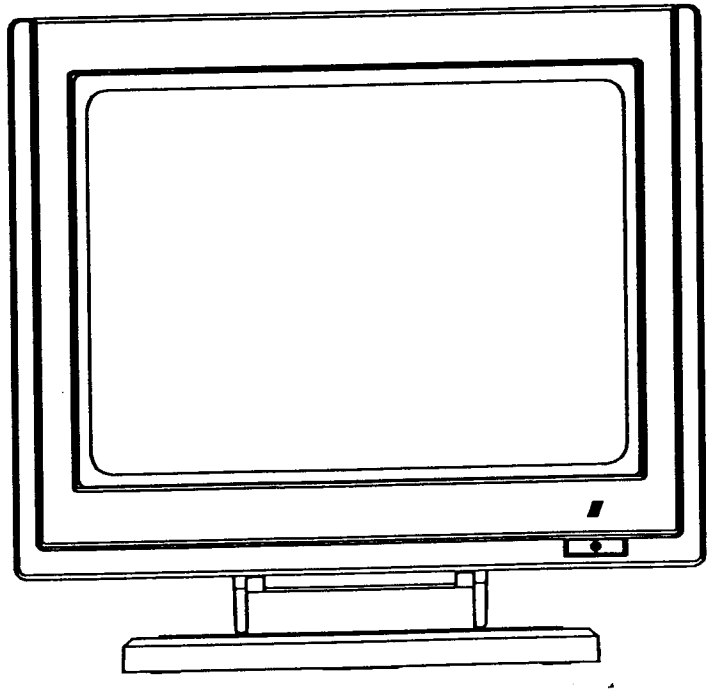
SAMSUNG

SERVICE MANUAL
VGA COLOR MONITOR

CJ458 *

458 1/2/3
4584
4585
4586 /7/8/9/0



CONTENTS

SPECIFICATIONS

DESCRIPTION	NOMINAL	REMARK
1. Power input	220 - 240VAC 50Hz	
2. Power consumption	65W	MAX: 80W
3. Input signal		
a) Video	R,G,B Analog separated	
b) Sync	Mode 1 : H:positive V:negative Mode 2 : H:negative V:positive Mode 3 : H:negative V:negative	TTL Level
4. Frequency		
a) Horizontal	31.5KHz	
b) Vertical	60/70Hz	
5. CRT	14" 90 deflection non-glare 0.31 dot pitch 14" 90 deflection glare 0.41 stripe 14" 90 deflection non-glare 0.41 stripe 14" 90 deflection glare 0.52 stripe	CJ4581 CJ4584 CJ4585 CJ4586
6. Resolution	Mode 1 : 720 dots X 350 lines Mode 2 : 720 dots X 400 lines Mode 3 : 640 dots X 480 lines	
7. Display size	9 9/20" X 7 1/12" (240 X 180 mm)	+ 4/-2 mm
8. Dimensions(W X H X D)	360(W) X 377(D) X 348(H)mm (With stand)	
9. Weight	13.2Kg (With stand)	

NOTE : Nominal specs represent the design specs; all units should be able to, these-some will exceed and some may drop slightly below these specs.
Limit specs represent the absolute worst condition that still might be considered acceptable; in no case should a unit perform to less than any limit specs.

IMPORTANT SERVICE SAFETY PRECAUTIONS

Service work should be performed only by qualified service technicians who are thoroughly familiar with all of the following safety checks and servicing guidelines:

WARNING

1. For continued safety,do not attempt to modify the circuit.
2. Disconnect the AC power before servicing.
3. Semiconductor heat sinks are potential shock hazards when the chassis is operating.

SERVICING THE HIGH VOLTAGE SYSTEM AND PICTURE TUBE

When servicing the high voltage system, remove the static charge by connecting a 10kohm resistor in series with an insulated wire(such as a test probe) between the chassis and the anode lead. (The AC line cord should be disconnected from the AC outlet.)

1. The picture tube in this display monitor employs integral implosion protection.
2. Replace with a tube of the same type and number for continued safety.
3. Do not lift the picture tube by the neck.
4. Handle the picture tube only when wearing shatter proof goggles and after discharging the high voltage anode completely.

X-RADIATION AND HIGH VOLTAGE LIMITS

1. Be sure all service personnel are aware of the procedures and instructions covering X-radiation. The only potential source of X-ray in a current solidstate display monitor is the tube. However,the picture tube does not emit measurable X-ray radiation if the high voltage is as specified in the "high voltage check" instruction.
   It is only when high voltage is excessive that X-radiation is capable of penetrating the shell of the picture tube,including the lead in glass material. The important precaution is to keep the high voltage below the maximum level specified.
2. It is essential that serviceman have available at all times an accurate high voltage meter. The calibration of this meter should be checked periodically.
3. High voltage should always be kept at the rated value - no higher. Operation at high voltages may cause a failure of the picture tube or high voltage circuitry and,also under certain conditions,may produce radiation in excess of desirable levels.
4. When the high voltage regulator is operating properly there is no possibility of an X-radiation problem.
   Everytime a color chassis is serviced,the brightness should be tested while monitoring the high voltage with a meter to be certain that the high voltage does not exceed the specified value and that it is regulating correctly.
5. Do not use a picture tube other than that specified or make unrecommended circuit modifications to the high voltage circuitry.
6. When troubleshooting taking test measurements on a display monitor with excessively high voltage, avoid being unnecessarily close to the display monitor. Do not operate the display monitor longer than is necessary to locate the cause of excessive voltage.

BEFORE RETURNING THE DISPLAY MONITOR

Fire and Shock Hazard

Before returning the display monitor to the user,perform the following safety checks:

1. Inspect all lead dress to make certain that the leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the display monitor.

2. Inspect all protective devices such as non-metallic control knobs, insulating materials, cabinet backs, adjustment and compartment covers or shields,isolation resistor-capacitor networks,mechanical insulators,etc.
3. To be sure that no shock hazard exists,checks for leakage current in the following manner:

- Plug the AC line cord directly into a 220volt AC outlet. (Do not use an isolation transformer for this test)
- Using two clips leads,connect 1.5 kohm,10 watt resistor paralleled by a 1.5uF capacitor in series with all exposed metal cabinet parts and a known earth ground,such as electrical conduit or electrical ground connected to earth ground.
- Use a SSVM or VOM with 1000 ohms per-volt or higher sensitivity to measure the AC voltage drop across the resistor.(See Figure 1.)
- Connect the resistor to all exposed metal parts having a return path to the chassis (metal cabinet, screw heads, knobs and shafts, escutcheon, etc.) and measure the AC voltage drop across the resistor.
- Any reading of 0.3volt RMS (this corresponds to 0.5milliamp.AC) or more is excessive and indicates a potential shock hazard which must be corrected before returning the display monitor to the user.

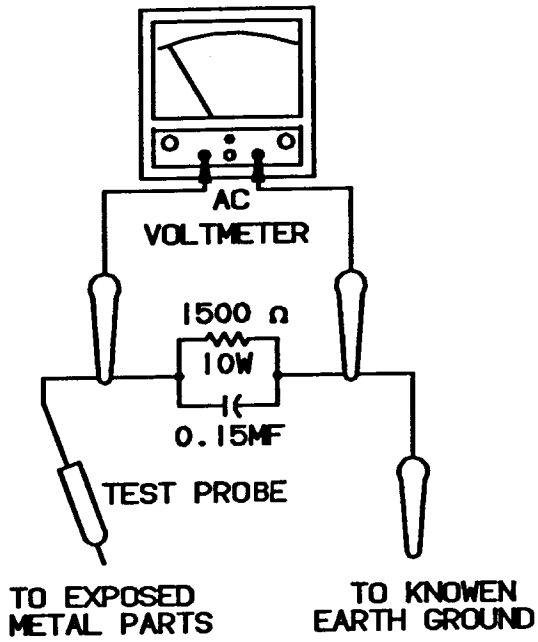


Figure 1. Leakage Current Test Circuit

SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special characteristics often pass unnoticed and the protection afforded by them can not necessarily be obtained by using replacement components rated for higher voltage,wattage,etc.
Replacement parts that have these special safety characteristics are identified in this manual,and its supplement electrical components having such features are identified by a ! in the Parts List and Schematic Diagrams.
Before replacing any of these components,read the Parts List in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the Parts List may create shock, fire, or other hazards.

THEORY OF OPERATION

GENERAL

CJ4581 is a high resolution 14inch VGA compafible color monitor using a 0.31 dot pitch non-glare CRT. (CJ4584 ; 0.41 stripe glare CRT , CJ4585 ; 0.41 stripe non-glare CRT , CJ4586 ; 0.52 glare CRT)
It uses R,G,B analog input signals and separate(TTL) sync signals.
It can operate in 350,400 or 480 line mode. The switching is automatic and based on the polarity of horizontal and vertical sync.

POWER CIRCUIT

The power supply circuit is a synchronizing type switching power circuit and substantially consists of the rectifier/smoother, synchronizing, control and output rectifier/smoother circuits.
The AC voltage is full wave rectified by the rectifier smoother circuit and then changed on the smoothing capacitor as a DC voltage.
When the power is turned ON,a small current flows to the base of output transistor (included in IC901) via the start up resistor (R905, R909), as a result,the collector current flows through the primary windings pin 4 and pin 3 of the converter transformer(T901), which produces an electromagnetic force between those windings,resulting in a voltage being induced between the driving windings pin 7 and pin 6 of the transformer.
The induced voltage is positively feedback to the base of the output transistor (Q1) to increase the base current of this transistor, resulting in a furth increase in the collector current.
The above operation occurs instantaneously to in press sufficient base current on Q1.
The synchronization is done by the pulse induce at the core of FBT(T302).
The horizontal trigger for synchronization is put int the base of Q1,making the oscillation frequency c IC901 same as the H-frequency.
The control circuit always applies to the erro amplifier circuit a voltage induced in the detectin winding situated at the primary side of the converto transformer.
The small signal transistor (Q901) and detectin resistor (R907) protect IC901 from surge curren which may be caused by power ON/OFF and outpu short circuit.

IMPORTANT : When replacing the power supply chassis,make sure that the ground wire (green) of power cord is properly attached to the main chassis frame as closely as possible.
When replacing the fuse,make sure that the fuse is the same type and rating as the original.

MODE DETECTING CIRCUIT

This monitor has 3 different resolution modes depending on the polarity of sync signal.
Mode detecting circuit is composed of IC201,IC401,and its related circuits.

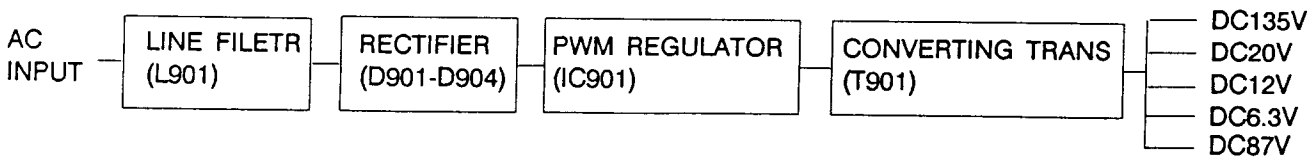


Figure 1. BLOCK-DIAGRAM OF SMPS

IC201 is an EXCLUSIVE-OR gate,and IC401 is a digitally controlled analog switch.
For detailed information refer to table1.

VERTICAL DEFLECTION CIRCUIT

Vertical deflection circuit is composed of IC401(MC14052BCP),IC402(TDA2653A) and its related circuits.The vertical sync signal(only positive pulse) is applied to pin 2 of IC402.
The frequency of the oscillator is controlled by the voltage of pin1 which can be varied by vertical frequency VR(VR404).

The sawtooth signal is fed via a buffer stage to pin 3 of IC402,this signal is used for linearity control(VR405) and drive of the preamplifier(pin 4).
An electrolytic capacitor(C408) between pin 7 and pin 5,and a diode(D402) between pin 5 and pin 9 should be connected for proper operation of the flyback generator.
The vertical deflection coil is connected to pin 6 of IC402.
The pin 8 of IC402 is negative supply(ground) and the pin 9 of IC402 is positive supply(20V).
The supply voltage at pin9 is used to supply the flyback generator,voltage stabilizer, blanking pulse generator and buffer stage in IC402.

RESOLUTION	H-SYNC	V-SYNC	CONTROL LAVEL (IC401)		ON SWITCH (IC401)	
			PIN9	PIN10		
720 X 350	H	L	H	L	2-3	15-13
720 X 400	L	H	L	H	5-3	14-13
680 X 480	H	H	L	L	4-3	11-13

Table 1. TRUTH TABLE OF IC401

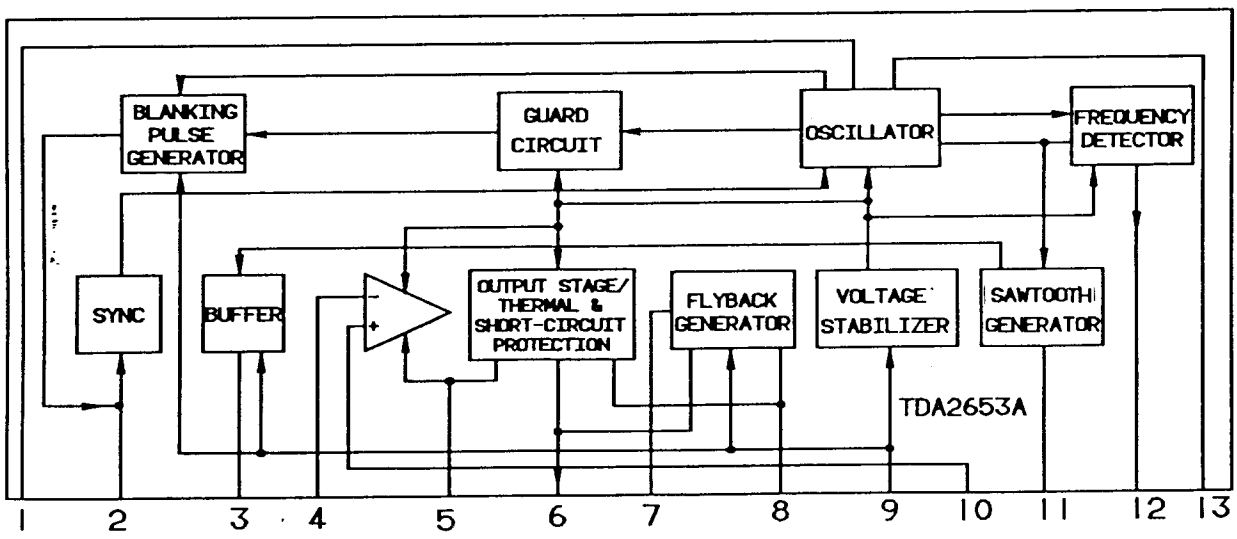


Figure 1. BLOCK-DIAGRAM OF IC402 (TDA2653A)

HORIZONTAL DRIVE CIRCUIT

The horizontal sync signal is applied to pin 9 of IC301. The output from the flyback transformer (T302) is integrated and connected to pin 6 of IC301. The horizontal oscillation frequency are controlled by H-frequency VR(VR302) connected to pin 15,and horizontal phase is controlled by H-phase VR(VR301) connected to pin 5.
The pulse switching mode between drive and output stage is a reverse polarity type; that is when the transistor Q301 is ON,the output transistor Q302 is OFF.

HORIZONTAL OUTPUT CIRCUIT

Horizontal drive voltage developed at pin 3 of the horizontal integrated circuit(IC301) is applied through the horizontal drive stage(Q301) and drive transformer(T303).
The horizontal output circuit generates the horizontal scan and high voltage to be applied to the picture tube. The function of horizontal output stage(Q302) is to serve as a switch for the horizontal output circuits. The high voltage required to the anode of the picture tube is generated by boosting the pulse from the collector of the Q302 through T302 during the flyback(retrace) period and applying this boosted pulse to a series of silicon rectifiers. The high voltage regulation is accomplished internally in T302(FBT).

VIDEO CIRCUIT

The R,G,B analog signals are applied to Q501,Q601 and Q701. The collectors of these transistors are then connected to pin 3 of IC501,IC601,IC701 which is used as differential amplifier and buffer.

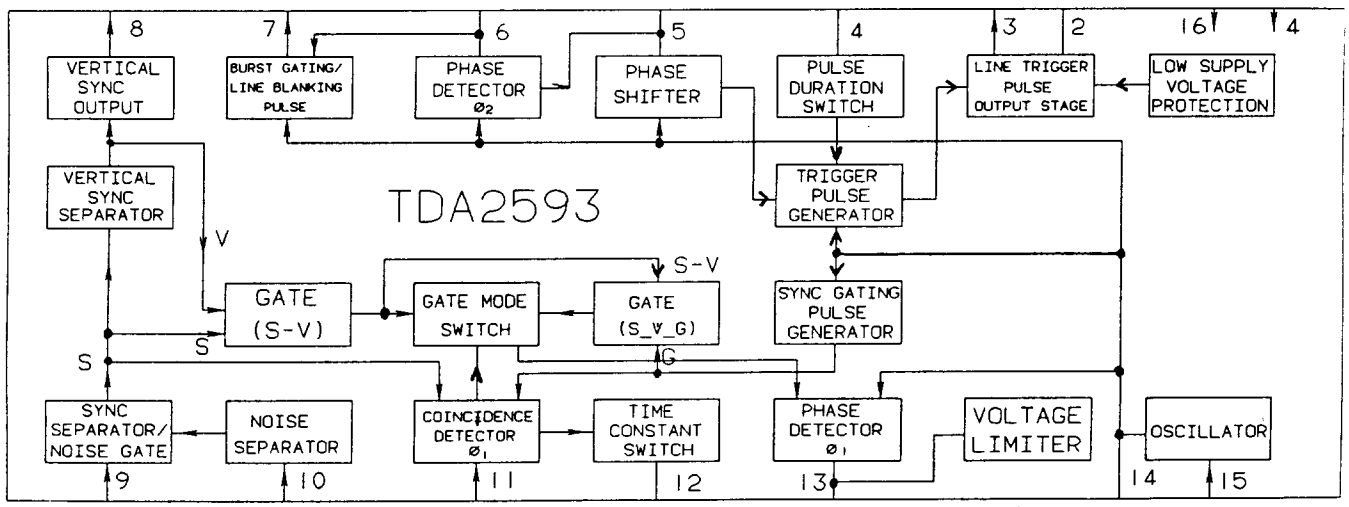


Figure 3. BLOCK-DIAGRAM OF IC301 (TDA2593)

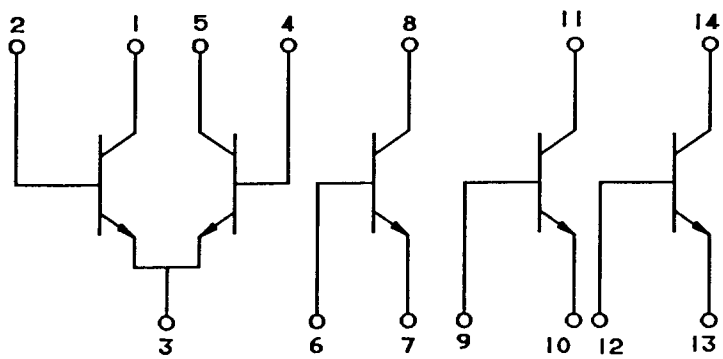


Figure 4. BLOCK-DIAGRAM OF IC501, 601, 701 (CA3046)

The output of IC501,IC601 and IC701 is applied to to the video output stage(Q503, Q504, Q603, Q604, Q703, Q704). Q505, Q506, Q605, Q606, Q705 and Q706 are buffers which are used to reduce transmission loss of the video signal to the cathode of CRT.
The R,G,B output signals are provided to the cathode of CRT.
The R,G,B output gains are controlled respectively by VR501,VR601 and VR7O1.
The R,G,B cutoff voltages are controlled respectively by VR502,VR602 and VR702.

SIGNAL CABLE INPUT CONNECTION

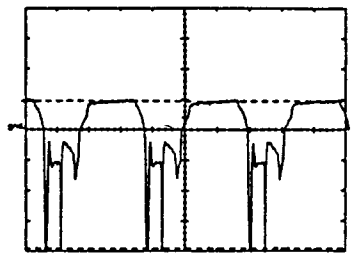
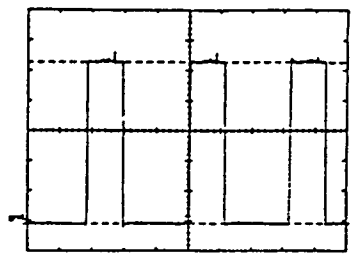
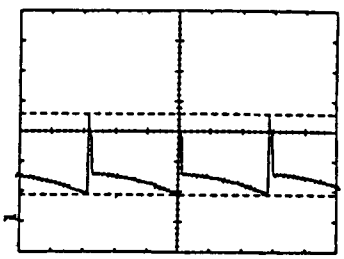
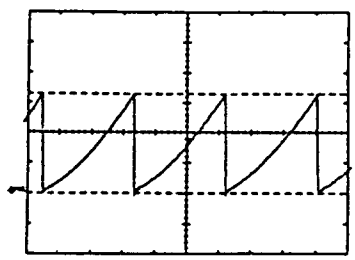
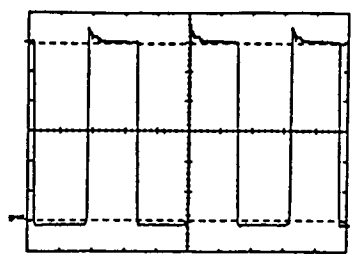
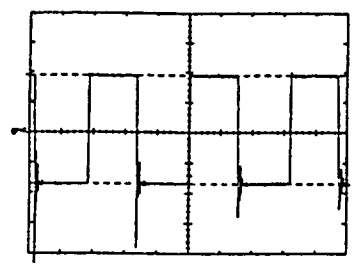
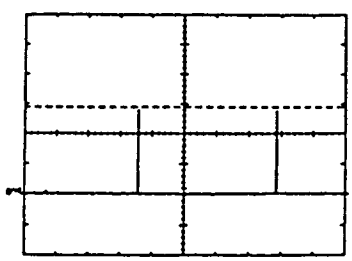
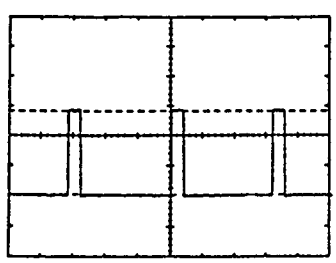
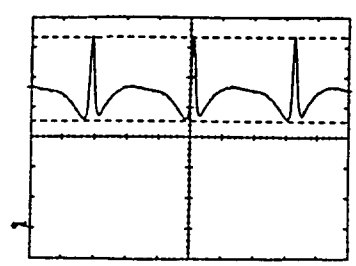
The connection which interfaces with the IBM PS/2 is a sub-miniature 15pin D-shell connection.

