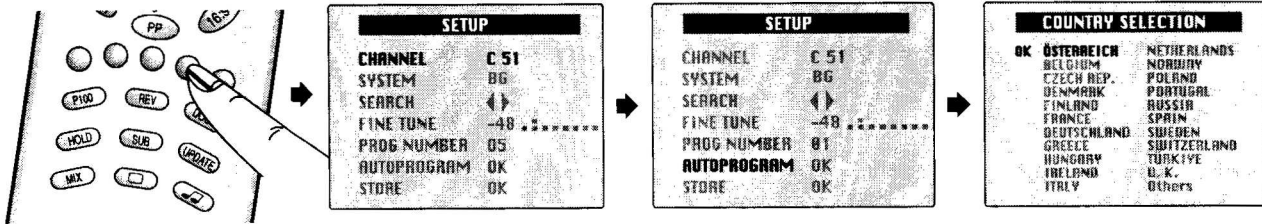


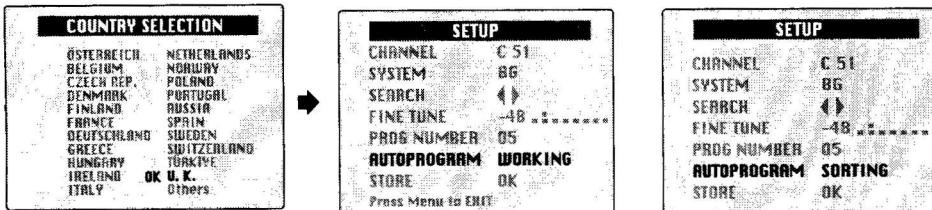
TUNING and MEMORY

You can tune the TV either automatically or manually.

Automatic tuning and memory :

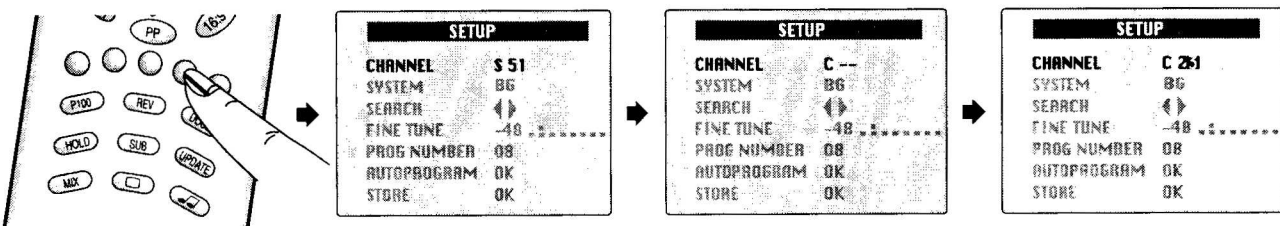


- Press the blue fastext button on your remote control.
- Setup menu will appear on the screen.
- Select Autoprogramme using **PR▼** button.
- Press OK. The Country Selection menu will now appear on the screen.



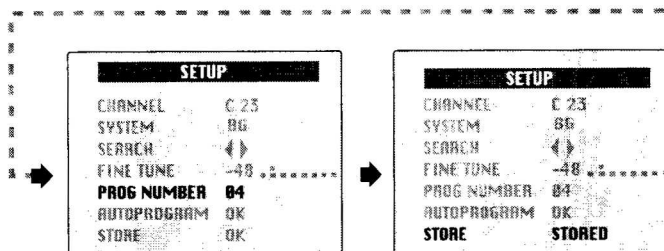
- Select the desired Country using the **PR▲/PR▶** or **<VOL/VOL>** buttons.
 - Press OK. Your TV will start to search for and store programmes. Meanwhile **AUTOPROGRAM WORKING** sign will flash on and off on the **AUTOPROGRAM** row. Once **AUTOPROGRAM** is completed the TV will automatically arrange the programmes into order.
 - To stop this process press Menu button. Your TV will sort all stored programmes. During this period **AUTOPROGRAM SORTING** will appear in **SETUP** mode.
- Note: If auto sort fails to arrange the programmes in the required sequence please refer to programme edit on page 13.

Manual tuning and memory:



Tuning with known channel numbers:

- Press the blue fastext button on your remote control.
- **SETUP** menu will appear on the screen.
- Press OK button then using **PR▲/PR▼** and **<VOL/VOL>** buttons select **S** for cable channels and **C** for terrestrial broadcast.



- Press **VOL▶** button to select the channel row then enter the channel number using the numeric keys on the remote control.
- Press OK, then select **PROG NUMBER** using the **PR▼** button. Enter the programme number for the channel you have tuned to (ie 01 for BBC1) using the numeric keys on the remote control.
- Select **STORE** using **PR▼** button then press OK to store.

