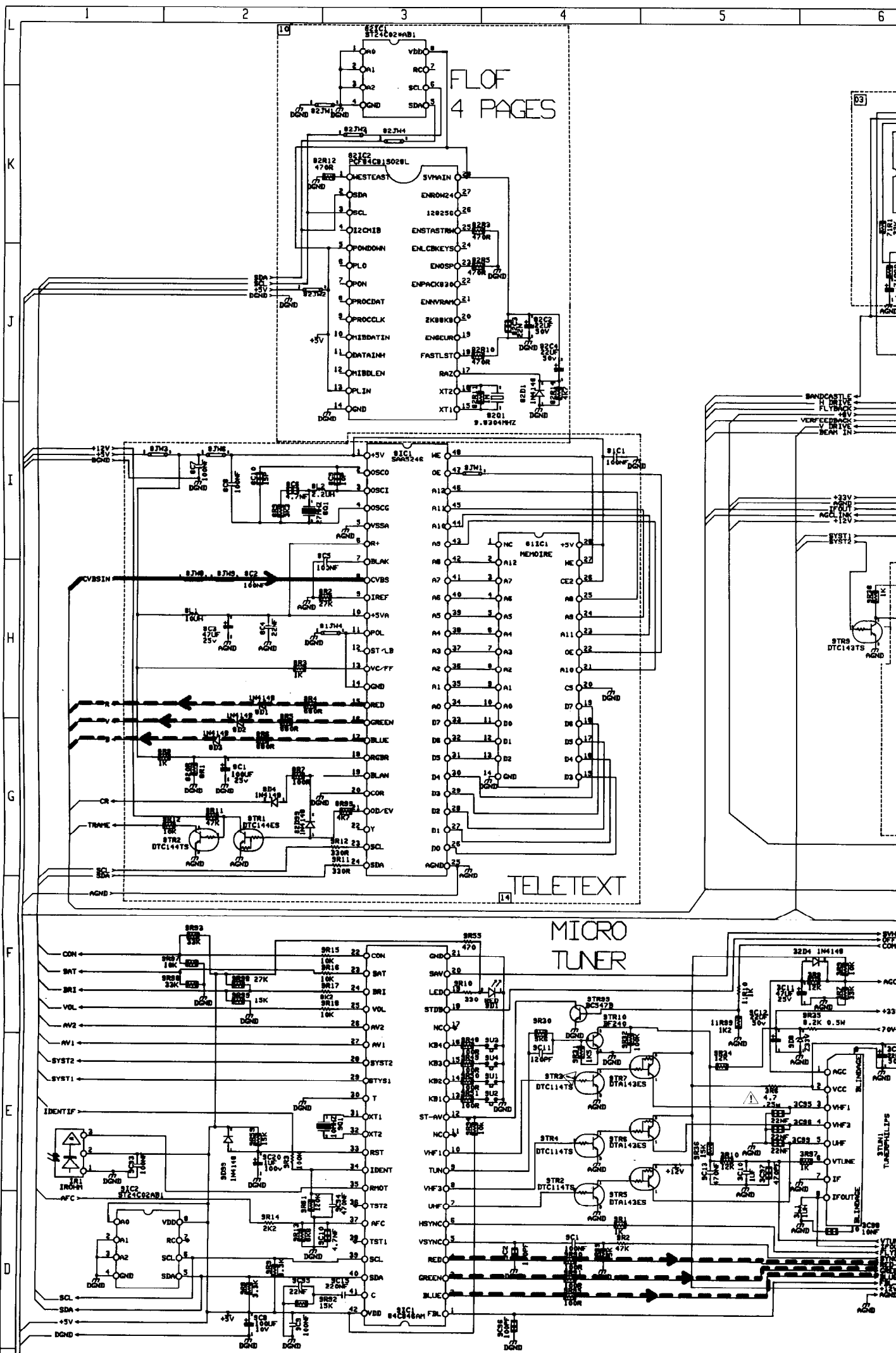
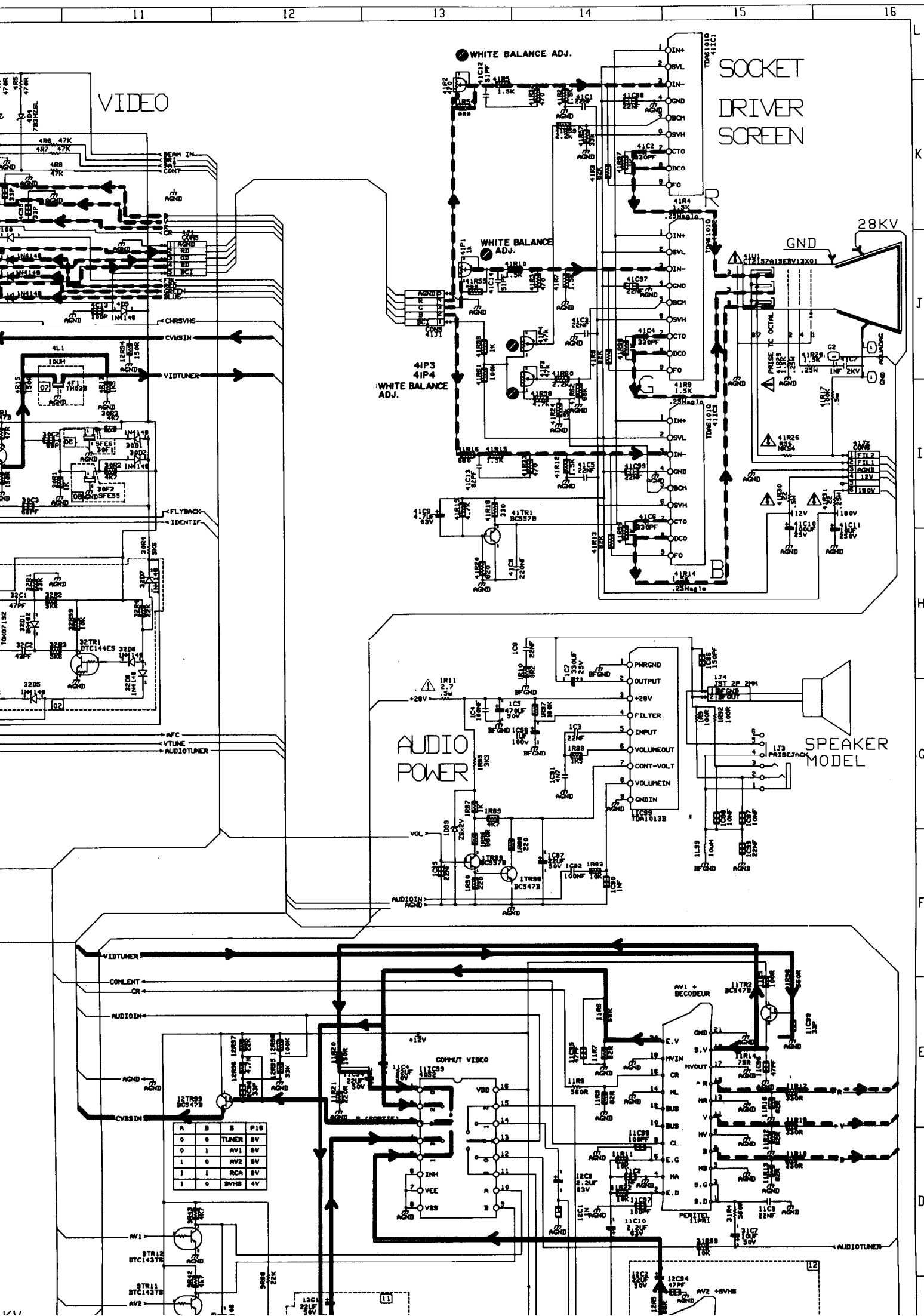
