

*Produced By:*

**Commodore International Spare Parts GmbH**  
**Braunschweig, West Germany**

***SERVICE MANUAL***

**1084S-P1  
PAL VERSION**

**SEPTEMBER, 1990**

**PN-314688-01**

**1059**

***INTERNATIONAL EDITION***

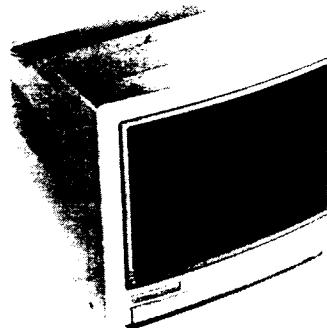
COMMODORE "INTERNATIONAL EDITION" SERVICE MANUALS CONTAIN PART NUMBER INFORMATION WHICH MAY VARY ACCORDING TO COUNTRY. SOME PARTS MAY NOT BE AVAILABLE IN ALL COUNTRIES.

**TECHNICAL DATA****General**

• mains voltage	220-240 V (10%)
• mains frequency	50 Hz
• power consumption	75 W

**Picturetube**

• size	14"
• deflection angle	90°
• EHT	25KV
• slot triplet pitch	0.42 mm
• type	M34EAQ10X

**Video**

• vertical frequency	50 Hz (47-62,5 Hz)
• horizontal frequency	15625 Hz ( $\pm$ 60 Hz)
• bandwidth	8 Mz
• characters	2000

**Audio**

• loudspeaker	16Ω/1 W/3"
• output power	1 W

**REMARKS**

- 1) The direct voltages indicated in the circuit diagram are average voltages. They have been measured under the following conditions:  
Contrast and brightness to minimum.
- 2) The oscillograms have been measured under the following conditions:  
Signal from a RGB pattern generator (SBC 522) on colour bar pattern.  
Adjust brightness and contrast for mechanical mid-position (click position).

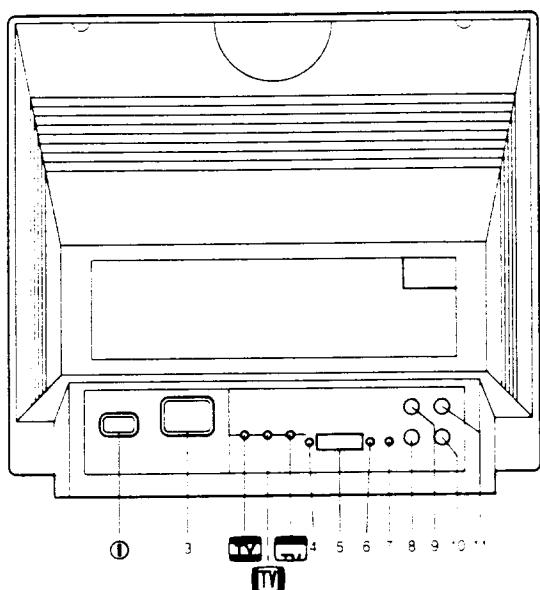
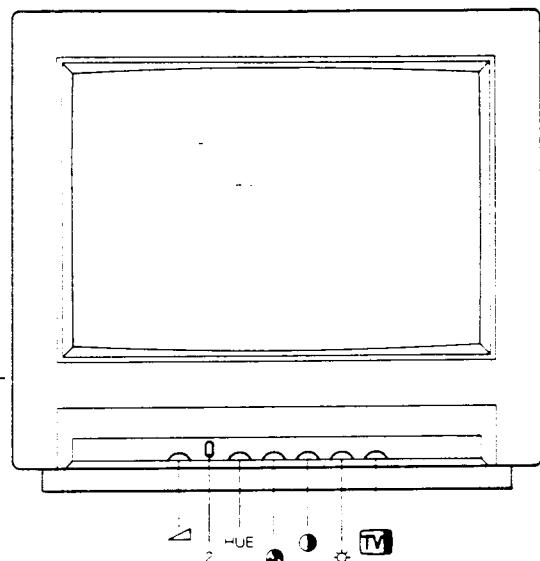
**WARNING**

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.

When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools also at this potential.

ESD

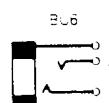
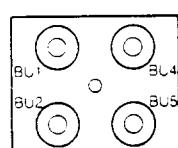




1. Headphones connection
2. "GREEN" switch
3. Mains voltage connector
4. RGB ANALOG/TTL switch
5. "D" SHELL connector
6. RGB/CVBS, LCA switch
7. LCA/CVBS switch
8. Luminance/CVBS input
9. Chrominance input
10. AUDIO-L input
11. AUDIO-R input

#### INPUT AND OUTPUT SOCKETS

BU-3  
D-SHELL CONNECTOR  
C1 C2 C3 C4 C5  
C6 C7 C8 C9

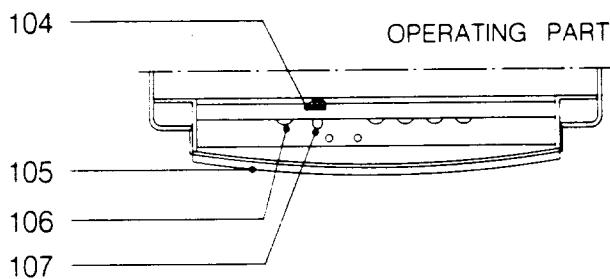
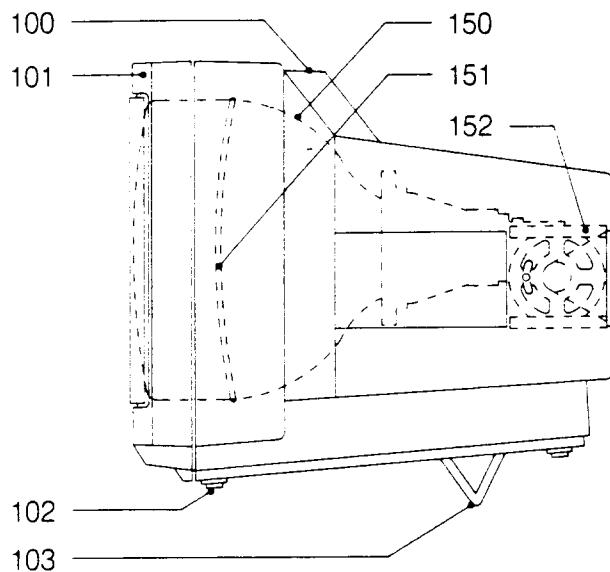


PIN	SIGNAL (2GAI)	SENSITIVITY	IMPEDANCE
1	-		
2	NC		
3	RED	Linear 0.7V	75Ω
4	GREEN	0.08V	75Ω
5	BLUE	0.45V	75Ω
6	INTENSITY	TTL LEVEL	75Ω
7	HORIZONTAL SYNC	1.5V	75Ω
8	VERTICAL SYNC	1.5V	75Ω
9	VIDEO POLARITY		

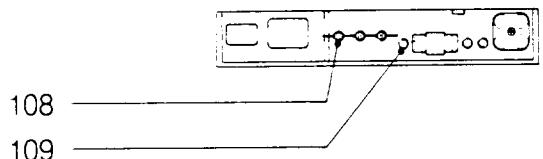
BU	SIGNAL	SENSITIVITY	IMPEDANCE
BU1	CHROMINANCE	0.35V rms	75Ω
BU2	LUMINANCE CVBS	0.35V rms	75Ω
BU4	AUDIO R	177mV rms	10kΩ
BU5	AUDIO L	177mV rms	10kΩ

PIN	SIGNAL	SENSITIVITY	IMPEDANCE
1	-		
2	LEFT CHANNEL	2.1V rms	32Ω
3	RIGHT CHANNEL	2.1V rms	32Ω

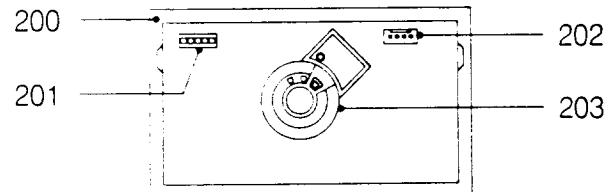
## CABINET



## CONNECTION PART



## CRT PANEL



## Cabinet parts

100	3138 107 70460	Back cover
101	3138 107 70440	Front
102	3138 104 12540	Foot
103	3138 104 12500	Stand
104	4822 417 50231	Lock
105	3138 107 70450	Lid
106	3138 104 12520	Knob (5x)
107	3138 104 12620	Push button
108	4822 535 91695	Adjust rod (3x)
105	4822 410 60444	Push button (3x)

