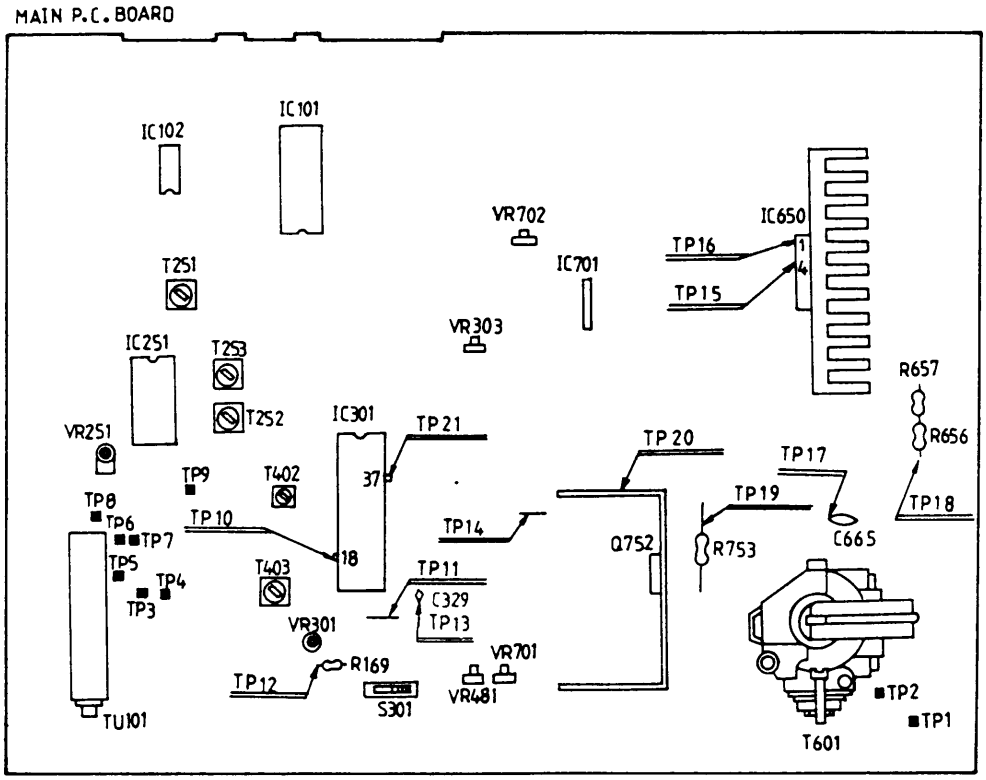
CHASSIS REMOVAL (REFER TO PAGES13 ∽16, 31)

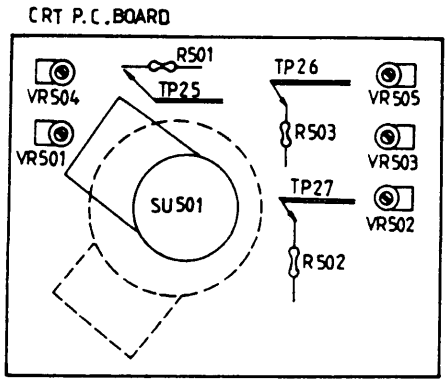
1. Remove 6 screws (41) from cabinet back.
2. Remove 1 screw (29) from A/V Jack.
3. Remove 1 screw (38) from FBT
4. Remove 2 screws (31) from antenna terminal plate (28).
5. Remove 2 screws (39) from front of cabinet inside control compartment .
6. Disconnect CRT socket P.C. board from CRT (48).
7. Discharge anode lead at picture tube to chassis ground through a 10 k ohm resistor.
8. Disconnect anode lead from picture tube.
9. Disconnect connectors LCN650, LCN701 and LCN851 from main P.C. board.
10. When replacing chassis, reverse the above procedure making certain that all connectors and leads are fastened in their original places.

CRT REMOVAL

CAUTION: Wear shatter-proof goggles and exercise proper handling precautions when working around high vacuum picture tubes.

1. Remove chassis per instructions under CHASSIS REMOVAL.
2. Remove convergence magnet assembly (50) from neck of CRT.
3. Remove deflection yoke (49) from neck of CRT.
4. Remove 3 wedges (12) from CRT.
5. Remove 1 spring and braid wire (27) from CRT P.C. Board.
6. Lay cabinet face down on some protective material.
7. Remove 4 CRT mounting screws (44).
8. Remove CRT from cabinet front.
9. To install new CRT, reverse above procedure.
10. Perform purity and convergence adjustments.





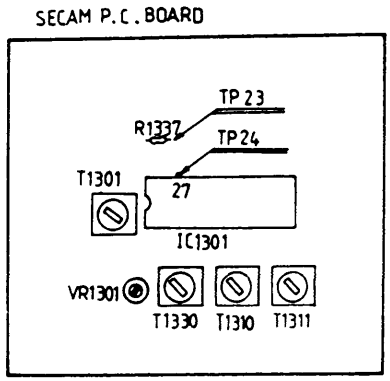


Fig.1 TEST POINT LOCATIONS

INSTALLATION AND SERVICE INSTRUCTIONS

CAUTION : Use an isolation transformer when performing any service on this chassis.

SHUTDOWN CIRCUIT

When the high voltage rises, there are simultaneous voltage increases developed at terminal 4 of the Horizontal Output Transformer(T601) and applied to pin 30 of IC301. If excessive high voltage is produced, the increased voltage developed exceeds the rating of zener diode D485 causing the Horizontal Oscillator to stop functioning and the high voltage system is then shut down.

HORIZONTAL HOLD ADJUSTMENT

1. Properly tune in local station.
2. Short the TP21 to TP11.
3. Adjust the Horizontal Hold (VR481) to obtain minimum movement of the picture.
4. Remote the short from TP21 and TP11.

VERTICAL SIZE AND LINEARITY ADJUSTMENT

Adjust Vertical Size control(VR701) so that the picture fills the picture opening from top to bottom and is proportionate to the width Adjust Vertical Linearity control(VR702) so that the picture has no distortion all over Screen.

FOCUS ADJUSTMENT

Adjust focus control, on the horizontal output transformer (T601), for maximum overall definition and fine detail with Brightness (VR302) and Contrast (VR307) controls set at normal viewing levels.

SUB BRIGHT ADJUSTMENT

1. Connect Test Pattern Generator to Ext. antenna socket.
2. Connect positive lead of voltmeter to TP1 and negative lead to TP2.
3. Set Contrast (VR307) and Brightness (VR302) controls to maximum clockwise position.
4. Adjust Sub Brightness control(VR303) to obtain 0.96V on voltmeter.

APC ADJUSTMENT

1. Connect Color Bar Generator to Ext. antenna socket.
2. Connect positive lead of voltmeter to TP10 and negative lead to TP11.
3. Adjust APC (VR301) to obtain 8.4V on voltmeter.

RF AGC ADJUSTMENT

1. Connect TV Channel Signal Generator to Ext. antenna socket.
   Adjust TV Channel Signal Generator output level for (65dBu) channel 2.
2. Connect positive lead of DC Voltmeter to TP7 and negative lead of DC Voltmeter to TP6 .
3. Adjust VR251 so that the DC Voltmeter reading is 6.5V+−0.1V

SIF DET ADJUSTMENT

1. Connect Monosco (input 60dBu), Sound (mod. freq.: 400Hz, Deviation: 50KHz Dev) Generator to Ext.antenna socket
2. Connect positive lead of Distortion to speaker ⊕ and negative lead of Distortion to speaker ⊖
3. Chang TV Sound position to OIRT for receive D/K Signal
4. Adjust T251 to min. Distortion and max output
5. Change TV Sound position to CCIR for receive B/G Signal
6. Adjust TC265 to min. Distorion and max output

BURST CLEANING ADJUSTMENT

1. Connect Color Bar Generator to Ext. antenna socket.
2. Connect Oscilloscope to TP12 (R-Y output) and TP11 (ground).
3. Adjust T402 so that waveform may become maximum as shown in Fig. 2.

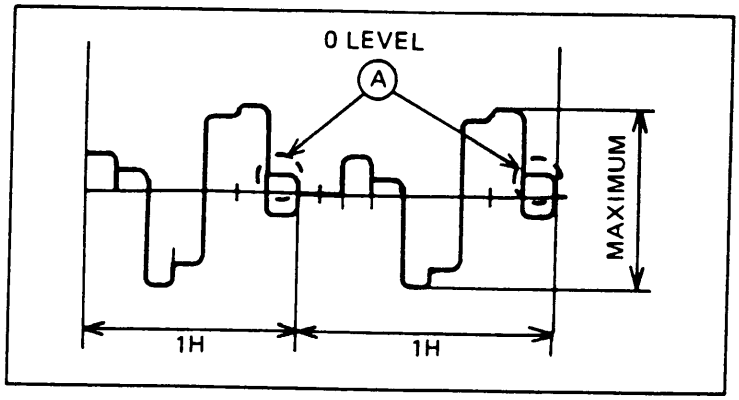


Fig. 2

CHROMA INPUT LEVEL ADJUSTMENT

1. Connect Color Bar Generator to Ext. antenna socket.
2. Connect Oscilloscope to TP12 (R-Y output) and TP11 (ground).
3. Adjust "A" to 0 level with VR1301 as shown in Fig. 3.

