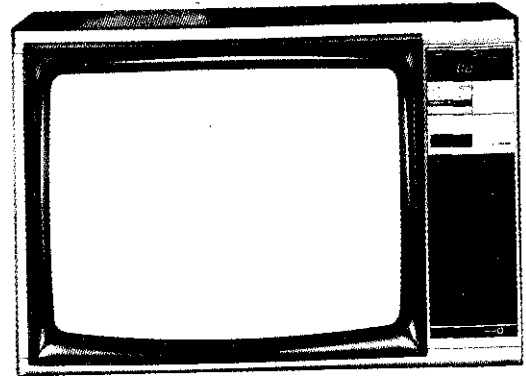


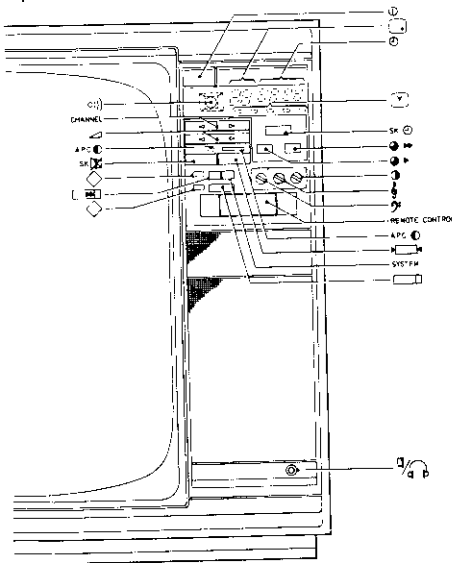
Service
Service
Service



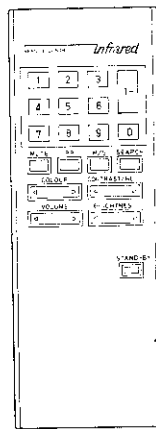
38 064 A

Service Manual

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



37 880 C12



33 841 012

CHASSIS CTO-S

/50/57/65/67 CHAPTERS 1÷9,11,14÷16,18
/51/56 CHAPTERS 1÷10,12÷16,18
/59 CHAPTERS 1÷10,12,14÷16,18

CHASSIS CTO-N 4/75

/51 CHAPTERS 1÷10,12÷16,18
/73 CHAPTERS 1÷9,11,14÷16,18
/80 CHAPTERS 1÷9,12,14÷16,18



→ 160-276 V/100 W
and for /51, /56, /59
90-140, 160-276 V



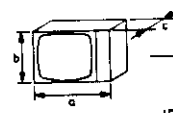
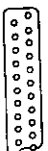
→ 75 Ω coax.



→ A66-540X



→ 4 Ω/10 W



axbxc
758x540x472 mm



/50/65/67 → PAL B/G
/57/73 → PAL I
/59/80 → PAL/SECAM
/51/56 → PAL/SECAM/NTSC



UV411

VHF a : 44- 92 MHz

VHF b : 162-230 MHz

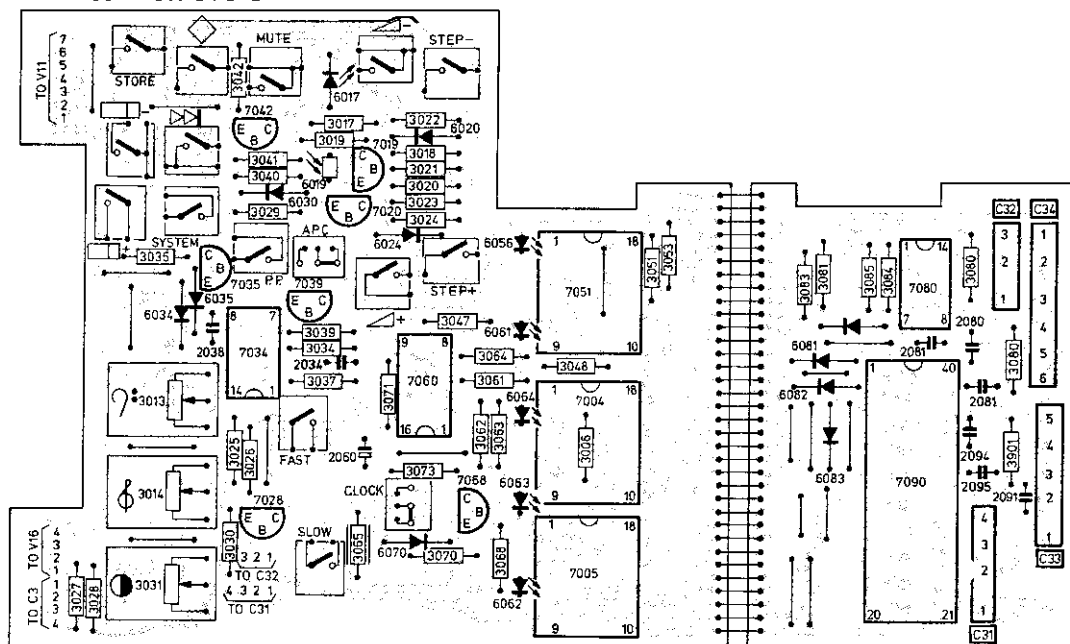
UHF : 470-862 MHz

UV471

VHF b : 174-229 MHz

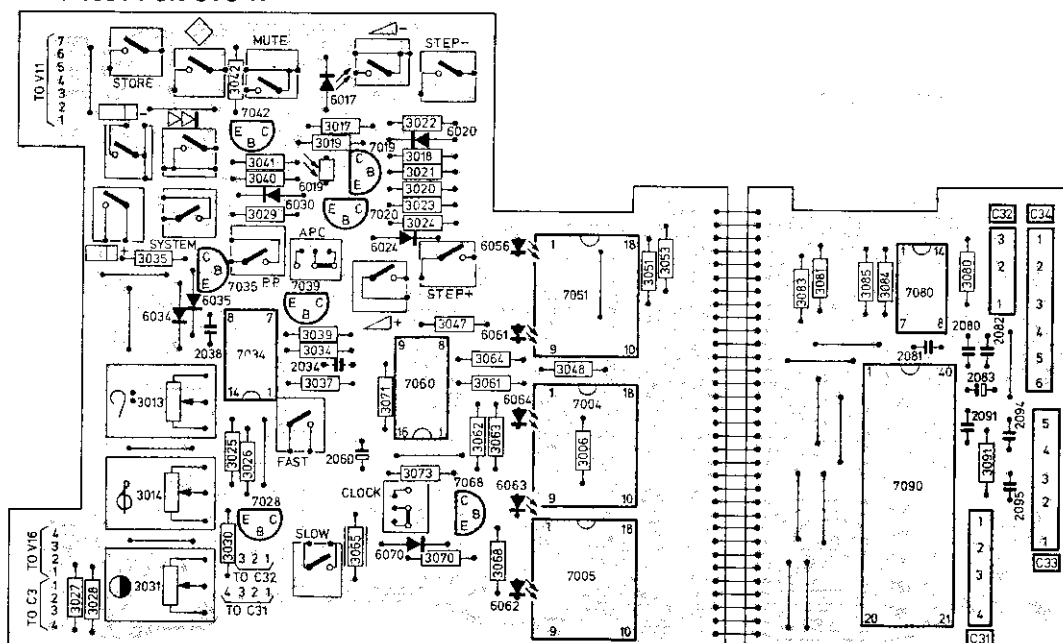
UHF : 469-858 MHz

CONTROL PANEL 1001 FOR CTO-S



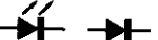
37 505 C12/640

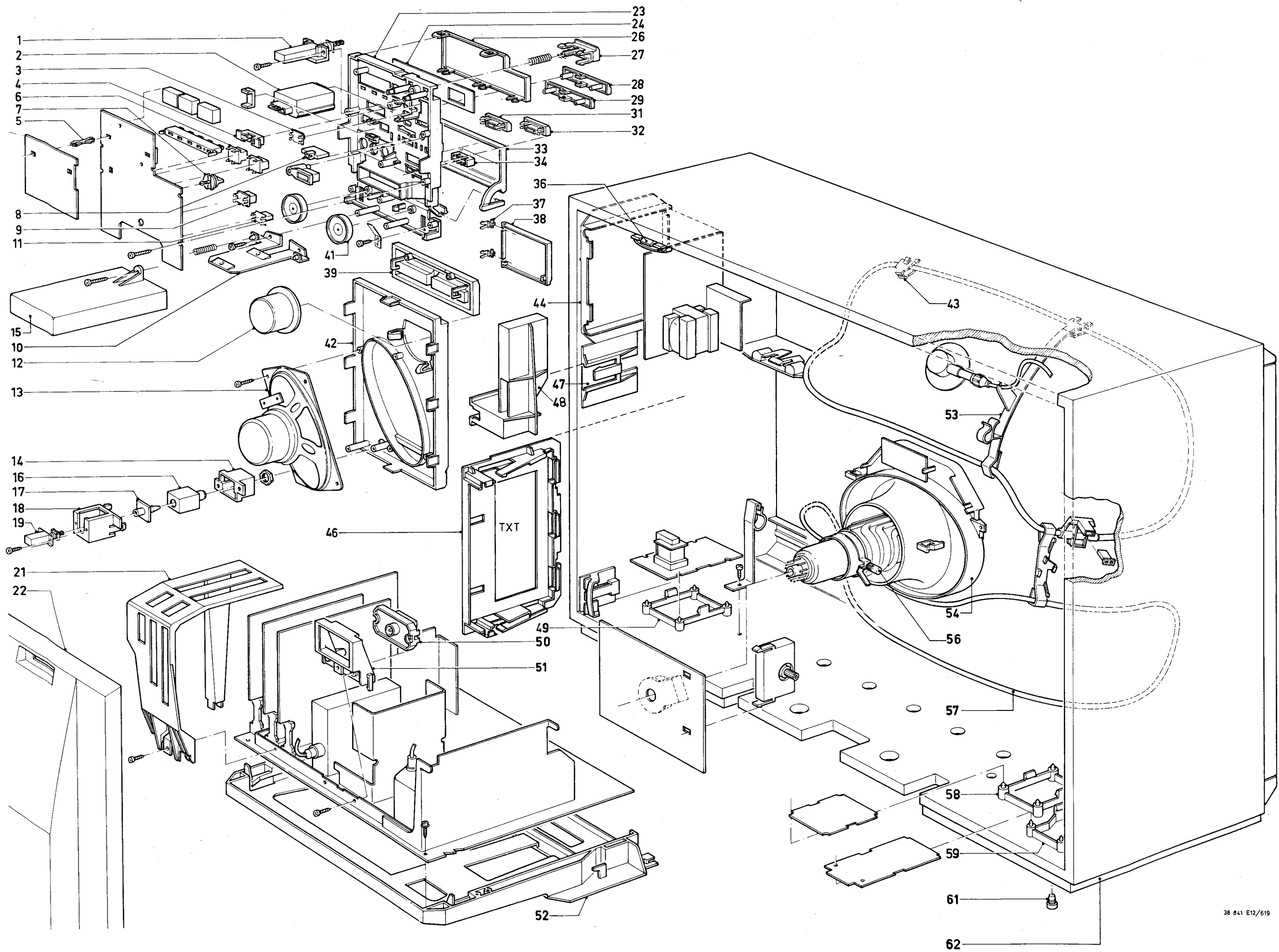
CONTROL PANEL 1001 FOR CTO-N



41 122 C12/639

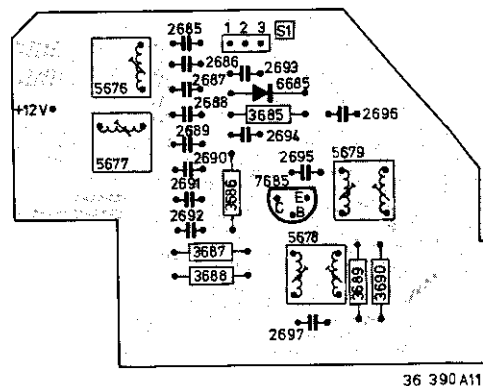
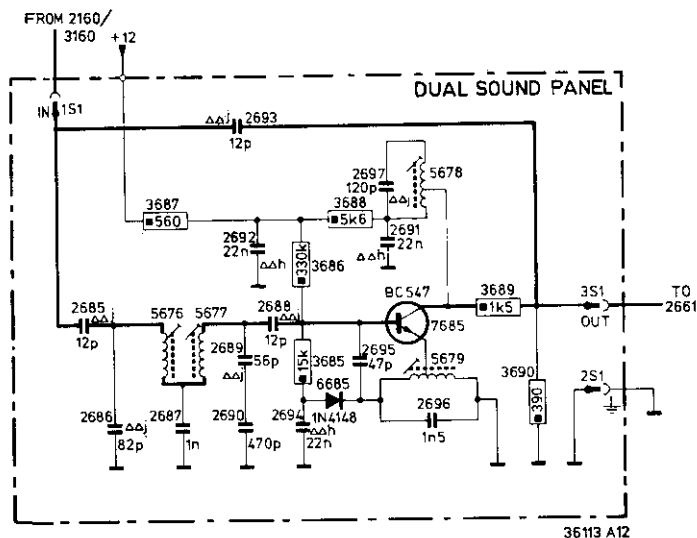
CONTROL PANEL 1001

 3065 4822 111 30515 0,33 W 3013, 3014 4822 101 20911 Potm. 47k lin 3031 4822 101 20912 Potm. 100k lin	 LN524RK 4822 130 90224 HEF4541BP 4822 209 10568 HEF4556BP 4822 209 10281 LN5261GAPH 4822 130 90193 N74LS164N 5322 209 81487 MM5387AAN 4822 209 10001
 CQV61A-3 4822 130 32218 (GREEN) CQV62-3 4822 130 32216 (YELLOW) CQV60A-3 4822 130 32217 (RED) LDR 4822 116 10038 1N4148 4822 130 30621 TLFG2110 4822 130 32658	Various VKS Switch 4822 276 10799 Switch APC/CLOCK 4822 276 11352 Socket display 4822 267 70095 Socket IC 14P 5322 267 54064 Socket IC 40P 5322 255 44217
 BC548 4822 130 40938 BC558 4822 130 40941	



1	4822 276 11256	Switch	34	4822 410 23961	Knob (manual search)
2	4822 212 21449	Receiver RC5	36	4822 404 30415	Block
3	4822 410 23949	Knob v.k.s.	37	4822 417 10825	Hinge
4	4822 410 23953	Knob (on/off clock)	38	4822 432 91666	Door
5	4822 401 10751	Spacer between PCB's	39	4822 458 50269	Grille
6	4822 410 23955	Knob (slow/fast)	41	4822 280 10135	Tweeter
7	4822 410 23956	Knob	42	4822 458 50271	Grille
8	4822 410 23952	Knob APC	43	4822 404 30235	Clip
9	4822 410 23962	Knob (auto search)	44	4822 464 70163	Frame
10	4822 417 10824	Hinge control panel	47	4822 459 61107	Frame
11	4822 410 23948	Knob (store/execute)	48	4822 404 30796	Frame
12	4822 240 30294	Tweeter	49	4822 691 10135	Frame
13	4822 240 40172	Loudspeaker	50	4822 218 20276	Aerial unit
14	4822 404 60166	Bracket	51	4822 466 91094	Block
15	4822 432 30221	Housing	52	4822 464 70326	Frame main panel
16	4822 267 10103	Jack	53	4822 401 10642	Strip
17	4822 462 40648	Cap	54	4822 150 10168	Deflection unit
18	4822 404 30636	Holder	56	4822 526 10171	Adjusting ring
19	4822 276 10944	Switch	57	4822 157 51645	Degaussing coil for CTO-S
21	4822 404 30701	Holder	57	4822 157 51055	Degaussing coil for CTO-N
22	4822 438 40077	Rear cover	58	4822 691 10135	Frame
23	4822 459 60966	Front panel	59	4822 464 70338	Frame
24	4822 450 60489	Filter	61	4822 462 10121	Foot
26	4822 450 60487	Window	62	4822 459 60965	Plinth
27	4822 410 23957	Knob (mains)		4822 450 60488	Window APC
28	4822 412 10249	Knob (channel)		4822 255 40414	Holder LED's
29	4822 410 23954	Knob (volume)		4822 255 40415	Holder LDR
31	4822 410 23959	Knob (p.p.)		4822 410 23951	Knob (fine tuning)
32	4822 410 23958	Knob (mute)		4822 410 24005	Knob (for NTSC)
33	4822 432 91667	Door		4822 451 80771	Mask
				4822 218 20338	Aerial adaptor 300 to 75 Ω

1600 DUAL SOUND PANEL



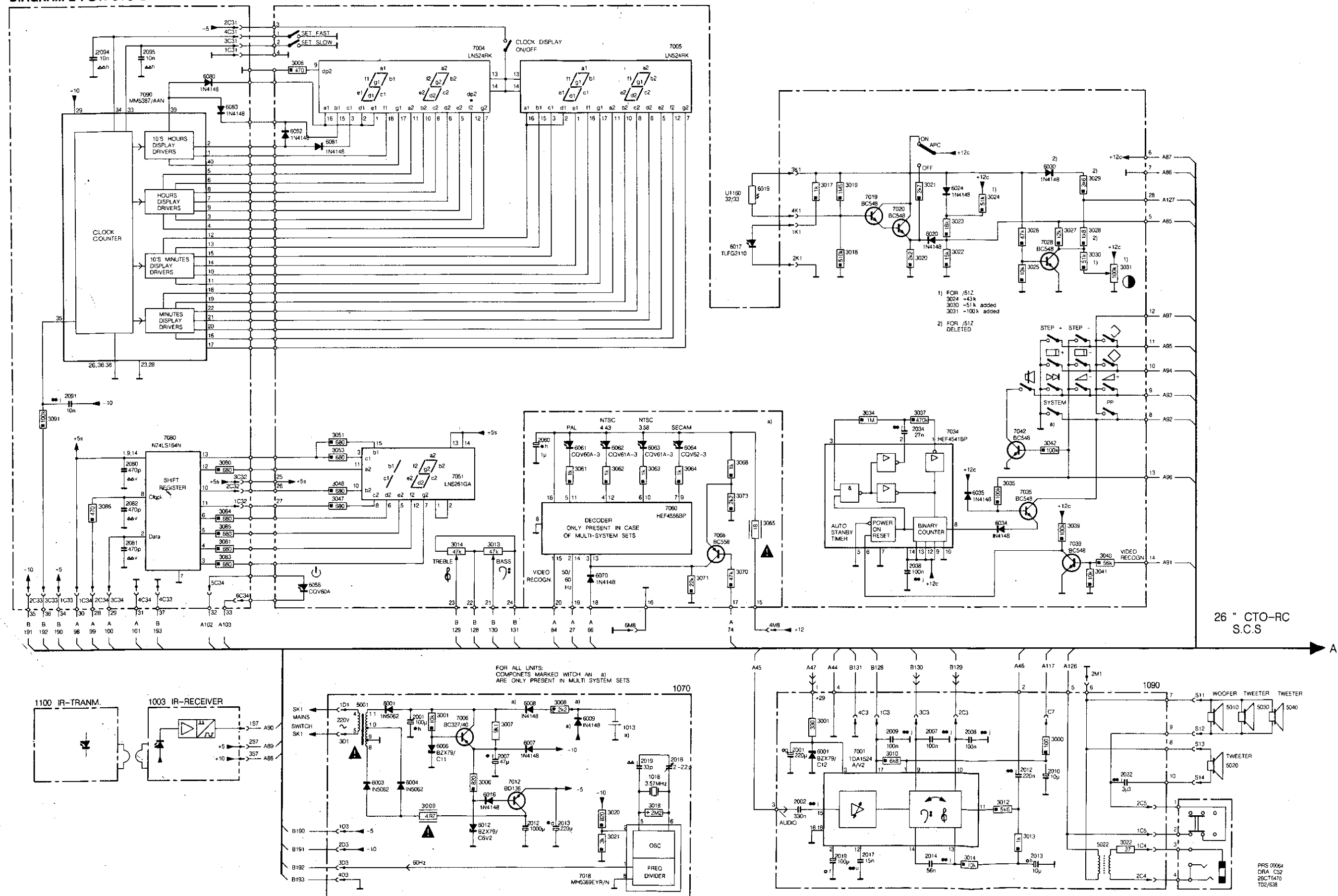
2696	4822 121 50925	
5676	4822 156 20819	
5677	4822 156 20819	
5678	4822 156 40705	
5679	4822 156 40706	
6685	4822 130 30621	1N4148
7685	4822 130 40959	BC547B

3001	4822 116 51106	560 Ω 1.6W	
3022	4822 116 51148	27 Ω 1.6W	
5022	4822 140 60233	transformer	
BZX79-C12	4822 130 34197		
TDA1524A/V2	4822 209 82233		
2010	4822 124 40435	10 μ F, 50V	

3007	5322 116 51676	9k1 1.6 W	
3009	4822 111 30508	10R 0.33 W	
5001	4822 146 10092	Transformer	
1N5062	4822 130 41275		
1N4148	4822 130 30621		
BZX79-C11	4822 130 34488		
BZX79-C5V6	4822 130 34173		

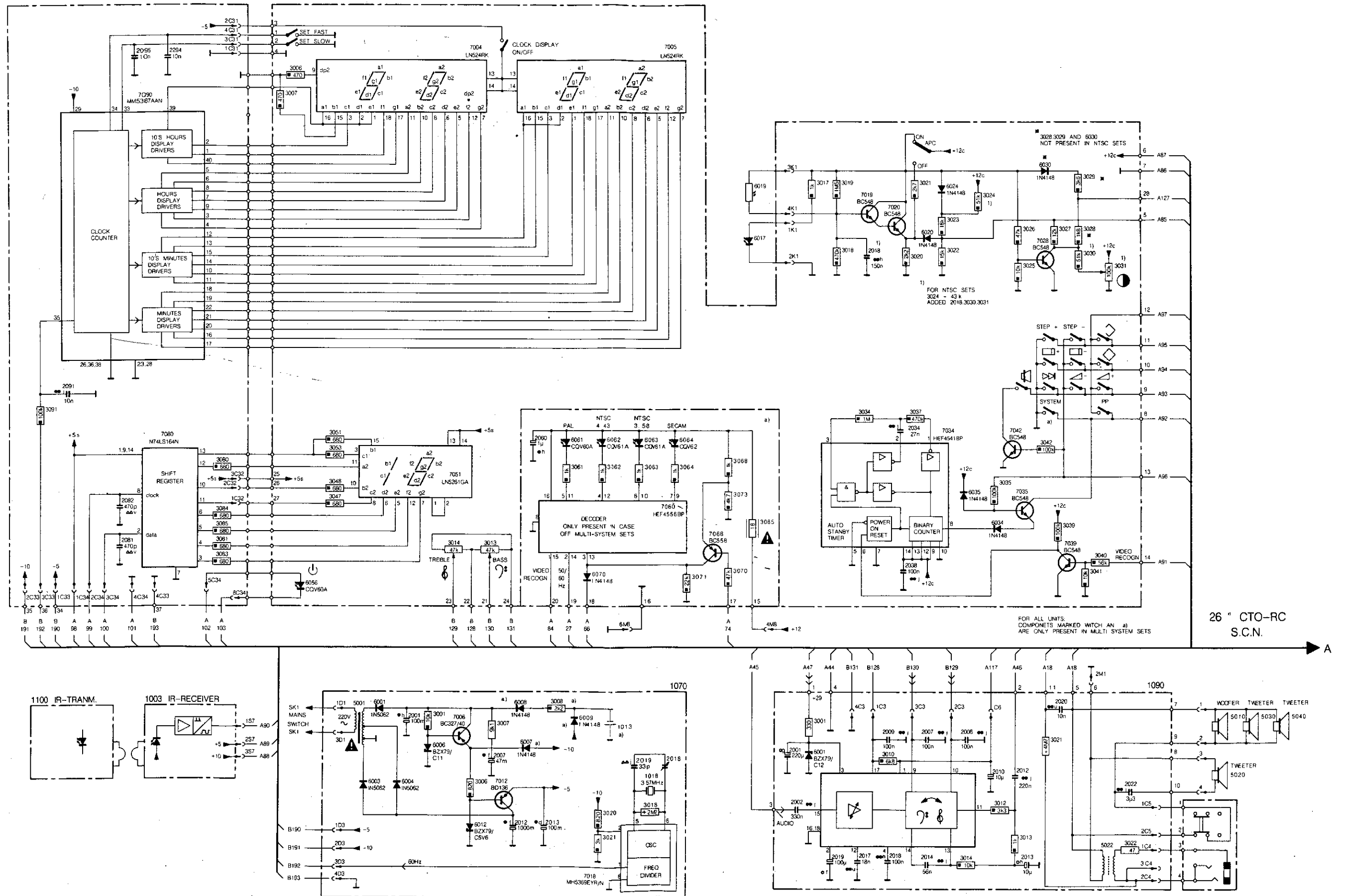
1013	4822 138 10032	Battery
1018	4822 242 70673	Crystal
2012	4822 124 40724	1000 μ F, 35 V
2018	4822 125 50045	Cap. trimmer

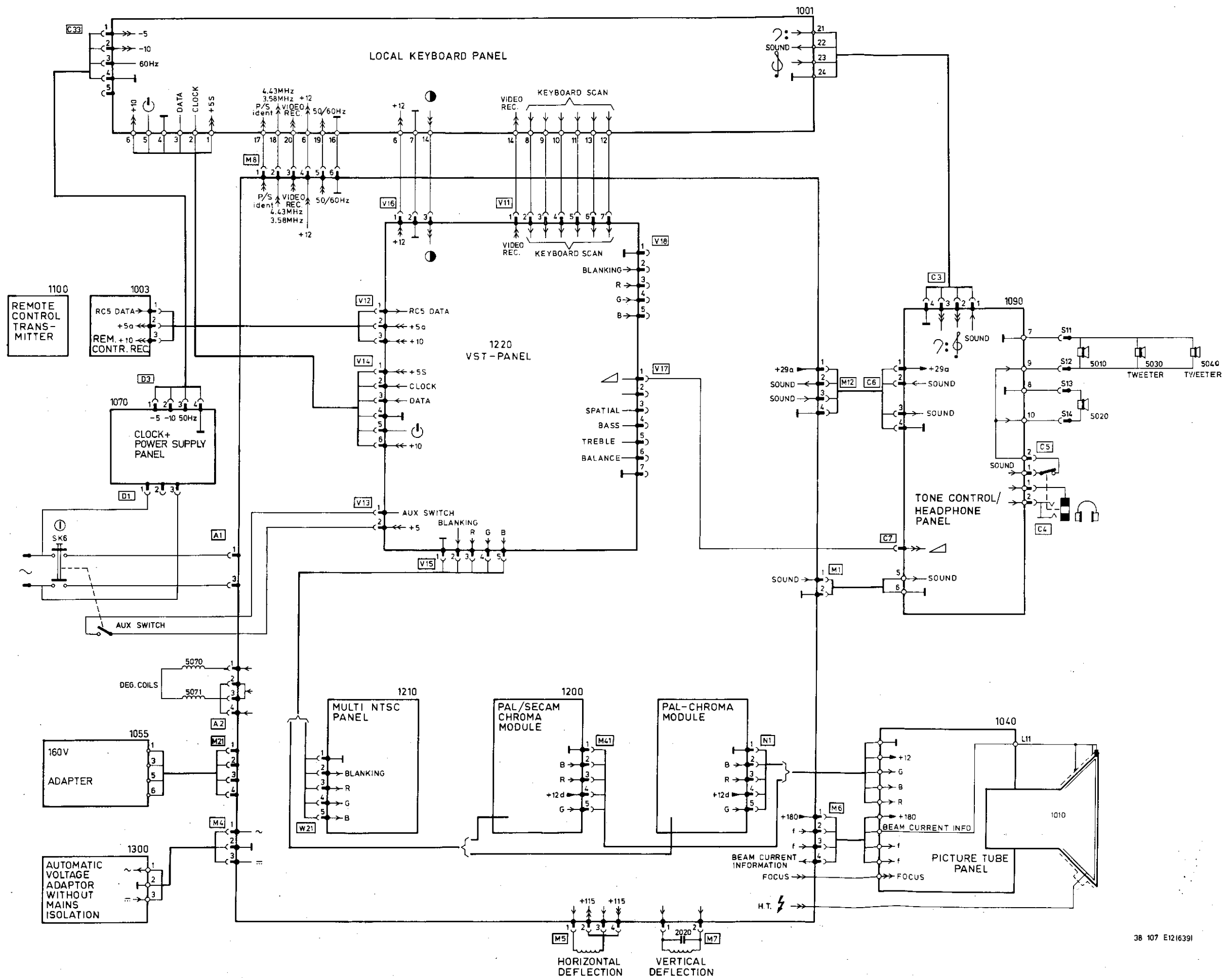
DIAGRAM B FOR CTO-S

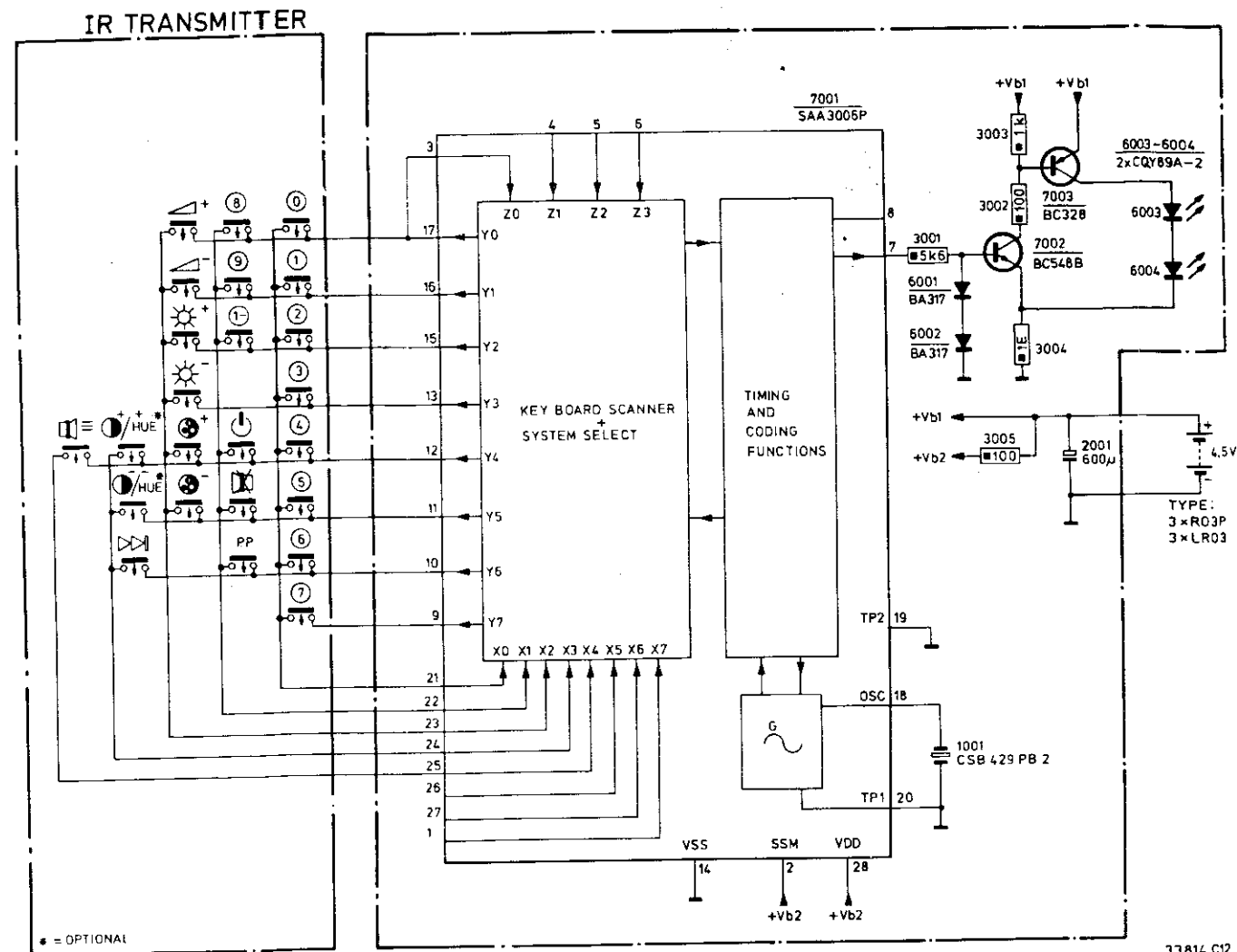


26 " CTO-RC
S.C.S

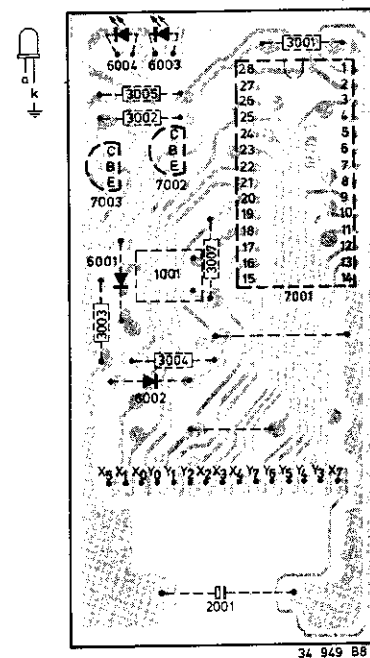
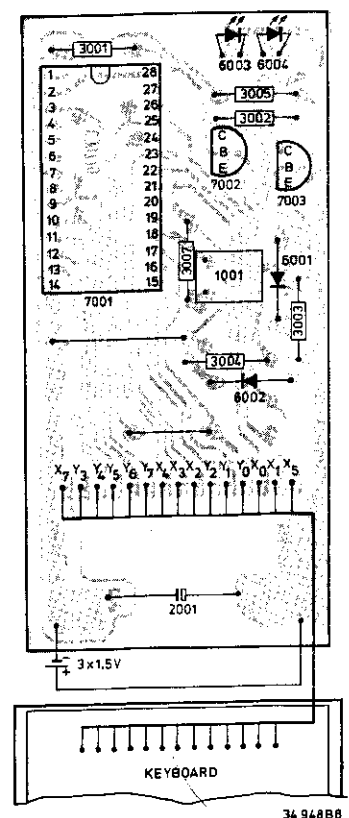
DIAGRAM B FOR CTO-N