PIN NO	FUNCTION
1	RED
2	GREEN
3	BLUE
4	N/C
5	SELF RASTER
6	RED RETURN
7	GREEN RETURN
8	BLUE RETURN
9	N/C
10	DIGITAL GND
11	DIGITAL GND
12	N/C
13	H-SYNC
14	V-SYNC
15	N/C

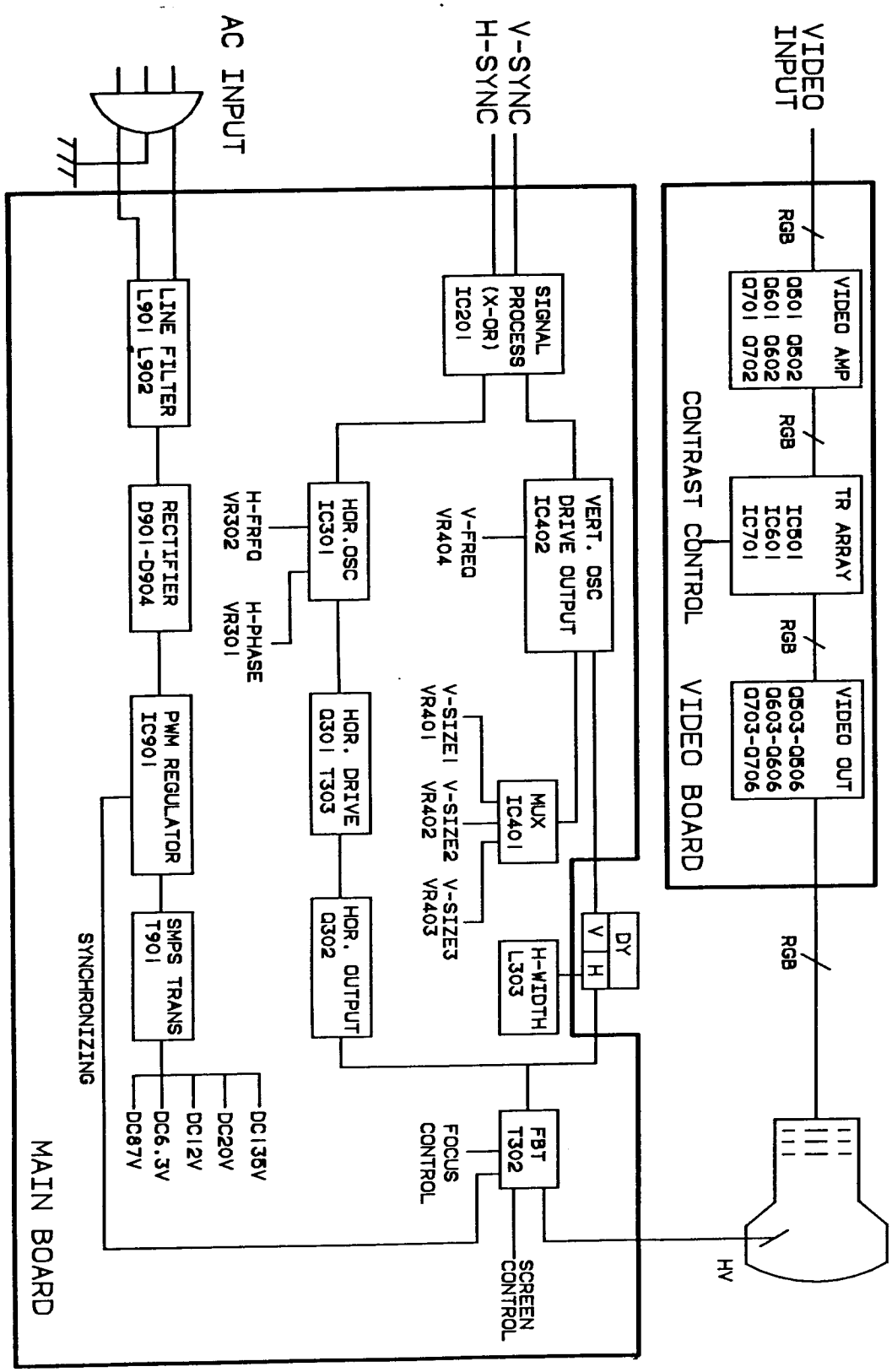
N/C means no connection

WAVEFORMS

Check condition: The voltage level and waveforms at each point are given below on 120VAC when this set is connected to a personal system II with the video signal input of the full white pattern.

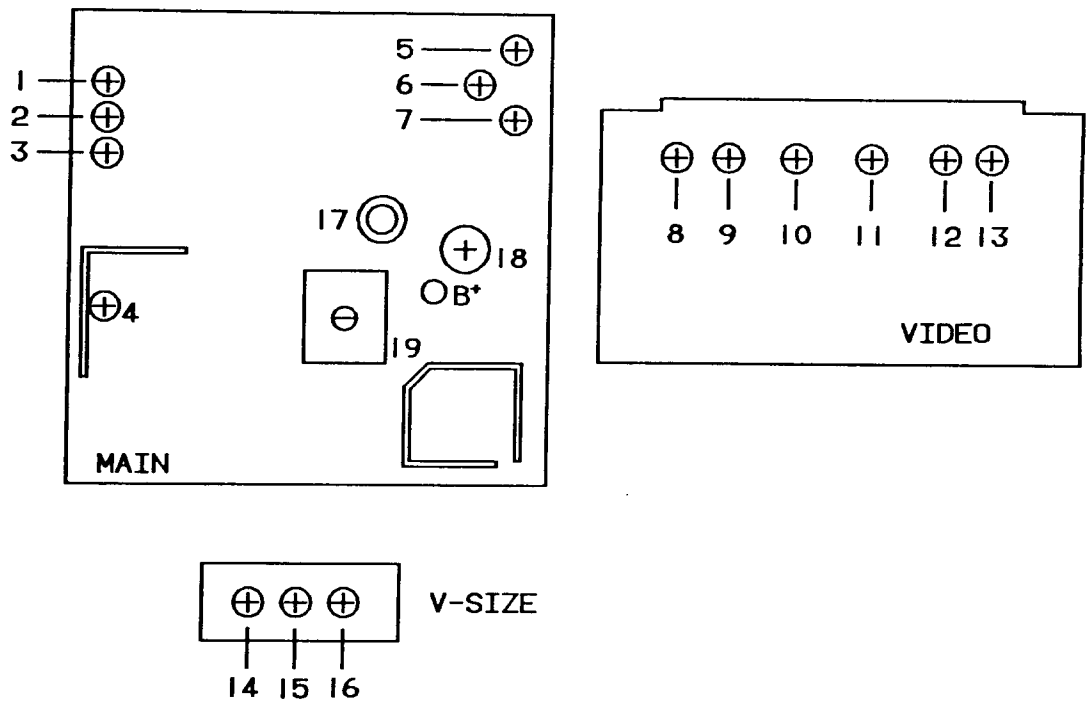
		
(1) 4.8Vp-p (H-period)	(2) 10Vp-p (H-period)	(3) 27Vp-p (V-period)
		
(4) 6.5 Vp-p (V-period)	(5) 290Vp-p (H-period)	(6) 170Vp-p (H-period)
		
(7) 5Vp-p (V-period)	(8) 5Vp-p (H-period)	(9) 56Vp-p (H-period)

BLOCK DIAGRAM



ALIGNMENT INSTRUCTIONS

PARTS LOCATION AND CONTROL FUNCTION



NO	REF.NO	CONTROL FUNCTION	NO	REF.NO	CONTROL FUNCTION
1	VR404	V-FREQUENCY	11	VR502	R-CUT OFF
2	VR405	V-LINEARITY	12	VR601	G-GAIN
3	VR406	V-CENTERING	13	VR602	G-CUT OFF
4	VR901	B + (87V) ADJUST	14	VR401	V-SIZE1(MODE1)
5	VR407	SIDE PIN-CUSHION	15	VR402	V-SIZE2(MODE2)
6	VR301	H-PHASE	16	VR403	V-SIZE3(MODE3)
7	VR302	H-FREQUENCY	17	L303	H-WIDTH
8	VR701	B-GAIN	18	VR303	H-CENTERING
9	VR702	B-CUT OFF	19	L302	H-LINEARITY
10	VR501	R-GAIN			

1. B+ ADJUSTMENT

(1) Operate the monitor.
(2) Connect the plus pole of DVM(Digital Multi Meter) to the GT pin with B+ marking and connect the other pole(GND) to chassis gnd.
(3) Rotate the B+ voltage adjusting control(VR901) to provide a DC87V for CJ4581.

condition : brightness,contrast VR max in crosshatch pattern

2. HORIZONTAL FREQUENCY ADJUSTMENT

(Instrument in use : frequency counter,scope probe)

(1) Connect the plus pole of the scope probe to RED wire of DY and the minus pole to chassis frame.
(2) At self raster,adjust the horizontal frequency control(VR302) so that the horizontal frequency is 31.5KHz.

(Free running frequency : 31.5KHz +/- 100Hz)

3. HORIZONTAL PHASE ADJUSTMENT

Adjust VR301(horizontal phase control) so that the image(or test pattern) is placed on the center of the raster.

4. VERTICAL FREQUENCY ADJUSTMENT

(Instrument in use : frequency counter,scope probe)

(1) Connect the GND pole of the scope probe to chassis frame and the scope probe to DY pin connected to yellow wire.
(2) At self raster, adjust VR404 so that the vertical frequency is 53Hz.

(Free running frequency : 53 +/- 1Hz)

5. FOCUS ADJUSTMENT

(1) Operate to display the full white pattern on the screen.
(2) Adjust the contrast control so that the brightness is 15F/L.
(3) Change the pattern into alphabetical characters on the screen.
(4) Rotate the focus adjusting control in FBT for the best focus.

6. SIDE PINCUSHION ADJUSTMENT

Adjust the side pincushion control(VR407) until the side line becomes straight.

7. HORIZONTAL LINEARITY ADJUSTMENT

Adjust the horizontal linearity control(L302) until the horizontal linearity is best.

8. VERTICAL LINEARITY ADJUSTMENT

Adjust the vertical linearity control(VR405) until the vertical linearity is best.

9. HORIZONTAL CENTERING ADJUSTMENT

Adjust VR303 until the horizontal center is set at screen center.
(Horizontal centering tolerance is +/- 3 mm)

10. VERTICAL CENTERING ADJUSTMENT

Adjust VR406 until the vertical center is set at screen center.
(Vertical centering tolerance is +/- 2.5 mm)

11. WIDTH ADJUSTMENT

Adjust the horizontal width control(L303) so that the horizontal width of displayed pattern is 240 mm. (Tolerance is +4/-2 mm)

12. VERTICAL SIZE ADJUSTMENT

Adjust the vertical size control(VR401,VR402,VR403) so that the vertical size of displayed pattern is 180 mm.(Tolerance is +4/-2 mm)
VR401 : Use this control to adjust the vertical size of the display for MODE 1.
VR402 : Use this control to adjust the vertical size of the display for MODE 2.
VR403 : Use this control to adjust the vertical size of the display for MODE 3.

13. SCREEN ADJUSTMENT

Operate the computer to display the full white pattern on screen.
Adjust screen VR(in FBT) so that back raster appears at brightness and contrast VR max, but disappears at brightness VR center(detent position) and contrast VR max.

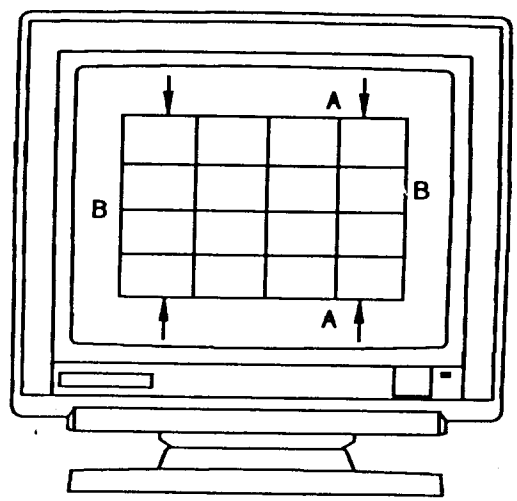
14. WHITE BALANCE ADJUSTMENT

(Instrument in use : oscilloscope,scope probe)

(1) Operate the computer to display the full white pattern on screen.
(2) Set the brightness control to the mechanical center of VR (detent position).
(3) Set the contrast control to the max position(fully clockwise) of VR.
(4) Connect the minus pole of the probe to the lead of B601(or B602;gnd) and plus pole to the lead of R516.
Adjust VR501(R-GAIN) so that the video gain on the scope is 40Vp-p.
(5) Connect the plus pole of the probe to the lead of R616.
Adjust VR601(G-GAIN) so that the video gain on the scope is 40Vp-p.
(6) Connect the plus pole of the probe to the lead of R716.
Adjust VR701(B-GAIN) so that the video gain on the scope is 40Vp-p.
(7) Adjust the contrast control so that the brightness is 3F/L.
(8) Rotate VR502,VR602,and VR702 for the display color to be white.
(Use the color analyzer; X = 0.281 +/- 0.03, Y = 0.311 +/- 0.03)
(9) Adjust the contrast control so that the brightness is 20F/L.
(10) Rotate slughtly VR501,VR601,and VR701 for the display color to be white.
(11) Recheck color coordinates at 3F/L brightness and confirm the white color with rotating the contrast control.
(12) Check whether the brightness is more than 25F/L at brightness and contrast VR max.
If the brightness is less than 25F/L,rotate screen VR(in FBT) so that back raster appears at brightness and contrast VR max,but disappears at brightness VR center(detent position) and contrast VR max.

15. CRT TILT ADJUSTMENT

Adjust the CRT with fastening screws so that the dimension A and B are separately equal.



16. STATIC(CENTER) CONVERGENCE

Switch the monitor ON and warm up for 15 minutes.

Operate the computer in such a way that the cross hatch pattern is displayed on screen.
Convergence error should not be over 0.5 mm in corner, 0.3mm in center for CJ4581.

Proceed as follows.

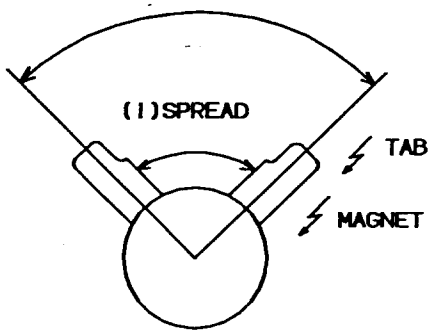
(1) Locate the pair of four pole magnet rings.
(2) Rotate the individual rings (change spacing between tabs) to converge the vertical red and blue lines.
(3) Rotate the pair of rings (maintaining spacing between tabs) to converge the horizontal red and blue lines.
(4) After completing the red and blue center convergence, locate the pair of six pole magnet ring.
(5) Rotate the individual rings (change spacing between tabs) to converge the vertical red and blue (magenta) and green lines.
(6) Rotate the pair of rings (maintaining spacing between tabs) to converge the horizontal red and blue (magenta) and green lines.
Refer on pages 15 and 16 after figure.

17. DYNAMIC CONVERGENCE

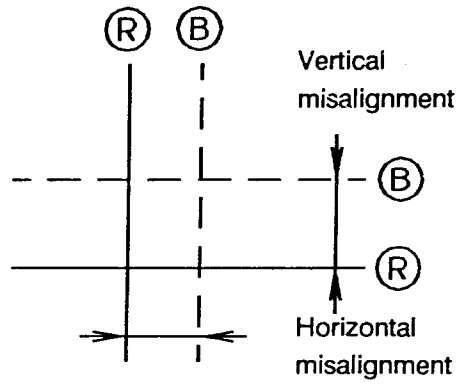
Dynamic convergence (convergence of the three color fields at the edge of the CRT screen) is accomplished by the proper insertion and positioning of the three wedges between the edge of deflection yoke and the funnel of the CRT.

A. Alignment of (R) and (B) with the 4-pole magnet

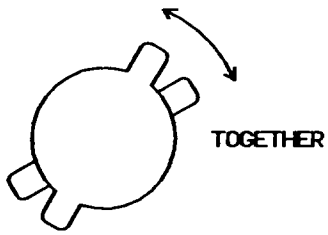
Movable in spread condition



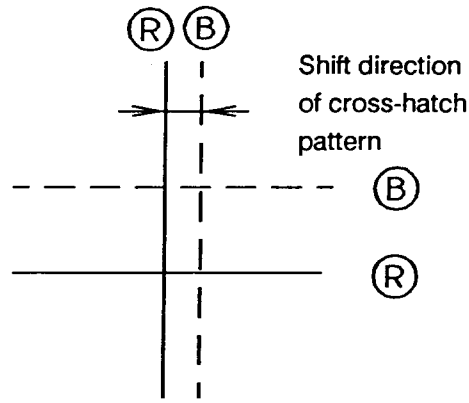
O-MAGNETIC FIELD



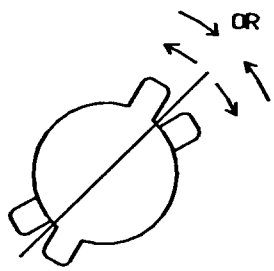
Vertical direction



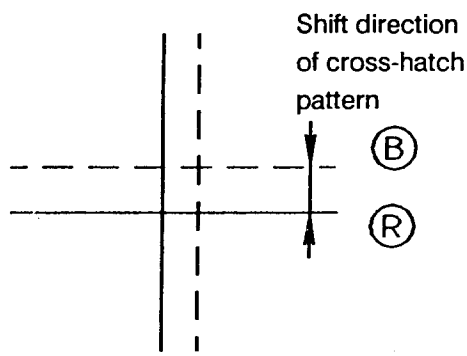
MOTION (1)



Horizontal direction

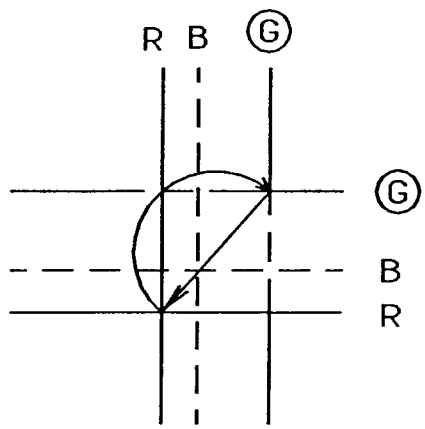


MOTION (2)

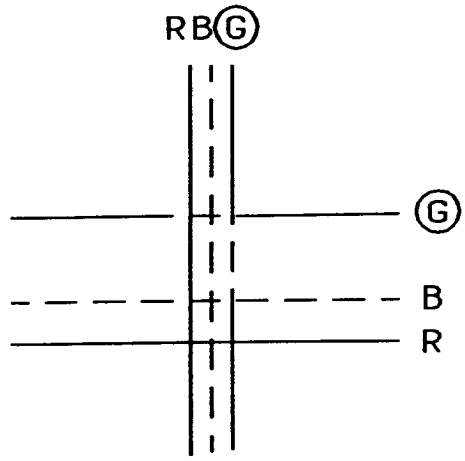


B. Alignment of (R) and (B) with (G) (6-pole magnet)

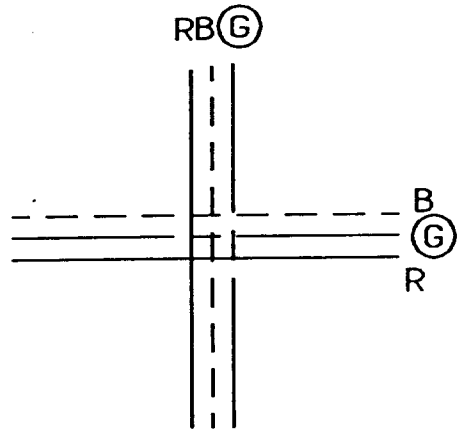
O-MAGNETIC FIELD



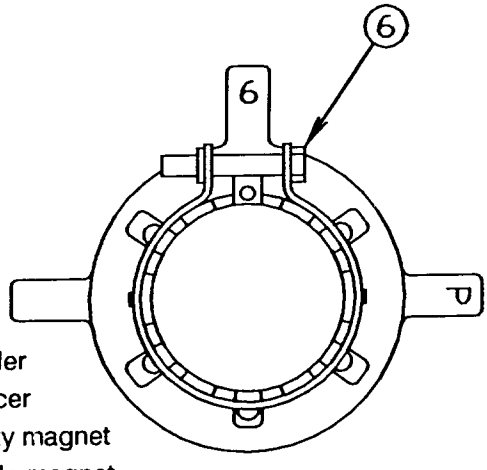
MOTION (1)

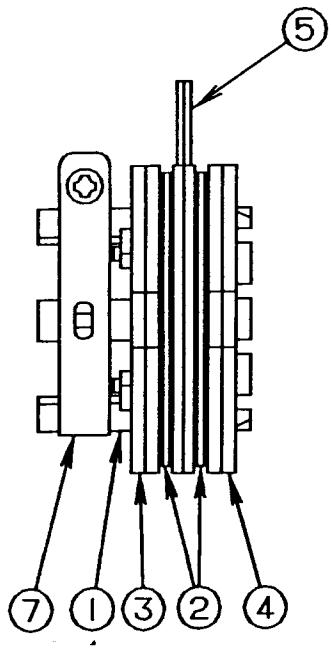


MOTION (2)



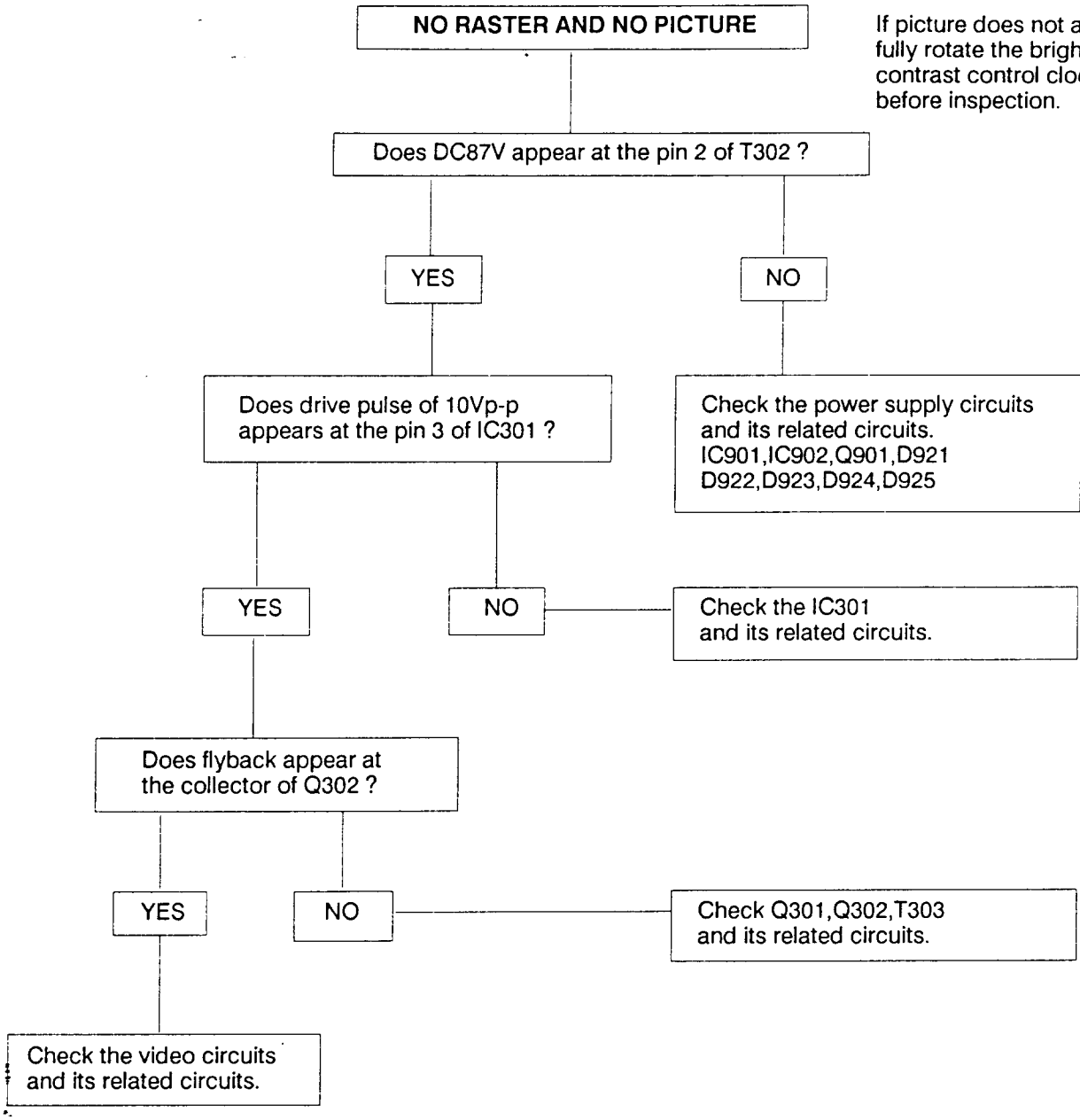
Convergence Purity Magnet





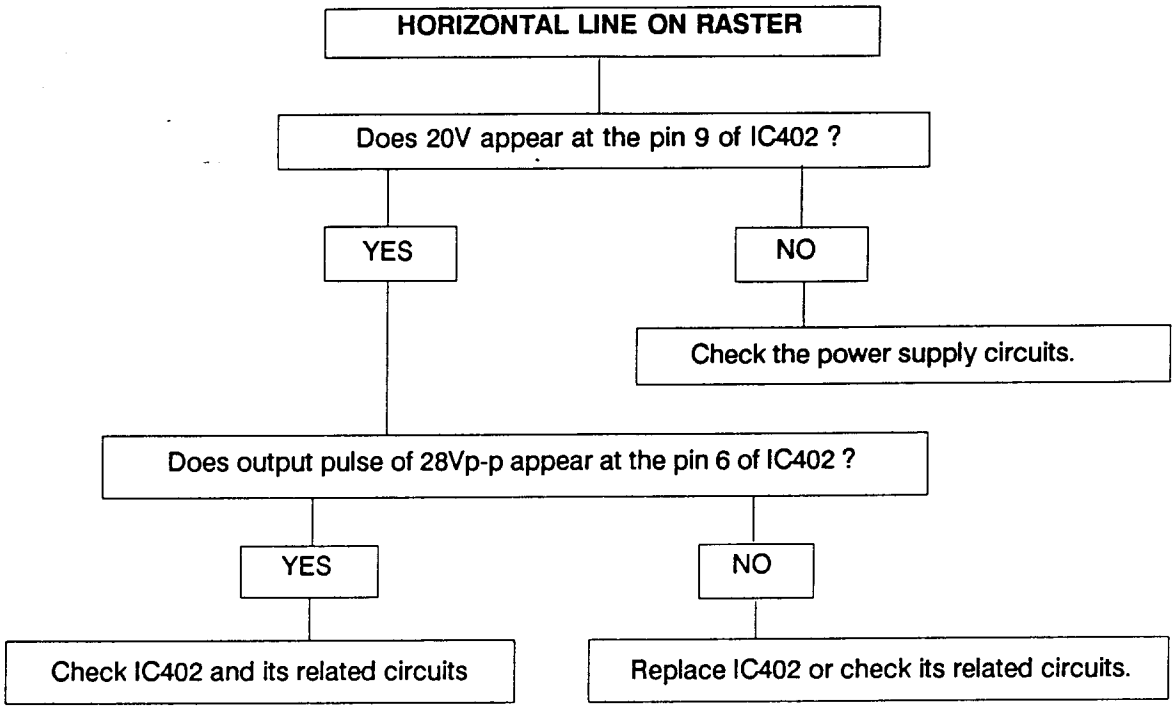
1. Holder
2. Spacer
3. Purity magnet
4. 4 pole magnet
5. 6 pole magnet
6. Setup bolt
7. Band