PIN VOLTAGES OF IC'S

IC 101 (TDA 8844)					
Pin No.	Connections	DC (V)	Pin No.	Connections	DC (V)
1	SIF-AGC	0	29	(B-Y) output	2,1-2,3
2	Ext. Audio input	0	30	(R-Y) output	2,2-2,3
3	GND	0,2	31	(B-Y) input	2,1-2,3
4	GND	0	32	(R-Y) input	2,2-2,3
5	PLL-IF filter	2,5-3,7	33	NC	0,3
6	IF video output	2,4-38	34	Crystal 3.58 Mhz	2,5
7	SCL	2,5	35	Crystal 4.43 Mhz	2,5
8	SDA	1,7-2	36	phase dedektör	4,3-4,8
9	Decoupling Bandgap	6,7	37	VCC Suppy	8
10	SVHS - Chroma input	1,1	38	CVBS output	2-3,2
11	SVHS - Y input	3,4	39	Digital supply decoupling	5
12	VCC Supply	8V	40	H - DRIVE output	1,1
13	Dahili CVBS input	3,6-4	41	Sand-Castle out-Hor.Fly input	0,6
14	GND	0	42	Phase 1 dedector	2,8
15	Audio output	3,1	43	phase 2 dedector	4
16	Secam PLL decoupling	0,5-1	44	GND	0
17	Ext. CVBS input	3,4	45	East/West Drive signal	3-3,2
18	I - BLANK input	3-5	46	V-DRIVE B output	2,2
19	B (Blue) output	2-3,2	47	V-DRIVE A output	2,2
20	G (Green) output	2-3,2	48	IF-1 input	4,6
21	R (Red) output	2-3,2	49	IF-2 input	4,6
22	Beam-Current input	3,5	50	EHT protection	2-2,2
23	R (Red) input	3,5	51	Vertical sawtooth	3,7-4
24	G (Green) input	3,5	52	V-I REF	3,8
25	B (Blue) input	3,5	53	AGC decoupling	3,8-4,2
26	F - BLANK input	0,2-0,6	54	Tüner AGC output	4,3
27	Y - Lüminance input	2,1-3	55	GND	0
28	Y - Lüminance output	2,1-3	56	Sound demodulator decoupling	3,2-3,5

Fig. 22

IC 701 (TDA 6107)		
Pin No.	Connection	DC (V)
1	Red - IN	2,3-2,5V
2	Green - IN	2,5-2,7
3	Blue - IN	2,5-2,7
4	GND	0
5	BLACK	4,5-5,5
6	VDD Supply	190
7	Red - OUT	134-137
8	Green - OUT	128-130
9	Blue - OUT	130-137

Fig. 23

IC 301- MULTI STANDARD SOUND PROCESSOR (MSP 3400D)					
Pin No.	Connections	DC (V)	Pin No.	Connections	DC (V)
1			33	Scart 2 (R) output	3,7
2	GND	0	34	Scart 2 (L) output	3,7
3	GND	0	35	GND	0
4	GND	0	36	Scart 1 (R) output	3,7
5	GND	0	37	Scart 1 (L) output	3,7
6	GND	0	38	Volume	6,5-7
7	NC + B Supply	4,9	39	Analog Supply	8
8	NC + B Supply	4,8	40	Volume	6,2-7,2
9	SCL	2,4-2,6	41	GND	0
10	SDA	1,8-2,1	42	Analog ref. Supply	3,6
11	NC	2,4	43	Scart 4 (L) input	3,6
12	NC	2,4	44	Scart 4 (R) input	3,6
13	NC	2,4	45	GND	0
14	NC	0,4-2,1	46	CINCH - (L) input	3,6
15	NC	0,4-2,1	47	CINCH - (R) input	3,6
16		0,5-2,1	48	GND	0
17		0,5-2,1	49	Scart 2 (L) input	3,6
18	+ B Supply	4,9	50	Scart 2 (R) input	3,6
19	GND	0	51	GND	0
20	NC		52	Scart 1 (R) input	3,6
21	GND	0	53	Scart 1 (L) input	3,6
22	GND	0	54	A/D converter ref. voltage	2,5
23	GND	0	55	Mono sound input	3,6
24	MSP, RESET	5 V	56	GND	0
25	Earphone (R) out	0-2	57	Analog supply	4,9
26	Earphone (L) out	0-2	58	IF input	1,5
27	GND	0	59		1,5
28	R-OUT	0,1-2,1	60	IF input 2	0,1
29	L-OUT	0,1-2,1	61	GND	0
30	Dolby (C) on	0,1-2,1	62	Crystal oss. input	2,2
31	Dolby (C) on	0,1-2	63	Crystal oss. input	2,1
32	Dolby (S) on	0,1-2	64	GND	0

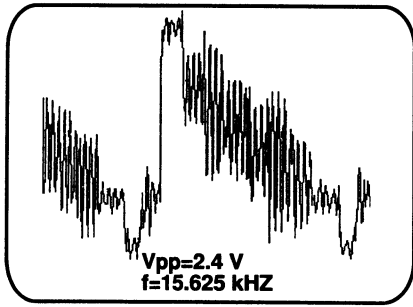
Fig 24

IC 601 - MC 44608AP			
Pin No.	Connections	DC (V)	
		STBY	ON
1	Demag	0,005	0,85
2	Isense	0,32	0,07
3	Control input	5,5	5
4	GND	—	—
5	Driver	0,14	2,1
6	VCC	8,8	12,3
7	NC	—	—
8	VI	117	116

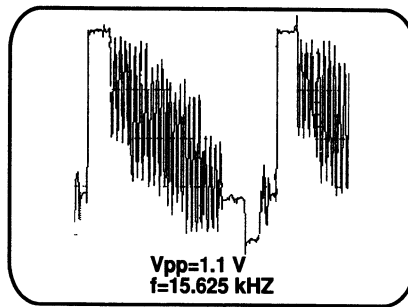
Fig 25

OSCILLOGRAMS

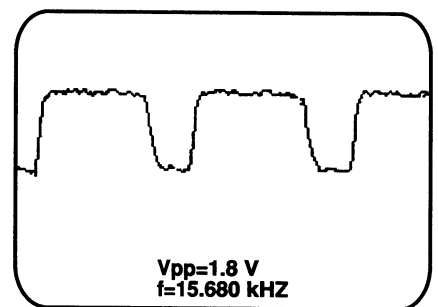
1- IC 101 (TDA 8844)



