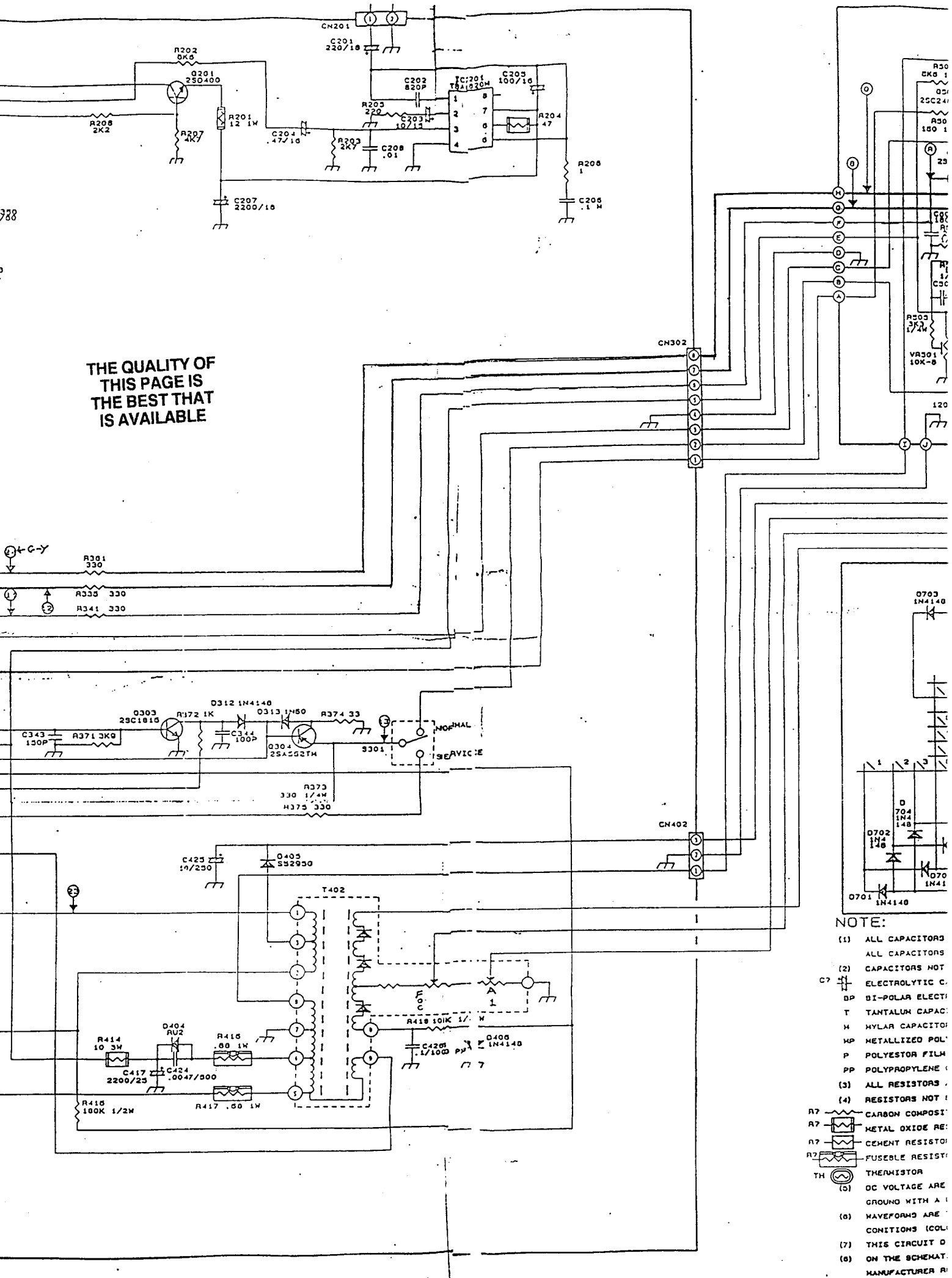


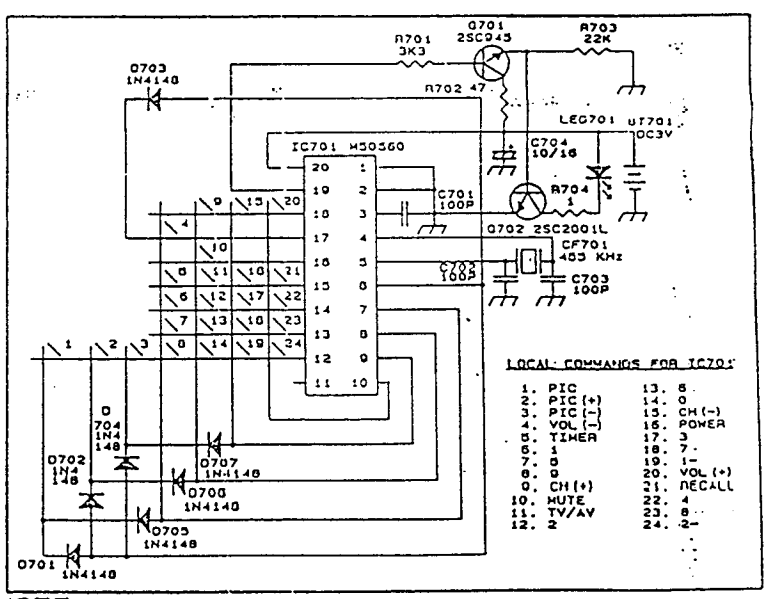
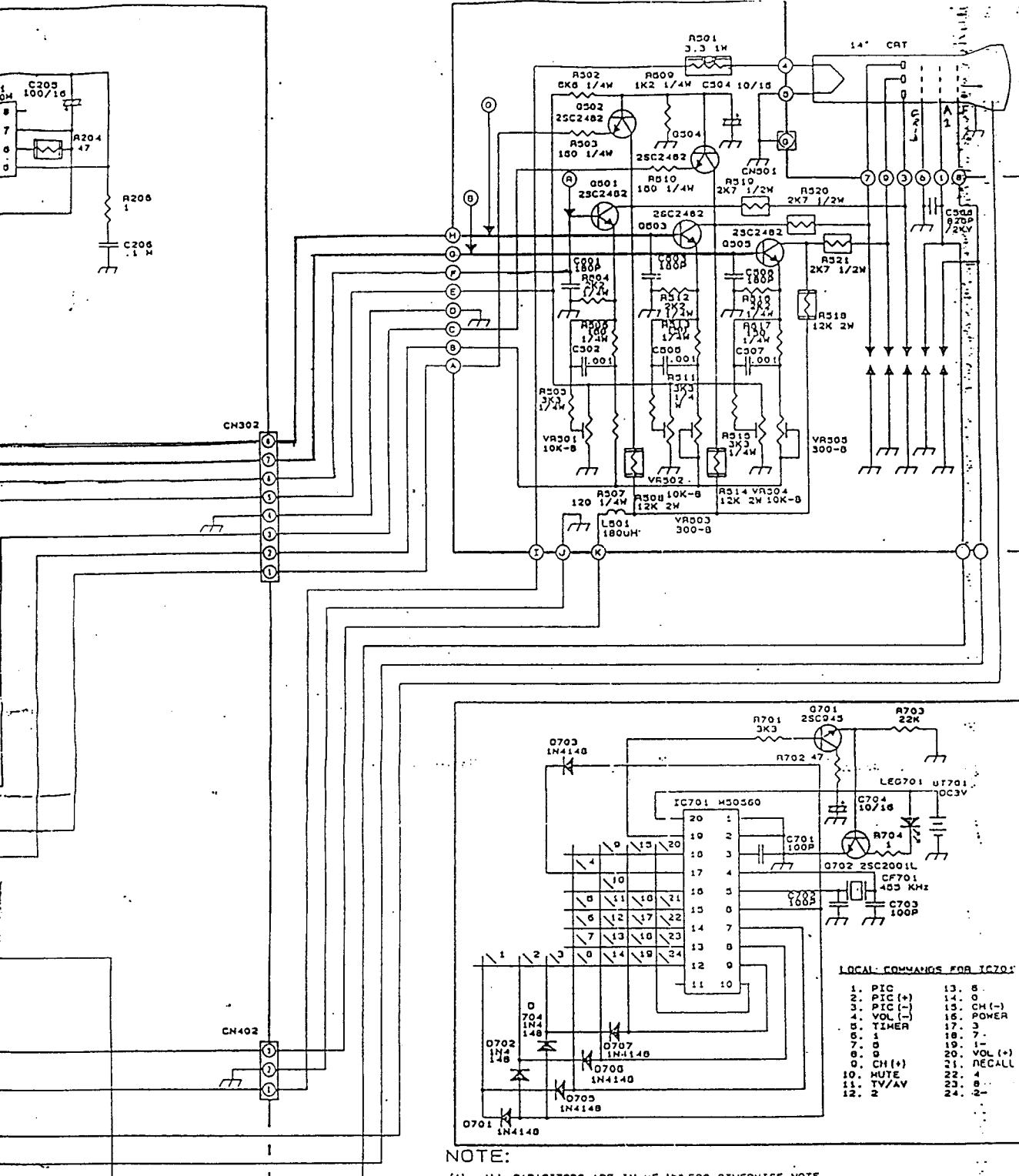
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NOTE:

