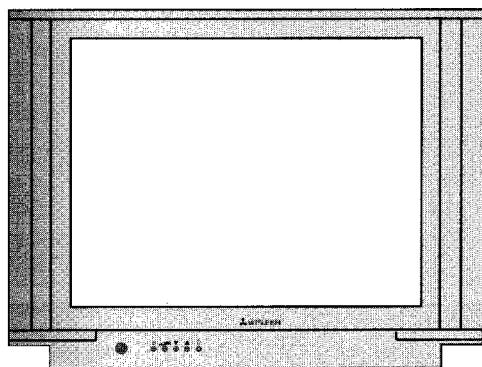


mitsubishi**Service
Manual**

Colour TV



C25S7B C28S7B
C25C7B C28C7B
C25S7L C28S7L

SPECIFICATIONS

Reception System	CCIR-I PAL/SECAM
Reception Frequency	UHF 470MHz~862MHz
	VHF 47~170MHz (VB1) } (C25S7L & C28S7L only)
	VHF 170~448MHz (VB2) }
Stereo System	NICAM
Mains Input	AC 230V, 50Hz
Power Consumption	11.8W (C25S7B, C25C7B & C25S7L)
	124W (C28S7B, C28C7B & C28S7L)
Aerial Input	75Ω
Intermediate Frequency	Video: 39.5MHz
	Sound: 33.5MHz
Audio Output	12W + 12W (left + right)
(Music Power)	12W (sub-woofer – C28S7B, C28C7B & C28S7L only)
Speaker	2 x 11.5 x 5cm (left + right)
	∅10.5cm (sub-woofer – C28S7B, C28C7B & C28S7L only)
Chassis	EE6
Picture Tube	A59ECF50X05 59cm(V)/25" (C25S7B/L & C25C7B)
	A66EHJ43X01 66cm(V)/28" (C28S7B/L & C28C7B)
Cabinet dimensions	68cm x 45cm x 52cm (C25S7B, C25C7B & C25S7L)
(approx. W x D x H)	74cm x 47cm x 56cm (C28S7B, C28C7B & C28S7L)
Weight	26.2Kg (C25S7B, C25C7B & C25S7L)
(approx. Not incl. stand)	32.5Kg (C28S7B, C28C7B & C28S7L)

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	SCHEMATIC DIAGRAMS	INSIDE BACK COVER

1 GENERAL NOTES

1.1 SAFETY PRECAUTIONS

1.1.1 General Warnings

1. Observe any cautions and safety related notes located inside the receiver cabinet and on the receiver chassis.
2. An isolation transformer should be used between the television receiver and the AC power supply point before any test or servicing is performed on a LIVE chassis television receiver.
3. Operation of these receivers outside the cabinet or with the back cover removed involves a shock hazard from the receiver power supplies. Work on the receiver should not be attempted by anyone who is not familiar with the precautions necessary when working on high voltage equipment.
4. Do not install, remove or handle the picture tube unless shatter-proof goggles are worn. People not so equipped should be kept away while the picture tube is being handled. Keep the picture tube away from the body while handling.
5. When service is required, observe the original lead dressing. Extra precaution should be given to assure correct lead dressing in the high voltage area. Where a short-circuit has occurred, replace those components that indicate evidence of overheating.

1.1.2 X-RAY Warning

Under fault conditions the CRT can generate X-rays. The use of a lead apron is recommended if available.

When replacing the CRT only use the designated replacement part as it is a critical component with regard to X-rays. No high-voltage adjustments are provided.

1.1.3 Leakage Current Check

Before returning the receiver to the customer it is recommended that the leakage current be measured according to the following method:

With the AC plug removed from the AC source, place a jumper across the live and neutral pins. Turn the receiver AC switch on. Using an OHM-METER, connect one lead to the shorted AC plug and touch the other lead to each exposed metal part (antennas, screw heads, etc.) in turn, particularly any exposed metal part having a return path to the chassis. Any resistance below a value of 1 MEG OHM indicates an abnormality which requires corrective action.

1.2 CONTROLS AND CONNECTORS

1.2.1 Front Panel

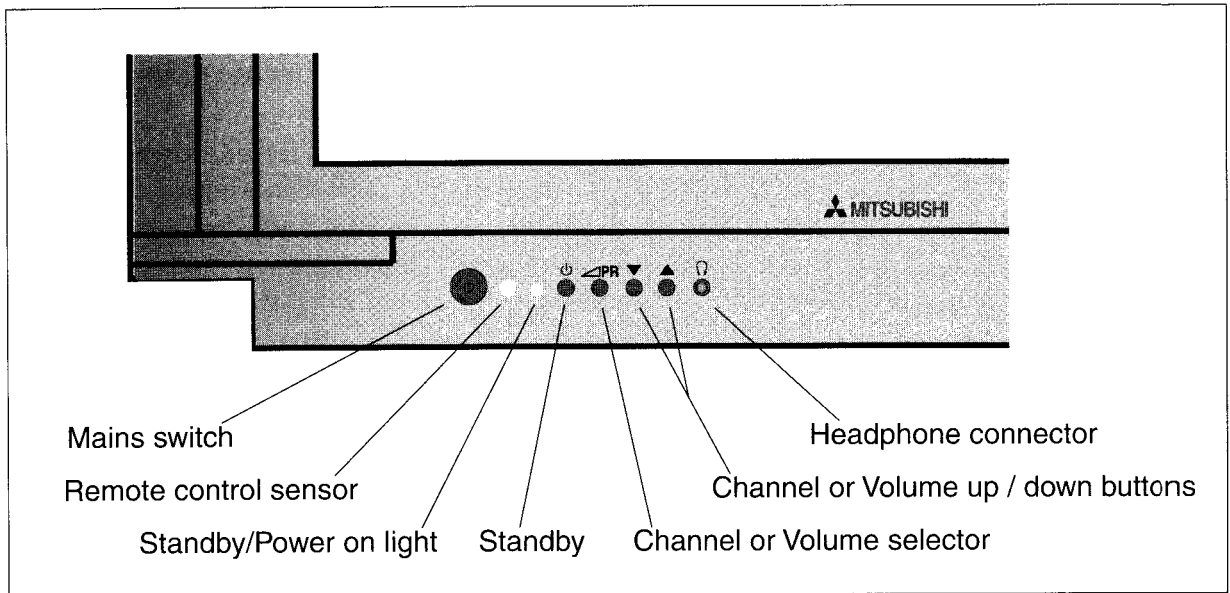


fig. 1.2A Front panel controls

1.2.2 Rear Panel

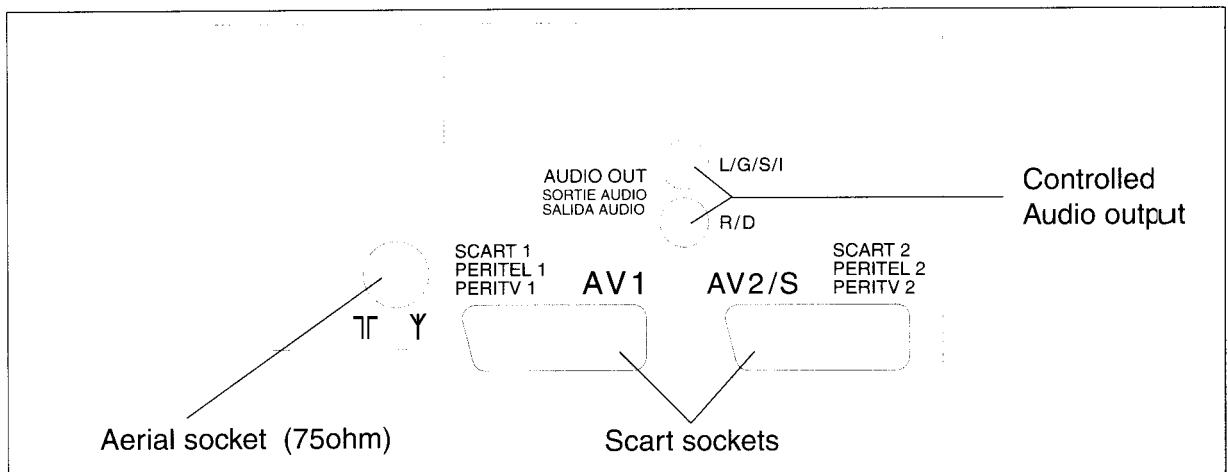


fig. 1.2B Rear panel connectors

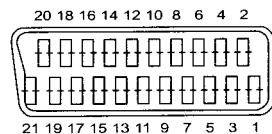


fig. 1.2C Scart socket pin details

SCART SOCKET 1			SCART SOCKET 2	
Signal	Spec.	Pin	Signal	Spec.
Audio out R	0.5V / 10k Ω	1	Audio out R	0.5V / 10k Ω
Audio in R	0.5V / 10k Ω	2	Audio in R	0.5V / 10k Ω
Audio out L	0.5V / 10k Ω	3	Audio out L	0.5V / 10k Ω
Audio Earth		4	Audio Earth	
Blue Earth		5	Blue Earth	
Audio in L	0.5V / 10k Ω	6	Audio in L	0.5V / 10k Ω
Blue in	0.7Vpp / 75 Ω	7	Blue in	0.7Vpp / 75 Ω
Function switch		8	Function switch	
Green Earth		9	Earth	
Not connected		10	Not connected	
Green in	0.7Vpp / 75 Ω	11	Not connected	
Not connected		12	Not connected	
Red Earth		13	Chroma Earth	
Blanking Earth		14	Not connected	
Red in	0.7Vpp / 75 Ω	15	Chroma in	0.3Vpp (burst) 75 Ω
Blanking		16	Not connected	
Video out Earth		17	Video out Earth	
Video in Earth		18	Luminance Earth	
Video out	1Vpp / 75 Ω	19	Video out	1Vpp / 75 Ω
Video in	1Vpp / 75 Ω	20	Luminance in	1Vpp / 75 Ω
Socket Earth		21	Socket Earth	

1.3 REQUIRED EQUIPMENT

1.3.1 Measuring equipment

- Oscilloscope
- Signal generator
- DC milliammeter
- DC voltmeter
- Frequency counter (optional)

1.3.2 Test signals

- PAL Cross-hatch, Black raster and White raster
- PAL G-card
- PAL Colour-bar with the specification as in figure 1.3A below:

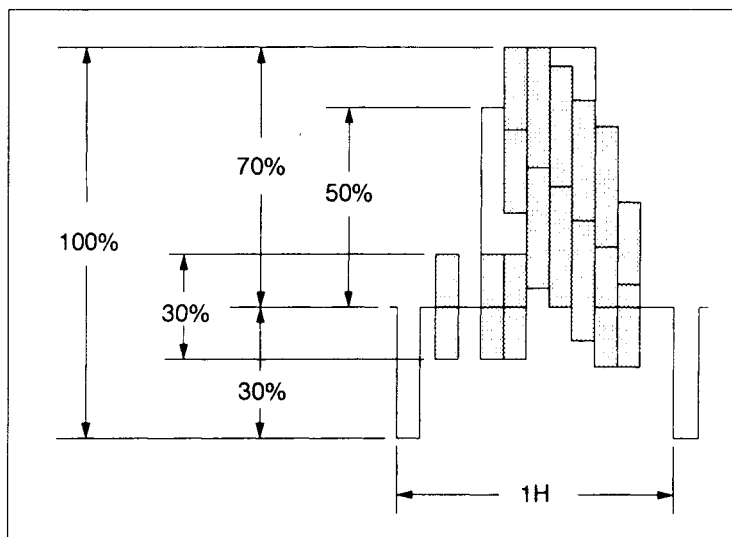


fig. 1.3A Split-field colour bars (with 100% window)

1.4 CONNECTING LEADS

1.4.1 Identification

Connecting leads are generally identified by the colours of their wires according to figure 1.4A below:

Colour	Code
BLACK	A
BROWN	B
RED	C
ORANGE	D
YELLOW	E
GREEN	not used
BLUE	G
VIOLET	H
GREY	J
WHITE	K
PINK	L

Example:

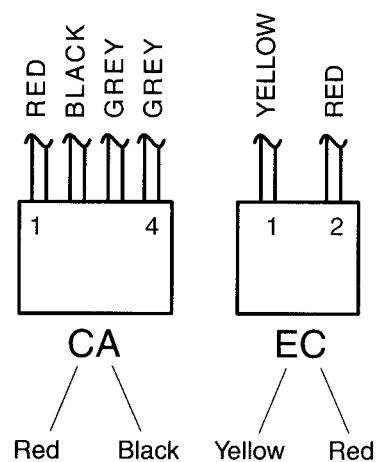


fig. 1.4A Connecting lead identification chart

1.4.2 Lead dressing

Leads must be dressed as shown in table 1.4B and the diagram (fig. 1.4C) below. The leads are routed or clamped so that they do not come close to any heat generating or high-tension parts.

The anode lead wire is routed such that no tension is applied to the anode cap. If the mounting angle of the anode cap and the route of the anode lead wires are changed, return them to the initial angle and route.

Lead	Clamp No		Lead	Clamp No	
	25"	28"		25"	28"
ANODE	1	1	DY	15**	15**
FOCUS	18*	18*	FA	9, 10	9, 10
SCREEN	18*	18*	FC	9, 10	9, 10
BA	17, 16**	17, 16**	GA	5, 14, 21	5, 14, 21
DA	9, 7, 8 and... 3, 2* (SP391) or 4 (SP392)	9, 7, 8 and... 3, 2* (SP391) or 3, 4 (SP392)	KA	13, 12	13, 12
			KB	11	11
			KK	11	11
DD	N/A	20, 19	LB	17, 16**, 6*	17, 16**, 6
DE	N/A	21, 14	SC	5*	5
DM	N/A	20, 21			

* = SINGLE LOOP, ** = DOUBLE LOOP

table 1.4B

Lead-dressing details

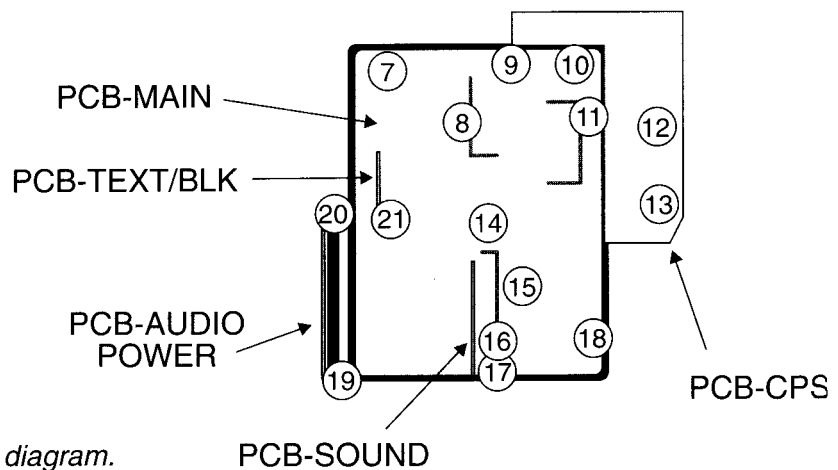
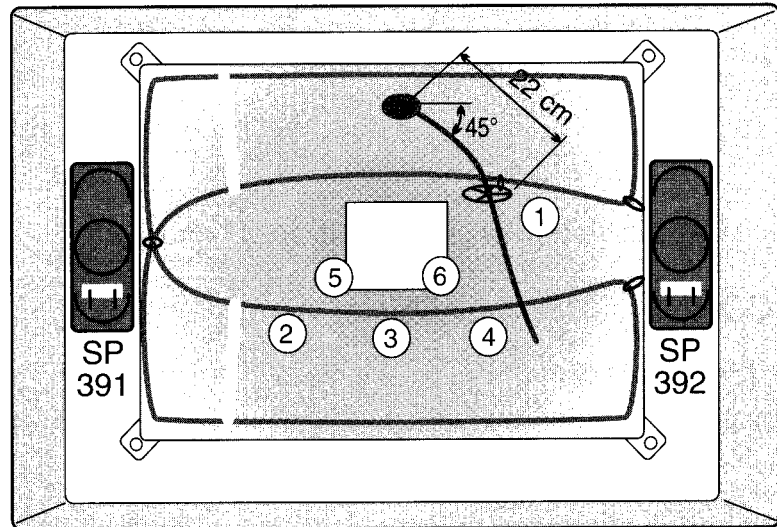


fig. 1.4C Lead-dressing diagram.

2 SERVICE ADJUSTMENT PROCEDURES

2.1 INTRODUCTION

Most service adjustments to these models are made using the remote control (figure 2.1A) with the TV in service mode. The adjustment data is stored in an EEPROM (IC702).

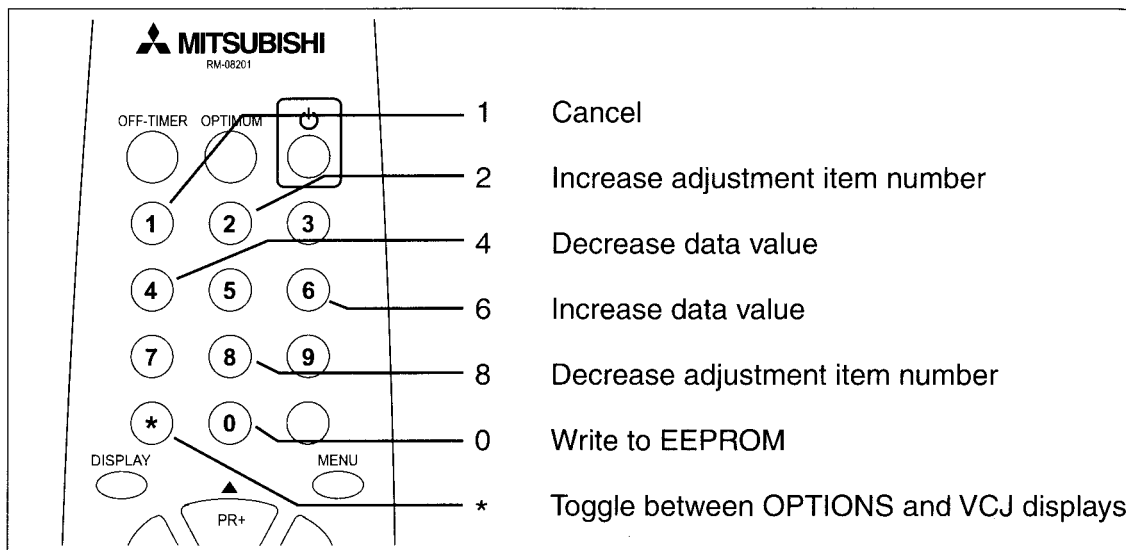


fig. 2.1A Remote Control Unit

2.1.1 Basic adjustment procedure

1. Turn the power on and enter service mode – press MENU to display the PICTURE menu then immediately key-in 2-3-5-7.
2. Press the * button to toggle between the OPTION and VCJ adjustment displays (figs. 2.1 B and 2.1C):

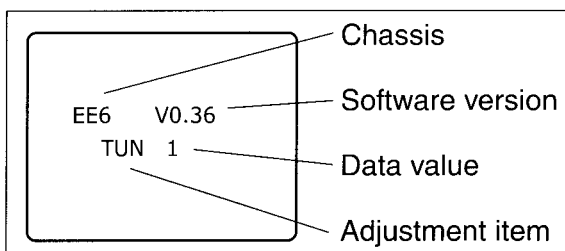


fig. 2.1B Options adjustment display

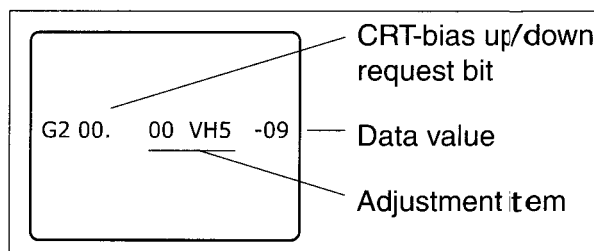


fig. 2.1C VCJ adjustment display

3. Press buttons 2 or 8 to increase or decrease the adjustment item number.
 4. Press buttons 6 or 4 to increase or decrease the data value.
 5. After completing your adjustments, press button "0" to write the data to the EEPROM.
- To cancel a change, press button "1" before writing the data to the EEPROM. All adjustments since the last EEPROM write will be lost.

2.1.2 Software diagnostics system

The microcontroller software contains basic diagnostic tools to help with fault-finding. Two microcontroller pins are used to indicate problems with the EEPROM (IC702) and the VCJ (IC201).

