

Scheme Service Manual **TV**

ALBA. CTV-10.
ALBA. CTV-10/14.
ALBA. CTV-14.

**INTOARCERE
PRIMA PAG.**

**INTOARCERE
LA CUPRINS**

ALIGNMENT INSTRUCTION

I. PLEASE READ BEFORE ATTEMPTING SERVICE

1. Do not connect any antenna plug directly to the tuner socket and do not connect any equipments directly to the TV chassis, otherwise it may be burnt out the TV or equipment, except an isolation transformer is used for main power source of the TV sets.
2. Never disconnect any leads while receiver is in operation.
3. Disconnect all power before attempting any repairs.
4. Do not short any portion of the circuits while power is on.
5. For reason of safety, all parts replaced should be identical, (for parts and part numbers see PARTS LIST).
6. Before alignment the set must be pre-heated for 30 minutes or more and erase magnetism thoroughly from CRT front chassis frame by erase coil.

II. TEST EQUIPMENT

- | | |
|--|---|
| 1. VIF Sweep Generator | 8. Oscilloscope |
| 2. SIF Sweep Generator | 9. Vacuum Tube Volt Meter |
| 3. Chroma Sweep Generator | 10. Volt Ohm Meter |
| 4. Continuous Waveform Generator | 11. High Voltage Meter |
| 5. Color Bar/Dot/Cross Hatch Generator | 12. Ampere Meter (0.5 class, DC 3mA Max.) |
| 6. Philips Pattern Generator | 13. Frequency Counter |
| 7. DC Power Supply (20V) | 14. Demagnetizing Coil |

III. VIF ALIGNMENT

A. PREPARATION STEP (See Fig. 2)

1. Ground CN102M pin 2.
2. Turn the RF AGC control fully counterclockwise.
3. Supply AGC bias voltage to TP103. (See Fig. 1)

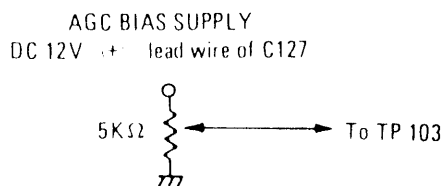


Fig. 1

4. Connect output lead of VIF sweep generator to tuner test point TP. (In case of system PAL-I, connect output lead of IF sweep generator between TP-I and tuner body).
5. Connect lead of FROM DET between TP104 and shield case.
6. Connect resistor jumper (100 ohm) between TP106 and TP107.
7. Supply DC 20V to \oplus lead of C248.
8. Set AFC switch to "OFF" position.

NOTE: AFC switch connection is as follow;

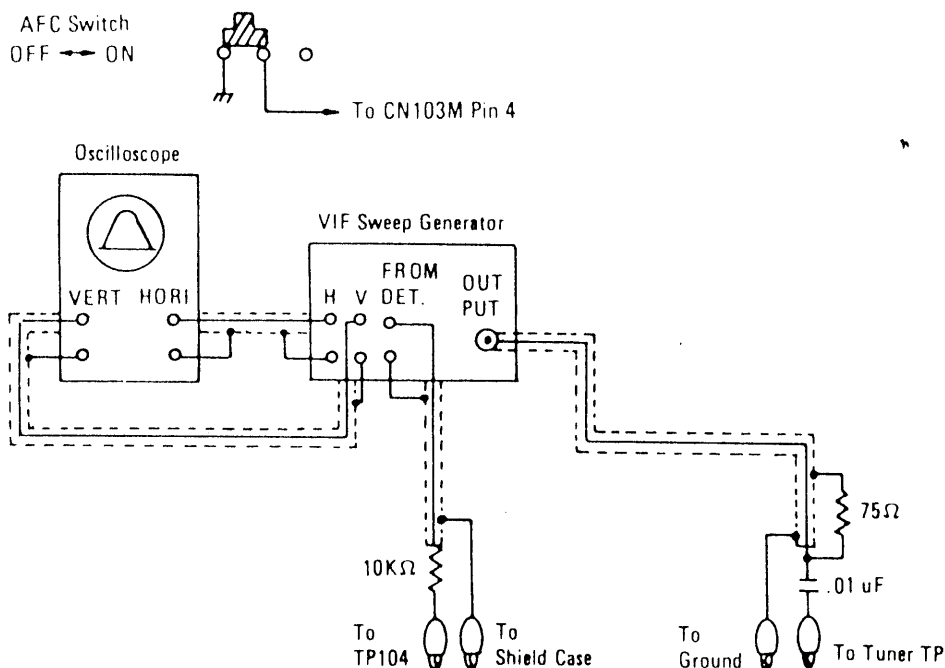


Fig. 2

B. ALIGNMENT STEP

1. Set the output carrier of continuous waveform generator to picture carrier frequency P.C. (Table 3)

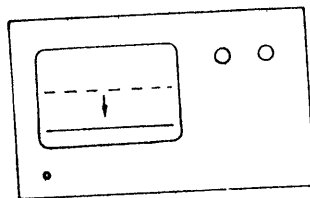
System	PAL-B,G	PAL-B,G	PAL-I	PAL-D/I
Destination	Europe	Australia	U.K.	China/H.K.
PC	38.9 MHz	36.875 MHz	39.5 MHz	39.5 MHz
Input Level	80 dBuV ~ 100dBuV			

Table 3

2. Adjust T102 for minimum DC. (Fig. 6)

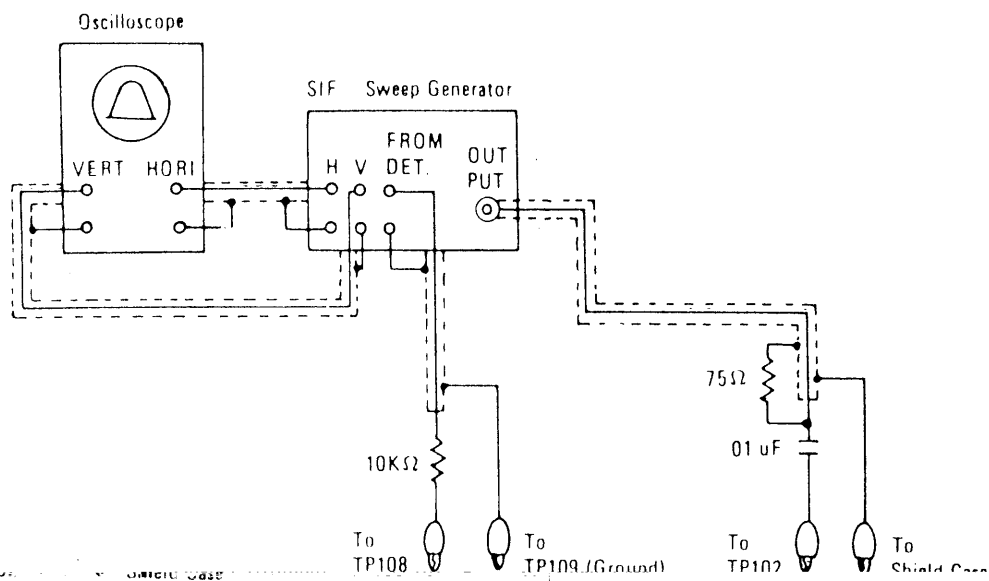
NOTE: 1. RF AGC control (VR101) is set at middle position.

2. While feeding signal, increase signal of 5dB from specified level shown in the Table 4, RF AGC control (VR101) is set at where level on the oscilloscope does not go into saturation range.



DC range
vertical sensitivity
1V/cm

Fig. 6



B ALIGNMENT STEP

B. ALIGNMENT STEP

1. Adjust AGC bias voltage for maximum amplitude of waveform.
2. Adjust the level of sweep generator to achieve 1Vp-p output.
3. Increase the output level of sweep generator in 20dB.
4. Adjust AGC bias voltage to achieve 1Vp-p output. (on oscilloscope).
5. Adjust core of T101 and tuner converter coil to obtain the waveform as in Fig. 3 and Table 1.

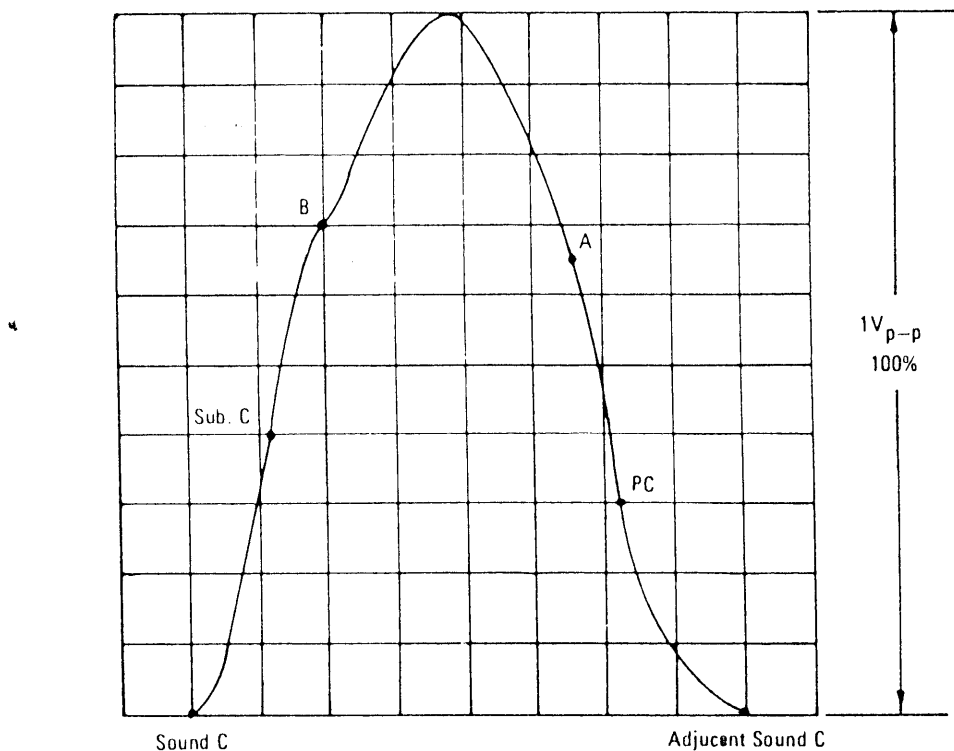


Fig. 3

System	PAL-B,G	PAL-B,G	PAL B, G	PAL-I	PAL-D/I
Destination	Europe	W. Germany	Australia	U.K.	China/H.K.
PC	38.9 MHz 30 ± 5%	38.9 MHz 30 ± 5%	36.875 MHz 30 ± 5%	39.5 MHz 40 ± 5%	39.5 MHz 20 ± 5%
A	38.15 MHz 65 ± 10%	38.15 MHz 65 ± 10%	34.5 MHz 80 ± 10%	38.75 MHz 65 ± 10%	38.75 MHz 70 ± 10%
B	35.3 MHz 70 ± 10%	35.3 MHz 70 ± 10%	33.2 MHz 70 ± 10%	35.82 MHz 70 ± 10%	35.82 MHz 70 ± 10%
Sub. C	34.47 MHz 40 ± 5%	34.47 MHz 40 ± 5%	32.445 MHz 40 ± 5%	35.07 MHz 50 ± 5%	35.07 MHz 50 ± 5%
Input Level	-65 ~ -45dB	-40 ~ -20dB	-60 ~ -40dB	-60 ~ -40dB	-60 ~ -40dB

Table 1

VII. CHROMA ALIGNMENT

A. PREPARATION STEP (See Fig. 8 and Table 4)

1. Supply AGC bias Voltage to TP103. (See Fig. 1)
2. Supply DC 20V to (+) lead wire of C248.
3. Connect resistor jumper (100 ohm) between TP106 and TP107.
4. Connect TP409 to TP410 by jumper wire.
5. Connect output lead of chroma sweep generator to tuner test point TP.
6. Connect the lead of detector TP411.
7. Set the select switch of sweep generator to modulation position.

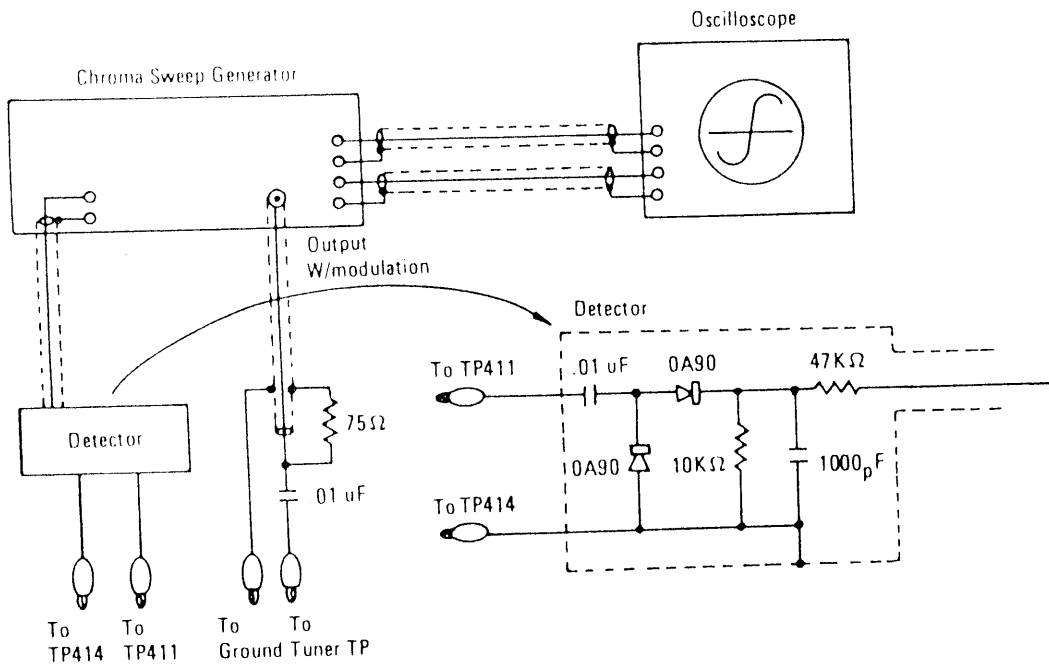


Fig. 8

System	PAL-B, G	PAL-B, G	PAL-I	PAL-D/I
Destination	Europe	Australia	U.K.	China/H.K.
IF	38.9 MHz	36.875 MHz	39.5 MHz	39.5 MHz

Table 4

B. ALIGNMENT STEP

1. Adjust IF AGC bias voltage to obtain the maximum output.
 2. Adjust output level of chroma sweep generator to achieve 0.5Vp-p at output of detector.
 3. Adjust T401 to obtain the waveform as in Fig. 9.
- Input level; See Table 5.