- (1) ALL CAPACITORS
- ALL CAPACITORS
- (2) CAPACITORS NOT
- ELECTROLYTIC C.
- BP BI-POLAR ELECT.
- T TANTALUM CAPAC.
- H NYLAR CAPACITOR
- MP METALLIZED POLY
- P POLYESTER FILM
- PP POLYPROPYLENE
- (3) ALL RESISTORS
- (4) RESISTORS NOT
- R7 CARBON COMPOSIT
- R7 METAL OXIDE RE
- R7 CEMENT RESISTOR
- R7 FUSEBLE RESISTOR
- TH THERMISTOR
- (5) DC VOLTAGE ARE
- GROUND WITH A
- (6) WAVEFORMS ARE
- CONDITIONS (COL
- (7) THIS CIRCUIT O
- (8) ON THE SCHEMAT
- MANUFACTURER R



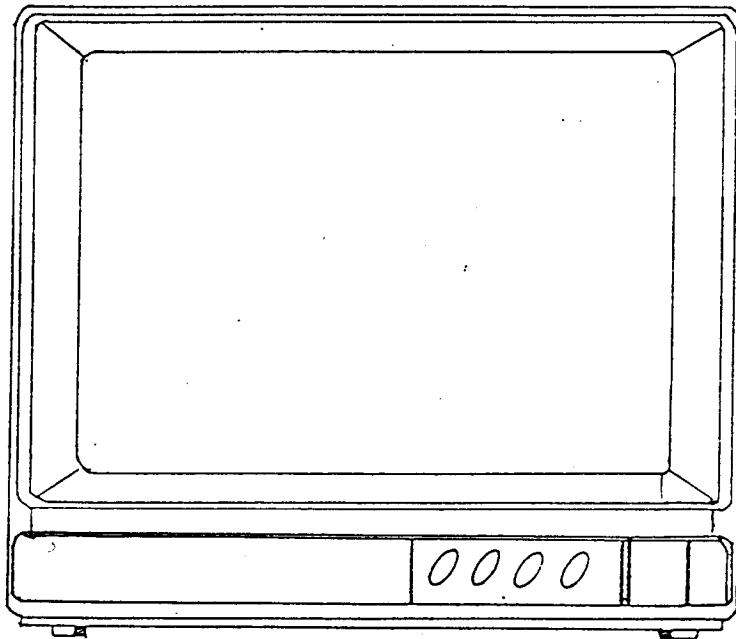
NOTE:

- (1) ALL CAPACITORS ARE IN OF UNLESS OTHERWISE NOTE
ALL CAPACITORS ARE 50V UNLESS OTHERWISE NOTED
- (2) CAPACITORS NOT SPECIFICALLY DESIGNATED ARE CERAMIC CAPACITOR.
- C7 ELECTROLYTIC CAPACITOR
- BP BI-POLAR ELECTROLYTIC CAPACITOR
- T TANTALUM CAPACITOR
- M MYLAR CAPACITOR
- MP METALLIZED POLYESTOR
- P POLYESTOR FILM CAPACITOR
- PP POLYPROPYLENE CAPACITOR
- (3) ALL RESISTORS ARE IN OHM 1/16 W UNLESS OTHERWISE NOTEQ.
- (4) RESISTORS NOT SPECIFICALLY DESIGNATED ARE CARBON FILM RESISTORS.
- R7 CARBON COMPOSITION RESISTOR
- R7 METAL OXIDE RESISTOR
- R7 CEMENT RESISTOR
- R7 FUSEBLE RESISTOR
- TH THERMISTOR
- (5) DC VOLTAGE ARE MEASURED FROM POINTS INDICATED TO THE CIRCUIT GROUND WITH A DIGITAL MULTIMETER TEST.
- (6) WAVEFORMS ARE TAKEN WITH SETTING CONTROLS TO A NORMAL CONDITIONS (COLOUR BAR PATTERN).
- (7) THIS CIRCUIT DIAGRAM IS SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.
- (8) ON THE SCHEMATIC SHOULD BE REPLAED WITH EXACT MANUFACTURER RECOMMENED PARTS.

Cascade TV 510

SERVICE MANUAL

SOLID STATE
14" Color Television
Receiver



CASCADE TV 510

MODEL: GT-8813

FAL-2000

VOLTAGE TABLE FOR IC

SYMBOL PIN NO.	IC201 (V)	IC102 (V)	IC601 (V)	IC301 (V)	IC401 (V)	IC701 (V)
1	0.6	4	4.68	3.7	GEN	GEN
2	0.5	2.5	4.68	11.99	13.2	GEN
3	0	7	0	4.45	25	3
4	0	0	0	4.18	0.76	0
5	7.3	7.23	NC	1.06	-0.34	3
6	15	4.74	NC	9.6	0.97	0
7	15	4.72	4.68	5.9	24.6	3
8	9.2	4.71	2.83	9.5		3
9		4.73	4.67	5.85		3
10		4.64	0.61	7.3		3
11		2.04	6.38	0		NC
12		GEN	3.3	9.17		0
13		4.14	8.9	9.72		0
14		7.76	4.63	3.5		0
15		3.88	0	3.49		0
16		4.2	1.38	8.46		0
17		7.94	1.5	4.1		0
18		7.94	GEN	8.5		0
19		4.2	GEN	4.11		0
20		11.55	0.56	7.33		3
21		4.5	GEN	7.29		
22		4.5	1.42	7.31		
23		6.07	4.67	5.47		
24		4.5	1.6	0.76		
25			4.67	4		
26			0.2	8.1		
27			0.2	8		
28			0.2	-0.3		
29			0.52	2.57		
30			0	GEN		
31			0	GEN		
32			0.34	0.38		
33			0	8.6		
34			2.1	4.7		
35			2.15	4.5		
36			0.1	3.15		
37			NC	-0.5		
38			4.5	0.8		
39			3.9	3.86		
40			0.2	6.5		
41			0.1	7.51		
42			4.73	9.18		

NOTE : VOLTAGE ARE TAKEN UNDER TUNED CONDITION WITH

- CONTRAST : Maximum Position
- BRIGHTNESS : Maximum Position
- COLOR : Maximum Position
- SIGNAL INPUT : 80 dBuV
- CHANNEL SETTING : The Last Channel of UHF High
- SIGNAL PATTERN : Colour Bar

D. AFC Alignment

- (i) Remove the 100 ohm resistor from TP103 and TP104.
- (ii) Connect the waveform detector to TP102. The output of sweep generator should be -40dB.
- (iii) Adjust AGC bias to 5V.
- (iv) Adjust T103 to obtain waveform as Fig.4.