## General electrical parts

150	4822 131 20279	Picture tube (type M34EAQ01X+AT1460)
151	4822 157 60478	Degaussing coil
152	4822 240 30296	Loudspeaker

## Accessories

4822 321 10657	mains cable
4822 154 50148	Interface cable (9 pole "D" SHELL - 9 pole "D" SHELL)
4822 154 50149	Interface cable (8 DIN-3RCA)
4822 321 60297	Interface cable (1 RCA-2RCA)
4822 154 50147	Interface cable (9 pole "D" SHELL-23 pole "D" SHELL)

## Mechanical parts

200	4822 212 23316	CRT panel complete
201	4822 265 30784	Socket (5 pins)
202	4822 265 30783	Socket (4 pins)
203	4822 255 70216	Socket for CRT

**CAUTION**

- 1) Safety requirements stipulate that, during repair, the set should be restored in its original state and that parts, identical to the specified ones, should be applied.
- 2) For safety reasons, the parts provided with the sign  should be replaced by identical parts (for code numbers see electrical parts lists).
- 3) To avoid damages to ICs and transistors, flash-over of the high-tension should be avoided.
- 4) Be careful when performing measurements in the high-tension section and on the picture tube.
- 5) Never change parts when the set is still switched on.
- 6) Safety goggles must be worn during replacement of the picture tube.

**ELECTRICAL SETTINGS****1. SETTINGS ON THE CHASSIS****1.1 +128V supply voltage(3414)**

- Apply video signal to the monitor.
- Set volume control 3295, brightness control 3662 and contrast control 3658 to minimum.
- Set trimming potentiometer 3414 in mid-position. (This is a presetting).
- Connect DC voltmeter to junction of resistor 3520 and diode 6453.
- Switch on monitor.
- With trimming potentiometer 3414 set the DC voltage at junction 3524/6453 to 128V.

**1.2 Horizontal synchronisation (3257)**

- Apply video signal (cross-hatch pattern) to the monitor.
- Short capacitor 2270. (This capacitor is connected to pin 5 of IC 7270.)
- With trimming potentiometer 3257 adjust the picture so that it is straight.
- Remove the short-circuit on 2270.

**1.3 Picture position settings**

*General:* For the following settings apply a video signal (cross-hatch pattern) to the monitor.

**1.3.1 East-west correction (3537)**

- With potentiometer 3537 make the vertical lines on the left and right-hand side of the screen as straight as possible.

**1.3.2 Picture width (3534)**

- With potentiometer 3534 set the picture width for 14 blocks to 260 mm.

**1.3.3 Horizontal picture centering (3264)**

- With potentiometer 3264 set the correct horizontal centering.

**1.3.4 Vertical picture centering (3583)**

- With potentiometer 3583 set the correct vertical picture centering.

**1.3.5 Picture height (3550)**

- With potentiometer 3550 set the picture height for 10 blocks to 186 mm.

**1.3.6. Vertical linearity (3573)**

- Adjust the correct vertical linearity with Pre-set potentiometer 3573 IF necessary repeat 1.3.5 and 1.3.6.

**1.4 Setting of:**

- VG2 (bottom knob on the line output transformer)
- cut-off points of the picture tube (3107, 3117 and 3127)
- white "D" (3671, 3680)
  - Set the brightness to 1/4 of its range and set the contrast to minimum.
  - Set the potentiometers 3107, 3117, 3127, 3671 and 3680 in mechanical mid-position.
  - Set VG2 potentiometer to minimum.
  - Set the signal generator in "pur" position and introduce the respective colours red, green and blue.
  - Using potentiometers 3107, 3117 and 3127 with the corresponding colour pattern, set the voltage on the picture tube pins 8, 6 and 11 to 100V.
  - Apply a white frame and adjust the VG2 potentiometer so that any colour among red, green or blue becomes visible.
  - Set the pattern generator to purity with the colour that was first visible.
  - Reset VG2 potentiometer to just visible light.
  - Adjust the two remaining colours with their corresponding purity colour to the same light output using potentiometers 3107, 3117 or 3127.
  - Return the signal generator to white frame and adjust the potentiometers 3107, 3117 and 3127 so that an optimum background colour is obtained.
  - Using potentiometers 3671 and 3680 (with white frame) adjust the background colour so that at minimum brightness and maximum brightness the background colour is the same.

**1.5 Focusing (top knob on line outputtransformer)**

- Apply white pattern to monitor.
- Adjust focusing so that the picture at 2/3 of the diagonal lines (counting from center to four corners) of the displayed screen is as sharp as possible.

**1.6 Subcarrier oscillator(2613)**

- Apply colour bar pattern to monitor.
- Connect 470Ω resistor between point 11 of IC 7610 and earth.
- Adjust 2613 so that the colour picture on the screen is stationary.
- Remove the 470Ω resistor.

**1.7 PAL delay line (3619, 5632)**

- Apply DEM pattern from a pattern generator to the monitor.
- Set brightness control 3662, contrast control 3658 and colour saturation control 3654 to 3/4 of the range.
- Adjust 3619 so that the "venetian blinds" in the third bar disappear.
- Then adjust 5632 until the "venetian blinds" in the first and fourth bar disappear.
- Readjust 3619 as described above.