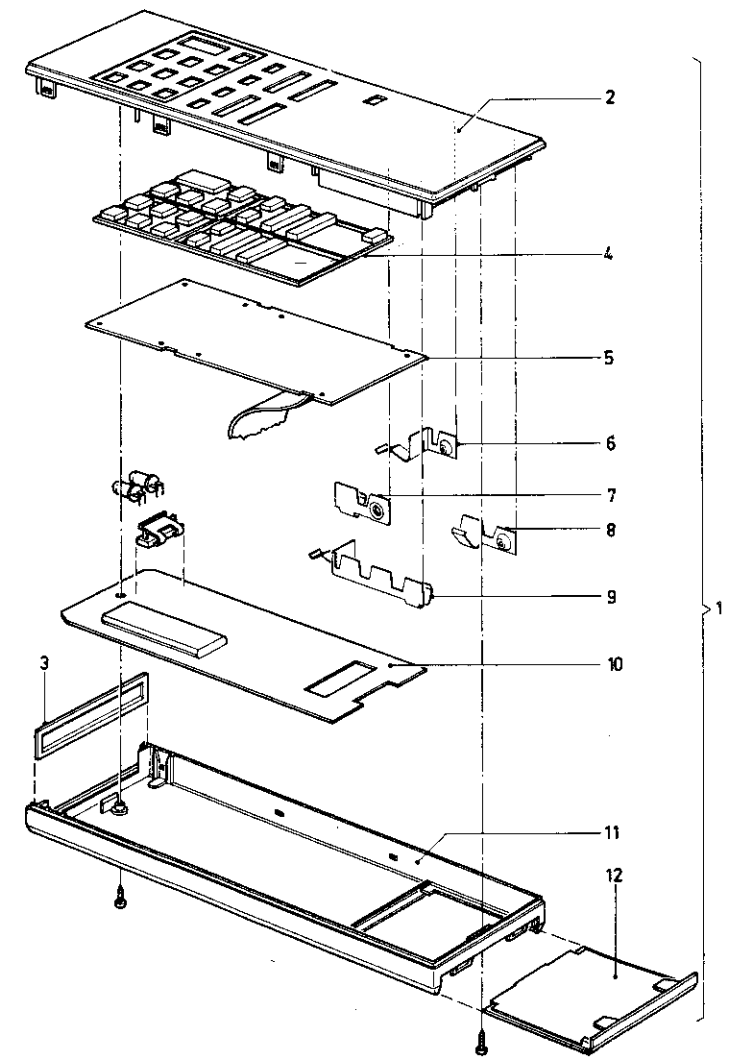


33814 C12



- | | |
|---------|----------------|
| 1 | 4822 218 20501 |
| 1/51/56 | 4822 218 20376 |
| 2 | 4822 432 30265 |
| 2/51 | 4822 432 30262 |
| 2/56 | 4822 432 30264 |
| 3 | 4822 381 10692 |
| 4 | 4822 410 24806 |
| 5 | 4822 212 22461 |
| 6 | 4822 278 90506 |
| 7 | 4822 278 90508 |
| 8 | 4822 278 90507 |
| 9 | 4822 278 90509 |
| 10 | 4822 212 21898 |
| 11 | 4822 432 30188 |
| 12 | 4822 432 91449 |

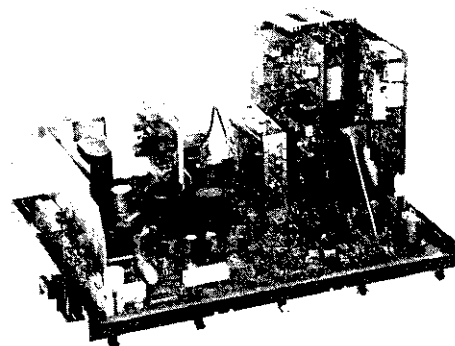
7001	4822 209 81891	SAA3006P
BC328	4822 130 44104	
BC548B	4822 130 40937	
BA317	4822 130 30847	
CQY89A/II	4822 130 31332	
1001	4822 242 70675	CSB429PB2
2001	4822 124 21463	600 µF 8 V



33 840012

Service Service Service

Only applicable for sets with strokenumbers /50/51/56/59 (SU serial numbers) and sets with strokenumbers /61/62/63/64/73/80/81/82/83 (local production)



32999A22

Service Manual

TECHNICAL DATA

Mains voltage	: 230 V~ +20%/-30%	Maximum aerial input	: 200 mV
Mains voltage range (multivoltage)	: 90 - 140 V~ 160 - 276 V~	Pull-in range colour sync.	: ± 300 Hz
Mains frequency	: 50/60 Hz ± 5%	Pull-in range horizontal sync.	: ± 600 Hz
Systems /50/62 /73 /59/61/62/63/64/80/83 /51/56/81/82	: PAL B/G PAL I PAL/SECAM PAL/SECAM/NTSC	Pull-in range vertical sync.	: ± 5 Hz
Aerial input impedance	: 75 Ω - coax	90° Picture tube	: 14", 16", 20"
Minimum aerial input VHF	: 30 μV	110° Picture tube	: 26"
Minimum aerial input UHF	: 40 μV	Automatic degaussing	
		Adopted for video recorder	

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WARNINGS

1. Safety regulations require that, after repairs the set be restored to its original condition and that spare parts identical to those specified, be use.
2. For safety reasons, parts marked $\triangle$ may be replaced only with the parts specified (for code numbers, see the parts lists).
3. To prevent ICs and transistors from being damaged, high-voltage flash-overs should be avoided. For checking the high-voltage, a suitable meter should be used. The picture tube should be discharged only as indicated in Fig. 1.
4. After having removed the rear panel check whether the chassis carries no voltage, by means of a voltmeter. Should the chassis be live, the receiver has to be connected to the mains via an isolating transformer.
5. Be careful when measuring the EHT-section and on the picture tube panel.
6. Never replace components when the set is being switched on.
7. Safety goggles must be worn when the picture tube is replaced.
8. Use plastic instead of metal tools for adjusting. This is necessary to avoid a short-circuit or to avoid that a circuit becomes unstable.
9. It may occur that at certain voltage measurements the supply voltage "hiccups" one time. Note that owing to this "hiccup" programme 1 is switched on in some versions.

3. ESD

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.

REMARKS

1. To gain better access to the components for trouble shooting and/or servicing, remove the chassis from the cabinet and place it on its side on the bench, resting on the heatsink. Disconnect the connector of the degaussing coil. Make sure the underground is of insulating material.
2. This service manual contains all basic data relating to the chassis. Data about the type of set can be found in the relevant service manual (the so-called apparatus sheet).
3. DC-voltages and oscillograms should be measured with respect to an earth-point on the monopanel as close as possible near the point to be measured.
4. DC-voltages have been measured as follows: An aerial signal, minimum brightness, maximum saturation and contrast (In position VHF III).
5. Oscillograms have been measured under the following conditions:
 - a. Using a colour bar pattern as input signal (PM5515 or PM5519).
 - b. Connect an oscilloscope (position 0.1 V/Div. DC) to point 16 of 7292 (PAL) or 7082 (PAL/SECAM) via an attenuation probe 10:1.
 - c. Adjust the brightness control until the level of the black bar in the video signal is at 3 V (refer to Fig. 2).
 - d. Turn the contrast control until the amplitude of the video signal is 2 V.
 - e. Adjust the saturation control for 3 Vdc on pin 6 of TDA3561 (item no. 7292 (PAL) or 7082 (PAL/SECAM)).

6. The picture tube print has printed spark gaps. Each spark gap has been inserted between an electrode of the picture tube and the aquadag coating.
7. Disconnection of the EHT cable and focus cable at the line output transformer can be achieved by levering the clamping bushes "k" up with a screwdriver or side-cutting pliers (Fig. 2a). When re-inserting the cable, the clamping bush should first be pressed on the transformer until a click is heard, after which the cable can be inserted. Introduce the cable as far as the second mark.
8. The focus pot has not been attached by soldering and may at any time be removed by simply releasing the fastening lugs. The focus cable may be detached after removal of the ceramic plate. The focus cable may now be simply inserted in the new focus pot and will be secured as soon as a click is heard.
9. The accessibility of chroma or secam modules may be improved by the use of an extender board. The codenumber for this extender is 4822 263 70117.

METHOD OF REPAIR

This documentation contains a method of repair in the form of a fault finding tree, enabling the technician - in a period that he is not yet familiar with the set - to locate faults quickly and efficiently. He should have an aerial or generator signal and a multipurpose meter at his disposal.

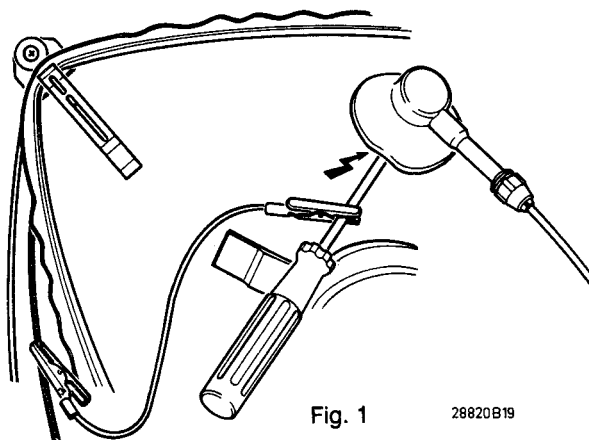


Fig. 1

28820B19

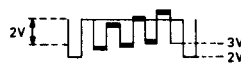


Fig. 2

28 813A12

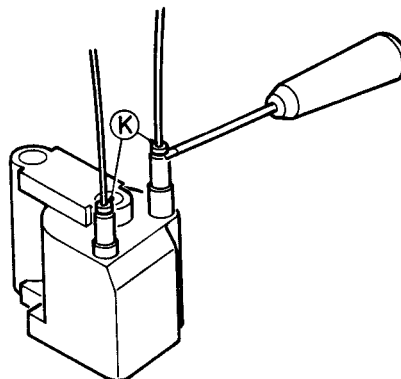


Fig. 2a

28 768 A12.

A. Δ ADJUSTING THE PICTURE (not for 21" and 26")

Remark:

The colour purity and convergence adjustments described hereafter need only be carried out if a completely new adjustment is called for or if a new picture tube has been fitted. Otherwise for instance after replacing the deflection unit, it will not be necessary to remove the rubber wedges (G in Fig. 3). Corrections by means of the multi-pole unit will then suffice.

I. Colour purity, see Fig. 3

1. Loosen fixing screw "F" of the deflection unit a few turns.
2. Move the deflection unit and remove the three rubber wedges "G".
3. Slide the deflection unit forward as far as possible against the glass of the picture tube cone and turn on fixing screw "F" in such a manner that the deflection unit can be moved with some friction.
4. Place the multi-pole unit in the position drawn, turn on screw "A" and turn securing ring "B" anti-clockwise.
5. Let the apparatus face East or West and switch-on the set.
Supply a cross-hatch pattern and set brightness control to maximum. Allow for a warming-up time of 10 minutes.
6. Adjust the static convergence, using tags "C" and "D" (if necessary, see point II).
7. Turn SK9 for the vertical centring to its mid-position. Switch-off the green and the blue gun by loosening the resistors 3752 and 3754.
8. By turning the colour purity rings with tags "E", the vertical red bar is adjusted nearest to the centre of the screen, whilst also the central horizontal line should be as straight as possible.
9. Supply a white pattern signal and check that the red bar is in the centre of the screen indeed. If not, switch-on the cross-hatch pattern again and move the red bar in the right direction, taking care that the picture does not move too much in vertical direction.
10. Supply the white pattern signal and move the deflection unit until the whole picture surface is uniformly red.
11. Switch-on the green and the blue gun. No colour patches may occur in the white picture now obtained. In the affirmative, a minor connection can be made by slightly turning the colour purity rings "E" and/or slightly moving the deflection unit.
12. Turn on screw "F" tightly.
13. Adjust the vertical centring with SK9.
14. Proceed to the static and next the dynamic convergence adjustment.

II. Static convergence, see Fig. 3

1. Supply a cross-hatch pattern and allow for a warming-up time of 10 minutes.
2. Switch-off the green gun by loosening resistor 3752 and turn locking ring "B" anticlockwise.

3. By turning the four-pole rings with tags "C", the red and blue cross-hatch patterns in the centre of the screen are placed on top of each other.
4. Switch-on the green gun and switch-off the blue gun by loosening resistor 3754.
5. By turning the six-pole rings with tags "D" the red and green cross-hatch patterns in the centre of the screen are placed on top of each other.
6. Switch-on the blue gun again and tighten ring "B" again.

III. Dynamic convergence

Remark:

The dynamic convergence is achieved by vertical and horizontal tilting of the deflection unit. To secure the right position of the deflection unit, three rubber wedges are fitted between the glass of the picture tube cone and the deflection unit, as shown in Figs. 4d or 5d.

Two wedge thicknesses are available:
one 7 mm thick, code 4822 462 40356,
the other 11 mm thick, code 4822 462 40357.

1. First check the colour purity and the static convergence.
2. Supply a cross-hatch pattern and switch-off the green gun by loosening resistor 3752.
3. Eliminate the crossing of the central horizontal blue and red line and the crossing of the central vertical blue and red line, by vertical tilting of the deflection unit. If the position of the deflection unit is correct then place rubber wedge ① paper strip not removed, at the top (Fig. 4a) or at the bottom (Fig. 5a).
Fig. 4a is applicable if the deflection unit is tilted upwards and Fig. 5a if the unit is tilted downwards.
4. By horizontal tilting of the deflection unit, now 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 the other.
If the position of the deflection unit is correct, then place the wedges ② and ③ with paper strips removed, as shown in Fig. 4b or 5b. Firmly press the adhesive sides of these wigs against the glass of the picture tube.
5. Now place wedge ④ as shown in Fig. 4c or 5c and press on the adhesive side firmly.
6. Remove wedge ① so that the situation according to Fig. 4d or 5d occurs.
7. Switch-on the green gun.

B. 26": CONVERGENCE CORRECTIONS IN 30 AX SYSTEM

After replacing the picture tube or the deflection unit small convergence faults can be corrected as follows:

- a. The horizontal red and blue lines in the upper and lower part of the picture can be made to coincide with potentiometer "A" (see Fig. 6).
- b. After mounting a minipole onto the neck of the picture tube (see Fig. 1) the vertical red and blue lines in the left and right part of the picture can be made to coincide by turning knob "B".
Codenummer of minipole is 4822 526 10171.

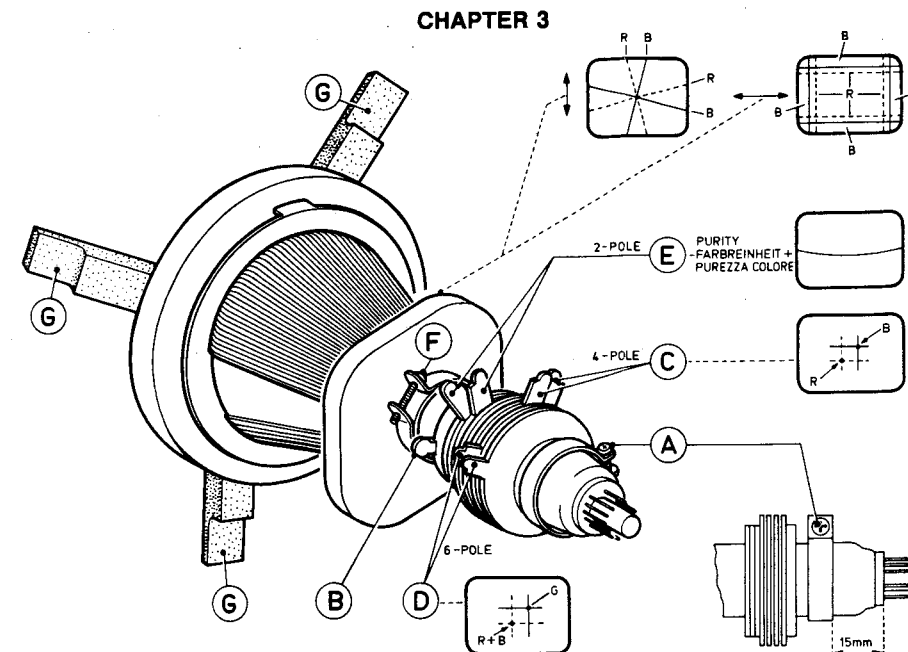
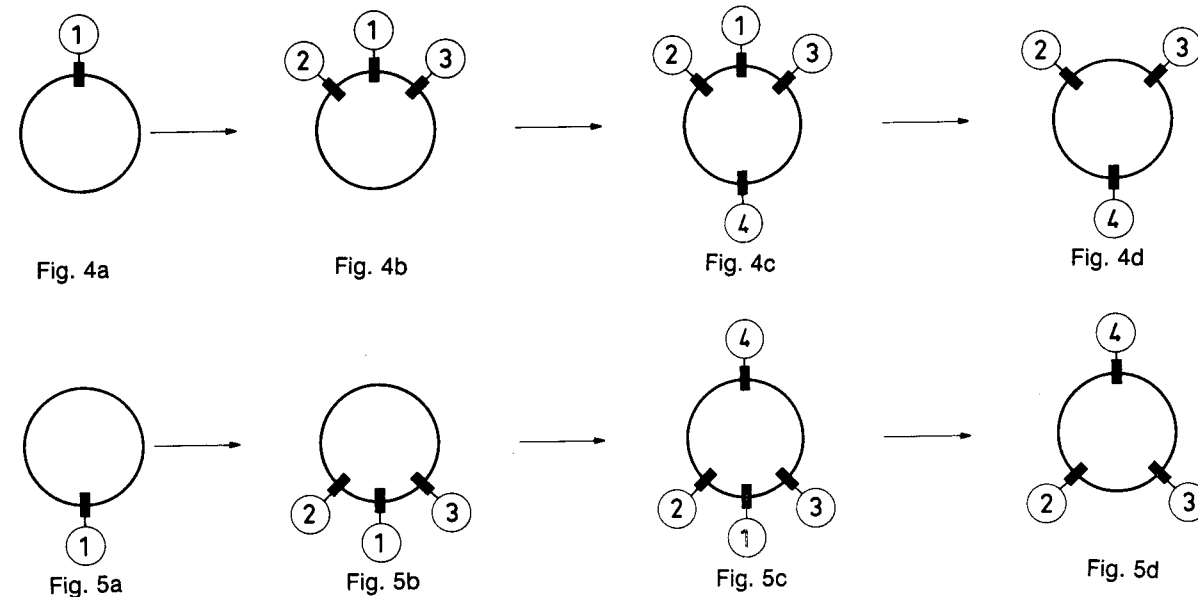


Fig. 3



28772 E12.

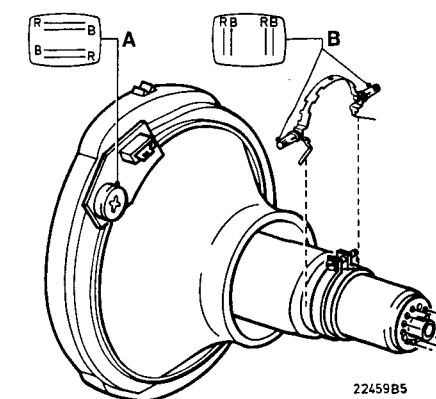


Fig. 6

A ADJUSTMENTS**1. +115 V supply voltage**

Connect a voltmeter (position DC) between point 1 of 5335 and chassis.
Adjust the meter reading to 115 V (tolerance $\pm 1\%$) with 3325 in the supply circuit.

2. Horizontal synchronisation

Supply an aerial signal. Interconnect point 5 of 7875 to the chassis. Adjust 3871 until the picture stands straight. Remove the interconnection.

3. Vertical synchronisation

Inject an aerial signal. Adjust 3813 until the picture stands still.

Connect the oscilloscope to pin 5 on 7400. Adjust the oscilloscope until the frame voltage pulse exhibits a width of 8 scale division.

Now connect pin 5 on 7875 to the chassis and adjust 3813 for a frame voltage pulse of 8.5 scale divisions. Remove the connections.

If no oscilloscope is available, the following approximation method may be applied:

Connect pin 5 on 7875 to the chassis. Connect a 6M8 resistor parallel to 3813. Adjust 3813 for still picture.

Remove auxiliary resistor and disconnect pin 5 of 7875 from chassis.

4. Cut-off point of the picture tube

Not for 26":

Inject a white-picture signal to the aerial input. Connect pin 2 on 1200 to the chassis (contrast = 0 V). Adjust brightness until the voltage across 3701 equals 0 V. Adjust 3705, 3721 and 3737 for a collector voltage of 125 V on 7704, 7720 and 7736.

Adjust 3759 to raise V_{g2} until one colour has just disappeared. Now adjust the potentiometers in the emitter lines of the colour output amps until the other colours have also just disappeared. Remove the connection and check the grey scale adjustment.

For 26":

Inject a white-picture signal to the aerial input. Connect pin 2 on 1200 to the chassis (contrast = 0 V). Adjust brightness until the voltage across 3701 equals 0 V. Adjust 3770, 3771, 3772 until the colours disappear. Remove the connection and check the grey scale adjustment.

5. Grey scale adjustment

Apply a test pattern signal and set the receiver normally. Allow the set to warm up for approx. 10 minutes. Adjust 3735 and 3729 until the desired grey scale is attained.

6. HF-AGC

This circuit operates only if the aerial signals are very strong. If the picture of a local transmitter is shown in a distorted way 3152 must be so adjusted that the picture is no longer distorted.

7. Minimum sound intensity (only for 14"/16")

Adjust the sound intensity control of the operation section at minimum.

Adjust 3666 in such a way, that sound is just not audible.

8. Sound IF section

Apply a transmitter or generator signal, of which the sound carrier is modulated with one frequency (for instance 1000 Hz).

Adjust 5675 towards minimum interference in the sound (= maximum AM suppression). If there is no interference present in the sound it may be generated with a collector motor of which the interference is not suppressed.

In case of 4.5 MHz + 5.5 MHz sound IF (multisystem sets) adjust also 5672.

9. I.F. filter

Measurement conditions:

Select a channel in the UHF band so that the tuning voltage V_{var} pin 6 of 1102 equals 17.5 V.

Connect pin 8 with pin 9 of 7151.

Apply 7.5 V to pin 14 on 7151.

Use an AM signal generator.

Connect this signal generator as shown in Figure 1.

Connect an oscilloscope or an HF millivoltmeter as shown in Figure 2.

I.F. filter adjustment for B/G systems and NTSC/M

Frequency's for I systems are given between brackets.

If adjusting, always keep in mind that the I.F. detector must not be overloaded.

The first step is to adjust the suppression circuits for minimum output signal.

Set signal generator to 31.9 MHz and adjust 5127 for minimum reading at 31.9 MHz (31.5 MHz).

Set signal generator to 33.4 MHz and adjust 5138 for minimum reading at 33.4 MHz (33.5 MHz).

Set signal generator to 40.4 MHz and adjust 5139 for minimum reading at 40.4 MHz (41.5 MHz).

Set signal generator to 41.4 MHz and adjust 5133 for minimum reading at 41.4 MHz.

Set signal generator to 36.5 MHz (37.0 MHz) and successively adjust coils A (I.F. coil in tuner), 5122 and 5145 for maximum meter reading.

When setting now the signal generator to 38.9 MHz (39.5 MHz), the value measured should approximately equal one-half the maximum reading at 36.5 MHz (37.0 MHz).

If this is not the case, readjustment of 5122 and 5145 allows to achieve a small correction.

If a wobulator is available, use it to display the response curve on the oscilloscope screen (see Figure 3).

For this, connect the wobulator to the same point as the signal generator and leave the oscilloscope connected to the same point.

X-deflection for the oscilloscope should be provided by the wobulator.

Corrections may be achieved by means of 5122 and 5145.

Eliminate the interconnection between the pins 8 and 9 on 7151.

I.F. detector

Amplitude-modulate the signal generator and tune into 38.9 MHz; now adjust 5157 for minimum reading in the dip between the two bumps.

A.F.C.

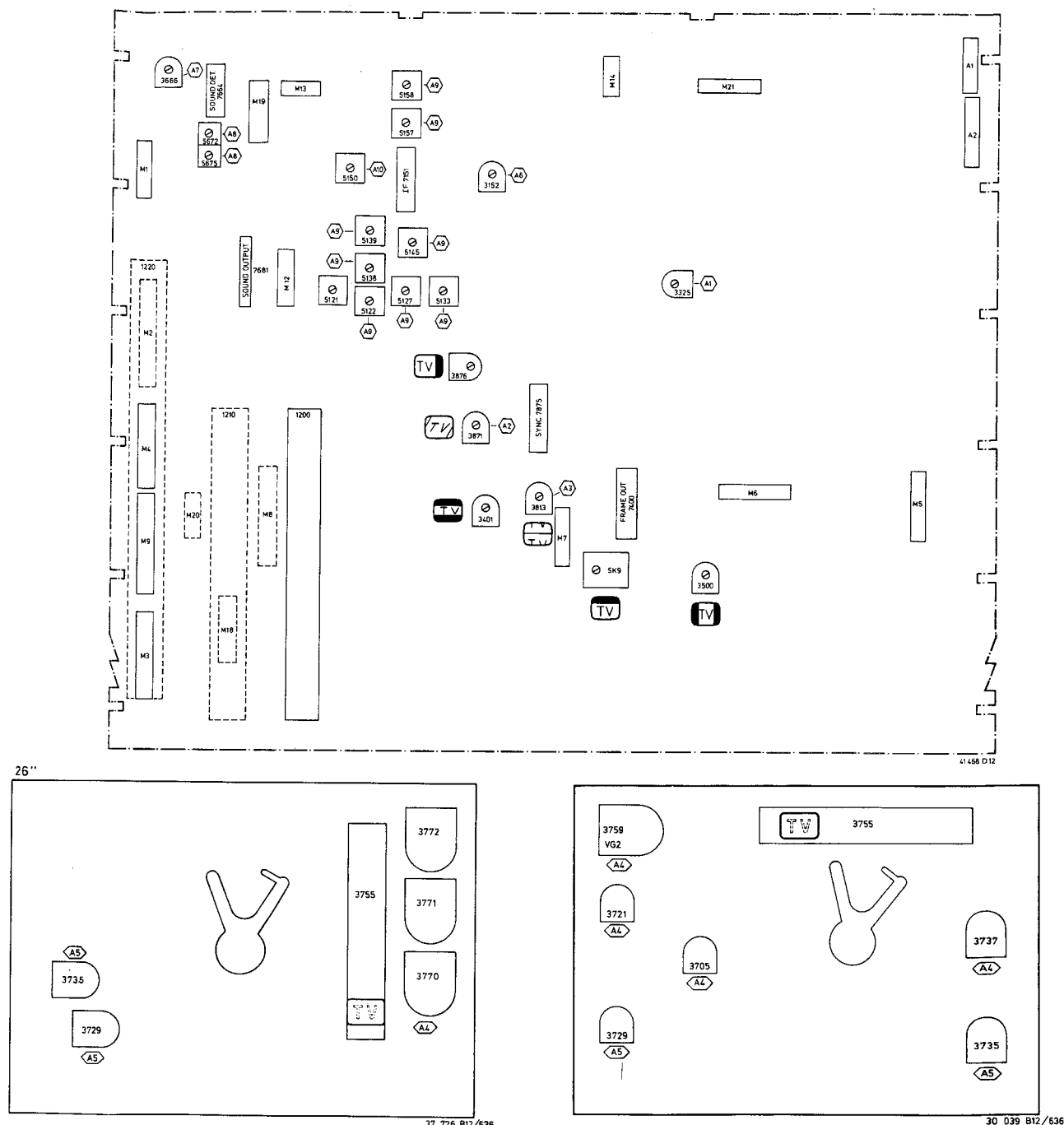
Connect a DC voltmeter to pin 5 on 7151.

The A.F.C.-switch behind the door masking the tuning panel should be depressed.

Adjust 5158 for a meter reading of 8 V.

10. The sound suppression circuit in the luminance circuit

Apply a colour signal. The receiver is normally adjusted. Adjust 5150 so that no interference is visible in the picture.



			3103	4822 111 30515	18 Ω	0.33 W	
			3103	4822 116 52425	470 Ω	0.5 W	
			3103	4822 111 30515	33 Ω	0.33 W	saf.
			3112	4822 110 72192	1M5		
			3149	4822 111 30508	10 Ω	0.33 W	saf.
			3149	4822 111 30511	12 Ω	0.33 W	saf.
			3149	4822 111 30492	2.2 Ω	0.33 W	saf.
2P	4822 276 20073		3152	4822 100 10051	22 kΩ	0.1 W	potm.
3P	4822 276 30071		3153	4822 111 30513	15 Ω	0.33 W	saf.
4P	4822 276 30072		3325	4822 100 10035	10 kΩ	0.1 W	potm.
5P	4822 276 30075		3328	4822 110 72198	2.7 MΩ	0.2 W	
6P	4822 276 30073		3340	4822 116 51091	18 kΩ	2.5 W	
7P	4822 276 40057		3340	5322 116 55147	12 kΩ	2.5 W	
			3341	4822 116 51109	15 kΩ	2.5 W	
			3343	4822 116 30253	N.T.C.		
			3351	4822 111 30508	10 Ω	0.33 W	saf.
			3351	4822 111 30515	18 Ω	0.33 W	saf.
			3352	4822 111 30542	180 Ω	0.33 W	saf.
			3360	4822 116 60188	1 Ω	0.5 W	saf.
			3360	4822 111 30492	2.2 Ω	0.33 W	saf.
2P	4822 265 20172		3389	4822 116 40036	110/220 V	PTC	
3P	4822 265 30121		3390	4822 116 40036	110/220 V	PTC	
4P	4822 265 30119		3390	4822 116 40065	200 V	PTC	
5P	4822 267 40247		3391	4822 122 32427	4.7 Ω	10 W	
6P	4822 265 30117		3392	4822 111 30544	220 Ω	0.33 W	saf.
7P	4822 265 40119		3393	4822 116 40036	110/220 V	PTC	
9P	4822 267 60131	Vpp	3394	4822 122 32427	4.7 Ω	10 W	
15P	4822 267 60132	Vpp	3400	4822 116 51106	560 Ω		
19P	4822 267 60082	Vpp	3401	4822 100 10075	100 Ω	0.1 W	potm.
			3404	4822 111 30492	2.2 Ω	0.33 W	
			3558	5322 113 44282	3.3 Ω	3.5 W	
			3558	4822 113 44282	2.4 Ω	4 W	
			3566	4822 116 86177	680 Ω		
			3561	4822 112 21052	8.2 Ω	3.5 W	
			3561	4822 113 80215	2.7 Ω	3.5 W	
			3561	5322 113 44282	3.9 Ω	4 W	
BA484	4822 130 32214		3566	4822 116 80177	680 Ω	0.5 W	
BAS11	4822 130 41273		3583	4822 111 30499	4.7 Ω	0.33 W	saf.
BAV21	4822 130 30842		3590	4822 111 30494	2.7 Ω	0.33 W	saf.
BY228	4822 130 41275		3590	4822 111 30483	1 Ω	0.5 W	saf.
BY448	5322 130 31559		3664	4822 110 73109	1.2 kΩ	0.33 W	
BY527	4822 130 31509		3666	4822 100 10029	2.2 kΩ	0.1 W	potm.
BYD33D	4822 130 42488		3669	4822 116 51106	560 Ω	1.6 W	
BYM56E	4822 130 80254		3669	4822 116 52389	100 Ω	0.5 W	
BYT95A	4822 130 32193		3670	4822 111 30492	2.2 Ω	0.33 W	saf.
BYT95B	4822 130 32193		3681	4822 111 30593	3.3 Ω	0.33 W	saf.
BYV10/20	4822 130 31631		3681	4822 111 30492	2.2 Ω	0.33 W	saf.
BYV27/150	4822 130 31628		3813	5322 101 14142	220 kΩ	0.5 W	potm.
BYV95A	4822 130 41601		3814	4822 111 30513	15 Ω	0.33 W	saf.
BYV95B	4822 130 41486		3814	4822 111 30515	18 Ω	0.33 W	saf.
BYV95C	4822 130 41487		3871	4822 100 10035	10 kΩ	0.1 W	potm.
BZX75-2V1	4822 130 34049		3871	4822 101 20854	10 kΩ	0.5 W	potm.
BZX79-B6V8	4822 130 34278		3876	4822 100 10035	10 kΩ	0.1 W	potm.
BZX79-B22	4822 130 34441		3894	4822 116 52083	15 kΩ	2.5 W	
1N4148	4822 130 30621		3895	4822 116 52083	15 kΩ	2.5 W	
1N5062	4822 130 41275						
							
BC548	4822 130 40938						
BC558	4822 130 40941						
BC558B	4822 130 44197						
BC369	5322 130 44593						
BD234	4822 130 40917						
BF422	4822 130 41782						
BU508A	4822 130 43164						
ON769	4822 130 41436						
2SC3169PH	4822 130 41121						
2SD1577PV	4822 130 43921						
2SA1356	4822 130 60649						
2SC3795	4822 130 60648						
							