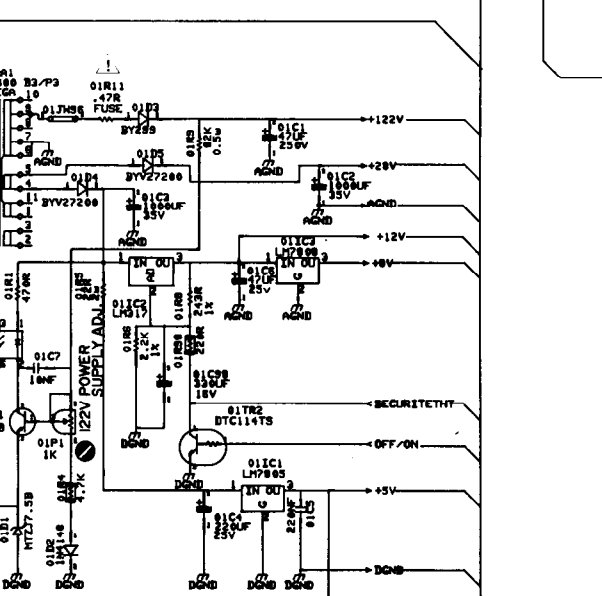
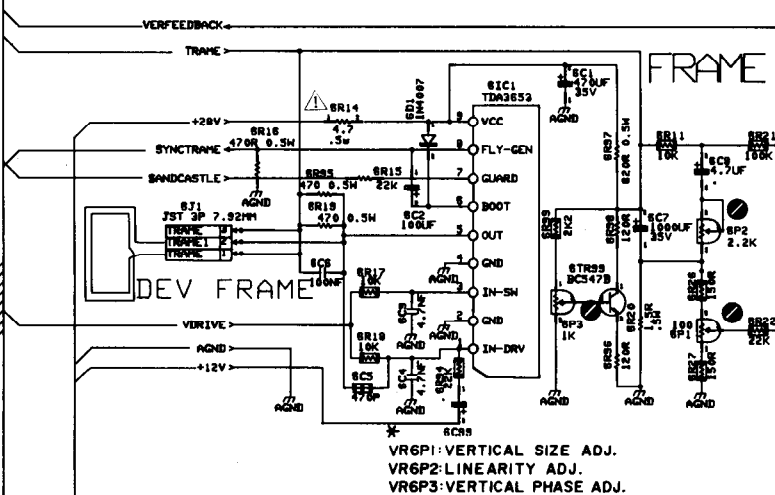




