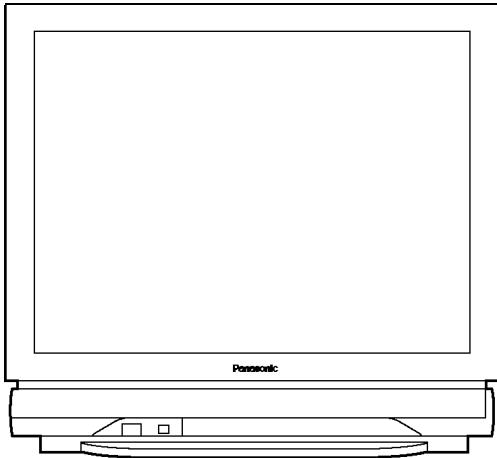


Service Manual

Colour Television



**TX-80P250Z
TX-34P250T**

EURO7 Chassis

Specifications

Power Source	AC 230-240 V, 50 Hz (TX-80P250Z) AC 220 V, 50/60 Hz (TX-34P250T)	
Power Consumption	218 W Stand-by condition 3.0 W	
Receiving System	21 Systems	Function
	1 PAL B, G, H	Reception of broadcast transmissions
	2 PAL I	and Playback from Video Cassette
	3 PAL D, K	Tape Recorders
	4 SECAM B, G	
	5 SECAM D, K	
	6 SECAM K1	
	7 NTSC M (NTSC 3.58/4.5 MHz)	
	8 NTSC 4.43/5.5 MHz	Playback from Special VCR's
	9 NTSC 4.43/6.0 MHz	
	10 NTSC 4.43/6.5 MHz	
	11 NTSC 3.58/5.5 MHz	
	12 NTSC 3.58/6.0 MHz	
	13 NTSC 3.58/6.5 MHz	
	14 SECAM I	
	15 PAL 60 Hz/5.5 MHz	Playback from Special Disc Players
	16 PAL 60 Hz/6.0 MHz	and Special VCR's
	17 PAL 60 Hz/6.5 MHz	
	18 SECAM 60 Hz/5.5 MHz	
	19 SECAM 60 Hz/6.0 MHz	
	20 SECAM 60 Hz/6.5 MHz	
	21 NTSC 50 Hz/4.5 MHz	

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Receiving Channels	Regular TV	
	VHF BAND	UHF BAND
	2-12 (PAL/SECAM B, K1)	21-69 (PAL G, H, I/SECAM G, K, K1)
	0-12 (PAL B AUST.)	28-69 (PAL B AUST.)
	1-9 (PAL B N.Z)	13-57 (PAL D, K)
	1-12 (PAL/SECAM D)	13-62 (NTSC M Japan)
	1-12 (NTSC M Japan)	14-69 (NTSC M U.S.A.)
	2-13 (NTSC M U.S.A.)	
	CATV	
	S1-S20 (OSCAR)	
	1-125 (U.S.A. CATV)	
	C13-C49 (JAPAN)	
	S21-S41 (HYPER)	
	Z1-Z37 (CHINA)	
	4A, 9A (AUST.)	
Receiving Stereo System	NICAM I, NICAM B/G, NICAM D, A2 (German)	
Tuning System	Frequency synthesizer	
	Auto Search Tuning	POSITION : 100 Position
		DIRECT : 125 Position
High Voltage	31.0 ± 1.0 kV at zero beam current	
Picture Tube	Overall Picture tube measured diagonally	86 cm
	Viewable Picture tube measured diagonally	80 cm
	CRT Deflection	104°
Audio Output	36 W [2-way, 4-speakers ; 12 W + 12 W, AFB woofer ; 12 W] (10% THD)	
Headphones	3.5 mm Plug	
Aerial Impedance	75Ω Unbalanced coaxial	
Video/Audio/Component Terminals	AV 1, 2, 3, 4	S-Video In Y:1 Vp-p, 75Ω C:0.3 Vp-p, 75Ω
		DVD (Y/P _B /P _R)
		Video In 1 Vp-p, 75Ω
		Audio In Approx. 0.4 V 47KΩ
	Monitor Out	Video Out 1 Vp-p, 75Ω
		Audio Out Approx. 0.4 V 1KΩ
		AV1 IN(Rear) : S-Video, Video, Audio L/R terminals
		AV2 IN(Rear) : Video or Y/P _B /P _R , Audio L/R terminals
		AV3 IN(Front) : S-Video, Video, Audio L/R RGB terminals
		AV4 IN(Rear) : Video or Y/P _B /P _R , Audio L/R terminals
RGB input	High-DENSITY D-sub 15 pin	
	31.5 kHz / 60 Hz (640 × 480 dot) and 31.5 kHz / 70 Hz (640 × 400 dot)	
Remote control Transmitter	R6 (AA) Battery × 2	
	75Ω coaxial aerial plug	
Dimensions (W × D × H)	762 mm × 558 mm × 706 mm	
Weight (Mass)	74 kg (Net)	

Note:

Design and Specifications are subject to change without notice. Weight 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 dealt with in this service information by anyone else could result in serious injury or death.

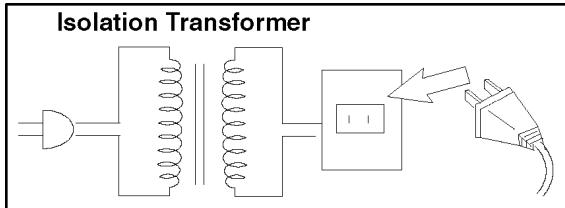
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1 Safety Precautions

1.1. General Guide

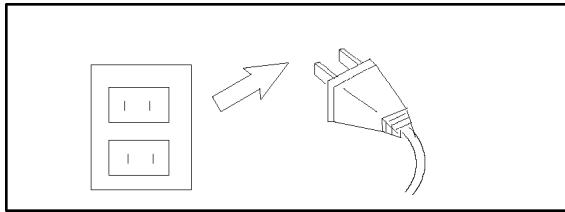
1. It is advisable to insert an isolation transformer in the AC supply before servicing a hot chassis



2. When servicing, observe the original lead dress, especially the lead dress in the high voltage circuits.

If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.

3. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers, shields, and isolation R-C combinations, are properly installed.
4. When the receiver is not to be used for a long period of time, unplug the power cord from the AC outlet.

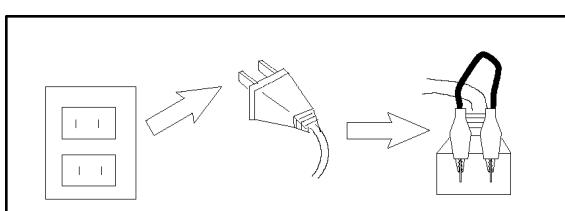


5. Potential, as high as **32.0 kV**, is present when this receiver is in operation. Operation of the receiver without the rear cover involves the danger of a shock hazard from the receiver power supply. Servicing should not be attempted by anyone who is not thoroughly familiar with the precautions necessary when working on high voltage equipment. Always discharge the anode of the picture tube to the receiver chassis before handling the tube.

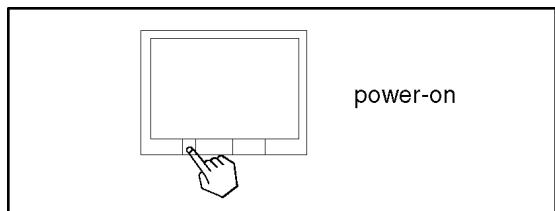
6. After servicing make the following leakage current checks to prevent the customer from being exposed to shock hazards.

1.2. Leakage Current Cold Check

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.



2. Turn on the receiver's power switch.

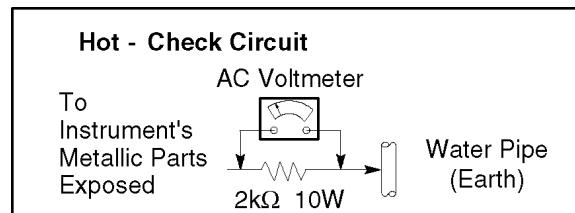


3. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the receiver, such as screw heads, aerials, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between **4 MΩ and 20 MΩ**.

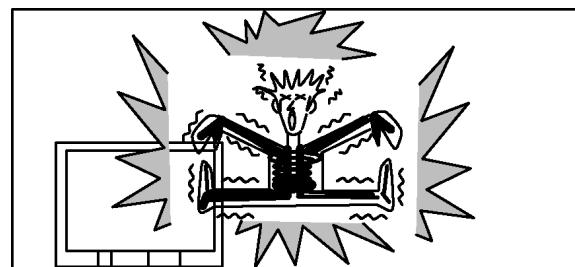
When the exposed metal does not have a return path to the chassis, the reading must be.

1.3. Leakage Current Hot Check

1. Plug the AC cord directly into the AC 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 AC voltmeter, with high impedance type, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.



5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed **1.0 V rms**. In case a measurement is outside of 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.



1.4. 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 jig is capable of handling **32.0kV** 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 reading should indicate **31.0 ± 1 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 an X-Radiation possibility, it is essential to use the specified picture tube.

2 SERVICE HINTS

2.1. HOW TO REMOVE THE REAR COVER

1. Remove the 9 screws as shown in Fig. 1.

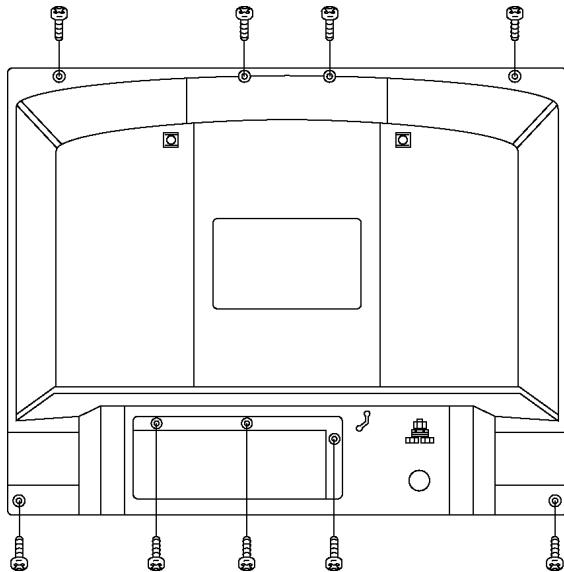


Fig. 1.

2.2. LOCATION OF CONTROLS

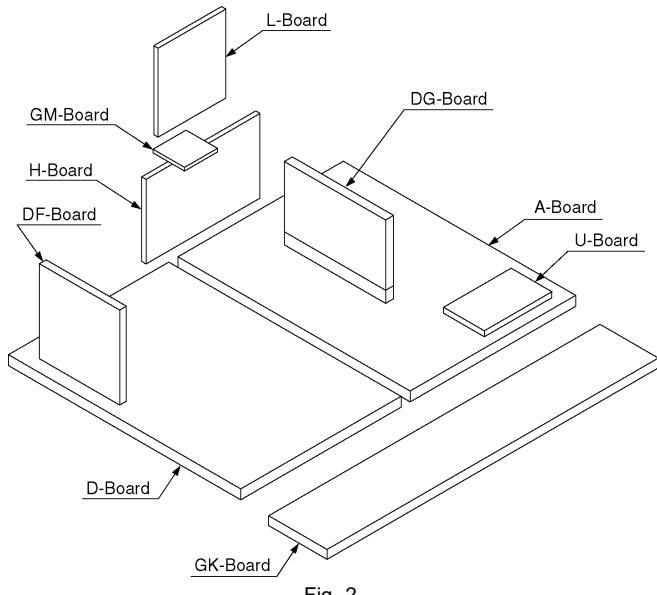


Fig. 2.

2.3. HOW TO MOVE THE CHASSIS INTO SERVICE POSITION

1. Hold and lift the rear of the chassis and gently pull the chassis toward you, as shown in **Fig. 3**.
2. Release the respective wiring clips and rotate the chassis vertically through 90°, anti-clockwise.
3. After servicing replace the bead clamper and ensure all wiring is returned to its original position before returning the receiver to the customer.

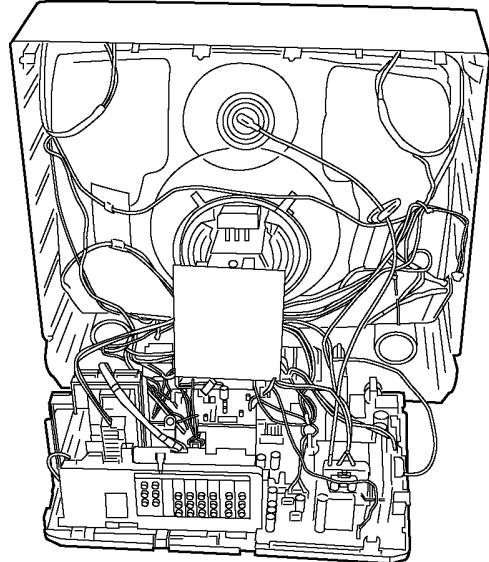


Fig. 3.

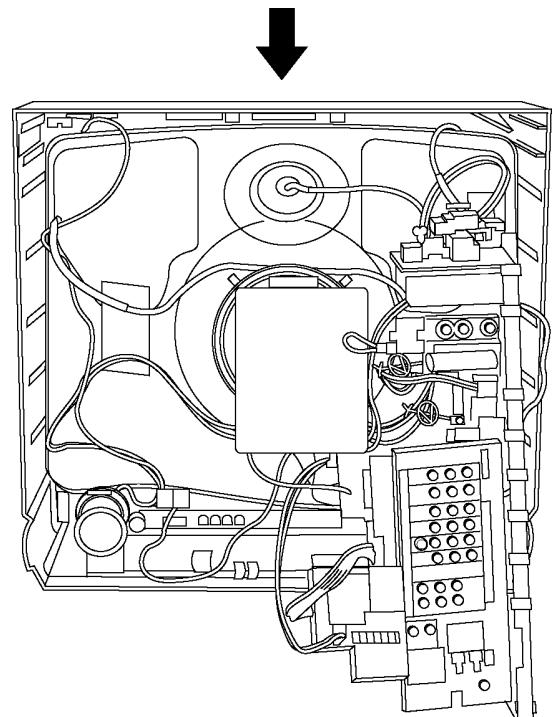


Fig. 4.

2.4. Hotel Mode

Purpose

1. At Hotels, this Mode prevent customer from changing the TV preset data, such as Channel preset data.

Note:

This Mode is useful for hotel, you should not get into "Hotel Mode" with Normal use.

Operation

1. To get into " Hotel Mode", press the remote control "Recall" button and Channel up "[+/ \wedge]" key on the TV set simultaneously, after setting the "Off-Timer" mode.

2. In this mode, The Channel up and down Function will be able as normal Mode, and The maximum volume level for this mode is set at the current volume level, that means setting at the level before entering the mode. However, other function will be disable.

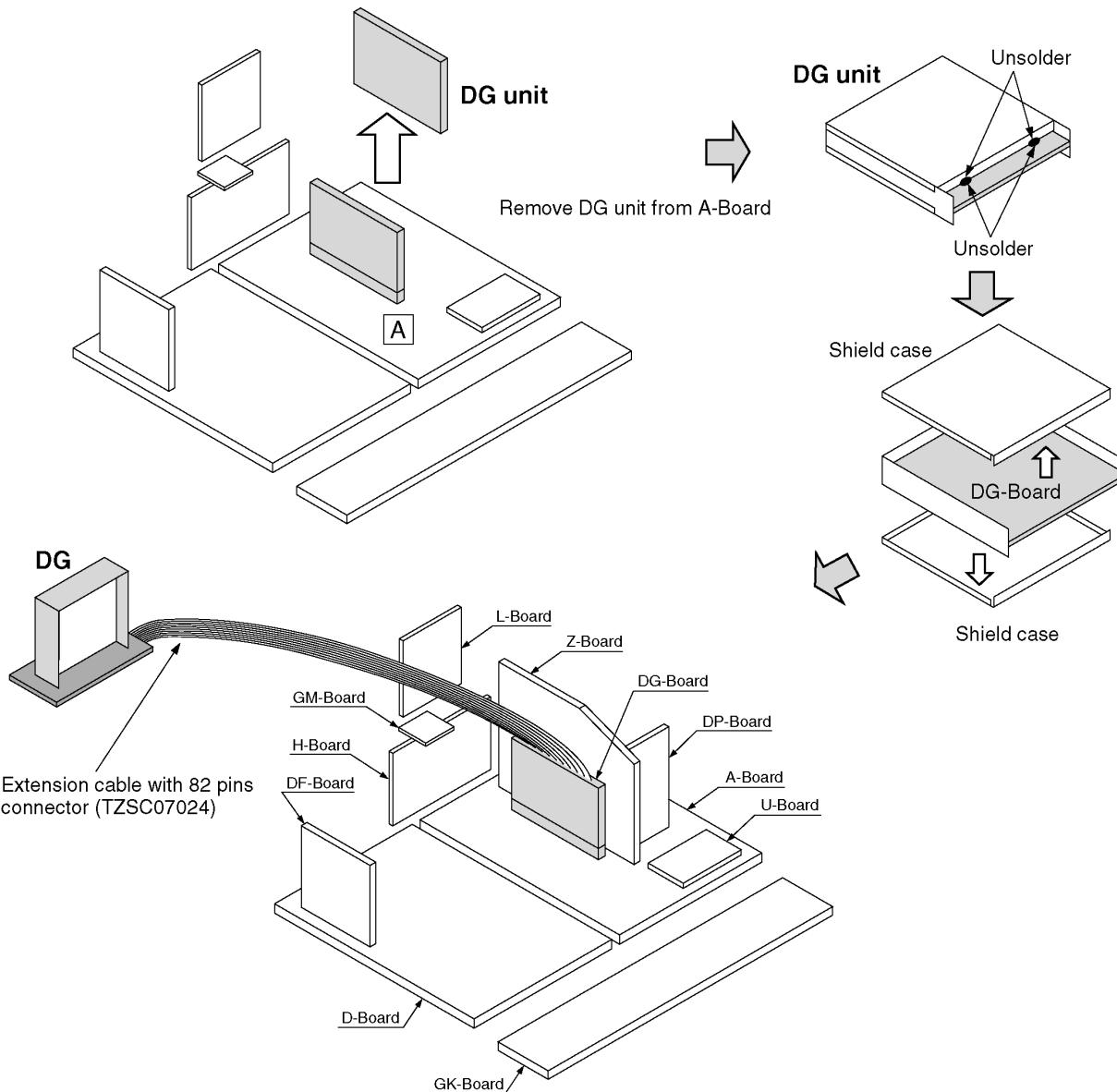
3. **To exit This mode**, exit "off-timer" mode and the "Volume Down [−/ \vee]" key simultaneously.

* This Information is informed by Service Manual only.

2.5. Service position For DG-Board.

Note:

Extension cable kit for DG Board is supplied as service fixtures and tools. (Part No. TZSC07024)



3 Self Check

1. Self-Check is used to automatically check the bus lines and hexadecimal code of the TV set.
2. To get into the Self -Check mode press the down (—/V) button on the customer controls at the front of the set, at the same time pressing the HELP button on the remote control, and the screen will show :

The screenshot shows a table with two main sections. The first section lists individual ICs with their status (O.K. or --) and a 'Sum' value of 'XXXX'. The second section, enclosed in a dashed box, lists 13 options with their corresponding hex codes. A legend on the right explains the check results: 'OK' leads to 'Normal' and 'NG' leads to 'Abnormal' (Check IC or its nearby components). A note indicates that the table is 'Factory use only'. Another note specifies that the option codes are examples and refers to a 'Please Refer the option table for each models.' link.

Check result of IC			
"OK" → Normal			
"NG" → Abnormal			(Check IC or its nearby components)
Factory use only			
Option Code display The numbers are displayed in hexadecimal. Note: Option Codes are only examples. Please Refer the option table for each models.			
MEM	O.K.	Sum	XXXX
GC1	O.K.	OPTION1	CF
GC2	O.K.	OPTION2	FF
VDU	O.K.	OPTION3	0F
CIP	O.K.	OPTION4	E2
RGB	O.K.	OPTION5	DE
AVSW	O.K.	OPTION6	51
TUN1	O.K.	OPTION7	5E
TUN2	O.K.	OPTION8	57
DAC1	O.K.	OPTION9	C3
MSP	O.K..	OPTION10:	88
		OPTION11:	4E
		OPTION12:	41
		OPTION13:	7A
		CHECK	F7

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

Display	Ref. No.	Description	P.C.B.
MEM	IC1104	Memory	A-Board
GC1	IC1301	Global core IC Main	DG-Board
GC2	IC1304	Global core IC Sub	DG-Board
VDU	IC1305	Video Processor	DG-Board
CIP	IC1303	CIP	DG-Board
RGB	IC1315	RGB Processor	A-Board
AVSW	IC3001	AV SW	A-Board
TUN1	TNR001	Tuner Main	A-Board
TUN2	TNR002	Tuner Sub	A-Board
DAC1	IC1253	DAC control	A-Board
MSP	IC2001	Stereo Decoder	A-Board

4 Service Mode Function

MPU controls the functions switching for each IICs through IIC bus in this chassis. The following setting and adjustment can be adjusted by remote control in Service Mode.

4.1. How to enter SERVICE 1

1. In sound menu, set BASS to MAX, and set TREBLE to MINIMUM.
2. Simultaneously press INDEX button on remote control and VOLUME DOWN button [-] on the TV set.

4.2. How to enter SERVICE 2

1. Set the channel to CH99.
2. Press HOLD button on remote control.

Note:

To exit to Service mode, press N or Power button on remote control.

SERVICE 1

Function	Average Data
H-Pos	107
V-Pos	57
H-Amp	64
V-Amp	174
Parabola	41
Trapezoid	125
H-Parallel	8
V-Linear	34
Top-Corner	21
Bottom-Corner	21
V-S-Correct	11
C-Correct	8
DAF-Phase	189
R High(Drive)	158
G High(Drive)	160
B High(Drive)	178
R Low(Cut off)	199
G Low(Cut off)	384
B Low(Cut off)	284
Sub-Bright	104
Sub-Geomagnetic	128
RF AGC 1	16
Sub-Contrast	112
Sub-Colour	43
Sub-NTSC Tint	-1
SECAM B-Y	194
SECAM R-Y	78
RF AGC 2	19
Sub-NTSC Tint2	-2
Sub SECAM B-Y	193
Sub SECAM R-Y	70
Video Gain 2	143
SPL, Gain	0



- Press the RED/GREEN button to step up/down through the functions.
 - Press the YELLOW/BLUE button to change the function values.
 - Press the STR button after each adjustment has been made to store the required values.
- ① Set the Aspect mode 16:9.
- a. Receive PAL signal and adjust each item.
 - b. Next, receive NTSC signal and adjust each time.
- ② Set the Aspect mode 4:3.
- a. Receive PAL signal and confirm the picture.
Adjust each item if necessary.
 - b. Next, receive NTSC signal and confirm the picture.
Adjust each item if necessary.

SERVICE 2

Function	TX-80P250Z	TX-34P250T	Function	TX-80P250Z	TX-34P250T
Y/C Delay	11		OPTION 8	D3	53
OPTION 1	CF		OPTION 9	C3	C2
OPTION 2	FF		OPTION 10	88	84
OPTION 3	OF		OPTION 11	4E	
OPTION 4	E2		OPTION 12	41	
OPTION 5	DE		OPTION 13	7A	
OPTION 6	51		Hours		
OPTION 7	5E				

4.3. Option Description

Options Model	Description		
option1 0E0	CF		
	b0 1	Colour system	Auto(1)
	b1 1		SECAM(1)
	b2 1		NTSC(1)
	b3 1		M.NTSC(1)
	b4 0	TV NTSC 50	Reserved
	b5 0	TV SECAM 60	Reserved
	b6 1	AV NTSC 50	Reserved
option2 0E1	FF		
	b0 1	CH Plan	ASIA / M.E. / HK / UK / CHINA(1)
	b1 1		NZ/INDNES(1)
	b2 1		AUSTRALIA(1)
	b3 1		E.EUROPE(1)
	b4 1		SPECIAL(1)
	b5 1		AMERICA(1)
	b6 1		CATV(1)
option3 0E2	0F		
	b0 1	sub picture	without sub-picture(0), with sub-picture(1)
	b1 1	2tuner	2tuner(1), 1tuner(0)
	b2 1	VGA	enable(1)
	b3 1	YUV	enable(1)
	b4 0	CRT	16:9(1), 4:3(0) (change multi window / aspect operation)
	b5 0	HYPER	not use
	b6 0	SIF	4.5 / 5.5 / 6.0 / 6.5(0), 5.5 / 6.0 / 6.5(1) 5.5 / 6.5(2), 6.0 / 6.5(3)
option4 0E3	E2		
	b0 0	A2 enable	4.5(1)
	b1 1		5.5(1)
	b2 0		6.0(1)
	b3 0		6.5(1)
	b4 0	NICAM enable	4.5(1)
	b5 1		5.5(1)
	b6 1		6.0(1)
option5 0E4	DE		
	b0 0	A2 select 6.5MHz	5.742MHz(0) 6.742MHz(1)
	b1 1	NICAM priority	ASIA / M.E.(1)
	b2 1		HK / UK(1)
	b3 1		CHINA(1)
	b4 1		NZ / INDN(1)
	b5 0		AUSTRA(1)
	b6 1		E.EURO(1)
	b7 1		SPECIAL(1)

Options Model				Description
		TX-80P 250Z	TX-34P 250T	
0E5	option6	51	51	
	b0	1	1	VCR/GAME in search On(0) Off(1)
	b1	0	0	SASO enable SASO enable(1)
	b2	0	0	Noise mute Noise mute enable(0)
	b3	0	0	Monitor out AV1 mute Monitor out AV1 mute(1)
	b4	1	1	AV SW 3/2 AV out CXA2069Q(1) CXA2079Q(0)
	b5	0	0	Tuner MACO tuner(0), ALPS tuner(1)
	b6	1	1	Child lock Child lock enable(1)
0E6	option7	5E	5E	
	b0	0	0	Power up EC-Mode not use
	b1	1	1	CH Blanking Blanking enable(1)
	b2	1	1	AV Blanking Blanking enable(1)
	b3	1	1	Auto WIDE not use
	b4	1	1	Volume correction TV Volume correction enable(1)
	b5	0	0	AVLink Q-Link on/off selectable in menu(1)
	b6	1	1	MPX/NICAM display Display NICAM(0), Display MPX(1)
0E7	option8	D3	53	
	b0	1	1	Geomagnetic correction Geomagnetic correction enable(1)
	b1	1	1	Geomagnetic Sensor Geomagnetic sensor enable(1)
	b2	0	0	Geomagnetic Polarity Geomagnetic polarity +(0), -(1)
	b3	0	0	free
	b4	1	1	Fine tuning Enable(1)
	b5	0	0	Search speed Slow(1) Fast(0)
	b6	1	1	TEXT FLOF Reserved
0E8	option9	C3	C2	
	b0	1	0	Digital Audio Digital Audio enable(1)
	b1	1	1	3D Subwoofer Subwoofer enable(1)
	b2	0	0	free
	b3	0	0	free
	b4	0	0	free
	b5	0	0	free
	b6	1	1	Volume curve Volume curve1(0), curve2(1)
0E9	option10	88	84	
	b0	0	0	free
	b1	0	0	OSD language Arabic enable(1)
	b2	0	1	
	b3	1	0	Russian enable(1) Chinese enable(1)
	b4	0	0	free
	b5	0	0	free
	b6	0	0	free
	b7	1	1	Protect 5V detect Protection input enable(1)

Options Model				Description
		TX-80P 250Z	TX-34P 250T	
0EA	option11	4E	4E	
	b0	0	0	Shop mode enable(1)
	b1	1	1	Full/16:9 display Reserved
	b2	1	1	Sub Headphone enable(1)
	b3	1	1	Scan mode Blanking Blanking enable(1)
	b4	0	0	User aspect 14:9 enable(1)
	b5	0	0	NICAM C4 bit enable(1)
	b6	1	1	ID-1 enable(1)
0EB	option12	41	41	
	b0	1	1	Asia Asia(1), europe(0)
	b1	0	0	-
	b2	0	0	Ireland not use
	b3	0	0	UK not use
	b4	0	0	-
	b5	0	0	- (Reserved for 28 inch etc.)
	b6	1	1	Large size 52(1) / 42(0) for PTV, 36(1) / 32(0) for wide, 34(1) / 29(0) for 4:3
0EC	option13	72	7A	Temporary
	b0	0	0	VDU Version A21(0), A12(1)
	b1	1	1	GC Version ES5(0), ES6(1)
	b2	0	0	UV Swap Swap(1)
	b3	0	1	TEXT Enable(1)
	b4	1	1	Main GC ES7 ES7(1), ES5/6(0)
	b5	1	1	Sub GC ES7 ES7(1), ES5/6(0)
	b6	1	1	-
	b7	0	0	CIP2 without CIP1(0), with CIP1(1)

SUM	73	EE
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5 Adjustment Procedure

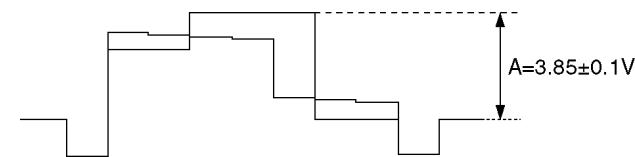
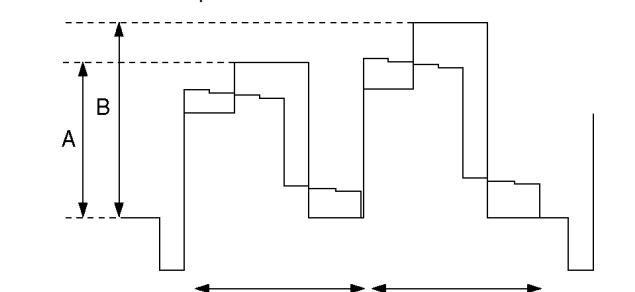
5.1. Voltage Confirmation

Item/Preparation	Adjustment Procedure
1. Operate the TV set. 2. Set controls : Bright Minimum Contrast Minimum Volume Minimum	1. TPD15 : $144.8 \pm 1V$ (D-Board) 2. TPD 13 : $14.6 \pm 1V$ (D-Board) 3. TPD8 : $7.4 \pm 0.5V$ (D-Board) 4. TPD9 - TPD11: $34.0 \pm 1.5V$ (D-Board) 5. TPD10 : $15.5 \pm 1V$ (D-Board) 6. C864 (-) : $-15.7 \pm 1V$ (D-Board) 7. Pin 15 of connector D2 : $31 \pm 2V$ (D-Board) 8. TPD32 : $224 \pm 10V$ (D-Board) 9. Pin 2 of IC1252 : $2.5 \pm 0.25V$ (A-Board) 10. Pin 3 of IC1251 : $3.3 \pm 0.3V$ (A-Board) 11. Pin 3 of IC3302 : $12 \pm 0.6V$ (A-Board) 12. Pin 2 of IC2708 : $9.0 \pm 0.4V$ (A-Board) 13. Pin 3 of IC2707 : $8.0 \pm 0.4V$ (A-Board) 14. Pin 2 of IC2706 : $5.0 \pm 0.4V$ (A-Board) 15. Pin 2 of IC2705 : $3.5 \pm 0.2V$ (A-Board) 16. Pin 2 of IC2709 : $3.5 \pm 0.2V$ (A-Board)

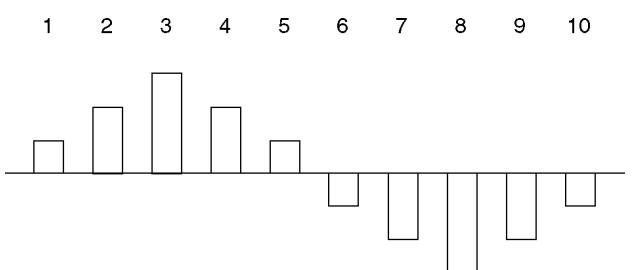
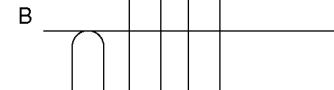
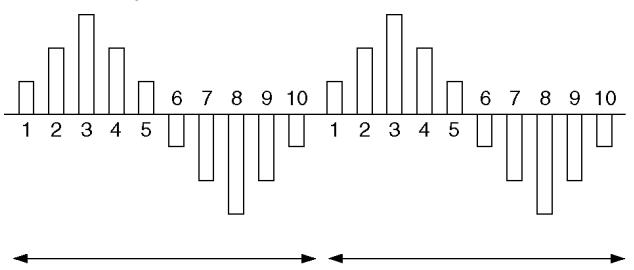
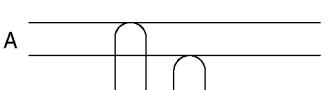
5.2. E.H.T Check

Item/Preparation	Adjustment Procedure
1. Receive an RF signal, window or crosshatch pattern. 2. Set the Brightness and the Contrast to minimum (0 Beam). 3. Connect the High-Voltage Voltmeter to the CRT ANODE CAP. 4. The set should be switched to AV (no input) contrast & brightness minimum.	1. Check the EHT voltage is (32.0 ± 1.0) KV. 2. Switch from AV mode to TV. 3. With the Brightness and the contrast controls MAX, check that the high voltage does not drop more than 3.0KV from the above measurement with R.F. signal.