3101	4822 116 52083	15 kΩ	2.5 W				
3101	4822 116 52084	22 kΩ	2.5 W				

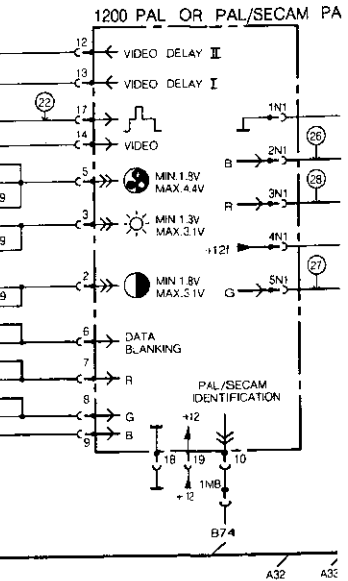
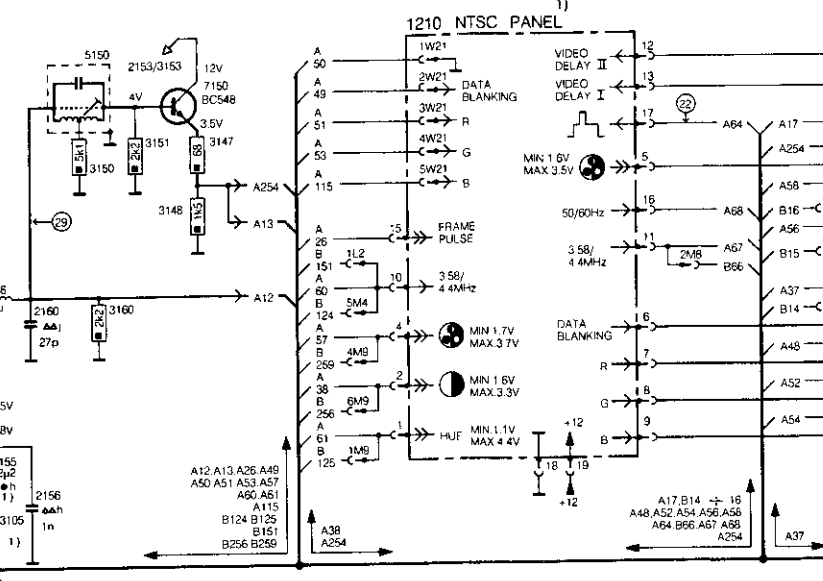
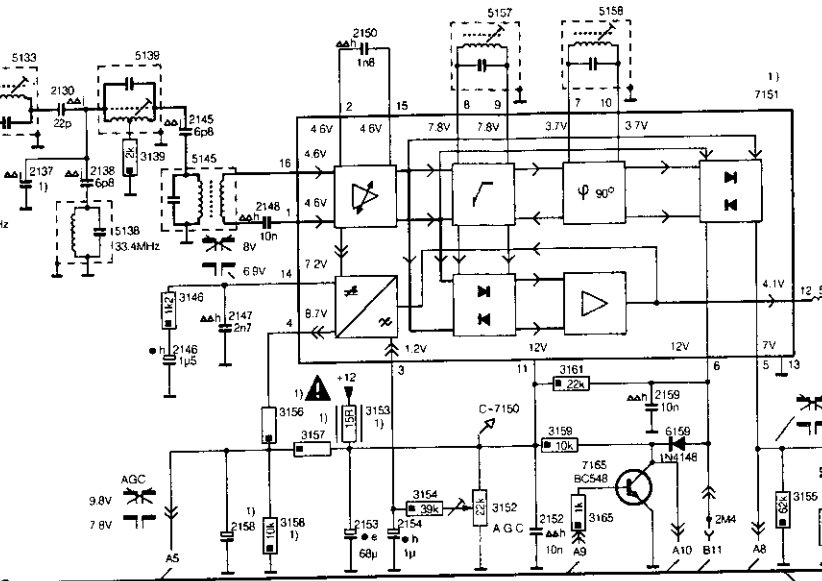
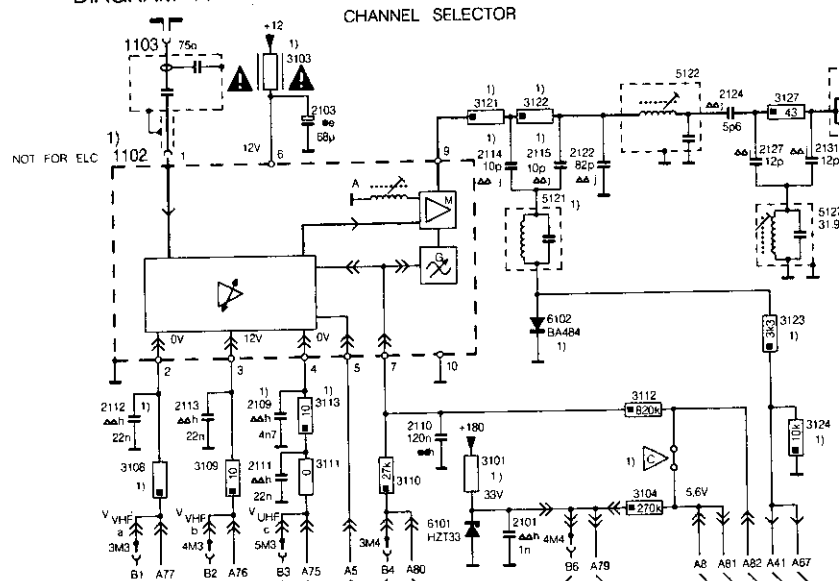
5121	4822 156 21228	0.32 μH	2560	4822 121 20225	330 nF 400 V				
5122	4822 157 51762	1.52 μH	2560	4822 121 41919	470 nF 400 V				
5127	4822 157 51763	0.25 μH	2567	4822 121 42418	9.1 nF 1.5 kV				
5133	4822 157 51764	0.32 μH	2567	4822 121 40249	8.2 nF 1.6 kV				
5138	4822 157 51765	0.58 μH	2567	4822 121 41334	10 nF 1.5 kV				
5139	4822 157 51766	0.44 μH	2568	4822 122 32403	470 pF 2 kV				
5145	4822 156 20798	0.6 μH	2569	4822 122 32569	220 pF 2 kV				
5150	4822 156 20802	10.1 μH	2569	5322 122 54078	560 pF 2 kV				
5156	4822 157 50965	15 μH	2570	4822 122 32403	470 μF 2 kV				
5157	4822 156 20799	0.28 μH	2583	4822 124 41279	47 μF 250 V				
5158	4822 156 21799	0.25 μH	2663	4822 122 40553	22 nF 50 V				
5333	4822 158 10604	6.8 μH	2664	4822 122 40553	22 nF 50 V				
5335	4822 140 10266	Switch mode trafo	2669	4822 122 40553	22 nF 50 V				
5340	4822 157 51757	2 μH	2683	4822 124 40435	10 μF 50 V				
5345	4822 157 51757	2 μH	2813	4822 122 40553	22 nF 50 V				
5351	4822 142 60373	Line driver trafo	2814	4822 122 32987	680 pF 500 V				
5355	4822 157 50963	2 μH	2865	4822 124 40435	10 μF 50 V				
5392	4822 157 52143	27.4 μH	2870	4822 121 50879	2.2 nF 160 V				
5393	4822 157 51757	4.7 μH	2870	4822 121 50955	3.3 nF 160 V				
5507	4822 156 21293	1500 μH	2890	4822 124 40435	10 μF 50 V				
5508	4822 157 51761	540 μH							
5560	4822 156 21157	Deflection							
5561	4822 158 10563	82 μH							
5563	4822 157 51824	6 μH							
5564	4822 140 30067	Line output trafo 26"							
5564	4822 140 10254	Line output trafo							
5585	4822 158 10101	5.3 μH							
5590	4822 157 52077	5.6 μH							
5672	4822 156 10743	12.5 μH							
5675	4822 157 51767	8.4 μH							

																					
3704/14"/16"	4822	116	51091	18 kΩ	2.5 W						5750/26"	4822	157	52682	335 μH						
3704/20"	5322	116	54989	10 kΩ	2 W						5750/20"/14"/16"	4822	157	52885	15 μH						
3704/26"	4822	113	80212	8,2 kΩ	7 W						5751/20"/14"/16"	4822	157	52885	15 μH						
3705/14"/16"	4822	101	20838	4,7 kΩ	0.05 W	potm.					 										
3705/20"	4822	100	10036	4,7 kΩ	0.1 W	potm.															
3720/14"/16"	4822	116	51091	18 kΩ	2.5 W						BAS11 4822 130 41273										
3720/20"	5322	116	54989	10 kΩ	2 W																
3720/26"	4822	113	80212	8,2 kΩ	7 W						BA317 4822 130 30847										
3721/14"/16"	4822	101	20838	4,7 kΩ	0.05 W	potm.															
3721/20"	4822	100	10036	4,7 kΩ	0.1 W	potm.					1N4148 4822 130 30621										
3729/14"/16"	4822	100	20149	2,2 kΩ	0.05 W	potm.															
3729/26"/20"	4822	100	10029	2,2 kΩ	0.1 W	potm.					BC558 4822 130 40941										
3735/14"/16"	4822	100	20149	2,2 kΩ	0.05 W	potm.															
3735/26"/20"	4822	100	10029	2,2 kΩ	0.1 W	potm.					BF583 4822 130 60143										
3736/14"/16"	4822	116	51091	18 kΩ	2.5 W																
3736/20"	5322	116	54989	10 kΩ	2 W						BF422 4822 130 41782										
3736/26"	4822	113	80212	8,2 kΩ	7 W																
3737/14"/16	4822	101	20838	4,7 kΩ	0.05 W	potm.					BF869 4822 130 41773										
3737/20"	4822	100	10036	4,7 kΩ	0.1 W	potm.															
3751	4822	116	52399	1,5 kΩ	0.5 W						Various										
3751/20"/26"	4822	111	90434	1,5 kΩ	0.5 W																
3752	4822	116	52399	1,5 kΩ	0.5 W						4822 255 70176 valve holder										
3752/20"/26"	4822	111	90434	1,5 kΩ	0.5 W																
3753	4822	116	52399	1,5 kΩ	0.5 W																
3753/20"/26"	4822	111	90434	1,5 kΩ	0.5 W																
3754	4822	116	52399	1,5 kΩ	0.5 W																
3754/20"/26"	4822	111	90434	1,5 kΩ	0.5 W																
3755/20"/14"/16"	4822	101	10345	24MΩ	potm.																
3755/26"	4822	101	10488	24MΩ	potm.																
3759/20"	4822	101	10127	4,7MΩ	0.5 W	potm.															
3760	4822	116	52399	1,5 kΩ	0.5 W																
3760/20"/26"	4822	111	90434	1,5 kΩ	0.5 W																
3770/26"	4822	100	10586	4,7MΩ	0.3 W																
3771/26"	4822	100	10586	4,7MΩ	0.3 W																
3772/26"	4822	100	10586	4,7MΩ	0.3 W																
3773/26"	4822	111	90434	1,5 kΩ	0.5 W																
3774/26"	4822	111	90434	1,5 kΩ	0.5 W																
3775/26"	4822	111	90434	1,5 kΩ	0.5 W																
3776/26"	5322	116	64132	1MΩ	0.25 W																

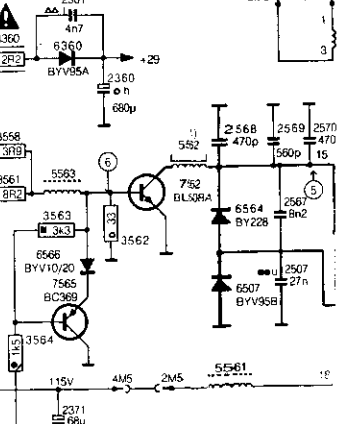
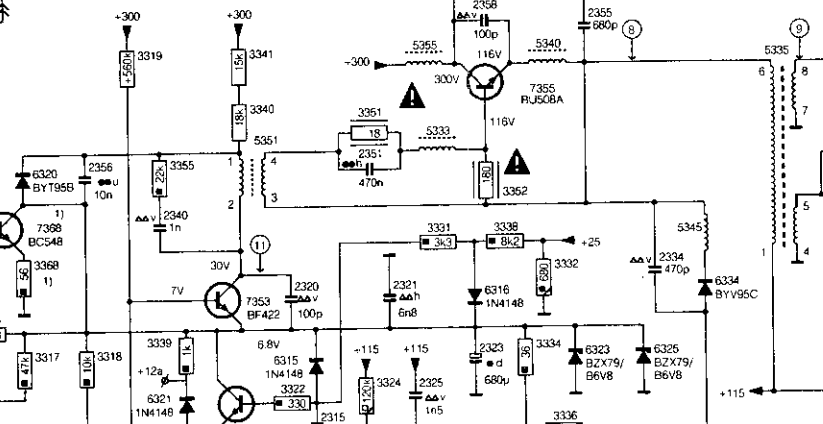
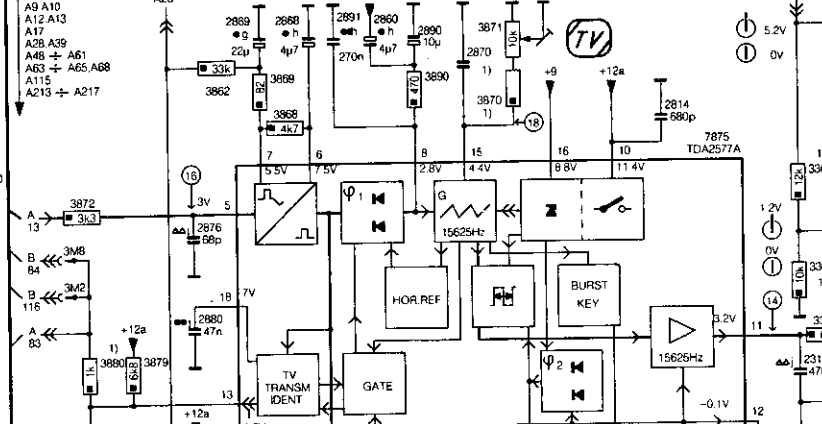
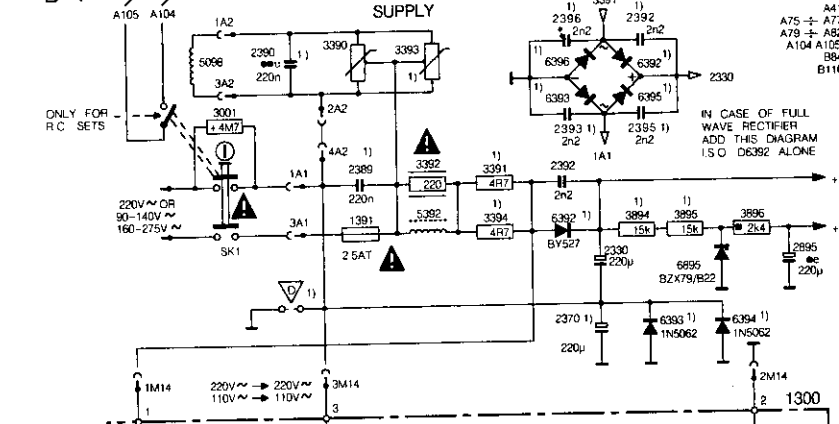
DIFFERENCE LIST FOR 14" AND 16" SETS																			
Set	/50S	/51S	/61S	/62S	/62T	/64S	/73S	80S	/81S	Set	/50S	/51S	/61S	/62S	/62T	/64S	/73S	80S	/81S
14CT6020 Pb	-	-	-	-	-	-	X	-	X	3157	2k7	2k7	2k7	1k	1k	1k	2k7	2k7	2k7
14CT6416 Vst	-	-	-	-	X	-	-	-	-	3158 16"	10k	10k	10k	2k2	2k2	2k2	10k	10k	10k
14CT6421 Vst	-	-	-	-	-	-	X	-	X	3362 vst 14"	-	-	-	-	-	-	12k	-	12k
16CT6025 Pb	X	-	-	X	X	X	X	X	X	3362 vst 16"	-	12k	12k	-	12k	12k	12k	-	12k
16CT6425 Vst	-	X	-	-	-	-	-	-	-	3365 vst 14"	-	-	-	-	-	-	10k	-	10k
16CT6426 Vst	-	X	X	-	X	X	X	-	X	3365 vst 16"	-	10k	10k	-	10k	10k	10k	-	10k
1102 tuner UV4..	411	411	411	-	-	-	471	411	411	3368 vst 14"	-	-	-	-	-	-	56R	-	56R
1102 tuner ELC	-	-	-	ELC	ELC	ELC	-	-	-	3368 vst 16"	-	56R	56R	-	56R	56R	56R	-	56R
1103 SAW filter	-	-	-	-	-	X	-	-	-	3391 16"	4R7	4R7	4R7	-	-	4R7	4R7	4R7	4R7
1200 PAL B/G	X	-	-	X	-	-	-	-	-	3391 14"	-	-	-	-	-	-	-	-	-
1200 PAL-I	-	-	-	-	-	-	X	-	-	3393 14"	-	-	-	-	-	-	-	-	110/220
1200 PAL/SECAM	-	X	X	-	X	X	-	X	X	3394 ELC	-	-	-	4R7	4R7	-	-	-	-
1210 NTSC	-	X	-	-	-	-	-	-	X	3394 14"	-	-	-	-	4R7	-	4R7	-	4R7
1300 multi-volt.	-	X	-	-	-	-	-	X	X	3394 16"	-	-	-	4R7	4R7	-	-	-	-
1661 filter .. MHz	5.5	5.5	5.5	5.5	5.5	5.5	6.0	5.5	5.5	3566 16"	-	-	-	-	-	-	680R	-	680R
1662 filter .. MHz	-	4.5	-	-	-	-	-	-	4.5	3566 14"	-	-	-	-	680R	-	680R	-	-
1045 mains filter	-	X	-	-	-	-	-	X	X	3663	-	1k2	-	-	-	-	-	-	1k2
2109	4n7	4n7	4n7	-	-	-	4n7	4n7	4n7	3664	-	1k2	-	-	-	-	-	-	1k2
2112	22n	22n	22n	22n	22n	22n	-	22n	22n	3665 pb 14"	-	-	-	-	-	-	0R	-	0R
2114	-	10p	-	-	-	-	-	-	10p	3665 vst 16"	-	-	-	-	-	-	24k	-	-
2115	-	10p	-	-	-	-	-	-	10p	3667 vst	-	22k	22k	-	22k	22k	22k	-	22k
2137	2p2	2p2	2p2	3p3	3p3	-	12p	2p2	2p2	3668 vst 14"	-	-	-	-	-	-	22k	-	22k
2145	6p8	6p8	6p8	4p7	4p7	-	6p8	6p8	6p8	3668 vst 16"	-	22k	22k	-	22k	22k	22k	-	22k
2155 vst	-	2u2	2u2	-	2u2	2u2	2u2	-	2u2	3673 vst 16"	-	47k	47k	-	47k	47k	47k	-	47k
2158	22u	22u	22u	47u	47u	47u	22u	22u	22u	3673 vst 14"	-	-	-	-	-	-	47k	-	47k
2370	-	220u	-	-	-	-	220u	220u	220u	3816	-	15k	-	-	-	-	-	-	15k
2389 14"	-	-	-	-	220n	-	220n	-	220n	3817	-	2k2	-	-	-	-	-	-	2k2
2389 16"	220n	220n	220n	220n	220n	220n	470n	220n	220n	3870	36k	20k	36k	36k	36k	36k	36k	36k	20k
2390	-	220n	-	-	-	-	-	220n	220n	3873	-	220k	-	-	-	-	-	-	220k
2393	-	-	-	-	-	-	2n2	-	-	3880 pb	-	-	-	-	-	-	-	-	1k
2395	-	-	-	-	-	-	2n2	-	-	3880 vst	-	1k	1k	-	1k	1k	1k	-	1k
2396	-	-	-	-	-	-	2n2	-	-	3894	15k	15k	27k	15k	15k	27k	15k	15k	15k
2583 pb 14"	-	-	-	-	-	-	22u	-	22u	3895	15k	15k	22k	15k	15k	22k	15k	15k	15k
2583 vst 14"	-	-	-	-	22u	-	22u	-	47u	5121 ..uH	-	0.32	-	-	-	-	-	-	0.32
2673 vst	-	22n	22n	-	22n	22n	22n	-	22n	5672 ..uH	-	12.5	-	-	-	-	-	-	12.5
2673 pb 14"	-	-	-	-	-	-	15n	-	15n	5675 ..uH	8.4	8.4	8.4	8.4	8.4	8.4	6.7	8.4	8.4
2673 pb 16"	12n	-	-	12n	12n	12n	12n	12n	12n	6102 BA484	-	X	-	-	-	-	-	-	X
2674 vst	-	10n	10n	-	10n	10n	10n	-	10n	6103 ELC 1N4148	-	-	-	X	X	X	-	-	-
2675 vst 16"	-	33u	33u	-	33u	33u	33u	-	33u	6392 BY527	X	X	X	X	X	X	-	X	X
2675 14"	-	-	-	-	33u	33u	33u	-	33u	6392 1N5062	-	-	-	-	-	-	X	-	-
2677 pb	15n	-	-	15n	15n	15n	15n	-	15n	6393 1N5062	-	X	-	-	-	-	X	X	X
2677 vst	-	220p	220p	-	220p	220p	220p	-	220p	6394 1N5062	-	X	-	-	-	-	-	X	X
2810	-	120n	-	-	-	-	120n	-	120n	6395 1N5062	-	-	-	-	-	-	X	-	-
2811	680n	560n	680n	680n	680n	680n	680n	680n	560n	6396 1N5062	-	-	-	-	-	-	X	-	-
2870	2n2	3n3	2n2	2n2	2n2	2n2	2n2	2n2	3n3	6661 1N4148	-	X	-	-	-	-	-	-	X
3101 pb	22k	-	-	22k	22k	-	22k	-	22k	6662 1N4148	-	X	-	-	-	-	-	-	X
3101 vst	-	15k	15k	-	15k	15k	15k	-	15k	6665 vst 1N4148	-	X	X	-	X	X	X	-	X
3103	18R	18R	18R	470R	470R	18R	18R	18R	18R	6873 1N4148	-	X	-	-	-	-	-	-	X
3105 vst	-	10k	10k	-	10k	10k	10k	-	10k	7151 TDA5340	-	-	-	X	X	X	-	-	-
3108	10R	10R	10R	100R	100R	10R	10R	10R	10R	7151 TDA5341	X	X	X	-	-	-	X	X	X
3113	10R	10R	10R	-	-	-	10R	10R	10R	7368 vst BC548	-	X	X	-	X	X	X	-	-
3116	-	-	-	150R	150R	150R	-	-	-	7877 BC548	-	X	-	-	-	-	-	-	X
3121	0R	56R	0R	0R	0R	0R	0R	0R	56R	Jumper C pb	cl	-	-	cl	cl	cl	cl	cl	cl
3122	82R	22R	82R	82R	82R	68R	82R	82R	22R	Jumper C vst	-	-	-	-	-	-	-	-	-
3123	-	3k3	-	-	-	-	-	-	3k3	Jumper D	cl	-	cl	cl	cl	cl	-	-	cl
3124	-	10k	-	-	-	-	-	-	10k	Jumper E pb	cl	cl	cl	cl	cl	cl	cl	cl	cl
3145 vst	12k	-	12k	12k	12k	12k	12k	12k	-	Jumper E vst	-	-	-	-	-	-	-	-	-
3156	180R	180R	180R	330R	330R	330R	180R	180R	180R	(cl = closed)	-	-	-	-	-	-	-	-	-

DIAGRAM A

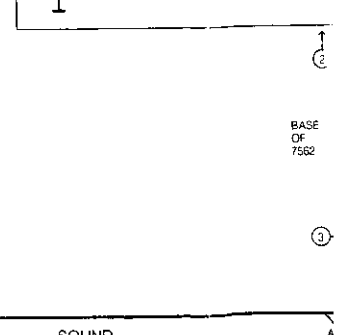
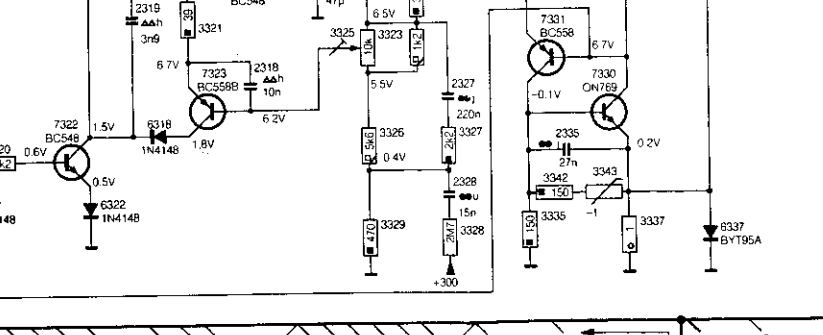
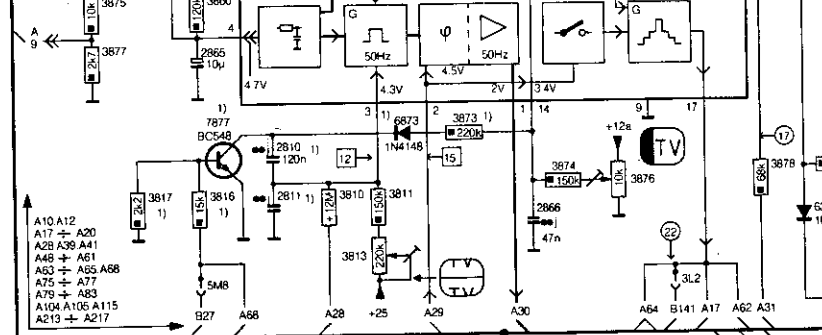
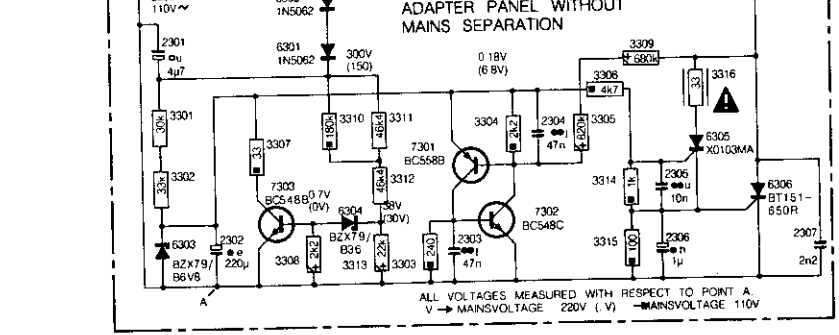
CHANNEL SELECTOR



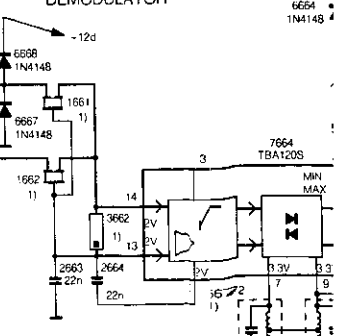
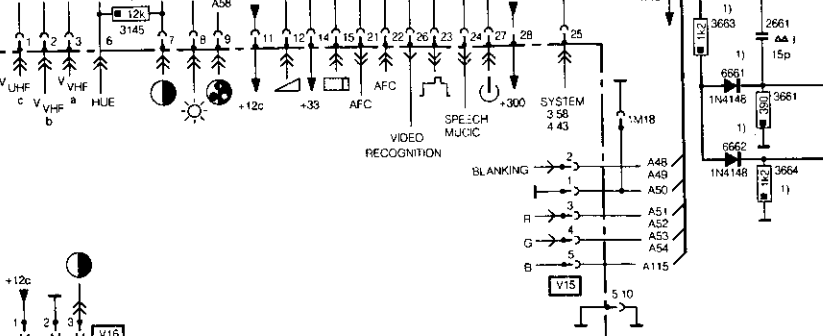
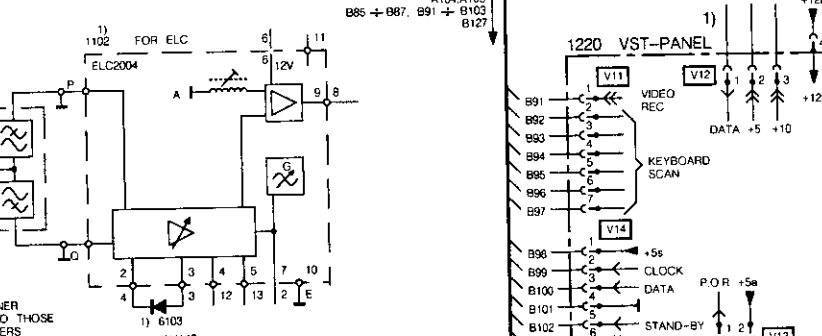
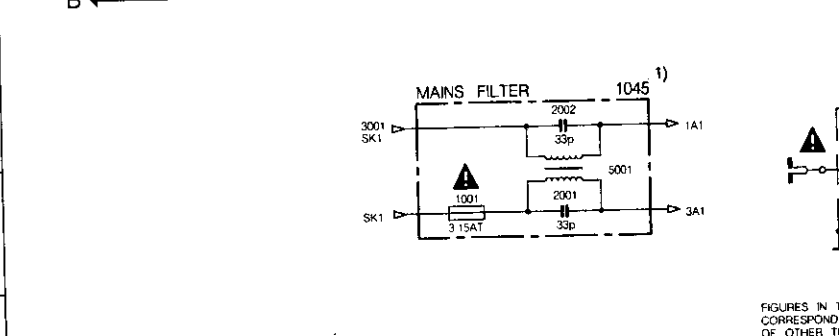
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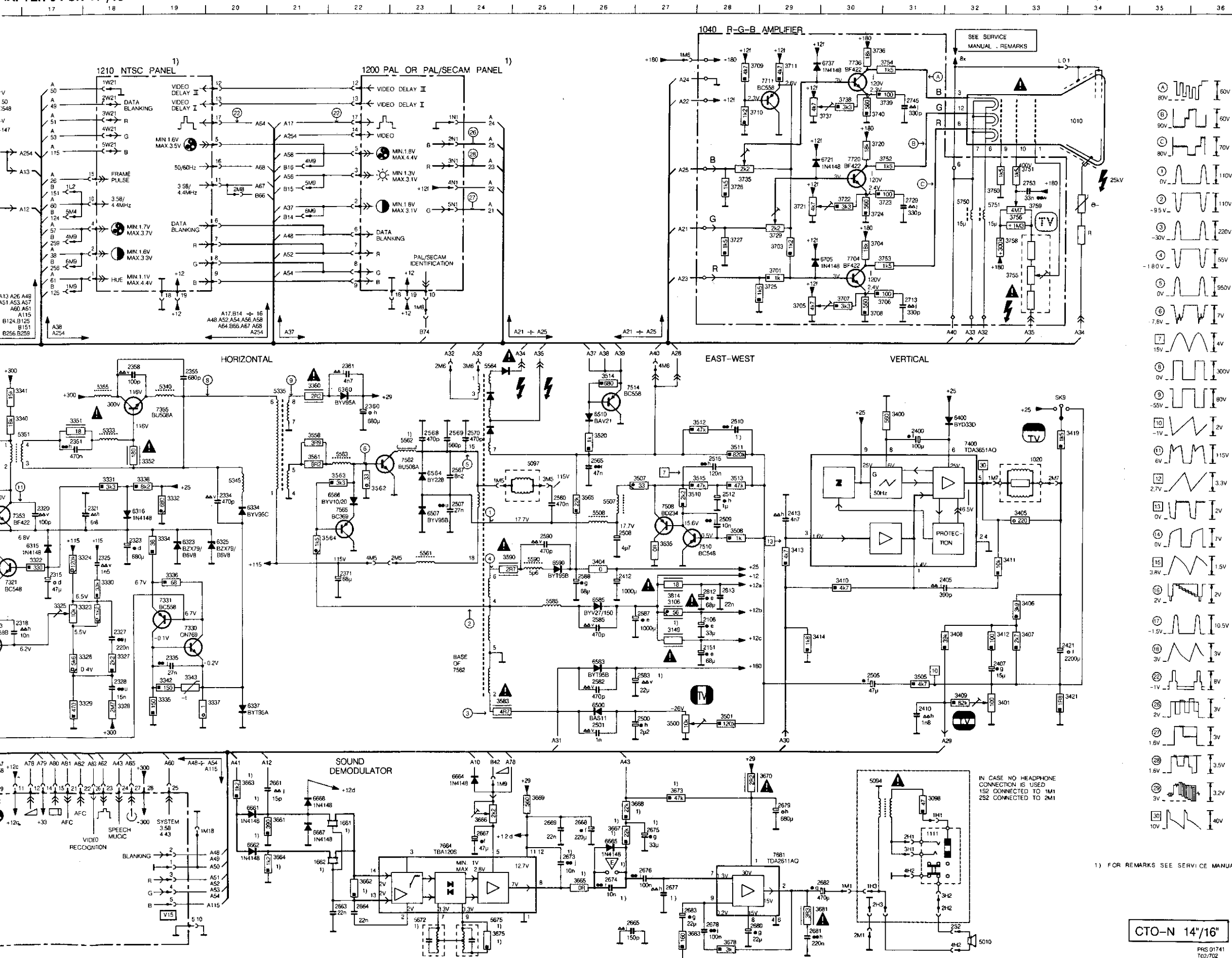


