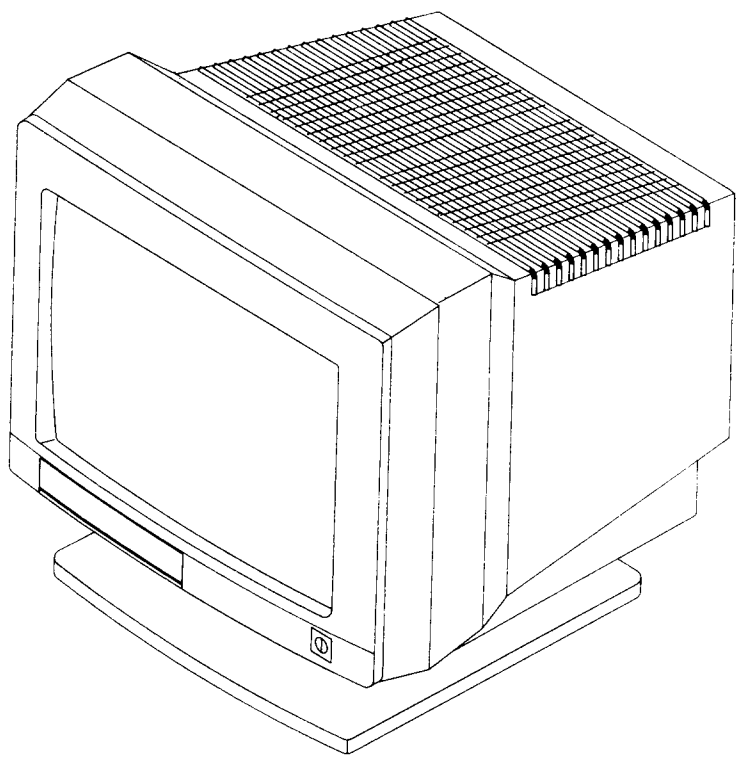
SERVICE MANUAL

CM-325

COLOR VIDEO MONITOR

674



M613

AOC

6–3 ADJUSTMENT PROCEDURE;

A. B+ Adjustment

1. +B 100V: Adjustment VR640, so that voltage at the cathode of D645 is 100VDC.

2. +B H.V.: Adjust VR670, so that CRT anode high voltage will be 24KV.

3. +B 16V: Adjust VR551, so that TP551 will be 16VDC.

4. Adjust VR552, so that TP552 will be 12.5VDC.

B. Main adjustments

1. Raster center
   Adjust VR407 so that the raster is at center of screen, Revese the Housing P503, and plug it again, then readjust, if the above two methods is in vain then pull up the housing P503 the raster would be at the center of screen.

2. Hor. hold
   Input signal: MODE 2, cross-hatch pattern TP501 short to ground adjust VR502 until the moving bars are vertical and not slanting to left or right, then disconnect TP501 from ground.

3. Side Pincushion
   Using signal MODE 2, cross-hatch pattern adjust VR404, VR406 so that the pincushion distortion is optimum.

4. Hor. width
   Using signal MODE 2, cross-hatch pattern, adjust L505 so that HORIZONTAL WIDTH is 240mm.

5. Hor. position
   Using signal MODE 4, cross-hatch pattern, rotate external H-CENTER CONTROL counterclockwise to minimum, adjust VR501 so that there is a not fold-over picture on the right hand of screen.

6. Fail-safe adjustment
   Adjust VR2002 so that the voltage of TP2002B is 7.5VDC, adjust VR2003 so that the voltage of TP2003B is 7.5VDC.

7. Ver. linearity
   Using signal MODE 2, cross-hatch pattern adjust VR401, VR402 so that the vertical linearity is optimum.

8. Ver. size (DO NOT CHANGE THE PROCEDURE)
   (1) Using signal MODE 2, cross-hatch pattern, preset SW. set to "OFF position, EXT. CONTROL, V-SIZE turn to maximum, adjust VR403 so that picture height is 180mm.

   (2) Using signal MODE 3, cross-hatch pattern, preset SW. set to "ON" position, adjust VR201 so that picture height is 180mm.

   (3) Using signal MODE 4, cross-hatch pattern, preset SW. set to "ON position, adjust VR204, so that picture height is 180mm.

(4) Using signal MODE 2, cross-hatch pattern, preset SW. set to "ON" position, adjust VR202, so that picture height is 180mm.

(5) Using signal MODE 1, cross-hatch pattern, preset SW. set to "ON position, adjust VR203, so that picture height is 180mm.

9. Interlace adjustment
Preset SW. set to "ON" position. Receiving signal MODE 4, using "E" pattern or picture that have same "E" character, adjust VR205 so that the center horizontal line of "E" character is locate at the center position of display.

10. White balance adjustment

A. Video adjustment

(a). Receiving color bar pattern, Brightness turn to minimum, contrast turn to maximum.

(b). Adjust VR901, 902, 903, so that the amplitude at cathode RK, GK, BK is 50Vp-p.

(c). Contrast turn to minimum, adjust VR905 so that GK is 10Vp-p.

B. Blanking pulse adjustment
Receiving color bar pattern, adjust VR904 so that the blanking pulse of GK is 12Vp-p.

C. White balance

(a). BRIGHTNESS Max., CONTRAST Max. Adjust VR802 so that the black level is 100VDC.

(b). Cut off video signal, adjust the other two VR VR801, VR803, until a faint neutral raster is produced.

(c). Receiving all white pattern, CONTRAST Max. adjust BRIGHTNESS so that luminance is about 20FL (foot-lambert).

(d). Using color analyzer adjust VR901, VR902 for a white video corresponding to a color temperature 9300.

(e). BRIGHTNESS unchange, adjust CONTRAST to 4FL luminance.

(f). Adjust VR801, 803, for the same color temperature.

(g). A few reiteration may be required to set the temperature the same at 4FL and 20FL luminance level.

(h). Turn grid no. 2 control for raster to just appear (1FL).

12. Focus adjustment
Turn the contrast control to maximum and set the brightness control to a suitable position, adjust the focus control to the optimum position.