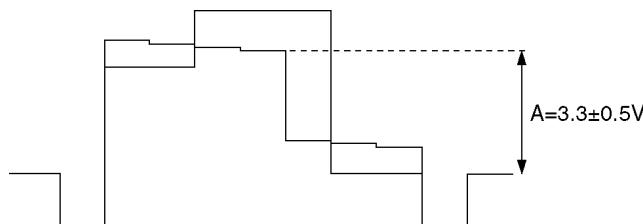
5.3. Sub Contrast

Item/Preparation	Adjustment Procedure
1. Receive PAL colour bar pattern. 2. Connect oscilloscope to A21 pin 3. 3. Set controls : BRT.....CENTER COLOUR.....CENTER CONTRAST.....MAX AI.....OFF	1. Adjust Sub Contrast (Service 1) : $A=3.85 \pm 0.1V$  <p>Fig. 1.</p> 2. Adjust Video gain 2 (Service 1) so that Sub picture level B becomes as same as Main picture level A.  <p>Fig. 2.</p>

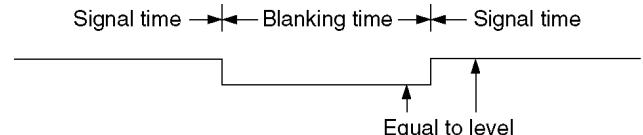
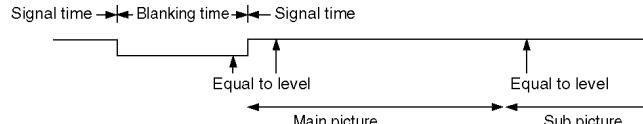
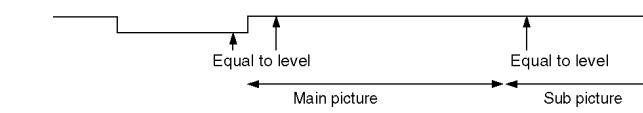
5.4. Sub Tint

Item/Preparation	Adjustment Procedure
<p>1. Receive 3.58MHz NTSC rainbow pattern.</p> <p>2. Connect oscilloscope to A21 pin 6.</p> <p>3. Set controls :</p> <p>BRT.....CENTER COLOUR.....CENTER CONTRAST.....MAX NTSC TINT.....CENTER AI.....OFF</p>	<p>1. Adjust Sub NTSC Tint so that the peak of level of waveform is similiar to Fig. 3.</p>  <p>A:  B: </p> <p style="text-align: center;">A:B=2:3</p> <p>Fig. 3.</p> <p>2. Receive the Rainbow patter (3.58MHz NTSC) on both of Main and Sub pictures.</p> <p>3. Adjust Sub NTSC Tint 2 so that the peak of level of waveform is similiar to Fig. 4.</p>  <p>A:  B: </p> <p style="text-align: center;">A:B=2:3</p> <p>Fig. 4.</p>

5.5. Sub Colour

Item/Preparation	Adjustment Procedure
<p>1. Receive PAL colour bar pattern.</p> <p>2. Connect oscilloscope to A21 pin 3.</p> <p>3. Set controls :</p> <p>BRT.....CENTER COLOUR.....CENTER CONTRAST.....MAX AI.....OFF</p>	<p>1. Adjust Sub Colour : $A=3.3\pm 0.5V$</p>  <p>Fig. 5.</p>

5.6. SECAM BLACK LEVEL

Item/Preparation	Adjustment Procedure
<p>1. Receive SECAM white pattern.</p> <p>2. Connect oscilloscope to A44 pin 39.</p> <p>3. Set controls :</p> <p>BRT.....CENTER COLOUR.....CENTER CONTRAST.....MAX AI.....OFF</p>	<p>1. Adjust SECAM B-Y so that H-blanking time and colour center are equal level.</p> <p>Signal time ————— Blanking time ————— Signal time</p>  <p>Fig. 6.</p> <p>2. Connect oscilloscope to A44 pin 41.</p> <p>3. Adjust SECAM R-Y OUT so that H-blanking time and colour center are equal level.</p> <p>Signal time ————— Blanking time ————— Signal time</p>  <p>Fig. 7.</p> <p>4. Connect oscilloscope to A44 pin 39.</p> <p>5. Receive SECAM white pattern on both of Main and Sub picture.</p> <p>6. Adjust Sub SECAM B-Y so that H-blanking time and color center are equal level.</p> <p>Signal time ————— Blanking time ————— Signal time</p>  <p>Fig. 8.</p> <p>7. Connect oscilloscope to A44 pin 41.</p> <p>8. Adjust Sub SECAM R-Y so that H-blanking time and colour center are equal level.</p> <p>Signal time ————— Blanking time ————— Signal time</p>  <p>Fig. 9.</p>

5.7. VRS Adjustment

1. PREPARATION

- Set DY to CRT not to tilt up and down and left and right deflection. (Fig. 1)
- Set CY to CRT and set CY magnet primarily.
Pur Mg : Set Pur Mg that 2magnets are vertical position.
VRS Mag : Set VRS Mg that 2magnets are side position.
- Set geomagnetic correction DAC [0]

2. ADJUSTMENT

- Receive the white balance pattern.
- Adjust V-CENTER
- Set R,B CUT OFF to minimum(0), and set G CUT OFF to center(511).
- Receive the aging pattern.
- Set 2 magnet of vertical position to up and down equally so that center part of CRT. (Fig. 3)

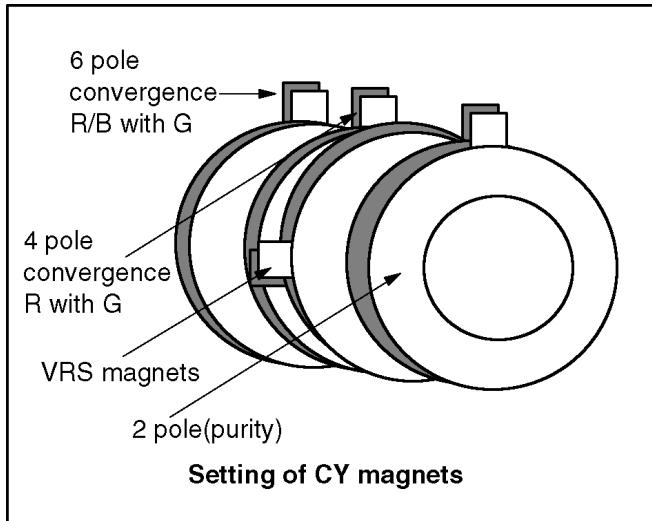


Fig. 1

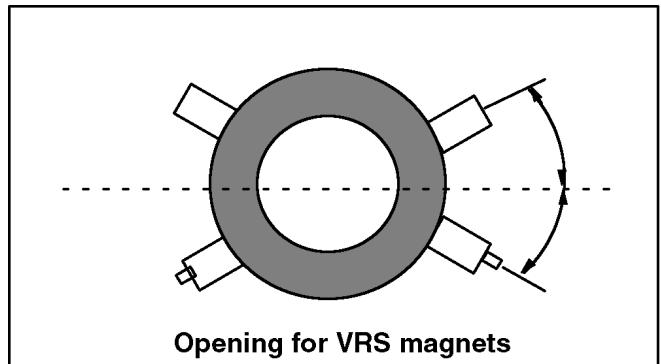


Fig. 2

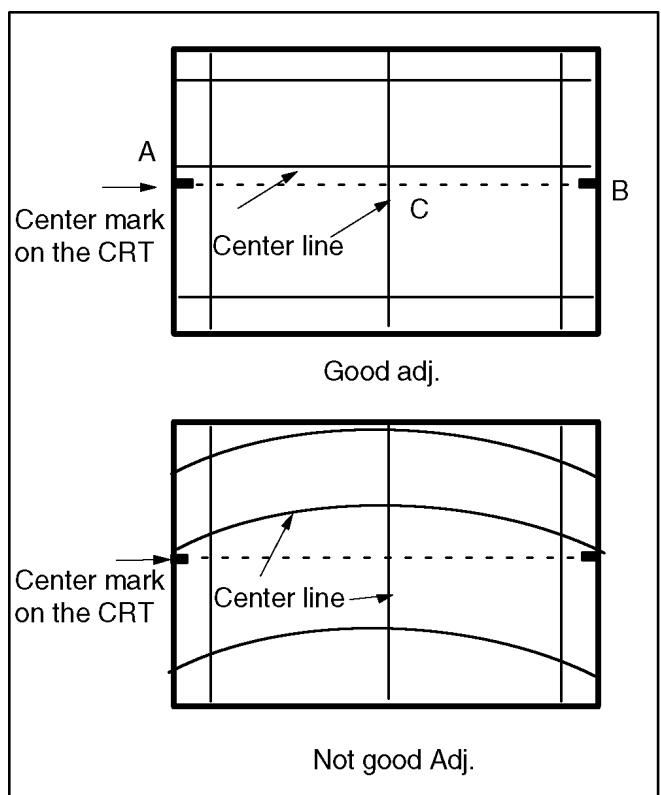
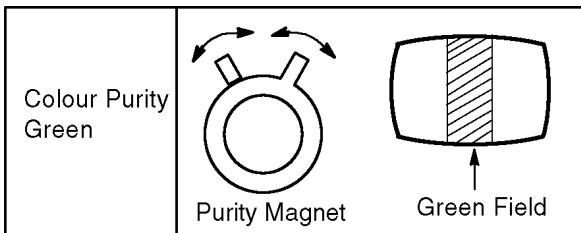


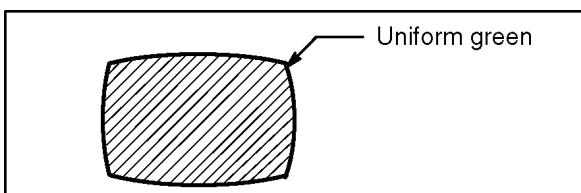
Fig. 3

5.8. Colour Purity

1. Operate the TV set over 60 minutes.
2. Receive a purity pattern signal. (white pattern)
3. Set Bright and Contrast controls to their maximum positions.
4. Set V-POS to 128.
5. Adjust roughly the static convergence magnets.
6. Fully degauss the picture tube by using an external degaussing coil.
7. Loosen a clamp screw for the deflection yoke and move the deflection yoke as close to the purity magnet as possible.
8. Adjust the purity magnet so that a vertical green field is obtained at center of the screen.

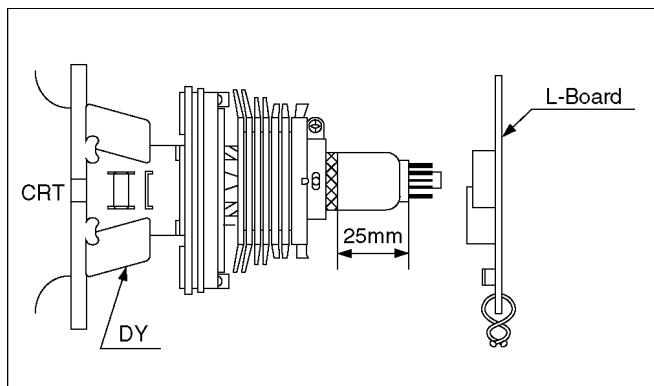


9. Slowly press the deflection yoke and set it where a uniform green field is obtained.



10. Adjust roughly the Low Light controls and make sure that a uniform white field is obtained.

11. Tighten the clamp screw.



5.9. Convergence

1. INSTRUMENT

- a. Helmholz device

2. PREPARATION

- a. Set the Helmholz device to local magnetic field.

Horizontal : $0 \pm 0.03 \times 10^{-4}$ T

- b. Received the cross hatch pattern.

- c. Picture menu : DYNAMIC Normal and adjust BRIGHT DAC until gray portion of cross hatch.

- d. Set DY to CRT not to tilt (up and down and left and right).

3. ADJUSTMENT

a. Static convergence Adjustment

- a. Make sure that magnets are positioned shown in Fig. 1.

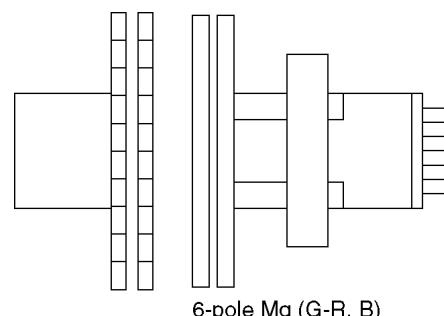
- b. Adjust 4-pole magnets (Fig. 1.) to align center dots of R and B and adjust 6-pole magnets to align center dots to G.

- c. After adjustment, secure magnets with magnet lock of white lacquer.

*Beams move with rotating when static magnets are turned.

Rotational reduce of beams differs by angle of two magnets.

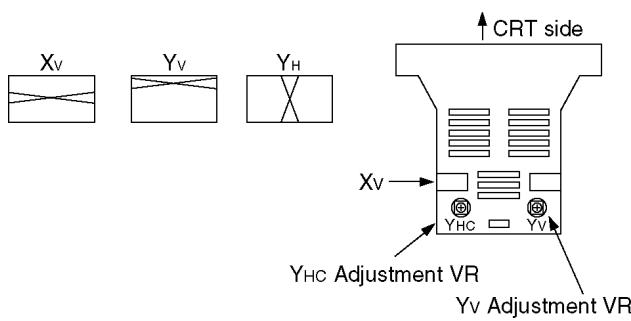
Therefore, repeat magnet adjustments several time so that all aligned completely.



b. YHC, YV, XV, Adjustment (Fig. 2.)

- a. Adjust that Static and Dynamic convergence is best with YHC VR, YV VR and XV coil.

In case of static convergence is tilted, repeat (1) Static convergence Adjustment.



c. Dynamic convergence Adjustment

- a. When dynamic convergence is bad, fixing permalloy between neck and DY so that dynamic convergence is best.

4. Confirm that left upper side line is straight.

When left upper side line isn't straight, put magnet on DY and adjust the left upper side line to straight.

5.10. CUT OFF

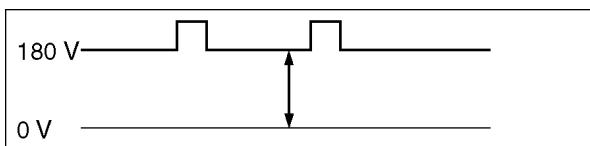
Preparation

1. Receive a colour bar signal with colour "OFF", and operate the TV set more than 15 minutes.
2. Set the picture menu to "DYNAMIC NORMAL" and the AI to off.
3. Connect an oscilloscope to TPL7 with DC mode.
4. Set the TV set to Service Mode 1 .
5. Screen VR : Min
6. Set the data level of SUB BRIGHT, R, G, B-CUTOFF and R, G, B-DRIVE to the table values.

Display	Date Level
R High (R-CUT OFF)	128
G High (G-CUT OFF)	128
B High (B-CUT OFF)	128
R Low (R-DRIVE)	175
G Low (G-DRIVE)	175
B Low (G-DRIVE)	175
SUB BRIGHT	128

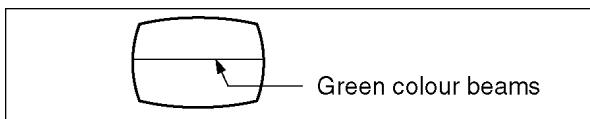
Adjustment

1. Select G-CUTOFF adjustment mode and collapse vertical scan.
2. Adjust G-CUTOFF control to become the DC=0V to video level at 180V as shown in.

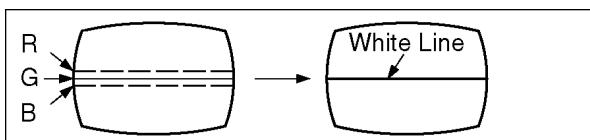


3. Slowly turn the screen control clockwise until a green colour horizontal line appears on the picture tube. This is the setting point for the screen control.

Note that do not adjust the G-CUTOFF setting in the following procedure.



4. Adjust the remained R and B-CUTOFF controls so as to get a white horizontal line on the screen.



5. Return to full field SCAN by pushing the position 5 key on the remote control.
6. Adjust the R-Drive and B-Drive controls as to obtain uniform white on the white bar of the greyscale pattern.

7. Confirm correct B/W rendition and greyscale tracking or repeat CUTOFF and drive control set up.

Note:

White down the original value for each address adjustment before adjusting anything.

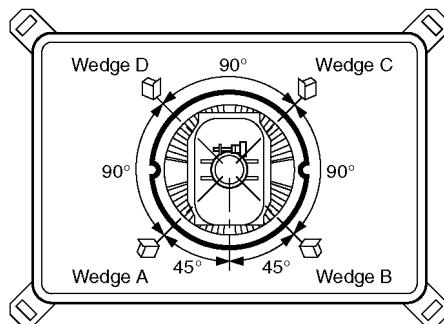
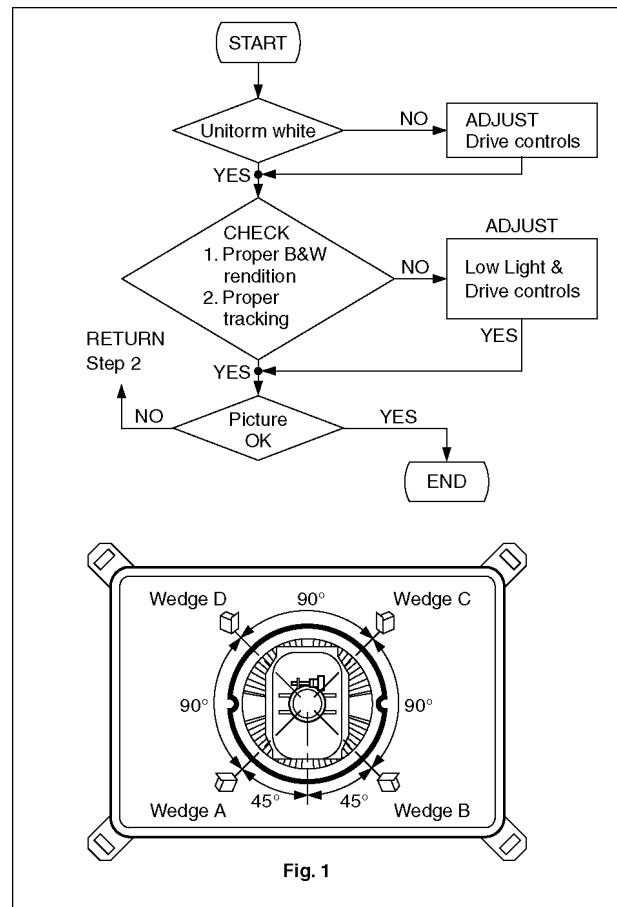


Fig. 1

8. Wedge A shown in Fig. 1 should be fixed within a range of 45° to the left of the vertical line as shown.
9. After inserting wedge A, insert wedges B, C and D. The wedges should be set 90° apart from each other.
10. Be certain that the four wedges are firmly fixed and the Deflection Yoke is tightly clamped in place. Otherwise the Deflection Yoke may shift its position and cause a loss of convergence and purity.

5.11. White Balance

Item/Preparation	Adjustment Procedure
<p>1. Select Service Mode 1.</p> <p>2. Aging should have been performed over 30 minutes.</p> <p>3. Receive the white balance pattern.</p> <p>4. Picture menu : DYNAMIC NORMAL.</p> <p>AI : OFF</p> <p>5. Degauss the CRT face.</p> <p>6. Connect the photo sensors of the Colour Analyser to the CRT.</p> <p>Note: CRT cut off adjustment is completed.</p>	<p>1. Adjustment of Low Light.</p> <ol style="list-style-type: none"> Adjustment SUB BRIGHT, so that "Y" axis indicates 6.5. Adjustment R-CUT OFF, so that y axis indicates 0.293. Adjustment B-CUT OFF, so that x axis indicates 0.273. <p>2. Adjustment of High Light.</p> <ol style="list-style-type: none"> Adjust SUB BRIGHT, so that "Y" axis indicates 150. Adjust R-DRIVE, so that y axis indicates 0.277. Adjust B-DRIVE, so that x axis indicates 0.271.

5.12. Focus

Item/Preparation	Adjustment Procedure
1. Receive a cross-hatch pattern signal.	<p>1. Adjust the Focus to thin all the Lines by Focus 1 Control. (Prefer to thin the Vertical Lines than Horizontal Line.)</p> <p>2. Adjust the Focus to thin the Horizontal Lines by Focus2 Control.</p>

5.13. Geomagnetic

Item/Preparation	Adjustment Procedure
<p>1. Demagnetize the GM-Board around its perimeter with the Demagnetizer.</p> <p>2. Set to control: Geomagnetic.....Auto</p>	<p>1. Connect a DC voltage meter to TPGM1-2pin (GM-Board)</p> <p>2. Adjust the R4863 (GM-Board) so that the Vx Out at TPGM1-2pin becomes 4.9 ± 0.05 V.</p> <p>3. Connect a DC voltage meter to TPGM1-1pin (GM Board).</p> <p>4. Adjust the R4861 (GM-Board) so that the Vy Out at TPGM1-1pin becomes 4.9 ± 0.05 V.</p>

5.14. Sub Bright

Item/Preparation	Adjustment Procedure
<p>1. Receive the sub bright pattern.</p> <p>2. Picture Menu :</p> <p>BRT.....CENTER COLOUR.....CENTER CONT.....MAX</p> <p>3. Connect the photo sensor of the Colour Analyzer to the center of CRT.</p>	<p>1. Adjust Sub Bright so that brightness level became 1 ± 0.2 cd/m²</p>

6 Deflection Adjustment

6.1. V-ADJUSTMENT/CONFIRMATION (4:3 MODE)

6.1.1. V-HOLD CONFIRMATION

1. Receive PAL monoscope pattern.
2. Set scan mode to 100Hz by remote control key.
3. Set aspect to 4:3.
4. Confirm that V-hold is normal.
5. Set the fix data in the table 1.

6.1.2. V-CENTER ADJUSTMENT (4:3 MODE)

6.1.2.1. 100i V-POS ADJUSTMENT

1. Receive PAL monoscope pattern.
2. Set scan mode to 100Hz by remote control key.
3. Adjust V-POS (100i / 4:3) so that the scale of the top and bottom side is equal.

6.1.2.2. 120i V-POS ADJUSTMENT

1. Receive NTSC monoscope pattern.
2. Set scan mode to 100Hz by remote control key.
3. Adjust V-POS (120i / 4:3) so that the scale of the top and bottom side is equal.

6.1.2.3. 50p V-POS ADJUSTMENT

1. Receive PAL monoscope pattern.
2. Set scan mode to progressive by remote control key.
3. Adjust V-POS (50p / 4:3) so that the scale of the top and bottom side is equal.

6.1.2.4. 60p V-POS ADJUSTMENT

1. Receive NTSC monoscope pattern.
2. Set scan mode to progressive by remote control key.
3. Adjust V-POS (60p / 4:3) so that the scale of the top and bottom side is equal.

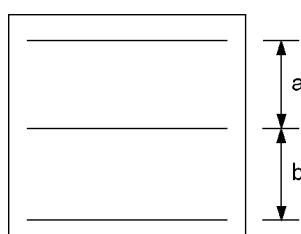


Fig. 1

6.1.3. V-HEIGHT ADJUSTMENT (4:3 MODE)

6.1.3.1. 100i V-AMP ADJUSTMENT

1. Receive PAL monoscope pattern.
2. Set scan mode to 100Hz by remote control key.
3. Adjust V-AMP (100i / 4:3) so that
B, D (Fig. 2) is 2.1 ± 0.1

6.1.3.2. 120i V-AMP ADJUSTMENT

1. Receive NTSC monoscope pattern.
2. Set scan mode to 100Hz by remote control key.
3. Adjust V-AMP (120i / 4:3) so that
B, D (Fig. 2) is 2.1 ± 0.1

6.1.3.3. 50p V-AMP ADJUSTMENT

1. Receive PAL monoscope pattern.
2. Set scan mode to progressive by remote control key.
3. Adjust V-AMP (50p / 4:3) so that
B, D (Fig. 2) is 2.1 ± 0.1

6.1.3.4. 60p V-AMP ADJUSTMENT

1. Receive NTSC monoscope pattern.
2. Set scan mode to progressive by remote control key.
3. Adjust V-AMP (60p / 4:3) so that
B, D (Fig. 2) is 2.1 ± 0.1

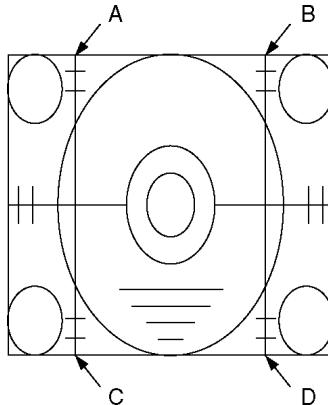


Fig. 2

6.2. H-DEFLECTION CONFIRMATION/ADJUSTMENT (4:3 MODE)

6.2.1. H-HOLD CONFIRMATION

1. Receive PAL monoscope pattern.
2. Set scan mode to 100Hz by remote control key.
3. Set aspect to 4:3.
4. Confirm that H-hold is normal.

6.2.2. H-CENTER ADJUSTMENT (4:3 MODE)

6.2.2.1. 100i H-POS ADJUSTMENT

1. Receive PAL monoscope pattern.
2. Set scan mode to 100Hz by remote control key.
3. Adjust H-POS (100i / 4:3) so that the horizontal position is center of CRT.

6.2.2.2. 120i H-POS ADJUSTMENT

1. Receive NTSC monoscope pattern.
2. Set scan mode to 100Hz by remote control key.
3. Adjust H-POS (120i / 4:3) so that the horizontal position is center of CRT.

6.2.3. H-WIDTH ADJUSTMENT (4:3 MODE)

6.2.3.1. 100i H-AMP ADJUSTMENT

1. Receive PAL monoscope pattern.
2. Set scan mode to 100Hz by remote control key.
3. Adjust H-AMP (100i / 4:3) so that the both of edges are within A, B = 2.5 ± 0.2 .

6.2.3.2. 120i H-AMP ADJUSTMENT

1. Receive NTSC monoscope pattern.
2. Set scan mode to 100Hz by remote control key.
3. Adjust H-AMP (120i / 4:3) so that the both of edges are within A, B = 2.5 ± 0.2 .

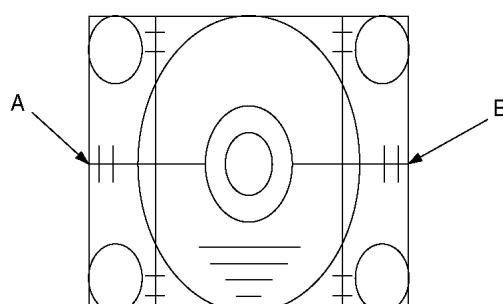


Fig. 3

6.3. PINCUSSION ADJUSTMENT/CONFIRMATION (4:3 MODE)

6.3.1. 100i SIDE PINCUSSION ADJUSTMENT (4:3 MODE)

1. Receive PAL crosshatch pattern.
2. Set scan mode to 100Hz by remote control key.
3. Adjust the vertical line to straight line by Parabola (100i / 4:3).
4. Adjust the vertical line to straight line of bothside vertical line in Fig. 4 by Trapezoid (100i / 4:3).
5. Confirm there is no H-parallel distortion.
If there is distortion, adjust by H-Pallalel (100i / 4:3).
In that case, repeat 4. and 5. so that there is no trapezoid / pararell distortion.
6. Confirmation vertical pincussion of the corner side.
If need, adjust Top-Corner (100i / 4:3) and Bottom-Corner (100i / 4:3).
7. Confirm bow level of the both side.
If it is not symmetrical, adjust C-Correct (100i / 4:3).

6.3.2. 120i SIDE PINCUSSION ADJUSTMENT (4:3 MODE)

1. Receive NTSC crosshatch pattern.
2. Set scan mode to 100Hz by remote control key.
3. Adjust the vertical line to straight line by Parabola (120i / 4:3).
4. Adjust the vertical line to straight line of bothside vertical line in Fig. 4 by Trapezoid (120i / 4:3).
5. Confirm there is no H-parallel distortion.
If there is distortion, adjust by H-Pallalel (120i / 4:3).
In that case, repeat 4. and 5. so that there is no trapezoid / pararell distortion.
6. Confirmation vertical pincussion of the corner side.
If need, adjust Top-Corner (120i / 4:3) and Bottom-Corner (120i / 4:3).

7. Confirm bow level of the both side.

If it is not symmetrical, adjust C-Correct (120i / 4:3).

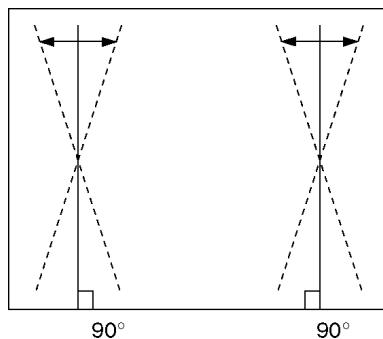


Fig. 4

6.3.3. 50p SIDE PINCUSION ADJUSTMENT (4:3 MODE)

1. Receive PAL crosshatch pattern.

2. Set scan mode to progressive by remote control key.

3. Adjust the vertical line to straight line by Parabola (50p / 4:3).

4. Adjust the vertical line to straight line of bothside vertical line in Fig. 5 by Trapezoid (50p / 4:3).

5. Confirm there is no H-parallel distortion.

If there is distortion, adjust by H-Pallalel (50p / 4:3).

In that case, repeat 4. and 5. so that there is no trapezoid / pararell distortion.

6. Confirmation vertical pincussion of the corner side.

If need, adjust Top-Corner (50p / 4:3) and Bottom-Corner (50p / 4:3).

7. Confirm bow level of the both side.

If it is not symmetrical, adjust C-Correct (50p / 4:3).

6.3.4. 60p SIDE PINCUSION ADJUSTMENT (4:3 MODE)

1. Receive NTSC crosshatch pattern.

2. Set scan mode to progressive by remote control key.

3. Adjust the vertical line to straight line by Parabola (60p / 4:3).

4. Adjust the vertical line to straight line of bothside vertical line in Fig. 5 by Trapezoid (60p / 4:3).

5. Confirm there is no H-parallel distortion.

If there is distortion, adjust by H-Pallalel (60p / 4:3).

In that case, repeat 4. and 5. so that there is no trapezoid / pararell distortion.

6. Confirmation vertical pincussion of the corner side.

If need, adjust Top-Corner (60p / 4:3) and Bottom-Corner (60p / 4:3).

7. Confirm bow level of the both side.

If it is not symmetrical, adjust C-Correct (60p / 4:3).

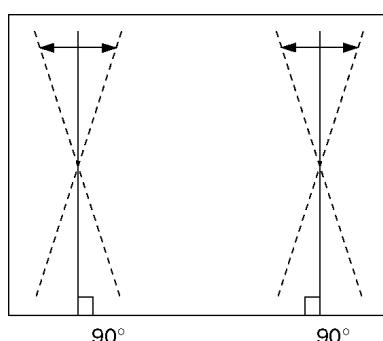


Fig. 5

6.4. V LINIALITY ADJUSTMENT / CONFIRMATION (4:3 MODE)

6.4.1. 100i V-linear ADJUSTMENT

1. Receive PAL monoscope pattern.
2. Set scan mode to 100Hz by remote control key.
3. Confirm V-linear (100i / 4:3) as to the balance of circle.
If need, adjust V-linear (100i / 4:3).

6.4.2. 120i V-linear ADJUSTMENT

1. Receive NTSC monoscope pattern.
2. Set scan mode to 100Hz by remote control key.
3. Confirm V-linear (120i / 4:3) as to the balance of circle.
If need, adjust V-linear (120i / 4:3).

6.4.3. 50p V-linear ADJUSTMENT

1. Receive PAL monoscope pattern.
2. Set scan mode to progressive by remote control key.
3. Confirm V-linear (50p / 4:3) as to the balance of circle.
If need, adjust V-linear (50p / 4:3).

6.4.4. 60p V-linear ADJUSTMENT

1. Receive NTSC monoscope pattern.
2. Set scan mode to progressive by remote control key.
3. Confirm V-linear (60p / 4:3) as to the balance of circle.
If need, adjust V-linear (60p / 4:3).

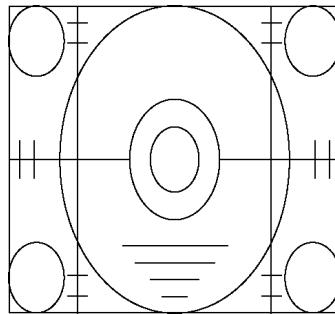


Fig. 6

6.5. DEFLECTION (16:9 MODE) ADJUSTMENT / CONFIRMATION

6.5.1. DATA SETTING (16:9)

1. Copy the adjusted data of 100i / 4:3 mode to 100i / 16:9 in the table. 1 (Except H-POS, V-S-Correct).
2. Copy the adjusted data of 120i / 4:3 mode to 120i / 16:9 in the table. 1 (Except H-POS, V-S-Correct).
3. Copy the adjusted data of 50p / 4:3 mode to 50p / 16:9 in the table. 1 (Except H-POS, H-AMP, V-S-Correct, C-Correct) and copy the data of 100i / 4:3 to 50p / 16:9 about H-AMP and C-Correct.
4. Copy the adjusted data of 60p / 4:3 mode to 60p / 16:9 in the table. 1 (Except H-POS, H-AMP, V-S-Correct, C-Correct) and copy the data of 120i / 4:3 to 60p / 16:9 about H-AMP and C-Correct.

