R.G.B. PROCESSOR
IC381	TL431CLPM	REGULATOR
IC451	LA7845N	VERTICAL OUTPUT

Cct Ref	Parts Number	Description
IC601	TEA2114	VIDEO SWITCHING
IC701	TEA2031A	E/W CORRECTION
IC801	STRF6656LF57	POWER SUPPLY
IC850	SE140N	ERROR AMPLIFIER
IC851	AN7812LB1	12V REGULATOR
IC852	AN78M09LB	9V REGULATOR
IC853	AN78L08TA	8V REGULATOR
IC855	BA033T-M3	REGULATOR
IC856	AN7805LB	5V REGULATOR
IC1061	RPM6937-V4	LED RECEIVER
IC1101	SDA5450C59	MICRO PROCESSOR
IC1102	27C2001-N05	EEPROM*
IC1104	MN1381-R(TA)	RESET
IC1105	MN1381-T(TA)	RESET
IC1501	VPC3215CB8TP	VIDEO PROCESSOR
IC1502	CIP3250APS81	C.I.P.
IC1503	SDA9400	MICRO PROCESSOR
IC1504	DDP3310BPSE4	VIDEO PROCESSOR
IC2101	MSP3410DPOC5	AUDIO PROCESSOR
<b>FUSES</b>		
F802-2	EYF52BC	FUSE HOLDER
F802-1	EYF52BC	FUSE HOLDER
F802	XBA2C50TH15	FUSE
<b>DIODES</b>		
D101	MA3020TX	DIODE
D102	MA3020TX	DIODE
D251	MA2180BLFS	DIODE
D253	MA700TA5	DIODE
D254	MA700TA5	DIODE
D351	ERA15-04V3	DIODE
D352	ERA15-04V3	DIODE
D361	ERA15-04V3	DIODE
D362	ERA15-04V3	DIODE
D371	ERA15-04V3	DIODE
D372	ERA15-04V3	DIODE
D376	MA165TA5	DIODE
D377	MA165TA5	DIODE
D378	MA165TA5	DIODE
D387	MA2160LFS	DIODE
D453	MA165TA5	DIODE
D454	EU02	DIODE
D456	MTZJT-777.5B	DIODE
D457	MA165TA5	DIODE
D501	MA165TA5	DIODE
D502	1SR124-4AT82	DIODE
D511	MTZJ4.7C	DIODE
D553	1SR124-4AT82	DIODE
D554	1SR124-4AT82	DIODE
D556	MA165TA5	DIODE
D557	TVSRU2AMLFA5	DIODE
D558	EU02	DIODE
D560	RH3GLF102	DIODE

Cct Ref	Parts Number	Description
D561	UDZTE-1722B	DIODE
D562	1SS355TE-17	DIODE
D580	FMV-3GULF730	DIODE
D601	MA165TA5	DIODE
D602	MA165TA5	DIODE
D603	MA165TA5	DIODE
D604	MA165TA5	DIODE
D609	1SR124-4AT82	DIODE
D617	MA3068MTX	DIODE
D620	MA165TA5	DIODE
D701	MA165TA5	DIODE
D702	MTZJT-775.1C	DIODE
D704	MA29TA5	DIODE
D705	MTZJT776.2B	DIODE
D706	MA165TA5	DIODE
D707	AU02V0	DIODE
D708	MA165TA5	DIODE
D709	MTZJT-7736A	DIODE
D710	MTZJT-7716C	DIODE
D801	RBV-608LF-B	DIODE
D803	1SR124-4AT82	DIODE
D804	1SR124-4AT82	DIODE
D805	TLP621GR-LF2	PHOTO COUPLER
D806	1SR124-4AT82	DIODE
D850	RU4BLF-L1	DIODE
D851	MTZJT776.2B	DIODE
D852	MA165TA5	DIODE
D853	MA2180BLFS	DIODE
D854	S3L20U04P15	DIODE
D855	D10SC6MRL	DIODE
D856	RU4AMLF-M1	DIODE
D857	MTZJT-775.1A	DIODE
D858	MA165TA5	DIODE
D859	MA165TA5	DIODE
D860	MA165TA5	DIODE
D861	MA165TA5	DIODE
D862	MTZJT-7736A	DIODE
D863	MA165TA5	DIODE
D864	MA165TA5	DIODE
D865	MA165TA5	DIODE
D866	MA165TA5	DIODE
D867	EK06-V0	DIODE
D868	1N4150T-77	DIODE
D869	1N4150T-77	DIODE
D870	MA165TA5	DIODE
D871	1N4150T-77	DIODE
D873	MTZJT-775.6C	DIODE
D874	1SR124-4AT82	DIODE
D875	BZX79A75A26A	DIODE
D890	MA165TA5	DIODE
D891	MA165TA5	DIODE
D901	1SS254T-77	DIODE
D902	1SS254T-77	DIODE
D903	1SS254T-77	DIODE
D907	MA165TA5	DIODE
D910	R2KNLFA1	DIODE
D1061	SLR56UR3FLF	LED
D1101	MA165TA5	DIODE
D1104	MA165TA5	DIODE
D1105	MA165TA5	DIODE
D1131	MTZJT-775.6C	DIODE
D2101	MA723TA5	DIODE
D2102	MA723TA5	DIODE
D2103	MA723TA5	DIODE
D2104	MA723TA5	DIODE
D2105	MTZJT-778.2C	DIODE

Cct Ref	Parts Number	Description
D2303	MA723TA5	DIODE
D2304	MA723TA5	DIODE
D3201	MTZJT-778.2C	DIODE
D3202	MTZJT-778.2C	DIODE
D3351	1SS254T-77	DIODE
D3352	MA165TA5	DIODE
D3353	MA165TA5	DIODE
D3354	MA165TA5	DIODE
R842	232266296706	THERMISTOR
R843	232266296706	THERMISTOR
<b>TRANSISTORS</b>		
Q101	BC847B	TRANSISTOR
Q102	BC847B	TRANSISTOR
Q103	BC847B	TRANSISTOR
Q104	BC847B	TRANSISTOR
Q105	BC847B	TRANSISTOR
Q251	2SD1328STX	TRANSISTOR
Q252	2SD1328STX	TRANSISTOR
Q253	BC847B	TRANSISTOR
Q254	BC847B	TRANSISTOR
Q351	2SA1767	TRANSISTOR
Q361	2SA1767	TRANSISTOR
Q371	2SA1767	TRANSISTOR
Q451	BC857B	TRANSISTOR
Q503	2SK2962TPE6	TRANSISTOR
Q551	2SC5144LB228	TRANSISTOR
Q552	2SC1473ATA	TRANSISTOR
Q553	BC847B	TRANSISTOR
Q601	BC847B	TRANSISTOR
Q701	BC857B	TRANSISTOR
Q702	BC847B	TRANSISTOR
Q703	IRF644R-M3S	TRANSISTOR
Q850	2SD2396K-M3	TRANSISTOR
Q851	BC857B	TRANSISTOR
Q852	2SD1858TV2	TRANSISTOR
Q853	BC847B	TRANSISTOR
Q854	BC847B	TRANSISTOR
Q855	BC847B	TRANSISTOR
Q856	BC847B	TRANSISTOR
Q857	2SA1018QTA	TRANSISTOR
Q905	BC847B	TRANSISTOR
Q906	BC847B	TRANSISTOR
Q907	BC857B	TRANSISTOR
Q908	2SA1535ARLB	TRANSISTOR
Q909	2SC3944ARLB	TRANSISTOR
Q1051	BC847B	TRANSISTOR
Q1062	BC847B	TRANSISTOR
Q1104	BC847B	TRANSISTOR
Q1105	BC847B	TRANSISTOR
Q1106	BC847B	TRANSISTOR
Q1107	BC847B	TRANSISTOR
Q1108	BC847B	TRANSISTOR
Q1501	BC847B	TRANSISTOR
Q1502	BC857B	TRANSISTOR
Q1503	BC847B	TRANSISTOR
Q1504	BC847B	TRANSISTOR
Q1505	BC857B	TRANSISTOR
Q1506	BC847B	TRANSISTOR
Q1507	BC847B	TRANSISTOR
Q1508	BC857B	TRANSISTOR
Q1509	BC847B	TRANSISTOR
Q1510	BC847B	TRANSISTOR
Q1511	BC857B	TRANSISTOR
Q1512	BC847B	TRANSISTOR
Q1513	BC847B	TRANSISTOR
Q1514	BC847B	TRANSISTOR