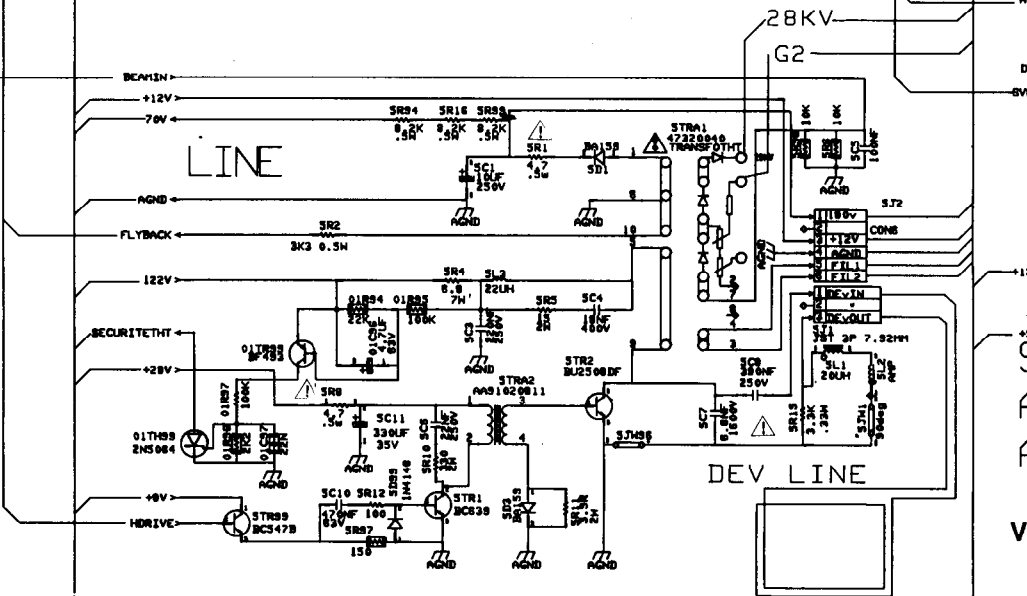




```
bus main
bus data
bus signal
```