6.5.2. V-AMP (16:9) ADJUSTMENT

1. Recive PAL monoscope pattern.
2. Set the aspect to 16:9.
3. Set scan mode to 100 Hz.
4. Confirm that A, B in the Fig. 7 is 6.0cm ± 1cm, if not, adjust V-AMP (100i / 16:9).
5. Set scan mode to progressive.
6. Confirm that A, B in the Fig. 7 is 6.0cm ± 1cm, if not, adjust V-AMP (50p / 16:9).
7. Receive NTSC monoscope pattern.
8. Set scan mode to 100Hz.
9. Confirm that A, B in the Fig. 7 is 6.0cm ± 1cm, If not, adjust V-AMP (120i / 16:9).
10. Set scan mode to progressive.
11. Confirm that A, B in the Fig. 7 is 6.0cm ± 1cm, If not, adjust V-AMP (60p / 16:9).

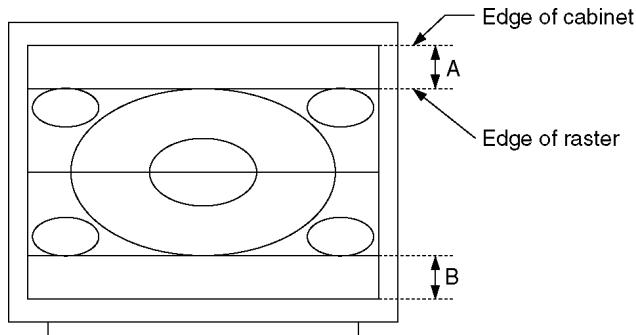


Fig. 7

6.6. 525p DEFLECTION ADJUSTMENT / CONFIRMATION

6.6.1. V,H-HOLD CONFIRMATION

1. Recive 525p signal.
2. Confirm V,H-hold is normal.

6.6.2. H-CENTER (525p) CONFIRMATION / ADJUSTMENT

1. Recive 525p signal.
2. Copy the data of 00h to EEROM ADDRESS [333] (525p / H-POS).
3. Copy the data of F5h to EEROM ADDRESS [332] (525p / H-POS).
4. Confirm H-center and if need, adjust H-POS (525p).

6.7. 625p DEFLECTION ADJUSTMENT

6.7.1. H-CENTER (625p) ADJUSTMENT

1. Recive 625p signal.
2. Copy the data of EEROM ADDRESS [332] (525p / H-POS) to EEROM ADDRESS [330] (625p / H-POS).
3. Copy the data of EEROM ADDRESS [333] (525p / H-POS) to EEROM ADDRESS [331] (625p / H-POS).

6.8. VGA480 / 60Hz DEFLECTION ADJUSTMENT / CONFIRMATION

6.8.1. V,H-HOLD CONFIRMATION

1. Receive VGA480 (60Hz) crosshatch pattern with border line.
2. Copy the data of 60p / 4:3 mode to VGA480 / 60Hz mode in the table 1.
3. Confirm V,H-hold is normal.
4. Set user control H-SIZE to "0".

6.8.2. V-CENTER ADJUSTMENT

1. Adjust V-POS (VGA) so that center of the crosshatch pattern is center of the CTR.

6.8.3. V-HEIGHT ADJUSTMENT

1. Adjust V-AMP (VGA) so that A=B in the Fig. 8.

6.8.4. H-CENTER ADJUSTMENT

1. Adjust H-POS (VGA) so that horizontal position is center of CRT.

6.8.5. H-WIDTH ADJUSTMENT

1. Adjust H-AMP (VGA) so that C=D in the Fig. 8.

6.8.6. SIDE PINCUSION ADJUSTMENT

1. Adjust the vertical line to straight line by Parabola (VGA).
2. Adjust the vertical line to straight line of bothside vertical line in Fig. 9 by Trapezoid (VGA).
3. Confirm there is no H-parallel distortion.
If there is distortion, adjust by H-Pallalel (VGA).
In that case, repeat 2. and 3. so that there is no trapezoid / pararell distortion.
4. Confirmation vertical pincussion of the corner side.
If need, adjust Top-Corner (VGA) and Bottom-Corner (VGA).
5. Confirm bow level of the both side.
If it is not symmetrical, adjust C-Correct (VGA).
6. Set H-SIZE in the user control to NORMAL.

(No need, if SELF CHECK is done before shipping.)

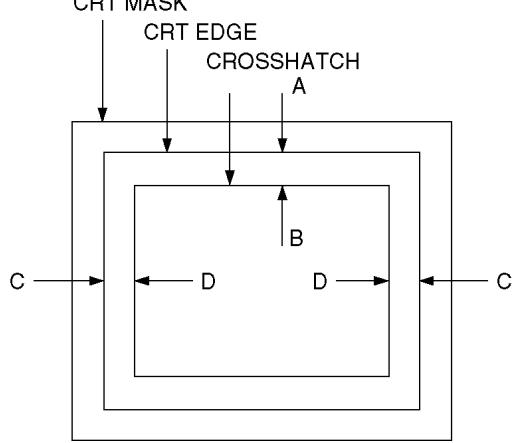


Fig. 8

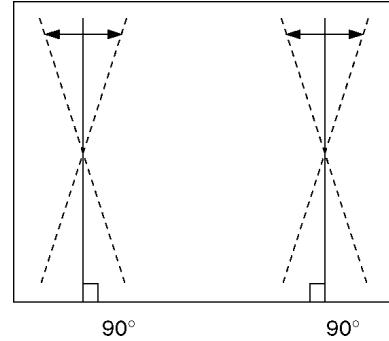


Fig. 9

6.9. VGA400 / 70Hz DEFLECTION ADJUSTMENT / CONFIRMATION

6.9.1. V,H-HOLD CONFIRMATION

1. Receive VGA400 (70Hz) crosshatch pattern with border line.
2. Copy the data of VGA480/60Hz mode to VGA400 / 70Hz mode in the table 1.
3. Confirm V,H-hold is normal.
4. Set user control H-SIZE to "0".

6.9.2. V-CENTER ADJUSTMENT

1. Adjust V-POS (VGA 400) so that center of the crosshatch pattern is center of the CRT.

6.9.3. V-HEIGHT ADJUSTMENT

1. Adjust V-AMP (VGA 400) so that A=B in the Fig. 10.
2. Add 10 dac to the above date and set to EEPROM [336].

6.9.4. V-LINEARITY CONFIRMATION / ADJUSTMENT

1. Confirm V-linear as to the balance of the circle.

If need, adjust V-linear (VGA 400).

6.9.5. SIDE PINCUSHION CONFIRMATION / ADJUSTMENT

1. Confirm the vertical line is straight line.

If need, adjust the vertical line to straight line by Parabola (VGA 400).

2. Confirm bothside vertical line in Fig. 1. are straight line.

If need, adjust the vertical line to straight line of bothside vertical line in Fig. 11. by Trapezoid (VGA 400).

3. Set H-SIZE in the user control to NORMAL.

(No need, if SELF CHECK is done before shipping.)

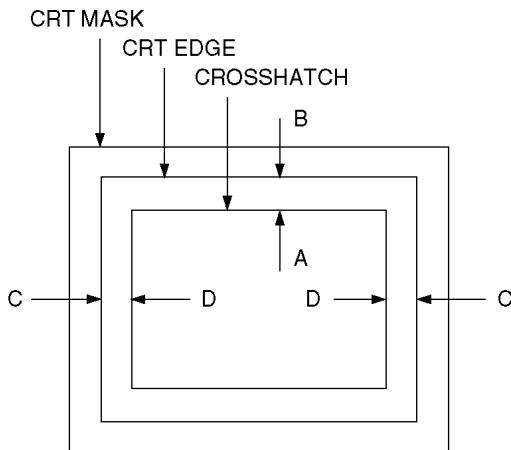


Fig. 10.

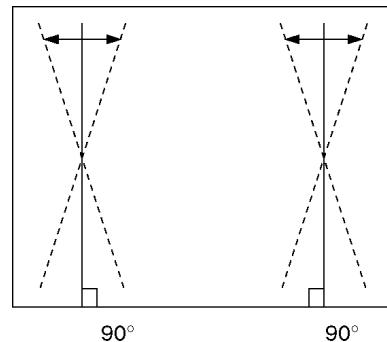


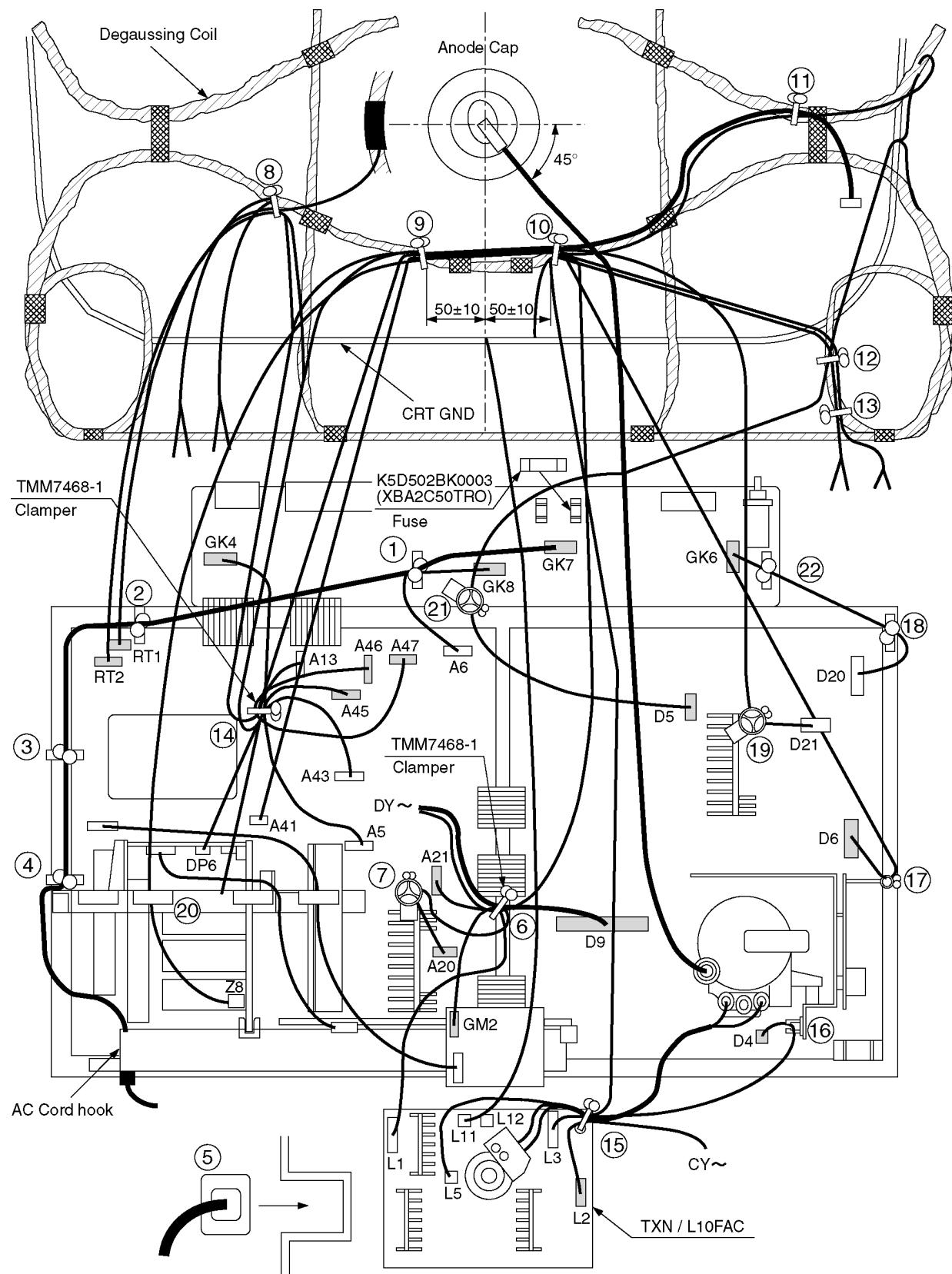
Fig. 11.

6.10. Table 1

mode \	100i (4:3)	100i (16:9)	120i (4:3)	120i (16:9)	50p (4:3)	50p (16:9)	60p (4:3)	60p (16:9)	525p	625p	VGA 480/60H	VGA 400/70Hz
H-POS	adj, value [180]	—	adj, value [182]	—	—	—	—	—	adu, value [332] [333]	525p copy [330] [331]	adj, value [17E]	—
V-POS	adj, value [0D4]	adj, value [104]	adj, value [0D5]	adj, value [105]	adj, value [0D6]	adj, value [106]	adj, value [0D7]	adj, value [107]	—	—	adj, value [0DD]	adj, value [32D]
H-AMP	adj, value [3B0]	4:3 copy [150]	adj, value [3B1]	4:3 copy [151]	—	100i copy [152]	—	120i copy [153]	—	—	adj, value [336]	—
V-AMP	adj, value [3B6]	adj, value [154]	adj, value [3B7]	adj, value [155]	adj, value [3B8]	adj, value [156]	adj, value [3B9]	adj, value [157]	—	—	adj, value [337]	adj, value [32E]
Parabola	adj, value [3C6]	adj, value [15C]	adj, value [3C7]	adj, value [15D]	adj, value [3C8]	adj, value [15E]	adj, value [3C9]	adj, value [15F]	—	—	adj, value [339]	adj, value [101]
Trapezoid	adj, value [3EE]	adj, value [16C]	adj, value [3EF]	adj, value [16D]	adj, value [3F0]	adj, value [16E]	adj, value [3F1]	adj, value [16F]	—	—	adj, value [33D]	adj, value [100]
H -Parallel	adj, value [3C2]	adj, value [158]	adj, value [3C3]	adj, value [159]	adj, value [3C4]	adj, value [15A]	adj, value [3C5]	adj, value [15B]	—	—	adj, value [338]	—
V-linear	adj, value [3EA]	4:3 copy [168]	adj, value [3EB]	4:3 copy [169]	adj, value [3EC]	4:3 copy [16A]	adj, value [3ED]	4:3 copy [16B]	—	—	60p copy [33C]	VGA480 copy [32F]
Top -Corner	adj, value [3D2]	4:3 copy [160]	adj, value [3D3]	4:3 copy [161]	adj, value [3D4]	4:3 copy [162]	adj, value [3D5]	4:3 copy [163]	—	—	60p copy [33A]	VGA480 copy [102]
Bottom -Corner	adj, value [3DE]	4:3 copy [164]	adj, value [3DF]	4:3 copy [165]	adj, value [3E0]	4:3 copy [166]	adj, value [3E1]	4:3 copy [167]	—	—	60p copy [33B]	VGA480 copy [103]
V-S -Correct	fix, value [3FA] 0Bh	fix, value [170] 0Bh	fix, value [3FB] 0Bh	fix, value [171] 0Bh	fix, value [3FC] 0Ch	fix, value [172] 0Ch	fix, value [3FD] 0Ch	fix, value [173] 0Ch	—	—	fix, value [33E] 0Ch	fix, value [32C] 0Ch
C -Correct	adj, value [3FE]	4:3 copy [174]	adj, value [3FF]	4:3 copy [175]	—	100i copy [176]	—	120i copy [177]	—	—	120i copy [33F]	—

[]....EEPROM ADDRESS

7 Location of Lead Wring

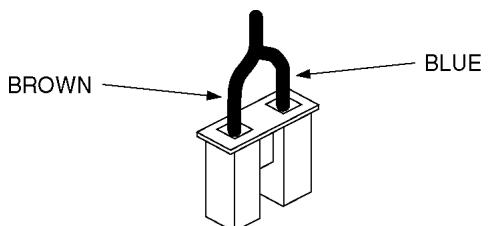


(Wind up second times) (Clamp in Chassis Ass'y)

Clamper Lead Wire	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
AC Cord (GK7)	(<input type="radio"/>)																					
D20~GK6																		(<input type="radio"/>)			(<input type="radio"/>)	
D21~Z8								(<input type="radio"/>)	(<input type="radio"/>)									(<input type="radio"/>)	(<input type="radio"/>)			
L3~D6								(<input type="radio"/>)						(<input type="radio"/>)		(<input type="radio"/>)						
DEG (D5)										(<input type="radio"/>)											(<input type="radio"/>)	
L5~D4											(<input type="radio"/>)	(<input type="radio"/>)										
Focus Screen															(<input type="radio"/>)							
DY (D9)					(<input type="radio"/>)																	
DY (A20)					(<input type="radio"/>)	(<input type="radio"/>)																
CY (L2)																						
L1~A21					(<input type="radio"/>)																	
CORRECT COIL~GM2					(<input checked="" type="radio"/>)				(<input type="radio"/>)													
A5~GK4														(<input type="radio"/>)								
DP6~A43															(<input type="radio"/>)							
A41~ WOOFER BOX								(<input type="radio"/>)	(<input type="radio"/>)	(<input type="radio"/>)												
A47~ WOOFER BOX								(<input type="radio"/>)	(<input type="radio"/>)	(<input type="radio"/>)				(<input type="radio"/>)								
~A13														(<input type="radio"/>)								
A45~SP(L)								(<input type="radio"/>)	(<input type="radio"/>)		(<input type="radio"/>)	(<input type="radio"/>)	(<input type="radio"/>)									
A45~SP(R)																						
A46~ TWEETER(L)								(<input type="radio"/>)	(<input type="radio"/>)		(<input type="radio"/>)	(<input type="radio"/>)	(<input type="radio"/>)									
A46~ TWEETER(L)																						
ROTATION COIL ~RT1								(<input type="radio"/>)														
DEGAUSSING COIL~RT2								(<input type="radio"/>)														
A6~GK8	(<input type="radio"/>)																					

Caution Point

1. The Lead Wires should not touch Heat parts.
2. The Lead Wires should separated at least 10 mm from FBT.
3. Insert the power code connector following the colour code instruction on the print board.



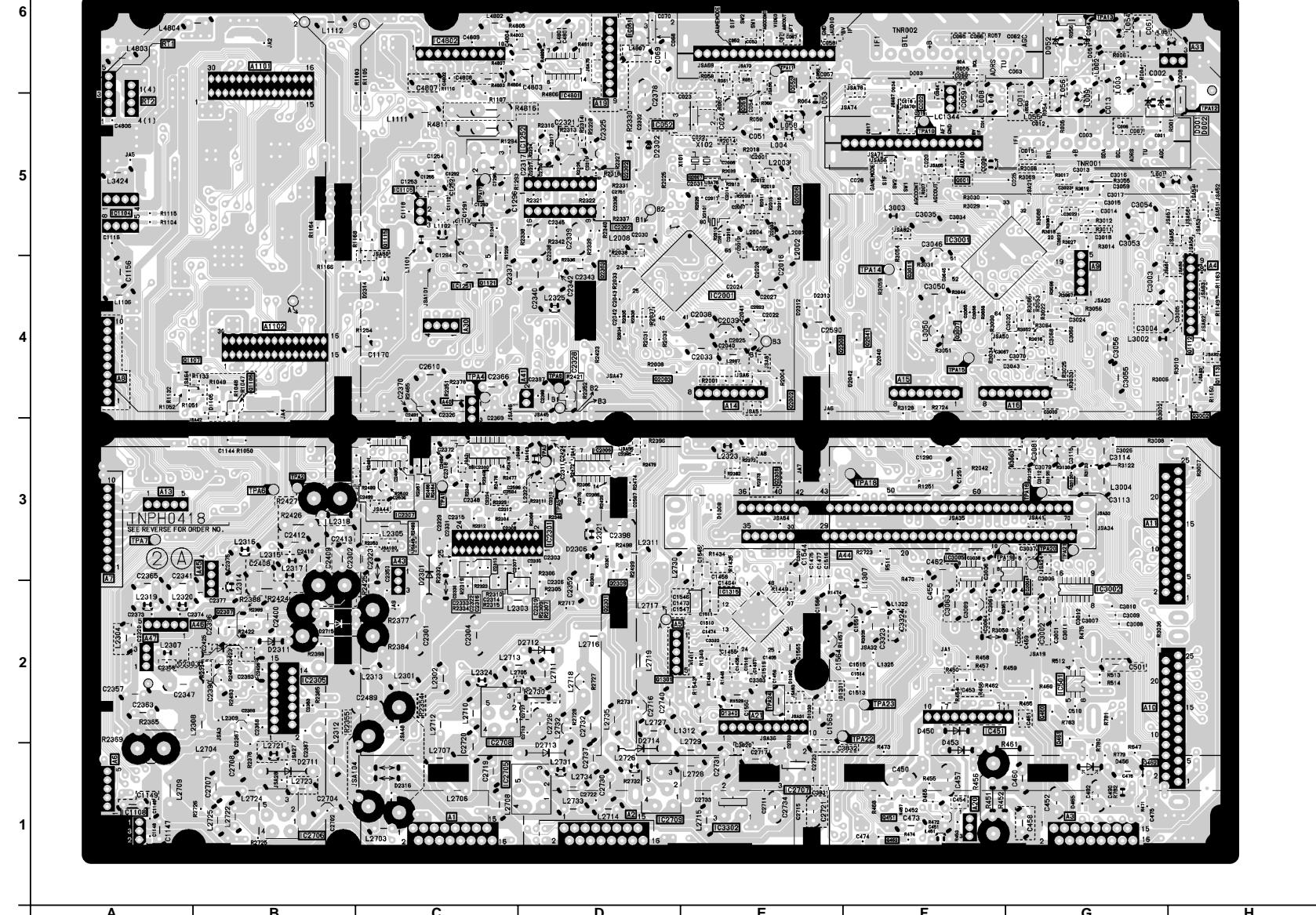
8 Conductor Views

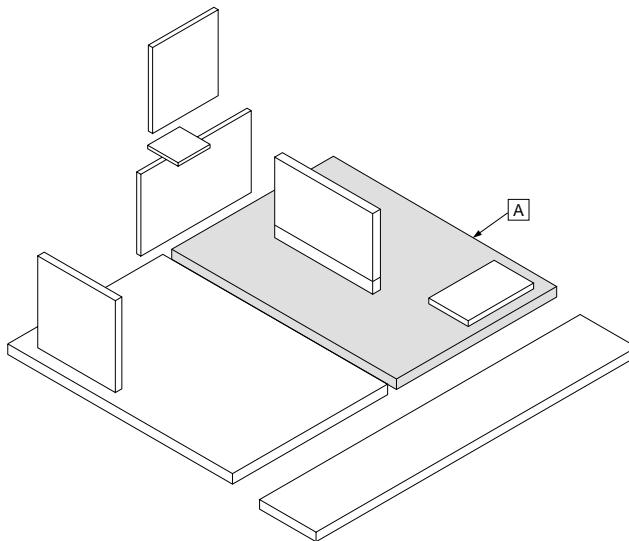
8.1. A-Board

A-BOARD (FOIL SIDE)

TNPH0418AC (FOR TX-80P250Z)

TNPH0418AD (FOR TX-34P250T)



**PARTS LOCATION**

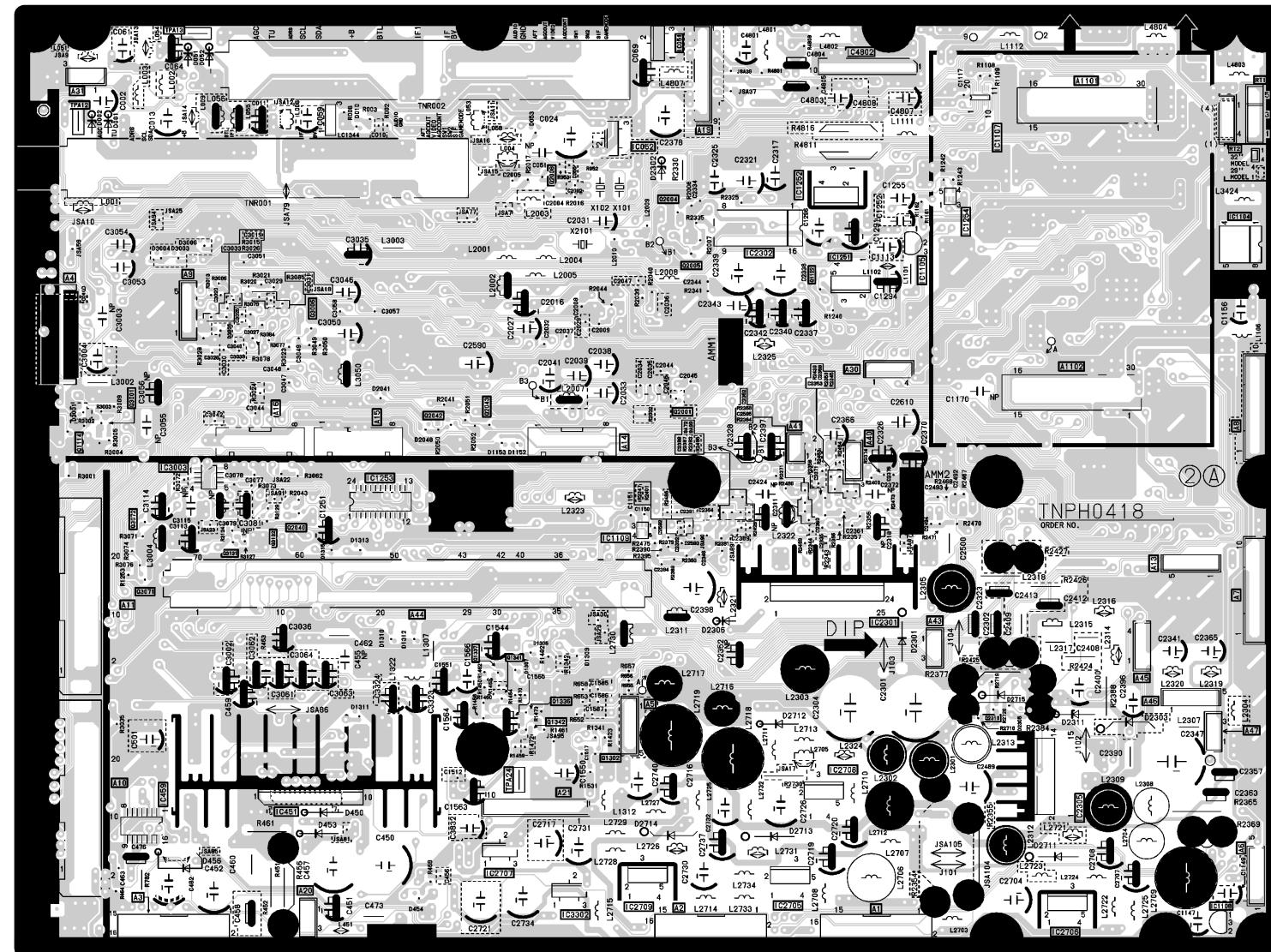
A-BOARD (FOIL SIDE)		
IC	Q1121	C-4
IC052	D-5	Q1301
IC451	F-2	E-2
IC501	G-2	E-4
IC1104	A-5	D-4
IC1105	C-5	E-5
IC1108	A-1	E-5
IC1252	C-5	F-4
IC1261	C-5	G-2
IC1315	E-2	D-5
IC2001	E-4	D-4
IC2301	C-3	D-3
IC2302	D-5	B-2
IC2305	B-2	E-4
IC2306	D-3	D-2
IC2307	C-3	H-4
IC2705	D-1	F-4
IC2706	B-1	F-4
IC2707	E-1	G-3
IC2708	C-2	
IC2709	D-1	
IC3001	F-4	
IC3002	G-2	
IC3004	G-3	
IC3005	F-3	
IC3302	E-1	
IC4801	D-5	
IC4802	C-6	
TRANSISTOR		
Q001	F-5	
Q002	F-5	
Q051	E-5	
Q052	E-6	
Q451	F-1	
Q460	G-2	
Q461	G-2	
Q462	G-1	
Q463	F-1	
Q106	B-4	
Q107	A-4	
Q112	H-4	
Q113	H-4	
Q115	C-5	

ADDRESS INFORMATION

PARTS LOCATION

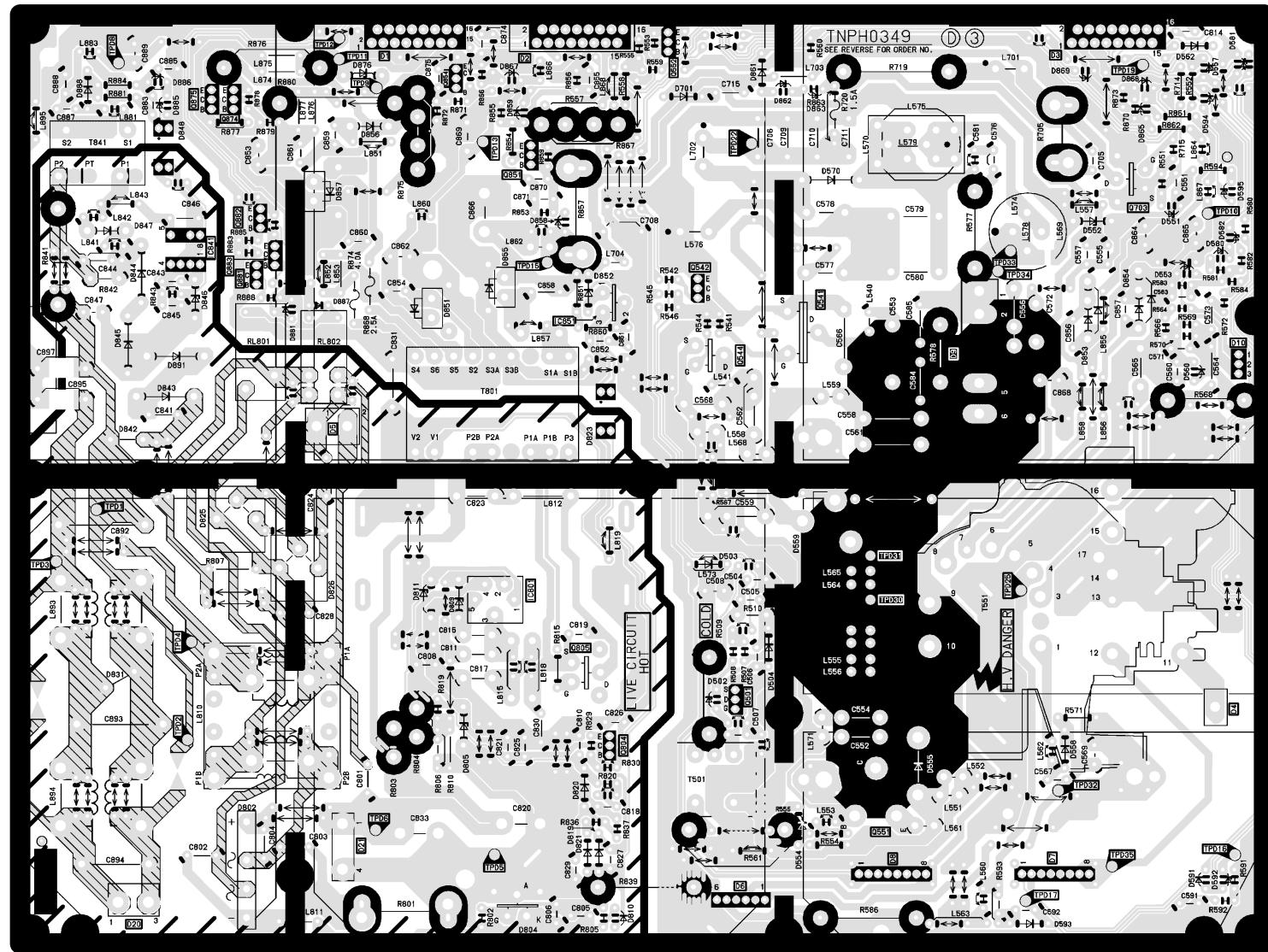
A-BOARD (COMPONENT SIDE)		
IC	Q1302	L-2
IC052	L-5	Q1336
IC451	K-2	L-2
IC459	J-2	Q1341
IC1104	P-5	L-2
IC1105	N-5	Q2001
IC1107	O-5	M-4
IC1108	P-1	Q2005
IC1109	M-3	M-5
IC1109		Q2008
IC1252	N-5	K-3
IC1253	K-3	Q2042
IC1254	N-5	K-4
IC1261	N-5	Q2043
IC2301	N-3	L-4
IC2302	M-5	N-2
IC2305	O-2	Q3001
IC2307	L-1	J-4
IC2705	M-1	Q3006
IC2706	O-1	K-4
IC2708	N-2	J-3
IC2709	M-1	Q3071
IC3003	J-3	J-3
IC3302	L-1	Q3072
IC4802	N-6	J-3
TRANSISTOR		
TPA12	J-6	
TPA13	I-6	
ADDRESS INFORMATION		
Q1114	I-4	
Q1122	M-5	