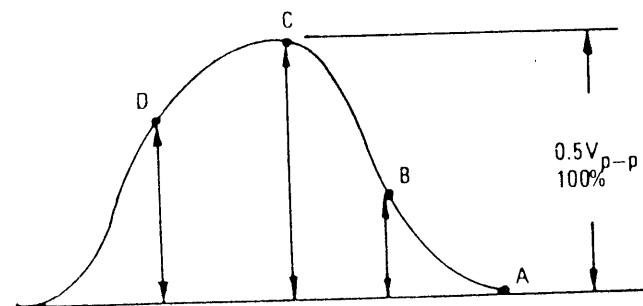


Fig. 9

System	PAL-B,G	PAL-B,G	PAL B, G	PAL-I	PAL-D/I
Destination	Europe	W. Germany	Australia	U.K.	China/H.K.
A	5.5 MHz —	5.5 MHz —	5.5 MHz —	6.0 MHz —	6.0 MHz —
B	4.93 MHz $55 \pm \frac{20}{15} \%$	4.93 MHz $55 \pm \frac{20}{15} \%$	4.93 MHz $55 \pm 15\%$	4.93 MHz $50 \pm 15\%$	4.93 MHz $50 \pm 15\%$
C	4.43 MHz 100%	4.43 MHz 100%	4.43 MHz 100%	4.43 MHz 100%	4.43 MHz 100%
D	3.68 MHz $60 \pm 15\%$	3.68 MHz $60 \pm 15\%$	3.68 MHz $60 \pm 15\%$	3.68 MHz $60 \pm 15\%$	3.68 MHz $60 \pm 15\%$
Input Level	-30 ~ -10dB	-20 ~ 0dB	-30 ~ -10dB	-30 ~ -10dB	-30 ~ -10dB

Table 5

VIII. POWER LINE CIRCUIT ADJUSTMENT

1. Set the +B Adjust control (VR301) to middle position.
2. Receive the Picture signal.
3. Adjust H-HOLD (VR203) and V-HOLD (VR202) to achieve a stable picture.
4. Connect volt ohm meter to R305 (+B, DC 113V line).
5. Set the SERVICE switch (S401) to "SERVICE" Position, and turn BRIGHTNESS control (VR404) and CONTRAST control (VR405) to minimum position.
6. Adjust VR301 to the reading of 113V.
7. Connect the volt ohm meter to TP201 and observe the voltage is the reading of $11.9 \pm 0.5V$. (If it's lower or higher, X-ray protector will be missoperated).

IX. HEIG VOLTAGE ADJUSTMENT

1. Set the SERVICE switch (S401) to "SERVICE" position and turn BRIGHTNESS control (VR404) and CONTRAST control (VR405) to minimum position.
2. Connect high voltage meter to the anode of CRT and observe the high voltage is the reading of $22.9 \begin{smallmatrix} + 1.5 \\ - 1.3 \end{smallmatrix} KV$.
3. If it's lower or higher, slightly adjust VR301.

X. HORIZONTAL CIRCUIT ALIGNMENT

1. Set the CHANNEL SELECTOR to no signal channel.
2. Connect the frequency counter between R501 (wire side) and ground.
3. Adjust H-HOLD control (VR203) to the reading of 15.625 KHz.

XI. VERTICAL CIRCUIT ADJUSTMENT

1. Set V-HOLD control (VR201) to middle position.
2. Set the CHANNEL SELECTOR to no signal channel.
3. Connect the frequency counter between V-deflection York and ground.
4. Adjust SUB-V HOLD (VR202) to the reading of 50 Hz.
5. Receive Philips pattern.
6. Adjust V-HEIGHT control to obtain a normal picture.

XII. WHITE BALANCE ADJUSTMENT

1. Set the SCREEN control (VR506) to middle position.
2. Turn the red, green and blue LOW-LIGHT controls (VR505, VR503, VR502) to middle position, and turn the DRIVE controls (VR504, VR501) to middle position.
3. Receive a black and white picture signal and set the AFC switch to "ON" position.
4. Turn the SCREEN control (VR506) to minimum position.

5. Set the SUB-BRIGHTNESS control (VR205) to middle position, then turn the CONTRAST control (VR405) and COLOR control (VR406) fully counterclockwise.
 6. Set the SERVICE switch (S401) to "SERVICE" Position.
 7. Connect volt ohm meter between TP501 and ground, and adjust BRIGHTNESS control (VR404) to the reading of DC 130V. If DC 130V can not be obtain, adjust the SUB-BRIGHTNESS control (VR205).
 8. Slowly turn the SCREEN control clockwise to the point where one of three color just illuminates.
 9. The LOW-LIGHT control volume corresponded to the color appeared on the CRT, leaves as it is, and need no further adjustment for this control volume. Turn the rest of LOW-LIGHT control volumes toward clockwise to get white horizontal line on CRT.
 10. Reset the SERVICE switch (S401) to "NORMAL" position and turn BRIGHTNESS control (VR404) to middle position.
 11. Adjust red and blue DRIVE controls (VR404, VR401) to obtain a uniform white raster.
 12. Check the black and white picture detail for proper black and white rendition (no coloration) from lowlights to highlights and all brightness levels for proper tracking.
- Proper tracking at all brightness levels can be obtained when the SCREEN, control, LOW- LIGHT controls and DRIVE controls are properly adjusted. If the results are unsatisfactory, repeat from the beginning.

XIII. FOCUS ADJUSTMENT

1. Set CONTRAST control to maximum position and BRIGHTNESS control to middle position.
2. Adjust FOCUS control (on the FBT) to obtain a sharpest and clearest picture on the CRT.

XIV. RF AGC ALIGNMENT

1. Receive the signal of band-III (VHF HIGH) channel, and Set the AFC switch to "ON" position. (In case of System PAL-I, receive the signal of UHF, and set the AFC switch to ON).
2. Set the input field strength in $62 \pm 3\text{dB}$.
3. Adjust RF AGC control (VR101) to the point where noise is disappeared.
4. Increase the input in 2dB and confirm AGC voltage of TP110 decrease.

XV. APC ALIGNMENT

1. Set CT401 to middle position
2. Receive the Philips pattern and set the AFC switch to "ON" position.
3. Connect vacuum tube volt meter or digital volt meter between TP412 and TP413.
4. Adjust CT402 to obtain 0V.

XVI. COLOR DEMODULATOR ALIGNMENT

1. Receive Philips pattern and set the AFC switch to "ON" position.
2. Connect capacitor jumper (10 $\mu\text{F}/16\text{V}$) between TP401 and TP402 (Ground).
3. Set COLOR control (VR406) to maximum position and set SUB-COLOR control (VR402) to middle position.
4. Connect oscilloscope to TP405 (B-out).
5. Adjust CT401 to obtain the waveform as in Fig. 10
6. If the results are unsatisfactory, repeat from APC ALIGNMENT again.

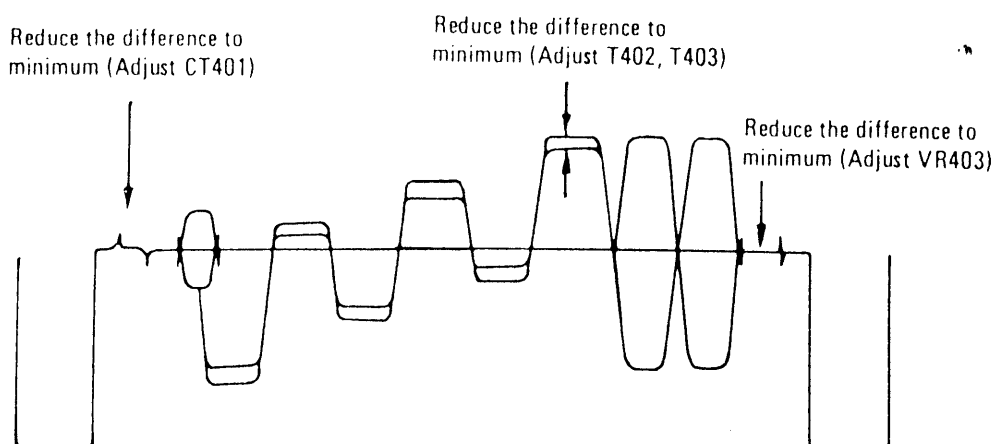


Fig. 10

XVII. DELAY LINE ALIGNMENT

1. Receive Philips pattern and set AFC switch to "ON" Position.
 2. Connect capacitor jumper (10uF/16V) between TP401 and TP402 (Ground).
 3. Connect oscilloscope to TP405 (B-out).
 4. Adjust T402, T403 and VR403 to obtain the waveform as in Fig. 10.
- NOTE: Cores of T402 and T403 should be adjusted equal height of core.

XVIII. SUB CONTRAST ALIGNMENT

1. Receive Philips pattern and set the AFC switch to "ON" position.
2. Connect oscilloscope to TP501 (R506).
3. Set controls as follows:
CONTRAST control Max. position
BRIGHTNESS control Max. position
COLOR control Min. Position
SUB-BRIGHTNESS (VR205) Mid. Position
4. Adjust SUB-CONTRAST control (VR401) to obtain the waveform as in Fig. 11.

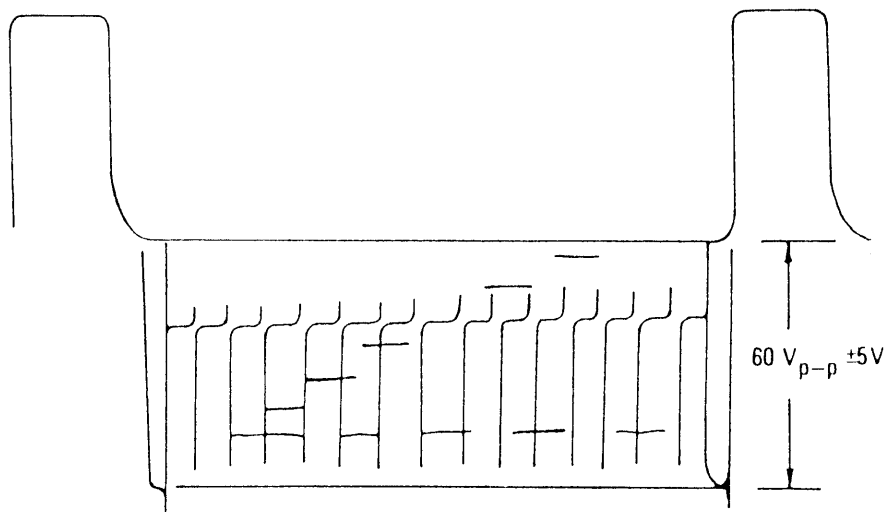


Fig. 11

XIX. SUB COLOR ALIGNMENT

1. Receive Philips pattern set AFC switch to "ON" position.
2. Set Controls as follows;
BRIGHTNESS Control Min. Position
CONTRAST Control Max. Position
COLOR Control Max. Position
3. Connect Capacitor jumper (10uF/16) between TP401 and TP402 (Ground).
4. Connect oscilloscope to TP407 (R-out).
5. Adjust SUB-COLOR control (VR402) to achieve $2.0 \pm 0.1V_{o-p}$ (Fig. 12).

NOTE:

Set SUB-BRIGHTNESS control (VR205) to the point where each color output waveform is not saturated. After this alignment, SUB-BRIGHTNESS control should be to set correct point.

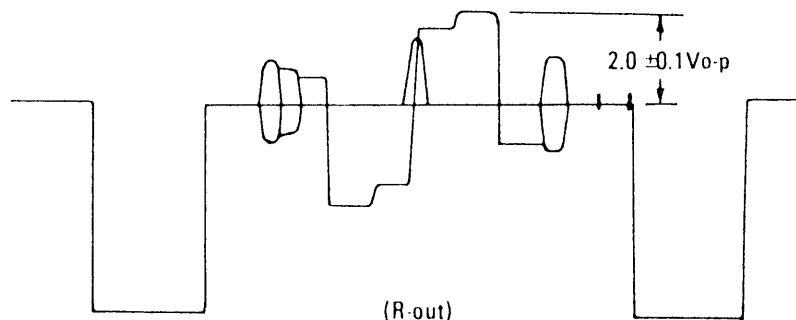


Fig. 12

For Service Manuals
MAURITRON SERVICES
8 Cherry Tree Road, Chinnor
Oxfordshire, OX9 4QY.
Tel (01844) 351694
Fax (01844) 352554
email:- mauritron@diat.pipex.com

XX. SUB-BRIGHTNESS ALIGNMENT

1. Connect the negative side of DC ampere meter (3mA full scale range) to TP202 and the positive side to ground.
2. Receive Philips pattern and set AFC switch set "ON" position.
3. Set controls as follows:
BRIGHTNESS control Mid. position
CONTRAST control Max. position
COLOR control Min. position
4. Adjust SUB-BRIGHTNESS control (VR205) to the reading of 650uA.

XXI. COLOR PURITY ADJUSTMENT (See Fig. 13)

BEFORE ALL ADJUSTMENTS DESCRIBED BELOW ARE ATTEMPTED, V-HOLD, H-HOLD, V-HIGH, B+ VOLTAGE AND FOCUSING ADJUSTMENT MUST BE COMPLETED.

1. Place the TV receiver facing NORTH or SOUTH.
2. Plug in TV receiver and turn it ON.
3. Operate the TV receiver over 30 minutes.
4. Fully degauss the TV receiver by using an external degaussing coil.
5. Receive a crosshatch pattern and adjust the static convergence control roughly.
6. Loosen the clamp screw of the deflection yoke and pull the deflection yoke toward you.
7. Fully turn the red and blue low light controls (VR505, VR502) counterclockwise and set the green low light control (VR503) to it's middle position.
8. Adjust the purity magnets so that green field is obtained at the center of the screen.
9. Slowly push the deflection yoke toward bell of CRT and set it where a uniform green field is obtained.
10. Tighten the clamp screw of the deflection yoke.

XXII. CONVERGENCE ADJUSTMENT (See Fig. 13)

1. Receive a dotted pattern.
2. Unfix the convergence magnet clumper and align red with blue dots at the center of the screen by rotating (R, B) static convergence magnets.
3. Align red/blue with green dots at the center of the screen by rotating (RB-G) static convergence magnet.
4. Fix the convergence magnets by turning the clumper.
5. Remove the DY wedges and slightly tilt the deflection yoke horizontally and vertically to obtain the good overall convergence.
6. Fix the deflection yoke by wedges.
7. If purity error is found, follow "Purity Adjustment" instructions:

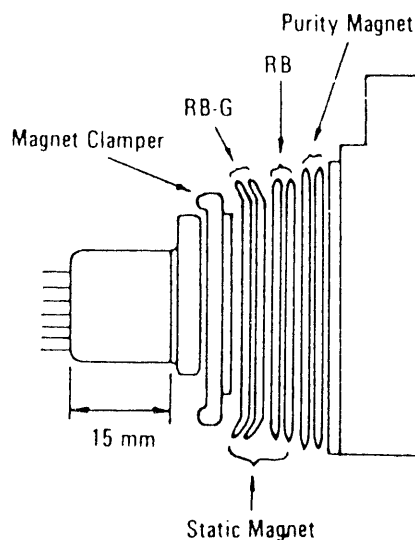
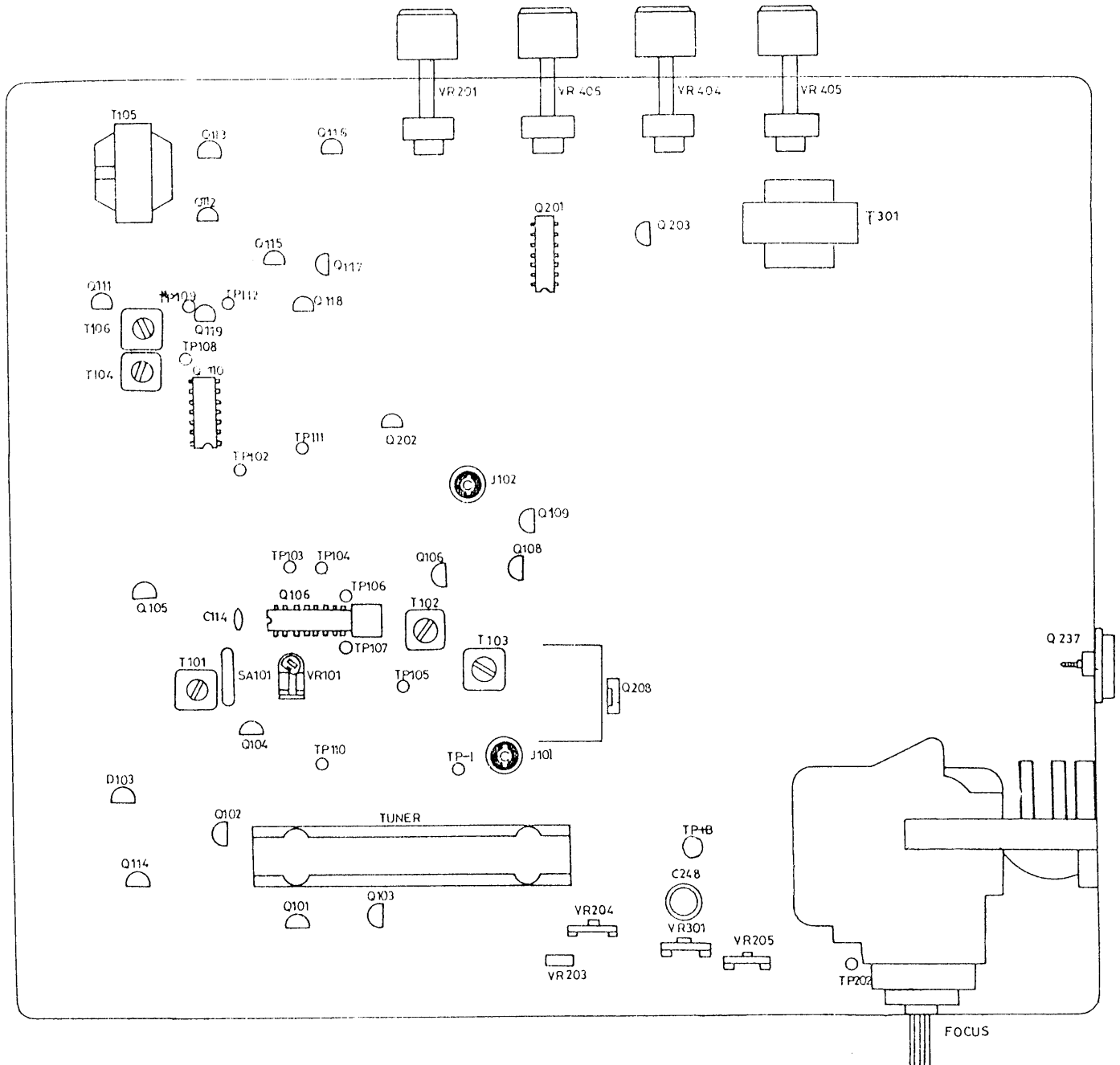


Fig. 13

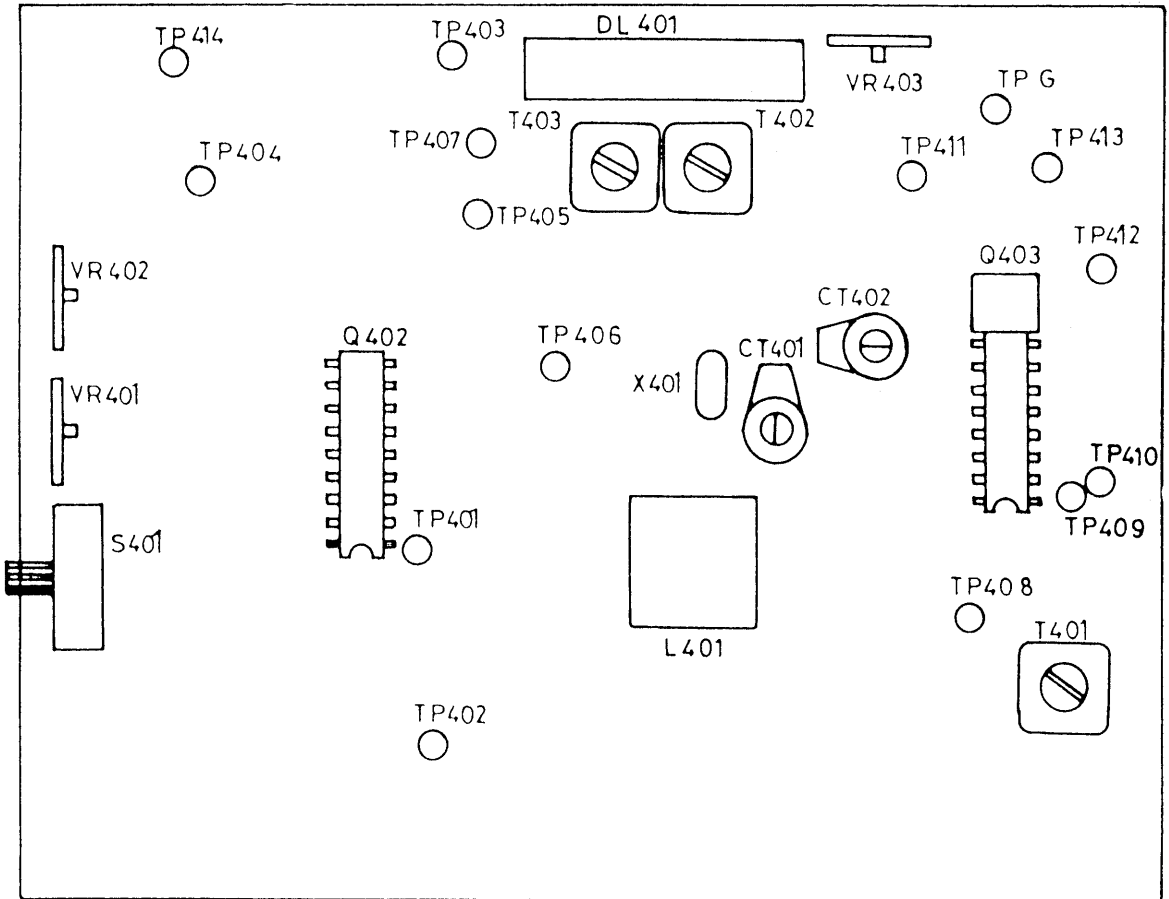
1
2
3
4

TV BOARD

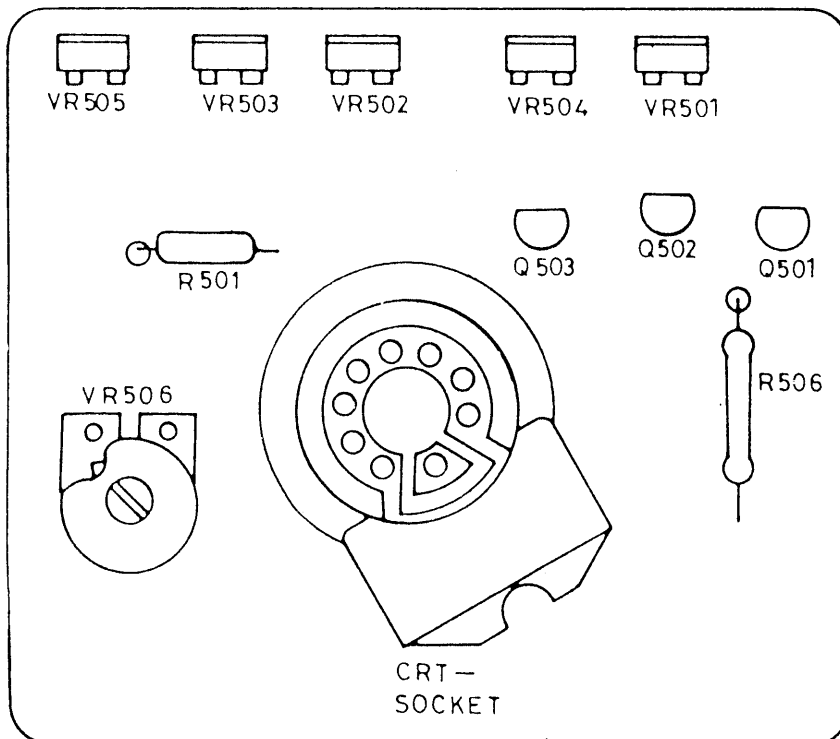


ALIGNMENT POINTS

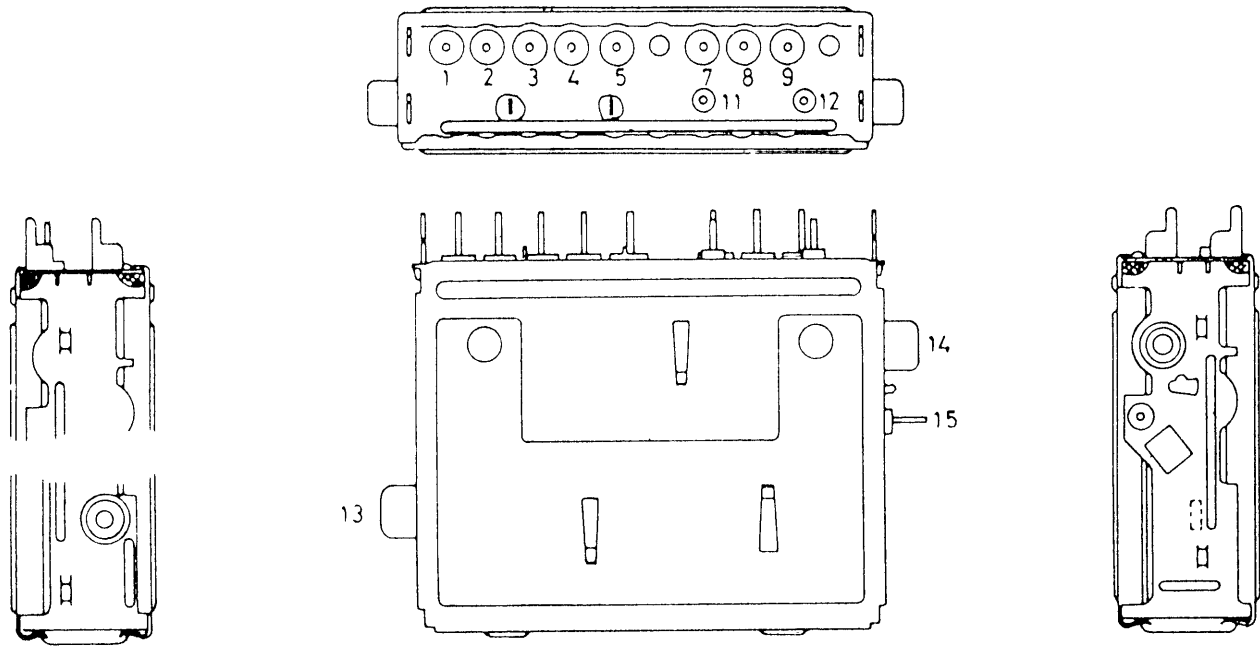
CHROMA BOARD



CRT BOARD



PICTORIAL VIEW OF TUNER



TUNER TERMINAL

SYSTEM		PAL-B, G	PAL-B, G (FTZ)	PAL-I	PAL-D/I
TERMINAL					
1	U AGC	G MAX 9.5V	G MAX 8V	G MAX 7.5V	G MAX 8V
2	BU	15V	12V	12V	12V
3	V AGC	G MAX 9.5V	G MAX 8V	—	G MAX 8V
4	BS	VL	30V	—	30V
		VH	0V	—	0V
		UHF	0V	—	0V
5	BV	15V	12V	—	12V
7	BT	0.7 ~28V	0.7 ~28V	1 ~28V	0.7 ~30V
8	AFC	6.5 ±4V	6.5 ±4V	6.5 ±4V	6.5 ±4V
9	BM	15V	12V	—	12V
11		—	—	TP	—
12		—	IF OUTPUT	—	IF OUTPUT

13	ANT INPUT	ANT INPUT	ANT INPUT	ANT
14	IF OUTPUT	—	IF OUTPUT	—
15	TP	TP	—	TP

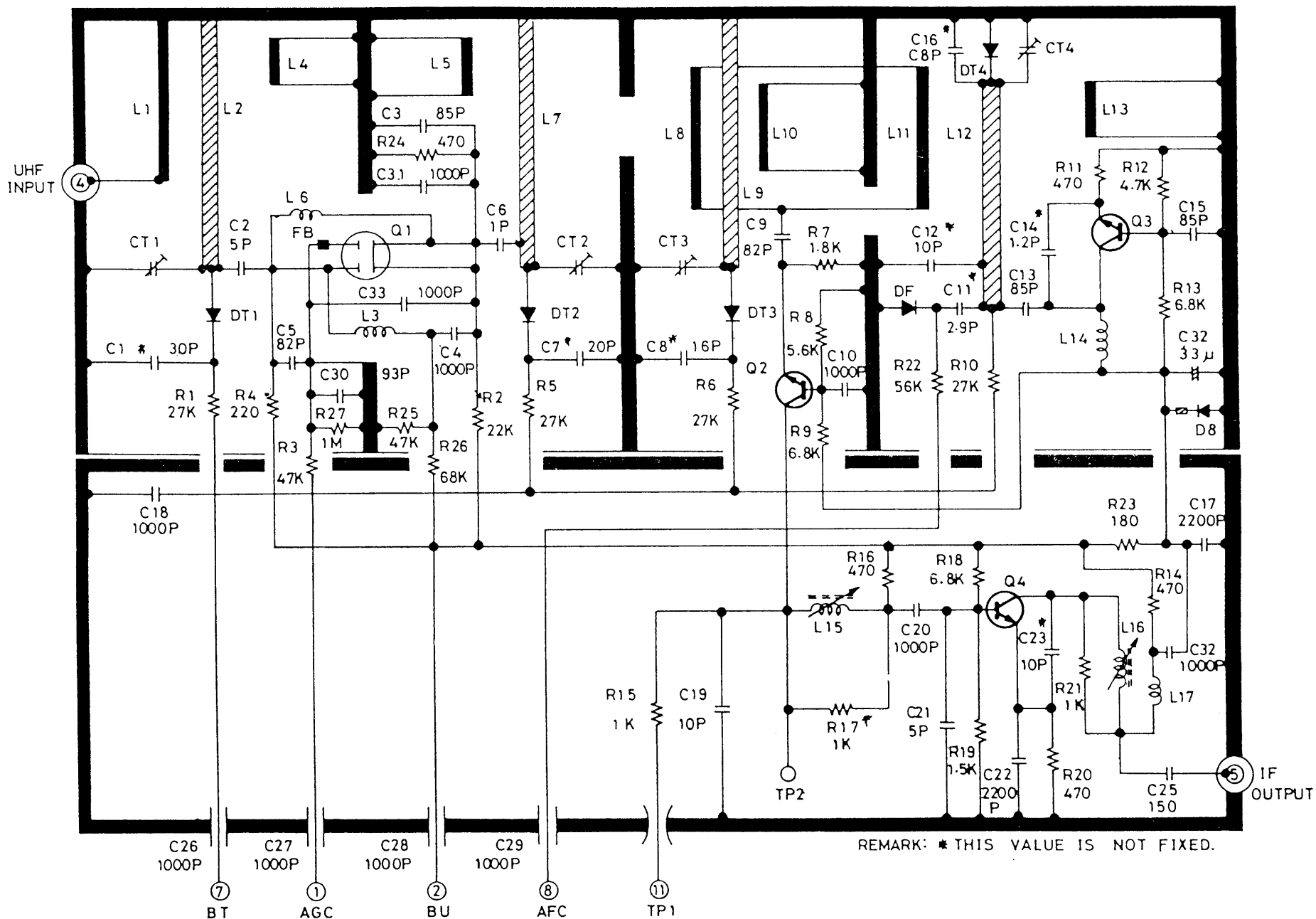
Remark: BU : B Voltage in UHF RF and OSC Circuit
BS : Switching Voltage
BV : B Voltage in VHF RF and OSC Circuit