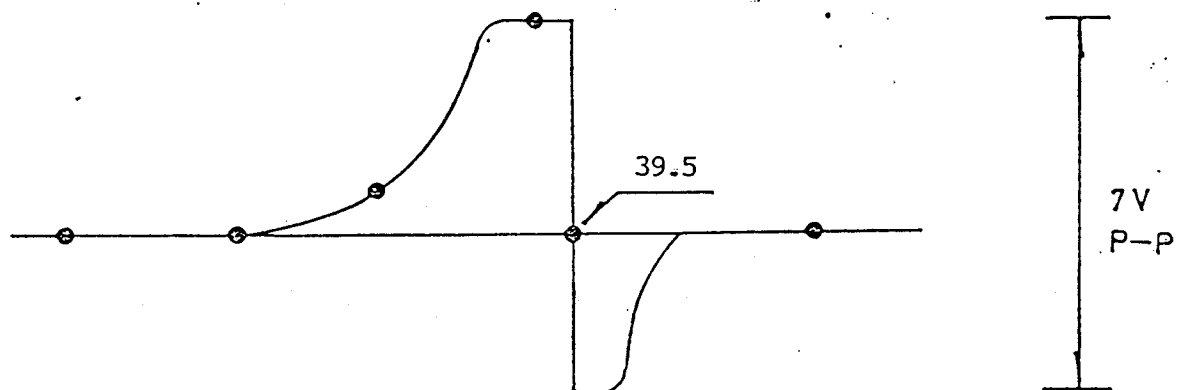


Fig.4

B+ ADJUSTMENT

- 1) Connect a digital volt meter to TPB+ and ground.
- 2) Set Brightness, contrast and colour to minimum.
- 3) Adjust VR901 and obtain a reading of 114V.

HORIZONTAL CIRCUIT ADJUSTMENT

- 1) Receive Monoscope Pattern input signal 80dBuV.
- 2) Connect terminal TP305 and the earth with the short Jumper wire.
- 3) Adjust VR304 to obtain the picture running at center.
- 4) Adjust VR303 to obtain the picture at center.

VERTICAL CIRCUIT ADJUSTMENT

- 1) Receive the Monoscope Pattern.
- 2) Adjust V-size (VR301) to obtain a normal picture.

WHITE BALANCE ALIGNMENT STEP

(deguss the picture by dequassing coil if necessary)

- 1) Turn the brightness, contrast and picture control to minimum value.
- 2) Turn VR501,503,505 to middle position. Turn VR502,504 to minimum position.
- 3) Turn VR306 to middle position.
- 4) Receive a black and white pattern.
- 5) Set S301 to service position.
- 6) Turn off the screen voltage.
- 7) Turn on the screen control volume on flyback transformer, & a horizontal red line appears.
- 8) Adjust VR502 to obtain a yellow line.
- 9) Adjust VR504 to obtain a white line.
- 10) Set S301 to normal position.
- 11) Adjust VR503, 505 to make the picture uniformly white.(9300°K)

SUB-BRIGHTNESS ALIGNMENT

- 1) Receive a colour bar pattern.
- 2) Turn the brightness, contrast and colour to minimum.
- 3) Adjust VR306 until the brightest bar can just be seen.

FOCUS ALIGNMENT

- 1) Set the brightness and contrast to middle position.
- 2) Receive a monoscope pattern.
- 3) Adjust focus control to obtain sharpest picture.

AGC ALIGNMENT

- 1) Receive CH69 (UHF) and input field strength in 63dB ±3dB input.
- 2) Adjust VR101 to the point where noise is disappeared.

PAL COLOUR ALIGNMENT

- (1) Receive Philips Pattern.
- (2) Connect Oscilloscope to TP303
- (3) Set the service switch (S301) to service position.
- (4) Set color control to maximum position.
- (5) Adjust T301, 302 and VR305 to obtain the waveform as Fig.6.

REDUCE THE DIFFERENCE
TO MINIMUM (ADJUST T301)

REDUCE THE DIFFERENCE TO
MINIMUM (ADJUST T302)

REDUCE THE DIFFERENCE
TO MINIMUM (ADJUST
VR305)

