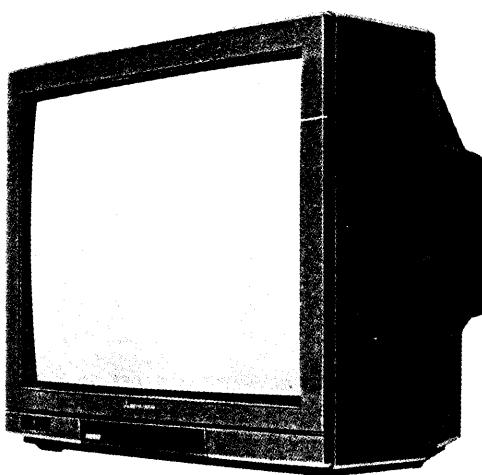


# MITSUBISHI

# Service Manual

AUGUST 1989



## MODELS

**CT-2525TX**  
**CT-2525LTX**

## SPECIFICATIONS

Reception System	CCIR-I
Colour System	PAL
Channels	<CT-2525TX> UHF 21~69 <CT-2525LTX> VHF A~J CATV UHF 21~69
Mains Input	AC240V 50Hz <CT-2525TX> AC220V 50Hz <CT-2525LTX>
Power Consumption	99W <CT-2525TX> 98W <CT-2525LTX>
Aerial Input	75Ω
Intermediate Frequency	Video 39.5MHz Sound 33.5MHz Colour 35.07MHz
Intercarrier Frequency	6.0MHz
Audio Output	5W <CT-2525TX> 4W <CT-2525LTX>
Speaker	4" (10cm)×5~7/8" (15cm) Oval type 1 pcs
Chassis	EURO 10
Picture Tube	A59JJZ30X 25" 100° Deflection
Semiconductors	<CT-2525TX> <CT-2525LTX>
Integrated Circuit	20
Transistors	32
Diodes	69
Positive Thermistor	1

Cabinet Dimensions	22-19/32"(W) × 19-27/32"(H) × 18-15/16"(D) 574mm 504mm 481mm
Weight	29.5kg (65 lbs)
Special Features	
• 30 Programme Selection and Channel Position Number, or Programme Name Display System	
• Push Button Voltage Synthesizer Tuning System with Automatic Fine Tuning Function	
• TV/VTR Common use Remote Control Hand Unit	
• 90/60/30 minutes Selectable OFF TIMER	
• On-Screen Indications as follows:	
Programme Name	
AV, Optimum, Colour, Picture, B-Level,	With Tuning
Off-Timer (Remaining Time), Volume, Sound Mute	Switch OFF
Channel Position Number, Programme Name, (Presetable) AFT, Rough Tuning Indication	With Tuning
	Switch ON
• 100° Deflection Picture Tube with Hi-Bi Potential Focus System with TINT Glass	
• A Red LED Standby and On Indicator	
• Video/Audio Input/Output and RGB Input Facility with SCART-SOCKET	
• Teletext Reception	
• Automatic Switch off 30 minutes of no reception	

**MITSUBISHI ELECTRIC (U.K.) LTD.**

- TRAVELLERS LANE HATFIELD, HERTS AL10 8XB  
PHONE: (07072) 76100 TELEX: 939070 MEUK G
- DUBLIN BRANCH OFFICE, MITSUBISHI HOUSE  
WESTERN, INDUSTRIAL ESTATE NAAS ROAD,  
DUBLIN 12, IRELAND



## SAFETY PRECAUTIONS

NOTICE: Observe all cautions and safety related notes located inside the receiver cabinet and on the receiver chassis.

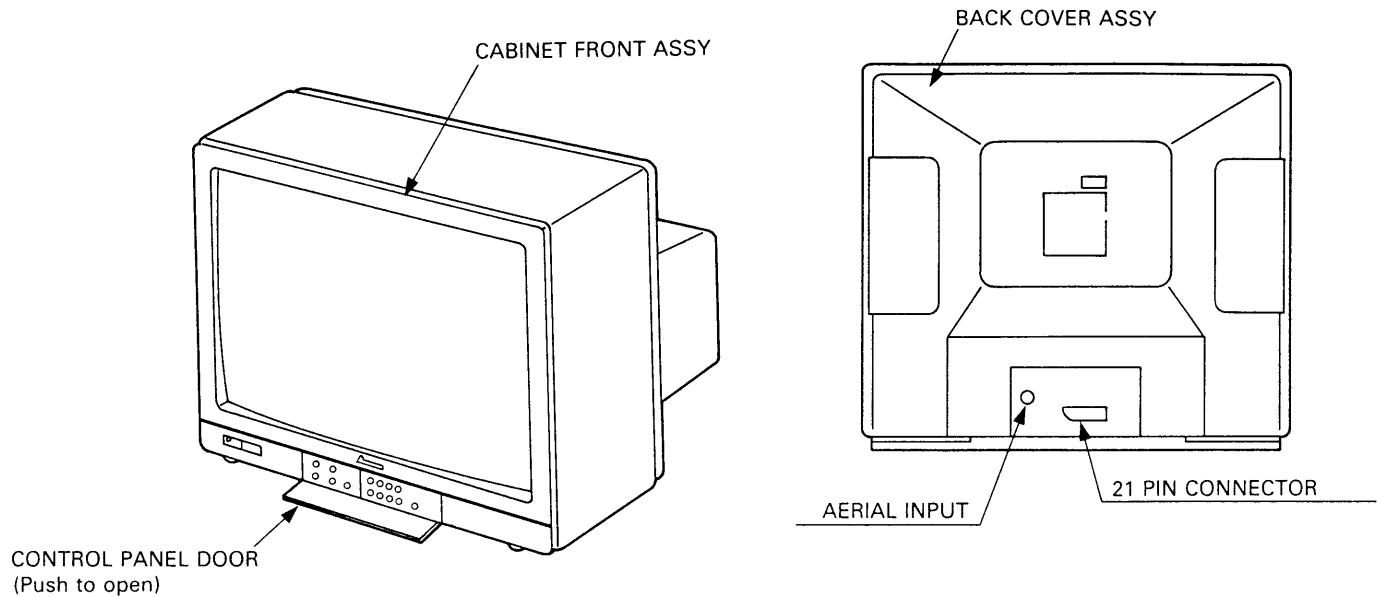
### WARNING

1. Operation of these receivers outside the cabinet or with the cover removed, involves a shock hazard from the receiver power supplies. Work on the receiver should not be attempted by anyone who is not thoroughly familiar with precautions necessary when working on high voltage equipment.
2. Do not install, remove or handle the picture tube in any manner 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.
3. When service is required, observe the original lead dressing. Extra precaution should be given to ensure correct lead dressing in the high voltage area. Where a short-circuit has occurred, replace those components that indicate evidence of over-heating.

### LEAKAGE CURRENT COLD CHECK

Before returning the receiver to the customer, it is recommended that the leakage current be measured according to the following methods.

With the AC plug removed from the 240V/220V AC source, place a jumper across the two AC plug prongs. Turn the receiver AC switch on. Using an OHM-METER, connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part (antennas, screwheads, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistance reading of 1 megohm. Any resistance below this value indicates an abnormality which requires corrective action.



### INSIDE CONTROL DOOR

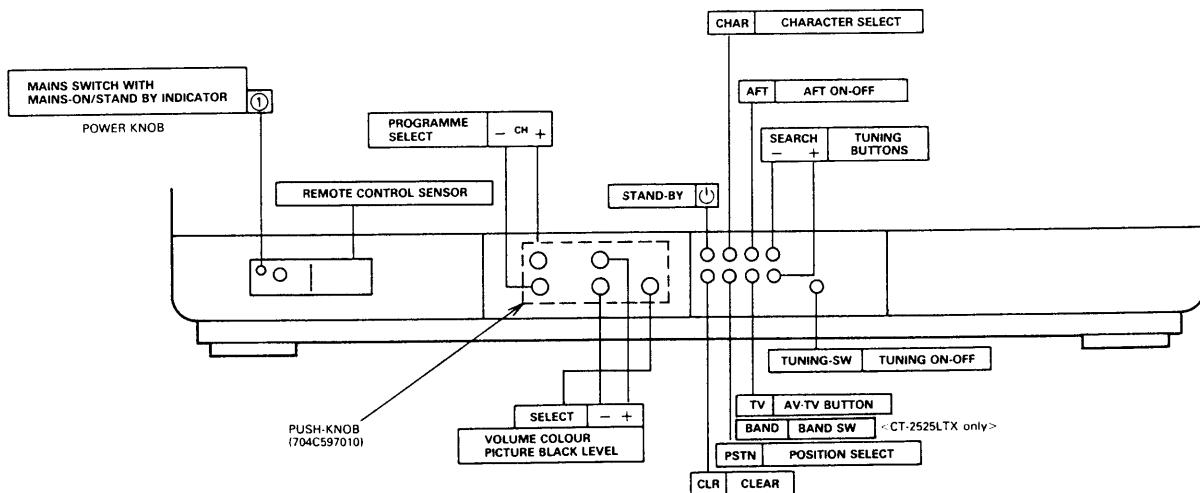
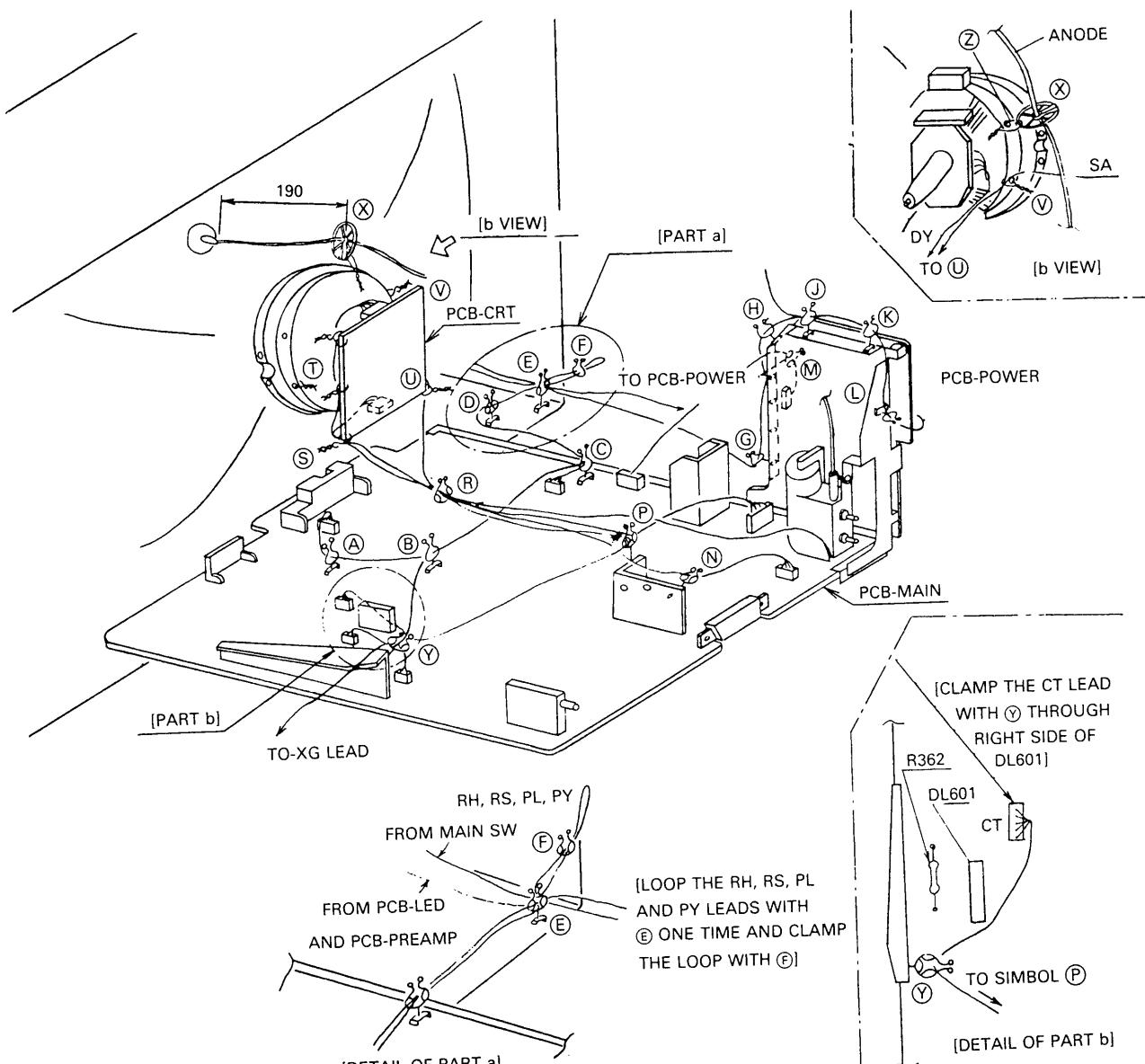


Fig. 1. Control and Cabinet Parts



MARK	LEADS TO BE CLAMPED	REMARK
A	PB	
B	PD, PB	
C	PD, PB, PA	
D	PD, PB, PA	
E	PD, PB, PA, RH, RS, PL, PY	
F	PL, PY, RH, RS	
G	PL	
H	PL	
J	PL, PC	
K	PL, PC	
L	PL, PC	
M	PZ	
N	PS	
P	DY	

MARK	LEADS TO BE CLAMPED	REMARK
R	DY, CT, PS, SCREEN FOCUS	
S	SA [2 LAYER CLAMP]	
T	SA	[LOWER HOLE OF DY]
U	SA, DY [2 LAYER CLAMP]	
V	SA	[LOWER HOLE OF DY]
X	ANODE	
Y	CT, PD, XG	
Z	SPACER-RING	[UPPER HOLE OF DY]

Fig. 2. Lead Dressing

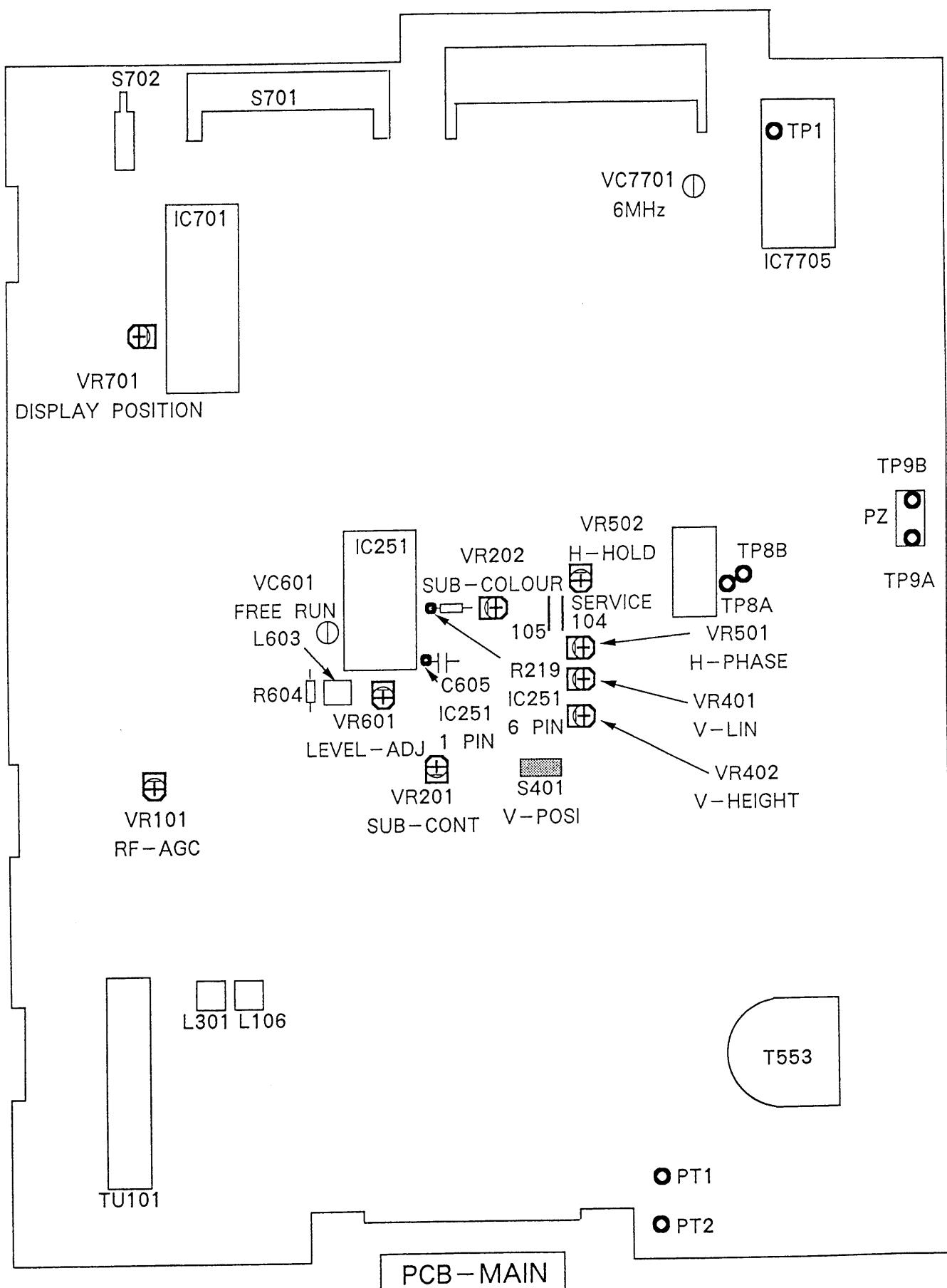
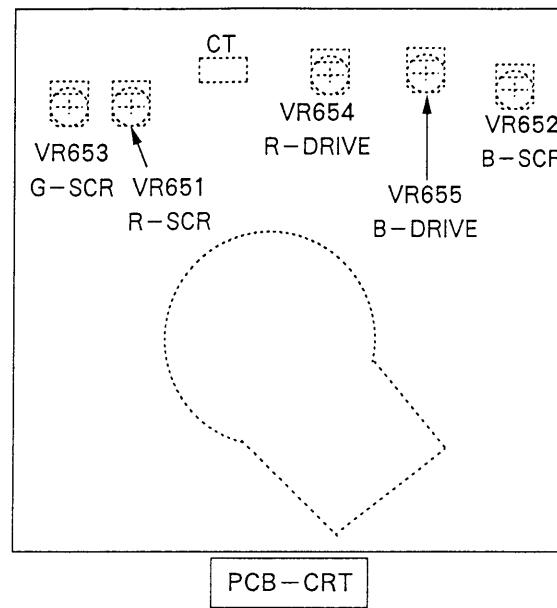
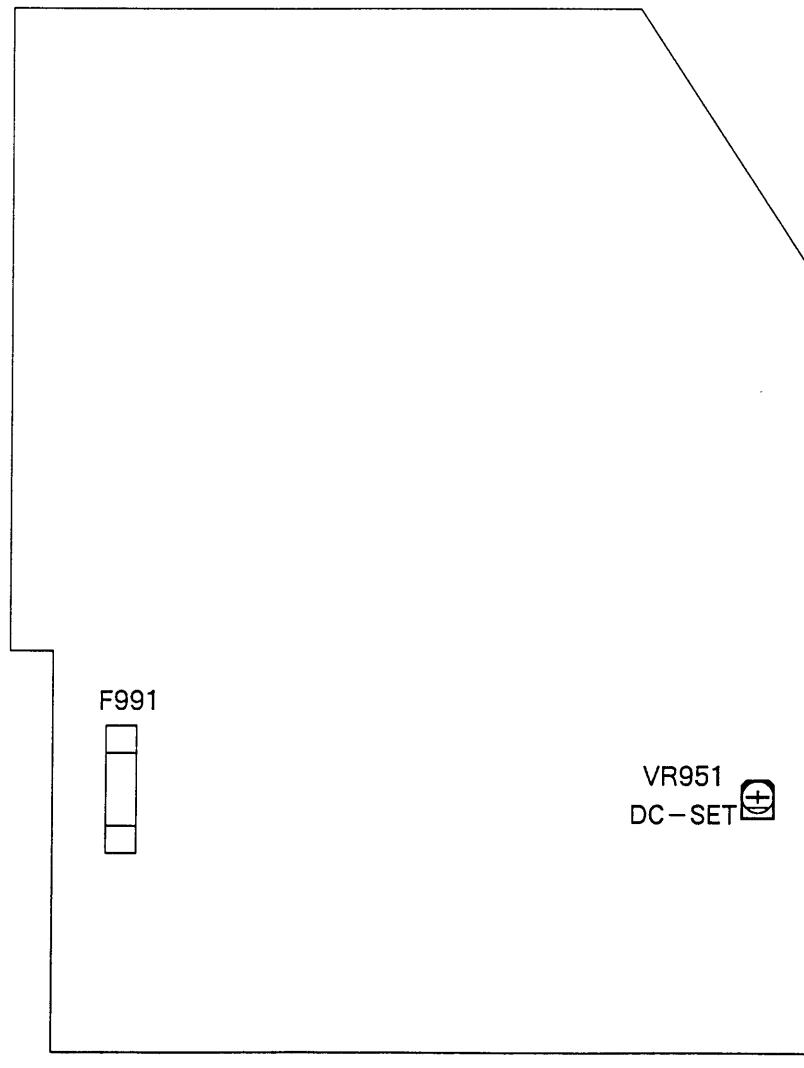


Fig. 3(a). Location of Controls on PCB



**Fig. 3(b). Location of Controls on PCB**



**Fig. 3(c). Location of Controls on PCB**

#### **RF AGC (VR101)**

- (1) Turn AFT on.
- (2) Set channel selector to a channel where crossmodulation or overload exists.
- (3) Turn RF AGC control VR101 slowly counterclockwise until the noise disappears.
- (4) Check all channels available and make sure no noise or cross-modulation is observed.

#### **SUB CONT (VR201)**

- (1) Tune receiver into a PAL colour bar signal.
- (2) Press "OPTIMUM" button on I/R remote control. Set COLOUR control to minimum position.
- (3) Finely adjust CRT-BIAS (SCREEN) control so that dark point does not brighten and blue bar is at normal condition. (Used G card signal).
- (4) Connect a DC ammeter with 1mA full scale between the testpoint PT1(+) and PT2(-).
- (5) Adjust SUB CONT control VR201 for beam current of  $650 \pm 20 \mu\text{A}$  on the meter.

#### **SIF (L301)**

- (1) Tune receiver into a programme.
- (2) Set volume control at a position where correct volume is obtained.
- (3) Adjust L301 for maximum volume with minimum buzz.

#### **HEIGHT AND LINEARITY (VR402, VR401)**

Make sure the AC power supply voltage is at the specified value.

- (1) Tune receiver into a programme.
- (2) Adjust HEIGHT control VR402 for approx 90% vertical size of raster.
- (3) Adjust V. LIN control VR401 for symmetry of vertical linearity.
- (4) Press "OPTIMUM" button.
- (5) Adjust HEIGHT control VR402 for normal vertical size.
- (6) Repeat steps above, if necessary.

#### **HORIZONTAL FREQ CONTROL (VR502)**

If there is difficulty in maintaining horizontal sync, adjust VR502.

- (1) Tune receiver into a programme.
- (2) Short circuit the test points TP8A and TP8B.
- (3) Adjust H-HOLD control VR502 for near synchronization.
- (4) Remove the shorting lead from TP8A and TP8B.

#### **HORIZONTAL CENTERING (VR501)**

- (1) Tune receiver into a programme.
- (2) Adjust H-HOLD control VR502 as described above.
- (3) Adjust H-PHASE control VR501 to centre the picture.

#### **V-POSITION (S401)**

- (1) Tune receiver into a programme.
- (2) Set V-POSITION control S401 for optimum raster position.

#### **FOCUS**

- (1) Tune receiver into a monochrome signal.
- (2) Press "OPTIMUM" button on I/R remote control.
- (3) Adjust FOCUS control for best overall focus.

#### **DC-SET (VR951)**

- (1) Tune receiver into a monochrome programme.
- (2) Press "OPTIMUM" button, on I/R remote control.
- (3) Make sure the mains voltage is 240V/220V.
- (4) Connect a DC volmeter of 150V full scale between the TP9A (+) and TP9B (-).
- (5) Adjust DC-SET control VR951 for voltage of  $112 \pm 3\text{V}$ .

#### **TELETEXT FREE RUN FREQUENCY ADJUSTMENT (6MHz)**

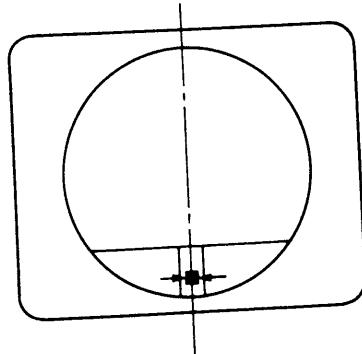
Run the decoder for over 5 minutes for stabilization.

- (1) Disconnect Antenna Cable from Antenna Terminal to display a snow noise on the screen.
- (2) Connect Digital Frequency Counter to test point TP-1.
- (3) Adjust VC7701 for  $6000.2 \pm 0.2\text{kHz}$ .

#### **DISPLAY POSITION (VR701)**

This adjustment shall be conducted after the H-PHASE control VR501 adjustment have been completed.

- (1) Tune receiver to a G-Card signal.
- (2) Press "OPTIMUM" button on I/R remote control and adjust DISPLAY POSITION control VR701 so that the optimum display shall be in the middle of the horizontal width of the picture. (Fig. 4).



**Fig. 4. DISPLAY POSITION**

## CHROMA CIRCUITS

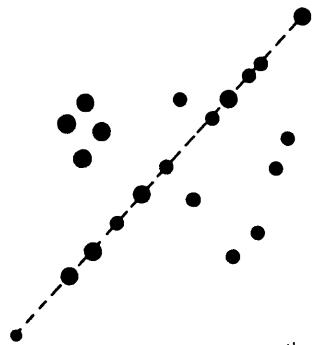
### PAL CIRCUIT

#### FREE RUN FREQUENCY (VR602)

- (1) Tune receiver to PAL colour bar signal.
- (2) Connect pin ① and pin ⑥ of IC251..
- (3) Short-circuit the resistor R604 (Short-lead length should not exceed 2 cm ( $1\frac{3}{16}$ "').)
- (4) Adjust OSC ADJ control VR602 for almost colour synchronization.
- (5) Remove the short-lead.

### VECTOR (VR601, L603)

- (1) Tune receiver into G-card signal.
- (2) Turn AFT on and confirm the AFT operation.
- (3) Press "OPTIMUM" button on I/R remote control.
- (4) Set the oscilloscope to the X-Y mode and connect pin ③ of the connector [CT] to the horizontal axis (X) and pin ⑤ of the connector [CT] to the vertical axis (Y).
- (5) Adjust LEVEL-ADJ control VR601 so that the right points shall gather to point "a" shown in Fig. 5.
- (6) Adjust TRANS DL OUT control L603 so that the outward double dots and the bright point at the point "b" shown in Fig. 5 draw together.



(a) Condition adjusted correctly

### COLOUR OUTPUT (VR202)

This adjustment shall be conducted after the VECTOR, FREE RUN FREQUENCY, Grey Scale and SUB-CONT adjustments have been completed.

- (1) Tune receiver into PAL colour bar signal.
- (2) Turn AFT on and confirm the AFT operation.
- (3) Press "OPTIMUM" button on I/R remote control.
- (4) Set the oscilloscope to the X-Y mode and connect pin ③ of the connector [CT] to the horizontal axis (X) and pin ⑤ of the connector [CT] to the vertical axis (Y).
- (5) Adjust SUB-COLOUR control VR202 so that a and a', b and b' and c and c' shall meet alternately.

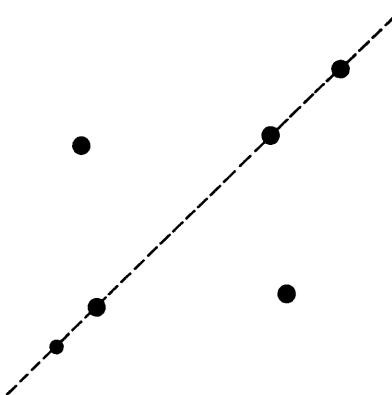


Fig. 6. (a) Condition adjusted correctly

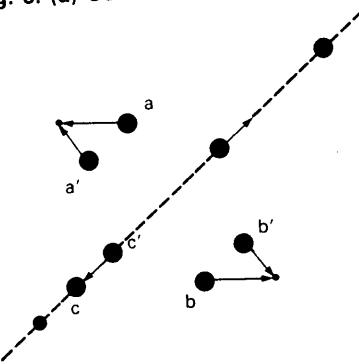
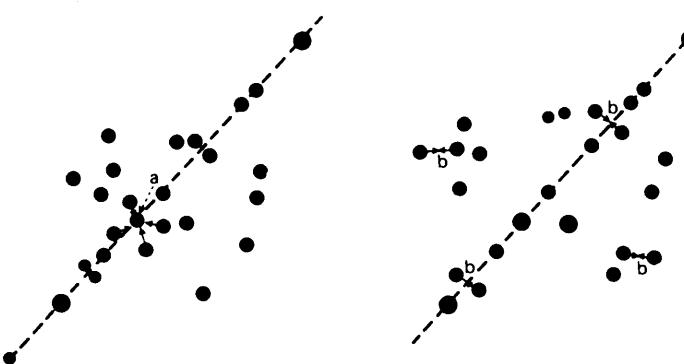


Fig. 6(b). Condition misadjusted



(b) Condition misadjusted

Fig. 5. Vector Pattern of G card-Signal

## PURITY AND CONVERGENCE

### Procedure

- (1) Remove the deflection yoke and the rubber wedges from the picture tube cone taking care not to strike or scratch the cone.
- (2) Clean the cement remaining on the deflection yoke and the surface of the picture tube cone.
- (3) Tune receiver into a cross-hatch signal.
- (4) Fit the deflection yoke on the neck of picture tube and push forward.
- (5) Fit C.P. (Magnet) Assembly to the neck of the picture tube and fasten with the screw at the position where the distance between 6-pole magnet end and the base of picture tube is as shown in Fig. 7.
- (6) Demagnetise at the front and sides of the picture tube with a degaussing coil.

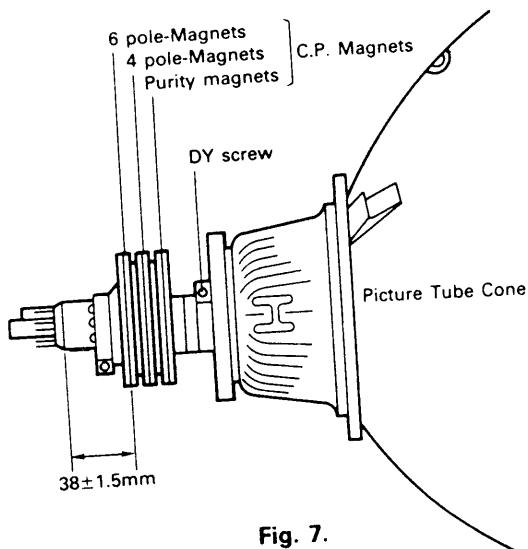


Fig. 7.

