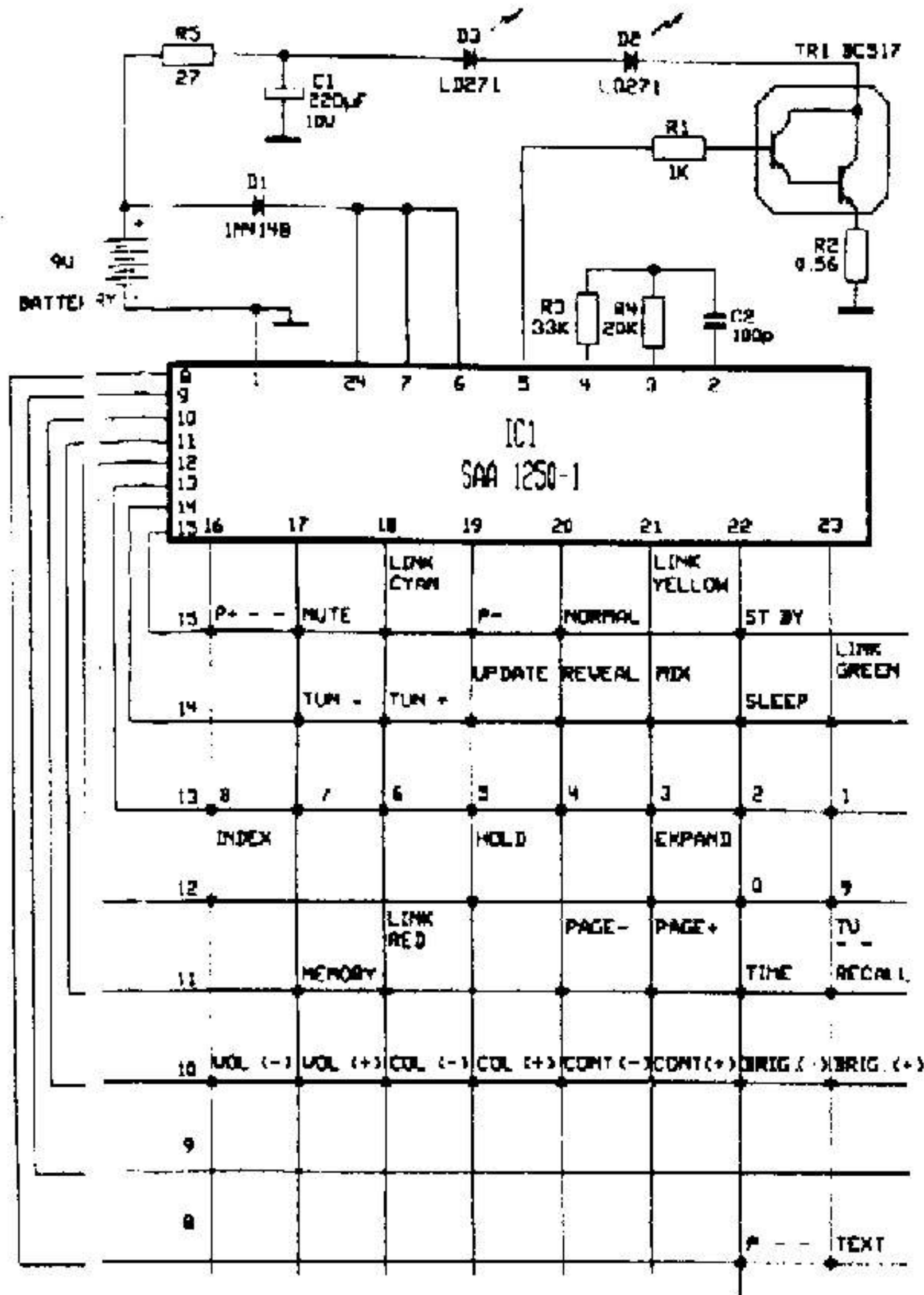
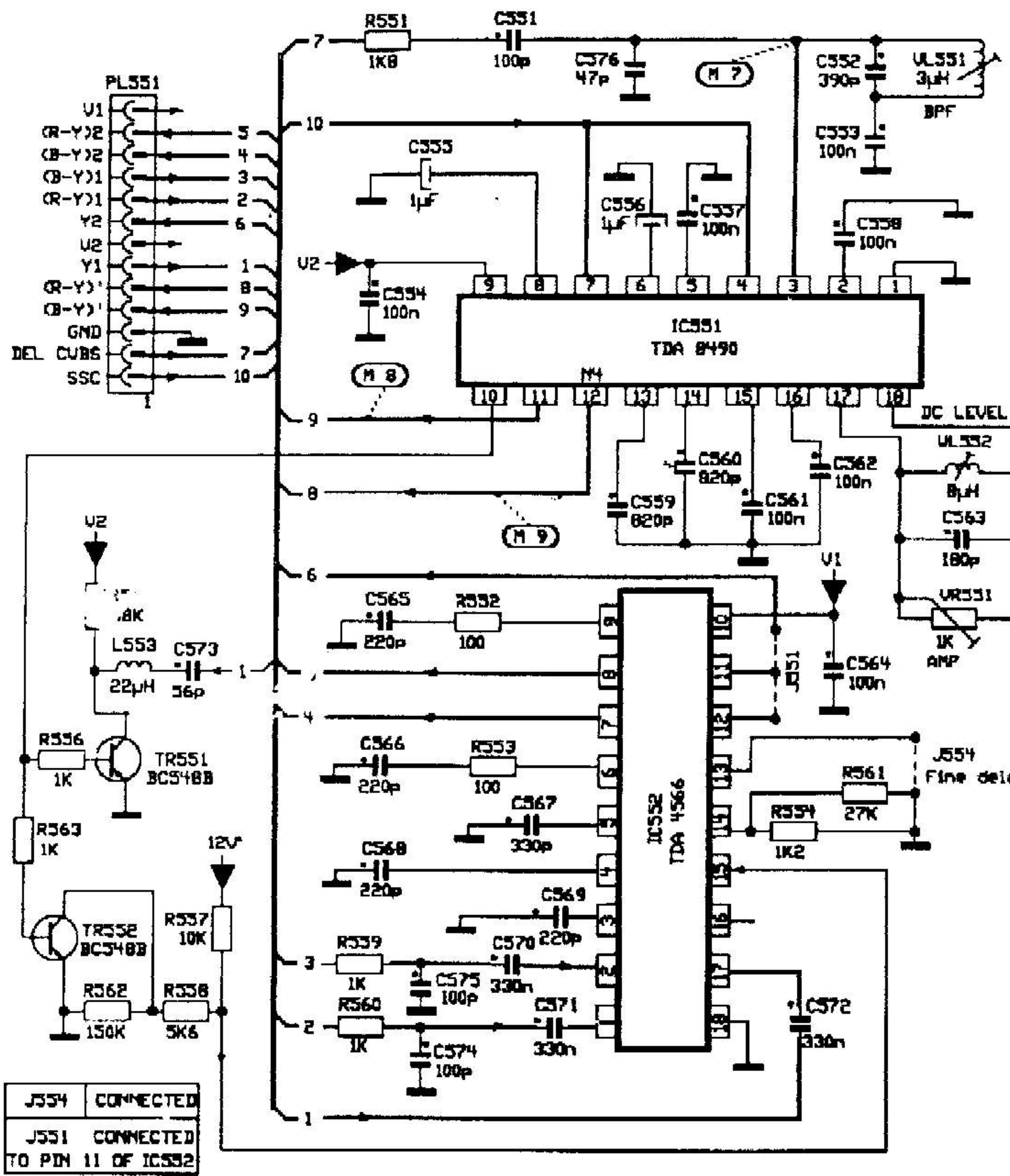