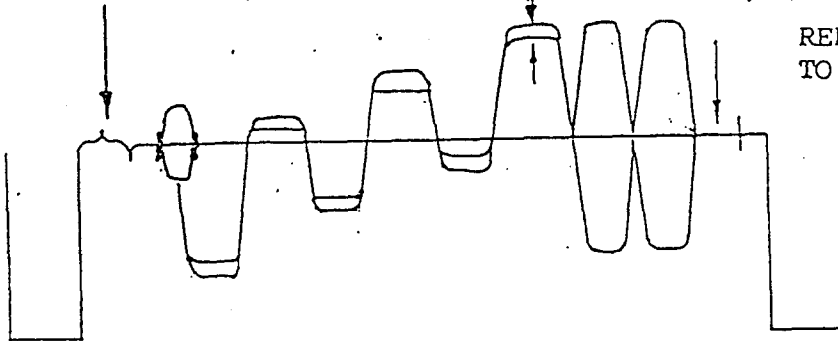


Fig.6

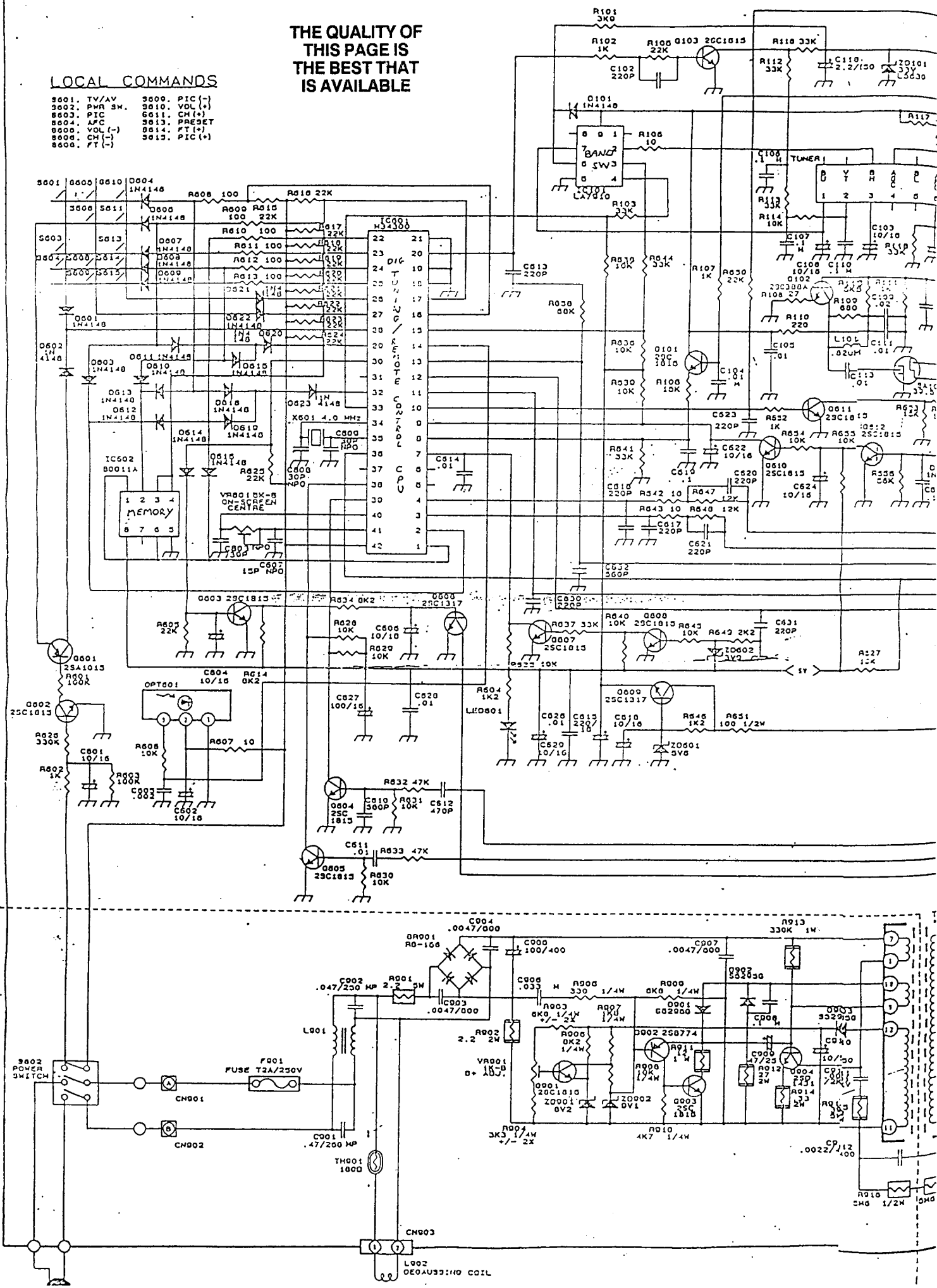
COLOR SYNC. ADJUSTMENT

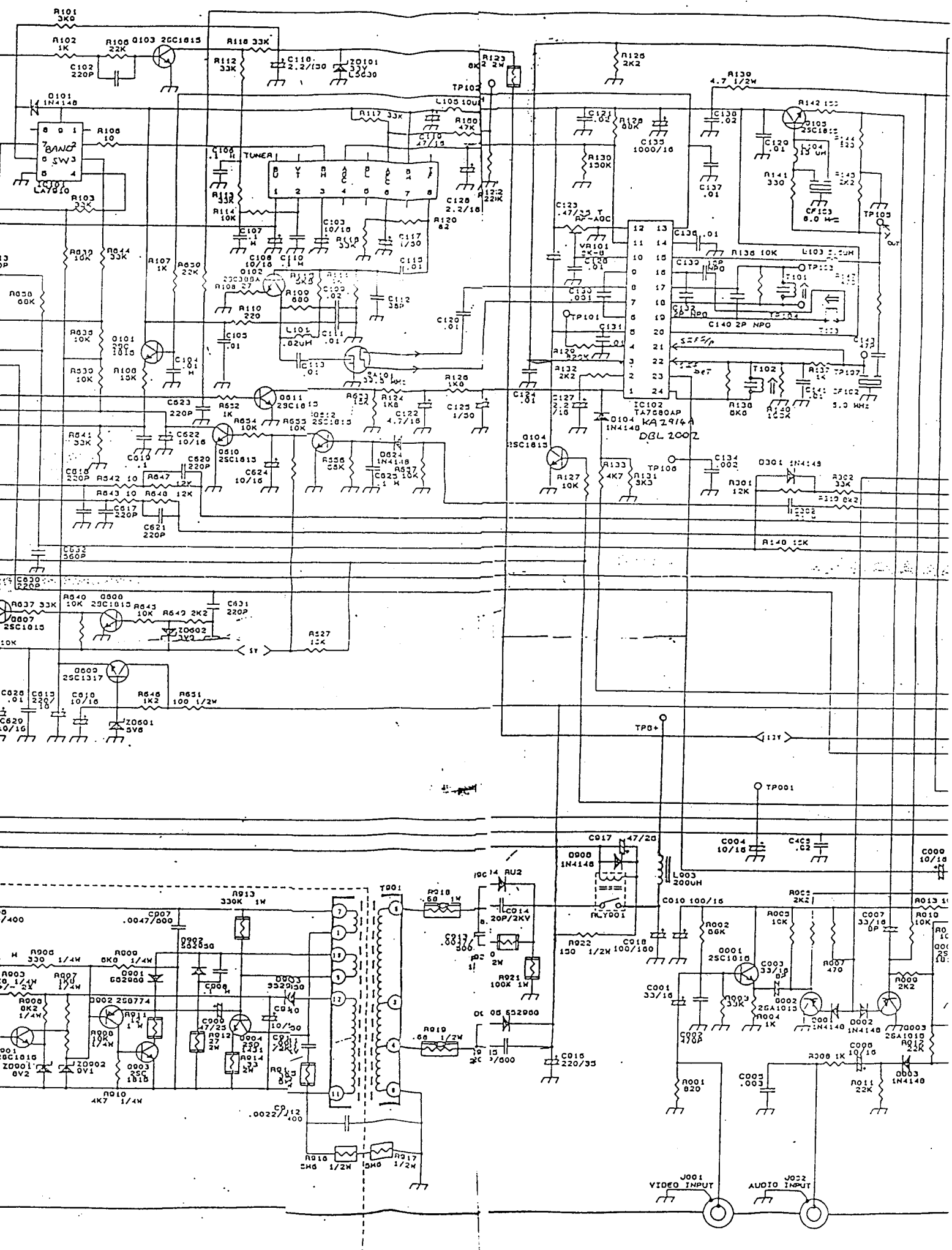
- (1) Receive Philips pattern and warm up for five minutes.
- (2) Connect terminal TP302 and the earth with the short Jumper wire.
- (3) Connect the TP306 and TP301 with 10K OHM resistor so that the color killer turns off.
- (4) Then the color stripes appear on the screen when the adjustment is inconnect. Adjust the color sync (CT301) so that the PHILIPS pattern stands still.
- (5) Remove the 10K ohm resistor and jumper wire.