VR6P1: VERTICAL SIZE ADJ.
VR6P2: LINEARITY ADJ.
VR6P3: VERTICAL PHASE ADJ.





I MEASURED VOLTAGES OF THE SEMICONDUCTORS

ICS

01C1

1	—
2	—
3	0.1 V
4	—
5	—
6	2.4 V
7	2.6 V
8	0 V
9	3.0 V
10	2.4 V
11	2.5 V
12	—
13	—
14	1.1 V
15	11.6 V
16	12.9 V

01IC1

1	15.4 V
2	—
3	5.0 V

01IC2

1	11.4 V
2	17.4 V
3	12.6 V

01IC3

1	12.6 V
2	—
3	8.0 V

1IC99

1	—
2	14.3 V
3	28.4 V
3	14.2 V
5	0 V
6	0 V
7	14.3 V
8	0 V
9	—

0IS01

1	16.5 V
2	15.5 V
3	0 V
4	2.4 V
5	12.9 V
6	0 V

4IC1

1	3.2 V
2	5.9 V
3	5.9 V
4	7.1 V
5	1.6 V
6	3.8 V
7	3.2 V
8	1.7 V
9	4.7 V
10	8.0 V
11	—
12	3.3 V
13	4.4 V
14	3.9 V
15	3.8 V
16	0.7 V
17	1.2 V
18	2.8 V
19	2.6 V
20	2.7 V
21	3.3 V
22	3.3 V
23	3.3 V
24	3.3 V
25	2.1 V
26	1.5 V
27	5.8 V
28	3.8 V
29	3.8 V
30	1.5 V
31	1.5 V
32	1.6 V
33	4.8 V
34	2.2 V
35	2.0 V
36	8.0 V
37	4.4 V
38	0.5 V
39	3.1 V
40	3.8 V
41	—
42	2.5 V
43	2.6 V
44	3.9 V
45	4.0 V
46	4.0 V
47	7.8 V
48	3.8 V
49	1.9 V
50	3.5 V
51	4.7 V
52	6.5 V

6IC1

1	1.2 V
2	0 V
3	1.9 V
4	0 V
5	14.8 V
6	27.4 V
7	0.5 V
8	4.7 V
9	27.2 V

7IC1

1	5.0 V
2	0 V
3	—
4	—
5	0.5 V
6	0 V
7	0 V
8	—
9	4.9 V
10	—
11	3.1 V
12	3.1 V
13	0 V
14	1.3 V
15	0 V
16	1.3 V

71IC

1	1.6 V
2	1.2 V
3	8.0 V
4	0 V
5	0 V
6	—
7	3.2 V
8	4.2 V
9	1.5 V
10	1.5 V
11	0 V
12	0 V
13	0 V
14	0 V
15	0.5 V
16	5.7 V

8IC1

1	5.1 V
2	2.3 V
3	3.6 V
4	0 V
5	—
6	5.0 V
7	2.2 V
8	2.3 V
9	2.5 V
10	5.0 V
11	—
12	2.3 V
13	5.1 V
14	—
15	0 V
16	0 V
17	0 V
18	2.2 V
19	0 V
20	—
21	0 V
22	0 V
23	3.1 V
24	2.7 V
25	—
26	0 V
27	0 V
28	0 V
29	0 V
30	0 V
31	4.7 V
32	0 V
33	0 V
34	3.7 V
35	3.6 V
36	3.6 V
37	1.2 V
38	1.3 V
39	4.0 V
40	3.5 V
41	1.0 V
42	4.3 V
43	4.3 V
44	0.8 V
45	0.8 V
46	0.8 V
47	2.5 V
48	5.0 V