11. Purity adjustment

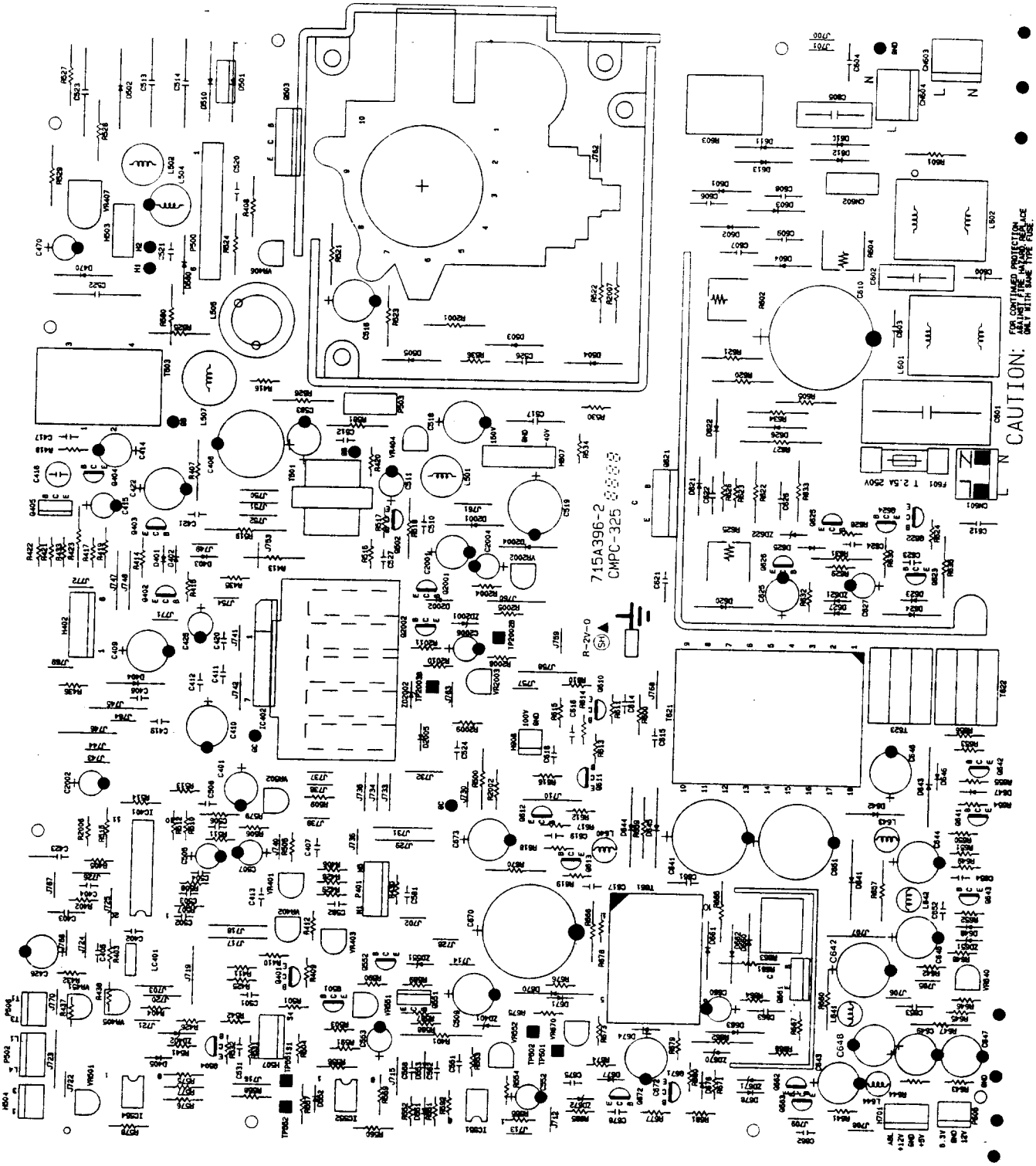
(a). Be sure that the display is not being exposed to any external magnetic fields.

(b). Ensure that the spacing between the Purity, Convergence Magnet, (PCM), assembly and the CRT stem is 29mm ± 1mm. (See below diagram).