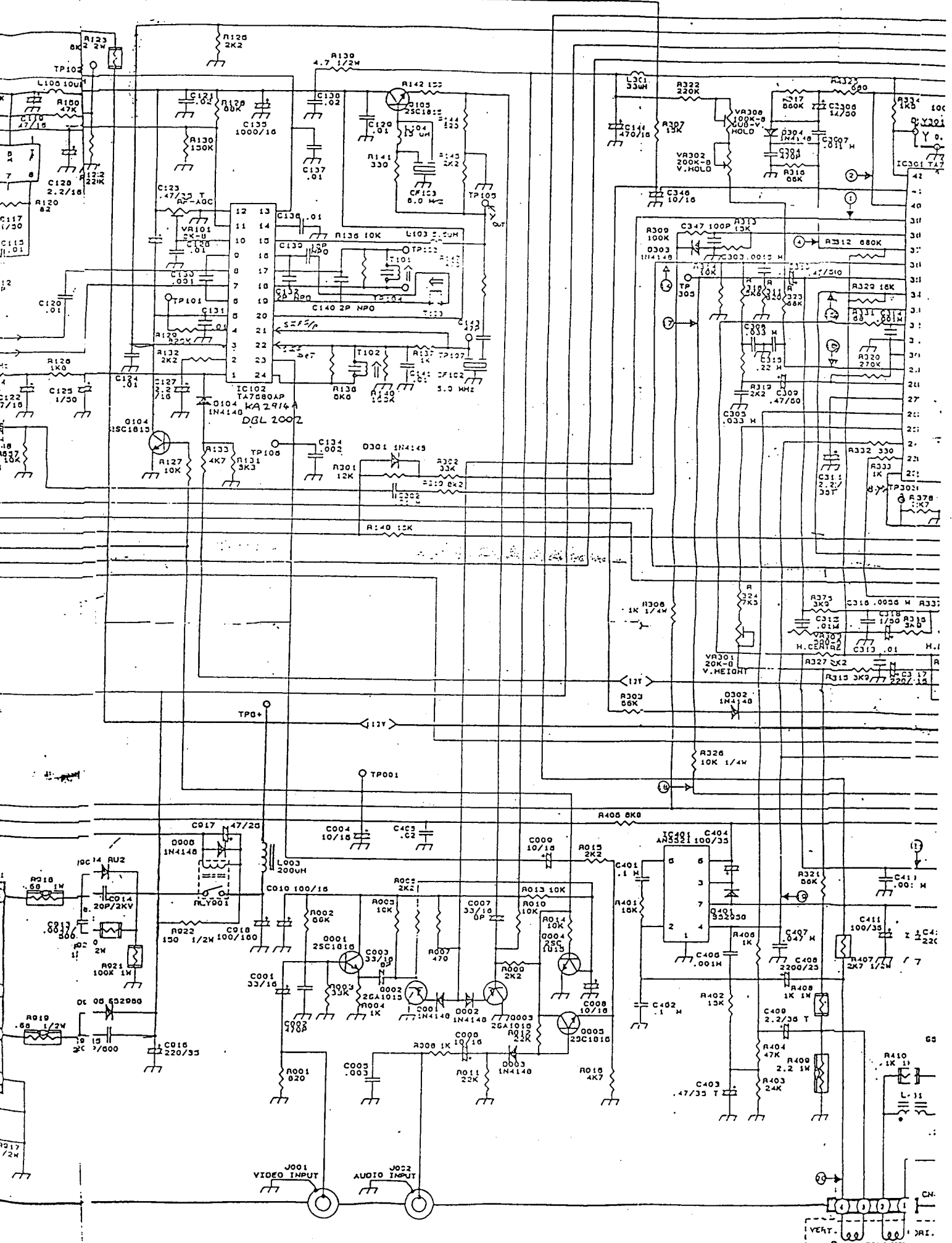
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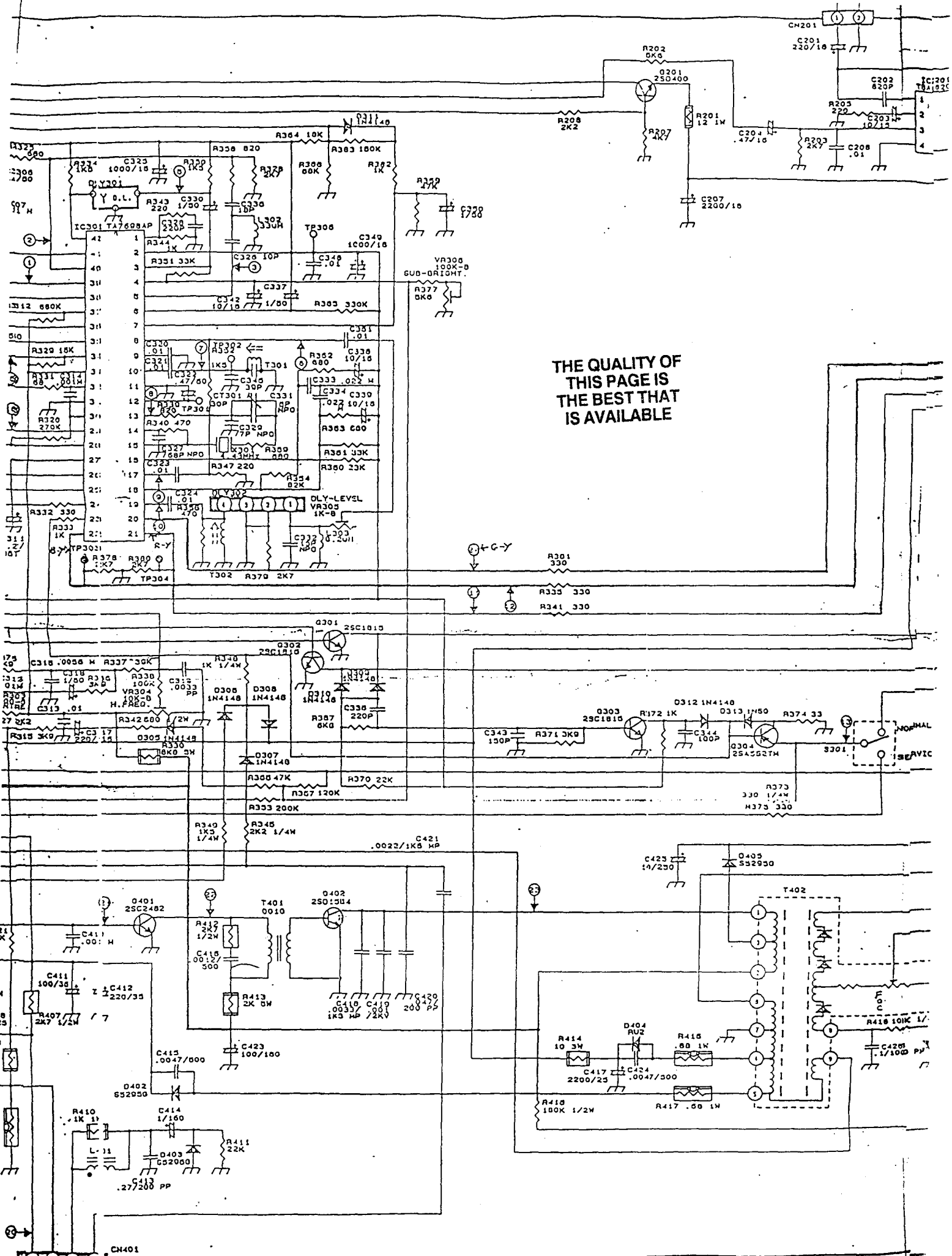
LOCAL COMMANDS

- | | |
|---------------|---------------|
| 3001. TV/AV | 3009. PIC (-) |
| 3002. PWR SW. | 3010. VOL (+) |
| 3003. PIC | 3011. CH (+) |
| 3004. AFC | 3013. PRESET |
| 3005. VOL (-) | 3014. FT (+) |
| 3006. CH (-) | 3015. PIC (+) |
| 3007. FT (-) | |









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VIF ALIGNMENT

A. Preparation Step (See Fig. 1)

- (i) Connect AGC bias voltage to TP101, the DC supply should be turned off this time.
- (ii) Connect 14V B+ bias voltage to D404 (-) and Ground.
- (iii) Connect sweep generator to tuner test point and Ground.
- (iv) Connect waveform detector to TP105 and Ground.