Cct Ref	Parts Number	Description
Q1515	BC847B	TRANSISTOR
Q2101	BC857B	TRANSISTOR
Q2102	BC857B	TRANSISTOR
Q2103	BC857B	TRANSISTOR
Q2301	BC847B	TRANSISTOR
Q2302	BC857B	TRANSISTOR
Q2303	BC847B	TRANSISTOR
Q2304	BC857B	TRANSISTOR
Q3006	BC847B	TRANSISTOR
Q3007	BC847B	TRANSISTOR
Q3201	BC847B	TRANSISTOR
Q3202	BC847B	TRANSISTOR
Q3203	BC857B	TRANSISTOR
Q3204	BC857B	TRANSISTOR
Q3205	BC847B	TRANSISTOR
Q3206	BC847B	TRANSISTOR
Q3207	BC847B	TRANSISTOR
Q3208	BC847B	TRANSISTOR
Q3209	BC847B	TRANSISTOR
Q3352	BC857B	TRANSISTOR
<b>TRANSFORMERS</b>		
T501	ETH19Y193AY	TRANSFORMER
T801	ETS42AE2G6AD	TRANSFORMER
T802	ETP35KAN619U	TRANSFORMER
<b>COILS</b>		
J26	EXCELDR35V	COIL
J212	EXCELSA35V	COIL
L101	TLT100K991R	COIL
L102	TLT068K991R	COIL
L103	EXCELSA35B	COIL
L104	TLTACT4R7K	COIL
L105	TLTACTR47K	COIL
L106	TLTACT100K	COIL
L107	TLTACT6R8K	COIL
L114	ELJFC2R2KF	COIL
L115	ELJFC2R2KF	COIL
L301	TLTACT4R7K	COIL
L353	TLT150K991R	COIL
L363	TLT100K991R	COIL
L373	TLT150K991R	COIL
L381	TLT220K991R	COIL
L382	ELESN6R8KA	COIL
L451	EXCELSA35T	COIL
L501	EXCELSA35T	COIL
L581	ELHKL028B	COIL
L582	ELC18B181F	COIL
L583	ELC10D3R3E	COIL
L584	ELHKL067B	COIL
L586	EXCELDR35C	COIL
L606	ELESN100KA	COIL
L701	ELC18B271E	COIL
L704	ELC10D332E	COIL
L705	EXCELDR35V	COIL
L806	ETQR42T005A	COIL
L850	EXCELSA35T	COIL
L851	EXCELSA35T	COIL
L852	ELEIE470KA	COIL
L855	EXCELSA35T	COIL
L856	EXCELSA39V	COIL
L910	EXCELSA35T	COIL
L911	EXCELSA35T	COIL
L912	EXCELSA35T	COIL
L1061	TLT331K991R	COIL
L1103	TLTACT100K	COIL
L1104	EXCELSA35T	COIL
L1105	ELJFC2R2KF	COIL

Cct Ref	Parts Number	Description
L1501	ELESN2R2KA	COIL
L1502	ELESN2R2KA	COIL
L1503	ELESN2R2KA	COIL
L1504	ELESN2R2KA	COIL
L1505	ELESN100KA	COIL
L1506	ELESN100KA	COIL
L1507	ELESNR22KA	COIL
L1508	ELESNR22KA	COIL
L1509	ELESN100KA	COIL
L1510	ELESN100KA	COIL
L1514	ELESN100KA	COIL
L1515	ELESNR39KA	COIL
L1516	ELESN4R7KA	COIL
L1517	ELESN4R7KA	COIL
L1518	ELESN4R7KA	COIL
L1519	ELESNR39KA	COIL
L1520	ELESN2R2KA	COIL
L1521	ELESN1R0KA	COIL
L1522	ELESN2R2KA	COIL
L1523	ELESN2R2KA	COIL
L1524	ELESN2R2KA	COIL
L1525	ELESN100KA	COIL
L1526	ELESN100KA	COIL
L1527	ELESN100KA	COIL
L1528	ELESN100KA	COIL
L1529	ELESN100KA	COIL
L2101	TLTACT100K	COIL
L2103	EXCELSA35T	COIL
L2104	TLTACT4R7K	COIL
L3001	ELEMV1R5MA	COIL
L3002	ELEMV1R5MA	COIL
L3003	ELEMV1R5MA	COIL
L3004	ELEMV1R5MA	COIL
L3201	ELEBR6R8KA	COIL
L3202	ELEBR6R8KA	COIL
L3204	TLT331K991R	COIL
<b>FILTERS</b>		
L1901	ELF18N012A	LINE FILTER
L1902	ELF18N012A	LINE FILTER
X101	EFCT6504BF	FILTER
X102	EFCT7004BF	CERAMIC FILTER
<b>CRYSTALS</b>		
X1101	TSSA121	CRYSTAL
X1501	4730007267	CRYSTAL
X1502	4730007341	CRYSTAL
X2101	4730007158	CRYSTAL
<b>RESISTORS</b>		
C510	ERJ6GEY0R00	S.M.CARB
JA1	ERJ6GEY0R00	S.M.CARB
JA2	ERJ6GEY0R00	S.M.CARB
JA3	ERJ6GEY0R00	S.M.CARB
JA4	ERJ6GEY0R00	S.M.CARB
JA5	ERJ6GEY0R00	S.M.CARB
JA6	ERJ6GEY0R00	S.M.CARB
JA7	ERJ6GEY0R00	S.M.CARB
JA8	ERJ6GEY0R00	S.M.CARB
JA9	ERJ6GEY0R00	S.M.CARB
JA10	ERJ6GEY0R00	S.M.CARB
JA12	ERJ6GEY0R00	S.M.CARB
JA13	ERJ6GEY0R00	S.M.CARB
JA14	ERJ6GEY0R00	S.M.CARB
JA15	ERJ6GEY0R00	S.M.CARB
JA16	ERJ6GEY0R00	S.M.CARB
JA17	ERJ6GEY0R00	S.M.CARB
JA18	ERJ6GEY0R00	S.M.CARB













Cct Ref	Parts Number	Description		
C2112	ECA1CM100GB	ELECT	16V	10µF
C2113	ECA1HM3R3GB	ELECT	50V	3.3µF
C2114	ECJ2VF1H104Z	CERAMIC	50V	100nF
C2115	ECUV1H221JCX	S.M. CAP	50V	220pF
C2116	ECUV1H221JCX	S.M. CAP	50V	220pF
C2117	ECUV1H221JCX	S.M. CAP	50V	220pF
C2118	ECUV1H221JCX	S.M. CAP	50V	220pF
C2119	ECUV1H221JCX	S.M. CAP	50V	220pF
C2120	ECUV1H221JCX	S.M. CAP	50V	220pF
C2121	ECA1CM100GB	ELECT	16V	10µF
C2122	ECJ2VF1H104Z	CERAMIC	50V	100nF
C2123	ECUV1H221JCX	S.M. CAP	50V	220pF
C2124	ECUV1H560JCX	S.M. CAP	50V	56pF
C2125	ECUV1H470JCX	S.M. CAP	50V	47pF
C2126	ECUV1H560JCX	S.M. CAP	50V	56pF
C2127	ECUV1H010CCX	S.M. CAP	50V	1pF
C2128	ECUV1H010CCX	S.M. CAP	50V	1pF
C2129	ECA1CM102B	ELECT	16V	1000µF
C2130	ECA1CM331B	ELECT	16V	330µF
C2134	ECUV1H103ZFX	S.M. CAP	50V	10nF
C2135	ECA1HM101GB	ELECT	50V	100µF
C2136	ECJ2VF1H104Z	CERAMIC	50V	100nF
C2137	ECA1CM100GB	ELECT	16V	10µF
C2138	ECUV1H471KBX	S.M. CAP	50V	470pF
C2139	ECUV1H221JCX	S.M. CAP	50V	220pF
C2140	ECA1HM101GB	ELECT	50V	100µF
C2141	ECUV1H152JCX	S.M. CAP	50V	1.5pF
C2301	ECUV1H222JCX	S.M. CAP	50V	2.2nF
C2302	ECA1CM470GB	ELECT	16V	47µF
C2303	ECUV1H222JCX	S.M. CAP	50V	2.2nF
C2304	ECA1CM470GB	ELECT	16V	47µF
C3001	ECUV1H222JCX	S.M. CAP	50V	2.2nF
C3002	ECUV1H222JCX	S.M. CAP	50V	2.2nF
C3003	ECA1CM470GB	ELECT	16V	47µF
C3005	ECUV1H561JCX	S.M. CAP	50V	560pF
C3006	ECJ3VB1C474K	CERAMIC	16V	470nF
C3007	ECUV1H222JCX	S.M. CAP	50V	2.2nF
C3008	ECUV1H222JCX	S.M. CAP	50V	2.2nF
C3009	ECUV1H222JCX	S.M. CAP	50V	2.2nF
C3010	ECA1CM470GB	ELECT	16V	47µF
C3012	ECUV1H561JCX	S.M. CAP	50V	560pF
C3013	ECJ3VB1C474K	CERAMIC	16V	470nF
C3014	ECUV1H222JCX	S.M. CAP	50V	2.2nF
C3015	ECUV1H222JCX	S.M. CAP	50V	2.2nF
C3016	ECUV1H222JCX	S.M. CAP	50V	2.2nF
C3017	ECA1CM470GB	ELECT	16V	47µF
C3019	ECUV1H561JCX	S.M. CAP	50V	560pF
C3020	ECJ3VB1C474K	CERAMIC	16V	470nF
C3021	ECUV1H222JCX	S.M. CAP	50V	2.2nF
C3022	ECUV1H222JCX	S.M. CAP	50V	2.2nF
C3023	ECUV1H222JCX	S.M. CAP	50V	2.2nF
C3024	ECA1CM470GB	ELECT	16V	47µF
C3026	ECUV1H561JCX	S.M. CAP	50V	560pF
C3027	ECJ3VB1C474K	CERAMIC	16V	470nF
C3028	ECUV1H222JCX	S.M. CAP	50V	2.2nF
C3030	ECUV1H271JCX	S.M. CAP	50V	270pF
C3031	ECUV1H271JCX	S.M. CAP	50V	270pF
C3032	ECUV1H271JCX	S.M. CAP	50V	270pF
C3111	ECUV1H222KBX	S.M. CAP	50V	2.2nF
C3201	ECUV1H103KBX	S.M. CAP	50V	10nF
C3202	ECUV1H103KBX	S.M. CAP	50V	10nF
C3203	ECUV1H561JCX	S.M. CAP	50V	560pF
C3204	ECUV1H561JCX	S.M. CAP	50V	560pF
C3205	ECA1HM470GB	ELECT	50V	47µF
C3206	ECUV1H561JCX	S.M. CAP	50V	560pF
C3207	ECUV1H561JCX	S.M. CAP	50V	560pF