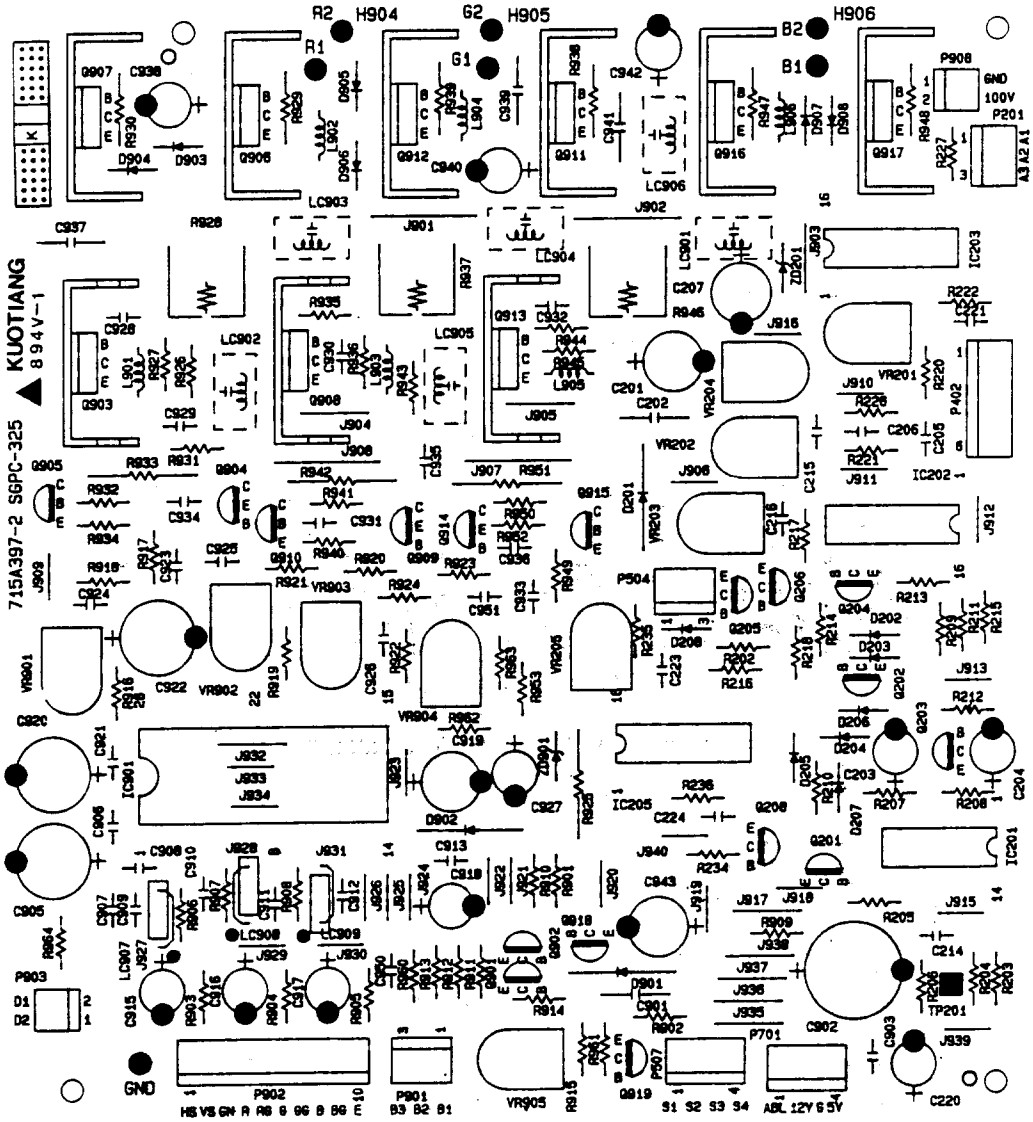
(c). Produce a complete, red pattern in the display. Adjust the Purity magnet rings on the PCM assembly to obtain a complete field of the color red. This is done by moving the to tabs in such a manner that they advance in an opposite direction but at the same time to obtain the same angle between the two tabs, which should be approximately 180.

(d). Check the complete blue and complete green patterns to observe their respective color purity. Make minor adjustments if needed.