ADDRESS INFORMATION

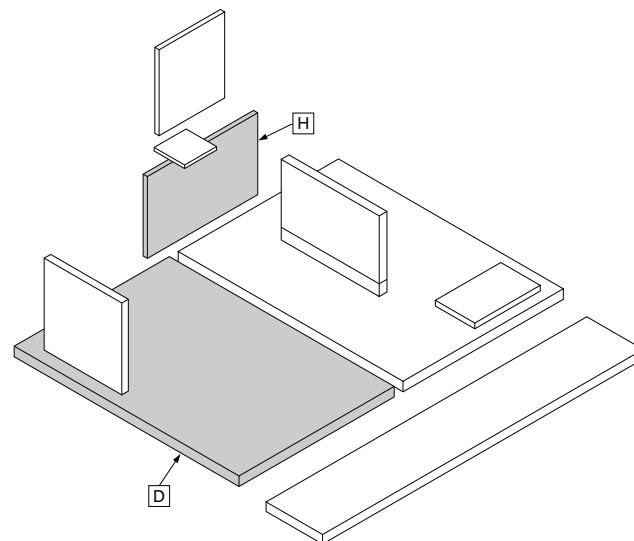
A-BOARD (COMPONENT SIDE)**TNPH0418AC (FOR TX-80P250Z)****TNPH0418AD (FOR TX-34P250T)**

8.2. D-Board

D-BOARD
TXN/D10FFM (FOR TX-80P250Z)
TXN/D10FKM (FOR TX-34P250T)



8.3. H-Board

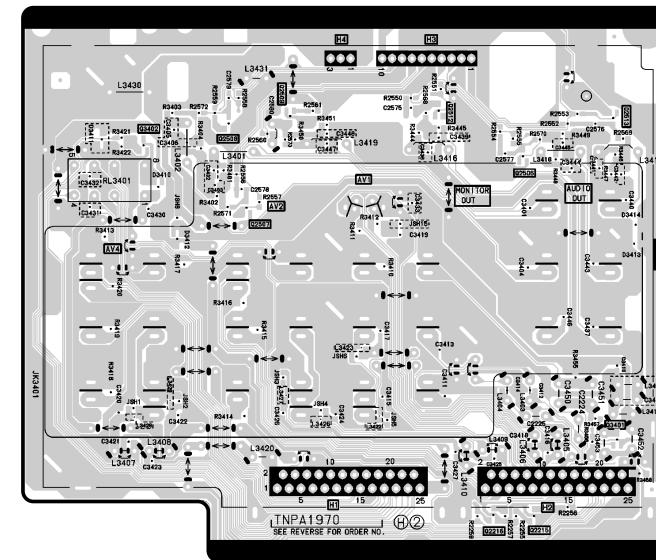


PARTS LOCATION

D-BOARD		
IC		
IC801	D-3	A-3
IC841	B-5	B-3
IC851	D-4	C-1
TRANSISTOR		
Q501	E-2	C-6
Q541	F-5	C-5
Q542	E-5	D-5
Q544	E-4	H-1
Q551	F-1	G-1
Q552	E-6	G-6
Q703	G-5	E-5
Q804	D-2	F-4
Q805	D-2	F-4
Q851	D-5	F-4
Q854	C-6	G-2
Q874	B-6	F-5
Q875	B-6	F-5
Q881	B-5	G-1
Q882	B-5	
Q883	B-5	
TP		
TPD1	A-3	
TPD2	B-2	

ADDRESS INFORMATION

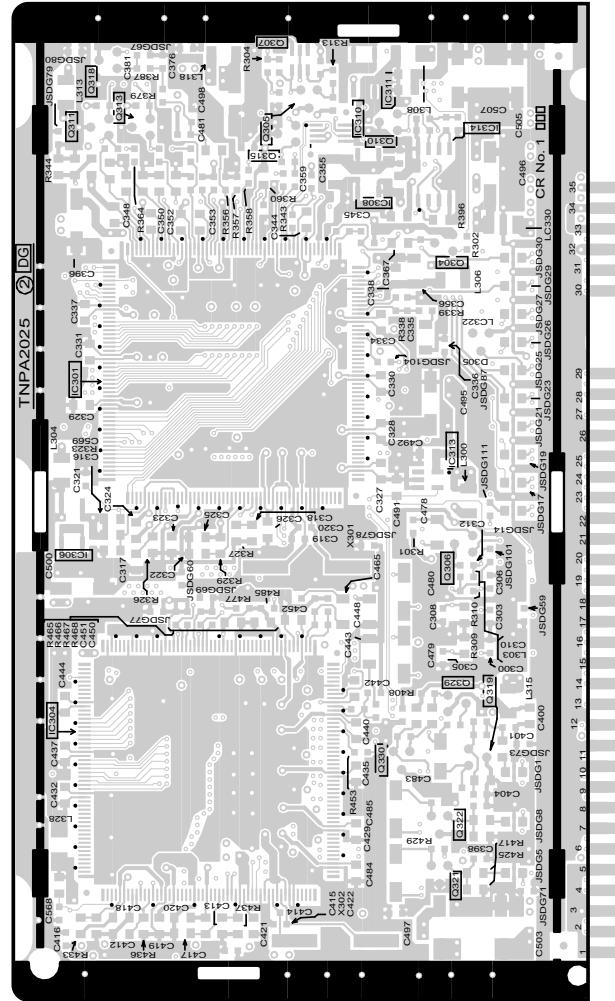
H-BOARD (FOIL SIDE)
TNPA1970AB



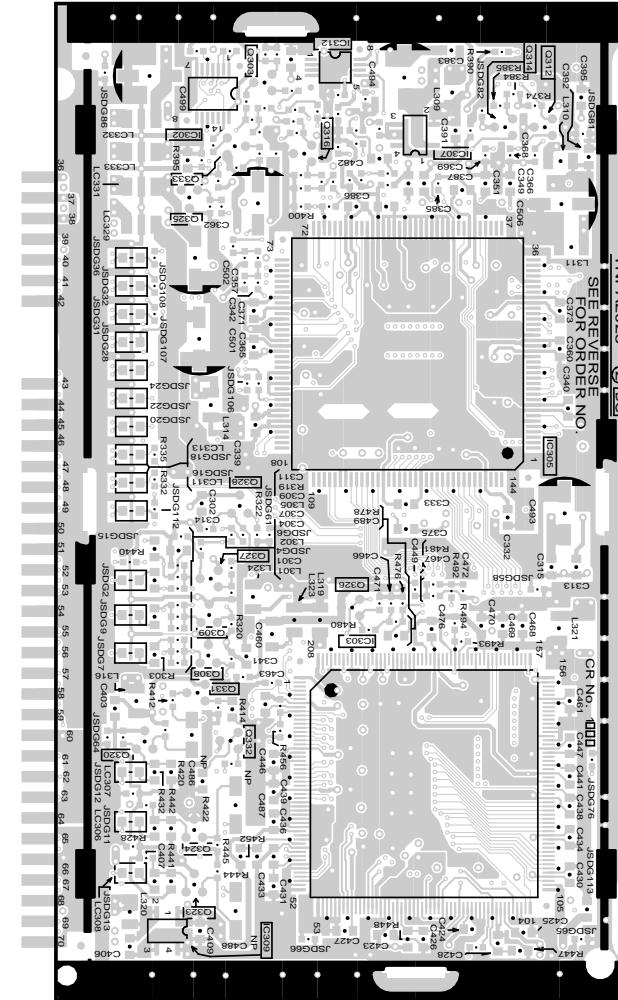
4
3
2
1
A I B I C I D

8.4. DG-Board

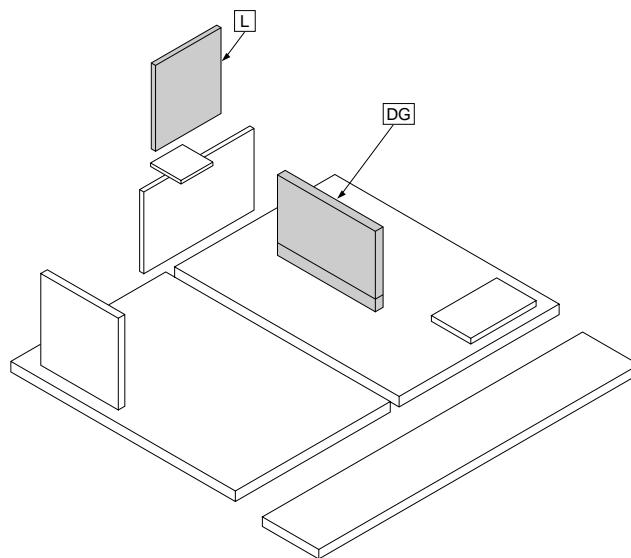
DG-BOARD (COMPONENT SIDE)
TXNDG10FPM



DG-BOARD (FOIL SIDE)
TXNDG10FPM



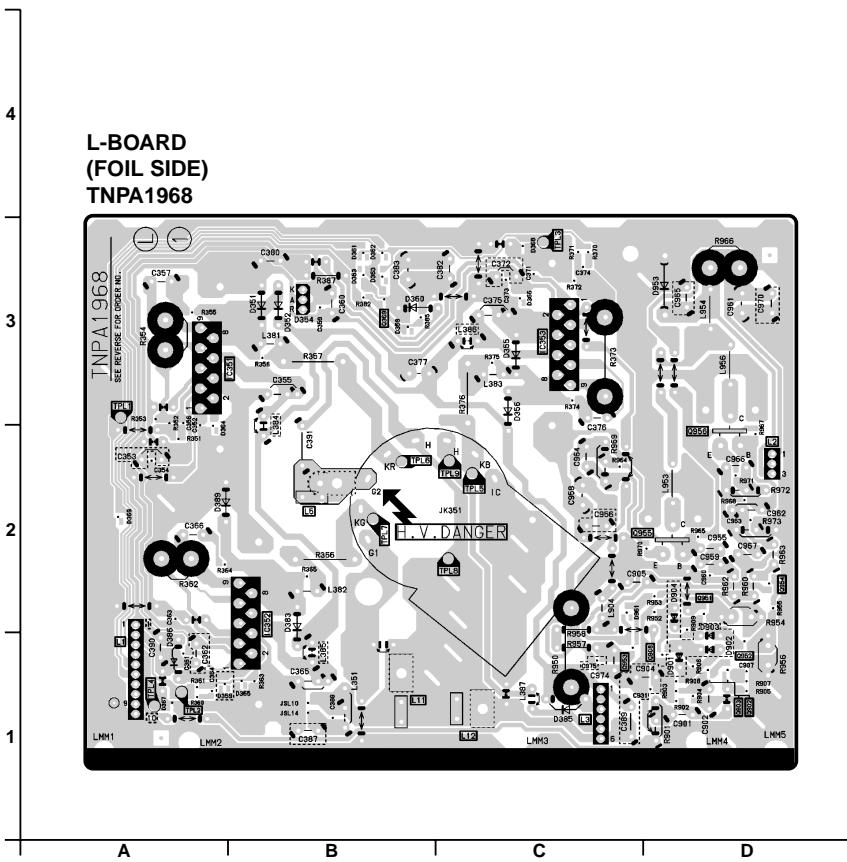
8.5. L-Board



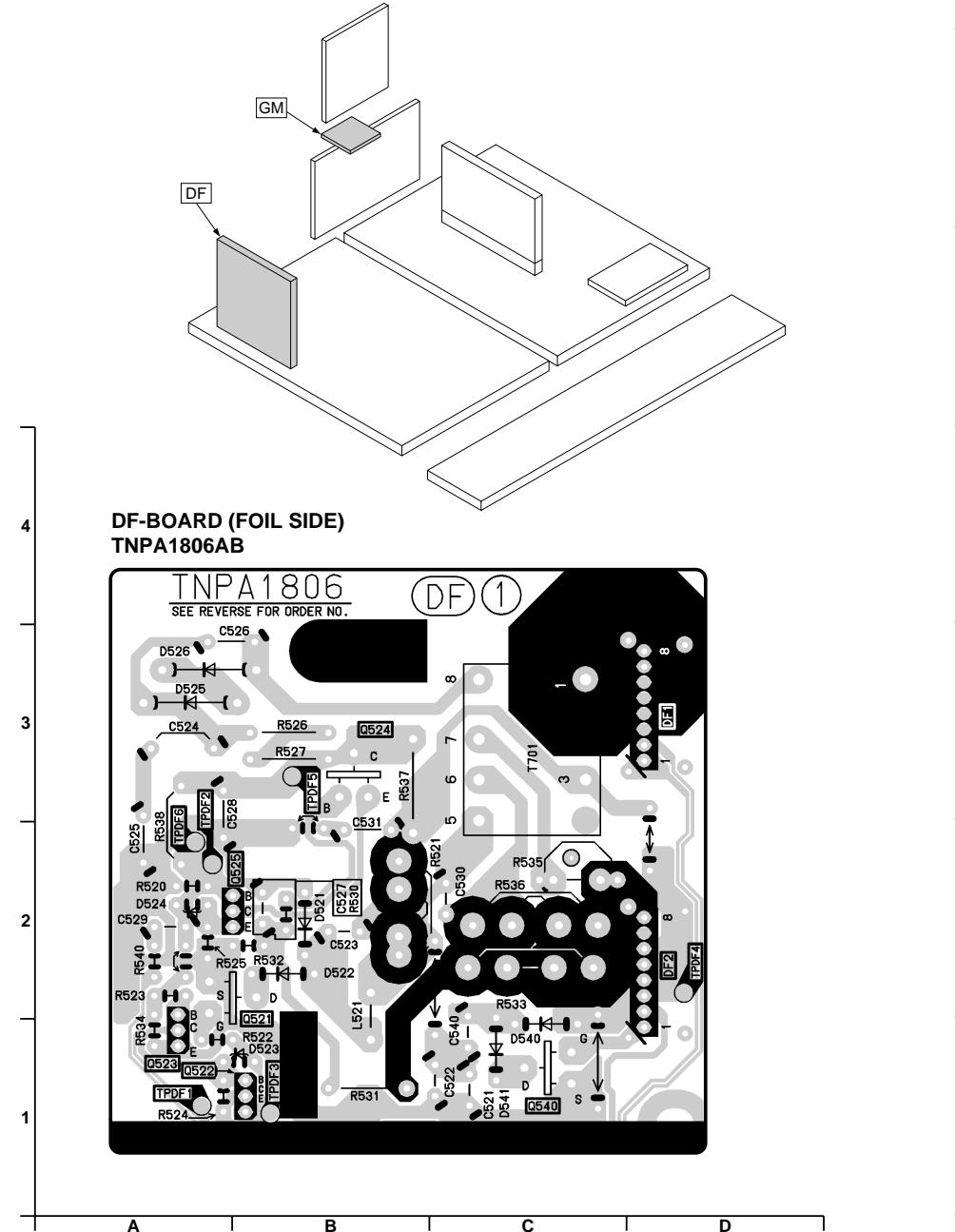
PARTS LOCATION

DG-BOARD		
IC		
Ic301	B-4	C-5
Ic302	G-5	B-5
Ic303	H-2	B-5
Ic304	B-2	H-5
Ic305	H-4	C-5
Ic306	B-3	G-5
Ic307	H-5	B-5
Ic308	C-5	D-2
Ic309	F-1	F-2
Ic310	C-5	C-2
Ic311	C-5	C-2
Ic312	G-5	G-1
Ic313	C-4	G-2
Ic314	C-5	G-5
TRANSISTOR		
Q303	G-5	G-3
Q304	C-5	G-3
Q305	C-5	C-3
Q306	C-3	C-2
Q307	C-6	G-2
Q308	G-3	G-5
Q309	G-3	G-3

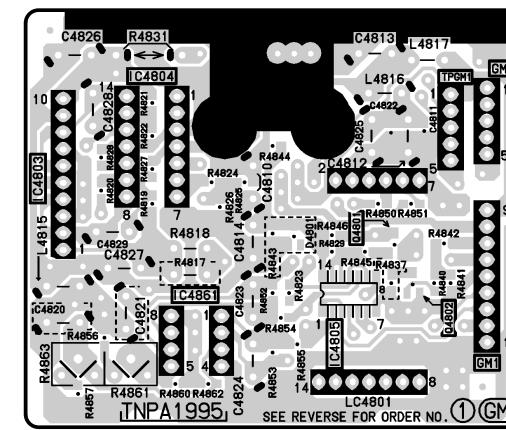
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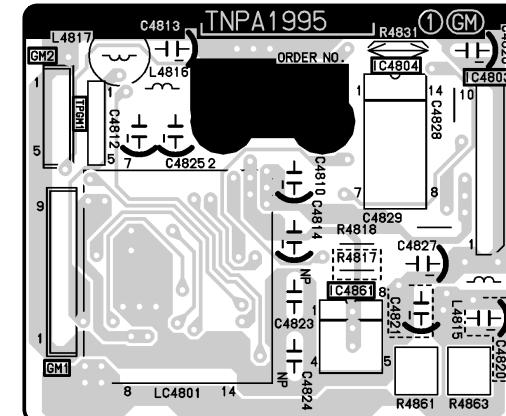
8.7. DF-Board and GM-Board



**GM-BOARD
(FOIL SIDE)
TNPA1995**



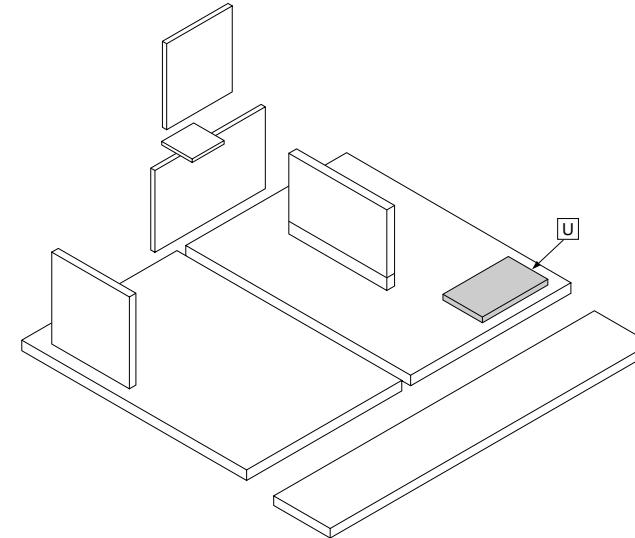
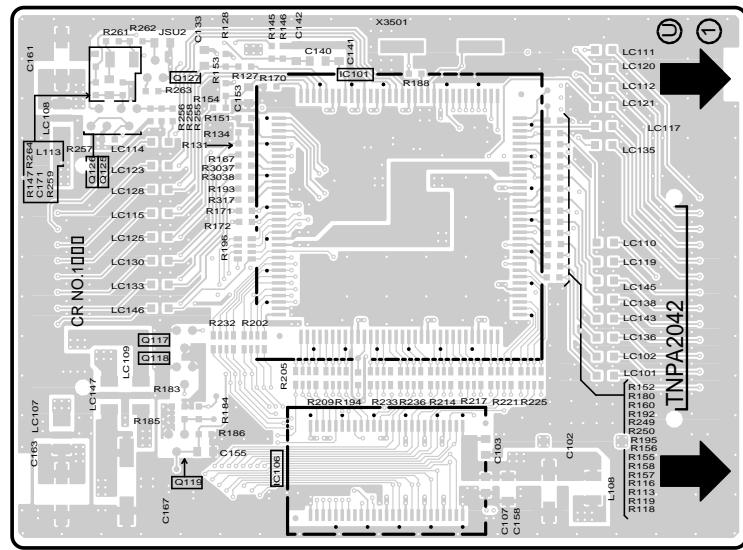
**GM-BOARD
(COMPONENT SIDE)
TNPA1995**



8.8. U-Board

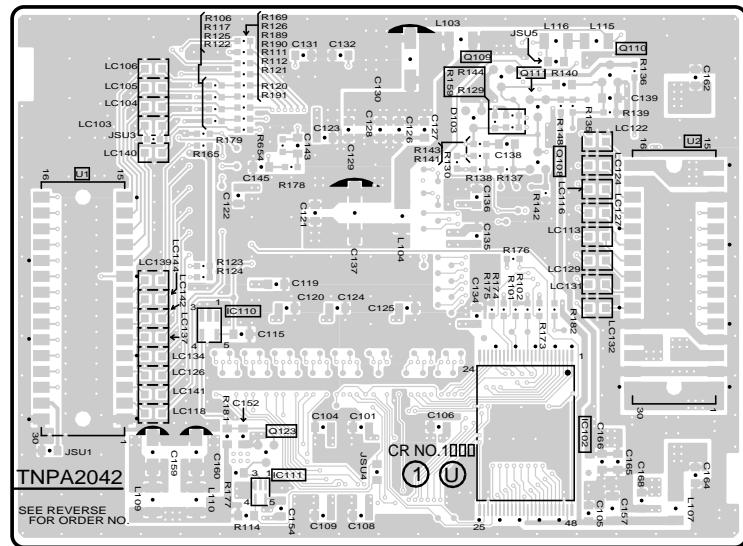
U-BOARD (FOIL SIDE)

TNPA2042



U-BOARD (COMPONENT SIDE)