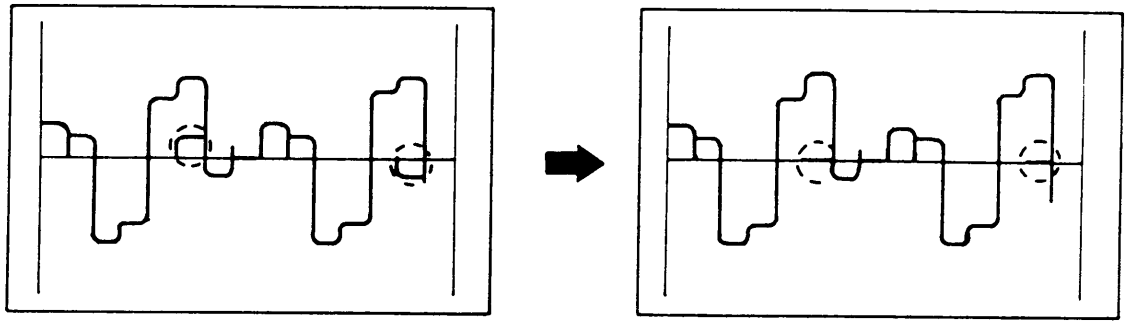


Fig. 3

PHASE ADJUSTMENT

1. Connect Color Bar Generator to Ext. antenna socket.
2. Connect Oscilloscope to TP12 (R-Y output) and TP11 (ground).
3. Adjust T403 so that waveform may be the same as shown in Fig. 4.

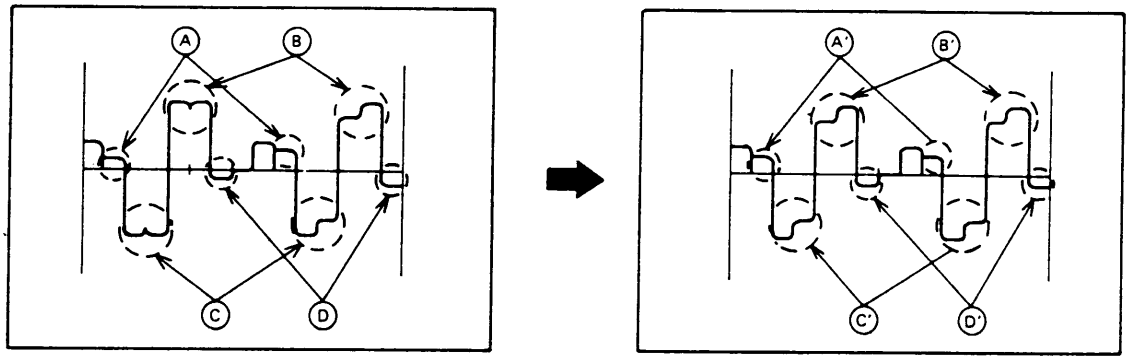


Fig. 4

COLOR PURITY ADJUSTMENT

For best results, it is recommended that the purity adjustment be made in the final receiver location. If the receiver will be moved, perform this adjustment with it facing East. The receiver must have been operating 15 minutes prior to this procedure and the faceplate of the CRT must be at room temperature. The following procedure is recommended while using a Dot/Bar Generator.

1. Check for correct location of all neck components. (Refer to Fig. 5)
2. Rough-in the static convergence at the center of the CRT, as explained in the static convergence procedure.
3. Rotate the Contrast control (VR307) to maximum CCW position and rotate Brightness control (VR302) as far CW as possible without causing the picture to "bloom".
4. Rotate the Red Color Cut Off (VR505) and Blue Color Cut Off (VR502) controls to maximum CCW position. Rotate the Green Color Cut Off control (VR503) sufficiently in a CW direction to produce a green raster.
5. Loosen the deflection yoke clamp screw and pull the deflection yoke toward the rear of the CRT.
6. Begin the following adjustment with the tabs on the round purity magnet rings set together. Slowly separate the two tabs while at the same time rotating them to adjust for a uniform green vertical band at the center of the CRT screen.
7. Carefully slide the deflection yoke forward to achieve green purity (Uniform green screen).

   NOTE: Center purity is obtained by adjusting the tabs on the round purity magnet rings, outer edge purity is obtained by sliding the deflection yoke forward.

8. Check for red and blue field purity by reducing the setting of the Green Color Cut Off (VR503) control and alternately increasing the setting of the Red and Blue Color Cut Off (VR505 and VR502) controls and repeat steps 2 through 7, if required.
9. Tighten deflection yoke clamp screw.
10. Perform BLACK AND WHITE ADJUSTMENT procedure.

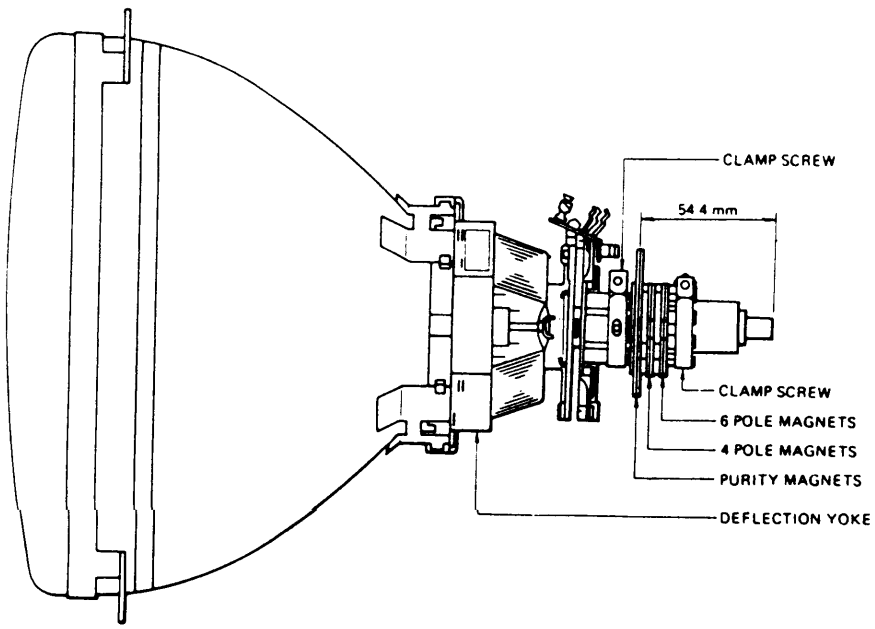


Fig.5 Picture Tube Neck Component Location

BLACK AND WHITE ADJUSTMENT

The purpose of this procedure is to adjust the biases applied to the picture tube to obtain good black and white picture reproduction at all brightness levels while, at the same time achieving maximum useable brightness. Proper RF AGC control adjustment must be verified prior to performing this procedure.

1. With antenna connected to the receiver, tune in picture on a strong received channel. Rotate the Color control (VR304) to maximum CCW position so that the receiver will not produce a color picture while the following adjustments are being performed.
2. Rotate the Red Color Drive (VR504) and Blue Color Drive (VR501) controls to the center of their rotation ranges.
3. Rotate the Green Color Cut Off (VR503), Red Color Cut Off (VR505) and Blue Color Cut Off (VR502) controls to the full CCW end of their rotation.
4. Set Service/TV switch (S301) to SERVICE position. Adjust the Green Color Cut Off control(VR503) for 165V DC at Test Point TP27. This voltage should be measured with an oscilloscope.
5. Rotate the Screen control (on horizontal output transformer) to the full CCW end of its rotation. Then, rotate it CW until a dim line of one pronounced color (green, red or blue) is obtained.
6. Alternately rotate the other two color cut off controls CW until a dim white line is obtained.
7. Set Service/TV switch (S301) to TV position.
8. If necessary, touch-up adjustment of the Red and Blue Color Drive controls (VR504 and VR501) to produce a uniform monochrome picture.
9. Rotate the Brightness control (VR302) and Contrast control (VR307) controls fully CCW.
10. Rotate the Brightness control (VR302) CW until a dim raster is obtained.
11. If the screen does not display good white uniformity, repeat steps 2 through 10.

(CW: clockwise, CCW: counterclockwise)

STATIC CONVERGENCE ADJUSTMENT
(Refer to Fig. 5 & 6)

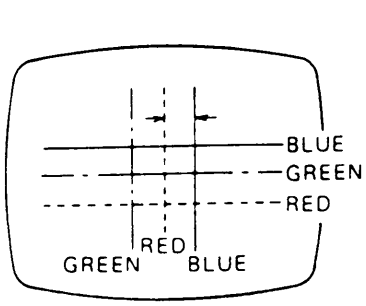
IMPORTANT: Before proceeding, check location of the convergence magnet assembly on the neck of the CRT as shown in Figure 5. The rear edge of this assembly must be positioned 3/4 inch from the tip of the CRT base. If not properly positioned, convergence adjustment may be difficult, if not impossible.