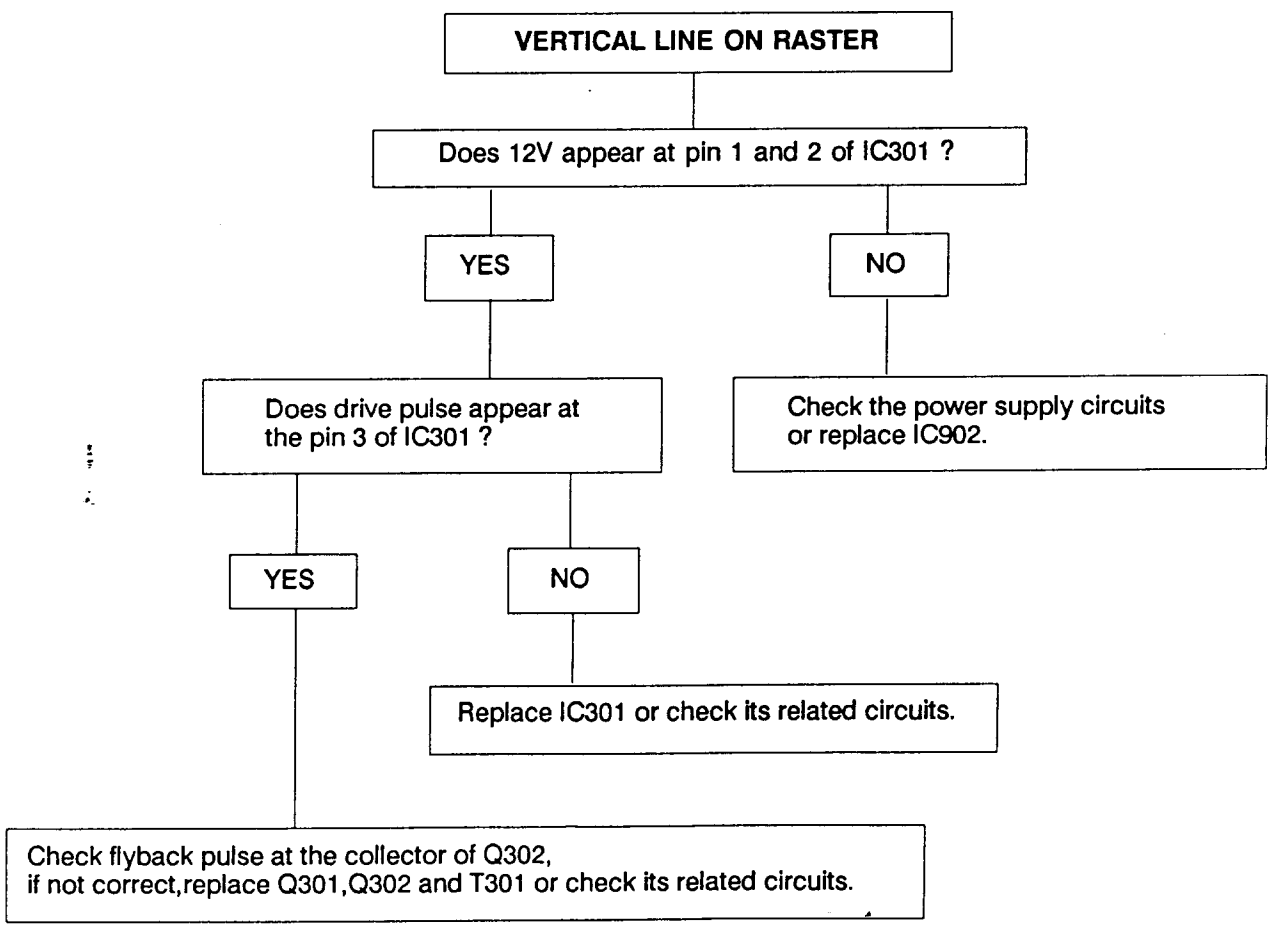
TROUBLESHOOTING GUIDE

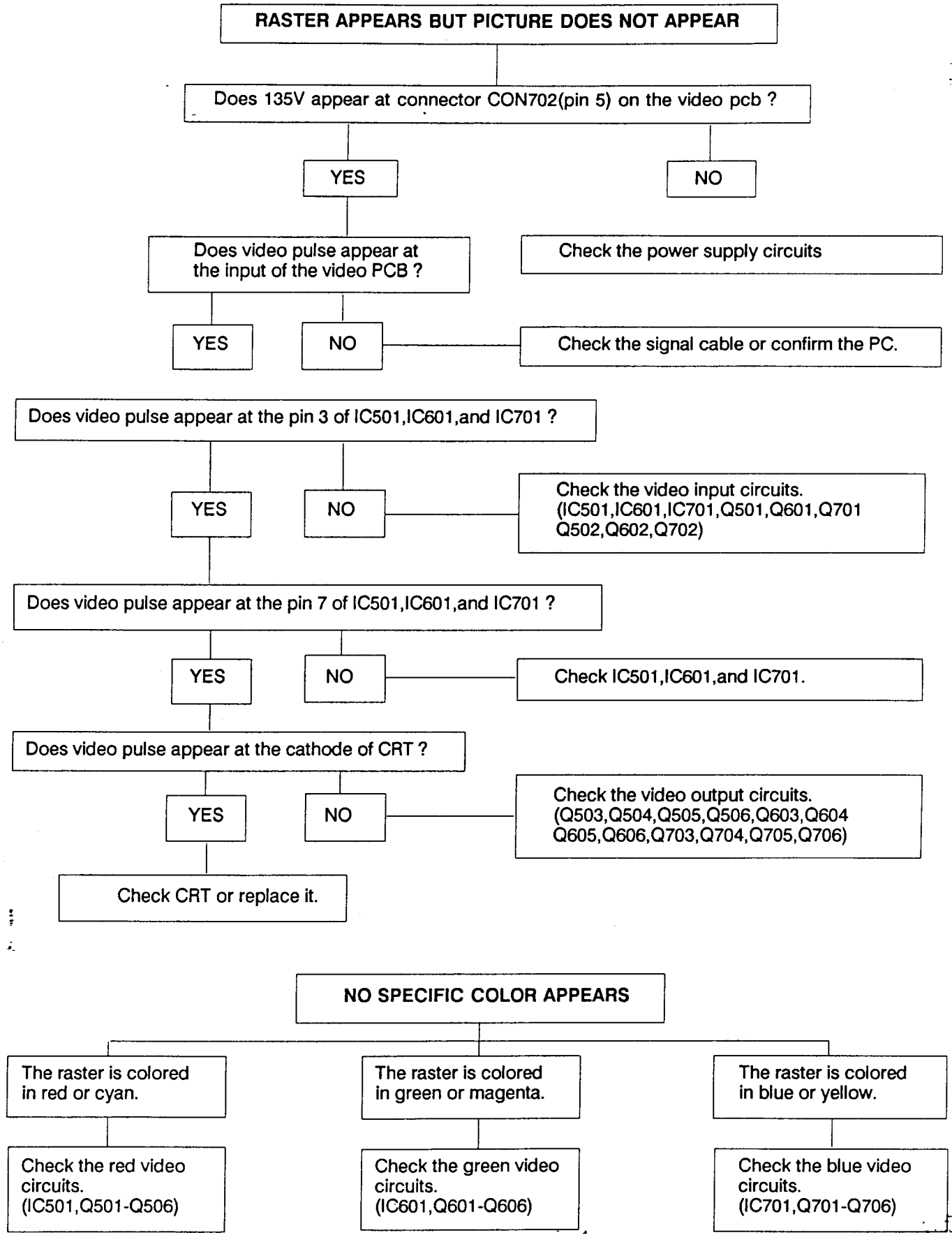


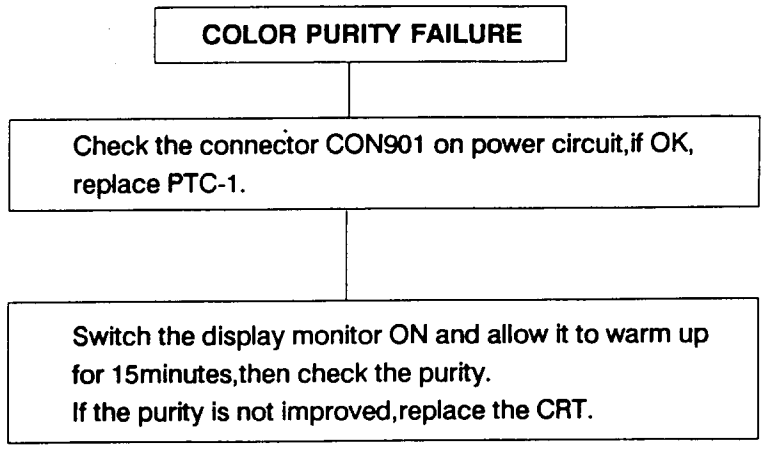
CIRCUIT TO BE CHECKED

1. No raster appears
   - power circuits - horizontal output circuits
2. A high voltage develops but no raster appears.
   - video output circuits
3. A high voltage is not developed
   - horizontal output circuits

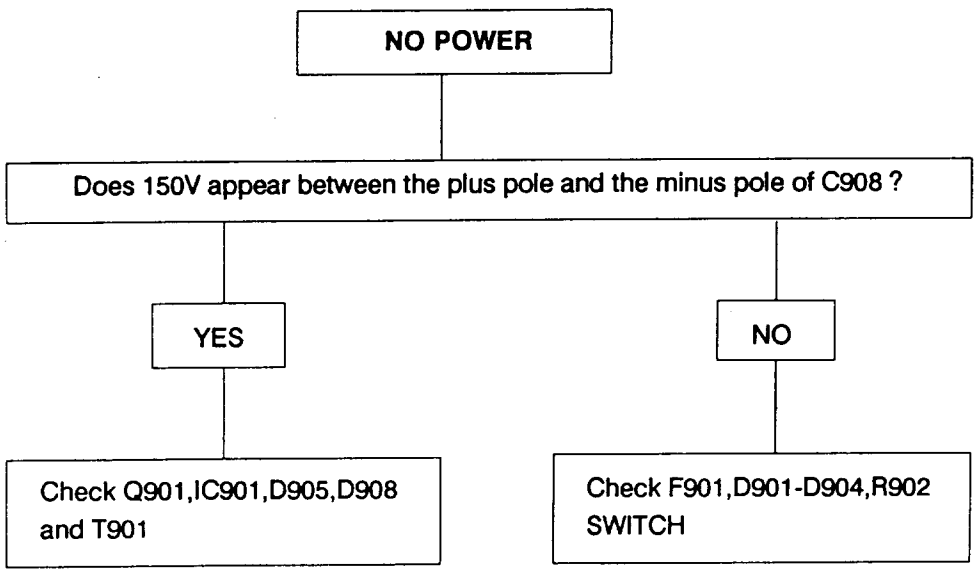

HORIZONTAL LINE ON RASTER
Does 20V appear at the pin 9 of IC402 ?
YES
NO
Check the power supply circuits.
Does output pulse of 28Vp-p appear at the pin 6 of IC402 ?
YES
NO
Check IC402 and its related circuits
Replace IC402 or check its related circuits.


VERTICAL LINE ON RASTER
Does 12V appear at pin 1 and 2 of IC301 ?
YES
NO
Does drive pulse appear at the pin 3 of IC301 ?
Check the power supply circuits or replace IC902.
YES
NO
Replace IC301 or check its related circuits.
Check flyback pulse at the collector of Q302,
if not correct,replace Q301,Q302 and T301 or check its related circuits.

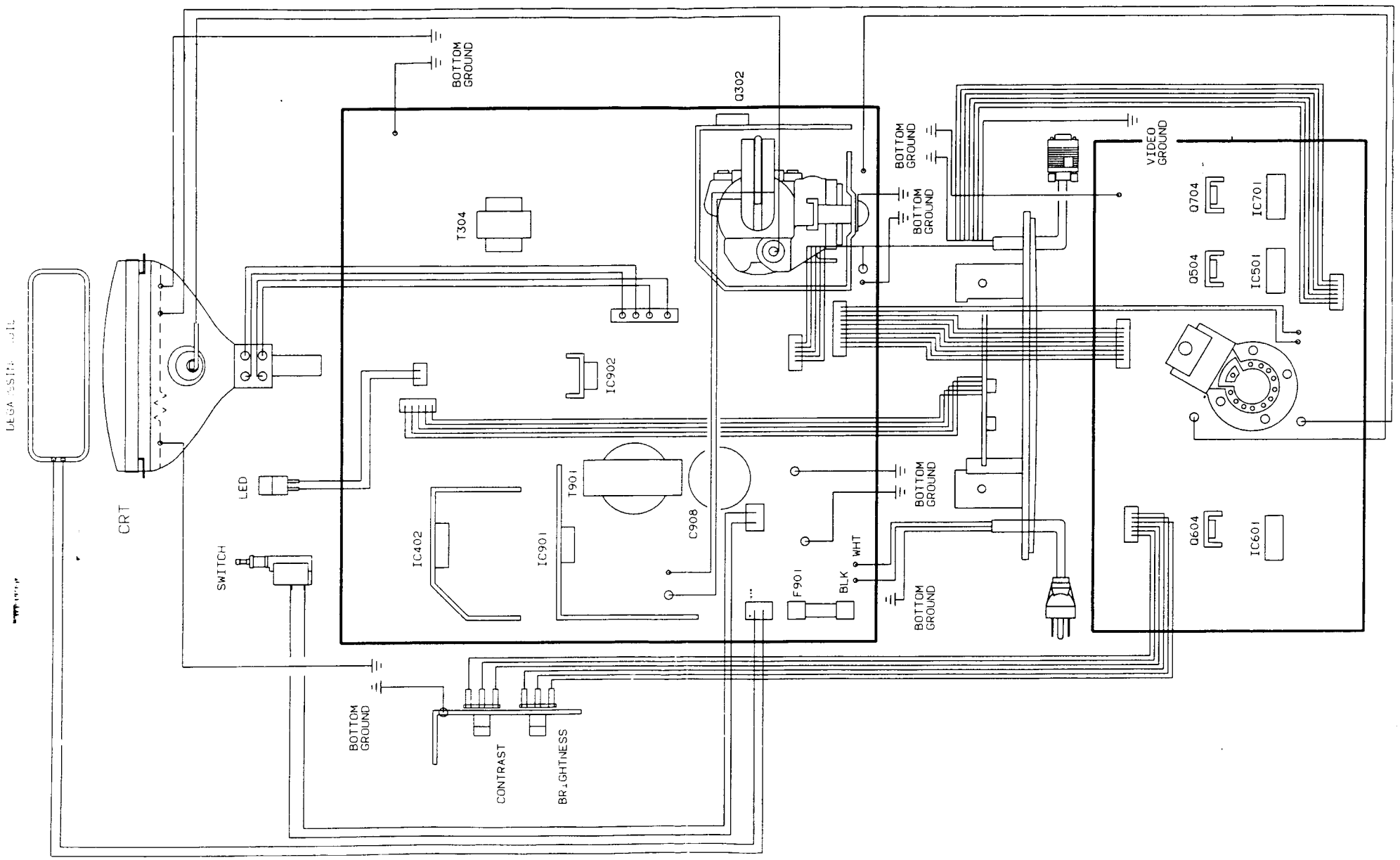

RASTER APPEARS BUT PICTURE DOES NOT APPEAR
Does 135V appear at connector CON702(pin 5) on the video pcb ?
YES
NO
Check the power supply circuits
Does video pulse appear at the input of the video PCB ?
YES
NO
Check the signal cable or confirm the PC.
Does video pulse appear at the pin 3 of IC501,IC601,and IC701 ?
YES
NO
Check the video input circuits. (IC501,IC601,IC701,Q501,Q601,Q701 Q502,Q602,Q702)
Does video pulse appear at the pin 7 of IC501,IC601,and IC701 ?
YES
NO
Check IC501,IC601,and IC701.
Does video pulse appear at the cathode of CRT ?
YES
NO
Check the video output circuits. (Q503,Q504,Q505,Q506,Q603,Q604 Q605,Q606,Q703,Q704,Q705,Q706)
Check CRT or replace it.
NO SPECIFIC COLOR APPEARS
The raster is colored in red or cyan.
The raster is colored in green or magenta.
The raster is colored in blue or yellow.
Check the red video circuits. (IC501,Q501-Q506)
Check the green video circuits. (IC601,Q601-Q606)
Check the blue video circuits. (IC701,Q701-Q706)



NOTE : If color purity is not normal,manual degaussing should be done by mandatory method using the manual degaussing coil before inspection.