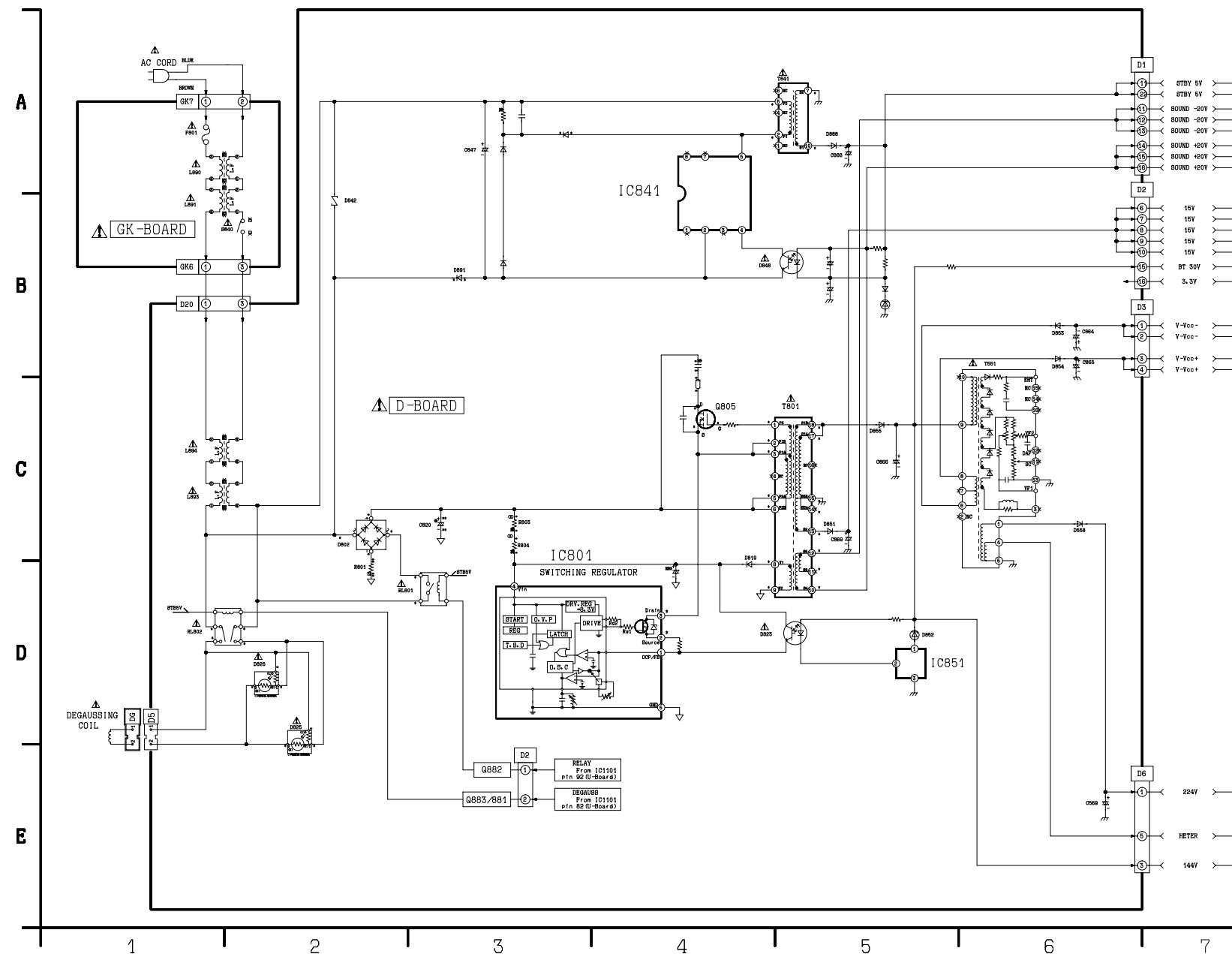
TNPA2042

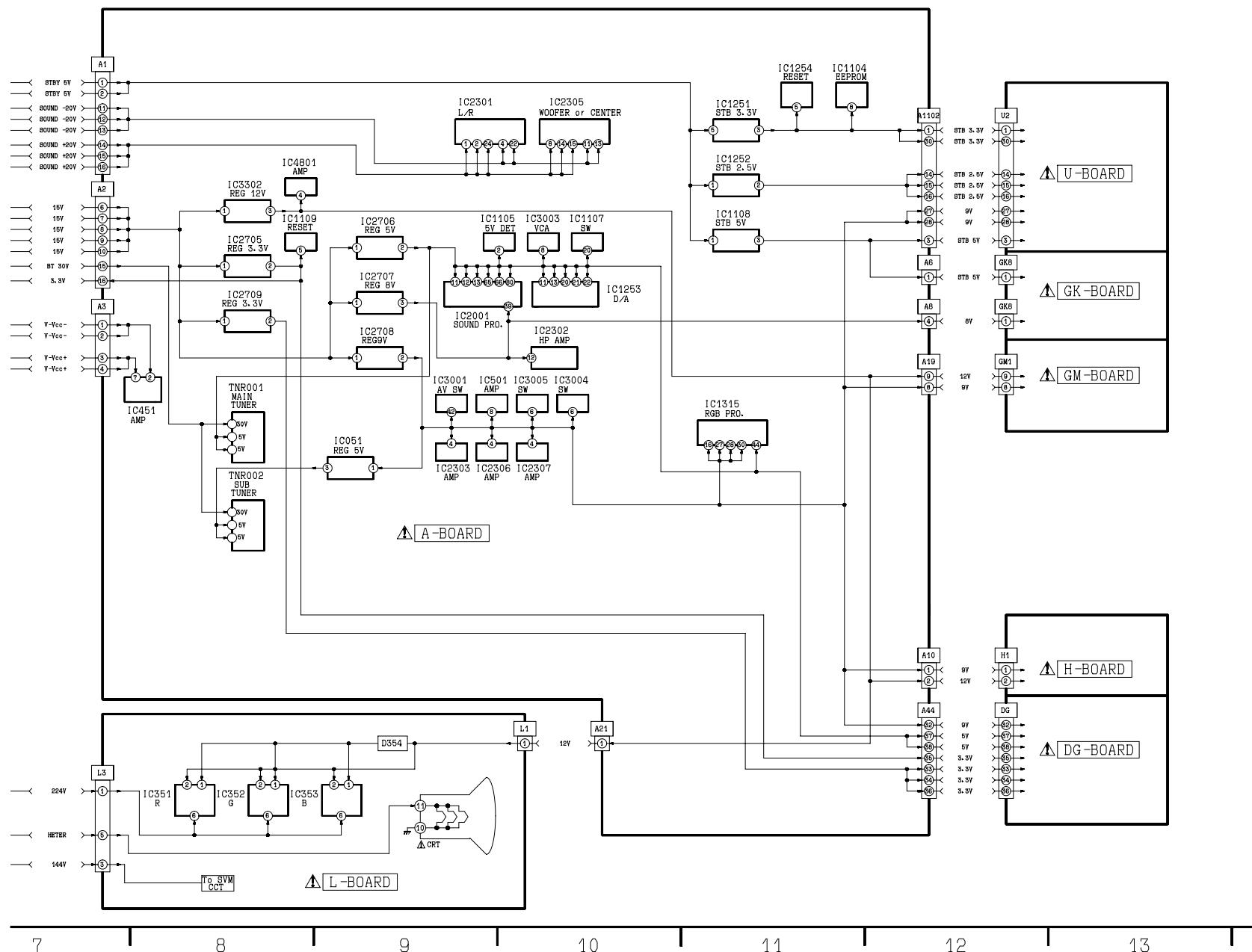


A I B I C I D I

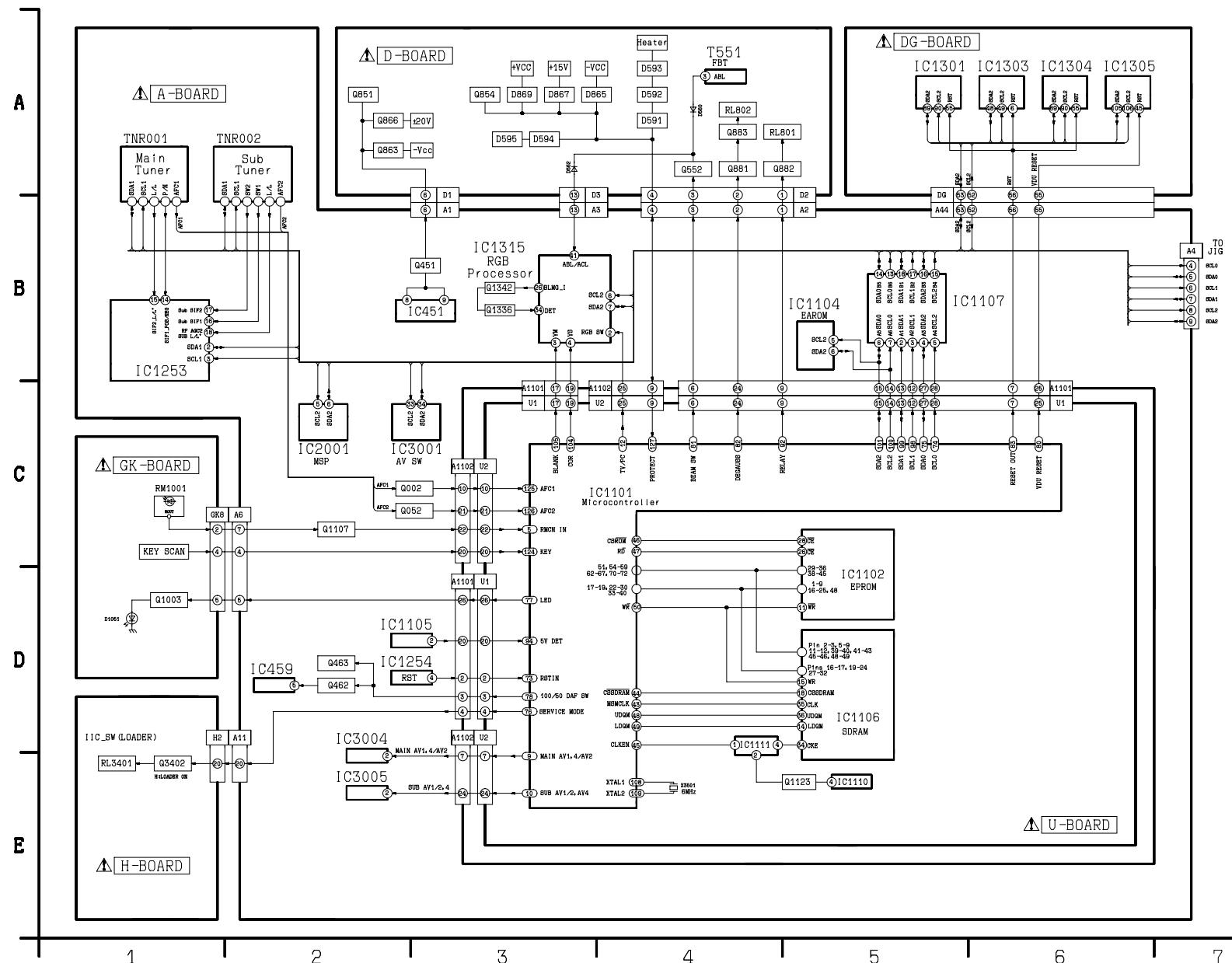
9 Block Diagram

9.1. Power Block Diagram

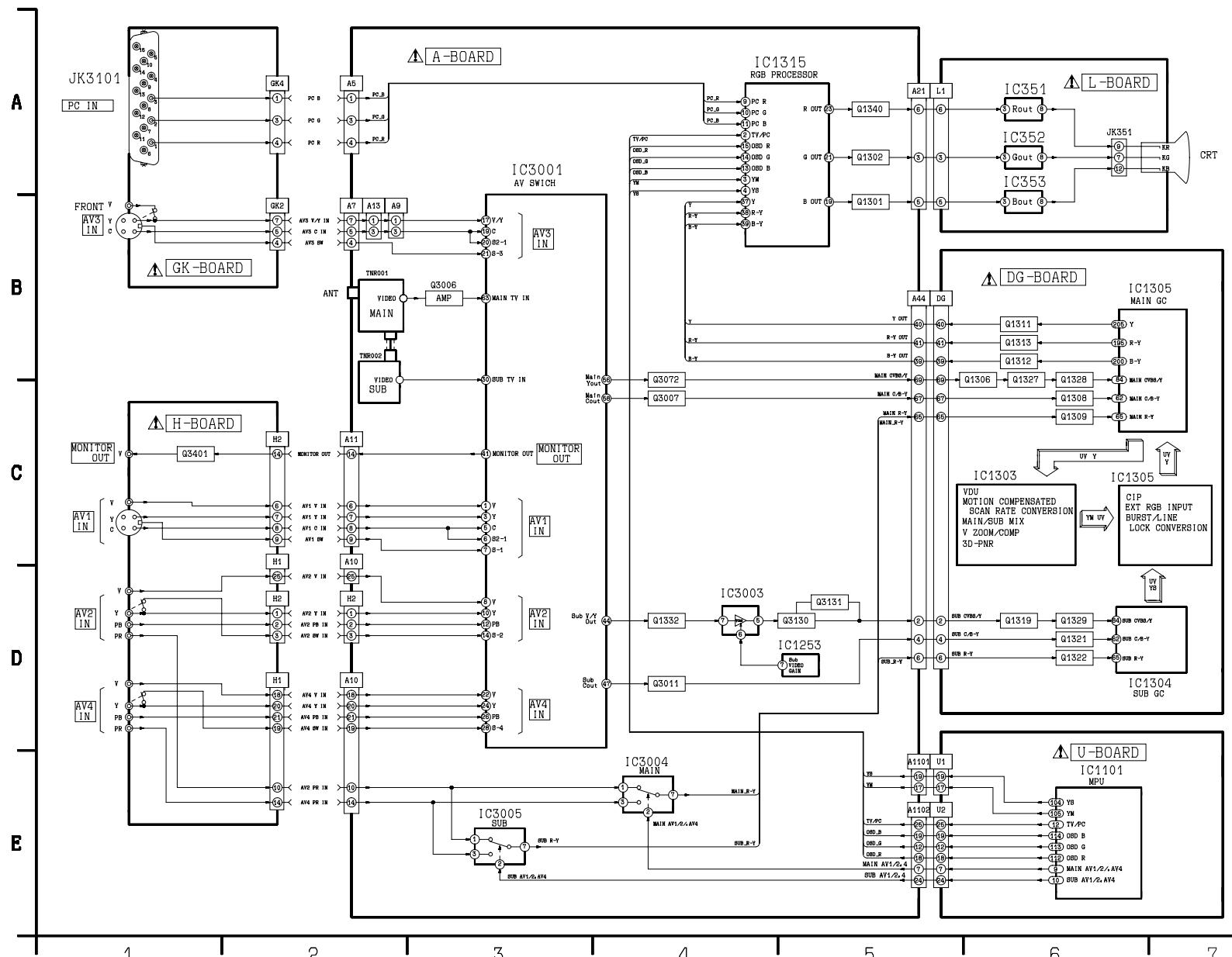




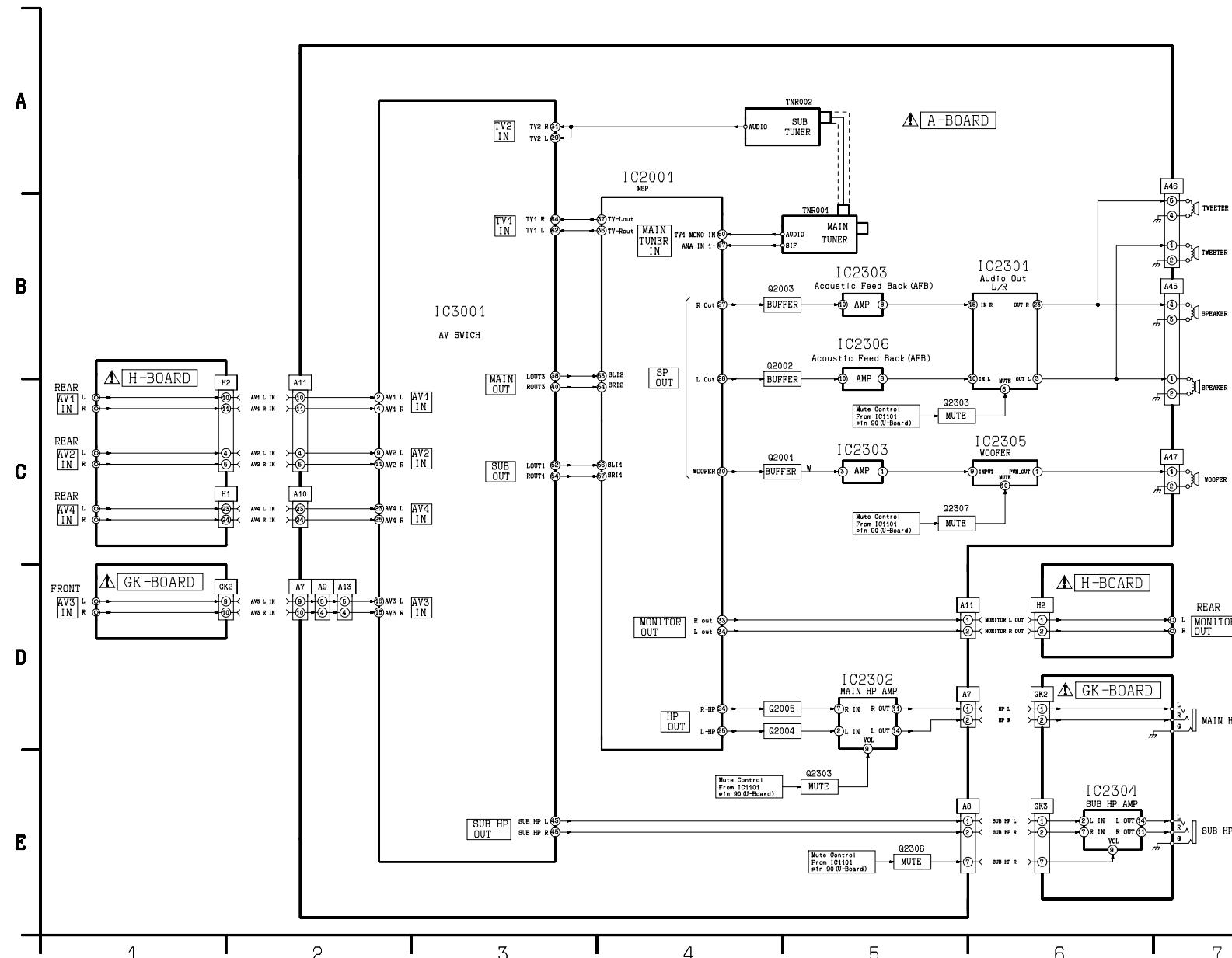
9.2. Control Block Diagram



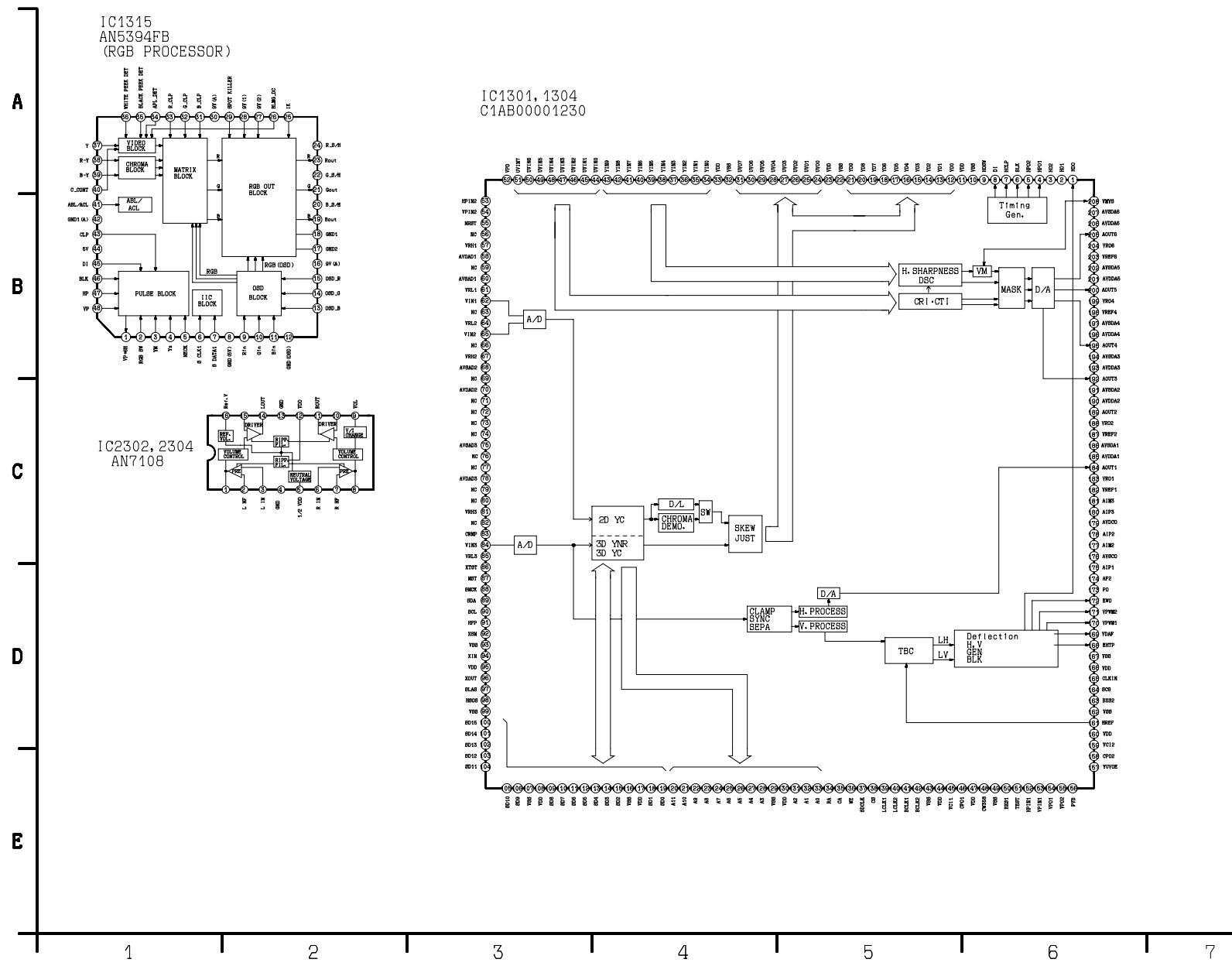
9.3. Video Block Diagram

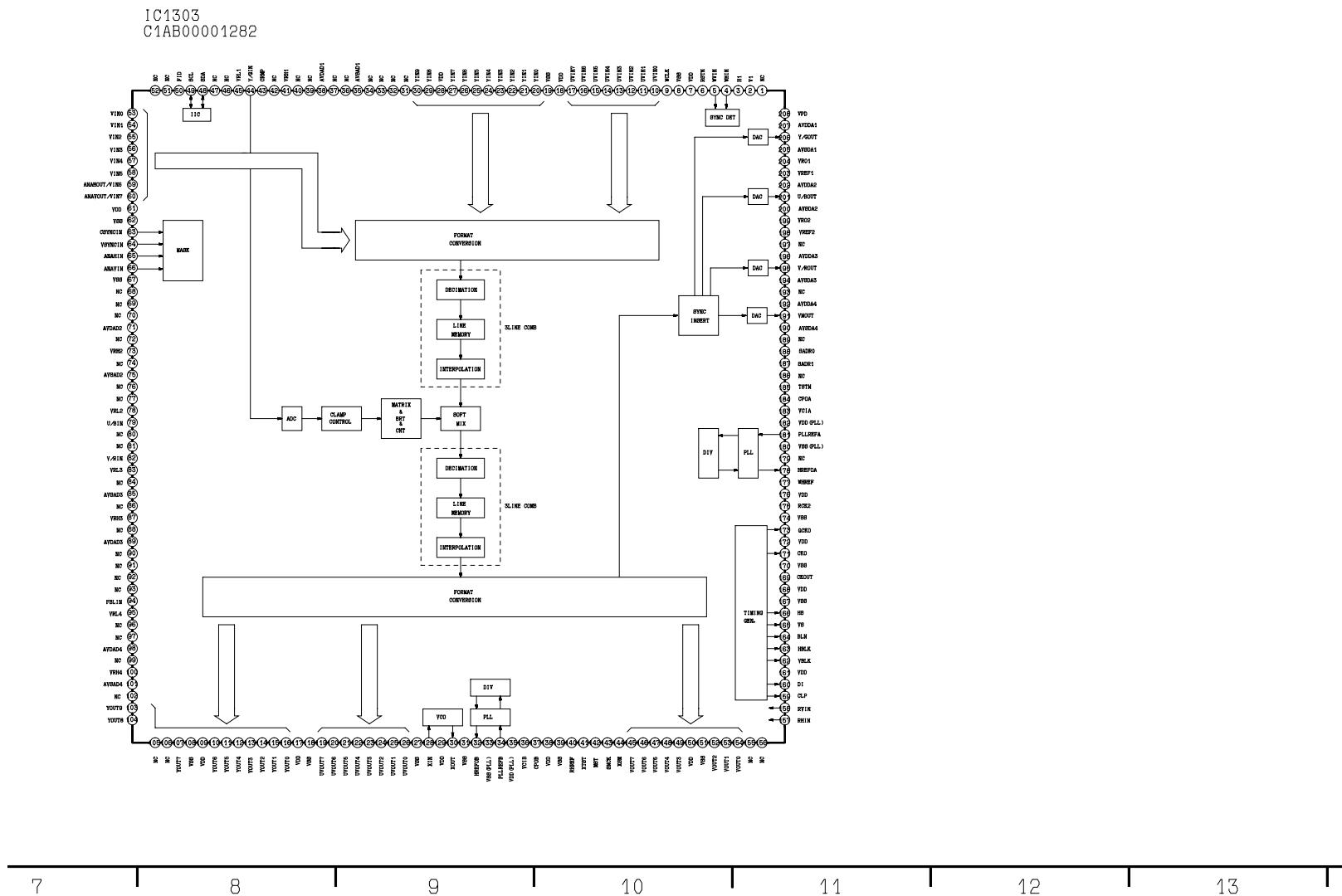


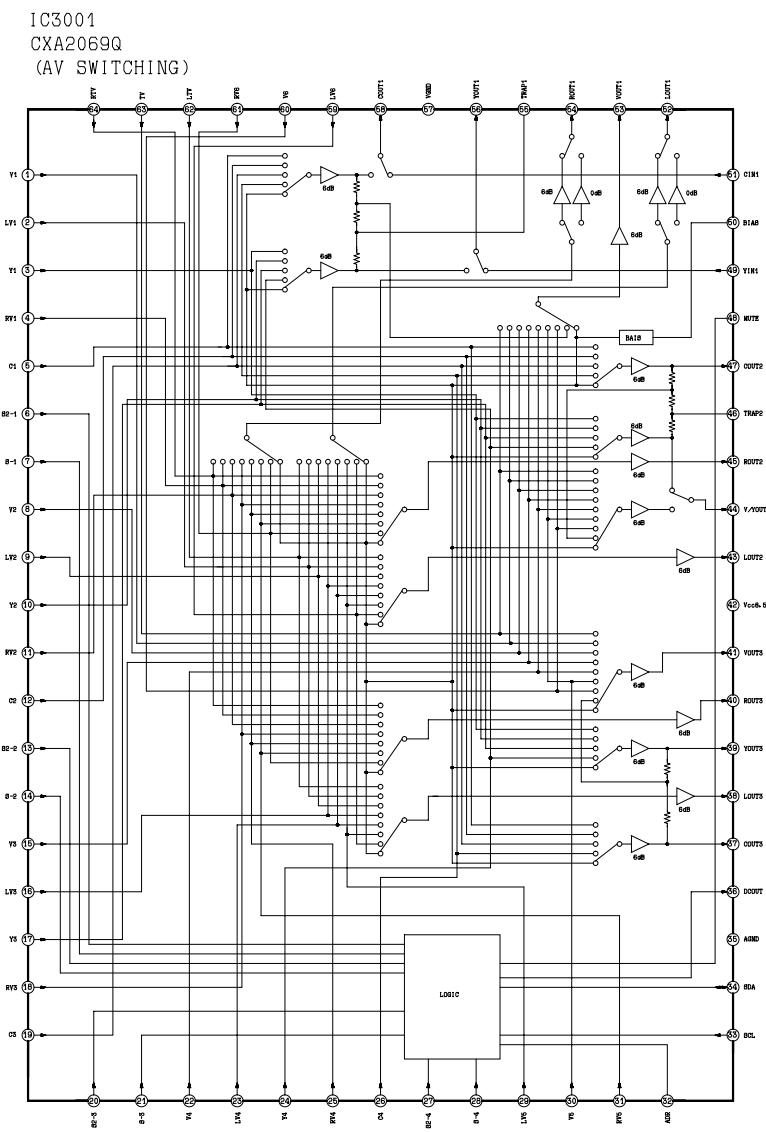
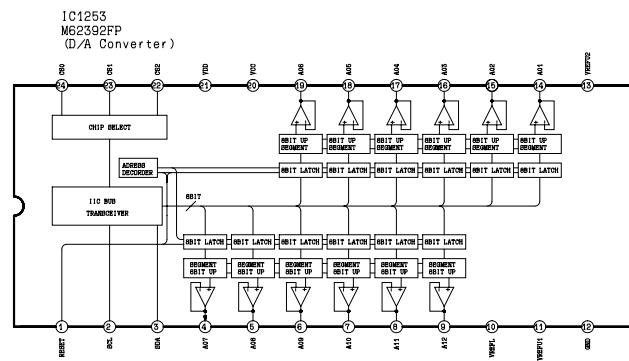
9.4. Audio Block Diagram

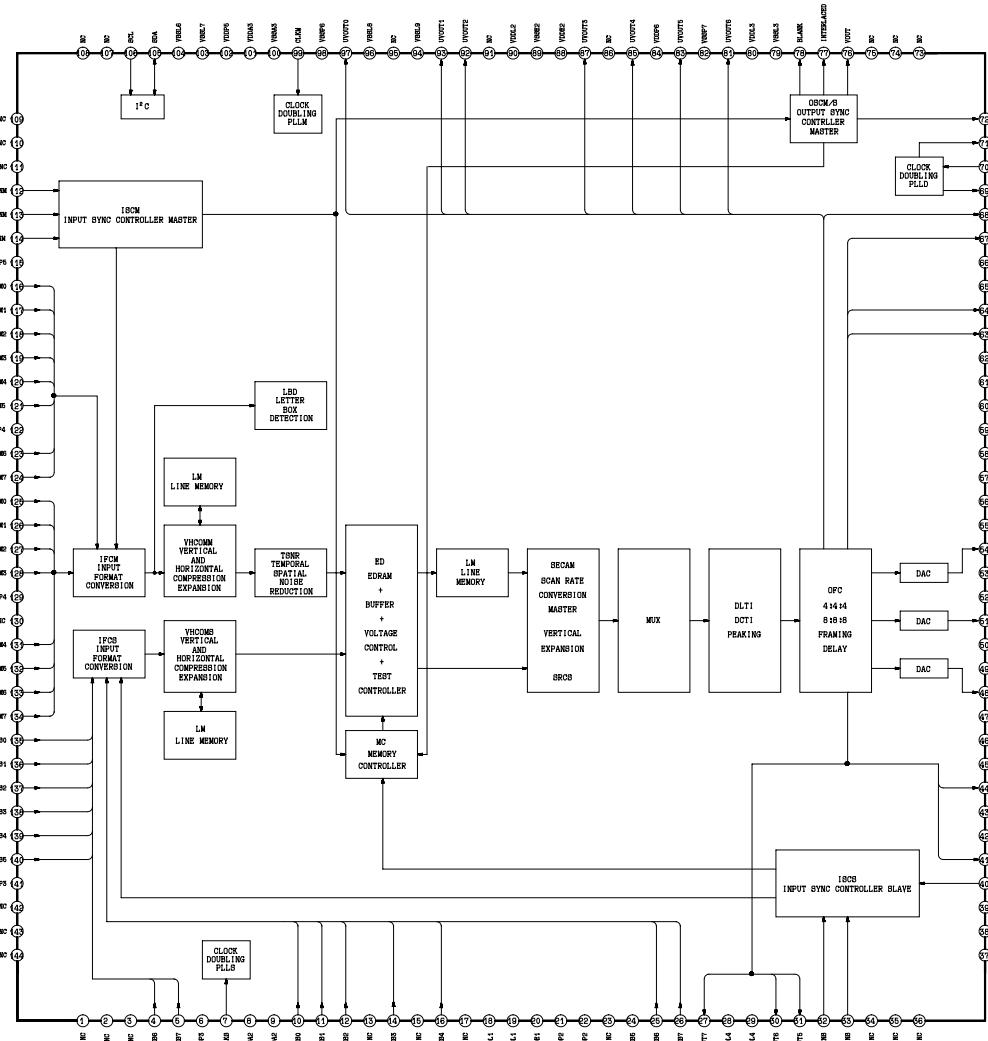
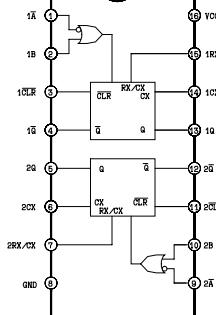
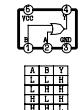


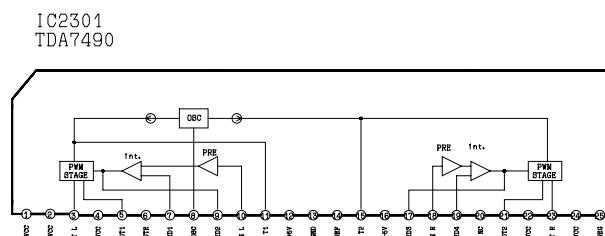
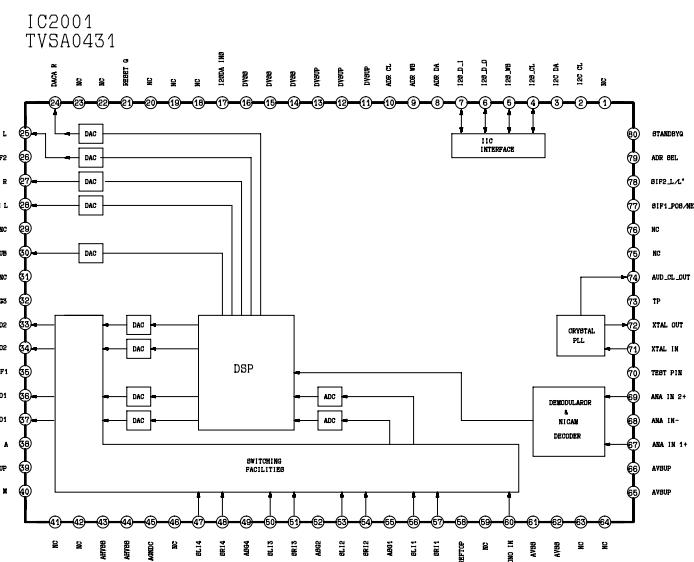
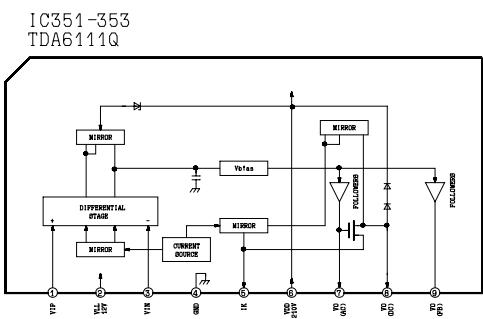
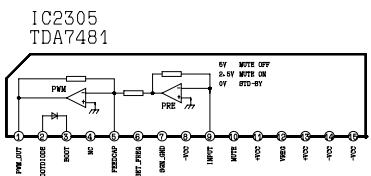
9.5. IC Block Diagram







IC3001
SDA9415IC459
TC74HC221AFIC1111
TC7SH32FU



10 Schematic Diagrams

10.1. Schematic Diagram Notes

Important Safety Notice

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

Notes:

1. Resistor

All resistors are carbon 1/4W resistor, unless marked as follows:
Unit of resistance is OHM [Ω] ($K=1,000$, $M=1,000,000$).

\bigcirc	: Nonflammable	\boxtimes	: Metal Oxide
\triangle	: Solid	\odot	: Metal Film
\blacksquare	: Wire Wound	\otimes	: Fuse:

2. Capacitor

All capacitors are ceramic 50V capacitor, unless marked as follows:
Unit of capacitance is μF , unless otherwise noted.

\otimes	: Temperature Compensation	$\begin{smallmatrix} + \\ - \end{smallmatrix}$: Electrolytic
M	: Polyester	$\begin{smallmatrix} \text{NP} \\ \text{H} \end{smallmatrix}$: Bipolar
m	: Metallized Polyester	D	: Dipped Tantalum
\blacksquare	: Polypropylene	Z	: Z-Type

3. Coil

Unit of inductance is μH , unless otherwise noted.

4. Test Point

\odot : Test Point position

5. Earth Symbol

$\not\text{H}$: Chassis Earth (Cold)

\downarrow : Line Earth (Hot)

6. Voltage Measurement

Voltage is measured by a DC voltmeter.

Conditions of the measurement are the following:

- Power Source AC 110-240V, 50/60 Hz
- Receiving Signal Colour Bar signal (RF)
- All customer's controls Maximum positions

7. Number in red circle indicates waveform number.

(See waveform pattern table.)

8. When arrow mark (\nearrow) is found, connection is easily found from the direction of arrow

9. Indicates the major signal flow. \rightarrow : Video \Rightarrow : Audio

10. This schematic diagram is the latest at the time of printing and subject to change without notice.

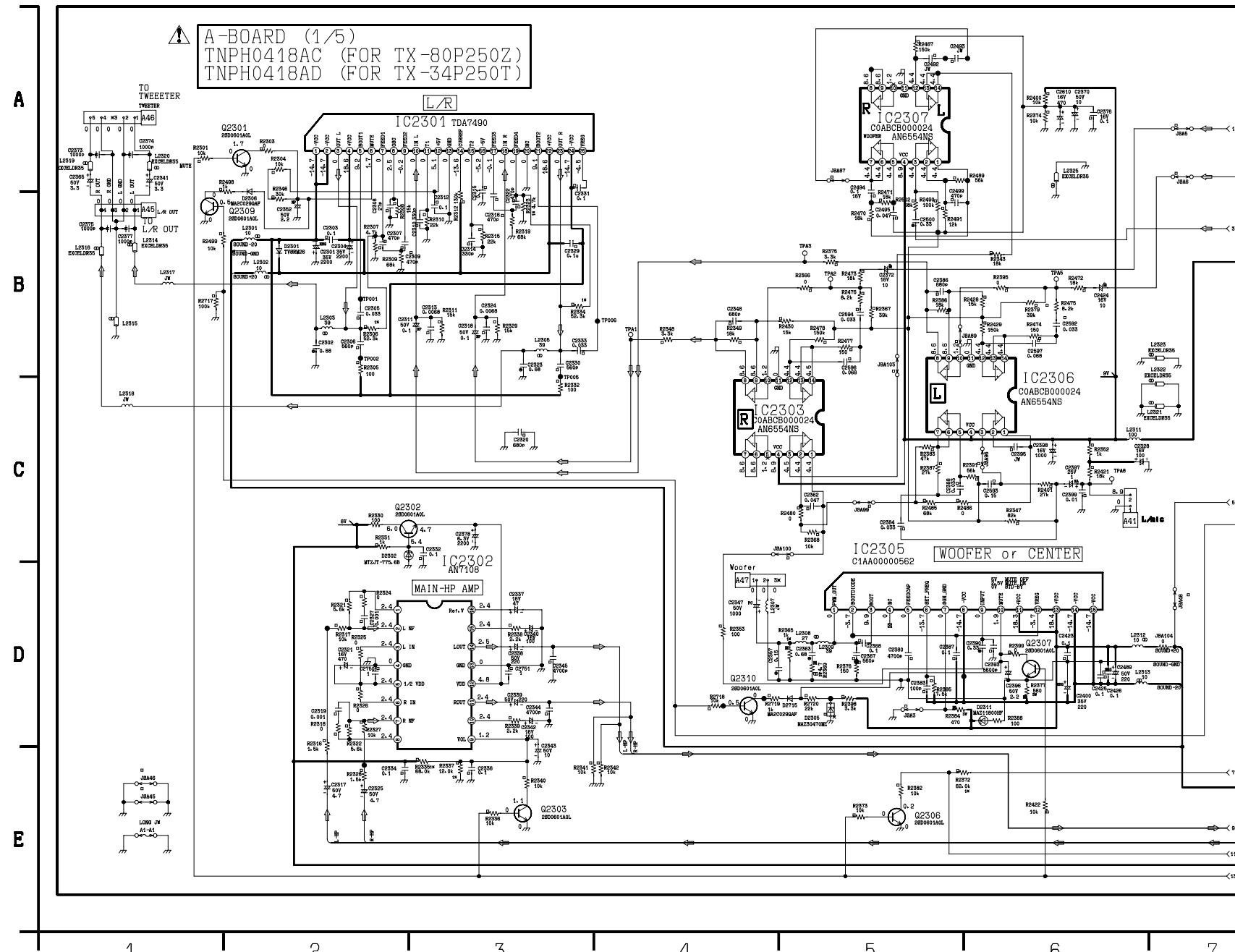
Remarks:

1. The Power 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. Take the following precautions.

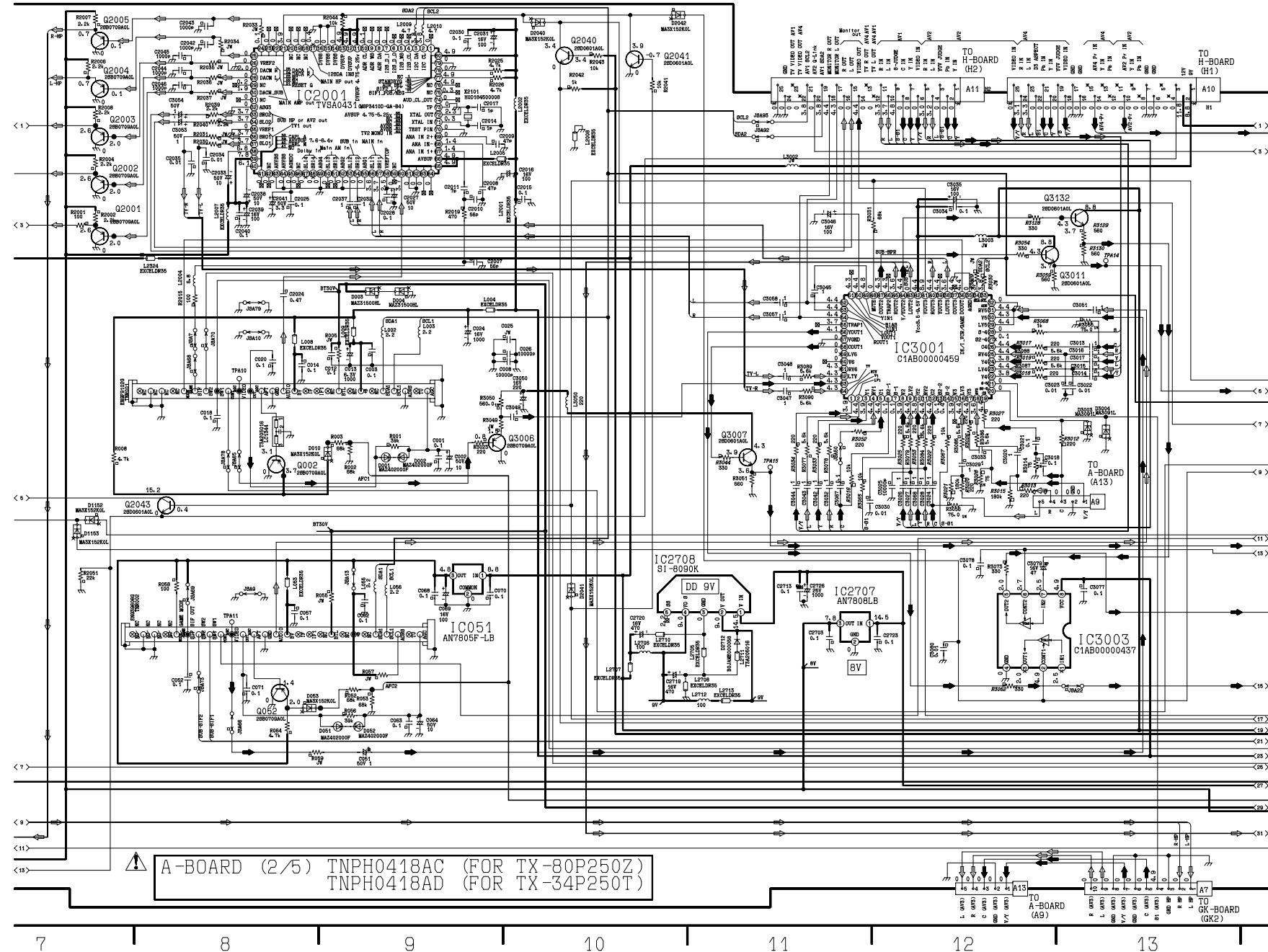
All circuits, except the Power Circuit, are cold.
Precautions

