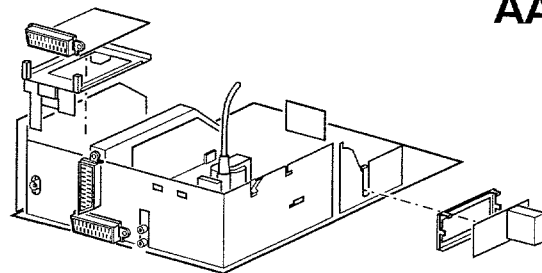


Service  
Service  
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AA



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# Service Manual

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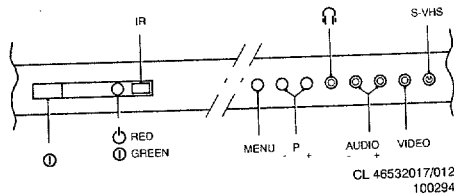
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## 1. Technical specification

Mains voltage	:220 - 240 V ( $\pm 10\%$ )
Mains frequency	:50 Hz ( $\pm 10\%$ )
Aerial input impedance	:75 $\Omega$ - coax
Minimum aerial voltage	:32 $\mu$ V
Maximum aerial voltage	:32mV
Pull-in range colour synchronization	: $\pm 300$ Hz
Pull-in range horizontal synchronization	: $\pm 300$ Hz

### Local operation functions:



Programmes	: 0-89
VCR operation on programmes	: 0-89

### Indications:

- On Screen Display (OSD)
- LED:
  - standby (red)
  - operation (green)
  - RC5 reception (flashing yellow)
  - I<sup>2</sup>C bus fault in  $\mu$ P (flashing white)

## 2. Connection facilities

### 1. Specification of the terminal sockets

#### EXT1/EXT2

1	- Audio	$\odot$ R (0,5V <sub>RMS</sub> ; 1k $\Omega$ )
2	- Audio	$\ominus$ R (0,2 - 2V <sub>RMS</sub> ; 0,5 V <sub>nom</sub> ; $\geq 10$ k $\Omega$ )
3	- Audio	$\odot$ L (0,5V <sub>RMS</sub> ; 1k $\Omega$ )
4	- Audio	$\perp$
5	- Blue	$\perp$
6	- Audio	$\ominus$ L (0,2 - 2V <sub>RMS</sub> ; 0,5 V <sub>nom</sub> ; $\geq 10$ k $\Omega$ )
7	- Blue	$\ominus$ (0,7V <sub>pp</sub> /75 $\Omega$ )
8	- CVBS-Status	(0-2V: int.; 9,5-12V: EXT-4/3; 4,5V-7,5V:EXT-16/9)
9	- Green	$\perp$
10	--	
11	- Green	$\ominus$ (0,7V <sub>pp</sub> ; 75 $\Omega$ )
12	--	
13	- Red	$\perp$
14	--	
15	- Red /	$\ominus$ (0,7V <sub>pp</sub> ; 75 $\Omega$ )
15	- C-SVHS	$\ominus$ (0,3V <sub>pp</sub> ; 75 $\Omega$ )
16	- Status	(0-0,4V: FB-OFF; 1-3V: FB-ON; 75 $\Omega$ )
17	- CVBS	$\odot$ $\perp$
18	- CVBS	$\ominus$ $\perp$
19	- CVBS	$\odot$ (1V <sub>pp</sub> /75 $\Omega$ )
20	- CVBS	$\ominus$ (1V <sub>pp</sub> /75 $\Omega$ ){EXT1}
20	- CVBS/	
	Y-SVHS	$\ominus$ (1V <sub>pp</sub> /75 $\Omega$ ){EXT2}
21	- Earth screen	

#### EXT4

1	- $\perp$	
2	- $\perp$	
3	- Y	$\ominus$ (1V <sub>pp</sub> ; 75 $\Omega$ )
4	- C	$\ominus$ (1V <sub>pp</sub> ; 75 $\Omega$ )
2x $\odot$	CINCH Audio	$\ominus$ L+R (0,2-2V <sub>RMS</sub> ; 0,5 V <sub>nom</sub> $\geq 10$ k $\Omega$ )
1x $\odot$	CINCH CVBS	$\ominus$ (1V <sub>pp</sub> ; 75 $\Omega$ )

#### EXT3

1	- Audio	$\odot$ R (0,5V <sub>RMS</sub> ; 1k $\Omega$ )
2	- Audio	$\ominus$ R (0,2 - 2V <sub>RMS</sub> ; 0,5 V <sub>nom</sub> ; $\geq 10$ k $\Omega$ )
3	- Audio	$\odot$ L (0,5V <sub>RMS</sub> ; 1k $\Omega$ )
4	- Audio	$\perp$
5	- $\perp$	
6	- Audio	$\ominus$ L (0,2 - 2V <sub>RMS</sub> ; 0,5 V <sub>nom</sub> ; $\geq 10$ k $\Omega$ )
7	--	
8	- CVBS status 3	$\odot$ (0-2V: int.; 9,5-12V: ext.)
9	- $\perp$	
10	--	
11	--	
12	--	
13	- $\perp$	
14	- $\perp$	
15	--	
16	--	
17	- CVBS	$\odot$ $\perp$
18	- CVBS	$\ominus$ $\perp$
19	- CVBS	$\odot$ (1V <sub>pp</sub> /75 $\Omega$ )
20	- CVBS	$\ominus$ (1V <sub>pp</sub> /75 $\Omega$ )
21	- Earth screen	

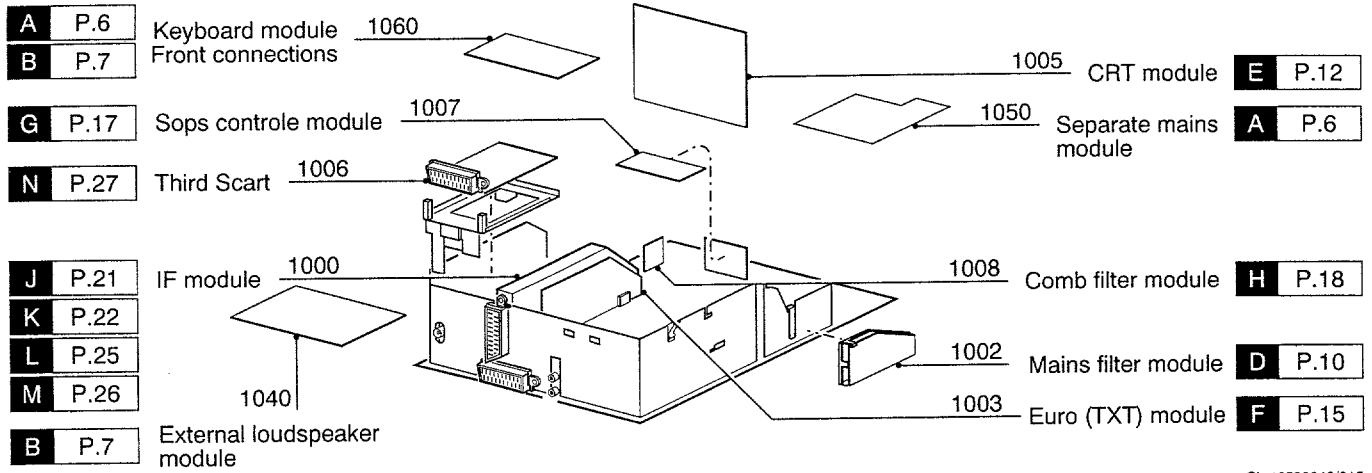
#### Audio out

2x  $\odot$  CINCH Audio  $\odot$  L+R (0,5V<sub>RMS</sub>; 1k $\Omega$ )

#### Front

$\odot$   $\frac{d}{i}$  8 $\Omega$   
3,6mm / 1


PWB location drawing



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### 3. Safety instructions, Maintenance instructions, Warnings and Notes

#### Safety Instructions for Repairs

1. Safety regulations require that during a repair:
  - the set should be connected to the mains via an isolating transformer
  - safety components, indicated by the symbol , should be replaced by components identical to the original ones
  - when replacing the CRT, safety goggles must be worn.
2. Safety regulations require also that after a repair:
  - the set should be returned in its original condition
  - the cabinet should be checked for defects to avoid touching, by the customer, of inner parts
  - the insulation of the mains lead should be checked for external damage
  - the mains lead strain relief should be checked on its function
  - the cableform and EHT cable are routed correctly and fixed with the mounted cable clamps in order to avoid touching of the CRT, hot components or heat sinks
  - the electrical resistance between mains plug and the secondary side is checked. This check can be done as follows:
    - unplug the mains cord and connect a wire between the two pins of the mains plug
    - switch on the TV with the main switch
    - measure the resistance value between the pins of the mains plug and the metal shielding of the tuner or the aerial connection on the set. The reading should be between 4.5 MΩ and 12 MΩ.
    - switch off the TV and remove the wire between the two pins of the mains plug
  - thermally loaded solder joints should be resoldered. This includes components like LOT, the line output transistor, fly-back capacitor.

#### Maintenance Instructions

It is recommended to have a maintenance inspection carried out periodically by a qualified service employee. The interval depends on the usage conditions.

- When the set is used in a living room the recommended interval is 3 to 5 years. When the set is used in the kitchen or garage this interval is 1 year.
- During the maintenance inspection the above mentioned "safety instructions for repair" should be carried out. The power supply and deflection circuitry on the chassis, the CRT panel and the neck of the CRT should be cleaned.