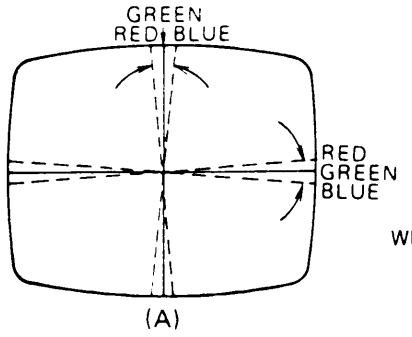
1. Apply dot or crosshatch pattern from Dot/Bar Generator to receiver. Reduce setting of Brightness (VR302) and/or Contrast (VR307) controls to eliminate any blooming in pattern.
2. Rotate Green Color Cut Off control (VR503) fully CCW.
3. Observe the blue and red pattern now appearing on the CRT screen. Locate the 4 pole magnet rings and separate their adjusting tabs approximately the width of one tab.
4. Rotate this pair of magnet rings as a unit (do not change spacing between tabs) to minimize the separation between the blue and red dots (lines).
5. If the blue and red dots (lines) are not completely converged at this point readjust the spacing between the two tabs to complete convergence of the blue and red dots (lines), thus producing magenta dots (lines).
6. If necessary, repeat steps 3, 4 and 5 until proper convergence is achieved.
7. Rotate Green Color Cut Off control (VR503) CW until proper green level is restored and observe the magenta (B/R) and green pattern now appearing on CRT screen.
8. Locate the 6 pole magnet rings and separate their adjusting tabs approximately the width of one tab.
9. Rotate this pair of magnet rings as a unit (do not change spacing between tabs) to minimize the separation between the magenta (B/R) and green dots (lines).
10. If the magenta and green dots (lines) are not completely converged at these points, readjust the spacing between the two tabs to complete convergence of the magenta and green dots (lines).
11. If necessary, repeat steps 8, 9 and 10 until proper convergence is obtained. To prevent accidental misadjustment of the magnets, apply a stripe of paint across all six rings and on to the neck of the CRT.

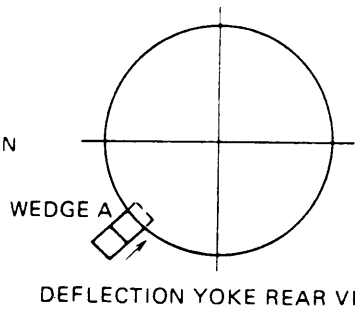
DYNAMIC CONVERGENCE
(Refer to Fig. 7)

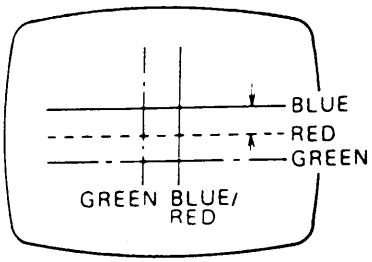
Dynamic convergence (convergence of the three color fields at the edges of the CRT screen) is accomplished by proper insertion and positioning of three rubber wedges between the edge of the deflection yoke and the funnel of the CRT. This is accomplished in the following manner.

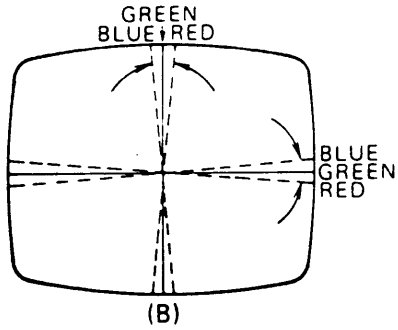
1. Switch receiver ON and allow it to warm up for 15 minutes.
2. Apply crosshatch pattern from Dot/Bar Generator to receiver. Observe spacing between lines around edges of CRT screen.
3. For the misconvergence shown in Figure 7 (A), tilt the deflection yoke down and insert wedge A between deflection yoke and CRT.
4. For the misconvergence shown in Figure 7 (B), tilt the deflection yoke up and insert wedge B between deflection yoke and CRT.
5. For the misconvergence shown in Figure 7 (C), tilt left side of the deflection yoke and slightly insert the wedge C between deflection yoke and CRT. Then, deeply insert wedges A and B between deflection yoke and CRT.
6. For the misconvergence shown in Figure 7 (D), tilt right side of the deflection yoke and deeply insert wedge C between deflection yoke and CRT. Then, slightly insert and/or extract wedges A and B between deflection yoke and CRT.
7. Alternately change spacing between, and depth of inserting of, the three wedges until proper dynamic convergence is obtained.
8. Use a strong adhesive tape to firmly secure each of the three rubber wedges to the funnel of the CRT.

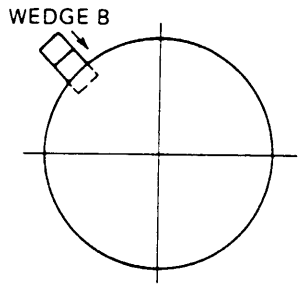


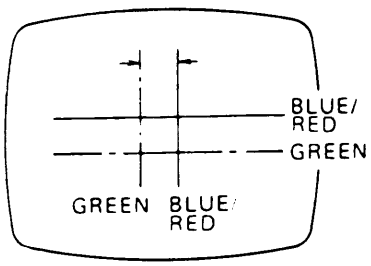


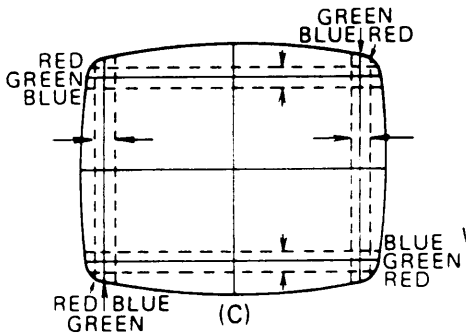


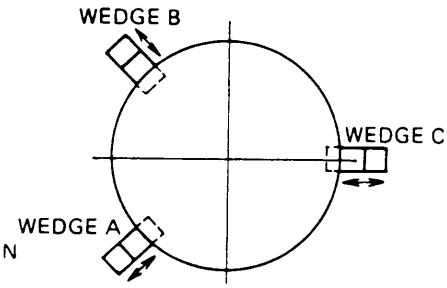


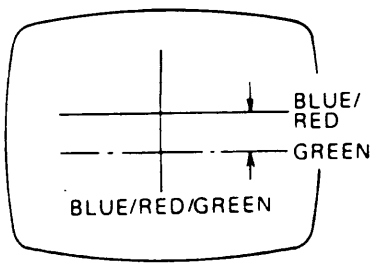


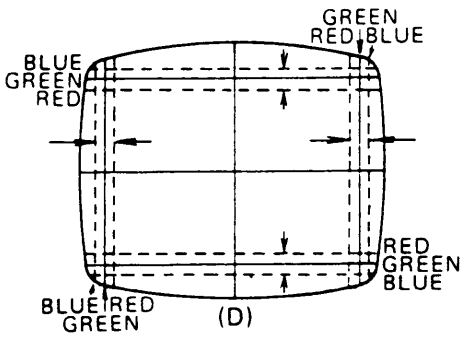












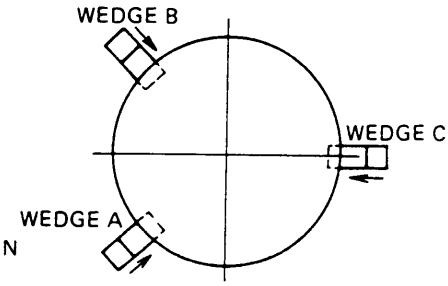


Fig. 6 Static Convergence Adjustment

Fig. 7 Dynamic Convergence Adjustment

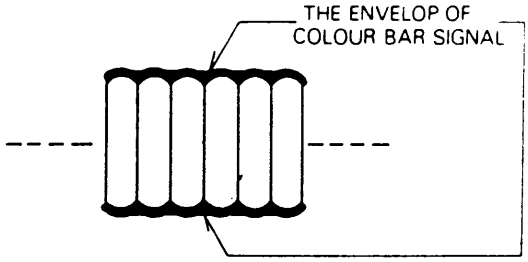
Colour Decoder Adjustment For SECAM System

1. **Bell Filter Adjustment**

   (a). Apply a SECAM colour bar signal (60dB level) to the input.

   (b). Connect an oscilloscope to Pin 27 of IC1301

   (c). Adjust T1301 to make the envelop of colour bar signal into flat. (Fig. 8)



SECAM COLOUR BAR SIGNAL Fig 8

2. **Identifier Adjustment**

   (a). Apply a SECAM colour bar signal (60dB level) to the input.

   (b). Connect a high impedance DC Voltmeter to Pin 26 of IC1301.

   (c). Adjust T1330 to the indent filter voltage into maximum value (~10V).

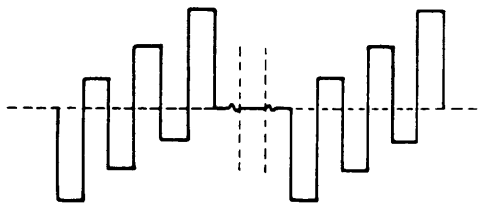
3. **B–Y Demodulation**

   (a). Apply a SECAM colour bar signal to the input.