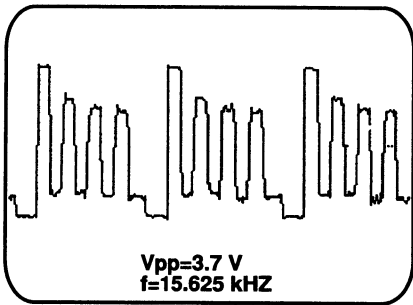
Pin 6



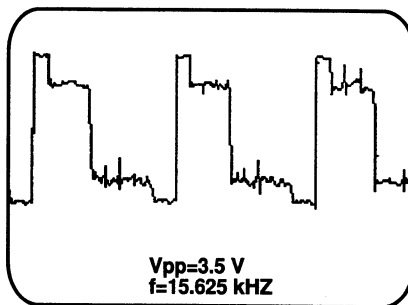
Pin 13



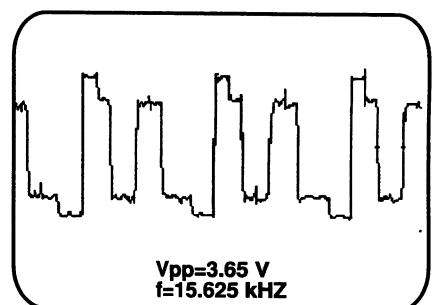
Pin 18



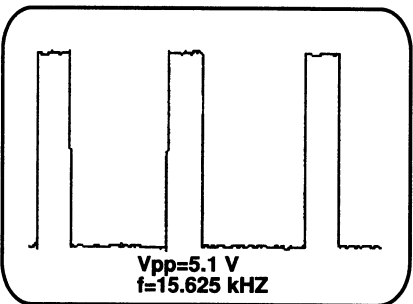
Pin 19



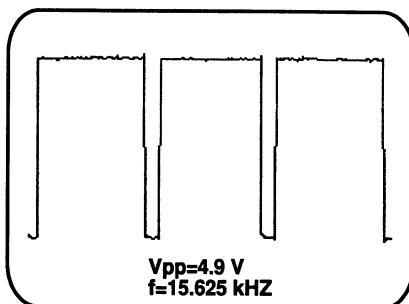
Pin 20



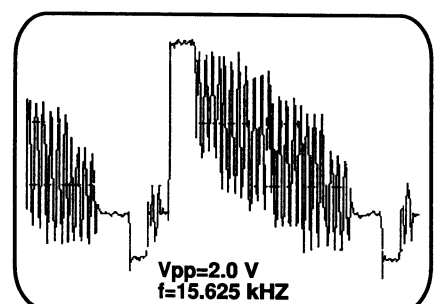
Pin 21



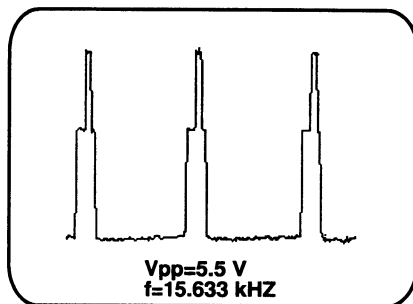
Pin 26 (OSD ON)



Pin 26 (TXT ON)

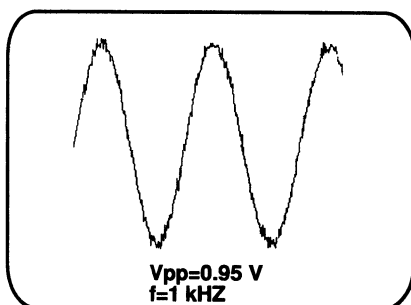


Pin 38

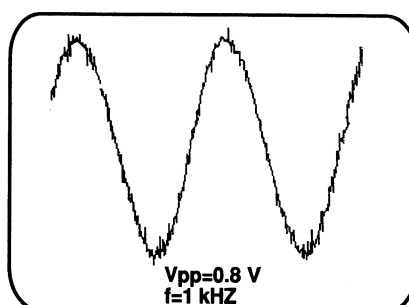


Pin 41

2- IC 301 (MSP 3400D)

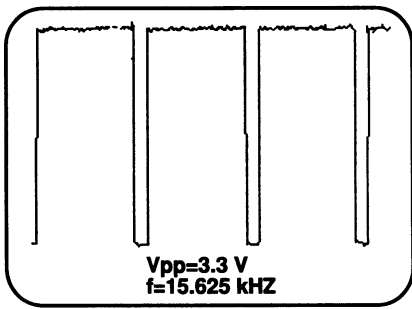


Pin 28

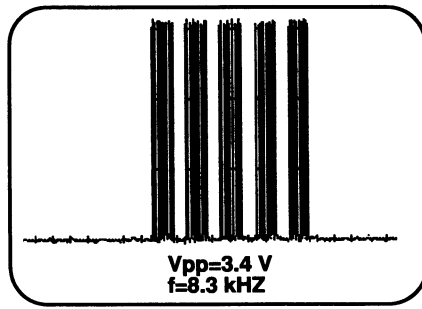


Pin 29

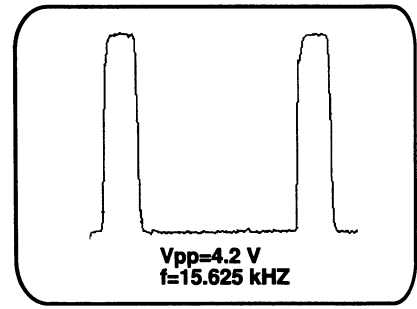
3- IC 401 (SAA 5563)