### Preliminary Adjustment

#### 1. Purity

- (1) Short-circuit the base and emitter of B-OUT transistor to produce yellow raster
- (2) With the deflection yoke positioned fully forward, adjust purity magnets so that the yellow vertical bar is at the centre of the screen. (Fig. 8)
- (3) Slide the deflection yoke slowly backwards to produce a uniform yellow raster.
- (4) Remove the shorting link on B-OUT transistor.
- (5) Short-circuit the base and emitter of corresponding two transistors as indicated in Table 1 to produce green, red, and blue rasters and to verify their purity, and fasten the DY screw on the deflection yoke temporarily.
- (6) Remove the shorting leads from respective transistors.

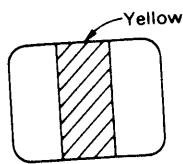


Fig. 8. Screen

Table 1 Transistors to be Shorted Base to Emitter to Produce Primary Colour

Raster \ Transistor	R-OUT	G-OUT	B-OUT
Red	Open	Short	Short
Green	Short	Open	Short
Blue	Short	Short	Open

### 2. Static Convergence

- (1) Press "OPTIMUM" button on I/R remote control.
- (2) Adjust two 4-pole magnets to converge red and blue vertical and horizontal lines at the centre of the screen.
- (3) Adjust two 6-pole magnets to converge the red and blue lines on the green line at the centre of the screen.

Note:

1. Adjustment of 4-pole magnets affects red and blue beams.
2. Adjustment of 6-pole magnets affects red and blue beams onto the green beam. (Fig. 9)

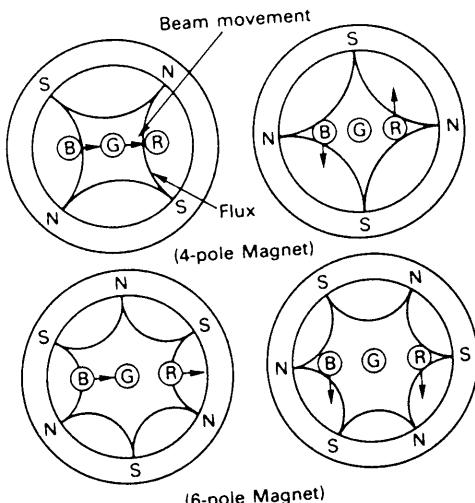


Fig. 9.

### 3. Focus

If necessary, adjust focus. Ascertain that focus is optimum throughout the entire screen. Do not adjust focus after the following adjustments.

### Regular Adjustment

#### 1. Purity

- (1) Short-circuit the base and emitter of B-OUT transistor to produce yellow raster.
- (2) Loosen the deflection yoke screw and move it forwards and check that the yellow vertical bar is at the horizontal centre. (Fig. 8)
- (3) If necessary, adjust purity magnets.
- (4) Slide the yoke backwards to produce a uniform yellow raster.

- (4) Short-circuit the base and emitter of corresponding two transistors as indicated in Table 1 to produce green, red, and blue rasters and verify their purity, then fasten the DY screw of the deflection yoke temporarily.

(5) If necessary, repeat steps above.

(6) Fix the yoke in position using the DY screw.

Note: When adjusting the deflection yoke position, do not touch the purity ring magnets except where necessary.

## 2. Static Convergence

- (1) Tune receiver into a cross-hatch signal or test card.
- (2) Press "OPTIMUM" button on I/R remote control..
- (3) Adjust 4-pole magnets to converge red and blue vertical and horizontal lines at the centre of the screen.
- (4) Adjust 6-pole magnets to converge the red and blue lines converged on the green lines.
- (5) If necessary, repeat steps (3) and (4) above.

## 3. Periphery of Convergence

- (1) Observe the horizontal lines at the centre of screen. If the red and blue horizontal lines are shifted crossing with green horizontal lines as shown in Fig. 9 (A), converge them by swinging yoke vertically. Then confirm that vertical lines at the screen centre are also converged.
- (2) Observe the vertical lines at left and right centres of the screen as shown in Fig. 9 (B). If red or blue vertical lines are shifted against green vertical line, converge them by swinging yoke horizontally. Then confirm that the horizontal lines both at top and bottom centres of the screen are also converged.
- (3) The shift of beams as shown in Fig. 9 (C) can be converged by rotating the entire deflection yoke. The rotation of the yoke should be made in consideration of a point where raster rotation and convergence compromise.

Note: Never perform focus adjustment after convergence adjustments. If focus is adjusted after convergence adjustment, check convergence again.

- (4) Push the three rubber wedges between the picture tube cone and the deflection yoke at the positions indicated in Fig. 10.
- (5) Observe the entire screen and make sure convergence adjustment is complete. If necessary, change the positions of the wedges and repeat steps (1) and (2) above.
- (6) After the position of the wedges have been decided, gently turn up the end of the wedge and strip the tape from the rear of the end to expose the adhesive material, then adhere to the picture tube cone. (Fig. 11)

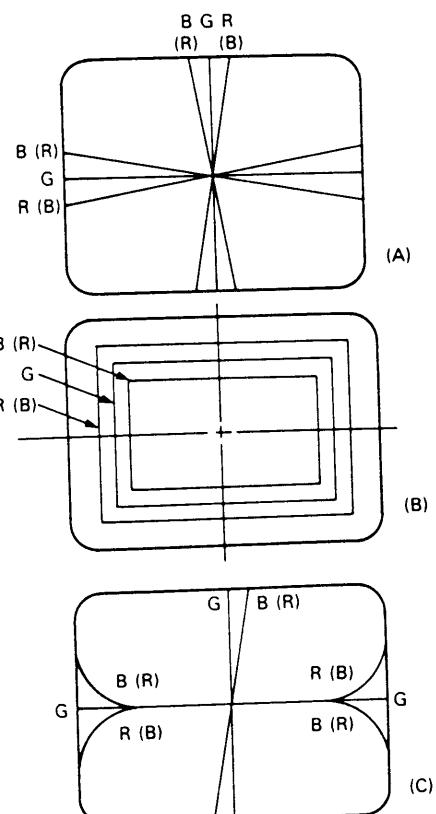


Fig. 9.

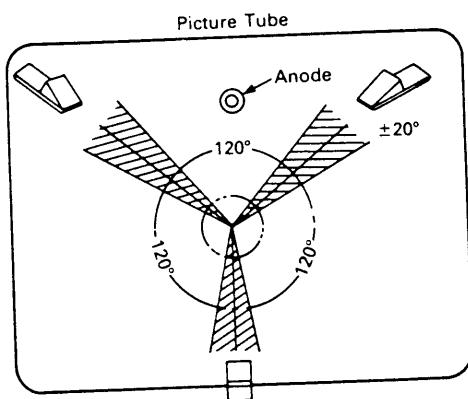


Fig. 10.

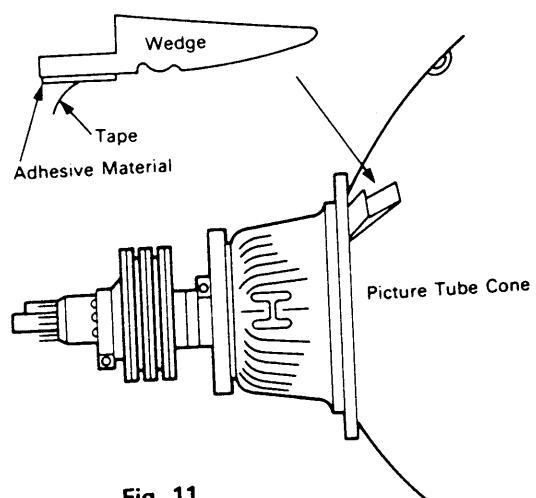


Fig. 11.

## **GREY SCALE**

Grey scale adjustment procedure described below may be necessary when replacing picture tube or PCB-CRT.

- (1) Set to the no signal condition in the AV mode.
- (2) Set the following variable resistors to the specified positions.

Drive control VR654 and VR655:

At about 45° counterclockwise position from the centre. (on the foil side).

SUB-CONT control VR201:

At about 45° counterclockwise position from the centre. (on the parts side).

Screen control of T553 (Flyback transformer):

Fully counterclockwise position

- (3) Connect the oscilloscope to Q651 and Q653 collector in turn. Connect the ground probe to the pin ② of connector CT.
- (4) Adjust SCREEN control VR651 to VR653 so that the PEDESTAL LEVEL of each collector shall be 160V.
- (5) Short-circuit the service terminals J104 (S) and J105.  
(The screen shows one horizontal line.)
- (6) Adjust the SCREEN control of the T553 (Flyback Transformer) so that one of red, green and blue begins to appear.
- (7) Adjust two of VR651, VR652 and VR653 so that the two colours become equally bright.
- (8) Remove the short lead from R666 and service terminal. Re-set the no signal condition in the AV mode to the TV mode.
- (9) Tune receiver into a monochrome signal.
- (10) Adjust red and blue DRIVE controls VR654 and VR655 to obtain a pure peak white raster.

# PARTS LIST FOR MODELS

## CT - 2525TX / CT - 2525LTX

In order to expedite delivery of replacement part orders.

- Specify : 1. Model number / Serial number
- 2. Part number and Description
- 3. Quantity

Unless full information is supplied, delay in execution of orders will result.

Critical components       New Parts

RESISTOR		CAPACITOR	
MARK	TOLERANCE	MARK	TOLERANCE
J	± 5 %	J	± 5 %
K	± 10 %	K	± 10 %
M	± 20 %	M	± 20 %
N	± 30 %	P	+ 100 % - 0 %
			F
			Q

SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION			
<b>TUBES</b>								
○△V 271 255P921010 CATHODE RAY TUBE A59JJZ30X02N								
<b>INTEGRATED CIRCUITS</b>								
IC101	272P150010	M51496P	Q 651	260P425070	2SC2688-M. N			
IC150	266P192010	LA7910	Q 652	260P425070	2SC2688-M. N			
IC251	272P148010	TDA3561A	Q 653	260P425070	2SC2688-M. N			
IC2A2	266P064010	M51320P	Q 654	260P544050	JA101-Q. R			
IC361	266P512010	AN5265	Q 701	260P559050	2SC1740S-E			
○ IC401	272P174010	μ PC1498H	Q 702	260P543020	JC501-Q-R			
IC501	272P147020	TDA2579A	Q 704	260P543020	JC501-Q-R			
IC701	272P090030	M50439-563SP	Q 7701	260P543050	JC501-Q			
IC702	272P064010	M58630P	Q 7702	260P543050	JC501-Q			
IC703	266P130030	PST520E	Q 7703	260P543050	JC501-Q			
○ IC704	266P010020	μ PC574J	Q 7705	260P543050	JC501-Q			
IC7704	272P193010	MAB8461P	Q 7706	260P543020	JC501-Q-R			
IC7705	272P096020	SAA5231	○ Q 901	260P663010	2SD1887			
IC7706	272P095050	SAA5243	Q 950	260P255040	2SA950-Y			
○ IC7707	263P622010	HM6264ALSP12	Q 951	260P543020	JC501-Q-R			
○ IC7708	272P192010	PCD8572	Q 952	260P255040	2SA950-Y			
○ IC901	272P411010	TEA2164	<b>DIODES</b>					
○ IC950	272P412010	TEA5170	D 105	264P393010	LIGHT EMITTING	SLC-26VR5		
IC951	266P922010	μ PC78M05H	D 154	264P463050	EQA02-09CD	(CT-2525LTX)		
IC952	266P922010	μ PC78M05H	D 201	264P370010	1N4148			
○ IC953	267P076010	SI-3120C	D 202	264P370010	1N4148			
<b>TRANSISTORS</b>								
Q 104	260P543020	JC501-Q-R	D 204	264P370010	1N4148			
Q 105	260P543020	JC501-Q-R	D 251	264P465040	EQA02-12AB			
Q 201	260P544050	JA101-Q. R	D 252	264P465040	EQA02-12AB			
Q 202	260P543020	JC501-Q-R	D 253	264P465040	EQA02-12AB			
Q 2A2	260P543020	JC501-Q-R	D 254	264P370010	1N4148			
Q 2A4	260P543020	JC501-Q-R	D 2A1	264P460020	EQA02-05CD/RD5. 1EB1			
Q 2B1	260P544050	JA101-Q. R	D 2A2	264P370010	1N4148			
Q 2B2	260P543020	JC501-Q-R	D 2B1	264P370010	1N4148			
Q 2B3	260P543020	JC501-Q-R	D 361	264P370010	1N4148			
Q 2B4	260P543020	JC501-Q-R	D 362	264P464080	EQA02-11C. D			
Q 2B5	260P543020	JC501-Q-R	D 401	264P374010	1N4003G			
Q 301	260P543020	JC501-Q-R	D 501	264P370010	1N4148			
Q 302	260P543020	JC501-Q-R	D 502	264P370010	1N4148			
Q 401	260P544050	JA101-Q. R	D 553	264P377020	BYW95B			
Q 551	260P422010	2SC2482	D 554	264P371010	BYD33G			
Q 552	260P607010	2SD1878	D 555	264P374010	1N4003G			
			D 559	264P370010	1N4148			
			D 560	264P370010	1N4148			
			D 701	264P370010	1N4148			
			D 702	264P370010	1N4148			
			D 709	264P370010	1N4148			

< CT - 2525TX/CT - 2525LTX >

SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
D 710	264P370010	1N4148	B		
D 712	264P370010	1N4148		DL251	337P114020    DELAY LINE
D 717	264P370010	1N4148		DL601	337P027030    DELAY LINE    SDL-145
D 719	264P370010	1N4148			
D 721	264P464080	EQA02-11C. D			
D 722	264P464080	EQA02-11C. D			
D 723	264P464080	EQA02-11C. D			
D 724	264P464080	EQA02-11C. D			
D 726	264P370010	1N4148			
D 727	264P370010	1N4148			
D 728	264P370010	1N4148			
D 729	264P370010	1N4148			
D 731	264P370010	1N4148			
D 732	264P370010	1N4148			
D 733	264P370010	1N4148			
D 734	264P370010	1N4148			
D 736	264P370010	1N4148			
D 739	264P370010	1N4148			
D 740	264P370010	1N4148			
D 7701	264P370010	1N4148			
D 7702	264P370010	1N4148			
D 7703	264P370010	1N4148			
D 7705	264P370010	1N4148			
D 7706	264P370010	1N4148			
D 7707	264P460020	EQA02-05CD/RD5.1EB1			
D 7708	264P370010	1N4148			
D 901	264P376010	BYW56			
D 902	264P376010	BYW56			
D 903	264P376010	BYW56			
D 904	264P376010	BYW56			
D 905	264P371010	BYD33G			
D 906	264P372010	BYV96E			
D 907	264P481060	RD3.0FB2			
D 908	264P370010	1N4148			
D 909	264P481060	RD3.0FB2			
D 950	264P378020	BYW96E			
D 952	264P377020	BYW95B			
D 953	264P377020	BYW95B			
D 954	264P374010	1N4003G			
D 955	264P491090	RD30FB3			
D 956	264P377020	BYW95B			
D 958	264P370010	1N4148			
D 959	264P370010	1N4148			
D 960	264P370010	1N4148			
OTHER SEMICONDUCTORS					
RP901	265P071050	POSITIVE THERMISTOR	PTH451C41BG180N		
FILTERS					
CF101	296P024040	CERAMIC FILTER	TPS6.0MB	VR501	127C081010    VR-SEMI-FIXED    1/5W B50KΩ-M
CF301	296P014030	CERAMIC FILTER	SFE-6.0MA	VR502	127C080080    VR-SEMI-FIXED    1/5W B10KΩ-M
CF701	299P046010	CERAMIC RESONATOR		VR601	127C080050    VR-SEMI-FIXED    1/5W B2KΩ-M
SF101	296P034060	SAW FILTER	KAF-39.5MR-MB	VR651	127C020070    VR-SEMI-FIXED    1/5W B5KΩ-N
				VR652	127C020070    VR-SEMI-FIXED    1/5W B5KΩ-N
TRANSFORMERS					
				LC601	349P159050    CHROMA-BP
				T 101	323P174010    VIF    38MHz
				T 551	336P009010    H. DRIVE
				○ AT 553	334P179010    FLYBACK
				○ T 554	349P142040    SIDE PCC
				○ AT 901	350P453010    POWER
				○ AT 902	336P021010    DRIVE
VARIABLE RESISTORS					
				VR101	127C080050    VR-SEMI-FIXED    1/5W B2KΩ-M
				VR201	127C081020    VR-SEMI-FIXED    1/5W B100KΩ-M
				VR202	127C081020    VR-SEMI-FIXED    1/5W B100KΩ-M
				VR401	127C081030    VR-SEMI-FIXED    1/10W B200KΩ-N
				VR402	127C081030    VR-SEMI-FIXED    1/10W B200KΩ-N

< CT - 2525TX / CT - 2525LTX >

SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
<b>RESISTORS</b>					
VR653	127C020070	VR-SEMI FIXED 1/5W 85KΩ-N		669D221040	SCREW SCREW-TB(10P)
VR654	127C020040	VR-SEMI FIXED 1/5W B1KΩ-N		669D221060	SCREW SCREW-TB(10P)
VR655	127C020040	VR-SEMI FIXED 1/5W B1KΩ-N		669D221080	SCREW 4X25(10P)
VR701	127C080070	VR-SEMI FIXED 1/5W 85KΩ-M		669D212010	SCREW (10P)
VR951	127C080080	VR-SEMI FIXED 1/5W B10KΩ-M			
<b>CAPACITORS AND TRIMMERS</b>					
R 556	102P082090	CEMENT WIRE 10W 10Ω-K	△	246C022020	AC POWER CORD
△R 559	103P378040	FUSE 1/4W 2.2Ω-J	○△	700C10040	BACK COVER ASSY
△R 563	103P397090	FUSE 1/2W 0.82Ω-J	○△	700A444010	BACK COVER ASSY
△R 565	103P442050	FUSE METAL 1W 1KΩ-K	○	701D065010	CABINET FRONT ASSY
△R 671	103P447040	FUSE METAL 1W 0.33Ω-K	○	700A443010	CABINET FRONT ASSY
R 901	102P080040	CEMENT WIRE 5W 4.7Ω-K		641D173010	CLIP
△R 955	103P397090	FUSE 1/2W 0.82Ω-J		761C273010	DOOR CATCH
△R 956	103P397090	FUSE 1/2W 0.82Ω-J		704C697010	POWER KNOB
△R 968	109D021020	COMPOSITION 1/2W 6.8MΩ-K		704C597010	PUSH KNOB
△R 969	109D021020	COMPOSITION 1/2W 6.8MΩ-K		734D310010	PUSH KNOB
<b>SWITCHES</b>					
△S 991	432P076010	PUSH8 (MAIN SW.)			
S 401	434C021010	LEVER			
○ S 701	439C028030	BLOCK			
○ S 702	432C050010	PUSH			
○ S 703	432P082010	KEY BOARD			
S 704	432P082010	KEY BOARD			
S 705	432P066010	KEY BOARD 1-1			
<b>MISCELLANEOUS</b>					
○△	449C081010	CRT SOCKET		803A188010	PACKING CUSHION
	480P642060	SPEAKER		871C825010	INSTRUCTION BOOK
△F 991	283D047040	FUSE 2A-T		871C825000	INSTRUCTION BOOK
TU101	295P256080	TUNER TEME1X035A (CT-2525LTX)		831D110090	PACKING BAG
TU101	295P701090	TUNER UE43-B01 (CT-2525TX)		831D222030	PACKING BAG
X 601	285P068020	CRYSTAL RESONATOR 8.8MHz			
X 7701	285P062020	CRYSTAL RESONATOR 13.875MHz		802C948020	PACKING CASE
X 7702	285P064020	CRYSTAL RESONATOR 6.000MHz		802C948010	PACKING CASE
X 7703	285P064020	CRYSTAL RESONATOR 6.000MHz		829D138020	PACKING SHEET
Z 7A1	939P226010	PREAMP UNIT		939P212010	REMOTE HAND UNIT
△Z 950	299P087050	PROTECTOR			
△Z 951	299P087010	PROTECTOR			
<b>PRINTED CIRCUIT BOARD ASSY'S</b>					
	930C247030	CRT PCB ASSY			
	920A370020	MAIN PCB ASSY			(CT-2525LTX)
	920A370010	MAIN PCB ASSY			(CT-2525TX)
	9C313010	POWER PCB ASSY			

For Service Manuals  
**MAURITRON SERVICES**  
 8 Cherry Tree Road, Chinnor  
 Oxfordshire, OX9 4QY.  
 Tel (01844) 351694  
 Fax (01844) 352654  
 email:- mauritron@dial.pipex.com

PCB-MAIN



PCB-MAIN

4

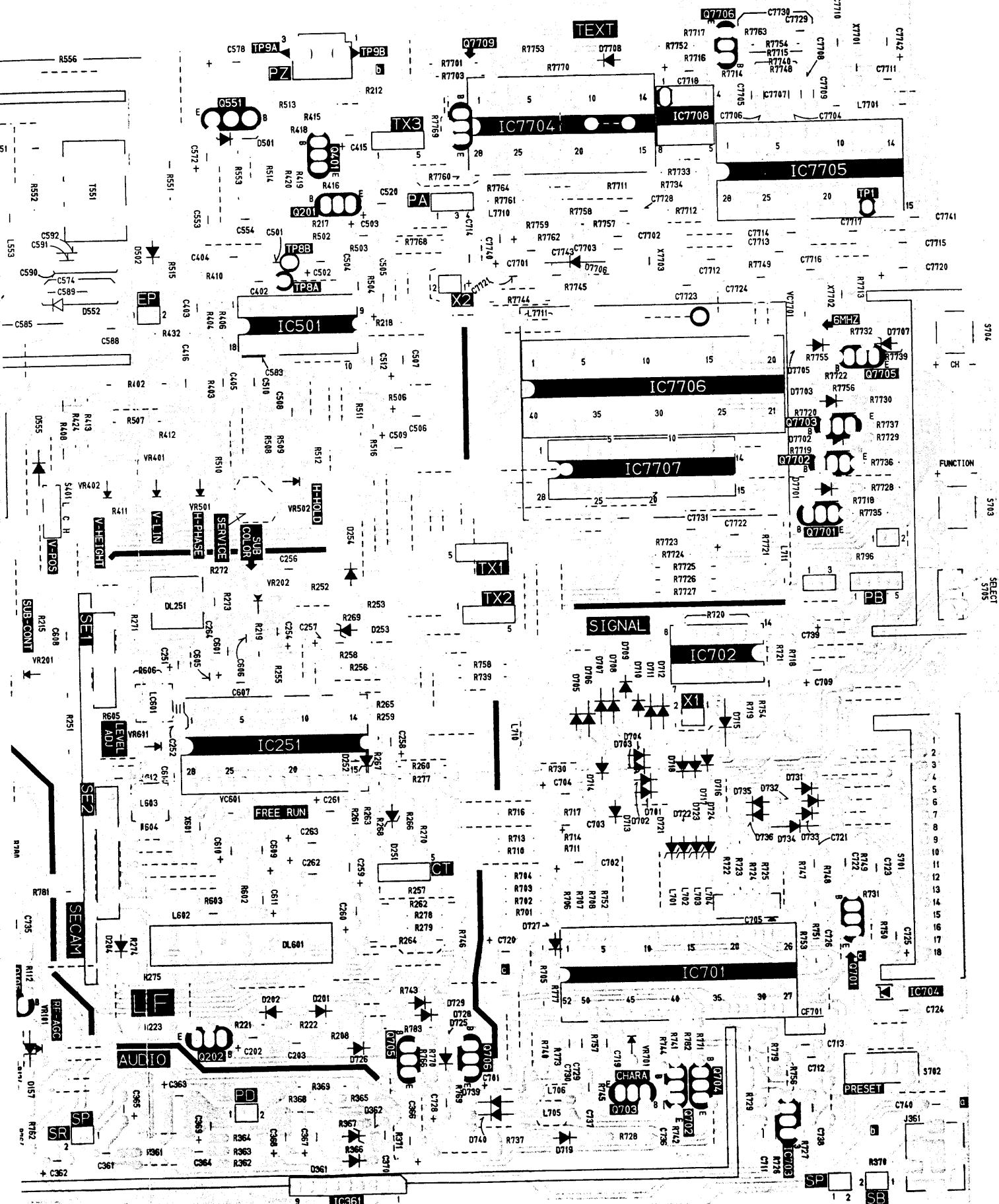
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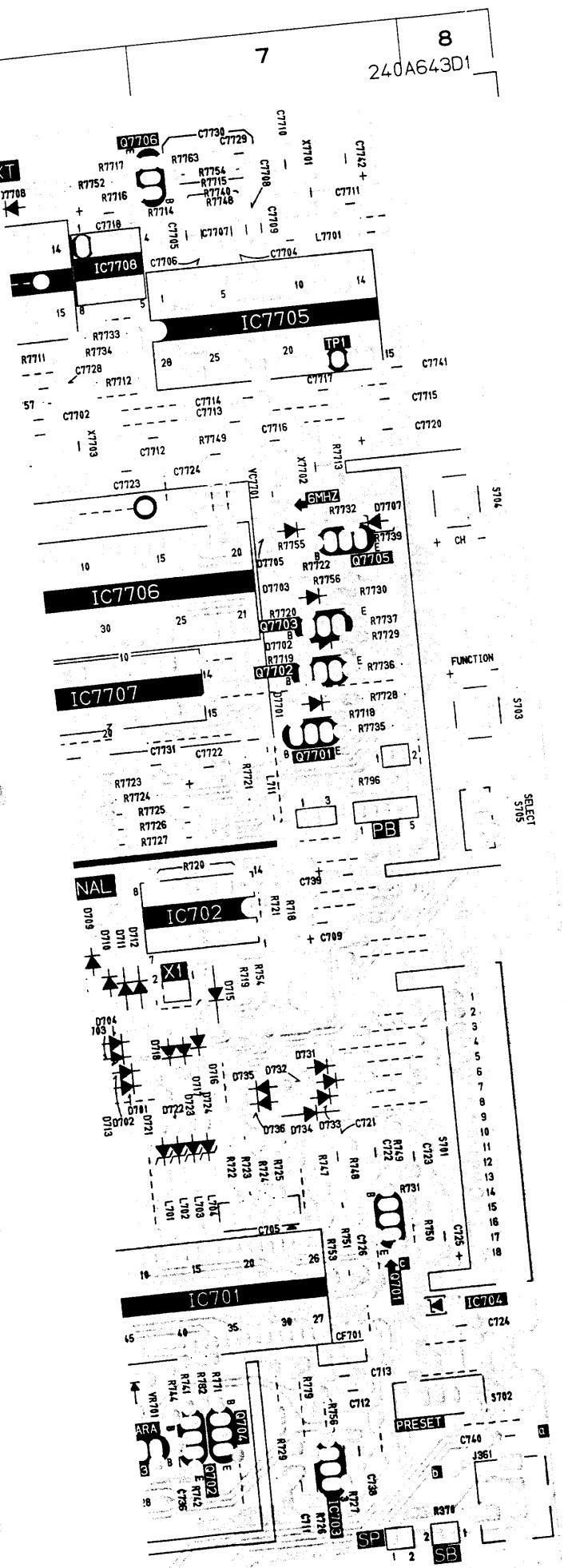
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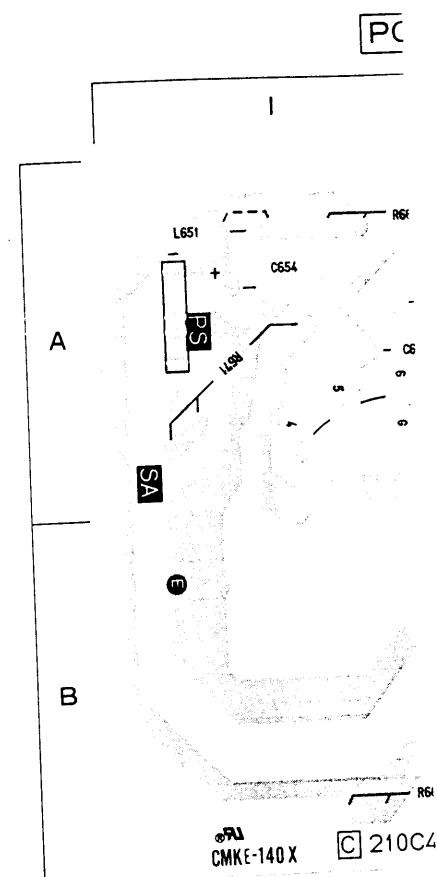
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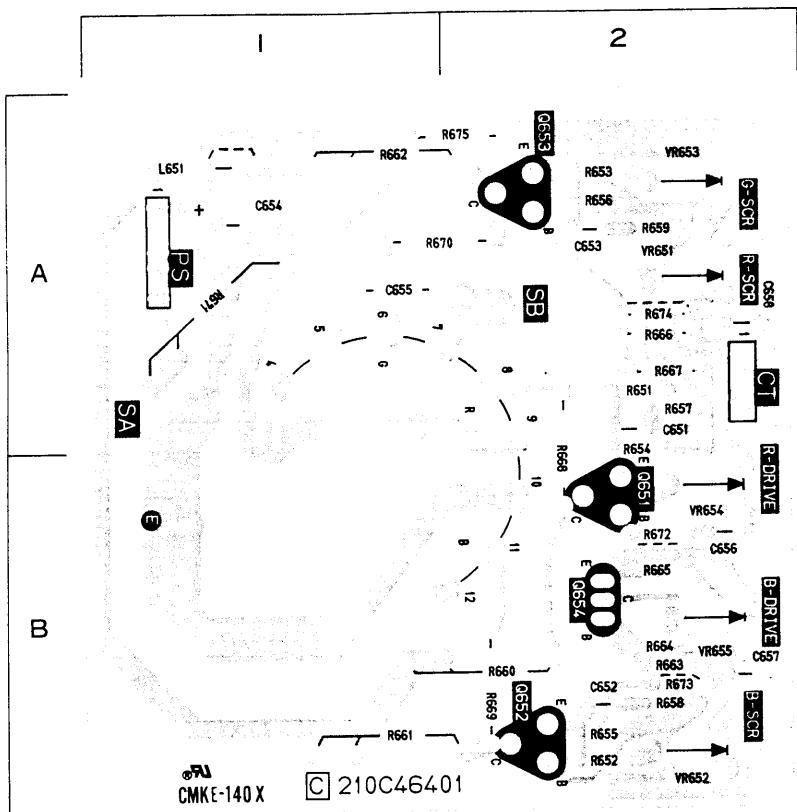
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CF101	D-3	D726	E-5	L704	E-6
CF102	D-3	D727	E-6	L705	E-6
CF103	D-3	D728	E-5	L706	E-6
CF301	D-3	D729	E-5	L710	D-6
CF701	E-7	D731	D-7	L711	C-7
		D732	D-7	L7701	A-7
D101	E-3	D733	D-7	L7710	A-6
D105	E-2	D734	D-7	L7711	B-6
D154	F-2	D735	D-7	LC601	D-4
D155	F-2	D736	D-7		
D156	E-1	D739	E-5	Q101	E-2
D157	E-3	D740	F-5	Q104	D-3
D171	E-1	D7701	C-7	Q105	E-3
D172	F-1	D7702	C-7	Q201	A-5
D201	E-5	D7703	B-7	Q202	E-4
D202	E-4	D7705	B-7	Q2A2	D-2
D204	E-4	D7706	B-6	Q2A3	D-2
D251	D-5	D7707	B-7	Q2A4	D-2
D252	D-5	D7708	A-6	Q2B1	D-1
D253	C-5	D915	A-3	Q2B2	D-1
D254	C-5	DL251	C-4	Q2B3	C-1
D2A1	D-1	DL601	E-5	Q2B4	C-1
D2A2	D-2			Q2B5	C-1
D2B1	D-2	IC101	E-3	Q301	D-2
D361	F-5	IC150	F-2	Q302	D-2
D362	E-5	IC251	D-5	Q401	A-5
D401	C-2	IC2A2	D-2	Q551	A-4
D501	A-4	IC361	F-5	Q552	B-3
D502	B-4	IC401	C-2	Q701	E-
D551	A-3	IC501	B-5	Q702	F-
D552	B-4	IC701	E-6	Q703	E-
D553	C-2	IC702	C-7	Q704	E-
D554	A-1	IC703	F-7	Q705	E-
D555	B-3	IC704	E-7	Q706	E-
D559	C-2	IC7704	A-6	Q7701	C
D560	C-2	IC7705	A-7	Q7702	
D701	D-6	IC7706	B-6	Q7703	
D702	D-6	IC7707	C-6	Q7705	
D703	D-6	IC7708	A-6	Q7706	
D704	D-6			Q7709	
D705	D-6	L101	F-2		
D706	D-6	L102	F-3	TP1	
D707	D-6	L103	D-3	TP11	
D708	D-6	L105	E-3	TP12	
D709	C-6	L106	E-2	TP14	
D710	D-6	L108	E-3	TP15	
D711	D-6	L109	D-3	TP16	
D712	D-6	L110	D-3	TP1A	
D713	D-6	L2A1	E-1	TP1C	
D714	D-6	L301	E-2	TP1D	
D715	D-7	L304	D-2	TP1F	
D716	D-6	L551	A-3	TP1G	
D717	D-6	L553	B-3	TP1K	
D718	D-6	L556	B-3	TP1L	
D719	F-6	L602	E-4	TP21	
D721	D-6	L603	D-4	TP3A	
D722	D-6	L701	E-6	TP8A	
D723	D-6	L702	E-6	TP8B	
D724	D-6	L703	E-6	TP9A	
D725	E-5				