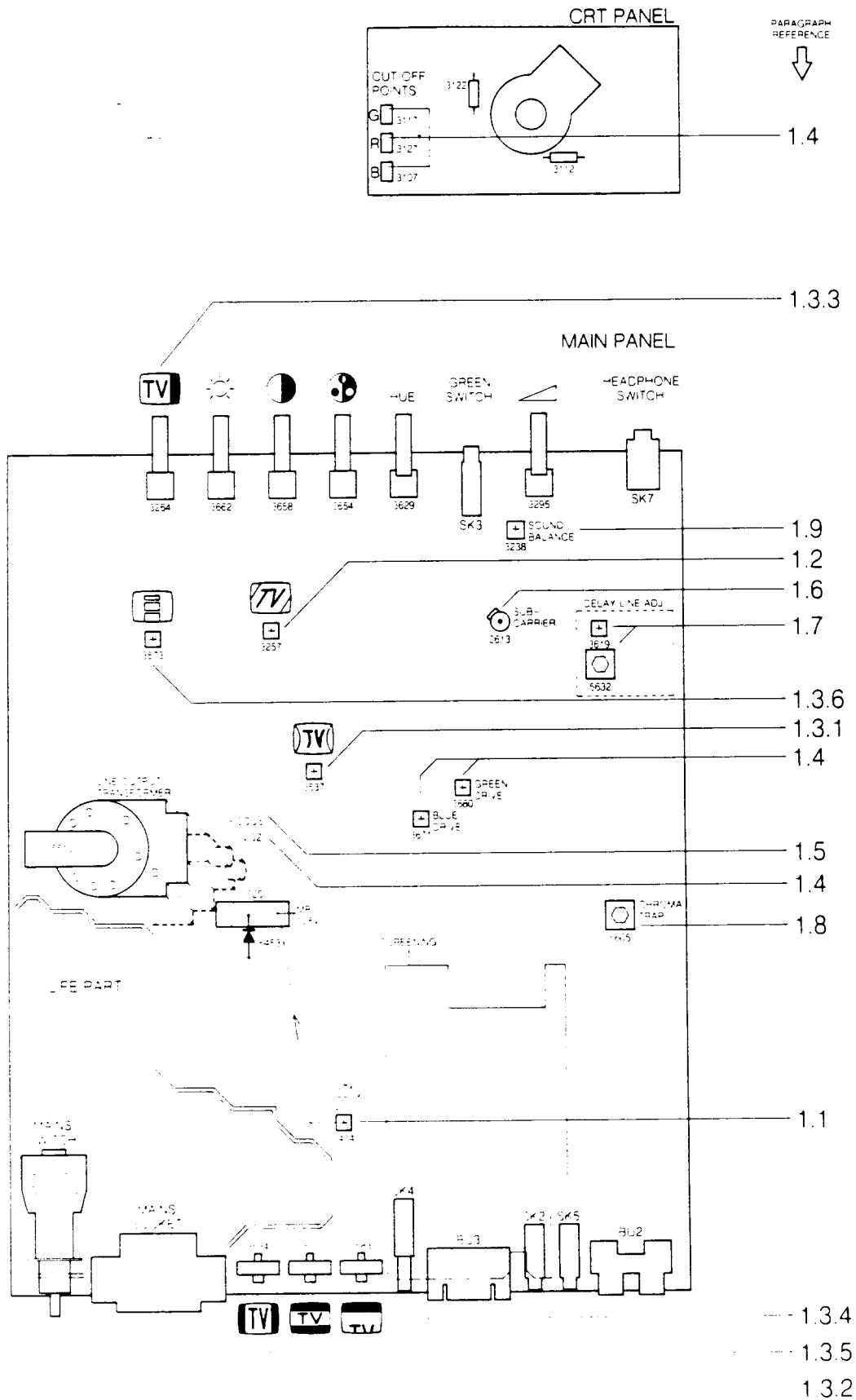
**1.8 Chrominance suppression(5605)**

- Apply colour bar pattern to the monitor.
- Connect oscilloscope to pin 15 of IC 7640.
- Set 5605 so that the chrominance signal is minimum. (The chrominance signal is superimposed on the grey steps of the luminance signal).

**1.9 Audio balance (3298)**

- Apply sinusoidal signal of 177mVrms (1KHz) to both audio inputs L/R.
- Set volume control in mid-position.
- Replace the two loudspeakers with a 16Ω resistor.
- Set 3298 so that the output level on both 16Ω resistors is the same.

## LOCATION OF ADJUSTING COMPONENTS



## 2. PICTURE SETTINGS

### Remarks:

- The following adjustments only apply to monitors which are fitted with a replaceable deflection unit.
- In case of combi tube replacement, no picture settings is required because it has been done by factory already.
- The colour purity and convergence adjustments described hereafter need only to be carried out if a completely new setting is required or if a new picture tube has been fitted. In other cases, for example after replacing the deflection unit, it will not usually be necessary to remove the rubber wedges (G in figure 3). Corrections by means of the multi-pole unit will then suffice.
- Focusing adjustment described in item 1.5 must be done prior to picture settings.

### 2.1 Colourpurity, see figure 3

- Unscrew the fixing screw "F" on the deflection unit.
- Move the deflection unit and remove the three rubber wedges "G".
- Move the deflection unit forward as far as possible against the glass of the picture tube cone and tighten fixing screw "F" so that the deflection unit can only be shifted slightly.
- Place the multi-pole unit in the position drawn: tighten screw "A" and turn locking ring "B" anticlockwise.
- Position the monitor to face east or west and switch it on. Apply a cross-hatch pattern and set the brightness control to maximum. Allow the monitor to warm up for ten minutes.
- Adjust the static convergence using tags "C" and "D" (if necessary, refer to point 2.2.).
- Turn 3583 for the vertical centering to its mid-position. Switch off the green and blue gun by disconnecting resistors 3122 and 3112.

- By turning the colour purity rings with the "E" tags, the vertical red bar is brought as close as possible to the centre of the screen, whilst the central horizontal line should be as straight as possible.
- Apply a white pattern signal and check that the red bar is in fact in the centre of the screen. If not, switch on the cross-hatch pattern again and move the red bar in the right direction, ensuring that the picture does not move too much in the vertical direction.
- Apply the white pattern signal and move the deflection unit until the whole picture surface is uniformly red.
- Switch on the green and the blue gun. There may be no colour patches in the white picture now obtained. If there are, a minor correction can be made by turning the colour purity rings "E" slightly and/or moving the deflection unit slightly.
- Tighten screw "F" securely.
- Adjust the vertical centering with 3583.
- Proceed to the static and then the dynamic convergence setting.

### 2.2 Staticconvergence, see figure 3

- Apply a cross-hatch pattern and allow the monitor to warm up for ten minutes.
- Switch off the green gun by disconnecting resistor 3122 and turn locking ring "B" anticlockwise.
- By turning the four-pole rings with the "C" tags the red and blue cross-hatch patterns are placed on top of each other in the centre of the screen.
- Switch on the green gun by connecting resistor 3122 back to its original position and switch off the blue gun by disconnecting 3112.
- By turning the six-pole rings with the "D" tags the red and green patterns are placed on top of each other in the centre of the screen.
- Switch on the blue gun by connecting resistor 3112 back to its original position and tighten ring "B".

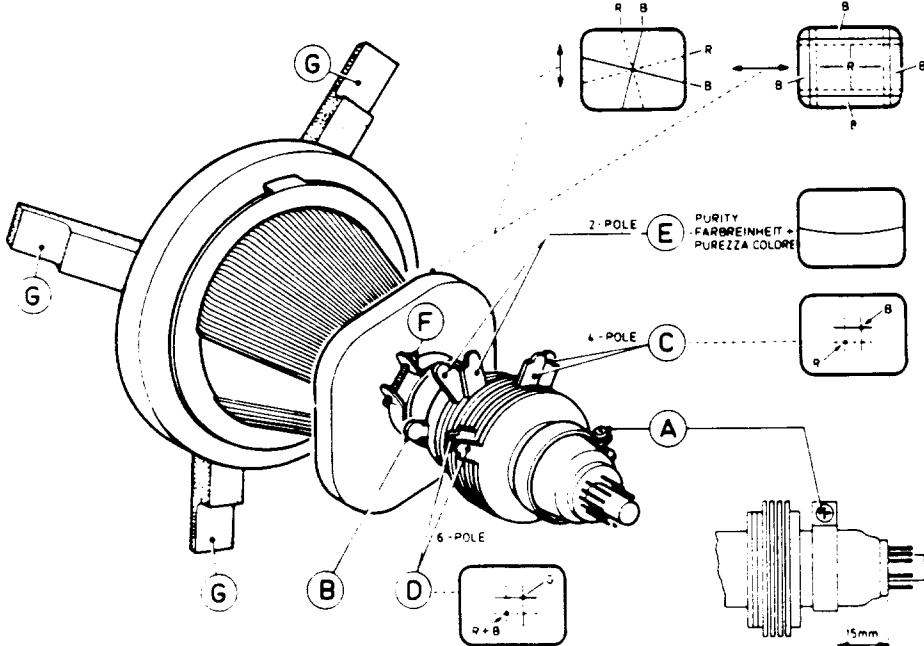


Fig. 3

### 2.3 Dynamic convergence

*Remark:*

The dynamic convergence is achieved by tilting the deflection unit vertically and horizontally. In order to fix the deflection unit in the right position, three rubber wedges are fitted between the glass of the picture tube cone and the deflection unit, as shown in fig. 4d or 5d. Two wedge thicknesses are available, one 7 mm thick, code number 4822 462 40356 and the other 11 mm thick, code number 4822 462 40357.

- First check the colour purity and the static convergence.
- Apply a cross-hatch pattern and switch off the green gun by disconnecting resistor 3122.
- Eliminate the crossing of the central horizontal blue and red line and the crossing of the central vertical blue and red line by vertically tilting the deflection unit. If the deflection unit is in the correct position, then place rubber wedge ①, without removing the paper strip, at the top (figure 4a) or at the bottom (figure 5a).

Figure 4a applies when the unit is tilted upwards and figure 5a applies when the unit is tilted downwards.

- Through the horizontal tilting of the deflection unit, both the horizontal blue and red lines in the upper and lower halves of the picture and the vertical blue and red lines on the left and right-hand side of the picture are placed on top of each other. If the deflection unit is in the correct position, then place the wedges ② and ③, remove the paper strips and firmly press the adhesive side of these wedges against the glass of the picture tubes as shown in figure 4b or 5b.
- Now place wedge ④ as shown in figure 4c or 5c, remove the paper strip and firmly press the adhesive side of this wedge against the glass of the picture tube cone.
- Remove wedge ① so that the situation according to figure 4d or 5d arises.
- Switch on the green gun by connecting resistor 3122 back to its original position.