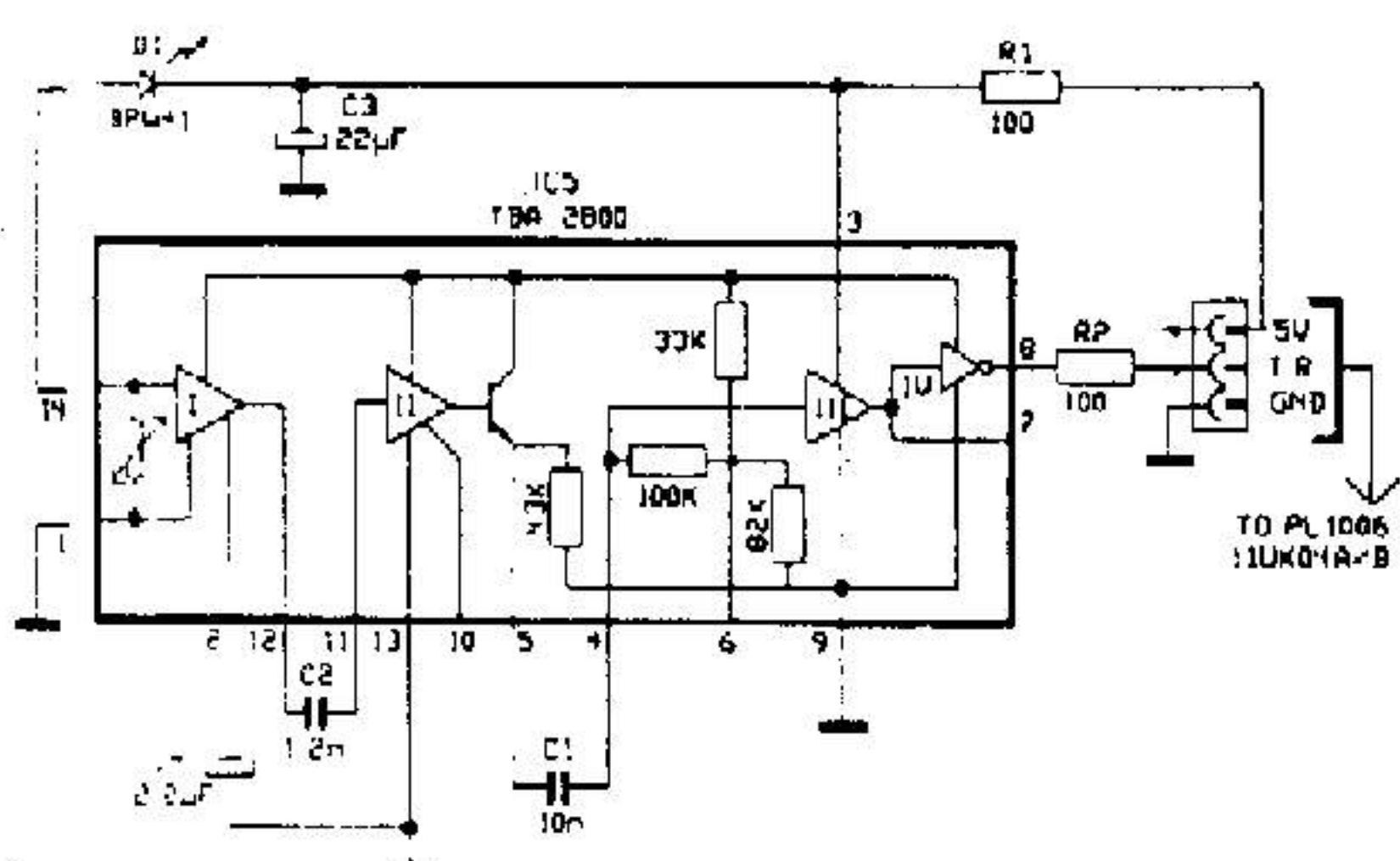
11 UV 04 RC Transmitter Diagram



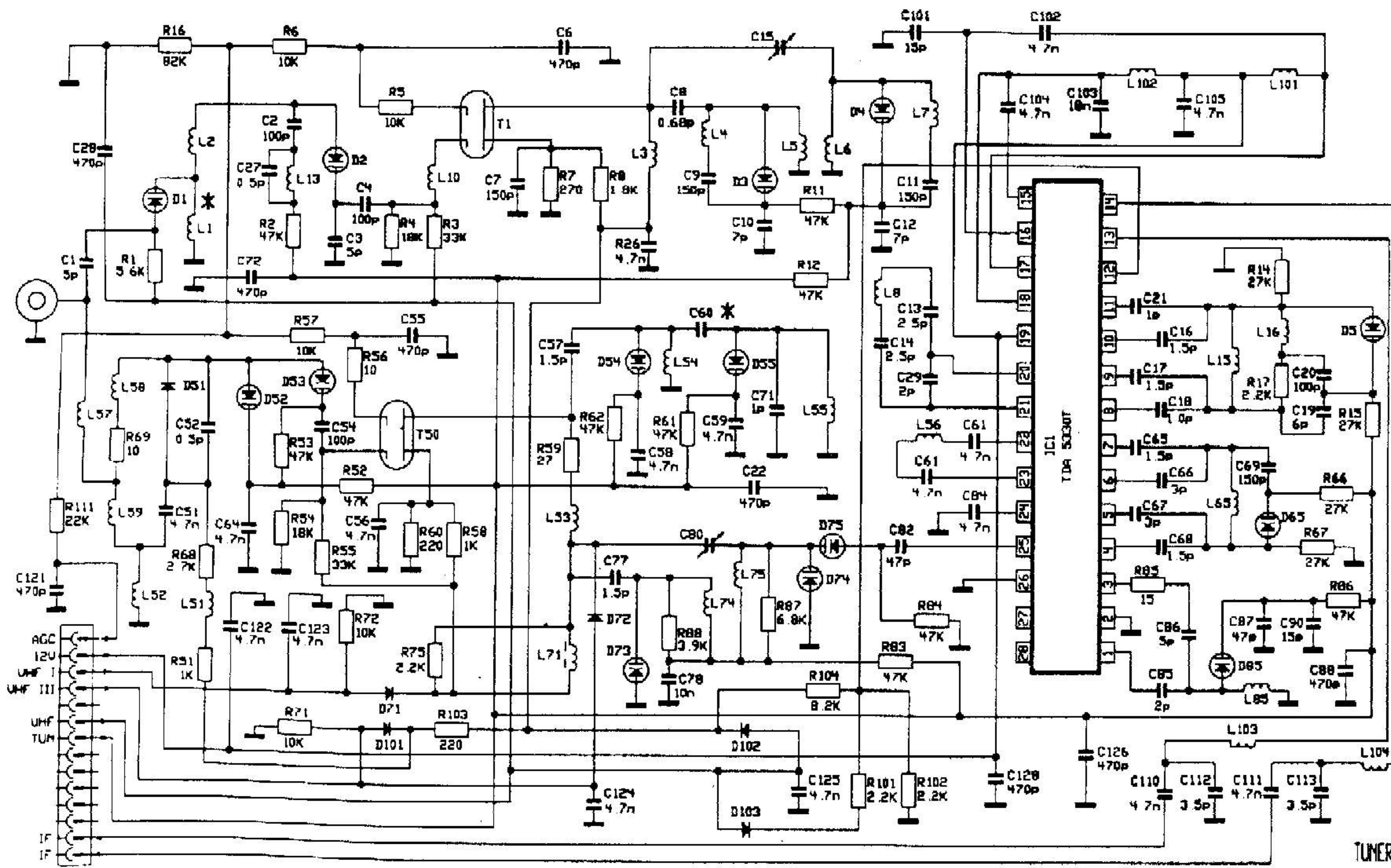
11 SC 01 SECAM & CTI Diagram



11 0Y 01 IR Pre-Amp Diagram



Tuner Diagram



Service Adjustments

All adjustments are to be made at 220V line voltage after a warm-up period of approximately 5 minutes.
 Required test and measurement instruments: Pattern generator (PHILIPS PM 5515 or PM5518), Multimeter (Input Impedance = 10 M Ω), Oscilloscope

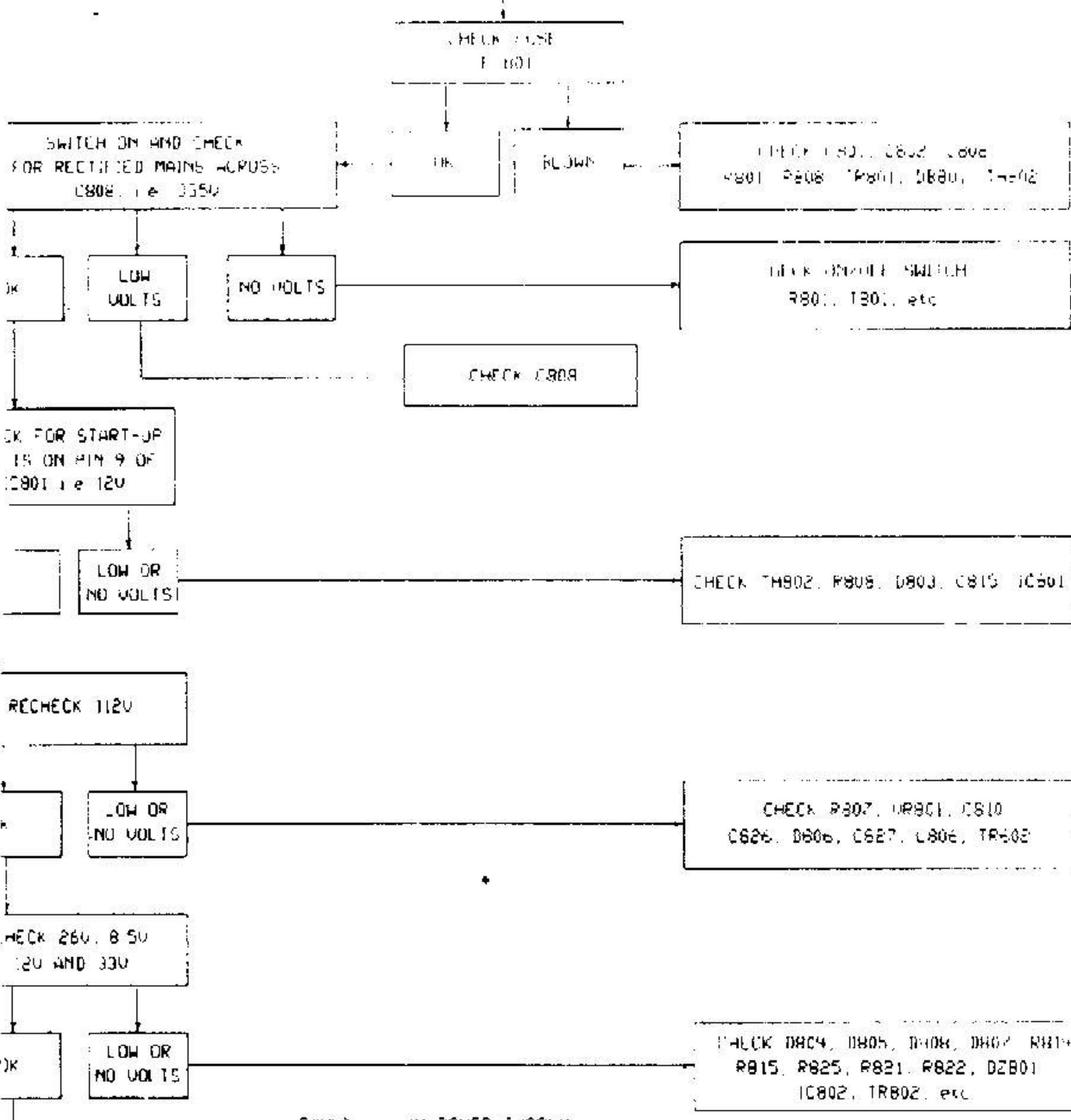
Adjustment Sequence No	Type of Adjustment	Test Signal at Antenna Input	Preparation of Adjustment	Connection of Voltmeter and Oscilloscope	Adjustments
1	SMPS System Voltage	Colour bar, 1 KHz sound signal	B (Brightness), C (Contrast) S (Colour), VOL (Volume) at min position.	Voltmeter to shorted pins of the socket PL602 (M1)	Set VR601 for $V_{B1} = 112V_{dc}$ for 20" & 1 inch models, (110V _{dc} for 14-15 inch models)
2	Vision Demodulator and AFC	No antenna input. Colour bar, frequency of 38.9 MHz for B/G models (39.5 MHz for I models), level of 10mV	Connect RF output of the pattern generator to any one input of SAW filter and connect the other input of SAW filter to ground through 10nF.	Voltmeter to pin 21 of IC201 (M2)	Set L203 for $V_{A2} = 6.0 \pm 0.3V_{dc}$ After adjustments remove the all external connections.
3	Sound Trap	Grey scale, 1KHz sound signal	B, C, S at normal position.	Oscilloscope to base of TR 201 (M3)	Set L202 for minimum sound carrier (5.5 MHz for B/G models, 5.0 MHz for I models) on video signal.
4	Horizontal Oscillator	Colour bar and circle	B, C, S at normal position. Connect 1K resistor between pin 8 and pin 28 of IC 201.		Set VR203 for horizontally synchronized picture approximately. After adjustment remove 1Kohm resistor
5	Picture Geometry and Focus	Centre cross, circle and cross-hatch.	B, C, S at normal position.		Set VR202 for horizontal centring, VR703 for vertical centring, VR701 for vertical size, VR702 for vertical linearity and focus pot (on EHT transformer) for optimum focusing.
6	Tuner AGC	Colour bar, level of 60 dB μ V	B, C, S at normal position.	Voltmeter to pin 6 of IC201 (M4)	Set VR201 for $V_{A3} = 6.5 \pm 0.1V_{dc}$
7	G2 (Screen)	Colour bar	B, C, S at min position.	Voltmeter to cathode Red of CRT (M5)	Set SCREEN pot (on EHT transformer) for $V_{A5} = 180V_{dc}$ for 20-21 inch models, (150V _{dc} for 14-15 inch models)
8	White Balance (CRT Module)	White pattern	B, C, S at normal position.		Set VR901 (Green) and VR902 (Blue) for optimum white on the screen.
9	FM Modulator (SOUND Module)	Colour bar, 1KHz sound signal	B, C, S and VOL at normal position.	Oscilloscope to the socket PL303 (M6)	Set L302 for max amplitude of 1KHz sound signal and for minimum noise on 1KHz sound signal.
10	Chroma BPF (SECAM and SECAM/CTI Module)	SECAM colour bar	B, C, S at normal position.	Oscilloscope to pin 3 of IC 551 (M7)	Set VL551 for equal amplitudes of the colour bars.
11	Chroma Level and Black Level (SECAM and SECAM / CTI Module)	SECAM colour bar	B, C, S at normal position.	Oscilloscope to pin 11 (B-Y) and pin 12 (R-Y) of IC 551 (M8 and M9)	Set VR551 for $V_{B-Y} = 1.8V_{pp}$ and $V_{R-Y} = 1.25V_{pp}$ and VL552 for equal DC level of B-Y and R-Y signals.