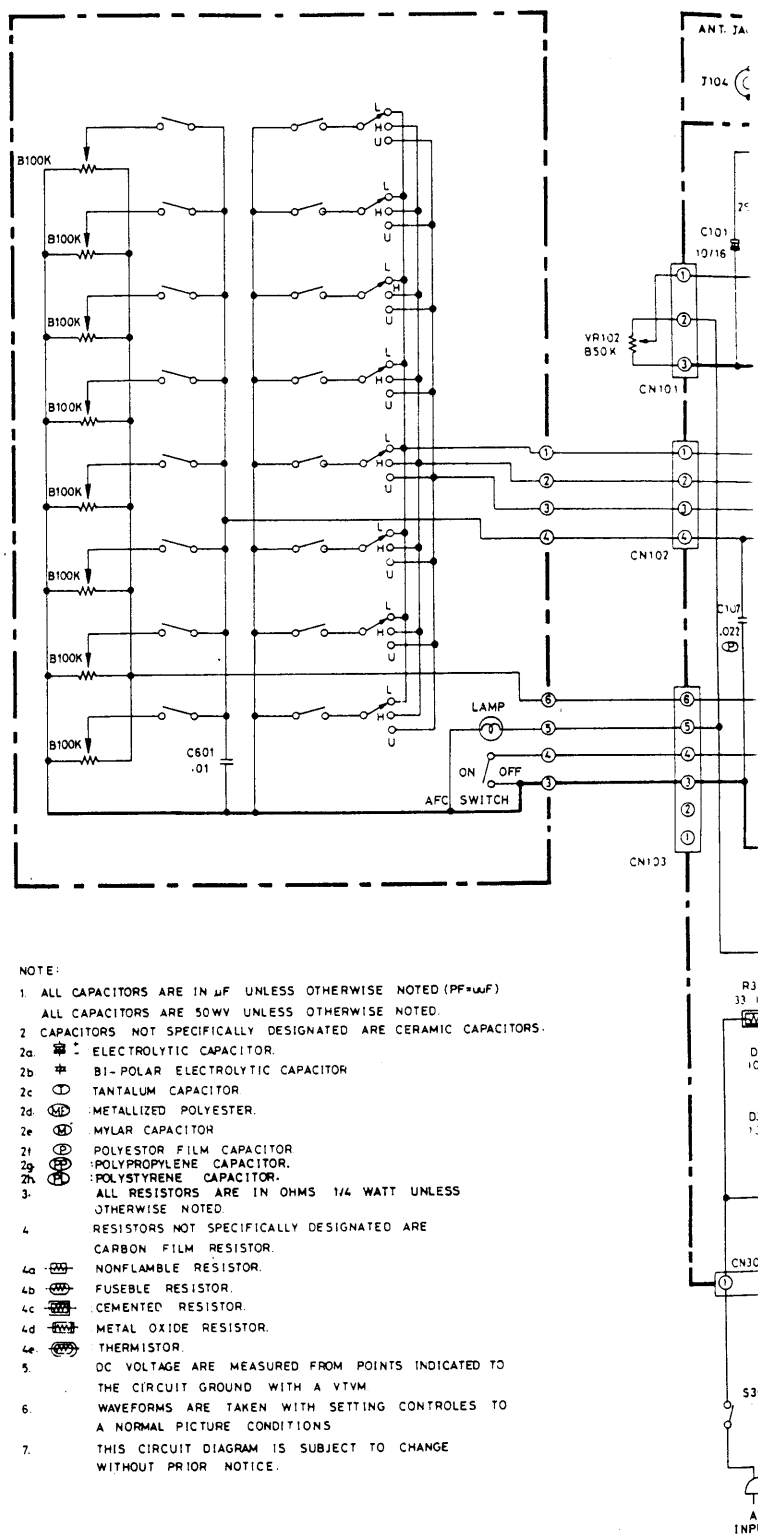
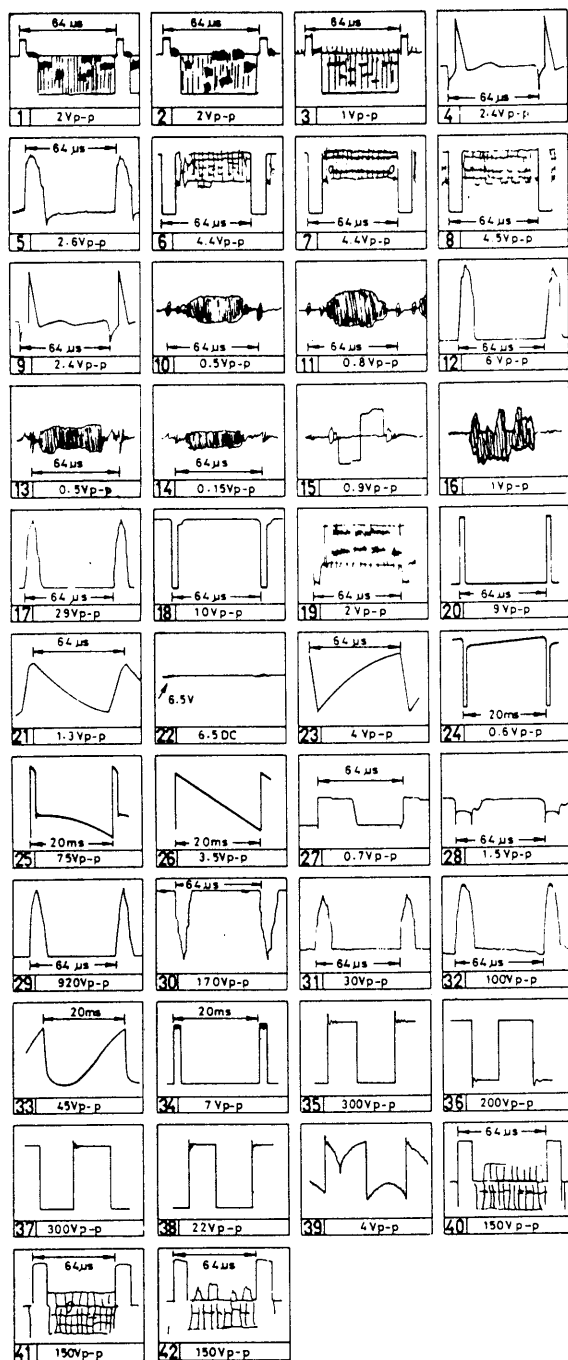
BT : Tuning Voltage
BM : B Voltage in VHF Mixer
TP : Test Point

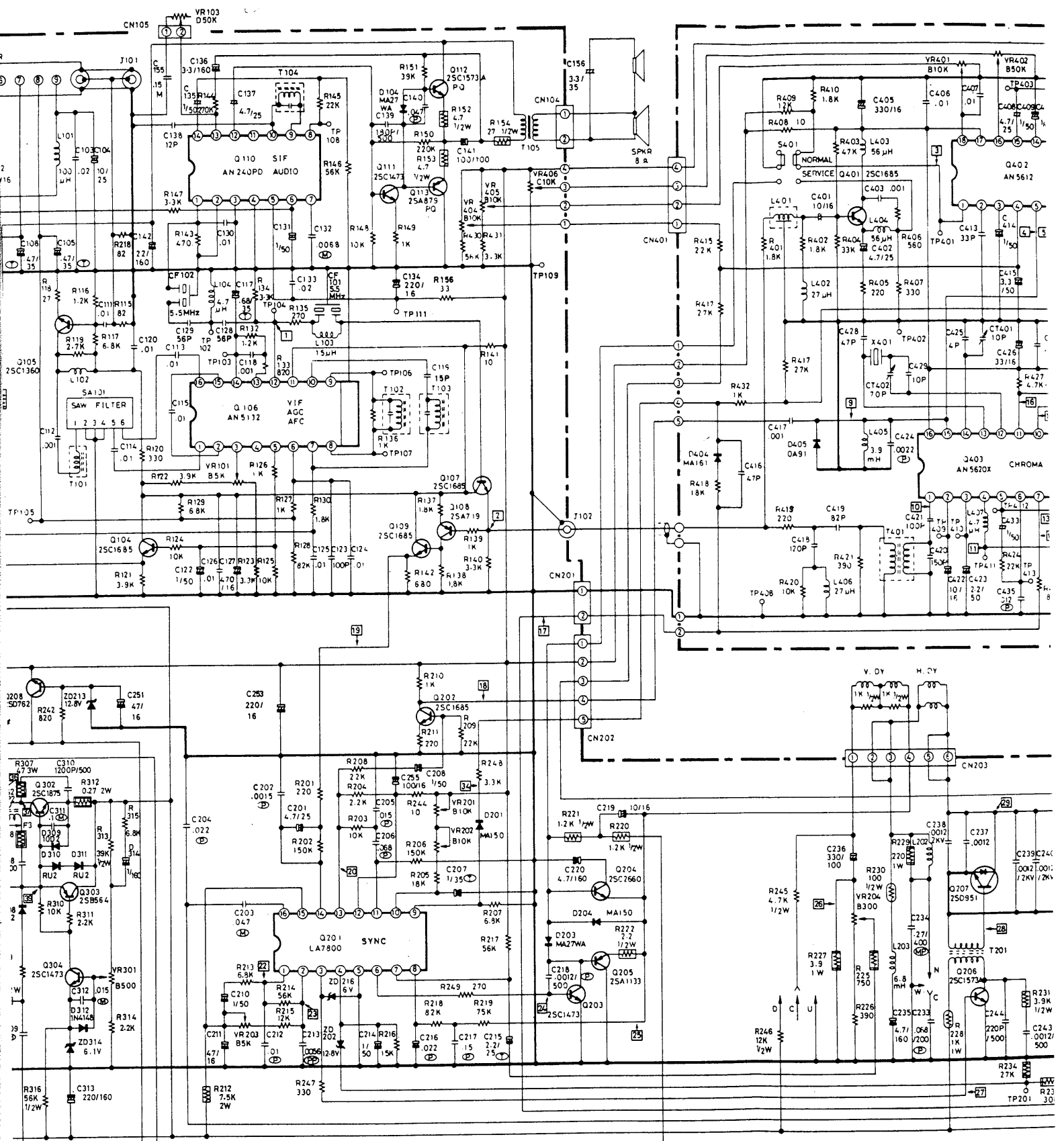
TRANSISTOR AND IC IDENTIFY

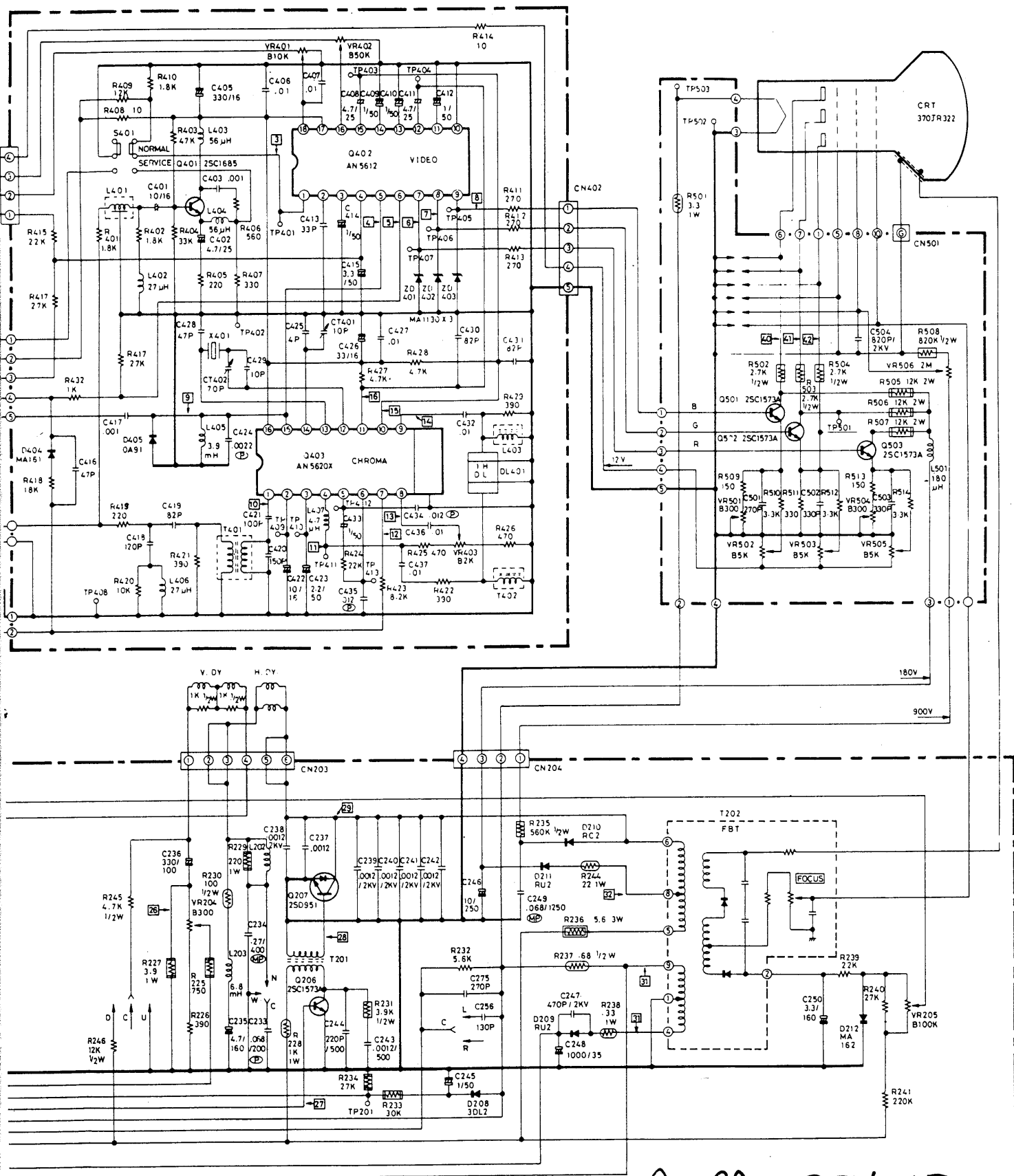
 E C B	 E C B	 B C E	 K A G	 GND 1	 GND 1	 1 14 7 8	 1 16 8 9	 1 16 9
2SA564 2SA719 2SA720 2SC1473 2SC1685	2SA879 2SC1360 2SC1573	2SA1133 2SC2660 2SD762	S6192 TFH340	2SD951	L5630	AN240	LA7800	AN56

SCHEMATIC DIAGRAM OF TUNER FOR SYSTEM PAL-I (U.K.)