ADDRESS	SYMBOL NO.	ADDRESS						
-3	D726	E-5	L704	E-6	TP9B	A-5		
-3	D727	E-6	L705	E-6				
-3	D728	E-5	L706	E-6	VC601	D-4		
-3	D729	E-5	L710	D-6	VC7701	B-7		
-7	D731	D-7	L711	C-7				
-3	D732	D-7	L7701	A-7	VR101	E-3		
-2	D733	D-7	L7710	A-6	VR170	F-1		
-2	D734	D-7	L7711	B-6	VR201	C-3		
-2	D735	D-7	LC601	D-4	VR202	C-5		
-1	D736	D-7			VR401	C-4		
-1	D739	E-5			VR402	C-4		
-3	D740	F-5	Q101	E-2	VR501	C-4		
-1	D7701	C-7	Q104	D-3	VR502	C-5		
-1	D7702	C-7	Q105	E-3	VR601	D-4		
-5	D7703	B-7	Q201	A-5	VR701	E-6		
-4	D7705	B-7	Q202	E-4				
-4	D7706	B-6	Q2A2	D-2	X7701	A-7		
-5	D7707	B-7	Q2A3	D-2	X7702	B-7		
-5	D7708	A-6	Q2A4	D-2	X7703	B-6		
-5	D915	A-3	Q2B1	D-1				
-5			Q2B2	D-1				
-1	DL251	C-4	Q2B3	C-1				
-2	DL601	E-5	Q2B4	C-1				
-2			Q2B5	C-1				
-5	IC101	E-3	Q301	D-2				
-5	IC150	F-2	Q302	D-2				
-2	IC251	D-5	Q401	A-5				
-4	IC2A2	D-2	Q551	A-4				
-4	IC361	F-5	Q552	B-3				
-3	IC401	C-2	Q701	E-7				
-4	IC501	B-5	Q702	F-6				
-2	IC701	E-6	Q703	E-6				
-1	IC702	C-7	Q704	E-6				
-3	IC703	F-7	Q705	E-5				
-2	IC704	E-7	Q706	E-5				
-2	IC7704	A-6	Q7701	C-7				
-6	IC7705	A-7	Q7702	C-7				
-6	IC7706	B-6	Q7703	B-7				
-6	IC7707	C-6	Q7705	B-7				
-6	IC7708	A-6	Q7706	A-7				
-6			Q7709	A-5				
-6	L101	F-2	TP1	A-7				
-6	L102	F-3	TP11	F-2				
-6	L103	D-3	TP12	D-3				
-6	L105	E-3	TP14	E-3				
-6	L106	E-2	TP15	E-2				
-6	L108	E-3	TP16	E-3				
-6	L109	D-3	TP1A	E-2				
-6	L110	D-3	TP1C	E-3				
-6	L2A1	E-1	TP1D	E-2				
-7	L301	E-2	TP1F	E-3				
-6	L304	D-2	TP1G	E-3				
-6	L551	A-3	TP1K	E-2				
-6	L553	B-3	TP1L	E-2				
-6	L556	B-3	TP21	E-3				
-6	L602	E-4	TP3A	E-2				
-6	L603	D-4	TP8A	B-5				
-6	L701	E-6	TP8B	B-5				
-6	L702	E-6	TP9A	A-5				
5	L703	E-6						

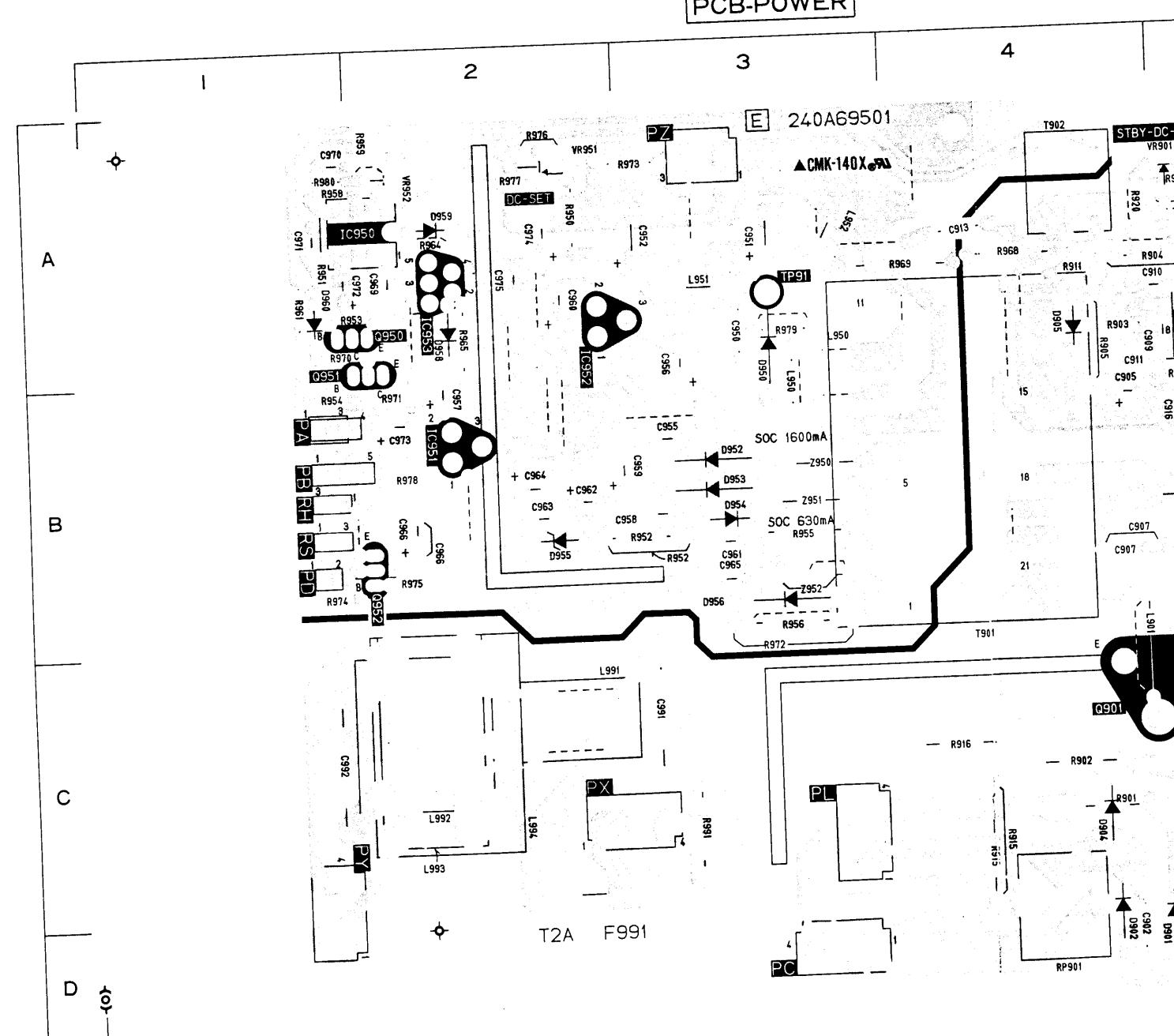
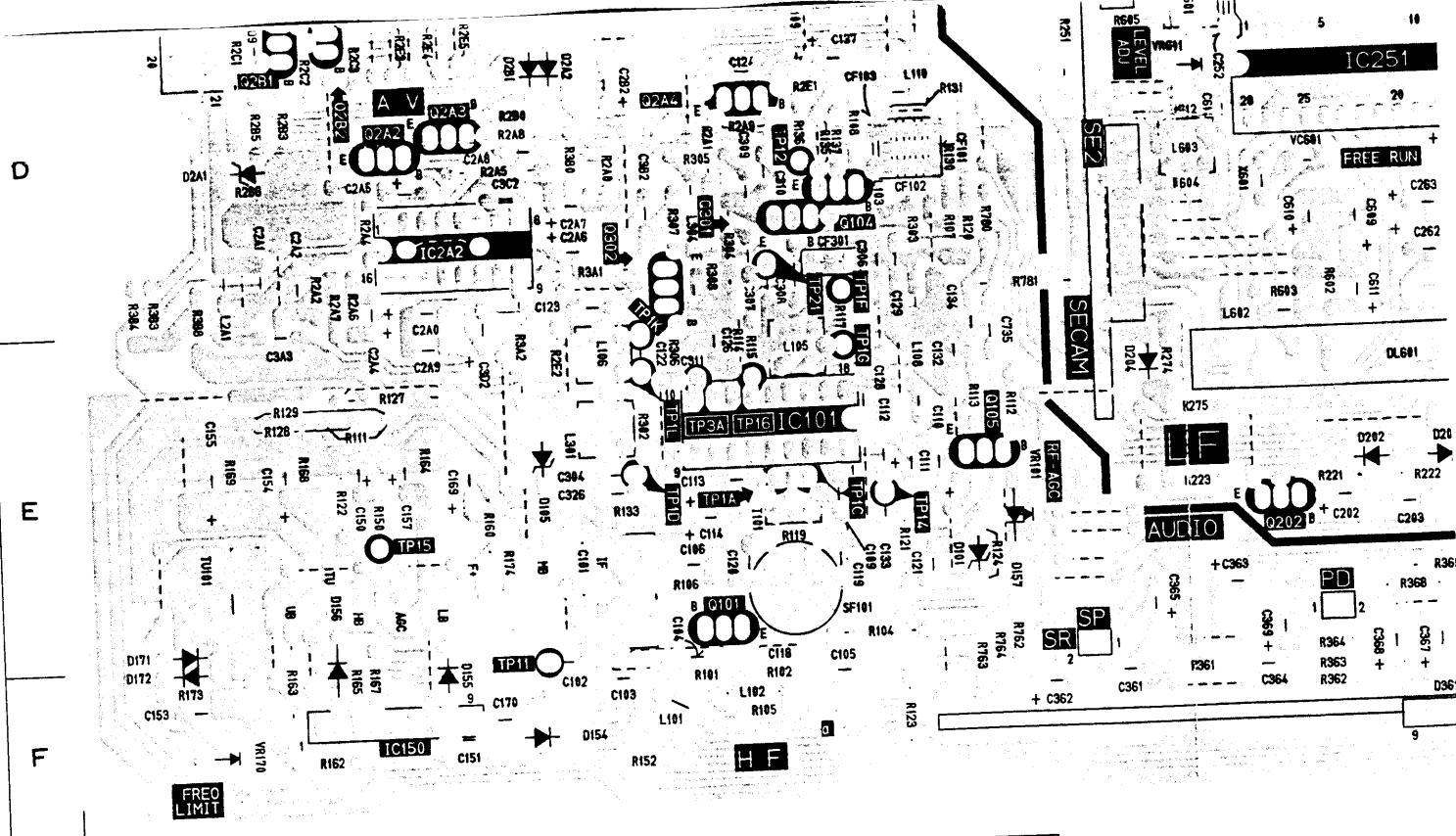


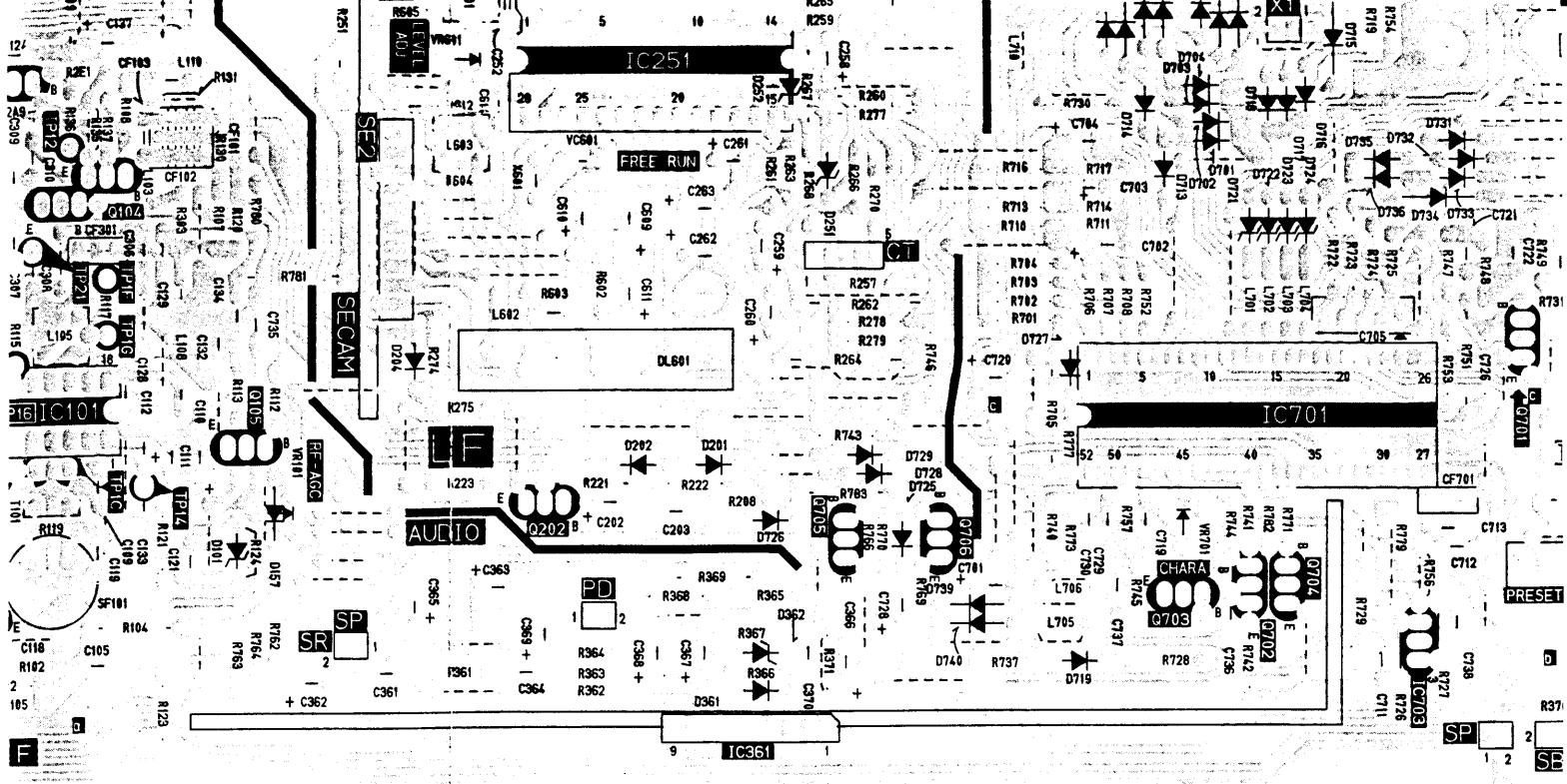
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PCB-CRT

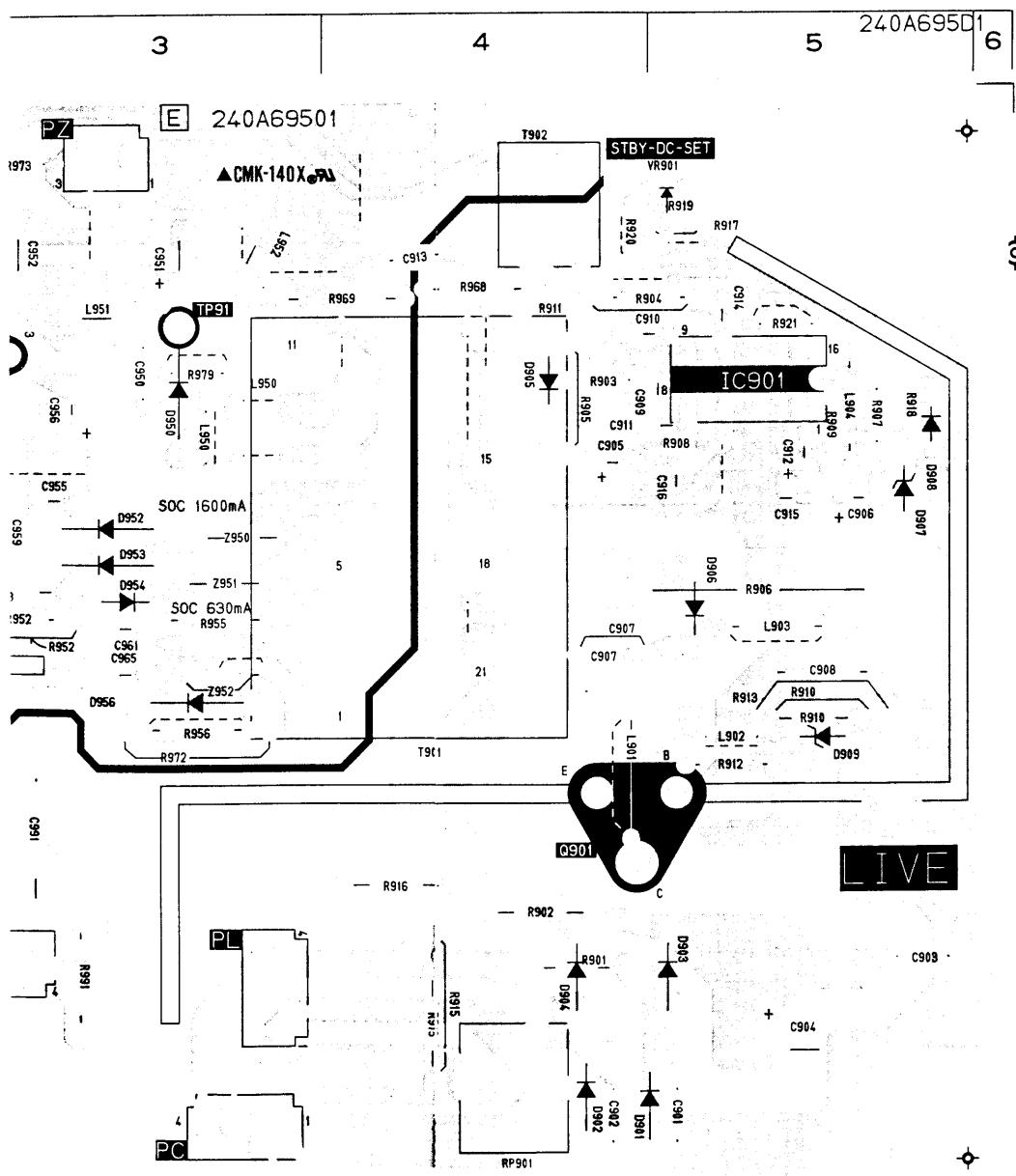


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L651	A-1
Q651	B-2
Q652	B-2
Q653	A-2
Q654	B-2
VR651	A-2
VR652	B-2
VR653	A-2
VR654	B-2
VR655	B-2

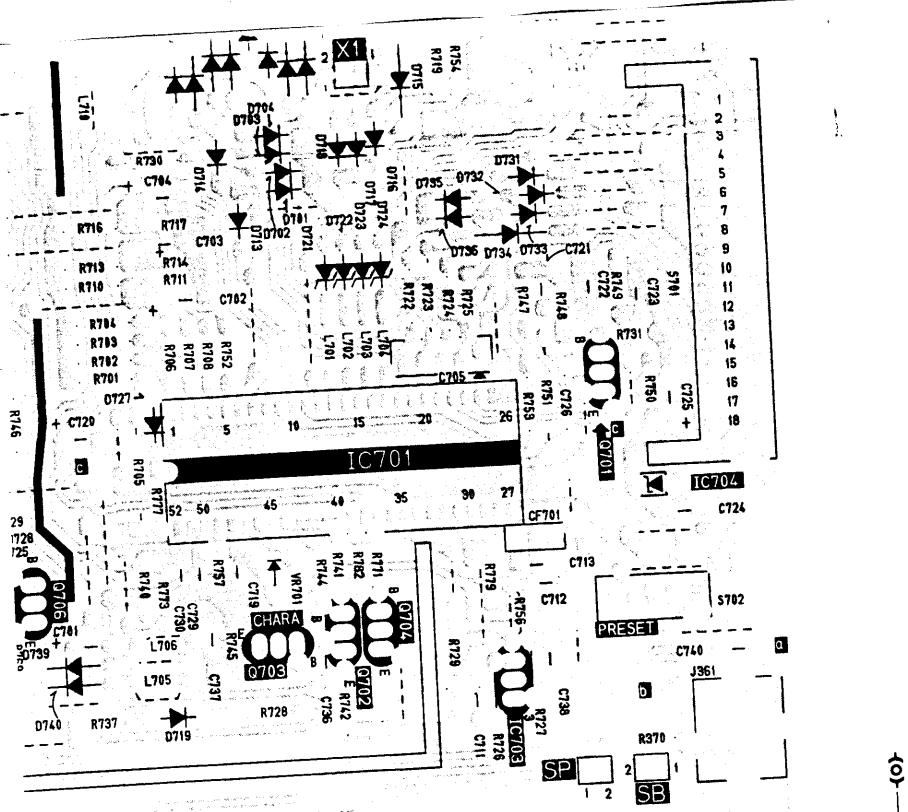




PCB-POWER



SYMBOL NO.	ADDRESS
D901	D-4
D902	D-4
D903	C-5
D904	C-4
D905	A-4
D906	B-5
D907	B-5
D908	B-5
D909	C-5
D950	B-3
D952	B-3
D953	B-3
D954	B-3
D955	B-2
D956	B-3
D958	A-2
D959	A-2
D960	A-1
F991	D-3
IC901	A-5
IC950	A-2
IC951	B-2
IC952	B-2
IC953	A-2



D701	D-6	IC7705	A-7
D702	D-6	IC7706	B-6
D703	D-6	IC7707	C-6
D704	D-6	IC7708	A-6
D705	D-6		
D706	D-6	L101	F-2
D707	D-6	L102	F-3
D708	D-6	L103	D-3
D709	C-6	L105	E-3
D710	D-6	L106	E-2
D711	D-6	L108	E-3
D712	D-6	L109	D-3
D713	D-6	L110	D-3
D714	D-6	L2A1	E-1
D715	D-7	L301	E-2
D716	D-6	L304	D-2
D717	D-6	L551	A-3
D718	D-6	L553	B-3
D719	F-6	L556	B-3
D721	D-6	L602	E-4
D722	D-6	L603	D-4
D723	D-6	L701	E-6
D724	D-6	L702	E-6
D725	E-5	L703	E-6

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SYMBOL NO.	ADDRESS
D901	D-4
D902	D-4
D903	C-5
D904	C-4
D905	A-4
D906	B-5
D907	B-5
D908	B-5
D909	C-5
D950	B-3
D952	B-3
D953	B-3
D954	B-3
D955	B-2
D956	B-3
D958	A-2
D959	A-2
D960	A-1
F991	D-3
IC901	A-5
IC950	A-2
IC951	B-2
IC952	B-2
IC953	A-2

SYMBOL NO.	ADDRESS
L901	C-4
L902	B-5
L903	B-5
L904	B-5
L950	A-3
L950	B-3
L951	A-3
L952	A-3
L991	C-2
L992	C-2
L993	C-2
L994	C-2
Q901	C-4
Q950	A-2
Q951	A-1
Q952	B-2
TP91	A-3
VR901	A-5
VR951	A-2
VR952	A-2

VE

D701	D-6
D702	D-6
D703	D-6
D704	D-6
D705	D-6
D706	D-6
D707	D-6
D708	D-6
D709	C-6
D710	D-6
D711	D-6
D712	D-6
D713	D-6
D714	D-6
D715	D-7
D716	D-6
D717	D-6
D718	D-6
D719	F-6
D721	D-6
D722	D-6
D723	D-6
D724	D-6
D725	E-5

IC7705	A-7
IC7706	B-6
IC7707	C-6
IC7708	A-6
L101	F-2
L102	F-3
L103	D-3
L105	E-3
L106	E-2
L108	E-3
L109	D-3
L110	D-3
L2A1	E-1
L301	E-2
L304	D-2
L551	A-3
L553	B-3
L556	B-3
L602	E-4
L603	D-4
L701	E-6
L702	E-6
L703	E-6

07702	C-7
07703	B-7
07705	B-7
07706	A-7
07709	A-5
TP1	A-7
TP11	F-2
TP12	D-3
TP14	E-3
TP15	E-2
TP16	E-3
TP1A	E-2
TP1C	E-3
TP1D	E-2
TP1F	E-3
TP1G	E-3
TP1K	E-2
TP1L	E-2
TP21	E-3
TP3A	E-2
TP8A	B-5
TP8B	B-5
TP9A	A-5

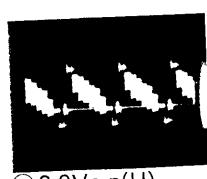
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07703	B-7
07705	B-7
07706	A-7
07709	A-5
TP1	A-7
TP11	F-2
TP12	D-3
TP14	E-3
TP15	E-2
TP16	E-3
TP1A	E-2
TP1C	E-3
TP1D	E-2
TP1F	E-3
TP1G	E-3
TP1K	E-2
TP1L	E-2
TP21	E-3
TP3A	E-2
TP8A	B-5
TP8B	B-5
TP9A	A-5

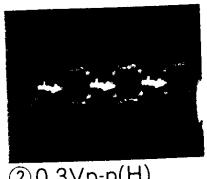
FOR SERVICE MANUALS  
contact  
**MAURITRON ELECTRONICS**  
8 Cherrytree Road, Chinnor  
Oxon OX9 4QY.  
Tel:- (0844) 51694

## CHASSIS WAVEFORMS

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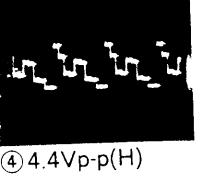
① 2.0Vp-p(H)



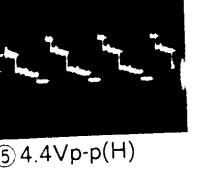
② 0.3Vp-p(H)



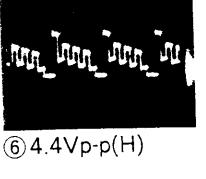
③ 10Vp-p(H)



④ 4.4Vp-p(H)

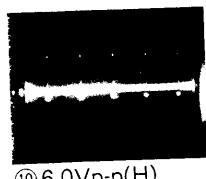


⑤ 4.4Vp-p(H)

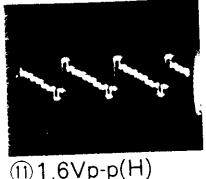


⑥ 4.4Vp-p(H)

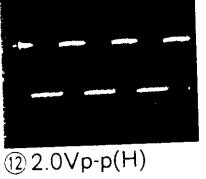
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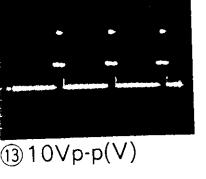
⑩ 6.0Vp-p(H)



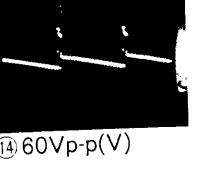
⑪ 1.6Vp-p(H)



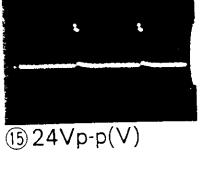
⑫ 2.0Vp-p(H)



⑬ 10Vp-p(V)



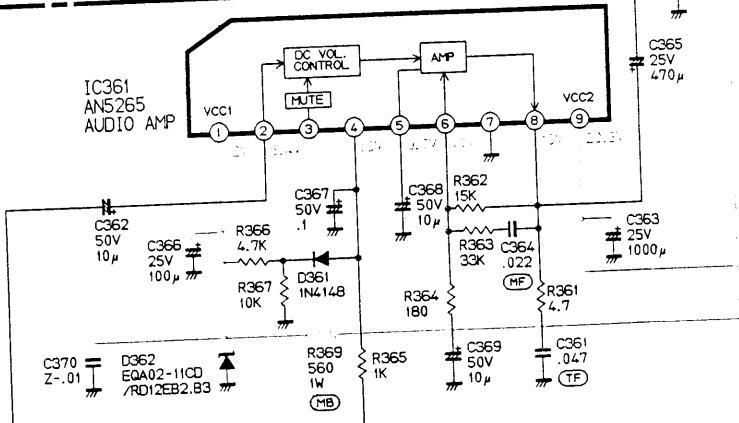
⑭ 60Vp-p(V)



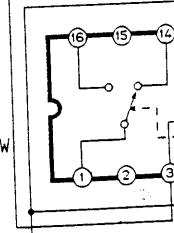
⑮ 24Vp-p(V)

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**Oxfordshire, OX9 4QY.**  
**Tel (01844) 351694**  
**Fax (01844) 352554**  
email:- mauritron@dial.pipex.com