EEPROM – IC702

Should the eeprom fail to respond in some way to the system or if the data transfer to IC701 is continually incorrect then pin 25 of the microcontroller (IC701) will be pulsed continuously to indicate such a problem exists.

The system will continue to try and establish proper I²C communications with the eeprom for up to 30 seconds. The system will then carry out a hardware 'reset' and continue trying for a further 30 seconds. This cycle will repeat indefinitely. This allows the system to operate in a limited way giving the service engineer time to trace the problem.

VCJ – IC201

Should I²C communication with the VCJ fail for some reason then pin 24 of IC701 will be pulsed continuously.

The system will try to establish I²C communication with the VCJ for up to 30 seconds. The system will carry-out a hardware 'reset' and continue again for a further 30 seconds. This cycle will repeat indefinitely. This allows the system to operate in a limited way giving the service engineer time to trace the problem.

H-Timebase

Should the H-Timebase not start then the green power-on LED will flash.

This provides an indicator that the VCJ is functioning but some problem exists in the H-Drive output section of the chassis. The system will keep trying to start the H-Timebase for up to 30 seconds. The system will then carry-out a hardware 'reset' and continue again for a further 30 seconds. This cycle will be repeated a maximum of 10 times. After 10 attempts the system will stop.

2.2 EEPROM DATA

If you have replaced the EEPROM (IC702) or if for any reason the adjustment data has become corrupted it will be necessary to initialise the EEPROM.

2.2.1 Initialising the EEPROM

1. If necessary, switch off by the Main switch.
2. Connect pin 54 of IC701 or pin 1 of connector HE on PCB-SOUND or DOLBY to ground via a 100 ohm resistor.
3. Turn the mains switch on and wait 5 seconds.
4. Remove the resistor and the TV will then automatically power up after about 4 seconds. A blank picture will be displayed.
5. Press the MENU button until the MAIN menu appears and then immediately key-in 2-3-5-7.
6. If necessary, press the ✱ button to select the OPTIONS adjustment display.
7. Press buttons 2 or 8 to select the adjustment code.
8. Adjust the data value for each code as shown in the table below using buttons 4 or 6.

NOTE: start the adjustments at **DBY**.

Code	DBY	WID	ODT	TUN	AUD	STD	SYS	SPK	MNP	VOL	HYP	SCP	FMP
"B" models	0	0	08	0	0	1	2	1	70	X	X	1B	23
"L" models	0	0	08	1	0	1	2	1	70	X	X	1B	23

table 2.2A Data values for the OPTIONS adjustments.

9. Press the 0 button to write the changes to the EEPROM.
10. Press the ✱ button to select the VCJ adjustment display.
11. Press buttons 2 or 8 to select the adjustment code.
12. Adjust the data value of each code using buttons 4 or 6 according to the table below:

Code	MTX	SHA	TNT	BGD	NTD	SCD	PCD	HPT	HPS	HPX	VBC
Value	-07	001	00	010	001	011	011	03	05	-07	-31

table 2.2B Data values for the VCJ adjustments.

2.2.2 OPTIONS and VCJ code descriptions

VCJ			OPTIONS	
Picture format independent parameters	0	MTX 16x9 - SW.RGB-MATRIX	TUN	TUNER TYPE
	1	BDR BLUE DRIVE	AUD	AUDIO SYSTEM
	2	GDR GREEN DRIVE	STD	RECEPTION STANDARD
	3	RDR RED DRIVE	SYS	COLOUR SYSTEM
	4	CON CONTRAST	SPK	SPEAKER SW ENABLED
	5	BRI BRIGHT	MNP	NICAM PRESCALE
	6	COL COLOUR SATURATION	FFT	FAST TEXT / TOP TEXT
	7	SHA SHARPNESS	VOL	VOLUME PRESCALE
	8	TNT NTSC TINT	HYP	HYPERSOUND
	9	BGD BG CHROMA DELAY OFFSET	SCP	SCART PRESCALE
	10	NTD NTSC (358 & 443) CHROMA DELAY	FMP	FM PRESCALE
	11	SCD SECAM-LUMA-DELAY	DBY	DOLBY
	12	PCD PAL-LUMA-DELAY	WID	WIDE SCREEN
	13	HP5 H-PHASE-50 PAL	ODT	OSD DE-INTERLACE – TEXT MODE
	14	HP6 H-PHASE-60 NTSC		
	15	HPT H-PHASE-TEXT		
	16	HPS H-PHASE-SECAM		
	17	HPX H-PHASE-RGB EXT		
18	PA9 P-AMP-16:9			
Picture format dependant parameters	0	VH5 V-AMP-50		
	1	VBC V-B-CORRECTION		
	2	PA5 P-AMP-50		
	3	PT5 P-TILT		
	4	LIN V-LIN		
	5	CC5 C-CORRECTION-50		
	6	HW5 H-AMP		
	7	VS5 V-SHIFT-50		
	8	VH6 V-AMP-60		
	9	PA6 P-AMP-60		
	10	PT6 P-TILT-60		
	11	CC6 C-CORRECTION-60		
	12	HW6 H-AMP-60		
13	VS6 V-SHIFT-60			
14	TB5 TOP-BLANKING-50	} not applicable to these models		
15	BB5 BOTTOM-BLANKING-50			
16	BW5 H-BLANKING-WIDTH-50			
17	BP5 H-BLANKING-PHASE-50			
18	TB6 TOP-BLANKING-60			
19	BB6 BOTTOM-BLANKING-60			
20	BW6 H-BLANKING-WIDTH-60			
21	BP6 H-BLANKING-PHASE-60			

Table 2.2C OPTIONS and VCJ code descriptions

2.3 VIF CIRCUITS

2.3.1 RF-AGC

VR101 (near the tuner)

1. Supply an RF G-card signal (or use an off-air broadcast).
2. Check the AFT is **on** for the current channel.
3. Adjust **VR101** so that the picture and sound exhibit no noise, beat or intermodulation distortion.

2.4 POWER CIRCUIT

2.4.1 B+ VOLTAGE

VR951 (on main PCB next to the SMT)

1. Supply a G-Card signal.
2. Push the OPTIMUM button on the remote control.
3. Connect a DC voltmeter's "+" lead to TP91 on the MAIN PCB and the "-" lead to GROUND.
4. Adjust **VR951** so that the voltage is $145\pm 2V$.

2.5 DEFLECTION CIRCUITS

*Make the following adjustments 2.5.1 to 2.5.7 using 50Hz signals as described then repeat steps 2.5.3 to 2.5.7 using 60Hz signals. Replace all the adjustment codes mentioned with the 60Hz equivalent, for example, use **HP6** (for Horizontal Phase **60**) in place of **HP5** (for Horizontal Phase **50**).*

2.5.1 CRT BIAS

IMPORTANT NOTE

Before making any adjustments, if you have changed the CRT, FLYBACK TRANSFORMER or made any changes in the deflection circuits; adjust the CRT bias:

1. Supply a black raster signal to the RF or AV input.
2. Select 4:3 screen mode.
3. Connect an oscilloscope to the junction of R673 and W603.
4. Adjust the **SCREEN** control on the Flyback Transformer to give a voltage of 175V as shown in figure 2.5A.

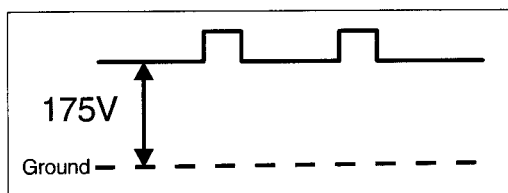


figure 2.5A

2.5.2 VERTICAL BREATHING CORRECTION

Code: 1 VBC (V-B-CORRECTION)

1. Select the VCJ adjustment display.
2. Set the adjustment code to **VBC** with buttons 2 or 8 on the remote control.
3. If necessary, adjust the data value to "-31" using buttons 4 or 6 on the remote control.

2.5.3 HORIZONTAL CENTRE

Code: HP5 (H-Phase-50)

1. Supply a G-Card or cross-hatch signal.
2. Select the VCJ adjustment display.
3. Set the adjustment code to **HP5** with buttons 2 or 8 on the remote control.
4. Adjust the horizontal position with buttons 4 or 6 on the remote control.

2.5.4 HORIZONTAL WIDTH

Code: HW5 (Horizontal Width)

1. Supply a G-Card or cross-hatch signal.
2. Set the VCJ adjustment code to **HW5**.
2. Adjust the horizontal width with the 4 or 6 buttons for approximately 7% overscan.

2.5.5 EAST-WEST PCC

Code: CC5 (Corner Correction)

Code: PT5 (Parabola Tilt)

Code: PA5 (Parabola Amp)

1. Supply a cross-hatch signal.
2. Set the VCJ adjustment codes to CC5, PT5 and PA5 in turn and adjust as follows:
3. Adjust the value of corner correction **CC5** to give the best picture.
4. Adjust the parabola tilt control **PT5** so that the upper and lower distortions of the left and right vertical lines are symmetrical (fig 2.5B).
5. Adjust the parabola amp control **PA5** so that the left and right vertical lines are straight (fig 2.5C).
6. Check the horizontal centre and horizontal width adjustments and readjust if necessary.

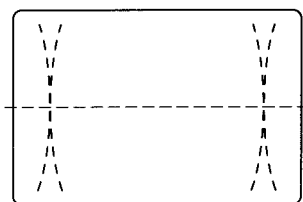


fig 2.5B

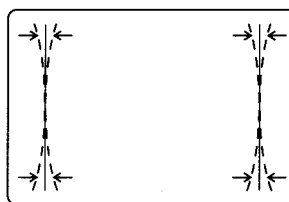


fig 2.5C

2.5.6 HEIGHT AND LINEARITY

Code: VH5 (V-Amp-50)

Code: LIN (V-Lin)

1. Supply a G-Card or (cross-hatch plus circle) signal.
2. Set the VCJ adjustment code to **VH5**.
3. Adjust the circle to a true circle with buttons 4 or 6 on the remote control.
4. Set the VCJ adjustment code to **LIN**.
5. Adjust the linearity to be the same for the top and bottom halves of the circle using buttons 4 or 6 on the remote control.
6. Repeat the steps above as required to give the best result for both adjustments.

NB The Linearity need not be adjusted again for the 60Hz deflection adjustments.

2.5.7 VERTICAL CENTRE

Code: VS5 (V-SHIFT-50)

1. Supply a G-Card or cross-hatch signal.
2. Set the VCJ adjustment code to **VS5**.
3. Adjust the centre line of picture to be within 3mm from the vertical centre on the screen using buttons 4 or 6 on the remote control.

*Now repeat steps 2.5.3 to 2.5.7 using 60Hz signals. Replace all the adjustment codes mentioned with the 60Hz equivalent, for example, use **HP6** (for Horizontal Phase **60**) in place of **HP5** (for Horizontal Phase **50**).*

2.6 CRT CIRCUITS

2.6.1 WHITE BALANCE

Code: **BDR** (B-Drive)

Code: **GDR** (G-Drive)

Code: **RDR** (R-Drive)

1. Supply a white raster signal.
2. Select the VCJ adjustment display.
3. Set the adjustment codes to **BDR**, **GDR** and **RDR** in turn and pre-adjust each to "+05".
4. Adjust codes **BDR** and **RDR** to give a good white balance.

2.6.2 FOCUS

FOCUS control on the Flyback Transformer

1. Supply an RF G-card signal (or use an off-air broadcast).
2. Adjust the **FOCUS** control for the best overall focus.

2.7 VIDEO CIRCUITS

Perform the following adjustments after adjusting the Deflection circuits. Allow the TV to warm up for 20 minutes before proceeding

2.7.1 BRIGHTNESS AND CONTRAST

CRT Bias (Screen) control on the Flyback Transformer

Code: **BRI** (Brightness)

Code: **CON** (Contrast)

BEAM CURRENT (using connector TP adjacent to the Flyback Transformer)

1. Connect a black raster signal.
2. Connect an oscilloscope to the junction of R673 and wire link W603.
3. Adjust the **SCREEN** control on the Flyback Transformer to give a voltage of 175V as shown in figure 2.7A.

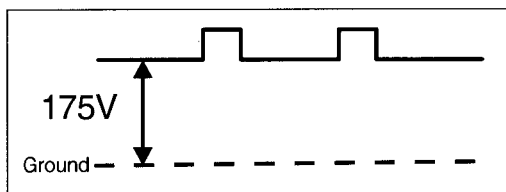


fig 2.7A

4. Change the external signal to a G-Card.
5. Set the VCJ adjustment code to **COL** with buttons 2 or 8 on the remote control.
6. Adjust the data value to "-31" with buttons 4 or 6 on the remote control.
7. Set the VCJ adjustment code to **BRI**.
8. Adjust using buttons 4 or 6 so that a slight difference in brightness can be seen between blue and black areas.
9. Connect a DC ammeter set to a 3mA range: "+" lead to connector TP pin 1 on the MAIN-PCB and the "-" lead to connector TP pin 3.
10. Set the VCJ adjustment code to **CON** with buttons 2 or 8 on the remote control.
11. Adjust the beam current using buttons 4 or 6 on the remote control to give a reading of $1200 \pm 20 \mu\text{A}$.
12. Check, and if necessary, readjust Brightness (code **BRI**).
13. Repeat steps 1 to 3 above to check bias voltage is still 175V and that the CRT Bias Up/Down Request bit is 00 (see fig 2.1C on page 7).

2.7.2 COLOUR OUTPUT

Make this adjustment only after adjusting the White Balance, Brightness and Contrast.

Code: COL (Colour Saturation)

Code: TNT (NTSC Tint)

1. Supply a PAL RF Colour-bar signal.
2. Set the VCJ adjustment code to **TNT** and check the value is "00"
3. Set the VCJ adjustment code to **COL**.
4. Connect an oscilloscope to the junction of R673 and IC660 Pin 9 (BLUE-OUT) on PCB-CRT.
5. Adjust the colour using buttons 4 or 6 until the waveform is as shown in figure 2.7B.
6. Increase the colour value by 5 steps.
7. Set the VCJ adjustment code to **TNT**.
8. Adjust the tint value to "04".

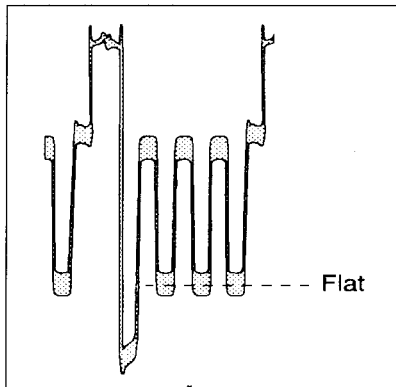


fig 2.7B

3 OPERATION GUIDE

MENU SYSTEM

Press the **MENU** button display either the **Picture, Sound, Special** or **Setup** menu. If necessary, press a colour button to select the desired menu.

Use **▲** or **▼** to select the control and **◀+** or **◀-** to adjust the control.

PICTURE AND SOUND MENUS

With the **Picture** or **Sound** Menu on the screen, press the **OPTIMUM** button to return the *selected* control to the factory pre-set level.

During normal TV viewing, pressing the **OPTIMUM** button will return *all* the picture and sound settings except VOLUME, LOUDNESS and EFFECT (wide-sound) to the factory pre-set levels.

Press the **DISPLAY** button to exit.

SPECIAL MENU

Auto-Subtitle: set to ON this displays Teletext subtitles constantly.

Set to OFF to remove subtitles.

Set to Mute to display only when sound is muted.

Format: set to 4:3, AUTO or 16:9

Speakers: set to ON or OFF to switch on or off the internal speakers if an external sound system is being used.

Standard TV: set to ON to have the TV reset to Optimum its Picture and Sound settings automatically on switch-off.

Set to OFF to memorise these settings permanently.

SET-UP MENU

System: toggle the colour system between AUTO, PAL, 60PAL, Secam, NTSC358 or NTSC443. This temporarily overrides the colour system set in the Install (tuning) Menu. Any change is lost when you change channel or select AV. The NTSC settings only apply to AV modes and Secam has no use on this model.

AV2 Output: select the output on AV2 to be either the TV signal or the input to AV1.

AV2 Dubbing: switch ON or OFF to enable the AV1 to AV2 dubbing function to operate in standby mode.

TUNING SYSTEM

AUTO-TUNING

The Auto-tuning system will tune in, store, name and correctly position all available stations within your reception area.

If you have a VCR connected to the TV (by the aerial socket) you should insert a *commercially recorded* videotape and set the VCR to PLAY.

1. Press the **INSTALL** button.
2. If desired, press the **RED** button to select either English or Gaeilge (Irish Gaelic) as an OSD language.
3. Press the **GREEN** button twice to start Auto-Tuning.

It will take a few minutes for the TV to find, name and store all the available stations. When Automatic Tuning is completed the TV will switch to programme position 1.

If the VCR was “found” during Automatic Tuning it will have been stored in position 6 or 7.

Moving and Deleting stations

1. Press the **INSTALL** button.
2. Press the **YELLOW** button. The Shuffle Menu appears.
3. Use the number buttons to select the station you want to move or delete.
4. To **move** a station:
Press the **YELLOW** colour button to highlight this programme position in *red*. Use the number buttons to select the new programme position, the station moves automatically.
5. To **delete** a station:
Press the **GREEN** button **twice**.
6. Repeat steps 3 to 7 for other stations.
7. Press the **INSTALL** button to exit to the **INSTALL** menu.

Programme Skip

This TV has a “skip” feature which allows you to preset a programme number so that it is not selected when changing channels using **▲** or **▼**.

1. Press the **INSTALL** button.
2. Press the **YELLOW** button. The Shuffle Menu appears.
3. Use the number buttons to select the programme position you wish to “skip”.
4. Press the **BLUE** button to toggle Skip ON or OFF.
5. Repeat steps 3 and 4 as required.
6. Press the **INSTALL** button to exit to the **INSTALL** menu.

Renaming Programmes

1. Press the **INSTALL** button.
2. Press the **YELLOW** button. The Shuffle Menu appears.
3. Use the number buttons to select the programme position you wish to rename.
4. Press the **RED** button. A pointer appears under the first character in the name.
5. Use **◀+** or **◀-** to change the character above the pointer. A *blank space* = “-”.
6. Press the **RED** button to move the pointer to the next character.

7. Repeat steps 5 and 6 to complete the name.
8. Repeat steps 3 to 7 for other programmes.
9. Press the **INSTALL** button to exit to the INSTALL menu.

MANUAL AND FINE TUNING

1. Press the **INSTALL** button.
2. Press the **BLUE** button for Manual Tuning.
3. Use the number buttons to select a station.
4. If necessary, use ▲ or ▼ to highlight the band control and select UHF, VB1 or VB2 (Irish models only).
5. Use ▲ or ▼ to select the tuning bar.
6. Start manual tuning by pressing ◀+ or ◀-. The tuning bar turns **RED** while searching then **YELLOW** after a station is found. Press ◀+ or ◀- again if this is not the right station.
If the tuning bar does not turn red, press ▲ or ▼ to highlight AFT and switch it ON by pressing ◀+. Then go back to step 4.
7. **To Fine Tune:** press ▲ or ▼ to select AFT and switch it OFF by pressing ◀+ or ◀-.
8. Press ▼ to select the tuning bar and adjust the fine tuning by **holding** ◀+ or ◀-.
9. When you have finished, press the **STORE** button to memorise the new settings.
9. Press the **INSTALL** button to exit to the INSTALL menu.

AV SYSTEM

This TV has two Scart sockets, AV1 is full spec. with RGB input, AV2 has Y-C inputs instead of RGB.

The TV also has 2 RCA sockets for controlled audio output.

Selecting AV mode from TV mode

TV-AV button: cycles around AV1, AV2 and TV modes.

The AV input is either composite or RGB/Y-C depending on what was previously selected.

RED button: selects AV1 then toggles between composite and RGB input.

GREEN button: selects AV2 then toggles between composite and Y-C input.

Returning to TV mode

Pressing the **TV-AV** button **or** any number button **or** the ▲ **or** ▼ buttons will return the set to TV mode *even when Scart pin 8 is high*. See "Set-Up Menu" for setting the output of AV2 and switching on standby dubbing.

NICAM STEREO

The **I/II** button operates all functions: press to display the current Nicam mode, press again while the OSD is on-screen to force Nicam Off, press to select language during a dual-sound broadcast.