81IC1

1	0 V
2	4.3 V
3	1.0 V
4	3.5 V
5	4.0 V
6	1.3 V
7	1.2 V
8	3.6 V
9	3.6 V
10	3.7 V
11	0 V
12	0 V
13	4.7 V
14	—
15	0 V
16	0 V
17	0 V
18	0 V
19	0 V
20	—
21	4.4 V
22	2.5 V
23	0.8 V
24	0.8 V
25	0.8 V
26	5.1 V
27	5.0 V
28	5.1 V

11IC99

1	1.0 V
2	0.3 V
3	1.0 V
4	0.3 V
5	2.1 V
6	—
7	—
8	—
9	0 V
10	0 V
11	1.9 V
12	1.6 V
13	1.6 V
14	2.2 V
15	0.5 V
16	12.6 V

9IC1

1	0 V
2	0 V
3	0 V
4	0 V
5	−0.1 V
6	0.4 V
7	5.1 V
8	0 V
9	4.1 V
10	0 V
11	1.5 V
12	5.1 V
13	5.1 V
14	5.1 V
15	5.1 V
16	5.0 V
17	5.0 V
18	0 V
19	0 V
20	0 V
21	0 V
22	4.9 V
23	2.0 V
24	0.9 V
25	1.2 V
26	4.2 V
27	4.2 V
28	3.4 V
29	5.0 V
30	—
31	2.3 V
32	1.9 V
33	4.9 V
34	3.7 V
35	5.0 V
36	5.0 V
37	2.4 V
38	5.1 V
39	3.4 V
40	3.2 V
41	5.0 V
42	5.1 V

9IC2

1	0 V
2	—
3	—
4	—
5	3.2 V
6	3.4 V
7	1.7 V
8	5.1 V

※ Voltages indicated above were measured when an RF signal was being received, (However, the DC voltmeter's negative input was connected to the M. GND when the primary section was measured.)

TRANSISTORS

	BASE	COLLECTOR	EMITTER
0TR1	0 V	294.0 V	0 V
01TR1	6.7 V	15.5 V	6.1 V
01TR2	0 V	11.4 V	—
01TR99	0 V	122.0 V	123.0 V
1TR99	1.8 V	0.5 V	2.4 V
1TR98	0.5 V	4.9 V	—
3TR1	4.5 V	8.0 V	4.0 V
4TR1	2.9 V	7.2 V	2.2 V
5TR1	0.1 V	27.4 V	—
5TR2	0 V	121.0 V	—
5TR99	2.3 V	8.0 V	2.2 V
6TR99	3.7 V	11.4 V	3.1 V
8TR1	0 V	2.7 V	—
8TR2	2.7 V	0 V	—
9TR2	5.1 V	0 V	0 V
9TR3	0 V	12.6 V	—
9TR4	0 V	12.6 V	—
9TR5	0 V	12.6 V	12.6 V
9TR6	12.6 V	0 V	12.6 V
9TR7	12.6 V	0 V	12.6 V
9TR9	5.0 V	0 V	—
9TR10	0.5 V	2.0 V	0 V
9TR11	5.0 V	0 V	—
9TR12	5.0 V	0 V	—
9TR99	0 V	5.1 V	—
11TR1	3.2 V	6.1 V	2.2 V
11TR2	2.1 V	12.6 V	1.5 V
11TR3	6.1 V	12.6 V	5.5 V
12TR3	0.7 V	4.7 V	0 V
12TR99	1.0 V	12.6 V	0.6 V
41TR1	2.0 V	—	2.5 V

5-4. SCREEN (G2) adjustment

- 1) Use the pattern generator (PM5518) to input a black signal into AV-1 (EURO socket).
- 2) Set the TV's contrast to minimum and the brightness to the centre position with the remote control.