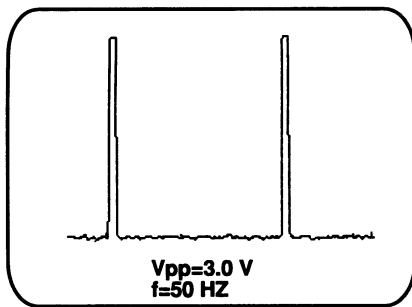
Pin 35 (TXT ON)



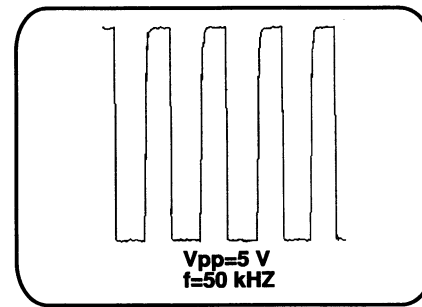
Pin 35 (OSD ON)



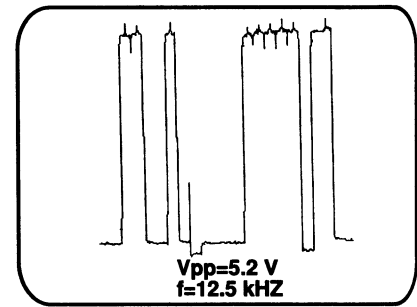
Pin 36



Pin 37

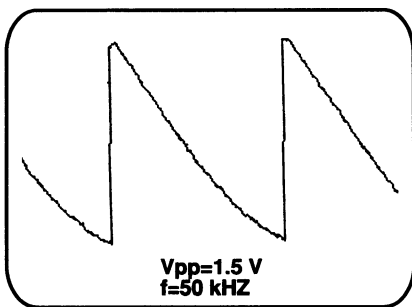


Pin 51

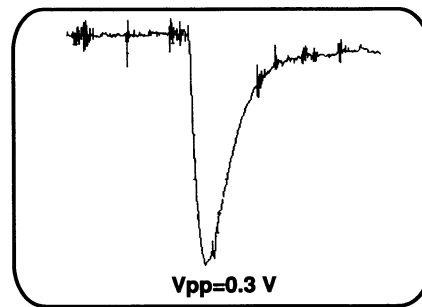


Pin 52

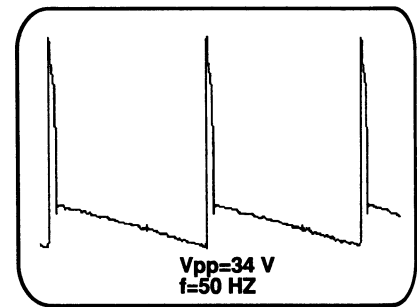
4- IC 501 (TDA 8351)



Pin 1

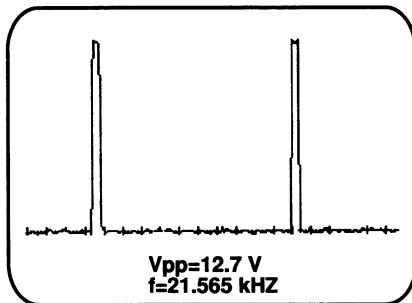


Pin 2

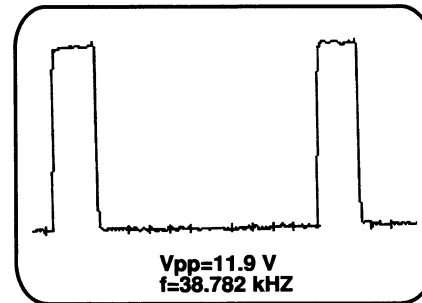


Pin 7

5- IC 601 (MC 44608 AP)

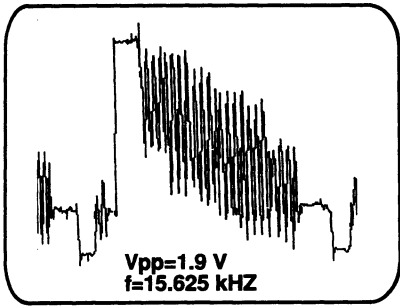


Pin 5 (Stand-By)

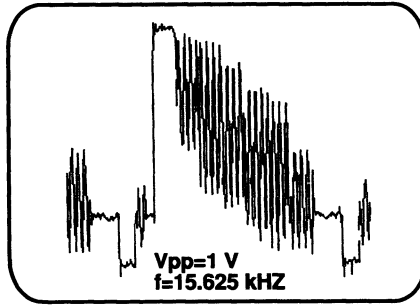


Pin 5 (TV ON)

6- T103 (BC 848 NPN)

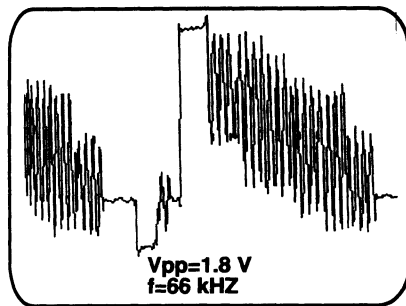


Emitter (Scart 2 CVBS OUT)



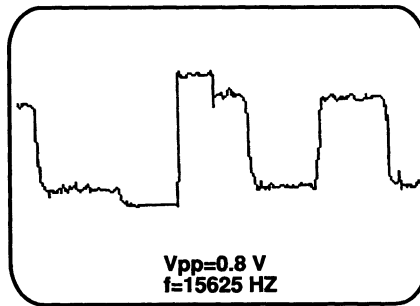
Emitter (CVBS TXT)

7- T106 (BC 848 NPN)