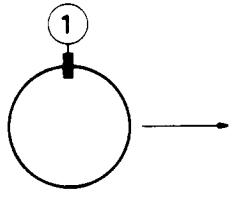


Fig. 4a

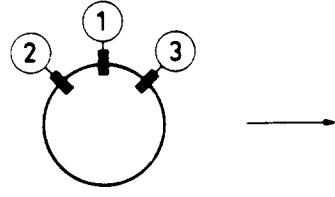


Fig. 4b

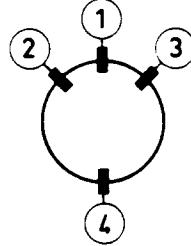


Fig. 4c

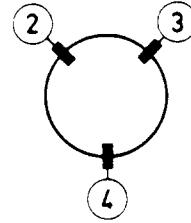


Fig. 4d

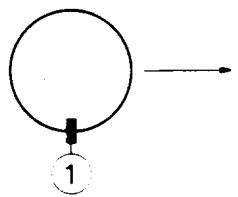


Fig. 5a

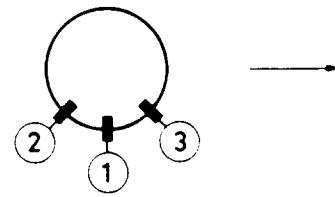


Fig. 5b

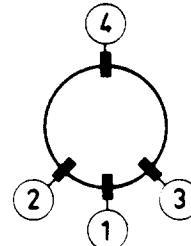


Fig. 5c

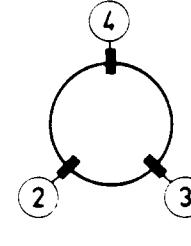
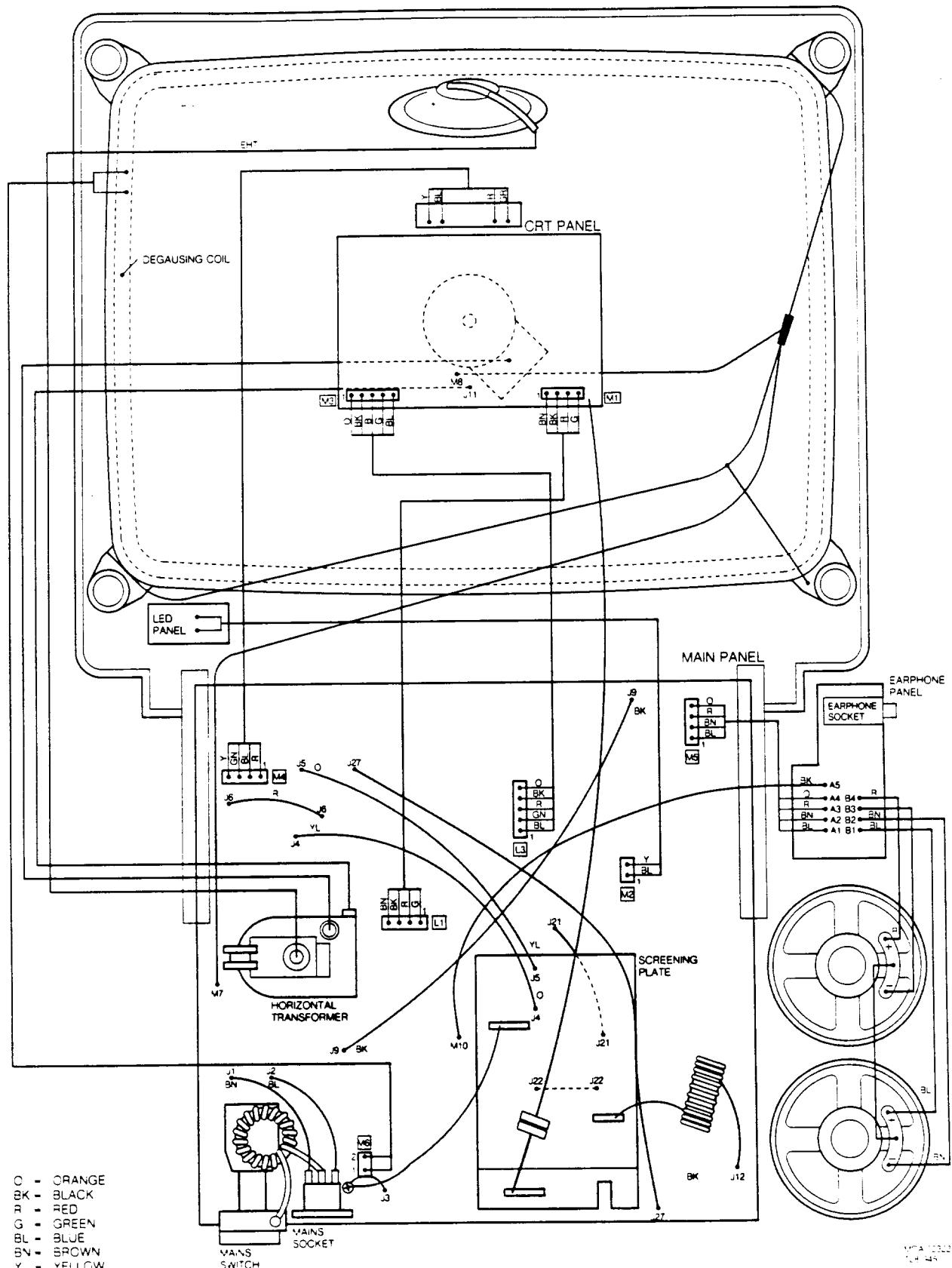


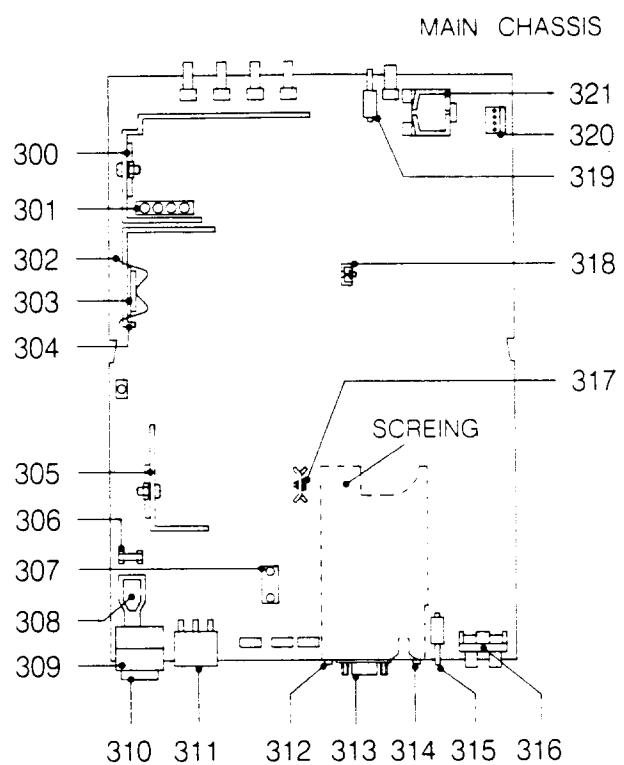
Fig. 5d

## WIRING DIAGRAM

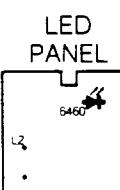
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**MAIN CHASSIS PANEL****Mechanical parts**

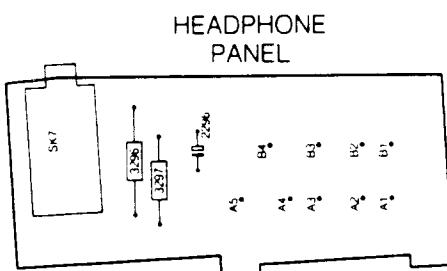
300	4822 390 20011	Silicon grease
301	4822 265 30375	Connector
302	4822 492 62076	Spring
303	4822 255 40893	Insulation plate
304	4822 390 20011	Silicon grease
305	4822 390 20011	Silicon grease
306	4822 492 60063	Fuse holder
307	4822 267 40646	Socket
308	4822 276 12445	Power switch (SK1)
309	4822 256 91564	Holder
310	4822 410 60456	Power push button
311	4822 265 30752	Mains socket
312	4822 276 12677	Switch (TTL/analog, SK4)
313	4822 267 40893	"D" SHELL socket (BU3)
314	4822 276 15505	Switch (RGB/CVBS, SK2)
315	4822 276 11505	Switch (LCA/CVBS, SK5)
316	4822 267 40894	Socket (BU1, BU2, BU4, BU5)
317	4822 390 20011	Silicon grease
318	4822 265 20235	Connector
319	4822 276 11505	Switch (SK3)
320	4822 265 30408	Connector
321	4822 390 20011	Silicon grease
	4822 535 30095	EYE LET (1,89x0,18x2,29)
	4822 535 30096	EYE LET (1,52x0,18x2,23)