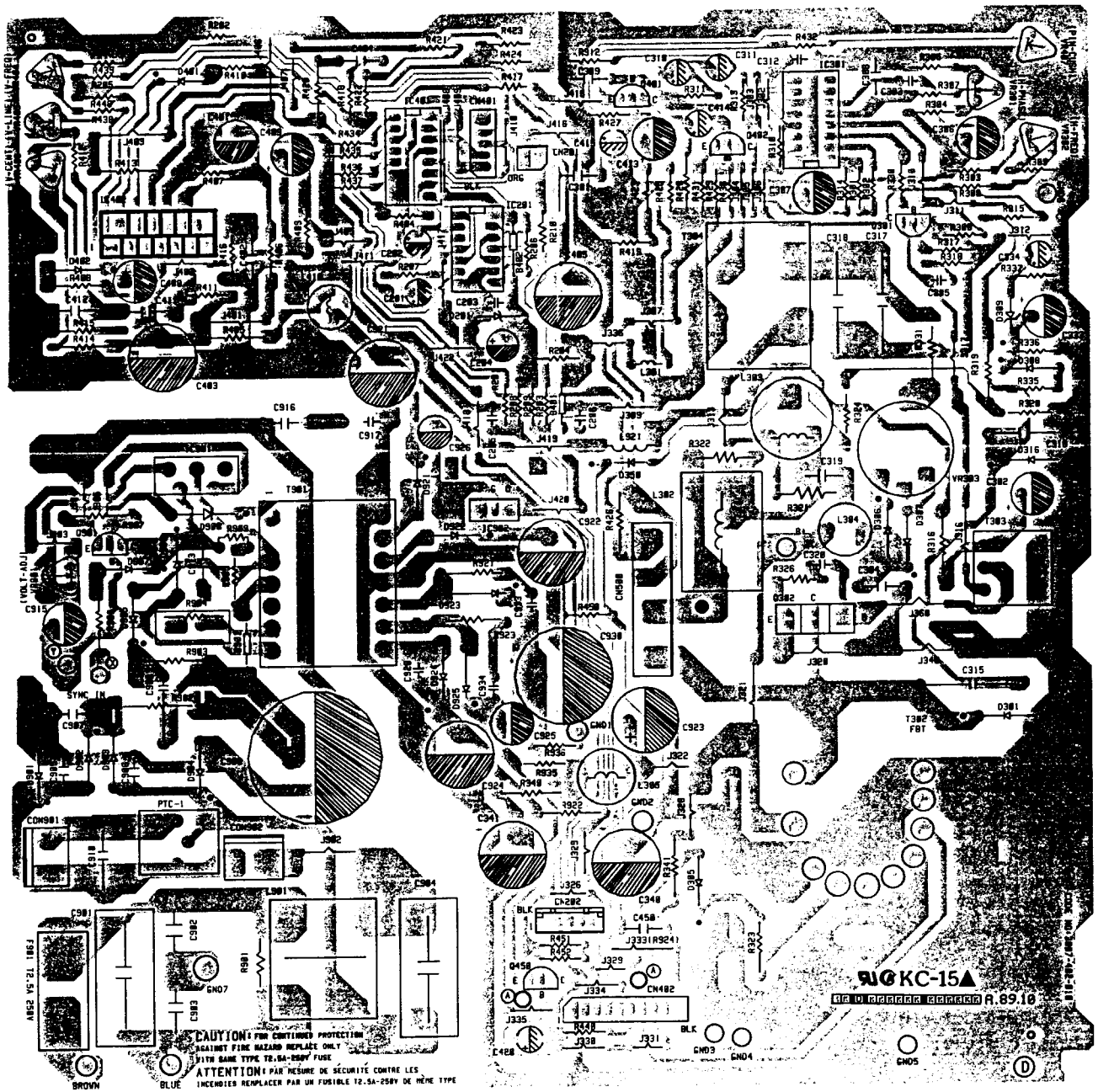


WIRING DIAGRAM AND PARTS LOCATION

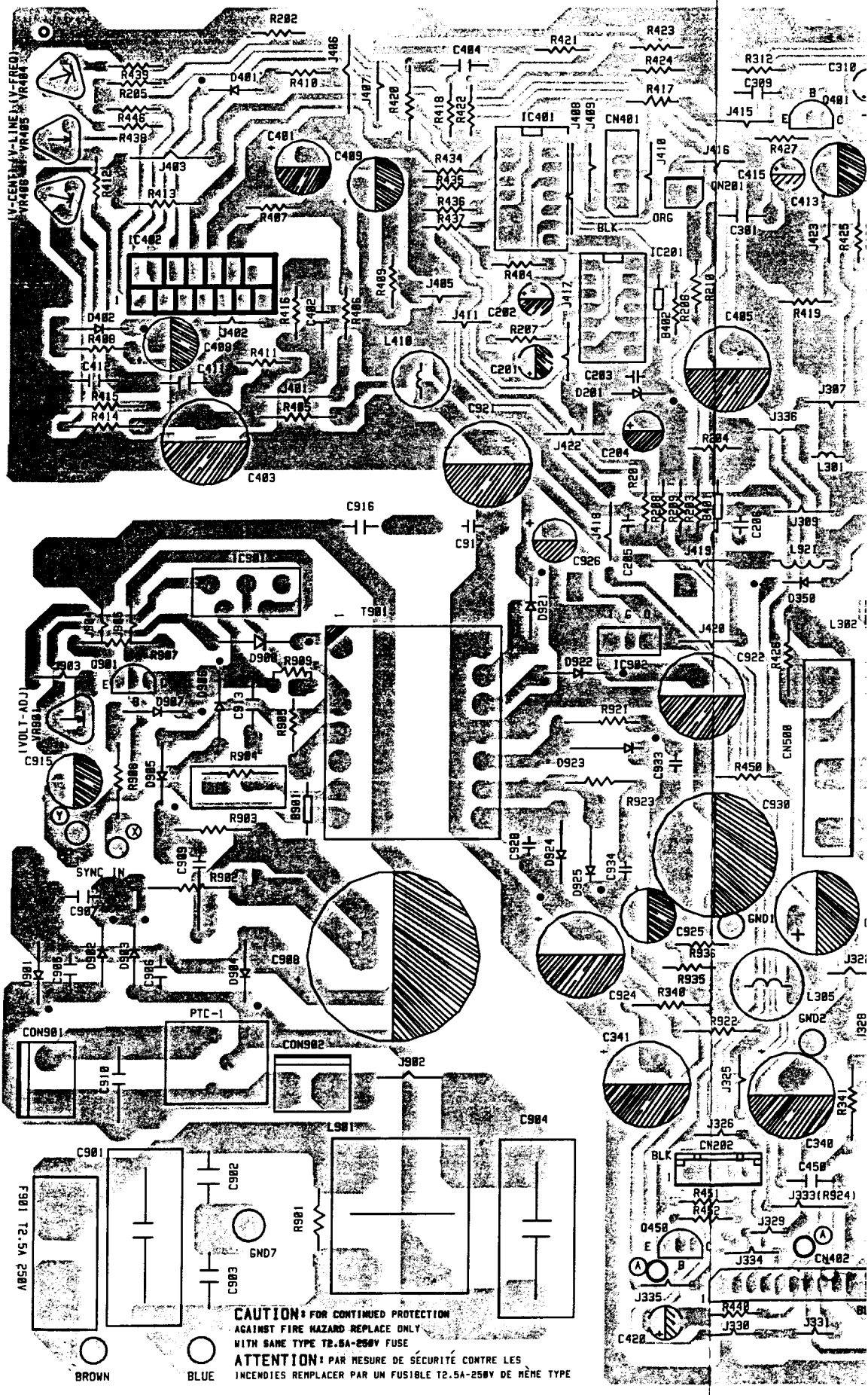


PRINTED CIRCUIT BOARD

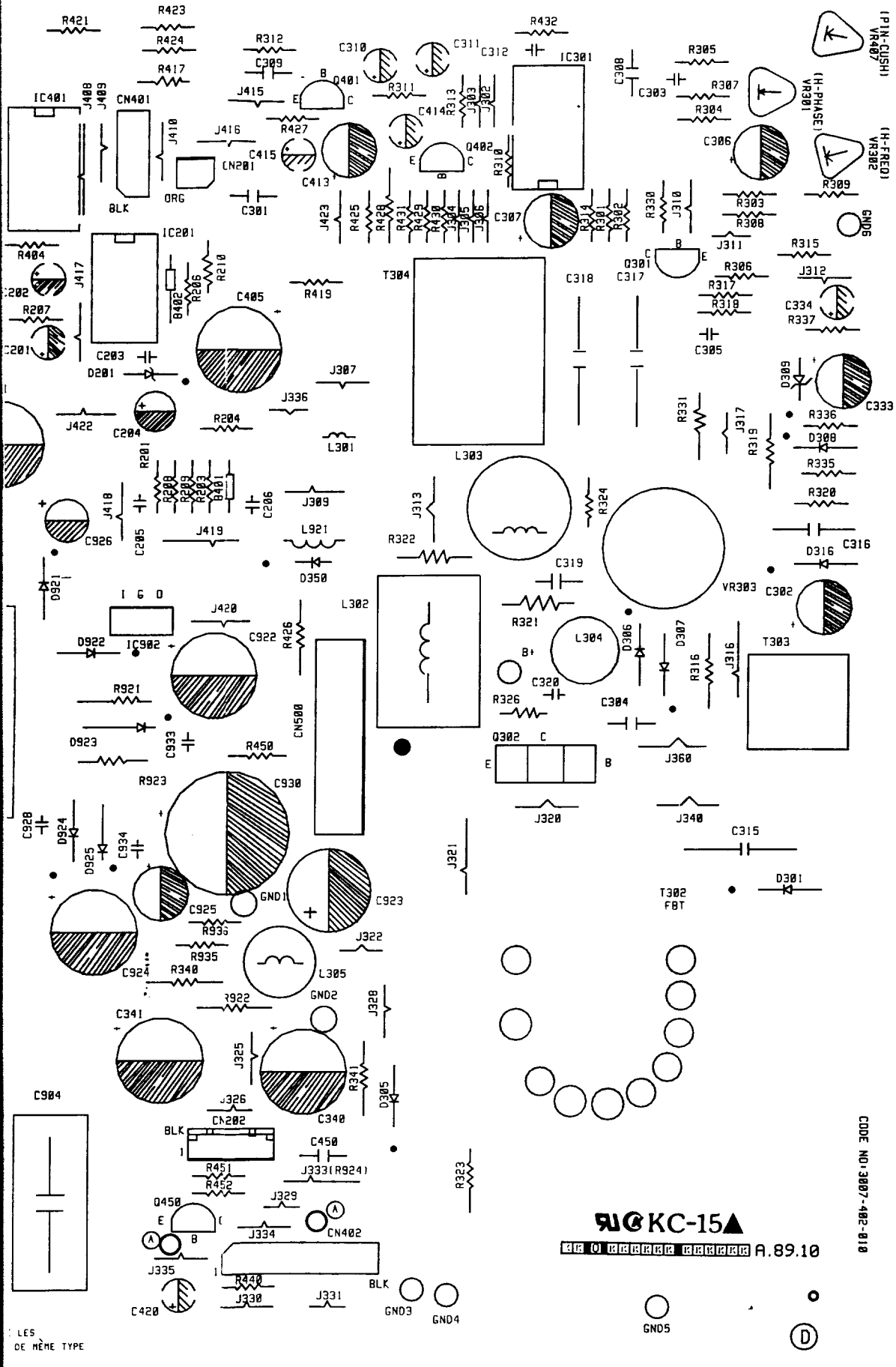
Main PCB (Top View)



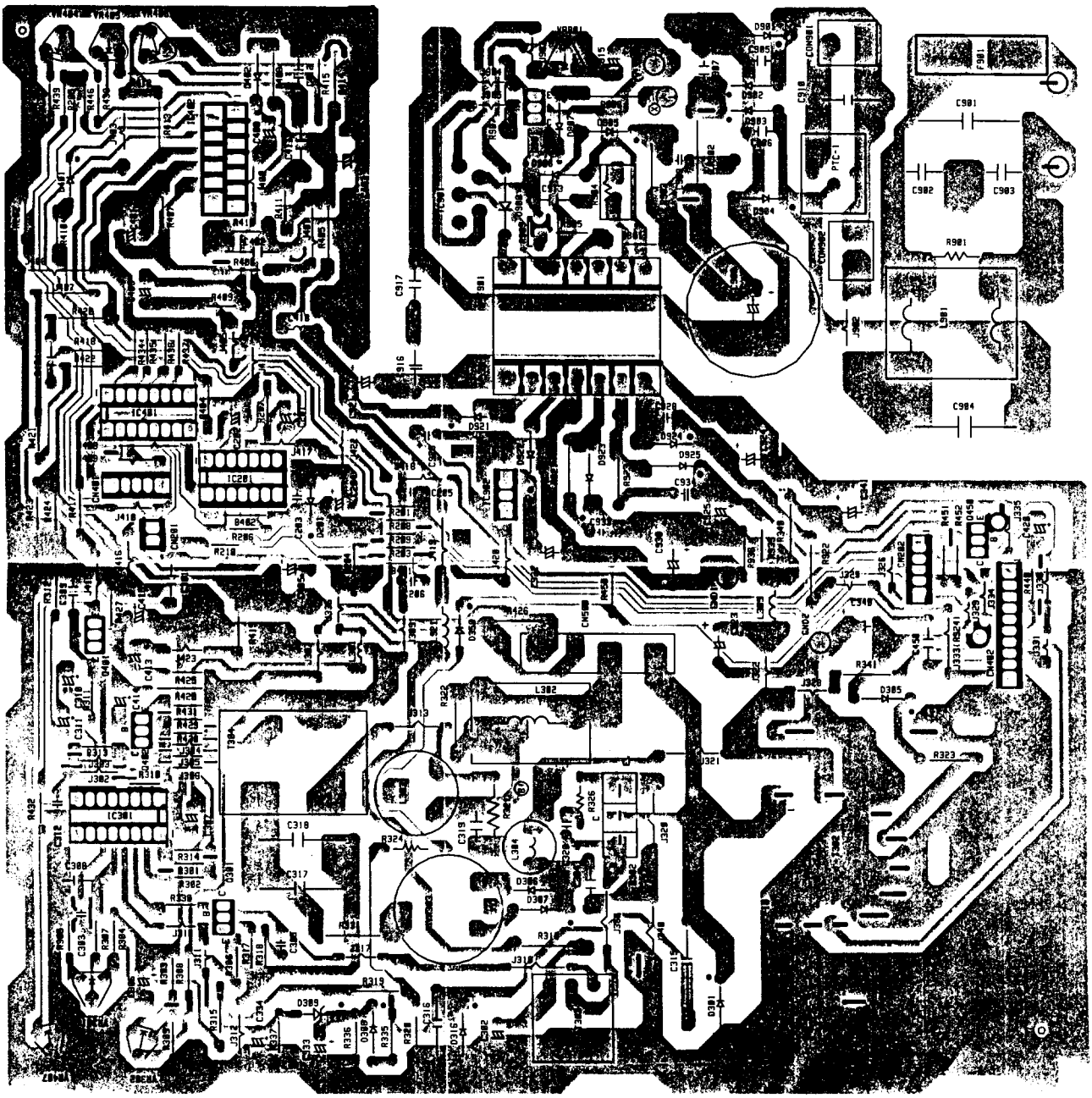
Main PCB (Top View)



PRINTED CIRCUIT BOARD

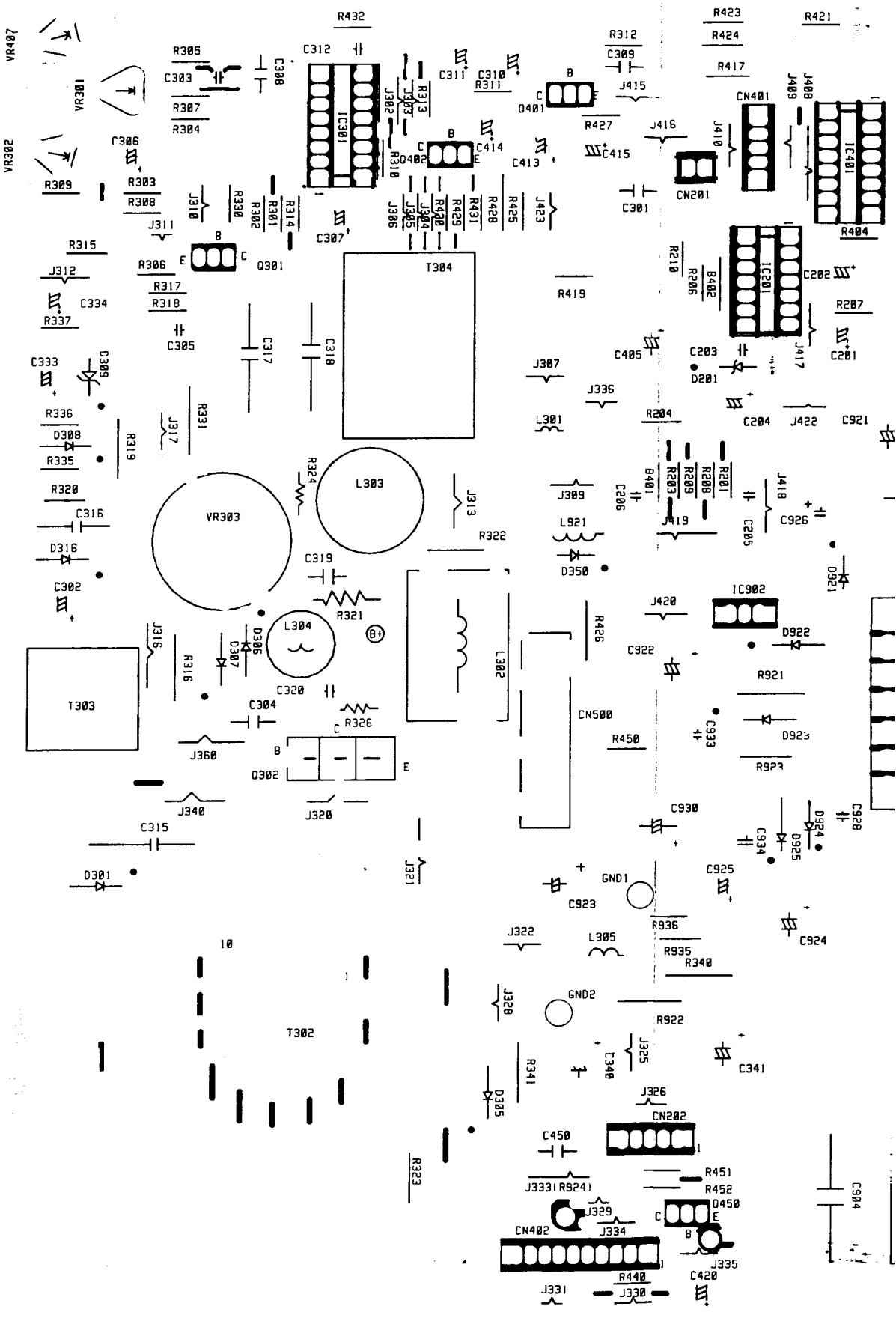


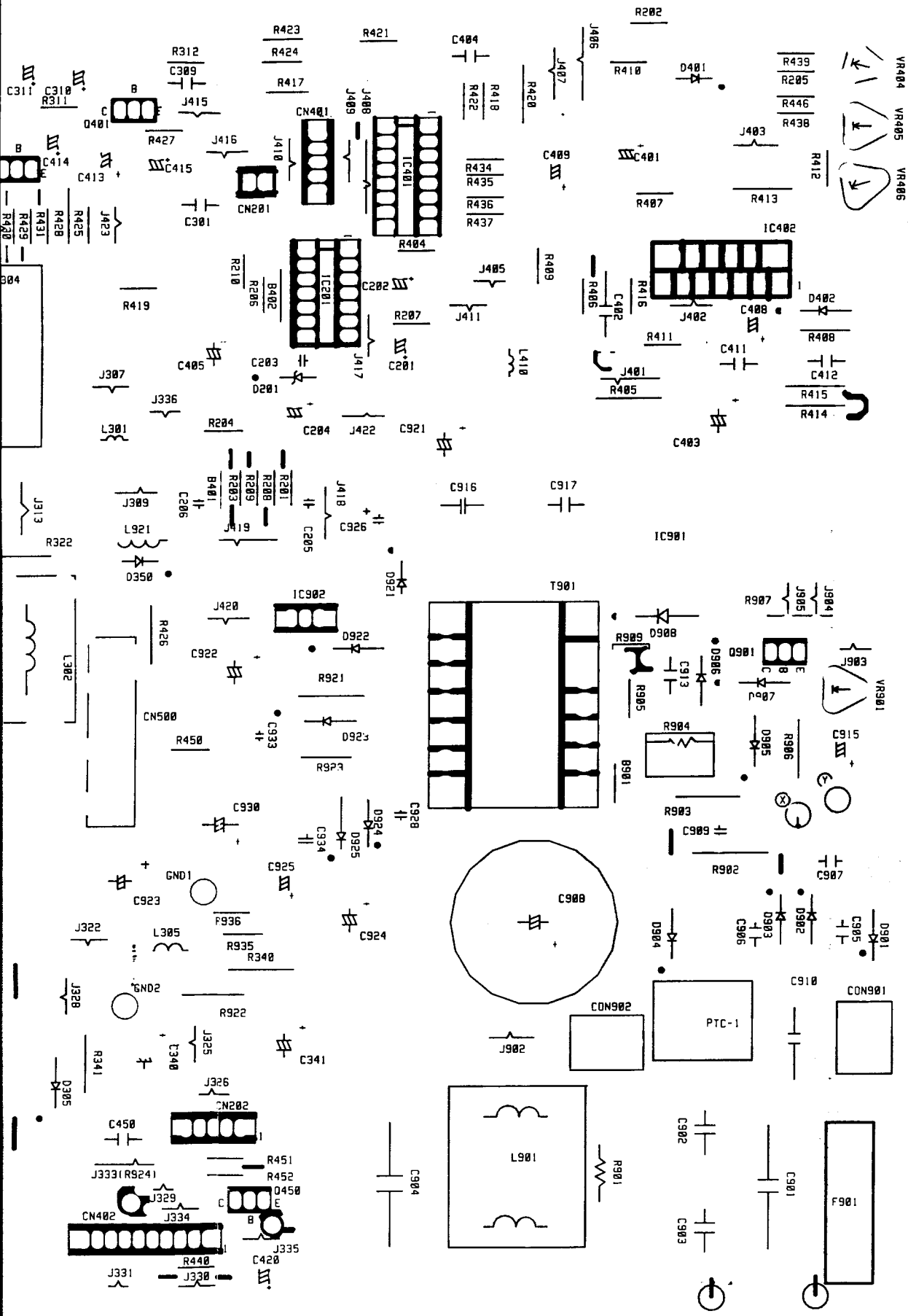
LES
DE MÊME TYPE



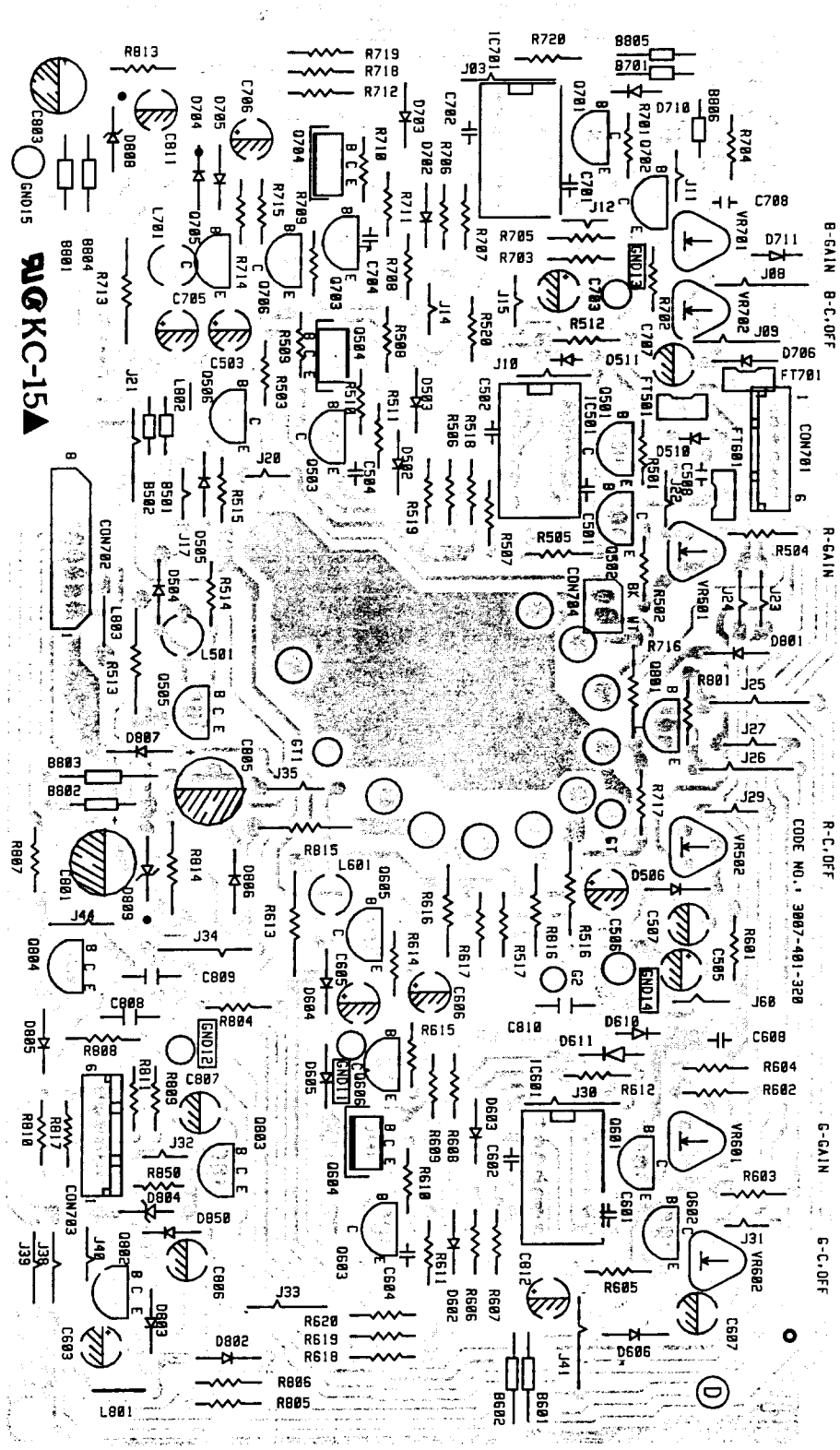
Main PCB (Bottom View)

Main PCB (Bottom View)

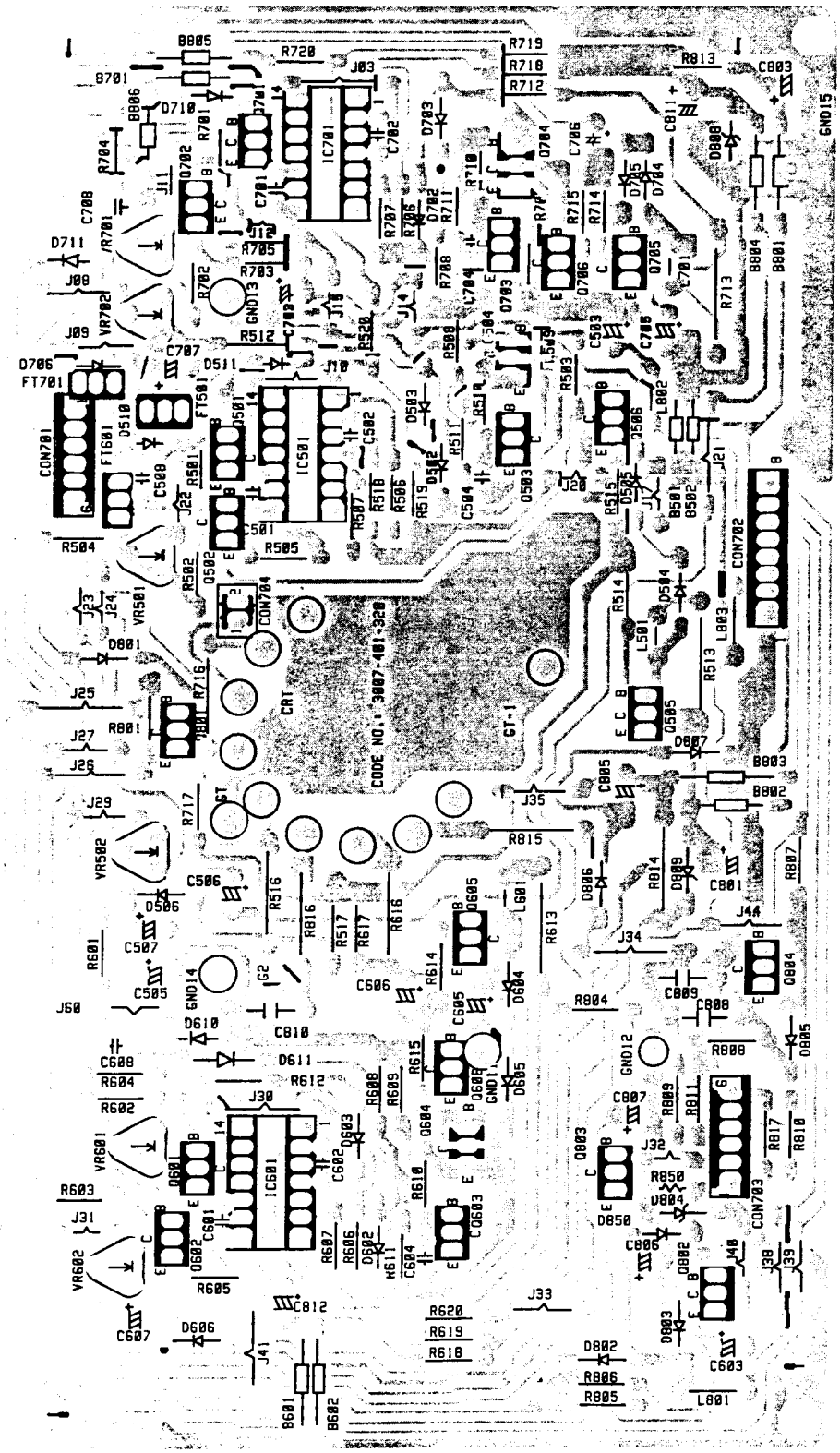



R202
R423
R424
R421
C404
R312
C309
R417
C311
C310
R311
J415
J406
J407
R410
D401
R439
R205
R446
R438
VR404
VR405
VR406
J403
R412
C414
C413
C415
J416
J410
CN401
J409
J408
IC401
R422
R418
R420
R434
R435
R436
R437
C409
C401
R407
R413
R427
CN201
C301
R404
IC402
R210
R206
R402
IC201
C202
J405
R409
R406
C402
R416
J402
C408
D402
R408
R419
R207
J411
R411
C411
C412
R415
R414
C405
C203
D201
J417
C201
L410
J401
R405
C403
J307
J336
L301
R204
C204
J422
C921
J313
J309
C206
B401
R203
R209
R208
R201
J418
C205
J419
C926
C916
C917
IC901
R322
L921
D350
D921
T901
J420
IC902
D922
R907
J905
J904
R909
D908
Q901
J903
VR901
C922
R921
C913
D906
D907
R905
CN500
C933
R450
D923
R904
D905
R906
C915
R923
B901
C930
C928
R903
D924
C934
D925
C909
C925
GND1
C923
R902
C907
C908
J322
L305
F936
C924
R935
R340
D904
C906
D903
D902
C905
D901
GND2
R922
C910
CON901
CON902
PTC-1
J328
J325
C340
C341
J902
R341
D305
J326
CN202
C450
L901
R901
C902
C904
C901
F901
R451
J333(R924)
R452
J329
D450
J334
CN402
C903
J335
C420
R440
J331
J330