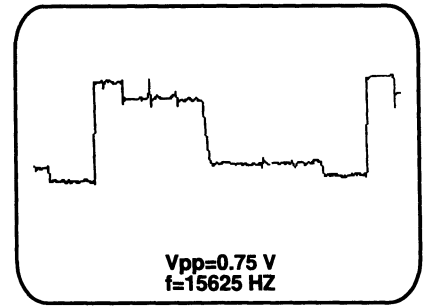
Emitter (Scart 1 CVBS OUT)

8- T401 (BC 848 NPN)



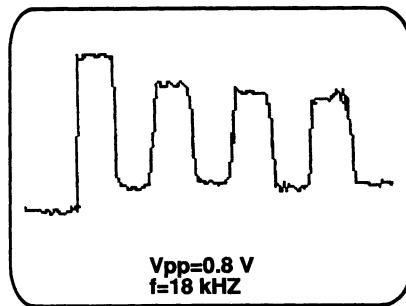
Kollektör (R-OSD)

9- T402 (BC 848 NPN)



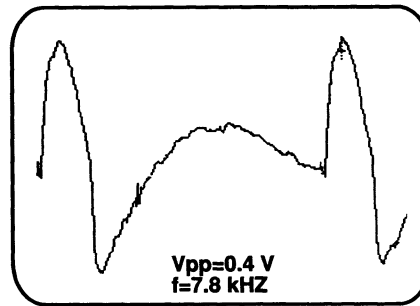
Kollektör (G-OSD)

10- T404 (BC 848 NPN)

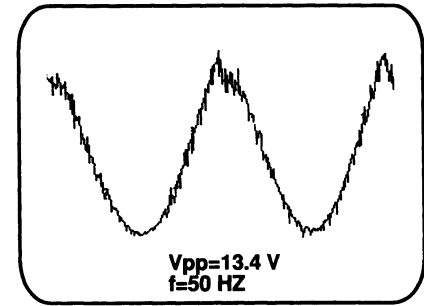


Kollektör (B-OSD)

11- T501 (2SK 2381)

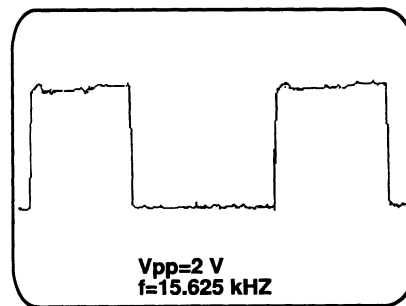


Gate (EW Drive)

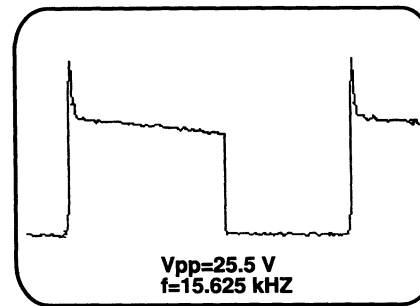


Drain

12- T503 (BC 618)



Baz (H-DRIVE)



Kollektör

SERVICE ADJUSTMENTS

1- Supply Voltage Adjustment

Adjust + B Voltage, measured at the cathode of the diode D 611 while screen potentiometer is set to the minimum. Select AV Mode.

For	33"	to	159V	+ 1V
For	29"	to	125V	+ 1V
For	28"	to	145V	+ 1V
For	25"	to	145V	+ 1V
For	21"	to	120V	+ 1V
For	20"	to	120V	+ 1V

2- Service Mode Adjustments

Enter Service Mode using Service Remote Control. Apply an antenna signal with 65dB(V± 1dB(V (1.8 mV) level to the set.

2.1 AGC Adjustment

Select AGC by using +P, -P buttons.

Adjust the amplitude of the 38,9MHz Signal at IF 2 pin of tuner to 220mVpp±20mVpp

2.2 Adjust STD. It should be STD-BY OFF

Adjust EEPE. It should be 00.

2.3 Adjust PEAK to 08

Adjust HEAD to ON for 28",
to OFF for 21"

3- Geometry Adjustment

Select FUBK or Philips test pattern

3.1 Adjust	VZOM	to	20
Adjust	VSCR	to	1F
Adjust	AV	to	03
Adjust	CRT	to	4:3

3.2 Select VSLP by using P+/P- buttons.

At this mode lower half of the screen is black.

Adjust VSLP to the center line of the test pattern.

Adjust VSHT to the center line of the test pattern.

3.3 Adjust vertical linearity at SCOR and

Adjust Vertical amplitude at VAMP.

Adjust horizontal amplitude at

Adjust horizontal position (phase) at

Adjust general parabol adjustment at

Adjust corner parabol adjustment at

Adjust trapez distortion at

EWV and
HSHT.
EWPW.
EWCR.
EWT.

Adjust	BRI	to	20
For 28"	CDR	to	03
	CON	to	28
	HUE	to	20
	SAT	to	14
	YDLY	to	04

4- Screen and White Balance adjustment

Adjust Brightness to 30, Contrast to 40 and colour to 20.

Enter Service Mode.

Select SCRN (Screen) and switch it to ON.

Screen becomes black and a horizontal line appears at the center of the screen.