#### Warnings

1. In order to prevent damage to IC's and transistors, all high-voltage flashovers must be avoided. In order to prevent damage to the picture tube, it should be discharged using the method shown in Fig.3.1. Use a high-voltage probe and a multimeter (position DC-V). Discharge until the meter reading is 0V (after approx. 30s).

#### 2. ESD



All ICs and many other semiconductors are sensitive to electrostatic discharges (ESD). Careless handling during repair can drastically shorten their life. Make sure that during repair you are connected by a pulse band with resistance to the same potential as the earth of the unit. Keep components and tools also at this same potential.

3. Be careful when taking measurements in the high-voltage section and on the picture tube.
4. Never replace modules or other components while the unit is switched on.
5. When making settings, use plastic rather than metal tools. This will prevent any short circuits and the danger of a circuit becoming unstable.
6. In order to prevent measuring errors, the heat sinks should not be used as reference points for measurements. **The heat sink for the sound output amplifier (next to the channel selector) is connected to the -16 or -12 volts.**
7. Together with the deflection unit and any multipole unit, the flat square picture tubes used form an integrated unit. The deflection and the multipole units are set optimally at the factory. Adjustment of this unit during repair is therefore not recommended.
8. The high-voltage cable in 21" units is glued in the line output transformer. This can therefore not be replaced.

#### Notes

1. The picture tube PCB has printed spark gaps. Each spark gap is connected between an electrode of the picture tube and the Aquadag coating.
2. Blackline units can be recognized by the thick, protected high-voltage cable. Non-blackline units have a thin, unprotected high-voltage cable.

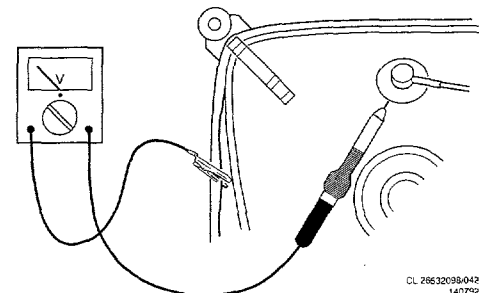


Fig. 3.1

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140792

P.12

P.6

P.18

P.10

P.15

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## 4. Mechanical instructions

### 1. Removing the back plate

It is only possible to remove the back plate after removing the screws on the top, side, possibly on the underneath and possibly above the EXT 2 connection. In the case of subwoofer units, the subwoofer speaker on the carrier panel should also be unplugged (see Fig. 4.2a).

### 2. Service position 1

Service position for module service and to measure test points

Unlock the chassis after the cables of the degaussing coil and any PIP module have been disconnected, and pull it backwards until all test points are accessible (see Fig. 4.2b).

In order to make the tuner and the IF/sound module accessible, the bracket above these modules can be removed (see Fig. 4.3). With the exception of one fault message, the unit continues to function normally when the PIP module is not connected.

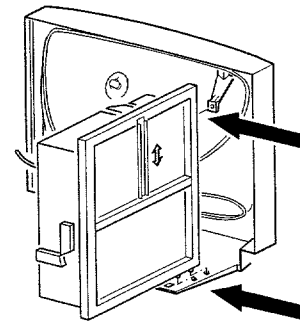
### 3. Service position 2

Service position for repair

Place the chassis on the heat sink on the tuner side after service position 1 is reached (see Fig. 4.4).

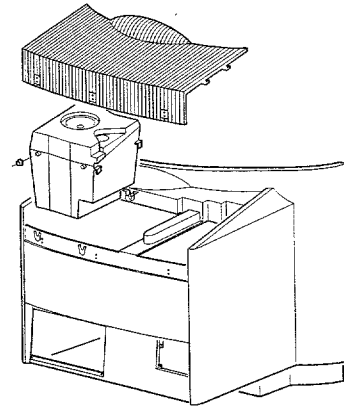
Or in case of FL4 cabinet there is a service hook where the chassis with bracket can be hung on (see fig. 4.1). Be careful with the wiring!!

**Warning: make sure that the heat sink of the sound output amplifier does not form a short circuit with the raster/line heat sink if the bracket of the third scart has been removed !**



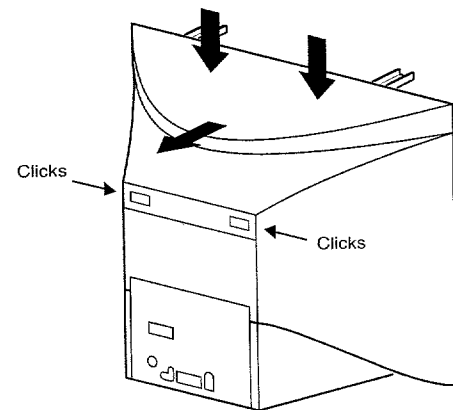
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Fig. 4.1



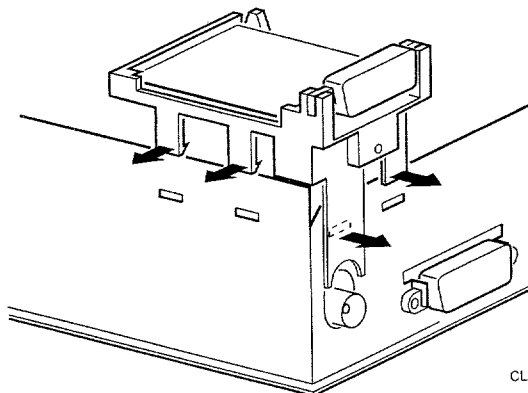
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Fig. 4.2a



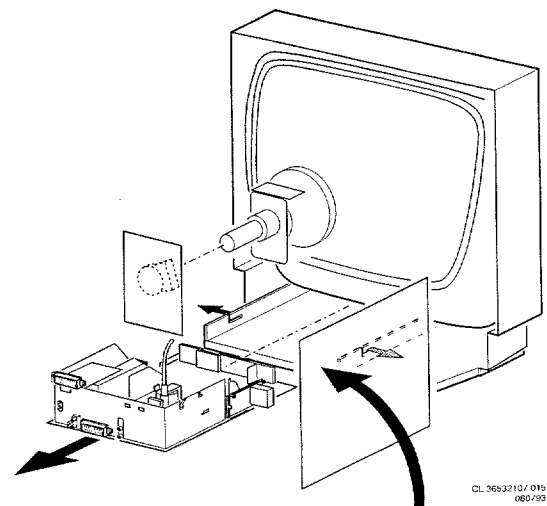
CL 3653107 018  
191094

Fig. 4.2b



CL 36532107/014  
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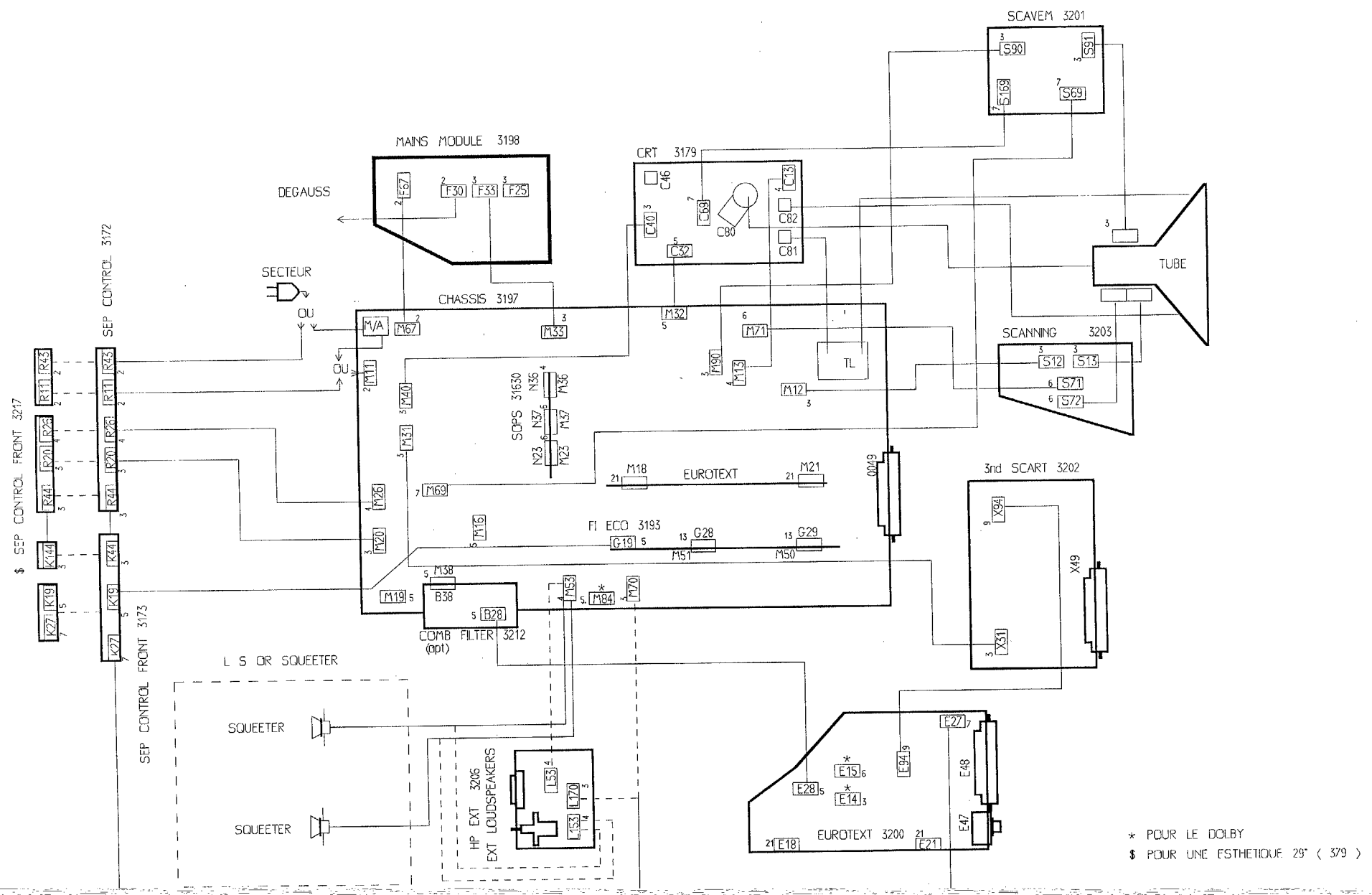
Fig. 4.3