Cct Ref	Parts Number	Description		
C3208	ECA1HM470GB	ELECT	50V	47µF
C3209	ECUV1H103KBX	S.M. CAP	50V	10nF
C3210	ECJ2VB1C104K	CERAMIC	16V	100nF
C3211	ECUV1H103KBX	S.M. CAP	50V	10nF
C3212	ECUV1H103KBX	S.M. CAP	50V	10nF
C3213	ECUV1H103KBX	S.M. CAP	50V	10nF
C3214	ECJ2VB1C104K	CERAMIC	16V	100nF
C3215	ECUV1H103KBX	S.M. CAP	50V	10nF
C3216	ECA1CM330GB	ELECT	16V	33pF
C3217	ECJ2VB1C104K	CERAMIC	16V	100nF
C3221	ECA1CM221GB	ELECT	16V	220µF
C3351	ECA1CM221GB	ELECT	16V	220µF
<b>TERMINALS AND LINKS</b>				
JK381	TJS1A5230B	CRT SOCKET		
JK2301	JPJ841101320	RCA SOCKET		
JK3001	0350808500	SCART SOCKET		
JK3201	TJB8E029	AV TERMINAL		
<b>SWITCHES</b>				
S802	ESB92S11B	SWITCH		
S1251	EVQ21405R	SWITCH		
S1252	EVQ21405R	SWITCH		
S1253	EVQ21405R	SWITCH		
S1254	EVQ21405R	SWITCH		
S1255	EVQ21405R	SWITCH		
<b>RELAYS</b>				
RL801	TSE1885-1	RELAY		
<b>DIFFERENCES FOR MODEL TX--25AS10DM</b>				
<b>EXPLODED VIEW</b>				
22	TNP8EE013CF	E P.C.B.		
23	TQF8E3178	MODEL LABEL		
24	TNP8EY018AL	Y P.C.B.		
<b>INSTRUCTION BOOKS</b>				
.	TQB8E3283A	GERMAN		
.	TQB8E3283C	ITALIAN		
.	TQB8E3283D	FRENCH		
<b>I.C.s</b>				
IC1103	X24LM3-2BD	EAROM*		
<b>DIFFERENCES FOR MODEL TX--25AS10FM</b>				
<b>EXPLODED VIEW</b>				
22	TNP8EE013CE	E P.C.B.		
23	TQF8E3172	MODEL LABEL		
24	TNP8EY018AK	Y P.C.B.		
<b>INSTRUCTION BOOKS</b>				
.	TQB8E3273AE	GERMAN/SPANISH		
.	TQB8E3273BD	DUTCH/FRENCH		
.	TQB8E3273FG	SWEDISH/NORG.		
.	TQB8E3273H	SUOMI		
<b>I.C.s</b>				
IC1103	X24LM3-2BF	EAROM*		

# SCHEMATIC DIAGRAMS FOR MODELS

## TX-25AS10D/M TX-25AS10F/M

### (EURO-4H 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 ( $\Omega$ ) (k=1,000, M=1,000,000)

##### 2. CAPACITORS

All capacitors are ceramic 50V unless marked otherwise.  
Unit of capacitance is  $\mu\text{F}$  unless otherwise stated.

##### 3. COIL

Unit of inductance is  $\mu\text{H}$ , 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 a.c. 220V-240V, 50Hz  
Receiving Signal Colour Bar signal (RF)  
All customer controls Maximum position

##### 7.

 Indicates the Video signal path

 Indicates the Audio signal path

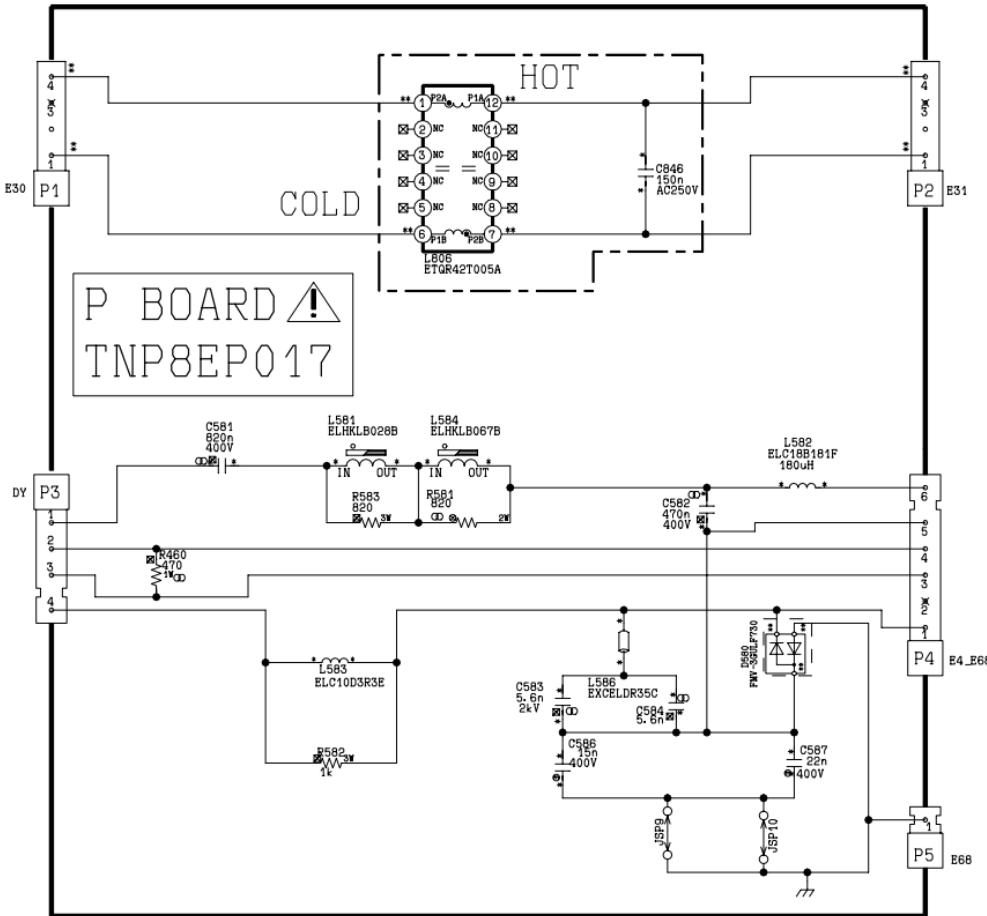
These schematic diagrams are the latest at time of printing and are subject to change without notice.