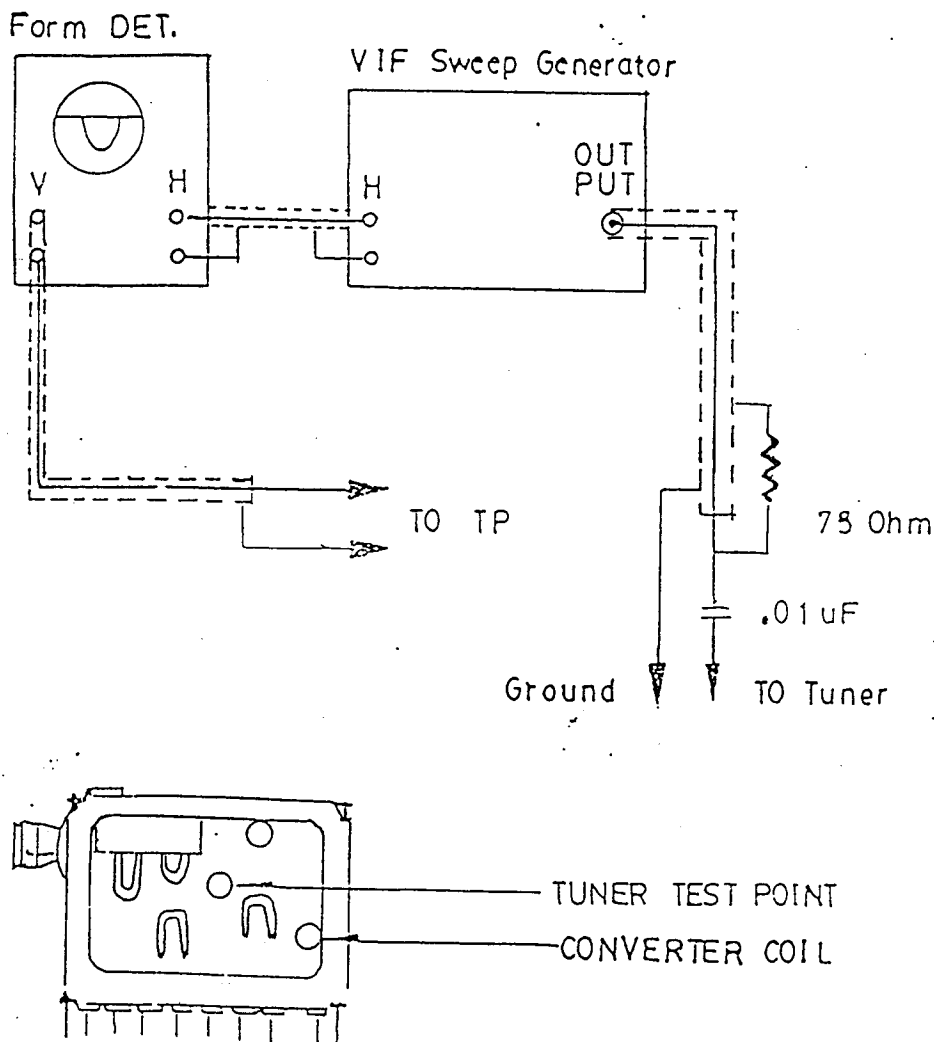
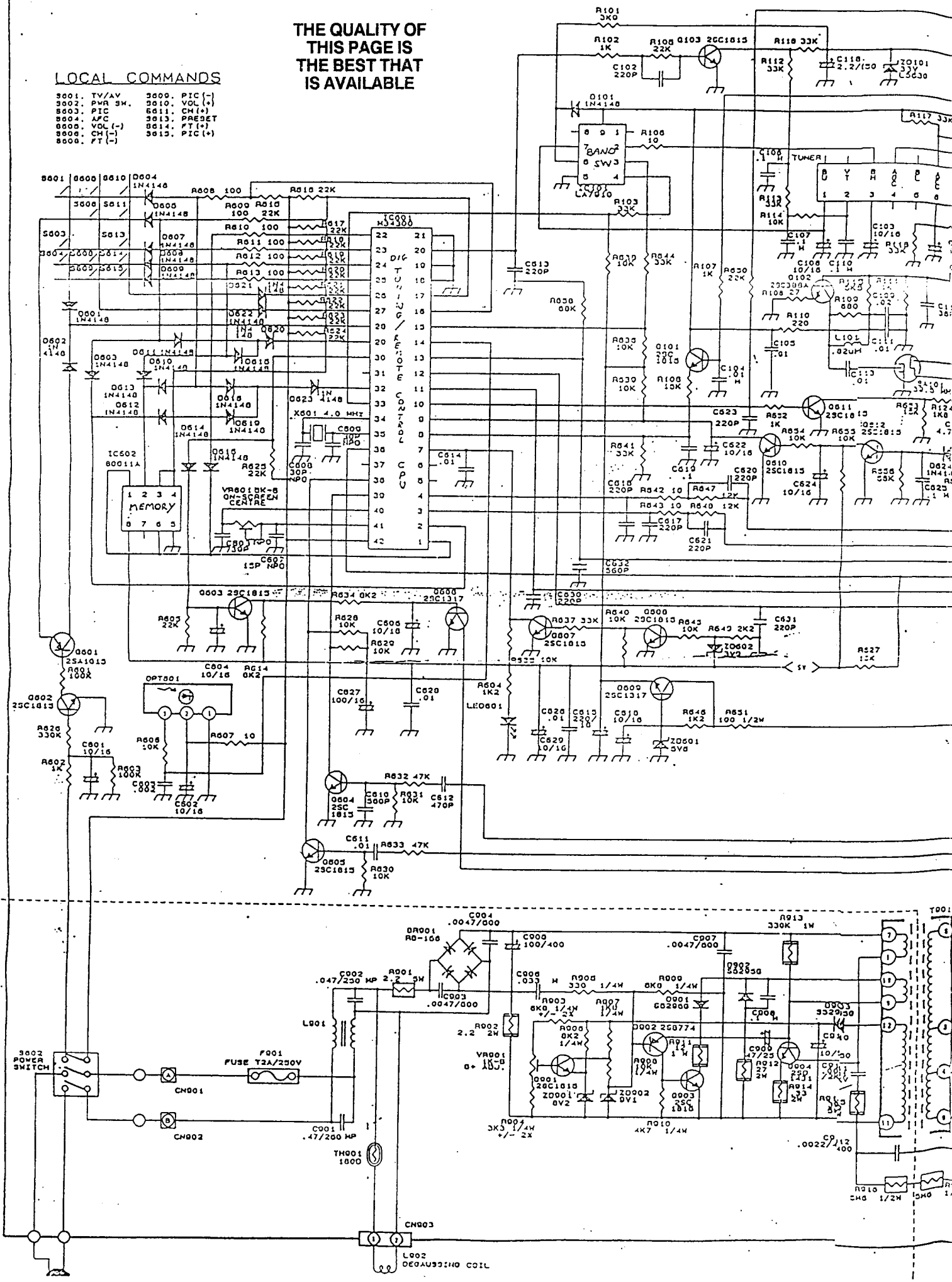