CL 36532107 015  
060/93

Fig. 4.4

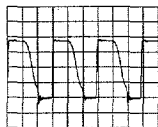
# Wiring diagram/Verdrahtungsschema/Schéma de câblage



\* POUR LE DOLBY  
 § POUR UNE ESTHETIQUE 29" ( 379 )

TP1 = DC 15V9  
TP2 = DC -15V9

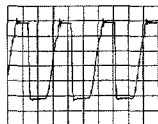
TP3



20V/div AC  
5μs div

TP4 = DC 9V7

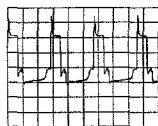
TP5



5V/div AC  
5μs div

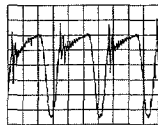
TP6 = DC 4V8  
TP7 = DC 298V

TP8



2V/div AC  
5μs div

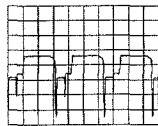
TP9



0.2V/div AC  
5μs div

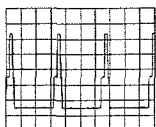
TP10 = DC 2V4  
TP11 = DC 0V  
TP12 = DC 2V7

TP14



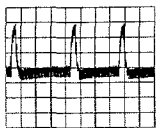
2V/div AC  
20μs div

TP16



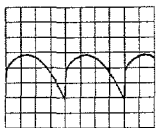
2V/div AC  
20μs div

TP17 = DC 0V  
TP18



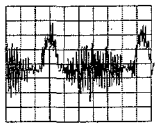
2V/div AC  
5ms div

TP19



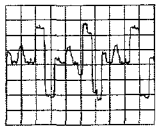
1V/div AC  
5ms div

TP20



20mV/div AC  
10μs div

TP21



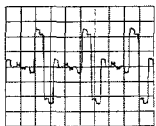
0.1V/div AC  
20μs div

TP22



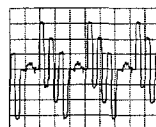
0.2V/div AC  
20μs div

TP23



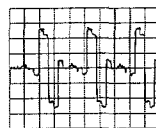
0.2V/div AC  
20μs div

TP24



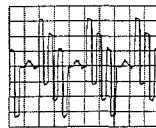
0.2V/div AC  
20μs div

TP25



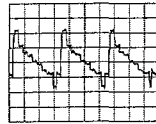
0.2V/div AC  
20μs div

TP26



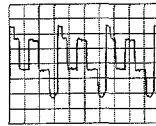
0.2V/div AC  
20μs div

TP27



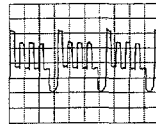
0.1V/div AC  
20μs div

TP28



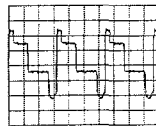
0.5V/div AC  
20μs div

TP29



0.5V/div AC  
20μs div

TP30



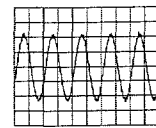
0.5V/div AC  
20μs div

TP31



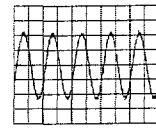
10mV/div AC  
0.5ms div

TP32



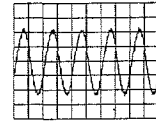
10mV/div AC  
0.5ms div

TP33



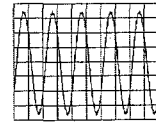
10mV/div AC  
0.5ms div

TP34



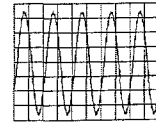
10mV/div AC  
0.5ms div

TP35



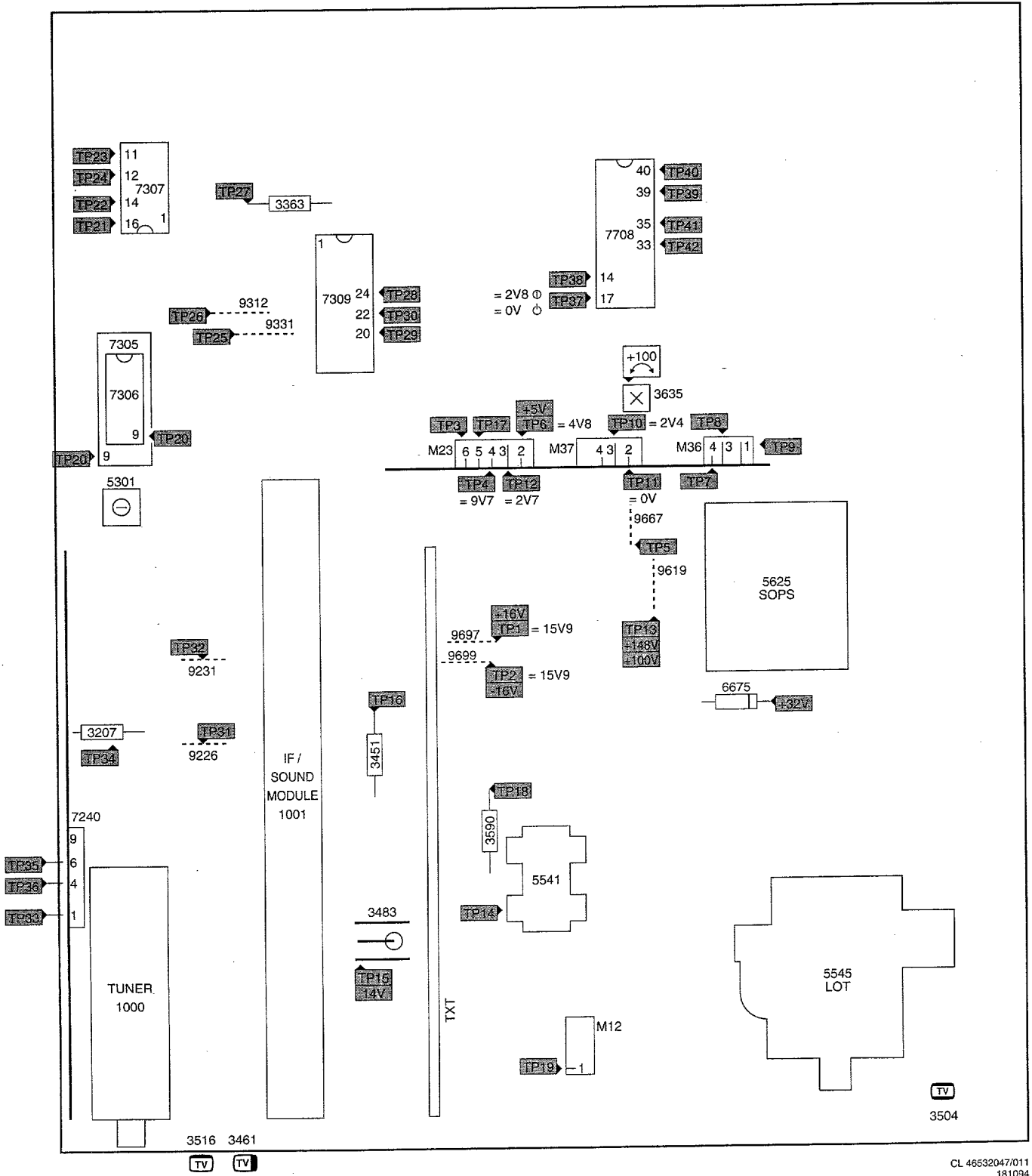
200mV/div AC  
0.5ms div

TP36

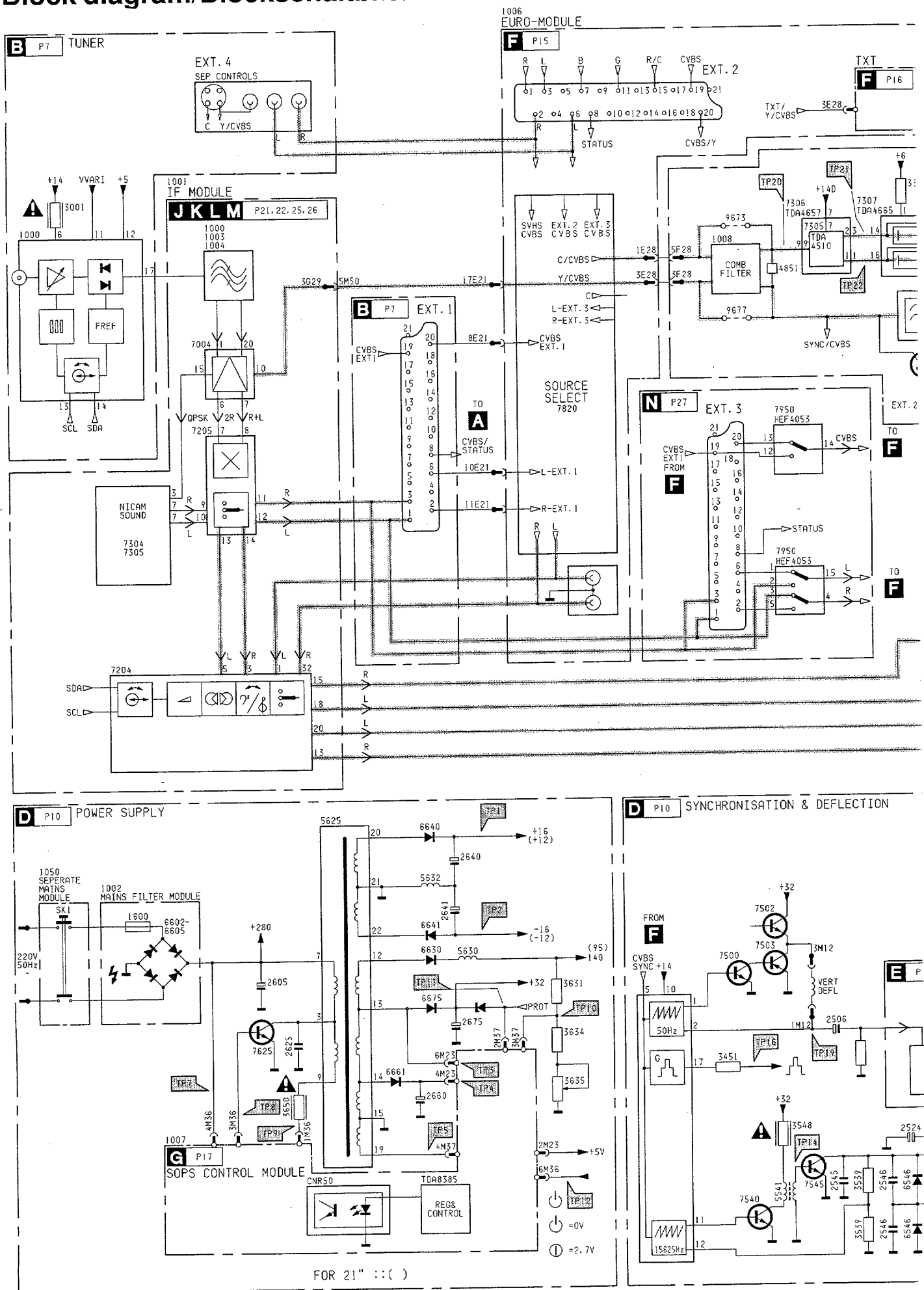


200mV/div AC  
0.5ms div

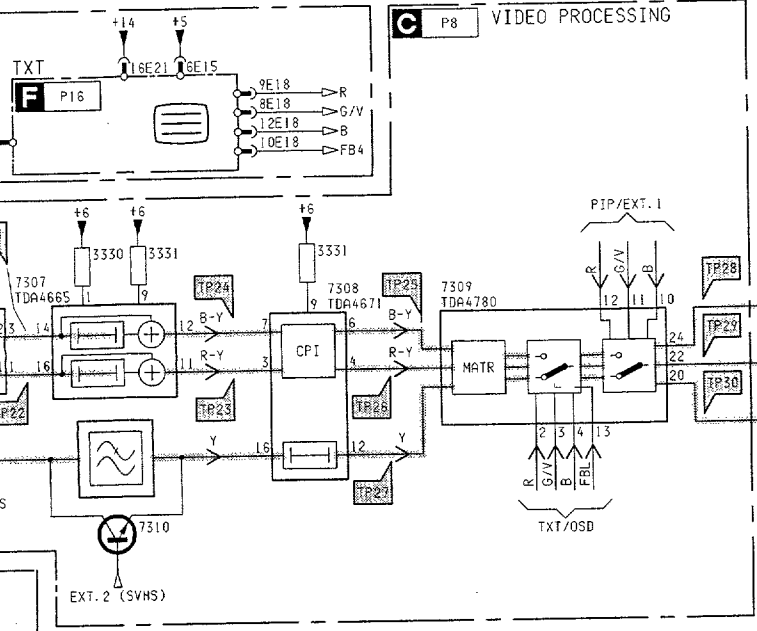
# Test point overview/Übersicht Teststellen/Tableau des points à tester