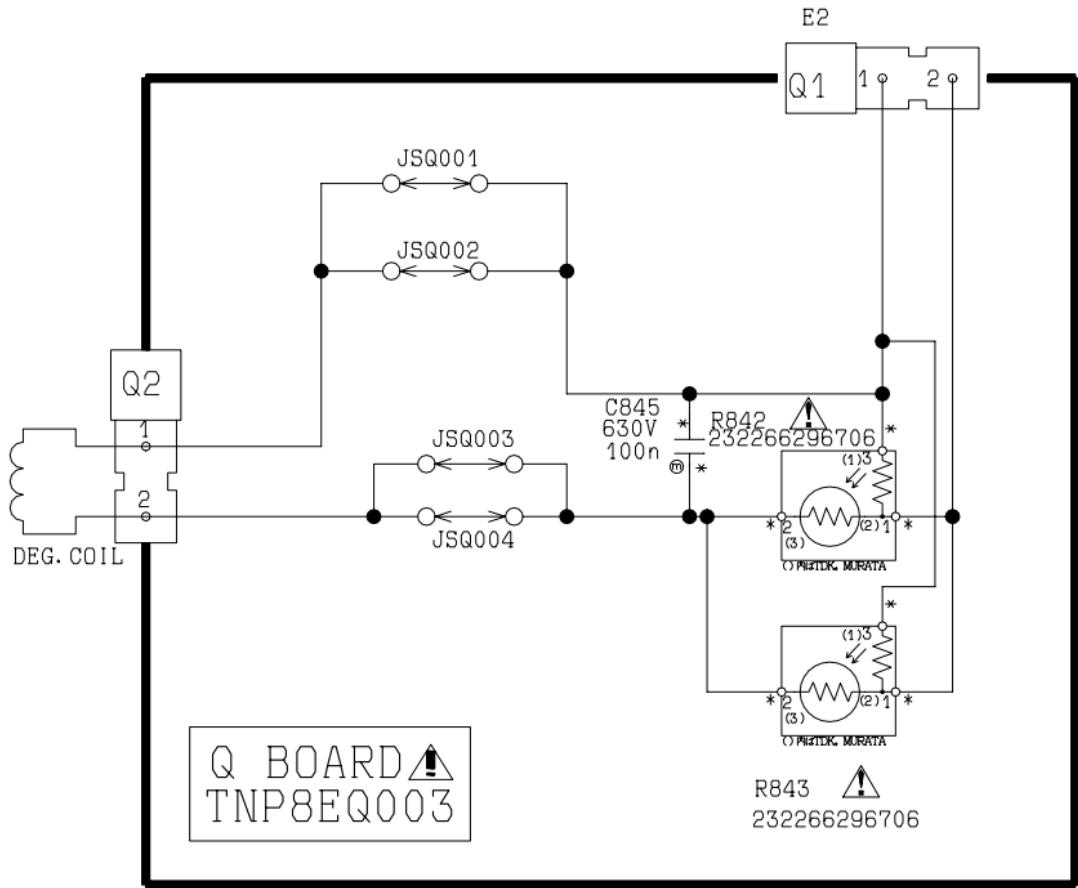
#### REMARKS

- 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

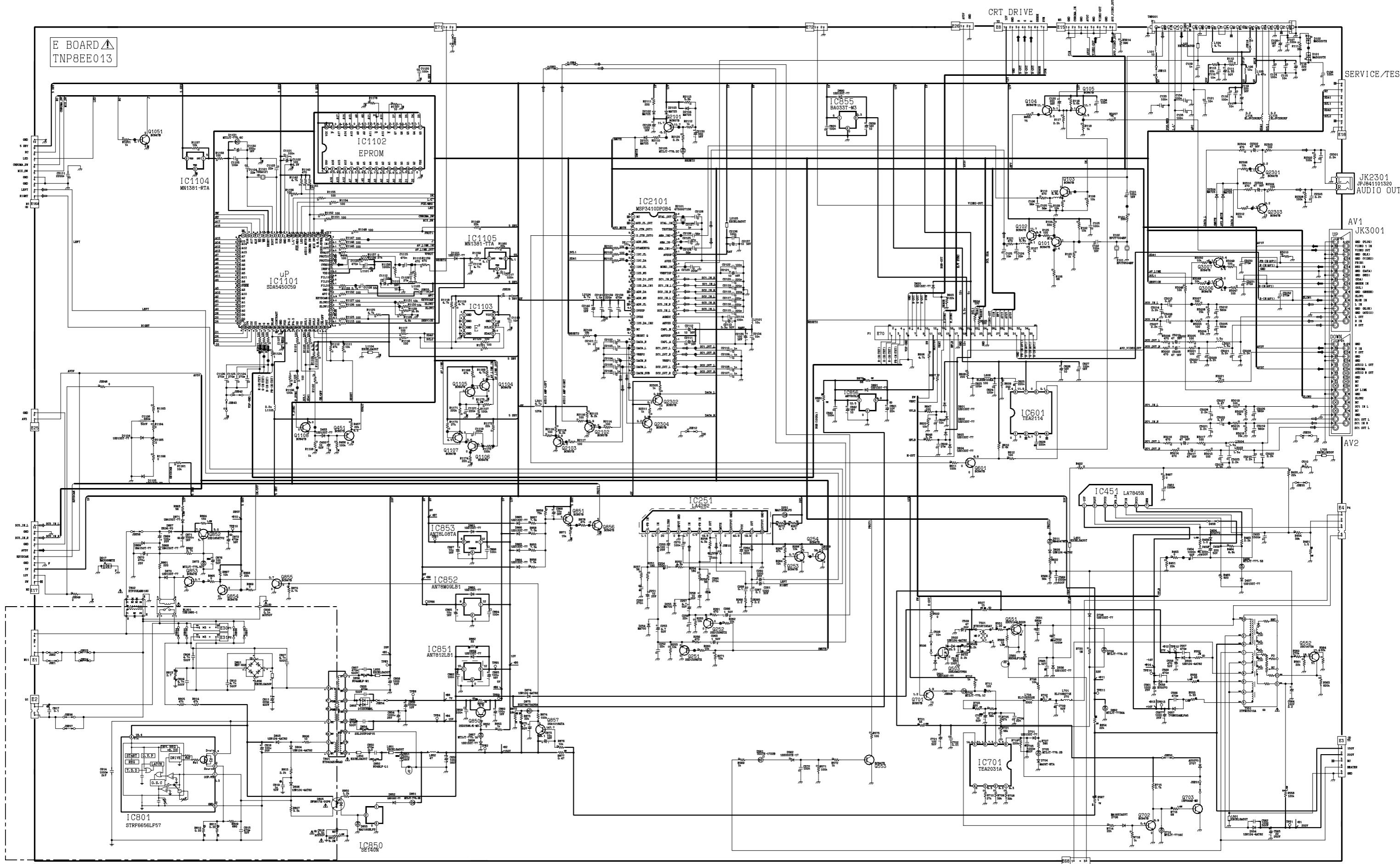
1. The Power Supply Circuit contains a circuit area, which uses a separate power supply to isolate the earth connection. The circuit is defined by HOT and COLD indications in the schematic diagram. All circuits, except the Power Circuit, are COLD.