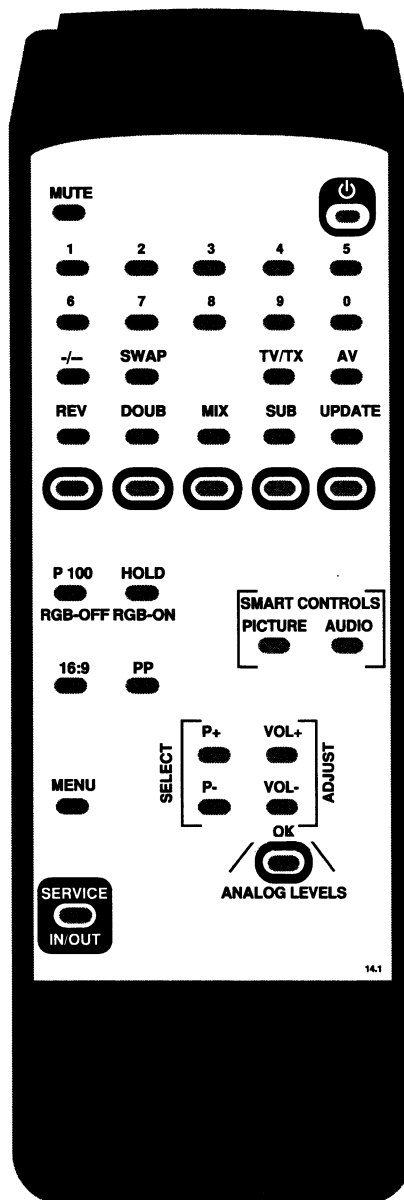
Adjust with screen potentiometer this line to a just visible level.

Return to picture mode by pressing V+ or V- button.

Select GRN and adjust it 25.

Adjust RED and BLUE to proper values to have a proper white level.

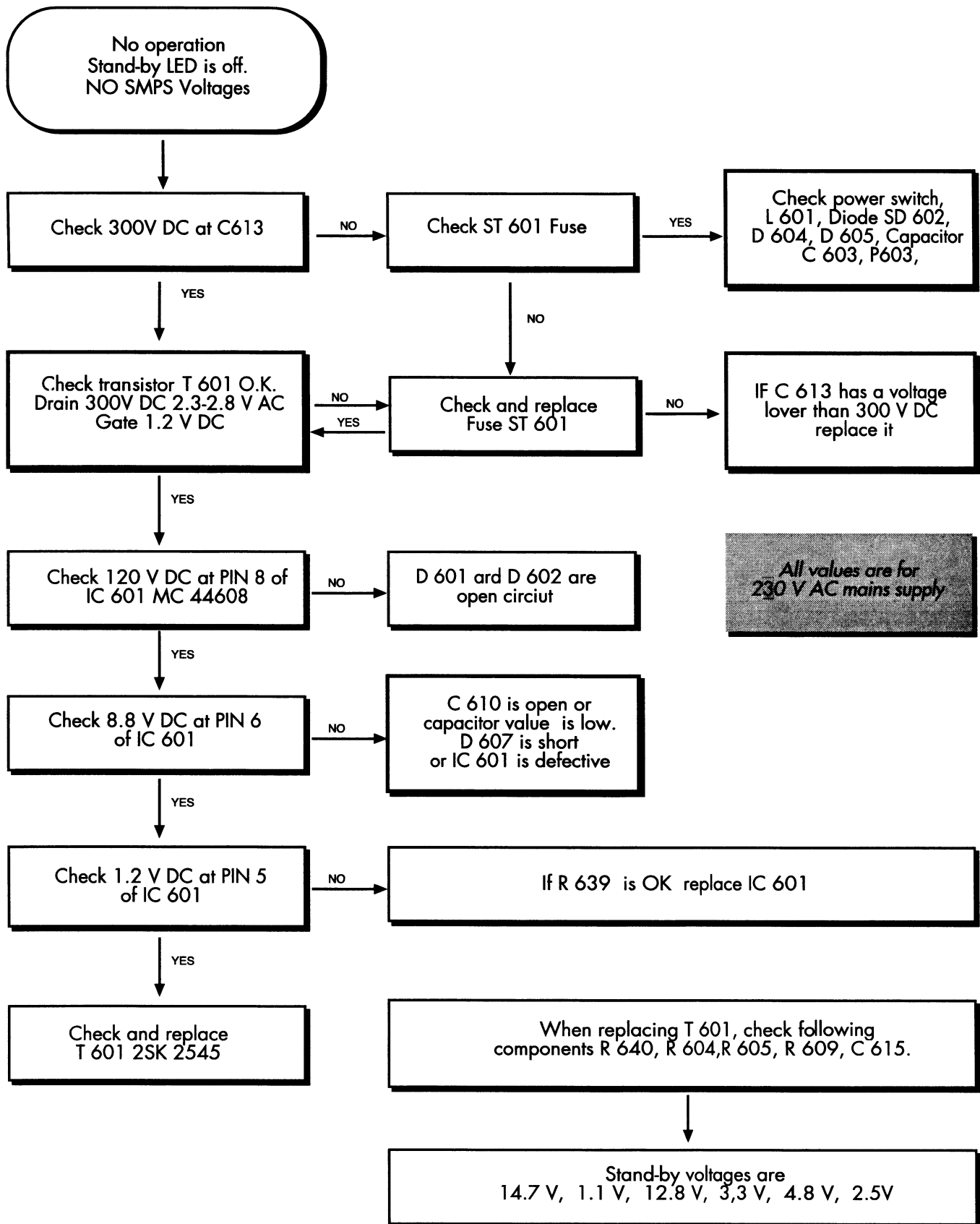
Service Remote Control



TROUBLE SHOOTING GUIDE

1. Power Supply Defects
2. Picture and Colour Defects
3. Deflection Defects
 - a) Horizontal Deflection Circuit Defects
 - b) Vertical Deflection Circuit Defects
4. Micro Controller Defects
 - a) OSD Defects
 - b) TXT Defects
5. Audio Circuit Defects

POWER SUPPLY DEFECTS (I)