Video PCB (Top View)



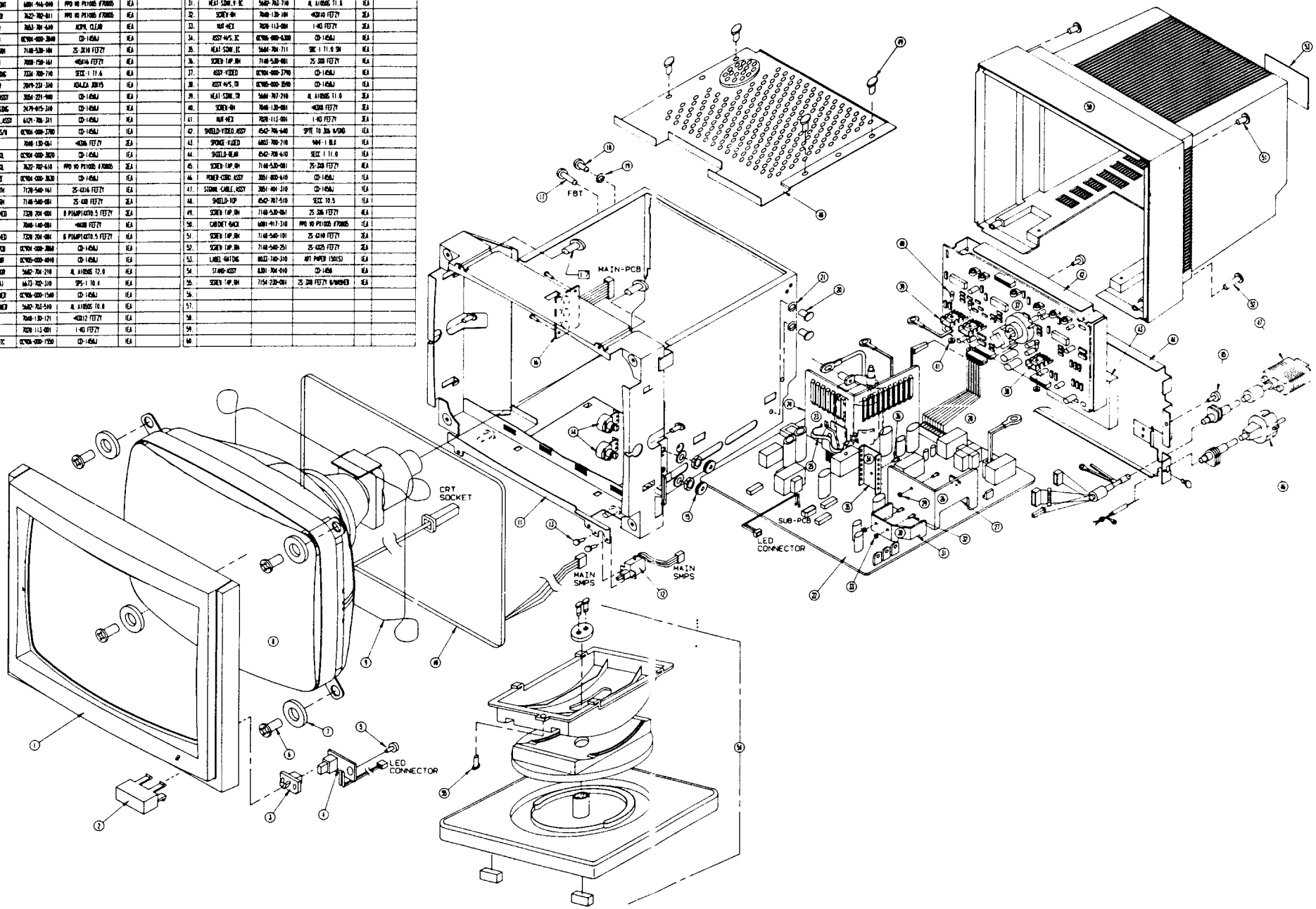
Video PCB (Bottom View)



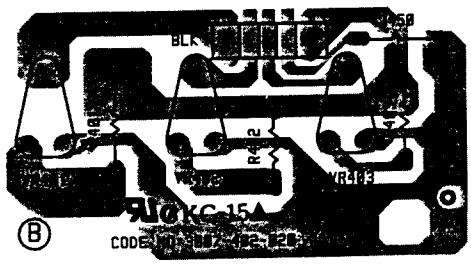
EXPLODED VIEW

NO.	DESCRIPTION	CODE NO.	SPECIFICATION	Q'TY	REMARK
1.	CABINET-FRONT	6091-946-049	PPO 90 P51005 #70005	1EA	
2.	KNOB-POWER	7622-702-841	PPO 90 P51005 #70005	1EA	
3.	LENS-LED	7063-704-649	ACRYL CLEAR	1EA	
4.	ASSY-LED	0C904-000-3048	CD-145AJ	1EA	
5.	SCREW-TAP,BH	7148-530-106	2S-3X10 FE7ZY	1EA	
6.	SCREW-PH	7000-750-161	+BS3X6 FE7ZY	4EA	
7.	WASHER-SPRING	7234-700-710	SECC-1 11.6	4EA	
8.	CRT-COLOR	2049-231-340	M34LCA 30K15	1EA	
9.	GROUND-CRT,ASSY	3054-221-900	CD-145AJ	1EA	
10.	COIL-DEGAUSSING	2479-015-340	CD-145AJ	1EA	
11.	CHASSIS-FRAME,ASSY	6121-706-341	CD-145AJ	1EA	
12.	ASSY-POWER,S/W	0C904-000-3780	CD-145AJ	1EA	
13.	SCREW-PH	7048-130-061	+M3X6 FE7ZY	2EA	
14.	ASSY-CONTROL	0C904-000-3829	CD-145AJ	1EA	
15.	KNOB-CONTROL	7622-702-610	PPO 90 P51005 #70005	2EA	
16.	ASSY-V/SIZE	0C904-000-3838	CD-145AJ	1EA	
17.	SCREW-TAP,PH	7128-540-161	2S-4216 FE7ZY	1EA	
18.	SCREW-TAP,BH	7148-540-081	2S-438 FE7ZY	2EA	
19.	WASHER-TOOTHED	7230-704-004	8 P14APL4310.5 FE7ZY	2EA	
20.	SCREW-PH	7048-140-081	+M4X8 FE7ZY	1EA	
21.	WASHER-TOOTHED	7230-704-081	8 P14APL4310.5 FE7ZY	1EA	
22.	ASSY-MAIN,PCB	0C904-000-3868	CD-145AJ	1EA	
23.	ASSY-H/S,MBP	0C905-000-4048	CD-145AJ	1EA	
24.	HEAT-SINK,MDR	5462-704-210	AL A1050S T2.0	1EA	
25.	SPRING-TRIAL	6672-702-310	SPS-1 10.4	1EA	
26.	ASSY-H/S,POWER	0C904-000-1568	CD-145AJ	1EA	
27.	HEAT SINK,POWER	5462-703-510	AL A1050S T0.8	1EA	
28.	SCREW-PH	7048-130-121	+M3X12 FE7ZY	1EA	
29.	NUT-HEX	7028-113-081	1-M3 FE7ZY	1EA	
30.	ASSY-H/S,V IC	0C904-000-1550	CD-145AJ	1EA	

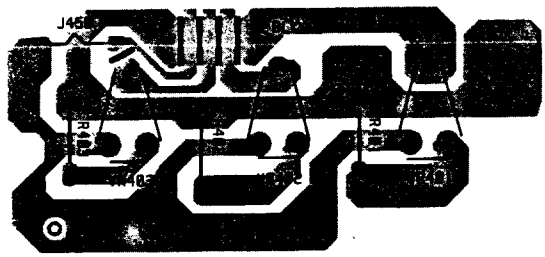
NO.	DESCRIPTION	CODE NO.	SPECIFICATION	Q'TY	REMARK
31.	HEAT-SINK,V IC	5462-703-710	AL A1050S T1.6	1EA	
32.	SCREW-PH	7048-130-104	+M3X10 FE7ZY	2EA	
33.	NUT-HEX	7028-113-084	1-M3 FE7ZY	2EA	
34.	ASSY-H/S,IC	0C904-000-4308	CD-145AJ	1EA	
35.	HEAT SINK,IC	5464-704-711	SBC-1 T1.0 SH	1EA	
36.	SCREW-TAP,BH	7148-530-081	2S-3X8 FE7ZY	1EA	
37.	ASSY-VIDEO	0C904-000-3790	CD-145AJ	1EA	
38.	ASSY-H/S,TR	0C905-000-3548	CD-145AJ	1EA	
39.	HEAT-SINK,TR	5464-707-210	AL A1050S T1.0	2EA	
40.	SCREW-PH	7048-130-084	+M3X8 FE7ZY	2EA	
41.	NUT-HEX	7028-113-084	1-M3 FE7ZY	2EA	
42.	SHIELD-VIDEO,ASSY	6542-706-640	SPTE T0.30t 6/100	1EA	
43.	SPONGE-FIXED	6803-700-210	16HF-1 BLK	1EA	
44.	SHIELD-REAR	6542-708-610	SECC-1 11.0	1EA	
45.	SCREW-TAP,BH	7148-530-081	2S-3X8 FE7ZY	4EA	
46.	POWER-CORD,ASSY	3054-800-610	CD-145AJ	1EA	
47.	SIGNAL-CABLE,ASSY	3054-404-310	CD-145AJ	1EA	
48.	SHIELD-TOP	6542-707-510	SECC 10.5	1EA	
49.	SCREW-TAP,BH	7148-530-061	2S-3X6 FE7ZY	4EA	
50.	CABINET-BACK	6091-917-310	PPO 90 P51005 #70005	1EA	
51.	SCREW-TAP,BH	7148-540-101	2S-4310 FE7ZY	2EA	
52.	SCREW-TAP,BH	7148-540-251	2S-4325 FE7ZY	2EA	
53.	LABEL-RATING	6033-740-310	ART PAPER 150(S)	1EA	
54.	STAND-ASSY	6301-704-010	CD-145B	1EA	
55.	SCREW-TAP,BH	7154-230-081	2S-3X8 FE7ZY W/WASHER	1EA	
56.					
57.					
58.					
59.					
60.					



Terminal PCB (Top View)



Terminal PCB (Bottom View)



Led PCB (Top View)

Led PCB (Bottom View)

REPLACEMENT PARTS LIST

(ELECTRICAL PARTS)

IMPORTANT SAFETY NOTICE

Components identified by the international symbol have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

NOTE : Tolerance F; +/-1%, J; +/-5%, K; +/-10%, M; +/-20%, P; +100% -0%, Z; +80% -20%

REF NO	DESCRIPTION	PART NO	REMARK
	RESISTOR		
R201	R-CARBON;RD 1/4T 330-J	1018-277-331	
R202	R-CARBON;RD 1/4T 10K-J	1018-277-103	
R203	R-CARBON;RD 1/4T 330-J	1018-277-331	
R204	R-CARBON;RD 1/2T 470-J	1018-377-471	
R205	R-CARBON;RD 1/4T 1.5K-J	1018-277-152	
R206	R-CARBON;RD 1/4T 330-J	1018-277-331	
R207	R-CARBON;RD 1/4T 330-J	1018-277-331	
R208	R-CARBON;RD 1/4T 27K-J	1018-277-273	
R209	R-CARBON;RD 1/4T 27K-J	1018-277-273	
R210	R-CARBON;RD 1/2T 1K-J(S)	1016-377-102	
R301	R-CARBON;RD 1/4T 10-J	1018-277-100	
R302	R-CARBON;RD 1/4T 22-J	1018-277-220	
R303	R-CARBON;RD 1/4T 100K-J	1018-277-104	
R304	R-CARBON;RD 1/4T 4.7K-J	1018-277-472	
R305	R-CARBON;RD 1/4T 3.9K-J	1018-277-392	
R306	R-CARBON;RD 1/4T 6.8K-J	1018-277-682	
R307	R-CARBON;RD 1/4T 10K-J	1018-277-103	
R308	R-CARBON;RD 1/4T 15K-J	1018-277-153	
R309	R-CARBON;RD 1/4T 12K-J	1018-277-123	
R310	R-CARBON;RD 1/4T 68K-J	1018-277-683	
R311	R-CARBON;RD 1/4T 1.8K-J	1018-277-182	
R312	R-CARBON;RD 1/4T 3.3K-J	1018-277-332	
R313	R-CARBON;RD 1/4T 6.8K-J	1018-277-682	
R314	R-CARBON;RD 1/4T 1M-J	1018-277-105	
R315	R-CARBON;RD 1/2T 47K-J(S)	1016-377-473	
R316	R-METAL OXIDE(M);RS 3P 180-J	1085-627-181	
R317	R-CARBON;RD 1/4T 1K-J	1018-277-102	

REF NO	DESCRIPTION	PART NO	REMARK
R318	R-CARBON;RD 1/4T 180-J	1018-277-181	
R319	R-METAL OXIDE(M);RS 3P 8.2K-J	1085-627-822	
R320	R-CARBON;RD 1/2T 1.2K-J(S)	1016-377-122	
R321	R-CARBON;RD 1/2T 470-J	1018-377-471	
R322	R-METAL OXIDE(S);RS 3P 1K-J	1085-627-102	
R323	R-FUSIBLE;FMR 1/2P 1.2-J	1058-327-129	
R324	R-CARBON;RD 1/2T 47K-J(S)	1016-377-473	
R326	R-CARBON;RD 1/4T 1.8-J	1018-277-189	
R330	R-CARBON;RD 1/4T 470-J	1018-277-471	
R331	R-CEMENT,WIRE;RW 3P 10-J	1039-427-100	
R335	R-CARBON;RD 1/4T 62K-J	1018-277-623	
R336	R-CARBON;RD 1/4T 62K-J	1018-277-623	
R337	R-CARBON;RD 1/4T 10K-J	1018-277-103	
R340	R-METAL OXIDE;RS 1P 120-J	1045-427-121	
R341	R-CARBON;RD 1/4T 150K-J	1018-277-154	CJ4581
	R-CARBON;RD 1/4T 180K-J	1018-277-184	CJ4584,CJ4585
			CJ4586
R401	R-CARBON;RD 1/4T 1.5K-J	1018-277-152	
R402	R-CARBON;RD 1/4T 1K-J	1018-277-102	
R403	R-CARBON;RD 1/4T 750-J	1018-277-751	
R404	R-CARBON;RD 1/4T 5.6K-J	1018-277-562	
R405	R-FUSIBLE;FMR 1/2P 0.56-J	1058-327-056	
R406	R-M,FILM;RM 1/4T 200K-F	1048-275-204	
R407	R-CARBON;RD 1/4T 10K-J	1018-277-103	
R408	R-FUSIBLE;FMR 1/2P 1.2-J	1058-327-129	
R409	R-CARBON;RD 1/4T 33K-J	1018-277-333	
R410	R-CARBON;RD 1/4T 4.7K-J	1018-277-472	
R411	R-CARBON;RD 1/4T 820K-J	1018-277-824	
R412	R-CARBON;RD 1/4T 47K-J	1018-277-473	
R413	R-CARBON;RD 1/2T 390-J	1018-377-391	
R414	R-CARBON;RD 1/2T 270-J	1018-377-271	
R415	R-CARBON;RD 1/2T 270-J	1018-377-271	
R416	R-CARBON;RD 1/4T 33K-J	1018-277-333	
R417	R-CARBON;RD 1/4T 680-J	1018-277-681	

REF NO	DESCRIPTION	PART NO	REMARK
R418	R-CARBON;RD 1/4T 3.3K-J	1018-277-332	
R419	R-CARBON;RD 1/4T 300-J	1018-277-301	
R420	R-CARBON;RD 1/2T 2.2-J	1018-377-229	
R421	R-CARBON;RD 1/4T 22K-J	1018-277-223	
R422	R-CARBON;RD 1/4T 18K-J	1018-277-183	
R423	R-CARBON;RD 1/2T 1-J(S)	1016-377-109	
R424	R-CARBON;RD 1/2T 1-J(S)	1016-377-109	
R425	R-CARBON;RD 1/4T 100K-J	1018-277-104	
R426	R-CARBON;RD 1/2T 2.2K-J	1018-377-222	
R427	R-CARBON;RD 1/4T 8.2K-J	1018-277-822	CJ4581,CJ4586
	R-CARBON;RD 1/4T 15K-J	1018-277-153	CJ4584,CJ4585
R428	R-CARBON;RD 1/2T 1K-J	1018-377-102	
R429	R-CARBON;RD 1/4T 5.6K-J	1018-277-562	
R430	R-CARBON;RD 1/4T 22K-J	1018-277-223	
R431	R-CARBON;RD 1/4T 150-J	1018-277-151	
R432	R-CARBON;RD 1/4T 150-J	1018-277-151	
R434	R-CARBON;RD 1/4T 220-J	1018-277-221	
R435	R-CARBON;RD 1/4T 47-J	1018-277-470	
R436	R-CARBON;RD 1/4T 2.2K-J	1018-277-222	
R437	R-CARBON;RD 1/4T 150-J	1018-277-151	
R438	R-CARBON;RD 1/4T 27K-J	1018-277-273	
R439	R-CARBON;RD 1/4T 1K-J	1018-277-102	
R440	R-M,FILM;RM 1/4T 3.1K-F	1048-275-312	
R446	R-CARBON;RD 1/4T 1.2K-J	1018-277-122	
R450	R-FUSIBLE;RF 1/4T 10K-J	1057-277-103	
R451	R-CARBON;RD 1/4T 1.8K-J	1018-277-182	
R452	R-CARBON;RD 1/4T 10K-J	1018-277-103	
R501	R-M,FILM;RM 1/4T 75-F	1048-275-750	
R601	R-M,FILM;RM 1/4T 75-F	1048-275-750	
R701	R-M,FILM;RM 1/4T 75-F	1048-275-750	
R502	R-CARBON;RD 1/4T 180-J	1018-277-181	
R602	R-CARBON;RD 1/4T 180-J	1018-277-181	
R702	R-CARBON;RD 1/4T 180-J	1018-277-181	
R503	R-CARBON;RD 1/2T 4.3K-J(S)	1016-377-432	

REF NO	DESCRIPTION	PART NO	REMARK
R603	R-CARBON;RD 1/2T 4.3K-J(S)	1016-377-432	
R703	R-CARBON;RD 1/2T 4.3K-J(S)	1016-377-432	
R504	R-CARBON;RD 1/4T 6.8K-J	1018-277-682	
R604	R-CARBON;RD 1/4T 6.8K-J	1018-277-682	
R704	R-CARBON;RD 1/4T 6.8K-J	1018-277-682	
R505	R-CARBON;RD 1/4T 1K-J	1018-277-102	
R605	R-CARBON;RD 1/4T 1K-J	1018-277-102	
R705	R-CARBON;RD 1/4T 1K-J	1018-277-102	
R506	R-CARBON;RD 1/4T 1K-J	1018-277-102	
R606	R-CARBON;RD 1/4T 1K-J	1018-277-102	
R706	R-CARBON;RD 1/4T 1K-J	1018-277-102	
R507	R-CARBON;RD 1/4T 1K-J	1018-277-102	
R607	R-CARBON;RD 1/4T 1K-J	1018-277-102	
R707	R-CARBON;RD 1/4T 1K-J	1018-277-102	
R508	R-CARBON;RD 1/4T 1.8K-J	1018-277-182	
R608	R-CARBON;RD 1/4T 1.8K-J	1018-277-182	
R708	R-CARBON;RD 1/4T 1.8K-J	1018-277-182	
R509	R-CARBON;RD 1/4T 100-J	1018-277-101	
R609	R-CARBON;RD 1/4T 100-J	1018-277-101	
R709	R-CARBON;RD 1/4T 100-J	1018-277-101	
R510	R-CARBON;RD 1/4T 15-J	1018-277-150	
R610	R-CARBON;RD 1/4T 15-J	1018-277-150	
R710	R-CARBON;RD 1/4T 15-J	1018-277-150	
R511	R-CARBON;RD 1/4T 68-J	1018-277-680	
R611	R-CARBON;RD 1/4T 68-J	1018-277-680	
R711	R-CARBON;RD 1/4T 68-J	1018-277-680	
R512	R-CARBON;RD 1/4T 470K-J	1018-277-474	
R612	R-CARBON;RD 1/4T 470K-J	1018-277-474	
R712	R-CARBON;RD 1/4T 470K-J	1018-277-474	
R513	R-METAL,OXIDE(M);RS 3P 1.8K-J	1085-627-182	
R613	R-METAL,OXIDE(M);RS 3P 1.8K-J	1085-627-182	
R713	R-METAL,OXIDE(M);RS 3P 1.8K-J	1085-627-182	
R514	R-FUSIBLE;RF 1/4T 150-J	1057-277-151	
R614	R-FUSIBLE;RF 1/4T 150-J	1057-277-151	
R714	R-FUSIBLE;RF 1/4T 150-J	1057-277-151	

REF NO	DESCRIPTION	PART NO	REMARK
R515	R-FUSIBLE;RF 1/4T 150-J	1057-277-151	
R615	R-FUSIBLE;RF 1/4T 150-J	1057-277-151	
R715	R-FUSIBLE;RF 1/4T 150-J	1057-277-151	
R516	R-COMPOSITION;RC 1/2T 100-K	1028-378-101	
R616	R-COMPOSITION;RC 1/2T 100-K	1028-378-101	
R716	R-COMPOSITION;RC 1/2T 100-K	1028-378-101	
R517	R-CARBON;RD 1/4T 470K-J	1018-277-474	
R617	R-CARBON;RD 1/4T 470K-J	1018-277-474	
R717	R-CARBON;RD 1/4T 470K-J	1018-277-474	
R518	R-CARBON;RD 1/4T 47-J	1018-277-470	
R618	R-CARBON;RD 1/4T 47-J	1018-277-470	
R718	R-CARBON;RD 1/4T 47-J	1018-277-470	
R519	R-CARBON;RD 1/4T 100-J	1018-277-101	
R619	R-CARBON;RD 1/4T 100-J	1018-277-101	
R719	R-CARBON;RD 1/4T 100-J	1018-277-101	
R520	R-CARBON;RD 1/4T 47-J	1018-277-470	
R620	R-CARBON;RD 1/4T 47-J	1018-277-470	
R720	R-CARBON;RD 1/4T 47-J	1018-277-470	
R801	R-CARBON;RD 1/2T 10K-J(S)	1016-377-103	
R804	R-CARBON;RD 1/4T 1K-J	1018-277-102	
R805	R-CARBON;RD 1/4T 1.5K-J	1018-277-152	
R806	R-CARBON;RD 1/4T 1K-J	1018-277-102	
R807	R-CARBON;RD 1/4T 100K-J	1018-277-104	
R808	R-CARBON;RD 1/4T 1K-J	1018-277-102	
R809	R-CARBON;RD 1/4T 2.2M-J	1018-277-225	
R810	R-CARBON;RD 1/4T 3.3K-J	1018-277-332	
R811	R-CARBON;RD 1/4T 3.3K-J	1018-277-332	
R813	R-CARBON;RD 1/4T 1K-J	1018-277-102	
R814	R-METAL,OXIDE(M);RS 3P 1.5K-J	1085-627-152	
R815	R-COMPOSITION;RC 1/2T 100-K	1028-378-101	
R816	R-COMPOSITION;RC 1/2T 100-K	1028-378-101	
R817	R-CARBON;RD 1/4T 1.8K-J	1018-277-182	
R850	R-M,FILM;RM 1/8T 27K-J	1048-177-273	