- a. Do not touch the hot part or the hot and cold parts at the same time or you may be shocked.
 - b. Do not short-circuit the hot and cold circuits or a fuse may blow and parts may break.
 - c. Do not connect an instrument, such as an oscilloscope, to the hot and cold circuits simultaneously or a fuse may blow.
Connect the earth of instruments to the earth connection of the circuit being measured.
 - d. Make sure to disconnect the power plug before removing the chassis.
2. Following diodes are interchangeable.
MA150- MA162 (Replacement part)

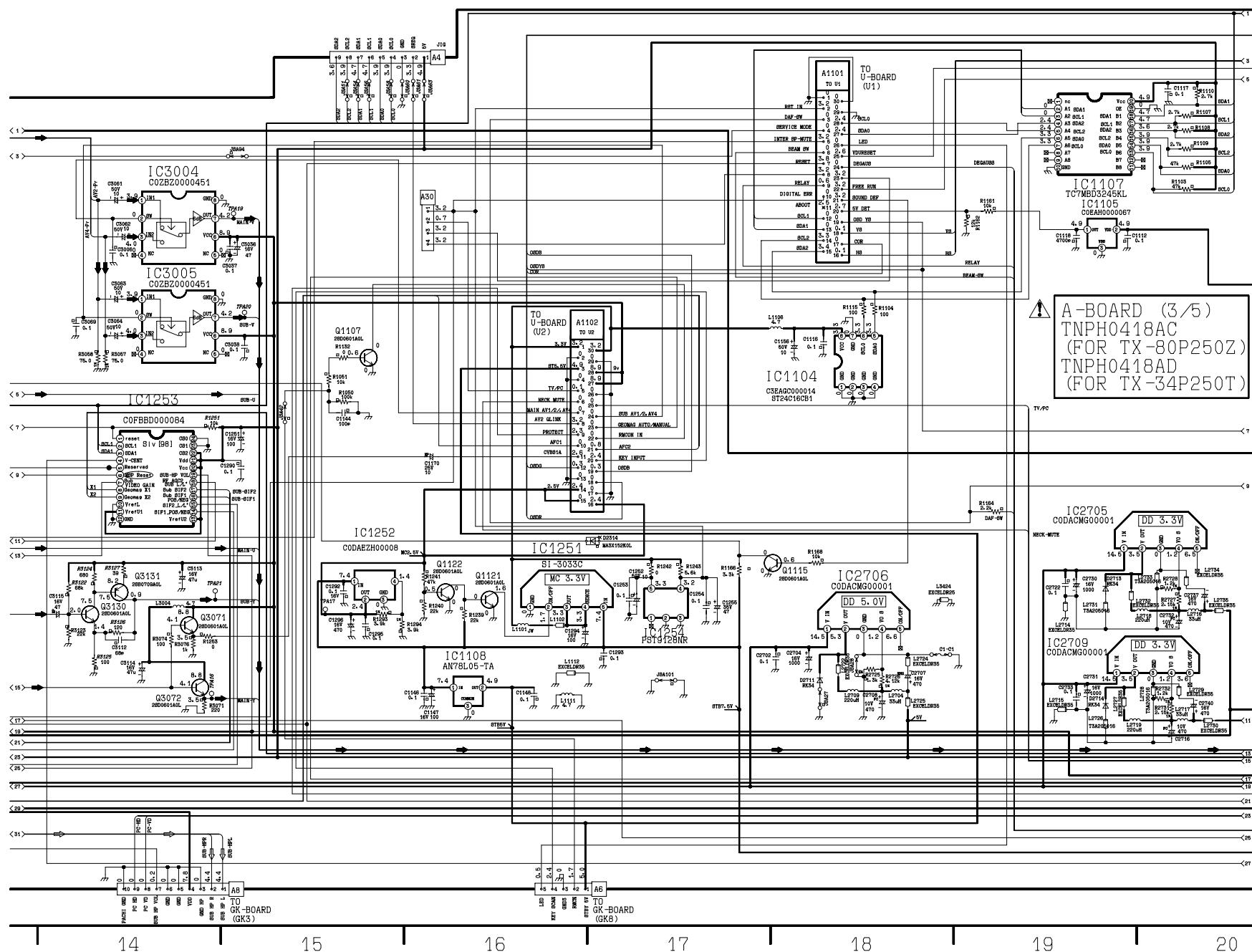
10.2. A-Board (1/5) Schematic Diagrams



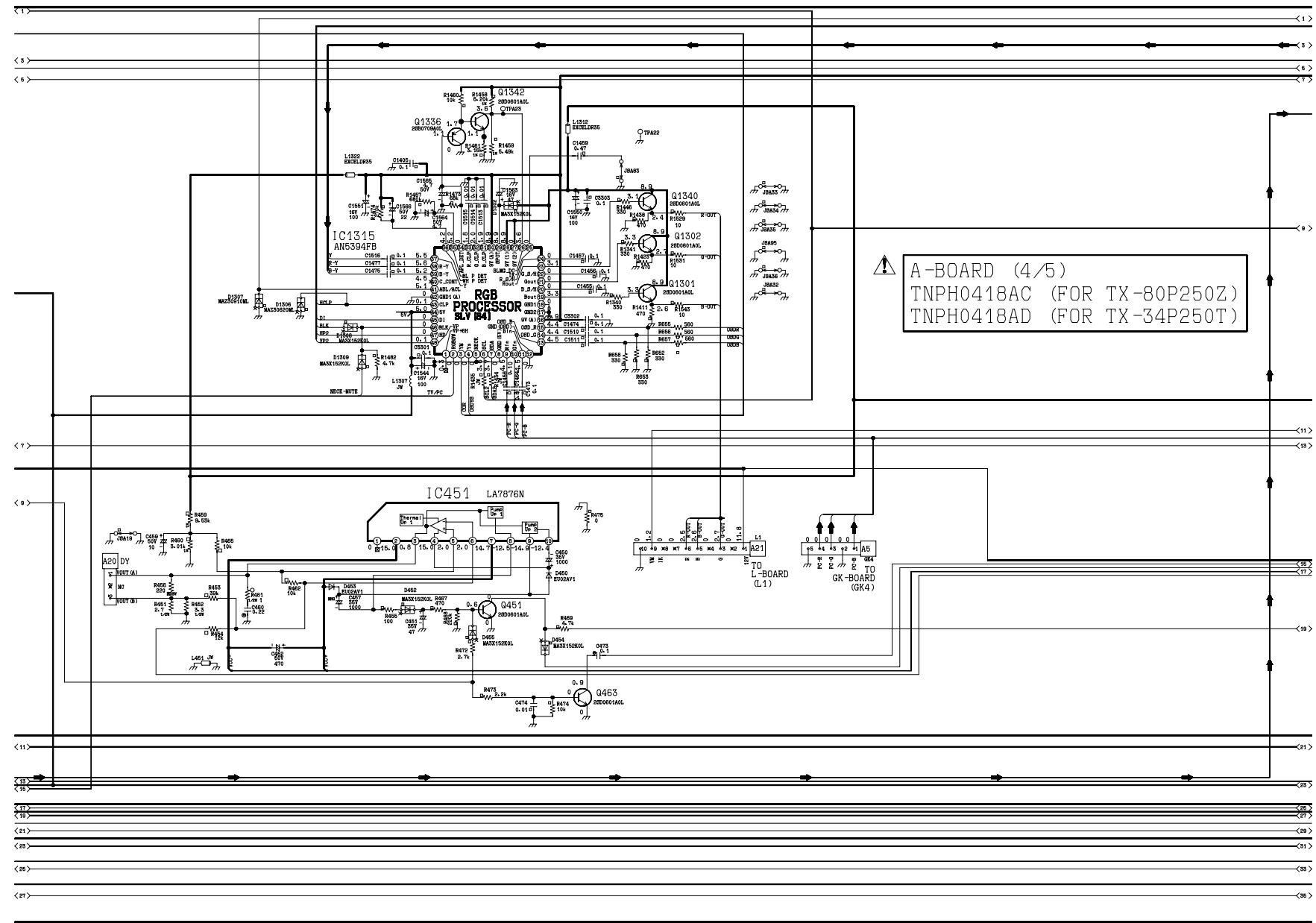
10.3. A-Board (2/5) Schematic Diagrams



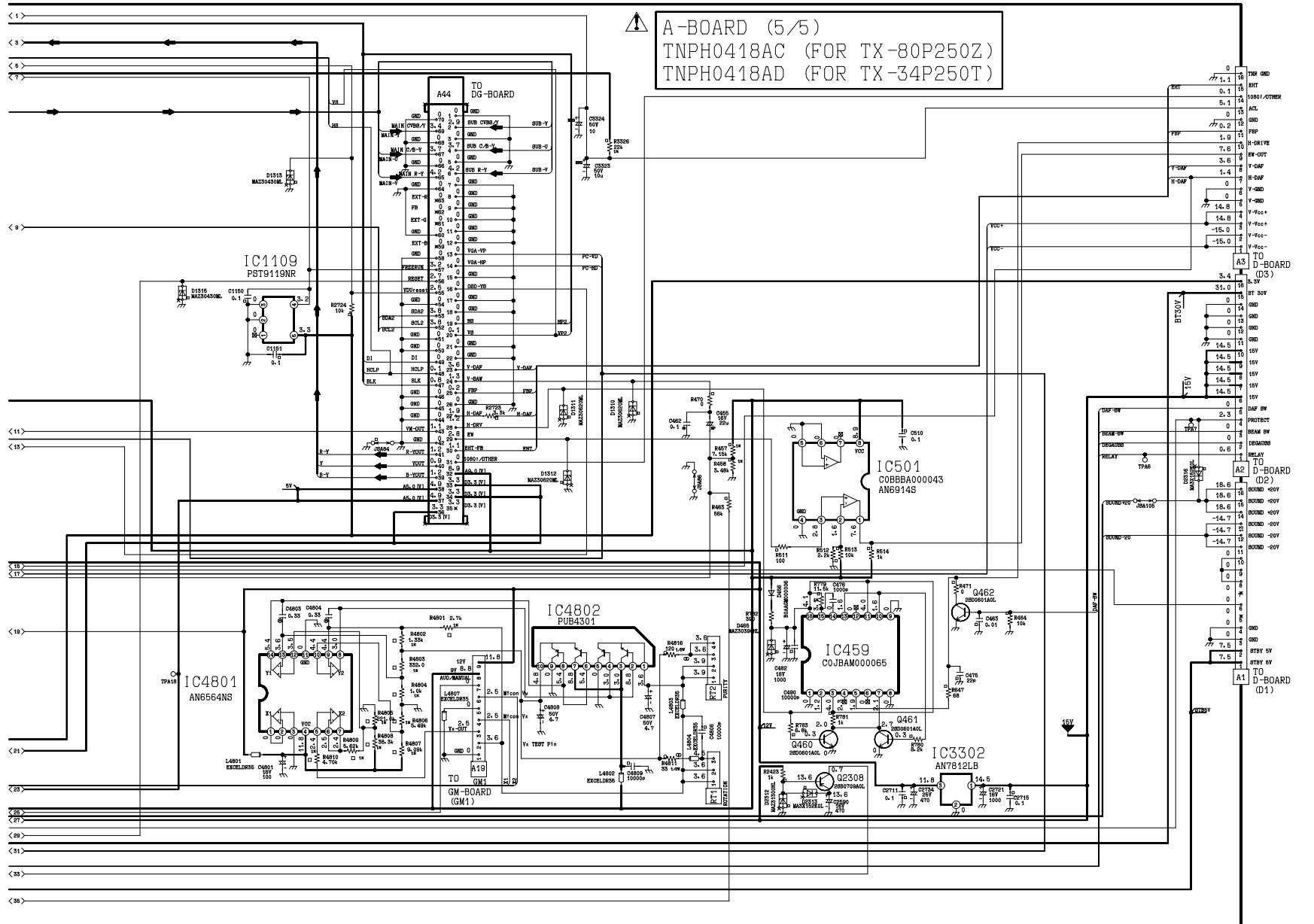
10.4. A-Board (3/5) Schematic Diagrams



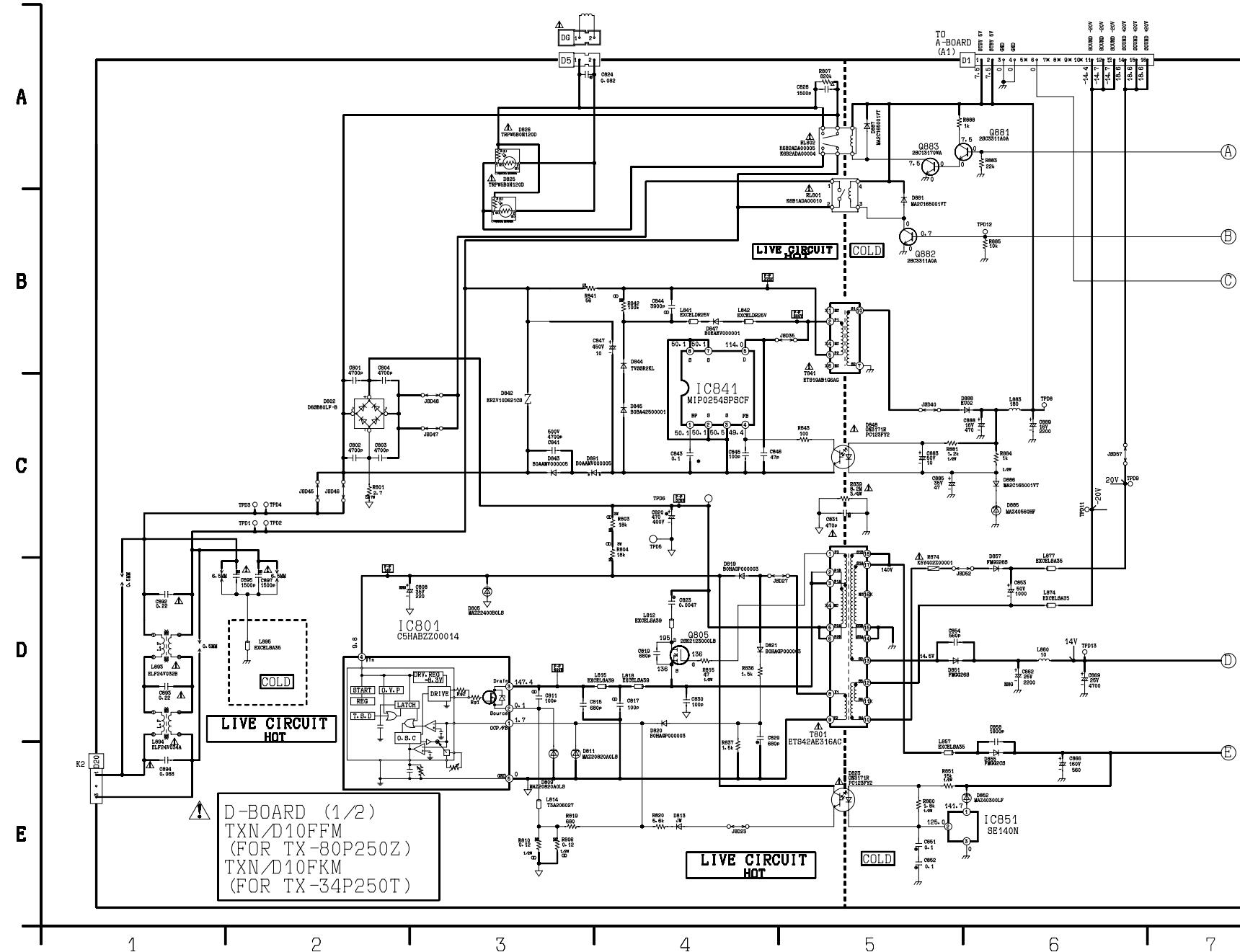
10.5. A-Board (4/5) Schematic Diagrams



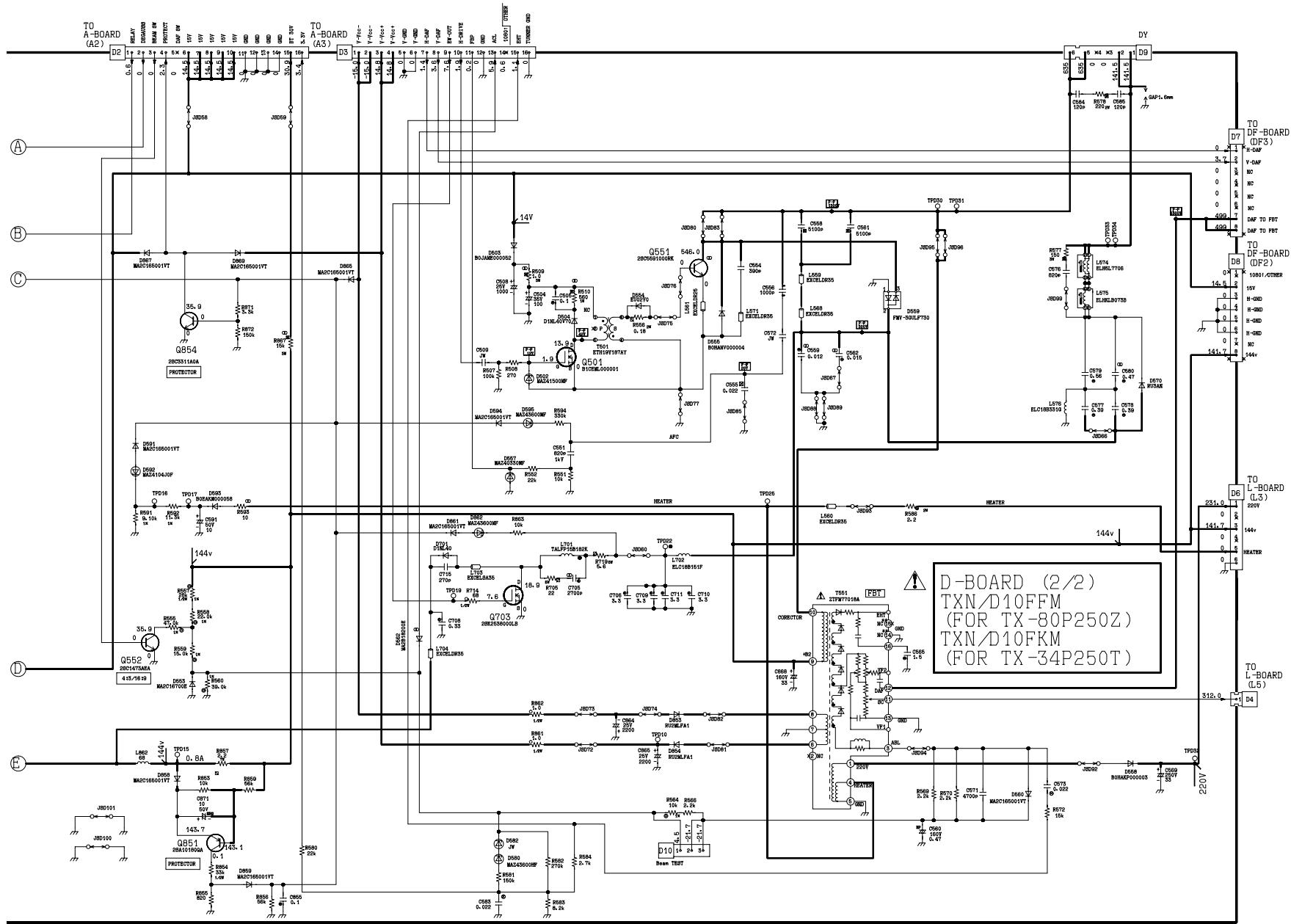
10.6. A-Board (5/5) Schematic Diagrams



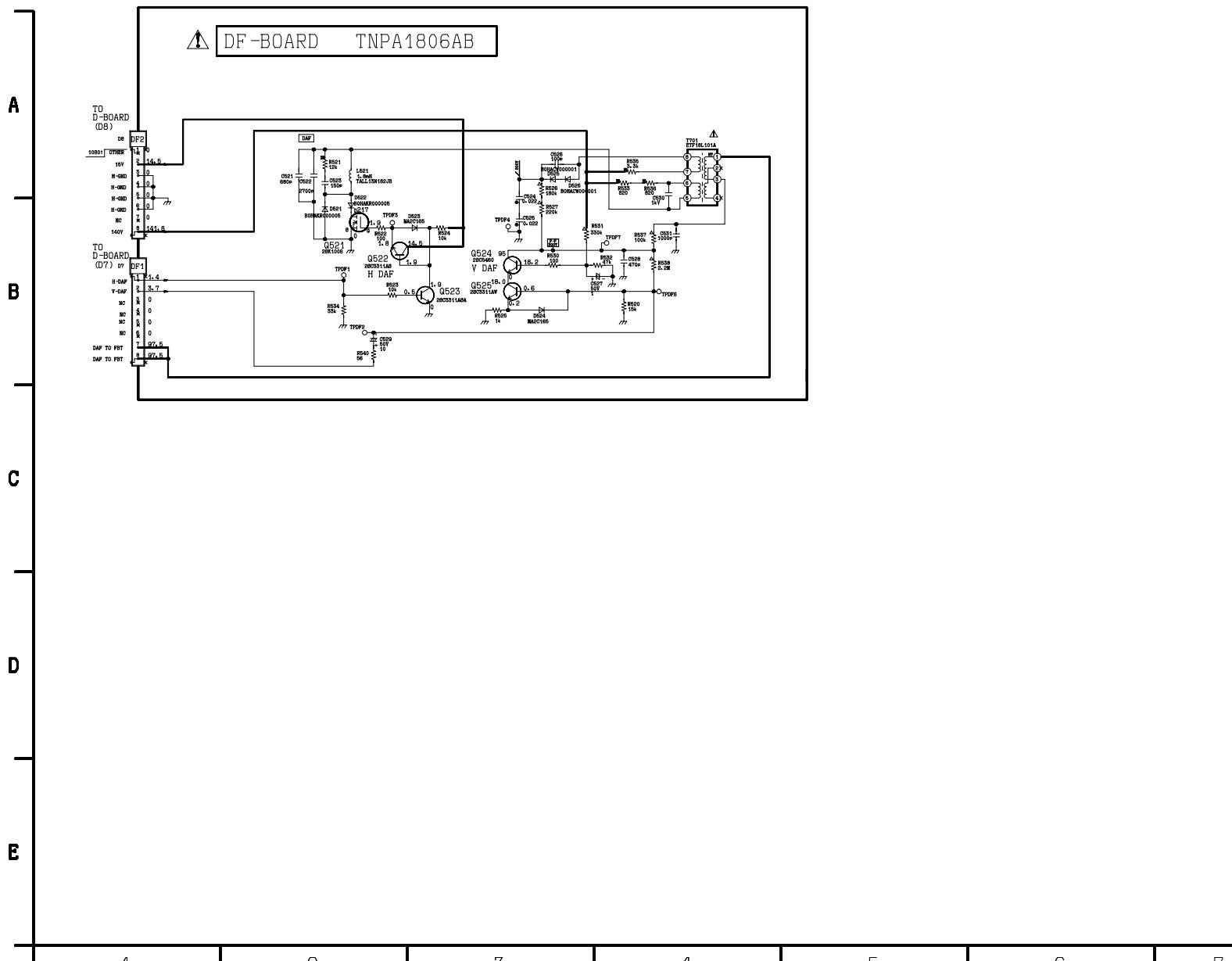
10.7. D-Board (1/2) Schematic Diagrams



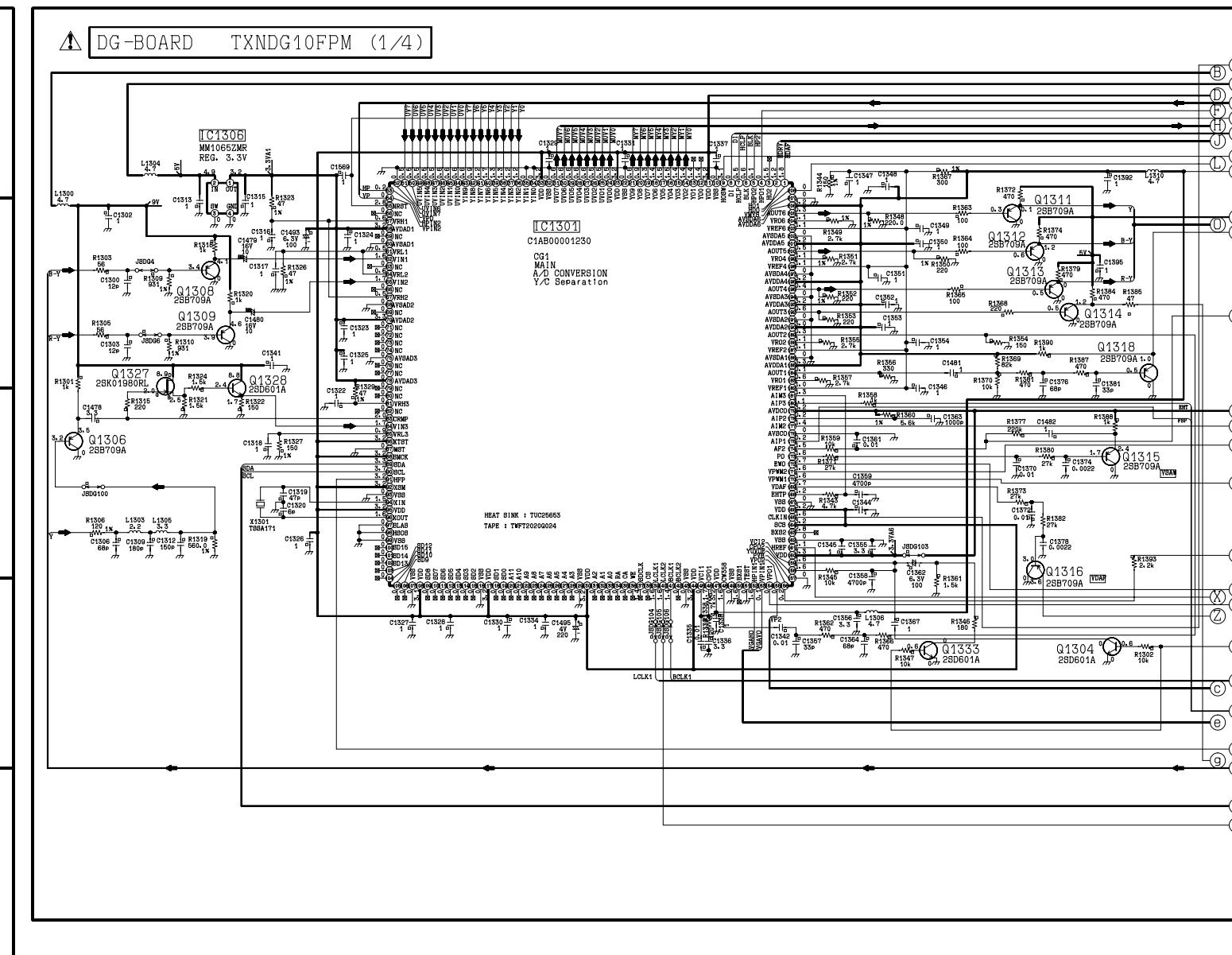
10.8. D-Board (2/2) Schematic Diagrams



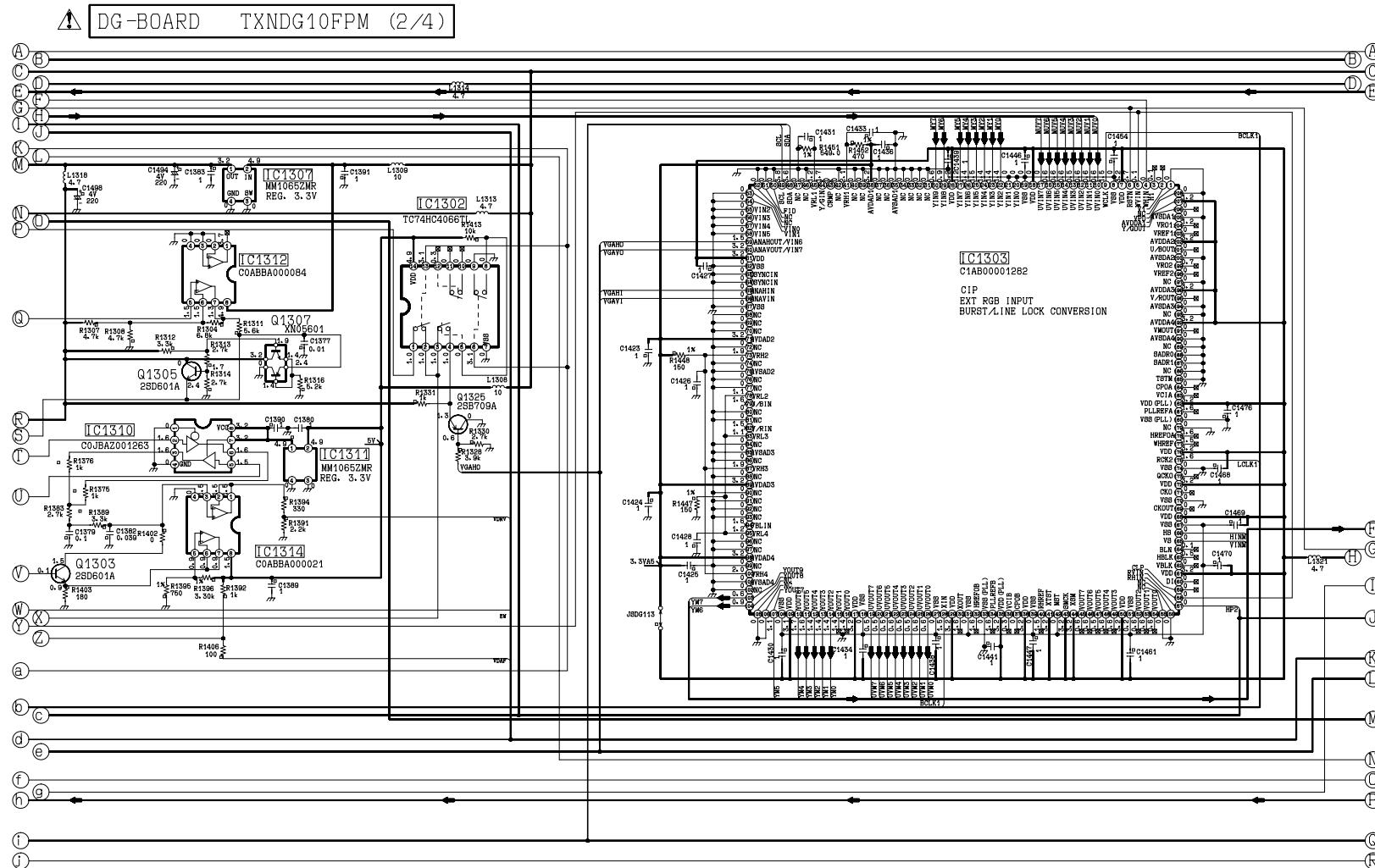
10.9. DF-Board Schematic Diagrams



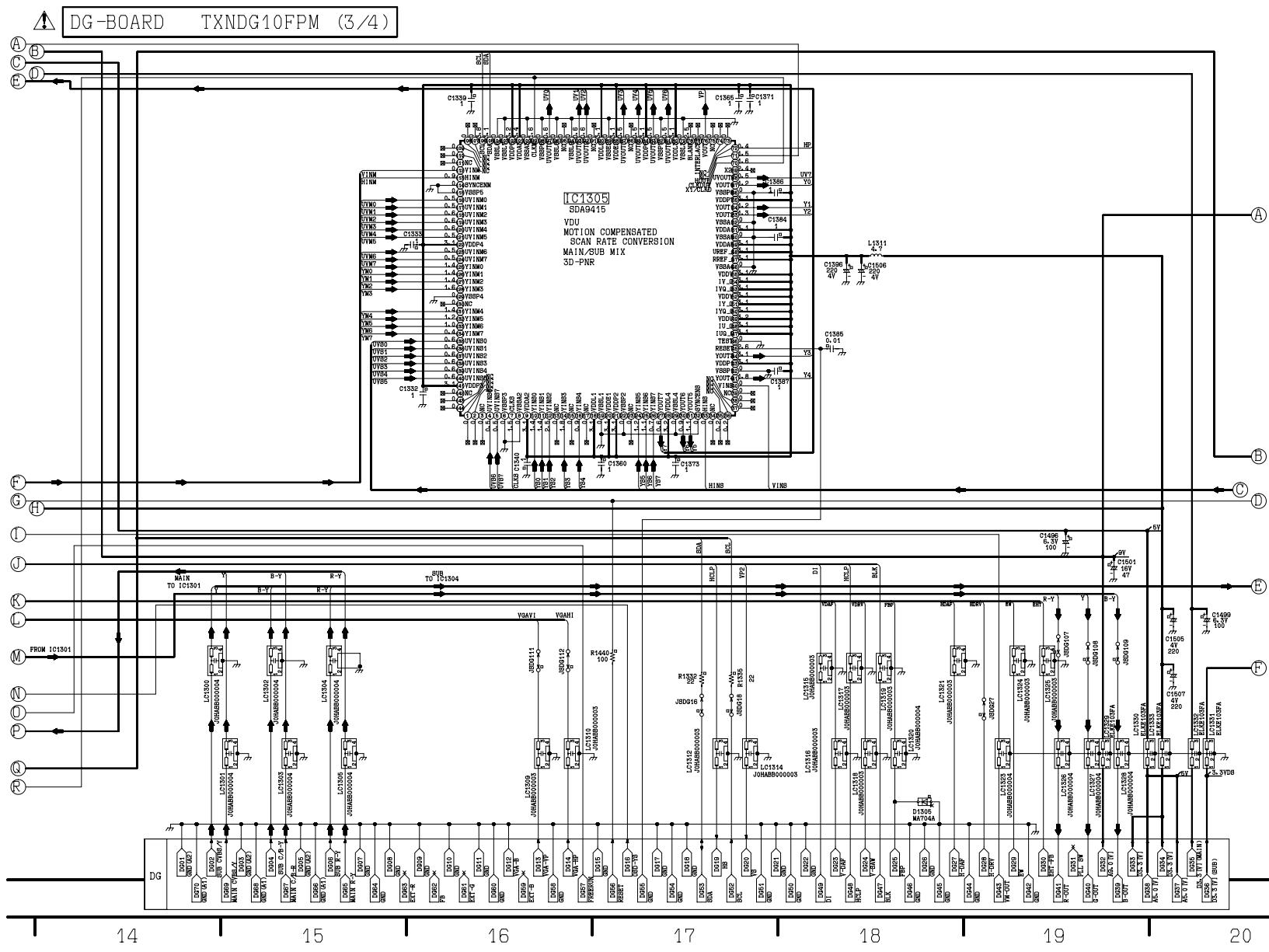
10.10. DG-Board (1/4) Schematic Diagrams