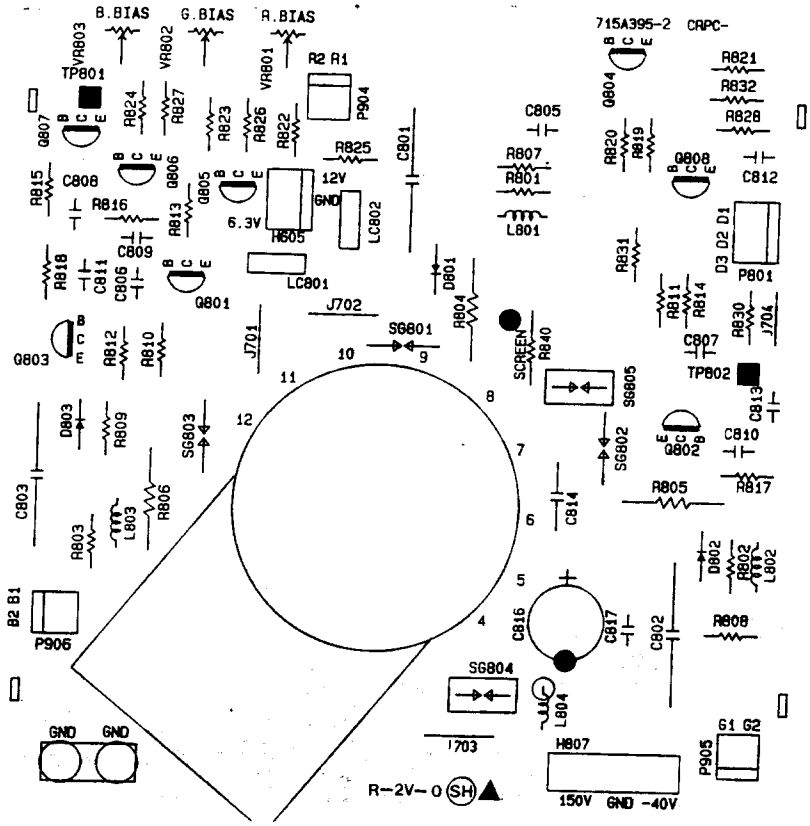
7 PCB LAYOUT



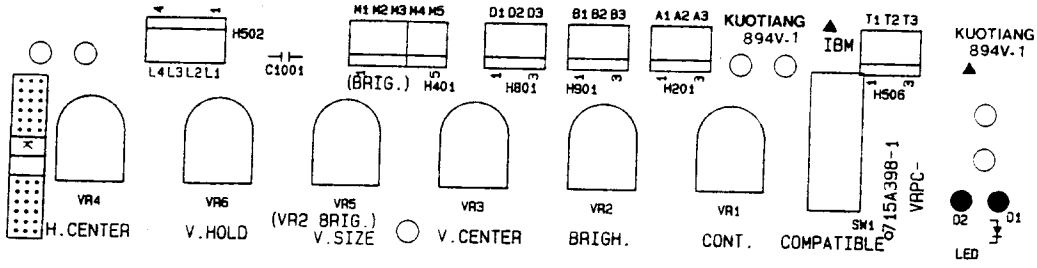
7–1 MAIN PCB LAYOUT



7–2 SIGNAL BOARD LAYOUT

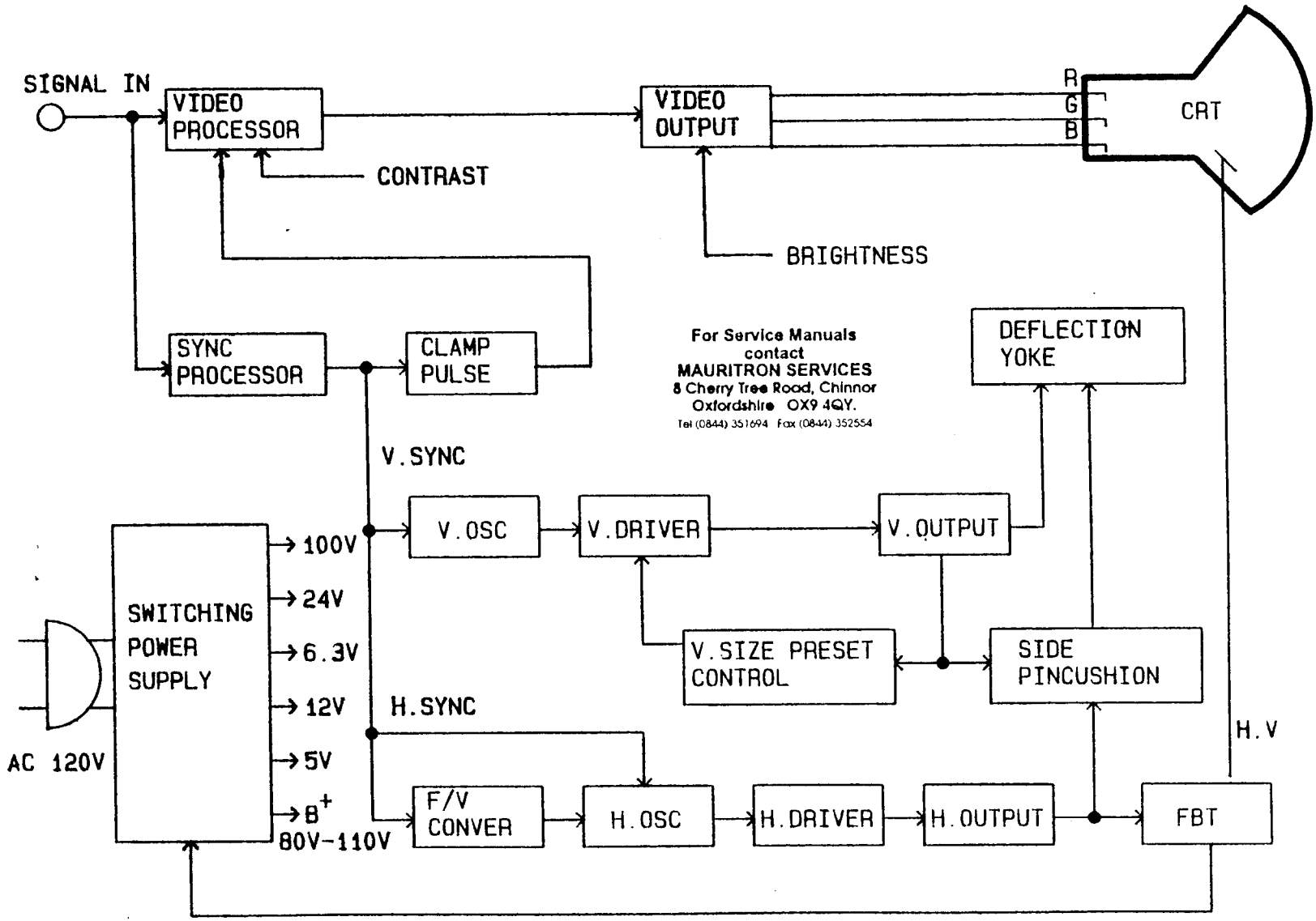


7-3 C.R.T. BOARD LOYOUT
(CRPC-)