REF NO	DESCRIPTION	PART NO	REMARK
R901	R-COMPOSITION;RC 1/2T 330K-J	1028-378-334	
R902	R-CEMENT,WIRE;RP 7P 6.8-J	1039-627-689	
R903	R-METAL,OXIDE;RS 3P 68K-J(S)	1085-627-683	
R904	R-CEMENT,WIRE;RW 5V 47-J	1039-597-470	
R905	R-CARBON;RD 1/2T 180K-J(S)	1016-377-184	
R906	R-METAL,OXIDE(M);RS 3P 10-J	1085-627-100	
R907	R-WIRE;RW 1L 0.33-J	1038-217-033	
R909	R-CARBON;RD 1/2T 180K-J(S)	1016-377-184	
R922	R-FUSIBLE;FMR 1/2P 0.56-J	1058-327-056	
R924	R-FUSIBLE;FMR 1/2P 0.56-J	1058-327-056	
R935	R-CARBON;RD 1/2T 22K-J(S)	1016-377-223	
R936	R-CARBON;RD 1/4T 100K-J	1018-277-104	
	DIODE		
D201	DIODE-ZENER;BZX 79C 5V1	2169-401-590	
D202	LED;KLG208E	2309-110-090	
D301	DIODE;RGP15M(T)	2169-306-427	
D305	DIODE;RGP15J(T)	2169-206-177	
D306	DIODE;RGP10G(T)	2169-206-107	
D307	DIODE;RGP10G(T)	2169-206-107	
D308	DIODE;RGP15J(T)	2169-206-177	
D309	DIODE-ZENER;RD12EB2	2169-403-800	
D316	DIODE;RGP15J(T)	2169-206-177	
D350	DIODE;1N4148(T)	2169-301-417	
D401	DIODE;1N4148(T)	2169-301-417	
D402	DIODE;1N4002(T)	2169-201-067	
D502	DIODE;1N4148(T)	2169-301-417	
D602	DIODE;1N4148(T)	2169-301-417	
D702	DIODE;1N4148(T)	2169-301-417	
D503	DIODE;1N4148(T)	2169-301-417	
D603	DIODE;1N4148(T)	2169-301-417	
D703	DIODE;1N4148(T)	2169-301-417	
D504	DIODE;1N4148(T)	2169-301-417	
D604	DIODE;1N4148(T)	2169-301-417	

REF NO	DESCRIPTION	PART NO	REMARK
D704	DIODE;1N4148(T)	2169-301-417	
D505	DIODE;1N4148(T)	2169-301-417	
D605	DIODE;1N4148(T)	2169-301-417	
D705	DIODE;1N4148(T)	2169-301-417	
D506	DIODE;BAW62	2169-201-200	
D606	DIODE;BAW62	2169-201-200	
D706	DIODE;BAW62	2169-201-200	
D510	DIODE;1N4148(T)	2169-301-417	
D610	DIODE;1N4148(T)	2169-301-417	
D710	DIODE;1N4148(T)	2169-301-417	
D511	DIODE;1N4148(T)	2169-301-417	
D611	DIODE;1N4148(T)	2169-301-417	
D711	DIODE;1N4148(T)	2169-301-417	
D801	DIODE;1N4148(T)	2169-301-417	
D802	DIODE;1N4148(T)	2169-301-417	
D803	DIODE;1N4148(T)	2169-301-417	
D804	DIODE-ZENER;BZX 79C 6V2	2169-401-630	
D805	DIODE;BAV21(T)	2169-201-137	
D806	DIODE;IN4007	2169-201-120	
D807	DIODE;IN4007	2169-201-120	
D808	DIODE-ZENER;BZX 79C 5V6	2169-401-600	
D809	DIODE-ZENER;UZ24BH	2169-404-710	
D850	DIODE;1N4148(T)	2169-301-417	
D901	DIODE;BY133	2169-306-430	
D902	DIODE;BY133	2169-306-430	
D903	DIODE;BY133	2169-306-430	
D904	DIODE;BY133	2169-306-430	
D905	DIODE;ES1F	2169-304-230	
D906	DIODE;EG01Y	2169-304-240	
D907	DIODE;ES1F	2169-304-230	
D908	DIODE;EU1Z	2169-304-260	
D921	DIODE;RG-2	2169-219-340	
D922	DIODE;RG-2	2169-219-340	
D923	DIODE;RGP30G	2169-206-190	

REF NO	DESCRIPTION	PART NO	REMARK
D924	DIODE;RGP20B	2169-206-840	
D925	DIODE;RG2A	2169-219-360	
	CAPACITOR		
C201	C-ELECTROLYTIC;CE04W(T) 25V 47uF	1608-904-470	
C202	C-ELECTROLYTIC;CE04W(T) 50V 0.47uF	1608-906-047	
C203	C-CERAMIC,HK;CK45(T) F50V 0.01uF-Z	1417-344-103	
C204	C-ELECTROLYTIC;CE04W(T) 50V 10uF	1608-906-100	
C205	C-CERAMIC,HK;CK45(T) F50V 100pF-K	1417-318-101	
C206	C-CERAMIC,HK;CK45(T) F50V 100pF-K	1417-318-101	
C301	C-M,POLYESTER;CF922M 100V 0.1uF-J	1517-323-104	
C302	C-ELECTROLYTIC;CE04W 50V 10uF(HR)	1603-906-100	
C303	C-CERAMIC,HK;CK45 E500V 1000pF-P	1419-206-540	
C304	C-M,POLYESTER;CF922M 250V 0.1uF-J	1517-383-104	
C305	C-CERAMIC,HK;CK45 B500V 4700pF-K	1416-468-472	
C306	C-ELECTROLYTIC;CE04W 35V 100uF	1609-402-100	
C307	C-ELECTROLYTIC;CE04W 35V 100uF	1609-402-100	
C308	C-M,POLYESTER;CF922M 250V 0.022uF-J	1517-383-223	
C309	C-M,POLYESTER;CF922M 250V 0.01uF-J	1517-383-103	
C310	C-ELECTROLYTIC;CE04W(T) 50V 4.7uF	1608-906-479	
C311	C-ELECTROLYTIC;CE04W(T) 50V 4.7uF	1608-906-479	
C312	C-P, POLYPROPYLENE;CQ922M 100V 0.0047uF-J	1503-523-472	
C315	C-POLYPROPYLENE;CQ922M 1.6KV 0.0095uF-J	1502-573-952	
C316	C-POLYPROPYLENE;CQ922M 630V 0.015uF-K	1509-339-460	
C317	C-M,POLYPROPYLENE;CF922M 400V 0.47uF-J	1518-543-474	
	C-M,POLYPROPYLENE;CF922M 250V 0.56uF-J	1518-383-564	CJ4684,CJ4685
C318	C-M,POLYPROPYLENE;CF922M 400V 0.39uF-J	1518-343-394	CJ4581,CJ4586
	C-M,POLYPROPYLENE;CF922M 250V 0.56uF-J	1518-383-564	CJ4584,CJ4585
C319	C-CERAMIC,HK;DE1210 BN 2K 1000pF-K	1416-868-102	
C320	C-CERAMIC,HK;CK45(T) F50V 0.1uF-Z	1417-344-104	
C333	C-ELECTROLYTIC;CE04W 50V 10uF(HR)	1603-906-100	
C334	C-ELECTROLYTIC;CE04W(T) 50V 4.7uF	1608-906-479	
C340	C-ELECTROLYTIC;CE04W 50V 1000uF(16X25)	1609-306-681	
C341	C-ELECTROLYTIC;CE04W 160V 100uF	1609-403-250	

REF NO	DESCRIPTION	PART NO	REMARK
C401	C-ELECTROLYTIC;CE04W 50V 10uF(HR)	1603-906-100	
C402	C-M,POLYESTER;CF922M 100V 0.47uF-J	1517-323-474	
C403	C-ELECTROLYTIC;CE04W 35V 1000uF	1609-402-140	
C404	C-M,POLYESTER;CF922M 100V 0.1uF-J	1517-323-104	
C405	C-ELECTROLYTIC;CE04W 25V 2200uF(16X25)	1609-304-222	
C408	C-ELECTROLYTIC;CE04W 35V 100uF	1609-402-100	
C409	C-ELECTROLYTIC;CE04W 50V 10uF(HR)	1603-906-100	
C411	C-M,POLYESTER;CF922M 100V 0.1uF-J	1517-323-104	
C412	C-M,POLYESTER;CF922M 100V 0.1uF-J	1517-323-104	
C413	C-ELECTROLYTIC;CE04W 35V 100uF	1609-402-100	
C414	C-ELECTROLYTIC;CE04W(T) 25V 22uF	1608-904-220	
C415	C-ELECTROLYTIC;CE04W(T) 50V 6.8uF	1608-906-689	
C420	C-ELECTROLYTIC;CE04W(T) 50V 2.2uF	1608-906-229	
C450	C-M,POLYESTER;CF922M 100V 0.1uF-J	1517-323-104	
C501	C-CERAMIC,HK;CK45(T) F50V 0.1uF-Z	1417-344-104	
C601	C-CERAMIC,HK;CK45(T) F50V 0.1uF-Z	1417-344-104	
C701	C-CERAMIC,HK;CK45(T) F50V 0.1uF-Z	1417-344-104	
C502	C-SEMI,CONDUCTIVE;CGF1E 224Z 10EFK	1429-201-224	
C602	C-SEMI,CONDUCTIVE;CGF1E 224Z 10EFK	1429-201-224	
C702	C-SEMI,CONDUCTIVE;CGF1E 224Z 10EFK	1429-201-224	
C503	C-ELECTROLYTIC;CE04W(T) 50V 47uF	1608-906-470	
C603	C-ELECTROLYTIC;CE04W(T) 50V 47uF	1608-906-470	
C703	C-ELECTROLYTIC;CE04W(T) 50V 47uF	1608-906-470	
C504	C-CERAMIC,HK;CK45(T) B50V 150pF-K	1417-318-151	
C604	C-CERAMIC,TEMP;CC45(T) CH50V 120pF-J	1407-057-121	
C704	C-CERAMIC,TEMP;CC45(T) CH50V 120pF-J	1407-057-121	
C505	C-ELECTROLYTIC;CE04W(T) 160V 1uF	1608-909-109	
C605	C-ELECTROLYTIC;CE04W(T) 160V 1uF	1608-909-109	
C705	C-ELECTROLYTIC;CE04W(T) 160V 1uF	1608-909-109	
C506	C-ELECTROLYTIC;CE04W(T) 160V 1uF	1608-909-109	
C606	C-ELECTROLYTIC;CE04W(T) 160V 1uF	1608-909-109	
C706	C-ELECTROLYTIC;CE04W(T) 160V 1uF	1608-909-109	
C507	C-ELECTROLYTIC;CE04W(T) 50V 10uF	1608-906-100	

REF NO	DESCRIPTION	PART NO	REMARK
C607	C-ELECTROLYTIC;CE04W(T) 50V 10uF	1608-906-100	
C707	C-ELECTROLYTIC;CE04W(T) 50V 10uF	1608-906-100	
C508	C-CERAMIC,TEMP;CC45(T) CH50V 33-J	1407-057-330	
C608	C-CERAMIC,TEMP;CC45(T) CH50V 33-J	1407-057-330	
C708	C-CERAMIC,TEMP;CC45(T) CH50V 33-J	1407-057-330	
C801	C-ELECTROLYTIC;CE04W 160V 10uF	1609-403-210	
C803	C-ELECTROLYTIC;CE04W 25V 100uF	1609-401-680	
C805	C-ELECTROLYTIC;CE04W 250V 10uF	1609-403-490	
C806	C-ELECTROLYTIC;CE04W(T) 35V 10uF	1608-905-100	
C807	C-ELECTROLYTIC;CE04W(T) 16V 47uF	1608-903-470	
C808	C-M,POLYESTER;CF922M 100V 0.1uF-J	1517-323-104	
C809	C-CERAMIC,HK;CK45 B500V 0.01uF-K	1419-106-250	
C810	C-CERAMIC,HK;CK45 B1KV 0.01uF-K	1419-901-100	
C811	C-ELECTROLYTIC;CE04W(T) 35V 47uF	1608-905-470	
C812	C-ELECTROLYTIC;CE04W(T) 35V 47uF	1608-905-470	
C901 !	C-M,PAPER;PHE 800MF 7100K 1.0uF	1536-728-105	
C901 !	C-M,POLYESTER,AC;ECQ U2A105MT(250V)	1566-513-105	CJ4581FID
C902 !	C-CERAMIC,HK;DE7150F472 VA-1-KC	1416-649-472	
C903 !	C-CERAMIC,HK;DE7150F472 VA-1-KC	1416-649-472	
C904 !	C-M,PAPER;PME271M 647 (0.47uF)	1535-828-474	
C905	C-CERAMIC,AC;CKS45 B250V 2200pF-Z	1461-169-806	
C906	C-CERAMIC,AC;CKS45 B250V 2200pF-Z	1461-169-806	
C907	C-CERAMIC,AC;CKS45 B250V 2200pF-Z	1461-169-806	
C908	C-ELECTROLYTIC;CE04W 400V 220uF(30X40)HS	1603-512-221	
C909	C-CERAMIC,HK;CK45 B500V 4700pF-K	1416-468-472	
C910	C-M,POLYESTER;CF922M 250V 0.47uF-J	1517-383-473	
C913	C-M,POLYESTER;CF922M 250V 0.068uF-K	1517-384-683	
C915	C-ELECTROLYTIC;CE04W 100V 10uF(105'C) RA/KM	1607-908-100	
C916	C-CERAMIC,HK;DE7150F 472M VA-1-KC	1416-649-472	
C917	C-CERAMIC,HK;DE7150F 472M VA-1-KC	1416-649-472	
C921	C-ELECTROLYTIC;CE04W 35V 1000uF	1609-402-140	
C922	C-ELECTROLYTIC;CE04W 35V 1000uF	1609-402-140	

REF NO	DESCRIPTION	PART NO	REMARK
C923	C-ELECTROLYTIC;CE04W 160V 100uF	1609-403-250	
C924	C-ELECTROLYTIC;CE04W 16V 2200uF	1609-401-530	
C925	C-ELECTROLYTIC;CE04W 100V 68uF(10X20)	1603-908-680	
C926	C-ELECTROLYTIC;CE04W 35V 47uF	1608-905-470	
C928	C-CERAMIC,HK;CK45(T) B500V 330pF-K	1417-468-331	
C930	C-ELECTROLYTIC;CE04W 160V 220uF	1603-909-221	
	INTEGRATED CIRCUIT		
IC201	IC;KS74HCTLS86N	2109-104-700	
IC301	IC-LINEAR;TDA2593(TOM)	2119-101-170	
IC401	IC-CMOS;MC14052(MOTOROLA)	2109-301-520	
IC402	IC-LINEAR;TDA2653A	2119-101-300	
IC501	IC;CA3046	2119-101-020	
IC601	IC;CA3046	2119-101-020	
IC701	IC;CA3046	2119-101-020	
IC901	IC;STR54041	2119-601-660	
IC902	IC-REGULATOR;MC7812C,SST	2119-601-700	
	TRANSISTOR		
Q301	TRANSISTOR;KSC1008-Y(T)	2149-301-437	
Q302 !	TRANSISTOR;2SC3686(SANYO)	2159-301-080	
	TRANSISTOR;2SC3685(SANYO)	2159-301-070	
	TRANSISTOR;2SC4436(SANYO)	2159-301-260	
Q401	TRANSISTOR;KSC1008-Y(T)	2149-301-437	
Q402	TRANSISTOR;KSA709-Y(T)	2139-101-027	
Q450	TRANSISTOR;KSA709-Y(T)	2139-101-027	
Q501	TRANSISTOR;2SC1789A	2139-305-530	
Q601	TRANSISTOR;2SC1789A	2139-305-530	
Q701	TRANSISTOR;2SC1789A	2139-305-530	
Q502	TRANSISTOR;2SC1789A	2139-305-530	
Q602	TRANSISTOR;2SC1789A	2139-305-530	
Q702	TRANSISTOR;2SC1789A	2139-305-530	
Q503	TRANSISTOR;2SA1123R	2139-101-150	

REF NO	DESCRIPTION	PART NO	REMARK
Q603	TRANSISTOR;2SA1123R	2139-101-150	
Q703	TRANSISTOR;2SA1123R	2139-101-150	
Q504	TRANSISTOR;2SC2258	2149-303-580	
Q604	TRANSISTOR;2SC2258	2149-303-580	
Q704	TRANSISTOR;2SC2258	2149-303-580	
Q505	TRANSISTOR;2SC2631R	2139-301-480	
Q605	TRANSISTOR;2SC2631R	2139-301-480	
Q705	TRANSISTOR;2SC2631R	2139-301-480	
Q506	TRANSISTOR;2SA1123R	2139-101-150	
Q606	TRANSISTOR;2SA1123R	2139-101-150	
Q706	TRANSISTOR;2SA1123R	2139-101-150	
Q801	TRANSISTOR;2SA1127T	2139-101-160	
Q802	TRANSISTOR;2SA1127T	2139-101-160	
Q803	TRANSISTOR;2SA1127T	2139-101-160	
Q804	TRANSISTOR;2SC1685S	2139-305-480	
Q901	TRANSISTOR;KSC1008-Y(T)	2149-301-437	
	VARIABLE RESISTOR		
VR301	VR-SEMI;CET 117A B50K	1241-110-005	
VR302	VR-SEMI;CET 117A B50K	1241-110-005	
VR303	VR-WIRE,WOUND;3W 68ohm	1296-101-001	
VR401	VR-SEMI;CET 92A B1K	1241-108-011	
VR402	VR-SEMI;CET 92A B1K	1241-108-011	
VR403	VR-SEMI;CET 92A B1K	1241-108-011	
VR404	VR-SEMI;CET 117A B10K	1241-110-008	
VR405	VR-SEMI;CET 117A B50K	1241-110-005	
VR406	VR-SEMI;CET 117A B1K	1241-110-002	
VR407	VR-SEMI;CET 117A B1K	1241-110-002	
VR501	VR-SEMI;CET 117A B500	1241-110-001	
VR601	VR-SEMI;CET 117A B500	1241-110-001	
VR701	VR-SEMI;CET 117A B500	1241-110-001	
VR502	VR-SEMI;CET 117A B10K	1241-110-008	
VR602	VR-SEMI;CET 117A B10K	1241-110-008	
VR702	VR-SEMI;CET 117A B10K	1241-110-008	

REF NO	DESCRIPTION	PART NO	REMARK
VR801	VR-ROUND;18SN 15FB 5K	1201-103-103	
VR802	VR-ROUND;18SN F15 B5K(TAP)	1201-103-105	
VR901	VR-SEMI;CET 117A B500	1241-110-001	
	TRANS & COIL		
T302 !	FLYBACK TRANS;FCO14A003	2859-130-210	
T303 !	TRANS-HOR,DRIVE;EE20X17m/m	2849-032-110	
	TRANS-HOR,DRIVE;EE20X17m/m	2849-032-810	
T304	TRANS-SIDE PINCUSHION;EI28X20m/m	2779-110-910	
	TRANS-SIDE PINCUSHION;EI28X20m/m	2779-111-310	
T901 !	TRANS-POWER;P:220V,S:135V,87V	2869-302-910	
L301	COIL-CHOKE;90uH	2429-053-010	
L302	COIL-HORIZ,LINEARITY;12-60uH	2449-729-010	
	COIL-HORIZ,LINEARITY;12-60uH	2449-735-310	
L303	COIL-WIDTH;6X20X2.6mm	2449-433-810	
	COIL-WIDTH;6X20X2.6mm	2449-434-910	
L304	COIL-FILTER;50uH-K 500MA	2429-230-010	
L305	COIL-CHOKE;11X24.5(250uH)	2429-061-410	
L410	COIL-CHOKE;11X24.5(250uH)	2429-061-410	
L501	COIL-FILTER;5.6uH-K	2429-240-010	
L601	COIL-FILTER;5.6uH-K	2429-240-010	
L701	COIL-FILTER;5.6uH-K	2429-240-010	
L801	COIL-BEAD;2.3uH	2429-253-810	
L802	COIL-BEAD;2.3uH	2429-253-810	
L803	COIL-BEAD;2.3uH	2429-253-810	
L901	COIL-LINE FILTER;6mH(11X16mm)	2429-061-110	
L903	COIL-DEGAUSSING;21 OHM, 11mH, 1050mm	2479-015-310	
L921	COIL-CHOKE;15uH	2429-055-010	
	OTHERS		
B401	COIL-CHOKE;1.5uH +/-20%	2429-048-010	
B402	COIL-CHOKE;1.5uH +/-20%	2429-048-010	
B501	COIL-CHOKE;1.5uH +/-20%	2429-048-010	
B502	COIL-CHOKE;1.5uH +/-20%	2429-048-010	

REF NO	DESCRIPTION	PART NO	REMARK
B601	COIL-CHOKE;1.5uH +/-20%	2429-048-010	
B602	COIL-CHOKE;1.5uH +/-20%	2429-048-010	
B701	COIL-CHOKE;1.5uH +/-20%	2429-048-010	
B801	COIL-CHOKE;1.5uH +/-20%	2429-048-010	
B802	COIL-CHOKE;1.5uH +/-20%	2429-048-010	
B803	COIL-CHOKE;1.5uH +/-20%	2429-048-010	
B804	COIL-CHOKE;1.5uH +/-20%	2429-048-010	
B805	COIL-CHOKE;1.5uH +/-20%	2429-048-010	
B806	COIL-CHOKE;1.5uH +/-20%	2429-048-010	
B901	COIL-CHOKE;1.5uH +/-20%	2429-048-010	
F901 !	FUSE;50T 250V 2.5A 20mm-C(SEMCO)	4709-084-950	
FLC501	FILTER LC;ZJSR5101-220	4529-448-110	
FLC601	FILTER LC;ZJSR5101-220	4529-448-110	
FLC701	FILTER LC;ZJSR5101-220	4529-448-110	
PTC-1	POSISTOR;PTH451C02BG200N270	2199-003-120	
	SOCKET-CRT;S008744(HIGH FOCUS)	3354-706-500	
	SWITCH,PUSH;ESB8213V	3529-702-210	
	CRT + DY;M34JCA 30X15	2019-231-320	CJ4581
	CRT + DY;E2940B22	2019-237-010	CJ4584
	CRT + DY;M34JBK 00X15	2019-233-910	CJ4585
	CRT + DY;37GGA67X-TC04	2019-236-910	CJ4586
	POWER CORD,ASS'Y;CJ-4581	3051-800-610	
	POWER CORD,ASS'Y;CJ-4581SA	3051-800-810	
	POWER CORD,ASS'Y;CJ-4581ARB	3051-800-520	
	POWER CORD,ASS'Y;CJ-4581AU	3052-800-520	
	POWER CORD,ASS'Y;CJ-4581U	3051-800-910	
	SIGNAL CABLE,ASS'Y;CJ-4581	3051-401-310	
CON201	CONNECTOR-2P ASS'Y;JST(SM-02)	3053-608-510	
CON202	CONNECTOR-PIN BASE;B5B-XH-A(JST)	3344-153-040	
CON401	CONNECTOR-WAFER;5267-05A(MOLEX)	3344-156-150	
	CONNECTOR-5P ASS'Y;CJ-4681	3054-649-610	
CON402	CONNECTOR-WAFER;5267-10A(MOLEX)	3344-156-100	
	CONNECTOR-10P ASS'Y;CJ-4581	3054-649-420	

REF NO	DESCRIPTION	PART NO	REMARK
CON500	CONNECTOR-PIN BASE;B4P-LV-TN	3344-155-940	
CON701	CONNECTOR-PIN BASE;B6B-XH-A(JST)	3344-152-240	
CON702	CONNECTOR-WAFER;5267-08A(MOLEX)	3344-156-180	
CON703	CONNECTOR-PIN BASE;B6B-XH-A(JST)	3344-152-240	
	CONNECTOR-6P ASS'Y;CJ-4581	3054-649-520	
CON901	CONNECTOR-WAFER;B2P3-VH	3344-131-022	
CON902	CONNECTOR-WAFER;B2P3-VH	3344-131-022	
	CONNECTOR-1P ASS'Y;PWR,SYNCHRONIZING	3054-649-710	
	CONNECTOR-1P ASS'Y;150mm	3054-644-830	
	CONNECTOR-AC,GROUND;CJ-4681	3053-607-320	
	CONNECTOR-PWR S/W ASSY;CD-1453M1	3054-616-120	2EA
	GND-WIRE,ASS'Y;BLK,L-100mm	3054-223-020	
	GND-WIRE,ASS'Y;BLK,L-150mm 1015 #18(T)	3054-302-210	
	GND-ASS'Y;MZ4575G 150mm	3054-223-140	
ASSY			
	ASSY-MAIN;CJ4581G	0C903-000-2850	CJ4581G
	ASSY-MAIN;CJ4581U	0C903-000-3270	CJ4581U
	ASSY-MAIN;CJ4581ARB	0C903-000-4140	CJ4581ARB
	ASSY-MAIN;CJ4581SA	0C903-000-3000	CJ4581SA
	ASSY-MAIN;CJ4581AU	0C903-000-3150	CJ4581AU
	ASSY-MAIN;CJ4581FID	0C903-000-3980	CJ4581FID
	ASSY-MAIN,PCB;CJ4581G	0C904-000-3860	CJ4581G
	ASSY-MAIN,PCB;CJ4581SA	0C904-000-4160	CJ4581SA
	ASSY-MAIN,PCB;CJ4581FID	0C904-000-5010	CJ4581FID
	ASSY-MAIN,PCB;CJ4584	0C904-000-4970	CJ4584
	ASSY-TERMINAL,PCB;CJ4581	0C904-000-3830	
	ASSY-CONTROL;CJ4581	0C904-000-3820	
	ASSY-VIDEO;CJ4581	0C904-000-3790	
	ASSY-HEATSINK,TR;CJ4581	0C905-000-3590	2SC2258
	ASSY-HEATSINK,V.IC;CJ4581	0C906-000-1550	TDA2653A
	ASSY-HEATSINK,POWER;CJ4581	0C906-000-1700	STR54041
	ASSY-HEATSINK,IC;MC7812CT	0C906-000-0300	MC7812C
	ASSY-HEATSINK,2SC3686;CJ4581	0C905-000-4010	2SC3686

SCHEMATIC DIAGRAM

MODEL NO: CJ458*

CHASSIS NO: T.S.C

WARNING : BEFORE SERVICING THIS CHASSIS, READ X-RAY RADIATION PRECAUTION, "SAFETY PRECAUTION," PRODUCT SAFETY NOTICE."