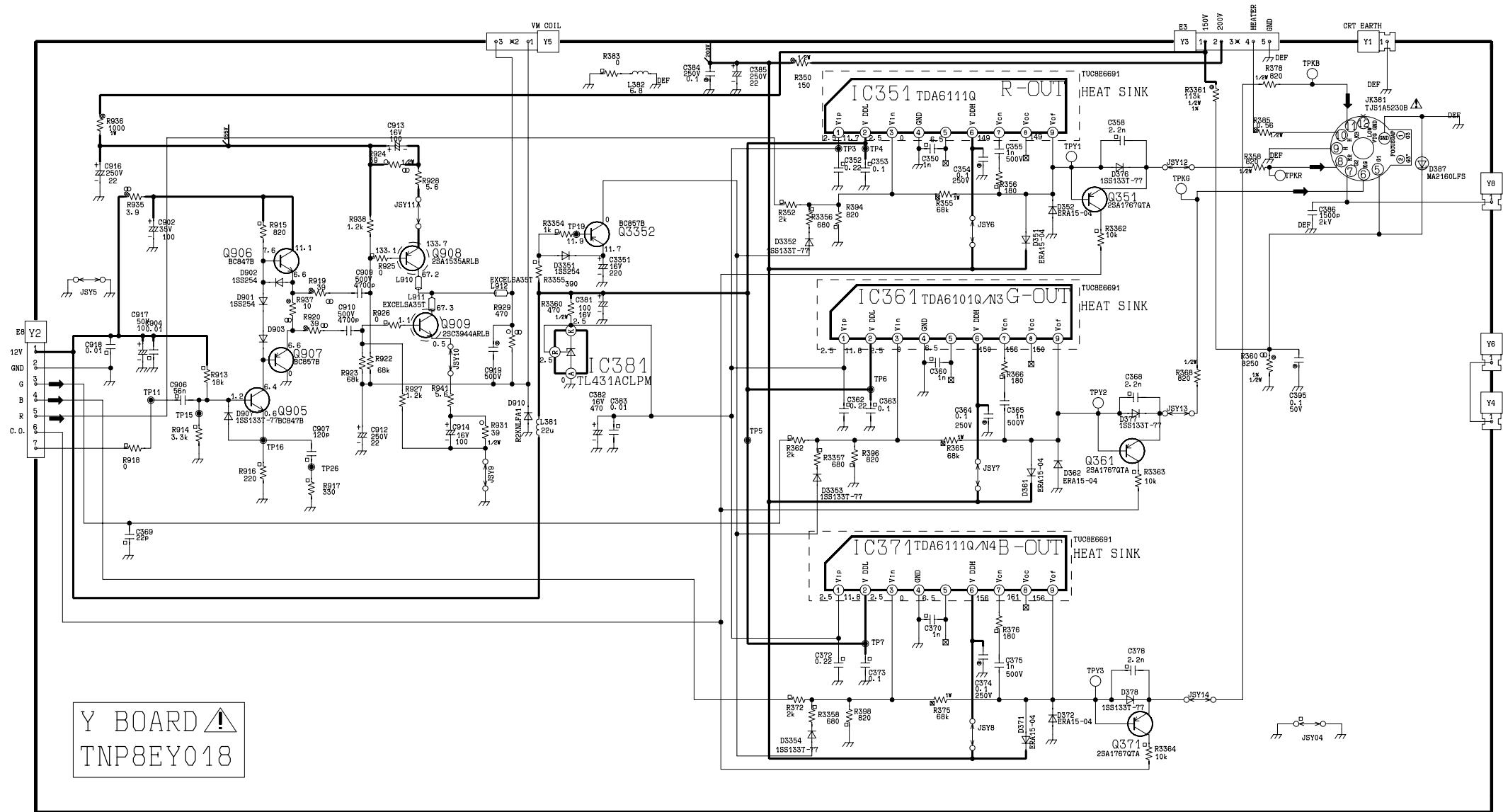




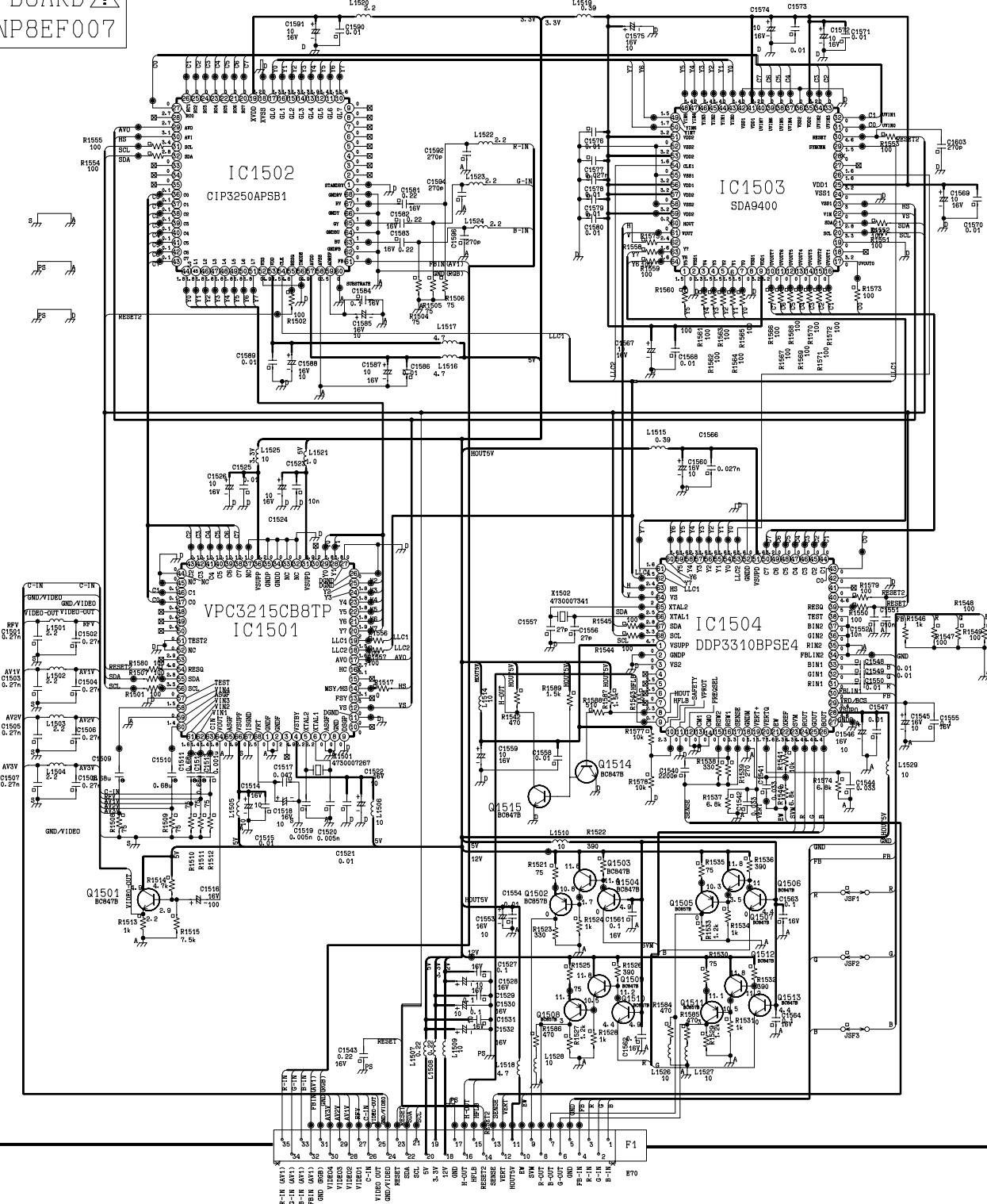
E BOARD  
TNP8EE013

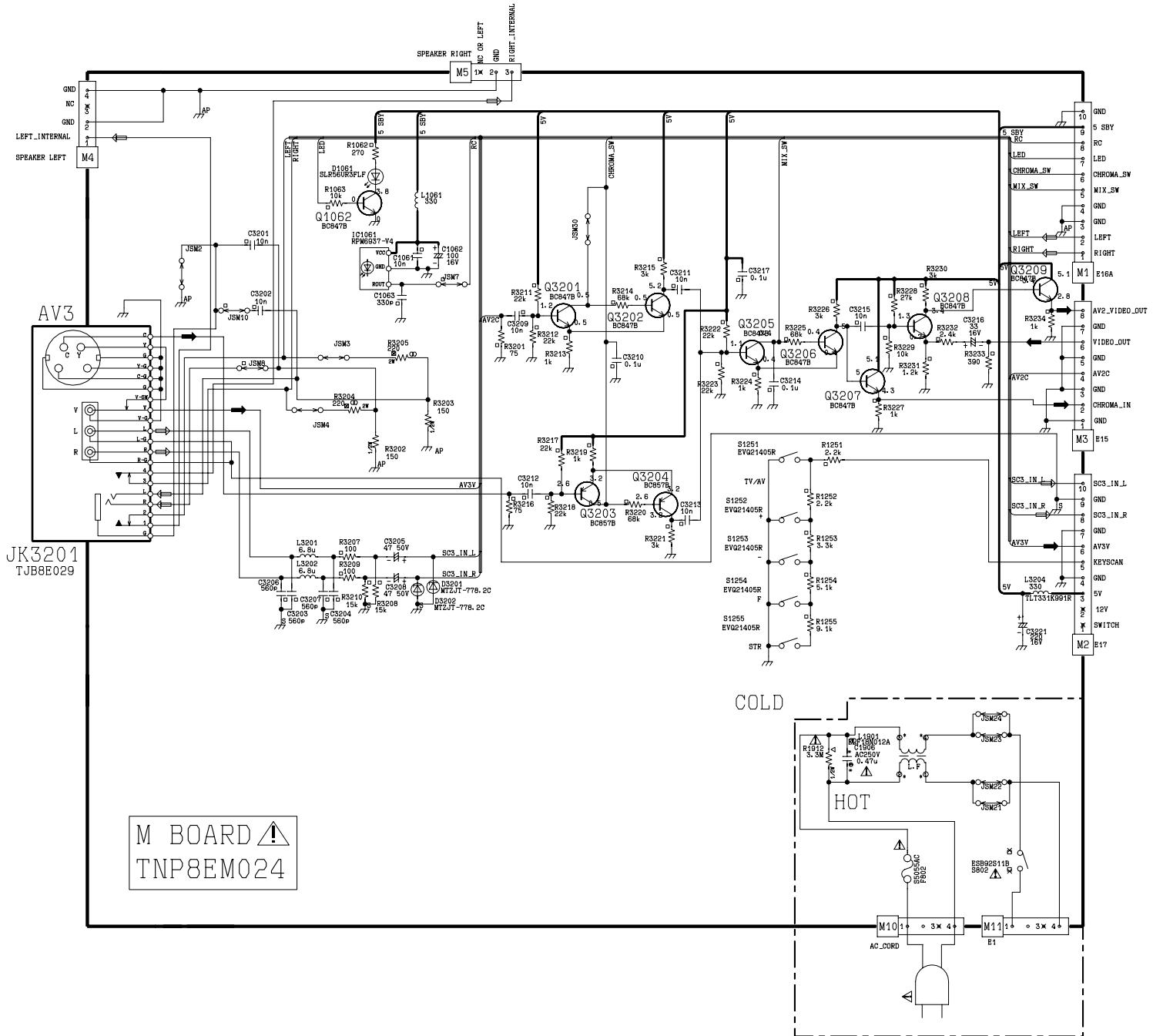
SERVICE/TEST





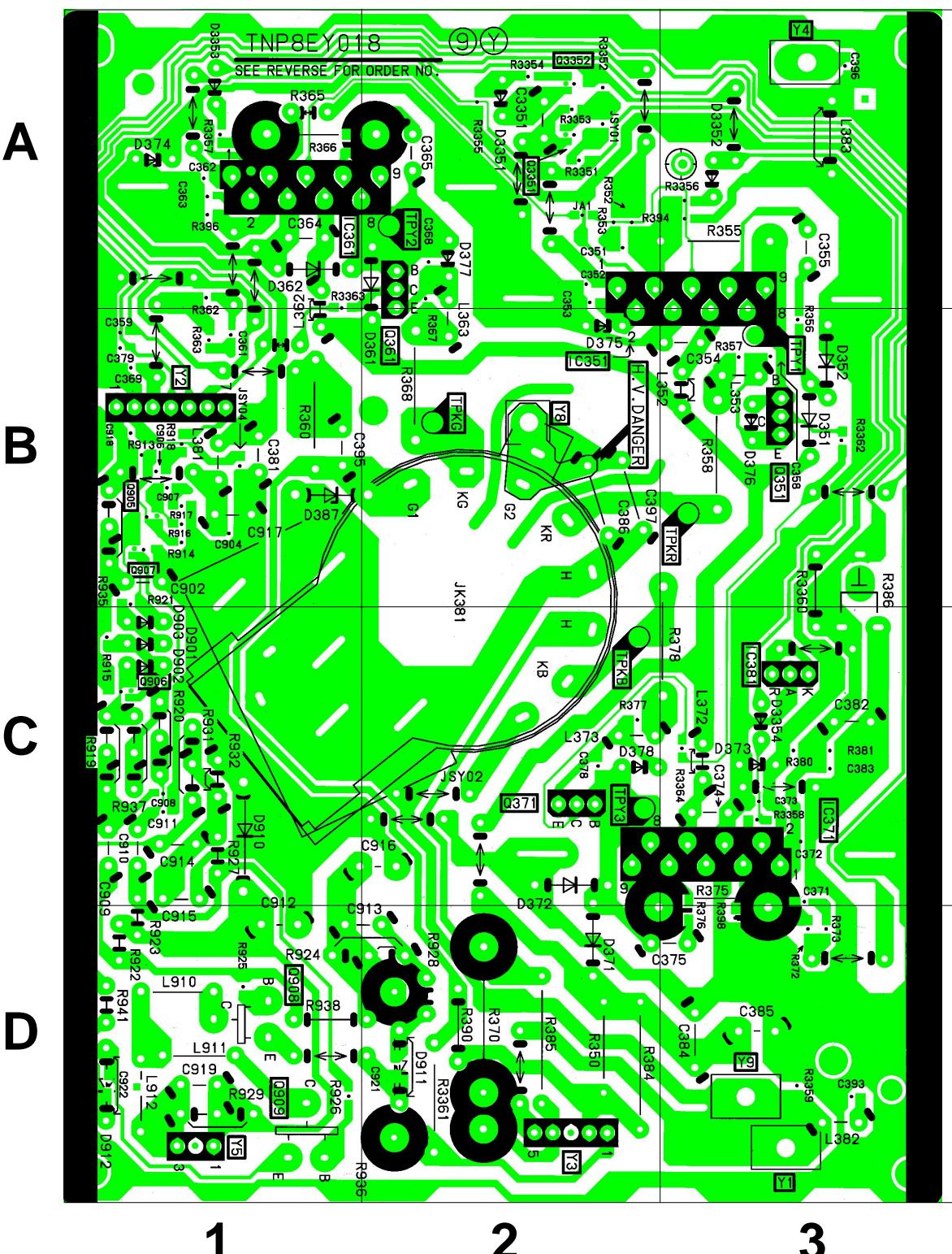
F BOARD  
TNP8EF007





# Y - BOARD TNP8EY018

TRAN'S	
Q351	B3
Q361	B2
Q371	C2
Q905	B1
Q906	C1
Q907	B1
Q908	D1
Q909	D1
Q3351	A2
Q3352	A2
DIODES	
D351	B3
D352	B3