Trouble Shooting Guide

2V rail is automatically reduced in the event of excessive current drain. (approx. 1A) the event of continuous overload on 112V rail, the power supply will repeatedly empty to restart giving rise to an audible oscillation from the SMPS transformer.

The accompanying chart suggests a step by step check procedure starting from a "SET DEAD" condition.

SET DEAD IE NO RASTER,
 NO SOUND, NO CLOCK, NO PICTURE
 AND NO TELETEXT.
 POWER SUPPLY NOT WORKING
 NO 112V, 26V, 85V



Component Differences

" * " COMPONENT DIFFERENCES				
SYSTEM	R1043	R1042	TR1005	
WITH SHIMS	OK	OK	BC848B	
WITHOUT SHIMS	NOT CONNECTED	NOT CONNECTED	NOT CONNECTED	
TEXT	J1002, J1002	J1001, IC1001	P1061	C1026
WITHOUT TEXT	CONNECTED	CONNECTED	100	10 μ 16V
WITH SIMPLE TEST	CONNECTED	CONNECTED	CONNECTED	CONNECTED

FOR ENGLISH AND TEXT MODELS TUPO 2366 - GBE AND FOR SPAIN MODELS TUPO 2366 - SP2 VERSION OF CONTROLLER IC WILL BE USED

REMOTE CONTROLLER MODULE

" * " COMPONENT DIFFERENCES DEPENDENT ON SET										
CRT	14"	15"	17"	18"	19"	20"	21"	22"	23"	24"
PDS	TOSHIBA	HITACHI	HITACHI	SAMSUNG	HITACHI	HITACHI	TOSHIBA	SOKO STAR	SAMSUNG	SAMSUNG
N2	AS10040-01	AD15061-03	AD15061-03	5166895	105H18A	105H18A	474 Jara-0	105H18A	105H18A	105H18A
C604	7A5	7A5	7A5	7A5	7A5	7A5	7A5	7A5	7A5	7A5
L602	210	210	210	210	210	210	210	210	210	210
R915	8K2	8K2	8K2	8K2	8K2	8K2	8K2	8K2	8K2	8K2
R608	8K8	8K8	8K8	8K8	8K8	8K8	8K8	8K8	8K8	8K8
R713	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
L606	470K	470K	470K	470K	470K	470K	470K	470K	470K	470K
R715	1K8	JUMPER	JUMPER	JUMPER	JUMPER	JUMPER	JUMPER	JUMPER	JUMPER	JUMPER
R701	330	330	330	330	330	330	330	330	330	330

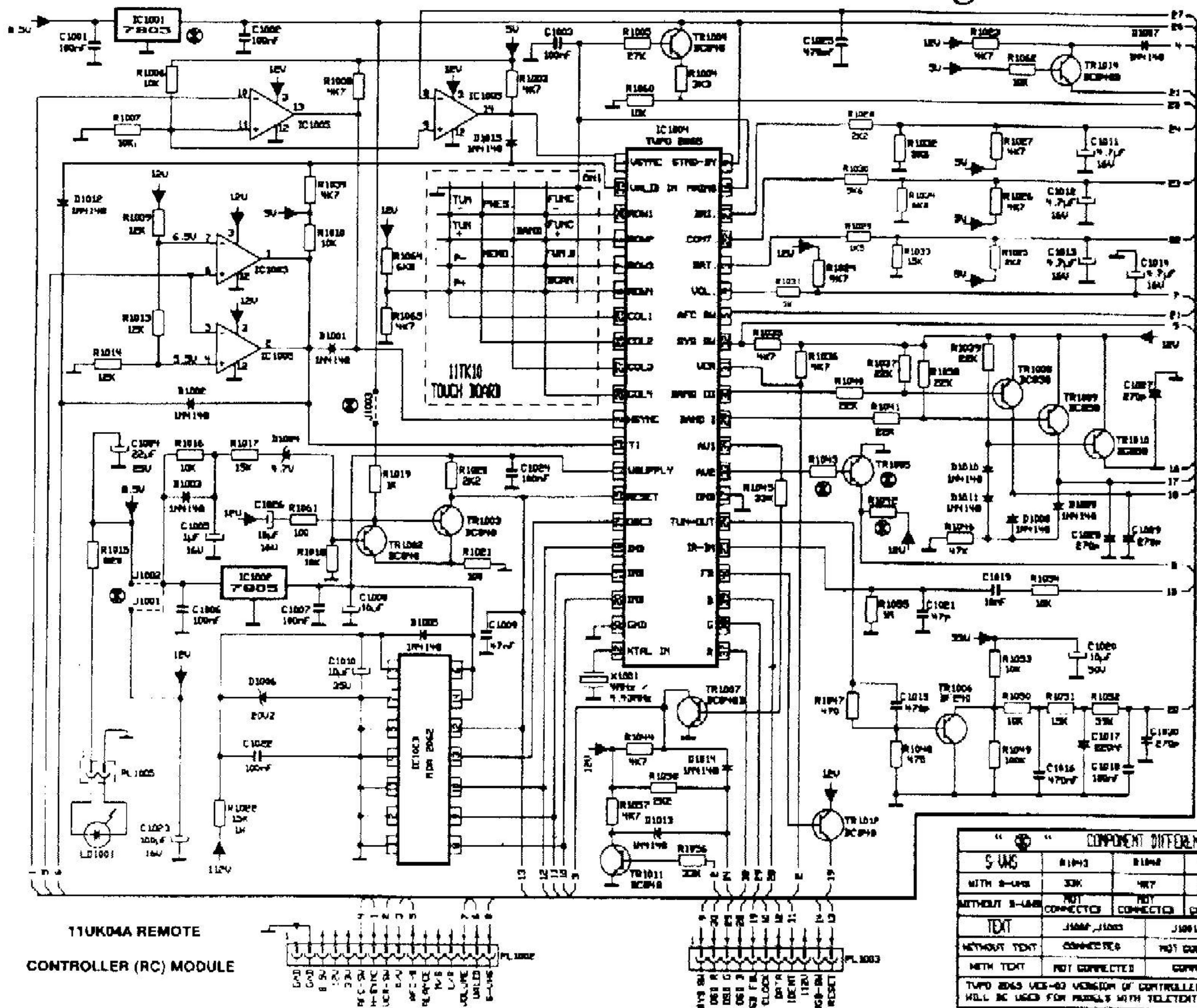
" * " COMPONENT DIFFERENCES DEPENDENT ON SYSTEM MONO - STEREO AND PAL				
SYSTEM	B/G	B/G & D-K	MONO-STEREO	STEREO
PAL B/G	CONNECTED	CONNECTED	CONNECTED	CONNECTED
SECAM B/G	CONNECTED	CONNECTED	CONNECTED	CONNECTED
PAL B/G	CONNECTED	CONNECTED	CONNECTED	CONNECTED
SECAM B/G & D-K	CONNECTED	CONNECTED	CONNECTED	CONNECTED
PAL B/G	CONNECTED	CONNECTED	CONNECTED	CONNECTED
SECAM B/G & D-K	CONNECTED	CONNECTED	CONNECTED	CONNECTED
TEXT	CONNECTED	CONNECTED	CONNECTED	CONNECTED
WITH TEXT	CONNECTED	CONNECTED	CONNECTED	CONNECTED
WITHOUT TEXT	CONNECTED	CONNECTED	CONNECTED	CONNECTED

" * " COMPONENT DIFFERENCES		
MODE	14" & 15" MODELS	20" & 21" MODELS
R315	OK	OK
R316	OK	OK
SYSTEM	B/G	B/G & D-K
X502	5.5MHz	5.5MHz
X301	OK	OK
R319	JUMPER	JUMPER
C327	OK	OK
L303	OK	OK
C308	OK	OK