AUTOMATIC MULTIVOLTAGE 1) ADAPTER PANEL WITHOUT MAINS SEPARATION



MAINS FILTER

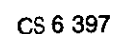




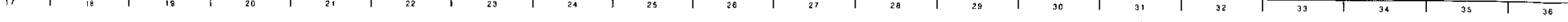
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1040	A28	2895	H 7	3705	E29	7322	J 15
1045	M 6	3001	G 2	3706	E31	7323	J 16
1102	B 2	3098	M31	3707	E30	7330	J 19
1102	M 8	3101	E 5	3708	E30	7331	J 19
1103	A 2	3103	A 3	3709	A29	7353	H 16
1111	M31	3104	E 6	3710	B29	7355	G 19
1200	A22	3105	E15	3711	A25	7368	H 15
1210	A18	3106	J27	3720	B30	7400	G32
1220	M12	3108	E 2	3721	C29	7508	H27
1300	G 7	3109	E 2	3722	C30	7510	I28
1391	G 3	3110	E 4	3723	C31	7514	F27
1661	M22	3111	E 3	3724	C30	7562	G23
1682	N21	3112	D 6	3725	E29	7565	H22
2001	N 5	3113	D 3	3726	C28	7664	N23
2002	M 5	3121	B 5	3727	D28	7681	N29
2101	E 5	3122	B 5	3728	D29	7704	D30
2103	B 3	3123	C 7	3735	C28	7711	A29
2106	J28	3124	D 7	3736	A30	7720	C30
2109	D 3	3127	E 7	3737	B30	7736	A30
2110	D 4	3139	B 9	3738	B30	7875	G13
2111	E 3	3145	M15	3739	B31	7877	J 9
2112	D 1	3148	C 9	3740	B30	7880	J 9
2113	D 2	3147	B16	3751	C33	7881	F33
2114	B 5	3148	C16	3752	C31		
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2122	B 5	3150	B15	3754	A31		
2124	B 7	3151	B16	3755	B33		
2127	B 7	3152	E12	3756	D33		
2130	B 8	3153	D11	3758	D33		
2131	B 7	3154	E11	3759	C33		
2138	B 8	3155	E14	3760	C32		
2138	B 8	3156	D10	3810	K 10		
2145	B 9	3157	D10	3811	K 11		
2146	D 9	3158	E10	3813	K 10		
2147	C10	3159	D12	3814	J27		
2148	C10	3160	C15	3816	K 9		
2150	A11	3161	D12	3817	K 9		
2151	J28	3165	E12	3860	I 9		
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2153	F11	3302	K 2	3863	G10		
2154	E11	3303	K 4	3869	F10		
2155	E14	3304	J 4	3870	G12		
2156	E15	3305	J 5	3871	F11		
2158	E10	3306	J 6	3872	G 8		
2158	E10	3307	J 6	3873	J 11		
2160	C15	3308	K 3	3874	K 12		
2301	J 2	3309	J 6	3875	I 8		
2302	K 2	3310	J 3	3876	K 13		
2303	K 4	3311	J 4	3877	K 14		
2304	J 5	3312	K 4	3878	K 14		
2305	K 6	3313	K 3	3879	I 9		
2306	K 6	3314	K 5	3880	I 8		
2307	K 7	3315	K 5	3881	G 7		
2315	I 17	3316	J 6	3894	G 6		
2317	I 14	3316	H14	3895	G 6		
2318	J17	3317	I15	3896	G 7		
2318	J17	3318	I15	3897	N 6		
2320	H17	3319	F16	5010	O32		
2321	H18	3320	K14	5094	M31		
2323	I18	3321	J16	5097	G25		
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2327	J18	3323	J16	5121	B 5		
2328	K18	3324	I18	5122	A 6		
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2335	K19	3327	K18	5138	C 9		
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2360	G22	3334	I19	5158	A13		
2361	F22	3335	K19	5133	G18		
2370	H 5	3336	I19	5335	F21		
2371	I22	3337	K20	5340	F19		
2389	G 3	3338	H19	5345	H20		
2390	F 3	3338	I16	5351	G17		
2392	F 5	3340	G17	5355	F18		
2392	F 6	3341	F17	5392	G 4		
2393	G 5	3342	K19	5507	H26		
2395	G 6	3343	K19	5508	H26		
2396	F 5	3351	G17	5561	I23		
2400	G31	3352	G19	5582	G23		
2405	I32	3355	G16	5583	G22		
2407	K33	3360	F21	5564	F24		
2410	K31	3362	G14	5585	J25		
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2500	L27	3391	G 5	5750	C32		
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2508	I26	3400	G31	6103	O 9		
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2510	G28	3404	I26	6301	J 3		
2512	H28	3405	H33	6302	I 3		
2515	G28	3406	J33	6303	K 2		
2560	H25	3407	J33	6304	K 3		
2565	G26	3408	J32	6305	J 6		
2567	H24	3409	K32	6306	K 7		
2568	G23	3410	I30	6315	I17		
2569	G24	3411	I33	6316	H18		
2570	G24	3412	J33	6317	K14		
2582	K26	3413	I29	6318	J16		
2583	K27	3414	J30	6320	G15		
2585	J26	3419	G34	6321	I16		
2587	J27	3421	K34	6322	K15		
2588	I26	3500	L27	6323	I19		
2590	I25	3501	L28	6325	I20		
2661	M21	3505	K31	6334	H20		
2663	O22	3507	H27	6337	K20		
2664	O22	3508	I28	6360	F22		
2665	O27	3510	H28	6392	G 5		
2667	M24	3511	G28	6392	F 6		
2668	H26	3512	G28	6393	F 6		
2669	M25	3513	H28	6393	F 5		
2673	N26	3514	F26	6394	H 7		
2674	N26	3515	H28	6395	F 6		
2675	M27	3520	G26	6396	F 5		
2676	N27	3535	I27	6400	G32		
2677	N27	3558	G21	6500	K26		
2678	O28	3561	G21	6507	H23		
2679	O27	3562	H22	6510	G26		
2680	O28	3563	H22	6564	H23		
2681	O30	3564	I22	6566	H22		
2682	N30	3565	H26	6583	K26		
2683	O27	3583	K24	6585	J26		
2713	E31	3590	I 24	6590	I25		
2729	C31	3661	M21	6661	M20		
2745	B31	3662	N22	6662	N20		
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2812	J28	3666	M24	6668	M21		
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2814	G13	3671	M27	6721	C30		
2860	F11	3669	M25	6737	A30		
2865	J 9	3670	M29	6738	J11		
2866	K12	3673	M27	6895	H 6		
2868	F10	3675	O24	7150	B16		
2869	F 9	3678	O28	7151	B14		
2870	F11	3681	O30	7165	E12		
2876	H 9	3683	O28	7301	J 4		

1) FOR REMARKS SEE SERVICE MANUAL

CTO-N 14"/16"
PRS 01741
T02/702



17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
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PHS 01749
T02/702

	1001	O	2	2880	H 9	3683	O32	7301	K 4
	1010	B34	2899	F11	3701	D29	7302	K 5	
	1020	G33	2891	F10	3703	D29	7303	K 3	
	1040	A26	2895	H	3704	D30	7321	I18	
	1050	A	2	3100	E 3	3705	D29	7322	K15
	1055	N 4	3101	E 5	3706	E30	7323	J16	
A	1102	B 2	3103	A 3	3707	C30	7330	J19	
	1200	A22	3104	E 6	3708	E30	7331	J19	
	1210	A16	3	3110	E 3	3709	E28	7352	K15
	1220	M12	3106	J27	3710	B28	7355	G19	
	1300	F 7	3108	E 2	3711	A29	7358	H15	
	1391	G 3	3109	E 2	3720	B50	7400	G32	
	1401	M26	3110	F 3	3721	E33	7508	H27	
	1662	N26	3111	F 3	3722	C30	7510	F26	
	2001	O 3	3112	D 6	3723	C30	7514	F26	
B	2002	N 3	3113	D 3	3724	D30	7552	G23	
	2100	E 5	3121	B 5	3725	E29	7565	H22	
	2103	B 3	3122	F 3	3726	E28	7568	G22	
	2106	J28	3123	C 7	3727	D26	7681	N33	
	2109	D 3	3124	D 7	3728	E29	7704	D30	
	2110	D 4	3127	B 7	3735	C28	7711	A28	
	2111	E 3	3128	D 9	3736	E28	7764	N26	
	2112	D 1	3145	M15	3737	E29	7736	A30	
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	2137	B 8	3154	E11	3756	D33			
	2138	H 8	3155	E14	3758	D33			
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	2150	A11	3160	C15	3813	L10			
	2151	K28	3161	L12	3814	L17			
	2152	E12	3165	E12	3816	K 9			
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	2301	J 2	3308	K 3	3872	G 8			
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	2303	K 4	3310	J 4	3874	K12			
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	2305	K 6	3312	K 4	3876	K13			
	2306	K 6	3313	K 3	3877	J 8			
	2307	K 7	3314	K 5	3878	K14			
	2315	I 17	3315	K 5	3879	I 8			
	2317	I 14	3316	H14	3880	B11			
	2318	J17	3316	H14	3880	B11			
	2319	J16	3317	I15	3894	G 6			
	2320	H17	3318	I15	3895	G 6			
	2321	K18	3319	I15	3896	G 6			
	2323	I18	3320	K14	5001	N 3			
	2325	I18	3321	J16	5097	H25			
G	2327	J18	3322	I17	5099	F 2			
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	2330	H 6	3324	I18	5122	A 2			
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	2335	K19	3326	K18	5133	A 8			
	2340	H15	3327	K18	5138	C 9			
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	2355	F19	3329	K18	5145	B 9			
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	2370	H 5	3334	I19	5158	A13			
	2371	I22	3335	K19	5333	G18			
	2385	G 3	3336	I19	5335	F21			
	2390	F 3	3337	H20	5336	K19			
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	2393	G 5	3340	F17	5355	F18			
	2395	G 6	3341	F17	5362	G14			
I	2396	F 5	3342	I19	5393	H13			
	2400	G31	3343	K19	5507	H26			
	2405	I1	3351	G17	5508	H26			
	2407	K32	3352	H18	5551	I23			
	2410	K31	3355	G16	5553	I23			
	2411	G30	3360	F21	5564	F24			
	2412	I26	3362	G14	5585	J25			
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	2421	J33	3368	H15	5612	F22			
J	2500	L27	3390	F 3	5675	O28			
	2501	L28	3391	G 5	5750	C32			
	2505	K30	3392	G 4	5751	C32			
	2507	H24	3393	F 6	6109	K10			
	2508	I26	3400	G31	6102	C 5			
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	2510	G28	3404	I26	6158	D13			
	2512	H28	3405	G31	6301	C 3			
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	2565	G28	3409	G31	6305	J16			
	2567	H24	3410	I30	6306	K 7			
	2568	G23	3411	I33	6315	I17			
	2569	G23	3412	J32	6316	H18			
	2570	G24	3413	J32	6317	K14			
	2592	K56	3414	J29	6318	K18			
	2593	J27	3419	G34	6320	G15			
	2595	K26	3421	K34	6321	I16			
	2597	J27	3500	L27	6322	I15			
L	2598	I26	3501	I28	6323	H19			
	2599	I25	3505	K31	6325	I20			
	2601	M26	3507	H26	6334	H20			
	2603	O26	3508	I28	6337	K20			
	2604	O26	3509	I28	6338	F22			
	2605	G31	3511	G28	6392	G 5			
	2607	N28	3512	G27	6392	F 6			
	2608	M30	3513	H28	6393	H 6			
	2609	M29	3514	H28	6393	G 5			
M	2673	N30	3515	H27	6394	F 5			
	2674	M30	3520	G26	6395	G 6			
	2675	N31	3535	I26	6396	F 5			
	2676	N31	3558	G21	6400	G32			
	2677	N31	3561	G21	6401	G32			
	2678	N32	3562	H22	6507	H23			
	2679	M33	3563	H22	6508	H26			
	2680	G33	3564	I21	6510	G26			
	2681	G34	3565	H26	6511	G26			
	2682	M34	3566	I23	6566	H22			
N	2683	G32	3583	K25	6583	K26			
	2713	E31	3590	I25	6585	J26			
	2718	G31	3591	I25	6586	K26			
	2745	B31	3662	N26	6661	M24			
	2753	G33	3663	M24	6662	N24			
	2810	K10	3664	N25	6664	M28			
	2811	K10	3665	N25	6665	N30			
	2812	J26	3667	M28	6666	N25			
	2813	J26	3668	M30	6668	M26			
	2814	G13	3668	M31	6705	D30			
	2815	F11	3669	G33	6721	C30			
	2816	F 9	3670	M31	6733	A30			
	2866	K12	3673	M31	6873	J11			
	2868	F10	3675	O29	6895	H 6			
	2869	F 9	3677	O26	7115	B16			
	2870	F11	3678	O26	7115	B16			
	2876	H 9	3681	O34	7165	E14			

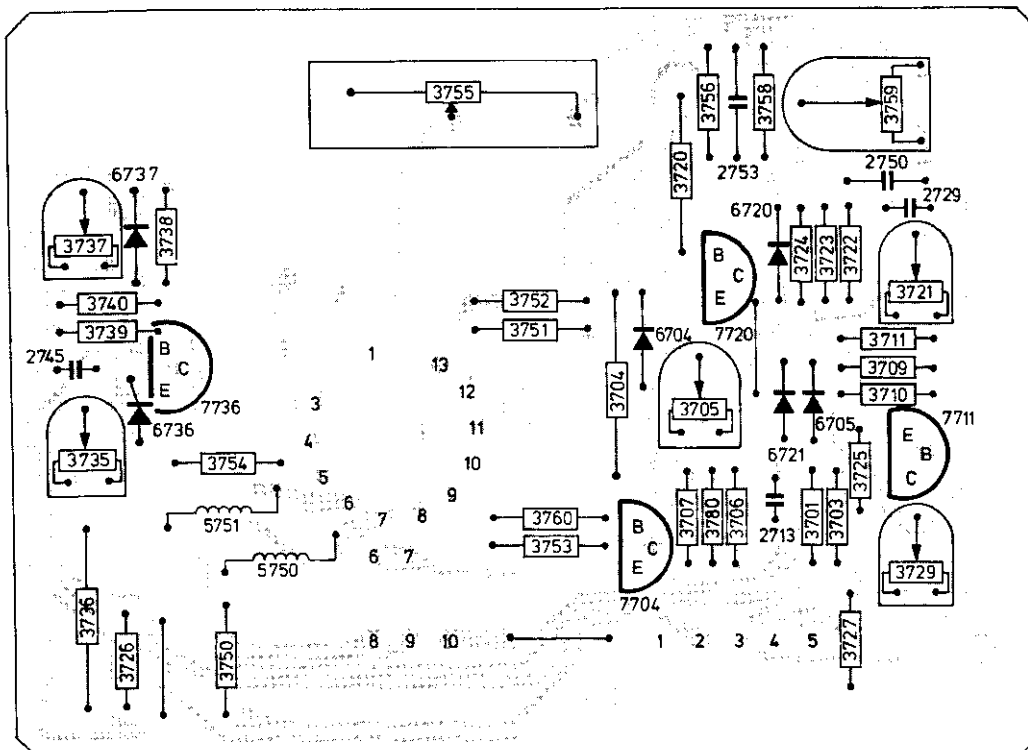
DIFFERENCE LIST FOR 20" ASYM SETS

Item	/51	/59	/61	/63	/64	/73	/80	/81	/82	/83
20CT6050	X	-	-	X	X	X	X	X	-	X
20CT6160	X	-	-	-	-	-	-	-	-	-
20CT6250 vst	X	-	-	X	-	-	X	X	-	(RC)
20CT6450 vst	X	X	X	-	-	X	-	-	X	(FRC)
1102 tuner UV	411	411	411	411	-	471	411	411	411	411
1102 tuner ELC	-	-	-	-	ELC	-	-	-	-	-
1130 SAW filter	-	-	-	-	X	-	-	-	-	-
1200 PAL B/G	-	-	-	-	-	-	-	-	-	-
1200 PAL-I	-	-	-	-	-	X	-	-	-	-
1200 PAL-SECAM	X	X	X	X	X	-	X	X	X	X
1210 NTSC	X	-	-	-	-	-	-	X	X	-
1220 rc VST	X	-	-	X	-	-	X	-	-	-
1220 frc VST	X	-	-	-	-	-	-	-	X	X
1300 multiV.	X	X	-	-	-	-	X	X	X	X
1391 fuse 2.5AT	X	X	X	X	X	-	X	X	X	X
1661 filter ..	5.5	5.5	5.5	5.5	5.5	6.0	5.5	5.5	5.5	5.5
1662 filter ..	4.5	6.5	-	-	-	-	-	4.5	6.5	-
1055 mains filter	-	-	-	-	-	-	X	X	-	X
2112	22n	22n	22n	22n	22n	-	22n	22n	22n	22n
2114	10p	-	-	-	-	-	-	10p	10p	-
2115	10p	-	-	-	-	-	-	10p	10p	-
2155 vst	2u2	2u2	2u2	2u2	-	2u2	2u2	2u2	2u2	2u2
2330	470u	220u	220u	220u	220u	220u	220u	220u	220u	220u
2370	220u	220u	-	-	-	-	220u	220u	220u	220u
2389 frc	220n	220n	220n	-	-	-	-	-	-	220n
2390	220n	220n	-	-	-	-	220n	220n	220n	220n
2393	-	-	-	-	-	2n2	-	-	-	-
2395	-	-	-	-	-	2n2	-	-	-	-
2396	-	-	-	-	-	2n2	-	-	-	-
2673	22n	-	-	15n	15n	15n	15n	22n	-	22n
2673 frc	22n	22n	22n	-	-	22n	-	-	22n	22n
2674 frc	27n	27n	27n	-	-	27n	-	-	27n	27n
2675 frc	33u	33u	33u	-	-	33u	-	-	33u	33u
2676	100n	-	-	100n	100n	100n	100n	100n	-	100n
2677 frc	2n2	2n2	2n2	-	-	2n2	-	-	2n2	2n2
2810	120n	-	-	-	-	-	-	120n	120n	-
2811	560n	680n	680n	680n	680n	680n	680n	560n	560n	680n
2870	3n3	2n2	2n2	2n2	2n2	2n2	2n2	3n3	3n3	2n2
3101	22k	-	-	22k	22k	22k	22k	-	-	22k
3101 (6160)	20k	-	-	-	-	-	-	-	-	-
3101 vst	15k	15k	15k	15k	-	15k	15k	15k	15k	15k
3105 vst	10k	10k	10k	10k	-	10k	10k	10k	10k	10k
3106 (6160)	6R8	-	-	-	-	-	-	-	-	-
3108	10R	10R	10R	10R	-	-	10R	10R	10R	10R
3121	56R	0R	0R	0R	0R	0R	0R	56R	56R	0R
3122	22R	82R	82R	82R	68R	82R	82R	22R	22R	82R
3123	3k3	-	-	-	-	-	-	3k3	3k3	-
3124	10k	-	-	-	-	-	-	10k	10k	-

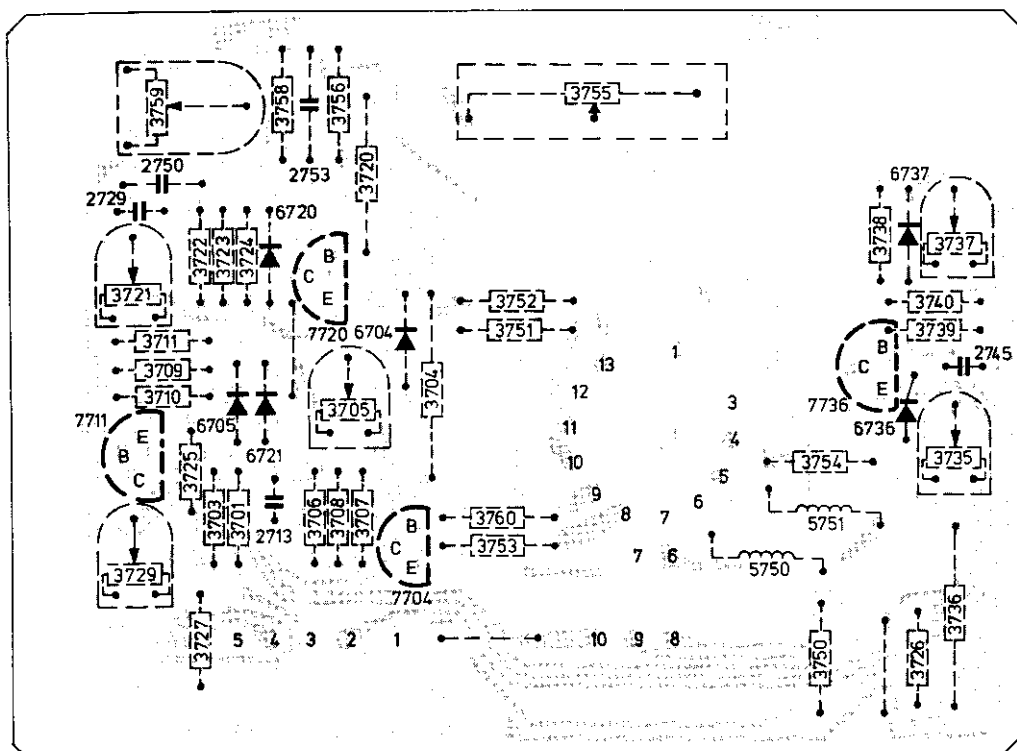
Item	/51	/59	/61	/63	/64	/73	/80	/81	/82	/83
3145	-	-	-	-	-	12k	-	-	-	-
3145 vst	12k	12k	12k	12k	-	12k	12k	12k	12k	12k
3362 vst	12k	12k	12k	12k	-	12k	12k	12k	12k	12k
3365 vst	10k	10k	10k	10k	-	10k	10k	10k	10k	10k
3368 vst	56R	56R	56R	56R	-	56R	56R	56R	56R	56R
3393 PTC	X	X	-	-	-	-	X	X	X	X
3566	-	-	-	-	-	680R	-	-	-	-
3585	-	-	-	-	-	-	-	-	-	-
3661 frc	390R	390R	390R	390R	390R	390R	390R	390R	-	390R
3663	1k2	-	-	-	-	-	-	1k2	-	-
3664	1k2	-	-	-	-	-	-	1k2	1k2	-
3665	0R	0R	0R	0R	0R	0R	0R	0R	0R	0R
3665 frc	-	-	-	-	-	24k	-	-	-	-
3666 trimpot	2k2	-	-	2k2	2k2	2k2	2k2	2k2	-	2k2
3666 frc	-	-	-	-	-	-	-	-	-	-
3667 frc	22k	22k	22k	-	-	22k	-	-	22k	22k
3668 frc	22k	22k	22k	-	-	22k	-	-	22k	22k
3673 frc	47k	47k	47k	-	-	47k	-	-	47k	47k
3675	12k	18k	12k	12k	12k	12k	12k	12k	12k	12k
3816	15k	-	-	-	-	-	-	-	-	-
3817	2k2	-	-	-	-	-	-	2k2	2k2	-
3870	20k	36k	36k	36k	36k	36k	36k	20k	20k	36k
3873	220k	-	-	-	-	-	-	220k	220k	-
5121 ..uH	.32	-	-	-	-	-	-	.32	.32	-
5672 ..uH	12.5	12.5	-	-	-	-	-	12.5	12.5	-
7675 ..uH	8.4	8.4	8.4	8.4	8.4	6.7	8.4	8.4	8.4	8.4
6102 BA484	X	-	-	-	-	-	-	X	X	-
6392 BY527	X	X	X	X	X	-	X	X	X	X
6392 1N5062	-	-	-	-	-	X	-	-	-	-
6393 1N5062	X	X	-	-	-	X	X	X	X	X
6394 1N5062	X	X	-	-	-	X	X	X	X	X
6395 1N5062	-	-	-	-	-	X	-	-	-	-
6396 1N5062	-	-	-	-	-	X	-	-	-	-
6661 1N4148	X	-	-	-	-	-	-	X	-	-
6662 1N4148	X	-	-	-	-	-	-	X	-	-
6665 frc 1N4148	X	X	X	-	-	X	-	-	X	X
6873 1N4148	X	-	-	-	-	-	-	X	X	-
7368 vst BC548	X	X	X	X	-	X	X	X	X	X
7877 BC548	X	-	-	-	-	-	-	X	X	-
Jumper C pb	cl	-	-	cl	cl	cl	cl	cl	-	cl
Jumper C vst	-	-	-	-	-	-	-	-	-	-
Jumper D	-	-	cl	cl	cl	cl	cl	-	-	-
Jumper E pb	cl	-	-	cl	cl	cl	cl	cl	-	cl
Jumper E vst	-	-	-	-	-	-	-	-	-	-

* Items only present when marked with "X"

CHAPTER 7 FOR 14"/16"/20"



33238 B 13



33239 B 13

CS 6 400



PRS.02049

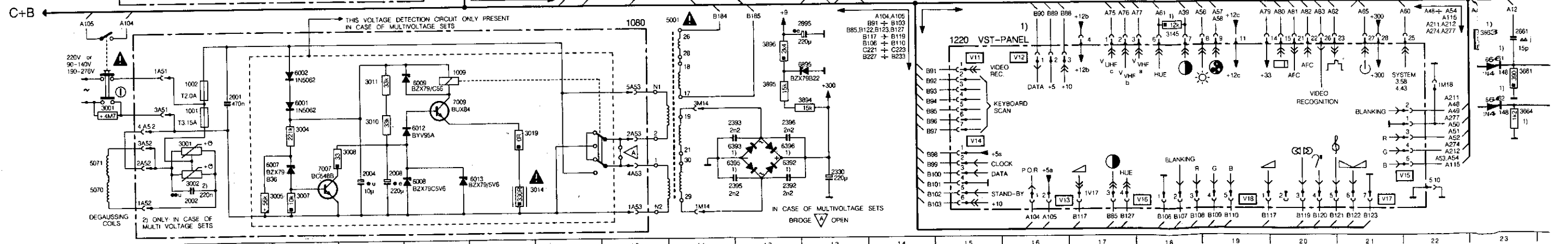
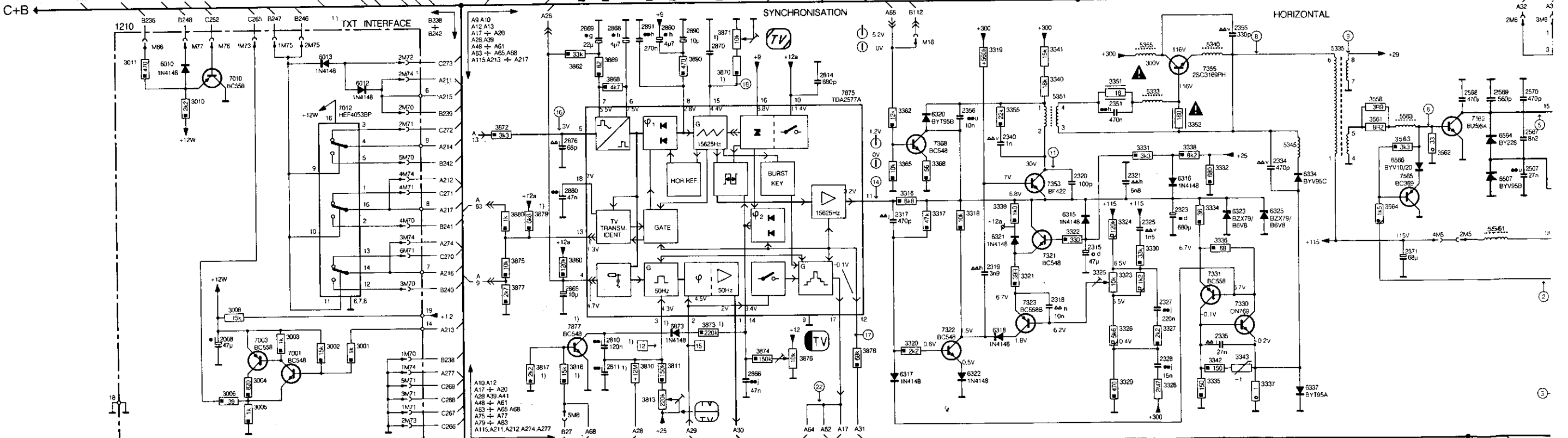
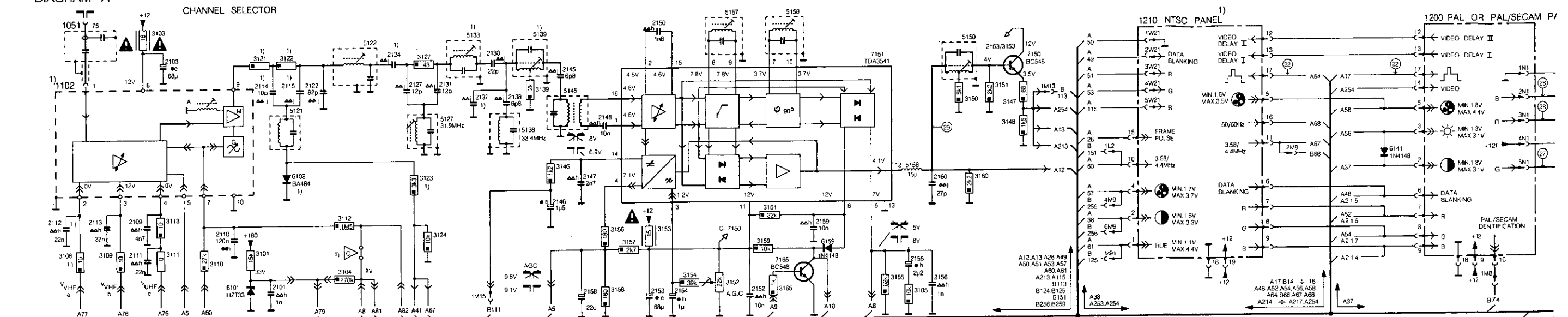
DIAGRAM A

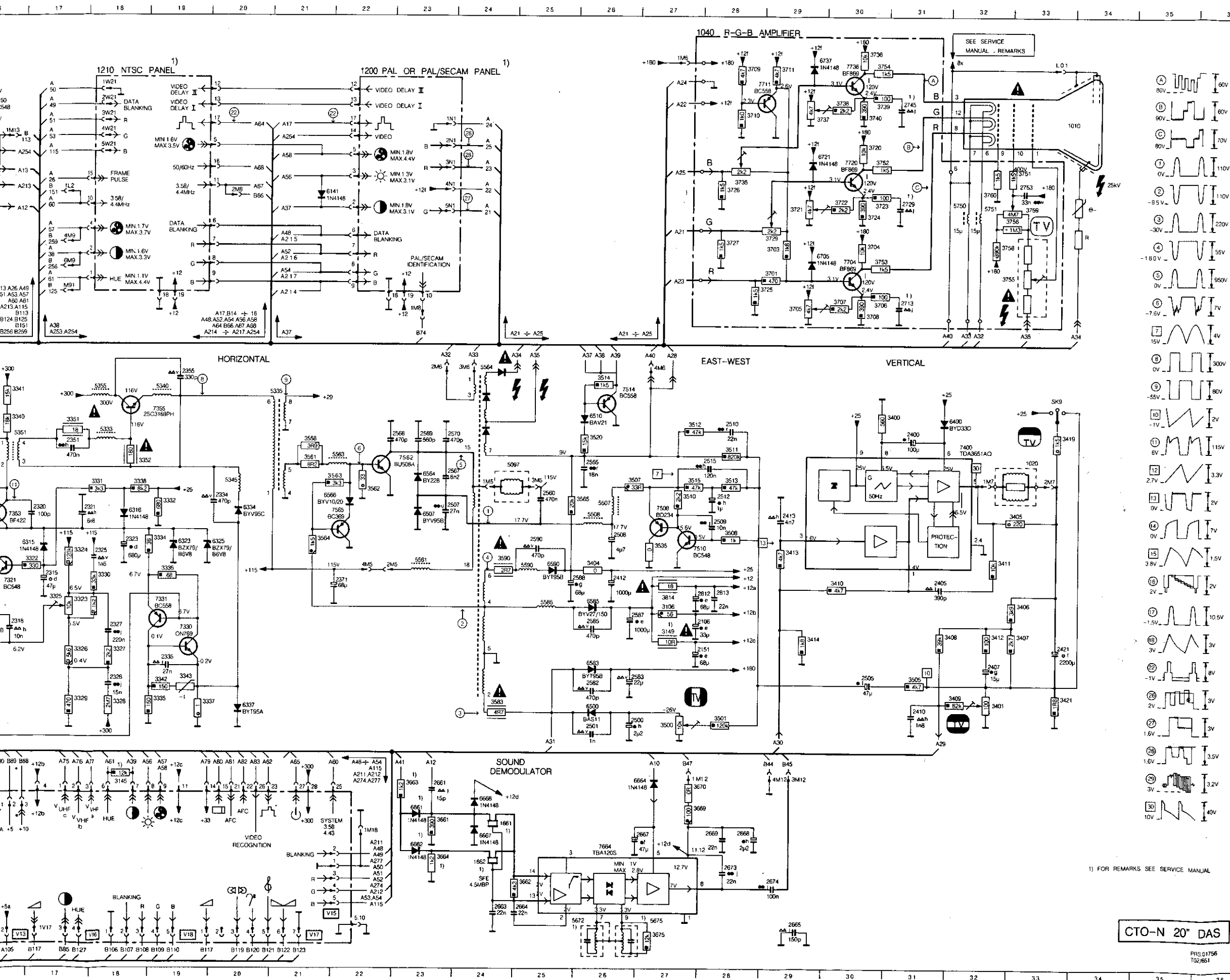
CHANNEL SELECTOR

1)