- 3) Using an oscilloscope, measure the cathode voltages at the resistors 41R4 (R), 41R9 (G), 41R14 (B) on the SOCKET PCB and confirm which point is the highest.
- 4) After measurement, adjust "SCREEN" on the FBT so that the highest of the above three points becomes 150 V as shown.

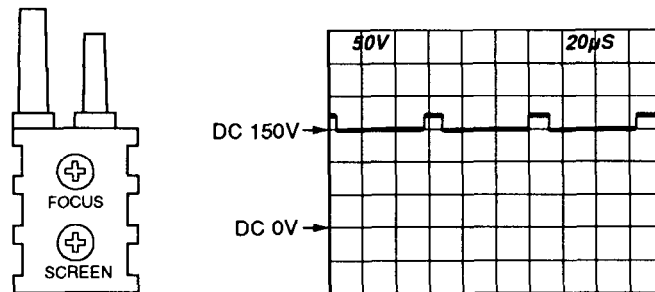


Fig. 5-6

5-5. Focus adjustment

- 1) Use the pattern generator (PM5518) to input a cross hatch signal into AV-1 (EURO socket).
- 2) Set the contrast to the 1/3 position of the control range and the brightness to the centre position with the remote control unit.
- 3) Adjust the "FOCUS" on the FBT so that the focus adjustment zone's sharpness is optimum as shown.

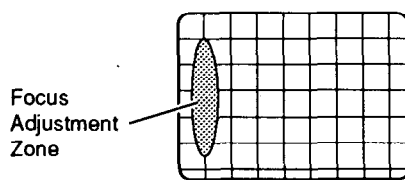


Fig. 5-7

5-7. White balance adjustment

- 1) Set the contrast to the 1/4 position (130cd ± 10 in white signal) and brightness to the 3/4 position (2cd ± 0.2 in black signal) with the remote control unit.
- 2) Use the pattern generator (PM5518) to input a white signal into AV-1 (EURO socket).
- 3) Attach the sensor of the colour analyzer on the TV screen.
- 4) Adjust VR41P1 and VR41P2 on the SOCKET PCB so that the X and Y values are indicated within the following values of the coordinates of the colour temperature.
- 5) Use the pattern generator (PM5518) to input a black signal into AV-1 (EURO socket).
- 6) Adjust VR41P3 and VR41P4 on the SOCKET PCB so that the X and Y values are indicated within the following values of the coordinates of the colour temperature.

$X=0.295 \pm 0.010$, $Y=0.303 \pm 0.010$ (8000 ± 1200 °K)
According to CIE-xy chromaticity diagram

5-8. Colour adjustment

- 1) Set the RF output frequency of the pattern generator (PM5518) to exact 38.9 MHz (carrier only) [except UKT] or exact 38.5 MHz (carrier only) [UKT only] (IF carrier frequency) with 80 dBμV sensitivity.
- 2) Connect the RF output of the pattern generator to the 8 pin of the TUNER unit.
- 3) Connect the DC voltmeter to the resistor 9R14. Select the menu STD-2 and a UHF band at the beginning of the bargraph with the remote control unit.
- 4) Adjust the 3L2 coil so that the meter indicates 3.4 ± 0.4 V.

- 2) Connect the DC voltmeter to the anode of the 32D4.
- 3) Adjust VR3P1 so that the reading on the meter is 8 ± 0.5 V.

NOTE : If there is no colour analyzer available, adjust VR41P1, VR41P2, VR41P3 and VR41P4 so that the correct white picture is obtained.