**LED PANEL**

<b>4822 212 23302</b> LED panel complete		
	3460	4822 116 52391 1K 0.5W 5%
	6460	4822 130 81701 LED GREEN

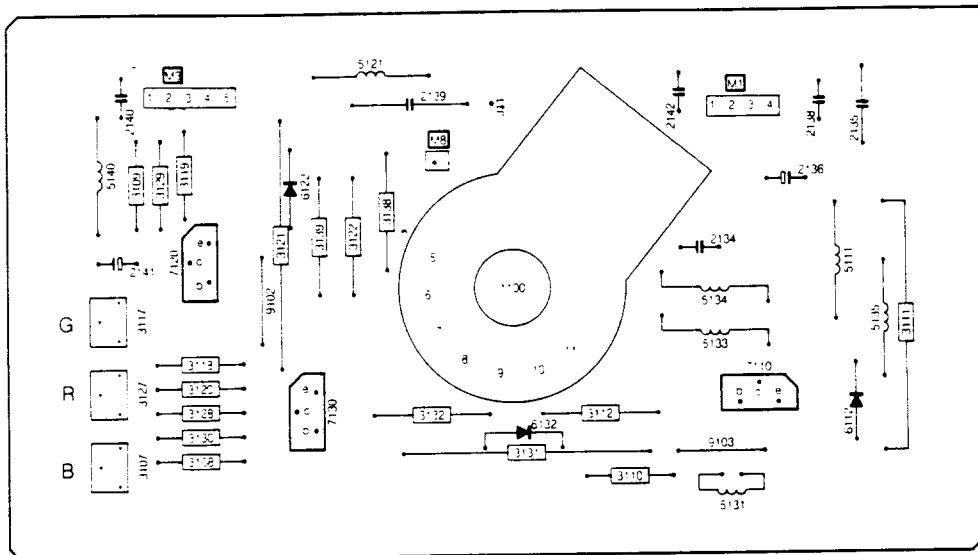
**HEADPHONE PANEL**

<b>4822 212 23312</b> Headphone panel complete		
	4822 267 31144	Socket for headphone
	4822 265 30778	Connector assy
	2296	4822 124 22681 ELCO 47μF 16V 20%
	3296	4822 116 52389 100Ω 0.5W 5%
	3297	4822 116 52389 100Ω 0.5W 5%



Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.

## CRT PANEL



## ELECTRICAL PARTS CRT PANEL

	2134	4822 122 33646	470pF 10% 500V	3130	4822 116 52391	1k 5% 0.5W	
	2135	4822 121 41577	10nF 10% 400V	3131	4822 116 82126	3k9 3W	
	2136	4822 124 22023	4.7μF 200V	3132	4822 116 53423	470Ω 1% 0.6W	
	2138	4822 122 33966	10nF 10% 50V	3138	4822 116 80547	1k5 5% 0.5W	
	2139	4822 121 41926	33nF 5% 630V	3139	4822 116 80547	1k5 5% 0.5W	
	2140	4822 122 33966	10nF 10% 50V	5111	4822 157 60485		
	2141	4822 124 23129	22μF 20% 50V	5121	4822 157 60485		
	2142	5322 122 32332	1.5nF 10% 100V	5131	4822 157 60485		
	3107	5322 100 11542	4k7 TRIM LINEAR	5133	4822 152 20587	7.5μH	
	3108	4822 116 52391	1k 5% 0.5W	5134	4822 152 20587	7.5μH	
	3109	4822 116 52367	47Ω 5% 0.5W	5135	4822 157 60483		
	3110	4822 116 52391	1k 5% 0.5W	5140	4822 157 60483		
	3111	4822 116 82126	3k9 3W		6112	4822 130 30842	BAV21
	3112	4822 116 53423	470Ω 1% 0.6W		6122	4822 130 30842	BAV21
	3117	5322 100 11542	4k7 TRIM LINEAR		6132	4822 130 30842	BAV21
	3118	4822 116 52391	1k 5% 0.5W		7110	4822 130 41773	BF869
	3119	4822 116 52367	47Ω 5% 0.5W		7120	4822 130 41773	BF869
	3120	4822 116 52391	1k 5% 0.5W		7130	4822 130 41773	BF869
	3121	4822 116 82126	3k9 3W				
	3122	4822 116 53423	470Ω 1% 0.6W				
	3127	5322 100 11542	4k7 TRIM LINEAR				
	3128	4822 116 52391	1k 5% 0.5W				
	3129	4822 116 52367	47Ω 5% 0.5W				