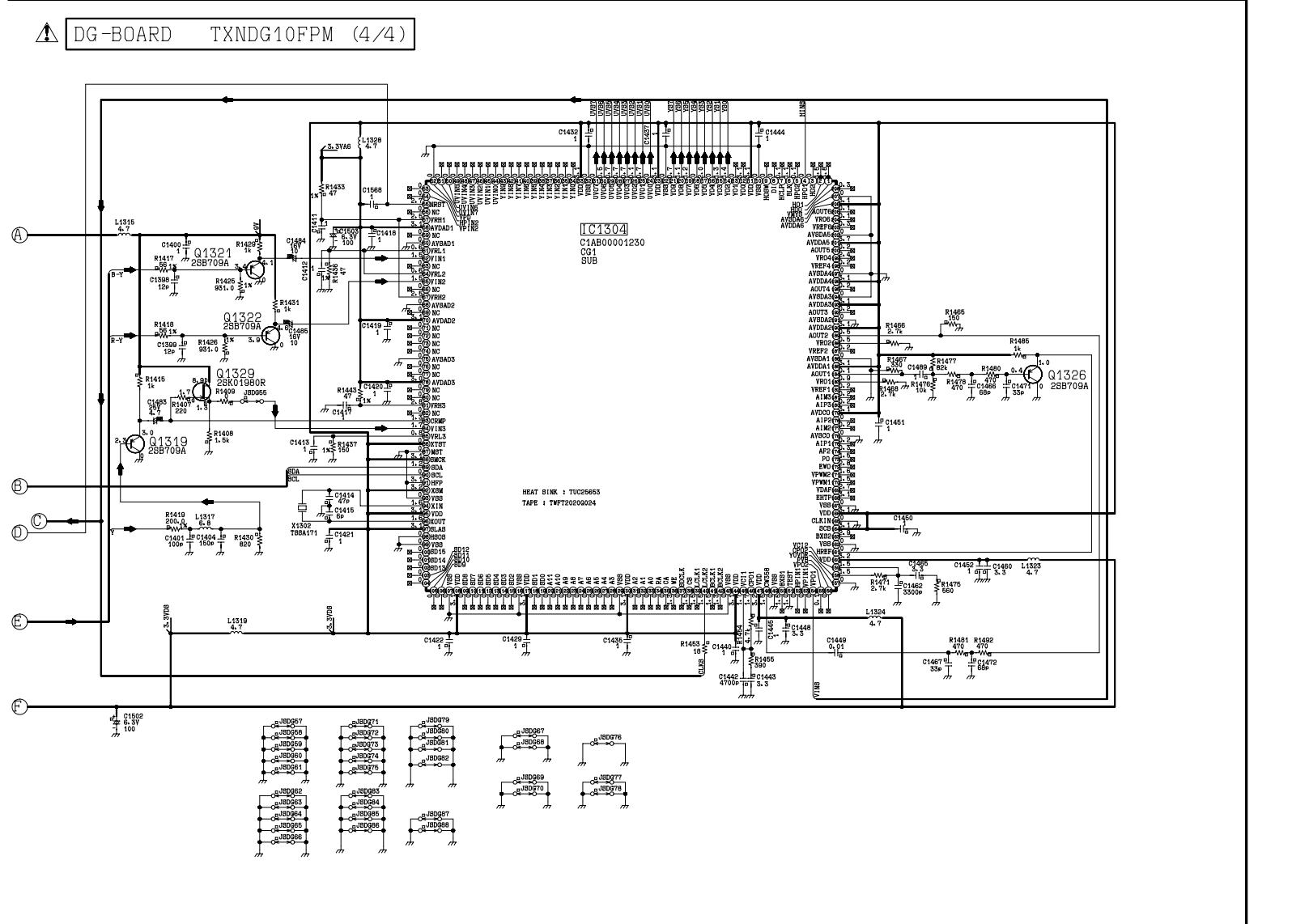
10.11. DG-Board (2/4) Schematic Diagrams



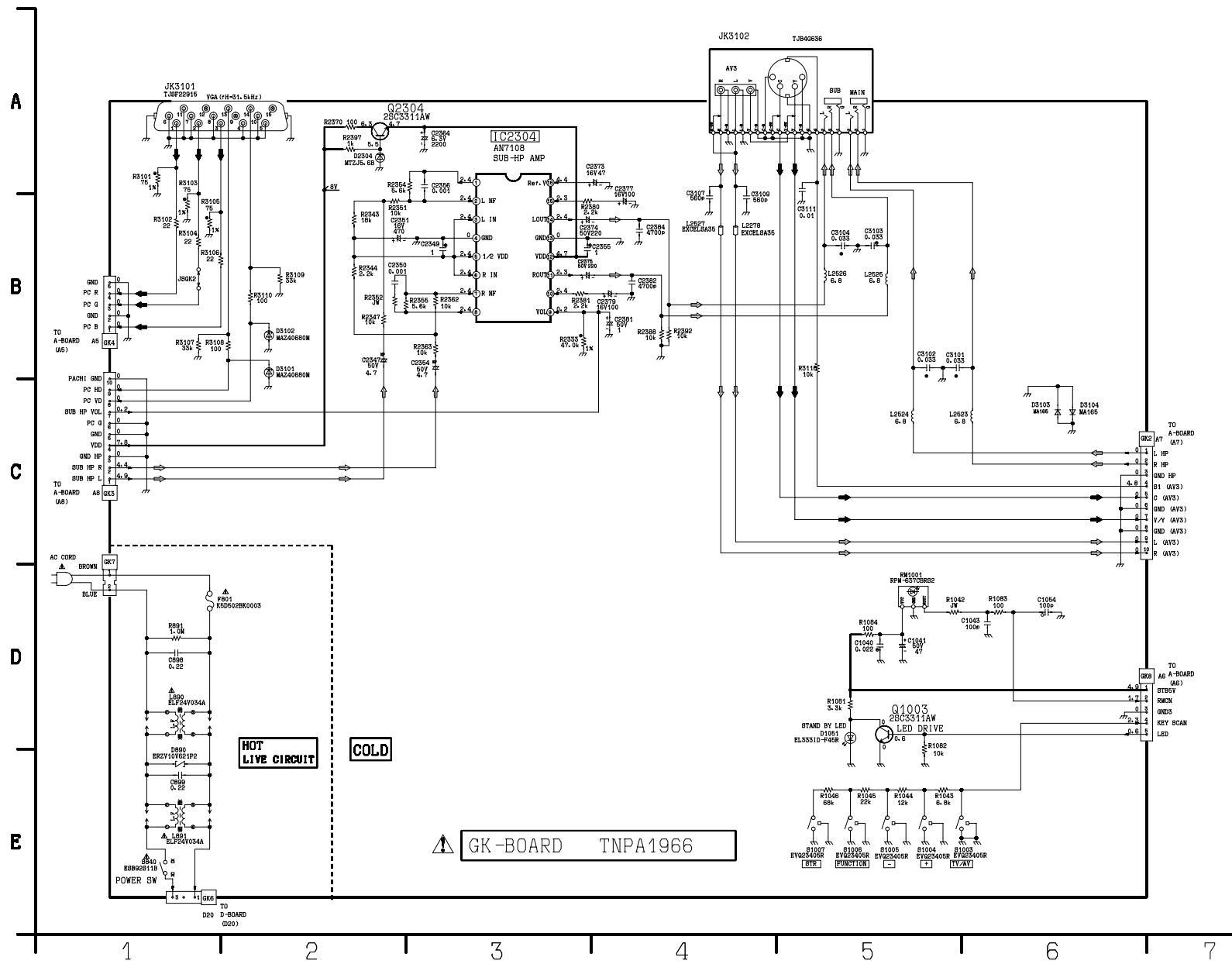
10.12. DG-Board (3/4) Schematic Diagrams



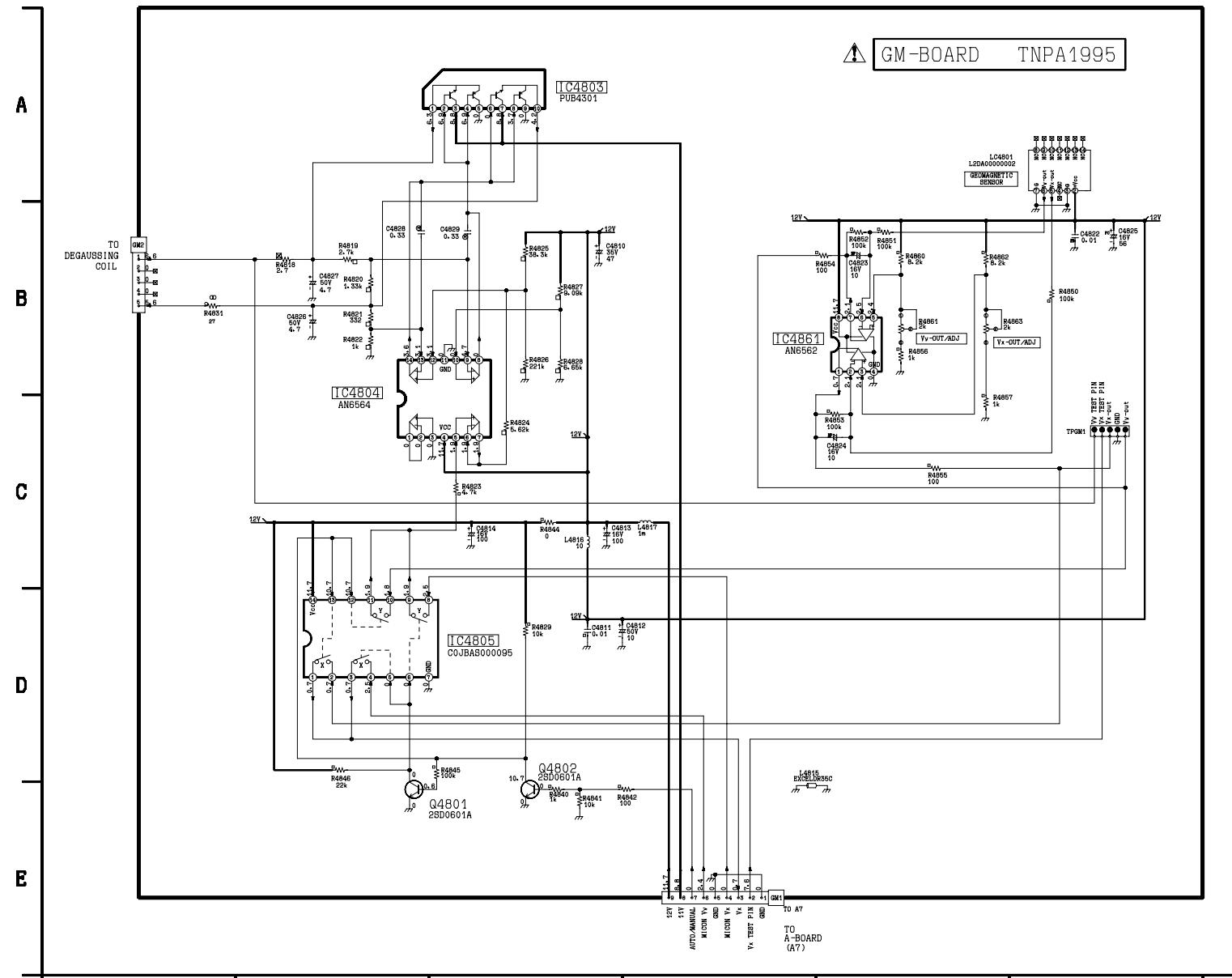
10.13. DG-Board (4/4) Schematic Diagrams



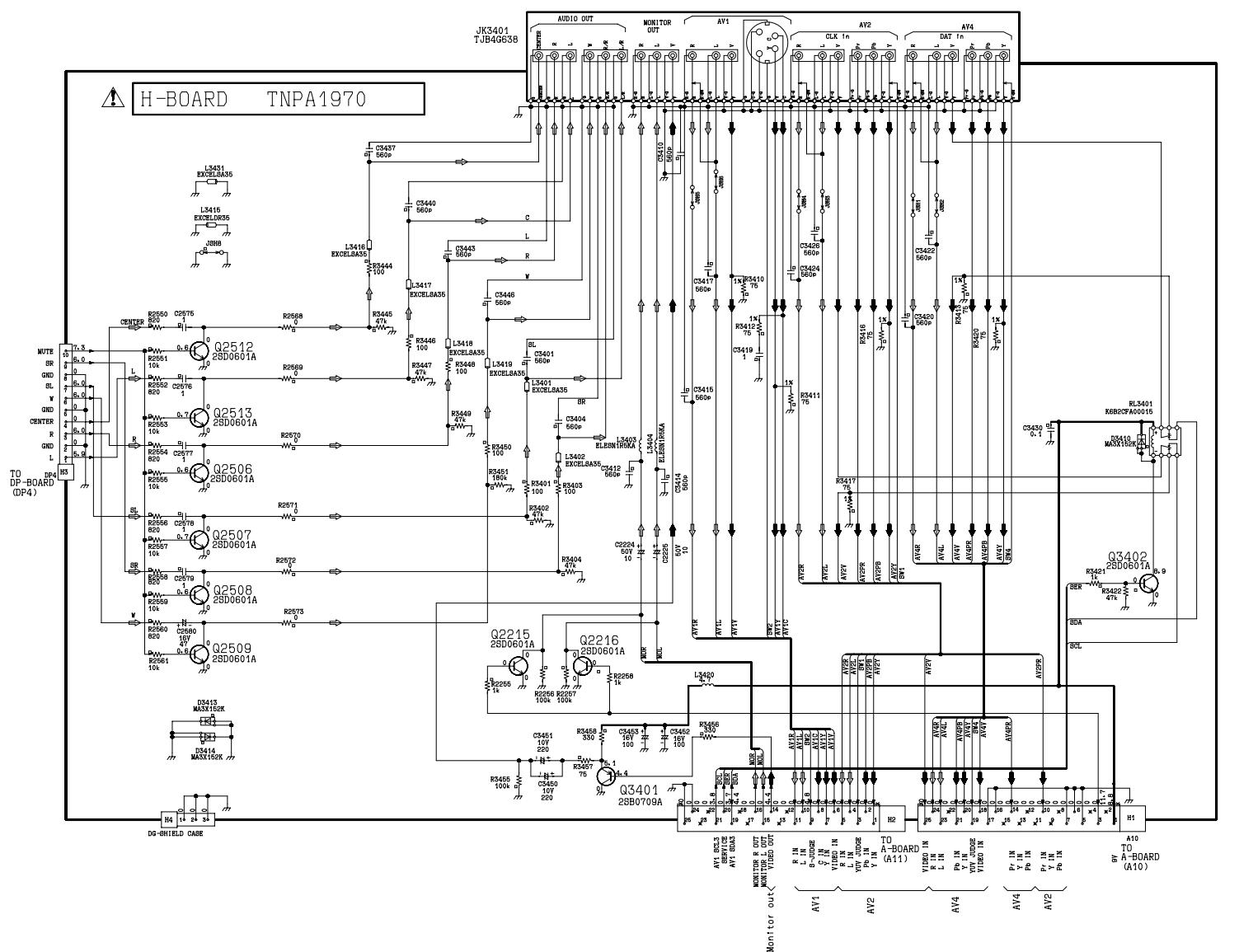
10.14. GK-Board Schematic Diagrams



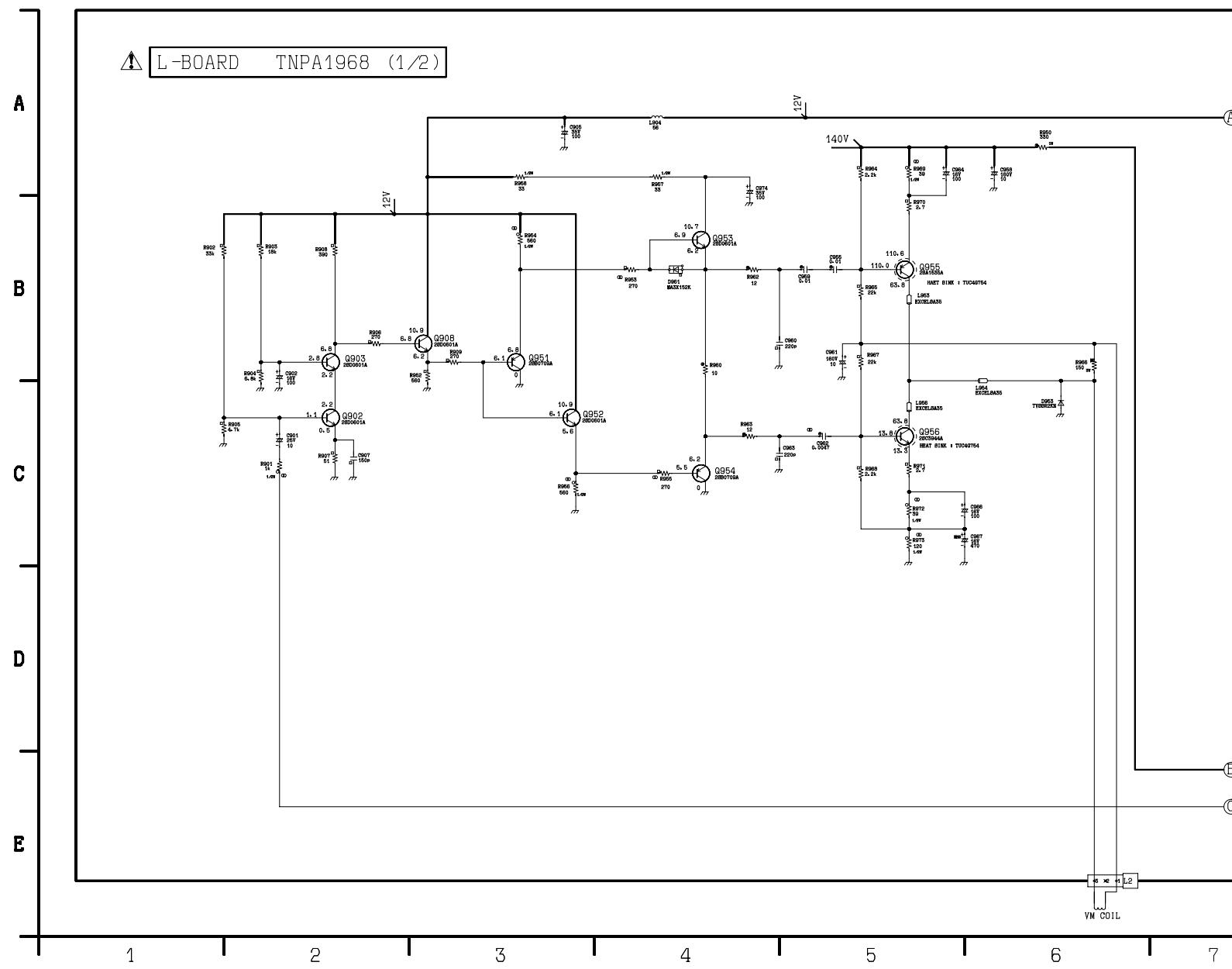
10.15. GM-Board Schematic Diagrams



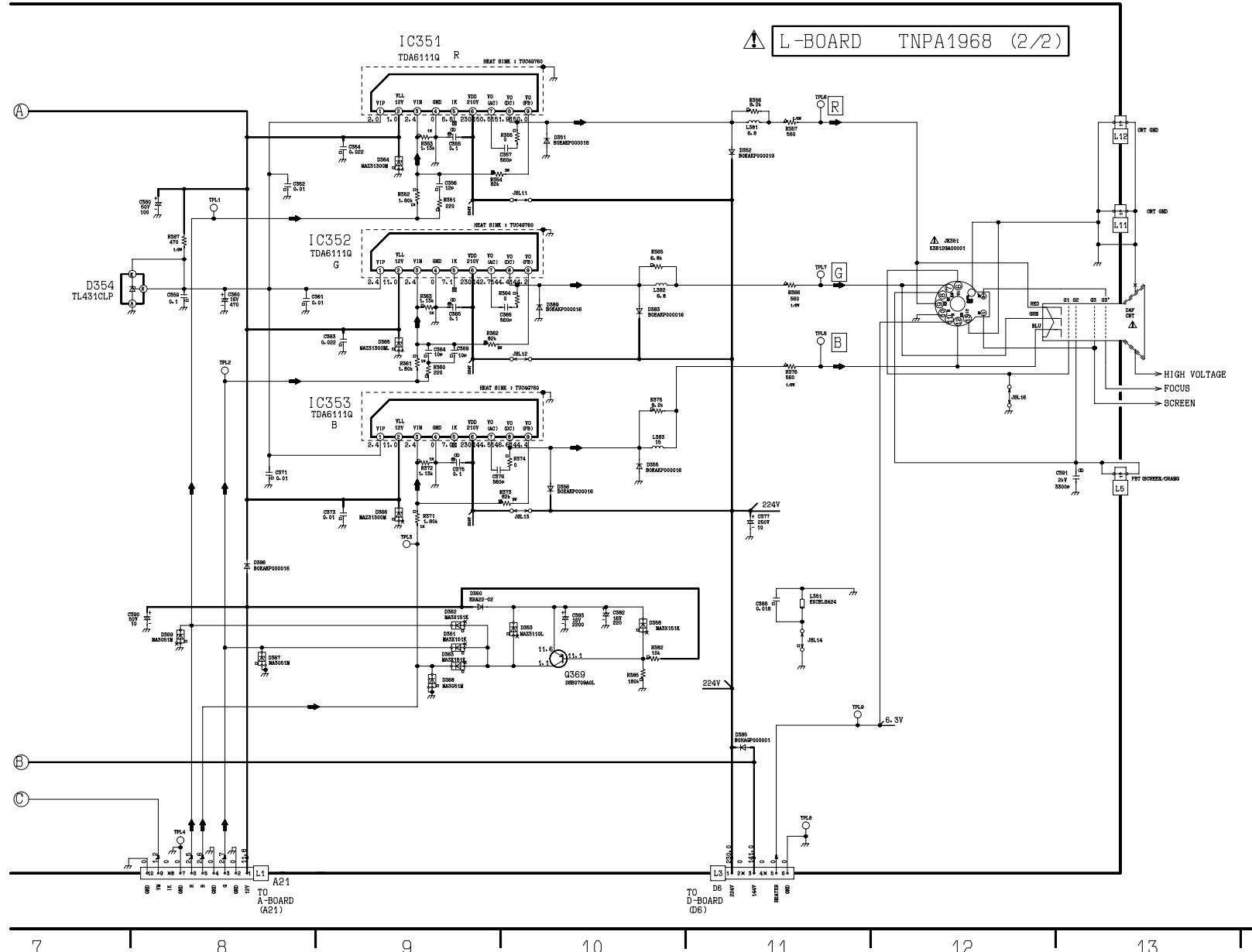
10.16. H-Board Schematic Diagrams



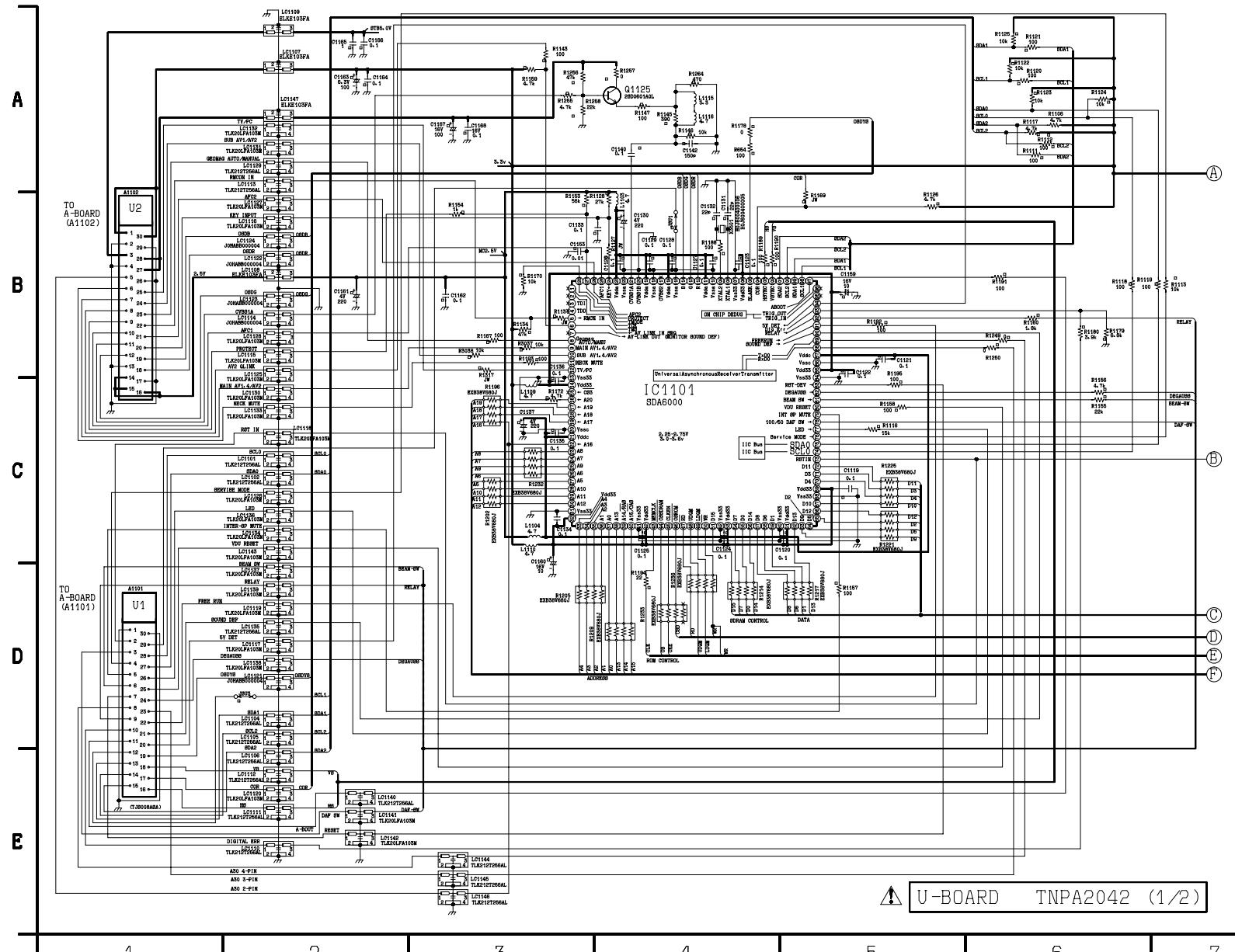
10.17. L-Board (1/2) Schematic Diagrams



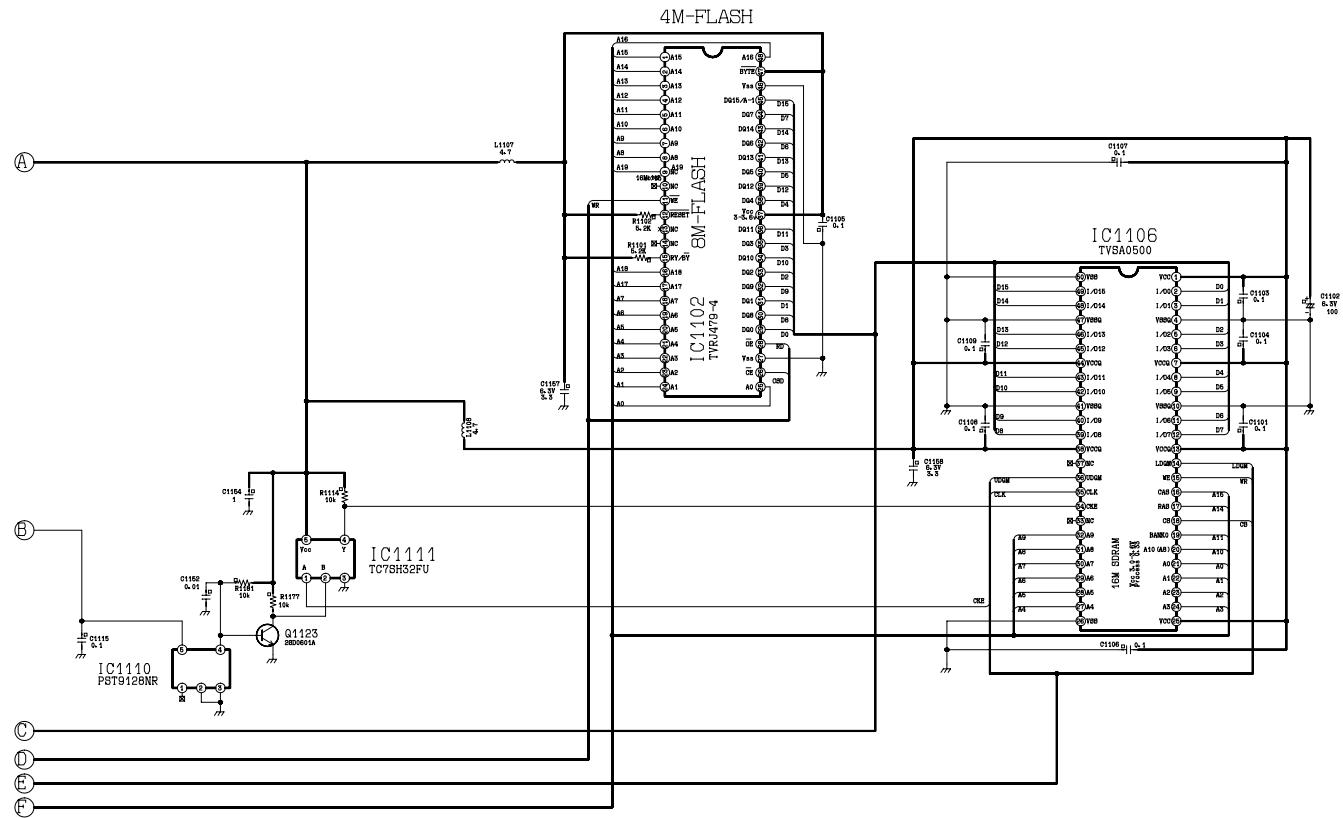
10.18. L-Board (2/2) Schematic Diagrams



10.19. U-Board (1/2) Schematic Diagrams



10.20. U-Board (2/2) Schematic Diagrams



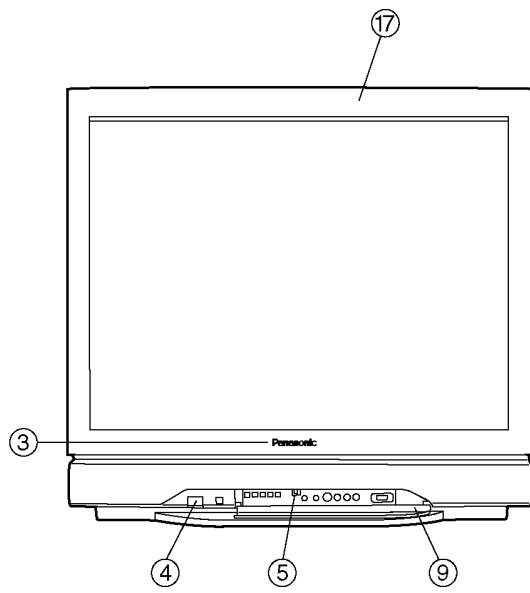
⚠ U-BOARD TNPA2042 (2/2)