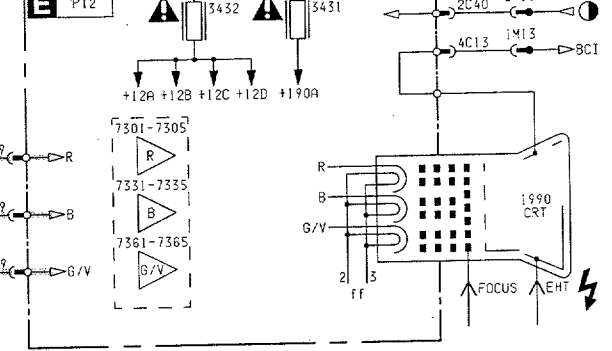




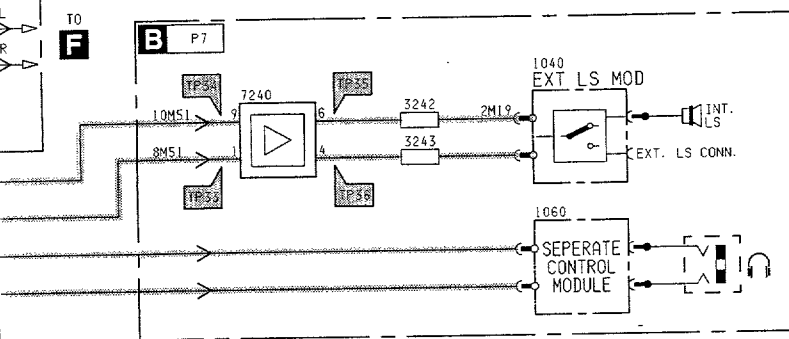
**C** P8 VIDEO PROCESSING



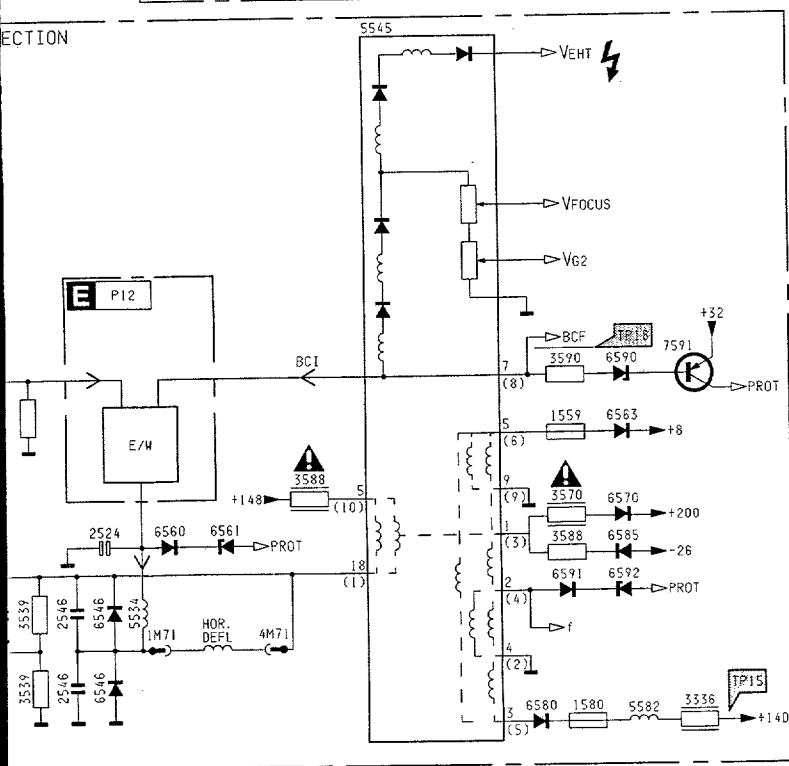
**E** P12 1005 CRT MODULE



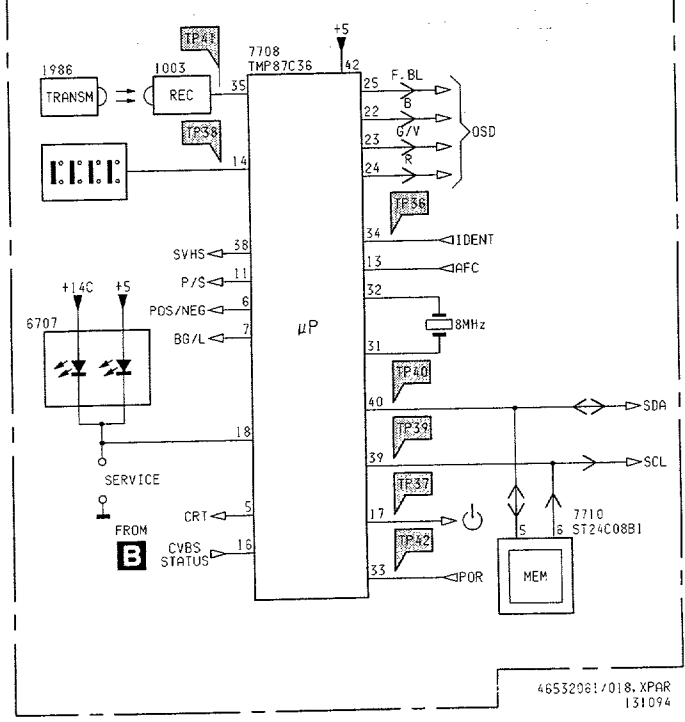
**F**



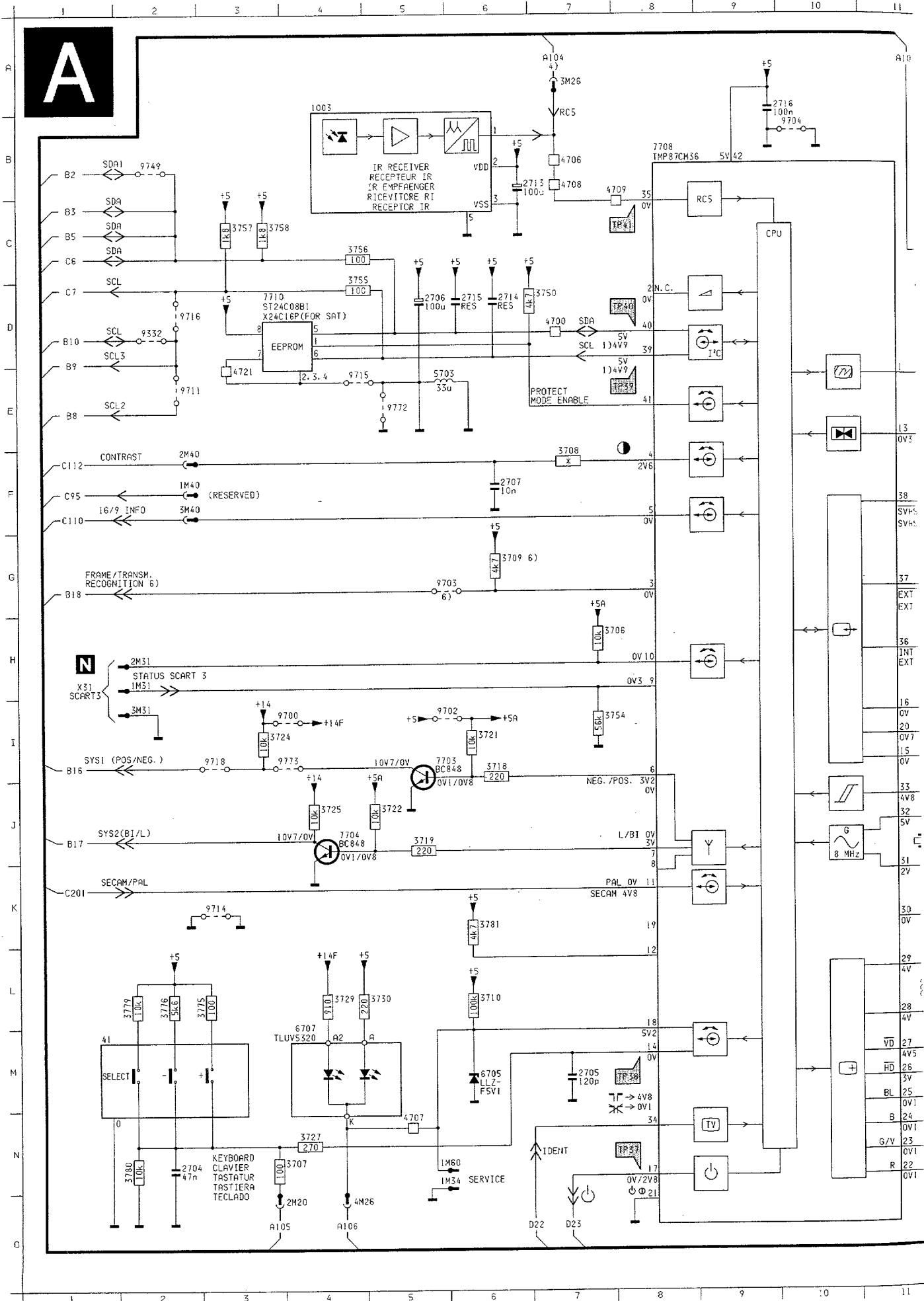
SECTION

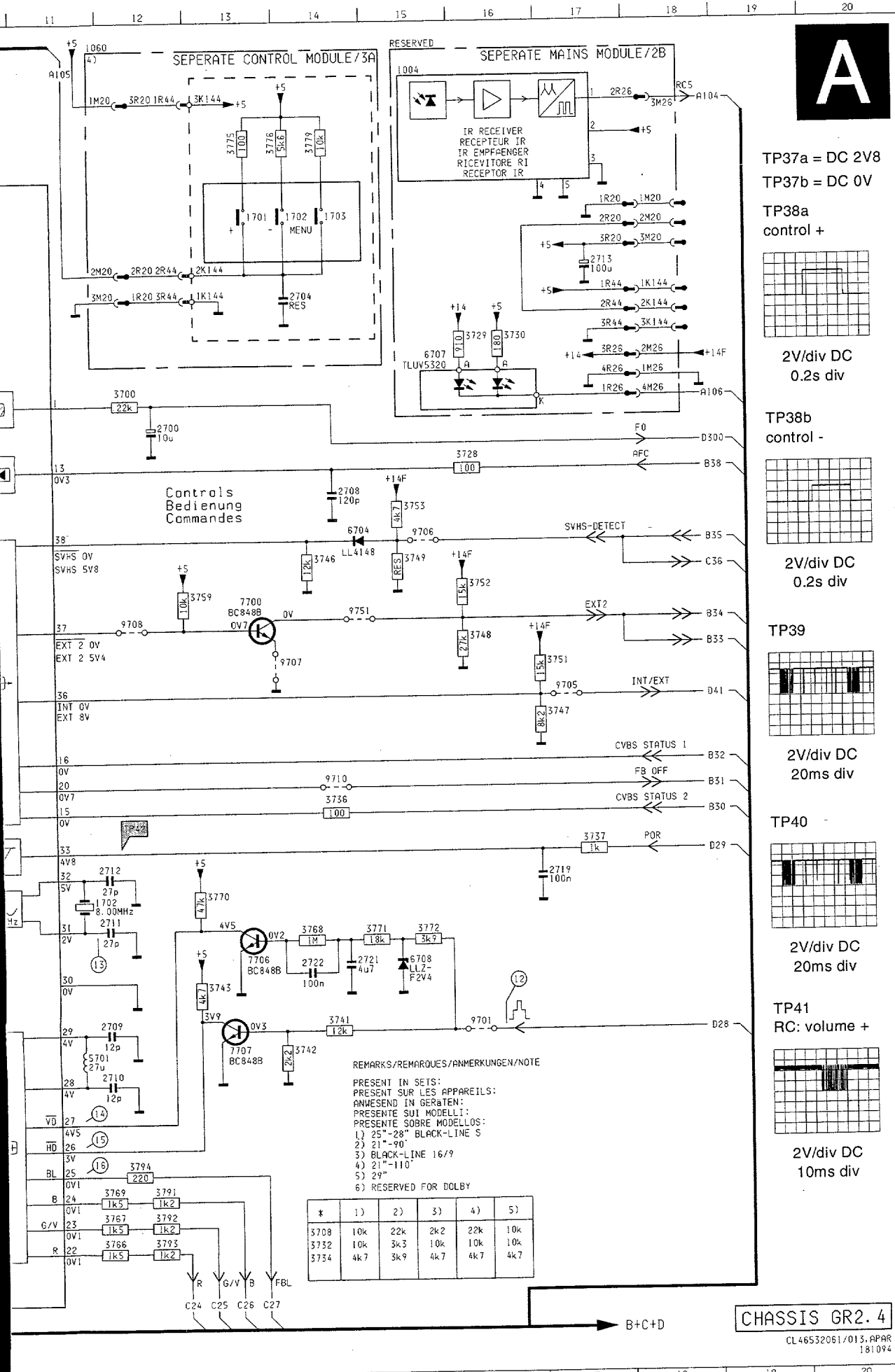


**A** P6 CONTROLS



46532061/018.XPAR  
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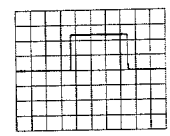




**A**

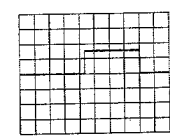
TP37a = DC 2V8  
TP37b = DC 0V

TP38a  
control +



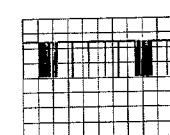
2V/div DC  
0.2s div

TP38b  
control -



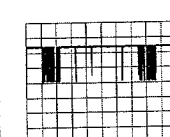
2V/div DC  
0.2s div

TP39



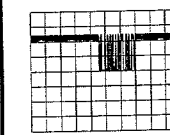
2V/div DC  
20ms div

TP40



2V/div DC  
20ms div

TP41  
RC: volume +



2V/div DC  
10ms div

REMARKS/REMARQUES/ANMERKUNGEN/NOTE

PRESENT IN SETS:  
PRESENT SUR LES APPAREILS:  
ANWESEND IN GERÄTEN:  
PRESENTI SUI MODELLI:  
PRESENTI SOBRE MODELLOS:  
1) 25"-28" BLACK-LINE S  
2) 21"-90"  
3) BLACK-LINE 16/9  
4) 21"-110"  
5) 29"  
6) RESERVED FOR DOLBY