   (b). Set Brightness, Contrast and Colour controls to the maximum.

   (c). Connect an oscilloscope to TP13(B-Y out) and TP11 (ground).

   (d). Adjust T1310 to obtain a B-Y signal with correct chrominance output, as shown in Fig. 9 .



B–Y SIGNAL Fig. 9

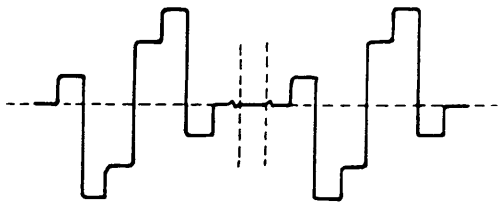
4. **R–Y Demodulation**

   (a). Apply a SECAM colour bar signal.

   (b). Set Brightness, Contrast and Colour controls to maximum.

   (c). Connect an oscilloscope to TP12(R-Y out) and TP11 (ground).

   (d). Adjust T1311 to obtain an R-Y signal with correct chrominance output, as shown in Fig. 10 .



R–Y SIGNAL Fig. 10

GENERAL ALIGNMENT INSTRUCTIONS

EQUIPMENT

The test equipment specified below, or its equivalent, is required to properly perform the alignment procedures which are outlined on the following pages. Use of equipment which does not meet these requirements may result in the inability to properly align the receiver. A warm-up period of at least 15 minutes should be allowed for proper stabilization of equipment such as Generators and Oscilloscope. It is essential that the proper bias values, as specified, are maintained during alignment to insure the proper results.

EQUIPMENT TERMINATIONS

The alignment pads provided with the equipment specified are designed for correct matching of the equipment to the circuits involved. Failure to use proper matching will result in responses which cannot be depended upon as representing the true operation of the receiver.

SIGNAL OVERLOAD

Use of excessive signal from the Sweep/Marker Generator can cause overloading of the receiver circuits. To determine that this condition is not present and that the response curve is true, turn the Sweep/Marker Generator output to zero and then gradually increase the output until a response is obtained. Further increase of the sweep output should not change the configuration of the response except in amplitude. If the response changes in configuration, such as flattening at the top or dropping below the base line at the bottom, decrease the sweep output to restore the proper configuration.
The Oscilloscope gain should be run as high as possible to maintain a usable pattern with the peak-to-peak values specified, thus requiring a lower output from the Sweep/Marker Generator and less chance of overload. Insertion of markers from the Sweep/Marker Generator should not cause distortion of the response. The markers should be kept as small as possible and still remain visible.

RECEIVER CHASSIS PREPARATION

All covers and shields should be in their proper place before any alignment procedures or performance checks are attempted.

CAUTION: Remove the AC Power plug before making any test equipment connections.

VIDEO IF & AFC ALIGNMENT

TEST EQUIPMENT

To facilitate service and alignment of this chassis, it is recommended that the following test equipment be used to assure proper performance.
ISOLATION TRANSFORMER
COLOR BAR/DOT/CROSS-HATCH GENERATOR)
DEMAGNETIZING COIL
DIGITAL MULTIMETER
OSCILLOSCOPE ..... Wide band oscilloscope.
IF-CHROMA-VSM SWEEP/MARKER GENERATOR ..... To Provide proper sweep and marker frequencies and bias voltages required for alignment.

VIDEO IF & AFC SWEEP ALIGNMENT

TEST EQUIPMENT CONNECTIONS

GENERAL ·····Read the General Alignment Instructions before proceeding with this alignment.
CAUTION: Before making any test equipment connections to the receiver chassis, disconnect the AC power plug.
ISOLATION TRANSFORMER·····Receiver AC power cord must be connected to an Isolation Transformer.
OSCILLOSCOPE·····Set AC-DC-GND switch to AC. Set VOLTS DIV. switch to .1 (If necessary, set to another range) and TIME DIV. switch to EXT. Install connecting cables between the H and V inputs and the H and V output of the IF Sweep/Marker Generator.

IF SWEEP/MARKER GENERATOR·····Set SWEEP WIDTH control of full CW rotation with knob pushed in; set FUNCTION switch to TV IF SWEEP; switch on 38.0 MHz crystal markers; adjust MARKER output to produce usable marker size. Connect Red lead of Sweep Output Probe (PR-16A) to test point TP8; connect Black lead to test point TP6. Connect Red lead of Probe Input Detector (PR-15) to test point TP4; Black lead to test point TP3. Set SWEEP CENTER control to 3 o'clock position with knob pushed in, then readjust to properly center horizontal location of pattern on Oscilloscope screen.

STEP	ADJUSTMENT	COMPONENT	PROCEDURE
1	Remove the short from TPA on Main P.C. board, as shown in Fig.11.		
2	38.0 MHz Trap	T252	Adjust T252 to obtain a response curve that approximates the curve illustrated in Fig.12. Adjust T252 to position the 38.0 MHz
3	Connect red lead of probe input detector (PR-15) to test point TP9 and black lead to test point TP6.		
4	38.0 MHz Trap	T253	Adjust T253 to obtain a response curve that approximates the curve illustrated in Fig.13.
5	Connect Digital Multimeter to TP5 and TP6.		
6	AFT	T253	Adjust T253 to obtain 7.5V ±0.2V on Digital Multimeter.
7	Short the TPA on Main P.C. board.		
8	Remove 100μF 16V electrolytic capacitor.		
9	Connect Digital Multimeter to TP7 and TP6.		
10	AGC	VR251	Adjust VR251 to obtain 6.5V+−0.1V on Digital Multimeter.