CRT		
14" & 15"	20"	21"
R315	OK	OK
R316	OK	OK
SYSTEM	R308	R316
SECAM	OK	OK
SECAM LINK	OK	OK

551	CONNECTED
552	CONNECTED
CTI MODULE	
554	CONNECTED
555	CONNECTED
TO PIN 11 OF IC551	

11 UK 04A Remote Controller Diagram

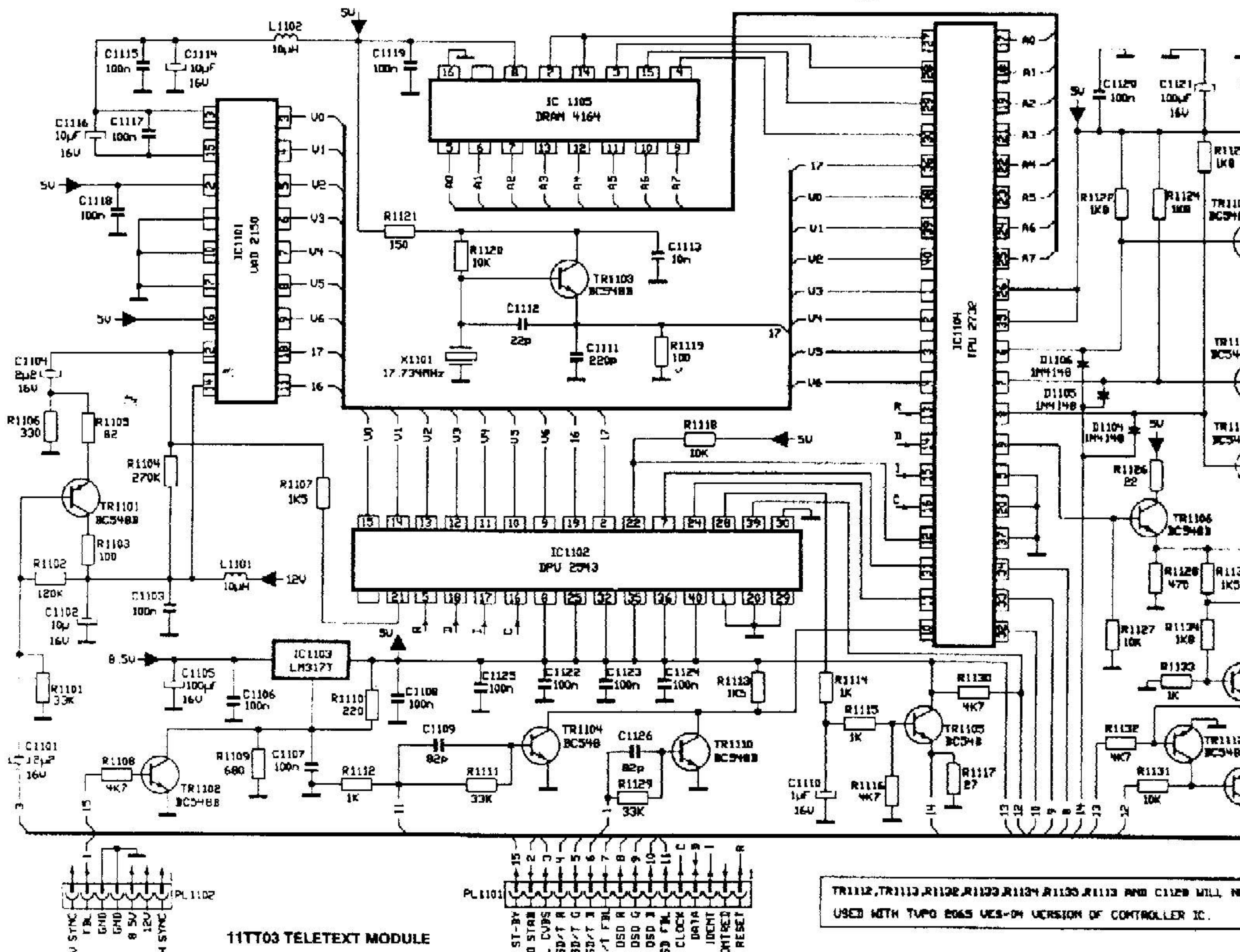


COMPONENT DIFFERENCES			
5 W/S	R1043	R1044	R1045
WITH 8-448	33K	47K	10K
WITHOUT 8-448	NOT CONNECTED	NOT CONNECTED	CONNECTED
TEXT	J1001, J1002	J1003	J1004
WITHOUT TEXT	CONNECTED	NOT CONNECTED	CONNECTED
WITH TEXT	NOT CONNECTED	CONNECTED	CONNECTED

TUPO 2065 VCS-80 VERSION OF CONTROLLER WILL BE USED FOR PANELS WITH TELETEXT

11UK04A REMOTE CONTROLLER (RC) MODULE

11 TT 03 Teletext Diagram

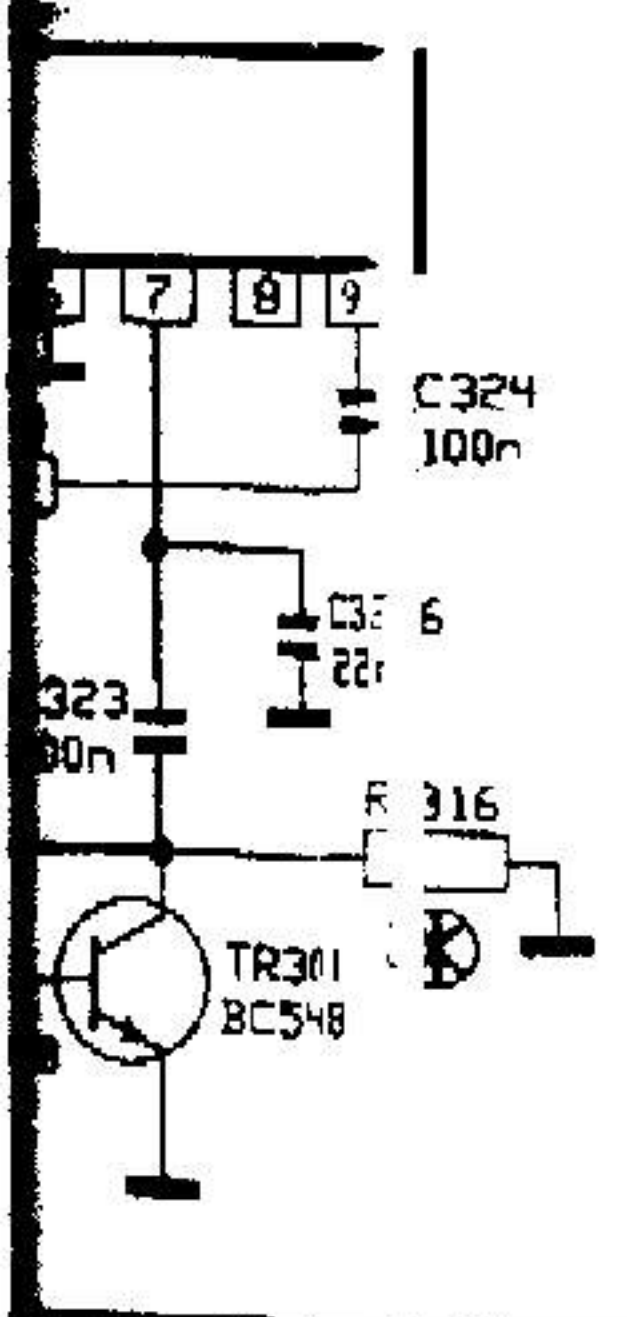


TR112, TR113, R1102, R1123, R1134, R1135, R1136, R1137 AND C1128 WILL NOT BE USED WITH TUPO 2065 VCS-80 VERSION OF CONTROLLER IC.