1210 NTSC PANEL

1200 PAL OR PAL/SECAM P/



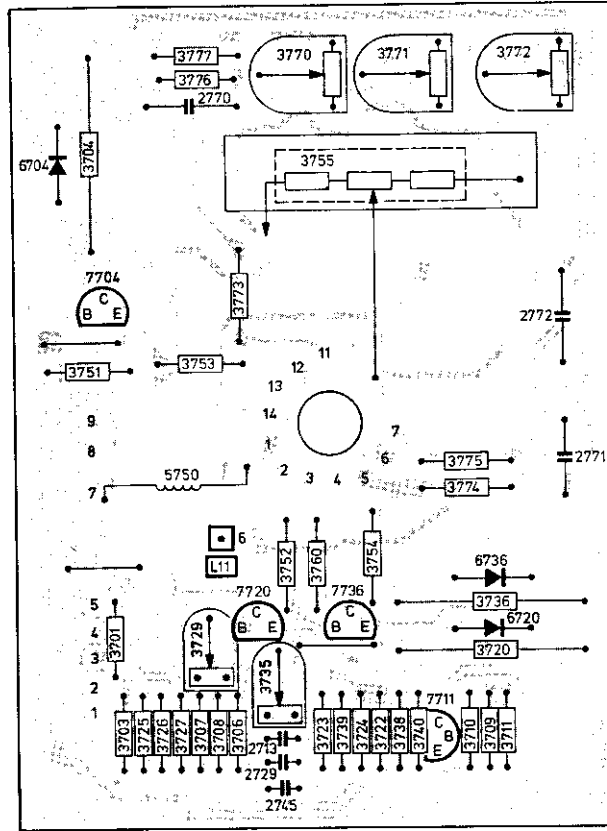


1001	N 3	3011	F 2	3759	C33
1002	M 3	3014	O 9	3760	C32
1008	M 7	3019	N 9	3810	K10
1010	B 4	3101	E 5	3811	K11
1020	G 3	3103	A 3	3813	L10
1040	A 28	3104	E 6	3814	J27
1051	A 2	3105	E14	3816	K 9
1080	L10	3108	J27	3817	K 9
1102	B 2	3108	E 2	3850	I 9
1200	A22	3109	E 2	3862	G 9
1210	A18	3110	E 4	3868	G10
1220	M5	3111	E 3	3869	F10
1661	M24	3112	D 6	3870	G11
1662	N24	3113	D 3	3871	F11
2001	M 4	3121	B 4	3872	G 8
2002	O 3	3122	B 5	3873	J11
2004	O 6	3123	E 7	3874	K12
2008	O 6	3124	D 7	3875	I 8
2008	K 4	3127	B 7	3876	K13
2101	E 5	3139	B 9	3877	J 8
2103	B 3	3145	M18	3878	K14
2108	J28	3148	C 9	3879	I 9
2109	D 3	3147	B16	3880	I 8
2110	D 4	3148	C16	3880	F11
2111	E 3	3149	J27	3884	M13
2112	D 1	3150	B15	3895	M12
2113	D 2	3151	B16	3896	M12
2114	B 5	3152	E12	5001	L11
2115	B 5	3153	D11	5070	O 2
2122	B 6	3154	E11	5071	N 2
2124	B 6	3155	E14	5097	H25
2127	B 7	3156	D10	5121	B 5
2130	B 8	3157	D10	5122	A 6
2131	B 7	3158	E10	5127	C 7
2137	B 8	3159	D12	5133	A 8
2138	B 8	3160	C15	5138	C 8
2145	B 9	3161	D12	5139	A 9
2146	D 9	3165	E12	5145	B 9
2147	C 9	3168	H14	5150	A15
2148	C10	3317	I15	5156	C14
2150	A10	3318	I15	5157	A12
2151	A26	3319	F16	5158	A13
2152	E12	3320	K14	5233	G18
2153	E10	3321	J16	5335	F21
2154	E11	3322	I17	5340	F19
2155	E14	3323	J17	5345	H20
2156	E15	3324	I17	5351	G16
2158	E 9	3325	J17	5355	F18
2159	D13	3326	K17	5507	H26
2160	C15	3327	K18	5508	H26
2161	C15	3328	K18	5561	I23
2317	I14	3329	K17	5563	G22
2318	J16	3330	I18	5564	F24
2319	J15	3331	H18	5565	J25
2320	H17	3332	H19	5590	I25
2321	H16	3334	I19	5672	O26
2323	I18	3335	K19	5675	O27
2325	I18	3336	I19	5750	C32
2327	J18	3337	K20	5751	C32
2328	K18	3338	H18	6001	N 5
2330	O13	3339	I16	6002	M 5
2334	H20	3340	G16	6007	O 5
2335	K19	3341	F16	6008	O 7
2336	H16	3342	K19	6009	M 7
2351	G17	3343	K19	6010	F 3
2355	F19	3351	G17	6012	N 7
2356	G15	3352	G19	6012	G 6
2371	I 22	3355	G16	6013	C 5
2392	O12	3362	G14	6013	O 8
2393	N12	3365	H14	6101	E 4
2395	O12	3368	H15	6102	C 5
2396	H16	3400	G31	6141	C22
2400	G31	3401	K32	6159	D13
2405	I31	3404	I26	6315	I17
2407	K32	3405	H33	6316	H18
2410	K31	3406	G33	6317	K14
2412	I26	3407	J33	6318	K18
2413	H29	3408	J32	6320	G15
2421	J33	3409	K32	6321	I16
2500	L27	3410	I30	6322	K15
2501	G26	3411	I32	6323	I19
2505	K30	3412	J32	6325	I20
2507	H24	3413	I28	6334	H20
2508	I26	3414	J29	6337	K20
2509	H28	3419	G33	6392	G12
2510	G28	3421	K33	6393	N11
2512	H28	3500	L27	6395	O11
2515	G28	3501	L28	6396	N12
2516	H25	3505	K31	6405	G32
2565	G26	3507	H26	6500	K26
2567	H24	3508	I28	6507	H23
2568	G23	3510	H27	6510	G26
2569	G23	3511	G28	6564	H23
2570	G24	3512	G27	6566	H22
2582	K28	3513	H28	6583	K26
2583	K27	3514	F26	6585	K26
2585	J26	3515	H27	6590	I25
2587	J27	3520	G26	6661	M23
2588	I26	3535	I27	6662	N23
2590	I25	3558	G21	6664	M27
2601	M23	3561	G21	6667	N24
2603	O24	3562	H22	6668	M24
2604	O25	3563	H22	6705	O30
2605	O29	3564	I21	6721	C30
2607	N27	3565	H26	6737	A30
2608	M28	3568	K24	6873	J11
2609	M28	3590	I24	6895	M13
2673	N28	3661	M23	7001	K 5
2674	N29	3662	N25	7003	K 4
2713	E31	3663	M23	7007	O 5
2729	C31	3664	N23	7009	N 7
2745	B31	3669	M28	7010	G 4
2753	C33	3670	M28	7012	G 6
2810	K10	3675	G27	7150	B16
2811	K10	3701	D29	7151	B14
2812	J28	3703	D29	7165	E12
2813	J28	3704	D30	7321	I16
2814	G13	3705	E29	7322	K15
2860	F11	3706	E30	7323	J16
2865	J 9	3707	E30	7330	J19
2866	K12	3708	E30	7331	J19
2868	F10	3709	A28	7353	H16
2869	F 9	3710	B28	7355	G19
2870	F11	3711	A29	7368	H15
2876	H 9	3720	B30	7400	G32
2880	H 9	3721	C29	7508	H27
2890	F11	3722	C30	7510	I 28
2891	F10	3723	C30	7514	F26
2895	L13	3724	C30	7562	G23
3001	N 3	3725	E29	7565	H22
3001	N 3	3726	C24	7564	N26
3001	K 6	3727	D28	7704	O30
3002	K 6	3729	D29	7711	A28
3002	K 6	3735	C28	7720	C30
3003	K 5	3736	A30	7736	A30
3004	N 5	3737	B29	7875	G13
3004	K 4	3738	B30	7877	J 9
3005	K 5	3739	B30	7878	J 9
3005	L 4	3740	B30	7879	J 9
3006	K 4	3751	C33		
3007	O 5	3752	C30		
3008	N 6	3753	D30		
3008	J 4	3754	A30		
3010	N 6	3755	D32		
3010	K 4	3756	O32		
3011	M 6	3758	O32		

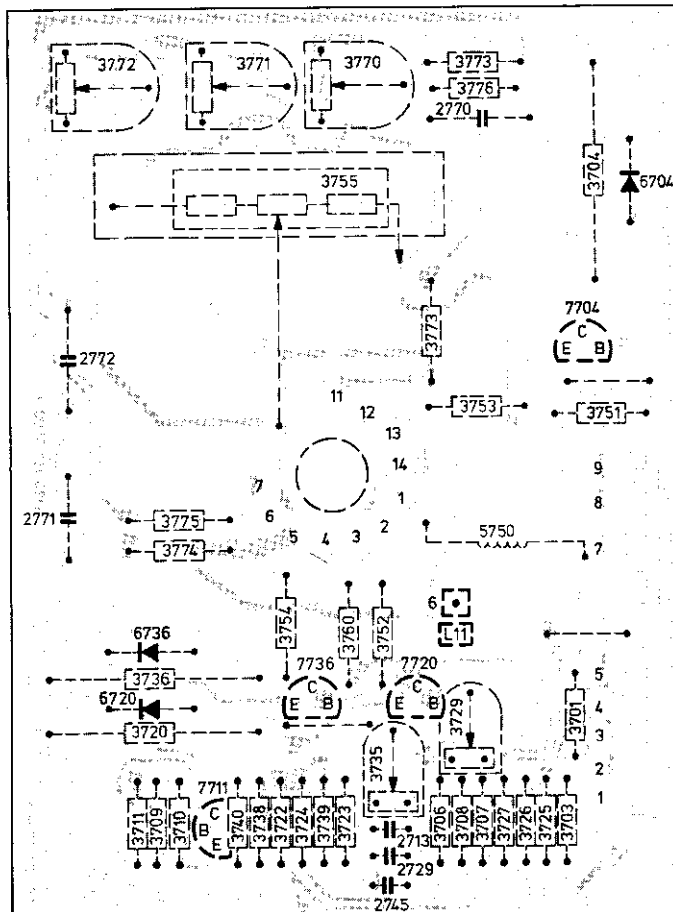
1) FOR REMARKS SEE SERVICE MANUAL

CTO-N 20" DAS

PR501756
T02/651



37 504 B12



37 733 B13

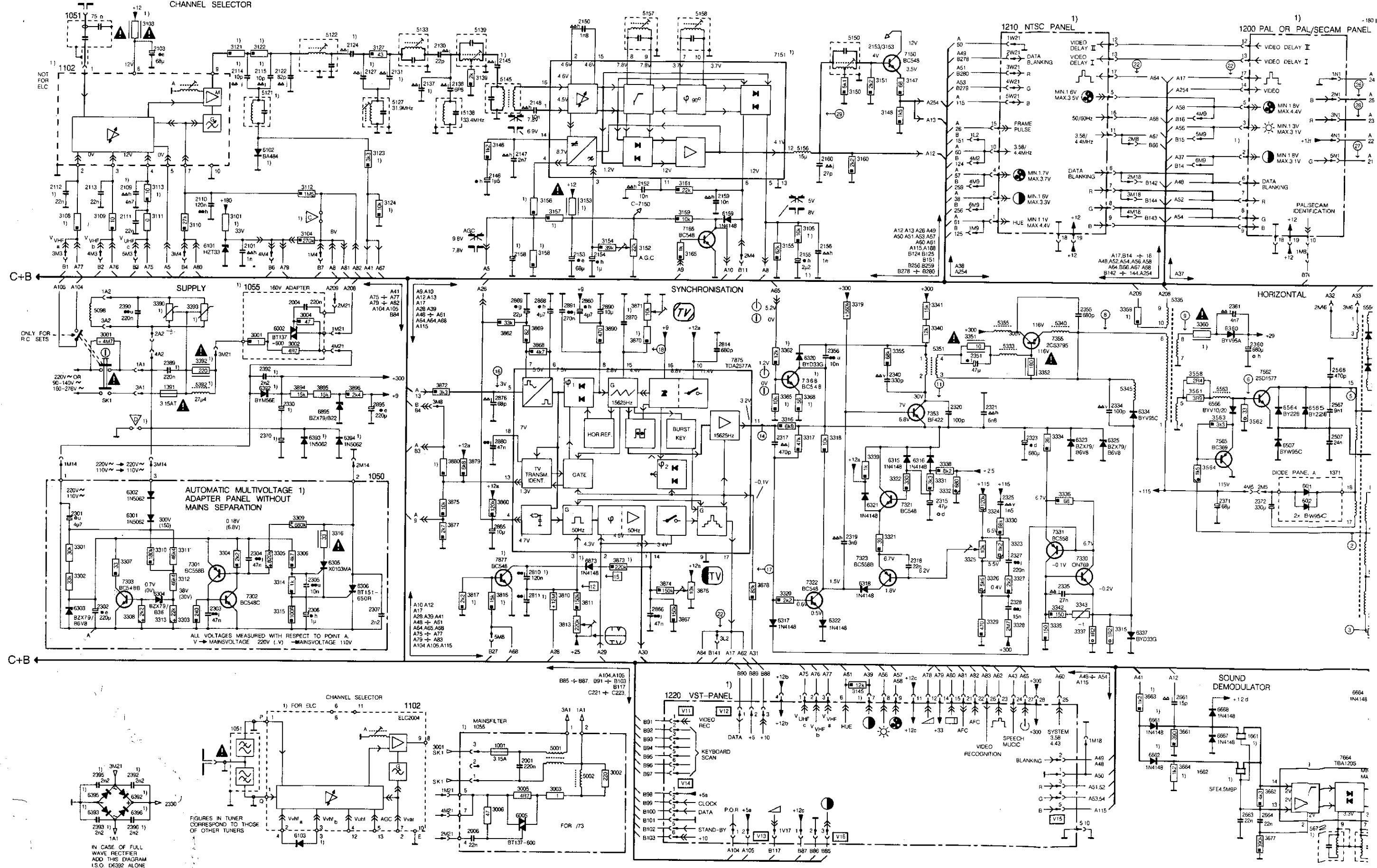
DIFFERENCE LIST FOR 20" DAS SETS

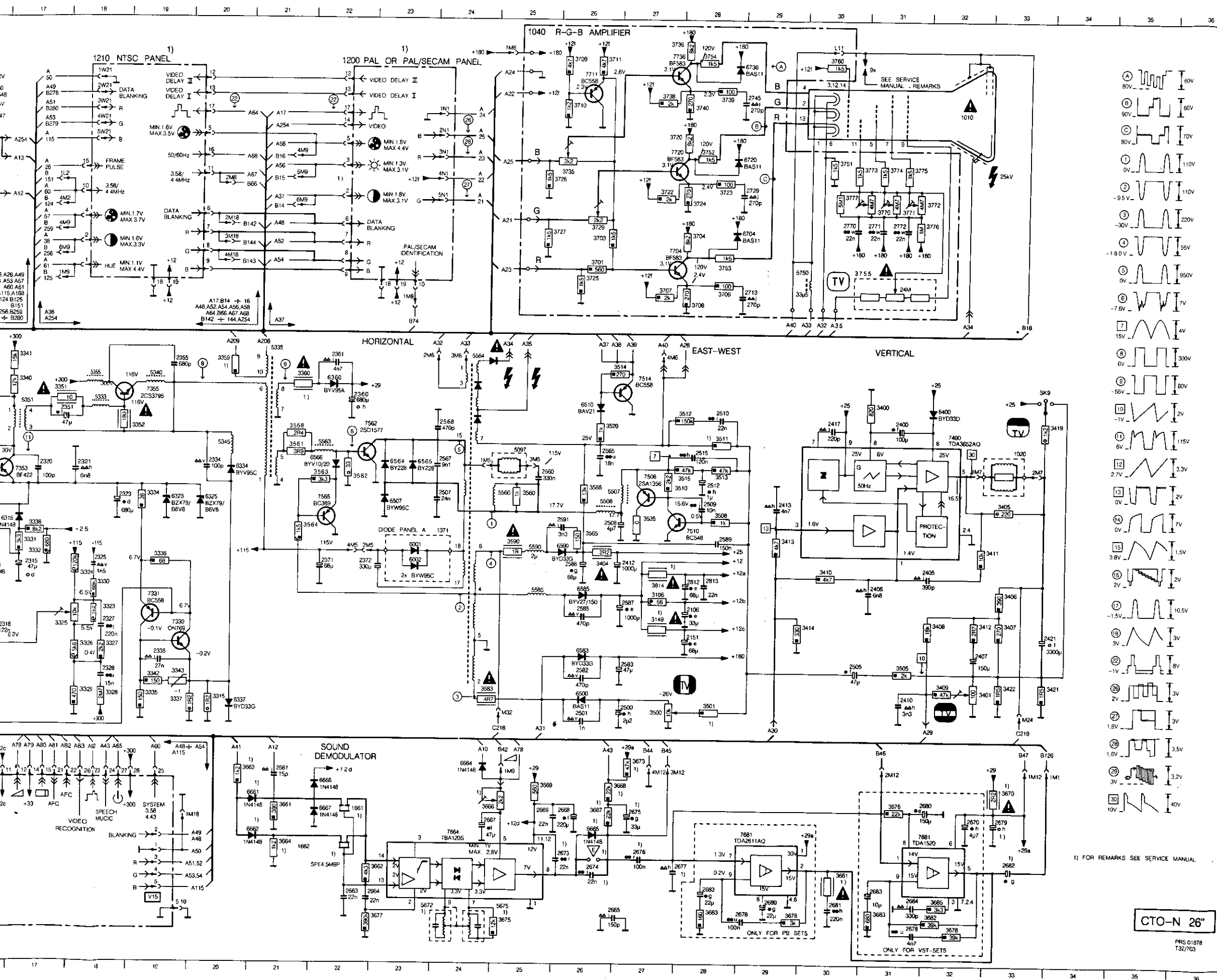
Item	/51	/73	/81
20CT6550	X	X	X
20CT6850		X	
1102 tuner UV..	411	471	411
1200 PAL	-	PAL-I	-
1200 PAL/SECAM	X	-	X
1210 NTSC	X	-	X
1210 TXT interf.			
(6850 only)	-	X	-
1220 VST	X	X	X
1230 TXT supply			
(6850 only)	-	X	-
1300 Multi volt.	-	-	-
1661 filter ..MHz	5.5	6.0	5.5
1662 filter ..MHz	4.5	-	4.5
2112	22n	-	22n
2114	10p	-	10p
2115	10p	-	10p
2137	2p2	12p	2p2
2810	120n	-	120n
2811	560n	680n	560n
2870	3n3	2n2	3n3
3108	10R	-	10R
3121	56R	0R	56R
3122	22R	82R	22R
3123	3k3	-	3k3
3124	10k	-	10k
3663	1k2	-	1k2
3664	1k2	-	1k2
3816	15k	-	15k
3817	2k2	-	2k2
3870	20k	36k	20k
3873	220k	-	220k
3879	6k8	6k8	6k8
3879 (6850)	-	-	-
3881	-	-	-
3881 (6850)	-	0R	-
5121 ..uH	0.32	-	0.32
5672 ..uH	12.5	-	12.5
5675 ..uH	8.4	6.7	8.4
6102 BA484	X	-	X
6661 1N4148	X	-	X
6662 1N4148	X	-	X
6873 1N4148	X	-	X
7877 BC548	X	-	X
Jumper C	-	-	-
Jumper D	cl	cl	cl
Jumper E	-	-	-
(cl = closed)			

* Items only present when marked with "X"

DIAGRAM A

CHANNEL SELECTOR





A	1001	M 9	2810	J10	3561	G21	6325	H20
	1010	B32	2811	K10	3562	H22	6335	N 2
	1020	G33	2812	I28	3563	H22	6337	K20
	1040	H25	2813	I28	3564	I22	6360	F22
	1050	I 7	2814	G13	3565	H26	6392	G 5
	1051	A 2	2850	F11	3566	M21	6392	N 3
	1051	M 5	2855	J 9	3563	K24	6393	H 6
	1055	F 5	2866	K12	3550	I25	6393	O 2
	1102	B 2	2868	F10	3561	M21	6394	H 7
	1102	A22	2869	F11	3569	M21	6395	N 2
B	1210	A18	2870	F12	3563	M21	6396	O 3
	1220	M12	2876	G 9	3564	N21	6400	G32
	1300	A 4	2880	H 9	3566	M25	6500	K26
	1391	G 4	2881	F10	3569	M21	6503	J11
	1661	M22	2891	F11	3568	M27	6510	G36
	1662	N21	2895	H 7	3569	M25	6564	H23
	2001	N10	3001	F 2	3670	M33	6565	H23
	2002	F 6	3002	F11	3671	M25	6566	G32
	2006	O 9	3002	G 6	3675	O25	6583	M17
	2101	E 5	3002	N11	3676	M01	6586	J26
C	2103	J 3	3003	N10	3677	O23	6590	I26
	2106	G15	3004	G 6	3678	M21	6681	M21
	2109	D 3	3005	N10	3678	O32	6682	J21
	2110	D 4	3006	O 9	3681	N30	6664	L24
	2111	D 3	3101	D 5	3682	O32	6685	M26
	2112	D 3	3102	D 5	3683	O28	6687	M22
	2113	D 2	3104	E 6	3684	O28	6688	J21
	2114	B 5	3105	E15	3685	O32	6704	D29
	2115	B 5	3106	J27	3701	O26	6720	C29
	2124	A 7	3106	D 2	3703	D26	6736	A29
D	2127	B 7	3110	E 4	3706	E28	6895	H 6
	2130	A 8	3111	D 3	3707	E27	7150	A18
	2131	H 6	3112	D 6	3708	E28	7151	B14
	2132	B 9	3113	D 3	3709	E28	7152	B14
	2138	B 9	3121	A 5	3710	E26	7301	J 4
	2145	B 9	3122	A 5	3711	A26	7302	K 3
	2146	B 9	3123	C 7	3712	B27	7303	K 5
	2146	C10	3124	C 7	3713	C27	7321	I16
	2148	B10	3127	A 4	3723	C28	7332	K15
	2150	A11	3139	B 9	3724	C28	7323	I16
E	2151	J28	3145	L16	3725	E26	7330	J19
	2152	G16	3146	L16	3726	E26	7331	J19
	2153	E11	3147	B16	3727	O28	7332	K15
	2154	E11	3148	B16	3729	D26	7355	F19
	2155	E15	3149	J27	3735	C26	7368	G15
	2156	E15	3150	J27	3736	A27	7400	G32
	2158	D10	3151	B16	3737	C26	7404	D27
	2159	D13	3152	E12	3739	B28	7510	I28
	2160	C15	3153	D11	3740	B28	7514	F27
	2161	C15	3154	E11	3751	O30	7562	G22
F	2302	K 2	3155	E14	3752	O27	7688	H27
	2303	K 4	3156	D10	3753	D28	7664	N24
	2304	J 5	3157	D10	3754	A28	7681	N29
	2305	K 5	3158	O 9	3755	O30	7681	N32
	2306	K 6	3159	D12	3756	K13	7682	N32
	2307	K 7	3160	C16	3770	C31	7711	A26
	2315	I17	3161	D12	3771	C31	7720	A27
	2317	H14	3165	D13	3772	C32	7736	A27
	2318	J17	3166	C12	3773	C31	7737	A27
	2319	J15	3202	K 2	3774	C31	7677	J 9
G	2320	H17	3303	K 4	3775	C31	SK1	H 3
	2321	H18	3304	J 5	3776	C32	SK9	F33
	2323	H18	3305	J 5	3777	C32	SK9	F33
	2325	I18	3306	J 6	3810	K10		
	2327	J18	3307	J 3	3811	K11		
	2328	K18	3308	K 3	3813	K10		
	2329	H 6	3309	F12	3814	G27		
	2334	H20	3310	J 3	3816	K 9		
	2335	K19	3311	J 4	3817	K 9		
	2340	G16	3312	K 4	3860	I 9		
H	2345	G17	3313	K 6	3861	G 9		
	2355	F19	3314	K 6	3862	K13		
	2356	G15	3315	K 6	3868	G10		
	2360	F22	3315	K20	3869	F10		
	2361	F22	3316	J 7	3870	F22		
	2370	H 5	3316	H14	3871	F11		
	2371	I22	3317	H15	3872	G 8		
	2379	I22	3318	H15	3873	J11		
	2389	G 4	3319	K16	3874	K12		
	2390	F 3	3320	K15	3875	F12		
I	2392	G 5	3321	J16	3876	K13		
	2392	N 3	3322	I16	3877	J 9		
	2393	O 2	3323	K18	3878	K14		
	2395	N 2	3324	I18	3879	F12		
	2396	O 3	3325	J17	3880	J 9		
	2400	G31	3326	K18	3890	F11		
	2401	I 32	3327	K18	3894	G 6		
	2406	J31	3328	K18	3895	F10		
	2407	K32	3329	K18	3896	G 7		
	2410	K31	3330	J18	5001	N10		
J	2412	I27	3331	I17	5002	N11		
	2413	H29	3332	I17	5003	N12		
	2417	G30	3334	H19	5098	F 2		
	2421	J34	3335	K19	5121	B 5		
	2426	L27	3336	I19	5122	A 6		
	2501	K37	3337	K16	5133	A 8		
	2505	K30	3338	I17	5133	A 8		
	2507	H24	3339	H16	5138	C 9		
	2508	H26	3340	F17	5139	A 9		
	2509	H28	3341	K19	5140	E 9		
K	2510	G28	3342	K19	5150	A15		
	2512	H28	3343	K19	5156	C14		
	2515	G28	3351	F17	5157	A12		
	2520	H25	3352	K19	5158	A18		
	2565	G26	3355	G10	5333	G18		
	2567	G24	3359	F20	5335	F21		
	2568	G24	3360	F21	5340	F19		
	2569	G26	3361	F21	5345	G20		
	2583	K27	3365	G14	5345	F20		
	2585	J26	3368	G15	5355	F18		
L	2587	J27	3390	F 3	5392	G 4		
	2588	G 2	3391	G16	5393	F18		
	2589	L28	3393	A 3	5507	H26		
	2591	H26	3400	G31	5560	H25		
	2661	M21	3401	K33	5563	G22		
	2663	O21	3402	K35	5564	F24		
	2664	O23	3405	H33	5565	G22		
	2665	O27	3406	J33	5560	I25		
	2687	M25	3407	J33	5572	O23		
	2688	M26	3408	J32	5575	O28		
M	2689	M22	3409	J32	5575	O28		
	2690	M32	3410	J30	6001	I 3		
	2673	N26	3411	J33	6002	F 3		
	2674	N26	3412	J33	6002	I23		
	2675	M27	3413	J30	6102	E10		
	2676	N27	3414	J30	6101	E 4		
	2677	N28	3419	G34	6102	E 4		
	2678	O29	3421	K34	6103	O 6		
	2678	O31	3422	K34	6103	O13		
	2679	M33	3500	L27	6301	G30		
N	2680	O29	3501	K28	6302	I 3		
	2680	M32	3505	K31	6303	K 2		
	2681	G30	3506	I14	6304	K 3		
	2682	N33	3510	H28	6305	K 7		
	2683	N30	3511	G28	6306	K 7		
	2683	N31	3512	G28	6316	H16		
	2684	O31	3513	G28	6316	H17		
	2713	E29	3514	F27	6317	H16		
	2729	C29	3515	H28	6318	H16		
	2745	B29	3520	G26	6320	G15		
O	2770	O30	3521	H28	6321	I16		
	2771	D31	3558	G21	6322	H16		
	2772	D31	3560	H25	6323	H19		

DIFFERENCE LIST FOR 26" SETS

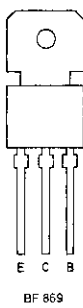
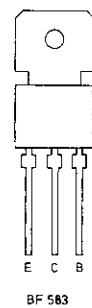
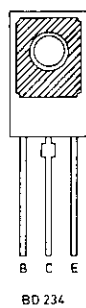
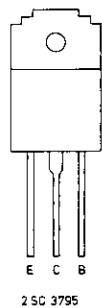
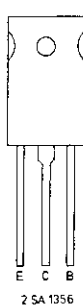
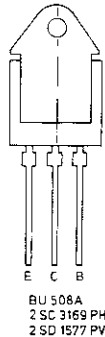
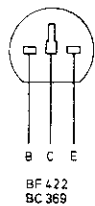
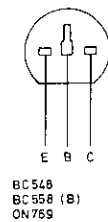
Item	/51	/62	/64	/73	/80
26CT6070	X	-	X	X	X
26CT6470	X	X	-	X	X
1102 tuner UV..	411	-	-	471	411
1102 tuner ELC	-	X	X	-	-
1103 SAW filter	-	-	X	-	-
1200 PAL-I	-	-	-	X	-
1200 PAL SECAM	X	X	X	-	X
1210 NTSC	X	-	-	-	-
1220 vst panel	X	X	-	X	X
1050 multi volt.	X	-	-	-	X
1661 filter .MHz	5.5	5.5	5.5	6.0	5.5
1662 filter .MHz	4.5	-	-	-	-
1681 pb assy 4W	X	-	X	X	X
1681 vst assy 10W	X	X	-	X	-
1055 mains filter	-	-	-	-	-
2109	4n7	-	-	4n7	4n7
2112	22n	22n	22n	-	22n
2114	10p	-	-	-	-
2115	10p	-	-	-	-
2124	5p6	5p8	-	5p6	5p6
2137	2p2	3p3	-	12p	2p2
2145	6p8	4p7	-	6p8	6p8
2155 vst	2u2	2u2	-	2u2	2u2
2158	22u	47u	47u	22u	22u
2330	470u	470u	220u	220u	470u
2370	470u	-	-	470u	470u
2389	220n	220n	220n	-	220n
2393	-	-	2n2	2n2	-
2395	-	-	2n2	2n2	-
2396	-	-	2n2	2n2	-
2673pb	-	-	-	-	-
2673 vst	22n	22n	-	22n	22n
2674 vst	22n	22n	-	22n	22n
2675 vst	33u	33u	-	33u	33u
2676 pb	100n	-	100n	100n	100n
2676 vst	-	-	-	-	-
2677 pb	15n	-	15n	15n	15n
2677 vst	22n	22n	-	22n	22n
2678 pb	100n	-	100n	100n	100n
2678 vst	4n7	4n7	-	4n7	4n7
2680 pb	22u	-	22u	22u	22u
2680 vst	150u	150u	-	150u	150u
2682 pb	330u	-	330u	330u	330u
2682 vst	470u	470u	-	470u	470u
2683 pb	22u	-	22u	22u	22u
2683 vst	10u	10u	-	10u	10u
2684 vst	330p	330p	-	330p	330p
2810	120n	-	-	-	-
2811	560n	680n	680n	680n	680n
2870	3n3	2n2	2n2	2n2	2n2
3101 pb	18k	-	18k	18k	18k
3101 vst	15k	15k	-	15k	15k
3103	18R	470R	470R	18R	18R
3105 vst	10k	10k	-	10k	10k
3108	10R	100R	100R	-	10R
3113	10R	-	-	10R	10R
3116	-	150R	150R	-	-
3121	56R	0R	0R	0R	0R
3122	22R	82R	68R	82R	82R
3123	3k3	-	-	-	-
3124	10k	-	-	-	-

Item	/51	/62	/64	/73	/80
3156	180R	330R	330R	180R	180R
3157	2k7	1k0	1k	2k7	2k7
3158	10k	2k2	2k2	10k	10k
3360 pb	2R2	-	2R2	2R2	2R2
3360 vst	1R	1R	-	1R	1R
3362 vst	12k	12k	-	12k	12k
3365 vst	10k	10k	-	10k	10k
3368 vst	56R	56R	-	56R	56R
3392	220R	220R	-	220R	220R
3393 PTC	110/220V	-	110/220V	-	110/220V
3501	91k	91k	91k	82k	91k
3511	560k	560k	560k	300k	560k
3663	1k2	-	-	-	-
3664	1k2	-	-	-	-
3665 pb	0R	-	0R	0R	0R
3665 vst	-	-	-	-	-
3666 pb	2k2 lin	-	2k2 lin	2k2 lin	2k2 lin
3666 vst	-	-	-	-	-
3667 vst	22k	22k	-	22k	22k
3668 vst	22k	22k	-	22k	22k
3673 vst	47k	47k	-	47k	47k
3676 vst	22k	22k	-	22k	22k
3678 pb	3k	-	3k	3k	3k
3678 vst	39	39k	-	39k	39k
3681 pb	3R3	-	3R3	3R3	3R3
3681 vst	2R2	2R2	-	2R2	2R2
3682 vst	39k	39k	-	39k	39k
3683 pb	160R	-	160R	160R	160R
3683 vst	680R	680R	-	680R	680R
3685 vst	3k3	3k3	-	3k3	3k3
3816	15k	-	-	-	-
3817	2k2	-	-	-	-
3870	20k	36k	36k	36k	36k
3873	220k	-	-	-	-
5121 .uH	0.32	-	-	-	-
5392 .uH	27.4	27.4	-	-	27.4
5672 .uH	12.5	-	-	-	-
5675 .uH	8.4	8.4	8.4	6.7	8.4
6102 BA484	X	-	-	-	-
6103 1N4148	-	X	X	-	-
6392 BYM566E	X	X	-	-	X
6392 1N5062	-	-	X	X	-
6394 1N5062	X	-	-	-	X
6395 1N5062	-	-	X	X	-
6396 1N5062	-	-	X	X	-
6661 1N4148	X	-	-	-	-
6662 1N4148	X	-	-	-	-
6665 vst 1N4148	X	X	-	-	-
6873 1N4148	X	-	-	-	-
7151 TDA3540	-	X	X	-	-
7151 TDA3541	X	-	-	X	X
7368 vst BC548	X	X	-	X	X
7877 BC548	X	-	-	-	-
Jumper C pb	cl	-	cl	cl	cl
Jumper C vst	-	-	-	-	-
Jumper D	-	cl	cl	cl	-
Jumper E pb	cl	-	cl	cl	cl
Jumper E vst	-	-	-	-	-

* Items only present when marked with "X"