OFF TIMER

SETTING THE TIMER

1. Press the **OFF-TIMER** button, the screen shows 00.
2. Press the button again to start the clock at 90 then make it count down in ten minute steps until you see the time you want.
3. When the display disappears, the timer is set.

TO CANCEL THE TIMER

Press the **OFF-TIMER** button until the display shows zero, or press Standby.

TO CHECK THE REMAINING TIME

Press the **OFF-TIMER** button *once*.

For the last 10 minutes the display will appear in **red** every minute then continuously for the last minute.

4 PARTS LIST

4.1 NOTES

4.1.1 Model-specific parts

As this service manual covers more than one model, the Service Parts List indicates where certain parts are model-specific. If there is no such indication then the parts are common to all models covered by this manual.

25" = C25S7B, C25C7B, C25S7L; **28"** = C28S7B, C28C7B, C28S7L

B = C25S7B & C28S7B; **L** = C25S7L, C28S7L; **C** = C25C7B, C28C7B

Other indications are combinations of the above.

4.1.2 Ordering

In order to expedite delivery of replacement parts, please specify:

Model number, Serial number

Part Number, Description, Quantity

Unless full information is provided a delay in execution of the order may result.

4.1.3 Safety

Safety Critical components are shown thus: \triangle and must be replaced with original Mitsubishi parts.

4.1.4 Component tolerances

Component value tolerances are coded as shown the table below:

B	C	D	F	G	J	K	M	N	V	X	Z	P	Q
±0.1	±0.25	±0.5	±1	±2	±5	±10	±20	±30	+10 -10	+40 -20	+80 -20	+100 -0	+30 -10

4.2 SERVICE PARTS LIST

SYMBOL	PART No	PART NAME	DESCRIPTION	MODELS
CRT				
△	255P828010	CRT	A59ECF50X12	25"
△	H25P006010	CRT	A66EHJ43X01	28"
ICs (and retaining clips)				
IC101	270P341020	IC	TDA4472-C	
IC201	270P254040	IC	MC44031 E36E-4	
IC202	270P263010	IC	TEA6415C	
IC301	275P130010	IC	MSP3410D-B3	
IC351	270P259010	IC	TDA7263	
IC351	596D850010	HOLDER-IC		
IC3B1	270P259010	IC	TDA7263	28"
IC3B1	597D329010	HOLDER-IC		28"
IC401	270P261010	IC	TDA8171	
IC401	596D850010	HOLDER-IC		
IC551	272P406010	IC	TEA2031A	
IC660	270P207010	IC-CRT-OUTPUT	TEA5101B	
IC660	596D884010	HOLDER-IC		
IC701	274P755050	IC	9291N7B1***/A50	
IC702	274P747010	IC-C-MOS	ST24C16CB1	
IC7701	275P115010	IC	SAA5261PS/107	
IC7702	274P171010	IC	ST24C02AB1	
IC901	272P514010	IC	TEA 2261	
IC951	270P260010	IC	TDA8137	
IC951	596D837010	HOLDER-IC		
TRANSISTORS (and retaining clips)				
Q102	260P749050	TRANSISTOR	JA101-Q,R	
Q105	260P748030	TRANSISTOR	JC501-R	
Q106	260C603010	TRANSISTOR	DTA124ES/UN4112	L
Q107	260C603010	TRANSISTOR	DTA124ES/UN4112	L
Q108	260C603010	TRANSISTOR	DTA124ES/UN4112	L
Q251	260P748030	TRANSISTOR	JC501-R	
Q252	260P748030	TRANSISTOR	JC501-R	
Q253	260P748030	TRANSISTOR	JC501-R	
Q256	260P748030	TRANSISTOR	JC501-R	
Q301	260C604020	TRANSISTOR	DTC124ES	
Q302	260P748030	TRANSISTOR	JC501-R	
Q303	260P748030	TRANSISTOR	JC501-R	
Q304	260P748030	TRANSISTOR	JC501-R	28"
Q305	260P748030	TRANSISTOR	JC501-R	
Q306	260P748030	TRANSISTOR	JC501-R	28"
Q307	260P749030	TRANSISTOR	JA101-Q	
Q308	260P749030	TRANSISTOR	JA101-Q	
Q320	260C604020	TRANSISTOR	DTC124ES	
Q321	260P748030	TRANSISTOR	JC501-R	
Q322	260P749050	TRANSISTOR	JA101-Q,R	
Q3A07	260C604020	TRANSISTOR	DTC124ES	28"
Q450	260P748030	TRANSISTOR	JC501-R	
Q451	260P387010	TRANSISTOR	2SC2236-O,Y	
Q501	260P748030	TRANSISTOR	JC501-R	
Q551	260P422010	TRANSISTOR	2SC2482	
Q552	261P007010	TRANSISTOR	S2055N	
Q552	596D884010	HOLDER-IC		

SYMBOL	PART No	PART NAME	DESCRIPTION	MODELS
Q601	260P748020	TRANSISTOR	JC501-Q,R	
Q6E2	260P748030	TRANSISTOR	JC501-R	28"
Q6E3	260P748030	TRANSISTOR	JC501-R	28"
Q6E4	260P748030	TRANSISTOR	JC501-R	28"
Q6E5	260P748030	TRANSISTOR	JC501-R	28"
Q6E7	260P748030	TRANSISTOR	JC501-R	
Q6E8	260C255040	TRANSISTOR	2SA950-Y (FORMED)	
Q701	260C559050	TRANSISTOR	2SC1740S-E (FORMED)	
Q702	260P748030	TRANSISTOR	JC501-R	
Q703	260P749030	TRANSISTOR	JA101-Q	
Q704	260P748030	TRANSISTOR	JC501-R	
Q705	260P749030	TRANSISTOR	JA101-Q	
Q706	260P749030	TRANSISTOR	JA101-Q	
Q707	260P748030	TRANSISTOR	JC501-R	
Q708	260P748030	TRANSISTOR	JC501-R	
Q710	260P748030	TRANSISTOR	JC501-R	
Q711	260P748030	TRANSISTOR	JC501-R	
Q712	260P748030	TRANSISTOR	JC501-R	
Q713	260P748020	TRANSISTOR	JC501-Q,R	
Q714	260P748030	TRANSISTOR	JC501-R	
Q715	260P748030	TRANSISTOR	JC501-R	
Q716	260P748030	TRANSISTOR	JC501-R	
Q717	260P748030	TRANSISTOR	JC501-R	
Q718	260P748020	TRANSISTOR	JC501-Q,R	
Q7701	260P749030	TRANSISTOR	JA101-Q	
Q7702	260P748030	TRANSISTOR	JC501-R	
Q7706	260P748030	TRANSISTOR	JC501-R	
Q901	261P006010	TRANSISTOR	S2000N	
Q901	596D884010	HOLDER-IC		
Q902	260P748030	TRANSISTOR	JC501-R	
Q951	260P748030	TRANSISTOR	JC501-R	
Q952	260P630010	TRANSISTOR	2SD2012	
Q952	596D837010	HOLDER-IC		
DIODES				
D102	264P370010	DIODE	1N4148	
D201	264P370010	DIODE	1N4148	
D251	264P460020	DIODE	EQA02-05CD/RD5.1EB1	
D252	264P460020	DIODE	EQA02-05CD/RD5.1EB1	
D253	264P460020	DIODE	EQA02-05CD/RD5.1EB1	
D254	264P460020	DIODE	EQA02-05CD/RD5.1EB1	
D255	264P460020	DIODE	EQA02-05CD/RD5.1EB1	
D256	264P460020	DIODE	EQA02-05CD/RD5.1EB1	
D257	264P460020	DIODE	EQA02-05CD/RD5.1EB1	
D258	264P460020	DIODE	EQA02-05CD/RD5.1EB1	
D301	264P370010	DIODE	1N4148	
D302	264P370010	DIODE	1N4148	
D303	264P370010	DIODE	1N4148	
D304	264P370010	DIODE	1N4148	
D305	264P370010	DIODE	1N4148	
D306	264P370010	DIODE	1N4148	
D307	264P370010	DIODE	1N4148	
D401	264P374020	DIODE	1N4003ID	

SYMBOL	PART No	PART NAME	DESCRIPTION	MODELS
D402	264P370010	DIODE	1N4148	
D501	264P463020	DIODE	EQA02-08C/RD8.2EB2	
D502	264P370010	DIODE	1N4148	
D503	264P370010	DIODE	1N4148	
D504	264P371010	DIODE	BYD33G/A52R	
D505	264P375020	DIODE	BY228 (FORMED)	
D506	264P378020	DIODE	BYW96E (FORMED)	
D507	264P371010	DIODE	BYD33G/A52R	
D508	264P371010	DIODE	BYD33G/A52R	
D509	264P371010	DIODE	BYD33G/A52R	
D525	264P371010	DIODE	BYD33G/A52R	
D560	264P370010	DIODE	1N4148	
D561	264P493020	DIODE	RD39FB2	
D562	264P370010	DIODE	1N4148	
D563	264P370010	DIODE	1N4148	
D601	264P370010	DIODE	1N4148	
D655	264P370010	DIODE	1N4148	
D656	264P370010	DIODE	1N4148	
D657	264P370010	DIODE	1N4148	
D658	264P458030	DIODE	RD3.6EB2	
D6A7	264P372010	DIODE	BYV96E	
D6B2	264P371010	DIODE	BYD33G/A52R	
D701	264P460020	DIODE	EQA02-05CD/RD5.1EB1	
D702	264P460020	DIODE	EQA02-05CD/RD5.1EB1	
D703	264P461070	DIODE	EQA02-06D/RD6.2EB2	
D704	264P370010	DIODE	1N4148	
D705	264P370010	DIODE	1N4148	
D706	264P465040	DIODE	EQA02-12AB/RD13EB1,B2	
D707	264P370010	DIODE	1N4148	L
D708	264P370010	DIODE	1N4148	L
D7701	264P370010	DIODE	1N4148	
D7C91	264P584020	DIODE	SML1216W-C,D	
D901	264P376010	DIODE	BYW56	
D902	264P376010	DIODE	BYW56	
D903	264P376010	DIODE	BYW56	
D904	264P376010	DIODE	BYW56	
D905	264P371010	DIODE	BYD33G/A52R	
D906	264P372010	DIODE	BYV96E	
D907	264P481060	DIODE	RD3.0FB2	
D908	264P370010	DIODE	1N4148	
D909	264P481060	DIODE	RD3.0FB2	
D951	264P378020	DIODE	BYW96E (FORMED)	
D952	264P378020	DIODE	BYW96E (FORMED)	
D953	264P377020	DIODE	BYW95B (FORMED)	
D954	264P377020	DIODE	BYW95B (FORMED)	28"
D955	264P461080	DIODE	EQA02-06E/RD6.2EB3	
D956	266P010020	IC-DIODE	μPC574J-K	
D957	264P463090	DIODE	EQA02-09D/RD10E	
D959	264P377020	DIODE	BYW95B (FORMED)	

SYMBOL	PART No	PART NAME	DESCRIPTION	MODELS
COILS AND TRANSFORMERS				
L101	325C164070	COIL-PEAKING	0.47 μ H-J	
L102	325C161010	COIL-PEAKING	6.8 μ H-K	
L103	325C121030	COIL-PEAKING	10 μ H-K	
L104	323P175070	COIL-VIF	VIF=39.2MHz, Cin=9PF	
L106	325C121030	COIL-PEAKING	10 μ H-K	
L201	321C031090	COIL-RF	33 μ H-K	
L205	325C120010	COIL-PEAKING	1 μ H-M	
L301	325C120010	COIL-PEAKING	1 μ H-M	
L302	325C120010	COIL-PEAKING	1 μ H-M	
L303	325C120010	COIL-PEAKING	1 μ H-M	
L304	325C120070	COIL-PEAKING	3.3 μ H-K	
L305	325C120070	COIL-PEAKING	3.3 μ H-K	
L308	325C120070	COIL-PEAKING	3.3 μ H-K	
L309	325C120070	COIL-PEAKING	3.3 μ H-K	
L310	325C120070	COIL-PEAKING	3.3 μ H-K	
L314	325C120070	COIL-PEAKING	3.3 μ H-K	
L315	325C120070	COIL-PEAKING	3.3 μ H-K	
L330	325C120070	COIL-PEAKING	3.3 μ H-K	
L331	325C120070	COIL-PEAKING	3.3 μ H-K	
L332	325C120070	COIL-PEAKING	3.3 μ H-K	
L3C06	325C120070	COIL-PEAKING	3.3 μ H-K	
L3C07	325C120070	COIL-PEAKING	3.3 μ H-K	
L401	411P001070	LEAD-FERRITE		
L502	321C030010	COIL-RF	1 μ H-K	
L503	411D009020	CORE-FERRITE		
L504	409P749010	COIL-PCC-CHOKE	15 μ H	
L505	409P748010	COIL-PCC	1 μ H	
L551	333P032020	COIL-HORIZ-LIN		
L560	325C402000	COIL-PEAKING	39 μ H	
L701	325C121070	COIL-PEAKING	22 μ H-K	
L702	325C121070	COIL-PEAKING	22 μ H-K	
L703	325C121030	COIL-PEAKING	10 μ H-K	
L7701	410P003010	FERRITE-LEAD		
L7702	410P003010	FERRITE-LEAD		
L7707	325C162050	COIL-PEAKING	100 μ H-K	
L901	321C030050	COIL-RF	2.2 μ H-K	
L903	411P001070	LEAD-FERRITE		
L905	411P001070	LEAD-FERRITE		
L951	325D059060	COIL-PEAKING	390 μ H-K	
L991	351P047020	LINE-FILTER	Z85555TA	
L995	351P038030	LINE FILTER	18D290BF	
△ T551	334P243040	TRANS-FLYBACK		
T552	336P017010	TRANS-HORIZ-DRIVE	SRW16/14PS04	
△ T901	350P646040	TRANS-POWER		25"
△ T901	350P646050	TRANS-POWER		28"
△	409P564040	COIL-DEGAUSSING		25"
△	409P564050	COIL-DEGAUSSING		28"

SYMBOL	PART No	PART NAME	DESCRIPTION	MODELS	
RESISTORS – fixed and variable					
	R114	103P465010	R-METAL	1/4W 12K-F	
	R131	103P465090	R-METAL	1/4W 27K-F	
	R212	103P906060	R-METAL	0.4W 51K-F	
△	R352	103P378060	R-FUSE	1/4W 3.3-J	
△	R353	103P378060	R-FUSE	1/4W 3.3-J	
△	R3B01	103P378060	R-FUSE	1/4W 3.3-J	28"
△	R3B02	103P378060	R-FUSE	1/4W 3.3-J	28"
	R405	109P129010	R-METAL	1/6W 8.2K-G 450	
	R508	102P243020	R-CEMENT-METAL-SUS	5W 3.9K-K/J	
	R511	102P228050	R-CEMENT-WIRE-SUS	10W 2.7	
△	R512	103P432050	R-FUSE-METAL	2W 1K	
△	R513	103P397090	R-FUSE	1/2W 0.82-J	
△	R514	103P397090	R-FUSE	1/2W 0.82-J	
	R573	103P906010	R-METAL	0.4W 33K-F	
	R574	103P905070	R-METAL	0.4W 22K-F	
	R575	103P905050	R-METAL	0.4W 18K-F	
	R5M1	109P912080	R-COMPOSITION	1/2W 2.2M-K	
	R5M3	109P912080	R-COMPOSITION	1/2W 2.2M-K	
△	R671	103P447080	R-FUSE-METAL	1W 0.68-K, J	28"
△	R671	103P448040	R-FUSE-METAL	1W 2.2-K, J	25"
△	R692	103P391030	R-FUSE	1/2W 100-J	
△	R694	103P390010	R-FUSE	1/2W 10-J	
	R765	103P905030	R-METAL	0.4W 15K-F	L
	R921	109D074010	R-CEMENT-METAL	5W 1.8K-K, J	
	R954	103P907080	R-METAL	0.4W 160K-F	
	R955	103P904070	R-METAL	0.4W 8.2K-F	
△	R981	109P913050	R-COMPOSITION	1/2W 6.8M-J	
△	R982	109P913050	R-COMPOSITION	1/2W 6.8M-J	
	R991	102P087040	R-CEMENT-WIRE	10W 4.7-K	
△	R992	109P911090	R-COMPOSITION	1/2W 470K-J	
	VR101	127C380080	VR-SEMIFIXED	1/5W B10K-M	
	VR102	127C380080	VR-SEMIFIXED	1/5W B10K-M	
	VR951	127C380090	VR-SEMIFIXED	1/5W B20K-M	
CAPACITORS					
	C510	MELP420010	C-M-PLASTIC-PP	KP/MKP375 1600V 0.018μF-J	
	C5A3	172P952040	C-M-PLASTIC-PP	2000V (1700VP-P) 9100pF	
	C5B3	172P951030	C-M-PLASTIC-PP	2000V (1700VP-P) 3300pF	
	C904	185D059040	C-ELECTROLYTIC	385V/400V 150μF	
△	C981	189P091010	C-CERAMIC-AC	AC400V E4700pF-M	
△	C991	189P180030	C-M-POLYPROPYLENE-AC	0.22μF-M 275V(AC) X2	
CONNECTORS AND SWITCHES					
	J251	452C080020	21 PIN-SCART	035-098-4505	
	J252	452C080020	21 PIN-SCART	035-098-4505	
	J352	451C177010	PIN-JACK-2P	YKC21-5508	
	J3C51	451C082040	JACK-MICROPHONE		
△	J601	449C126010	CRT SOCKET	033 055044	
	S7C02	432P089020	SW-KEY-BOARD		
	S7C03	432P089020	SW-KEY-BOARD		
	S7C04	432P089020	SW-KEY-BOARD		
	S7C05	432P089020	SW-KEY-BOARD		
△	S991	432C081010	MAINS SWITCH	151-ESB-92D21B (R00)	

SYMBOL	PART No	PART NAME	DESCRIPTION	MODELS	
MISCELLANEOUS					
	CF101	296P024040	CERAMIC-TRAP	TPS6.0MB	
	CR5M1	149P008010	CR-MULTIPLE	470pF 3.6M-K	
△	F991	283D047040	FUSE	T2A	
△	PC951	268P068010	PHOTO COUPLER	TCDT1124G	
△	RP991	265P071050	POSISTOR	PTH451C41BG180N	
	SF101	296P144010	SAW-FILTER	OFWJ3950M	B, C
	SF101	296P144020	SAW-FILTER	OFWK3953M	L
	SF301	296P145010	SAW-FILTER	OFWK9350M	
	SP391	480P660060	SPEAKER	Right	
	SP392	480P660060	SPEAKER	Left	
	SP393	480P383040	SPEAKER	Woofers	28"
	TU101	295P430010	TUNER-TV	U1343/IEC	B, C
	TU101	295P430020	TUNER-TV	UV1315/IEC	L
	X301	MELP433010	QUARTZ-CRYSTAL	18.432MHz	
	X601	285P142020	QUARTZ-CRYSTAL	17.734475MHz	
	X602	285P143020	QUARTZ-CRYSTAL	14.31818MHz	
	X701	285P139040	QUARTZ-CRYSTAL	12MHz	
	X7701	285P139040	QUARTZ-CRYSTAL	12MHz	
△	Z551	299P201080	PROTECTOR	5000	
△	Z552	299P193010	PROTECTOR	2000	
	Z7C01	939P580020	IR-PHOTO-MODULE	TFMK 5330	
△	Z951	299P193040	PROTECTOR	3150	
△	Z952	299P193070	PROTECTOR	5000	
△	Z953	299P193090	PROTECTOR	1600	
PCB ASSEMBLIES					
△	920A433001		ASSY-PWB-MAIN		28B, 28C
△	920A433002		ASSY-PWB-MAIN		28L
△	920A434001		ASSY-PWB-MAIN		25B, 25C
△	920A434002		ASSY-PWB-MAIN		25L
△	921C206001		ASSY-PCB-PWB-CRT		25"
△	921C206002		ASSY-PCB-PWB-CRT		28"
△	921C212001		ASSY-PCB-PWB-CPS		25"
△	921C212005		ASSY-PCB-PWB-CPS		28"
△	921C213001		ASSY-PCB-PWB-TEXT		25"
△	921C213004		ASSY-PCB-PWB-TEXT		28"
△	921C216001		ASSY-PWB-SOUND		25"
△	921C216005		ASSY-PWB-SOUND		28"
△	921C272002		ASSY-PWB-AUDIO-PWR		28"
MECHANICAL AND COSMETIC					
△	246C162010		AC-POWER CORD/UK-PLUG		
	290P082010		REMOTE-CONTROL		
	641B742010		FRAME-AUDIO-POWER		28"
	669D218070		SCREW-M5x35 SEMS	CRT FIXING	
	669D220030		SCREW-TB 3x10		
	669D221040		SCREW-TB 4x12		
	669D221060		SCREW-TB 4x16	BACK COVER FIXING	
△	700C612020		ASSY BACK-COVER		25B
△	700C612030		ASSY BACK-COVER		28B
△	700C613010		ASSY BACK-COVER		25L