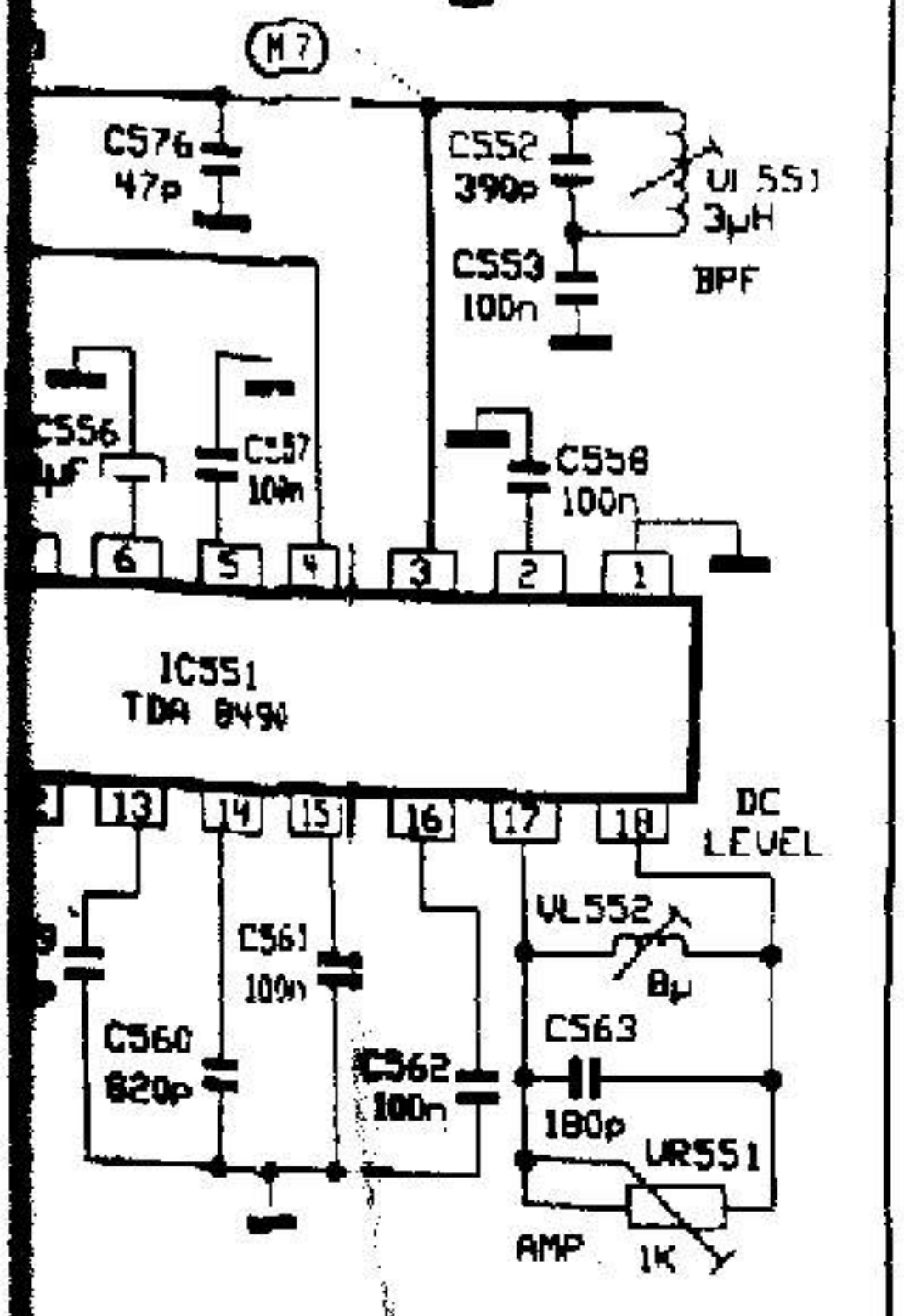
11TT03 TELETXT MODULE

DIFFERENCES			
15"	15"	20"	21"
SP	SP	SP	SP
4K7		C9	
EK7		C9	
B/G L	D/K		
55"	1z		
65"	1z		
2K1			
68C			
1K2			

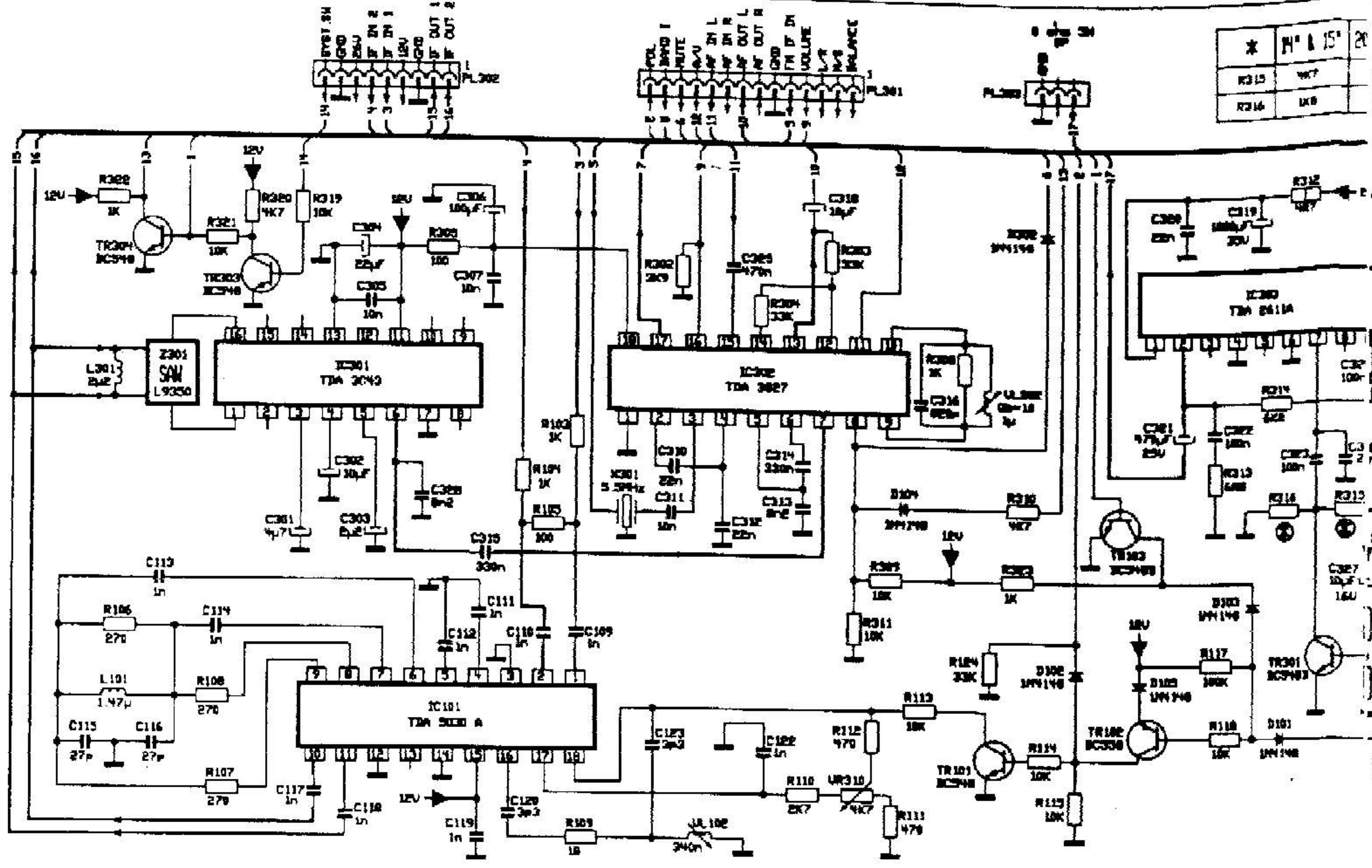
ANGLE-SP MOD LS J302
002 IS NOT CONNECTED



AM Diagram



11 SO 01 Sound Diagram (L/L & B/G)



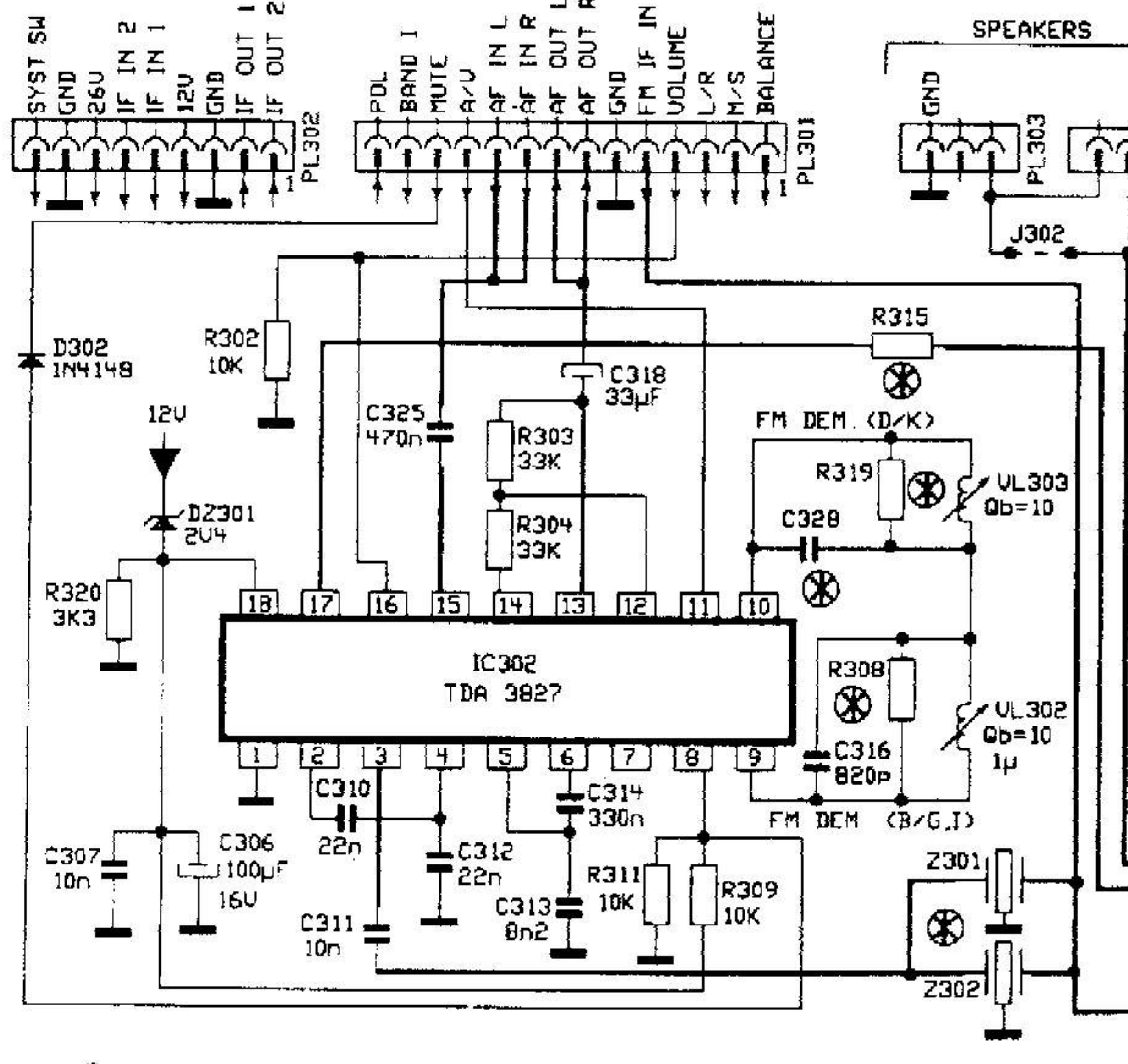
Electrical Parts List IC's

- IC302 IC TDA 3827 - 013242352
- IC303 IC TDA 2611A - 013242402
- IC201 IC TDA 4504A - 013242472
- IC401 IC TDA 8452A - 013242522
- IC402 IC TDA 8390 4 - 013242582
- IC403 IC TDA 8451A - 013242602
- IC701 IC TDA 3653B - 013229812
- IC801 IC TDA 4501 - 013223402
- IC802 IC LM 317T - 013242102
- IC901 IC TDA 8153 - 013242802
- IC1001 IC LM 78L05 - 013240852
- IC1003 IC MDA 2062 - 013200320
- IC1003 IC MDA 2062 - 013200330
- IC1002 IC 7805 - 013226002
- IC1004 IC TVPO 2066 VES 05 - 013242412
- IC1005 IC LM 2901 - 013206302
- IC1102 IC DPU 2543 - 013240352
- IC1103 IC LM 317T - 013242102
- IC1104 IC TPU 2732 - 013230852
- IC1105 IC HM 4164 - 013231352