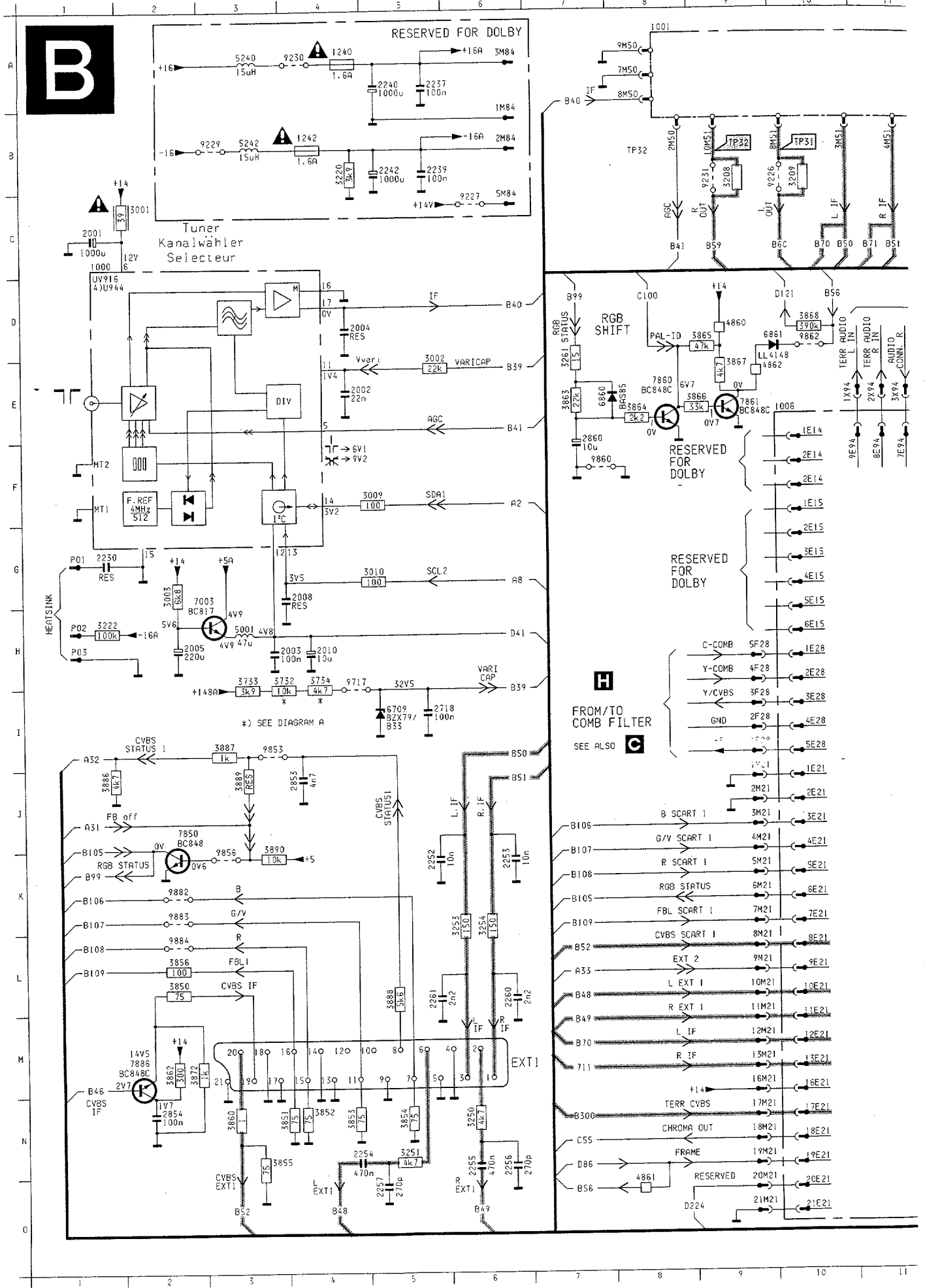
* 1) 2) 3) 4) 5)	1) 2) 3) 4) 5)
3708	10k 22k 2k2 22k 10k
3732	10k 3k3 10k 10k 10k
3734	4k7 3k9 4k7 4k7 4k7

CHASSIS GR2.4

CL46532061/013, APAR  
181094

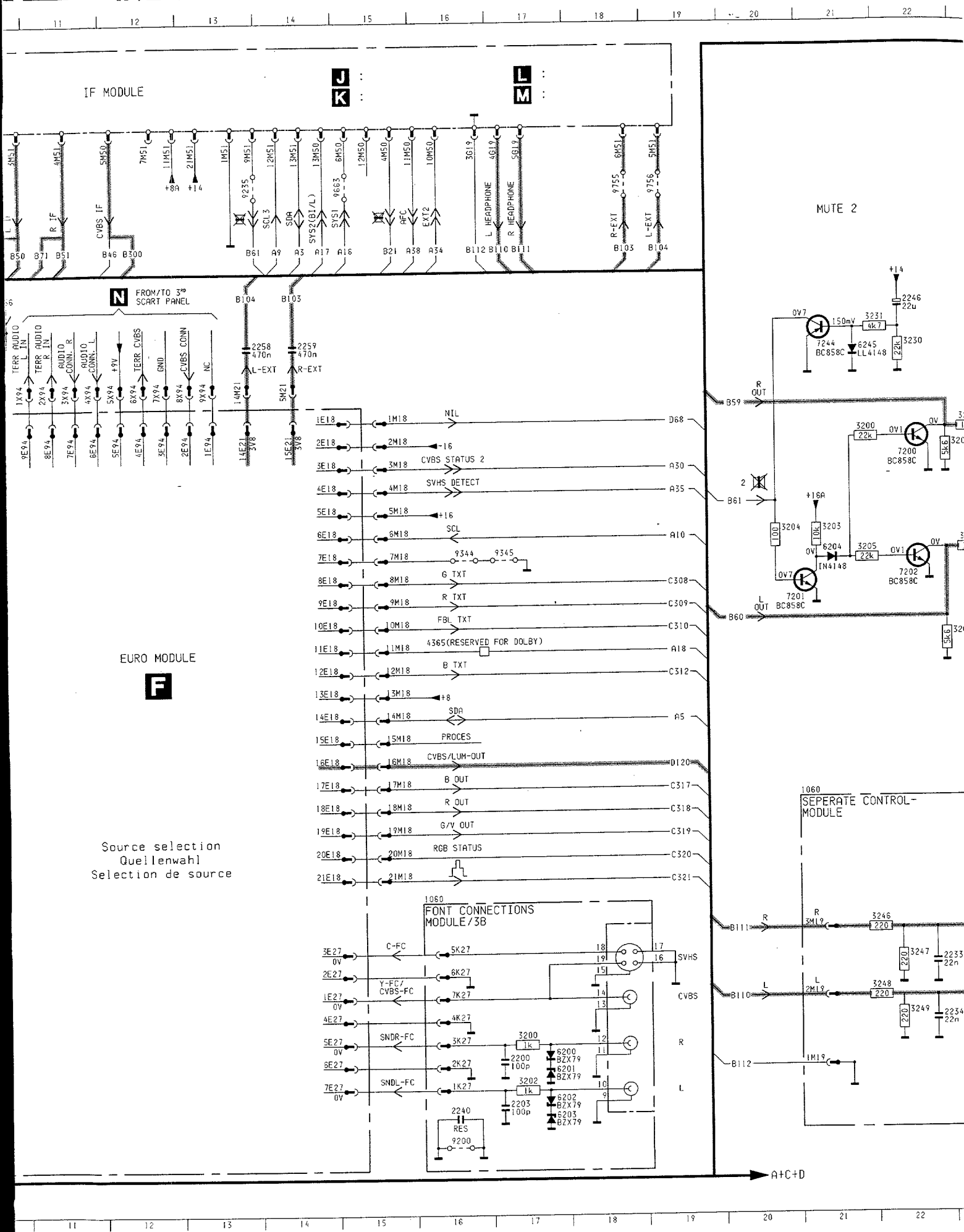
1003	A 4	9714	K 3
1004	A15	9715	E 4
1060	A11	9716	D 2
1701	B13	9718	I 3
1702	B14	9749	B 2
1703	B11	9751	G14
1705	B14	9772	E 5
2700	E12	9773	I 4
2704	C14		
2704	N 2		
2705	M 7		
2706	D 5		
2707	F 6		
2708	F14		
2709	L12		
2710	L12		
2711	K12		
2712	J12		
2713	B 6		
2715	C17		
2716	D 6		
2717	D 6		
2718	A 9		
2719	J17		
2721	K14		
2722	K14		
3700	E12		
3706	H 7		
3707	N 3		
3708	F 7		
3709	G 6		
3710	L 6		
3718	I 6		
3719	J 5		
3721	I 6		
3722	J 5		
3724	I 3		
3725	J 4		
3727	N 4		
3728	E16		
3729	D18		
3729	L 4		
3730	D18		
3730	L 5		
3736	I14		
3737	J17		
3741	L14		
3742	L14		
3743	K13		
3746	F14		
3747	H17		
3748	G16		
3749	F15		
3750	D 7		
3751	H17		
3752	G16		
3753	F15		
3754	I 7		
3755	D 4		
3756	C 4		
3757	C 3		
3758	C 3		
3759	G13		
3766	N12		
3767	N12		
3768	K14		
3769	N12		
3770	J13		
3771	K15		
3772	K15		
3775	B13		
3775	L 3		
3776	B14		
3776	L 2		
3777	B14		
3779	L 2		
3780	N 2		
3781	K 6		
3791	N12		
3792	N12		
3793	N12		
3794	M12		
41	M 1		
4700	D 7		
4706	B 7		
4707	N 5		
4708	B 7		
4709	B 8		
4721	E 3		
5701	L11		
5703	E 5		
6704	F14		
6705	M 6		
6707	D15		
6707	M 4		
6708	K15		
7700	G13		
7703	I 5		
7704	J 4		
7706	K13		
7707	L13		
7708	B 8		
7710	D 3		
9332	D 2		
9700	I 4		
9701	L16		
9702	I 5		
9705	B 5		
9704	B10		
9705	H17		
9706	F15		
9707	H14		
9708	G12		
9710	I14		
9711	E 2		