251225	EC 22UF 16V 11*5 R 5	20"-21"-25"-28"-29"-33"	0,3000	C528					
251228	EC 22UF 200V 11 5*8 R.5	20"-21"-25"-28"-29"-33"	0,3000	C629					
251478	EC 47UF 16V 11*5 R.5	20"-21"-25"-28"-29"-33"	0,3000	C639	C504	C102	C217	C221	
252104	EC 100UF 200V 25*16 R 7.5	20"-21"-25"-28"-29"-33"	0,4000	C627					
252112	EC 100UF 16V 11*6 R 5	20"-21"-25"-28"-29"-33"	0,3000	C421	C337	C105	C127	C128	
252150	EC 150UF 400V 40*22 R 10	20"-21"-25"-28"	3,2500	C613					
252222	EC 220UF 400V 40*22 R.10	29"-33"	3,2500	C 613					
252476	EC 470UF 25V 11*10 R 5	20"-21"-25"-28"-29"-33"	0,3000	C512	C527				
253101	EC 1000UF 35V 25*13 R.5	20"-21"-25"-28"-29"-33"	0,5000	C621	C338				
253106	EC 1000UF 25V 20*13 R 5	20"-21"-25"-28"-29"-33"	0,5000	C620	C354	C355			
259223	EC 2 2UF 63V 11*5 R.5	20"-21"-25"-28"-29"-33"	0,5000	C507	C124				
271390	C-PPM 390NF J 250V R 15	20"-21"	0,5000	C521					
272101	C-PEM 1NF K 50V R.5	20"-21"-25"-28"-29"-33"	0,3000	C503					
272103	C-PPM 1NF J 2KV R 15	25"-28"-29"	0,5000	C513					
272110	C-PEM 1NF J 100V R 5	21"-25"-28"-29"-33"	0,5000	C529A					
272154	C-PPM 1 5NF J 1600V R.15	29"-33"	0,5000	C513					
272820	C-PPM 8.2NF %3 5 1.5/1 6KV	21"	0,5000	C513					
272911	C-PPM 9 1NF %3.5 1.5/1.6KV	20"	0,5000	C513					
272103	C-PPM 1NF 2KV	25"-28"	0,5000	C513					
273104	C-PPM 10NF J 1.5/1.6KV R.22	25"-28"	0,5000	C518					
273119	C-PPM 11NF J 1 5/1 6KV R.7.	33"	0,5000	C518					
273131	C-PPM 13 1NF J 1.5/1 6KV R	29"	0,5000	C518					
273225	C-PEM 22NF J 63V R 5	20"-21"-25"-28"-29"-33"	0,5000	C704					
273228	C-PPM 22NF J 1KV R.15	25"-28"-29"-33"	0,5000	C519					
273475	C-PEM 47NF K 100V R.5	20"-21"-25"-28"-29"-33"	0,5000	C940	C941	C511			
274102	C-PEM 100NF J 63V R 5	20"-21"-25"-28"-29"-33"	0,5000	C606					
274105	C-PEM 100NF J 250V R.10	20"-21"-25"-28"-29"-33"	0,5000	C603	C701				
274107	C-PEM 100NF J 100V R 5	20"-21"-25"-28"-29"-33"	0,5000	C122	C126				
274224	C-PEM 220NF K 275V R22 5	20"-21"-25"-28"-29"-33"	0,5000	C601	C602				
274230	C-PEM 220NF J 100V R.5	20"-21"-25"-28"-29"-33"	0,5000	C505	C524				
274330	C-PEM 330NF J 250V R 15	20"-21"-25"-28"-29"-33"	0,3000	C523					
274477	C-PPM 470NF J 250V R 15	25"-28"	0,5000	C521					
274563	C-PPM 560NF J 250V R.15	25"-28"-29"-33"	0,5000	C520					
274684	C-PPM 680NF J 250V R.15	33"	0,5000	C521					
275104	C-PPM 1UF J 250V	29"	0,5000	C521					
300305	DIODE BA157	20"-21"-25"-28"-29"-33"	0,1000	D510	D511	D512			
302289	DIODE 1N4148 52MM	20"-21"-25"-28"-29"-33"	0,1000	D505					
302296	DIODE 1N4148 26MM	20"-21"-25"-28"-29"-33"	0,1000	D616					
302948	DIODE 1N4007	20"-21"-25"-28"-29"-33"	0,1000	D701	D509				
303109	DIODE ERC06-1500	25"-28"-29"-33"	0,6112	D507					
303195	DIODE 4148 MELF	20"-21"-25"-28"-29"-33"	0,1000	D501	D502	D503	D504	D514	
303206	DIODE RGP30MS	20"-21"-25"-28"-29"-33"	0,1000	D611					
303209	DIODE BAV21	20"-21"-25"-28"-29"-33"	0,3000	D702	D703	D704	D506		
303214	DIODE UF4006	29"-33"	0,1000	D608					
303215	DIODE RGP10G	20"-21"-25"-28"-29"-33"	0,3000	D607	D614				
303217	DIODE RGP10J	20"-21"-25"-28"-29"-33"	0,3000	D601	D609	D615			
303227	DIODE RGP15J	20"-21"-25"-28"-29"-33"	0,1000	D513					
303228	DIODE RGP30D	20"-21"-25"-28"-29"-33"	0,1000	D612	D613				
303244	DIODE RGP30K	25"-28"-29"-33"	0,2000	D508					
303308	DIODE RF2007	20"-21"-25"-28"-29"-33"	0,1000	D602	D603	D604	D605		
303771	DIODE Z. UZT33V	20"-21"-25"-28"-29"-33"	0,1000	ZD501					
303799	D- ZENER MTZJ12B	20"-21"-25"-28"-29"-33"	0,3000	ZD603					
303850	LED LTL 4263 RED L=25.4	28"	0,1000						
303900	LED ROT	29"-33"	0,1400	D901					
303942	LED LTL4224 RED	20"-21"-25"	0,1400	D901					
303991	LED IR SIR563SB3F 23/940	20"-21"-25"-29"-33"	0,1000	D981					
303993	LED LTL4221N D.3 R/D RED	20"-21"-25"-28"-29"-33"	0,1000	D980					
400251	TRN BC338-25	20"-21"-25"-28"-29"-33"	0,0500	T981					
400989	TRN BC558B	25"-29"-33"	0,0352	T306	T309				
401141	TRN-CHIP BC848B SOT23	20"-21"-25"-28"-29"-33"	0,1000	T103	T104	T105	T106	T401	
401142	TRN-CHIP BC858B SOT23	20"-21"-25"-28"-29"-33"	0,1000	T301	T305	T403	T406	T408	
401215	TRN BU508DF	20"-21"-25"-28"-29"-33"	1,5900	T504					
401216-02	TRN 2SK2545	20"-21"-25"-28"-29"-33"	1,5900	T601					
401218	TRN BC618	20"-21"-25"-28"-29"-33"	0,1000	T503					
401279	TRN 2SK2381	25"-28"-29"-33"	0,9000	T501					
410026	THRYSTOR MCR22-8	20"-25"-28"-29"-33"	0,8100	TH601					
451517	IC TDB7805CT T0220CASE	20"-21"-25"-28"-29"-33"	0,3200	IC602					
451518	IC KA317TU T0220CASE	20"-21"-25"-28"-29"-33"	0,4200	IC603	IC604				
451885	IC TL431CZT T092	20"-21"-25"-28"-29"-33"	0,5000	ZD602					
452368	IC TDA7262 PWR AMP SGS THOM	29"		IC303					