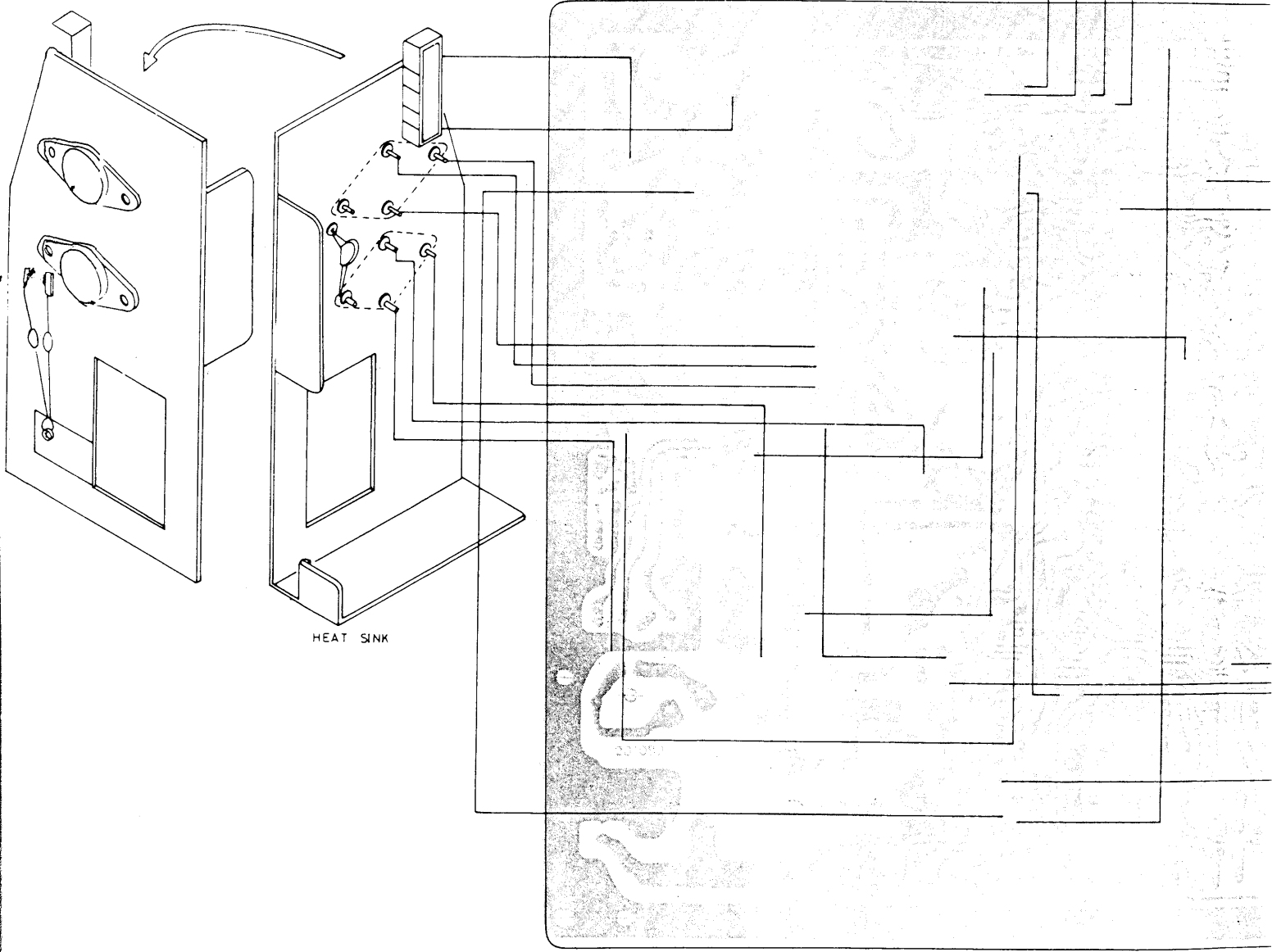
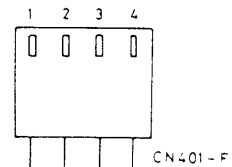
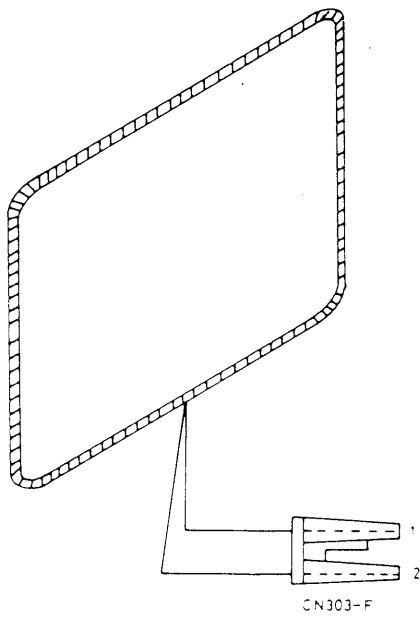


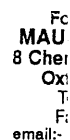
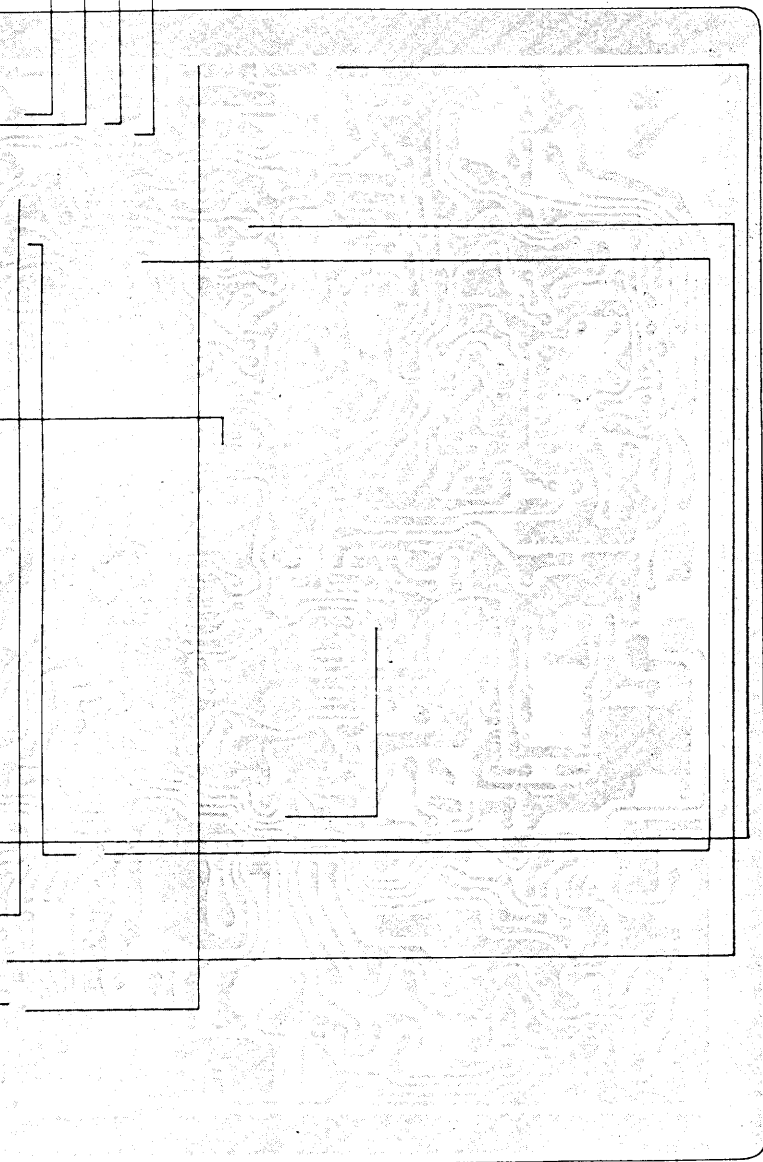


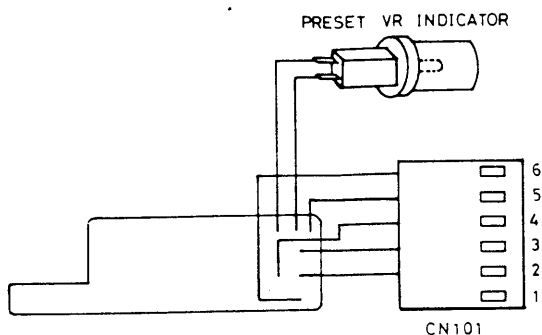
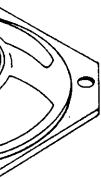


ALBA CTV-10

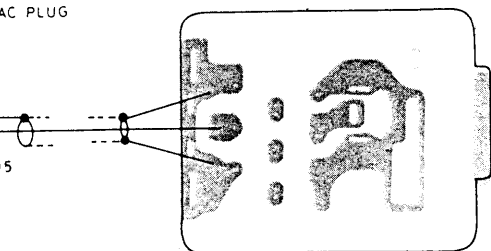
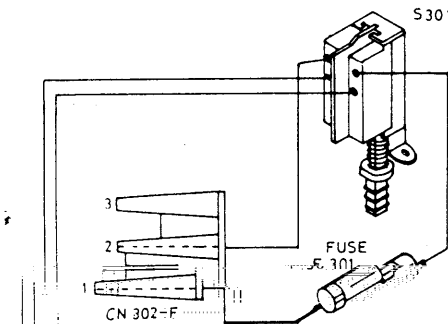
WIRING DIAGRAM OF CTV10



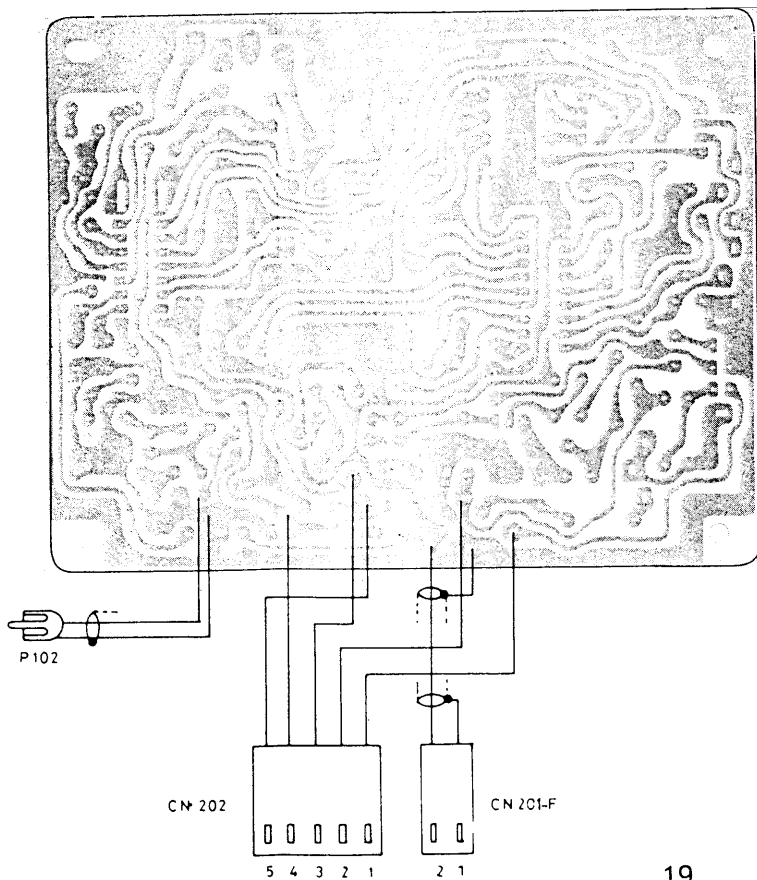


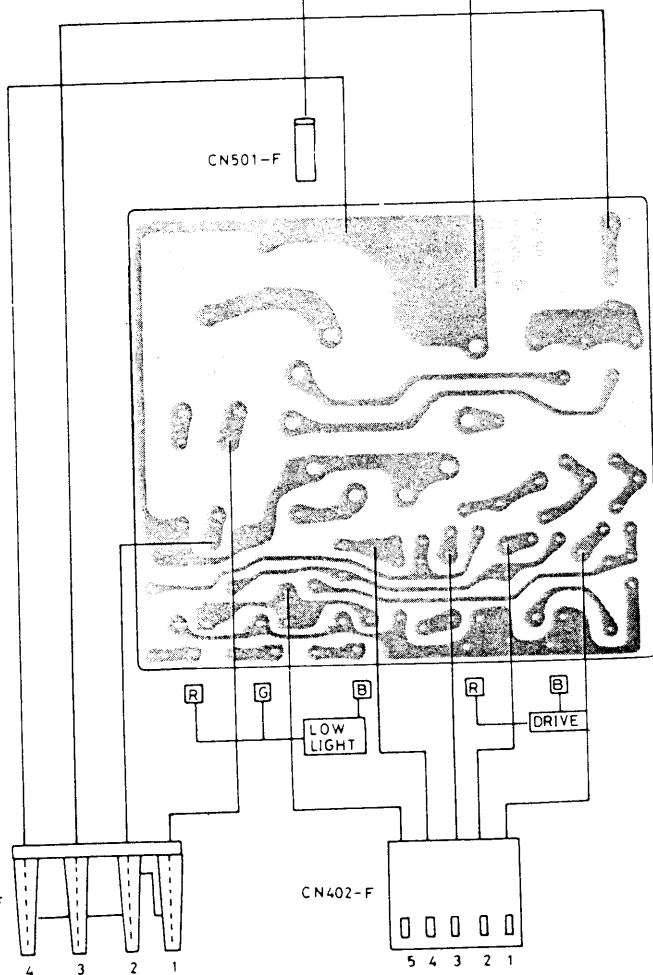
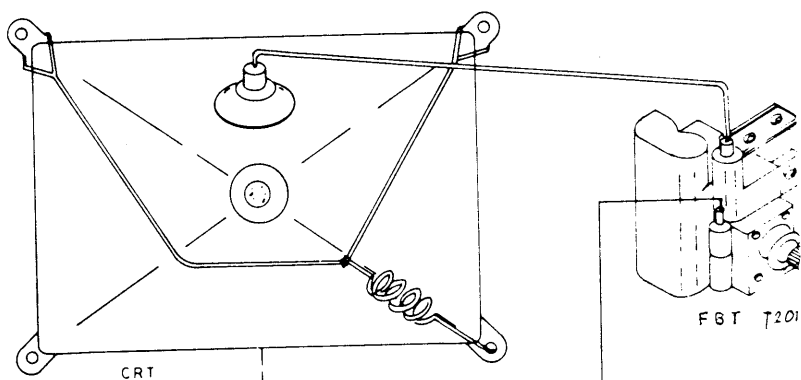
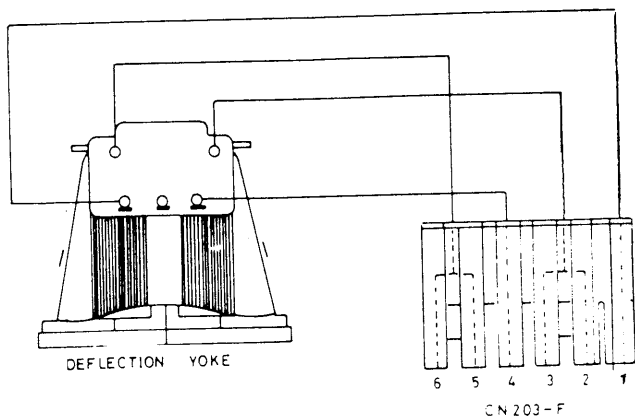