**B**



\*) SEE DIAGRAM A

**H**  
FROM/TO COMB FILTER  
SEE ALSO **C**



FROM/TO 3\* SCART PANEL

EURO MODULE

F

Source selection  
Quellenwahl  
Selection de source

1060  
FONT CONNECTIONS  
MODULE/3B

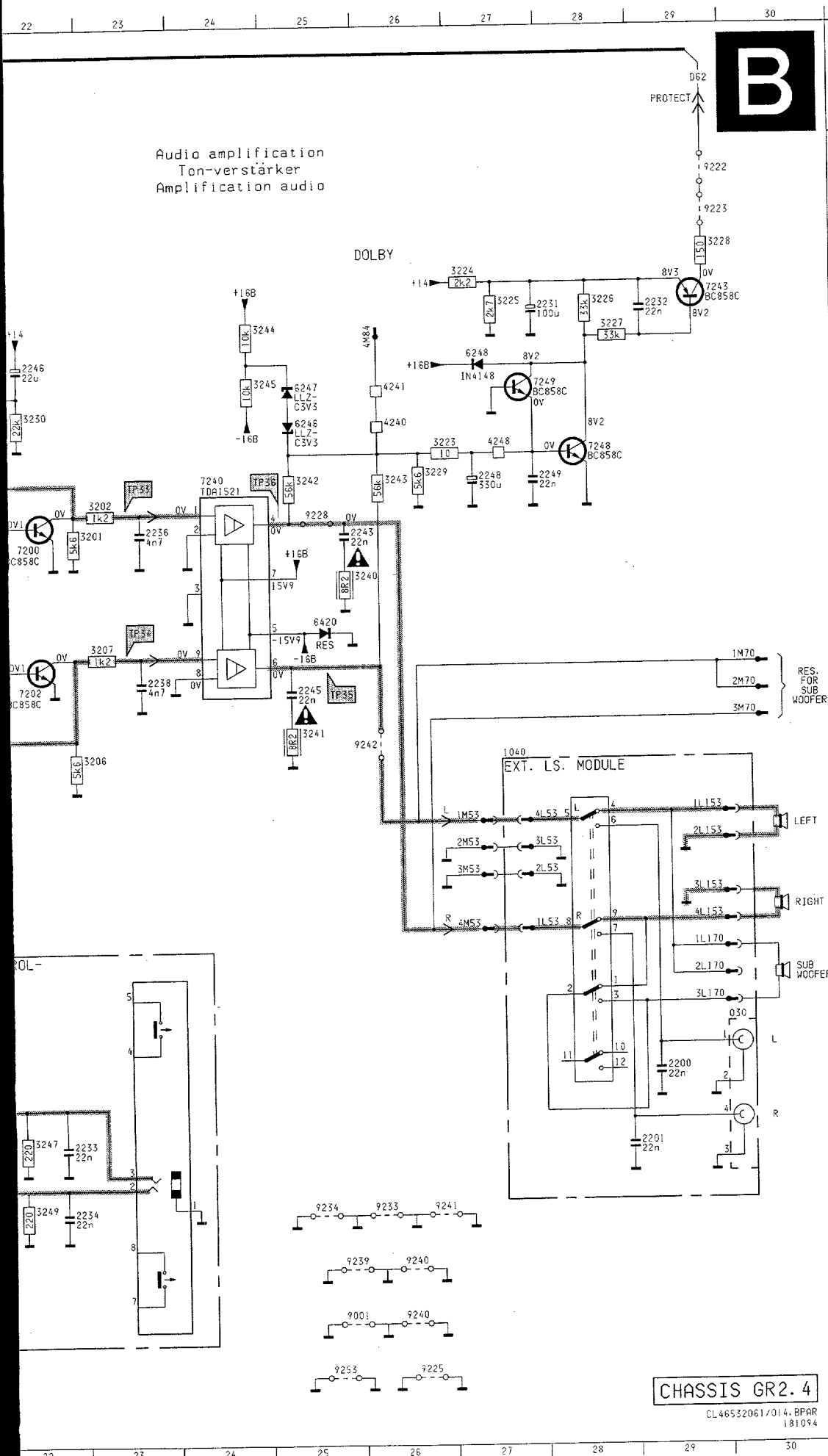
MUTE 2

1060  
SEPARATE CONTROL-  
MODULE

A+C+D

Audio amplification  
Ton-verstärker  
Amplification audio

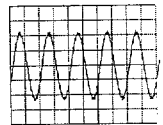
DOLBY



CHASSIS GR2.4  
CL46532061/014.BPAR  
181094

1000	C 1	3890	K 3
1001	A 8	4240	E26
1006	E10	4241	D26
1040	H27	4248	E27
1060	J20	4365	H * 3
1060	L16	4860	D 8
1240	A 4	4861	O 8
1242	B 4	4862	E 9
2001	C 1	5001	H 3
2002	E 4	5240	A 3
2003	H 3	5242	B 3
2004	D 4	6200	N17
2005	H 2	6201	N17
2008	G 4	6202	N17
2010	H 4	6203	N17
2200	L29	6204	G21
2200	N17	6245	E21
2201	L29	6246	E25
2203	N17	6247	D25
2230	G 1	6248	D27
2231	C28	6420	G25
2232	C29	6709	I 5
2233	L22	6860	E-7
2234	M22	6861	D10
2236	F25	7003	G 3
2237	A 5	7200	F22
2238	G23	7201	H21
2239	B 5	7202	G22
2240	A 5	7240	E24
2240	N16	7243	C29
2242	B 5	7244	D21
2243	F25	7248	E28
2245	G25	7249	D27
2246	D22	7850	J 2
2248	E27	7860	E 8
2249	E28	7861	E 9
2252	K 5	7886	M 2
2253	K 6	9001	N25
2254	N 4	9200	O16
2255	N 6	9222	B29
2256	N 6	9223	B29
2257	O 5	9225	O26
2258	D13	9226	B10
2259	D14	9227	C 6
2260	L 6	9228	F25
2261	L 5	9229	B 3
2718	I 5	9230	A 4
2853	J 4	9231	B 9
2854	N 2	9233	M26
2860	F 7	9234	M25
3001	C 2	9235	B13
3002	E 5	9239	M25
3003	G 2	9240	M26
3009	F 5	9240	M26
3200	F21	9242	H26
3200	M17	9253	O25
3201	F23	9344	G16
3202	E23	9345	G17
3203	N17	9663	B15
3204	G21	9717	H 4
3205	G21	9756	B18
3206	H23	9853	J 3
3207	G23	9856	K 3
3208	B 9	9860	F 7
3209	B10	9862	D10
3220	B 4	9882	H 4
3222	H 1	9883	K 2
3223	E26	9884	L 2
3224	C27		
3225	C27		
3226	C28		
3227	D28		
3228	C29		
3229	E26		
3230	D22		
3231	D22		
3240	F25		
3241	H25		
3242	E25		
3243	E26		
3244	C24		
3245	D24		
3246	L22		
3247	L22		
3248	M22		
3249	M22		
3250	N 6		
3251	N 5		
3253	K 6		
3254	K 6		
3261	E 7		
3732	H 3		
3733	H 3		
3734	H 4		
3850	L 2		
3851	N 3		
3852	N 4		
3853	N 4		
3854	N 5		
3855	N 3		
3856	L 2		
3860	N 3		
3862	M 2		
3863	E 7		
3864	E 8		
3865	D 9		
3866	E 9		
3867	E 9		
3868	D10		
3872	M 2		
3886	J 1		
3887	I 3		
3888	L 5		
3889	J 5		