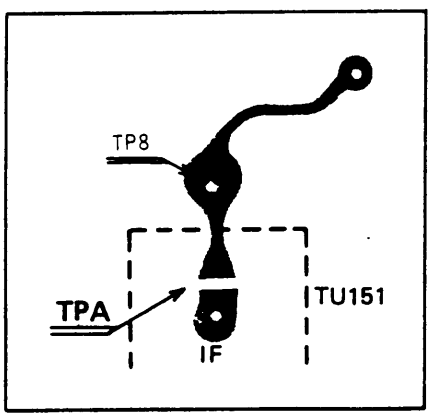


Fig.11

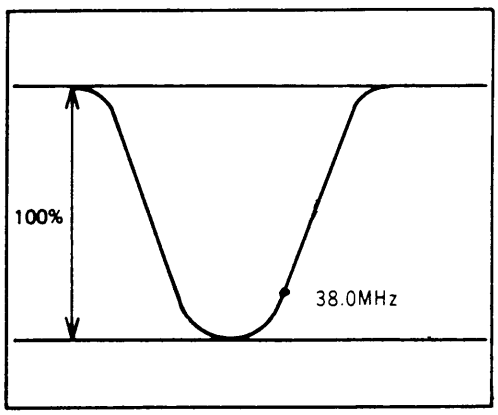


Fig.12

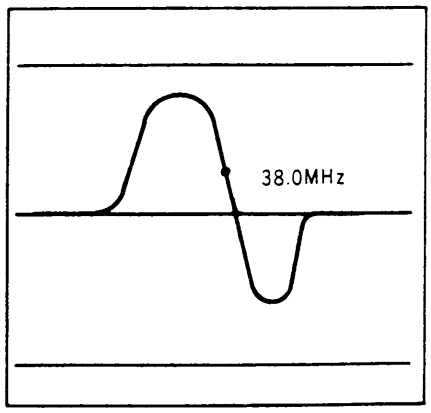
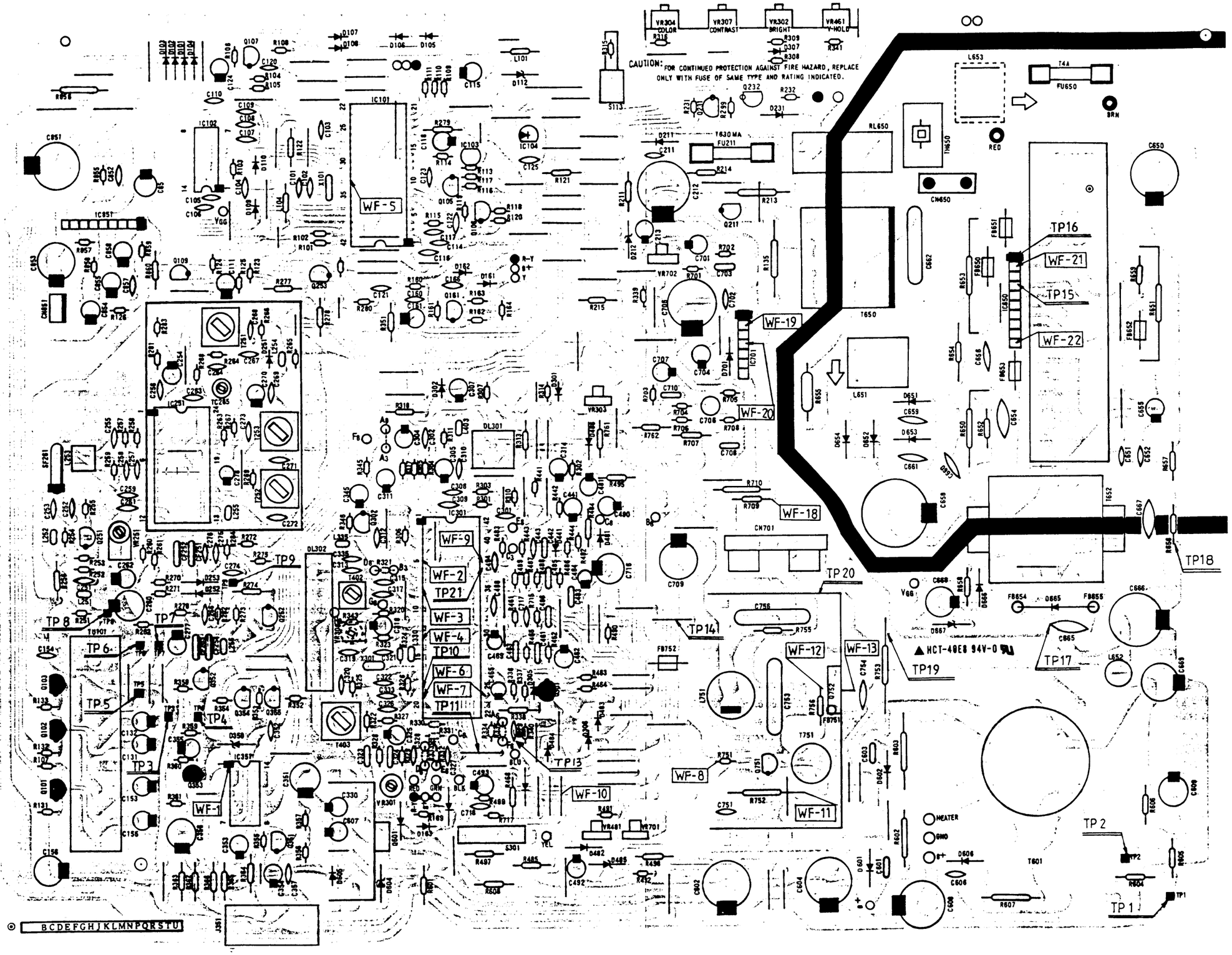
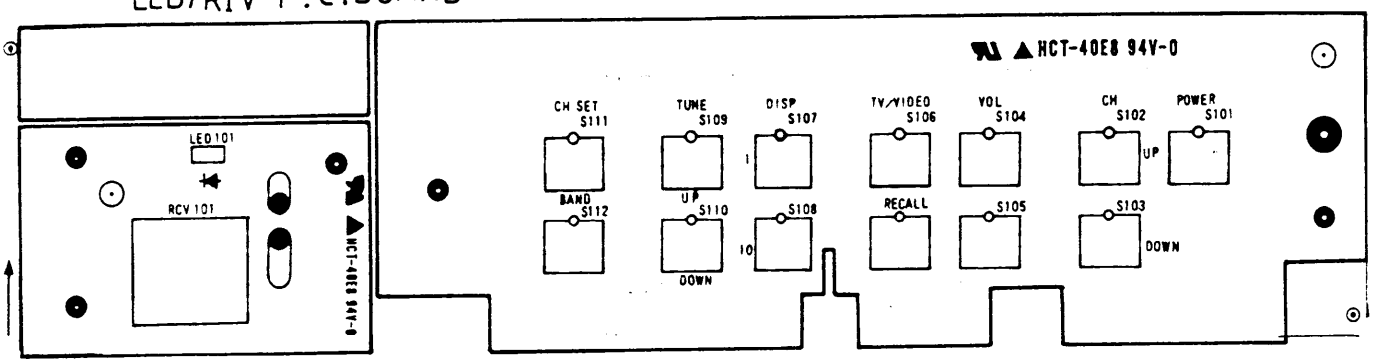


Fig.13

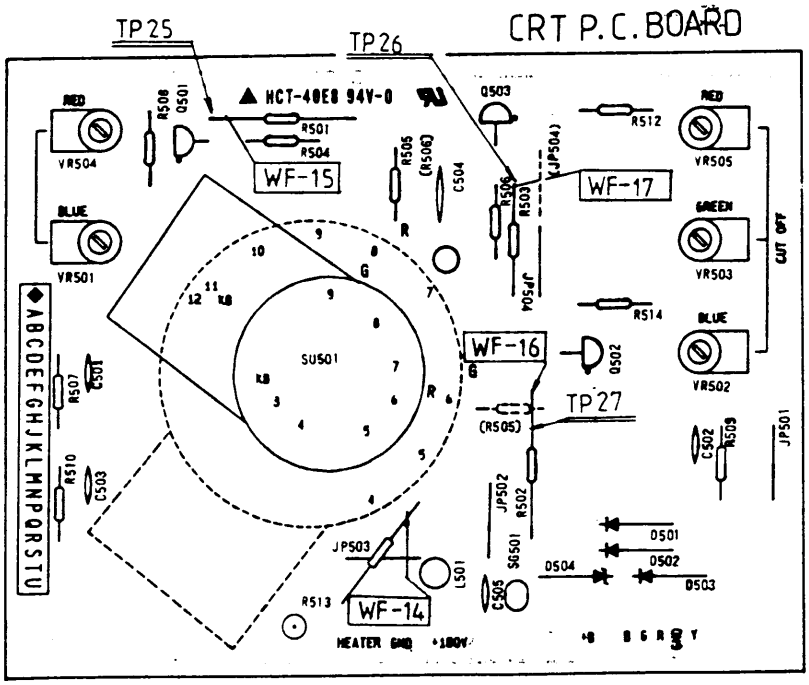
MAIN P.C.BOARD



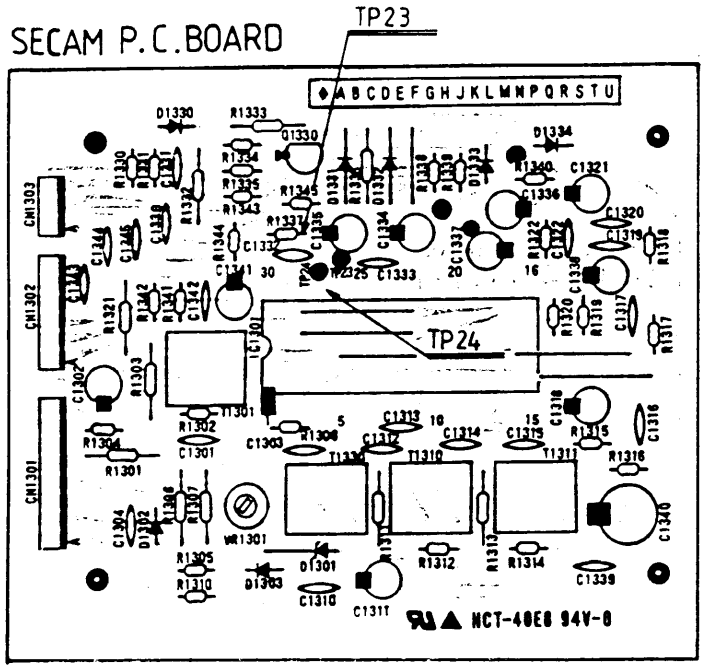
LED/RIV P.C.BOARD



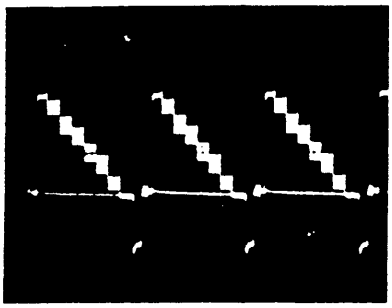
CRT P.C.BOARD



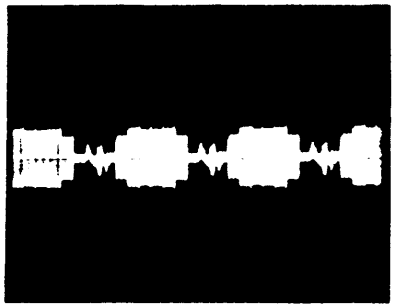
SECAM P.C.BOARD



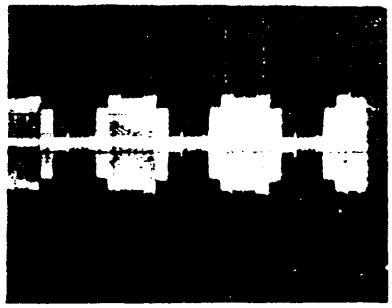
CHASSIS WAVEFORMS



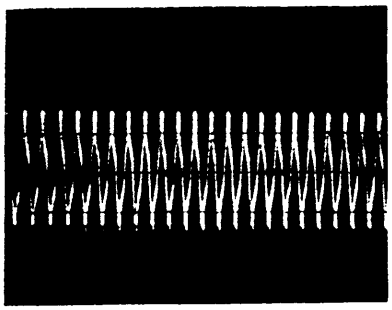
WF-1 3.0Vp-p (H)