## ELECTRICAL PARTS MAIN CHASSIS

	1401	4822 253 30025	T2A			2441	4822 122 33645	220pF 500V
	1627	4822 242 70304	8.867 238 MHz			2442	4822 122 33645	220pF 500V
						2443	4822 122 33645	220pF 500V
						2444	4822 122 33645	220pF 500V
						2445	4822 124 41865	470μF 20% 35V
	2251	4822 121 50994	100 nF 100V			2446	4822 124 22357	470μF 25V
	2258	4822 121 51258	2.7nF 500V			2447	4822 124 22357	470μF 25V
	2261	4822 121 42636	150nF 10% 63V			2450	4822 124 23131	10μF 20% 50V
	2262	4822 121 50994	100 nF 100V			2451	4822 124 41281	47 μF 200V
	2264	4822 122 31125	4.7nF 80% 63V			2452	4822 124 23129	22μF 50V
	2266	4822 124 41659	4.7μF 20% 25V			2510	4822 122 33969	27pF 5% 500V
	2267	4822 121 50994	100 nF 100V			2511	4822 124 22672	2.2μF 20% 63V
	2268	4822 124 22669	1μF 20% 50V			2512	4822 124 23129	22μF 20% 50V
	2269	4822 124 23129	22μF 20% 50V			2514	4822 122 40427	2kV 470pF
	2270	5322 122 32343	47pF 2% 100V			2515	4822 124 41867	1μF 20% 250V
	2272	4822 124 23129	22μF 20% 50V			2517	4822 121 43061	8.2nF 5% 1.6kV
	2273	4822 122 30103	22nF 80% 63V			2518	4822 121 43392	22nF 10%
	2274	4822 124 22678	100μF 20% 16V			2519	4822 121 43511	560nF 10% 250V
	2275	4822 122 33966	10nF 10% 50V			2520	4822 124 22499	10μF 160V
	2289	4822 121 50994	100 nF 100V			2524	4822 124 90034	4MU7 50V
	2290	4822 122 30027	1nF 10% 100V			2526	4822 124 22669	1μF 20% 50V
	2291	5322 124 10623	1000μF 20% 16V			2531	4822 121 41879	120nF 10% 100V
	2292	4822 121 50994	100 nF 100V			2532	4822 122 33966	10nF 10% 50V
	2294	4822 121 50994	100 nF 100V			2536	4822 124 22669	1μF 20% 50V
	2295	4822 122 30027	1nF 10% 100V			2537	4822 124 23129	22μF 20% 50V
	2301	4822 124 23129	22μF 20% 50V			2540	4822 122 33645	220pF 500V
	2302	4822 122 30103	22nF 80% 63V			2541	4822 124 23129	22μF 20% 50V
	2303	5322 122 32143	22pF 100V			2543	4822 121 41925	15nF 10% 100V
	2304	4822 121 42637	220nF 20% 63V			2544	4822 121 40336	47nF 10% 250V
	2305	4822 122 30057	2.7nF 10% 100V			2547	4822 124 22672	2.2μF 20% 63V
	2307	4822 122 32185	10pF 2% 100V			2554	4822 122 31125	4.7nF 80% 63V
	2319	4822 122 33966	10nF 10% 50V			2555	4822 122 31125	4.7nF 80% 63V
	2320	4822 122 30103	22nF 80% 63V			2556	5322 122 32052	680pF 10% 100V
	2327	4822 124 23129	22μF 20% 50V			2561	5322 124 41431	22μF 20% 35V
	2328	4822 124 23129	22μF 20% 50V			2563	4822 124 41865	470μF 20% 35V
	2350	4822 122 33643	100pF 10% 50V			2571	4822 124 41866	680μF 20% 35V
	2360	4822 122 31353	330pF 2% 100V			2573	4822 124 41975	1.5μF 63V
	2361	4822 124 23131	10μF 20% 50V			2575	4822 121 50994	100nF 100V
	2363	4822 122 30103	22nF 80% 63V			2601	4822 124 22678	100μF 20% 16V
	2365	4822 122 30103	22nF 80% 63V			2602	4822 122 30103	22nF 80% 63V
	2368	4822 122 33645	220pF 500V			2603	4822 122 30027	1nF 10% 100V
	2369	4822 126 10453	3.3,nF 50V			2604	4822 124 22669	1μF 20% 50V
	2370	4822 122 30103	22nF 80% 63V			2605	4822 121 41681	470nF 10% 40V
	2402	5322 121 44212	1μF 10% 275B			2606	4822 121 41676	47nF 10% 250V
	2403	4822 122 33652	2.2nF 20% 400V			2607	4822 121 50994	100nF 100V
	2404	4822 122 33652	2.2nF 20% 400V			2608	4822 121 50994	100nF 100V
	2405	4822 121 43385	47nF 20% 250V			2609	4822 122 31823	15pF 2% 100V
	2406	4822 121 41984	47nF 10% 400V			2610	4822 122 31056	12pF 2% 100V
	2407	4822 122 40348	2.2μF 1kV			2611	4822 122 33966	10nF 10% 50V
	2408	4822 122 32154	2.2nF 10% 1kV			2612	4822 121 41681	470nF 10% 40V
	2409	4822 122 40348	2.2μF 1kV			2613	4822 125 50088	27pF Trimmer
	2410	4822 122 40348	2.2μF 1kV			2614	4822 122 33966	10nF 10% 50V
	2412	4822 124 21722	100μF 50% 400V			2616	4822 122 30103	22nF 80% 63V
	2416	4822 124 23131	10μF 20% 50V			2617	4822 122 30103	22nF 80% 63V
	2417	4822 122 33966	10nF 10% 50V			2618	4822 121 42637	220nF 20% 63V
	2422	4822 124 22669	1μF 20% 50V			2640	4822 124 22678	100μF 20% 16V
	2423	4822 121 50994	100nF 100V			2641	4822 122 30103	22nF 80% 63V
	2424	4822 121 41925	15nF 10% 100V			2642	4822 122 30103	22nF 80% 63V
	2429	4822 121 42637	220nF 20% 63V			2643	4822 122 30103	22nF 80% 63V
	2431	5322 122 32818	2.2nF 10% 100V			2644	4822 122 30103	22nF 80% 63V
	2432	4822 121 50966	2.2nF 20% 1kV			2645	4822 121 50992	330nF 10% 63V
	2433	4822 121 41984	47nF 10% 400V			2646	4822 121 50992	330nF 10% 63V
						2647	4822 124 41659	4.7μF 20% 25V
						2648	4822 122 30103	22nF 80% 63V
						2649	4822 121 50992	330nF 10% 63V