Transistors

- TR201 TR BC548B - 013120702
- TR202 TR BC548B - 013120702
- TR401 TR BC548C - 013120712
- TR402 TR BC558B - 013120902
- TR601 TR BC639 - 013100902
- TR602 TR BU506D - 013118082
- TR801 TR BU508A - 013108102
- TR802 TR BC548B - 013120702
- TR1002 TR BC848B SMD - 013720882
- TR1003 TR BC848B SMD - 013720882
- TR1004 TR BC848B SMD - 013720882
- TR1006 TR BF240 - 013115102
- TR1007 TR BC848B SMD - 013720882
- TR1010 SMD JUMPER WIRE - 014031441
- TR1011 TR BC848B SMD - 013720882
- TR1012 TR BC848B SMD - 013720882
- TR1014 TR BC548B - 013120702
- TR1102 TR BC548B - 013120702
- TR1103 TR BF240 - 013115102
- TR1104 TR BC548B - 013120702
- TR1105 TR BC548B - 013120702
- TR1106 TR BC548B - 013120702
- TR1107 TR BC548B - 013120702
- TR1108 TR BC548B - 013120702
- TR1109 TR BC548B - 013120702
- TR1110 TR BC548B - 013120702
- TR1111 TR BC548B - 013120702
- TR1112 TR BC548B - 013120702
- TR1113 TR BC548B - 013120702

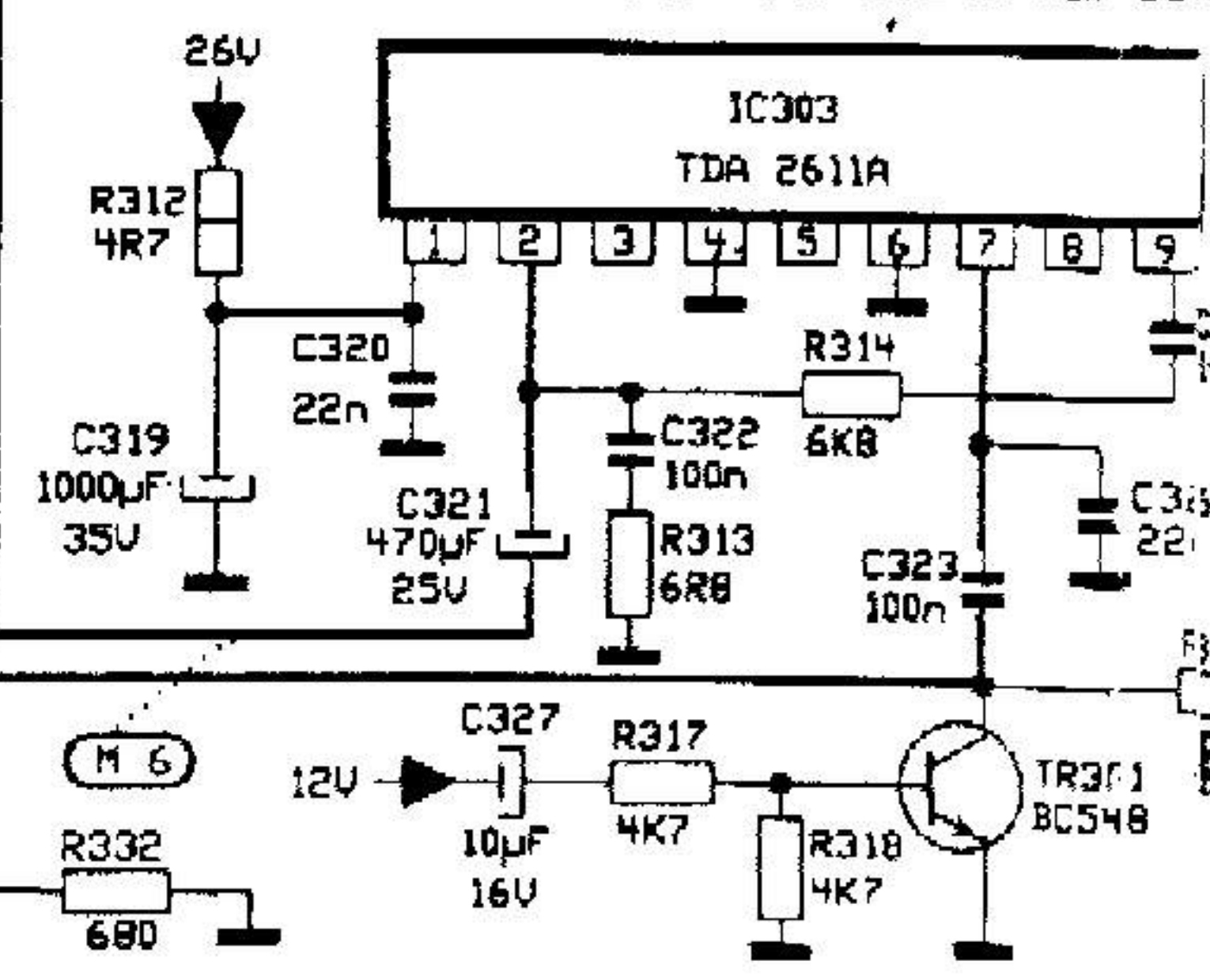
11 SD 01 - C Sound Diagram (B/G,I,D/K)



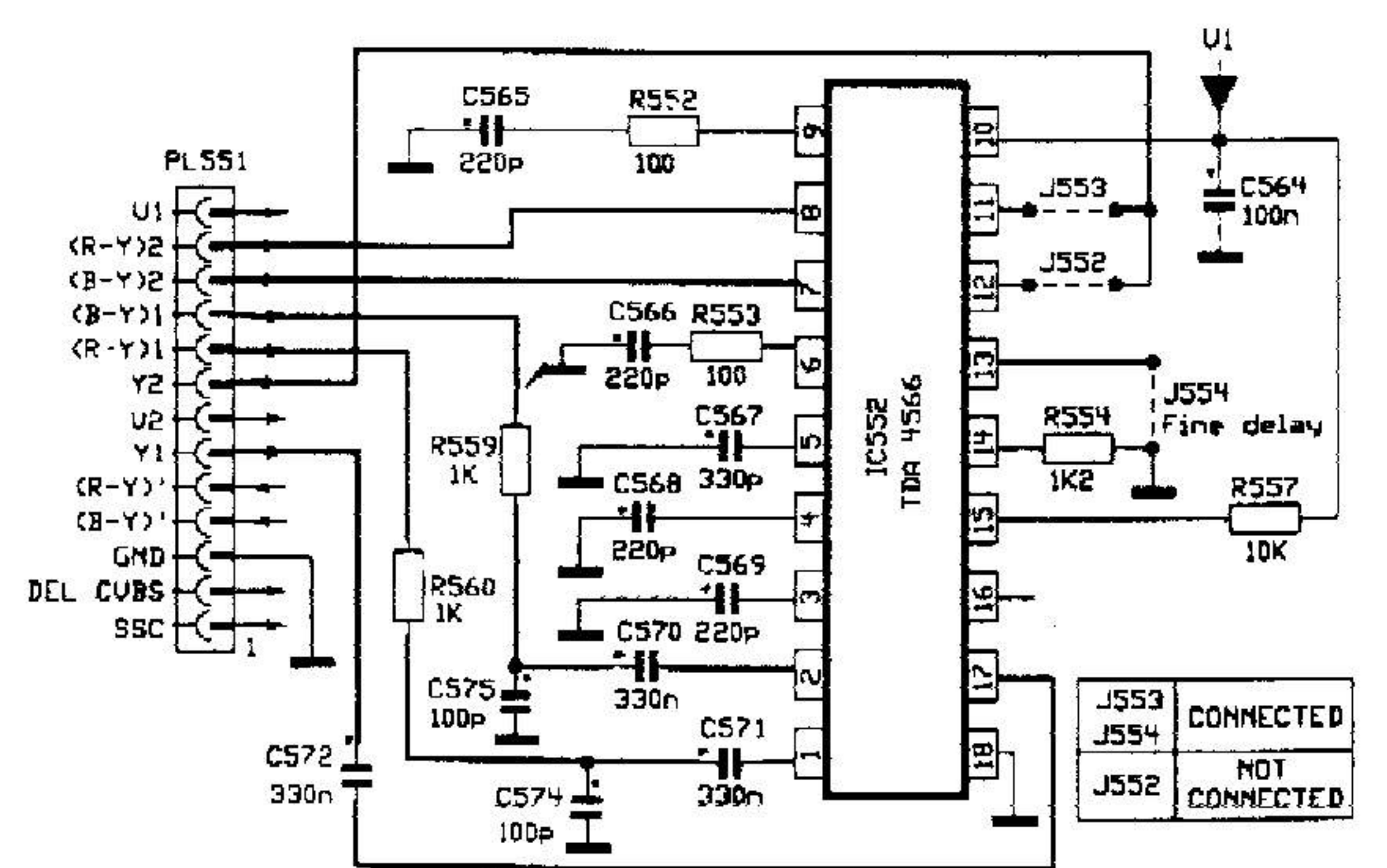
"X" COMPONENT DIFFERENCES				
MODEL	14" & 15" (8ohm SP.)	20" & 21" (8ohm SP.)	14" & 15" (16ohm SP.)	20" (16ohm SP.)
R315	4K7	3K9	4K7	3K9
R316	1K8	2K2	2K7	1K8

SYSTEM	B/G	I	B/G & D
Z302	5.5MHz	6.0MHz	5.5MHz
Z301	N.C.	N.C.	6.5MHz
R319	JUMPER	JUMPER	2K7
C328	N.C.	N.C.	680
UL303	N.C.	N.C.	1
R308	1K	1K	1K