SYMBOL	PART No	PART NAME	DESCRIPTION	MODELS
△	700C613020	ASSY BACK-COVER		28L
△	700C613070	ASSY BACK-COVER		25C
△	700C613080	ASSY BACK-COVER		28C
	701D610070	ASSY-CABINET-FRONT		25B, 25L
	701D610080	ASSY CABINET-FRONT		28B, 28L
	701D611030	ASSY-CABINET-FRONT		25C
	701D611040	ASSY-CABINET-FRONT		28C
	752B027020	PANEL-FRONT-LEFT		25C
	752B027030	PANEL-FRONT-RIGHT		25C
	752B029020	PANEL-FRONT-LEFT		28C
	752B029030	PANEL-FRONT-RIGHT		28C
	754C062010	KNOB-POWER		
	754C063010	KNOB-PUSH		
	770B221020	UNIT-TV-STAND		except C
	770B222010	UNIT-CABINET-STAND		25C
	770B222020	UNIT-CABINET-STAND		28C
	801C340030	PACKING CASE		25"
	801C340040	PACKING CASE		28"
	803A464010	CUSHION SET		28"
	803A465010	CUSHION SET		25"
	831D296030	PACKING-BAG		25"
	831D296040	PACKING-BAG		28"
	871C603030	SERVICE MANUAL		
	872C127050	IB-COLOUR		B, C
	872C127060	IB-COLOUR		L
	H92D001033	LEG (1 PIECE)	Trolley stand	except C
	H92D001034	SHELF	Trolley stand	except C
	H92D001035	CASTORS (SET OF 4)	Trolley stand	except C
	H92D001036	SCREW KIT	Trolley stand	except C
	H92D001037	BACK PANEL	Trolley stand	except C
	H92D001044	BASE SHELF	Cabinet stand	25C
	H92D001045	BASE SHELF	Cabinet stand	28C
	H92D001046	TOP	Cabinet stand	25C
	H92D001047	TOP	Cabinet stand	28C
	H92D001048	SIDE TRIMS (PAIR)	Cabinet stand	25C
	H92D001049	SIDE TRIMS (PAIR)	Cabinet stand	28C
	H92D001050	BACK PANELS (PAIR)	Cabinet stand	25C, 28C
	H92D001051	GLASS DOOR	Cabinet stand	25C, 28C
	H92D001052	MIDDLE SHELF	Cabinet stand	25C, 28C
	H92D001053	SIDE PANEL	Cabinet stand	25C, 28C
	H92D001054	CASTOR KIT (Incl. hinges)	Cabinet stand	25C, 28C
	H92D001055	FIXING KIT (All screws, etc.)	Cabinet stand	25C, 28C

MAIN-PCB 2/2

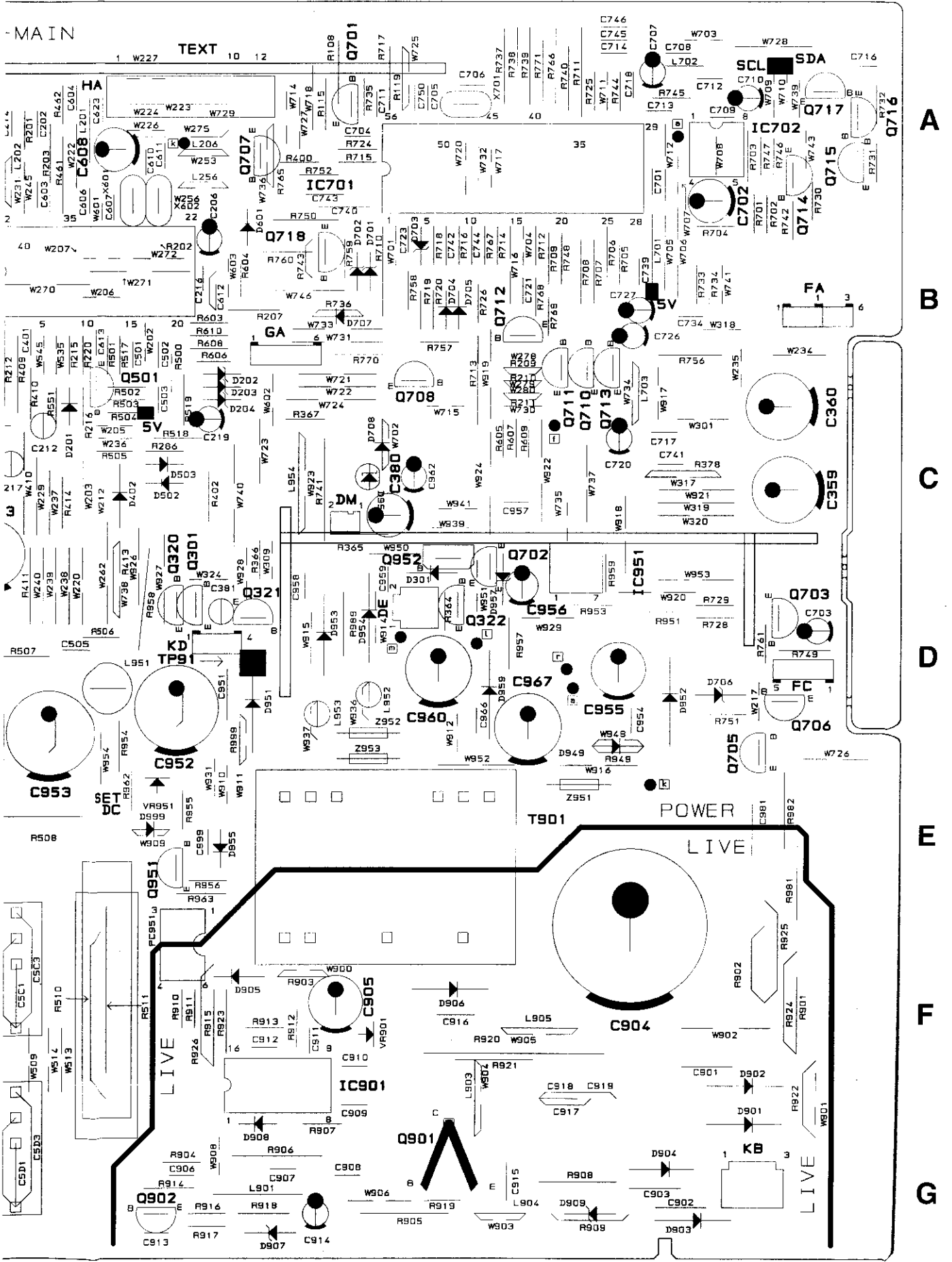
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7

8

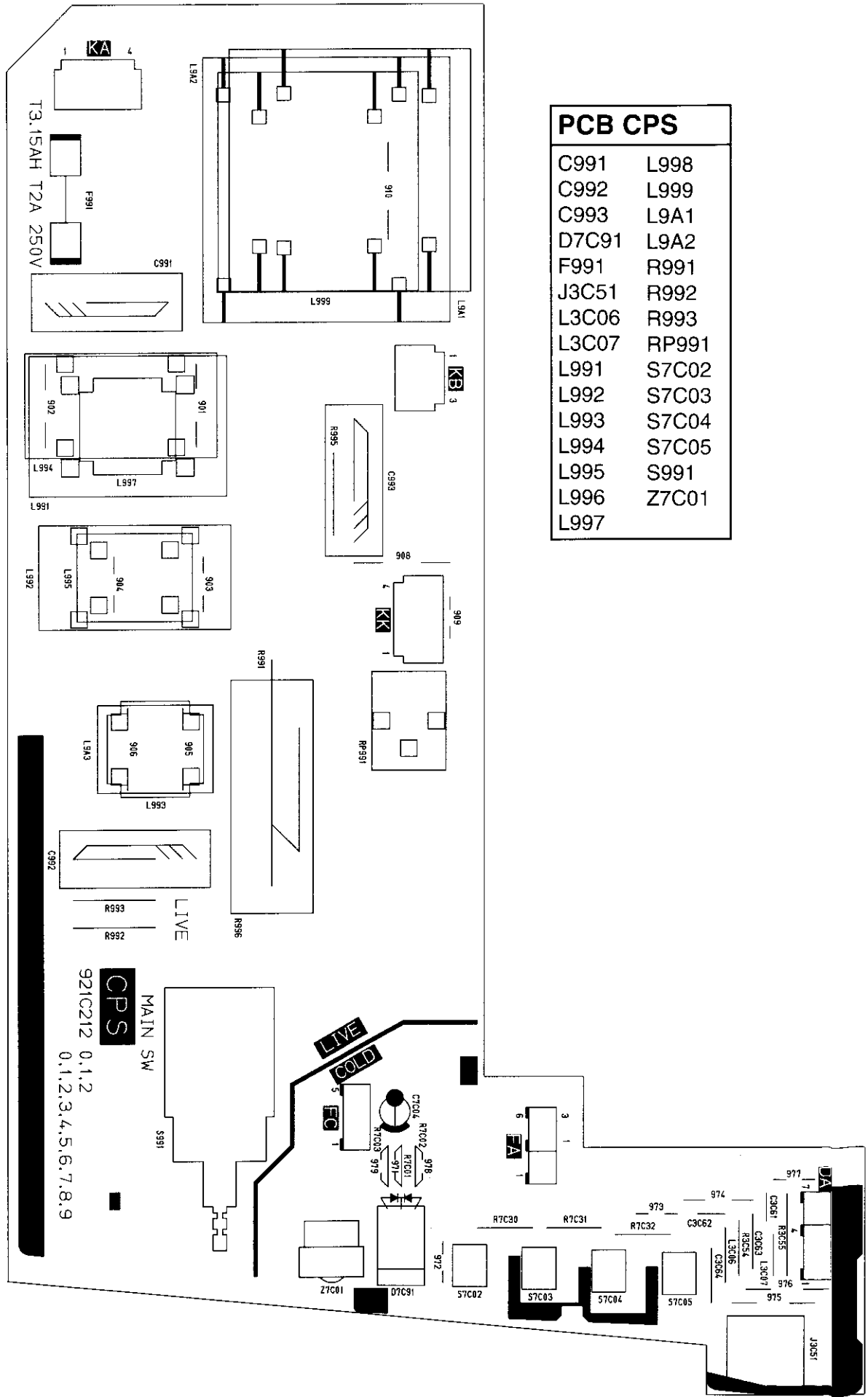
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10



MAIN PCB LOCATIONS

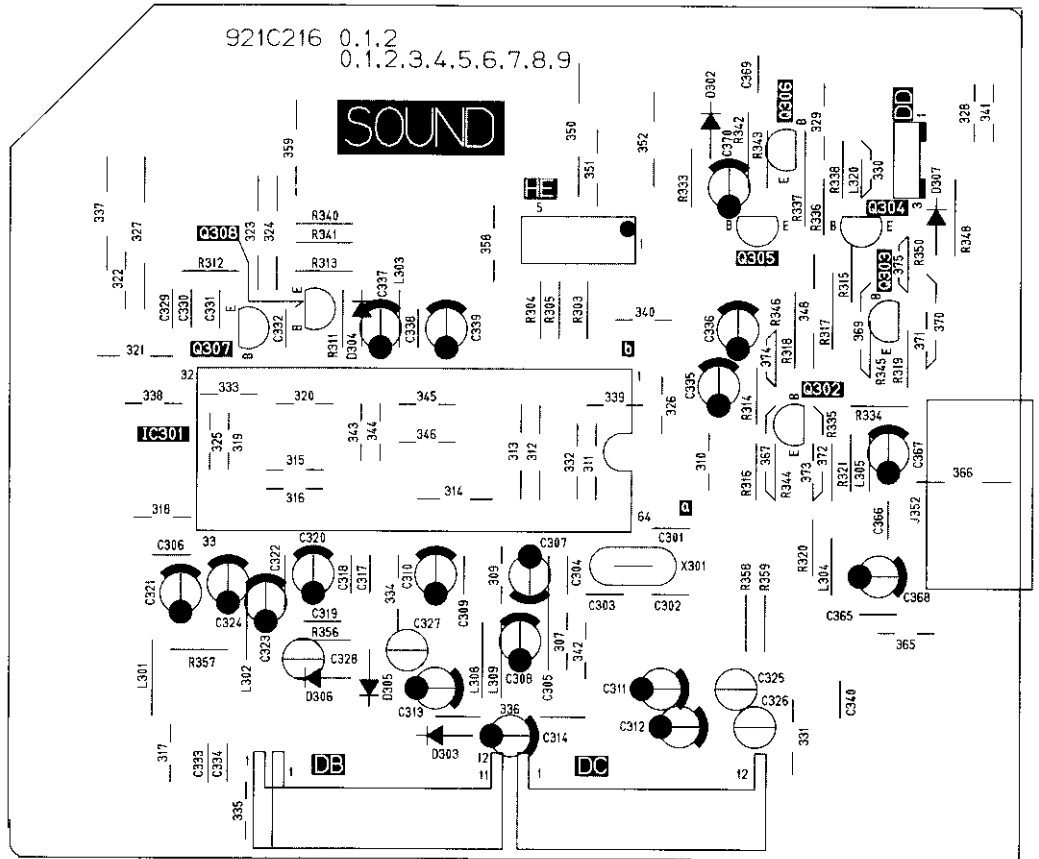
C509	E4	D701	B7	L104	B2	Q106	A3	R353	D4
C510	E4	D702	B7	L106	B1	Q107	A3	R401	D3
C5A3	F4	D703	B8	L107	B3	Q108	A3	R405	E2
C5B3	F4	D704	B8	L201	A6	Q251	C3	R508	E5
C904	F9	D705	B8	L202	A5	Q252	A4	R511	F6
C981	E10	D706	D9	L204	B4	Q253	A4	R512	F4
CF101	A2	D707	B7	L205	A4	Q256	D1	R513	G2
CF102	B2	D708	C7	L206	A6	Q301	D6	R514	E3
CF301	C2	D901	G10	L246	B4	Q320	D6	R573	D4
CR5M1	E1	D902	G10	L256	B6	Q321	D7	R574	D4
D102	A1	D903	G9	L257	A5	Q322	D8	R575	D4
D201	C6	D904	G9	L259	B4	Q450	D3	R5M1	E1
D202	C6	D905	F7	L270	C3	Q451	D2	R5M2	E2
D203	C6	D906	F8	L310	C2	Q501	C6	R765	A7
D204	C6	D907	G7	L314	C1	Q551	D5	R921	F8
D251	D1	D908	G7	L315	C1	Q552	G3	R954	E6
D252	C1	D909	G9	L330	D2	Q601	B4	R955	E6
D253	D1	D949	E9	L331	D2	Q701	A7	R981	E10
D254	A1	D951	D7	L332	C2	Q702	D8	R982	E10
D255	B1	D952	D9	L401	D3	Q703	D10	SF101	A2
D256	B1	D953	D7	L502	G4	Q704	C2	SF301	A3
D257	B1	D954	D7	L503	G4	Q705	E10	SF302	A3
D258	B1	D955	E6	L504	E5	Q706	D10	T551	G3
D301	D8	D956	C7	L505	F5	Q707	A7	T552	E5
D401	D2	D957	D8	L551	F3	Q708	C8	T901	E8
D402	C6	D959	D8	L560	E4	Q710	C9	TU101	A2
D501	D4	D999	E6	L701	B9	Q711	C8	VR101	A2
D502	C6	IC101	B2	L702	A9	Q712	B8	VR102	B3
D503	C6	IC201	B5	L703	C9	Q713	C9	VR103	B2
D504	G1	IC202	B4	L901	G7	Q714	A10	VR901	F7
D505	F3	IC351	D3	L903	G8	Q715	A10	VR951	E6
D506	E3	IC401	D3	L904	G8	Q716	A10	X601	A6
D507	E3	IC551	D4	L905	F8	Q717	A10	X602	B6
D508	E2	IC701	B7	L951	D6	Q718	B7	X701	A8
D509	G2	IC702	A10	L952	D7	Q901	G8	Z551	E3
D514	E1	IC901	F7	L953	D7	Q902	G6	Z552	E4
D525	F5	IC951	D9	L954	C7	Q951	E6	Z951	E9
D560	E4	J251	A1	PC951	F6	Q952	D8	Z952	E7
D561	E4	J252	E1	Q102	B2	R114	A4	Z953	E7
D562	E4	L101	A3	Q103	B4	R131	A3		
D563	E4	L102	B1	Q104	A4	R212	C5		
D601	B7	L103	B3	Q105	A3	R352	D4		



PCB CPS	
C991	L998
C992	L999
C993	L9A1
D7C91	L9A2
F991	R991
J3C51	R992
L3C06	R993
L3C07	RP991
L991	S7C02
L992	S7C03
L993	S7C04
L994	S7C05
L995	S991
L996	Z7C01
L997	