11 Parts Location

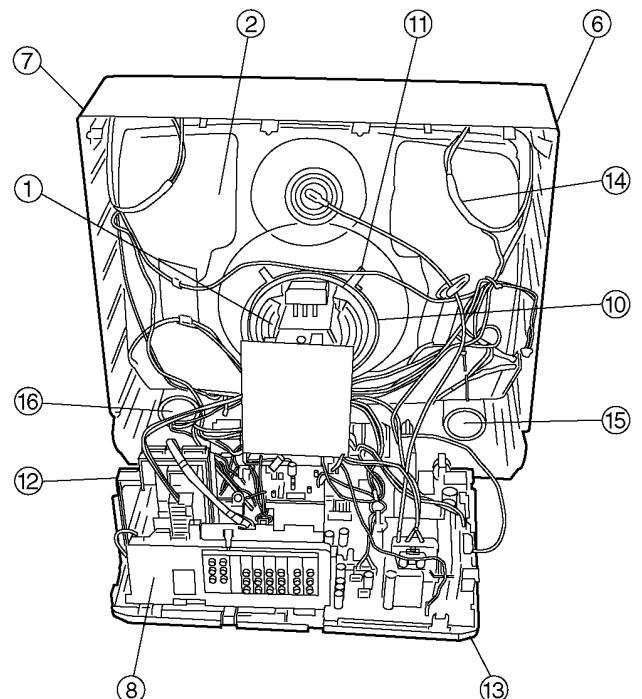
Note:

The number on mechanical parts indicates Ref. No. Mechanical Replacement Parts List

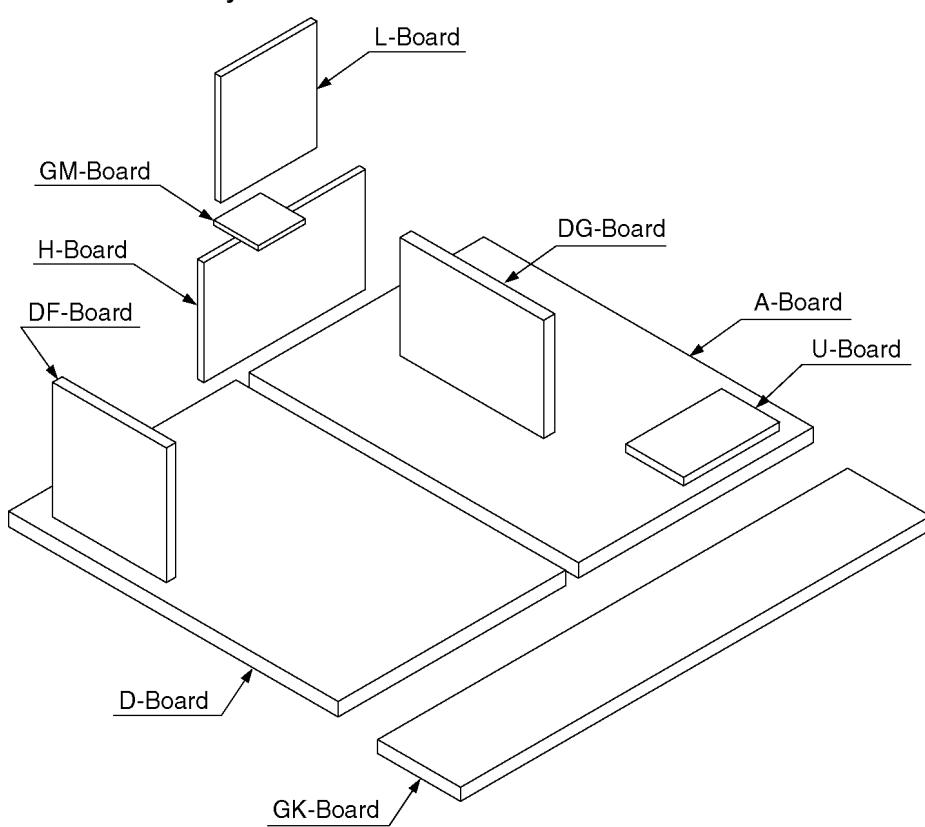
●Front View



●Rear View



●Chassis Board Layout View



12 Mechanical Replacement Parts List

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
	EABG10P504E2	WOOFER BOX	1	
	EASG7D505A2	TWEETER	2	
	EUR511226	REMOCON TRANSMITTER	1	
1	KDY43HC51F	DEFLECTION YOKE	1	△
	KRCBC160928B	CLAMPER	1	
2	M80LSW195X	PICTURE TUBE	1	TX-34P250T △
2	M80LSW197X	PICTURE TUBE	1	TX-80P250Z △
	TBL4G3401	RUBBER SET LEG	2	
	TBLG3019	CUSHION RUBBER (FRONT)	2	
	TBM4G0695	MODEL NAME PLATE	1	TX-34P250T △
	TBM4G0698	MODEL NAME PLATE	1	TX-80P250Z △
3	TBMA059	PANASONIC BADGE	1	
4	TBX4G86800	POWER BUTTON	1	
5	TEK6940	DOOR SWITCH	1	
	TES4G204	SPRING	1	
	TES4G404	SPRING	1	
	TES4G407	SPRING	2	
	TES6583	SPRING FOR TR	2	
	TESD020	COIL SPRING	1	
	THT1062	SCREW	4	
	THT4G1014R	SCREW	4	
	THTA006Z	SCREW	9	
	TJB1726400	ADAPTOR (75 OHM)	1	
	TKK4G8542	BOTTOM HANDLE(LEFT&RIGHT)	2	
6	TKK4G8551-1	HANDLE(L)	1	
7	TKK4G8552-1	HANDLE(R)	1	
8	TKP4G11962	AV COVER	1	
9	TKP4G11974	DOOR PANEL	1	TX-80P250Z
9	TKP4G11975	DOOR PANEL	1	TX-34P250T
10	TLK4G9041	ROTATION COIL	1	
	TMM16452	CLAMPER	2	
	TMM16473-1	CLAMPER	1	
	TMM16480-1	CLAMPER	1	
	TMM17499	CLAMPER	1	
	TMM4G411	CLAMPER	4	
	TMM4G901	CLAMPER	1	
	TMM6496-1	CLAMPER	5	
	TMM7468-1	CLAMPER	1	
	TMM7473-1	CLAMPER	2	
	TMME015	CLAMPER	2	
11	TMMJ055	DY WEDGE	4	
	TMW4G711	BRACKET	1	
12	TMW4G713	BRACKET	1	
	TMW4G714	BRACKET	1	
13	TMX4G417	CHASSIS FRAME	1	
	TMX4G418	CONTROL BRACKET	1	
	TPC4G45104	PACKING CASE	1	
	TPD4G1062	TOP CUSHION	1	
	TPD4G2059	BOTTOM CUSHION	1	
	TPD4G9010	CUSHION	1	
	TPE114108-1	SET COVER	1	
	TPE114125	PROTECT COVER	1	
	TQB4G0909	OPERATING MANUAL(ENGLISH)	1	TX-80P250Z △
	TQB4G0911	INSTRUCTION BOOK(RUSSIAN)	1	TX-34P250T △
	TSM10032-3	MAGNET	1	
	TSN63115-4	MAGNET	4	
14	TSPA139	DEGAUSSING COIL	1	
	TSX4G140K	AC POWER CORD	1	TX-34P250T △
	TSX4G141K	AC POWER CORD	1	TX-80P250Z △
	TXAJ801EFG	TUNER TO TUNER WIRE ASS'Y	1	
15	TXFAS01FPM	SPEAKER ASS'Y (L)	1	
16	TXFAS11FPM	SPEAKER ASS'Y (R)	1	
	TXFKU01FFM	BACKCOVER BODY ASS'Y	1	
17	TXFKY01FFM	CABINET ASS'Y	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
	TXNDG10FPM	CIRCUIT BOARD DG	1	
	TZSC07024	EXTENSION CABLE BOARD	1	
	XTB4+12A	SCREW	1	
	XTB4+15A	SCREW	4	
	XTV3+12A	SCREW	4	
	XTV3+12AFZ	SCREW	8	
	XTV3+6J	SCREW	1	
	XTW3+10T	SCREW	1	
	XTW3+12T	SCREW	2	
	XYN3+C10	SCREW	1	
	XYN3+E8	SCREW	2	
	XYN3+F6	SCREW	1	
	XYN3+J8	SCREW	1	
	XZBT6506	POLY BAG	1	

13 Replacement Parts List

13.1. Replacement Parts List Notes

Important Safety Notice

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

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 dependant 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.

Abbreviation of part name and description

1. Resistor

Example:

ERD25TJ104 C 100KOHM, J, 1/4W

Type

Allowance

2. Capacitor

Example:

ECKF1H103ZF C 0.01UF, Z, 50V

Type

Allowance

Type	Allowance
C : Carbon	F : $\pm 1\%$
F : Fuse	G : $\pm 2\%$
M : Metal Oxide	J : $\pm 5\%$
Metal Film	K : $\pm 10\%$
S : Solid	M : $\pm 20\%$
W : Wire Wound	

Type	Allowance
C : Ceramic	C : $\pm 0.25\text{pF}$
E : Electrolytic	D : $\pm 0.5\text{pF}$
P : Polyester	F : $\pm 1\text{pF}$
Polypropylene	G : $\pm 3\text{pF}$
T : Tantalum	J : $\pm 5\text{pF}$
	K : $\pm 10\text{pF}$
	L : $\pm 15\text{pF}$
	M : $\pm 20\text{pF}$
	P : $+100\%, -0\%$
	Z : $+80\%, -20\%$

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
D386	ERA15-04	DIODE	1	B0EAKP000016
D389	ERA15-04	DIODE	1	B0EAKP000016
D450	EU02A	DIODE	1	B0HAMR000047
D452	MA152K	DIODE	1	MA3X152K
D453	EU02A	DIODE	1	B0HAMR000047
D454, 55	MA152K	DIODE	2	MA3X152K
D456	ERA22-02	DIODE	1	B0HAGM000001
D465	MA3039H	ZENER DIODE	1	MAZ3039H
D502	MA4150M	ZENER DIODE	1	MAZ4150M
D503	TVSA81004	DIODE	1	B0JAME000009
D504	D1NL40V70	DIODE	1	B0HALP000002
D521, 22	AU02A	DIODE	2	B0HAKR000005
D523, 24	MA165	DIODE	2	MA2C165
D525, 26	RP1H	DIODE	2	B0HACW000001
D553	MA167	DIODE	1	MA2C167
D554	EU02	DIODE	1	
D555	RH3G	DIODE	1	
D557	MA4033M	ZENER DIODE	1	MAZ4033M
D558	AU02	DIODE	1	B0HAKP000002
D559	FMV-3GU	DIODE	1	
D560	MA165	DIODE	1	MA2C165
D562	MA182	DIODE	1	MA2B182
D570	TVSRU3AN	DIODE	1	B0HAMR000035
D580	MA4360H	ZENER DIODE	1	MAZ4360H
D591	MA165	DIODE	1	MA2C165
D592	MA4104J	ZENER DIODE	1	
D593	ERA15-02	DIODE	1	B0EAKM000016
D594	MA165	DIODE	1	MA2C165
D595	MA4360M	ZENER DIODE	1	MAZ4360M
D701	D1NL40V70	DIODE	1	B0HALP000002
D802	REV-608	DIODE	1	B0FBAT000002
D805	MA2240B	ZENER DIODE	1	MAZ2240B
D809	MA2082-A	ZENER DIODE	1	MAZ20820A
D811	MA2082-A	ZENER DIODE	1	MAZ20820A
D819-21	ERA22-04	DIODE	3	B0HAGP000001
D823	PC123FY2	PHOTO COUPLER	1	B3PAA0000012 △
D825, 26	TRPW5B0N120D	POSISTOR	2	D4DDF1200001
D842	ERZV10D621CS	VARISTOR	1	
D843	TVSC0510	DIODE	1	B0AAMV000004
D844	TVSSR2KL	DIODE	1	
D845	RY24	DIODE	1	
D847	ERA22-10	DIODE	1	B0EAEV000002
D848	PC123FY2	PHOTO COUPLER	1	B3PAA0000012 △
D851	FMGG26S	DIODE	1	
D852	MA4030L	ZENER DIODE	1	MAZ40300L
D853, 54	TVSRU2M	DIODE	2	B0HAMP000035
D855	FMGG2CS	DIODE	1	
D857	FMGG26S	DIODE	1	
D858, 59	MA165	DIODE	2	MA2C165
D861	MA165	DIODE	1	MA2C165
D862	MA4360M	ZENER DIODE	1	MAZ4360M
D865	MA165	DIODE	1	MA2C165
D867	MA165	DIODE	1	MA2C165
D869	MA165	DIODE	1	MA2C165
D881	MA165	DIODE	1	MA2C165
D885	MA4056H	ZENER DIODE	1	MAZ4056H
D886, 87	MA165	DIODE	2	MA2C165
D888	EU02	DIODE	1	
D890	ERZV10V621P2	VARISTOR	1	
D891	TVSC0510	DIODE	1	B0AAMV000004
D953	TVSSR2KN	DIODE	1	B0ZAZ000041
D961	MA152K	DIODE	1	MA3X152K
D1051	EL333ID-F45R	DIODE	1	
D1152, 53	MA152K	DIODE	2	MA3X152K
D1302	MA152K	DIODE	1	MA3X152K
D1305	MA704A	DIODE	1	MA3X704A
D1306	MA3062M	ZENER DIODE	1	MAZ30620M
D1307	MA3091M	ZENER DIODE	1	
D1308, 09	MA152K	DIODE	2	MA3X152K
D1310-12	MA3062M	ZENER DIODE	3	MAZ30620M
D1313	MA3043M	ZENER DIODE	1	MAZ30430M

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
D1315	MA3043M	ZENER DIODE	1	MAZ30430M
D2040-42	MA152K	DIODE	3	MA2C165
D2301	TVSRM26	DIODE	1	B0BA0650001
D2302	MTZJ5.6B	ZENER DIODE	1	
D2304	MTZJ5.6B	ZENER DIODE	1	
D2305	MA3047M	ZENER DIODE	1	MAZ30470M
D2306	MA29QA	DIODE	1	MA2C029QA
D2311	MA1180H	ZENER DIODE	1	MAZ11800H
D2312	MA3130H	ZENER DIODE	1	
D2313, 14	MA152K	DIODE	2	MA3X152K
D2316	MA152K	DIODE	1	MA3X152K
D2711	RK34	DIODE	1	
D2712	AK04	DIODE	1	B0JAMC000003
D2713, 14	RK34	DIODE	2	
D2715	MA29QA	DIODE	1	MA2C029QA
D3003, 04	MA3091L	ZENER DIODE	2	
D3101, 02	MA4030L	ZENER DIODE	2	MAZ40680M
D3103, 04	MA165	DIODE	2	MA2C165
D3410	MA152K	DIODE	1	MA3X152K
DF1, F2	TJS3A9140	CONNECTOR	2	K1KA08B00121
F801	XBA2C50TR0	FUSE 250V 5A	1	K5D502BK0003 △
F801-1, -2	EYF-52BC	FUSE HOLDER	2	
GK2, K3	TJS5A9180	10P CONNECTOR	2	K1KA10A00215
GK4	TJS3A9660	5P CONNECTOR	1	K1KA05A00138
GK6	TJS158130	2P CONNECTOR	1	K1KA02A00244
GK8	TJS3A9660	5P CONNECTOR	1	K1KA05A00138
GM1	TJS3A9890	9P CONNECTOR	1	K1KA09A00074
GM2	TJS3A9660	5P CONNECTOR	1	K1KA05A00138
H1, H2	TJSF17425	25P CONNECTOR	2	K1KA25B00004
H4	TJS1A8090	PHONO PIN (3P)	1	K1KA03B00045
IC051	AN7805F	LINEAR IC	1	
IC351-53	TDA6111Q	LINEAR IC	3	C1AA00000325
IC451	LA7876N	IC	1	
IC459	TC74HC221AF	MOS IC (CMOS S/LOGIC)	1	C0JBAM000065
IC501	NJM2903M	INTEGRATED CIRCUIT	1	C0BBBA000019
IC801	STRF6656LF53	LINEAR IC	1	C5HABZZ00014
IC841	MIP0254SPSCF	INTEGRATED CIRCUIT	1	
IC851	SE140N	LINEAR IC	1	
IC1101	SDA6000	INTEGRATED CIRCUIT	1	
IC1102	TVRJ479-6	ROM IC	1	
IC1104	TVRJ506	IC (EEPROM 16KBIT)	1	
IC1105	S-80843ALY-Z	LINEAR IC	1	C0EAH000067
IC1106	TVSA0500	IC	1	
IC1107	TC7MBD3245KL	IC	1	
IC1108	AN78L05	LINEAR IC	1	
IC1109	PST9119NR	INTEGRATED CIRCUIT	1	
IC1110	PST9128NR	IC (LOGIC)	1	C0EBE0000066
IC1111	TC7SH32FU	IC	1	
IC1251	SI-3033C	HYBRID IC	1	
IC1252	PQ30RV21A	LINEAR IC	1	C0DAEZB00008
IC1253	M62392FP	IC	1	C0FBBD000083
IC1254	PST9128NR	IC (LOGIC)	1	C0EBE0000066
IC1301	C1AB00001230	INTEGRATED CIRCUIT	1	
IC1302	TC74HC4066TL	IC	1	
IC1303	C1AB00001282	INTEGRATED CIRCUIT	1	
IC1304	C1AB00001230	INTEGRATED CIRCUIT	1	
IC1305	SDA9415	INTEGRATED CIRCUIT	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
IC1306,07	MM1065ZMR	LINEAR IC	2	C0CBABB00029
IC1310	TC7WH241FU	MOS IC (CMOS S/LOGIC)	1	C0JBAZ001263
IC1311	MM1065ZMR	LINEAR IC	1	C0CBABB00029
IC1312	NJM2904V	INTEGRATED CIRCUIT	1	C0ABBA000084
IC1314	NJM2904M	LINEAR IC	1	C0ABBA000021
IC1315	AN5394FB	IC	1	
IC2001	TVSA0431	IC	1	
IC2301	TDA7490	IC	1	
IC2302	AN7108	LINEAR IC	1	
IC2303	NJM2059M	LINEAR IC	1	C0ABC000023
IC2304	AN7108	LINEAR IC	1	
IC2305	TDA7481	LINEAR IC	1	C1AA00000562
IC2306,07	NJM2059M	LINEAR IC	2	C0ABC000023
IC2705,06	PQ1CG21H2RZ	INTEGRATED CIRCUIT	2	C0DACMG00001
IC2707	AN7808	LINEAR IC	1	
IC2708	SI-8090K	HYBRID IC	1	
IC2709	PQ1CG21H2RZ	INTEGRATED CIRCUIT	1	C0DACMG00001
IC3001	CXA2069Q	LINEAR IC	1	C1AB00000459
IC3003	CXA1211M	LINEAR IC	1	C1AB00000013
IC3004,05	C0ZBZ0000451	IC	2	
IC3302	AN7812LB	LINEAR IC	1	
IC4801	AN6564NS	LINEAR IC	1	
IC4802,03	PUB4301	TRANSISTOR ARRAY	2	
IC4804	AN6564	LINEAR IC	1	
IC4805	TC4066BFN	MOS IC (CMOS S/LOGIC)	1	C0JBAS000095
IC4861	AN6562	LINEAR IC	1	
JA1	ERJ6GEY0R00	M 0 OHM, J, 1/10W	1	
JA6-A8	ERJ6GEY0R00	M 0 OHM, J, 1/10W	3	
JK351	TJSC01800	CRT SOCKET	1	K3B12GA00001 ▲
JK3101	TJSF22915	15P CONNECTOR	1	
JK3102	TJB4G636	TERMINAL	1	
JK3401	TJB4G639	TERMINAL	1	
JSA3	ERJ6GEY0R00	M 0 OHM, J, 1/10W	1	
JSA5-A7	ERJ6GEY0R00	M 0 OHM, J, 1/10W	3	
JSA19	ERJ6GEY0R00	M 0 OHM, J, 1/10W	1	
JSA22	ERJ6GEY0R00	M 0 OHM, J, 1/10W	1	
JSA27,28	ERJ6GEY0R00	M 0 OHM, J, 1/10W	2	
JSA32-36	ERJ6GEY0R00	M 0 OHM, J, 1/10W	5	
JSA42	ERJ6GEY0R00	M 0 OHM, J, 1/10W	1	
JSA45,46	ERJ6GEY0R00	M 0 OHM, J, 1/10W	2	
JSA48	ERJ6GEY0R00	M 0 OHM, J, 1/10W	1	
JSA50,51	ERJ6GEY0R00	M 0 OHM, J, 1/10W	2	
JSA54	ERJ6GEY0R00	M 0 OHM, J, 1/10W	1	
JSA56	ERJ6GEY0R00	M 0 OHM, J, 1/10W	1	
JSA58	ERJ6GEY0R00	M 0 OHM, J, 1/10W	1	
JSA60,61	ERJ6GEY0R00	M 0 OHM, J, 1/10W	2	
JSA63	ERJ6GEY0R00	M 0 OHM, J, 1/10W	1	
JSA65,66	ERJ6GEY0R00	M 0 OHM, J, 1/10W	2	
JSA68-70	ERJ6GEY0R00	M 0 OHM, J, 1/10W	3	
JSA73	ERJ6GEY0R00	M 0 OHM, J, 1/10W	1	
JSA78	ERJ6GEY0R00	M 0 OHM, J, 1/10W	1	
JSA83,84	ERJ6GEY0R00	M 0 OHM, J, 1/10W	2	
JSA87	ERJ6GEY0R00	M 0 OHM, J, 1/10W	1	
JSA89	ERJ6GEY0R00	M 0 OHM, J, 1/10W	1	
JSA92-96	ERJ6GEY0R00	M 0 OHM, J, 1/10W	5	
JSA99-01	ERJ6GEY0R00	M 0 OHM, J, 1/10W	3	
JSA103	ERJ6GEY0R00	M 0 OHM, J, 1/10W	1	
JSA104	ERD25TC0	C 0 OHM, 1/4W	1	
JSDG4	ERJ3GEY0R00	M 0 OHM, 1/16W	1	
JSDG6	ERJ3GEY0R00	M 0 OHM, 1/16W	1	
JSDG16	ERJ6GEY0R00	M 0 OHM, J, 1/10W	1	
JSDG18	ERJ6GEY0R00	M 0 OHM, J, 1/10W	1	
JSDG27	ERJ6GEY0R00	M 0 OHM, J, 1/10W	1	
JSDG55	ERJ3GEY0R00	M 0 OHM, 1/16W	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
JSDG57-88	ERJ3GEY0R00	M 0 OHM, 1/16W	32	
JSDG100	ERJ6GEY0R00	M 0 OHM, J, 1/10W	1	
JSDG103	ERJ6GEY0R00	M 0 OHM, J, 1/10W	1	
JSDG104-09	ERJ3GEY0R00	M 0 OHM, 1/16W	6	
JSDG111,12	ERJ3GEY0R00	M 0 OHM, 1/16W	2	
JSDG113	ERJ6GEY0R00	M 0 OHM, J, 1/10W	1	
JSGK2	ERDS2TC0	C 0 OHM, 1/4W	1	
JSH1-H6	ERJ6GEY0R00	M 0 OHM, J, 1/10W	6	
JSL14	ERJ6GEY0R00	M 0 OHM, J, 1/10W	1	
JSU1	ERJ6GEY0R00	M 0 OHM, J, 1/10W	1	
JSU3	ERJ3GEY0R00	M 0 OHM, 1/16W	1	
L1	TJS3A9900	10P CONNECTOR	1	K1KA10A00218
L002	ELESE2R2KA	PEAKING COIL	1	
L2	TJS3A9640	3P CONNECTOR	1	K1KA03A00171
L003	ELESE2R2KA	PEAKING COIL	1	
L3	TJS3A9670	6P CONNECTOR	1	K1KA06A00179
L004	EXCELDR35C	BEAD CHOKE	1	
L5	TJSF51701	CONNECTOR	1	
L008,09	EXCELDR35C	BEAD CHOKE	2	
L11,12	TJSF41601	CONNECTOR	2	K1ZZ00001074
L053	EXCELDR35C	BEAD CHOKE	1	
L055,56	ELESE2R2KA	PEAKING COIL	2	
L351	EXCELSA24	BEAD CHOKE	1	
L381,82	ELESE6R8JA	PEAKING COIL	2	
L383	ELESE150JA	PEAKING COIL	1	
L521	TALL13N182JB	INDUCTION COIL	1	
L559,60	EXCELDR35C	BEAD CHOKE	2	
L561	EXCELDR25C	BEAD CHOKE	1	
L568	EXCELDR35C	BEAD CHOKE	1	
L571	EXCELDR35C	BEAD CHOKE	1	
L574	ELH5L7706	LINEARITY COIL	1	
L575	ELHKL073B	HORIZONTAL COIL	1	
L576	ELC18B331G	LINE FILTER	1	
L701	TALFP15B182K	CHIP INDUCTOR COIL	1	
L702	ELC18B151F	LINE FILTER	1	
L703	EXCELSA35	BEAD CHOKE	1	
L704	EXCELDR35C	BEAD CHOKE	1	
L812	EXCELSA39	BEAD CHOKE	1	
L815	EXCELSA39	BEAD CHOKE	1	
L818	EXCELSA39	BEAD CHOKE	1	
L841,42	EXCELDR25C	BEAD CHOKE	2	
L857	EXCELSA35	BEAD CHOKE	1	
L860	TALL08N100KA	INDUCTION COIL	1	G0C100K00009
L862	TALL08N680KA	INDUCTION COIL	1	G0A680GA0011
L874	EXCELSA35	BEAD CHOKE	1	
L877	EXCELSA35	BEAD CHOKE	1	
L883	TALL08N181KA	CHIP INDUCTOR COIL	1	G0A181EA0008
L890,91	ELF24V034A	LINE FILTER	2	▲
L893	ELF24V032B	LINE FILTER	1	▲
L894	ELF24V034A	LINE FILTER	1	ELF18D850X ▲
L895	EXCELSA35	BEAD CHOKE	1	
L904	ELESE560JA	PEAKING COIL	1	
L953,54	EXCELSA35	BEAD CHOKE	2	
L956	EXCELSA35	BEAD CHOKE	1	
L1101	ERDS2TC0	C 0 OHM, 1/4W	1	
L1103,04	TALC325T4R7M	CHIP INDUCTOR COIL	2	
L1106	ELESE4R7JA	PEAKING COIL	1	
L1107-10	TALC325T4R7M	CHIP INDUCTOR COIL	4	
L1111	ELESE4R7JA	PEAKING COIL	1	
L1112	EXCELDR35C	BEAD CHOKE	1	
L1115	TALC325T3R3M	CHIP INDUCTOR COIL	1	
L1116	TALC325T4R7M	CHIP INDUCTOR COIL	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R3108	ERDS2TJ101	C 100 OHM, J,1/4W	1	
R3109	ERDS2TJ333	C 33KOHM, J,1/4W	1	
R3110	ERDS2TJ101	C 100 OHM, J,1/4W	1	
R3116	ERDS2TJ103	C 10KOHM, J,1/4W	1	
R3122	ERJ6GEYJ683	M 68KOHM,J,1/10W	1	
R3123	ERJ6GEYJ223	M 22KOHM,J,1/10W	1	
R3124	ERJ6GEYJ681	M 680 OHM,J,1/10W	1	
R3125	ERJ6GEYJ101	M 100 OHM,J,1/10W	1	
R3126	ERJ6GEYJ121	M 120 OHM,J,1/10W	1	
R3127	ERJ6GEYJ390	M 39 OHM,J,1/10W	1	
R3128	ERJ6GEYJ331	M 330 OHM,J,1/10W	1	
R3129, 30	ERJ6GEYJ561	M 560 OHM,J,1/10W	2	
R3326	ERJ6ENF2202	M 2.2KOHM, 1/10W	1	
R3410-13	ERJ8ENF75R0	M 75 OHM, 1/8W	4	
R3416,17	ERJ8ENF75R0	M 75 OHM, 1/8W	2	
R3420	ERJ6ENF75R0	M 75 OHM, 1/8W	1	
R3421	ERJ6GEYJ102	M 1KOHM,J,1/10W	1	
R3422	ERJ6GEYJ473	M 47KOHM,J,1/10W	1	
R3455	ERJ6GEYJ104	M 100KOHM,J,1/10W	1	
R3456	ERJ6GEYJ331	M 330 OHM,J,1/10W	1	
R3457	ERJ6GEYJ750	M 75 OHM,J,1/10W	1	
R3458	ERJ8GEYJ331	M 330 OHM, J,1/8W	1	
R4801	ERJ6ENF2701	M 2.7KOHM, 1/10W	1	
R4802	ERJ6ENF1331	M1.13KOHM, 1/10W	1	
R4803	ERJ6ENF3320	M 332 OHM, 1/10W	1	
R4804	ERJ6ENF1001	M 1KOHM, 1/10W	1	
R4805	ERJ6ENF2213	M 221KOHM, 1/10W	1	
R4806	ERJ6ENF5491	M5.49KOHM, 1/10W	1	
R4807	ERJ6ENF9091	M9.09KOHM, 1/10W	1	
R4808	ERJ6ENF3832	M38.3KOHM, 1/10W	1	
R4809	ERJ6ENF5621	M5.62KOHM, 1/10W	1	
R4810	ERJ6ENF4701	M 4.7KOHM, 1/10W	1	
R4811	ERDS1FJ330	C 33 OHM, J,1/2W	1	
R4816	ERDS1FJ121	C 120 OHM, J,1/2W	1	
R4818	ERX12SJ2R7P	M 2.7 OHM, J,1/2W	1	
R4819	ERJ6GEYJ272	M 2.7KOHM,J,1/10W	1	
R4820	ERJ6ENF1331	M1.13KOHM, 1/10W	1	
R4821	ERJ6ENF3320	M 332 OHM, 1/10W	1	
R4822	ERJ6ENF1001	M 1KOHM, 1/10W	1	
R4823	ERJ6GEYJ472	M 4.7KOHM,J,1/10W	1	
R4824	ERJ6ENF5621	M5.62KOHM, 1/10W	1	
R4825	ERJ6ENF3832	M38.3KOHM, 1/10W	1	
R4826	ERJ6ENF2213	M 221KOHM, 1/10W	1	
R4827	ERJ6ENF9091	M9.09KOHM, 1/10W	1	
R4828	ERJ6ENF6651	M6.65KOHM, 1/10W	1	
R4829	ERJ6GEYJ103	M 10KOHM,J,1/10W	1	
R4831	ERDS1FJ270	C 27 OHM, J,1/2W	1	
R4840	ERJ6GEYJ102	M 1KOHM,J,1/10W	1	
R4841	ERJ6GEYJ103	M 10KOHM,J,1/10W	1	
R4842	ERJ6GEYJ101	M 100 OHM,J,1/10W	1	
R4844	ERJ6GEYJ000	M 0 OHM,J,1/10W	1	
R4845	ERJ6GEYJ104	M 100KOHM,J,1/10W	1	
R4846	ERJ6GEYJ223	M 22KOHM,J,1/10W	1	
R4850-53	ERJ6GEYJ104	M 100KOHM,J,1/10W	4	
R4854, 55	ERJ6GEYJ101	M 100 OHM,J,1/10W	2	
R4856, 57	ERJ6GEYJ102	M 1KOHM,J,1/10W	2	
R4860	ERJ6GEYJ822	M 8.2KOHM,J,1/10W	1	
R4861	EVMGSA00B23	CONTROL 2KOHMB	1	
R4862	ERJ6GEYJ822	M 8.2KOHM,J,1/10W	1	
R4863	EVMGSA00B23	CONTROL 2KOHMB	1	
RL801	K6B1ADA00010	RELAY	1	▲
RL802	K6B2ADA00004	REALY	1	▲
RL3401	TSEH8017	SWITCH	1	K6B2CFA00015
RM1001	RPM-637CBRS2	REMOTE CONTROL R	1	
RT1	TJS3A9640	3P CONNECTOR	1	K1KA03A00171
RT2	TJS3A9650	4P CONNECTOR	1	K1KA04A00194
S840	ESB92S11B	SWITCH	1	▲
S1003-07	EVQ23405R	SWITCH	5	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
T501	ETH19Y187AY	H DRIVE TRANS	1	
T551	ZTFM77018A1	FLYBACK TRANS	1	▲
T701	ETF18L101A	TRANS	1	▲
T801	ETS39AG296AC	SWITCHING TRANSFORMER	1	▲
T841	ETS19AB1G6AG	SWITCHING TRANSFORMER	1	▲
T2401	ETS35AA4R6AC	SWITCHING TRANSFORMER	1	
TNR001	ENG9102G	TUNER	1	▲
TNR002	ENG39606G	TUNER	1	▲
U1, U2	K1KB30A00092	30P CONNECTOR	2	
X1301, 02	TSSA171	CRYSTAL	2	
X2101	TSSA128	CRYSTAL	1	HOD184500008
X3501	H0J600400006	CRYSTAL	1	