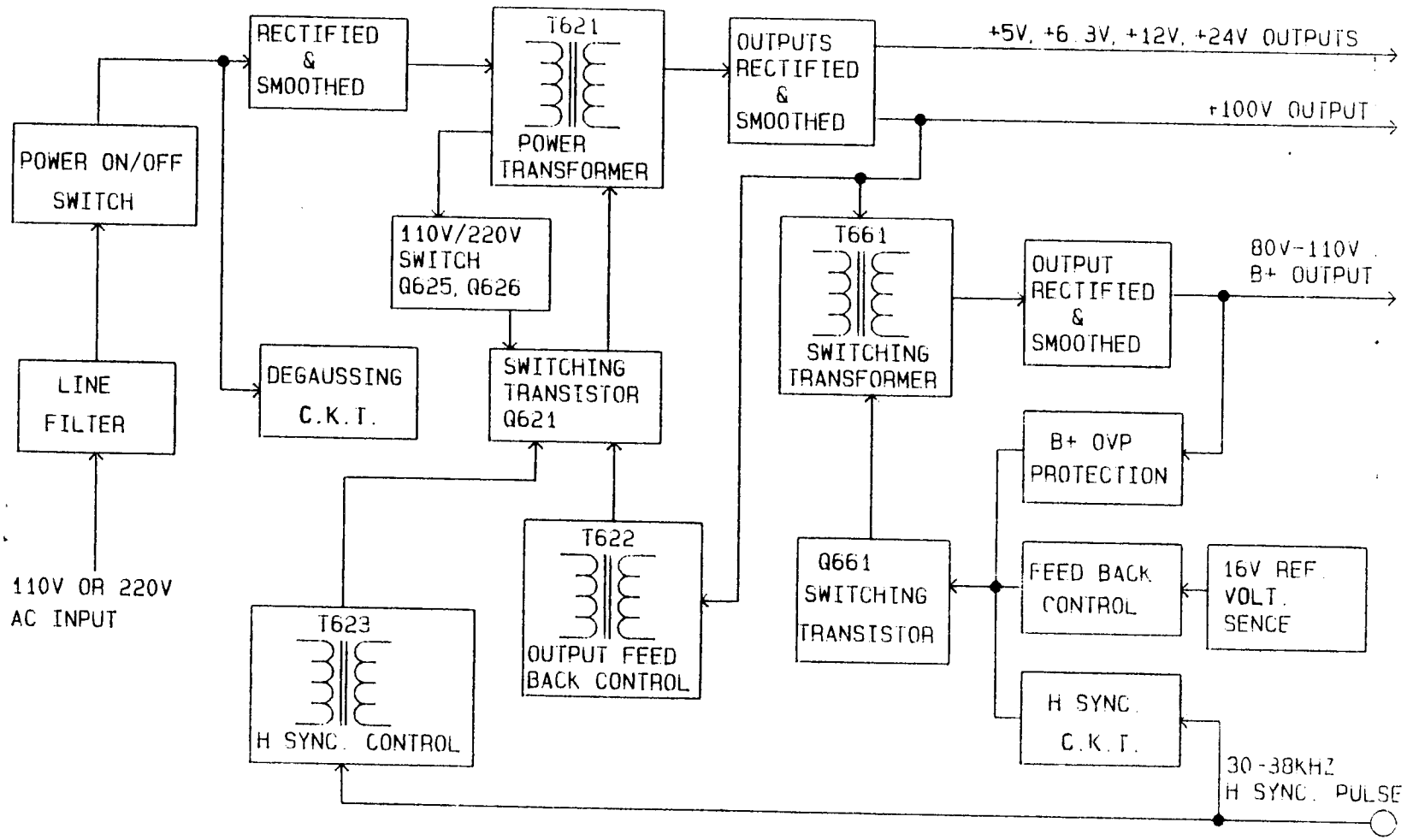


7-4 VR BOARD LOYOUT
(VRPC-)