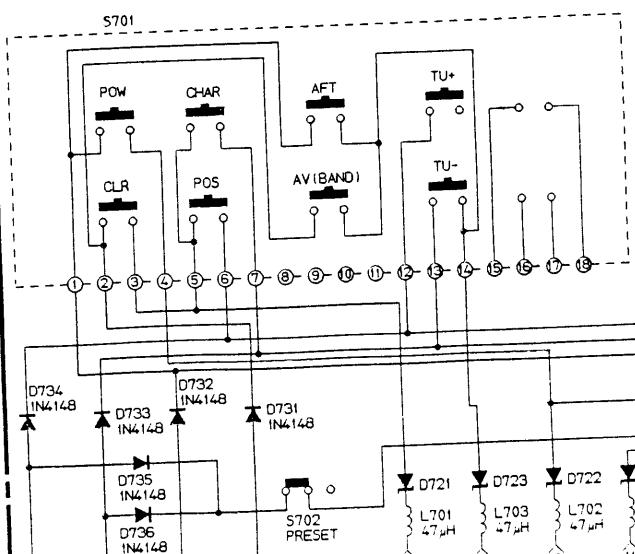
C

IC361  
AN5265  
AUDIO AMP

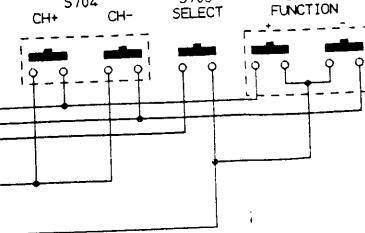
D

IC2A2  
M51320P  
ANALOG-SW

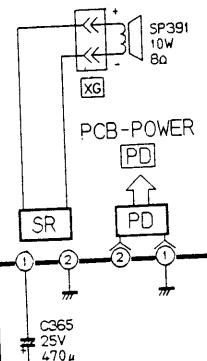
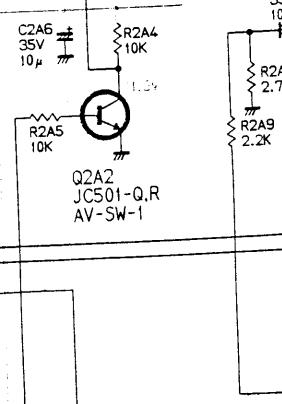
E



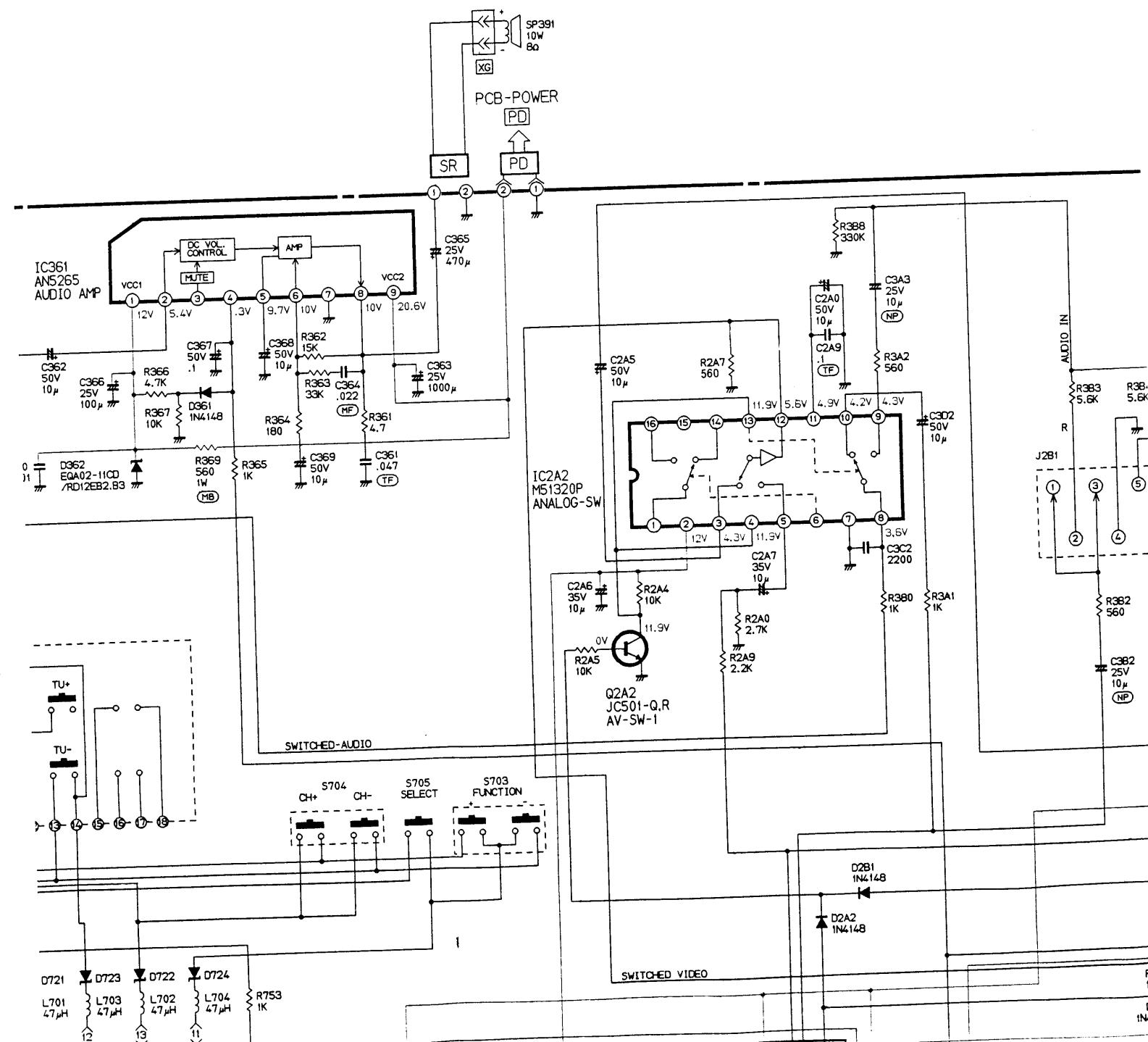
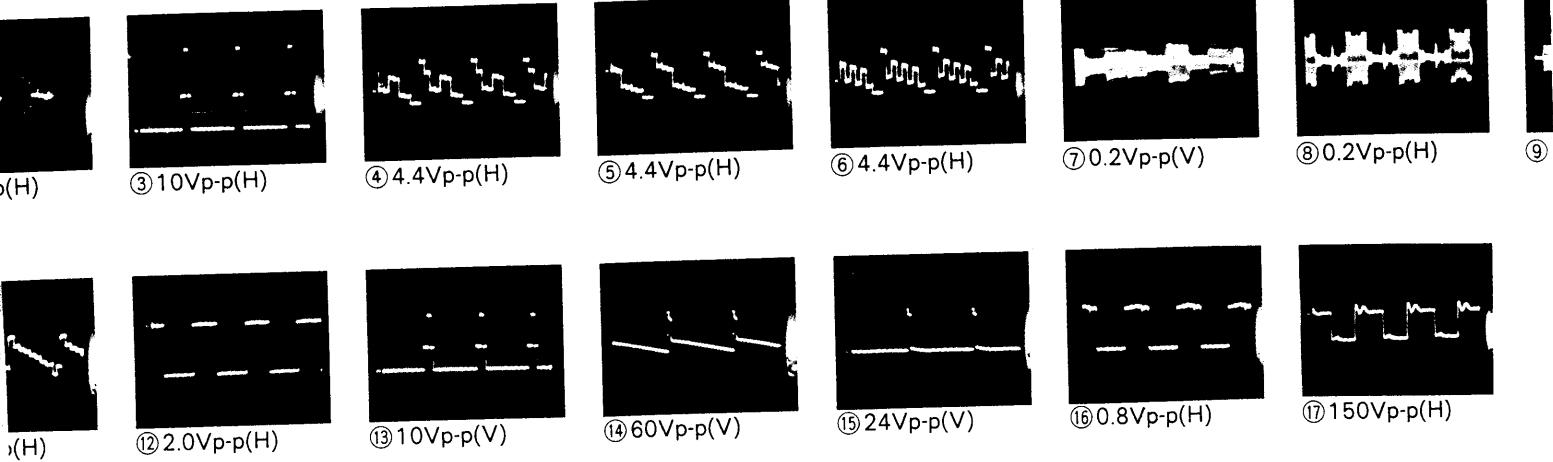
SWITCHED-AUDIO

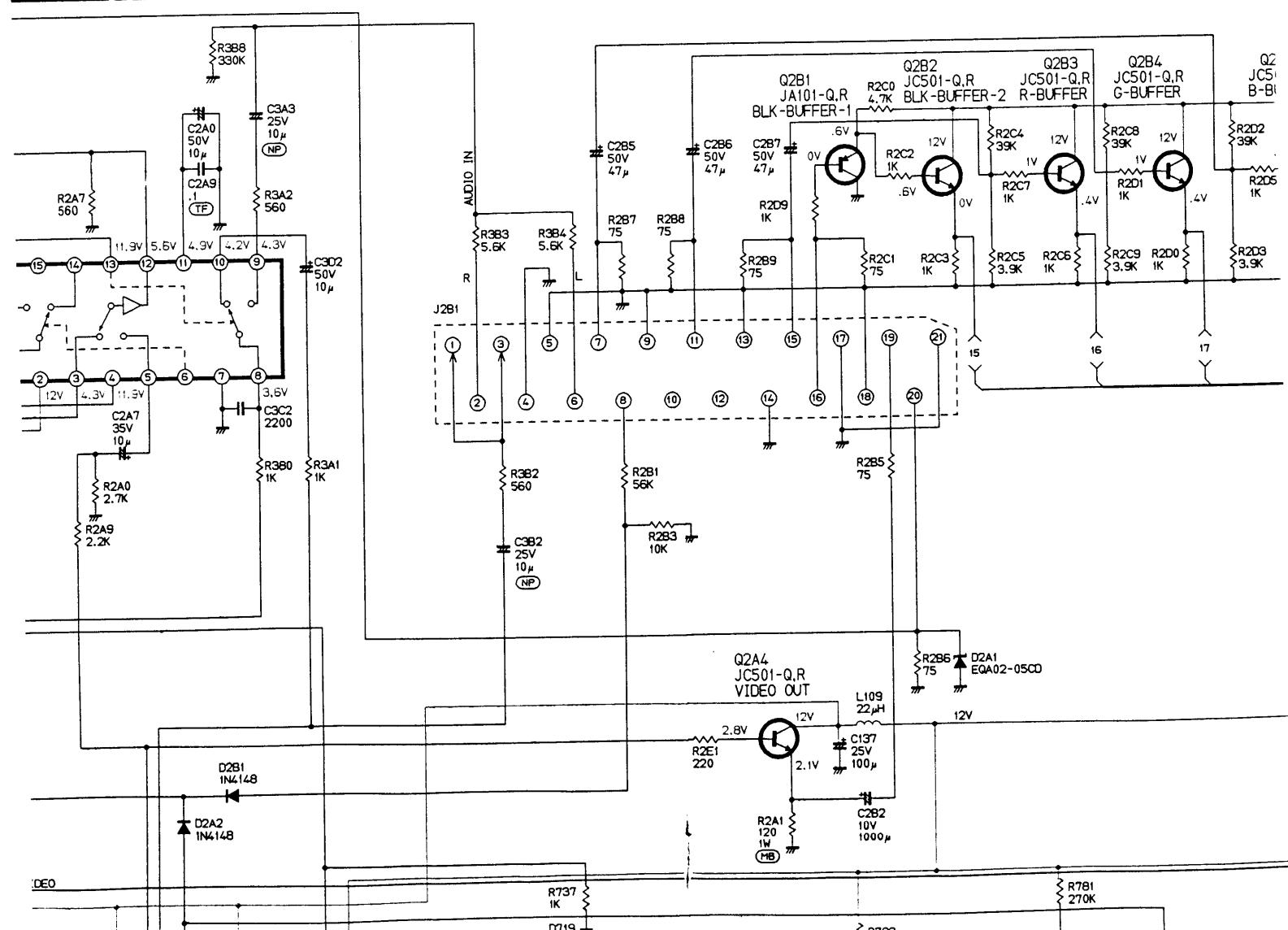
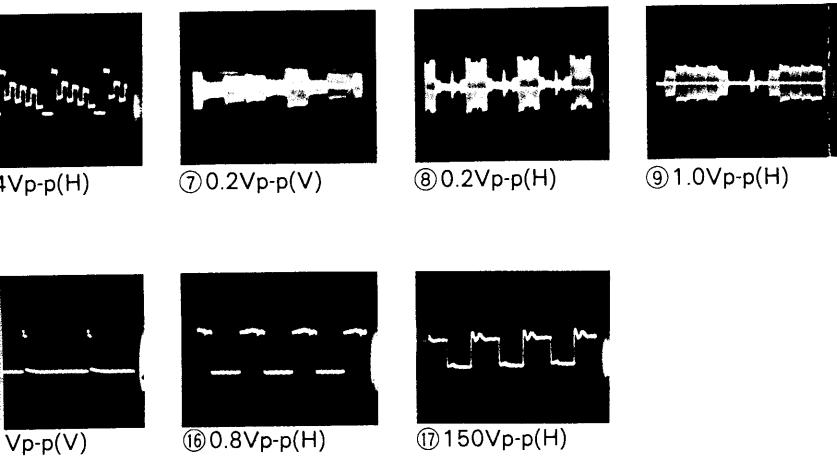


SWITCHED VIDEO

Q2A2  
JC501-Q,R  
AV-SW-1

## FORMS





## SCHEMATIC DIAGRAM MOD

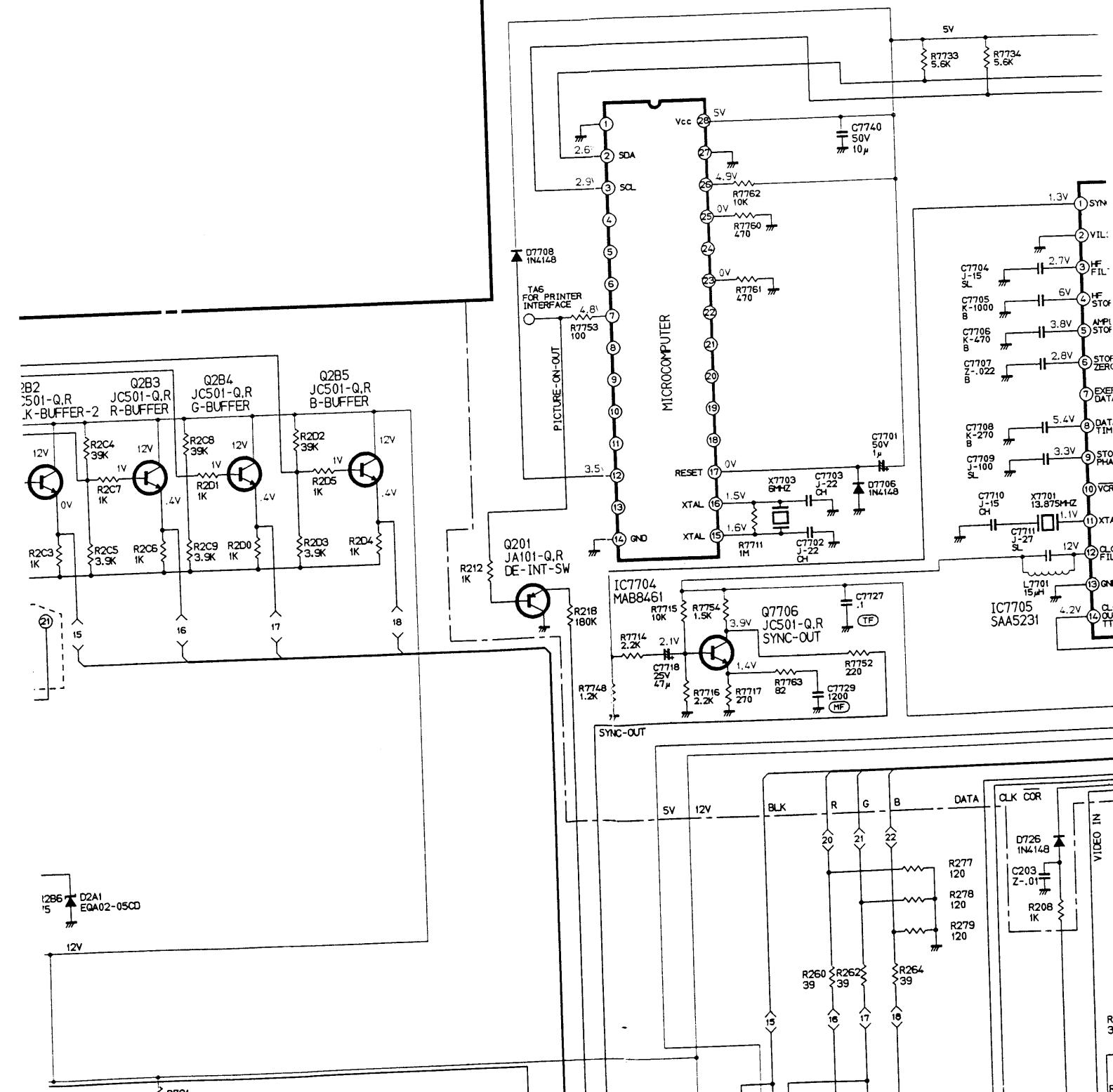
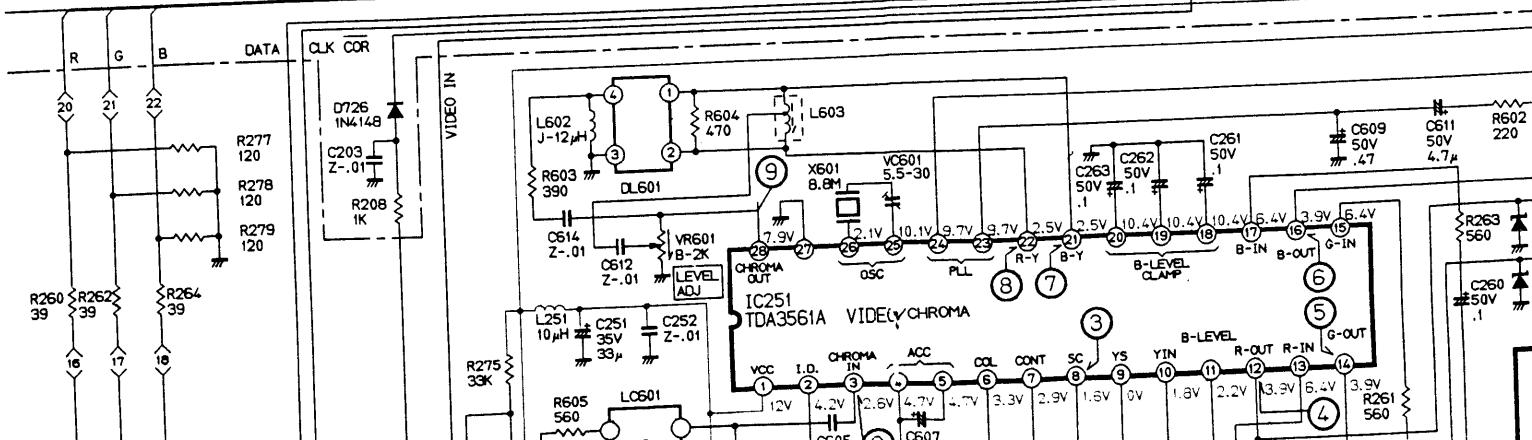
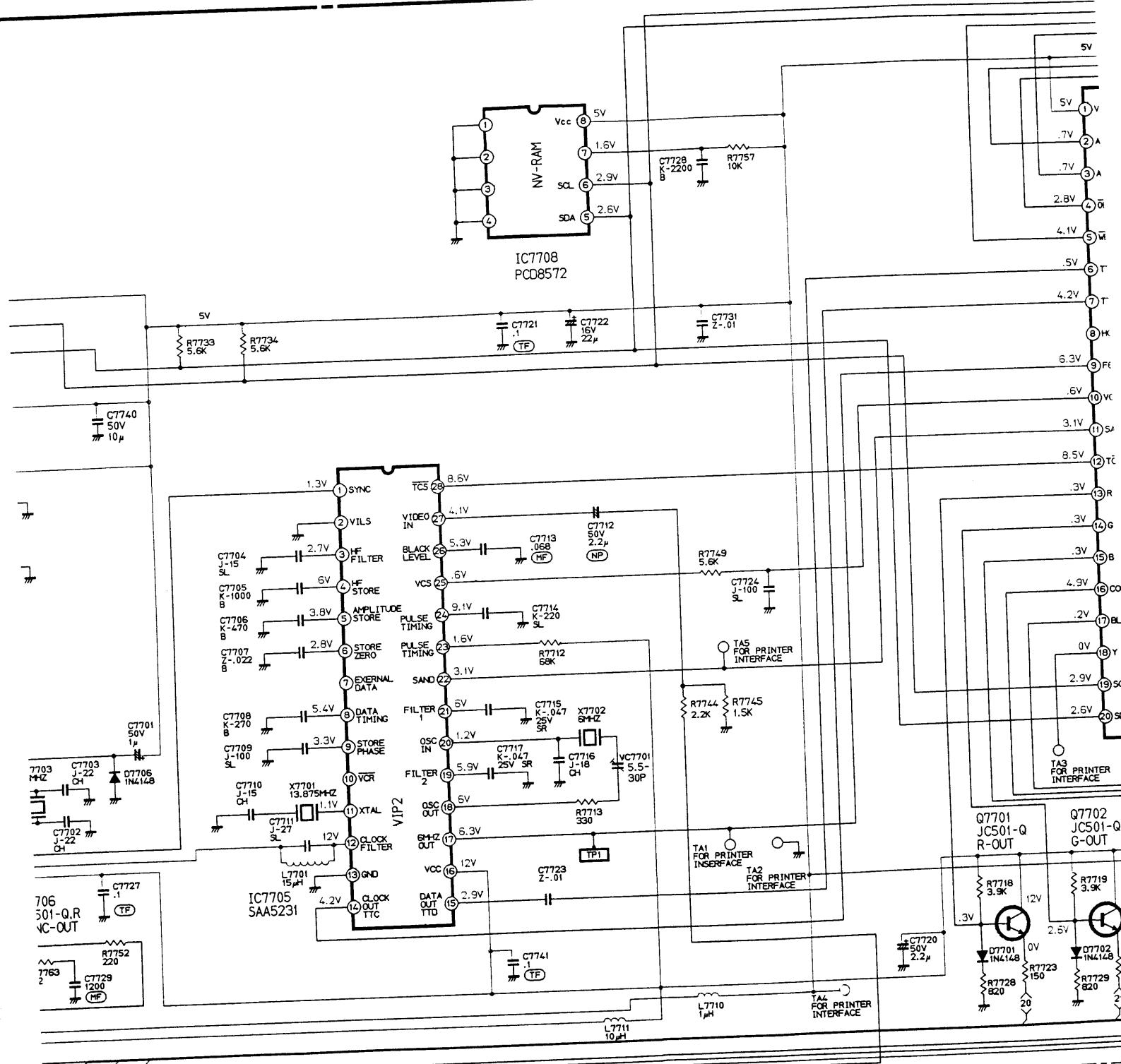
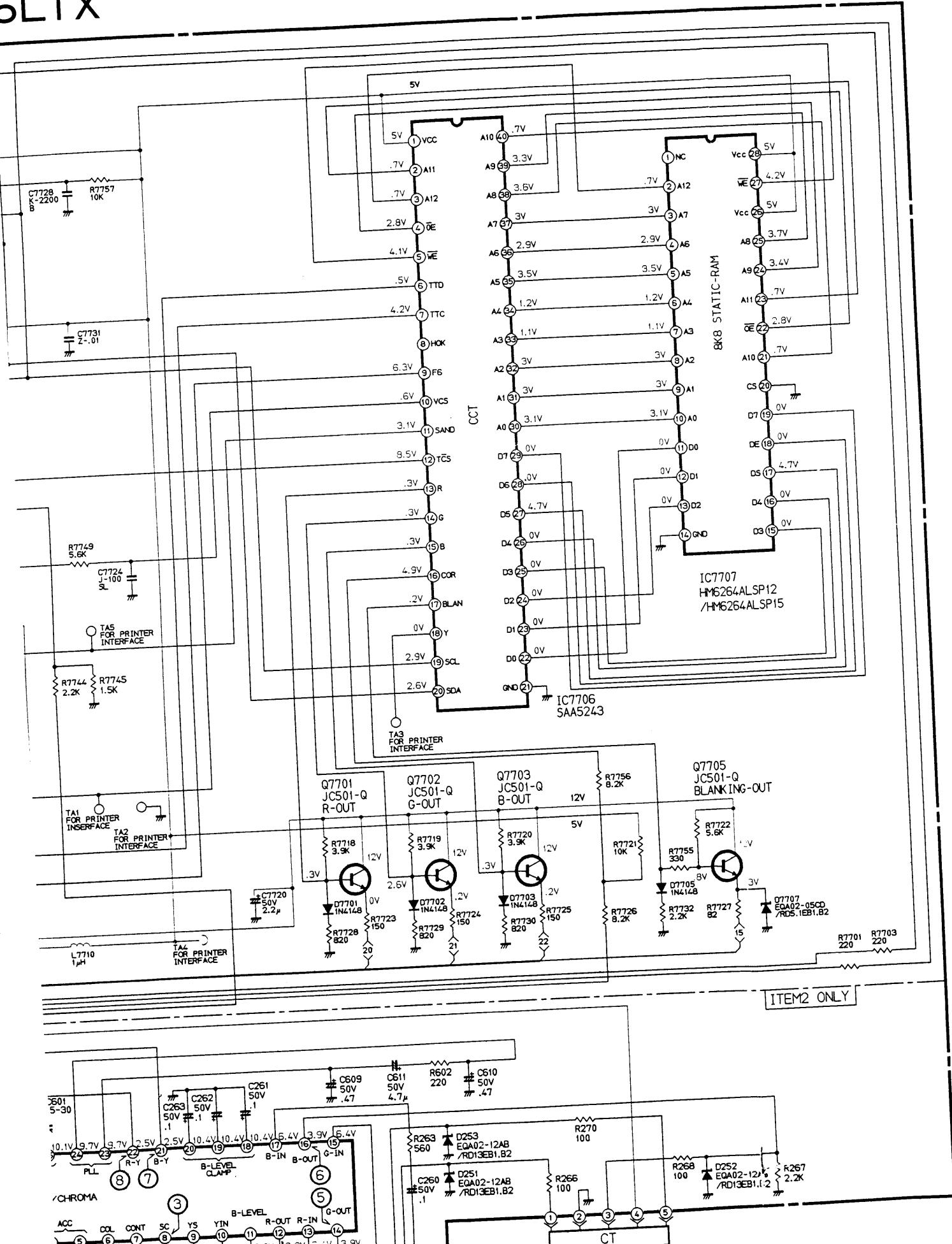
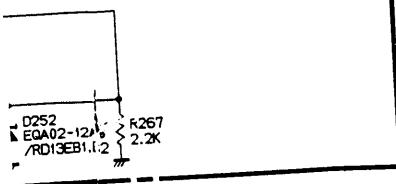
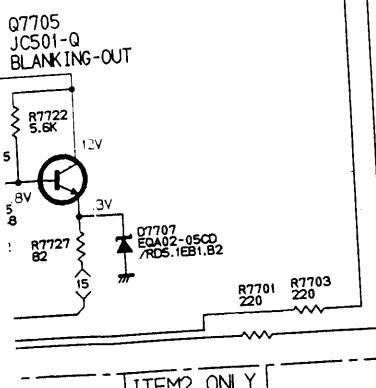
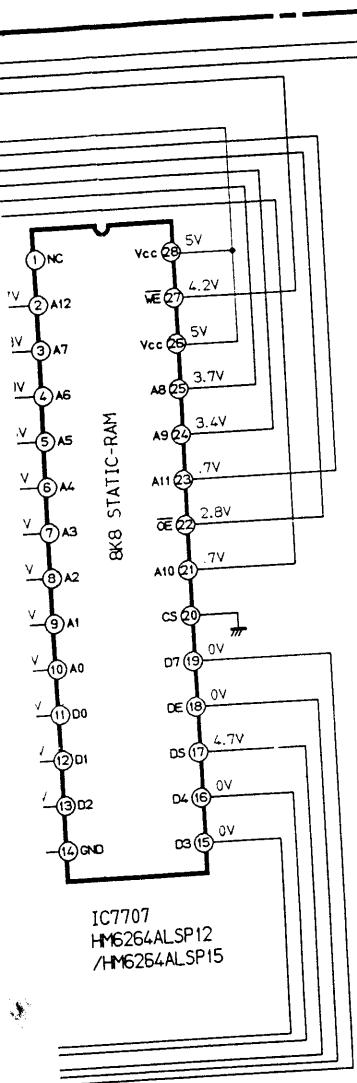


DIAGRAM MODEL : CT-2525LTX



5LTX





#### SERVING PRECAUTION

SYMBOLS INDICATE COMPONENTS HAVING SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY AND PERFORMANCE. THEREFORE REPLACEMENT OF ANY SAFETY PARTS SHOULD BE IDENTICAL IN VALUE AND CHARACTERISTICS. FOR ACCURACY OF THE REPLACEMENT REFER TO THE PARTS LIST OF SERVICE MANUAL.

DON'T DEGRADE THE SAFETY OF THE RECEIVERS THROUGH IMPROPER SERVICING.

#### NOTE 1:

1. The unit of resistance is "ohm" with no symbol.  
Accordingly,  
K = 1000 ohms  
M = 1000K ohms.
2. The wattage of resistors, if not specifically designated, is less than 1/4 watt.
3. Resistors, if not specifically designated, are carbon resistors.
4. The marks of resistors are as follows:

: Cemented resistor

: Metal oxide film resistor (type B)

: Metal plate cement resistor.

: Metal linear resistor.