452374	IC L78L05 ACZ TR	20"-21"-25"-28"-29"-33"	0,3500	IC302					
452382	IC-CHIP KS51840-A9	20"-21"-25"-28"-29"-33"	1,8000	IC980					
452408	IC PC123FY2PHOTO COUPLER	20"-21"-25"-28"-29"-33"	3,0000	PH601					
452482	IC TDA7263	20"-21"-25"-28"-29"-33"	2,5000	IC304					
452483-01	IC SAA5563	20"-21"-25"-28"-29"-33"		IC401					
452484	IC S24C08	20"-21"-25"-28"-29"-33"	0,6000	IC402					
452485	IC KA 75270 (SAMSUNG)	20"-21"-25"-28"-29"-33"	0,4000	IC403					
452486	IC TDA8351-N6	25"-28"-29"-33"	1,6300	IC501					
452487-01	IC MC44608P40	20"-21"-25"-28"-29"-33"	3,2000	IC601					
452510	IC 4053B CMOS 16SOIC	29"		IC102					
452520	IC TDA 6108JF	25"-28"-29"-33"	1,6800	IC701					
452521	IR RECEIVER TSOP 1838	20"-21"-25"-28"-29"-33"	0,5000	IC901					
452523	IC TDA 8843-N2	25"-28"-33"	10,5000	IC101					
452530	IC TDA 8356-N6	20"-21"		IC501					
452575	IC MSP3400D-C5	20"-21"-25"-33"	7,5000	IC301					
452576	IC MSP3410D-C5	28"		IC301					
452594	IC MSP3401G	29"		IC301					
452742	IC TDA8841(S1)/N2 PH	20"-21"		IC101					
452746	IC TDA6107Q	20"-21"		IC701					
520167-AS	DEGAUSSING COIL ASSY 20"	20"		Δ					
521167-AS	DEGAUSSING COIL ASSY 21"	21"		Δ					
525167-AS	DEGAUSSING COIL ASSY 25"	25"		Δ					
528167-AS	DEGAUSSING COIL ASSY 28"	28"	0,8000	Δ					
629167-AS	DEGAUSSING COIL ASSY 29"	29"		Δ					
533167-AS	DEGAUSSING COIL ASSY 33"	33"		Δ					
528107-AS	SPK FOST.8R/7W PRJ-C POWER-	20"-21"	5,0000	Δ					
54C500	CORD POWER	20"-21"-25"-28"	1,9976	Δ					
7RZ136-01	TUNER PANASONIC ENV57DXXG	20"-21"-25"-28"-29"-33"	11,0000						
5Z1110	B4 CHASIS-33" P/ST/PTX/2SC/	33"	140,0000						
6PE110	B4 CHASIS-25" P/ST/PTX/2SC/	25"	140,0000						
7GZ110	B4 CHASIS-20" P/ST/PTX/NTSC	20"	140,0000						
7MZ165	B4 CRT MOD (IC TDA 6107Q/NS	20"-21"	140,0000						
7PZ110	B4 CHASIS-29"PS/ST/VDO/PTX/	29"	140,0000						
7TY110	B4 CHASIS-28" PI/UV/NC/PTX/	28"	140,0000						
7UK110	B4 CHASIS-28" P/ST/NC/PTX/2	28"	140,0000						
7ZZ110	B4 CHASIS-21" P/ST/PTX/NTSC	21"	140,0000						
7PZ165	B4 CRT MOD.29T12	29"	12,0000						
7PZ187	RC BEKO TYPE M.GREY 14 1	29"	10,0000						
7SZ165	B4 CRT MOD (IC TDA 6108Q/NS	28"-25"	12,0000						
7SZ187	RC BEKO TYPE GREY 14.1	20"-21"-25"-28"-33"	10,0000						
7TK187	RC BEKO TYPE FUME 14.1	20"-21"-25"-28"-33"	10,0000						
7VA165	B4 CRT MOD.(IC TDA 6108Q/NS		12,0000						