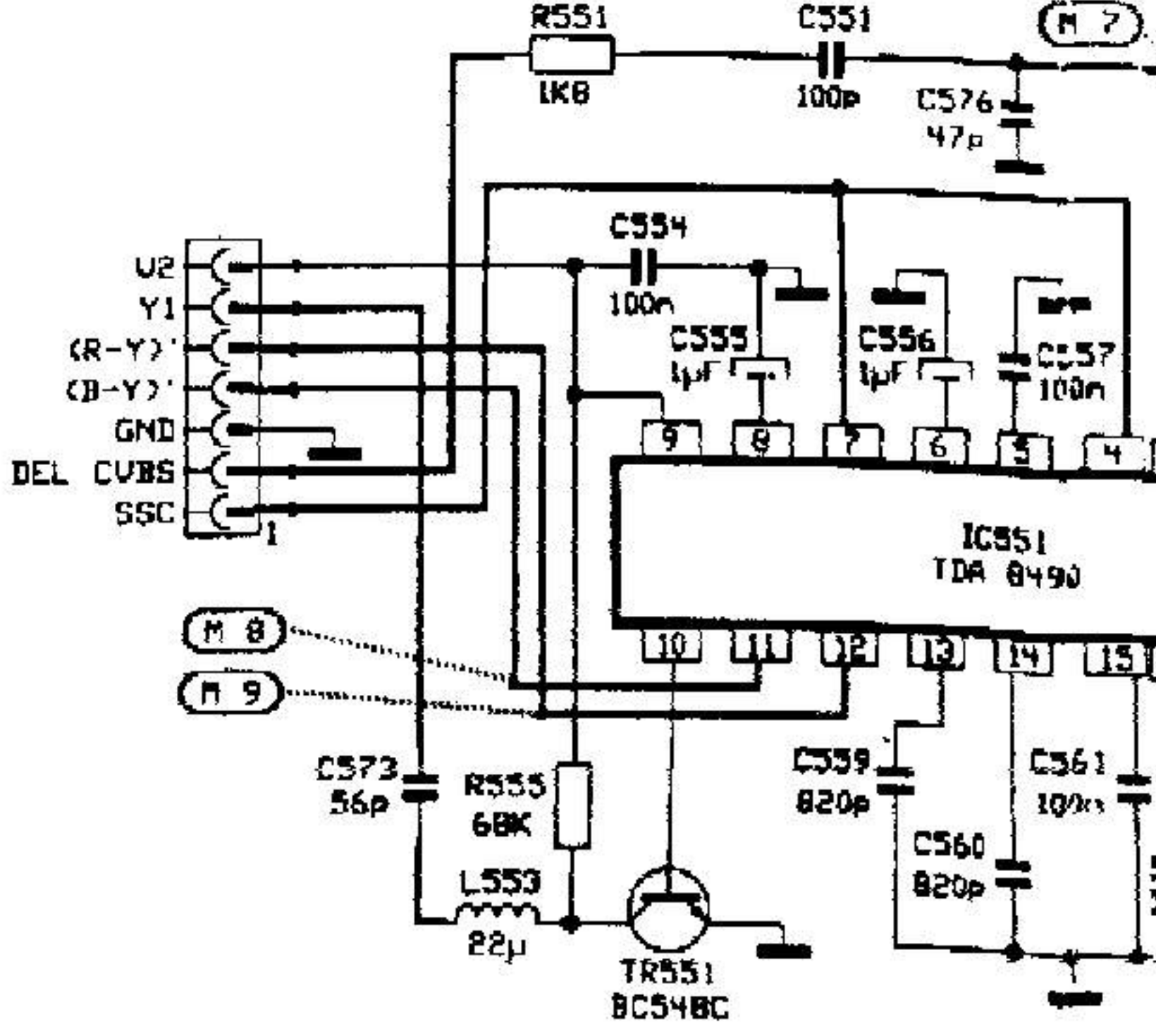
NOTE: FOR ALL TUS INCLUDING 160HM SINGLE-SP MODLS IS CONNECTED. FOR 160HM 3-SP TUS J302 IS NOT CONN



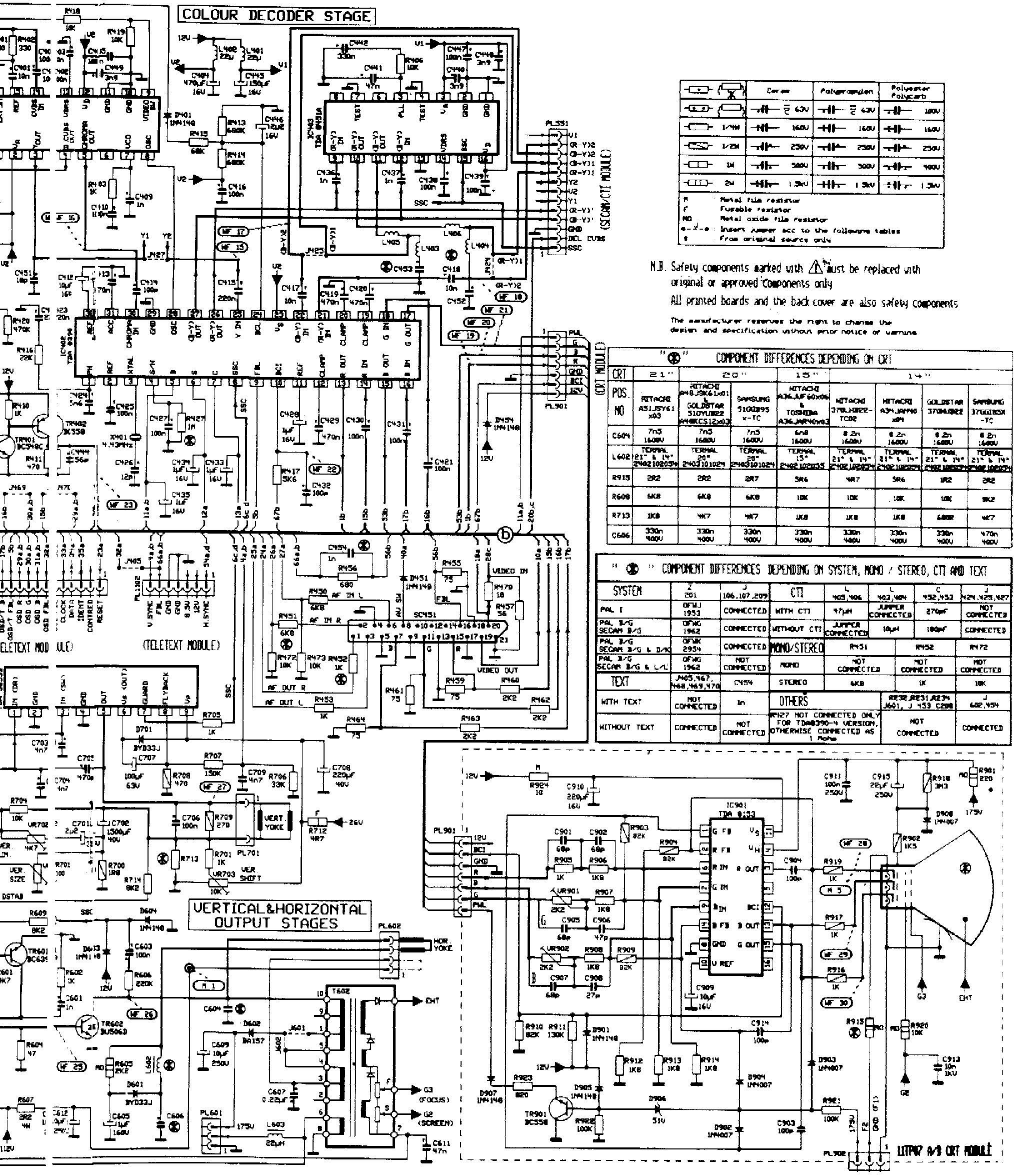
11 CT 01 CTI Diagram



11 SM 01 SECAM Diagram



Main Diagram



Symbol	Carbon	Polypropylene	Polyester Polycarb
	100V	100V	100V
	150V	150V	150V
	250V	250V	250V
	500V	500V	500V
	1.5kV	1.5kV	1.5kV

R Metal film resistor
 F Fuseable resistor
 MO Metal oxide film resistor
 e-2-e Inserts jumper acc to the following tables from original source only

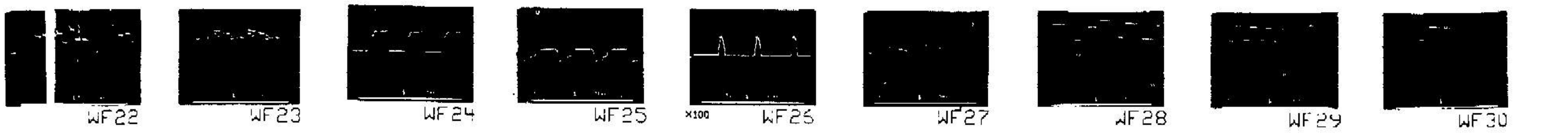
N.B. Safety components marked with Δ must be replaced with original or approved components only
 All printed boards and the back cover are also safety components
 The manufacturer reserves the right to change the design and specification without prior notice or warning

COMPONENT DIFFERENCES DEPENDING ON CRT

CRT	21"	20"	15"	14"
POS NO	HITACHI AS15Y61 X03	HITACHI AS15Y61 X01	SAMSUNG S100Y95 X-TC	HITACHI 370LH22-TC08
C604	7n5 1600V	7n5 1600V	7n5 1600V	8.2n 1600V
L602	TERMAL 21" & 14" 2402 102024	TERMAL 20" 2403 101024	TERMAL 15" 2402 102024	TERMAL 21" & 14" 2402 102024
R913	2R2	2R2	2R7	5R6
R608	6K8	6K8	6K8	10K
R713	1K8	4K7	4K7	1K8
C606	330n 400V	330n 400V	330n 400V	330n 400V