LIST OF SYMBOLS

	Changer, general		AND gate		Amplifier, general
	Burst key separator		De-emphasis		Stand-by
	Synchronisation separator		Pulse-width modulator		On/off
	Divider		90° phase shifter		Output stage
	Phase changing network		Electronic switch		Controlled amplifier
	Automatic gain control		Variable impedance		Mixer stage
	Flip-flop on half line frequency		Display		Amplifier with limiter
	Square wave generator		Delay element		Positive peak clipper
	Sawtooth generator		Detector		Black level restorer
	Sinewave generator		Phase detector		Coaxial aerial input
	Adjustable sinewave generator		Voltage stabilizer		RC network (integrator)
	Rejection filter		FM detector		Decoding matrix
	Balance control		Phase discriminator		Infra red transmitter
	Volume control		Colour killer		Infra red receiver
	Bass and treble control		Spatial stereo		Multi-function switch
	Shaper		Sandcastle generator		Modulator
	Oscillator		Adder circuit		Divider + 90° phase shifter



41467 C12

Circuit	Voltage													
	25 kV	5.4 kV	ff	+300	+180	+115	+29	+25	+12	+12a	+12b	+12c	+9	-26
Tuner					X				X					
IF+Det.+AGC									X					
Chrominance+Luminance									X					
RGB amplifiers					X									
Picture tube	X	X	X		X									
Synchronisation								X	X	X			X	
Supply				X										
Frame output								X						
Line output						X		X						
E-W correction														X
Sound							X							
Control circuit											X	X		

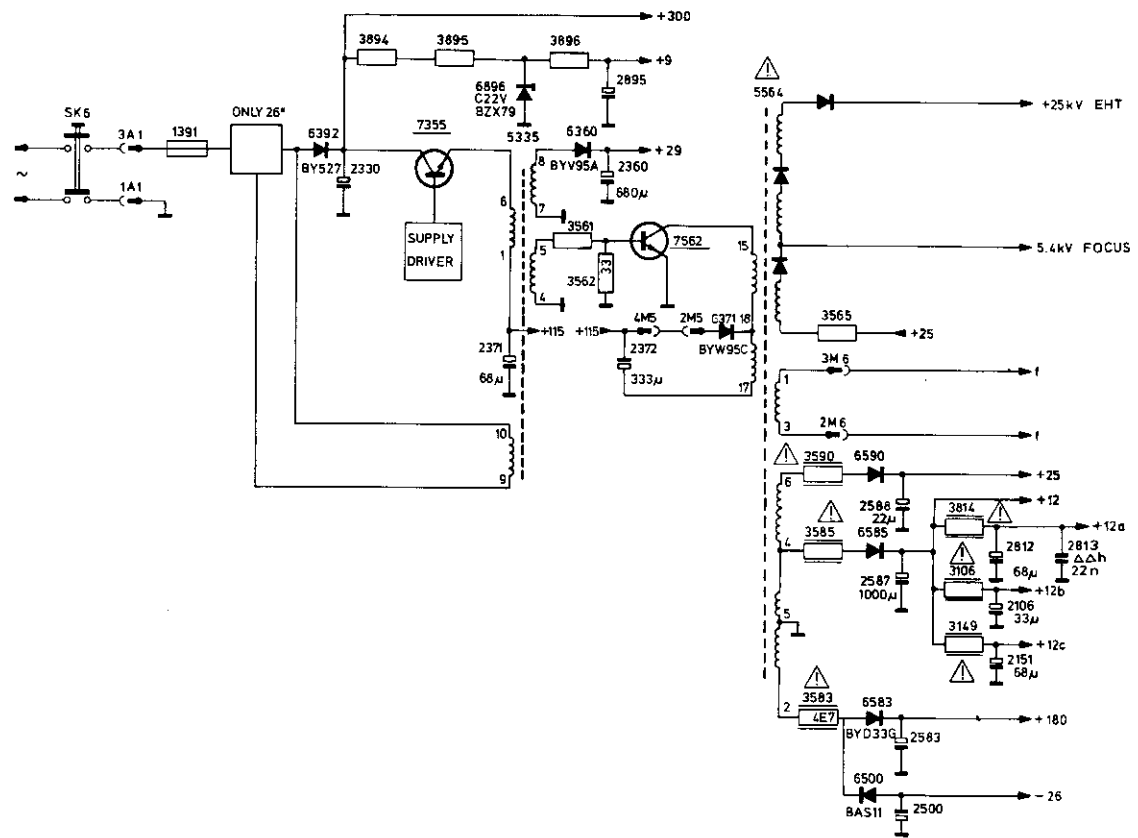
SYMBOLS USED IN CIRCUIT DIAGRAMS

SYMBOL	TYPE	P 70° gmb	TOLERANCE	SERIES
	SFR16T	0.5	1E - 3M 5%	E24
	SFR25H	0.5	1E - 10M 5%	E24
	MRS25	0.6	1E - 1M 1%	E24
	MR30	0.5	1E - 1M 1% (2%)	E24
	VR37	0.5	220K - 33M 5%	E24
	PR37	1.6	1E - 1M 5%	E24
	VR68	1	100K - 68M 5%	E24
	MRS16T	0.4	10R - 100K	E24E96

SYMBOL	TYPE	VOLTAGE DC	TOLERANCE
	POLYESTER FLATFOIL	SEE NOTE	10%
	PLATE CERAMIC	SEE NOTE	DEPENDENT ON CAPACITY
	ELCO MINIATURE SINGLE	SEE NOTE	-10+50%
	ELCO SINGLE ENDED	SEE NOTE	±20%

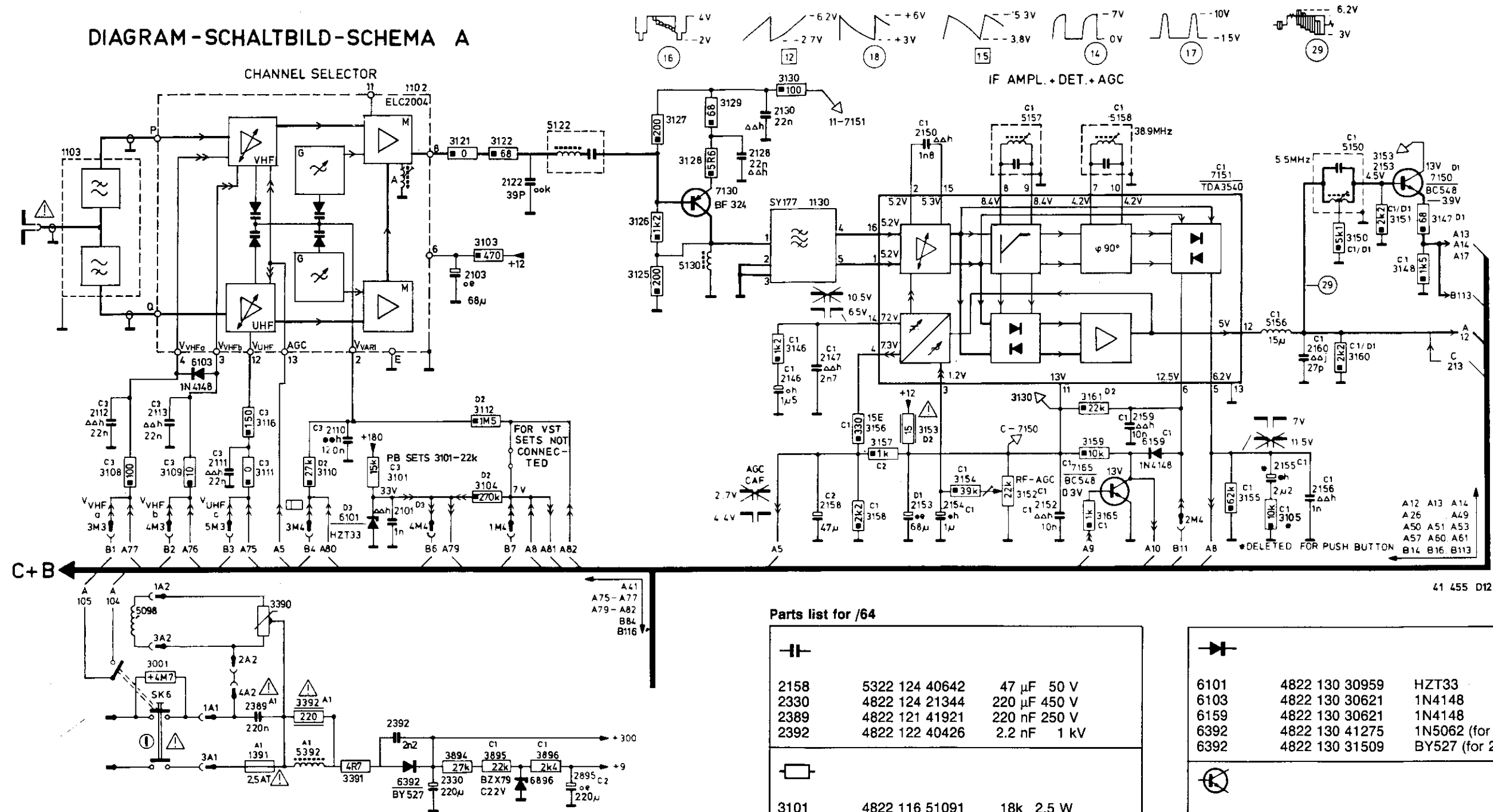
NOTE
* f = 25V g = 40V q = 200V x = 1000V E = 20V
a = 2.5V h = 63V r = 250V z = 1600V F = 35V
b = 4V j = 100V s = 300V A = 16V G = 50V
c = 6.3V l = 125V u = 400V B = 6V H = 75V
d = 10V m = 150V v = 500V C = 12V I = 80V
e = 16V n = 160V w = 630V

39 301 A13/617



37 725 C12 / 636

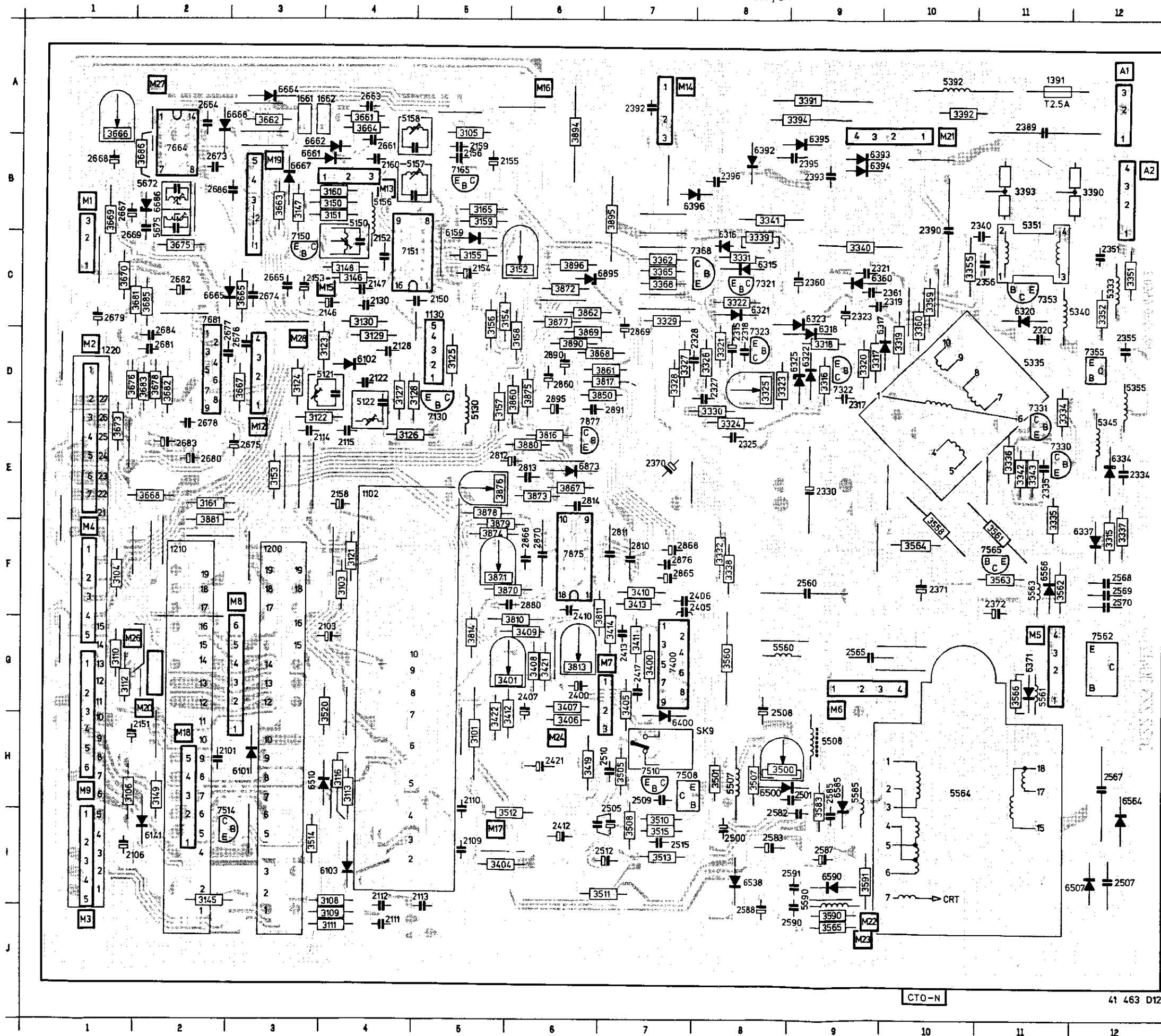
DIAGRAM - SCHALTBIID-SCHEMA A



Parts list for /64

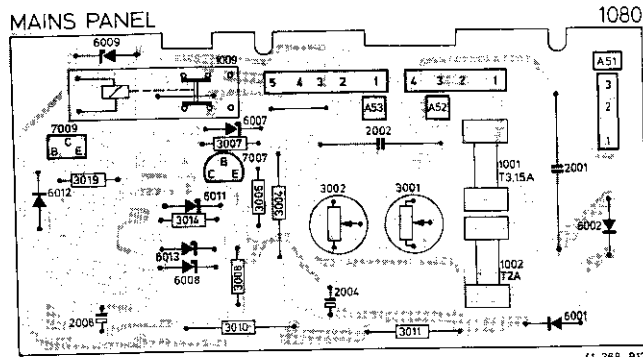
2158	5322 124 40642	47 μ F 50 V
2330	4822 124 21344	220 μ F 450 V
2389	4822 121 41921	220 nF 250 V
2392	4822 122 40426	2.2 nF 1 kV
3101	4822 116 51091	18k 2.5 W
3152	4822 100 10051	22k potm.
3153	4822 111 30513	15R 0.33 W
3390	4822 116 40036	110/220 V PTC
3391	4822 122 32427	4R7 10 W
3392	4822 111 30544	220R 0.33 W
3894	5322 116 54983	27k
3895	4822 116 51085	22k
5122	4822 157 52742	0.58 μ H
5130	4822 157 51724	1.2 μ H
5150	4822 156 20802	10.1 μ H
5156	4822 157 50965	15 μ H
5157	4822 156 20799	0.28 μ H
5158	4822 156 21299	38.9 Mc
5392	4822 157 52143	27.4 μ H

6101	4822 130 30959	HZT33
6103	4822 130 30621	1N4148
6159	4822 130 30621	1N4148
6392	4822 130 41275	1N5062 (for 26")
6392	4822 130 31509	BY527 (for 20")
7130	4822 130 41448	BF324
7150	4822 130 40938	BC548
7165	4822 130 40938	BC548
7151	4822 209 10939	TDA3540
VARIOUS		
1102	4822 210 40159	ELC2004
1103	4822 218 20347	Aerial unit
1130	4822 242 71742	Ceramic filter
1391	4822 253 30026	2.5 A
5098	4822 157 51645	Degaussing coil
SK6	4822 276 11589	Mains switch

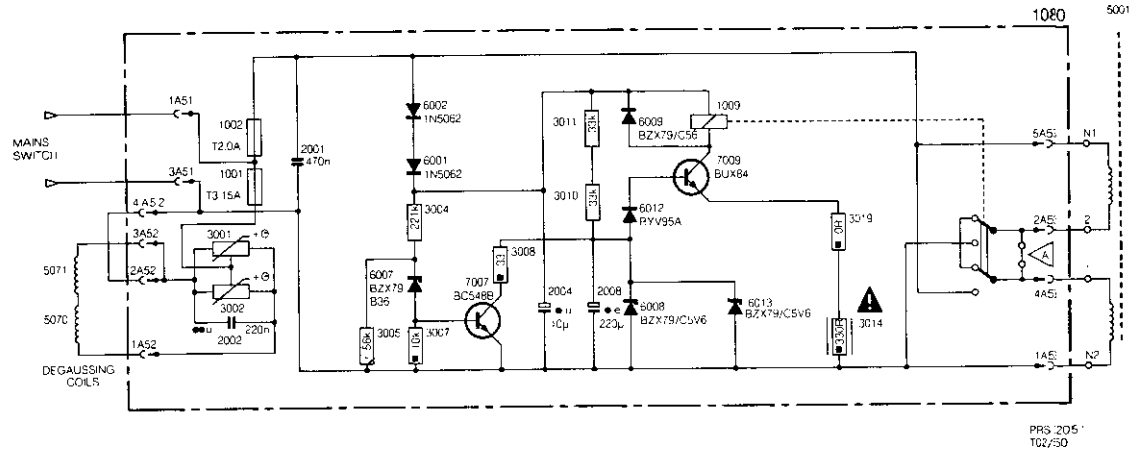
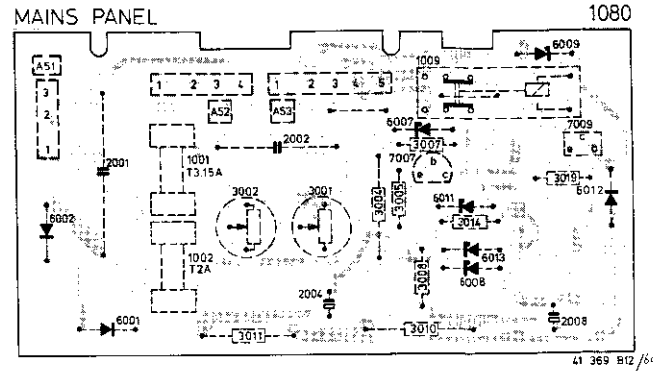


1102	E 4	2676	D 3	3390	B12	5345	D12
1130	C 5	2677	D 3	3391	A 9	5351	B11
1200	F 3	2678	D 2	3392	A10	5355	D12
1210	F 2	2679	C 1	3393	B11	5392	A10
1220	D 1	2680	E 2	3394	A 9	5507	H 8
1391	R11	2681	D 2	3400	G 7	5508	H 9
1661	A 3	2682	C 2	3401	G 6	5560	G 8
1662	A 3	2683	E 2	3404	I 5	5561	G11
2101	H 3	2684	D 2	3405	G 7	5563	F11
2103	G 4	2686	B 2	3406	H 6	5564	H10
2106	I 2	2687	F 7	3407	G 6	5585	H 9
2109	I 5	2688	F 7	3408	G 6	5590	I 9
2110	H 5	2689	E 5	3409	G 6	5672	B 2
2111	J 4	2690	F 6	3410	F 7	5675	B 2
2112	I 4	2691	E 6	3411	G 7	6101	H 3
2113	I 5	2692	D 6	3412	G 7	6102	D 4
2114	E 4	2693	F 7	3413	F 7	6103	I 4
2115	E 4	2694	F 6	3414	G 7	6141	I 2
2122	D 4	2695	D 7	3419	H 6	6159	B 5
2128	D 4	2696	D 7	3421	G 6	6315	C 8
2130	C 4	2697	F 6	3422	G 5	6316	B 8
2146	C 4	2698	F 7	3500	H 8	6317	C10
2147	C 4	2699	F 6	3501	H 8	6318	C 9
2150	C 5	2699	D 6	3505	H 7	6320	C11
2151	H 2	2699	D 7	3507	H 8	6321	C 8
2152	C 4	2699	D 6	3508	I 7	6322	C 9
2153	C 3	2699	D 6	3510	I 7	6323	C 9
2154	C 5	2699	D 6	3511	I 7	6325	D 9
2155	B 5	2699	D 6	3512	I 6	6334	E12
2156	B 5	2699	D 6	3513	I 7	6337	F12
2158	E 4	2699	D 6	3514	I 3	6360	C 9
2159	B 5	2699	D 6	3515	I 7	6371	G11
2160	B 4	2699	D 6	3520	G 4	6392	B 8
2315	C 8	2699	D 6	3558	E10	6393	B 8
2317	D 9	2699	D 6	3560	G 8	6394	B 9
2318	C 8	2699	D 6	3561	F11	6395	B 9
2319	C10	2699	D 6	3562	F11	6396	B 7
2320	C11	2699	D 6	3563	F11	6400	H 7
2321	C 9	2699	D 6	3564	F10	6500	H 8
2323	C 9	2699	D 6	3565	J 9	6507	I12
2325	E 8	2699	D 6	3566	G11	6510	H 4
2327	D 8	2699	D 6	3568	J 9	6538	I 8
2328	D 8	2699	D 6	3590	J 9	6564	H12
2330	E 9	2699	D 6	3591	I 9	6566	F11
2334	E12	2699	D 6	3661	A 4	6585	H 9
2335	E11	2699	D 6	3662	A 3	6590	I 9
2340	B11	2699	D 6	3663	B 3	6661	B 3
2351	C12	2699	D 6	3664	A 4	6662	B 3
2355	C12	2699	D 6	3665	C 3	6664	A 3
2356	C11	2699	D 6	3666	B 1	6665	C 2
2358	C 9	2699	D 6	3667	C 3	6667	B 3
2360	C 9	2699	D 6	3668	E 2	6668	A 3
2361	C10	2699	D 6	3669	B 1	6668	B 2
2370	E 7	2699	D 6	3670	C 1	6673	E 6
2371	F10	2699	D 6	3673	F 1	6895	C 7
2372	F11	2699	D 6	3675	C 2	7130	D 5
2389	A11	2699	D 6	3676	D 2	7150	C 3
2390	B10	2699	D 6	3678	D 1	7151	C 4
2392	A 7	2699	D 6	3679	D 2	7165	B 5
2393	B 9	2699	D 6	3681	C 2	7321	C 8
2395	B 9	2699	D 6	3682	C 2	7322	D 8
2396	B 8	2699	D 6	3683	D 2	7323	D 8
2398	B 8	2699	D 6	3685	C 2	7325	D 8
2400	G 6	2699	D 6	3686	B 2	7330	E11
2405	F 8	2699	D 6	3688	G 6	7331	D11
2406	F 8	2699	D 6	3689	F 7	7353	C11
2407	G 6	2699	D 6	3691	G 6	7355	D12
2410	F 6	2699	D 6	3693	G 5	7368	C 8
2412	I 6	2699	D 6	3694	G 5	7400	G 7
2413	G 7	2699	D 6	3696	E 6	7508	H 7
2417	G 7	2699	D 6	3697	D 7	7510	H 7
2421	H 6	2699	D 6	3698	D 6	7514	I 3
2500	I 8	2699	D 6	3699	D 6	7514	I 3
2501	H 9	2699	D 6	3699	D 7	7562	G12
2505	H 7	2699	D 6	3699	C 6	7565	F11
2507	I12	2699	D 6	3699	E 6	7664	B 2
2508	G 8	2699	D 6	3699	D 6	7681	C 2
2509	H 7	2699	D 6	3699	D 6	7675	F 6
2510	H 7	2699	D 6	3699	F 5	7677	D 8
2512	I 7	2699	D 6	3699	C 6	7677	D 8
2515	I 7	2699	D 6	3699	C 6	7677	D 8
2560	F 9	2699	D 6	3699	C 6	7677	D 8
2565	G 9	2699	D 6	3699	C 6	7677	D 8
2567	H12	2699	D 6	3699	C 6	7677	D 8
2568	F12	2699	D 6	3699	C 6	7677	D 8
2569	F12	2699	D 6	3699	C 6	7677	D 8
2570	F12	2699	D 6	3699	C 6	7677	D 8
2582	H 8	2699	D 6	3699	C 6	7677	D 8
2583	I 8	2699	D 6	3699	C 6	7677	D 8
2585	H 9	2699	D 6	3699	C 6	7677	D 8
2587	I 9	2699	D 6	3699	C 6	7677	D 8
2588	J 8	2699	D 6	3699	C 6	7677	D 8
2590	J 9	2699	D 6	3699	C 6	7677	D 8
2591	I 9	2699	D 6	3699	C 6	7677	D 8
2661	B 4	2699	D 6	3699	C 6	7677	D 8
2663	A 4	2699	D 6	3699	C 6	7677	D 8
2664	A 2	2699	D 6	3699	C 6	7677	D 8
2665	C 3	2699	D 6	3699	C 6	7677	D 8
2667	B 1	2699	D 6	3699	C 6	7677	D 8
2668	B 1	2699	D 6	3699	C 6	7677	D 8
2669	C 1	2699	D 6	3699	C 6	7677	D 8
2673	B 2	2699	D 6	3699	C 6	7677	D 8
2674	C 3	2699	D 6	3699	C 6	7677	D 8
2675	E 3	2699	D 6	3699	C 6	7677	D 8

MAINS PANEL



MAINS PANEL



AUTO MULTIVOLTAGE PANEL

Various

	4822 492 60063	Fuse holder
	5322 390 20011	silicone vet.
	4822 404 30616	support
1001	4822 253 30027	Fuse 3.15A slow
1002	4822 253 30025	Fuse T2A
1009	4822 280 70247	Relay



2001	4822 121 40517	470 nF	275 V
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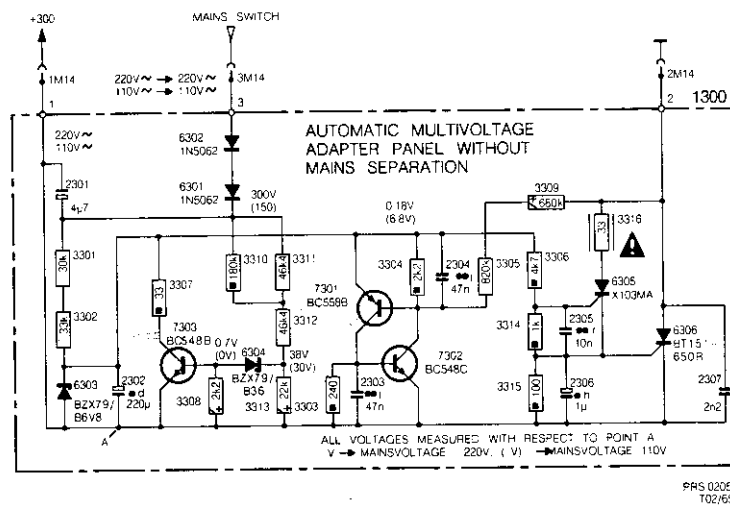
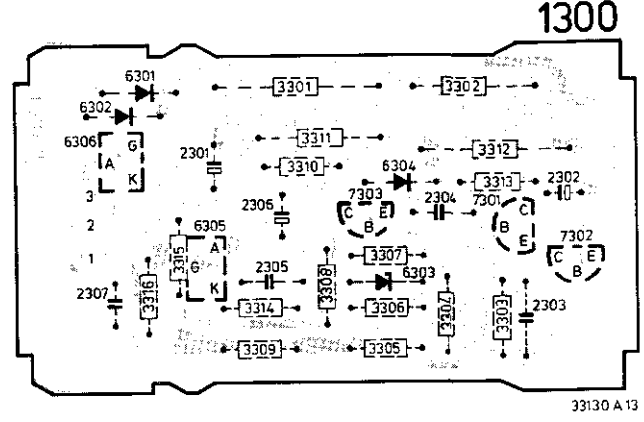
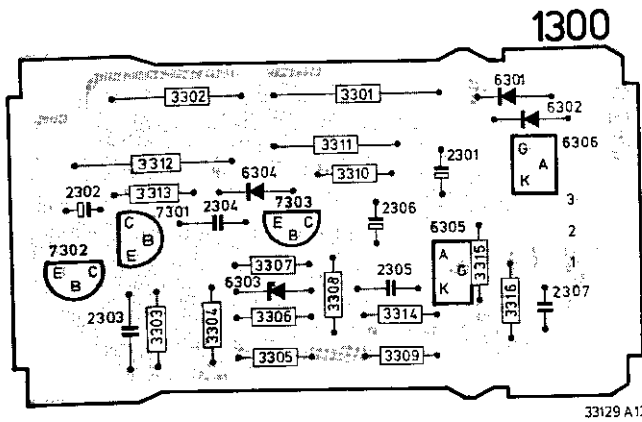
3001	4822 116 40036	Dual 110/220 V PTC
3002	4822 116 40036	Dual 110/220 V PTC
3004	4822 116 52674	221 kΩ 1 W
3010	4822 116 51736	33 kΩ 2.5 W
3011	4822 116 51736	33 kΩ 2.5 W



1N5062	4822 130 41275
BZX79-B36	4822 130 34368
BZX79-C5V6	4822 130 34173
BZX79-C56	4822 130 34258
BYV95A	4822 130 41601

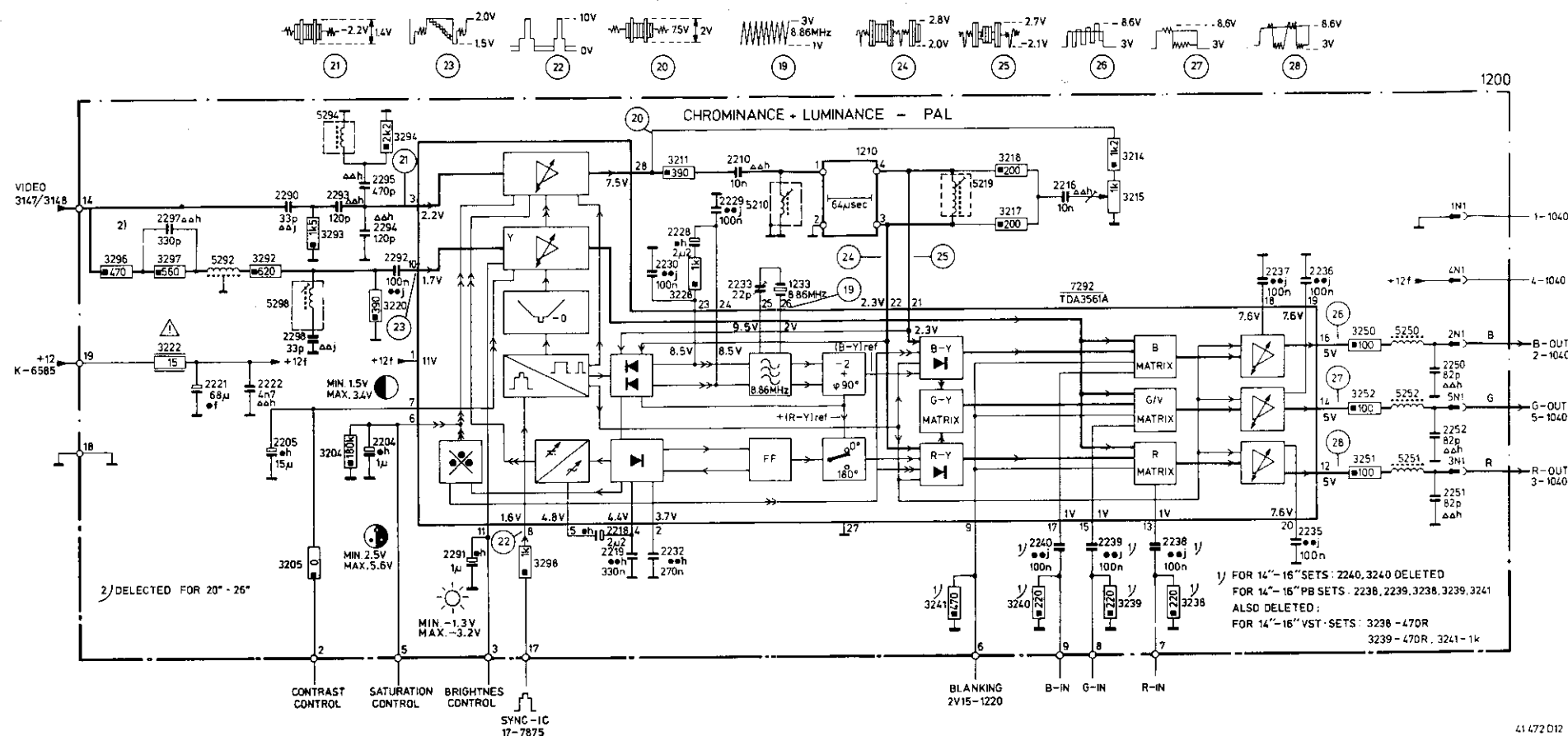


BC548B	4822 130 40937
BUX84	4822 130 41121



AUTOMATIC MULTI VOLTAGE PANEL

3301	4822 116 52133	30	kΩ	2.5 W	
3302	4822 116 52943	33	kΩ	2.5 W	
3305	4822 116 52131	820	kΩ	0.4 W	
3311	4822 116 52132	46,4	kΩ	1 W	
3312	4822 116 52132	46,4	kΩ	1 W	
3316	4822 116 52094	33	Ω	0.5 W	
6301	4822 130 41275	1N5062			
6302	4822 130 41275	1N5062			
6303	4822 130 34278	BZX79-B6V8			
6304	4822 130 34368	BZX79-B36			
6305	4822 130 20181	X0103MA thyristor			
6306	5322 130 24081	BT151-650R thyristor			
Various					
2307	4822 122 40348	2,2nF	1 kV		
7301	4822 130 44197	BC558B			
7302	4822 130 44196	BC548C			
7303	4822 130 40937	BC548B			



ADJUSTMENTS

For adjustment 1 any colour signal may be used. Adjustment 2 and 3 are effected with a colour pattern generator PM5515 or PM5519.

1. Subcarrier oscillator

Apply a colour signal and set the receiver controls to their normal settings.

Interconnect points 23 and 24 of 7292.