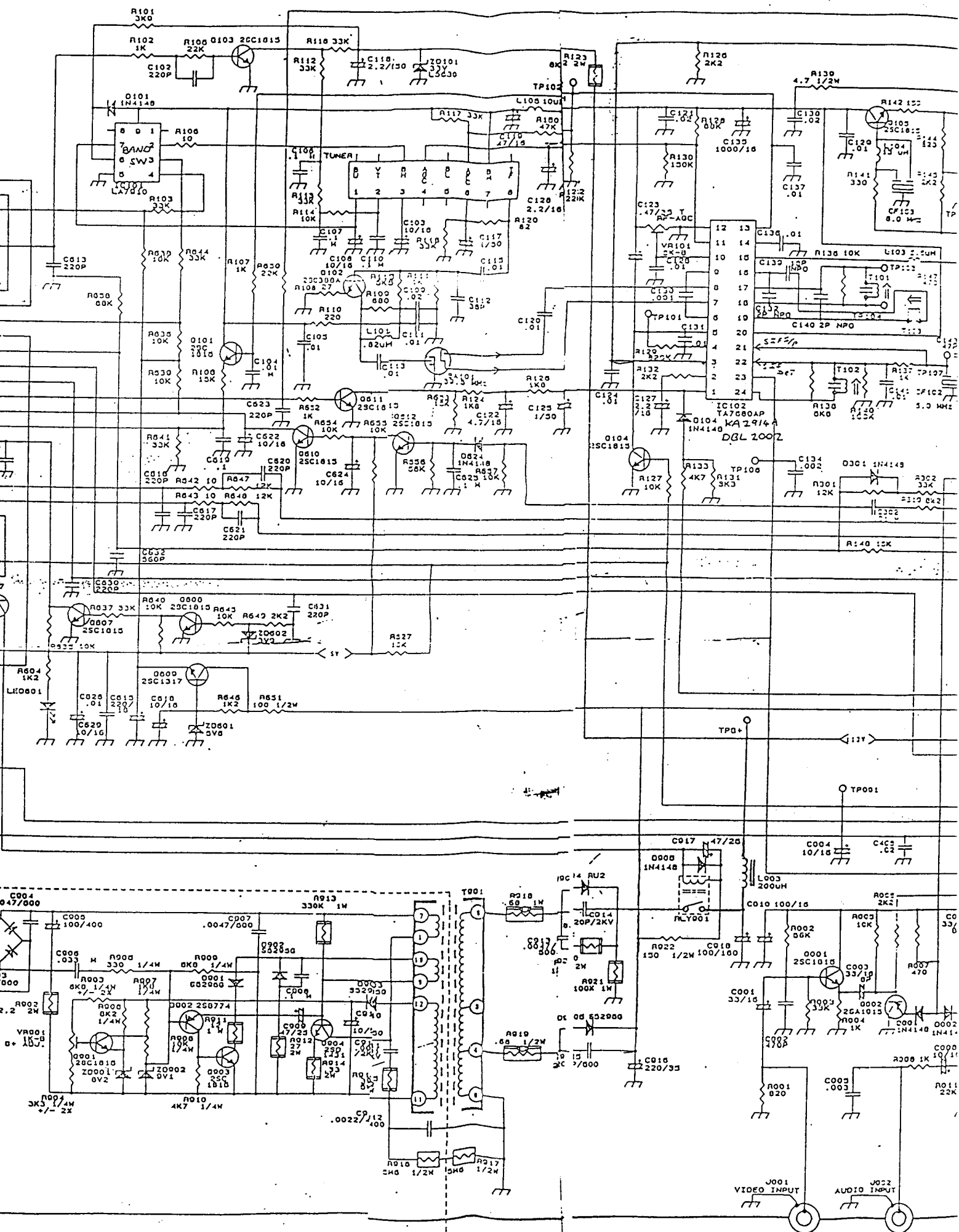
Fig. 1

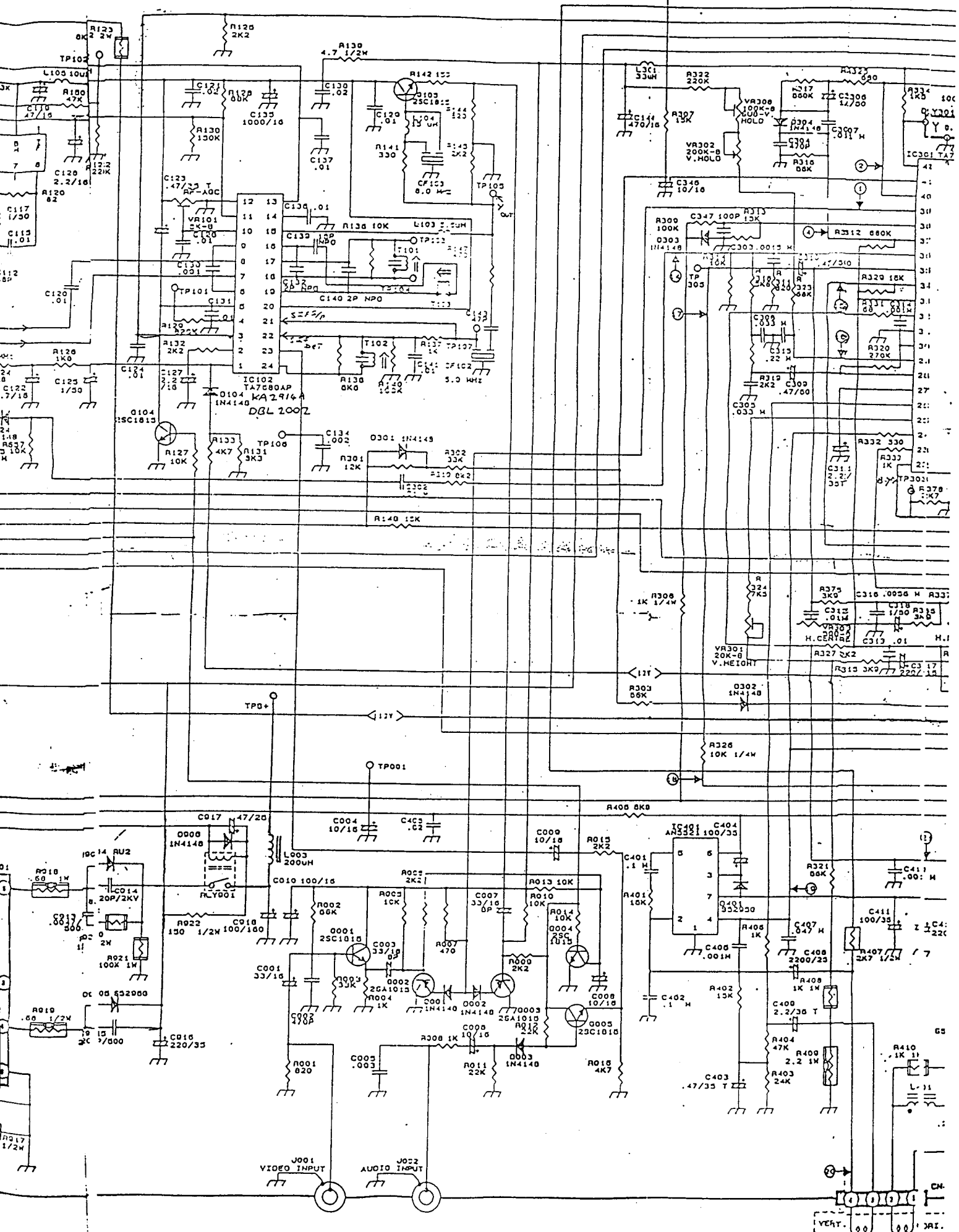
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LOCAL COMMANDS

- | | |
|---------------|---------------|
| 3001. TV/AV | 3000. PIC (-) |
| 3002. PWR SW. | 3010. VOL (+) |
| 3003. PIC | 3011. CM (+) |
| 3004. AFC | 3013. PRESET |
| 3005. VOL (-) | 3014. FT (+) |
| 3006. CH (-) | 3015. PIC (+) |
| 3008. FT (-) | |







SPECIFICATION

SYSTEM : PAL-I (UK)

DESTINATION :

CHANNEL COVERAGE :

UHF : 21 - 69 CH

FREQUENCY RANGE :

UHF : 471.25 - 855.25 MHz

SCANNING LINES : 625 LINES

HORIZONTAL : 15625 Hz

VERTICAL : 50 Hz

IF FREQUENCY

VIDEO : 39.5 MHz

SOUND : 33.5 MHz

CHROMA : 35.07 MHz

VISION/SOUND SEPARATION : 6.0 MHz

SENSITIVITY :

UHF : 80 uV

OUTPUT POWER MAXIMUM : 1000 mW

10% THD : 700 mW

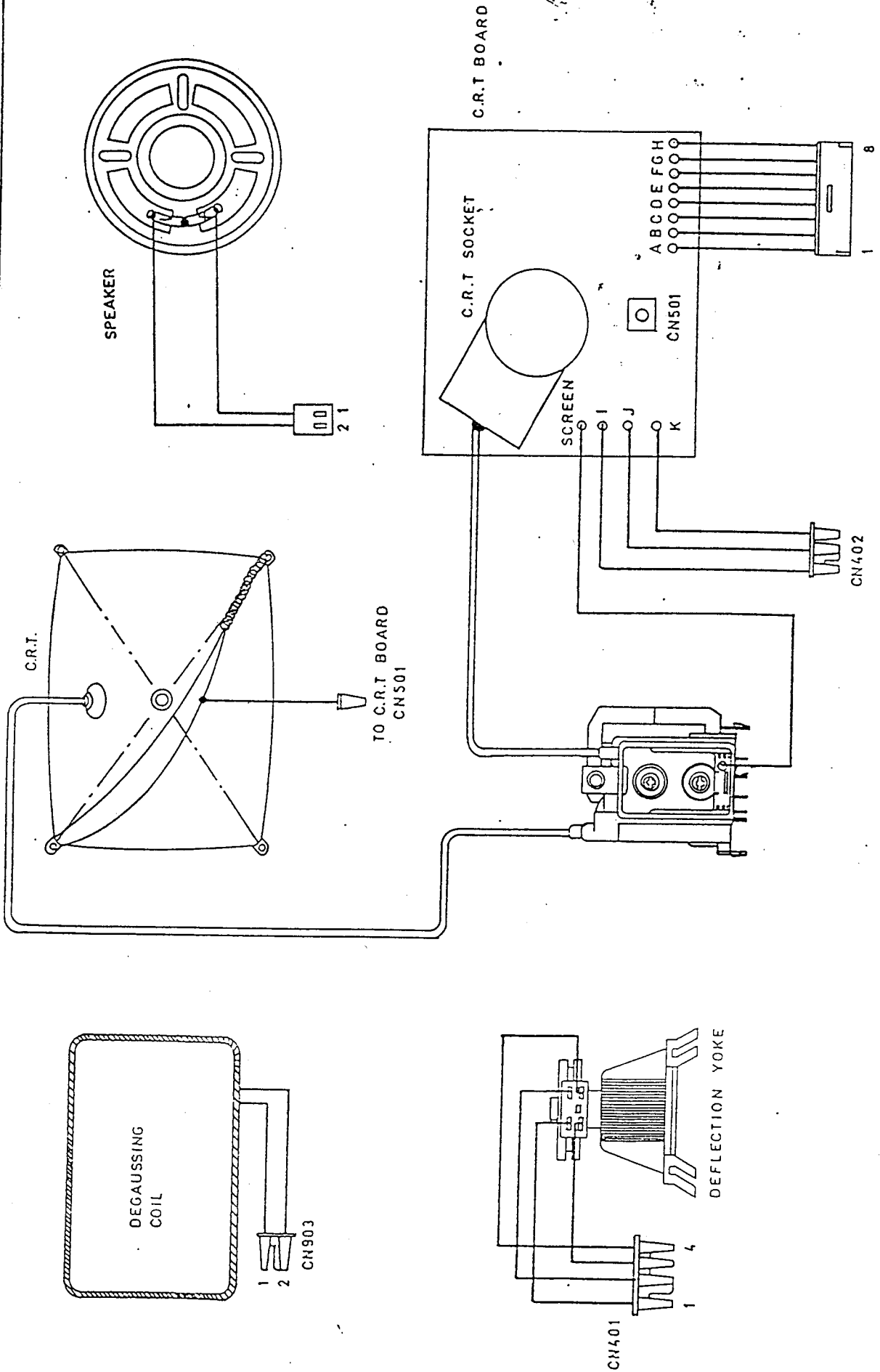
CRT : 14" (35.5cm) DIAGONAL, 22.5 mm NECK
DIAMETE 90° DEFLECTION ANGLE