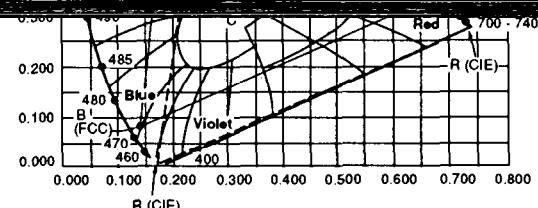
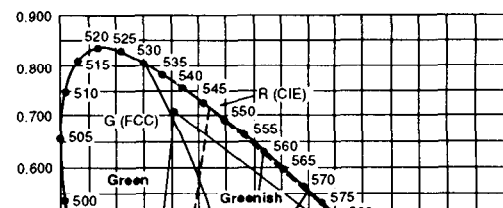


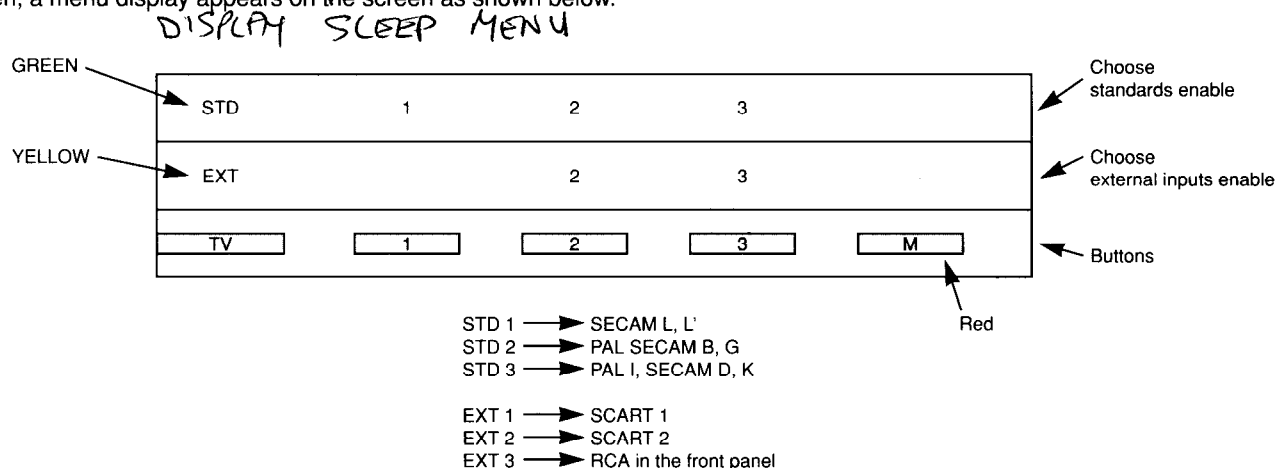
Fig. 5-8

VI. FACTORY MODE

In the Akai factory, we choose for each model, standards and external inputs enable according to each destination. When the Main P.C. Board or EEPROM in the Main P.C. Board is replaced for any reason, memorize the content according to the following procedure.

- 1) Press the buttons DISPLAY, ~~MENU~~ and SLEEP on the remote control continuously.

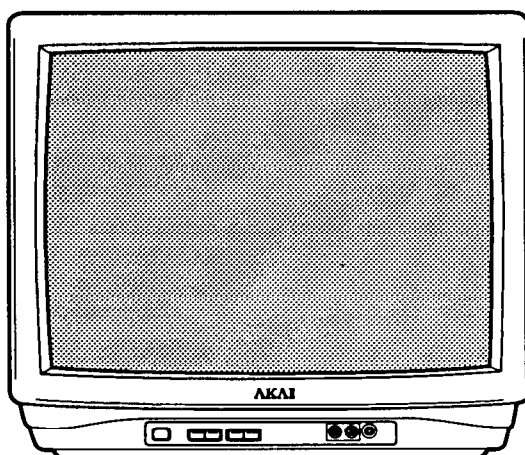
Then, a menu display appears on the screen as shown below.