Include a 470 Ω resistor between point 6 and point 1 of 7292.

Adjust 2233 in such a manner that the colour on the screen has practically come to a standstill.

Remove the resistor and the interconnection.

2. PAL-delay line

Apply a generator signal. Set the generator to position "DEM", adjust brightness to normal and the saturation control to $\frac{3}{4}$ of its range.

Adjust 3215 so that the venetian blinds effect in the third bar disappears.

Next, adjust 5210 so that the venetian blinds effect in the first and fourth bar disappears.

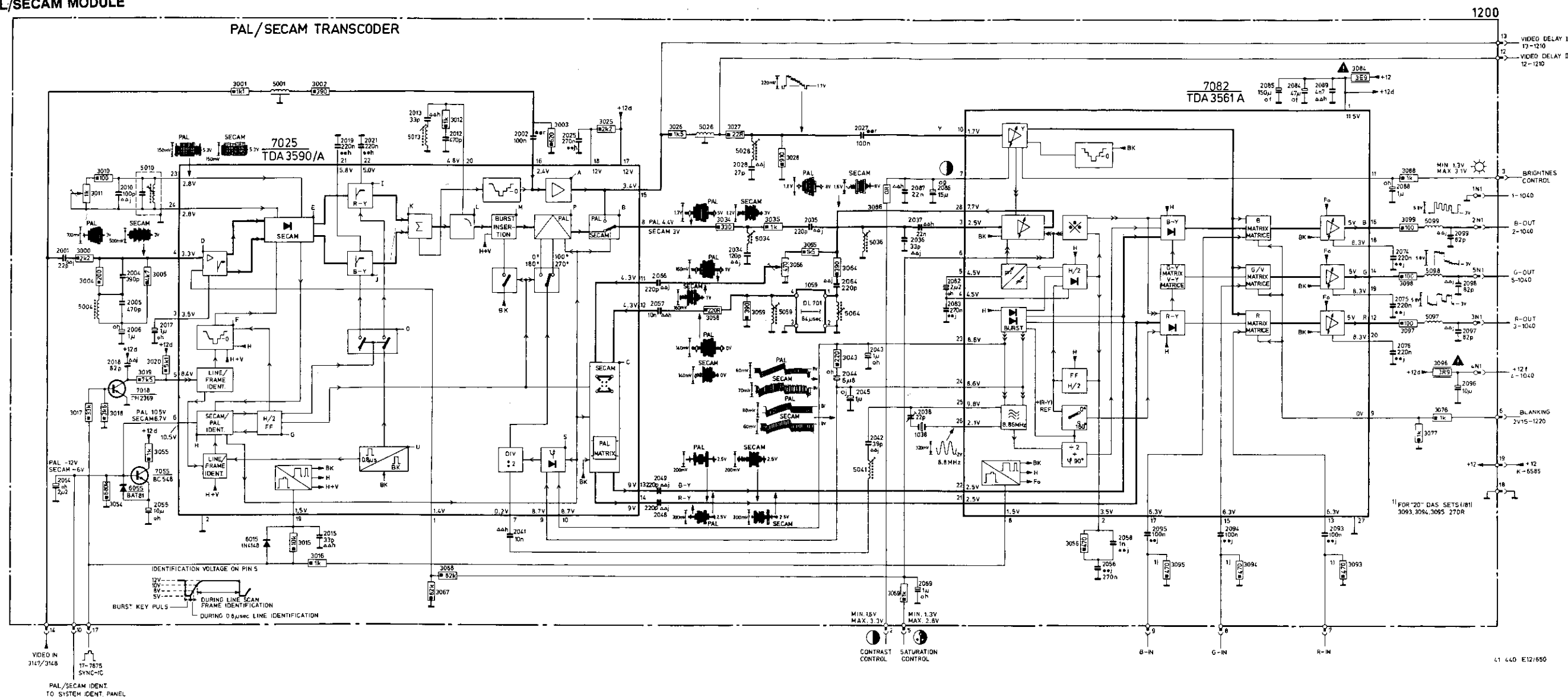
Readjust 3215.

Set the generator to "Colour Bar" position and adjust 5219 so that the venetian blinds effect in the third and/or the fifth bar from the left hand side (resp. cyan and magenta) disappears.

3. The 4.43 MHz trap in the luminance circuit

Use a colour bar pattern. The receiver is normally adjusted.

Connect an oscilloscope to point 10 of 7292 and adjust 5298 to minimum amplitude of the chrominance signal present on the various brightness steps of the luminance signal.



ADJUSTMENTS

For adjustment 1 any colour signal may be used. Adjustment 2 till 7 are effected with a colour pattern generator PM5515 or PM5516.

1. Subcarrier oscillator

Apply a colour signal and set the receiver controls to their normal settings.
Interconnect points 23 and 24 of 7082.
Include a 470 Ω resistor between point 6 and point 1 of 7082.
Adjust 2038 in such a manner that the colour on the screen has practically come to a standstill.
Remove the resistor and the interconnection.

2. PAL-delay line

Apply a generator signal. Set the generator to position "DEM", adjust brightness to normal and the saturation control to $\frac{3}{4}$ of its range.
Adjust 3066 so that the venetian blinds effect in the third bar disappears. Next, adjust 5064 so that the venetian blinds effect in the first and fourth bar disappears.
Readjust 3066.
Set the generator to "Colour Bar" position and adjust 5059 so that the venetian blinds effect in the third and/or the fifth bar from the left hand side (resp. cyan and magenta) disappears.

3. The 4.43 MHz trap in the luminance circuit

Use a colour bar pattern. The receiver is normally adjusted.
Connect an oscilloscope to point 10 of 7082 and adjust to minimum amplitude to the chrominance signal present on the various brightness steps of the luminance signal.

4. Demodulator phase

Set the generator to position "DEM", PAL system.
Adjust 5064 until the two grey blocks in the top centre of the picture have the same colour.
If necessary repeat the adjustment of 3066 (see "PAL delay line").

5. Secam demodulator

Set the generator to position "CONV.", SECAM system.
Connect an oscilloscope to pin 3 on 7082.
Adjust the time base of the oscilloscope such that at least 2 complete line durations are visible.
Turn 3011 fully anti-clockwise, viewed from the component side.

Adjust 5010 until the amplitude of the chroma signal during one line equals that of the chroma signal of the next line.
Adjust 3011 for minimum signal amplitude.
If the signal of one line and the signal of the adjacent line do not reach their minimum simultaneously, 5010 should be readjusted slightly.

6. Chrominance response curve

Switch off the apparatus.
Apply the signal of a signal generator to 14-1200 via a 100 pF capacitor.
Connect an oscilloscope, equipped with a 10:1 attenuation head to pin 4 on 7025.
Set the frequency of the signal generator to 4,32 MHz, unmodulated.
Adjust 5004 for maximum signal amplitude of the oscilloscope picture.
Transfer the signal of the signal generator to 8-7025 via a 100 pF capacitor.
Connect an oscilloscope to pin 3 of 7082.
Set the frequency of the signal generator to 4,3 MHz, unmodulated.

Adjust 5036 for maximum signal amplitude of the oscilloscope picture.
Set the frequency of the signal generator to 2,4 MHz.
Adjust 5034 for minimum signal amplitude.

7. 8.867 MHz rejection

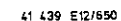
Switch on the apparatus.
Apply a signal of 8.867 MHz of a signal generator (e.g. PM5326) to pin 20 of 7025 (± 30 mVpp).
Connect an oscilloscope to the same point.
Adjust 5013 for minimum signal amplitude of the oscilloscope picture.

8. Phase 8.867 MHz reference

Switch of the apparatus.
Apply a signal of 6,5 MHz 100 mVpp via a resistor of 75 Ω to pin 25 of 7082.
Connect an oscilloscope to 7 of 7025.
Adjust 5041 for maximum signal amplitude of the oscilloscope picture.



	<table><tr><td>2004</td><td>5322 121 54128</td><td>390 pF 250 V</td></tr><tr><td>2005</td><td>5322 121 54078</td><td>470 pF 250 V</td></tr><tr><td>2012</td><td>5322 121 54078</td><td>470 pF 250 V</td></tr><tr><td>2038</td><td>4822 125 50045</td><td>20 pF trimming</td></tr><tr><td>2055</td><td>4822 124 40435</td><td>10 μF 50 V</td></tr><tr><td>2096</td><td>4822 124 40435</td><td>10 μF 50 V</td></tr></table>	2004	5322 121 54128	390 pF 250 V	2005	5322 121 54078	470 pF 250 V	2012	5322 121 54078	470 pF 250 V	2038	4822 125 50045	20 pF trimming	2055	4822 124 40435	10 μF 50 V	2096	4822 124 40435	10 μF 50 V		<table><tr><td>5001</td><td>4822 320 40081</td><td>Delay line 470 nsec.</td></tr><tr><td>5004</td><td>4822 156 20872</td><td>2,95 μH</td></tr><tr><td>5010</td><td>4822 156 21148</td><td>7,6 μH</td></tr><tr><td>5013</td><td>4822 156 21147</td><td>7,2 μH</td></tr><tr><td>5026</td><td>4822 320 40103</td><td>Delay line 270 nsec.</td></tr><tr><td>5028</td><td>4822 156 21026</td><td>34 μH</td></tr><tr><td>5034</td><td>4822 156 21026</td><td>34 μH</td></tr><tr><td>5036</td><td>4822 156 21146</td><td>26 μH</td></tr><tr><td>5041</td><td>4822 156 21026</td><td>34 μH</td></tr><tr><td>5059</td><td>4822 156 20916</td><td>10 μH</td></tr><tr><td>5064</td><td>4822 156 20916</td><td>10 μH</td></tr><tr><td>5097</td><td>4822 157 50943</td><td>12 μH</td></tr><tr><td>5098</td><td>4822 157 50943</td><td>12 μH</td></tr><tr><td>5099</td><td>4822 157 50943</td><td>12 μH</td></tr></table>	5001	4822 320 40081	Delay line 470 nsec.	5004	4822 156 20872	2,95 μH	5010	4822 156 21148	7,6 μH	5013	4822 156 21147	7,2 μH	5026	4822 320 40103	Delay line 270 nsec.	5028	4822 156 21026	34 μH	5034	4822 156 21026	34 μH	5036	4822 156 21146	26 μH	5041	4822 156 21026	34 μH	5059	4822 156 20916	10 μH	5064	4822 156 20916	10 μH	5097	4822 157 50943	12 μH	5098	4822 157 50943	12 μH	5099	4822 157 50943	12 μH
2004	5322 121 54128	390 pF 250 V																																																													
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	<table><tr><td>3011</td><td>5322 100 10112</td><td>1k trimming lin.</td></tr><tr><td>3066</td><td>4822 100 10038</td><td>470 Ω trimming lin.</td></tr><tr><td>3084</td><td>4822 111 30497</td><td>3,9 Ωsaf.</td></tr><tr><td>3096</td><td>4822 111 30497</td><td>3,9 Ωsaf.</td></tr></table>	3011	5322 100 10112	1k trimming lin.	3066	4822 100 10038	470 Ω trimming lin.	3084	4822 111 30497	3,9 Ωsaf.	3096	4822 111 30497	3,9 Ωsaf.																																																		
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Various																																																															
1038	4822 242 70626	X-tal 8.86 MHz																																																													
1059	4822 320 40096	Delay line 64 μsec.																																																													
6055	4822 130 31353	Diode BAT81																																																													
7018	4822 130 41594	Transistor PH2369																																																													
7025	4822 209 81875	Integr. circ. TDA3590/A																																																													
7055	4822 130 40938	Transistor BC548																																																													
7082	4822 209 81239	Integr. circ. TDA3561A																																																													
6015	4822 130 30621	Diode IN4148																																																													



1. 50/60 Hz detector

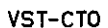
Disconnect 3000 from 15-1210.
Inject a signal of 500 mV-55 Hz square wave (e.g. PM5107) into 3000.
Adjust 3009 until the voltage on 11-7016 is at minimum.
Measure the voltage on 2-7016.
Now increase the voltage on 11-7016 by 3009 until the voltage on 2-7016 changes.
Connect 3000.

Disconnect 3052 from 13-1210.
Inject a signal of 1.8 MHz, 500 mVpp into 3052 (PM5334).
Connect an oscilloscope to 3-7092.
Adjust 5076 for minimum signal amplitude of the oscilloscope picture.

Change input signal to 4.5 MHz, 500 mVpp.
Adjust 5055 for minimum signal amplitude of the oscilloscope picture.
Change input signal to 6.0 MHz, 500 mVpp.
Adjust 5054 for minimum signal amplitude of the oscilloscope picture.
Connect 3052.
Disconnect 3025 from 2025.
Inject a signal of 4.5 MHz, 500 mVpp into 3025.
Connect the oscilloscope to 10-7092.
Adjust 5028 for minimum signal amplitude of the oscilloscope picture.
Change the input signal to 3.58 MHz, 500 mVpp.
Adjust 5029 for minimum signal amplitude of the oscilloscope picture.
Connect 3025.

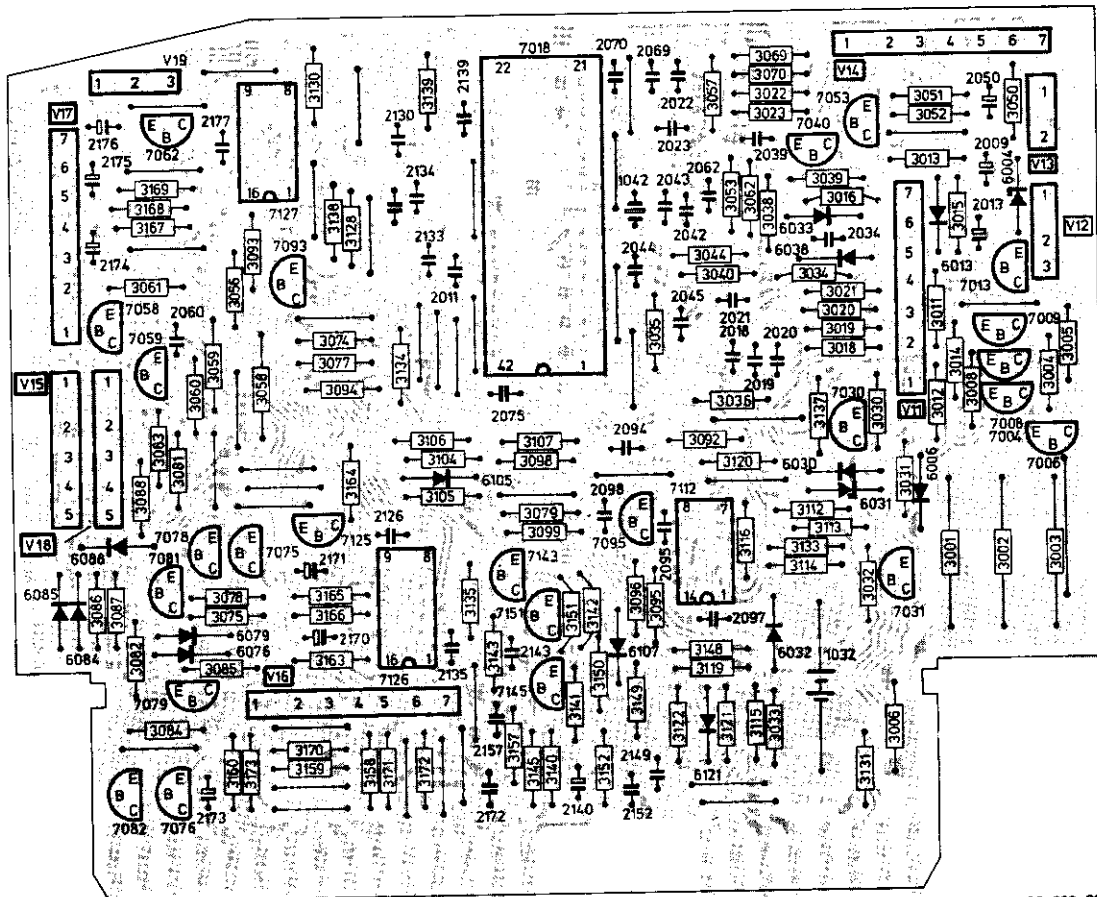
Apply a signal from NTSC pattern generator (e.g. PM5512).
Connect an oscilloscope to 9-1210.
Adjust 3095 for black level at $2 V_{dc}$.

Connect the oscilloscope to 11-7092.
Adjust 3095 for 2 V_{dc} on the oscilloscope picture.
Connect 10-7092 to earth (27-7092).
Apply a NTSC -4.43 MHz signal from an adapted PM5519 to the aerial input.
Connect 6-7092 to 1-7092.
Adjust 3050 in such a manner that the colour on the screen has practically come to a standstill.
Now apply a NTSC -3.58 MHz signal from a PM5512 to the aerial input.
Connect 10-7092 via a 10k resistor to 1-7092.
Adjust 2084 in such a manner that the colour on the screen has practically come to a standstill.
Remove the interconnections and the resistor.



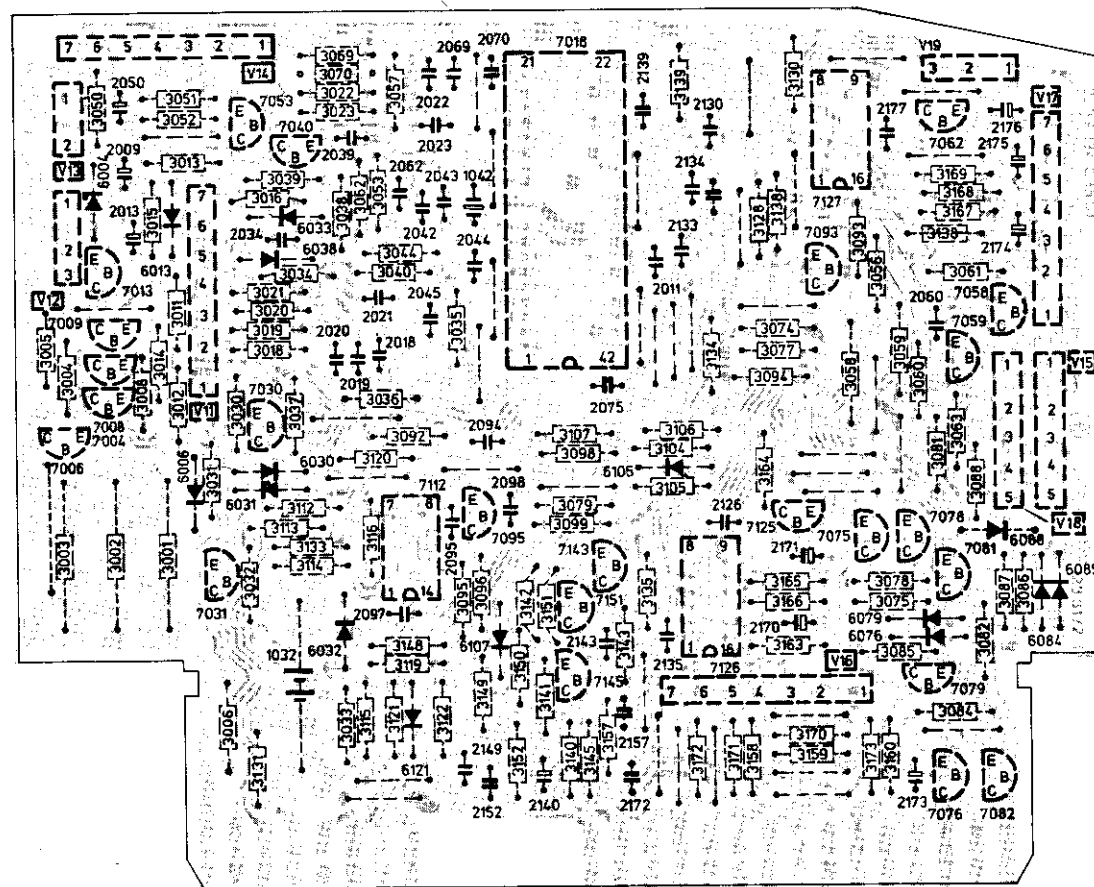
VST MODULE

1220



39 202 C12

1220



39 199 C12

VST MODULE

1220

				Various			
3001	5322	116	54989	10	kΩ	2	W
3002	5322	116	54989	10	kΩ	2	W
3003	5322	116	54989	10	kΩ	2	W
3058	5322	116	54984	68	Ω	1.6	W
3059	4822	116	52363	39	Ω	0.5	W
3095	4822	116	52131	820	kΩ	0.4	W
3098	4822	110	72205	4,7	MΩ	HT	
4822	130	40941	BC558				
4822	130	40938	BC548				
4822	130	44257	BC547				
4822	130	44503	BC547C				
4822	130	40959	BC547B				
4822	130	34233	BZX79-C5V1				
4822	130	34233	BZX79-C5V1				
4822	130	30621	1N4148				
				4822 255 40299 IC socket 1032 4822 138 10032 Battery 2.4 V 1042 4822 242 70668 X-tal 4 MHz 7018 4822 209 10907 IC MSM5840H-87RS 7112 4822 209 82135 IC TDB0139DP 7126 4822 209 10102 IC SAB3013			
				2140 4822 124 40435 10 μF 50 V 2170 4822 124 40435 10 μF 50 V 2171 4822 124 40435 10 μF 50 V 2173 4822 124 40435 10 μF 50 V			

REPAIR METHOD FOR VST

This publication contains a repair method in the form of a fault-finding tree. This method allows the service technician to locate quickly and efficiently certain troubles in a period that he is not yet familiar with the set. Generally speaking, the fault-finding tree does not help to isolate a defective part, but it points to the defective circuit.

- For voltage measurements according to this repair method use is made of a universal voltmeter. To allow the location of quickly changing voltages (e.g. DATA signals) use is made of a logic probe. This probe can be ordered under codenumber 4822 395 30107. If this probe is not available it is always possible to use an oscilloscope for this measurement.
- If this repair method states the necessity to measure the DATA signal at pin 24 on 7018 it is recommendable to measure at the same time the CLOCK signal and the DLEN signal at the pins 25 and 23 on 7018 respectively, because these signals are generated simultaneously by the microcomputer.
- If this repair method does not allow to locate a defect, it is recommendable to study the related chapter in the Circuit Description of the VST control system.
- Replacement of the microcomputer 7018 shall only be considered when absolutely necessary. The fact is that the internal programme memory is cleared in case of replacement of the microcomputer. Before replacement, always note the channel numbers as they have been preprogrammed in the programme memory.

EXPLANATION OF THE SYMBOLS

For symbols not listed here refer to the Service Manual of the CTO Chassis.

Connect logic probe to pin 24 on 7018

24-7018

Control of a function on 1100 does not yield the expected result

Search tuning function is operative

Depress search tuning key

LED indicator 6056 lights up

LED indicator on logic probe lights up

LED indicator on logic probe is blinking

LED indicator on logic probe does not blink

Continue fault-finding according to repair method for Chassis CTO

Tuning bar displayed on screen (display on screen)

Programme indication

Programme 1 is displayed on CRT screen

Error, missing supply

Distorted picture

1100



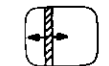
6056

LP

LP

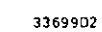
LP

CHASSIS CTO-S



PR.1

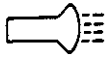


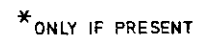


SYMBOLS FOR FAULT-FINDING TREES

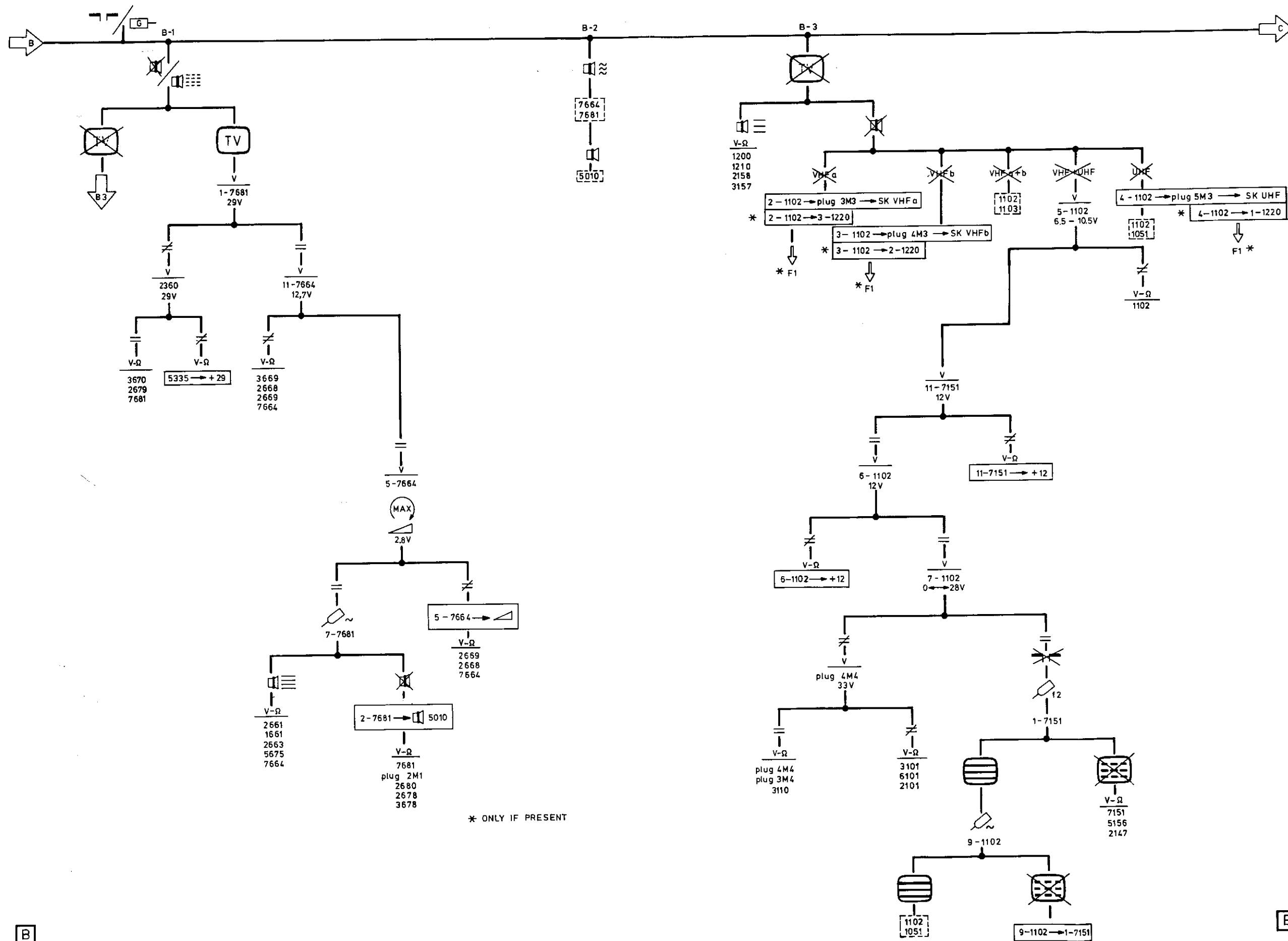
	Connect the points A and B		Brightness control		No vertical deflection
	Supply aerial signal		Volume control		No vertical synchronisation
	Remove aerial signal		Saturation control		No horizontal synchronisation
	Connect generator		Adjustment (general)		Horizontal centring incorrect
	Carry out voltage measurements		Adjustment yields no result		Vertical centring incorrect
	Carry out resistance (Ohmic) measurements		Filament of picture tube glows		Vertical linearity incorrect
	Check circuit of ... and ...		Filament of picture tube does not glow		The left and right vertical lines are curved
	Correct		Normal light		Horizontal and vertical amplitude incorrect
	Incorrect		No light		Heavy horizontal bars
	Lower than		Little light		Colour blurs in black/white picture
	Higher than		Normal sound		Strong colour noise in black/white picture
	Check circuit between ... and ...		Weak sound		Incorrect sequence of colours (no colour sync.)
	Set control to maximum		No sound		Line frame (Venetian blinds)
	Set control to minimum		Sound distorted		Weak horizontal bars
	Voltage adjustable by tuning		Correct black/white picture		One or two colours weak or not present
	Remove unit		No or weak picture		Weak colours
	Replace unit		Picture discoloured uniformly		No colours
	Supply voltage "hiccups"		Vertical amplitude too small or too large		Loudspeaker
	Inject		Horizontal amplitude too small or too large		Continue in other fault-finding tree

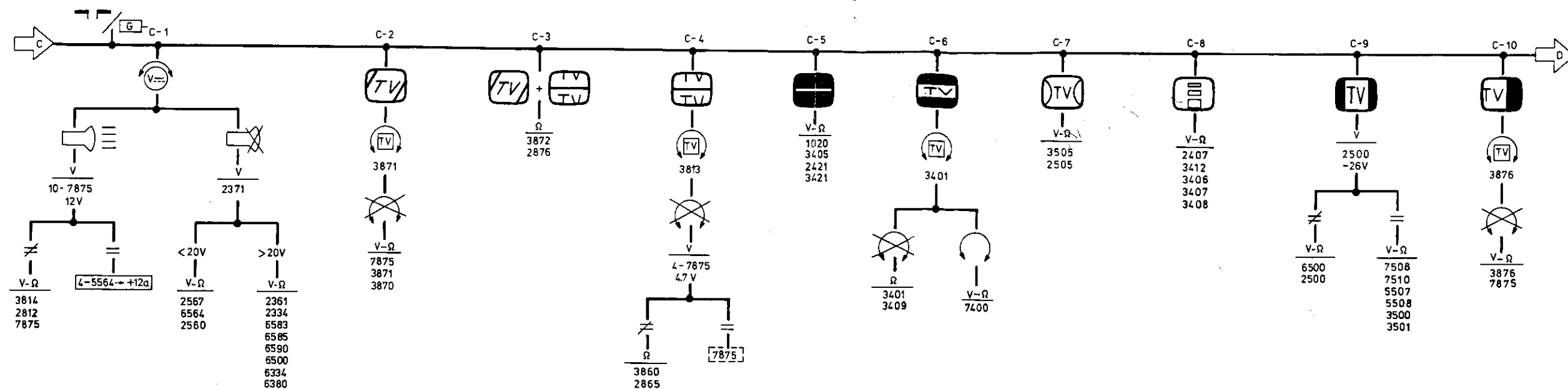
INDEX FAULT FINDING TREE

Fault		see	Fault		see
	No light	A-1		Vertical linearity incorrect	C-8
	Insufficient light	A-2		Horizontal amplitude incorrect	C-9
	No or weak sound	B-1		Horizontal centring incorrect	C-10
	Sound distorted	B-2		Vertical centring incorrect	D-1
	No or weak picture	B-3		Horizontal and vertical amplitude incorrect	D-2
	Supply voltage "hiccups"	C-1		No colours	D-3
	No horizontal synchronisation	C-2		One or two colours weak or not present	D-4
	No synchronisation	C-3		Picture discoloured uniformly	D-5
	No vertical synchronisation	C-4		No colour sync.	D-6
	No vertical deflection	C-5		Line frame (venetian blinds)	D-7
	Vertical amplitude incorrect	C-6		Colour noise in black/white picture	D-8
	The left and right vert. lines are curved (East-West-fault)	C-7		Colour blurs in black/white picture	D-9