## ELECTRICAL PARTS MAIN CHASSIS

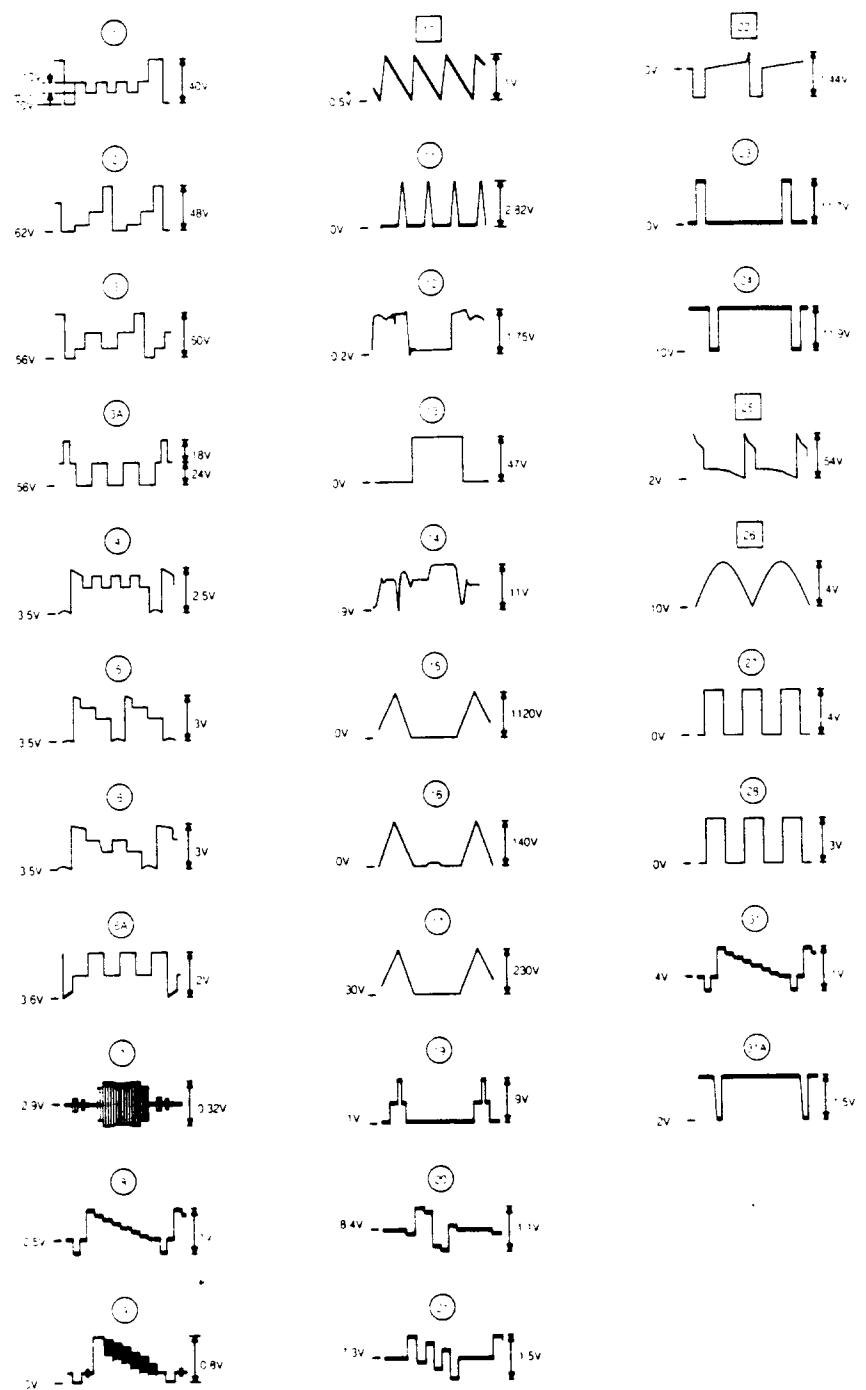
2651	4822 122 30103	22nF 80% 63V	3341 4822 116 52391 1k 5% 0.5W
2652	4822 121 50994	100nF 100V	3342 4822 116 52391 1k 5% 0.5W
2653	4822 121 50994	100nF 100V	3344 4822 116 52846 150Ω 1% 0.6W
2654	4822 121 50994	100nF 100V	3345 4822 116 52416 330Ω 5% 0.5W
2669	4822 124 23131	10μF 20% 50V	3346 4822 116 52416 330Ω 5% 0.5W
2673	5322 122 34148	330pF 2% 100V	3347 4822 116 52389 100Ω 5% 0.5W
2682	5322 122 34148	330pF 2% 100V	3350 4822 116 52465 27k 5% 0.5W
2688	5322 122 34148	330pF 2% 100V	3351 4822 116 52452 10k 5% 0.5W
2695	4822 122 30103	22nF 80% 63V	3352 4822 116 52425 470Ω 5% 0.5W
2696	4822 124 22681	47μF 20% 16V	3353 4822 116 52389 100Ω 5% 0.5W
2697	4822 124 22681	47μF 20% 16V	3360 4822 116 52391 1k 5% 0.5W
			3361 4822 116 52391 1k 5% 0.5W
			3362 4822 116 52509 220k 5% 0.5W
3257	4822 100 11319	4k7 pot.m.	3363 4822 116 52417 3k3 5% 0.5W
3258	4822 116 52467	33k 5% 0.5W	3364 4822 116 53025 2k2 1% 0.6W
3261	4822 116 53083	15k 1% 0.6W	3365 4822 116 52509 220k 5% 0.5W
3262	4822 116 52426	4k7 5% 0.5W	3368 4822 116 52456 12k 5% 0.5W
3263	4822 116 52463	22k 5% 0.5W	3369 4822 116 52472 47k 5% 0.5W
3264	4822 100 90079	10k pot.m.	3370 4822 116 52441 6k8 5% 0.5W
3266	4822 116 52399	1k5 5% 0.5W	3404 4822 116 40161 DUAL PTC
3268	4822 116 52441	6k8 5% 0.5W	3410 4822 113 80466 4Ω7 10% 7W
3269	4822 116 52389	100Ω 5% 0.5W	3411 4822 116 52463 22k 5% 0.5W
3271	4822 116 52502	1M5 5% 0.5W	3412 4822 116 52467 33k 5% 0.5W
3272	4822 116 52425	470Ω 5% 0.5W	3413 4822 116 52413 2k7 5% 0.5W
3273	4822 111 30499	4Ω7 5% 0.33W	3414 4822 100 11348 1k 30% LIN
3274	4822 116 52452	10k 5% 0.5W	3415 4822 116 52413 2k7 5% 0.5W
3288	4822 116 52463	22k 5% 0.5W	3416 4822 116 52426 4k7 5% 0.5W
3289	4822 116 52463	22k 5% 0.5W	3417 4822 116 52416 330Ω 5% 0.5W
3293	4822 116 52463	22k 5% 0.5W	3420 4822 116 52302 750k 5% 0.5W
3294	4822 116 52463	22k 5% 0.5W	3421 4822 116 52302 750k 5% 0.5W
3295	4822 100 90082	20k pot.m.	3422 4822 116 52846 150Ω 1% 0.6W
3298	4822 100 11392	47k LIN, pot.m.	3425 4822 116 52412 270Ω 5% 0.5W
3301	4822 116 52463	22k 5% 0.5W	3426 5322 116 53734 24Ω 5% 0.5W
3302	4822 116 52452	10k 5% 0.5W	3427 4822 116 52417 3k3 5% 0.5W
3303	5322 116 53339	75Ω 1% 0.6W	3428 4822 116 52422 3k9 5% 0.5W
3304	4822 116 52425	470Ω 5% 0.5W	3429 4822 116 82128 100Ω 5% 1W
3306	4822 116 52391	1k 5% 0.5W	3430 4822 116 82128 100Ω 5% 1W
3307	4822 116 52428	560Ω 5% 0.5W	3431 4822 116 82128 100Ω 5% 1W
3308	4822 116 53025	2k2 1% 0.6W	3432 4822 116 80388 22k 5W
3309	4822 116 53025	2k2 1% 0.6W	3436 4822 116 52184 18Ω 5% 0.5W
3311	5322 116 53339	75Ω 1% 0.6W	3443 4822 111 30487 1Ω5 5% 0.33W
3315	4822 116 53025	2k2 1% 0.6W	3451 4822 111 30499 4Ω7 5% 0.33W
3316	4822 116 53025	2k2 1% 0.6W	3452 4822 116 52391 1k 5% 0.5W
3317	4822 116 53025	2k2 1% 0.6W	3460 4822 116 52391 1k 5% 0.5W
3318	4822 116 53025	2k2 1% 0.6W	3470 4822 116 52389 100Ω 5% 0.5W
3319	4822 116 52391	1k 5% 0.5W	3509 4822 116 52849 220Ω 1% 0.6W
3320	4822 111 30487	1Ω5 5% 0.33W	3510 4822 116 53025 2k2 1% 0.6W
3321	4822 116 52416	330Ω 5% 0.5W	3511 4822 116 60239 1k 2W
3322	4822 116 52416	330Ω 5% 0.5W	3512 4822 111 30499 4Ω7 5% 0.33W
3323	4822 116 52425	470Ω 5% 0.5W	3513 4822 113 60185 2.2Ω 2W
3324	4822 116 52416	330Ω 5% 0.5W	3514 4822 116 52375 68Ω 5% 0.5W
3325	4822 116 52416	330Ω 5% 0.5W	3515 4822 116 52467 33k 5% 0.5W
3326	4822 116 52416	330Ω 5% 0.5W	3520 4822 113 80465 10Ω 5% 5W
3327	4822 116 52425	470Ω 5% 0.5W	3522 4822 116 52253 2k 5% 0.5W
3328	4822 116 52849	220Ω 1% 0.6W	3523 4822 116 52253 2k 5% 0.5W
3329	4822 116 52452	10k 5% 0.5W	3526 4822 111 30499 4Ω7 5% 0.33W
3330	4822 111 30499	4Ω7 5% 0.33W	3530 4822 116 53025 2k2 1% 0.6W
3331	4822 116 52941	430Ω 1% 0.6W	3531 4822 116 52472 47k 5% 0.5W
3332	4822 116 52941	430Ω 1% 0.6W	3533 4822 116 52453 100k 5% 0.5W
3333	4822 116 52941	430Ω 1% 0.6W	3534 4822 101 10547 10k 20% 0.25W
3334	4822 116 52941	430Ω 1% 0.6W	3536 4822 116 52472 47k 5% 0.5W
3335	4822 116 52425	470Ω 5% 0.5W	3537 4822 100 11585 22k LIN,
3336	4822 116 52389	100Ω 5% 0.5W	3540 4822 111 30487 1Ω5 5% 0.33W
3337	5322 116 53339	75Ω 1% 0.6W	3541 4822 116 52367 47Ω 5% 0.5W
3340	4822 116 52391	1k 5% 0.5W	3543 4822 116 52527 470k 5% 0.5W