- 2) Press the green button once. Then, at the same time the STD character by green colour is changed to white character.
- 3) Choose required STD number with 1 ~ 3 button.
- 4) Press the yellow button once. Then, at the same time the EXT character by yellow colour is changed to white character.
- 5) Choose required EXT number with 1 ~ 3 button.
- 6) Press the red button to memorize.
- 7) Press the TV button to return to normal picture.

SPECIFICATION																		
Description		Product																
Model			CT 2137F	CT 2137UKT	CT 2157P				CT 2157E	CT 2157F	CT 2157D	CT 2157PT				CT 2157ET	CT 2157DT	CT 2157UKT
Country			F R A N C E	U K	S P A I N	S C A N A D V I I N A	I T A L I A	G E R M A N Y	G R E E C E	F R A N C E	E E A U S R T O P E	S P A I N	S C A N A D V I I N A	I T A L I A	G E R M A N Y	B/ E G N R E E L E U X E	E E A U S R T O P E	U K
Classification			E5	B1/B2	E1	E2	V2	V1	E1	E5	Y1	E1	E2	V2	V1	E1	Y1	B1/B2
Reception Standard	1	Secam B/G	o						o	o	o					o	o	
	2	Secam L/L'	o							o								
	3	PAL B/G	o		o	o	o	o	o	o	o	o	o	o	o	o	o	
	4	PAL I	o	o						o								o
		Secam D/K									o						o	
Input Video Standard	PAL		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
	Secam		o						o	o	o					o	o	
Input Video	E1:Scart 1		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
	E2:Scart 2									o						o		o
	E3:RCA				o	o	o	o	o	o	o	o	o	o	o	o	o	o
Head Phone Jack			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
Teletext	Flof+Standard (Euro)			o								o					o	o
	Standard (Euro)												o	o	o	o		

AKAI SERVICE MANUAL



MODEL CT-2157D

COLOUR TELEVISION

MODEL CT-2137F/UKT

MODEL CT-2157D/DT/E/ET/F/P/PT/UKT

SPECIFICATIONS

Broadcasting form			System BG.....		VHF : ch 2 - 12
2157D/DT	BG,DK	PAL-SECAM			UHF : ch 21 - 69
2157E/ET	BG	PAL-SECAM			Cable : ch S01 - S03,
2137F, 2157F.....	BG,I,LL	PAL-SECAM			S1 - S41
2157P/PT	PAL BG		System I.....		UHF : ch 21 - 69
2137UKT, 2157UKT	PAL I				VHF : 1A - 1J (Ireland)
Selection form	Infra-red remote control				Cable : S01 - S03, S1 - S41
Programme channel.....	60		2137UKT, 2157UKT		
Receive channel			System I.....		UHF : ch 21 - 69
2157D/DT					VHF : 1A - 1J (Ireland)
System BG.....	VHF : ch 2 - 12				Cable : S01 - S03, S1 - S41
	UHF : ch 21 - 69		Music power		5 W RMS
	Cable : ch S01 - S03, S1 - S41		Power requirement		
System DK	VHF : R1 - RX11, 4 - 9		2137UKT, 2157UKT		230 V - 240 V AC, 50 Hz
	UHF : ch 21 - 69		Except 2137UKT, 2157UKT		230 V AC, 50 Hz
2157E/ET,2157P/PT			Power consumption		60 W
System BG.....	VHF : ch 2 - 12		CRT size		21 inches (Picture : 51 cm)
	UHF : ch 21 - 69		Set dimensions		530 (W) x 450 (H) x 474 (D)
	Cable : ch S01 - S03, S1 - S41				mm
2137F, 2157F			Packing dimensions		600 (W) x 575 (H) x 565 (D)
System LL	VHF : ch 2 - 4, 5 - 10				mm
	UHF : ch 21 - 69		Weight		21 kg
	Cable : ch B - Q		Gross weight		24 kg

* For improvement purposes, specifications and design are subject to change without notice.