D361	B2
D362	A1
D371	D2
D372	C2
D373	C3
D374	A1
D375	B2
D376	B3
D377	A2
D378	C2
D387	B1
D901	C1
D902	C1
D903	C1
D910	C1
D911	D2
D912	D1
D3351	A2
D3352	A3
D3353	A1
D3354	C3
T.P.'S	
TPY1	B3
TPY2	A2
TPY3	C2
TPKR	B3
TPKG	B2
TPKB	C2
I.C.'S	
IC351	B2
IC361	A1
IC371	C3
IC381	C3



1

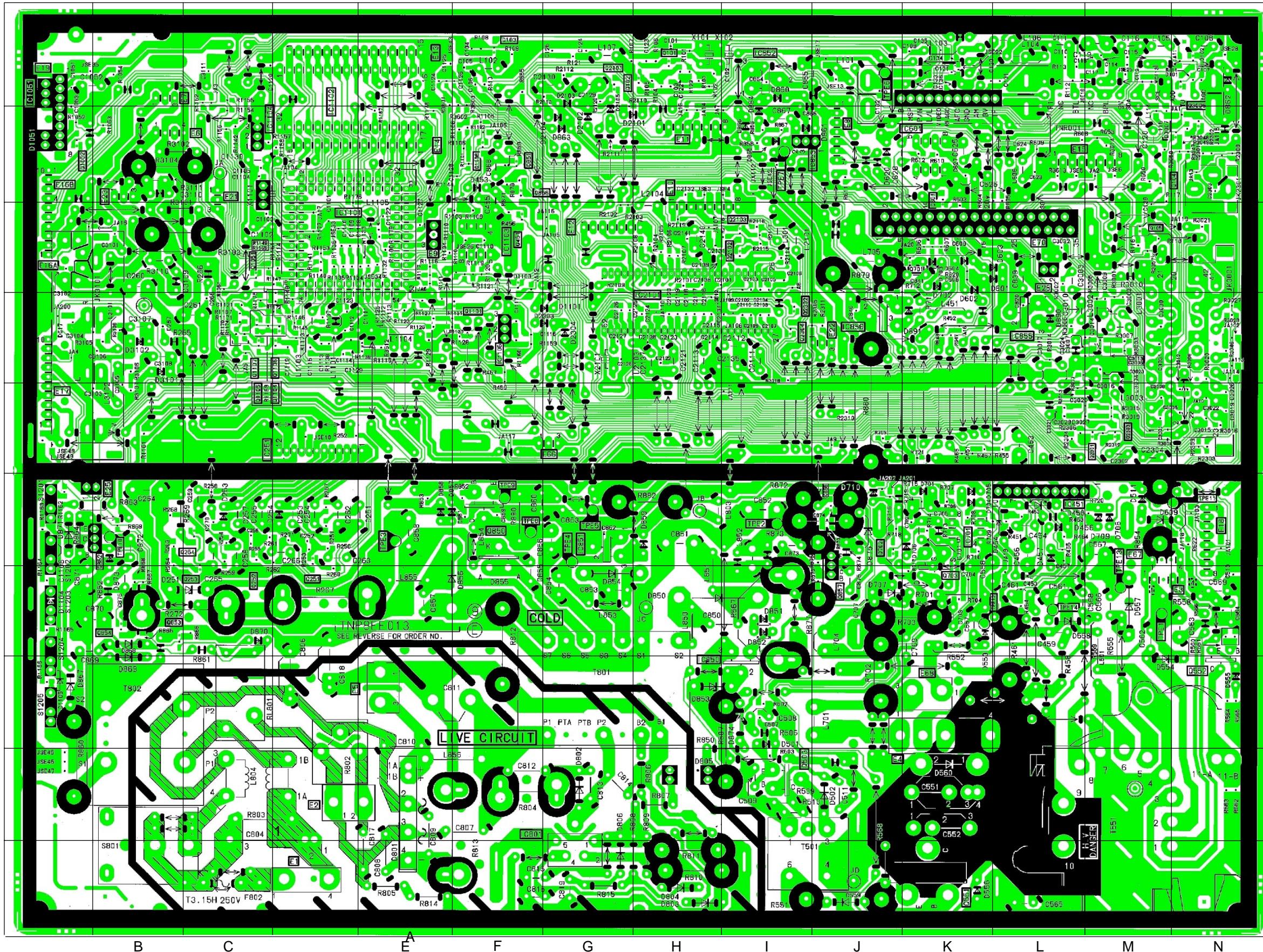
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3