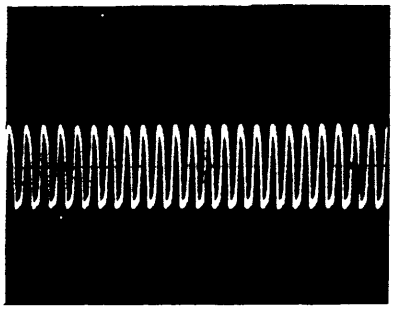
WF-2 0.2Vp-p (H)



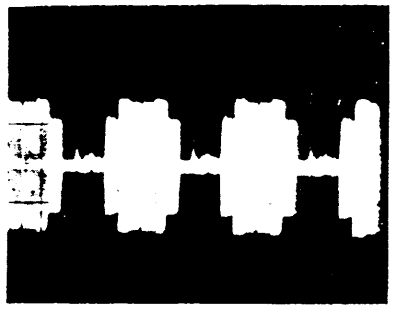
WF-3 1.6Vp-p (H)



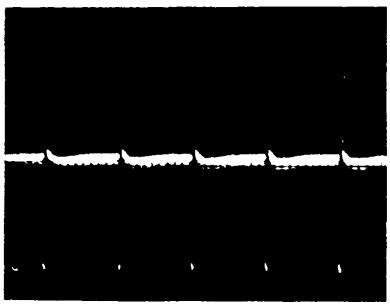
WF-4 1.8Vp-p (H)



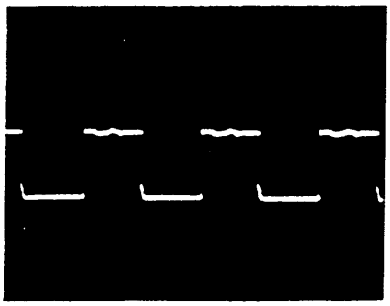
WF-5 3.2Vp-p (H)



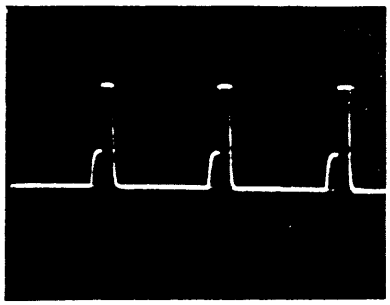
WF-6 0.26Vp-p (H)



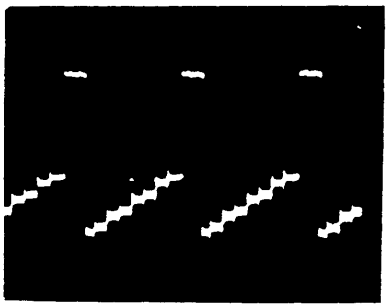
WF-7 2Vp-p (V)



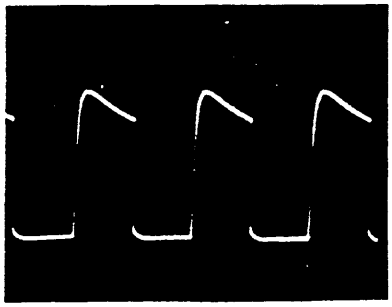
WF-8 0.9Vp-p (H)



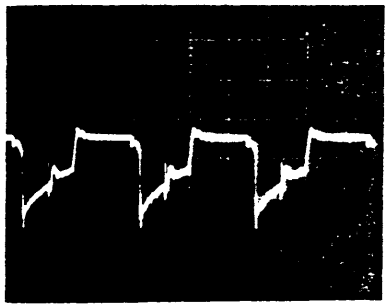
WF-9 5.6Vp-p (H)



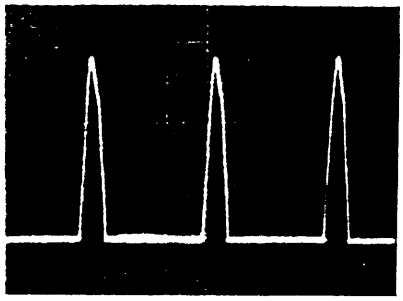
WF-10 6 Vp-p (H)



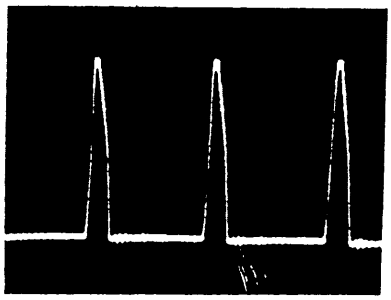
WF-11 220Vp-p (H)



WF-12 5.2 Vp-p (H)

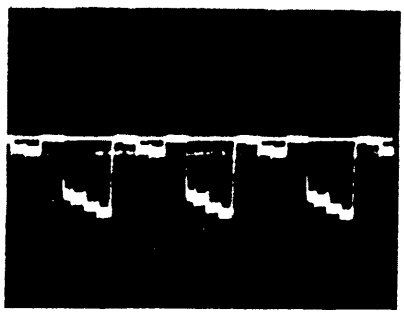


WF-13 920Vp-p (H)

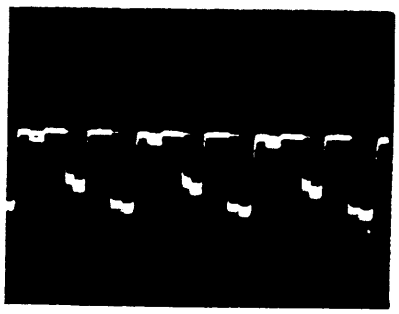


WF-14 23 Vp-p (H)

WF-15 100Vp-p (H)



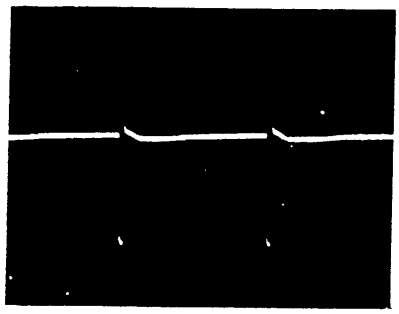
WF-16 100Vp-p (H)



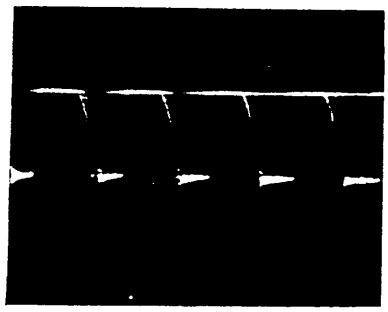
WF-17 112Vp-p (H)

WF-18 56Vp-p (V)

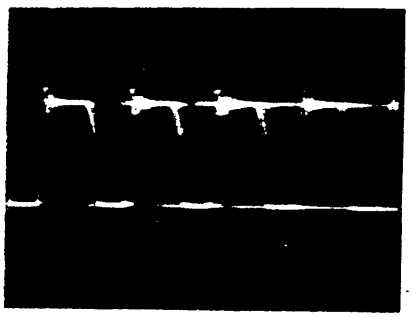
WF-19 56Vp-p (V)



WF-20 1.7Vp-p (V)



WF-21 120Vp-p (H)



WF-22 560Vp-p (H)

NOTES :

WAVEFORMS SHOWN WERE PRODUCED USING A PATTERN GENERATOR WITH ITS CONTROL SET TO PRODUCE A COLOR BAR SIGNAL AND A WIDEBAND OSCILLOSCOPE WITH LOW CAPACITY PROBE TO PREVENT LOADING. RECEIVER OPERATING CONTROLS WERE ADJUSTED TO PRODUCE A NORMAL PICTURE. OSCILLOSCOPE SWEEP WAS SET AT 5 mS FOR VERTICAL WAVEFORMS AND 20 μS FOR HORIZONTAL WAVEFORMS. PEAK-TO-PEAK VOLTAGES INDICATED MAY VARY DEPENDING ON CALIBRATION OF TEST EQUIPMENT, CHASSIS PARTS TOLERANCES AND CONTROL SETTINGS. ALL WAVEFORMS TAKEN WITH WIDEBAND OSCILLOSCOPE.

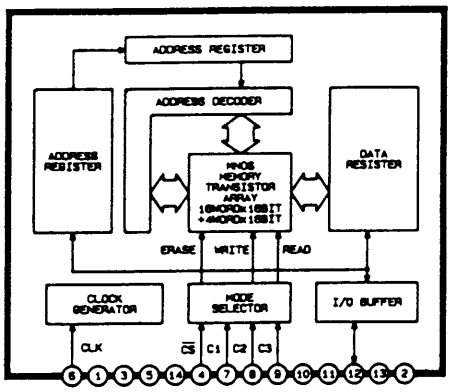
VOLTAGE AND WAVEFORMS ARE TAKEN WITH COLOR BAR SIGNAL GENERATOR APPLIED TO THE SET

WAVEFORMS 1 THRU 20 USE CHASSIS GROUND.