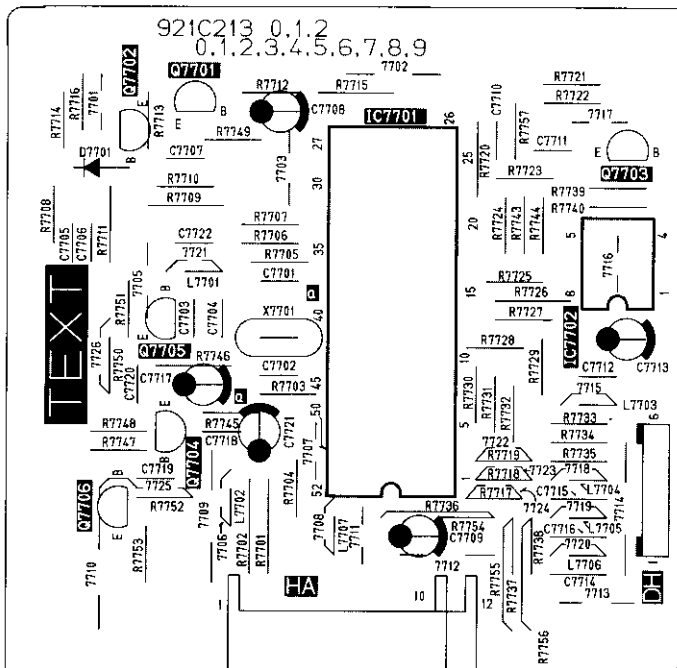
PCB SOUND

D302	L305
D303	L308
D304	L309
D305	L320
D306	Q302
D307	Q303
IC301	Q304
J352	Q305
L301	Q306
L302	Q307
L303	Q308
L304	X301



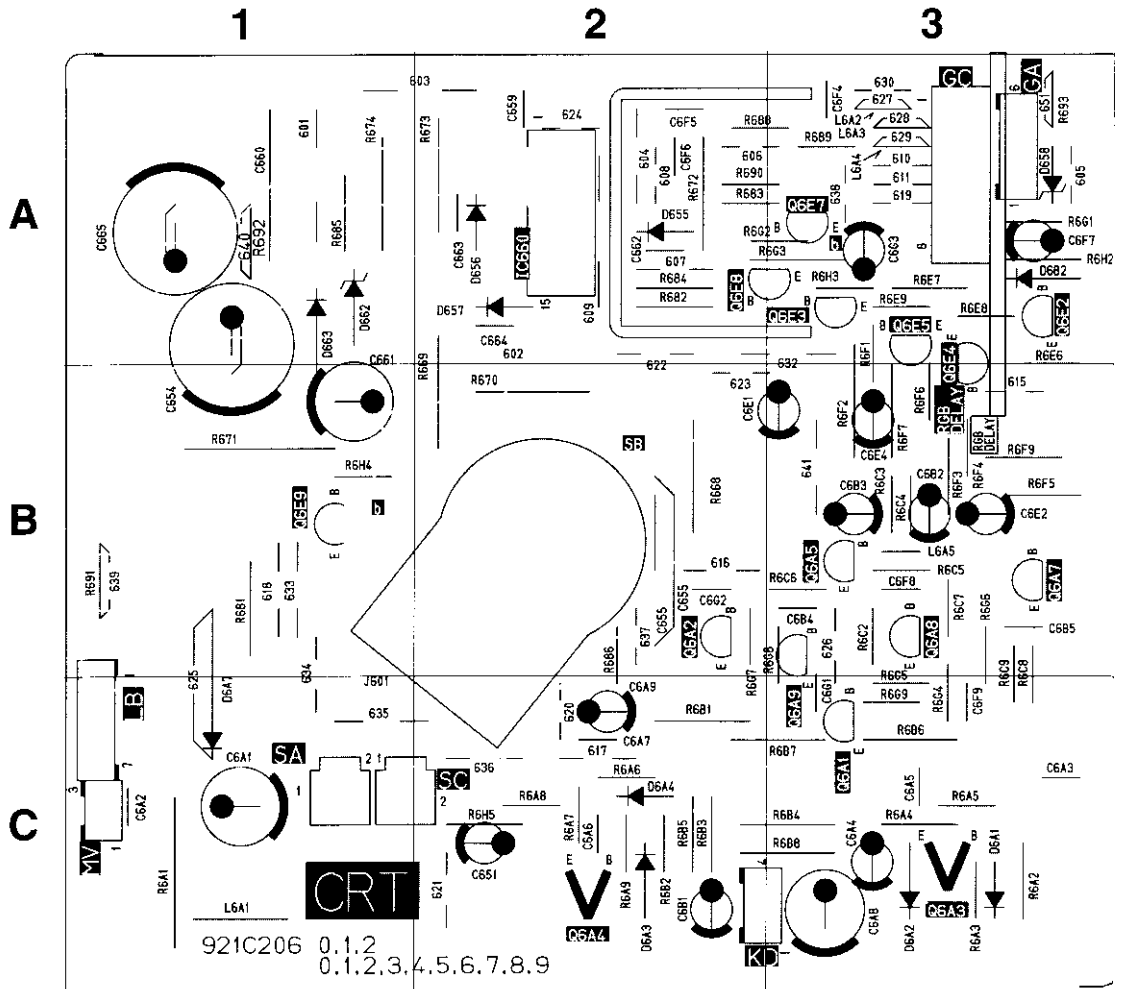
PCB TEXT

IC7701
IC7702
D7701
L7701
L7702
L7704
L7705
L7706
L7707
Q7701
Q7702
Q7703
Q7704
Q7705
Q7706
X7701



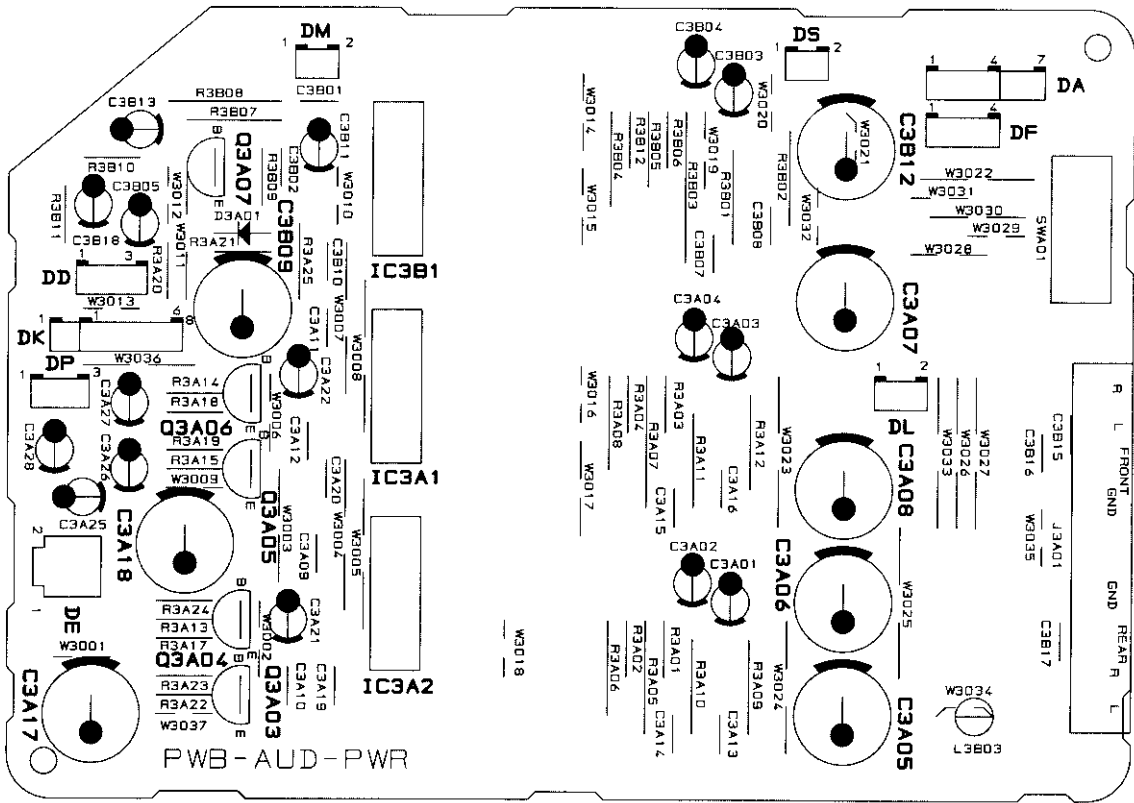
PCB CRT

D655	A2	Q6A4	C2
D656	A2	Q6A5	B3
D657	A2	Q6A7	B3
D658	A3	Q6A8	B3
D662	A1	Q6A9	B3
D663	A1	Q6E2	A3
D6A1	C3	Q6E3	A3
D6A2	C3	Q6E4	B3
D6A3	C2	Q6E5	A3
D6A4	C2	Q6E7	A3
D6A7	C1	Q6E8	A2
D6B2	A3	Q6E9	B1
IC660	A2	R671	B1
J601	B2	R692	A1
L6A1	C1	R6B1	C2
L6A2	A3	R6B4	C3
L6A3	A3	R6B6	C3
L6A4	A3	R6B7	C3
L6A5	B3	R6B8	C3
Q6A1	C3	R6C9	C3
Q6A2	B2	R6G4	C3
Q6A3	C3		



**PCB
AUDIO-
POWER**

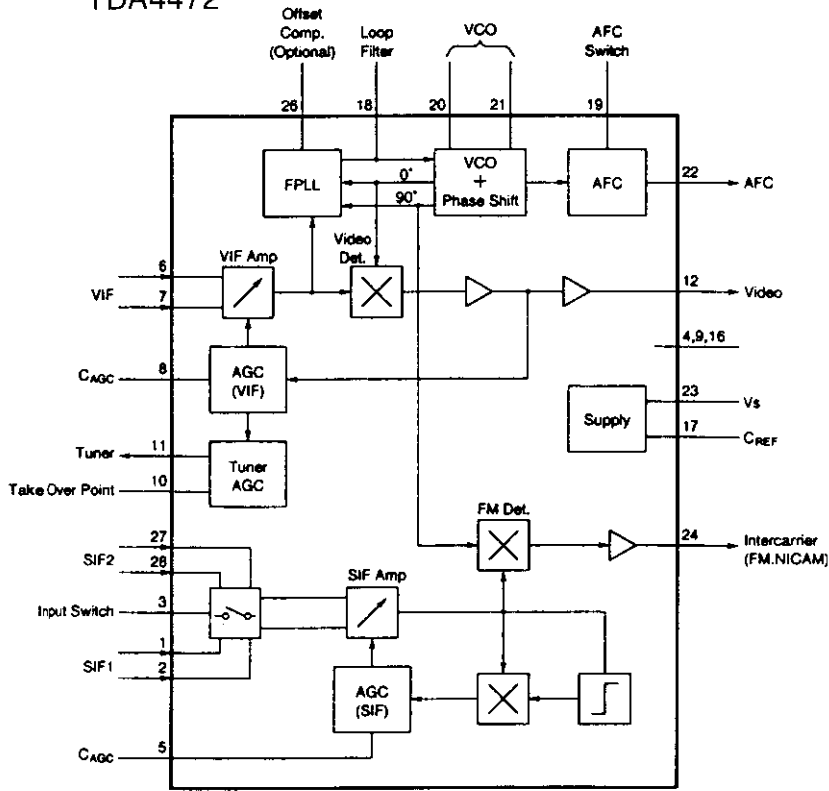
- D3A01
- D9A01
- IC3A1
- IC3A2
- IC3B1
- J3A01
- Q3A03
- Q3A04
- Q3A05
- Q3A06
- Q3A07
- R3A09
- R3A10
- R3A11
- R3A12
- R3B01
- R3B02
- SWA01



6 IC BLOCK DIAGRAMS

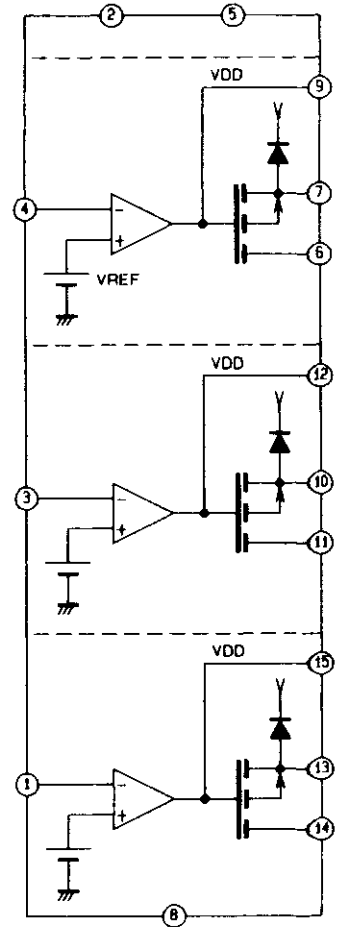
IC101

TDA4472



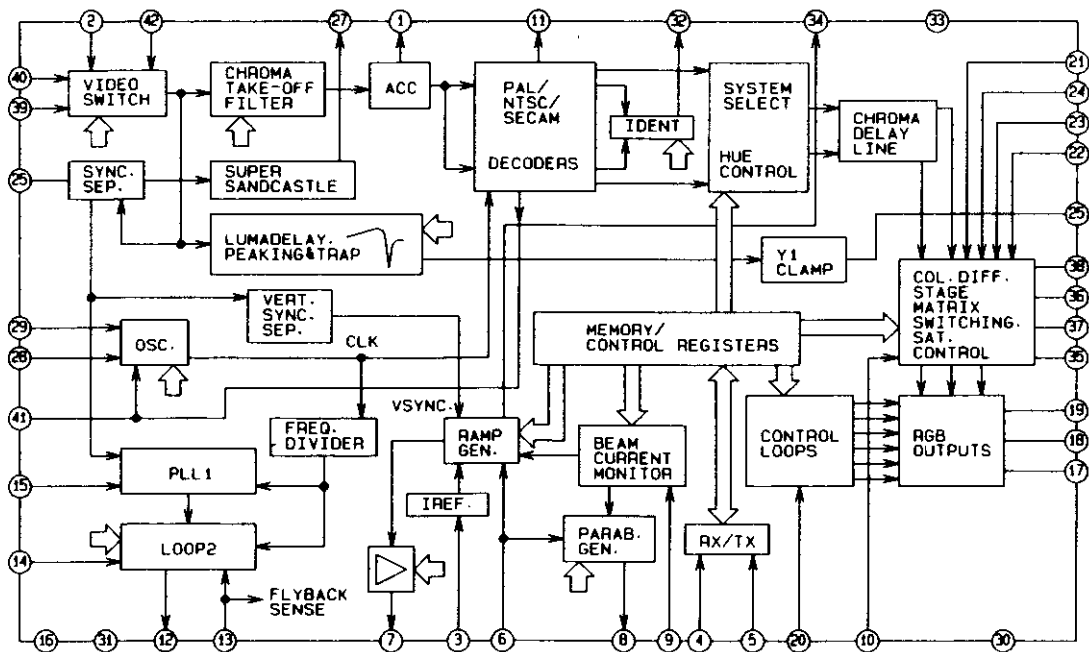
IC660

IEA5101

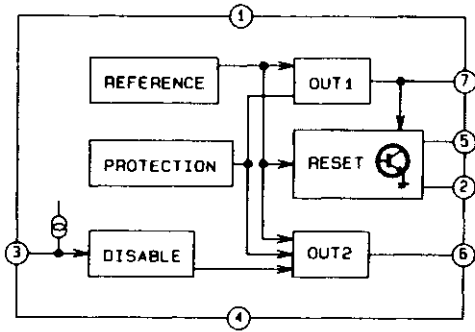


IC201

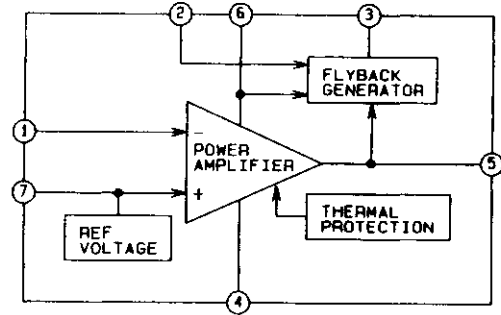
MC44031



IC951
TDA8137

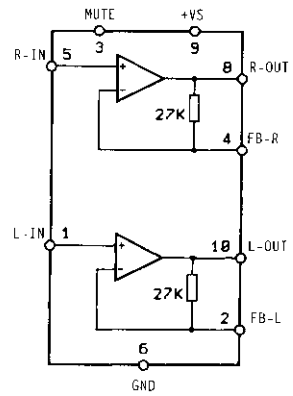
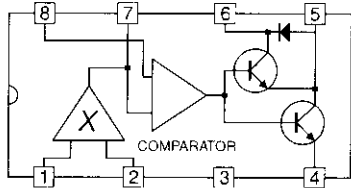


IC401
TDA8171

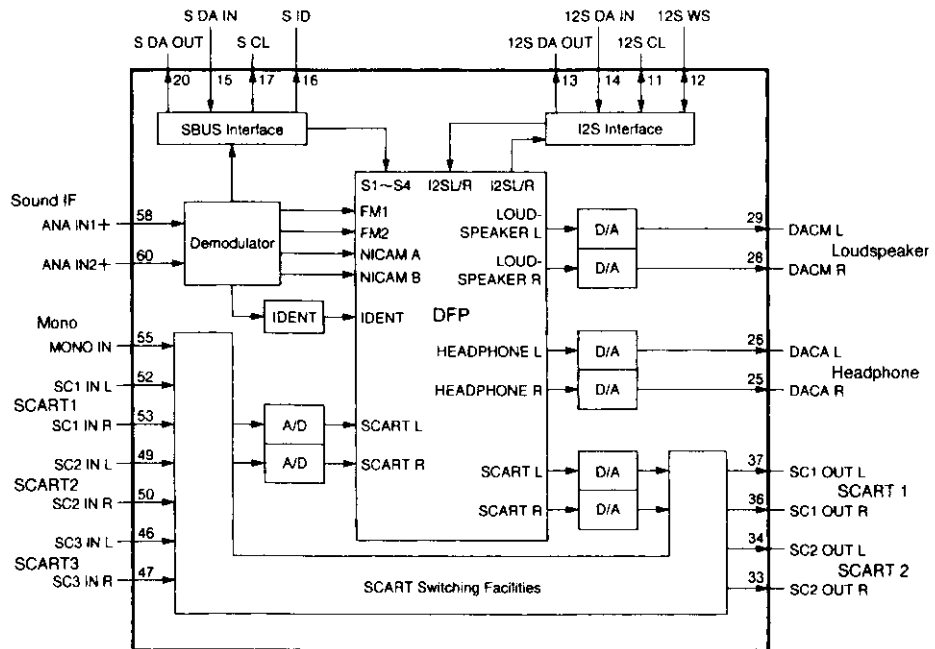


IC3A1, IC3A2, IC3B1
TDA7263

IC551
TEA 2031

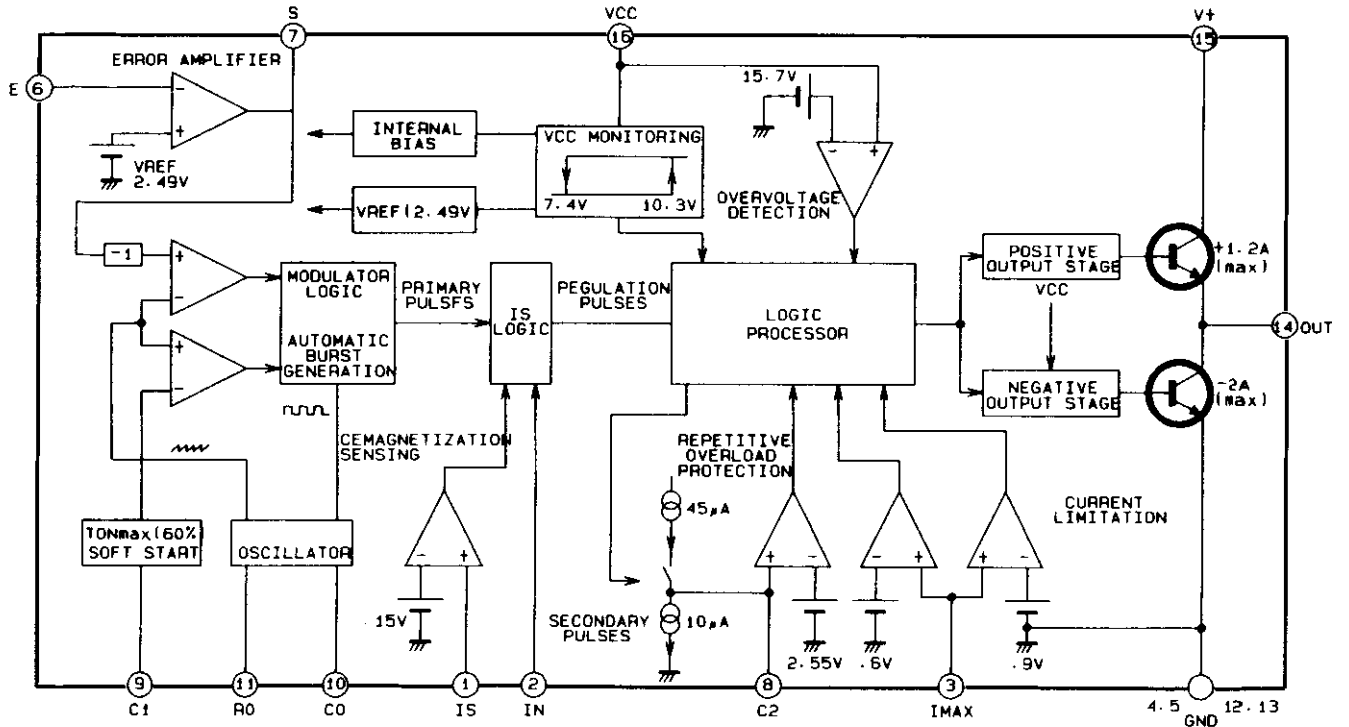


IC301
MSP3410



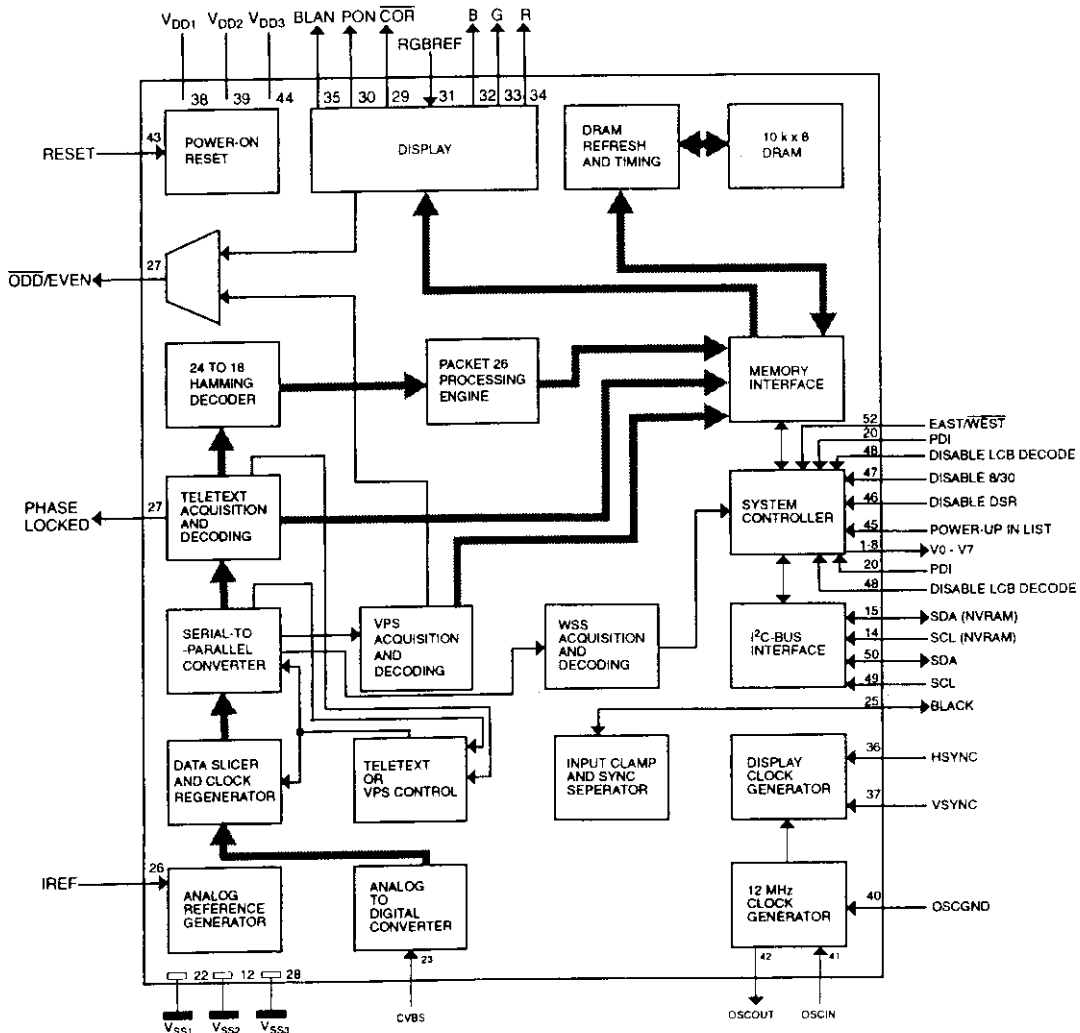
IC901

TEA2261



IC7701

SAA5261PS



7 SCHEMATIC DIAGRAMS

7.1 NOTES

7.1.1 General

- DC voltages are measured from the points indicated to circuit ground.
- Waveforms are for a PAL colour bar signal.
- Test Points are shown as: "TP6A", etc.
- This is a basic circuit diagram – receivers are subject to modification due to continuous engineering improvement.