: Fixed composition resistor

: Wire wound resistor

: Metal film resistor

5. The tolerance of resistor value, if not specifically designated, is:  
 $\pm 5\%$ , K =  $\pm 10\%$  M =  $\pm 20\%$

6. The unit of capacitance, if not specifically designated, is:

a)  $\mu F$ , for numbers less than 1

b) PF, for numbers more than 1

7. Capacitors, if not specifically designated are Ceramic capacitors except electrolytic capacitors.

8. The marks of capacitors are as follows:

: Aluminus electrolytic capacitor

: Polyester capacitor

: Polypropylene film capacitor

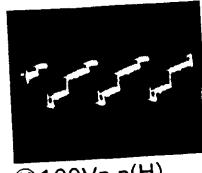
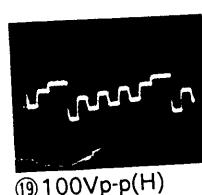
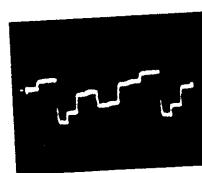
: Tantalum capacitor

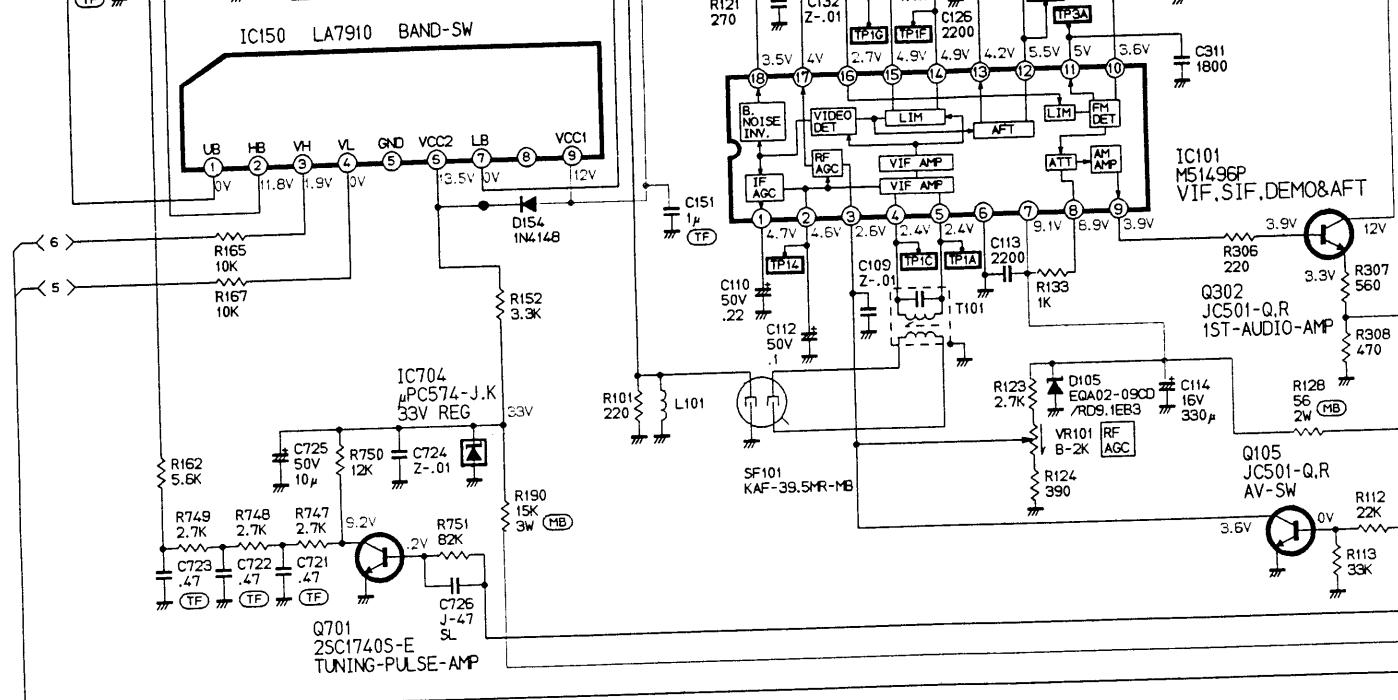
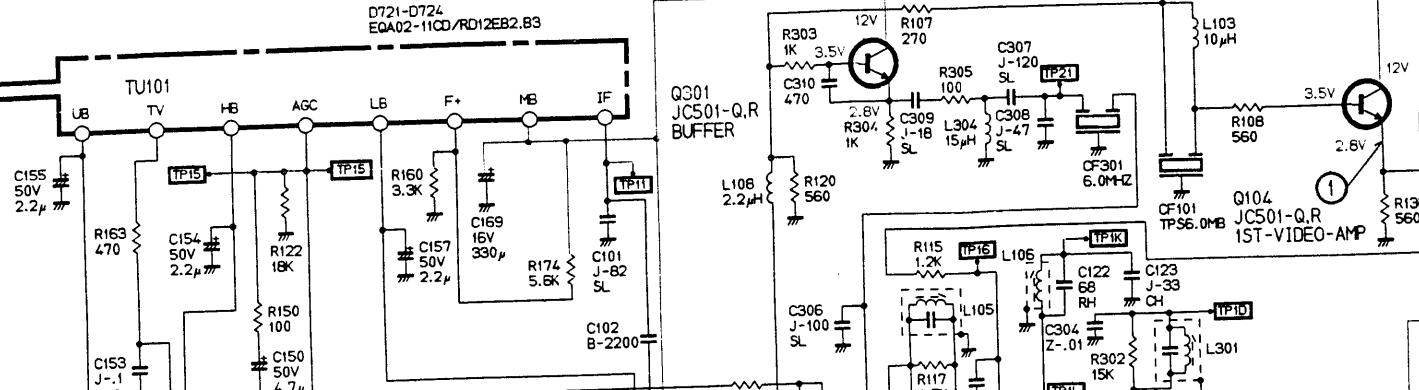
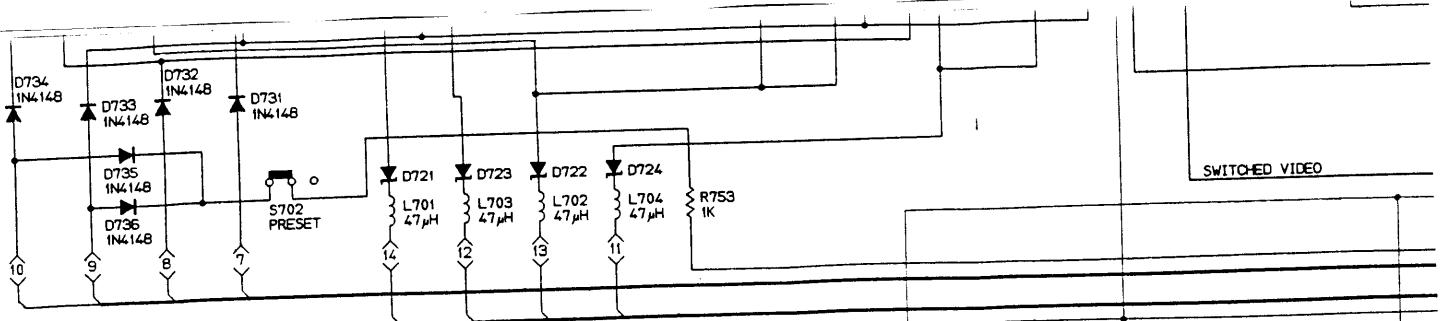
: Twin film capacitor.

: Polyester polypropylene film capacitor.

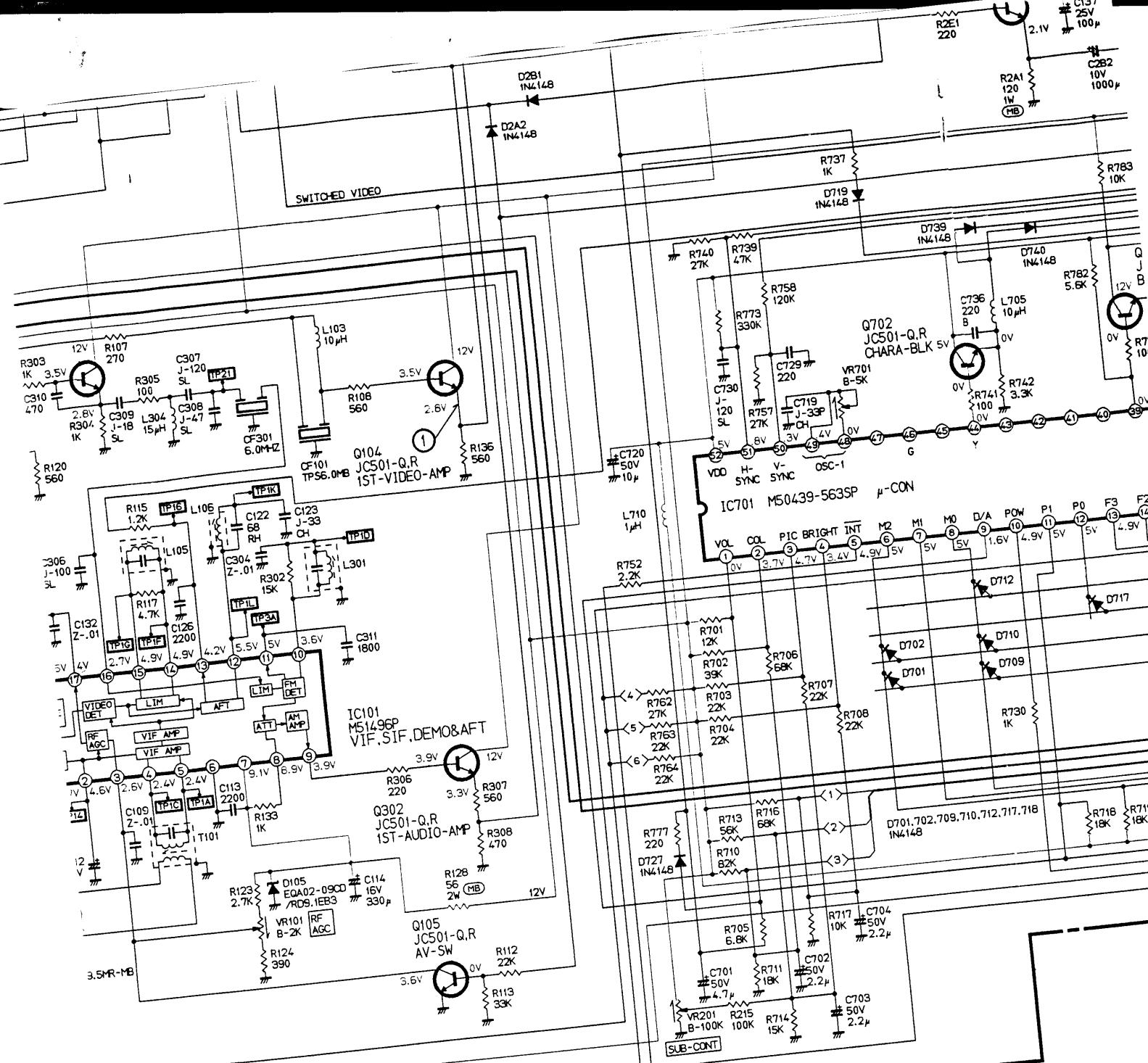
: Metallize plastic film capacitor.

: Non polarized electrolytic capacitor.

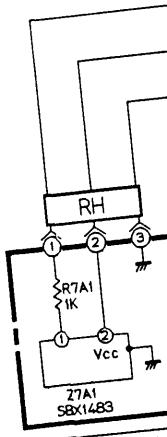


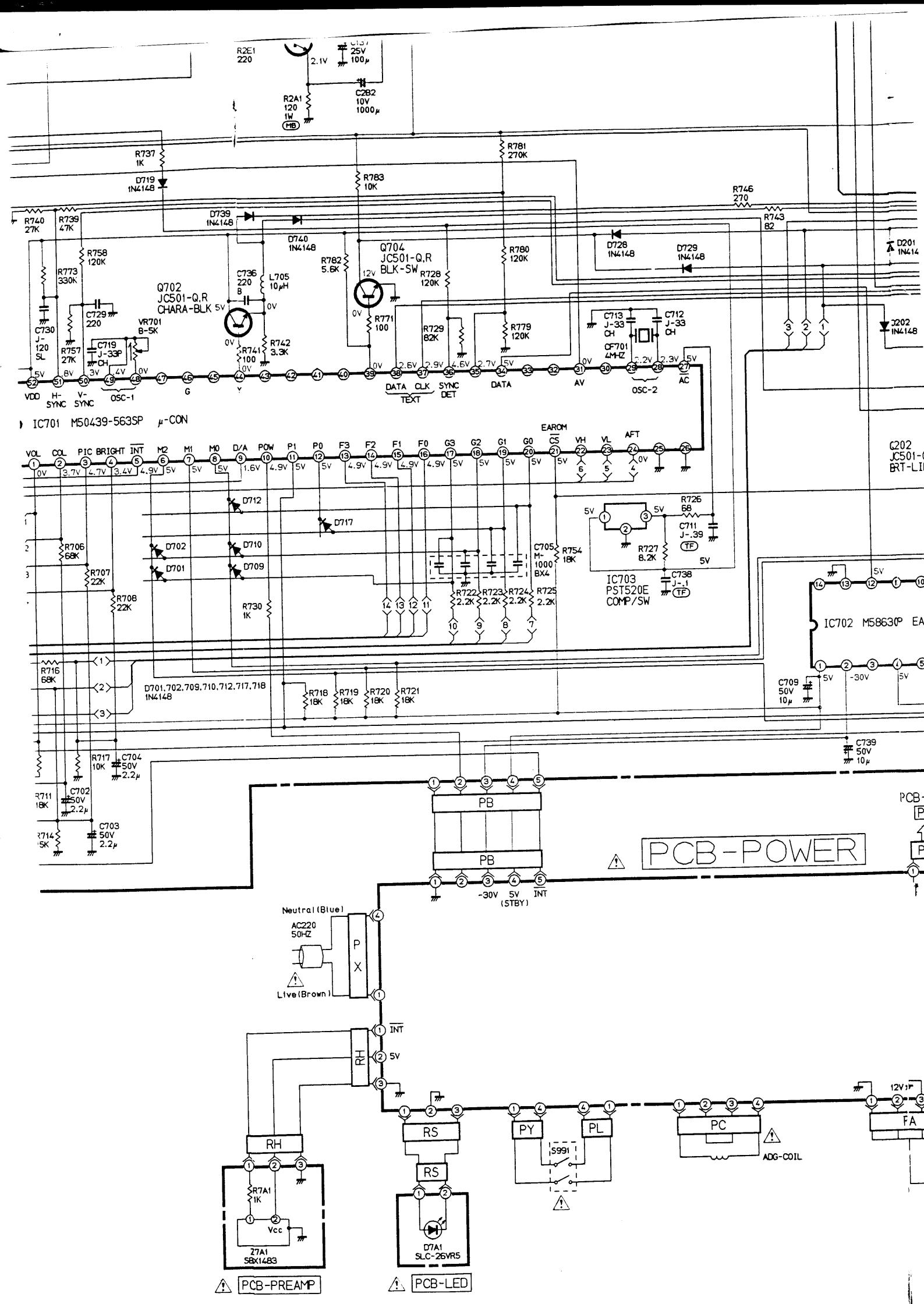


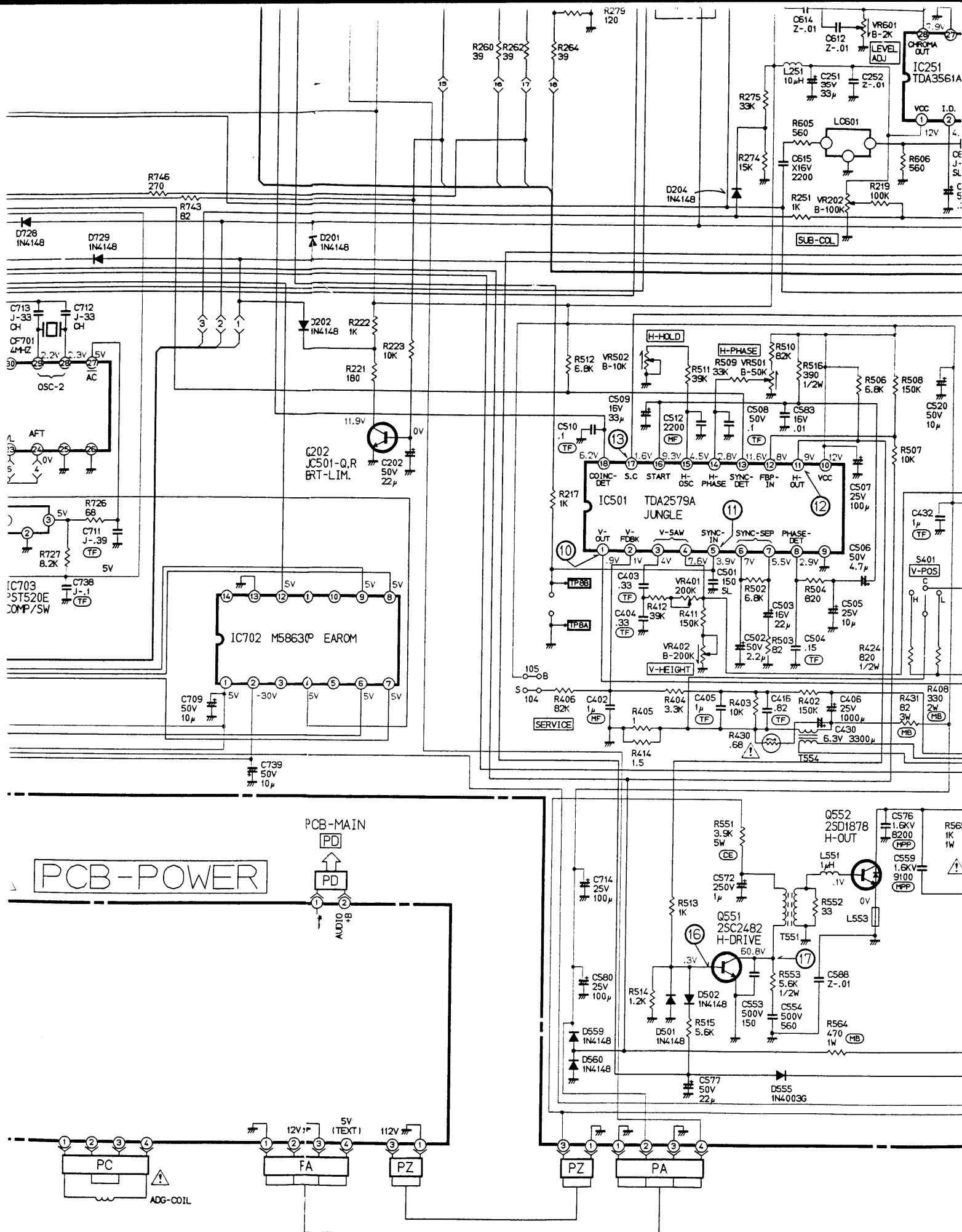
⚠ PCB-MAIN

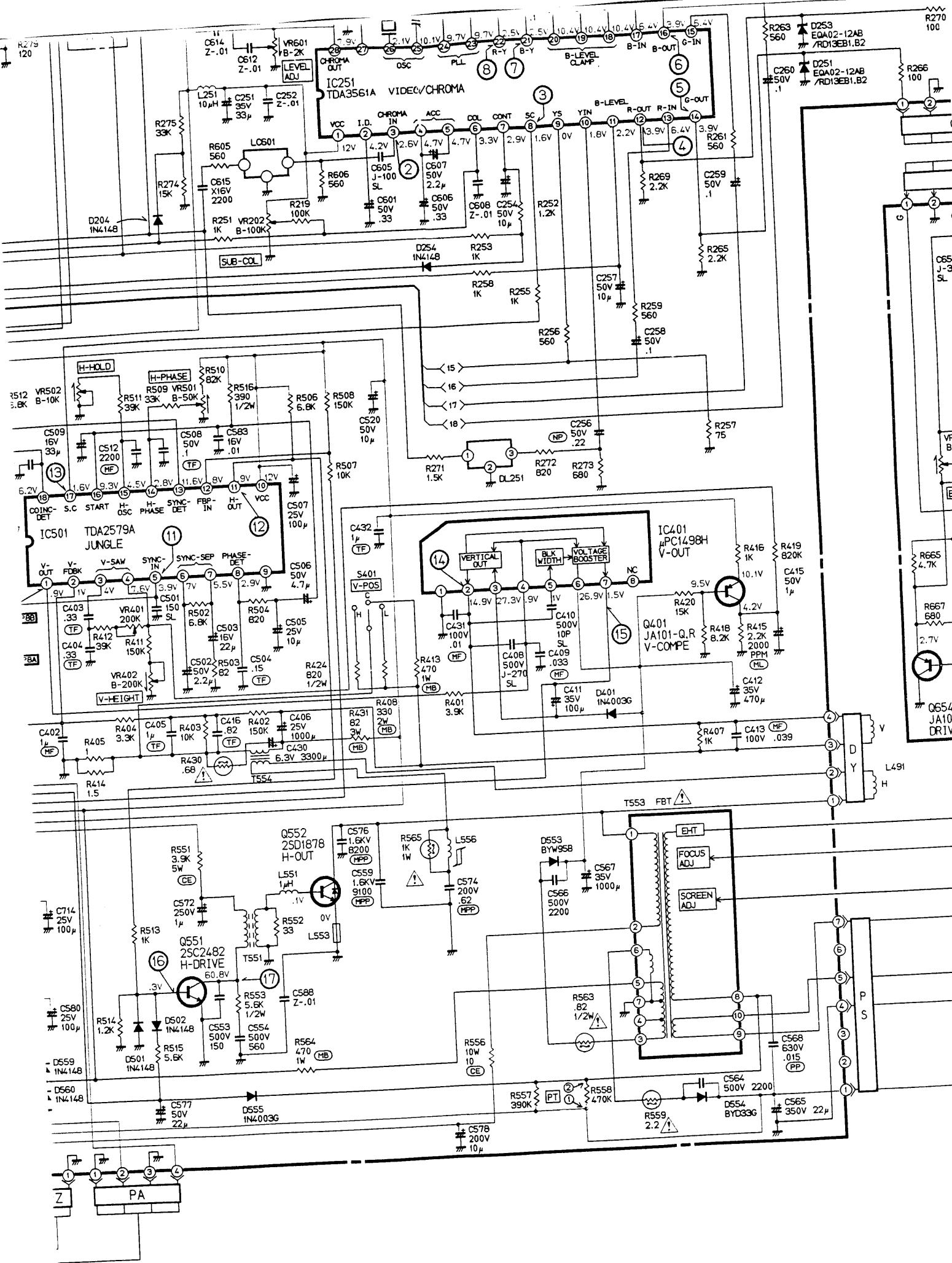


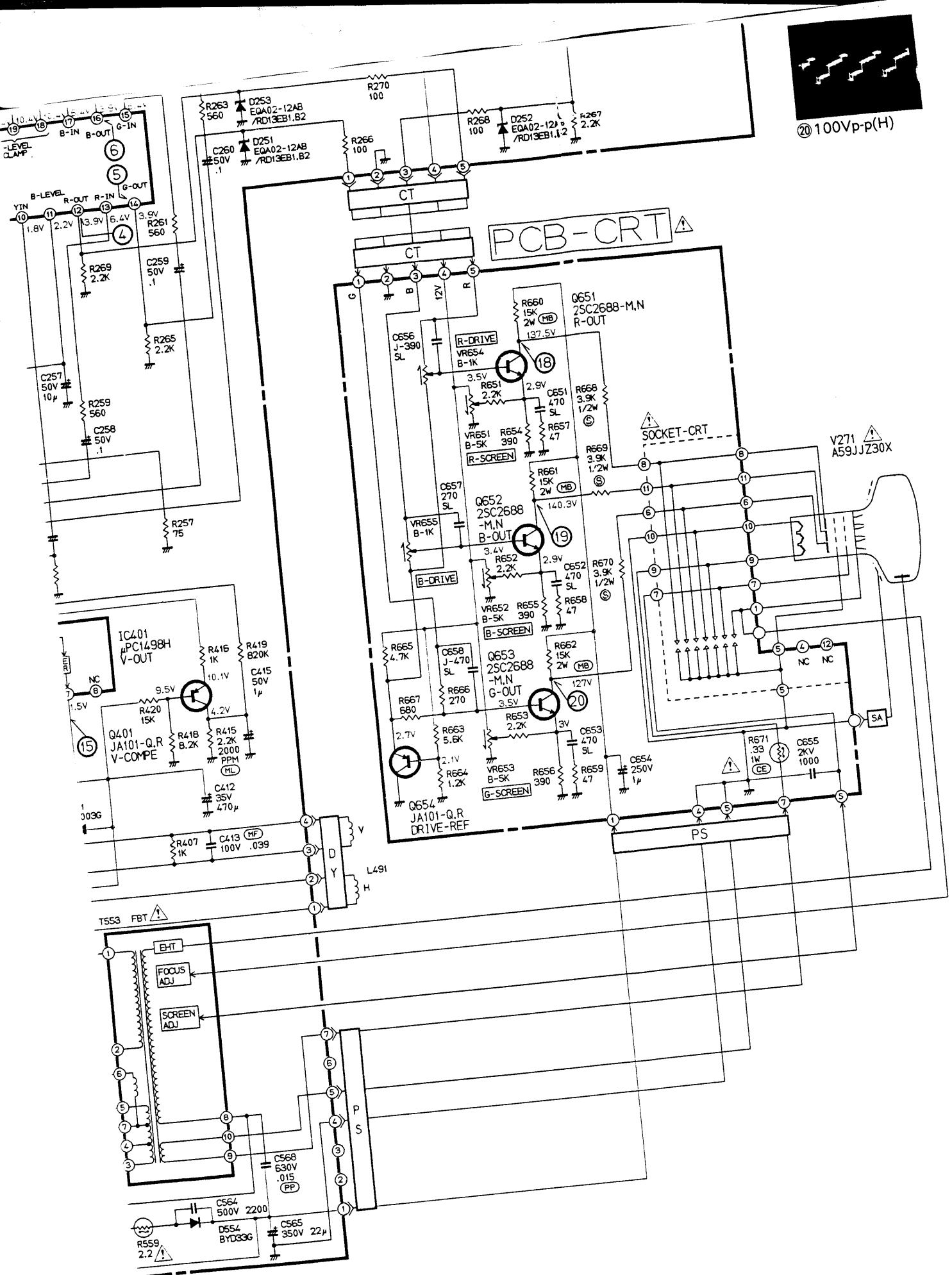
Neutral (Blue)  
AC220  
50Hz



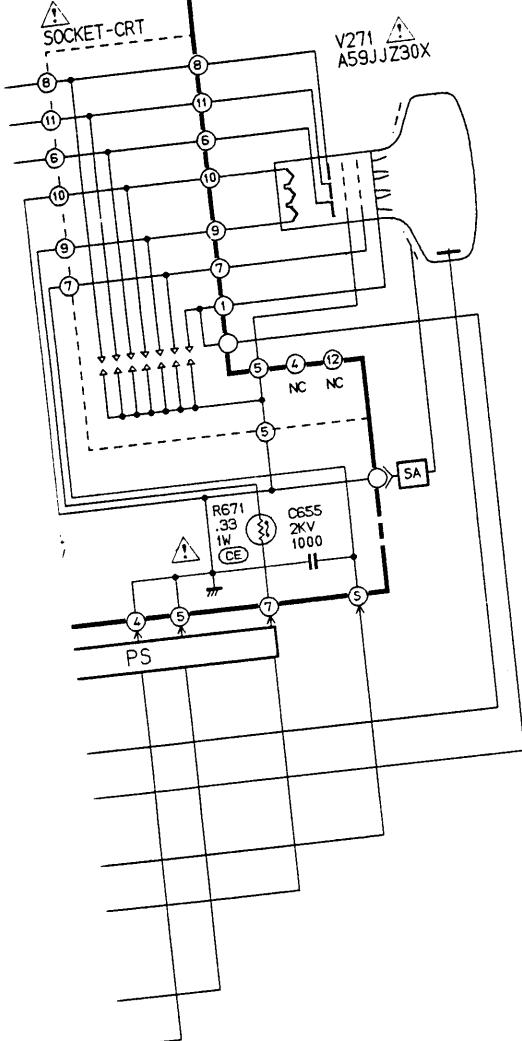








CRT ▲

688-M,N  
T

- except electrolytic capacitors.
8. The marks of capacitors are as follows:
 

ALM	: Aluminus electrolytic capacitor
MF	: Polyester capacitor
PP	: Polypropylene film capacitor
TANT	: Tantalum capacitor
TF	: Twin film capacitor.
MF.PP	: Polyester polypropylene film capacitor.
MPP	: Metallize plastic film capacitor.
NP	: Non polarized electrolytic capacitor.
PS	: Styrol capacitor.
SC	: Semiconductor capacitor.
≠	: Electrolytic capacitor
  9. The DC working voltage of capacitor, if not specifically designated is: 50V
  10. The tolerance of capacitor value, if not specifically designated is:
    - ±10% for polyester capacitor
    - ±5% for ceramic capacitor
 and J = ±5% K = ±10% M = ±20% P = ±100%  
 $C = \pm 0.25\text{PF}$   $D = \pm 0.5\text{PF}$   $F = \pm 1\text{PF}$   $Z = \pm 80\%$   $N = \pm 30$

### SPECIFIC SYMBOL

▲▼	Zener Diode	→←	Varistor
↔	Varicap	□	Crystal unit
○	Posistor	⊕ ⊖	Air Gap
○—○	Thermistor	—	Part (resistor) attached on the copper-foil side of PCB
○—○	Fusible Resistor	—	Ceramic filter

### NOTE 2:

1. DC voltages were measured from points indicated to the circuit ground with a high-Z voltmeter.
2. Waveforms were taken with offset PAL colour bar signal.
3. This is a basic schematic diagram. Some sets may be subject to modification according to engineering improvement.