CAUTION

1. THE SHADED AREAS AND ⚠ MARKS IN THE SCHEMATIC DIAGRAM AND THE PARTS LIST DESIGNATE COMPONENTS WHICH HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY AND SHOULD BE REPLACED ONLY WITH TYPES IDENTICAL TO THOSE IN THE ORIGINAL CIRCUIT OR SPECIFIED IN THE PARTS LIST. BEFORE REPLACING ANY OF THESE COMPONENTS, READ CAREFULLY THE "PRODUCT SAFETY NOTICE".
2. DURING A NUMEROUS MEASUREMENT OF THIS MONITOR MATTERS THAT DEMAND SPECIAL ATTENTION IS FOLLOWING
   1) DO NOT USE YOUR INSTRUMENT BETWEEN PRIMARY GROUND (SYMBOL ⏚) AND SECONDARY CIRCUIT.
   2) DO NOT USE YOUR INSTRUMENT BETWEEN SECONDARY GROUND (SYMBOL ⏚) AND PRIMARY CIRCUIT
3. THE SHADED AREAS IS A PRIMARY SECTION (HOT PART)

AVERTISSMENT

CE RECEPTEUR EST EQUIPE DE COMPOSANTS CRITIQUES POUR LA SECURITE TOUTESLES PIECES INDIQUEES DANS LES ZONES OMBREES OU SCHEMA SONT CRITIQUE POUR LA SECURITE POUR MAINTENIR LE DEGRE DE SECURITE DE LAPPAREIL NE REMPLACER LE FABRICANT DONT LE FONCTIONNEMENT EST CRITIIE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT CONSULTER LA NOMENCLATURE DES PIECES POUR TROUVER LES PIECES DE RECHANGE EXACTES"

WARNING

"THIS EQUIPMENT CONTAINS SAFETY CRITICAL COMPONENTS ALL PARTS SHOWN IN THE SHAEDE AREAS OF THE SCHEMATIC ARE SAFETY REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURERS' RECOMMENDED PARTS LIST FOR EXACT REPLACEMENTS."

NOTE

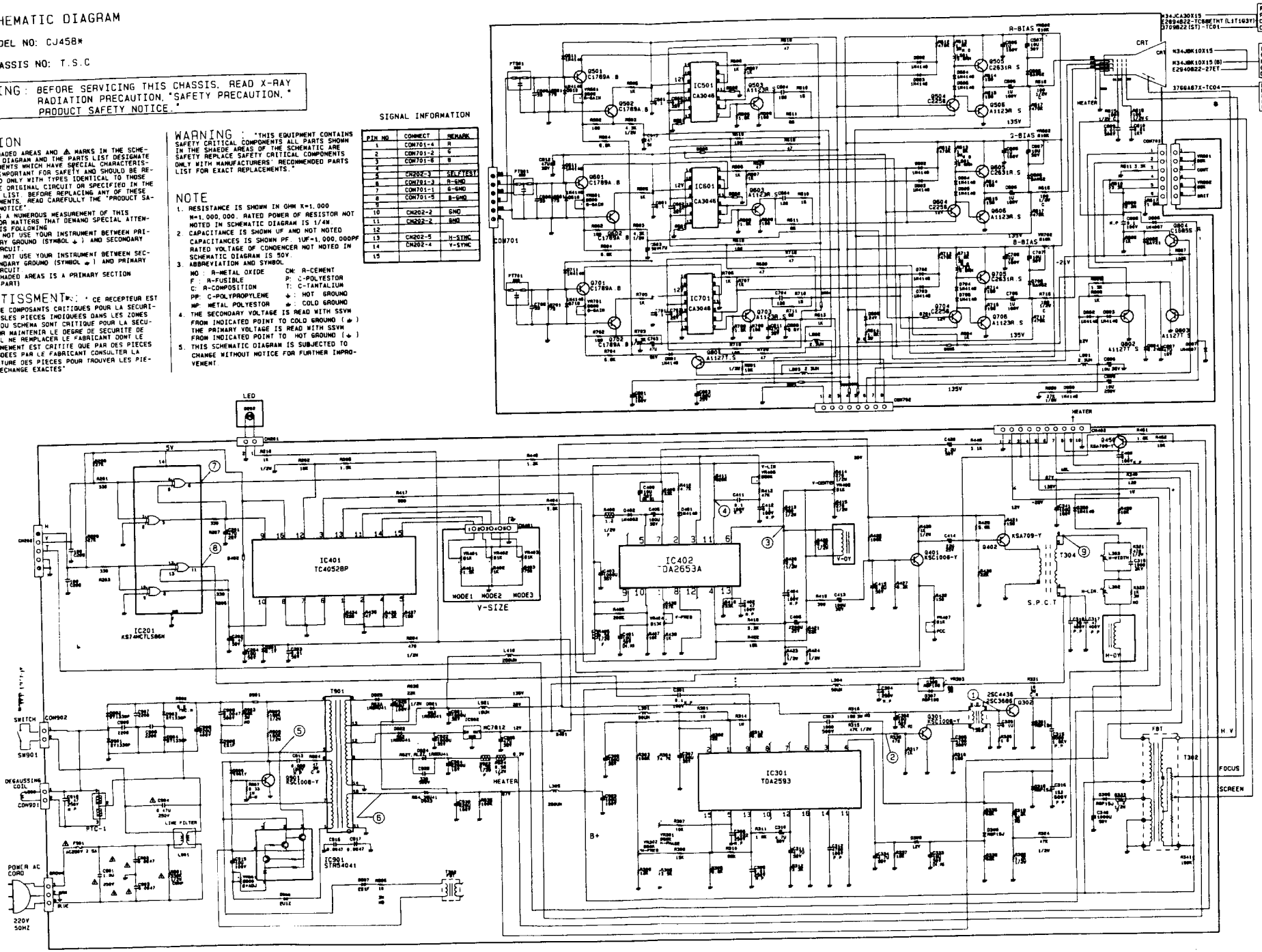
1. RESISTANCE IS SHOWN IN OHM K=1,000 M=1,000,000. RATED POWER OF RESISTOR NOT NOTED IN SCHEMATIC DIAGRAM IS 1/4W.
2. CAPACITANCE IS SHOWN UF AND NOT NOTED CAPACITANCES IS SHOWN PF. 1UF=1,000,000PF RATED VOLTAGE OF CONDENCER NOT NOTED IN SCHEMATIC DIAGRAM IS 50V.
3. ABBREVIATION AND SYMBOL

MO : A-METAL OXIDE	CM: A-CEMENT
F : A-FUSIBLE	P: C-POLYESTOR
C: A-COMPOSITION	T: C-TANTALIUM
PP: C-POLYPROPYLENE	⏚: HOT GROUND
MP: METAL POLYESTOR	⏚: COLD GROUND

4. THE SECONDARY VOLTAGE IS READ WITH SSVM FROM INDICATED POINT TO COLD GROUND (⏚) THE PRIMARY VOLTAGE IS READ WITH SSVM FROM INDICATED POINT TO HOT GROUND (⏚)
5. THIS SCHEMATIC DIAGRAM IS SUBJECTED TO CHANGE WITHOUT NOTICE FOR FURTHER IMPROVEMENT

SIGNAL INFORMATION

PIN NO	CONNECT	REMARK
1	CON701-4	R
2	CON701-2	G
3	CON701-6	B
4		
5	CN202-3	SELFTEST
6	CON701-3	R-GND
7	CON701-1	G-GND
8	CON701-5	B-GND
9		
10	CN202-2	GND
11	CN202-2	GND
12		
13	CN202-5	H-SYNC
14	CN202-4	V-SYNC
15		



SCHEMATIC DIAGRAM

MODEL NO: CJ458*

CHASSIS NO: T.S.C

WARNING: BEFORE SERVICING THIS CHASSIS, READ X-RAY RADIATION PRECAUTION, "SAFETY PRECAUTION," PRODUCT SAFETY NOTICE."

CAUTION

- THE SHADED AREAS AND ⚠ MARKS IN THE SCHEMATIC DIAGRAM AND THE PARTS LIST DESIGNATE COMPONENTS WHICH HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY AND SHOULD BE REPLACED ONLY WITH TYPES IDENTICAL TO THOSE IN THE ORIGINAL CIRCUIT OR SPECIFIED IN THE PARTS LIST. BEFORE REPLACING ANY OF THESE COMPONENTS, READ CAREFULLY THE "PRODUCT SAFETY NOTICE".
- DURING A NUMEROUS MEASUREMENT OF THIS MONITOR MATTERS THAT DEMAND SPECIAL ATTENTION IS FOLLOWING
  1) DO NOT USE YOUR INSTRUMENT BETWEEN PRIMARY GROUND (SYMBOL ⏚) AND SECONDARY CIRCUIT.
  2) DO NOT USE YOUR INSTRUMENT BETWEEN SECONDARY GROUND (SYMBOL ⏚) AND PRIMARY CIRCUIT.
- THE SHADED AREAS IS A PRIMARY SECTION (HOT PART)

AVERTISSMENT:

" CE RECEPTEUR EST EQUIPE DE COMPOSANTS CRITIQUES POUR LA SECURITE TOUTESLES PIECES INDIQUEES DANS LES ZONES OMBREES DU SCHEMA SONT CRITIQUE POUR LA SECURITE POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LE FABRICANT DONT LE FONCTIONNEMENT EST CRITITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT CONSULTER LA NOMENCLATURE DES PIECES POUR TROUVER LES PIECES DE RECHANGE EXACTES".

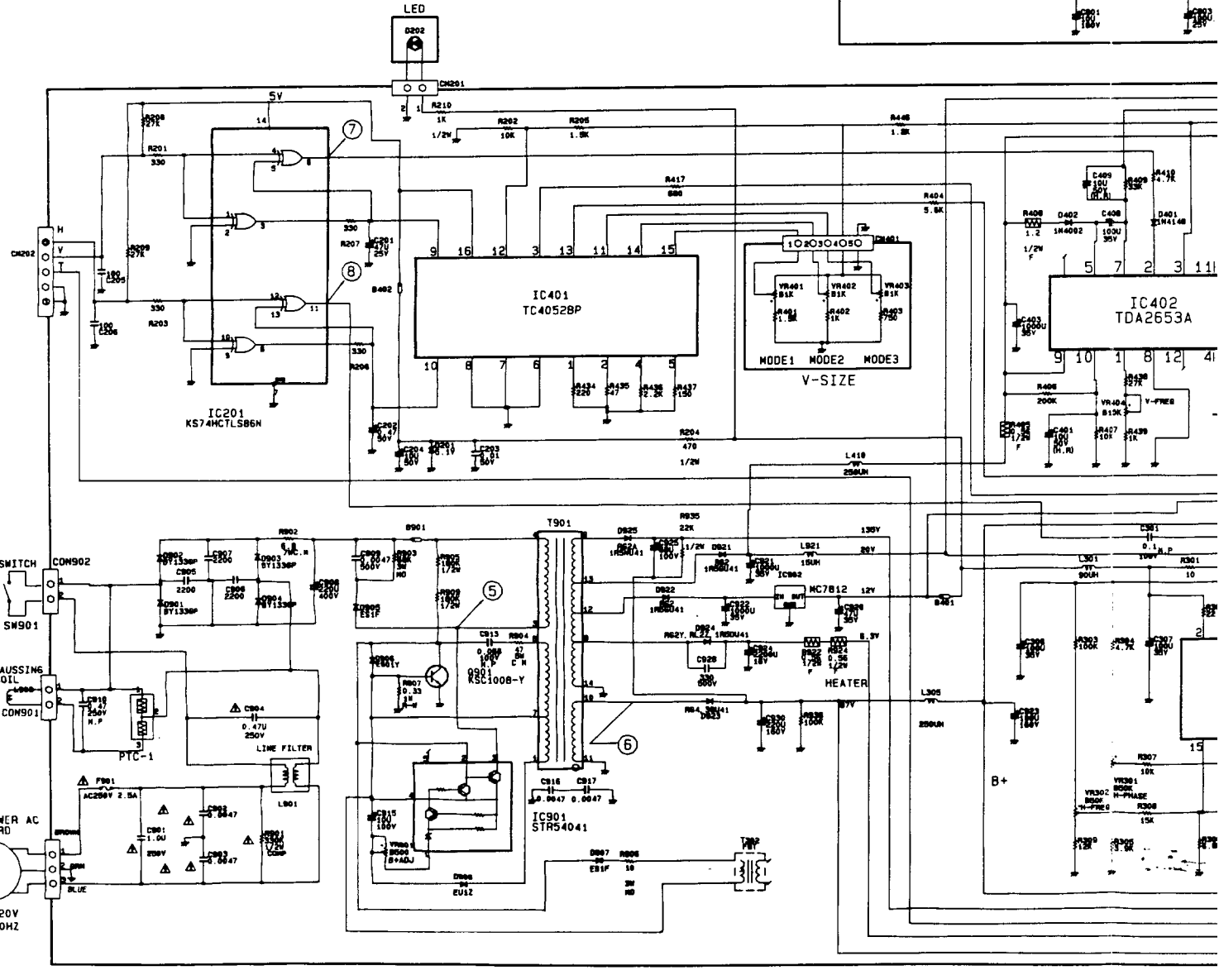
WARNING : "THIS EQUIPMENT CONTAINS SAFETY CRITICAL COMPONENTS ALL PARTS SHOWN IN THE SHAEDE AREAS OF THE SCHEMATIC ARE SAFETY REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURERS' RECOMMENDED PARTS LIST FOR EXACT REPLACEMENTS."

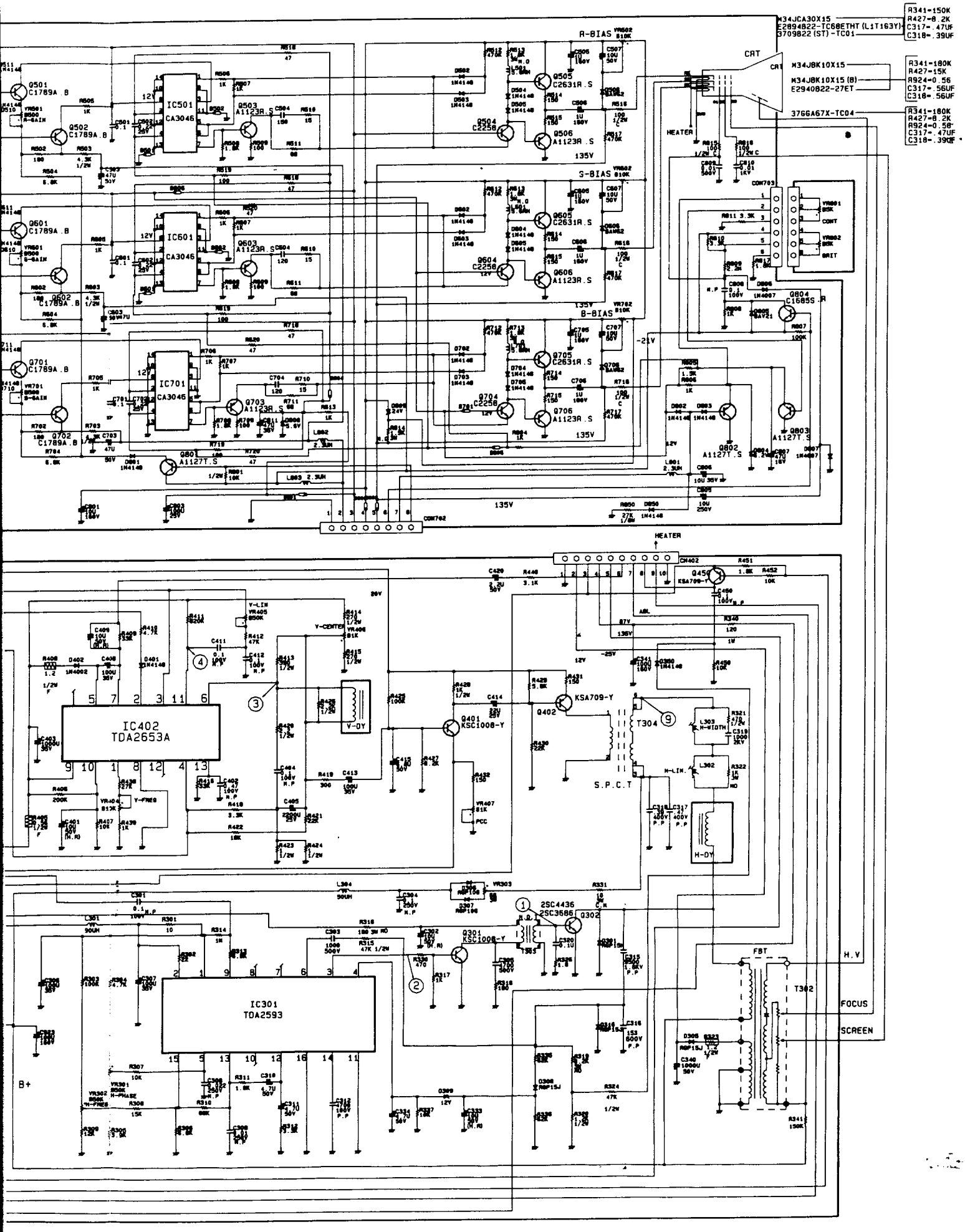
NOTE

1. RESISTANCE IS SHOWN IN OHM K=1,000 M=1,000,000. RATED POWER OF RESISTOR NOT NOTED IN SCHEMATIC DIAGRAM IS 1/4W.
2. CAPACITANCE IS SHOWN UF AND NOT NOTED CAPACITANCES IS SHOWN PF. 1UF=1,000,000PF RATED VOLTAGE OF CONDENCER NOT NOTED IN SCHEMATIC DIAGRAM IS 50V.
3. ABBREVIATION AND SYMBOL
   MD : R-METAL OXIDE — CM: R-CEMENT
   F : R-FUSIBLE — P: C-POLYESTOR
   C: R-COMPOSITION — T: C-TANTALIUM
   PP: C-POLYPROPYLENE — ⏚ : HOT GROUND
   MP: METAL POLYESTOR — ⏚ : COLD GROUND
4. THE SECONDARY VOLTAGE IS READ WITH SSVM FROM INDICATED POINT TO COLD GROUND (⏚) THE PRIMARY VOLTAGE IS READ WITH SSVM FROM INDICATED POINT TO HOT GROUND (⏚)
5. THIS SCHEMATIC DIAGRAM IS SUBJECTED TO CHANGE WITHOUT NOTICE FOR FURTHER IMPROVEMENT.