## CONDUCTOR VIEWS

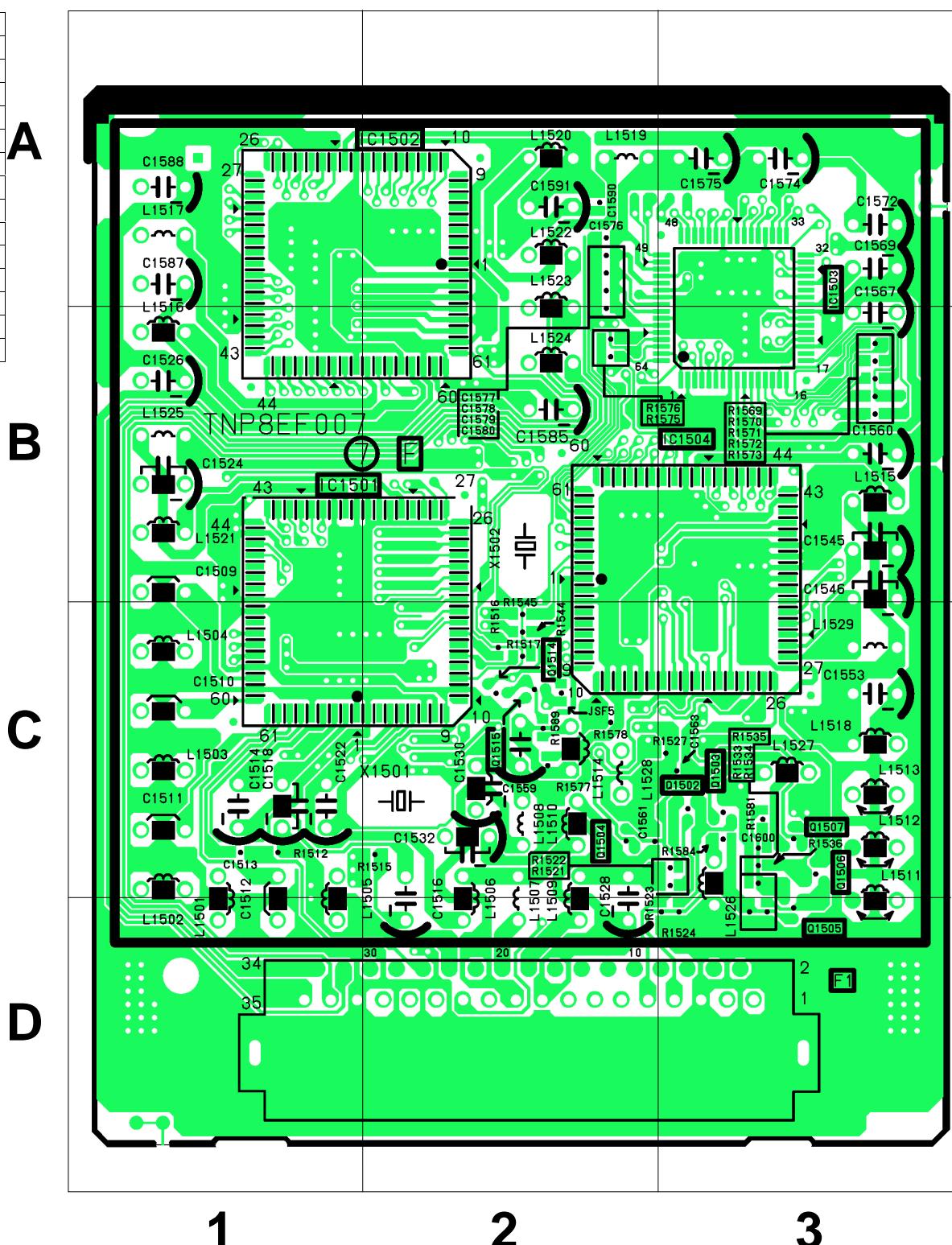
E-BOARD TNP8EE013

TRAN'S				
Q101	H10	D456	L5	D869 B4
Q103	F10	D457	L5	D870 C4
Q104	N9	D458	L5	D871 A5
Q105	M8	D501	I3	D873 B5
Q182	G10	D502	J2	D875 J5
Q251	D4	D511	M5	D890 L7
Q252	C4	D553	K4	D891 K7
Q253	C4	D554	M3	D1051 A9
Q254	C5	D555	N3	D1101 G7
Q451	F8	D556	K1	D1103 F8
Q503	I2	D557	M4	D1104 A4
Q551	K1	D558	L4	D1105 A3
Q552	N3	D559	J1	D1116 G7
Q601	K9	D560	K2	D2101 G9
Q701	K8	D601	K8	D2102 G9
Q702	J5	D602	K8	D2103 G10
Q703	K4	D603	K8	D2104 G9
Q850	F5	D604	K8	D2105 G9
Q851	F9	D609	M5	D2303 G7
Q852	B5	D620	J9	D2304 G7
Q853	B4	D701	K5	D3101 B7
Q854	B4	D702	K8	D3102 B7
Q855	J5	D703	K8	
Q856	F9	D704	K5	TPs
Q857	J4	D705	K5	TPE1 M4
Q1051	C8	D706	K5	TPE10 B5
Q1052	A9	D707	J4	TPE11 N5
Q1101	F7	D708	M5	TPE12 K4
Q1104	D6	D709	M5	TPE13 M4
Q1105	C6	D710	J5	TPE14 L4
Q1106	D7	D801	E1	TPE2 I5
Q1107	C7	D802	G2	TPE3 E5
Q1108	F9	D803	H1	TPE4 G5
Q2101	G10	D804	H1	TPE5 G5
Q2102	I8	D805	H2	TPE6 J10
Q2103	I8	D806	G2	TPE7 I9
Q2301	M6	D850	H4	TPE8 F5
Q2302	I7	D851	I4	TPE9 F5
Q2303	M6	D852	I4	
Q2304	I7	D853	H3	ICs
Q3006	N10	D854	G4	IC251 D6
Q3007	M9	D856	F4	IC451 L5
		D857	E5	IC601 K9
DIODES		D858	E5	IC701 K5
D251	D4	D859	H5	IC801 G2
D253	C4	D860	I10	IC850 H4
D254	B5	D861	J9	IC851 G5
D453	F9	D862	N10	IC852 I10
D454	L5	D863	G9	IC853 I9
		D864	I9	IC855 L7
		D865	I9	IC856 J7
		D866	I9	IC1051 A10
		D867	A3	IC1101 D8
		D868	B4	IC1102 D10
				IC1103 F8
				IC1104 C9
				IC1105 F7
				IC2101 H8



## F - BOARD TNP8EF007

TRAN'S	
Q1502	C3
Q1503	C3
Q1504	C2
Q1505	D3
Q1506	C3
Q1507	C3
Q1514	C2
Q1515	C2
I.C.'S	
IC1501	B1
IC1502	A2
IC1503	A3
IC1504	B3



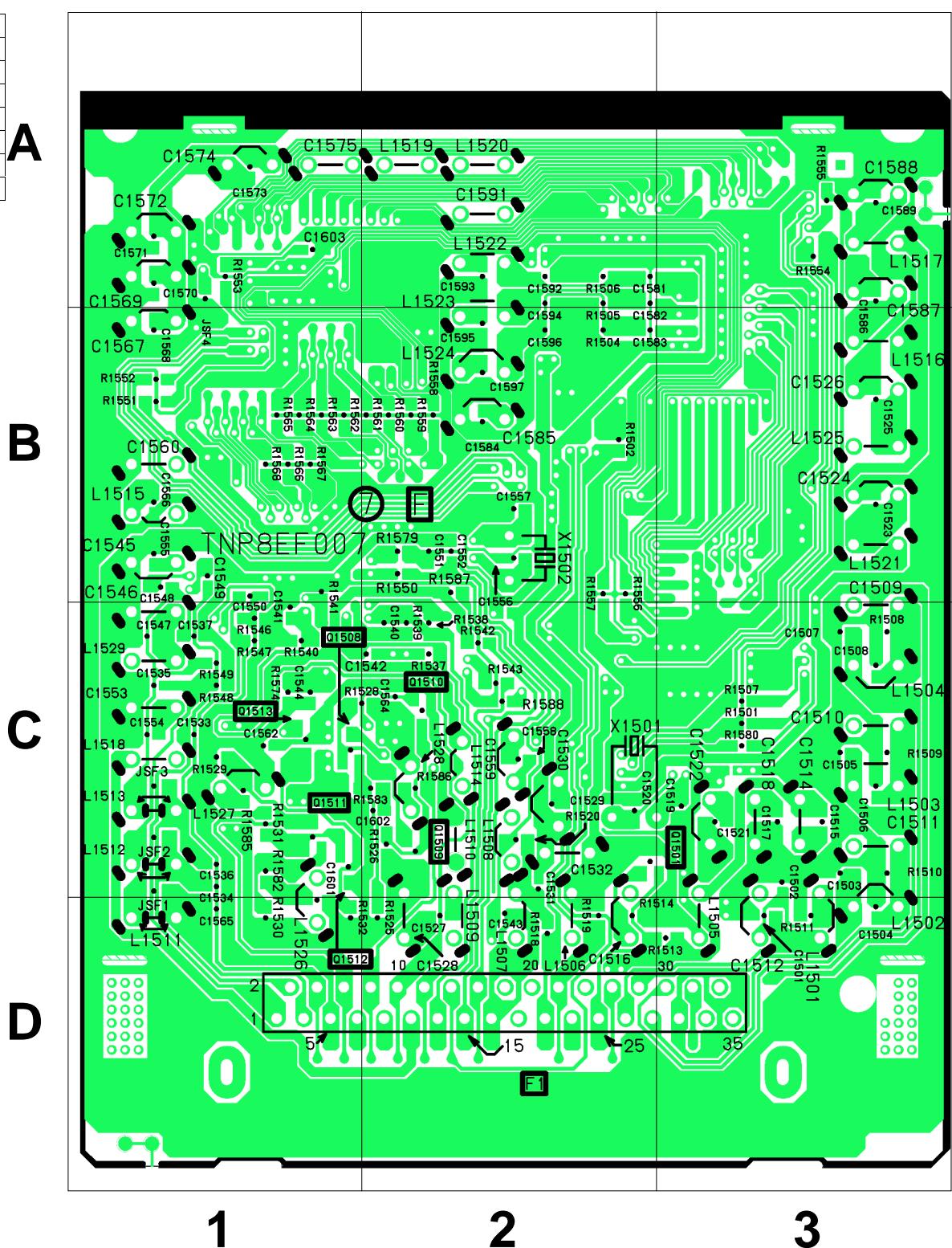
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2