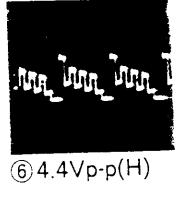
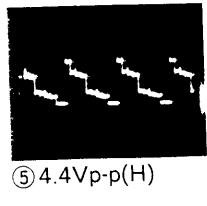
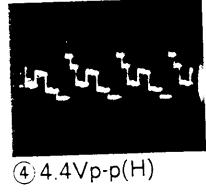
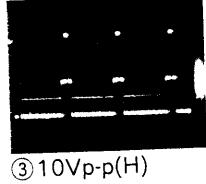
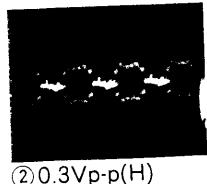
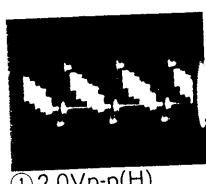
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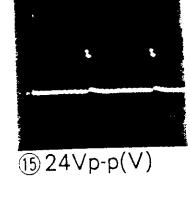
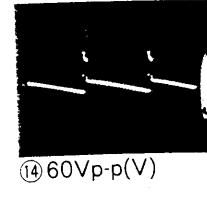
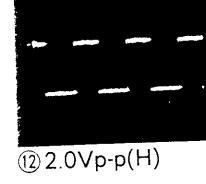
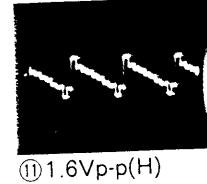
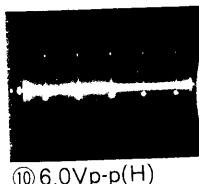
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## CHASSIS WAVEFORMS

A

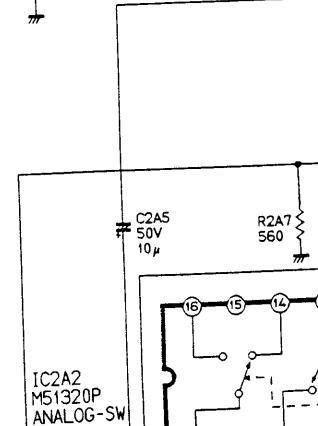
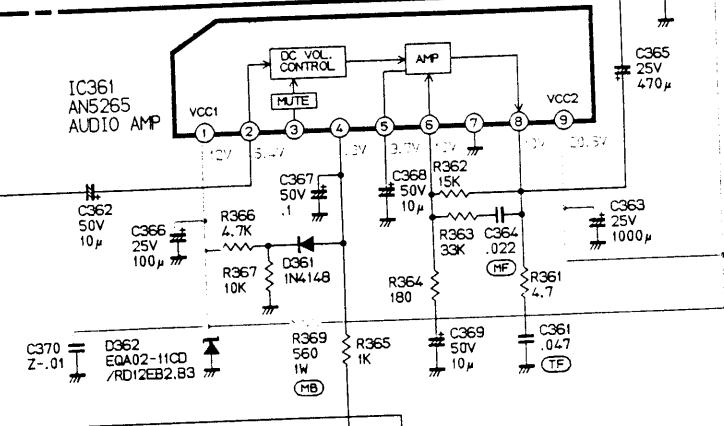


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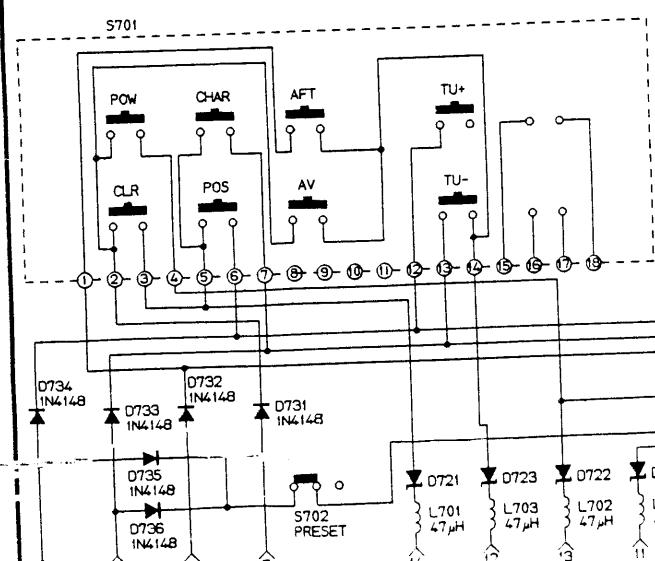


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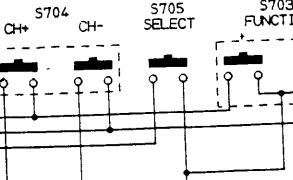
C



D

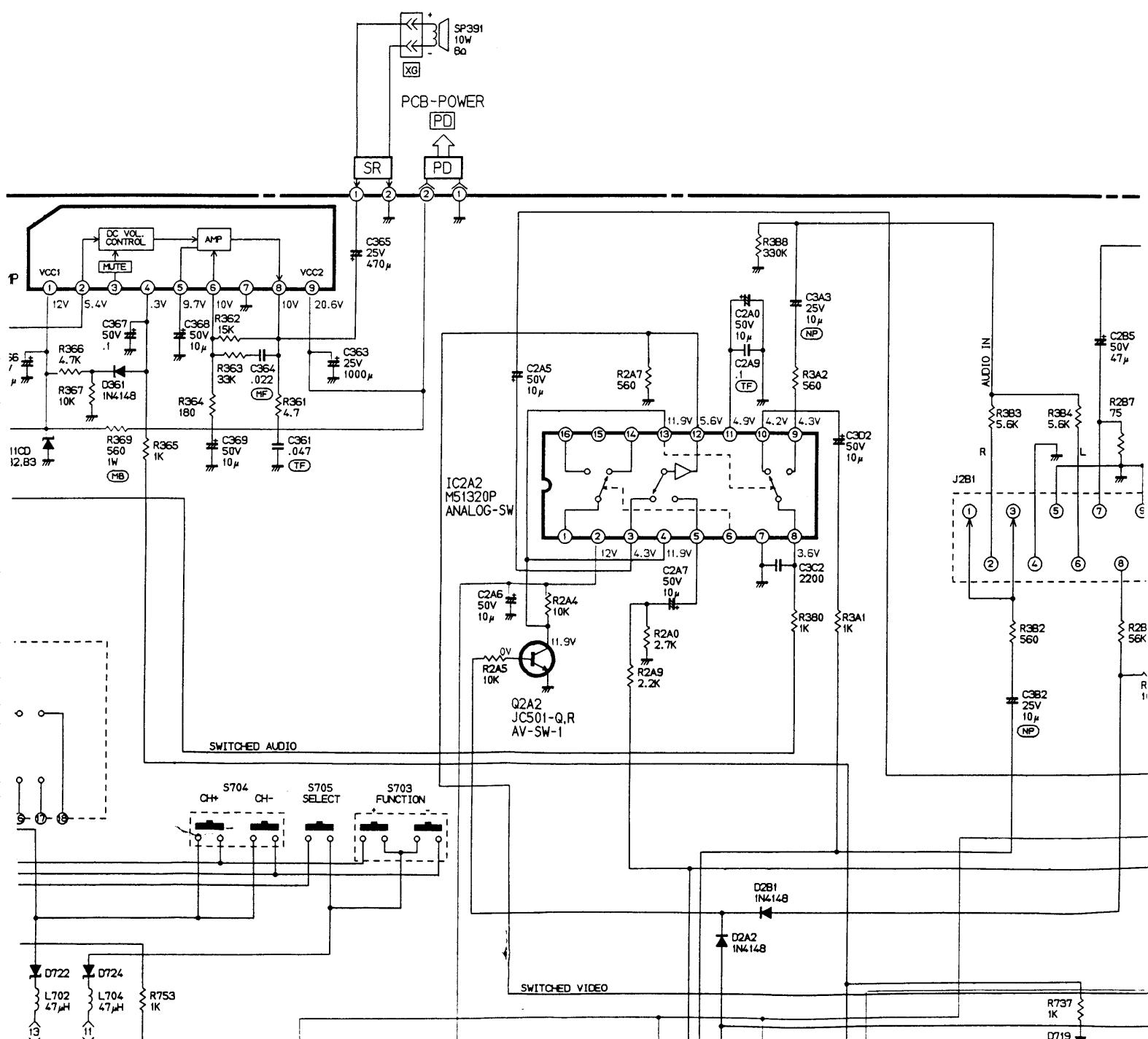
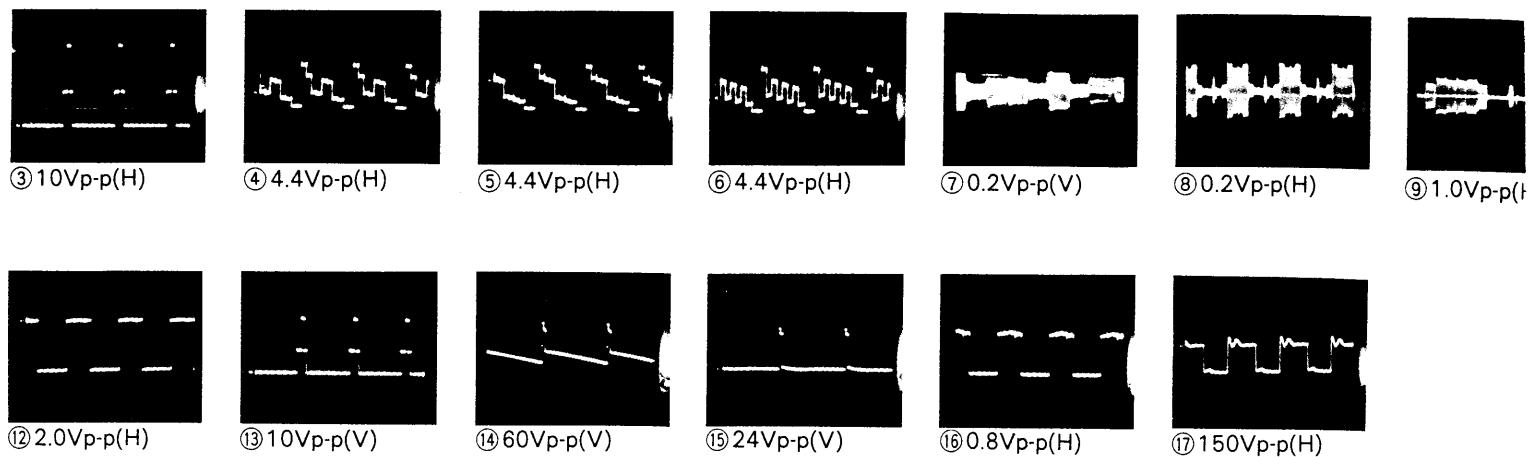


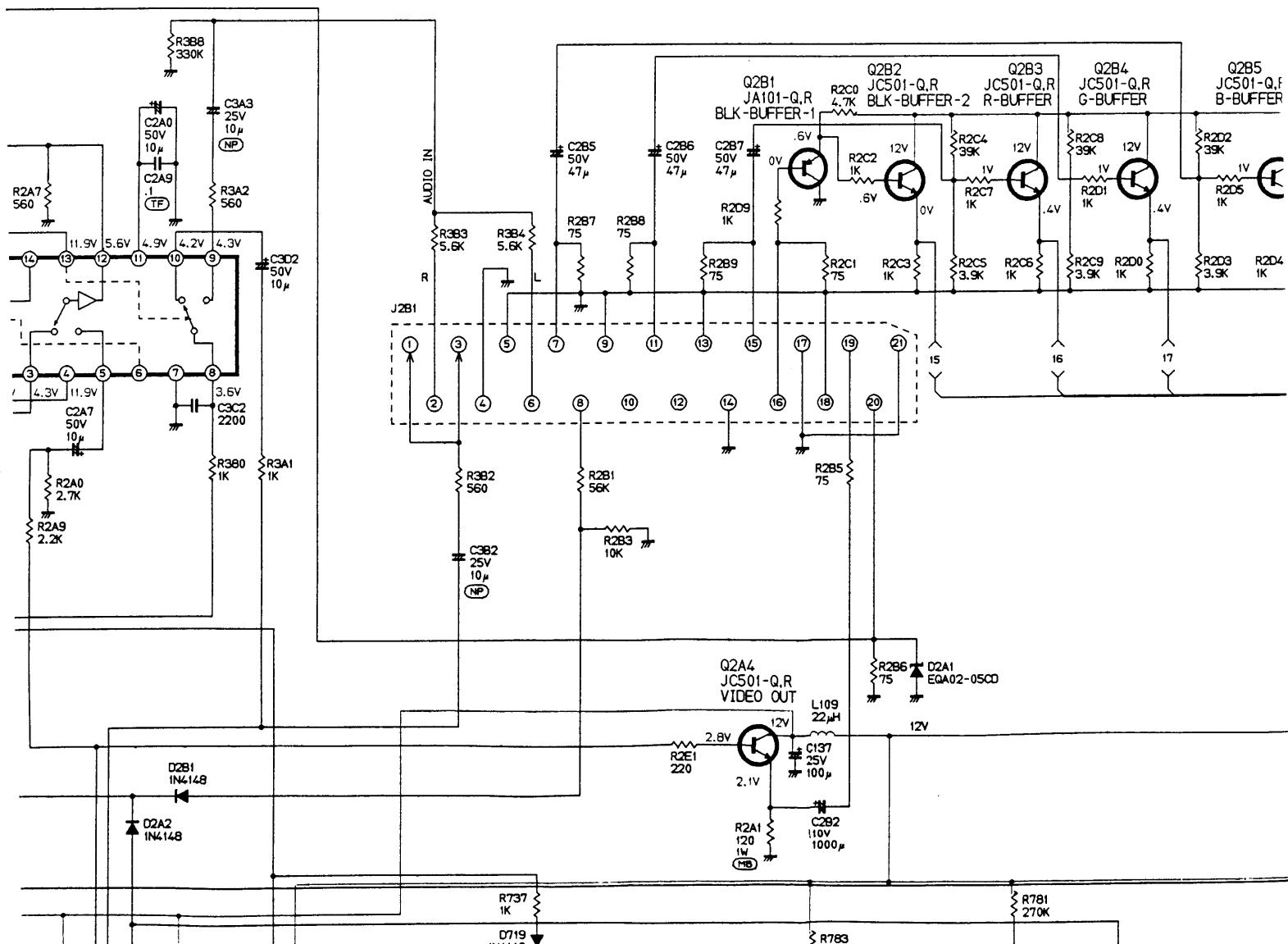
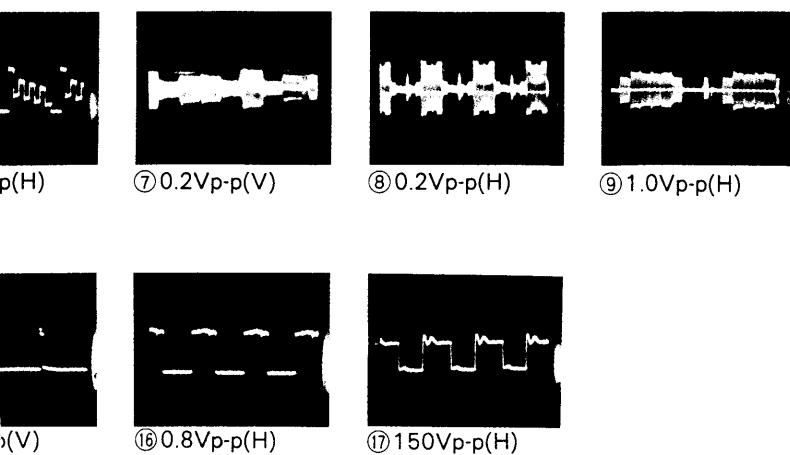
SWITCHED AUDIO



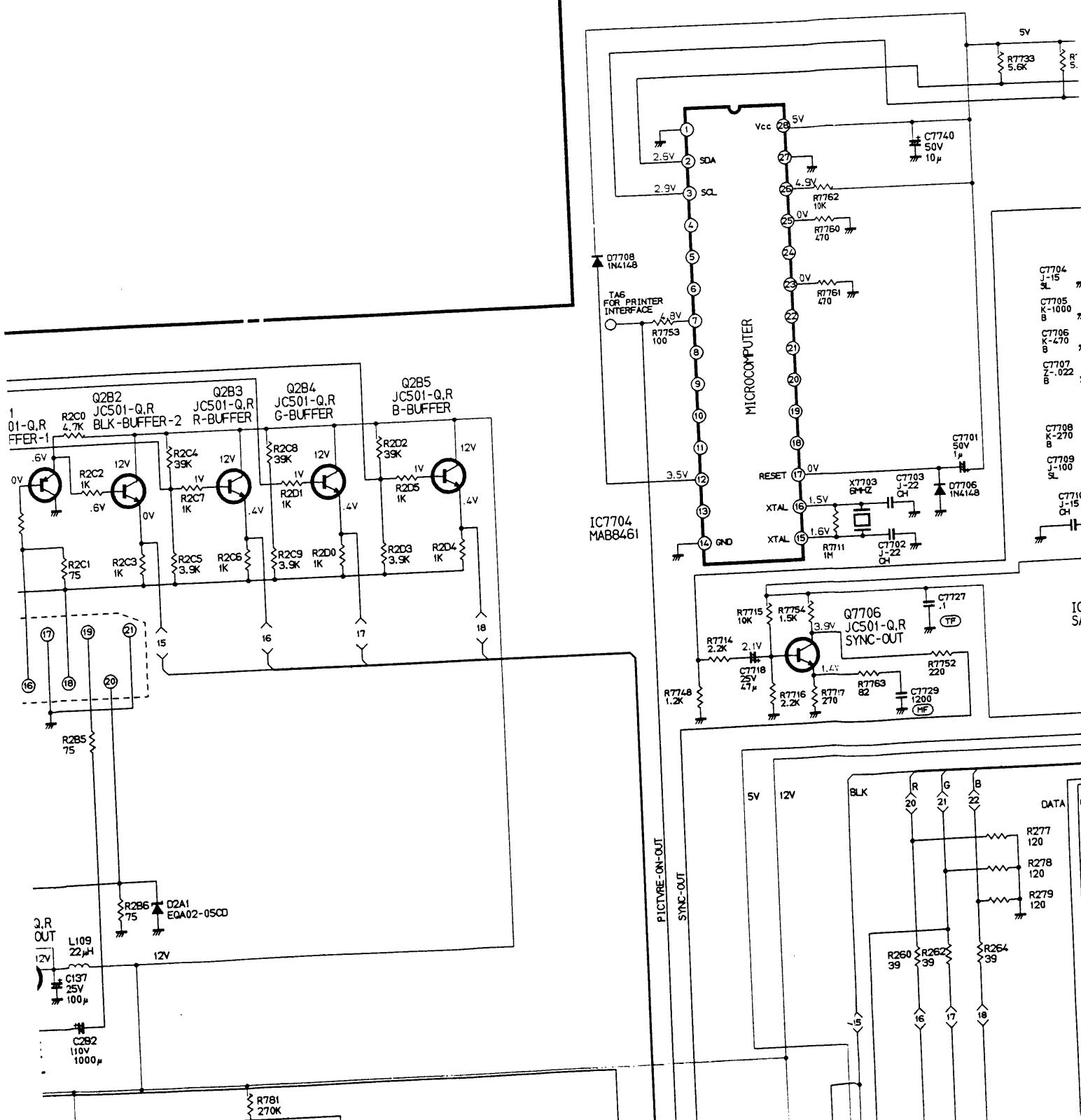
SWITCHED VIDEO

MS

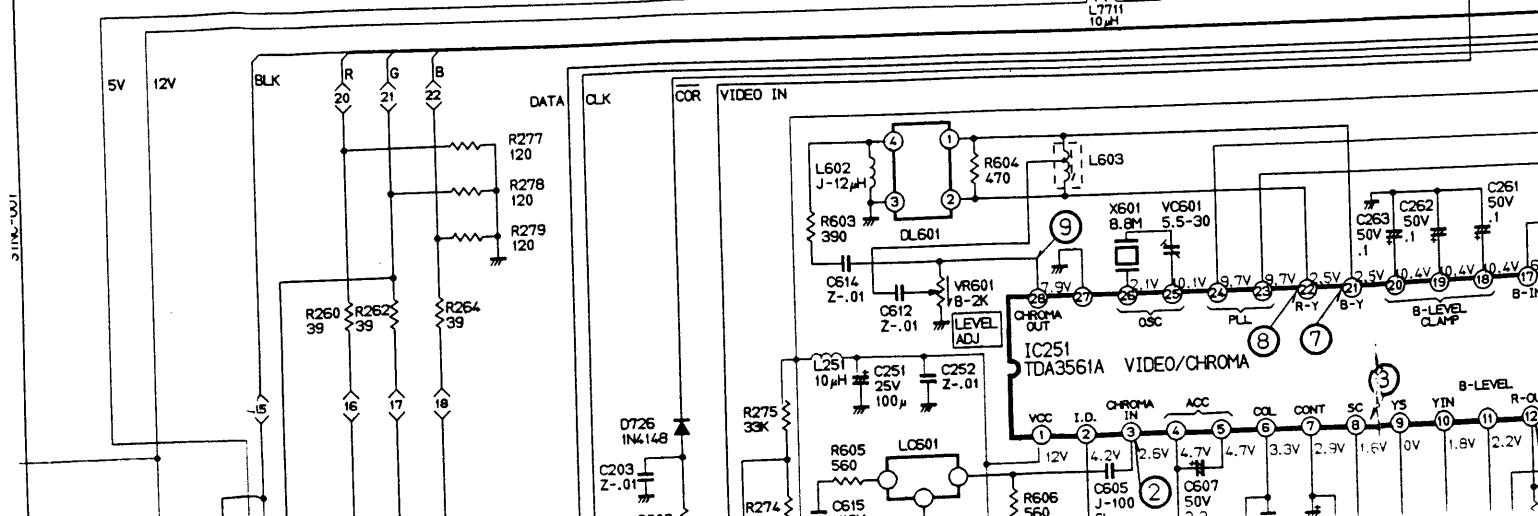
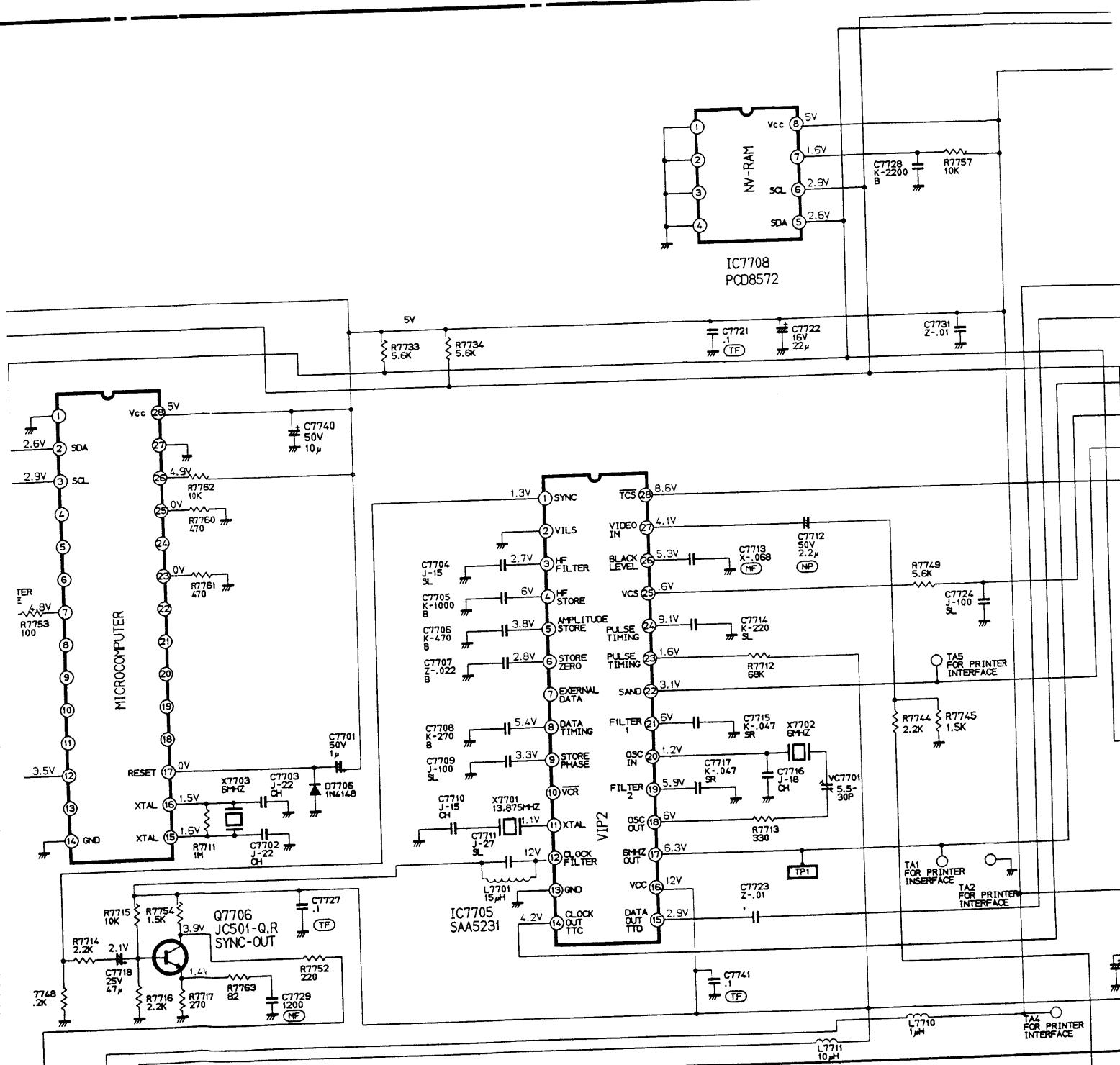




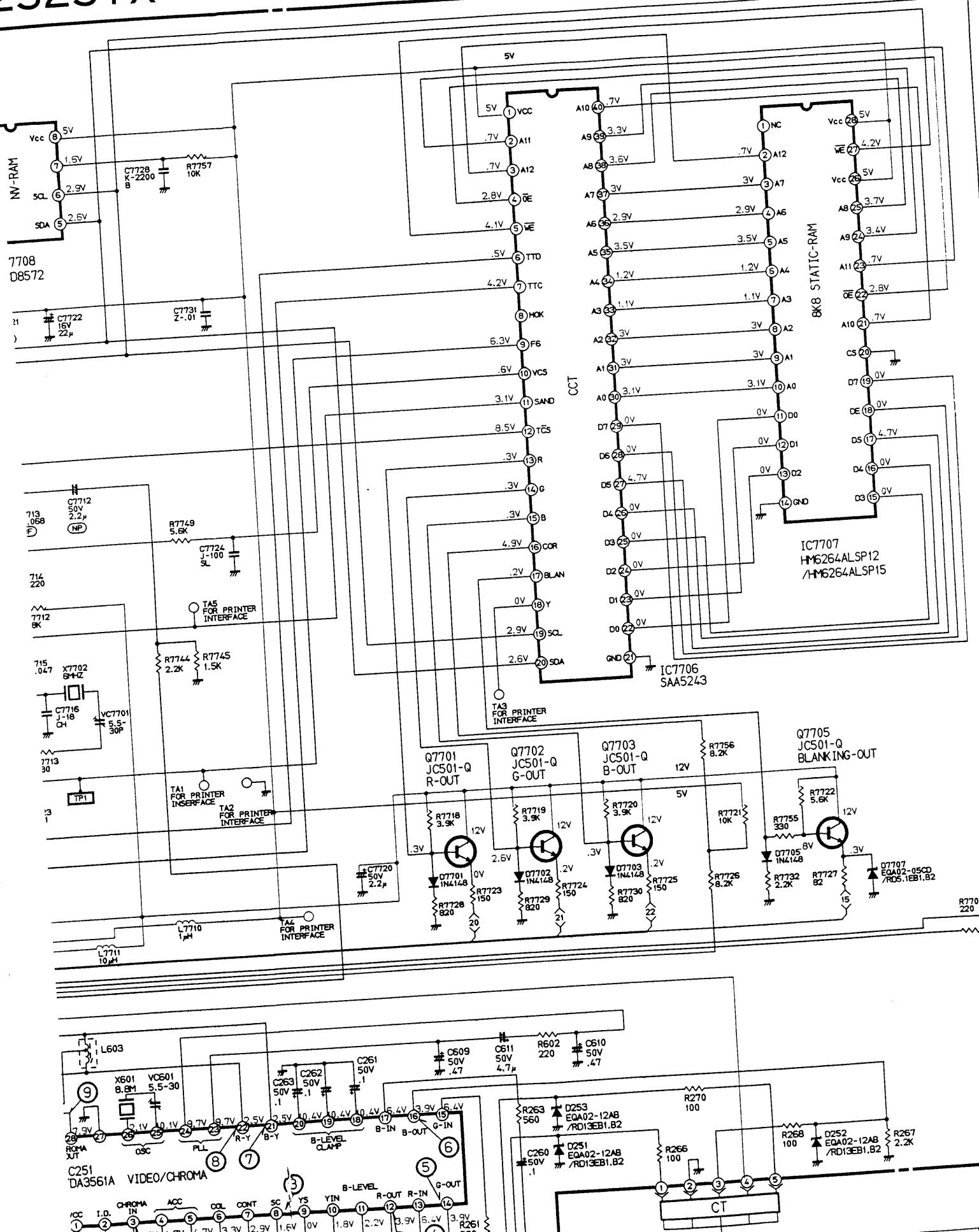
## SCHEMATIC DIAGRAM N

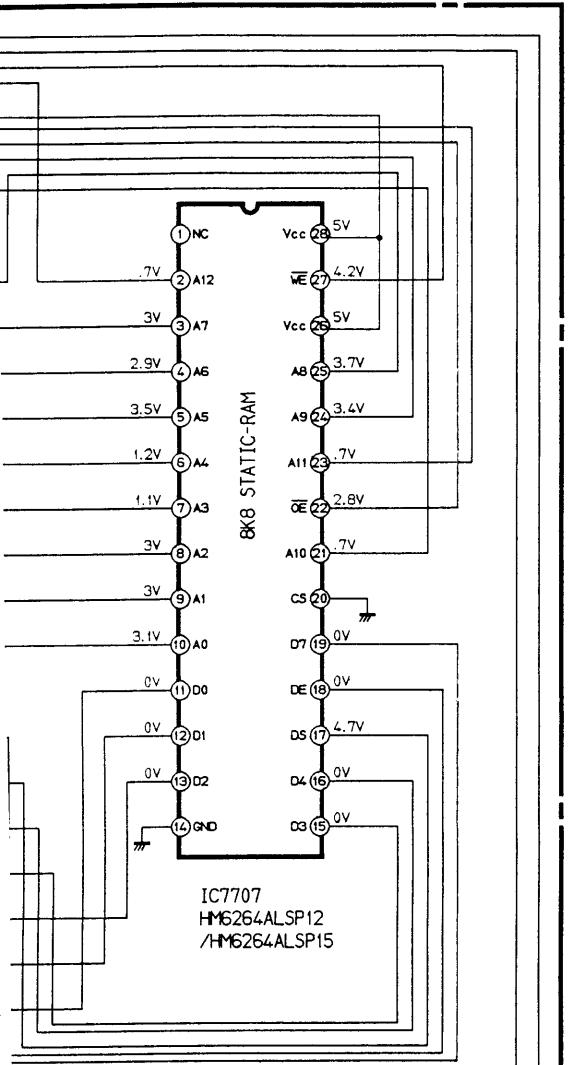
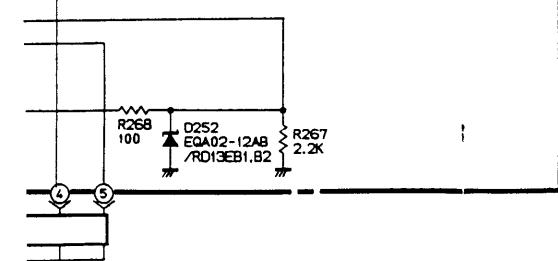
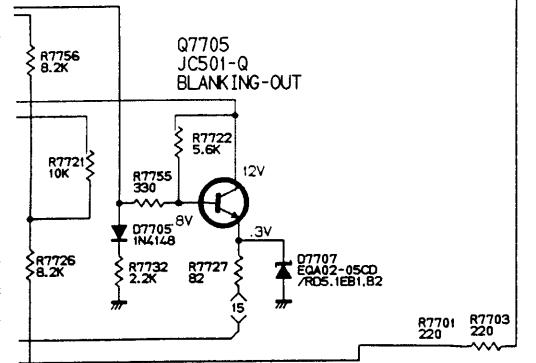


SCHEMATIC DIAGRAM MODEL : CT-2525TX



2525TX



36  
243

## SERVING PRECAUTION

SYMBOLS INDICATE COMPONENTS HAVING SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY AND PERFORMANCE. THEREFORE REPLACEMENT OF ANY SAFETY PARTS SHOULD BE IDENTICAL IN VALUE AND CHARACTERISTICS. FOR ACCURACY OF THE REPLACEMENT REFER TO THE PARTS LIST OF SERVICE MANUAL.

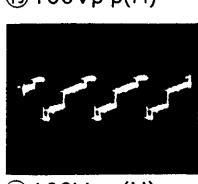
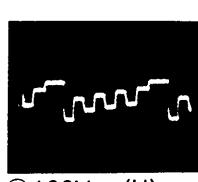
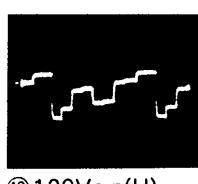
DON'T DEGRADE THE SAFETY OF THE RECEIVERS THROUGH IMPROPER SERVICING.