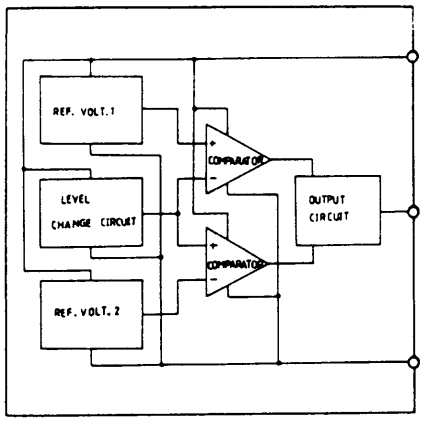
WAVEFORMS 21 THRU 22 USE "HOT" GROUND.

IC BLOCK DIAGRAM

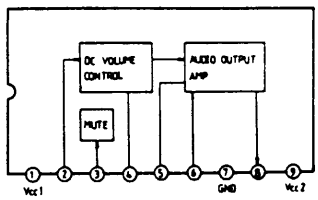
IC102 [M58659P]



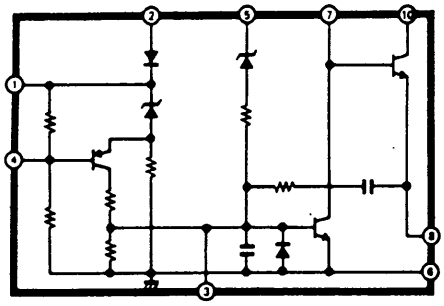
IC103 [MN1280M]



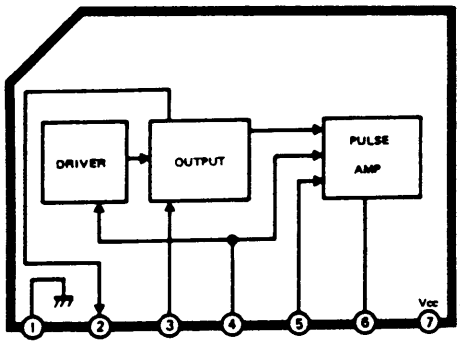
IC851 [AN5265]



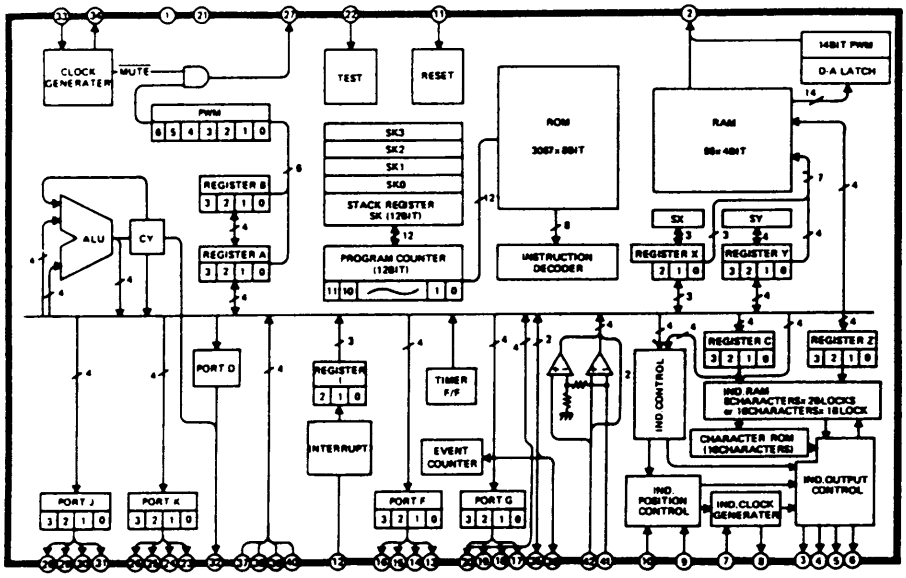
IC650 [STK7348]



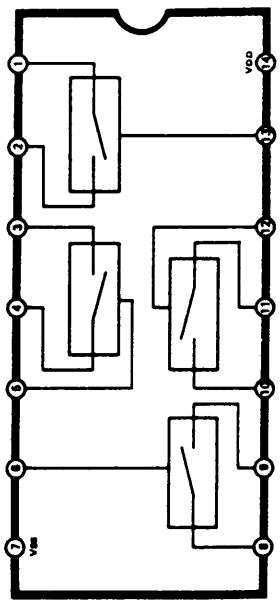
IC701 [AN5515]



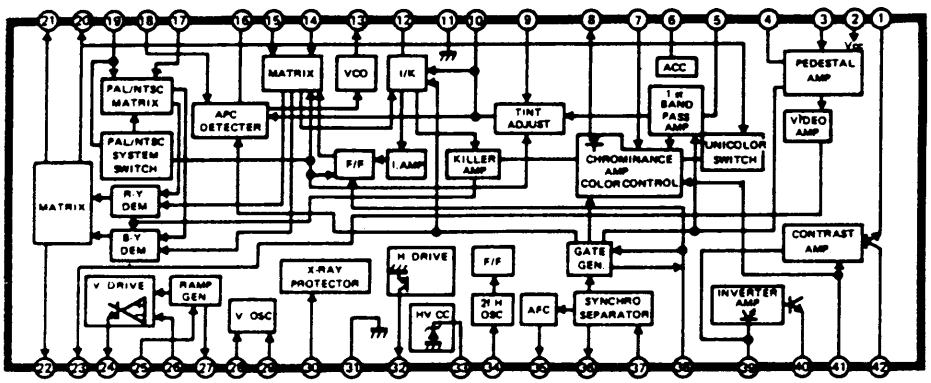
IC101 [M50433B-502SP]



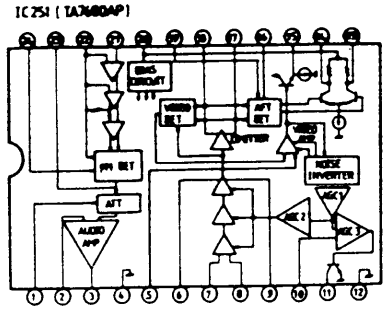
IC351 [TC4066BP]



IC301 [TA7698AP]



IC251 [TA7680AP]



SCHEMATIC DIAGRAM NOTES

1. All resistance values are in Ω. kΩ=1000Ω MΩ=1000kΩ
2. The wattage of resistor is 1/6W unless otherwise noted.
3. All capacitance values are in μF unless otherwise noted. pF=μμF
4. This is a standard schematic diagram. Some set may be modified slightly for better performance.
5. SERVICE/TV switch (S301) is in TV position.

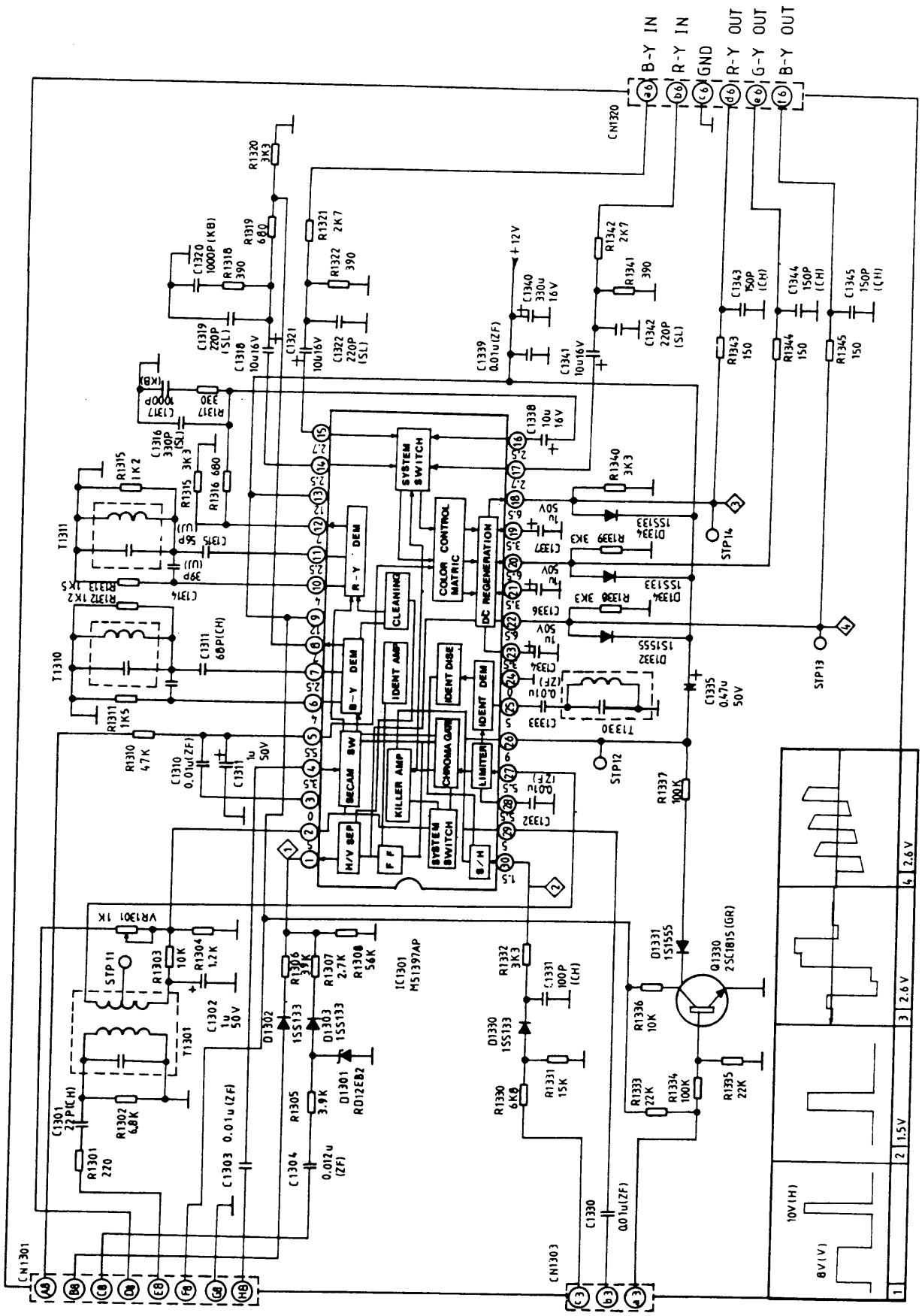
VOLTAGE CHART (all in volts)