7.1.2 Servicing Precautions

The Δ symbol indicates components with characteristics critical to safety and performance.

These parts **must** only be replaced with parts having identical values and characteristics – refer to the Service Parts List for the correct Mitsubishi part numbers.

Do not compromise the safety of the receiver by improper servicing.

7.1.3 Component Information

SPECIFIC SYMBOLS

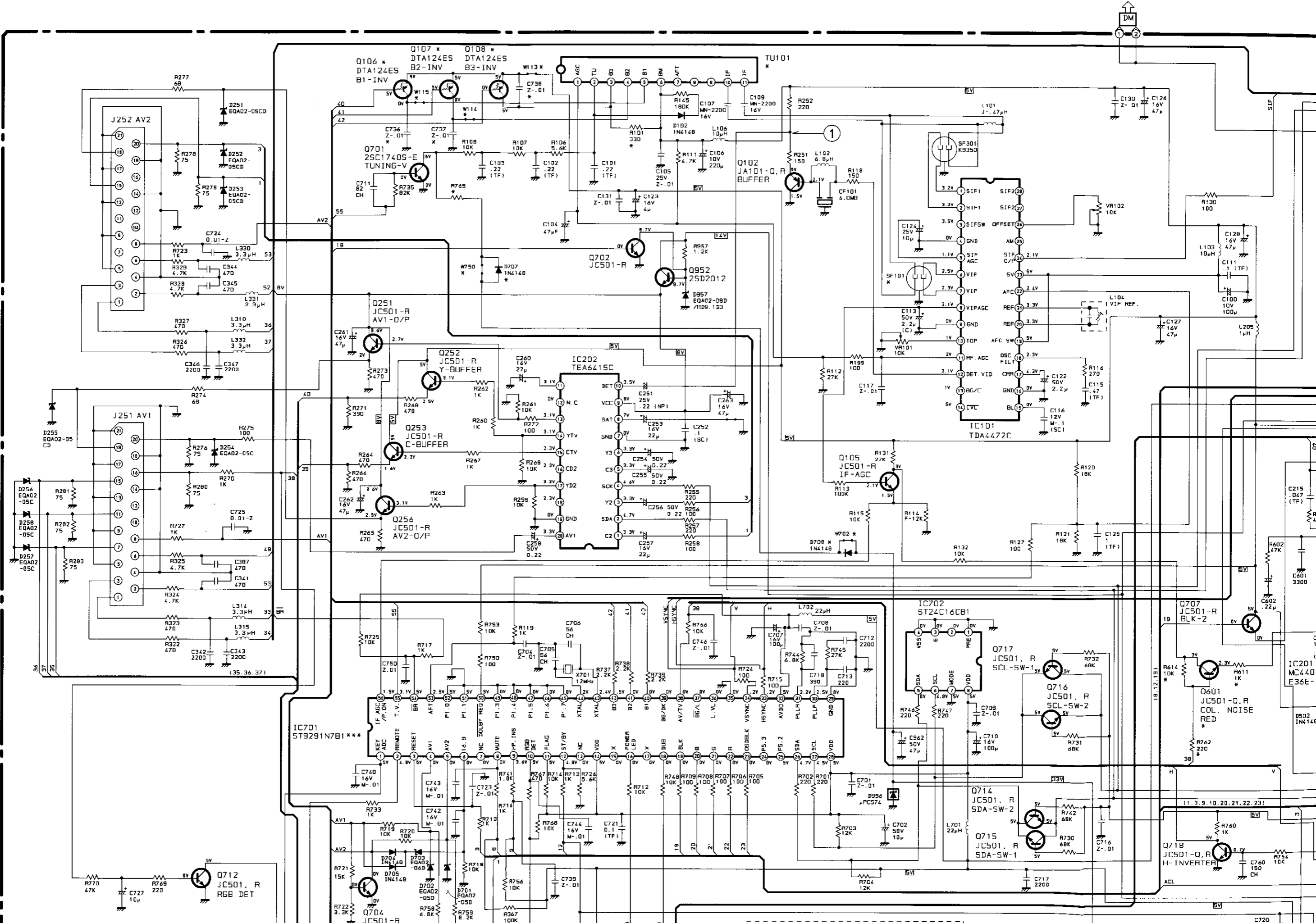
	Zener diode
	Varicap
	Posistor
	Thermistor
	Fusible resistor
	Crystal
	Air gap
	Part (e.g. resistor) on copper side of PCB
	Ceramic filter

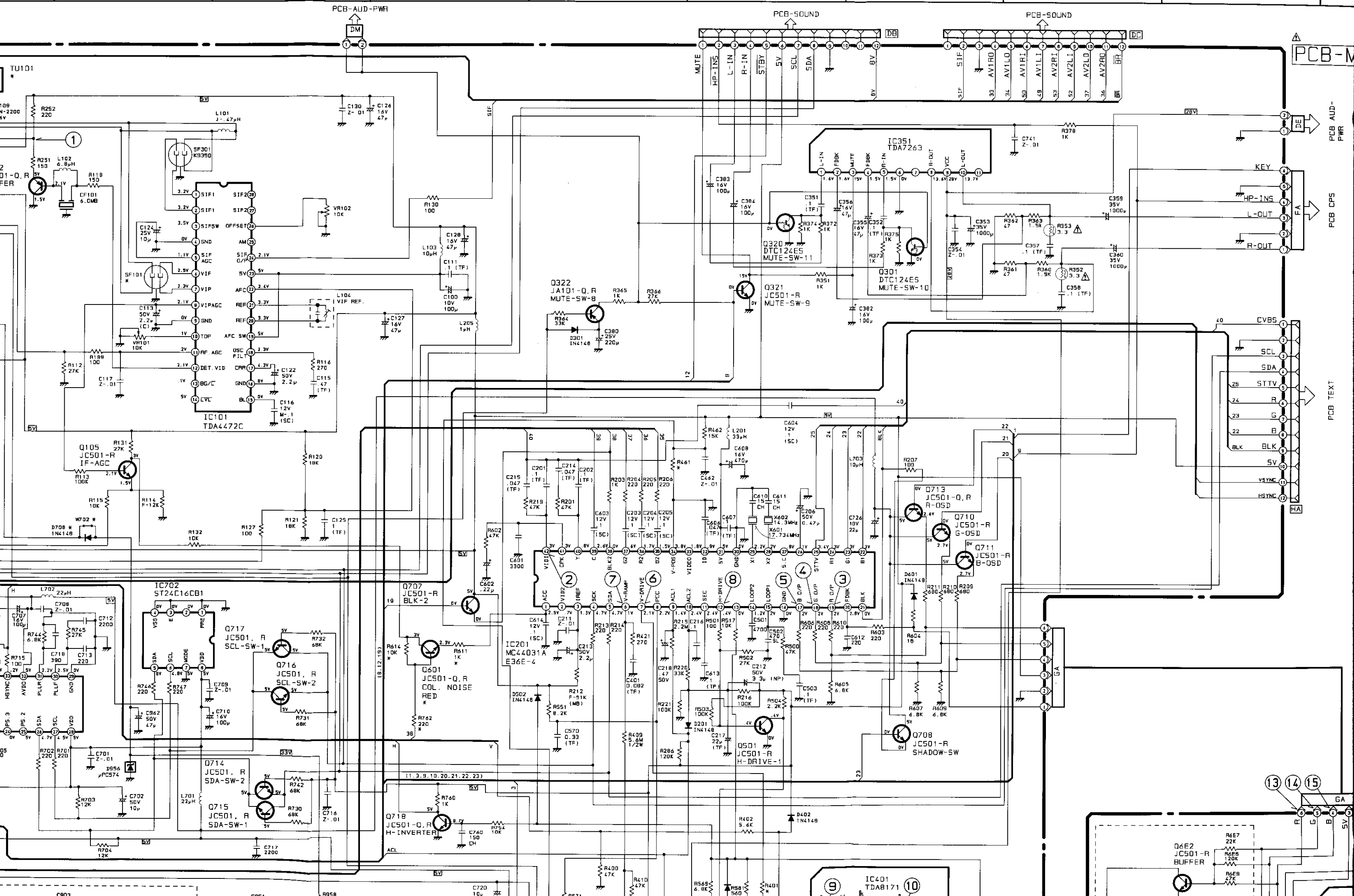
RESISTORS

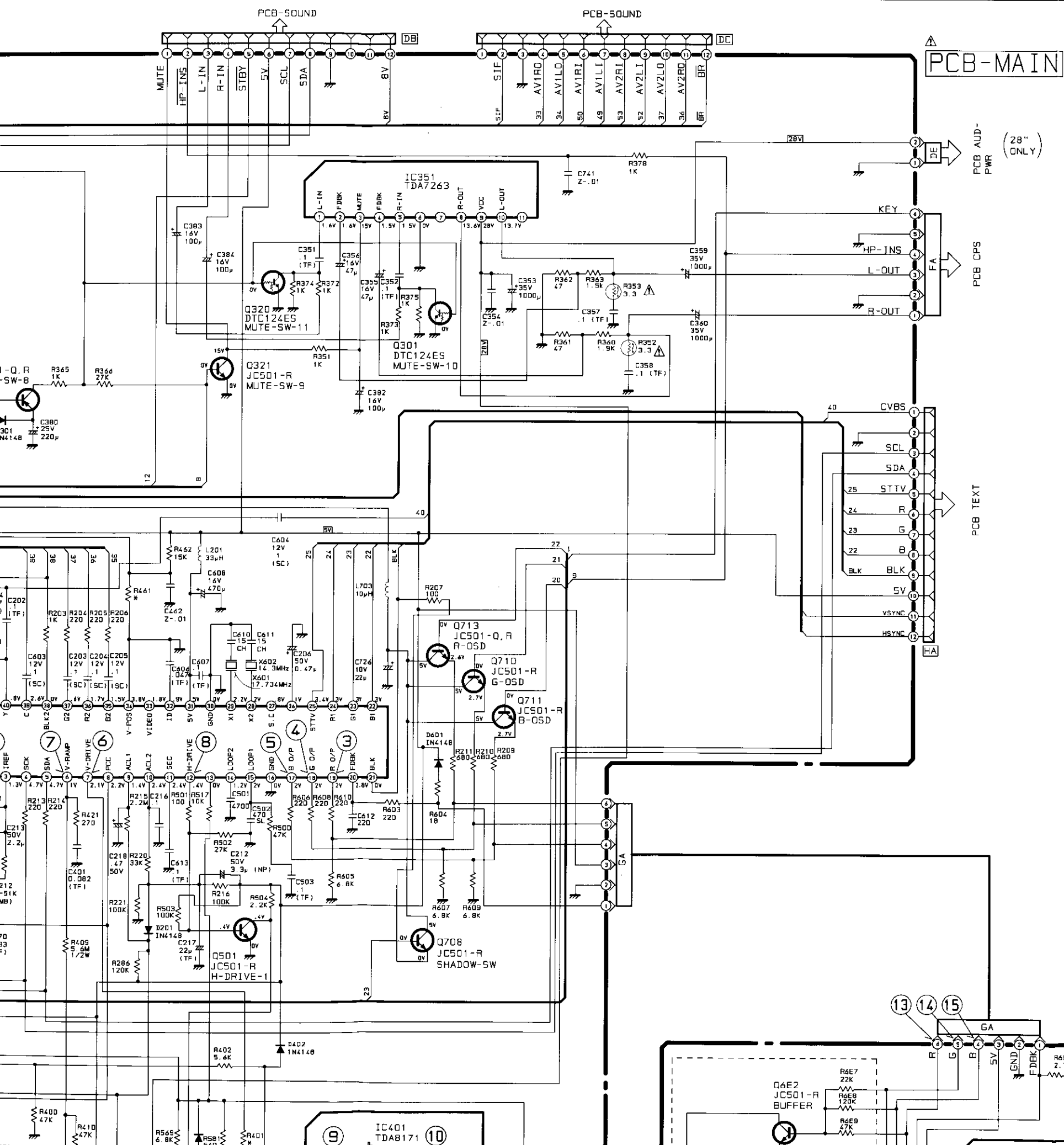
Value	without spec.	Ω , K = K Ω , M = M Ω
Wattage	without spec.	1/4W or 1/6W (chips: 1/10W)
Tolerance	without spec.	$\pm 5\%$ D = $\pm 0.5\%$, F = $\pm 1\%$, G = $\pm 2\%$, J = $\pm 5\%$, K = $\pm 10\%$
Type	without spec.	Carbon film (S) Composition (MB) Metal oxide film (CE) Cemented (W) Wire wound (M) Metal film (MPC) Metal plate cement (ML) Metal linear

CAPACITORS

Value	without spec.	pF for values >1, μ F for values <1
Voltage	without spec.	50V
Tolerance	without spec.	electrolytic: $\pm 20\%$, others $\pm 10\%$ C = $\pm 0.25\text{pF}$, D = $\pm 0.5\text{pF}$, F = $\pm 1\text{pF}$, G = $\pm 2\text{pF}$ or 2%, J = $\pm 5\%$, K = $\pm 10\%$, M = $\pm 20\%$, P = +100 -0%, Z = +80 -20%, Q = +30 -10%, T = +200 -0%
Type	without spec.	Ceramic (MF) Polyester (PP) Polypropylene film (ALM) Aluminous electrolytic (TF) Twin film (SC) Semiconductor ceramic (MP) Metalised paper (MPP) Metalised plastic film (MMF) Metalised polyester (MF,PP) Polyester/polypropylene film (PS) Polystyrene (styrol) (TAN) or (TANT) Tantalum Electrolytic (BP) or (NP) Non-polarised electrolytic
Characteristic	(only ceramic capacitors)	without spec. B or F (high dielectric) CH, SL, etc. Temperature compensating types