A
37 722 012/639

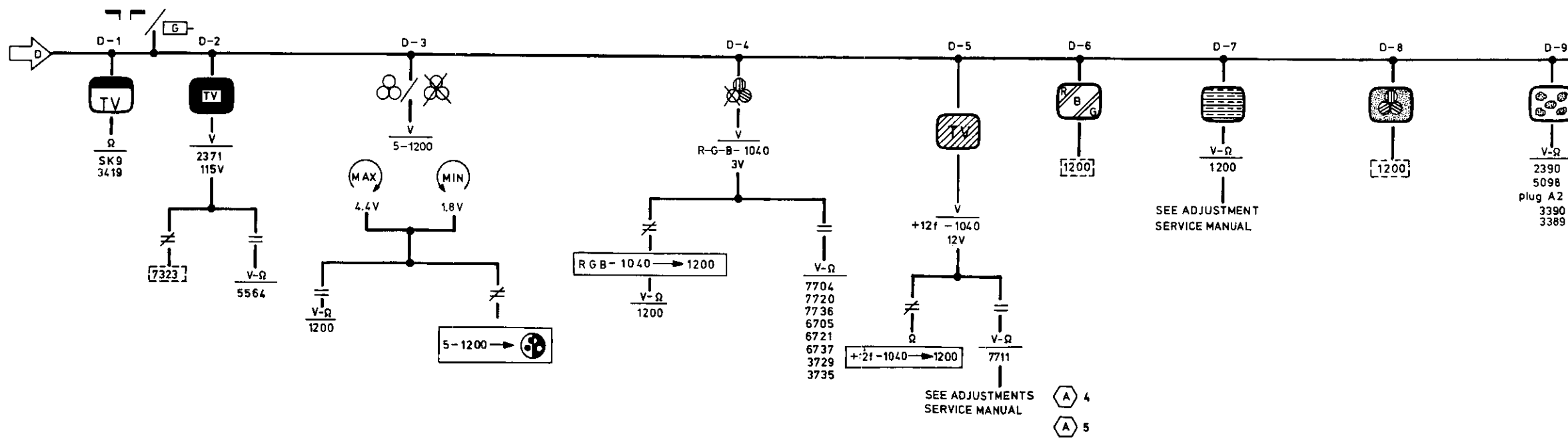




C

C

3370002 / 637

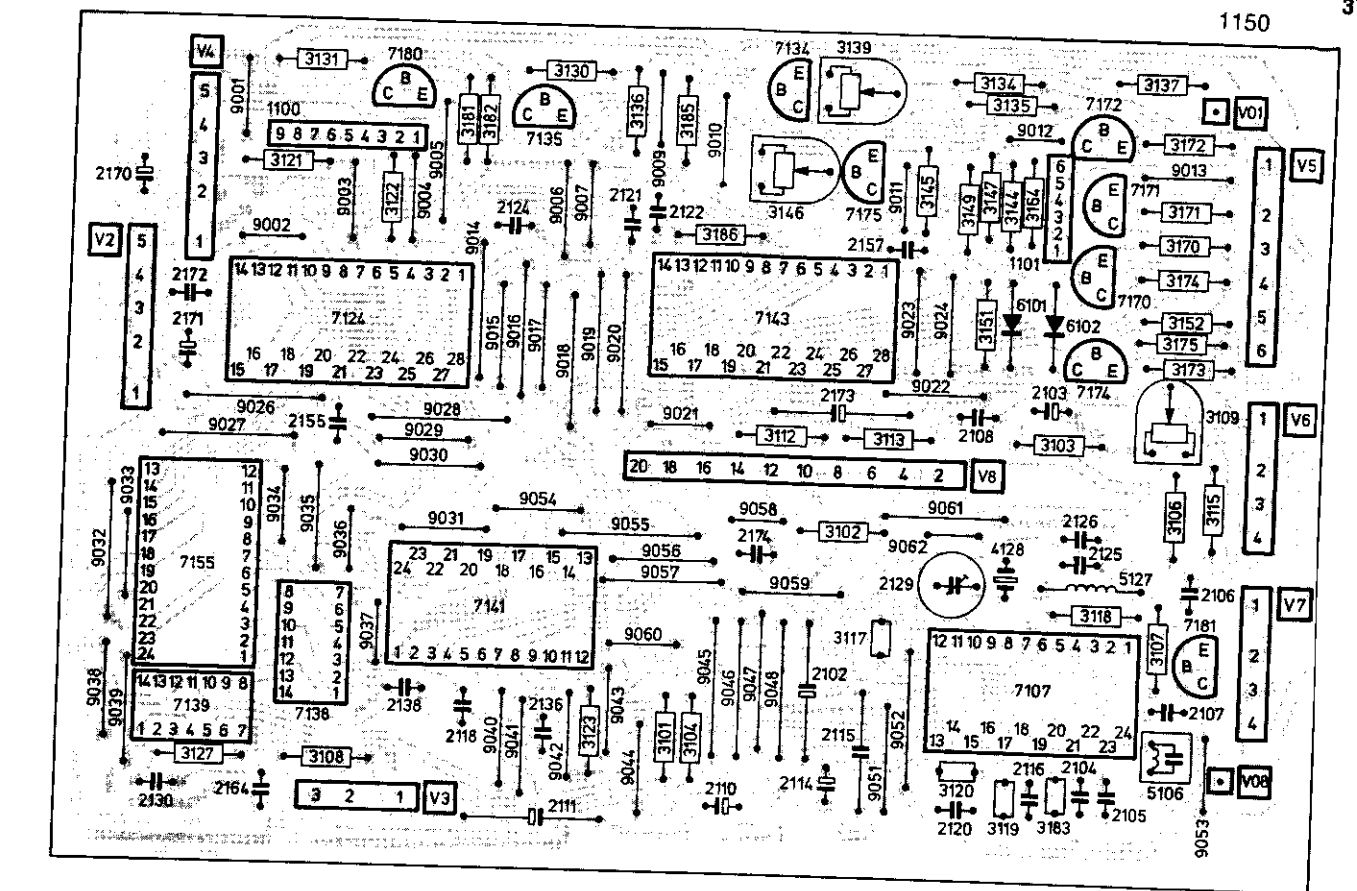
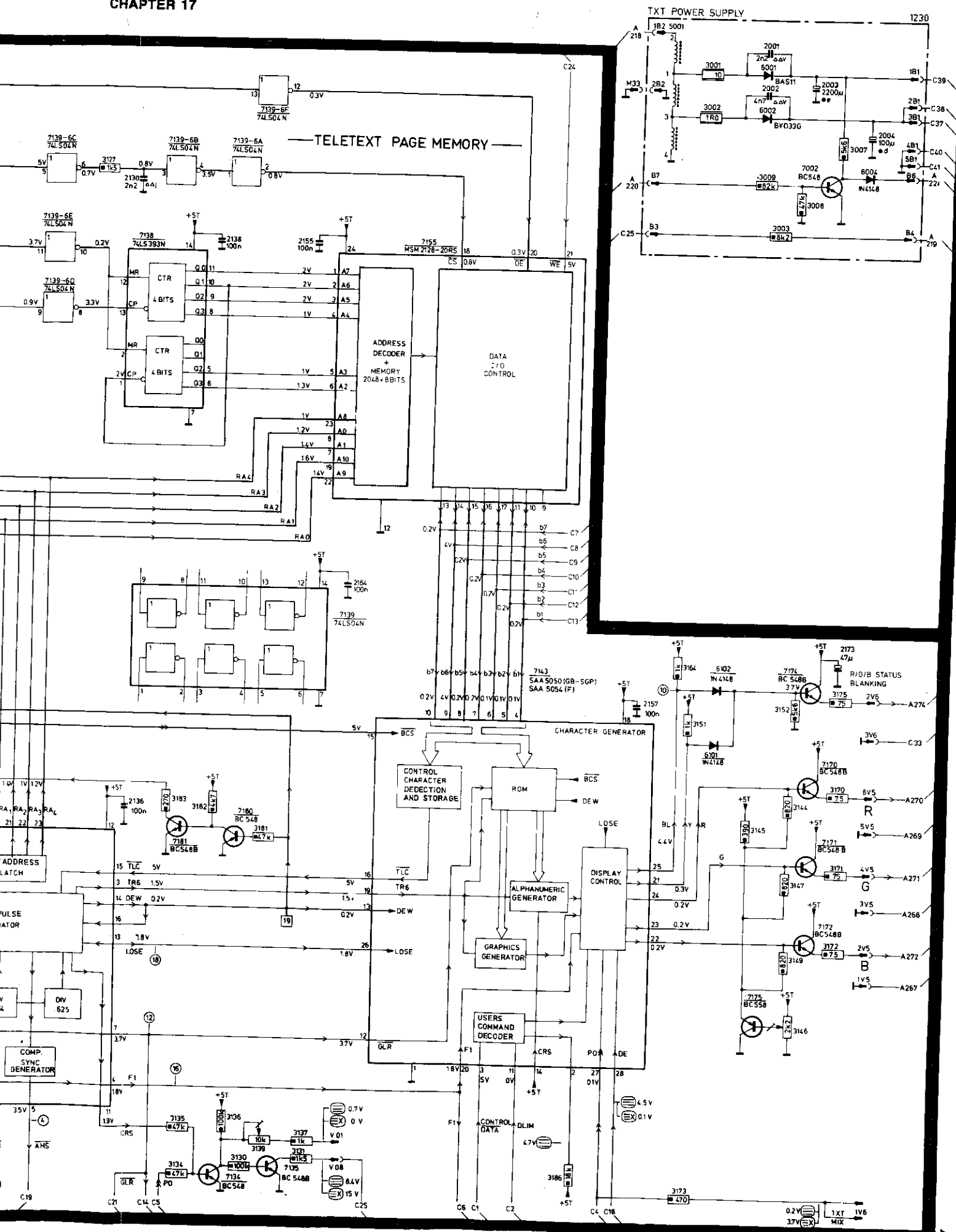


D

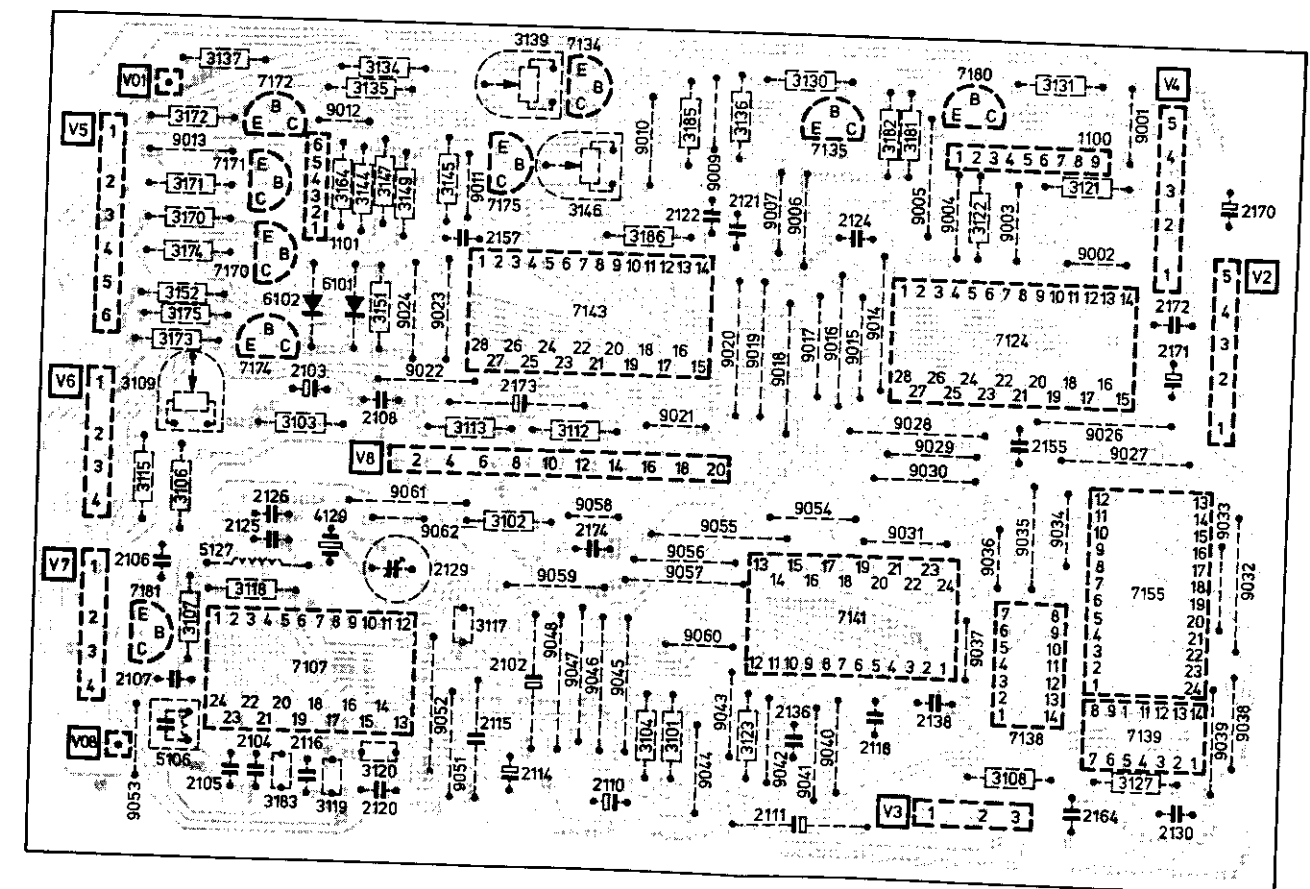
D

37 723 012 / 639



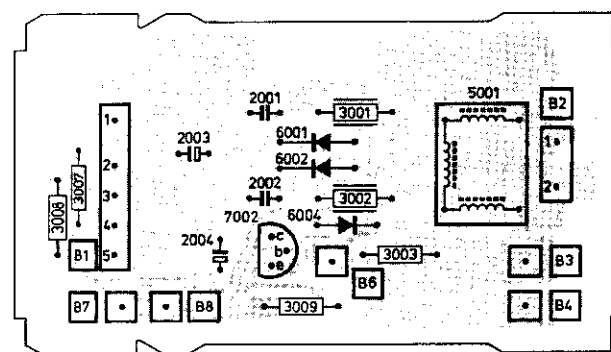


33 935 C11/640

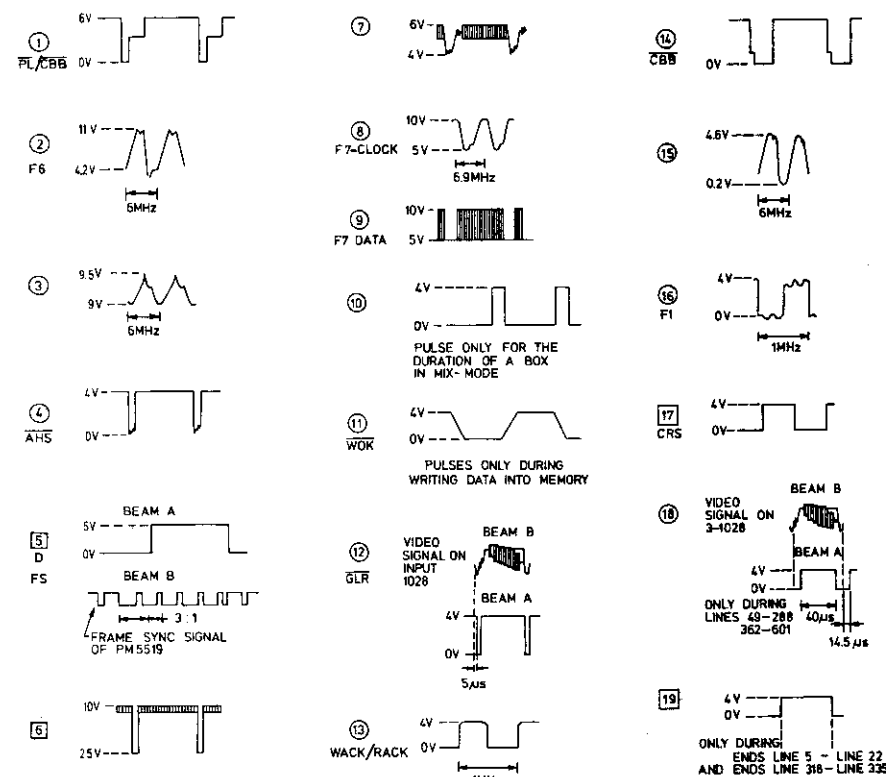


33 936 C11

TXT-SUPPLY



38 347 A12



33 823 C 12

ADJUSTMENTS OF THE TELETEX DECODER (SISED)

1. Frame synchronisation of the timing chain

Apply to the set a signal of the PM5515. Connect one channel to a double beam oscilloscope with delayed time base to the video output of the generator and make the frame synchronisation signal visible (see Fig. 1). Connect the other channel to point 13 of 7107. Adjust 3109 until the leading edge of the pulse on point 13 of 7107 appears on the position as shown in Fig. 1.

2. 6 MHz oscillator

Short-circuit 2103. Connect a resistor of 5.6 MΩ between point 7 of 7107 and the +13c. Switch the set into MIX mode. Connect an aerial signal with teletext information. Look at the teletext display. Adjust 2129 until the teletext display is stationary. Remove the resistor and the short-circuit.

3. Clock circuitry

- Connect an aerial signal.
- Tune the receiver to a transmitter with a teletext signal, while the teletext pageheader shows the time with minutes and seconds.
- If possible, attenuate the aerial signal.
- Switch the set into position "Teletext" and observe the display of the time upon adjusting. Mostly the last characters in the pageheader show the time.
- Turn the core of the clock coil 5106 on the teletext decoder, until the first wrong character appears.
- Note down this position of the core.
- Turn the core of the clock coil into the opposite direction, until the first wrong character appears again.
- Note down this position of the core too.
- Turn the core into the middle position between both positions noted down.

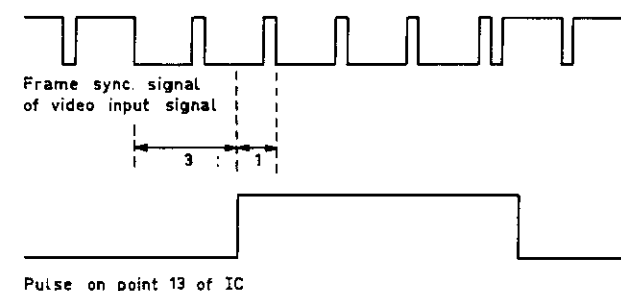


Fig. 1

4. Note

The DC voltages have been measured with erased memory.

The memory can be erased as follows:

- Depress a programme button that holds no programme.
- Set the receiver to the teletext mode and depress the STOP button.
- Depress a programme button holding a programme with teletext information.

LOCATING ADDRESSING ERRORS

- Loosen one side of jumper "R" near the chrominance 7150 on the small signal panel. Connect a piece of wire with measuring pin to point 9 of 7150.
- Inject an aerial signal containing teletext information. Turn the set on and select the teletext mode. The receiver screen will display the normal TV picture with a slightly decreased contrast. Therefore increase the contrast with the contrast control.
- When transferring the test probe successively to the points indicated in Fig. 2, a defined pattern will be displayed on the screen. The patterns are also shown in Fig. 2. In the pictures of this figure a TV picture is represented by a white portion and a teletext picture by a black portion. In order to be able to count easier the number of bars indicated it is recommendable to choose a teletext page, the contents of which do not modify again and again.

REPAIR METHOD

This documentation contains a repair method in the form of a fault-finding tree, enabling the technician - in a period that he is not yet familiar with the circuit - to locate faults quickly and efficiently. He should have an aerial signal with teletext and a multipurpose meter at his disposal. Generally speaking, the fault-finding tree does not point to the defective part, but to the defective circuit.

Remark:

With this repair method it is assumed that the +5 and +12 supply voltages are present on the teletext decoder.

ELUCIDATION OF THE FAULT-FINDING TREE OF THE TELETEX DECODER

- A teletext page comprises 24 rows. The first row is labelled R0 and the last row R23.
- Each row is divided into 5 blocks of 8 characters each (Pos. 1+8). Example: 1R0 means: block 1 (= first 8 characters) of row 0.
- "x" means: the character at this location is irrelevant.
- "Mixed": the television picture and the teletext information (correct or wrong) are simultaneously displayed on the screen.
- "Normal": brightness and contrast set to normal position.
- "≈": display seems OK, but the characters are not always correct.
- "P...": chosen pagenumber; normally in 1R0.
- EXOR: note character code (b7+b1) of the wrong character and the desired character from the character set. EXOR the 2 binary codes and determine the wrong bit.

Example: the screen display : sgg"rcgg
this should read : see page

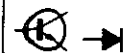
	b7	b6	b5	b4	b3	b2	b1
character code for wrong character g:	1	1	0	0	1	1	1
character code for correct character e:	1	1	0	0	1	0	1
EXOR	0	0	0	0	0	1	0

Thus bit b2 is faulty.

- For an explanation on the used symbols and abbreviations in the fault-finding tree see the last pages of this publication.



MSM2128
N74LS04N
N74LS393
SAA5020
SAA5030
SAA5042
SAA5050
SAA5054



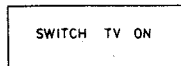
BC548B
BC548
BC558
IN4148

4128

5106
5127

EXPLANATION OF SYMBOLS

Switch TV on



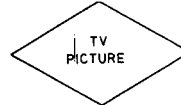
Info is only displayed in block 5 of row 0



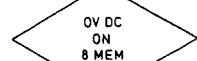
Select transmitter with teletext information

Voltage on point 15 of TAC-IC = ≈ 5 V

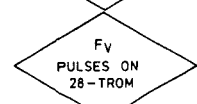
TV picture present



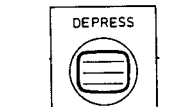
Voltage on point 8 of memory IC = 0 V



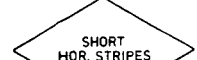
TV picture is displayed with normal brightness and contrast

 F_v pulses are present on point 28 of TROM-IC

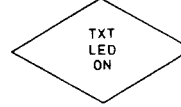
Depress teletext button



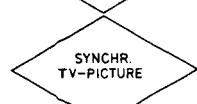
Short horizontal stripes are visible on the screen



Teletext LED illuminated



Synchronisation of the TV picture is correct



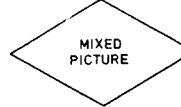
Info present on row 0 which (seemingly) resembles info in page header



Synchronisation of the character display is correct



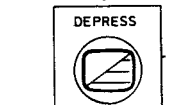
TV picture and teletext info simultaneously present



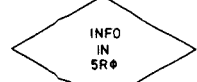
Only P100 present in block 1 of row 0



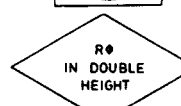
Select other transmitter with TXT-information



Info present in block 5 of row 0



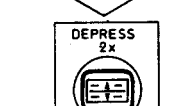
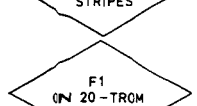
Row 0 is displayed in double height



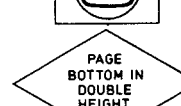
40 vertical white stripes are visible



Depress twice Top/Bottom button

 F_1 pulses on point 20 of TROM-IC are correct

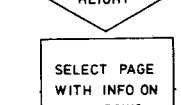
Lower half of page display in double height



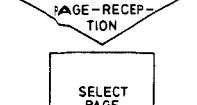
Same errors are displayed after 2nd time of page reception



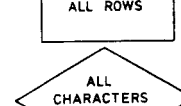
Select teletext page containing info on all rows



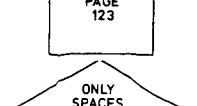
Select teletext page 123



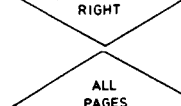
All characters are correct



Spaces present only in bloc 1 of row 0



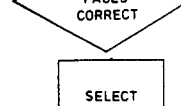
All pages are correct



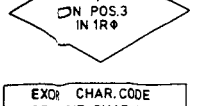
Character P present on pos. 3 in block 1 of row 0



Select another teletext page



EXOR character code of the character on this place against character code of desired character (see character table)

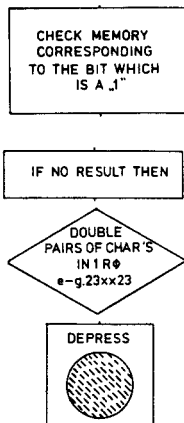


Check memory corresponding to the bit which is a "1"

If no result then...

Double pairs of characters present in block 1 of row 0 e.g. 23xx23

Depress button for normal TV picture

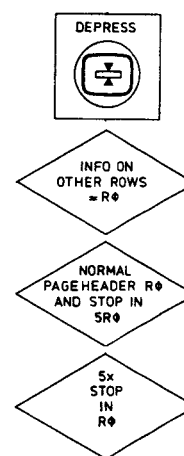


Depress stop button

Info on other rows is identical with info on row 0

Page header is normal and STOP is present in block 5 of row 0

5x STOP present on row 0



After Hours Sync

Memory address-line
Big Character Select
Colour Burst Blanking
Character Rounding Select
Chip Select

Display Enable
Data Entry Window
Data Limiter
15625 Hz pulses
Fast Line Reset
Frame Sync
50 Hz pulses
1 MHz clock
6 MHz clock
6,9375 MHz clock or data

General Line Reset

LOAD Output Shiftregister
Enable
Memory
Phase Lock
Picture On
Read Address Clock
Row Address 0...4
Users Command Data
Read/Write
7124
Teletext Data
ACQUISITION & CONTROL
Top/Bottom
7141 Timing Chain
Transmitted Large Character
6 MHz clock

Teletext
7143 Character Generator
7107 Video Input Processor
Write O.K.
Write Address Clock
Write Enable

AHS
Antenna signal
Ask client once again
what's wrong
A1, A2, etc.
BCS
CBB
CRS
CS

DE
DEW
DLIM
FH pulses
FLR
FS
FV pulses
F1
F6
F7

GLR
HF-IF part of chassis
LOSE

MEM
PL
PO
RACK
RA0...4
RC-DATA
R/W
TAC

T/b
TIC
TLC
TR6
Transmission
Txt
TROM
VIP
WOK
WACK
WE

ADJUSTMENTS OF THE TELETEXT DECODER (SISED)

1. Frame synchronisation of the timing chain

Apply to the set a signal of the PM5515. Connect one channel to a double beam oscilloscope with delayed time base to the video output of the generator and make the frame synchronisation signal visible (see Fig. 1). Connect the other channel to point 13 of 7107. Adjust 3109 until the leading edge of the pulse on point 13 of 7107 appears on the position as shown in Fig. 1.

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- Connect an aerial signal.
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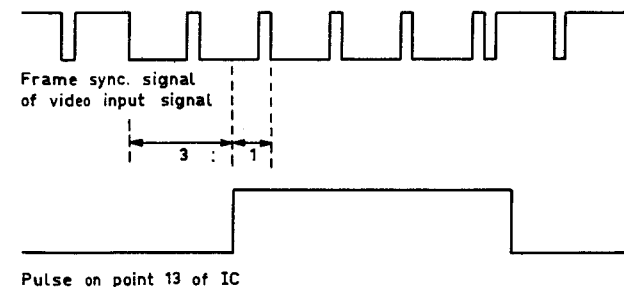


Fig. 1

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Remark:

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ELUCIDATION OF THE FAULT-FINDING TREE OF THE TELETEXT DECODER

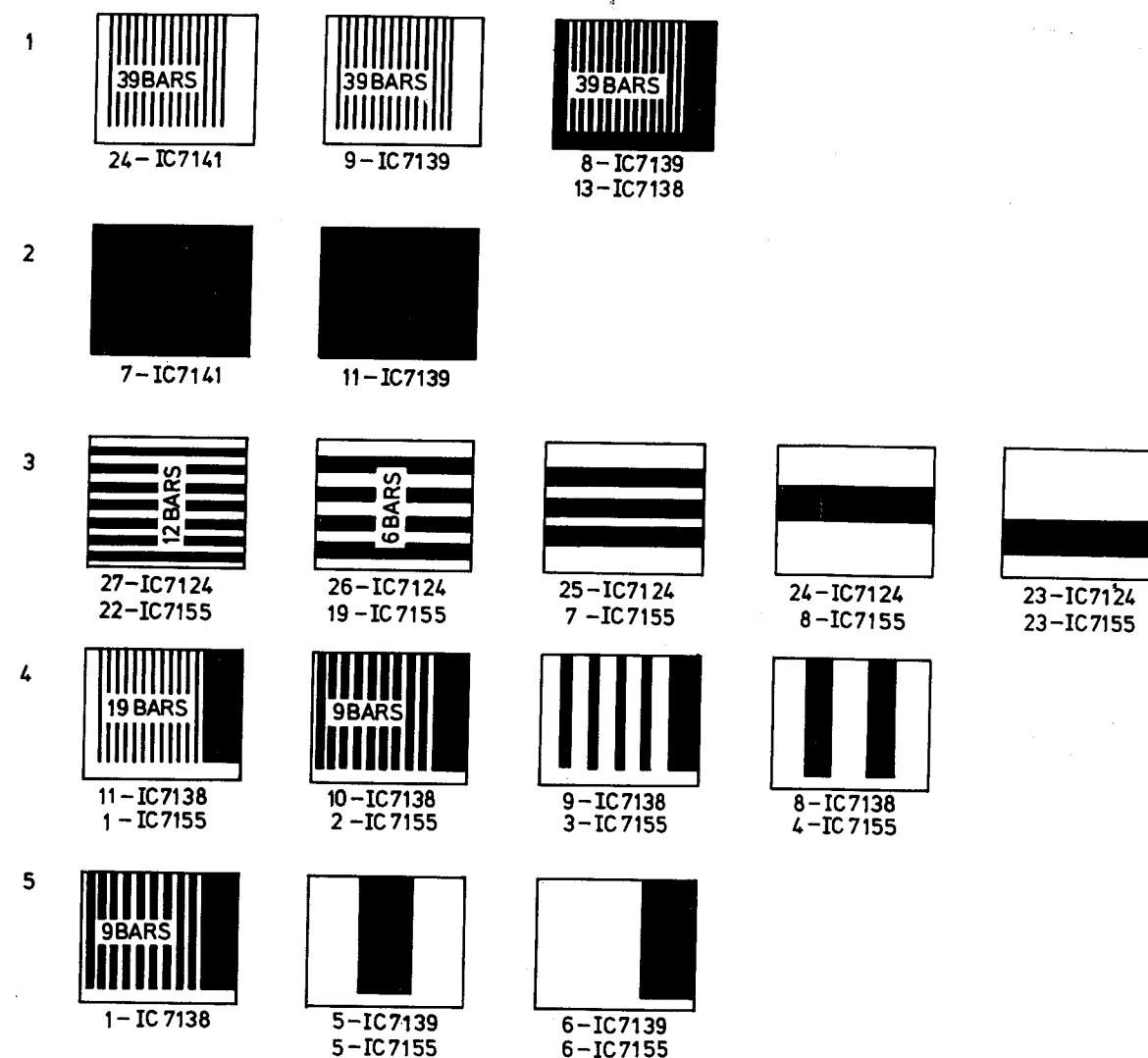
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this should read : see page

	b7	b6	b5	b4	b3	b2	b1
character code for wrong character g:	1	1	0	0	1	1	1
character code for correct character e:	1	1	0	0	1	0	1
EXOR	0	0	0	0	0	1	0

Thus bit b2 is faulty.

- For an explanation on the used symbols and abbreviations in the fault-finding tree see the last pages of this publication.

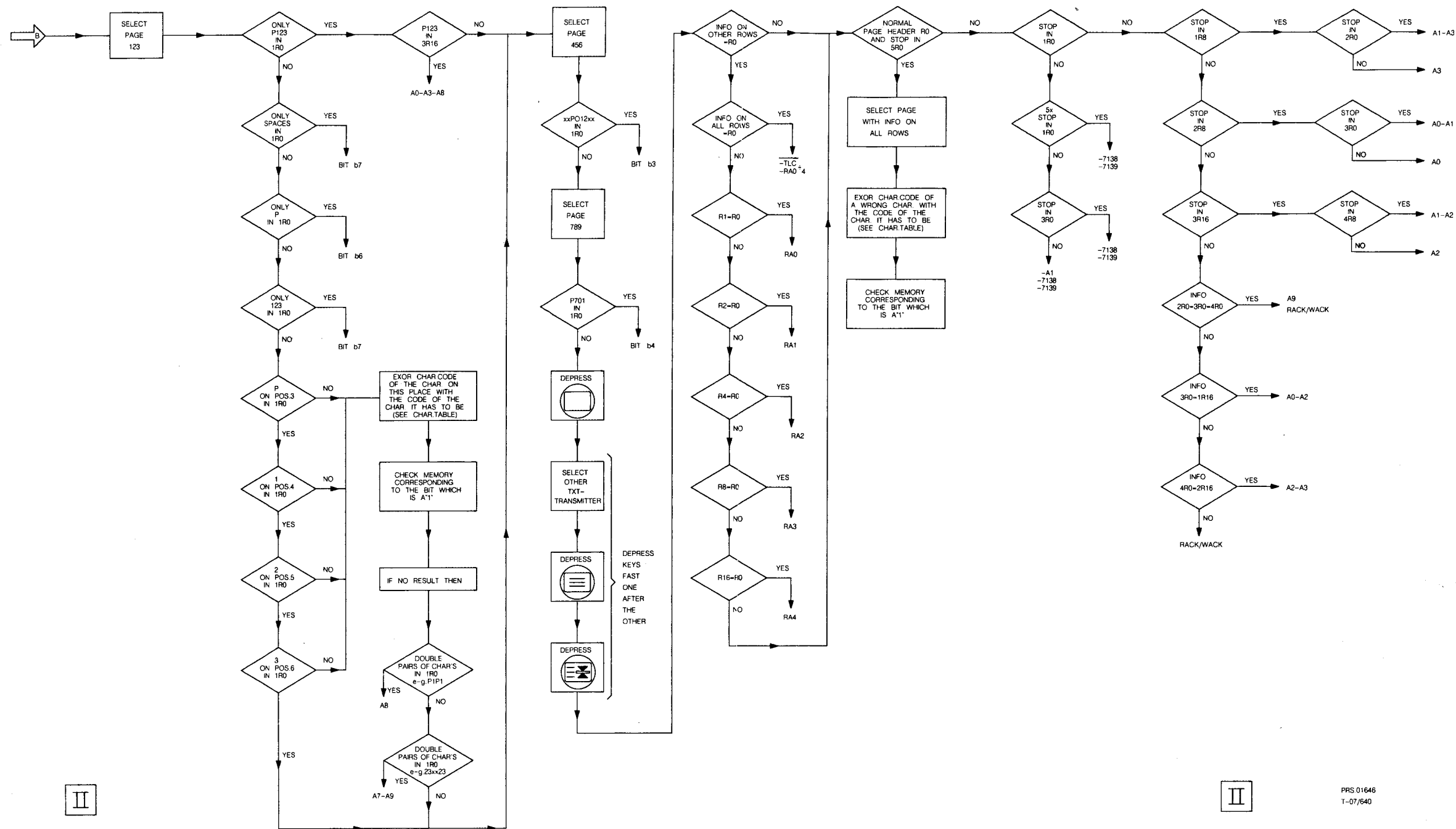


33816 B22

	MSM2128-20RS	4822 209 10379		2103	4822 124 40435	10 μ F	50 V
	N74LS04N	4822 209 80783		2115	5322 121 54049	3.3 nF	63 V
	N74LS393N	4822 209 80447		2129	4822 125 50017	5.5 - 65 pF	
	SAA5020	4822 209 10047					
	SAA5030	4822 209 10048		3146	4822 100 10029	2 k Ω	potm.
	SAA5042	4822 209 10052		3109	4822 100 10035	10 k Ω	potm.
	SAA5050	4822 209 10046		3139	4822 100 10035	10 k Ω	potm.
	SAA5054	4822 209 83057					
	BC548B	4822 130 40937		1101	4822 212 21305	VMU unit	
	BC548	4822 130 40938		1100	4822 212 21306	Tacet unit	
	BC558	4822 130 40941					
	IN4148	4822 130 30621					
	4128	4822 242 70392	6 MHz	V8	4822 265 40147	20p	
	5106	4822 154 90038	9.4 μ H				
	5127	4822 157 51815	10 μ H				

PRS.01645
T-12/637





VARIOUS PANELS