OPERATION CONDITION V-HOLD.....STOP THE PICTURE FROM ROLLING MOTION
BRIGHT, CONTRAST AND COLOR CONTROL.....MAXIMUM

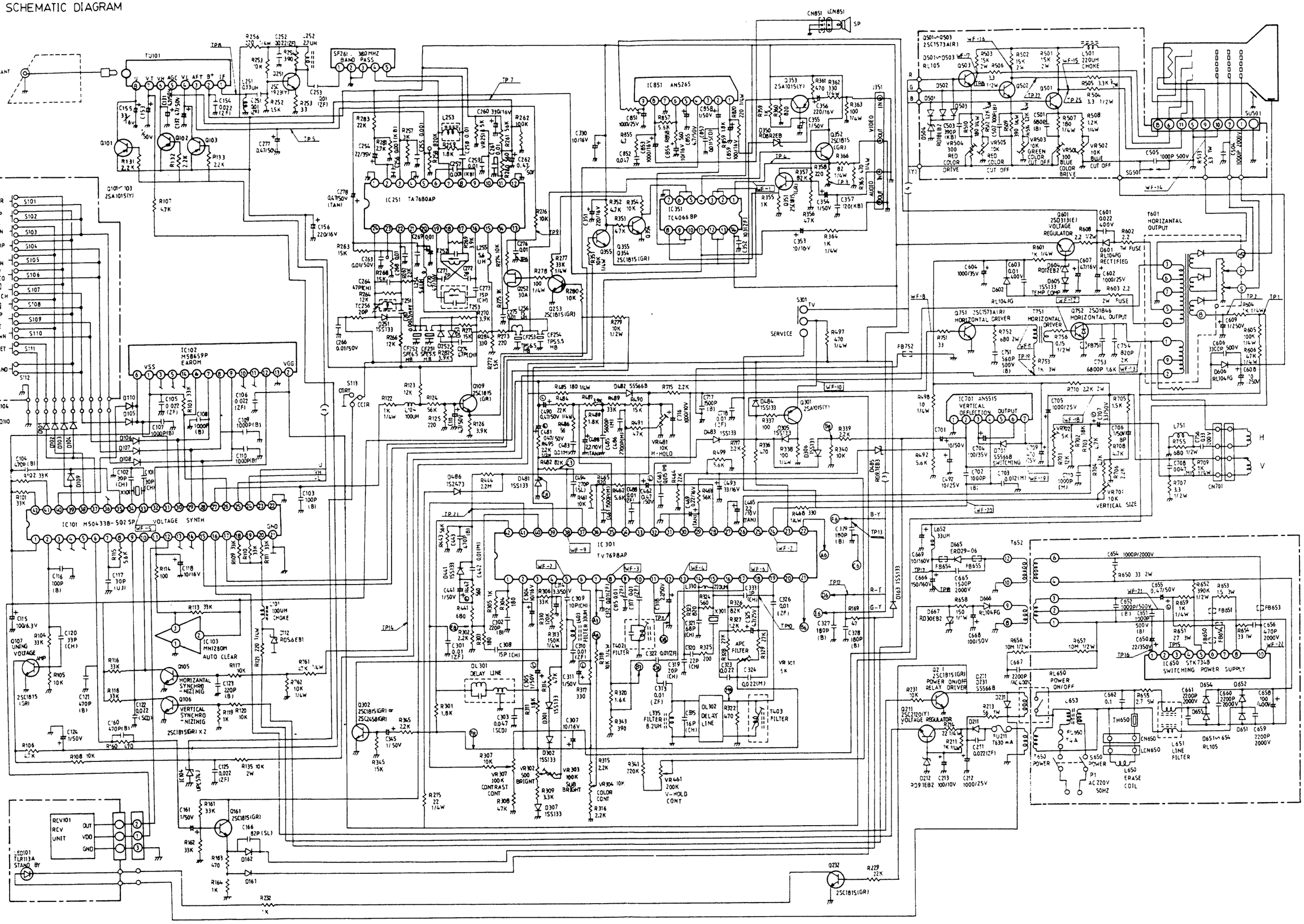
TERMINAL NO.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC101	ch 45	5.3	2.2	—	—	—	0	0.5	0	4.8	4.2	5.3	5.2	—	—	0	5.2
TERMINAL NO.		17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
IC101	ch 45	3	0	0	0	0	0	0.8	11.9	11.9	5.3	5.6	5.1	5.1	5.1	5	5.3
TERMINAL NO.		33	34	35	36	37	38	39	40	41	42						
IC101	ch 45	2.4	2.5	4.8	—	5.3	5.3	5	5	3.3	5.2						
TERMINAL NO.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC102	ch 45	5.3	29.5	—	5.3	—	5	5.1	5.1	5.1	0.2	—	0.6	0	—		
IC103		0	5.3	5.3													
IC104		0	32.2														
IC251		0	2.7	7.5	0	7.3	5.1	5.1	5.1	5.1	1.3	4.3	0	7.7	6.1	3.8	4.4
TERMINAL NO.		17	18	19	20	21	22	23	24								
IC251		8.2	8.2	4.4	12.1	4.6	4.6	6.9	4.6								
TERMINAL NO.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC301		4.7	12.2	4.5	4.3	1.1	9.7	8.4	8.7	6.2	7.6	0	9.3	9.9	3.5	3.5	8.6
TERMINAL NO.		17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
IC301		4.2	8.5	4.2	7.5	7.5	7.7	6.5	1.4	4.4	7.3	7.2	0.1	2.8	0	0	0.4
TERMINAL NO.		33	34	35	36	37	38	39	40	41	42						
IC301		8.4	4.8	4.8	3.1	0.7	0.7	3.2	7.9	7.7	7.9						
TERMINAL NO.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC351		3.1	3.1	3.1	0	0	0	0	—	7.5	7.5	7.5	11.1	11.1	12.2		
IC650		39.6	0	0.1	32.8	0.1	0	0	0.4	—	291						
IC701		0.3	11.9	25.5	1.33	0	1.4	25									
IC851		10.4	4.6	—	4.2	7.7	7.6	0	7.9	16.8							

Q' NO.	Q101	Q102	Q103	Q105	Q106	Q107	Q109	Q161	Q211	Q231
Operating Condition	1mV Color Bar Signal	1mV Color Bar Signal	1mV Color Bar Signal	1mV Color Bar Signal	1mV Color Bar Signal	1mV Color Bar Signal	1mV Color Bar Signal	1mV Color Bar Signal	1mV Color Bar Signal	1mV Color Bar Signal
COLL	12.1	0	0.1	4.2	4.8	9.9	0	12.2	13.7	0.2
BASE	11.0	12.1	12.1	1.3	0.3	0.3	0.6	5.8	9	0.8
EMIT	12.2	12.2	12.2	0	0	0	0	5.2	8.4	0
Q' NO	Q232	Q251	Q252	Q253	Q301	Q302	Q351	Q352	Q353	Q354
Operating Condition	1mV Color Bar Signal	1mV Color Bar Signal	1mV Color Bar Signal	1mV Color Bar Signal	1mV Color Bar Signal	1mV Color Bar Signal	No Signal	No Signal	No Signal	No Signal
COLL	10.7	9.4	0	0	1.5	4.4	12.2	12.1	0	0
BASE	0.2	1.1	7	0.7	7	0	4.1	4.7	12.2	0.7
EMIT	0	0.4	6.8	0	6.9	0	3.5	4	12.2	0
Q' NO.	Q355	Q501	Q502	Q503	Q601	Q751	Q752			
Operating Condition	No Signal	1mV Color Bar Signal	1mV Color Bar Signal	1mV Color Bar Signal	1mV Color Bar Signal	1mV Color Bar Signal	1mV Color Bar Signal			
COLL	11.1	143.9	143.7	138.7	16.3	85.1	121			
BASE	0	7.7	7.5	7.5	12.8	0.4	0.3			
EMIT	0	7.7	7.4	7.5	12.2	0	0			

SCHEMATIC DIAGRAM



SCHEMATIC DIAGRAM



WIRING DIAGRAM