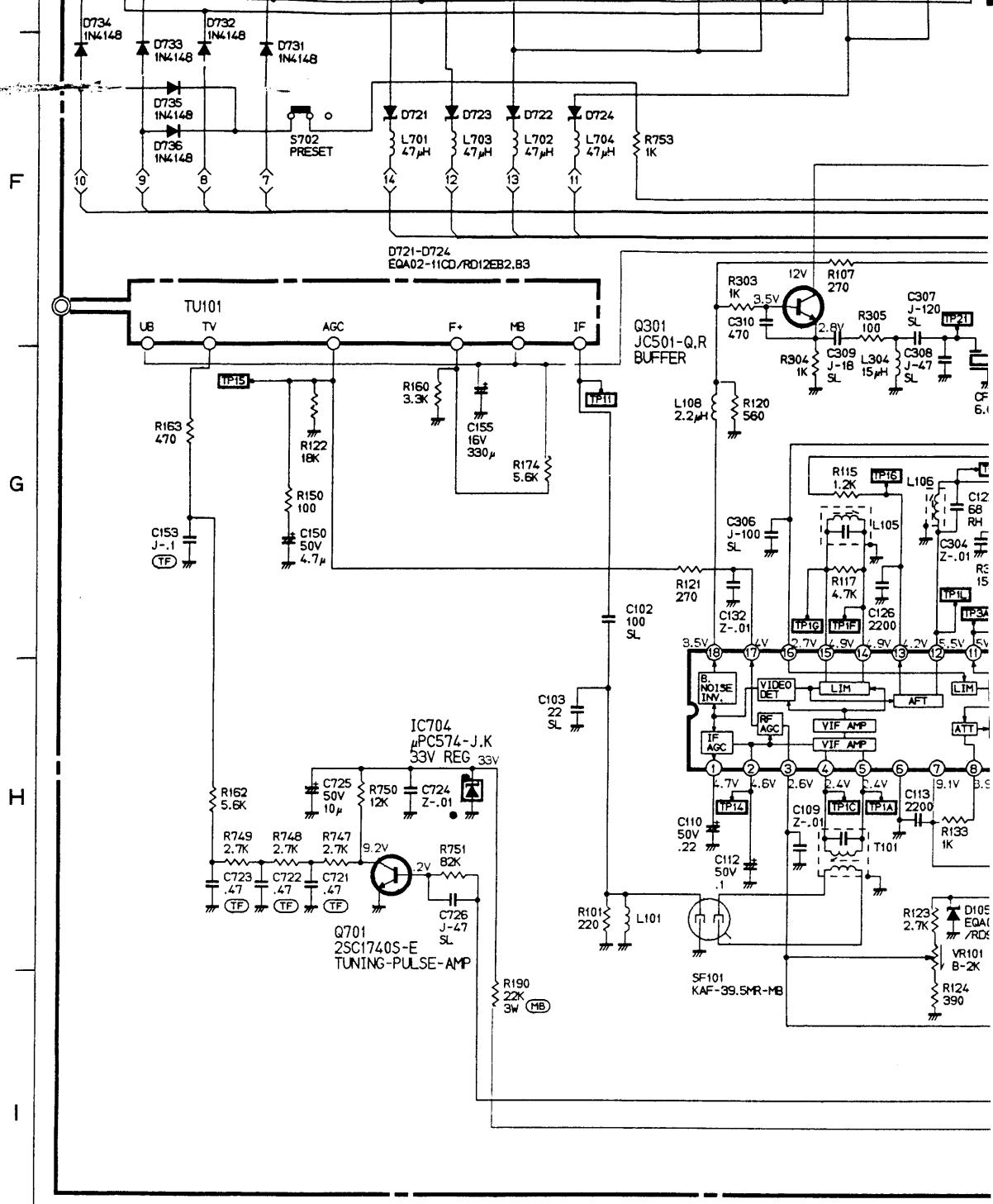
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Accordingly,  $K = 1000 \text{ ohms}$   
 $M = 1000K \text{ ohms}$
- The wattage of resistors, if not specifically designated, is less than 1/4 watt.
- Resistors, if not specifically designated, are carbon resistors.
- The marks of resistors are as follows:
 

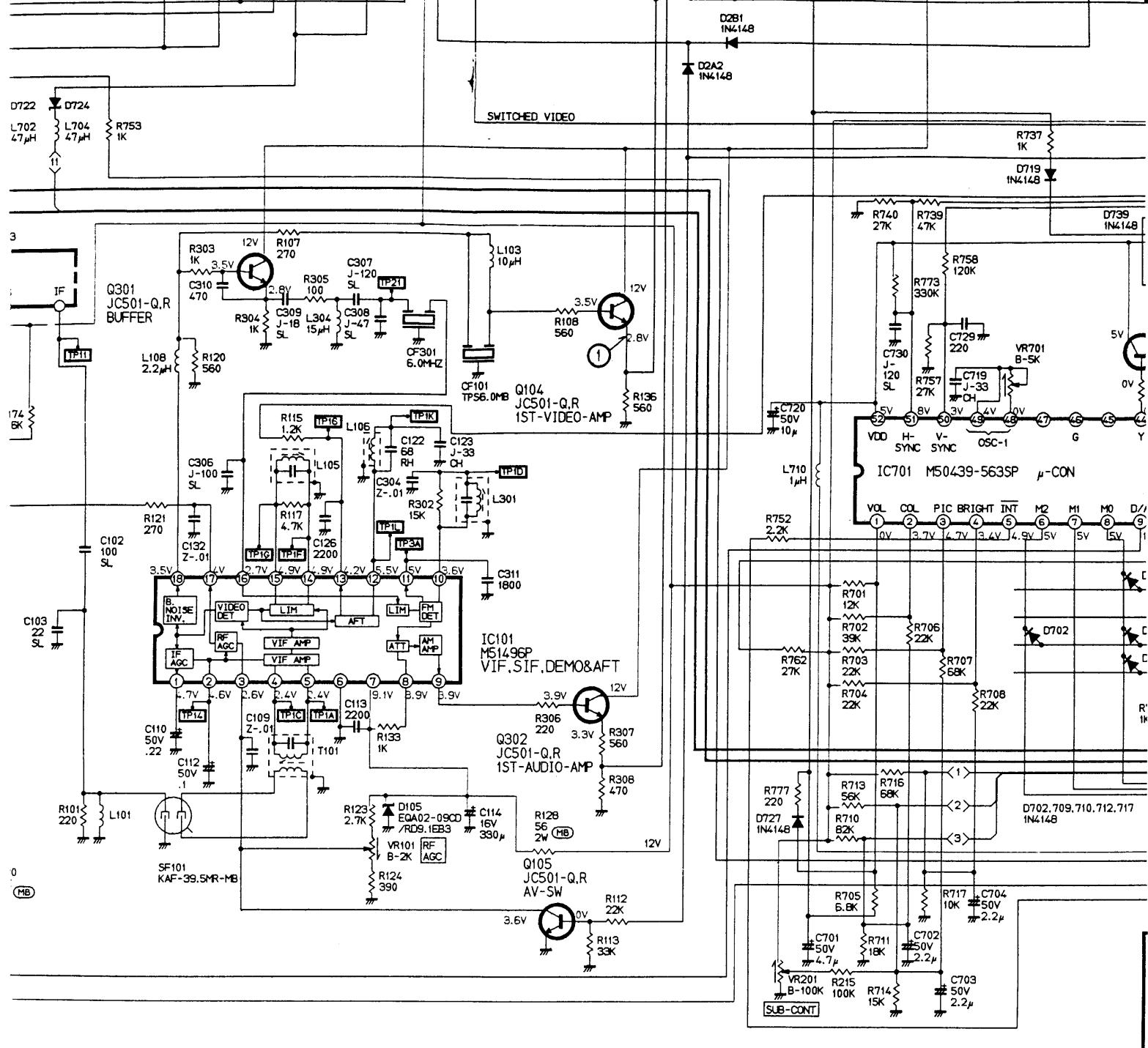
(CE)	: Cemented resistor
(MB)	: Metal oxide film resistor (type B)
(MPC)	: Metel plate cement resistor.
(ML)	: Metal linear resistor.
(S)	: Fixed composition resistor
(W)	: Wire wound resistor
(M)	: Metal film resistor
- The tolerance of resistor value, if not specifically designated, is:  $\pm 5\%$ .  $K = \pm 10\%$   $M = \pm 20\%$
- The unit of capacitance, if not specifically designated, is:
  - $\mu\text{F}$ , for numbers less than 1
  - PF, for numbers more than 1
- Capacitors, if not specifically designated are Ceramic capacitors except electrolytic capacitors.
- The marks of capacitors are as follows:
 

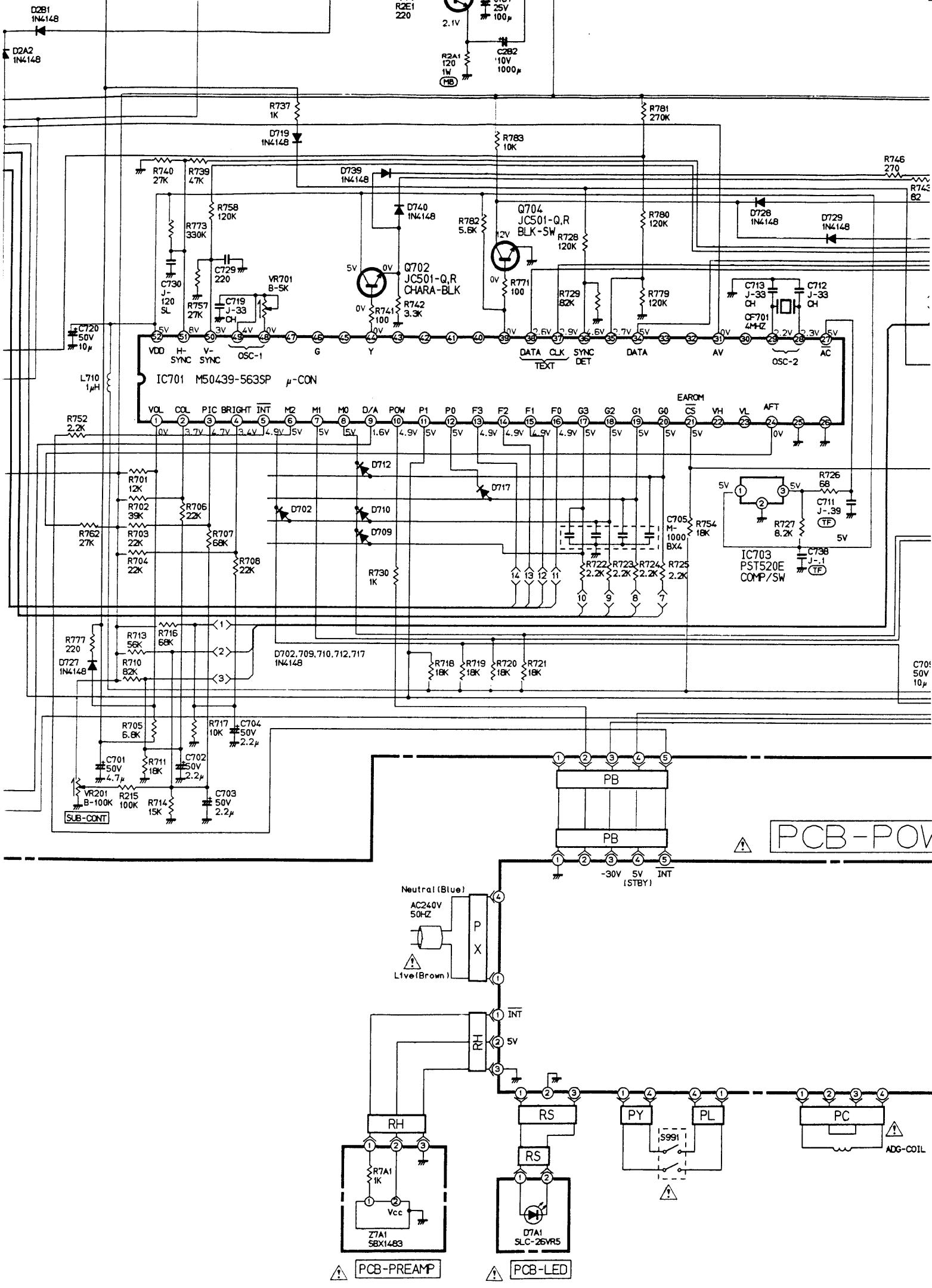
(ALM)	: Aluminus electrolytic capacitor
(MF)	: Polyester capacitor
(PP)	: Polypropylene film capacitor
(TANT)	: Tantalum capacitor
(TF)	: Twin film capacitor.
(MF.PP)	: Polyester polypropylene film capacitor.
(MPP)	: Metallize plastic film capacitor.
(NP)	: Non polarized electrolytic capacitor.

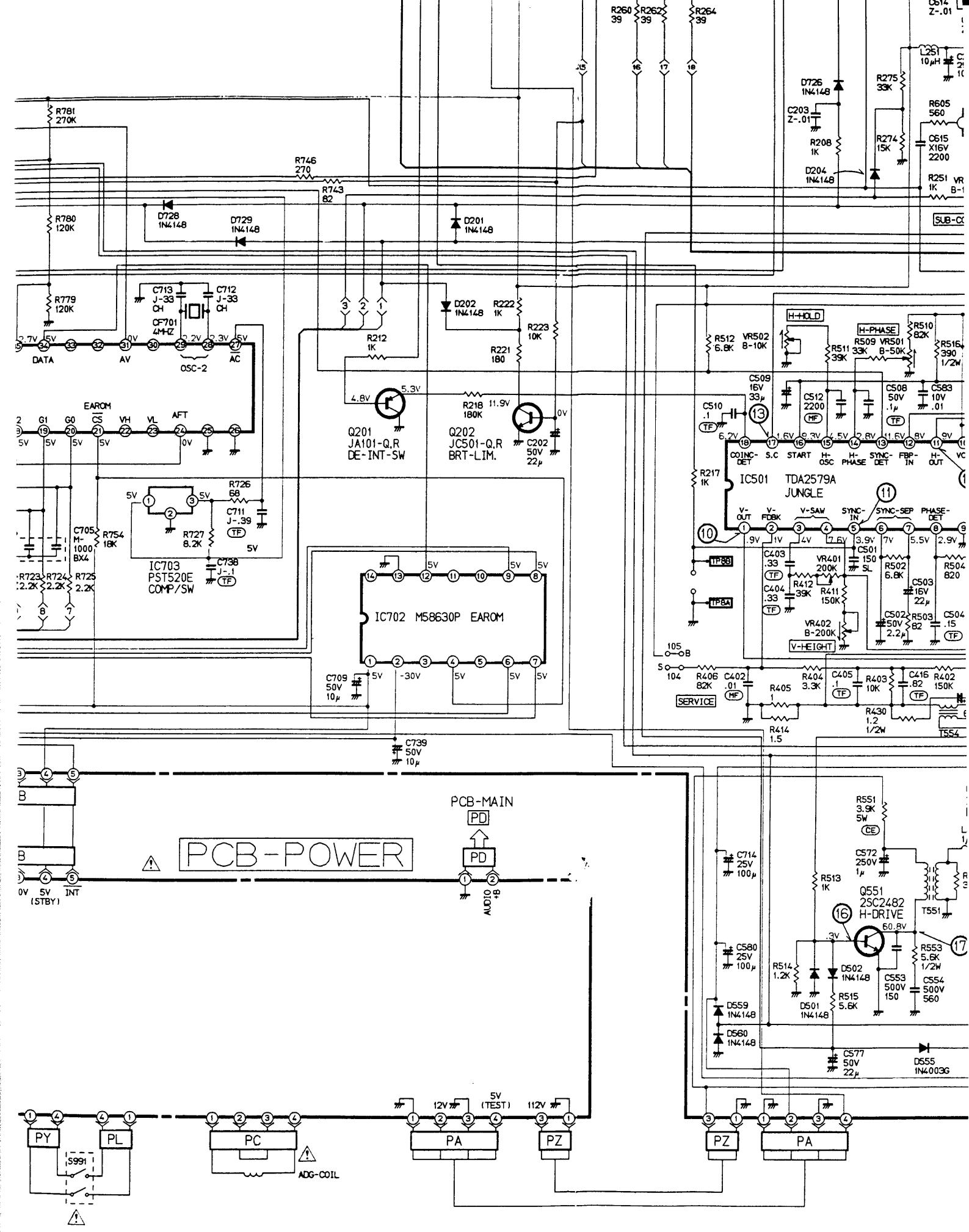


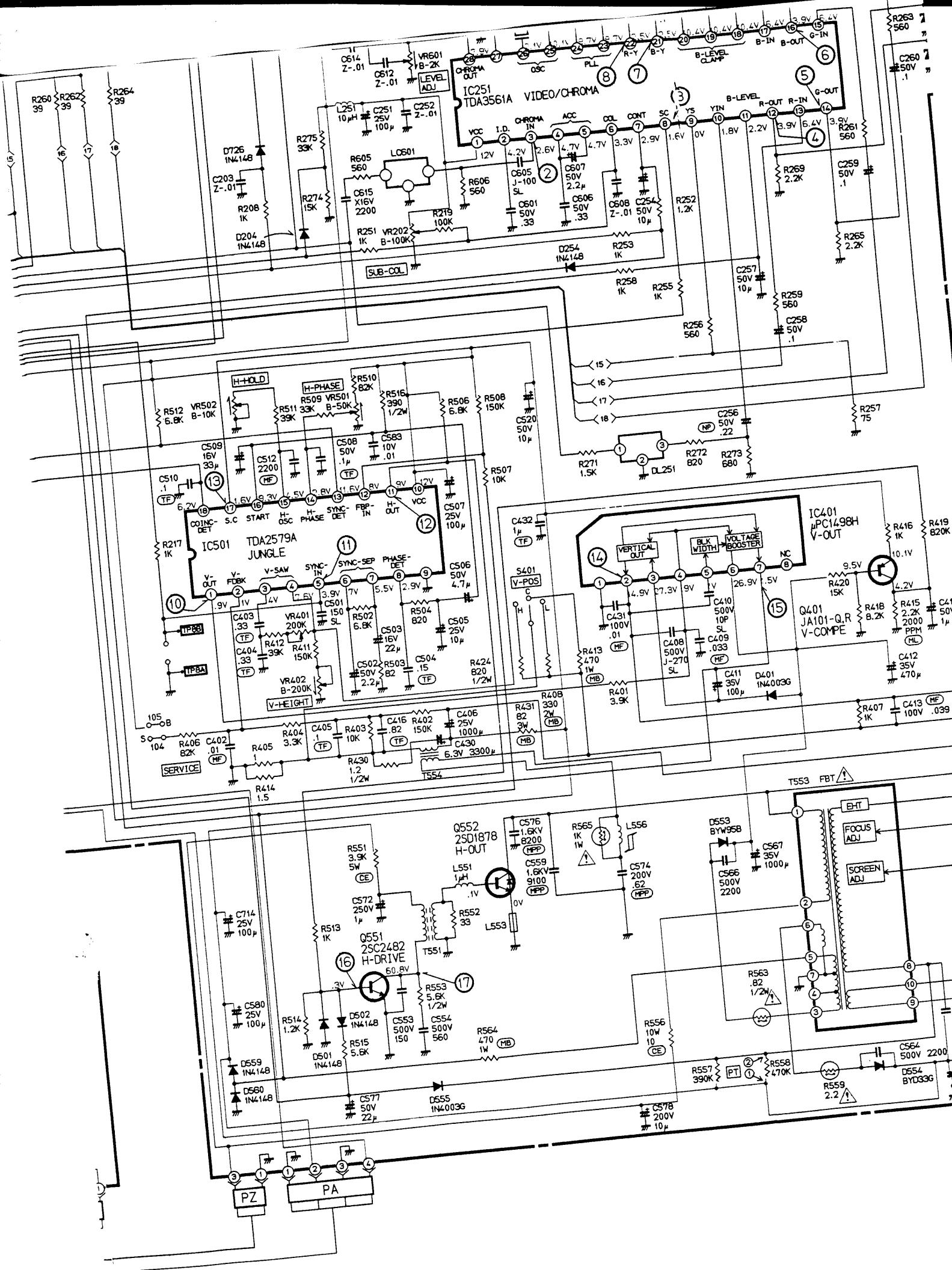


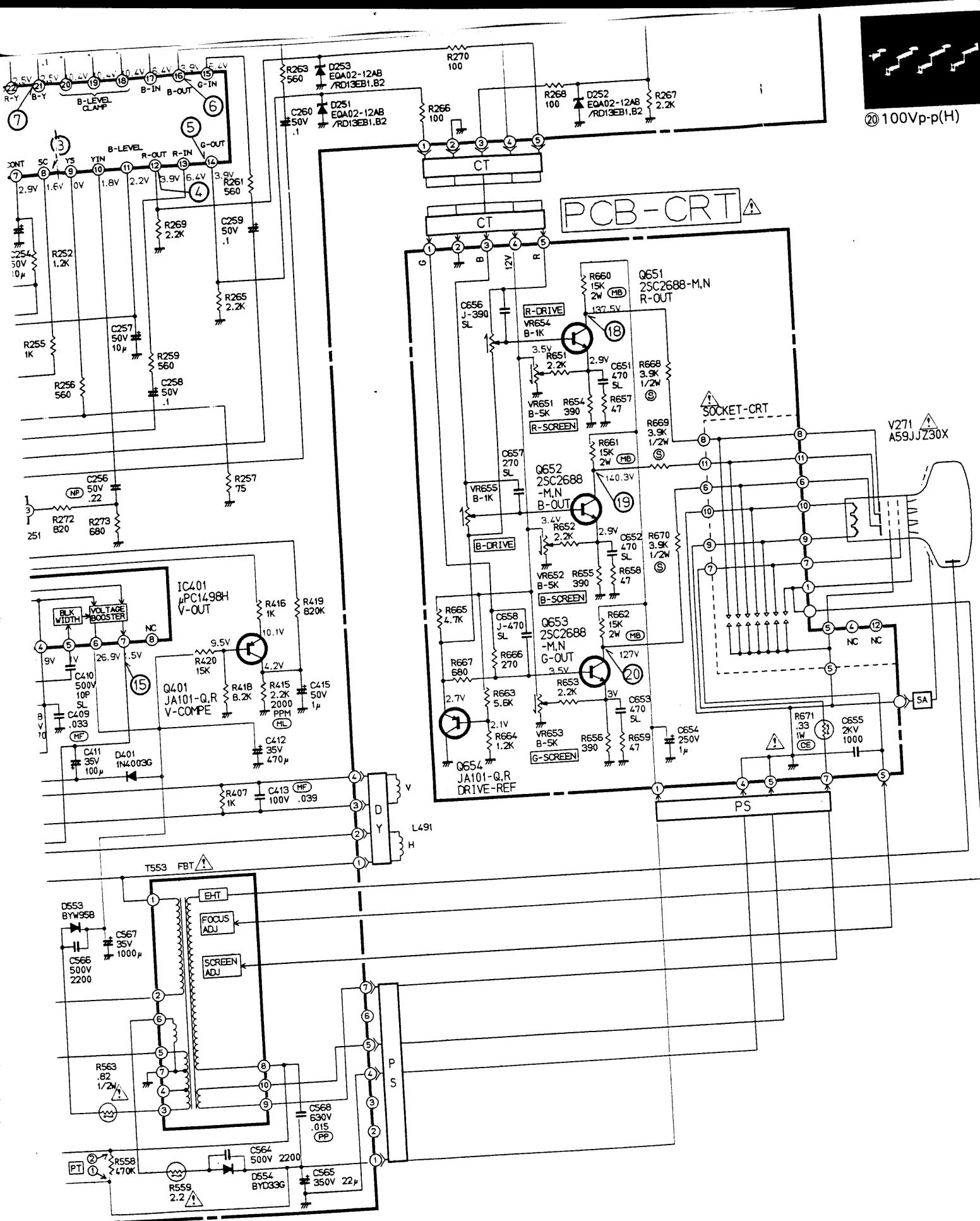
⚠ PCB-MAIN

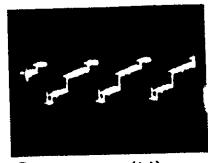
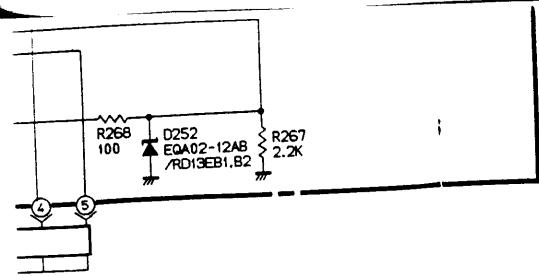






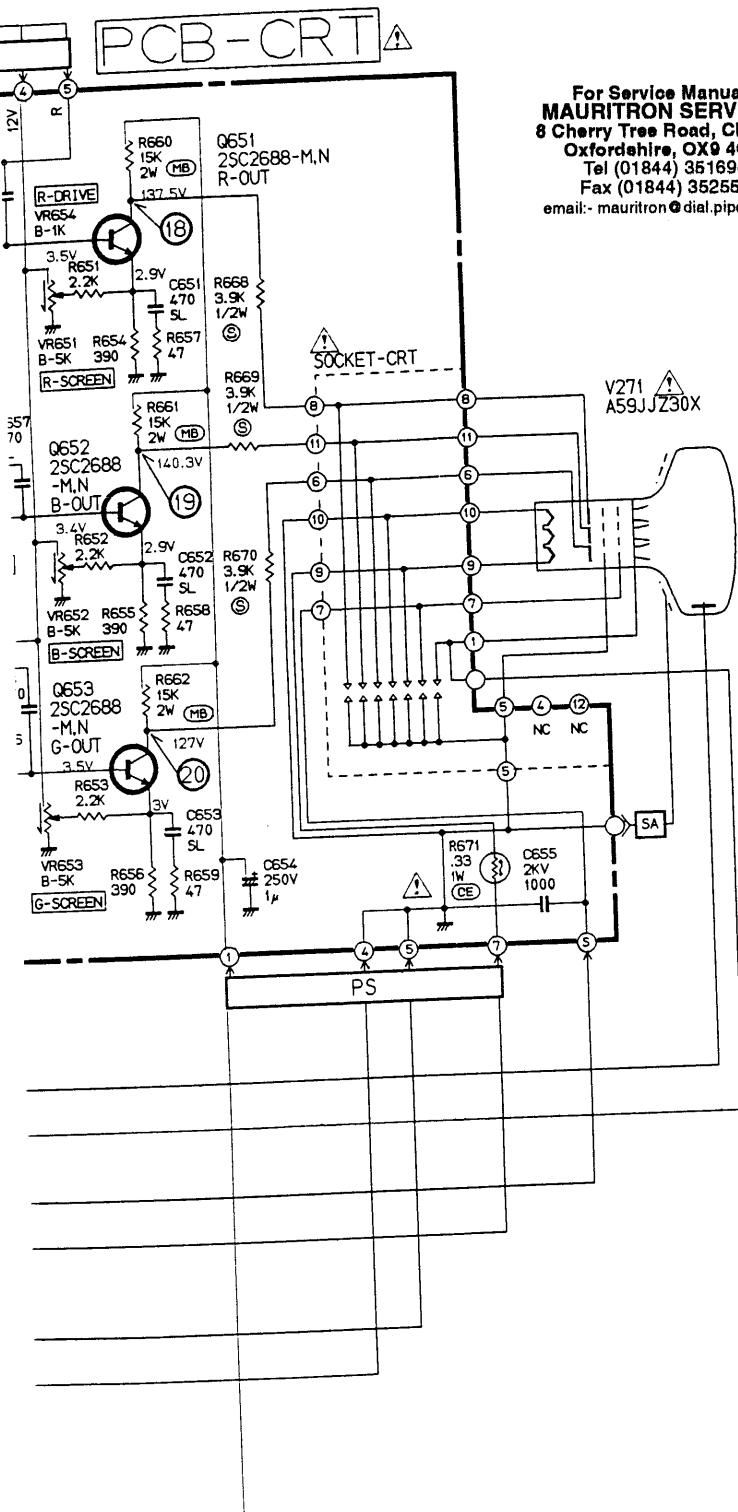






8. The marks of capacitors are as follows:
- ALM** : Aluminus electrolytic capacitor
  - MF** : Polyester capacitor
  - PP** : Polypropylene film capacitor
  - TANT** : Tantalum capacitor
  - TF** : Twin film capacitor.
  - MF.PP** : Polyester polypropylene film capacitor.
  - MPP** : Metallize plastic film capacitor.
  - NP** : Non polarized electrolytic capacitor.
  - PS** : Styrol capacitor.
  - SC** : Semi conductor capacitor.
  - #** : Electrolytic capacitor

9. The DC working voltage of capacitor, if not specifically designated is: 50V
10. The tolerance of capacitor value, if not specifically designated is:  
 ±10% for polyester capacitor  
 ±5% for ceramic capacitor  
 and J = ±5% K = ±10% M = ±20% P = +100%  
 $C = \pm 0.25\text{PF}$   $D = \pm 0.5\text{PF}$   $F = \pm 1\text{PF}$   $Z = \pm 80\%$   $N = \pm 30\%$



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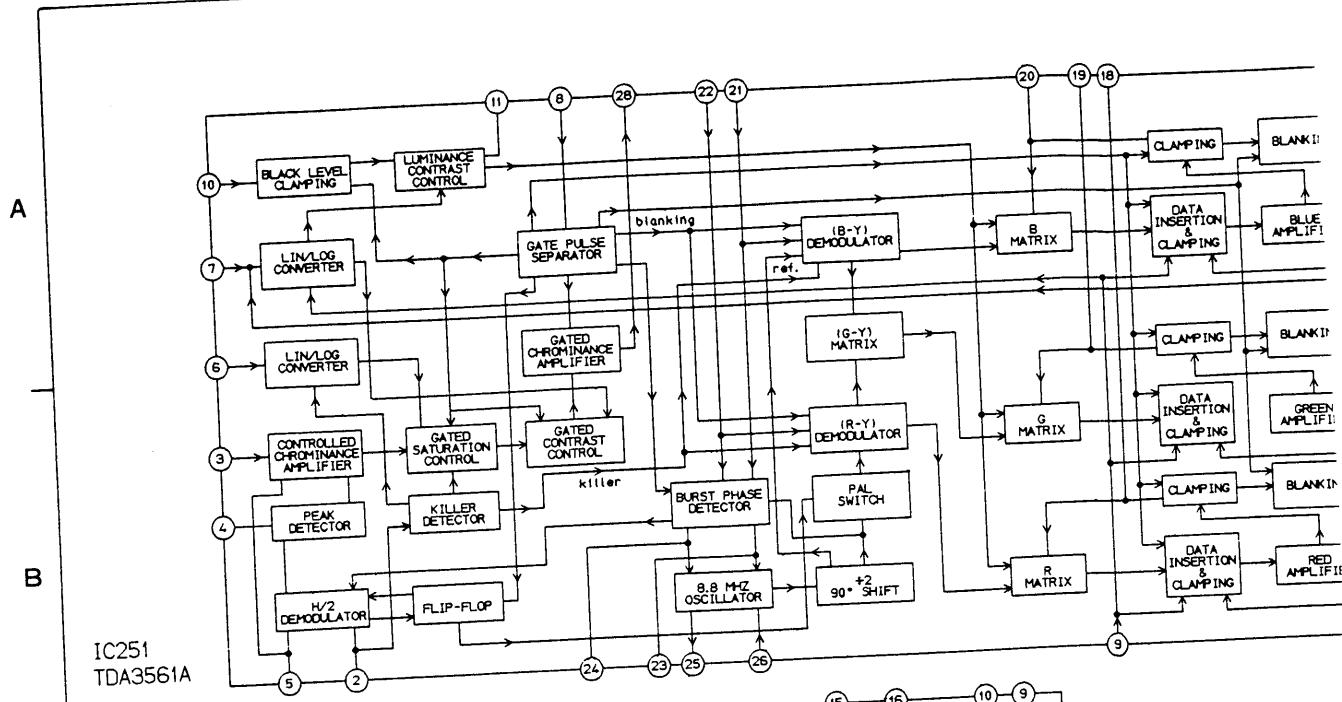
SPECIFIC SYMBOL	
	Zener Diode
	Varistor
	Varicap
	Posistor
	Thermistor
	Fusible Resistor
	Crystal unit
	Air Gap
	Part (resistor) attached on the copper-foil side of PCB
	Ceramic filter

#### NOTE 2:

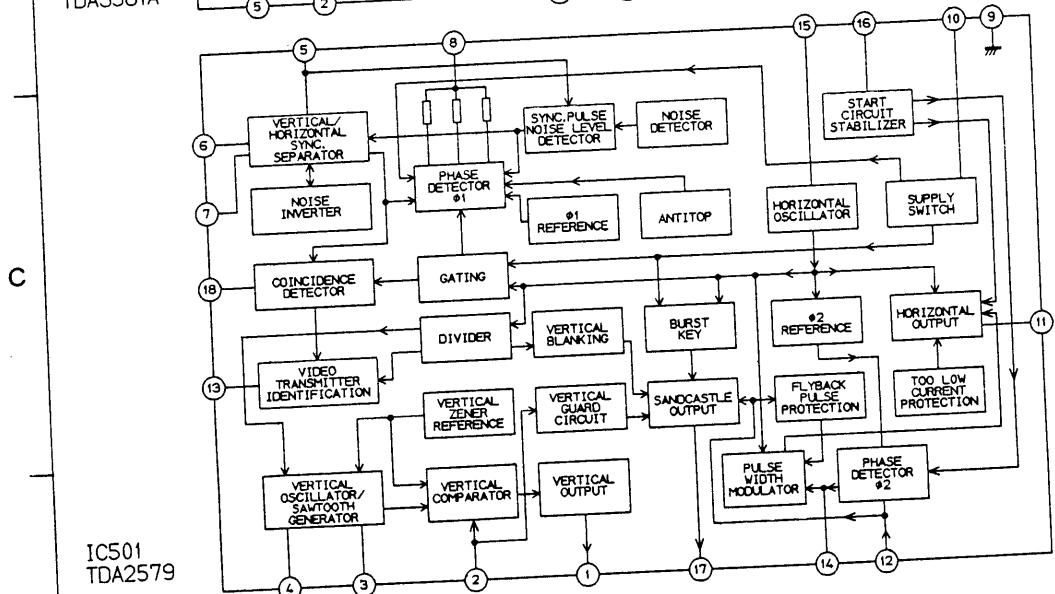
- DC voltages were measured from points indicated to the circuit ground with a high-Z voltmeter.
- Waveforms were taken with offset PAL colour bar signal.
- This is a basic schematic diagram. Some sets may be subject to modification according to engineering improvement.