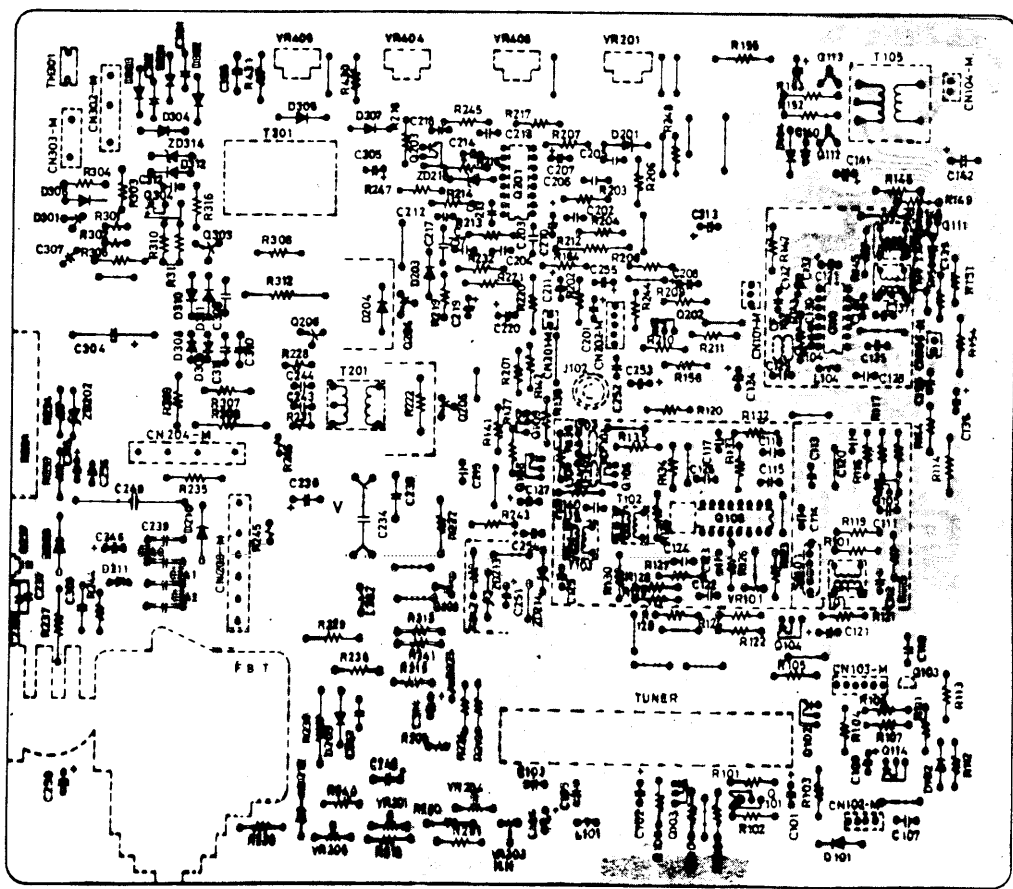
POWER SWITCH S301



For Service Manuals
MAURITRON SERVICES
 8 Cherry Tree Road, Chinnor
 Oxfordshire, OX9 4QY.
 Tel (01844) 351694
 Fax (01844) 352554
 email:- mauritron@dial.pipex.com

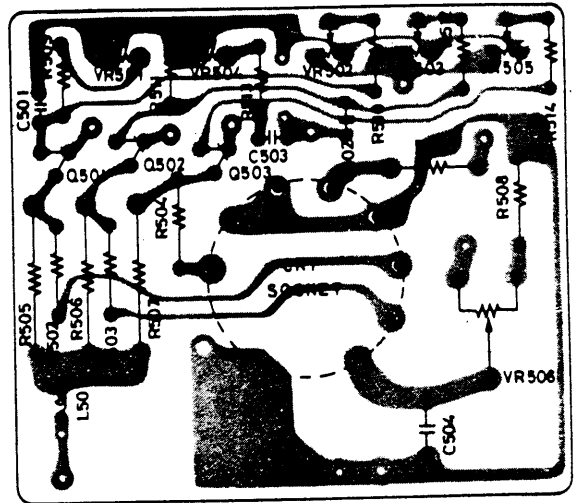
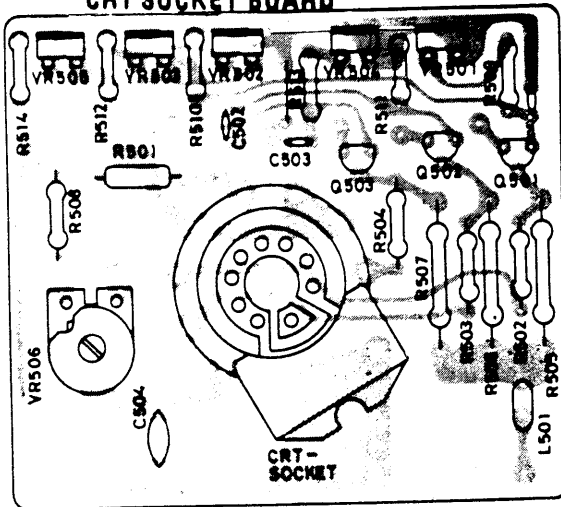




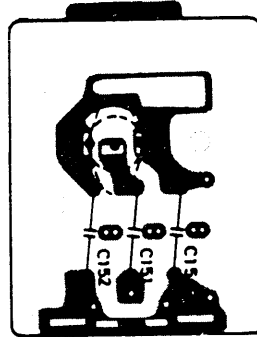
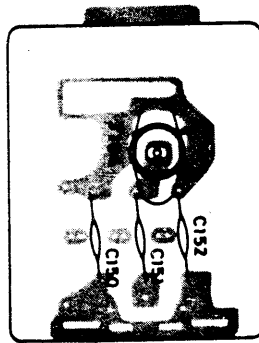


COMPONENTS DIAGRAM

CRT SOCKET BOARD

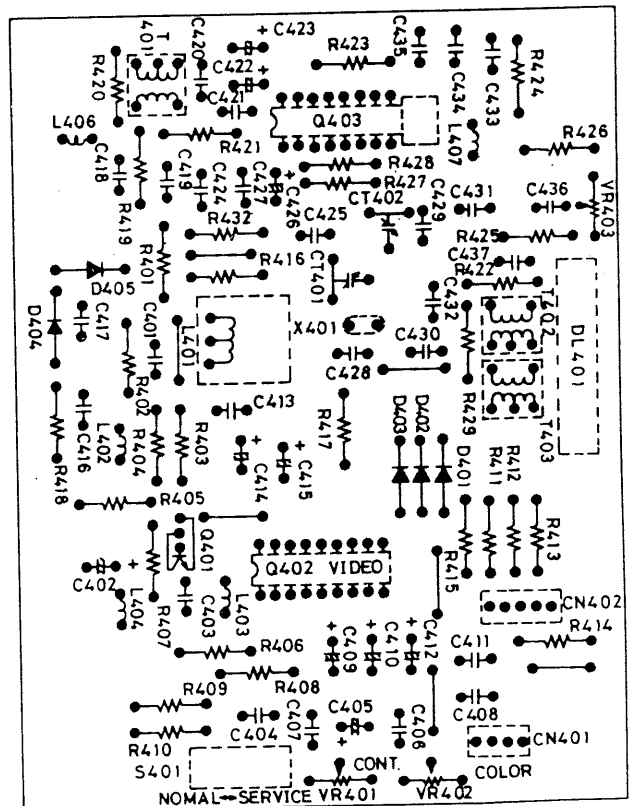
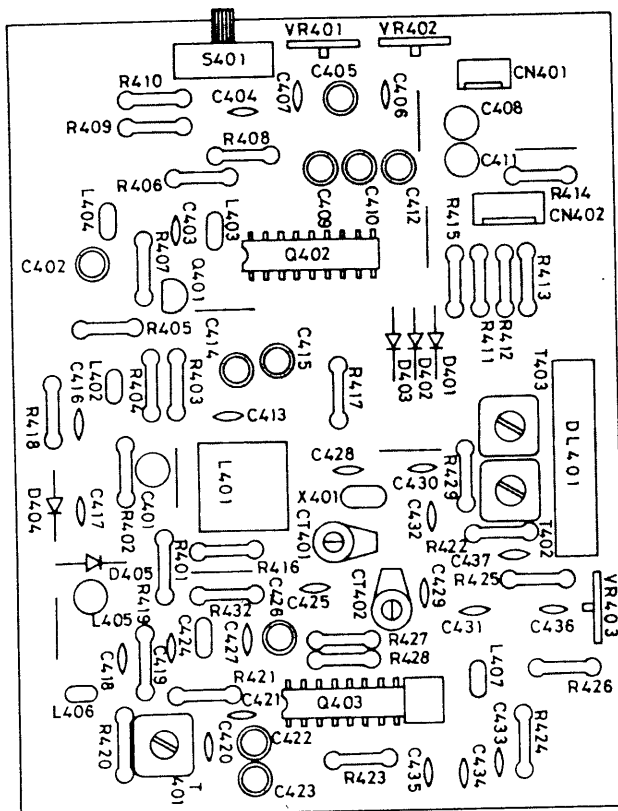