## ELECTRICAL PARTS MAIN CHASSIS

	3544 4822 116 53083	15k 1% 0.6W	3666 4822 116 53025	2k2 1% 0.6W
	3545 4822 116 52527	470k 5% 0.5W	3667 4822 116 52426	4k7 5% 0.5W
	3546 4822 116 52453	100k 5% 0.5W	3668 4822 116 52467	33k 5% 0.5W
	3548 4822 111 30487	1Ω5 5% 0.33W	3669 4822 111 30499	4Ω7 5% 0.33W
	3550 4822 100 10915	220k pot.m.	3670 4822 116 52389	100Ω 5% 0.5W
	3551 4822 116 53798	270k 1% 0.6W	3671 4822 105 11023	1k 30% 0.1W
	3553 4822 116 52389	100Ω 5% 0.5W	3672 4822 116 52399	1k5 5% 0.5W
	3554 4822 116 52426	4k7 5% 0.5W	3673 4822 116 52375	68Ω 5% 0.5W
	3555 4822 116 52426	4k7 5% 0.5W	3674 4822 116 52441	6k8 5% 0.5W
	3556 4822 116 52461	18k 1% 0.6W	3675 4822 116 52846	150Ω 1% 0.6W
	3560 4822 116 52215	220Ω 5% 0.5W	3679 4822 116 52389	100Ω 5% 0.5W
	3563 4822 111 30499	4Ω7 5% 0.33W	3680 4822 105 11023	1k 30% 0.1W
	3570 4822 116 52416	330Ω 5% 0.5W	3681 4822 116 52399	1k5 5% 0.5W
	3571 5322 116 53729	180k 1% 0.6W	3682 4822 116 52375	68Ω 5% 0.5W
	3572 4822 116 53083	15k 1% 0.6W	3683 4822 116 52441	6k8 5% 0.5W
	3573 4822 100 11141	10k pot.m.	3685 4822 116 52846	150Ω 1% 0.6W
	3574 5322 116 53283	1Ω2 1% 0.6W	3686 4822 116 52425	470Ω 5% 0.5W
	3575 4822 116 52532	560k 5% 0.5W	3687 4822 116 53025	2k2 1% 0.6W
	3580 4822 116 52416	330Ω 5% 0.5W	3688 4822 116 52375	68Ω 5% 0.5W
	3581 4822 116 53025	2k2 1% 0.6W	3689 4822 116 52441	6k8 5% 0.5W
	3583 4822 101 10547	10k 20% 0.25W	3691 4822 116 52846	150Ω 1% 0.6W
	3585 4822 116 52412	270Ω 5% 0.5W	3692 4822 116 52417	3k3 5% 0.5W
	3586 4822 116 52422	3k9 5% 0.5W	3694 4822 116 52413	2k7 5% 0.5W
	3601 4822 111 30499	4Ω7 5% 0.33W	3695 4822 116 52399	1k5 5% 0.5W
	3602 5322 116 53339	75Ω 1% 0.6W	3696 4822 116 52416	330Ω 5% 0.5W
	3603 4822 116 52463	22k 5% 0.5W	3697 4822 116 52196	51Ω 5% 0.5W
	3604 4822 116 52452	10k 5% 0.5W	3698 4822 116 52196	51Ω 5% 0.5W
	3605 4822 116 52433	820Ω 5% 0.5W		
	3606 4822 116 52403	180Ω 5% 0.5W		
	3607 4822 116 52425	470Ω 5% 0.5W		
	3608 4822 116 52416	330Ω 5% 0.5W	5301 4822 158 10837	
	3609 4822 116 53025	2k2 1% 0.6W	5401 4822 148 60218	
	3612 4822 116 52426	4k7 5% 0.5W	5402 4822 157 60489	
	3614 4822 116 52395	1k2 5% 0.5W	5431 4822 157 52233	10µH
	3615 4822 116 52421	390Ω 5% 0.5W	5436 4822 242 71344	2µH
	3616 4822 116 52849	220Ω 1% 0.6W	5510 4822 140 10381	
	3617 4822 116 52849	220Ω 1% 0.6W	5512 4822 142 40322	
	3618 4822 116 52403	180Ω 5% 0.5W	5513 4822 152 20587	7.5µH
	3619 4822 100 11562	220Ω 30%	5522 4822 157 60488	
	3620 4822 116 52452	10k 5% 0.5W	5523 4822 157 53122	
	3621 5322 116 53737	3M3 1% 0.6W	5524 4822 157 60486	
	3622 5322 116 53737	3M3 1% 0.6W	5541 4822 157 60483	
	3640 4822 111 30499	4Ω7 5% 0.33W	5605 4822 157 60487	
	3641 4822 116 52426	4k7 5% 0.5W	5606 4822 157 51056	DL330
	3642 4822 116 52426	4k7 5% 0.5W	5608 4822 157 52697	27µH
	3643 4822 116 52426	4k7 5% 0.5W	5631 4822 320 40096	DL 701
	3644 4822 116 52437	5k1 5% 0.5W	5632 4822 157 60484	
	3645 4822 116 52391	1k 5% 0.5W	5637 4822 157 52494	6µH
	3646 4822 116 52452	10k 5% 0.5W	5661 4822 152 20626	
	3647 4822 116 52454	11k 5% 0.5W	5662 4822 152 20626	
	3648 4822 116 52416	330Ω 5% 0.5W	5663 4822 152 20626	
	3649 5322 116 53479	22Ω 1% 0.6W		
	3651 4822 116 52476	68k 5% 0.5W		
	3652 4822 116 53083	15k 1% 0.6W	6304 4822 130 30621	1N4148
	3653 4822 116 53083	15k 1% 0.6W	6315 4822 130 30621	1N4148
	3654 4822 100 90079	10k pot.m.	6316 4822 130 30621	1N4148
	3655 4822 116 52848	200k 1% 0.6W	6317 4822 130 30621	1N4148
	3656 4822 116 52923	56k 1% 0.6W	6318 4822 130 30621	1N4148
	3657 4822 116 53547	150k 1% 0.6W	6320 4822 130 30621	1N4148
	3658 4822 100 90081	10k pot.m.	6321 4822 130 30621	1N4148
	3659 4822 116 53547	150k 1% 0.6W	6322 4822 130 30621	1N4148
	3660 4822 116 53083	15k 1% 0.6W	6323 4822 130 30621	1N4148
	3661 4822 116 52455	110k 5% 0.5W	6324 4822 130 30621	1N4148
	3662 4822 100 90081	10k pot.m.	6328 4822 130 34167	BZX79-B6V2
	3663 4822 116 52452	10k 5% 0.5W	6329 4822 130 30621	1N4148
	3665 4822 116 52389	100Ω 5% 0.5W		

## ELECTRICAL PARTS MAIN CHASSIS

6361	4822 130 30621	1N4148	7270	4822 209 72363 TDA2579A/N8
6407	4822 130 31933	1N5061	7290	4822 209 60956 TDA7052/N1
6408	4822 130 31933	1N5061	7295	4822 209 60956 TDA7052/N1
6409	4822 130 31933	1N5061	7304	4822 130 40938 BC548
6410	4822 130 31933	1N5061	7306	4822 130 44197 BC558B
6415	4822 130 34167	BZX79-B6V2	7320	4822 209 80916 N74LS37N
6421	4822 130 30621	1N4148	7321	5322 209 86327 N7406N
6425	4822 130 30621	1N4148	7327	4822 130 40938 BC548
6426	4822 130 30621	1N4148	7328	4822 130 41344 BC337-40
6427	4822 130 30621	1N4148	7350	4822 130 40938 BC548
6428	4822 130 80227	BZX79-C9V1	7361	4822 130 44196 BC548C
6429	4822 130 30621	1N4148	7366	4822 209 10223 HEF4077BP
6430	4822 130 30621	1N4148	7401	4822 209 71634 TCDT1101G
6431	4822 130 30621	1N4148	7417	4822 130 40937 BC548B
6432	4822 130 30621	1N4148	7421	4822 130 41344 BC337-40
6433	4822 130 34174	BZX79-C4V7	7432	4822 130 42679 BUT11AF
6434	4822 130 80216	1N5062	7450	4822 209 81726 MC7812CT
6435	4822 130 80216	1N5062	7452	5322 130 24081 BT151-500R
6440	4822 130 32833	RGP15k	7470	4822 130 44197 BC558B
6441	4822 130 32833	RGP15k	7510	4822 130 41053 BC639
6442	4822 130 42606	BYD33J	7512	4822 130 61265 BU508AF
6443	5322 130 31971	RGP15D	7526	4822 130 41774 BD826
6444	5322 130 31971	RGP15D	7530	4822 130 40937 BC548B
6452	4822 130 34281	BZX79-F15	7560	4822 209 60955 TDA3653B/N1
6453	4822 130 42606	BYD33J	7580	4822 130 44197 BC558B
6454	4822 130 34281	BZX79-F15	7585	4822 130 40937 BC548B
6470	4822 130 34167	BZX79-B6V2	7603	4822 130 40937 BC548B
6510	4822 130 42606	BYD33J	7610	4822 209 70019 TDA4510/V2
6513	4822 130 42606	BYD33J	7640	4822 209 71971 TDA3505/V4
6514	4822 130 42606	BYD33J	7671	4822 130 40937 BC548B
6515	4822 130 42606	BYD33J	7680	4822 130 40937 BC548B
6517	4822 130 41275	BY228	7687	4822 130 40937 BC548B
6518	4822 130 41487	BYV95C	7695	4822 130 44197 BC558B
6540	4822 130 42606	BYD33J	7696	4822 130 40937 BC548B
6546	4822 130 30621	1N4148		
6547	4822 130 34281	BZX79-F15		
6548	4822 130 80239	BZX79-F8V2		
6560	4822 130 30842	BAV21		
6646	4822 130 30621	1N4148		
6647	4822 130 30621	1N4148		
6650	4822 130 80655	BZX79-F2V4		
6661	4822 130 30621	1N4148		
6662	4822 130 30621	1N4148		
6663	4822 130 30621	1N4148		
6664	4822 130 30621	1N4148		
6665	4822 130 30621	1N4148		
6666	4822 130 30621	1N4148		
6667	4822 130 30621	1N4148		
6674	4822 130 30621	1N4148		
6675	4822 130 30621	1N4148		
6692	4822 130 30621	1N4148		



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