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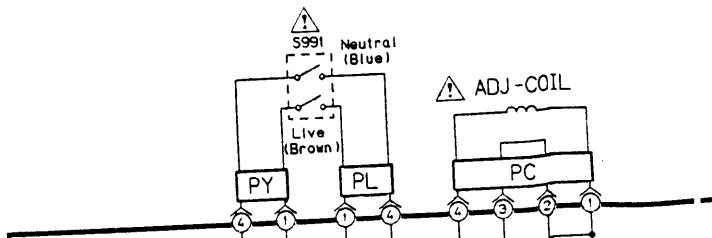


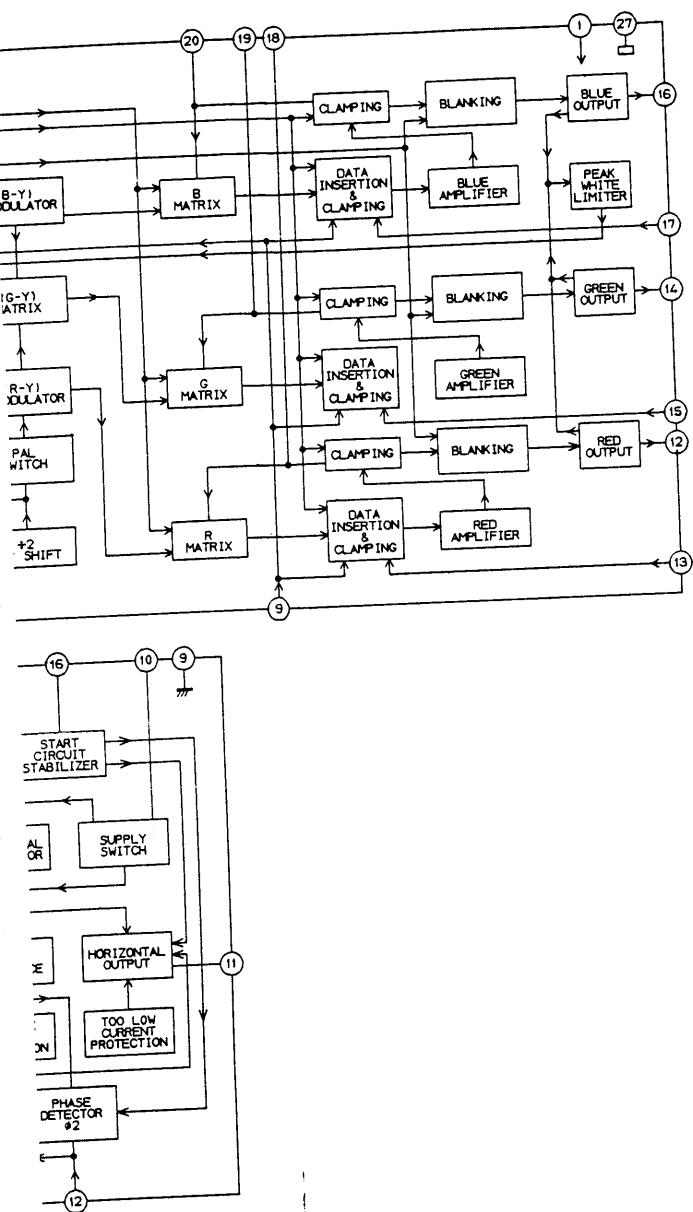
IC251  
TDA3561A



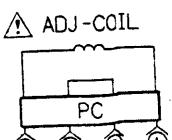
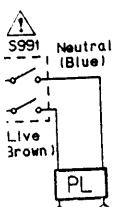
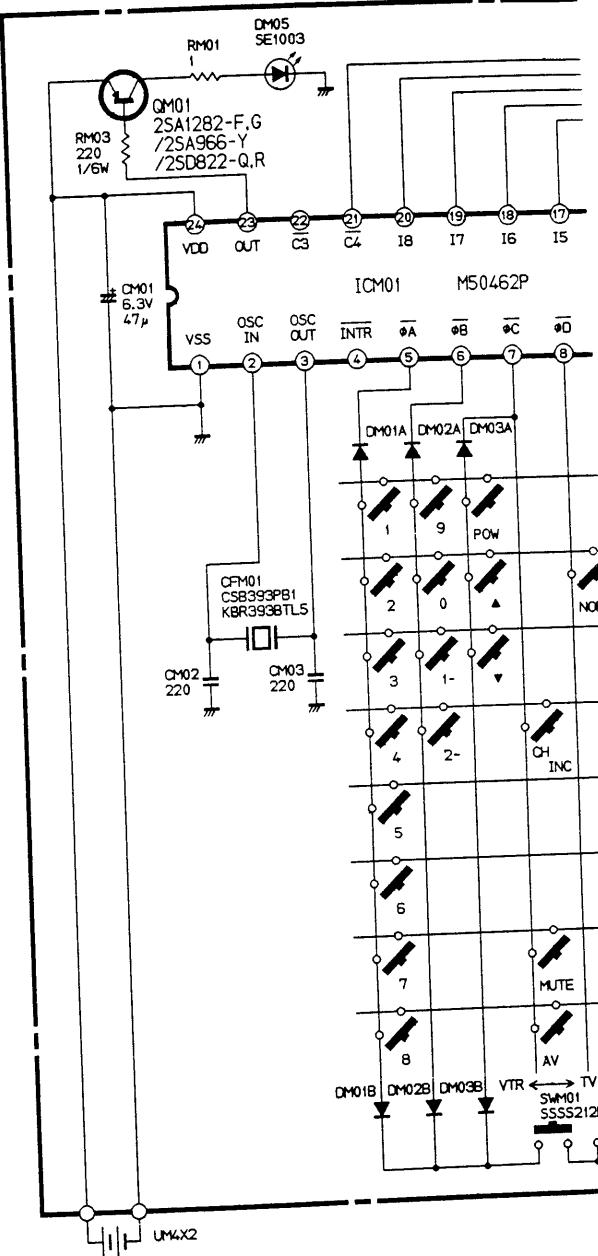
IC501  
TDA2579

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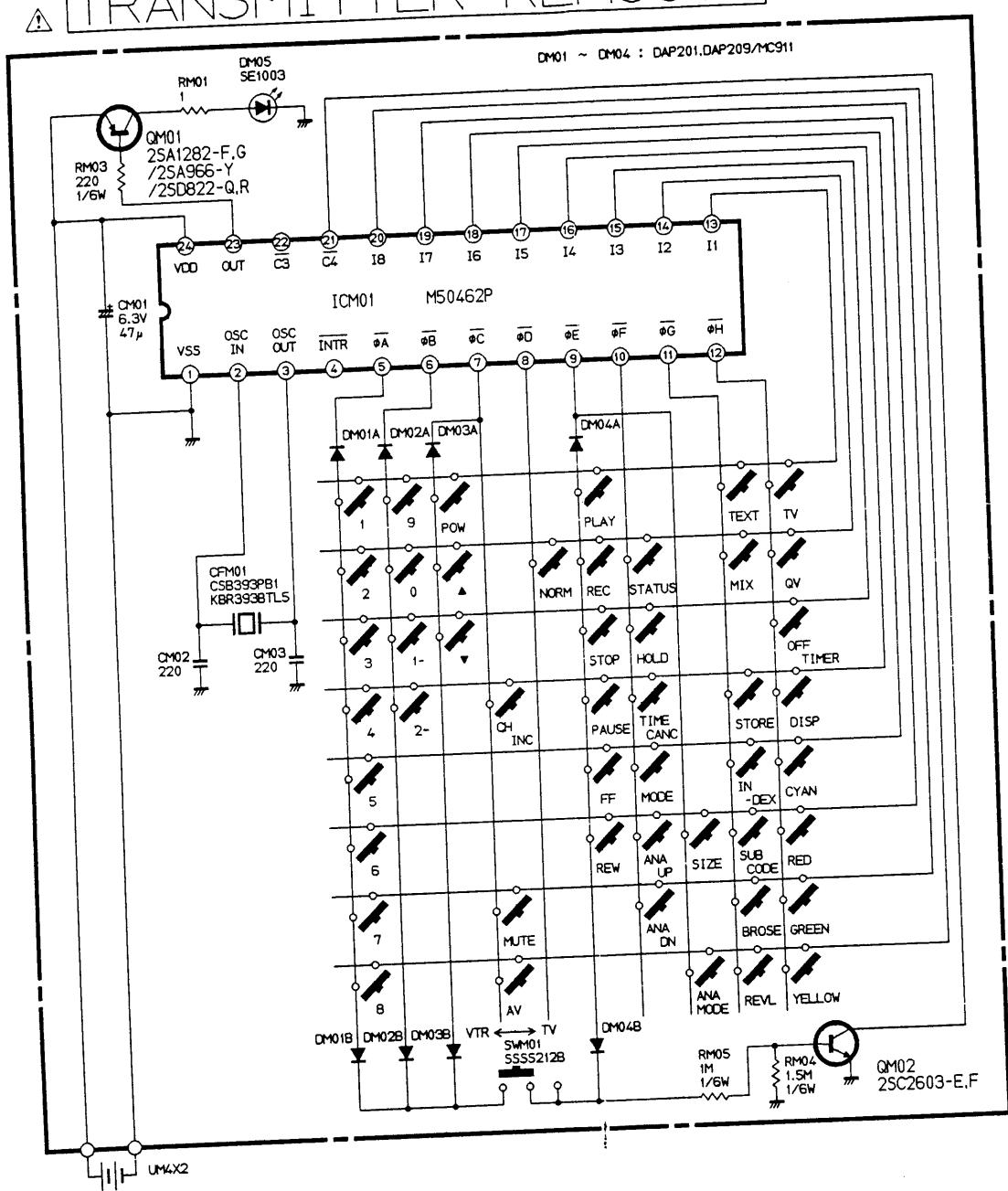




## A TRANSMITTER-R



# ⚠ TRANSMITTER - REMOCON



8

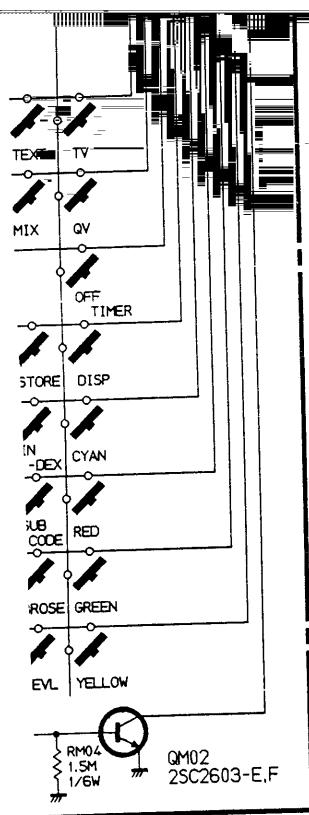
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10

11

ON

AP209/MC911



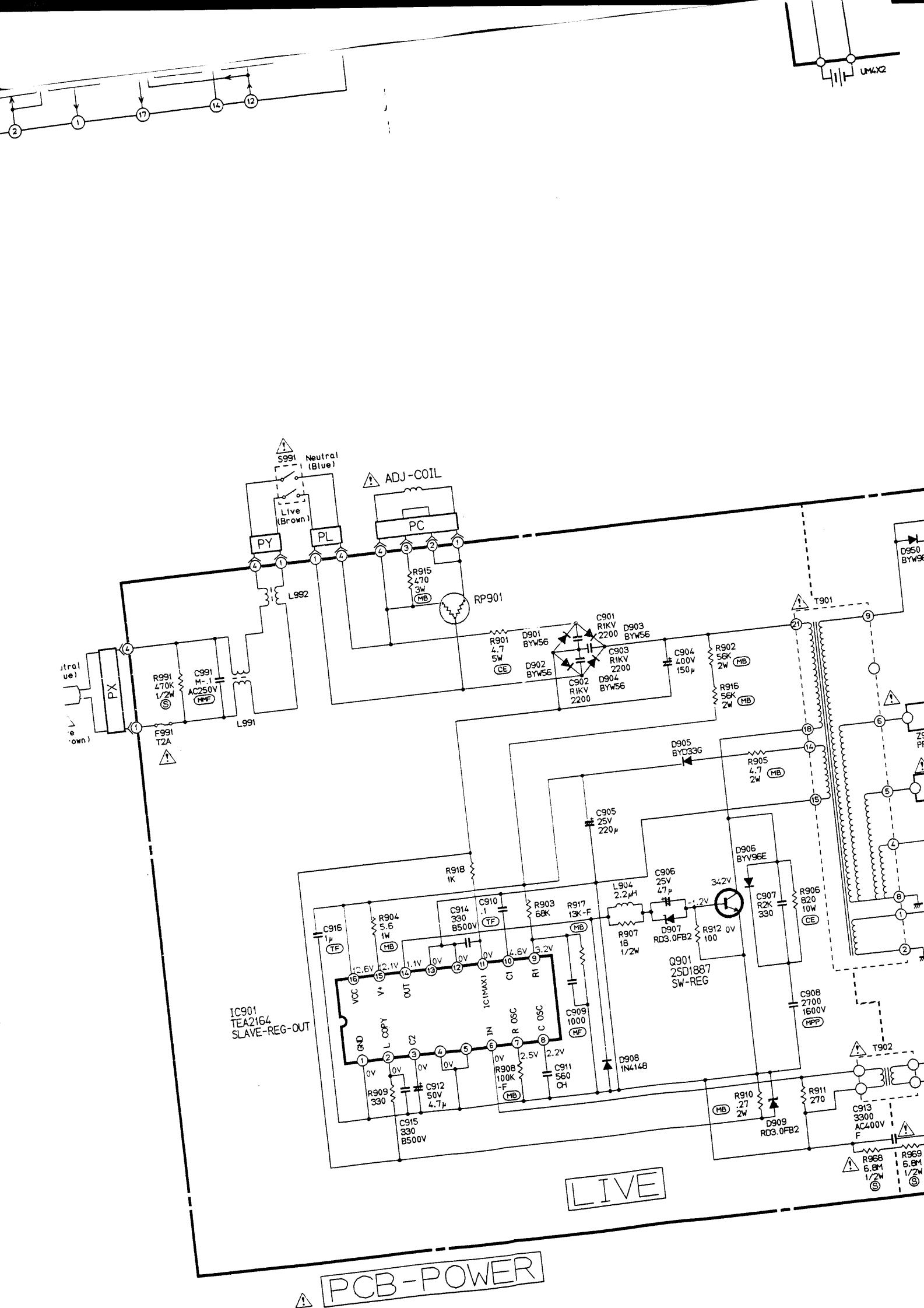
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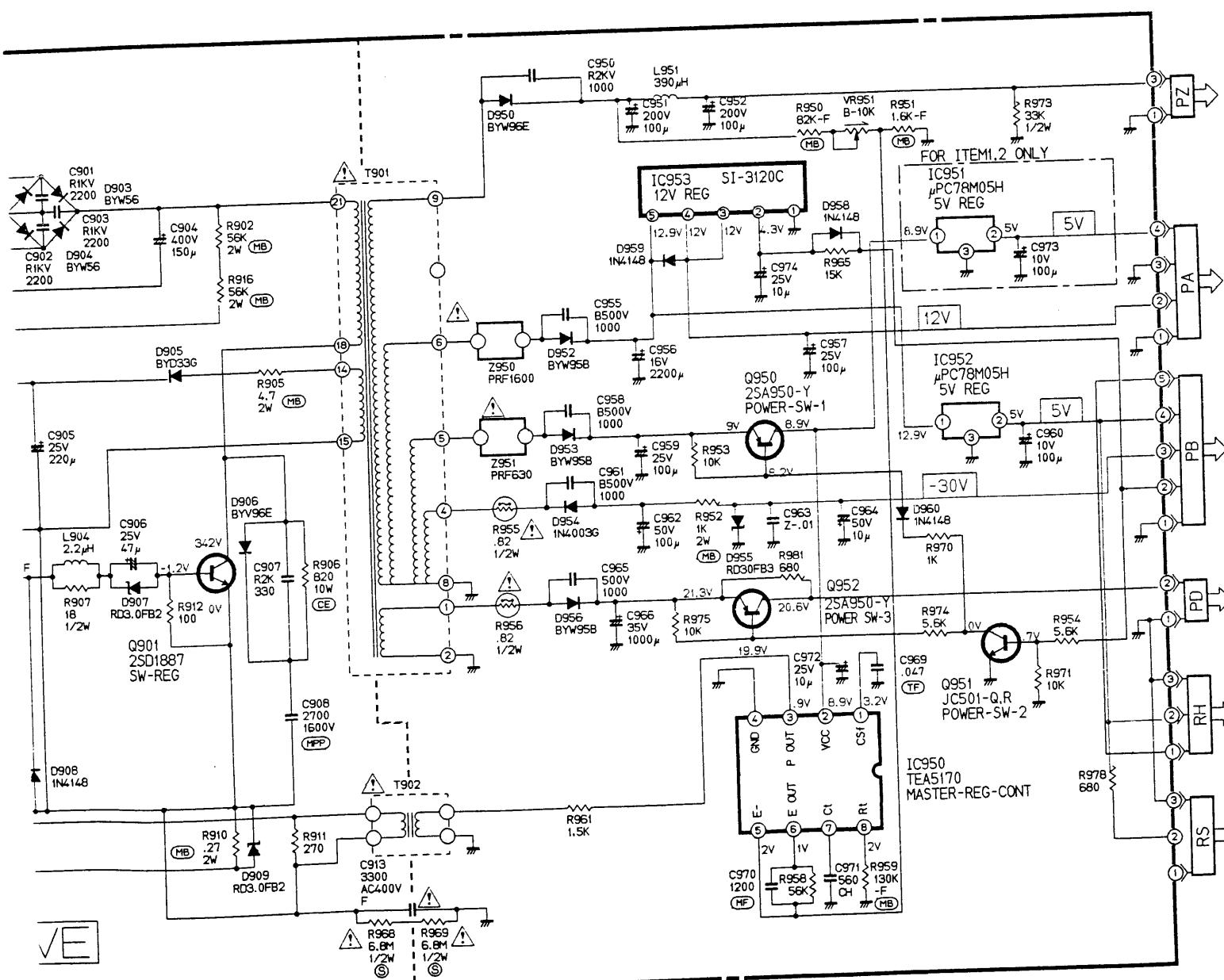
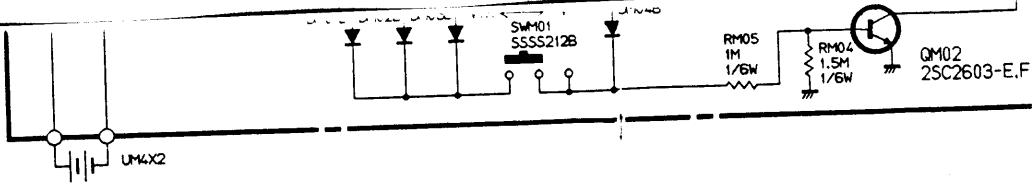
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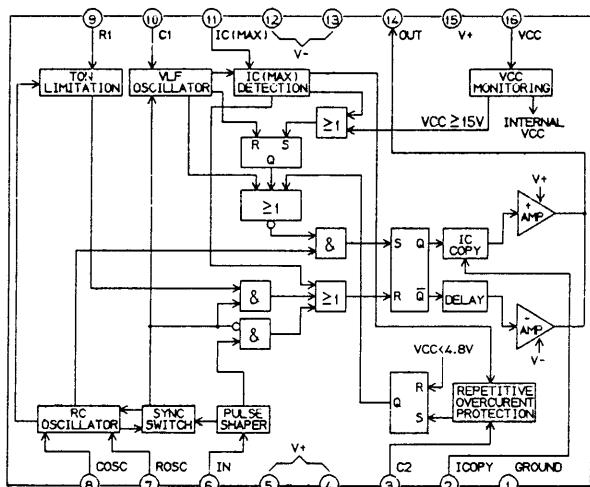
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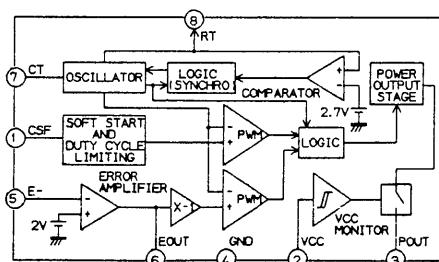




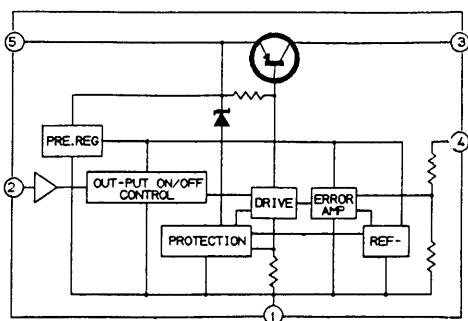
IC901  
TEA2164



IC950  
TEA5170

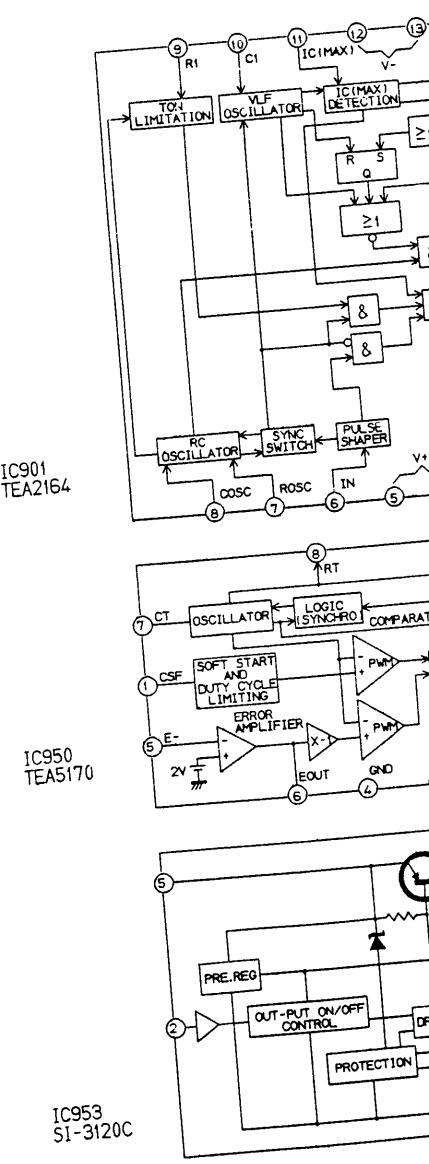
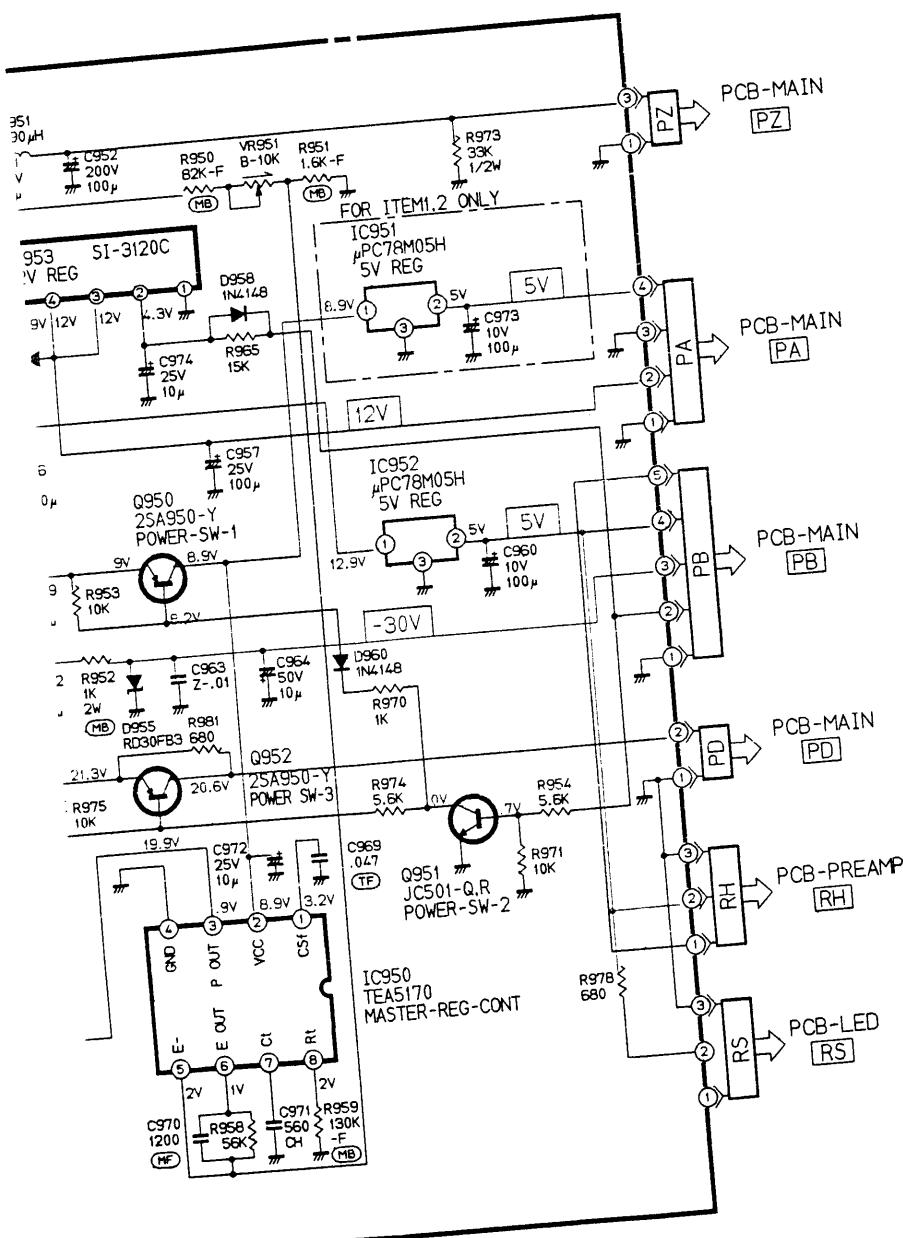
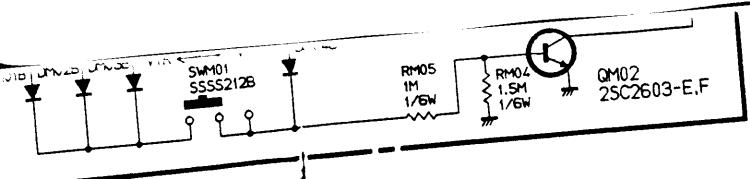


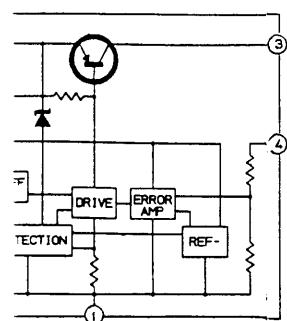
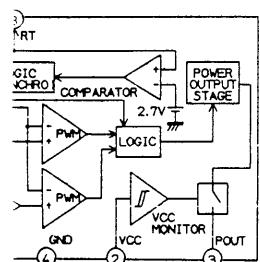
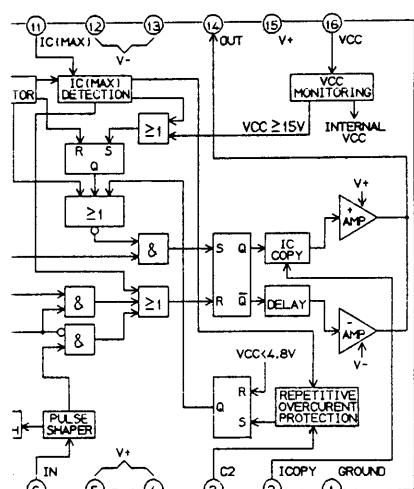
IC953  
SI-3120C



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