ANTENNA BOARD



CHROMA BOARD

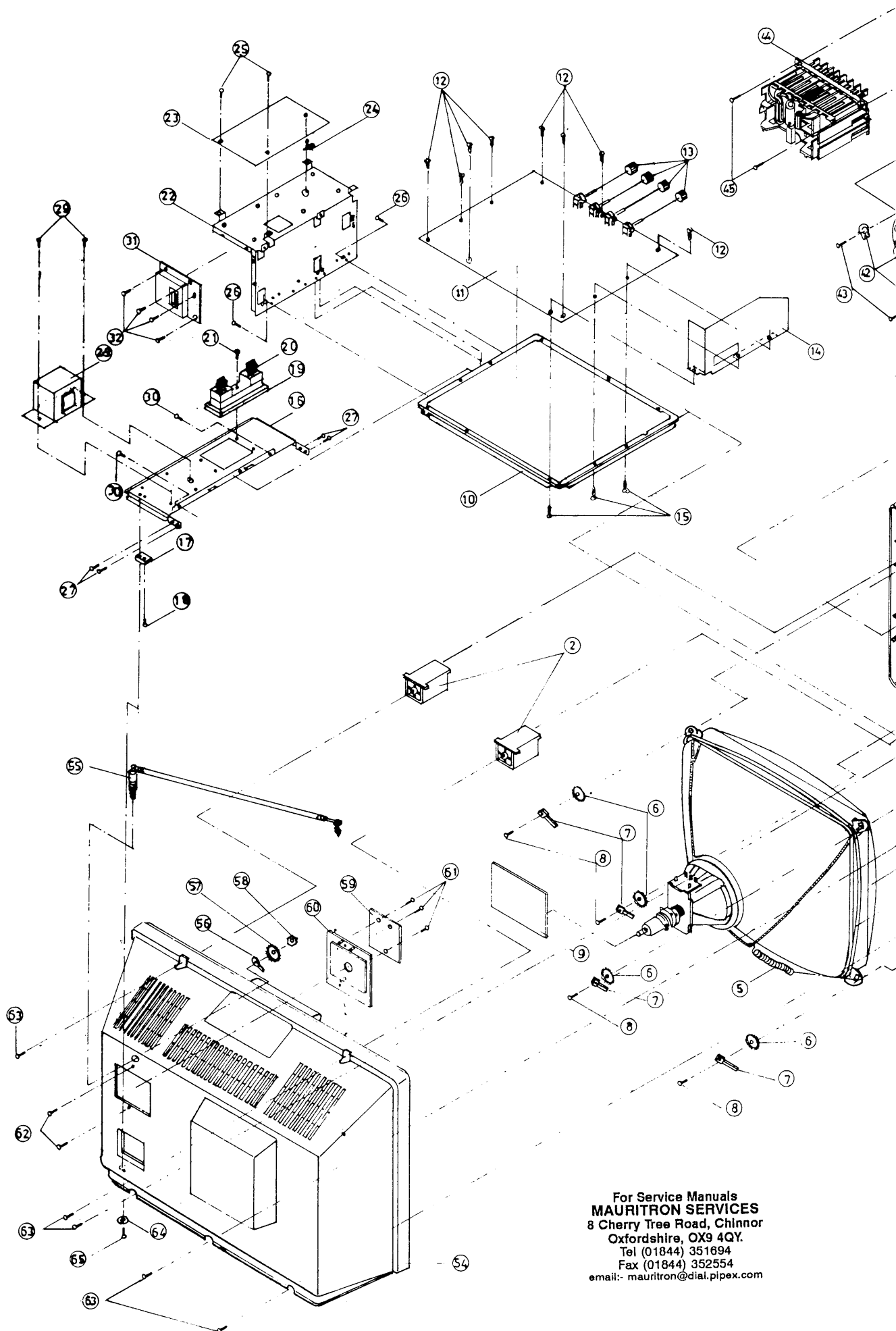
COMPONENTS DIAGRAM



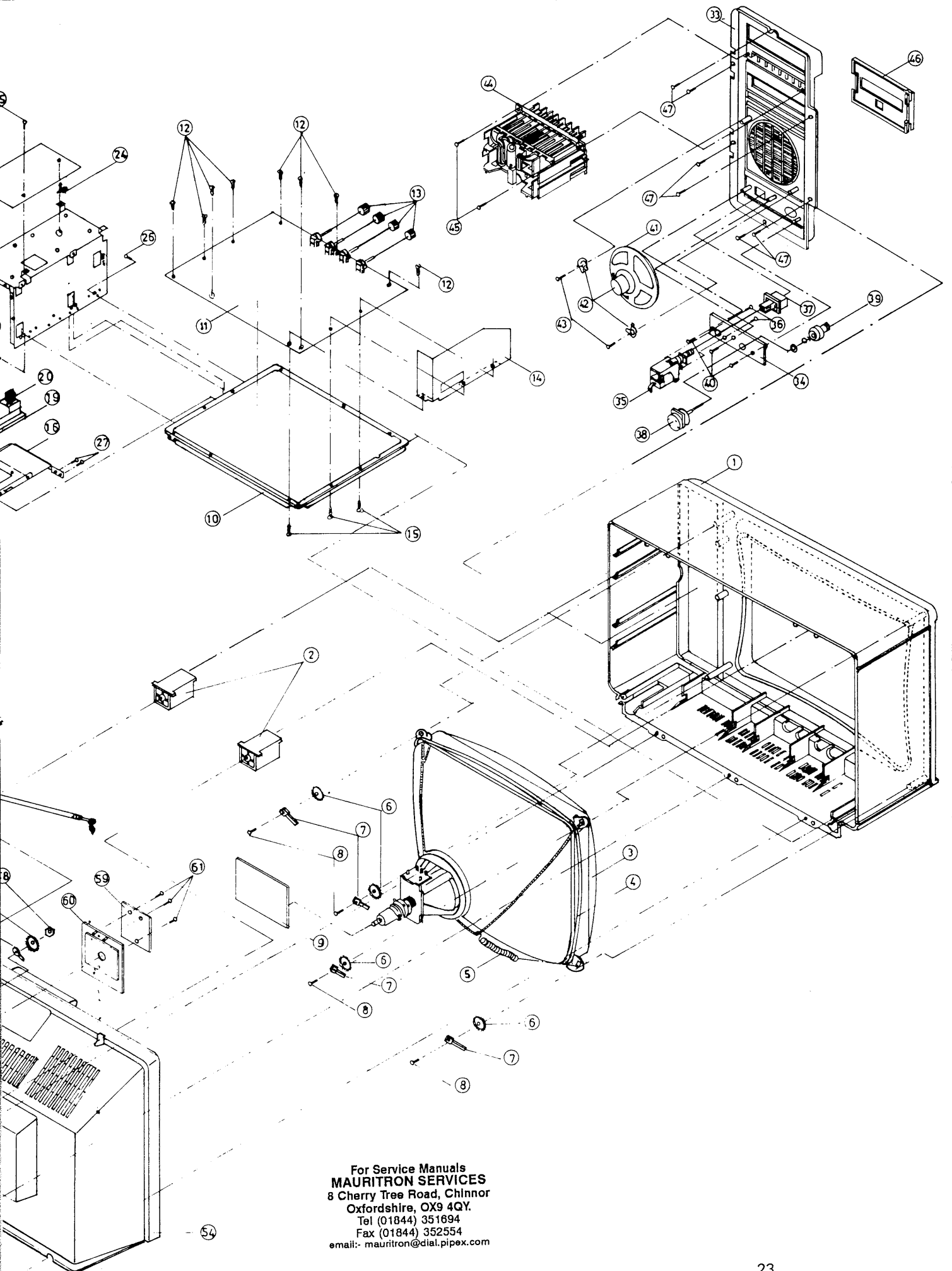
CABINET EXPLODED VIEW PART LIST

CTV 10

SYMBOL NO.	PART NO.	DESCRIPTION	QTY.
1	200-771101-	Front Cabinet	1
2	229-770002-01	Plastic Bracket 'B'	2
3	138-214004-14	C.R.T.	1
4	103-220314-35	Degaussing Coil Ass'y	1
5	477-770001-01	C.R.T. Spring	1
6	437-770001-01	C.R.T. Washer	4
7	469-770001-01	Degaussing Coil Clamper	4
8	614-500425-10	Tap. Screw B/T 5x25 mm	4
9		C.R.T. Socket P.C.Board Ass'y	
10	422-770001-01	P.C.B. Metal Supporter 'A'	1
11		P.C.Board Ass'y	1
12	610-300410-10	Tap Screw R/T 3x10 mm	8
13	279-771101-01	Preset Control Knob Blk	4
14	484-770003-01	Heat Sink Plate 'C'	1
15	610-300410-10	Tap Screw R/T 3x10 mm	3
16	422-770003-01	Power Transf. Bracket	1
17	229-770001-01	Plastic Bracket 'A'	1
18	614-400412-10	Tap Screw B/T 4x12 mm	1
19	284-770002-01	Fuse Spacer	1
20	730-020005-04	Fuse Holder	1
21	610-300412-10	Tap Screw R/T 3x12 mm	1
22	422-770002-01	P.C.Board Metal Supporter 'B'	1
23		Chroma P.C.Board Ass'y	1
24	681-010095-00	P.C.Board Supporter	1
25	610-300410-10	Tap Screw R/T 3x10 mm	2
26	610-300410-10	Tap Screw R/T 3x10 mm	2
27	610-300410-10	Tap Screw R/T 3x10 mm	4
28	100-350014-42	AC Power Transf.	1
29	614-400408-10	Tap Screw B/T 4x8 mm	2
30	614-400408-10	Tap Screw B/T 4x8 mm	2
31	254-770001-01	AC Cord Holder	1
32	610-300410-10	Tap Screw R/T 3x10 mm	4
33	230-771103-	Front Panel 'C'	1
34	424-771101-01	Vol. Bracket	1
35	144-011411-07	Push Switch	1
36	600-300506-10	Mach Screw P/H 3x6 mm	2
37	279-771102-01	Power Knob	1
38	111-503730-25	Rotary Vol.	1
39	273-770001-01	Vol. Knob	1
40	610-300110-10	Tap Screw R/T 3x10 mm	3
41	170-182040-21	Speaker	1
42	462-104201-01	Speaker Clip	2
43	610-300110-10	Tap Screw R/T 3x10 mm	2
44	115-308003-13	Channel Preset Vol. Ass'y	1
45	610-300110-10	Tap Screw R/T 3x10 mm	2
46	219-771103-	Panel Door 'C'	1
47	614-400412-10	Tap Screw B/T 4x12 mm	6
54	202-770001-01	Rear Cover	1
55	482-406278-02	Rod Ant.	1
56	450-016201-01	Soldering Lug9	1
57	631-085042-45	IN Tooth Washer M4	1
58	621-407025-03	Brass Nut M 4x0.7P mm	1
59		Ant. P.C.Board Ass'y	1
60	280-770001-01	Ant. Terminal	1
61	610-300110-10	Tap Screw R/T 3x10 mm	2
62	610-300110-00	Tap Screw R/T 3x10 mm	2
63	614-400416-10	Tap Screw B/T 4x16 mm	5
64	631-100055-10	IN Tooth Washer M5	1
65	603-508012-10	Mach Screw P/H 5x12 mm	1



For Service Manuals
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II TV BOARD ASS'Y

1. Common Parts For All System

SYMBOL NO.	PART NO.	DESCRIPTION.	QTY.	SYMBOL NO.	PART NO.	DESCRIPTION	QTY.
T201	100-190005-96	— TRANSFORMER — Hori. Drive	1	R117, 207, 213, R315	113-682105-12	6.8K Ohm J ¼W	4
T105	100-240001-98	Audio Output	1	R124, 125, 148, R203, 310	113-103105-12	10K Ohm J ¼W	5
T301	100-400001-00	Switching Transf	1	R215	113-123105-12	12K Ohm J ¼W	1
		— COIL —		R246	113-123205-12	12K Ohm J ½W	1
L202	101-700132-09	Hori. Linearity	1	R205, 208, 209, R239	113-223105-12	22K Ohm J ¼W	4
T104	101-710088-03	Sound IFT	1	R240	113-273105-12	27K Ohm J ¼W	1
T101	101-710127-03	Video IFT	1	R151	113-393105-12	39K Ohm J ¼W	1
T102, 103	101-710128-03	Video IFT	2	R313	113-393205-12	39K Ohm J ½W	1
		— FILTER COIL —		R214, 217, 430	113-563105-12	56K Ohm J ¼W	1
L102	104-688202-02	.68 uH M	1	R316	113-563205-12	56K Ohm J ¼W	1
L104	104-479101-02	4.7 uH K	1	R129, 304	113-683105-12	68K Ohm J ¼W	2
L103	104-150101-02	15 uH K	1	R219	113-753105-12	75K Ohm J ¼W	1
L101	104-101101-02	100 uH K	1	R128, 218	113-823105-12	82K Ohm J ¼W	2
T202	108-214004-01	Fly-Back Transformer	1	R112	113-104105-12	100K Ohm J ¼W	1
		— ROTARY VARIABLE RESISTOR —		R202, 206	113-154105-12	150K Ohm J ¼W	2
VR201, 404, VR405	111-103205-25	B-10 K Ohm	3	R150	113-224105-12	220K Ohm J ¼W	1
VR406	111-103305-25	C-10K Ohm	1	R301, 302	113-334205-12	330K Ohm J ½W	2
		— SEMI-FIXED RESISTOR —		R111	113-474105-12	470K Ohm J ¼W	1
VR204	112-301231-10	B-300 Ohm	1	R303	113-105205-12	1M Ohm J ½W	1
VR301	112-501231-10	B-500 Ohm	1			— NON-FLAMABLE RESISTOR —	
VR101	112-502232-01	B-5 K Ohm	1	R222	113-229205-22	2.2 Ohm J ¼W	1
VR203	112-502233-10	B-5 K Ohm	1	R152, 153	113-479205-22	4.7 Ohm J ½W	2
VR205	112-104231-10	B-100 K Ohm	1	R154	113-270205-22	27 Ohm J ½W	1
		— CARBON RESISTOR —		R155	113-101205-22	100 Ohm J ½W	1
R309	113-479305-12	4.7 Ohm J ¼W	1	R220, 221	113-122205-22	1.2K Ohm J ½W	2
R141, 244	113-100105-12	10 Ohm J ¼W	2	R231	113-392205-22	3.9K Ohm J ½W	1
R118	113-270105-12	27 Ohm J ¼W	1	R235	113-564205-22	560K Ohm J ½W	1
R156	113-330105-12	33 Ohm J ¼W	1			— CEMENT RESISTOR —	
R115, 171	113-820105-12	82 Ohm J ¼W	2	R312	113-278410-54	27 Ohm K 2W	1
R113, 201, 211	113-221105-12	220 Ohm J ¼W	3	R236	113-339510-54	3.3 Ohm K 3W	1
R135, 249	113-271105-12	270 Ohm J ¼W	2	R301	113-339710-5	3.3 Ohm K 10W	1
R120, 247	113-331105-12	330 Ohm J ¼W	2	R308	113-220510-54	22 Ohm K 3W	1
R226	113-391105-12	390 Ohm J ¼W	1	R307	113-470510-54	47 Ohm K 3W	1
R142	113-681105-12	680 Ohm J ¼W	1			— METAL OXIDE RESISTOR —	
R133, 242	113-821105-12	820 Ohm J ¼W	2	R227	113-399305-72	3.9 Ohm J 1W	1
R126, 127, 136	113-102105-12	1K Ohm J ¼W	7	R306	113-151305-62	150 Ohm J 1W	1
R139, 143, 149, R210				R229	113-221305-72	220 Ohm J 1W	1
R116, 132	113-122105-12	1.2K Ohm J ¼W	2	R225	113-751102-72	750 Ohm G ¼W	1
R130, 137, 138, R305	113-182105-12	1.8K Ohm J ¼W	4	R212	113-752405-72	7.5K Ohm J 2W	1
R204, 311, 314	113-222105-12	2.2K Ohm J ¼W	3	R114	113-103305-72	10K Ohm J 1W	1
R123, 134, 140, R147, 248, 250, R431	113-332105-12	3.3K Ohm J ¼W	7	R234	113-273101-72	27K Ohm F ¼W	1
R121, 122	113-392105-12	3.9K Ohm J ¼W	2	R233	113-303101-72	30K Ohm F ¼W	1
R251	113-472105-12	4.7K Ohm J ¼W	1			— FUSEBLE RESISTOR —	
R245	113-472205-12	4.7K Ohm J ½W	1	R238	113-338310-82	.33 Ohm K 1W	1
				R237	113-688210-82	.68 Ohm K ½W	1
R216, 232	113-562105-12	5.6K Ohm J ¼W	2	R244	113-220305-32	22 Ohm J 1W	1
				R228	113-102305-82	1K Ohm J 1W	1
				TH301	114-210180-01	Positive Thermistor	1

SYMBOL NO.	PART NO.	DESCRIPTION	QTY.
D104, 203	132-610027-01	Varister MA 27 WA	2
		— PIN CONNECTOR —	
	160-101802-06	1 Pin Socket	4
CN104-F, 201-F	160-102252-23	2 Pins Socket	2
CN104-M, 201-M	160-102255-23	2 Pins Plug	2
CN303-M	160-012805-06	2 Pins Plug	1
CN101-F	160-103252-23	3 Pins Socket	1
CN101-M	160-103255-23	3 Pins Plug	1
CN302-F	160-103802-06	3 Pins Socket	1
CN302-M	160-103805-06	3 Pins Plug	1
CN204-F	160-104802-06	4 Pins Socket	1
CN204-M	160-104805-06	4 Pins Plug	1
CN202-F	160-105252-23	5 Pins Socket	1
CN202-M	160-105255-23	5 Pins Plug	1
CN103-F	160-106252-23	6 Pins Socket	1
CN103-M	160-106255-23	6 Pins Plug	1
CN203-M	160-106605-00	6 Pins Plug	1
CN101-F, 103-F, 104-F, 201-F, CN202-F	160-101000-13	Contact Pin (Female)	18
	160-101003-06	Contact Pin (Male)	4
CN204-F, CN302-F	160-101004-06	Contact Pin (Female)	7
J102	161-510103-00	Ant. Socket (Female)	1
P101, 102, 105	161-520103-00	Ant. Plug (Male)	3
	190-770101-21	P.C. Board UT7701-I (B)	1
Q207, 302	259-770002-01	Transistor Cap.	2
Q204, 205, 208	484-770001-01	Heat Sink	3
Q207, 302	603-305010-10	Machine Screw 3 x 10 mm	4
Q204, 205, 208	610-300410-10	Tapping Screw 3 x 10 mm	3
Q207, 302	620-305025-55	Nut M3	4
Q207, 302	635-450320-02	Mica Sheet	2
Q207, 302	636-100030-52	Bush	4

2. Special Parts For System PAL-B, G

SYMBOL NO.	PART NO.	DESCRIPTION	QTY.
CF102	101-300004-09	— FILTER — Ceramic 5.5 MHz	1
CF101	101-300017-09	Ceramic 5.5 MHz	1
SA101	101-400005-09	SAW	1
		— CARBON RESISTOR —	
R101, 108	113-220105-12	22 Ohm J ¼W	2
R243	113-221205-12	220 Ohm J ½W	1
R119	113-681105-12	680 Ohm J ¼W (For Europe Tuner)	
	or		
	113-152105-12	1.5K Ohm J ¼W (For CSCAR Tuner)	
	or		
	113-332105-12	3.3K Ohm J ¼W (For Italy Tuner)	1
R103, 104, 109	113-103015-12	10K Ohm J ¼W	3
R145	113-223105-12	22K Ohm J ¼W	1
R106, 107	113-333105-12	33K Ohm J ¼W	2
R146	113-563105-12	56K Ohm J ¼W	1
R105	113-104105-12	100K Ohm J ¼W	1

SYMBOL NO.	PART NO.	DESCRIPTION	QTY.
R144	113-274105-12	270K Ohm J ¼W	1
		— CAPACITOR —	
C128, 129	123-350340-10	Ceramic SL 35 pf J 50V	2
C102	127-106047-01	Electrolytic 10 pf 16V	1
C254	127-107047-01	Electrolytic 100 uf 16V	1
		— TRANSISTOR —	
Q101, 103	131-210719-47	2SA 719 NC	2
Q102	131-231685-47	2SC 1685 NC	1
		— DIODE —	
D101	132-134148-00	IN 4148	1
ZD214	132-411212-00	HZ 12A-2	1
	154-131004-1	VHF/UHF Tuner (For Europe)	1
	or		
	154-131004-01	VHF/UHF Tuner (For Italy)	1
	or		
	154-135004-11	VHF/UHF Tuner (Oscar Tuner)	1
		— PIN CONNECTOR —	
CN102-F	160-104252-23	4 Pins Socket	1
CN102-M	160-104255-23	4 Pins Plug	1
CN102-F	160-101000-13	Contact Pin (Female)	4

3. Special Parts For System PAL-I

SYMBOL NO.	PART NO.	DESCRIPTION	QTY.
		— FILTER —	
CF102	101-300007-09	Ceramic 6.0 MHz	1
CF101	101-300018-09	Ceramic 6.0 MHz	1
SA101	101-400006-09	SAW	1
		— CARBON RESISTOR —	
R119	113-681105-12	680 Ohm J ¼W	1
R145	113-223105-12	22K Ohm J ¼W	1
R146	113-563105-12	56K Ohm J ¼W	1
R144	113-274105-12	270K Ohm J ¼W	1
C128, 129	123-350340-10	Ceramic Capacitor SL 35 pf J 50V	2
	154-113004-01	UHF Tuner	1

4. Special Parts For System PAL-D/I

SYMBOL NO.	PART NO.	DESCRIPTION	QTY.
CF102	101-300007-09	— FILTER — Ceramic 6.0 MHz	1
CF104	101-300014-09	Ceramic 6.5 MHz	1
CF101	101-300018-09	Ceramic 6.0 MHz	1
CF103	101-300020-09	Ceramic 6.5 MHz	1
SA101	101-400006-09	SAW	1
		— CARBON RESISTOR —	
R101, 108	113-220105-12	22 Ohm J ¼W	2
R243	113-221105-12	220 Ohm J ¼W	1
R102, 110	113-102105-12	1K Ohm J ¼W	2
R119	113-272105-12	2.7K Ohm J ¼W	1
R103, 104, 109	113-103105-12	10K Ohm J ¼W	3
R106, 107	113-333105-12	33K Ohm J ¼W	2

SYMBOL NO.	PART NO.	DESCRIPTION	QTY.
R105	113-104105-12	100K Ohm J ¼W	1
R144	113-824105-12	820K Ohm J ¼W	1
		— CAPACITOR —	
C128, 129	123-560340-10	Ceramic	2
		SL 56 pf J 50V	2
C153	125-202121-02	Polystyrene	1
		2000 pf K 125V	1
C102	127-106407-01	Electrolytic	1
		10 uf 16V	
C254	127-107048-01	Electrolytic	1
		100 uf 16V	
		— TRANSISTOR —	
Q101, 103	131-210719-47	2SA 719 NC	2
Q102	131-231685-47	2SC 1685 NC	1
		— DIODE —	
D101	132-134148-00	IN 4148	1
ZD214	132-411212-00	HZ 12A-2	1
	154-134104-01	VHF/UHF Tuner	1
		— PIN CONNECTOR —	
CN102-F	160-104252-23	4 Pins Socket	1
CN102 M	160-104255-23	4 Pins Plug	1
CN102 F	160-101000-13	Contact Pin (Female)	4
J101	161-510103-00	Ant. Socket (Female)	1