SIGNAL INFORMATION

PIN NO	CONNECT	REMARK
1	CON701-4	R
2	CON701-2	G
3	CON701-6	B
4		
5	CN202-3	SELFTEST
6	CON701-3	R-GND
7	CON701-1	G-GND
8	CON701-5	B-GND
9		
10	CN202-2	GND
11	CN202-2	GND
12		
13	CN202-5	H-SYNC
14	CN202-4	V-SYNC
15		

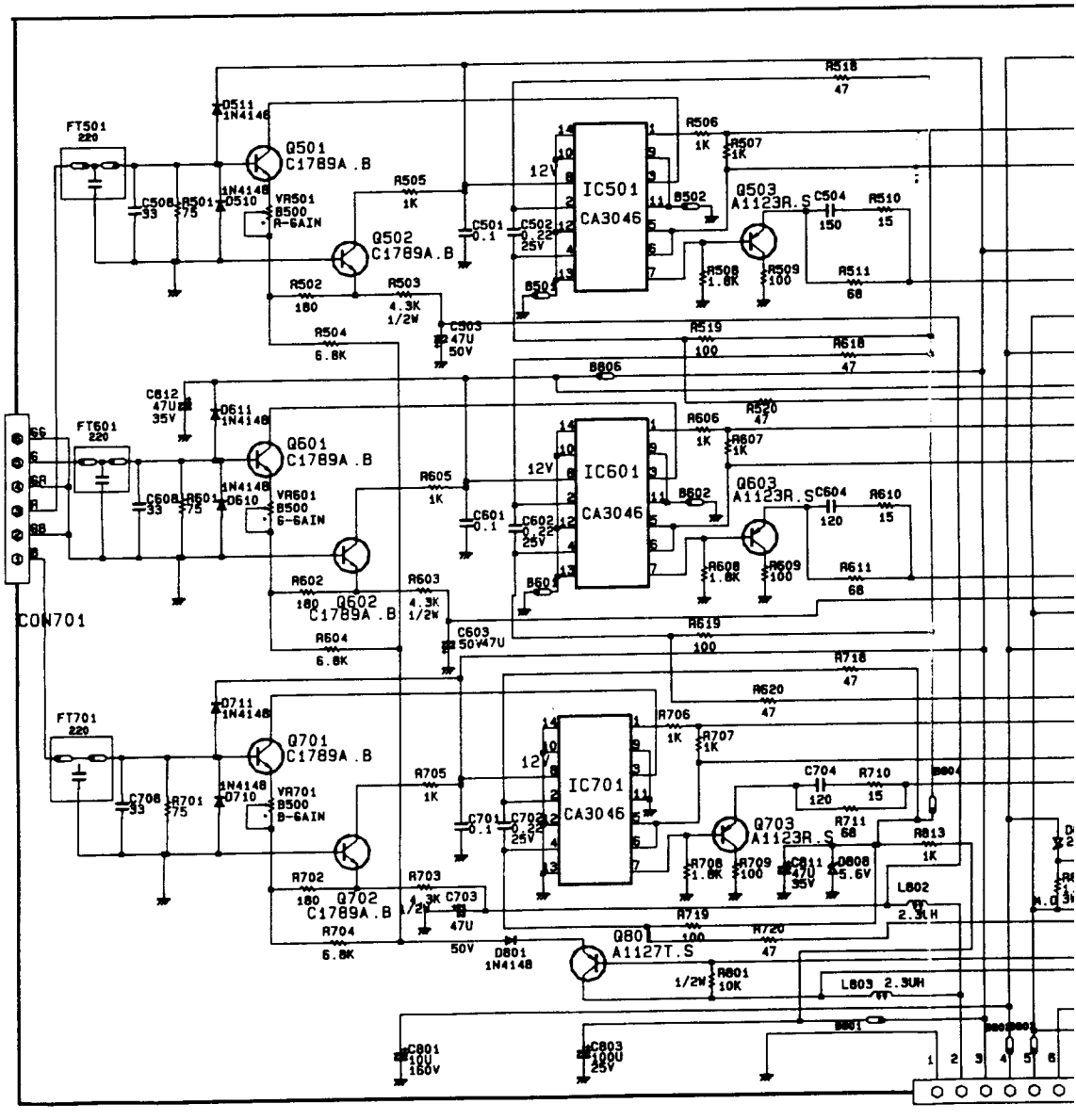



R-BIAS
G-BIAS
B-BIAS
CRT
HEATER
IC501
CA3046
IC601
CA3046
IC701
CA3046
IC402
TDA2653A
IC301
TDA2593
S.P.C.T
FBT
H.V
FOCUS
SCREEN
B+
135V
-25V

VIDEO CIRCUIT DIAGRAM

SIGNAL INFORMATION

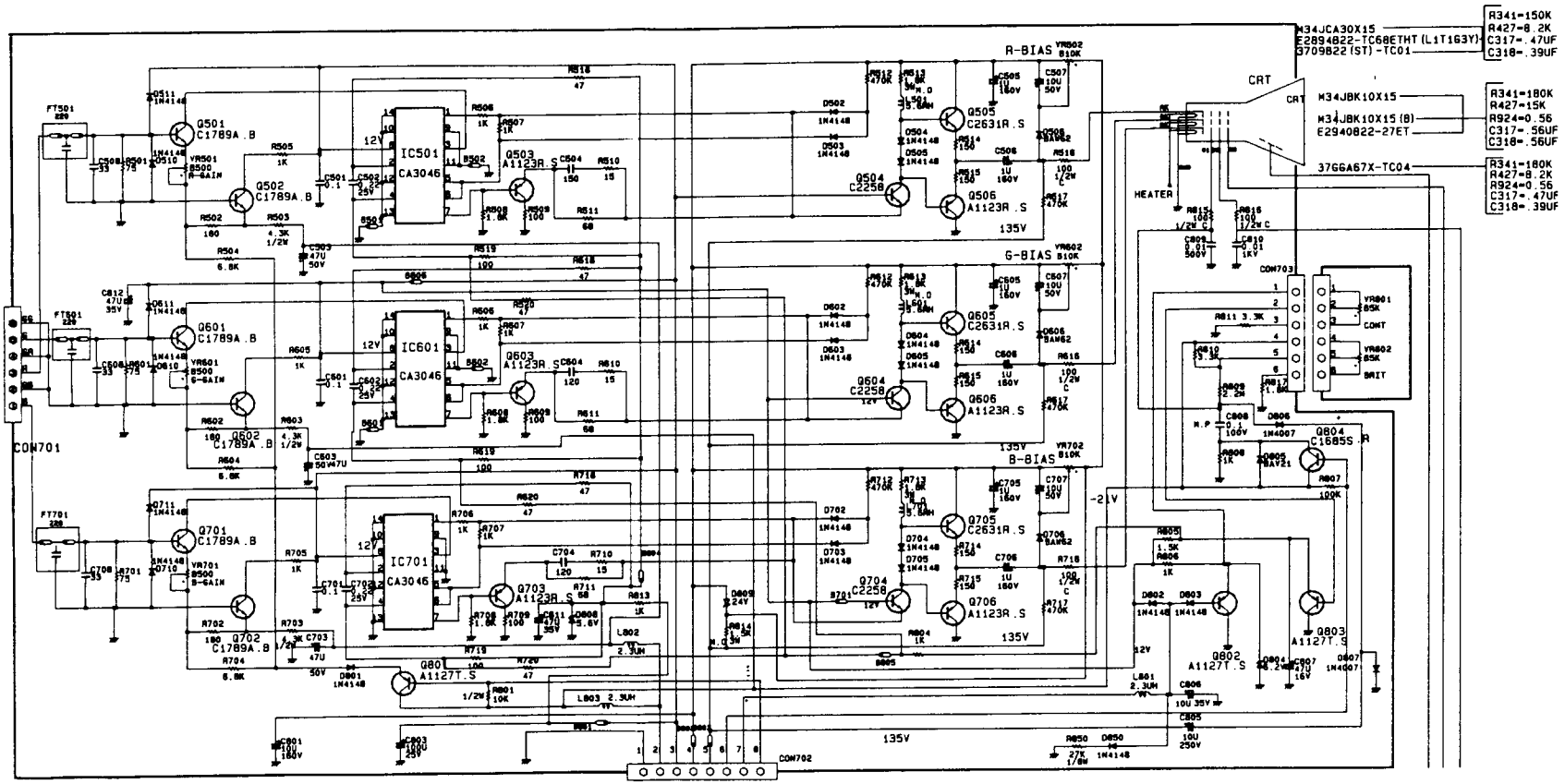
PIN NO	CONNECT	REMARK
1	CON701-4	R
2	CON701-2	G
3	CON701-6	B
4		
5	CN202-3	SELFTEST
6	CON701-3	R-GND
7	CON701-1	G-GND
8	CON701-5	B-GND
9		
10	CN202-2	GND
11	CN202-2	GND
12		
13	CN202-5	H-SYNC
14	CN202-4	V-SYNC
15		

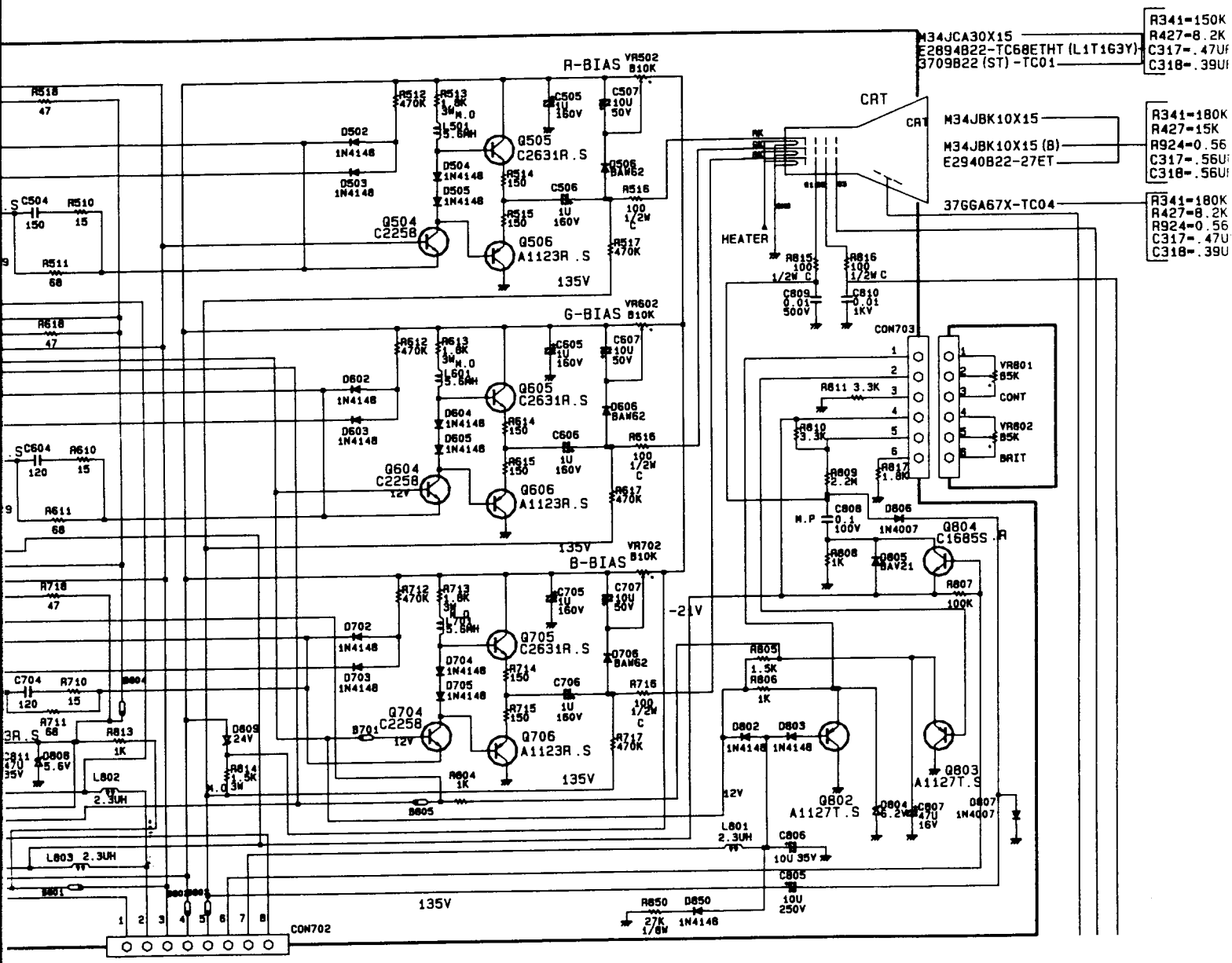


VIDEO CIRCUIT DIAGRAM

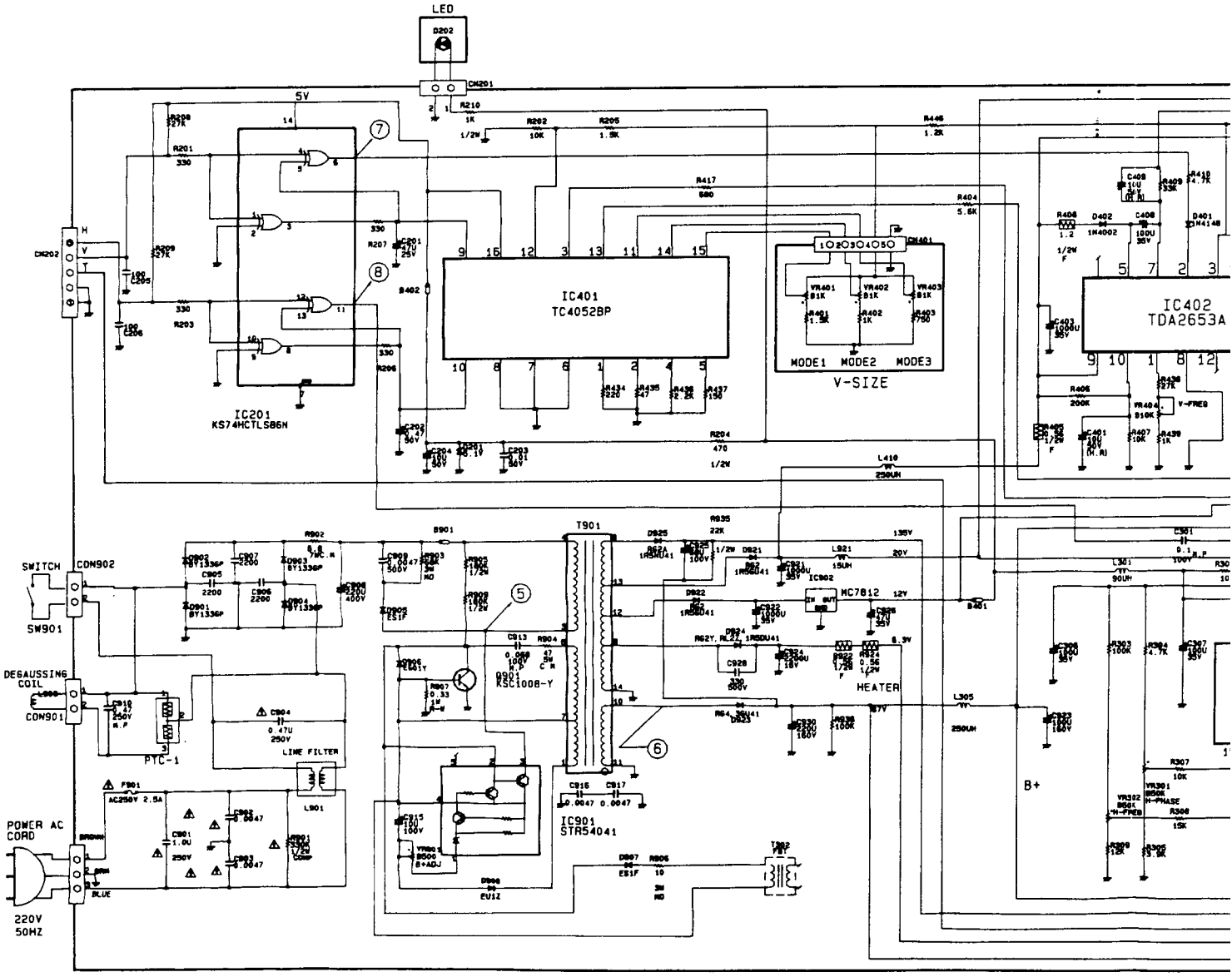
SIGNAL INFORMATION

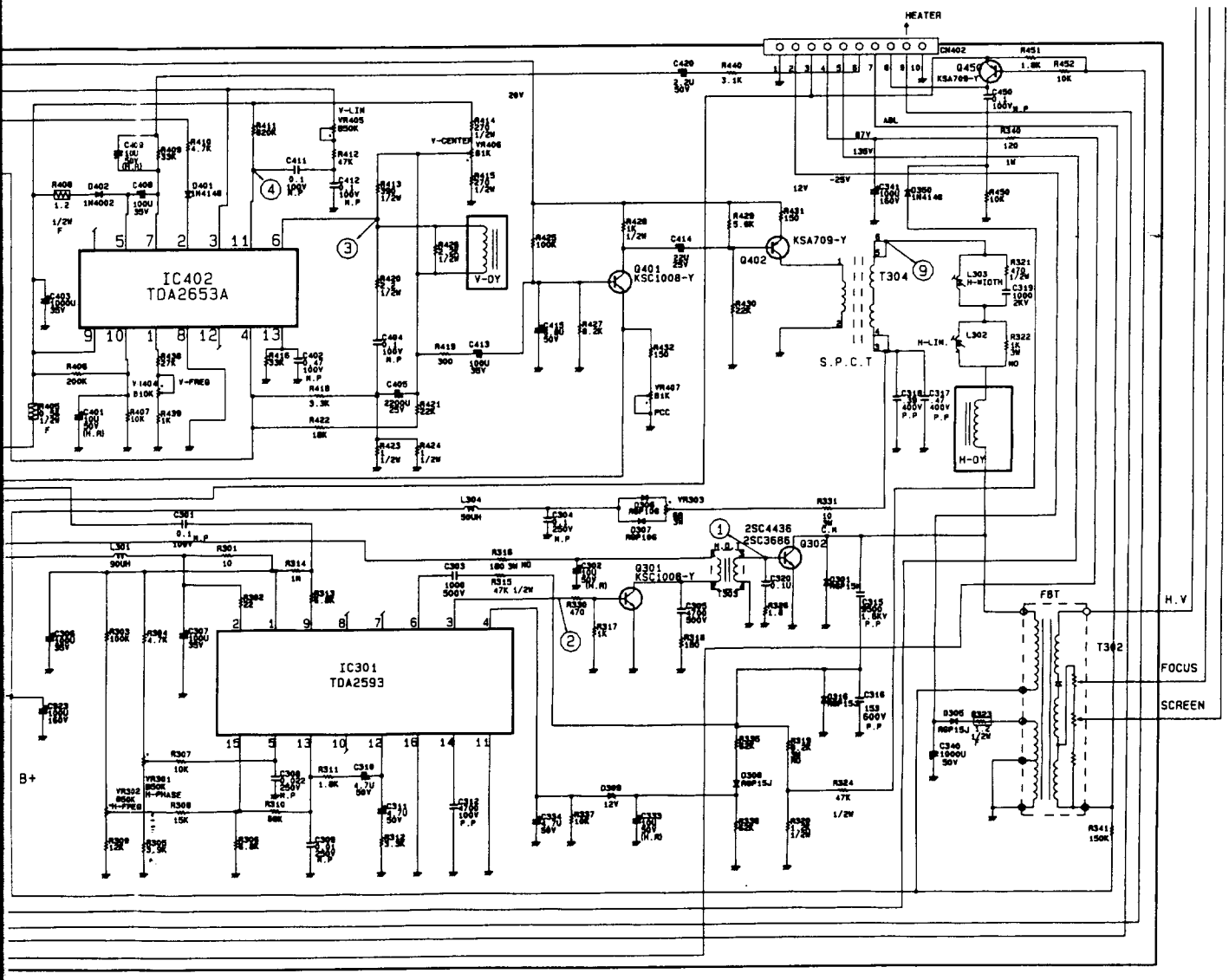
PIN NO	CONNECT	REMARK
1	CON701-4	R
2	CON701-2	G
3	CON701-6	B
4		
5	CN202-3	SELFTEST
6	CON701-3	R-GND
7	CON701-1	G-GND
8	CON701-5	B-GND
9		
10	CN202-2	GND
11	CN202-2	GND
12		
13	CN202-5	H-SYNC
14	CN202-4	V-SYNC
15		



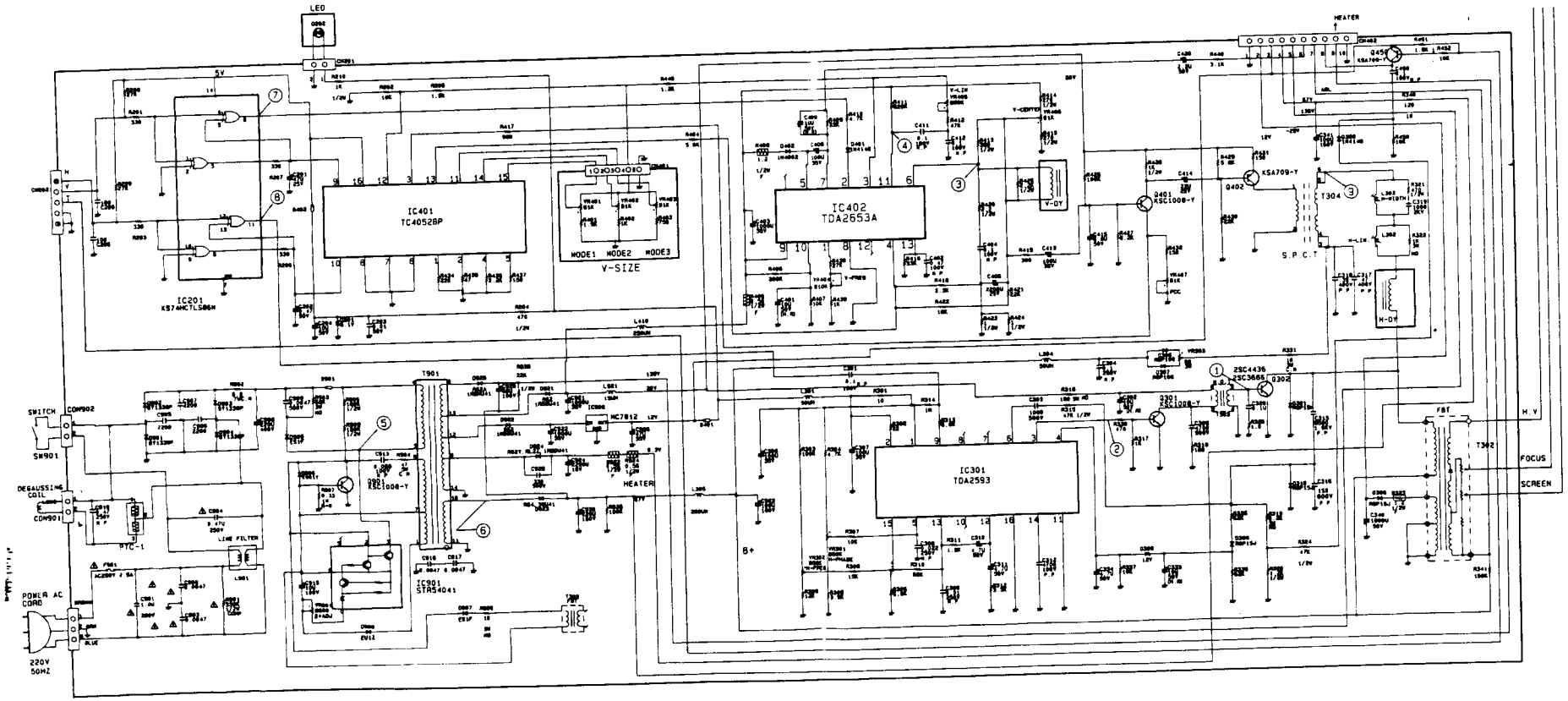

R-BIAS
G-BIAS
B-BIAS
CRT
HEATER
CON703
CON702
Q505 C2631R.S
Q506 A1123R.S
Q504 C2258
Q605 C2631R.S
Q606 A1123R.S
Q604 C2258
Q705 C2631R.S
Q706 A1123R.S
Q704 C2258
Q802 A1127T.S
Q803 A1127T.S
Q804 C1685S.R
135V
-21V
12V
M34JCA30X15
E2894B22-TC68ETHT (L1T163Y)
3709B22 (ST) -TC01
M34JBK10X15
M34JBK10X15 (B)
E2940B22-27ET
37GGA67X-TC04
R341=150K
R427=8.2K
C317=.47U
C318=.39U
R341=180K
R427=15K
R924=0.56
C317=.56U
C318=.56U
R341=180K
R427=8.2K
R924=0.56
C317=.47U
C318=.39U

MAIN CIRCUIT DIAGRAM

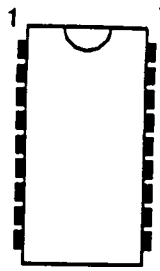
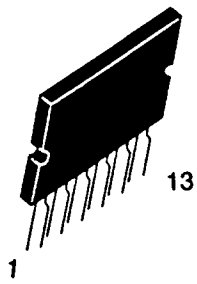
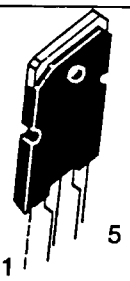
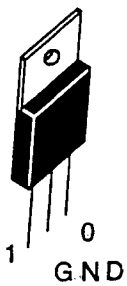
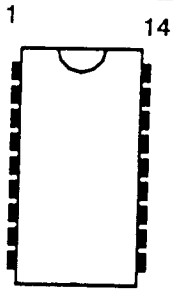



HEATER
IC402
TDA2653A
IC301
TDA2593
Q401
KSC1008-Y
Q402
KSA709-Y
Q450
KSA709-Y
Q301
KSC1008-Y
Q302
2SC4436
2SC3688
T304
S.P.C.T
T305
T302
FBT
H-OY
V-OY
H.V
FOCUS
SCREEN
B+

MAIN CIRCUIT DIAGRAM



SEMICONDUCTOR LEAD IDENTIFICATION

PARTS	TYPE NO.	REF NO.	PARTS	TYPE NO.	REF NO.
	KSC1008-Y KSA709-Y	Q301 401 402 450 901		TDA2593 MC14052BCP	IC301 IC401
	2SC1789A 2SA1123R 2SC2631R 2SA1127T 2SC1685S	Q501 601 701 502 602 702 503 603 703 505 605 705 506 606 706 801 802 803 804		TDA2653A	IC402
	2SC3686	Q302		STR53041	IC901
	2SC2258	Q504 604 704		MC7812C	IC902
	KS74HCTLS86N CA3046	IC201 501 601 701			