CM-325 BLOCK DIAGRAM



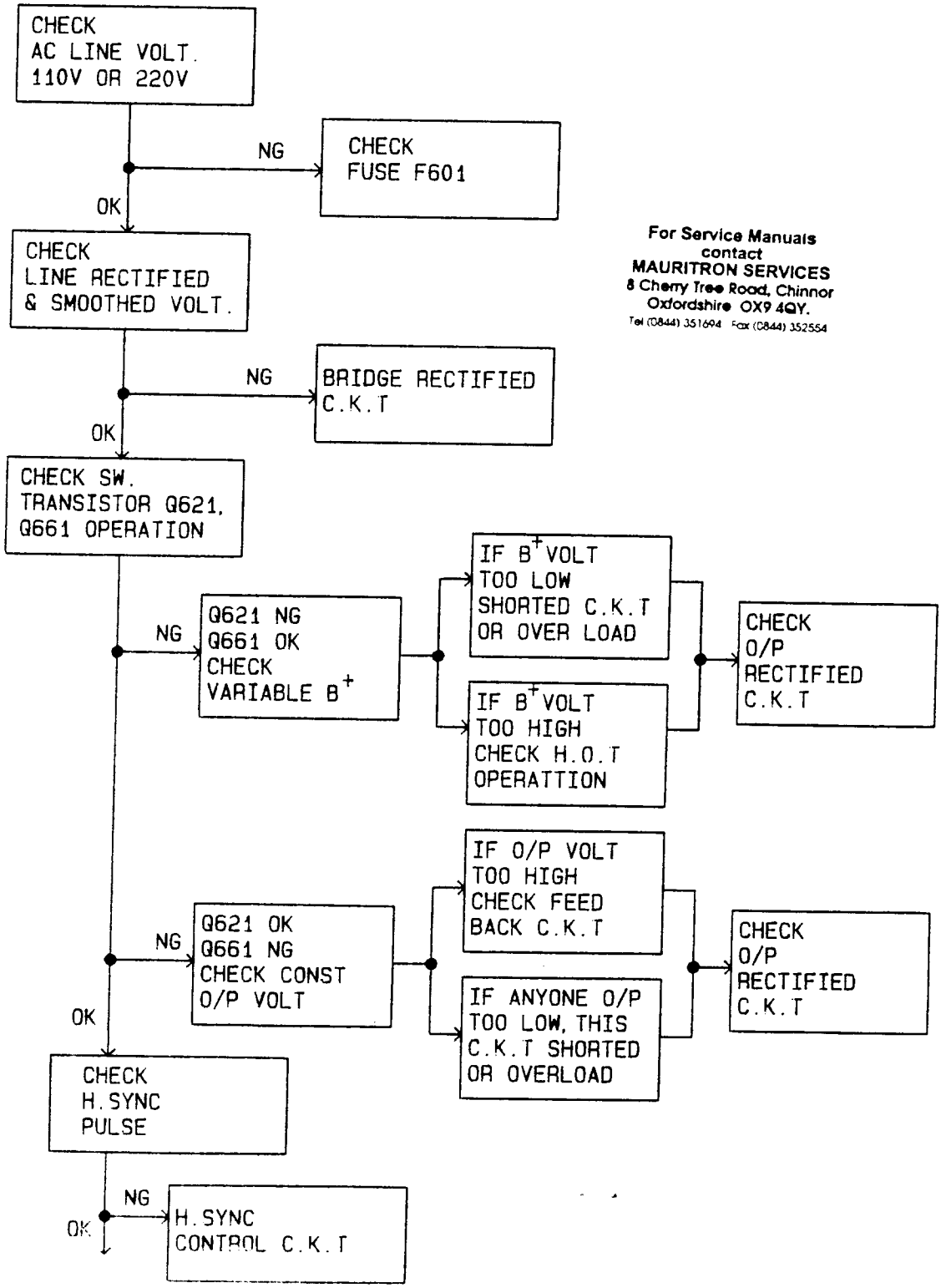
8-1 CM-325 SMPS BLOCK DIAGRAM



9. TROUBLE SHOOTING CHART

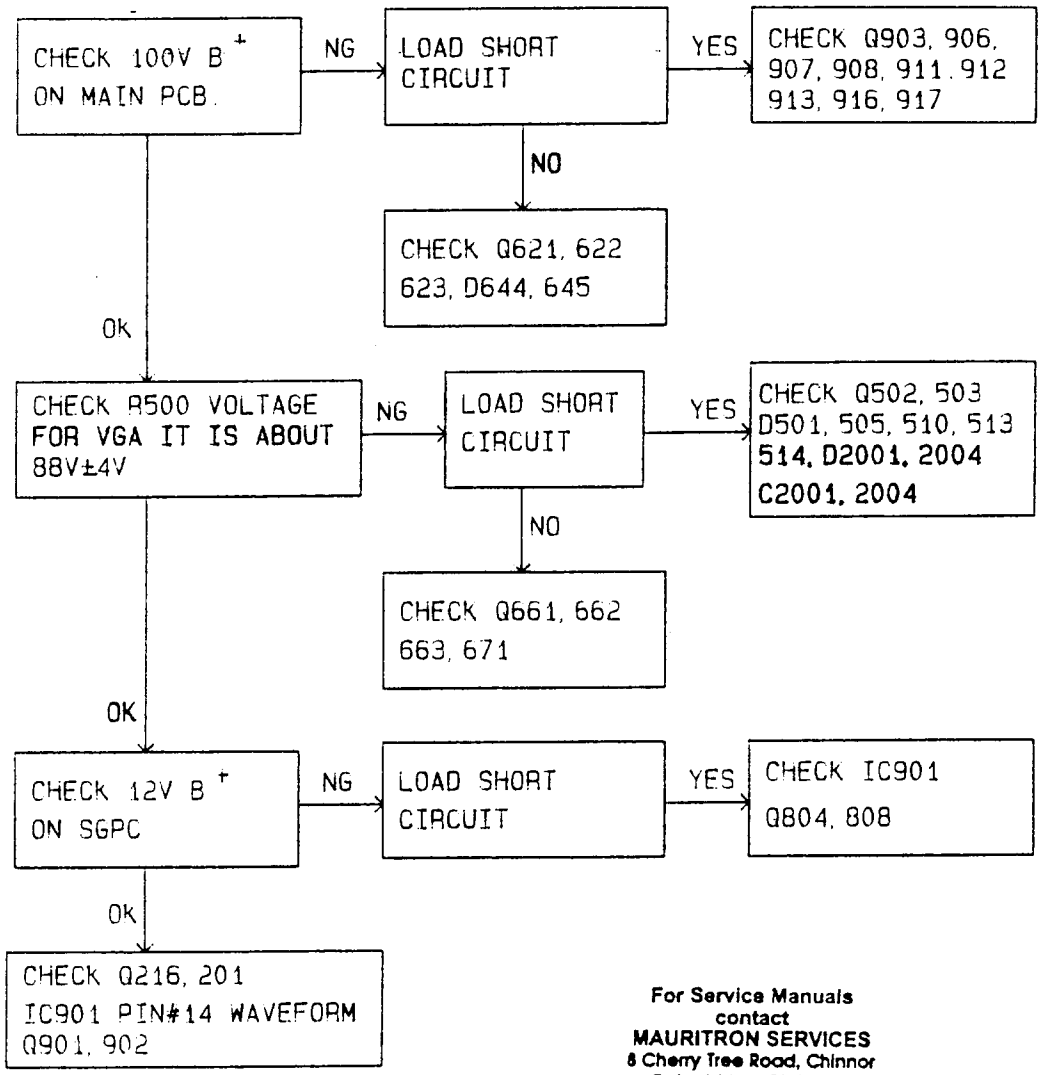
9-1 CM-325 SMPS TROUBLE SHOOTING

1. BEFORE CHECK SW. REG. PLEASE REFER TO THE POWER SUPPLY BLOCK DIAGRAM
2. POWER SUPPLY OUTPUT: (A) VARIABLE OUTPUT: 80V-110V
   (DEPENDING UPON H.SYNC FREQUENCY)
   (B) CONSTANT OUTPUT: 5V, 6.3V, 12V, 24V
3. CHECKING FLOW CHART