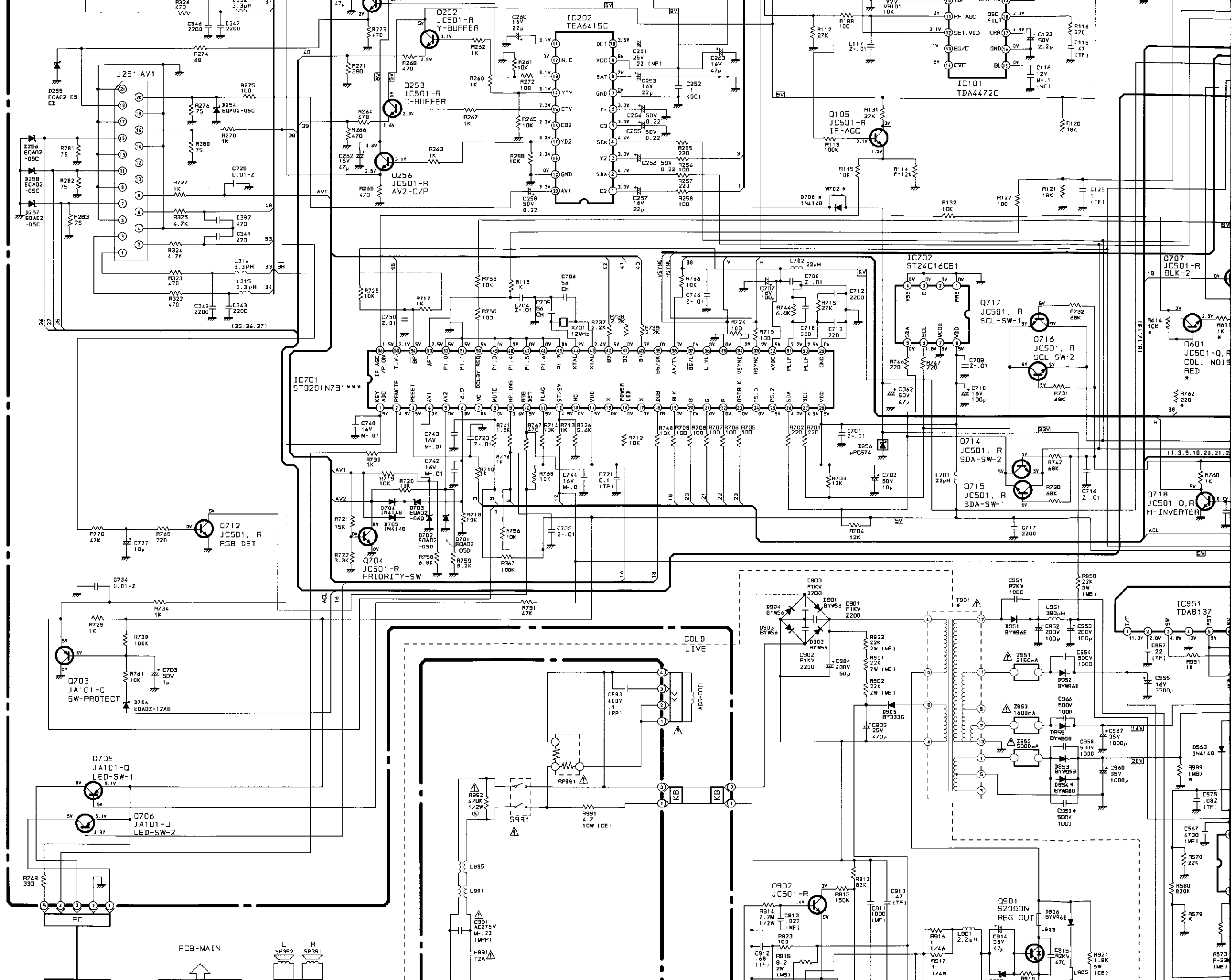
DIFFERENCE LIST
UK/IRISH MODELS

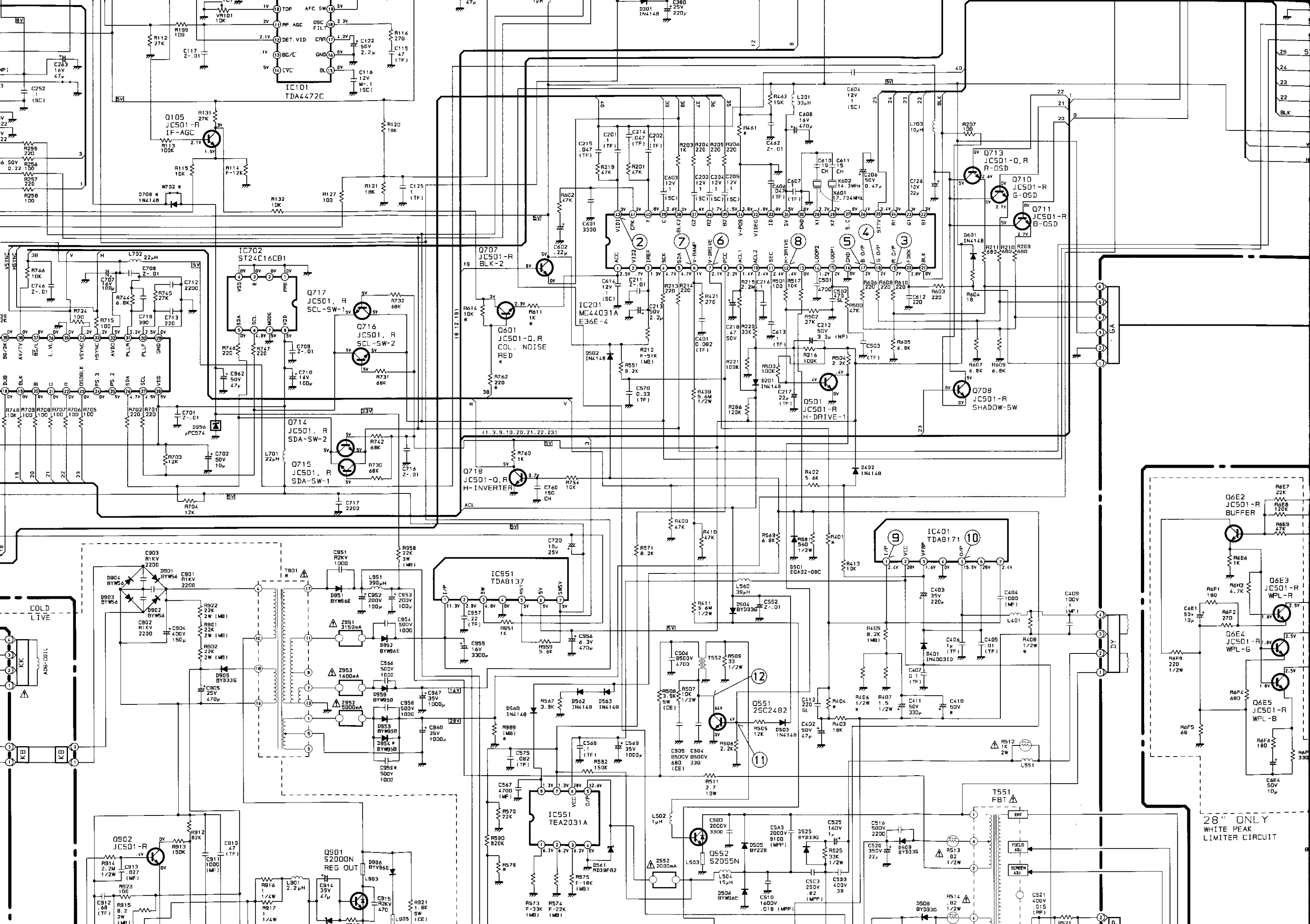
REF.	B	L
C736	—	○
C737	—	○
C738	—	○
D707	—	○
D708	—	○
Q106	—	○
Q107	—	○
Q108	—	○
R101	○	—
R736	○	—
R765	22K	22K-F
SF101	J3950	K3953
TU101	U1343/1EC	UV1315/1EC
W113	—	○
W114	—	○
W115	—	○
W702	○	—
W750	○	—

DIFFERENCE LIST
CRT SIZE

REF.	25"	28"
C410	470p 50V	1000p 50V
C665	47pF	100pF
C959	—	○
D954	—	○
R401	10K	15K
R404	27K	18K
R406	1.2 1/2W	1.5 1/2W
R408	220	330
R456	330 1W	220 1W
R458	—	○
R460	27K	10K
R461	2.7K	5.6K
R521	68K	56K
R579	82K	120K
R671	2 2-K/J 1W	0.68-K/J 1W
R989	1.5K 1W	2.2K 2W
T901	350P644040	350P644050
CRT	A59ECF50X12	A66EHJ43X01

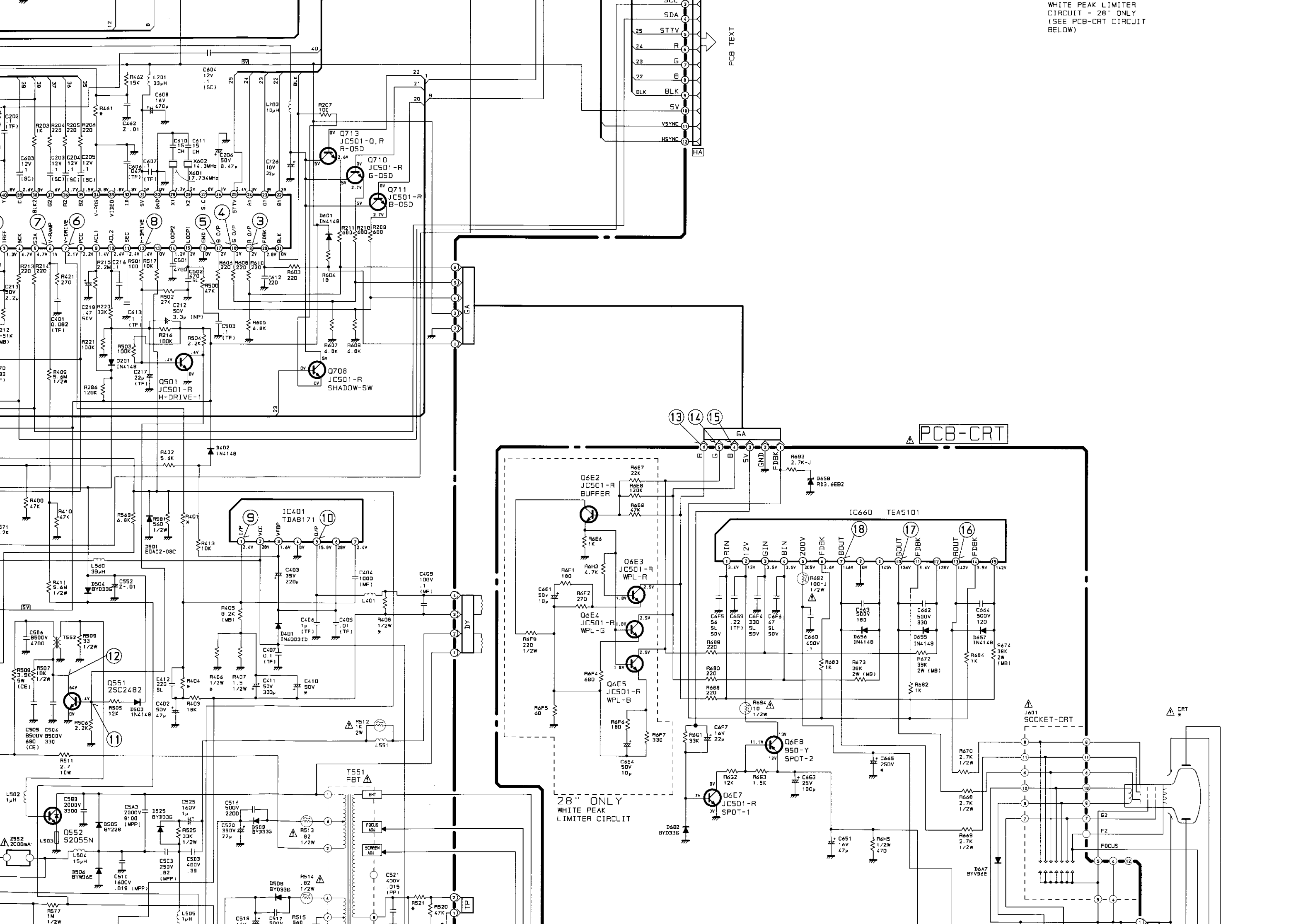
WHITE PEAK LIMITER
CIRCUIT - 28" ONLY
(SEE PCB-CRT CIRCUIT
BELOW)





28" ONLY
WHITE PEAK
LIMITER CIRCUIT

WHITE PEAK LIMITER
CIRCUIT - 28" ONLY
(SEE PCB-CRT CIRCUIT
BELOW)

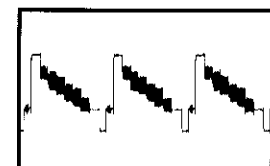
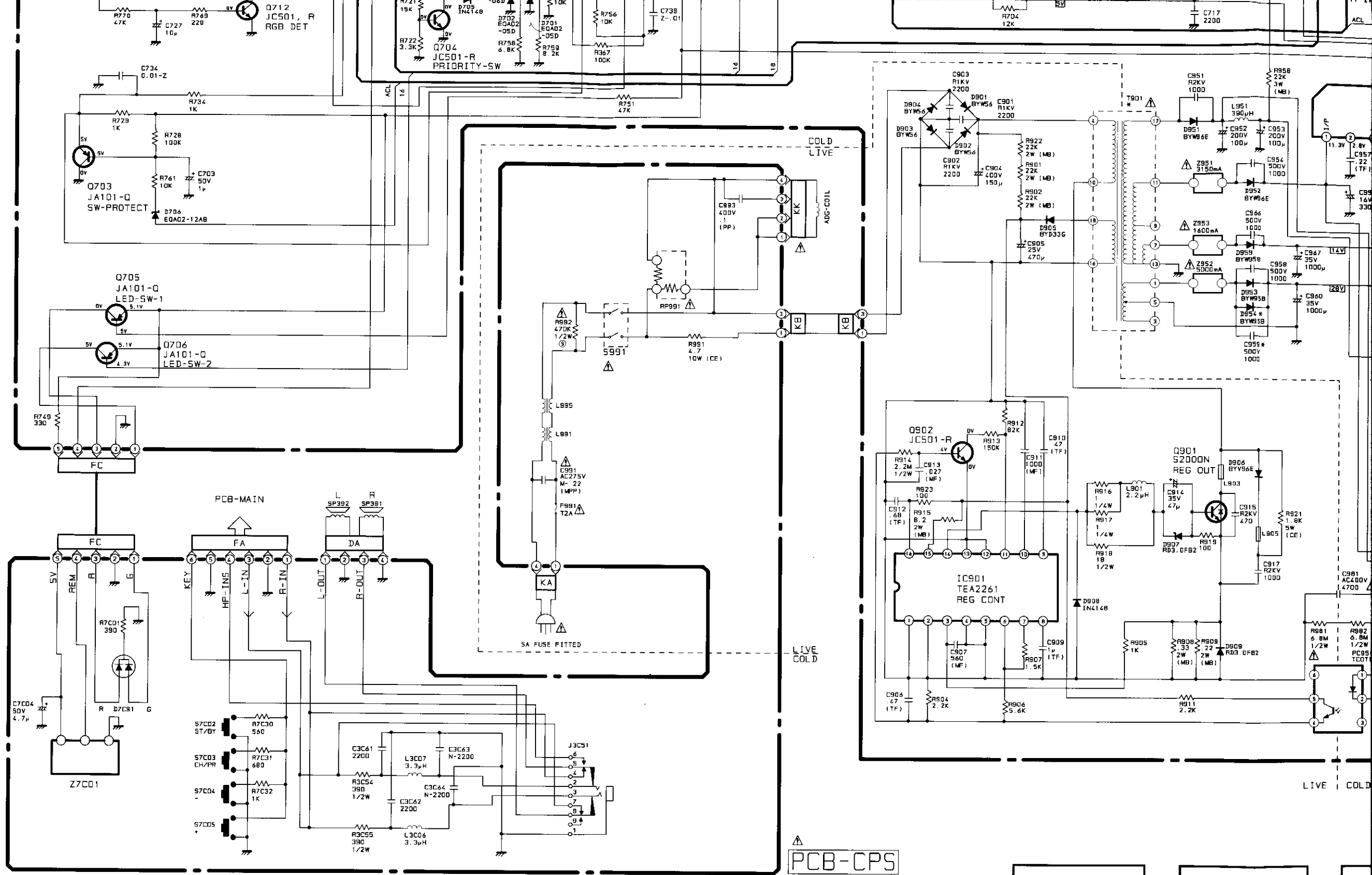


28" ONLY
WHITE PEAK
LIMITER CIRCUIT

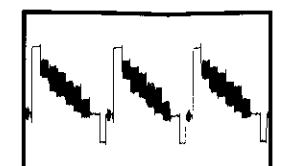
PCB-CRT

J401
SOCKET-CRT

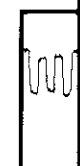
CRT



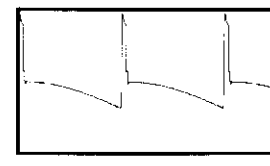
1 2.1V p-p (H)



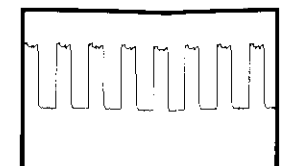
2 1.1V p-p (H)



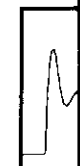
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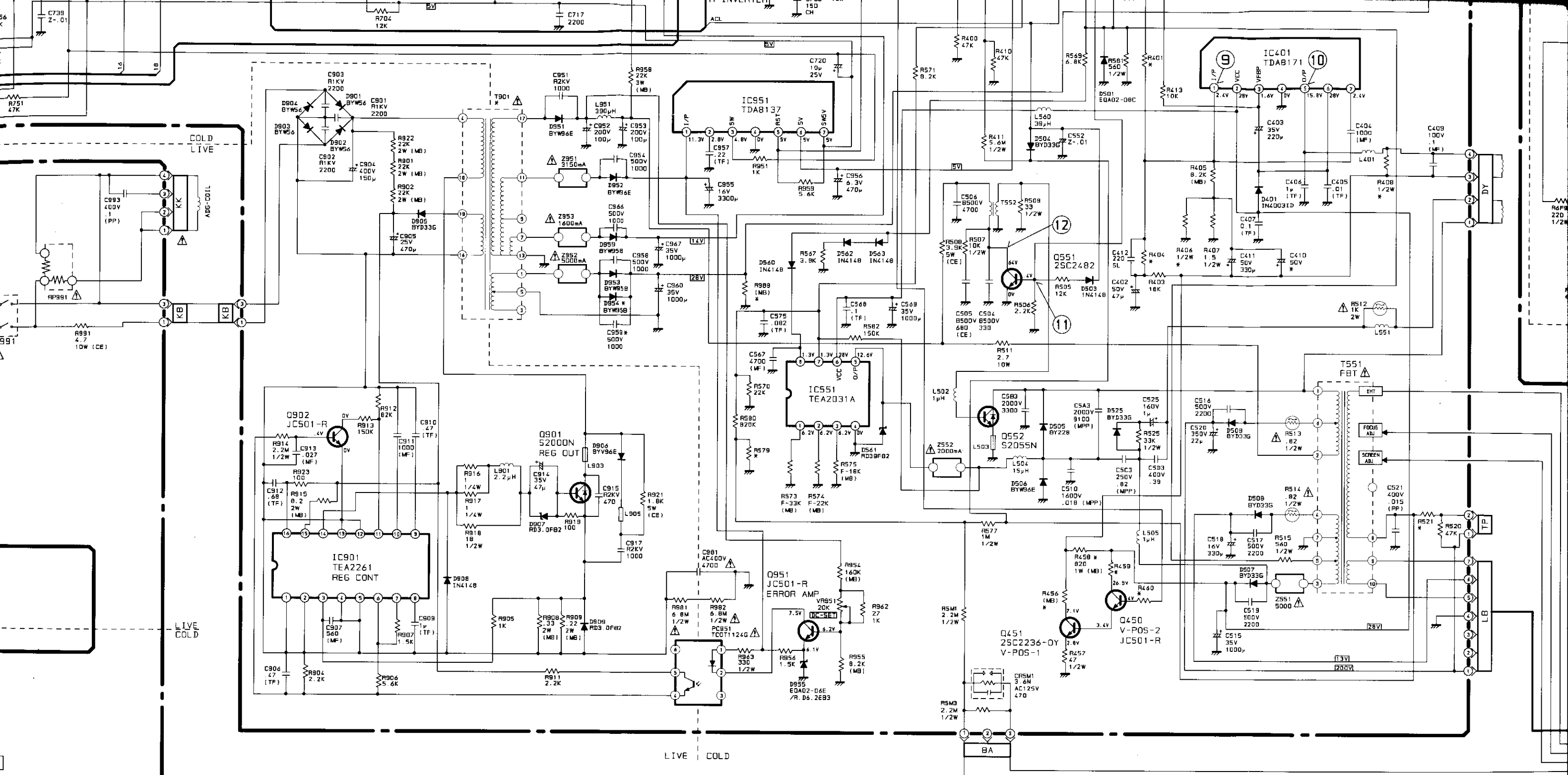
10 52V p-p (V)



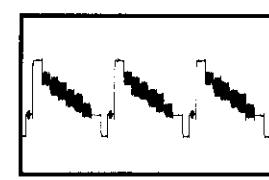
11 0.8V p-p (H)



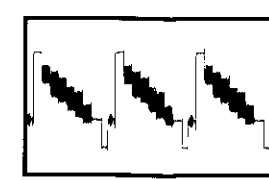
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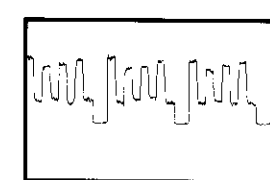
PCB-CPS



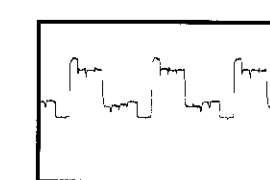
1 2.1V p-p (H)



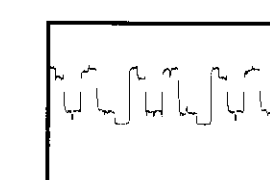
2 1.1V p-p (H)



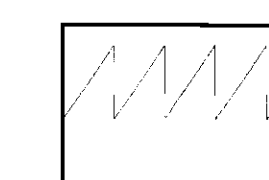
3 2.0V p-p (H)



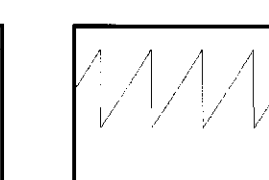
4 2.0V p-p (H)



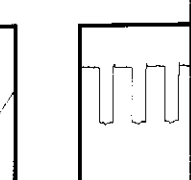
5 2.0V p-p (H)



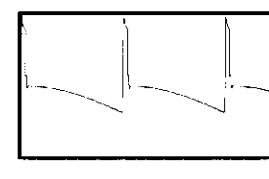
6 1.6V p-p (V)



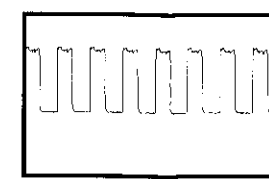
7 1.6V p-p (V)



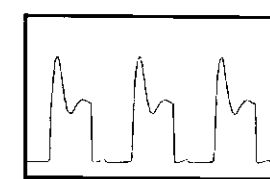
8 0.6V p-p (H)



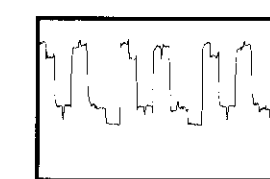
10 52V p-p (V)



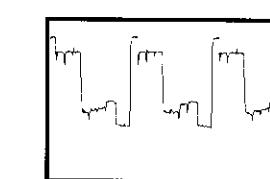
11 0.8V p-p (H)



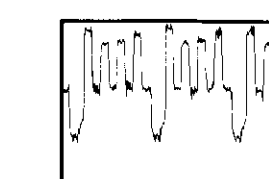
12 220V p-p (H)



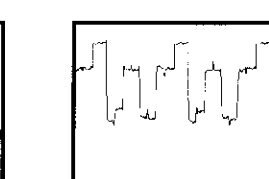
13 1.2V p-p (H)



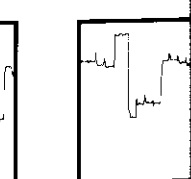
14 1.3V p-p (H)