SYMBOL NO.	PART NO.	DESCRIPTION	QTY.
R420	113-103105-12	10K Ohm J ¼W	1
R409, 423	113-123105-12	12K Ohm J ¼W	2
R148	113-183105-12	18K Ohm J ¼W	1
R415, 416, 424	113-223105-12	22K Ohm J ¼W	3
R417	113-273105-12	27K Ohm J ¼W	1
R404	113-333105-12	33K Ohm J ¼W	1
R403	113-473105-12	47K Ohm J ¼W	1
		— TRIMMER CAPACITOR —	
CT401	122-100103-03	10 pf	1
CT402	122-700103-03	70 pf	1
		— CREAMIC CAPACITOR —	
C425	123-040300-13	CH 4 pf C 50V	1
C429	123-100340-13	CH 10 pf J 50V	1
C413	123-330340-10	SL 33 pf J 50V	1
C428	123-470340-13	CH 47 pf J 50V	1
C430, 431	123-820340-10	SL 82 pf J 50V	2
C421	123-101340-10	SL 100 pf J 50V	1
C420	123-151340-14	PH 150 pf J 50V	1
C403, 417	123-102350-34	YB .001 uf K 50V	2
C406, 407, 427, 432, 436, 437	123-103370-30	YD .01 uf Z 50V	6
		— POLYESTER CAPACITOR —	
C424,	126-222071-11	.0022 uf K 50V	1
C434, 435	126-123071-11	.012 uf K 50V	2
		— ELECTROLYTIC CAPACITOR —	
C409, 410, 412	127-105307-01	1 uf 50V	
C414			4
C433	127-105072-21	B.P. 4.7 uf M 25V	1
C423	127-225037-01	2.2 uf 50V	1
C415	127-335037-01	3.3 uf 50V	1
C402	127-475057-01	4.7 uf 25V	1
C408, 411	127-475052-21	B.P. 1 uf M 50V	2
C422	127-106047-01	10 uf 16V	1
C401, 404	127-106042-21	B.P. 10 uf M 16V	2
C426	127-336047-01	33 uf 16V	1
C405	127-337047-01	330 uf 16V	1
		— IC —	
Q402	130-805612-18	AN 5612	1
Q403	130-805620-16	AN 5620 X	1
Q401	131-231685-47	Tr 2SC 1685 NC	1
		— DIODE —	
D405	132-110091-00	OA 91	1
D404	132-134148-00	IN 4148	1
ZD401, 402, ZD403	132-411130-00	Zener MA 1130	3
DL401	139-100007-00	Delay Line (1H)	1
L401	139-200006-00	Delay Line	1
S401	141-022412-09	Slide Switch 2P2T	1
		— PIN CONNECTOR —	
CN401-F	160-104252-23	4 Pins Socket	1
CN401-M	160-104255-23	4 Pins Plug	1
CN402-F	160-105252-23	5 Pins Socket	1
CN402-M	160-105255-23	5 Pins Plug	1
CN402-F, 402-M	160-101000-13	Contact (Female)	9
	190-770102-11	P.C. Board UT7701-II (A)	1

III. CHROMA BOARD ASS'Y

1. Common Parts For All System

SYMBOL NO.	PART NO.	DESCRIPTION	QTY.
X401	003-002215-00	Crystal KD 0221 DF	1
		— TRANSFORMER —	
T401	101-710129-03	Chroma	1
T402, 403	101-710130-03	Delay Line Matching	2
		— FILTER COIL —	
L407	104-479101-02	4.7 uH K	1
L402, 406	104-270101-02	27 uH K	2
L403, 404	104-560101-02	56 uH K	2
L405	104-392051-31	3.9 mH J	1
		— SEMI-FIXED RESISTOR —	
VR403	112-202231-10	B-2K Ohm	1
VR401	112-103231-10	B-10K Ohm	1
VR402	112-503231-10	B-50K Ohm	1
		— CARBON RESISTOR —	
R408, 414	113-100105-12	10 Ohm J ¼W	2
R405, 419	113-221105-12	220 Ohm J ¼W	2
R411, 412, 413	113-271105-12	270 Ohm J ¼W	3
R407	113-331105-12	330 Ohm J ¼W	1
R421, 422, 429	113-391105-12	390 Ohm J ¼W	3
R425, 426	113-471105-12	470 Ohm J ¼W	2
R406	113-561105-12	560 Ohm J ¼W	1
R432	113-102105-12	1K Ohm J ¼W	1
R401, 402, 410	113-182105-12	1.8K Ohm J ¼W	3
R427, 428	113-472105-12	4.7K Ohm J ¼W	2

2. Special Parts For System PAL-B, G

SYMBOL NO.	PART NO.	DESCRIPTION	QTY.
C419	123-820340-10	— CAPACITOR — SL 82 pf J 50V	1
C418	123-121340-14	PH 120 pf J 50V	1

3. Special Parts For System PAL-I & PAL-D/I

SYMBOL NO.	PART NO.	DESCRIPTION	QTY.
C419	123-470340-10	— CAPACITOR — SL 47 pf J 50V	1
C418	123-101340-14	PH 100 pf J 50V	1

IV. CRT SOCKET BOARD ASS'Y

SYMBOL NO.	PART NO.	DESCRIPTION	QTY.
L501	104-181101-02	Filter Coil 180 uH K	1
		— SEMI-FIXED RESISTOR —	
VR506	111-205201-08	B-2M Ohm	1
VR501, 504	112-301233-10	B-300 Ohm	2
VR502, 503, VR505	112-502233-10	B-5K Ohm	3
		— CARBON RESISTOR —	
R509, 513	113-151105-12	150 Ohm J ¼W	2
R511	113-331105-12	330 Ohm J ¼W	1
R510, 512, 514	113-332105-12	3.3K Ohm J ¼W	3
		— NON-FLAMABLE RESISTOR —	
R502, 503, 504, R508	113-272205-22	2.7K Ohm J ¼W	3
R505, 506, 507	113-824205-22	820K Ohm J ¼W	1
	113-123405-72	Metal Film 12K Ohm J 2W	3
R501	113-339305-82	Fuseble 3.3 Ohm J ¼W	1
		— CERAMIC CAPACITOR —	
C501	123-271350-34	YB 270 pf K 50V	1
C502, 503	123-331350-34	YB 330 pf K 50V	2
C504	123-821840-40	B 820 pf J 2KV	1
Q501, 502, 503	131-231573-46	Transistor 2SC 1573A	3
CN501-M	160-101003-06	Contact Pin (Male)	1
CN501-F	160-101004-06	Contact Pin (Female)	1
CN501-F	160-101802-06	1 Pin Socket	1
	161-721004-01	CRT Socket	1
	161-731004-01	CRT Socket Cover	1
	190-770104-11	P.C. Board UT7701-IV	1

V. ANTENNA BOARD ASS'Y

SYMBOL NO.	PART NO.	DESCRIPTION	QTY.
C151, 152	123-101463-40	— CERAMIC CAPACITOR — 100 pf M 400VAC	2
C150	123-471463-41	470 pf M 400VAC	1
J104	161-610002-00	Antenna Jack	1
	190-770106-11	P.C. Board UT7701-VI (A)	1

VI. CHANNEL SELECTOR BOARD ASS'Y (W/O REMOTE)

SYMBOL NO.	PART NO.	DESCRIPTION	QTY.
R601	113-102105-12	Carbon R Ohm J ¼W	1
CH 1 to 8	115-208001-12	Channel Preset Vol. Ass'y	
	or 115-208001-02	Channel Preset Vol. Ass'y W W/O Switch (For System PAL-I Only)	1
D601, 603, 605, D607, 609, 611, D613, 615	132-134148-00	Diode IN4148	8
D602, 604, 606, D608, 610, 612, D614, 616	132-134148-00	Diode IN4148 (Not available for System PAL-I)	8
LED601, 602, LED603, 604, LED605, 606, LED607, 608	132-510114-00	LED	8
S617	144-012010-04	AFC Switch	1
S601 to 608	145-812001-00	Channel Selector Switch	1

VII. TUNING & REMOTE RECEIVER

SYMBOL NO.	PART NO.	DESCRIPTION	QTY.
L601	101-010167-03	OSC Coil	1
CF601	101-300021-07	Ceramic Resonator	1
L602 & S302	105-203112-00	Relay	1
VR617	112-502232-01	B-5K Ohm	1
		— CARBON RESISTOR —	
R649	113-100105-12	10 Ohm J ¼W	1
R651	113-150105-12	15 Ohm J ¼W	1
R611	113-820105-12	82 Ohm J ¼W	1
R638	113-101105-12	100 Ohm J ¼W	1
R630	113-181105-12	180 Ohm J ¼W	1
R632	113-331105-12	330 Ohm J ¼W	1
R631	113-471105-12	470 Ohm J ¼W	1
R640	113-681105-12	680 Ohm J ¼W	1
R650	113-821105-12	820 Ohm J ¼W	1
R601	113-102105-12	1K Ohm J ¼W	1
R628	113-222105-12	2.2K Ohm J ¼W	1
R639	113-332105-12	3.3K Ohm J ¼W	1
R629, 636	113-392105-12	3.9K Ohm J ¼W	2
R616	113-472105-12	4.7K Ohm J ¼W	1
R6343	113-562105-12	5.6K Ohm J ¼W	1
R602, 605, 606, R612, 614, 615, R618, 619, 620, R621, 622, R607, 608	113-103105-12	10K Ohm J ¼W	11
RS04, 617, 624, R652	113-153105-12	15K Ohm J ¼W	2
R609, 610, 633	113-223105-12	22K Ohm J ¼W	4
R626,	113-273105-12	27K Ohm J ¼W	2
R613, 625, 635, R637	113-393105-12	39K Ohm J ¼W	1
R627	113-473105-12	47K Ohm J ¼W	4
R603	113-563105-12	56K Ohm J ¼W	1
R623	113-683105-12	68K Ohm J ¼W	1
R647	113-124105-12	120K Ohm J ¼W	1
	113-274105-12	270K Ohm J ¼W	1
CH 1 to 8	115-208001-12	Channel Preset Vol. Ass'y	
	or 115-208001-02	Channel Preset Vol. Ass'y W/O Switch (For System PAL-I Only)	1

VIII. REMOTE PREAMPLIFIER

SYMBOL NO.	PART NO.	DESCRIPTION	QTY.
CH 9 to 16	115-208001-22	Channel Preset Vol. Ass'y (For 16 Channel Only)	1
		- CERAMIC CAPACITOR -	
C604	123-560350-0	SL 56 pf K 50V	1
C603	123-471350-10	SL 470 pf K 50V	1
C612	123-103370-30	YD .01 uf Z 50V	1
C601, 608	123-203370-30	YD .02 uf Z 50V	2
C610	125-821121-02	Polystrene Capacitor 820 pf K	1
		- ELECTROLYTIC CAPACITOR -	
C609	127-334037-01	.33 uf 50V	1
C611, 607	127-474037-01	.47 uf 50V	2
C602	127-105038-01	1 uf 50V	1
C618	127-475047-01	4.7 uf 16V	1
C652	127-106047-01	10 uf 16V	1
C605	127-476047-01	47 uf 16V	1
C606	127-107047-01	100 uf 16V	1
C619	127-227047-01	220 uf 16V	1
C617	127-477057-01	470 uf 25V	1
IC601	130-801363-24	UPC 1363C	1
IC602	130-801937-16	UPD 1937C	1
Q608, 612	131-210608-06	2SA 608F	2
Q601, 602, 603, Q605, 606, 607	131-230536-06	2SC 536F	
Q604	131-240400-05	2SD 400E	1
Q610	132-134148-00	2SD 612E	1
D601 to 624, D649 to 653 D625 to 648	132-134148-00	IN 4148	29
	132-134148-00	IN 4148 (For 16 Channel Only)	24
D656, 657, 658, D659	132-314002-00	IN 4002	4
ZD660	132-411222-00	HZ12B-2	1
LED 601 to 608	132-510114-00	LED	8
LED 609 to 616	132-510114-00	LED (For 16 Channel Only)	8
S604, 605	144-011411-07	Push Switch	2
CN601F	160-101000-13	Contact Pin (Female)	3
CN602-F, 603-F	160-101004-06	Contact Pin (Female)	4
CN601-F	160-103252-23	3 Pins Socket	1
CN601-M	160-103255-23	3 Pins Plug	1
CN602-F, 603-F	160-102802-06	2 Pins Socket	2
CN602-M, CN603-M	160-102805-06	2 Pins Plug	2
	190-770103-44	P.C. Board	1
	190-770103-64	P.C. Board (For 8 Channel)	
	or		
	190-770103-94	P.C. Board (For 16 Channel)	1
	428-104001-01	Mtg. Brakcet	2

SYMBOL NO.	PART NO.	DESCRIPTION	QTY.
		- CARBON RESISTOR -	
R646	113-102105-12	1K Ohm J ¼W	1
R645	113-223105-12	22K Ohm J ¼W	1
R641	113-270105-12	27K Ohm J ¼W	1
R642, 648	113-473105-12	47K Ohm J ¼W	
R647	113-274105-12	270K Ohm J ¼W	1
		- CAPACITOR -	
C614	123-102370-30	Ceramic .001 uf Z 50V	1
C613	124-225031-01	Tanalum 2.2 uf K 25V	1
C616	127-106047-01	Electrolytic 10 uf 16V	1
C615	127-336047-01	Electrolytic 33 uf 16V	1
IC603	130-259282-07	UPC 592 H2	1
Q609	131-230845-12	2SC 945 L	1
D654	132-134148-00	IN 4148	1
D655	132-540302-00	Photo Diode PG-302	1
	190-770103-81	P.C. Board	1
	483-770011-01	Back Shield Cover	1

IX. REMOTE HANDSET

SYMBOL NO.	PART NO.	DESCRIPTION	QTY.
CF701	101-300021-07	Ceramic Resonator	1
		- CARBON RESISTOR -	
R704	113-109105-12	1 Ohm J ¼W	1
R701	113-330105-12	33 Ohm J ¼W	1
R703	113-560105-12	56 Ohm J ¼W	1
R702	113-181105-12	180 Ohm J ¼W	1
R705	113-105105-12	1M Ohm J ¼W	1
		- CAPACITOR -	
C701, 702, 703, C704, 705, 706 C707	123-101350-10	Ceramic	6
	127-107037-01	SL 100 pf K 50V Electrolytic 100 uf 10V	1
IC701	130-801986-16	UPD 1986C	1
Q701	131-230945-12	2SC 945 L	1
Q702	131-232001-12	2SC 2001 L	1
D701	132-530303-00	Infrard Diode SE 303A	1
	190-770128-13	P.C. Board	1
	201-770001-	Cabinet Top	1
	203-770001-	Cabinet Botton	1
	210-770001-	Battery Cover	1
	263-770001-01	Front Lens 'Red'	1
	330-770001-01	Conductive Rubber	1
	472-770001-01	Battery Contact Plate (+, -)	1
	472-770002-01	Battery Contact Plate (+)	1
	472-770003-01	Battery Contact Plate (-)	1