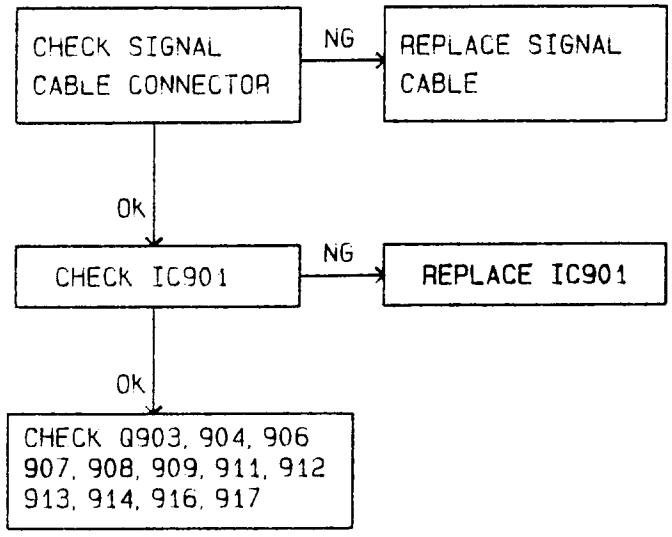


TROUBLE SHOOTING

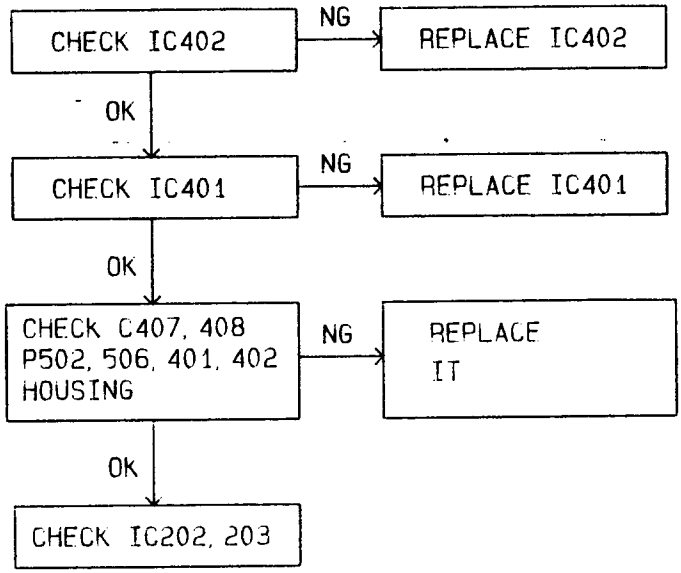
9-2 NO RASTER



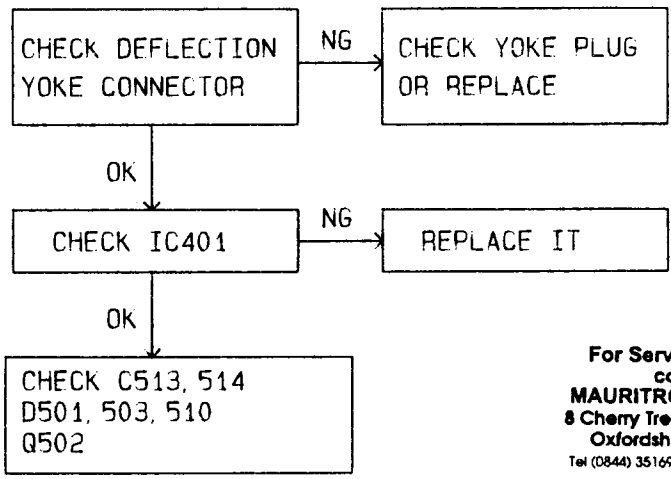
9-3 PICTURE OR SOMEMISSING



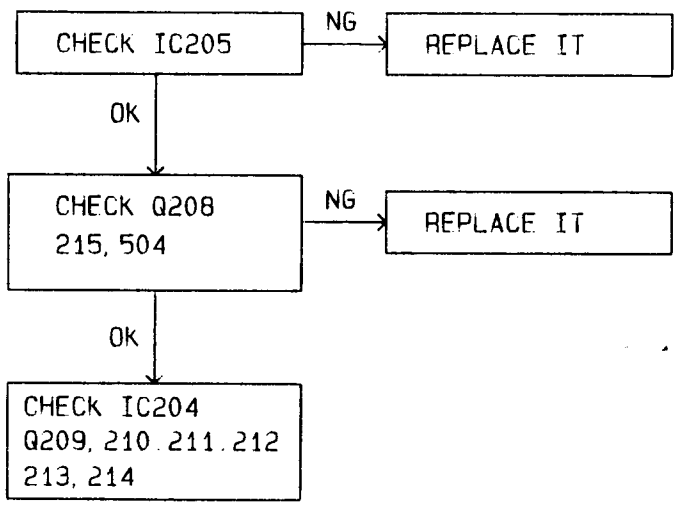
9-4 NO VERTICAL SCAN (ONE HORIZONTAL LINE)



9-5 NO HORIZONTAL SCAN (ONE VERTICAL LINE)



9-6 VERTICAL RETRACE LINE APPEARSON SCREEN



10. VOLTAGE

10–1 IC VOLTAGE

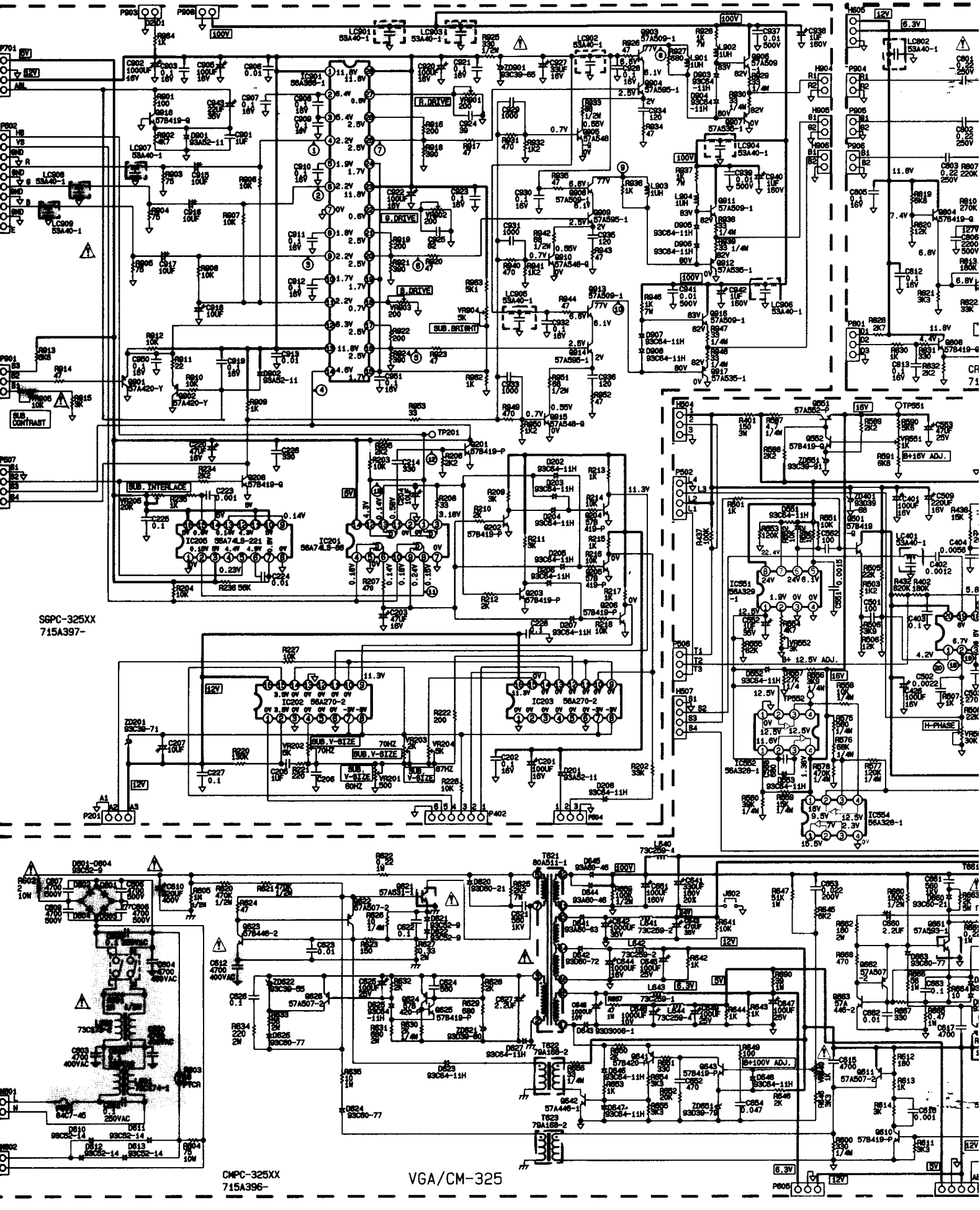
IC PIN NO.	IC901	IC205	IC201	IC202	IC203
PIN # 1	11.8V	0V	0V	0V	0V
PIN # 2	5.4V	0.15V	0V	3.5V	0V
PIN # 3	5.4V	5V	3.18V	0V	0V
PIN # 4	2.2V	4.4V	0.18V	0V	0V
PIN # 5	1.9V	0.23V	0V	0V	0V
PIN # 6	2.2V	4.9V	0.14V	0V	0V
PIN # 7	0V	0.5V	0V	-3V	-3V
PIN # 8	1.8V	0V	0.15V	-3V	-3V
PIN # 9	2.2V	0.14V	0.24V	11.3V	0V
PIN # 10	1.7V	5V	0.18V	0V	0V
PIN # 11	2.2V	5V	0.58V	0V	0V
PIN # 12	8.3V	4.3V	4.16V	0V	0V
PIN # 13	11.8V	0.14V	3.13V	0V	0V
PIN # 14	4.6V	5V	5V	0V	0V
PIN # 15	1.7V	0.6V		3.5V	0V
PIN # 16	2.5V	5V		11.3V	11.3V
PIN # 17	2.5V				
PIN # 18	0.7V				
PIN # 19	1.7V				
PIN # 20	2.5V				
PIN # 21	2.5V				
PIN # 22	0.6V				
PIN # 23	11.8V				
PIN # 24	1.7V				
PIN # 25	2.5V				
PIN # 26	2.5V				
PIN # 27	0.5V				
PIN # 28	11.8V				