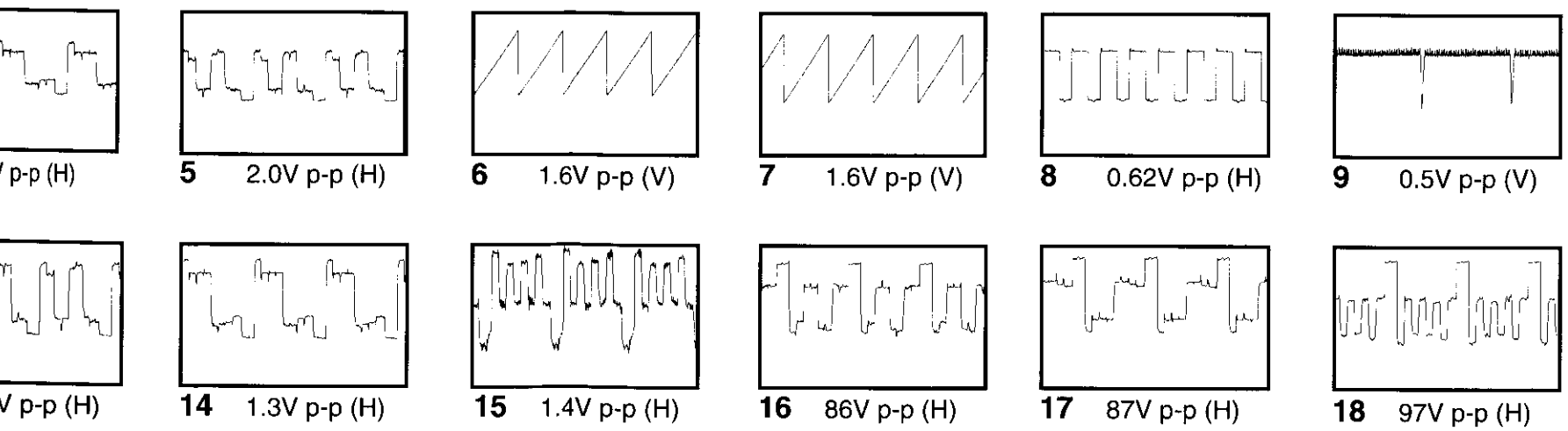
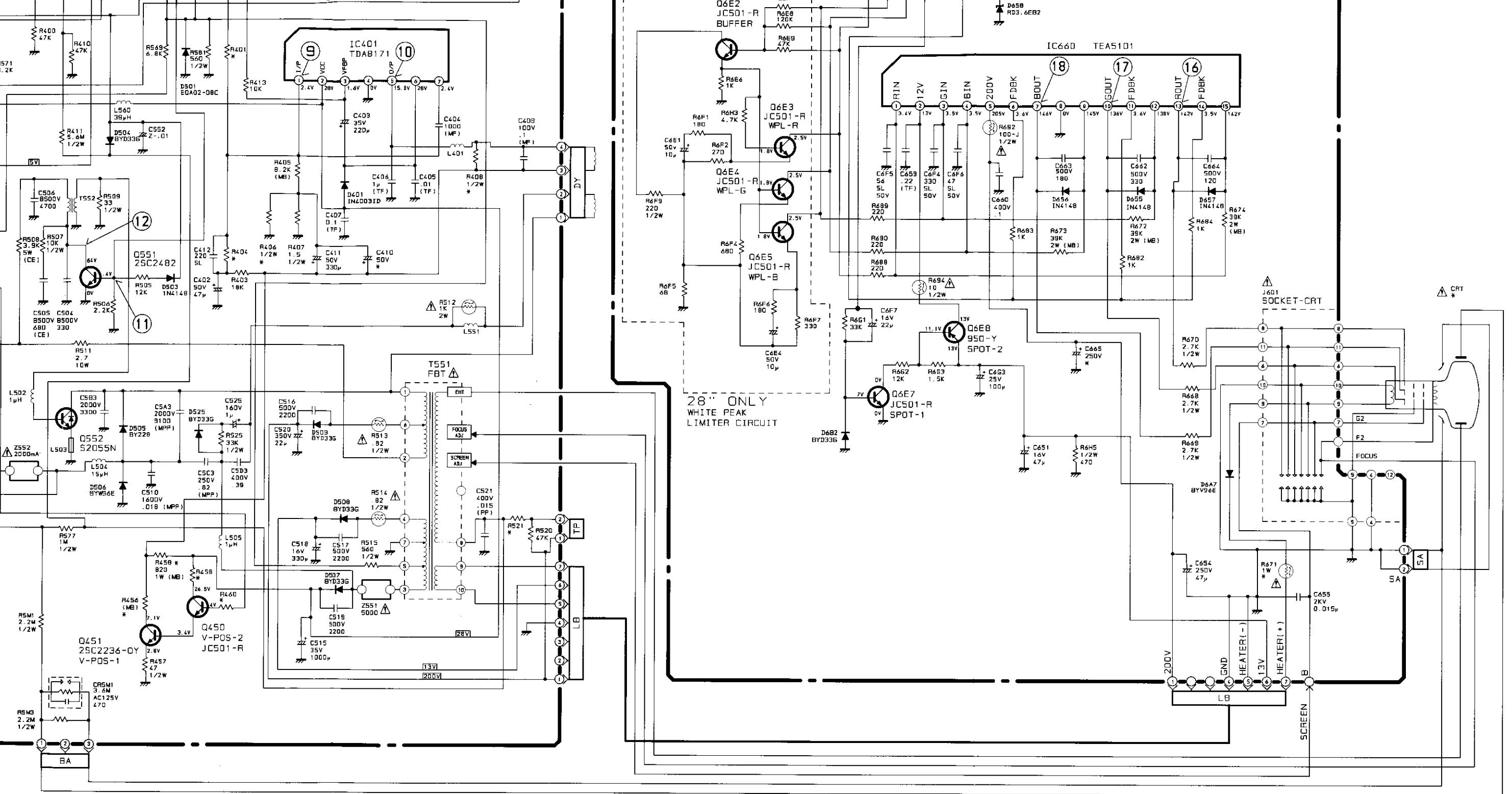
15 1.4V p-p (H)



16 86V p-p (H)



17 87V p-p (H)

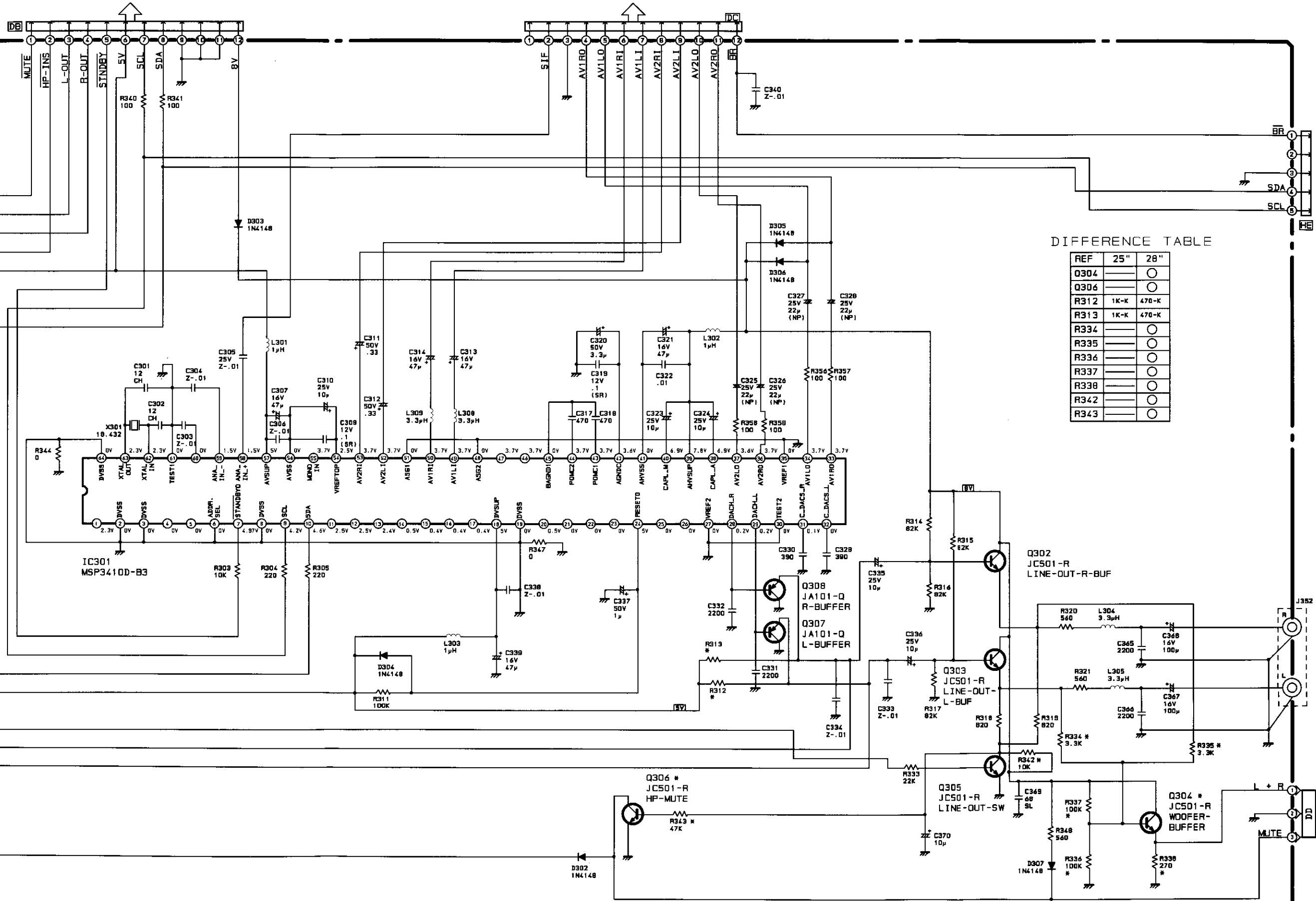


C25S7B	C28S7B
C25C7B	C28C7B
C25S7L	C28S7L

MITSUBISHI ELECTRIC

PCB-MAIN

PCB-MAIN

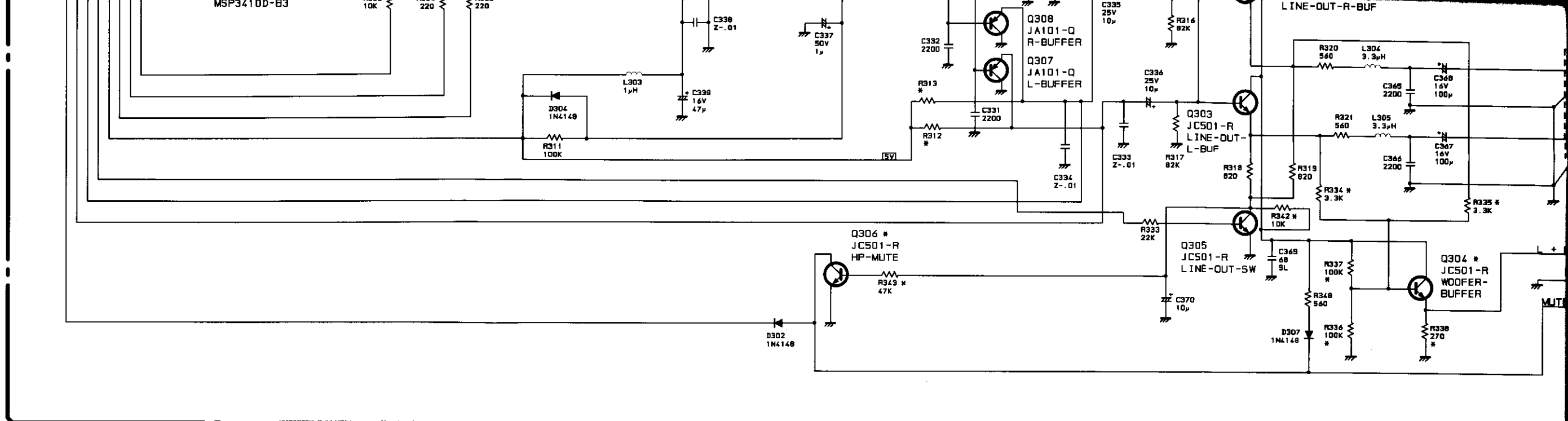


DIFFERENCE TABLE

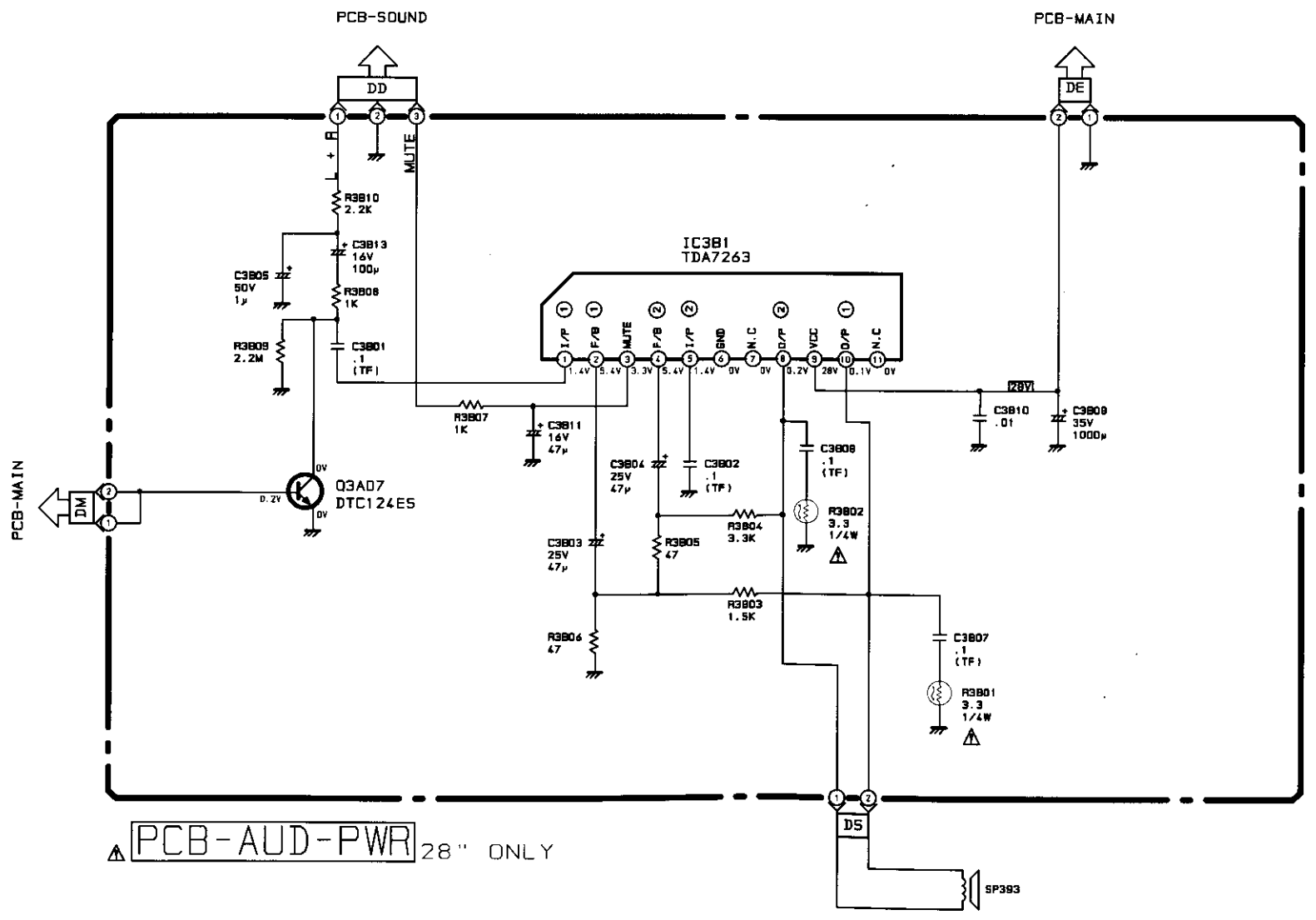
REF	25"	28"
Q304	○	○
Q306	○	○
R312	1K-K	470-K
R313	1K-K	470-K
R334	○	○
R335	○	○
R336	○	○
R337	○	○
R338	○	○
R342	○	○
R343	○	○

PCB-SOUND

PCB-AUDIO-POWER
28" ONLY



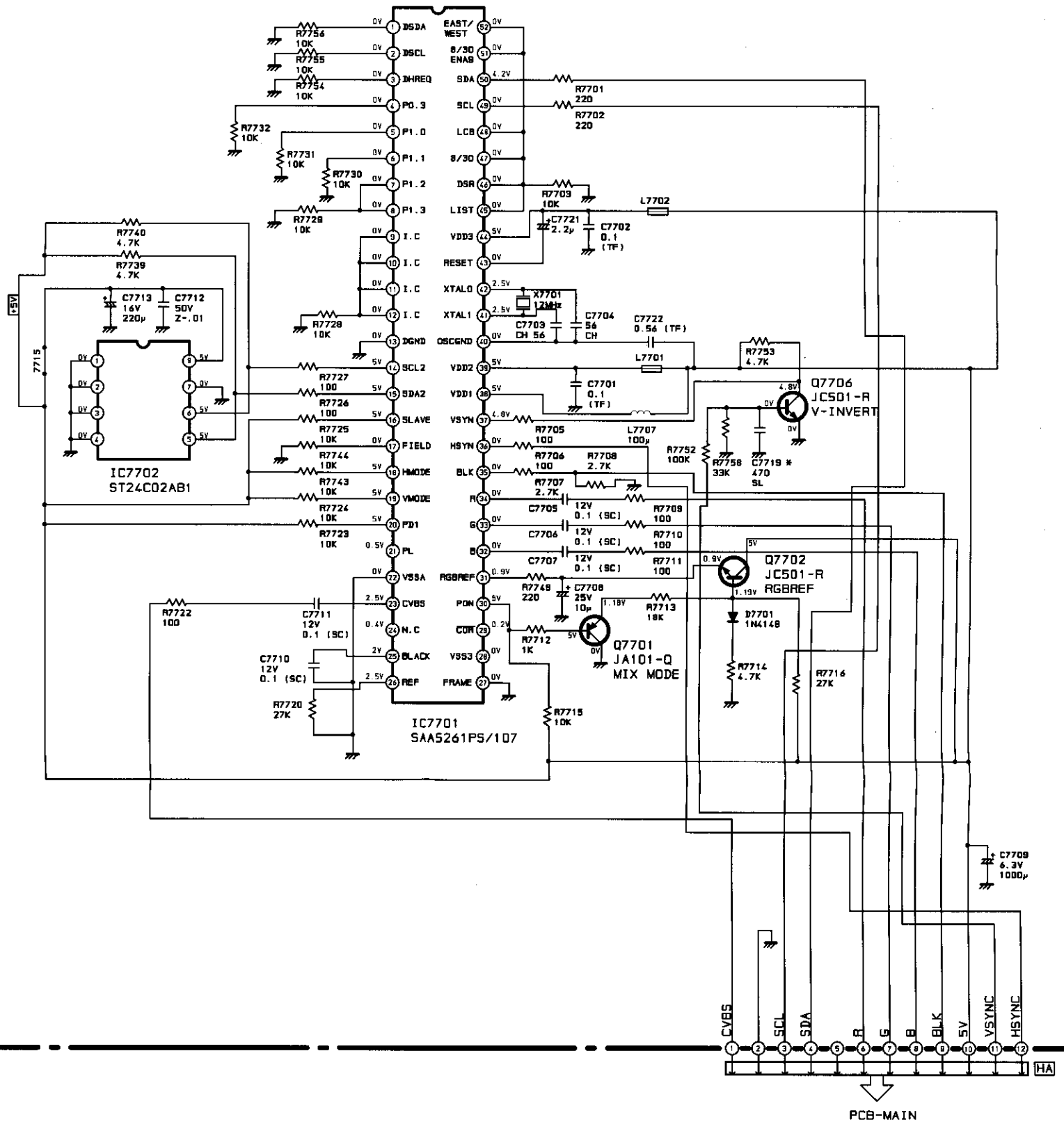
▲ PCB-SOUND



▲ PCB-AUD-PWR 28" ONLY

DIFFERENCE TABLE

REF.	25"	28"
C7719	○	—



PCB-TEXT

PCB-MAIN