COMPONENT DIFFERENCES DEPENDING ON SYSTEM, MONO / STEREO, CTV AND TEXT

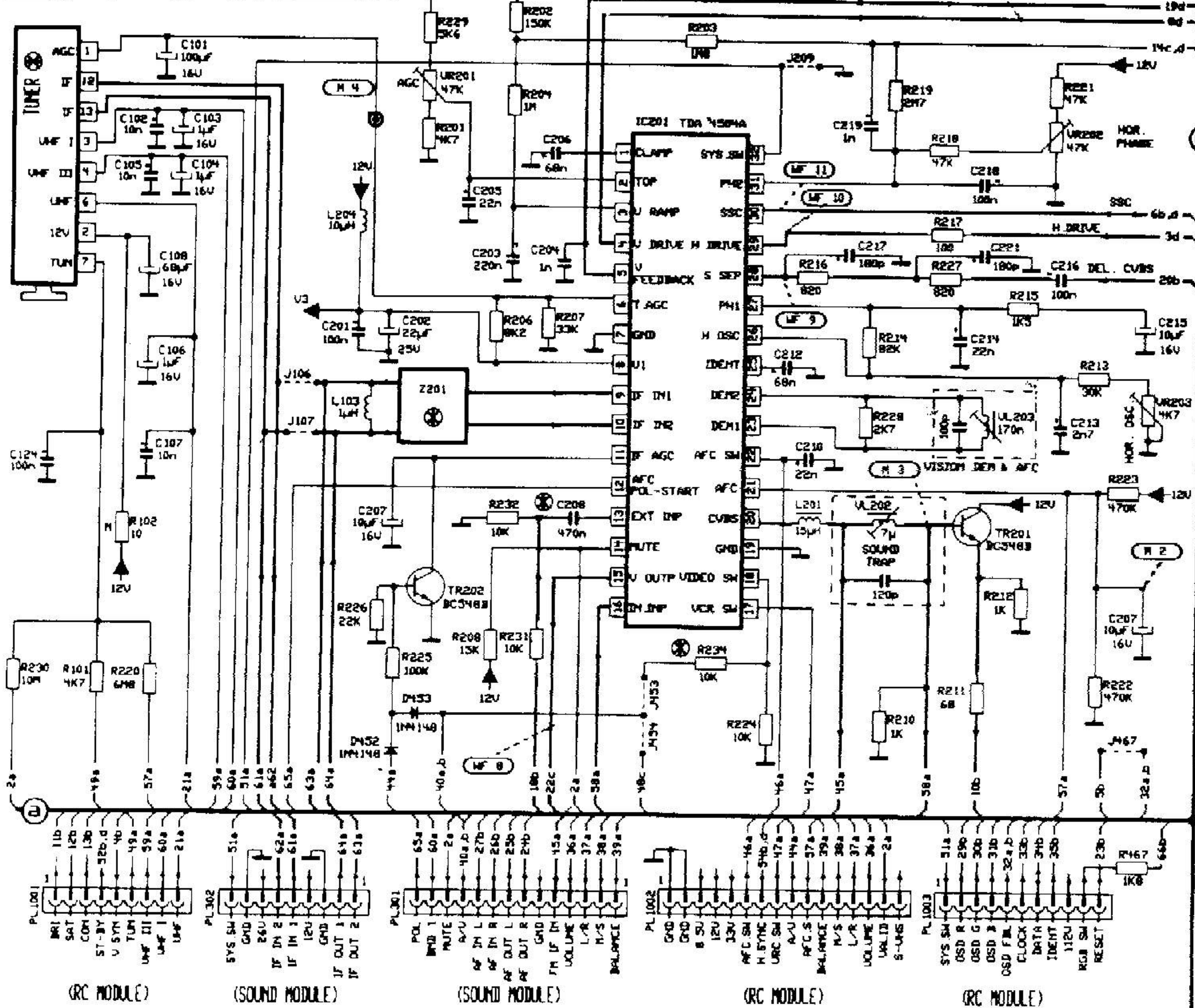
SYSTEM	Z 201	J 106, 107, 209	CTI	L 405, 406	L 402, 404	C 432, 433	J 424, 425, 427
PAL I	DFWJ 1953	CONNECTED	WITH CTV	47uH	JUMPER CONNECTED	270nF	NOT CONNECTED
PAL B/G SECAM B/G	DFWG 1962	CONNECTED	WITHOUT CTV	JUMPER CONNECTED	10uH	100nF	CONNECTED
PAL B/G SECAM B/G & D/K	DFWK 2954	CONNECTED	MONO/STEREO	R431	R452	R472	CONNECTED
PAL B/G SECAM B/G & L/L	DFWL 1962	NOT CONNECTED	MONO	NOT CONNECTED	NOT CONNECTED	NOT CONNECTED	NOT CONNECTED
TEXT	405, 467, 468, 469, 470	C454	STEREO	6K8	1K	1K	10K
WITH TEXT	NOT CONNECTED	In	OTHERS	R427, R431, R434, R461, J 433, C408	NOT CONNECTED	NOT CONNECTED	CONNECTED
WITHOUT TEXT	CONNECTED	NOT CONNECTED	R427 FOR TDA8390-N VERSION, OTHERWISE CONNECTED AS 1.50uH	NOT CONNECTED	NOT CONNECTED	CONNECTED	CONNECTED



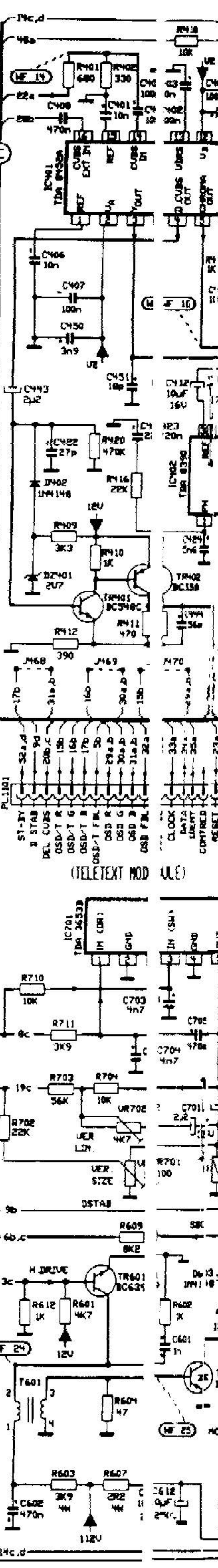
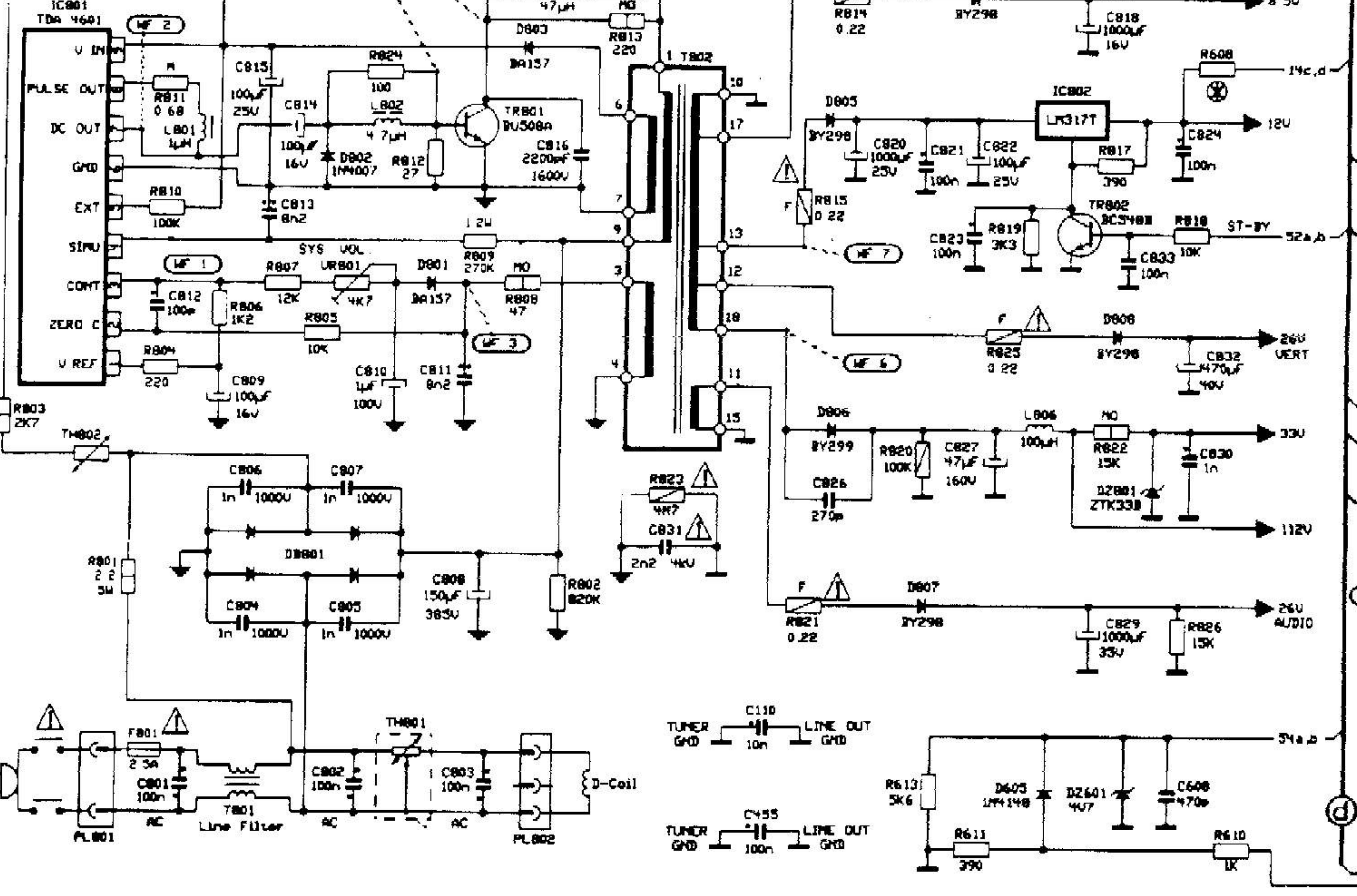
Reforms

- WF 1
- WF 2
- WF 3
- WF 4
- WF 5
- WF 6
- WF 7
- WF 8
- WF 9
- WF 10
- WF 11
- WF 12
- WF 13
- WF 14
- WF 15
- WF 16
- WF 17
- WF 18
- WF 19
- WF 20
- WF 21
- WF 22

IF & SYNC SEPARATOR STAGE



SMPS STAGE



- WF 16 (PAL)
- WF 17 (SECAM)
- WF 18 (PAL)
- WF 19 (SECAM)
- WF 20
- WF 21
- WF 22