SPEAKER : 3" 16 OHM 1W

ANTENNA IMPEDANCE : 75 OHM

POWER CONSUMPTION : 60 Watts

WIRING DIAGRAM



VOLTAGE TABLE FOR TRANSISTOR

SYMBOL	B (V)	C (V)	E (V)	SYMBOL	B (V)	C (V)	E (V)
Q001	4.18	12	3.53	Q601	2.7	-0.3	4.9
Q002	12	0	6.3	Q602	0	2.27	0
Q003	4.2	0	4.9	Q603	0.65	0.02	0
Q004	0.08	12	0	Q604	-0.53	4.54	0
Q005	0.08	0.08	0	Q605	-0.05	4.68	0
Q101	4.86	11.68	4.02	Q606	0.71	0.16	0
Q102	1.11	8.48	0.37	Q607	0.04	4.86	0
Q103	0.07	21.35	0	Q608	0.66	0.04	0
Q104	0.115	7	0	Q609	5.34	14.58	4.68
Q105	3.66	11.7	3.0	Q610	0.09	4.78	0
Q201	15.8	16.8	15	Q611	0.43	0.99	0
Q301	0.02	3.59	0	Q612	0.64	0.09	0
Q302	0.02	3.46	0	Q901	-1.2	4	1.5
Q303	0.74	0.13	0	Q902	-3.4	-8.5	-6.4
Q304	6.34	0.73	6.58	Q903	-8.5	-7	-8.5
Q401	0.53	68.1	0	Q904	-10.5	202	-8.2
Q402	-0.13	112.12	7.01				
Q501	7.43	126.2	7				
Q503	7.48	127.1	7.07				
Q504	2.18	127	4.61				
Q505	7.45	124.2	6.27				

NOTE : VOLTAGE ARE TAKEN UNDER TUNED CONDITION WITH

CONTRAST : Maximum Position

BRIGHTNESS : Maximum Position

COLOR : Maximum Position

SIGNAL INPUT : 80 dBuV

CHANNEL SETTING : The Last Channel of UHF High

SIGNAL PATTERN : Colour Bar

B. Tank Coil Alignment Step (See Fig. 2)

- (i) Calibrate the Division of waveform Detector equal to 100 mV per div.
- (ii) The output of sweep generator should be -50dB.
- (iii) Connect TP001 to Ground.
- (iv) Adjust AGC bias until the output waveform equal to 1V p.p. (10 div.)

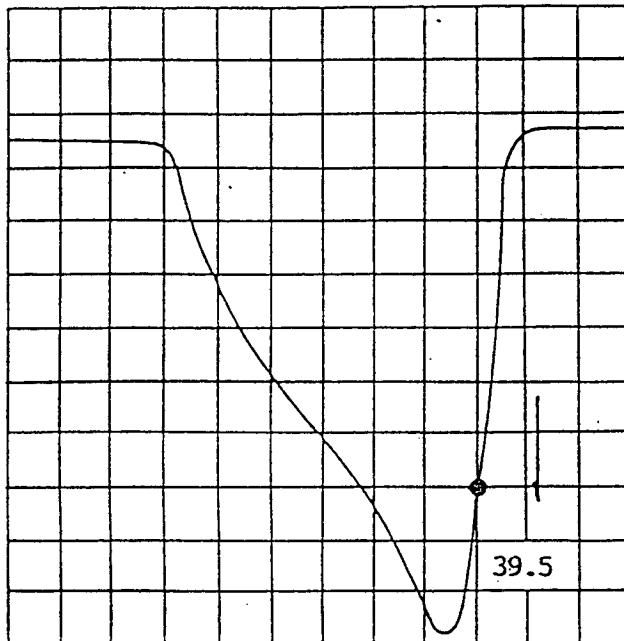


Fig. 2

- (v) Turn T101 until the marker 39.5MHz falls to the lowest point as Fig.2.

B. SIF Alignment

- (i) Connect the sweep generator to TP105.
- (ii) Connect waveform detect to TP106.
- (iii) The output of sweep generator should be -50dB.
- (iv) Adjust T102 to obtain the waveform as Fig.5.

REMARK : Connect TP001 to Ground.

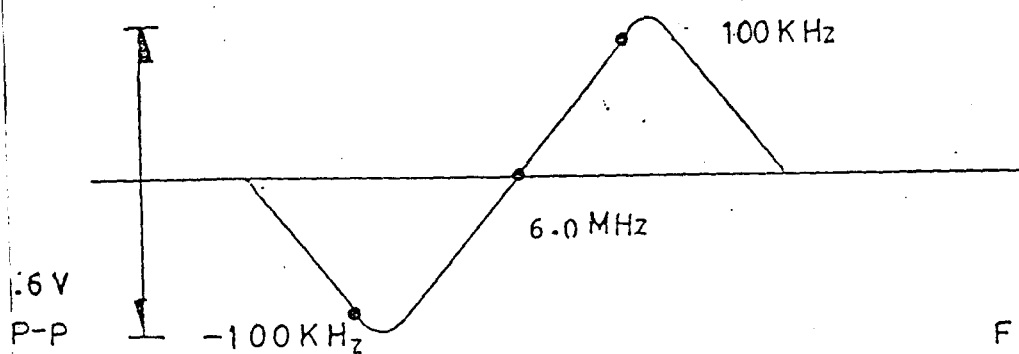


Fig.5

C. VIF Alignment

- (i) Connect 100 ohm resistor between TP103 and TP104.
- (ii) Adjust T104 until obtain the maximum waveform amplitude. (If Provided.)
- (iii) Adjust AGC bias, and maintain the waveform achieve 1V pp.

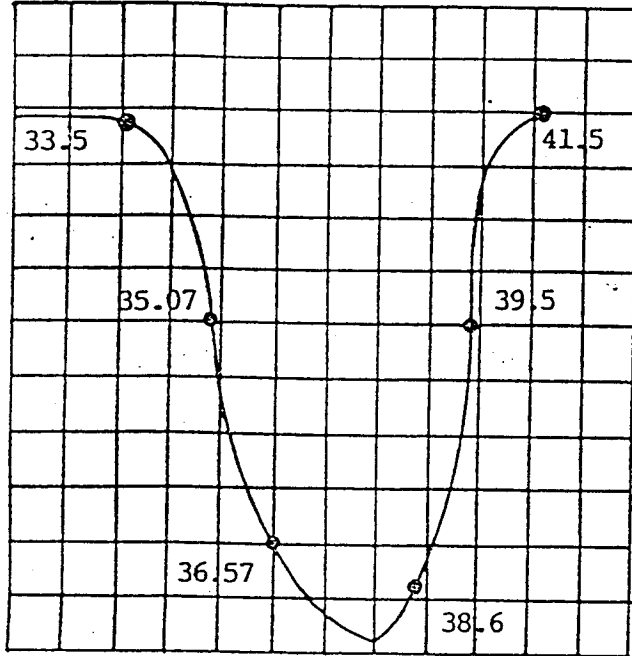


Fig.3