IC PIN NO.	IC401	IC402	IC551	IC552	IC554
PIN # 1	4.2V	0V	12.5V	12.5V	15.5V
PIN # 2	6.7V	13V	1.9V	12.5V	7.0V
PIN # 3	8.45V	24V	0V	12.5V	2.3V
PIN # 4	-0.27V	0.9V	0V	0V	0V
PIN # 5	3.4V	1.0V	6.1V	11.6V	12.5V
PIN # 6	2.7V	24V	24V	12.5V	12.5V
PIN # 7	6.2V	0.6V	22.4V	1.38V	9.5V
PIN # 8	6.2V		24.27V	16V	16V
PIN # 9	5.7V				
PIN # 10	12V				
PIN # 11	6V				
PIN # 12	2V				
PIN # 13	0V				
PIN # 14	0V				
PIN # 15	0.9V				
PIN # 16	3.5V				
PIN # 17	0.28V				
PIN # 18	5.8V				
PIN # 19	6.0V				
PIN # 20	12V				
PIN # 21					
PIN # 22					
PIN # 23					
PIN # 24					
PIN # 25					
PIN # 26					
PIN # 27					
PIN # 28					

10–2 TRANSISTOR VOLTAGE

TR PIN	E	B	C	TR PIN	E	B	C
Q903	6.1V	6.6V	77V	Q801	129V	127V	11.5V
Q908	6.1V	6.6V	77V	Q802	129V	127V	11.5V
Q913	6.1V	6.6V	77V	Q803	129V	127V	11.5V
Q904	2.0V	2.5V	6.1V	Q804	6.8V	7.4V	11.8V
Q909	2.0V	2.5V	6.1V	Q805	6.2V	6.7V	98.5V
Q910	2.0V	2.5V	6.1V	Q806	6.2V	6.7V	98.5V
Q905	0V	0.7V	0.55V	Q807	6.2V	6.7V	98.5V
Q910	0V	0.7V	0.55V	Q808	3.7V	4.4V	11.8V
Q915	0V	0.7V	0.55V	Q402	15.4V	16V	24V
Q906	82V	83V	100V	Q043	15.2V	15V	0V
Q911	82V	83V	100V	Q401	1.8V	2.4V	8.4V
Q916	82V	83V	100V	Q502	0V	0.3V	7.7V
Q907	82V	80V	0V	Q404	0.9V	1.5V	6.3V
Q912	82V	80V	0V	Q405	20V	19.6V	1.6V
Q917	82V	80V	0V	Q504	0V	0.37V	2.2V

	MODE 1.	MODE2.	MODE 3.	MODE 4.
Q204 COLLECTOR	11.3V	0V	0V	0V
Q205 COLLECTOR	0V	0V	0V	11.3V
Q206 COLLECTOR	0V	11.3V	0V	0V



13-2 MAIN PCB DIAGRAM & SIGNAL PCB DIAGRAM


CRPC-325XX
715A395-
VRPC-325XX
715A398-
IC901 PIN 4
IC901 PIN 25
IC201 PIN 12
IC501 PIN3
IC901 PIN 6
Q903 COLLECTOR
IC402 PIN 2
IC401 PIN 4
IC901 PIN 9
Q908 COLLECTOR
IC402 PIN 5
IC401 PIN 5
IC901 PIN 14
Q913 COLLECTOR
IC401 PIN7
IC401 PIN 8
IC901 PIN 16
IC201 PIN 8
IC401 PIN 1
IC401 PIN 9
IC901 PIN 2013
IC201 PIN 11
IC401 PIN 2
IC401 PIN 12
IC401 PIN 16
IC401 PIN 17
Q502 COLLECTOR
Q503 BASE
Q503 COLLECTOR
Q405 EMITER
Q405 COLLECTOR
HEATER
TO T502 H.V
TO T502 FOCUS
TO T502 SCREEN
R.BIAS
G.BIAS
B+16V ADJ.
B+ 7.5V ADJ.
V-LIN
V-SIZE
V-DY
H-DY
H-HOLD
H-PHASE
PIN-PHASE
PIN-GAIN
CONTRAST
BRIGHTNESS
V-CENTER
H-CENTER
V-HOLD
PASTER CENTER
IBM
COMPATIBLE
FOCUS.
SCREEN.
WIDTH COIL
H.O.T T502 TO HV
PARTS NO: 41A31-010