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# F - BOARD TNP8EF007

TRAN'S	
Q1501	C3
Q1508	C1
Q1509	C2
Q1510	C2
Q1511	C1
Q1512	D1
Q1513	C1



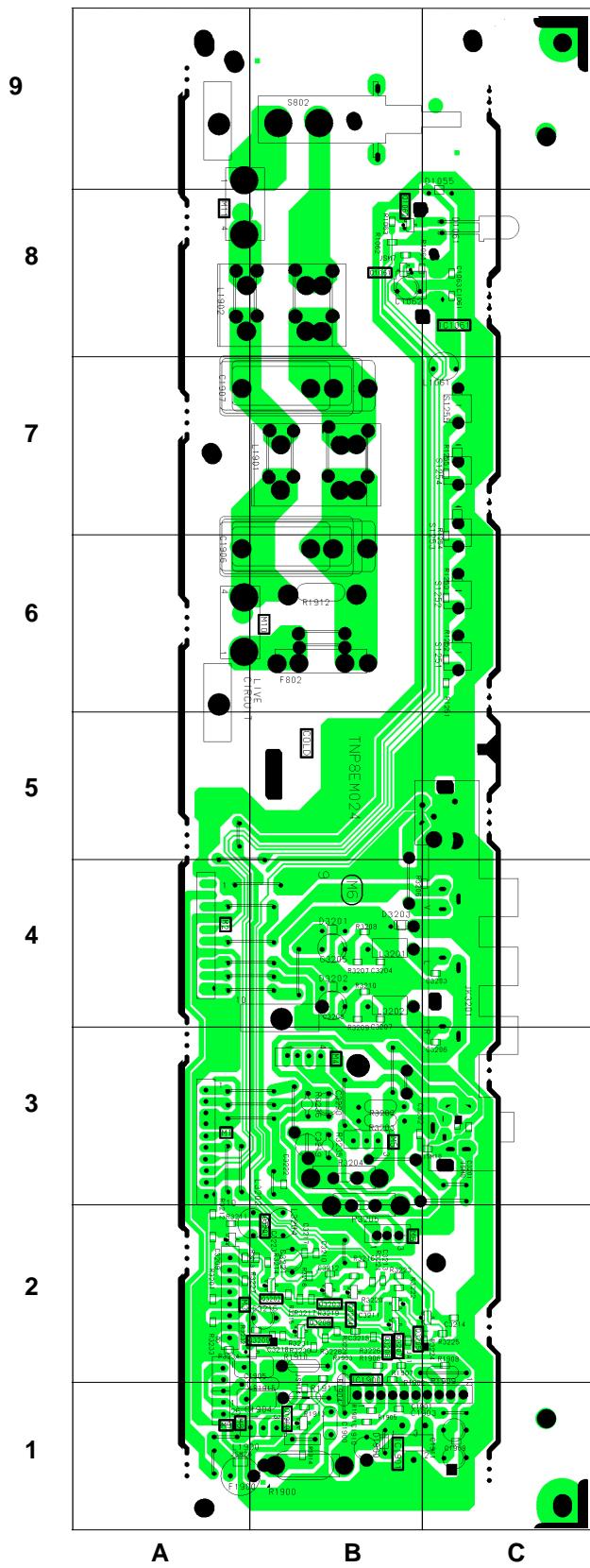
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2

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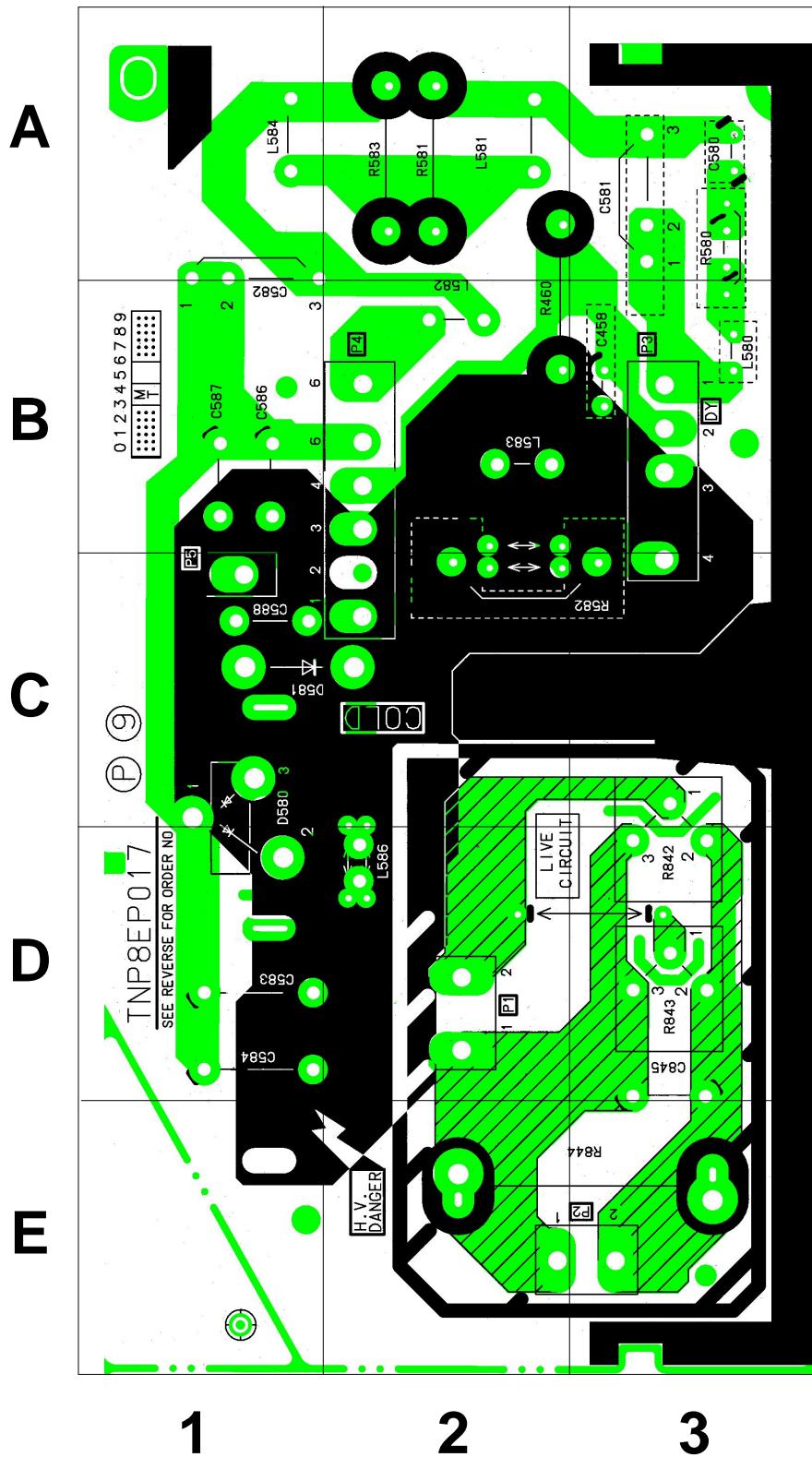
## M - BOARD TNP8EM024

TRANSISTORS	
Q1061	B8
Q1062	B8
Q1900	B1
Q1901	B1
Q3201	B2
Q3202	B2
Q3203	B2
Q3204	B2
Q3205	B2
Q3206	B2
Q3207	B2
Q3208	B2
Q3209	B2
DIODES	
D1055	C8
D1061	C8
D1900	C1
D3201	B4
D3202	B4
D3203	B4
IC'S	
IC1061	C8
IC1900	B1
IC1901	B1



# P - BOARD TNP8EP017

DIODES	
D580	C1
D581	C1



## Q - BOARD TNP8EQ003