\* TP31



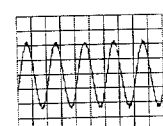
10mV/div AC  
0.5ms div

\* TP32



10mV/div AC  
0.5ms div

\* TP33



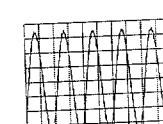
10mV/div AC  
0.5ms div

\* TP34



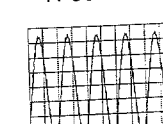
10mV/div AC  
0.5ms div

\* TP35



200mV/div AC  
0.5ms div

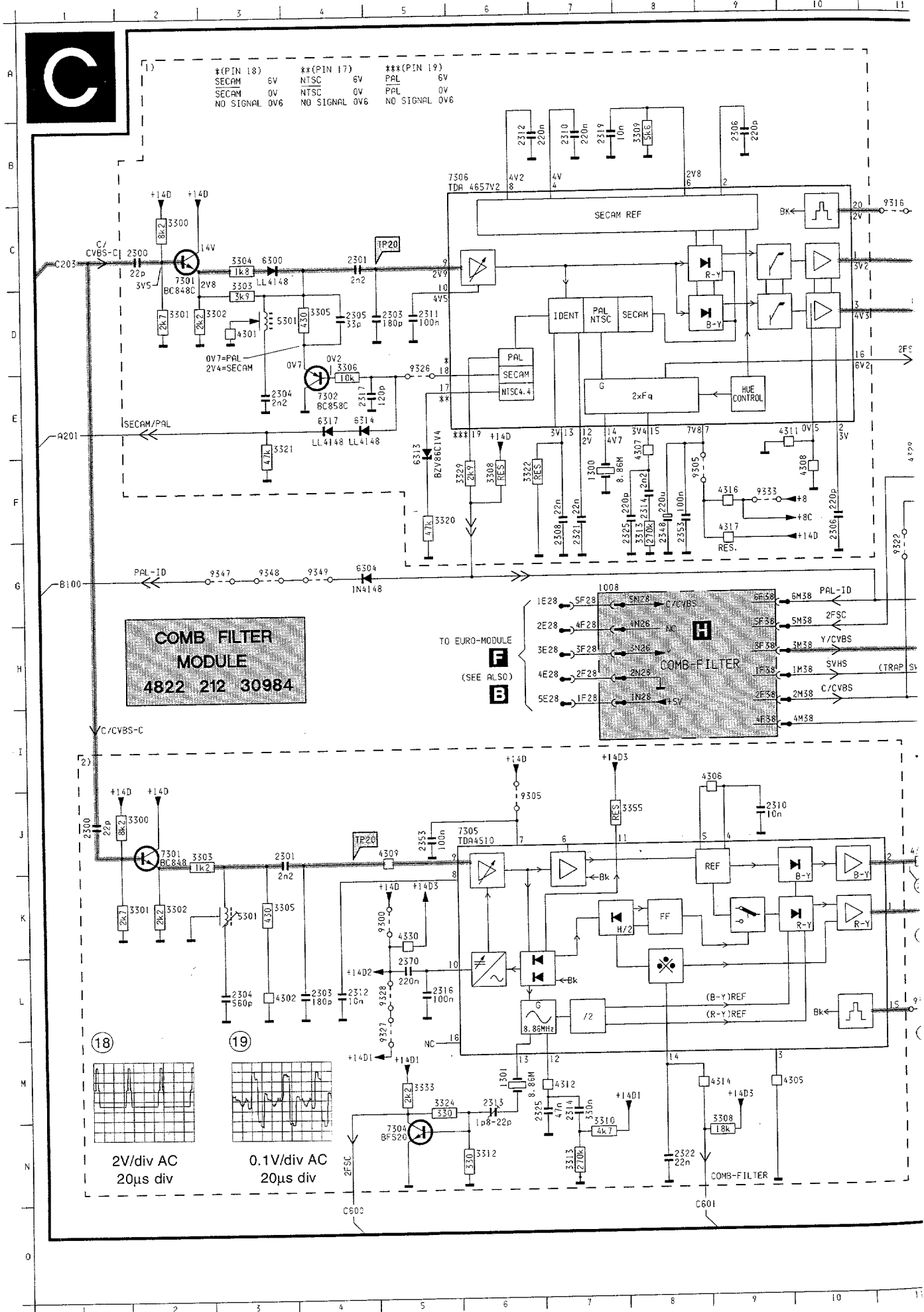
\* TP36



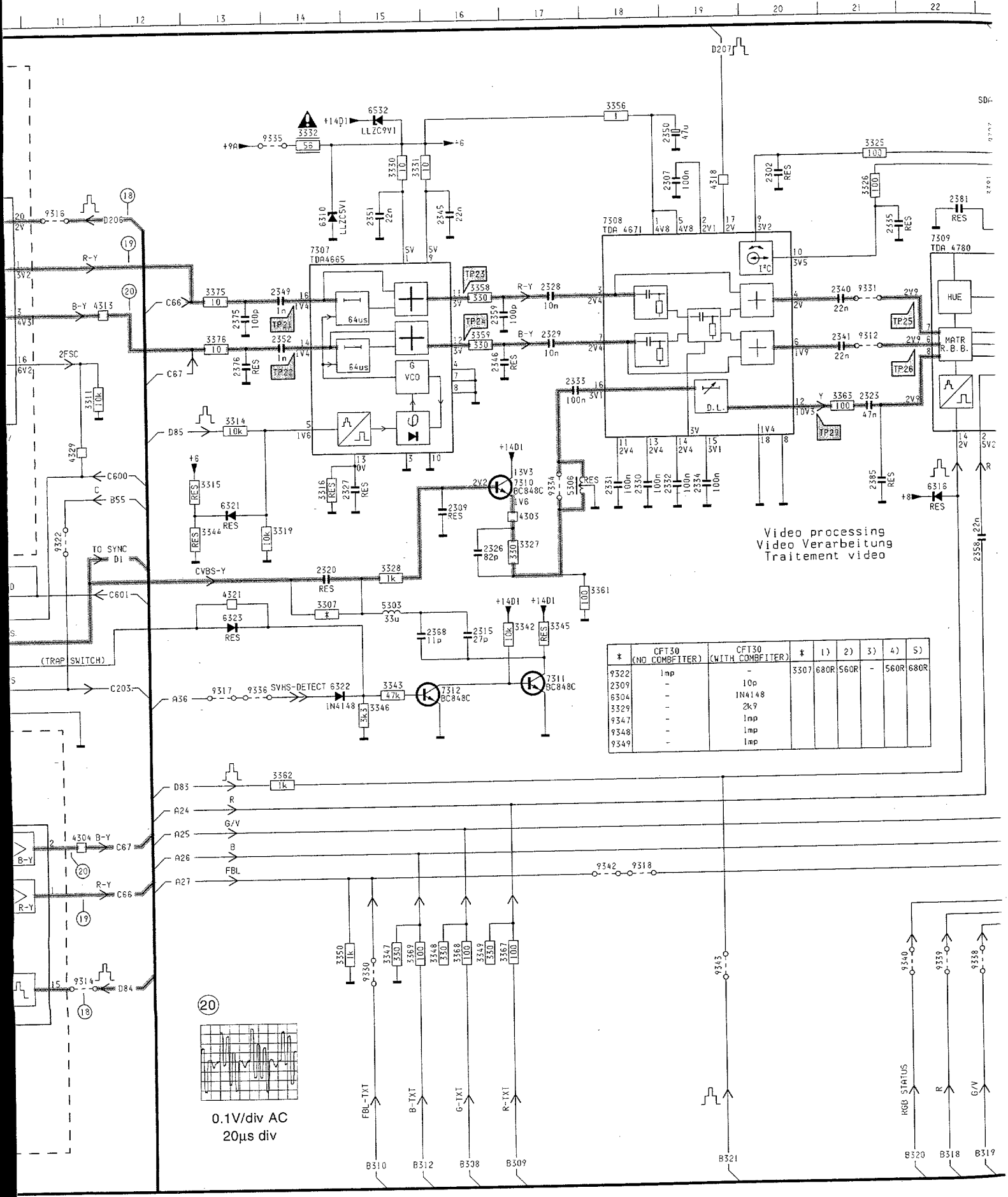
200mV/div AC  
0.5ms div

\* measured at  $\angle = 50\%$

# Video processing/Video Verarbeitung/

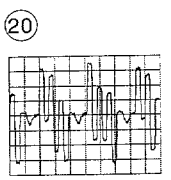




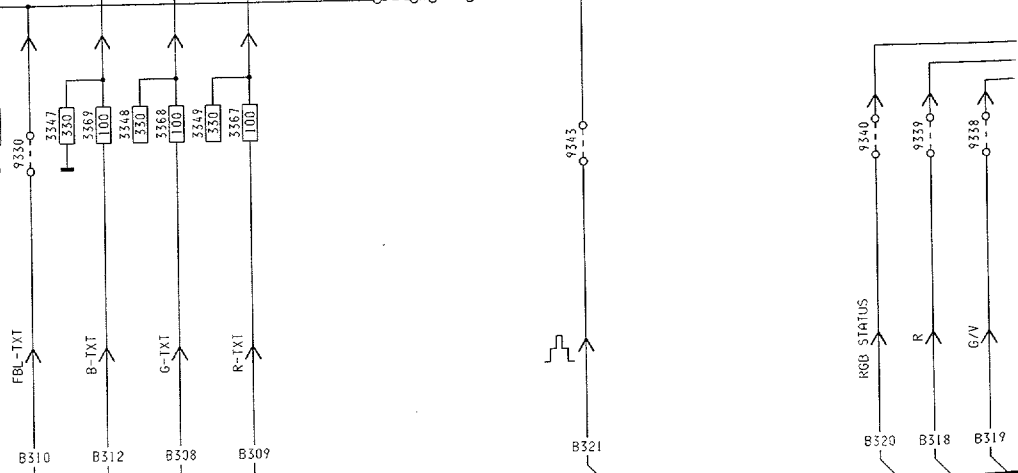


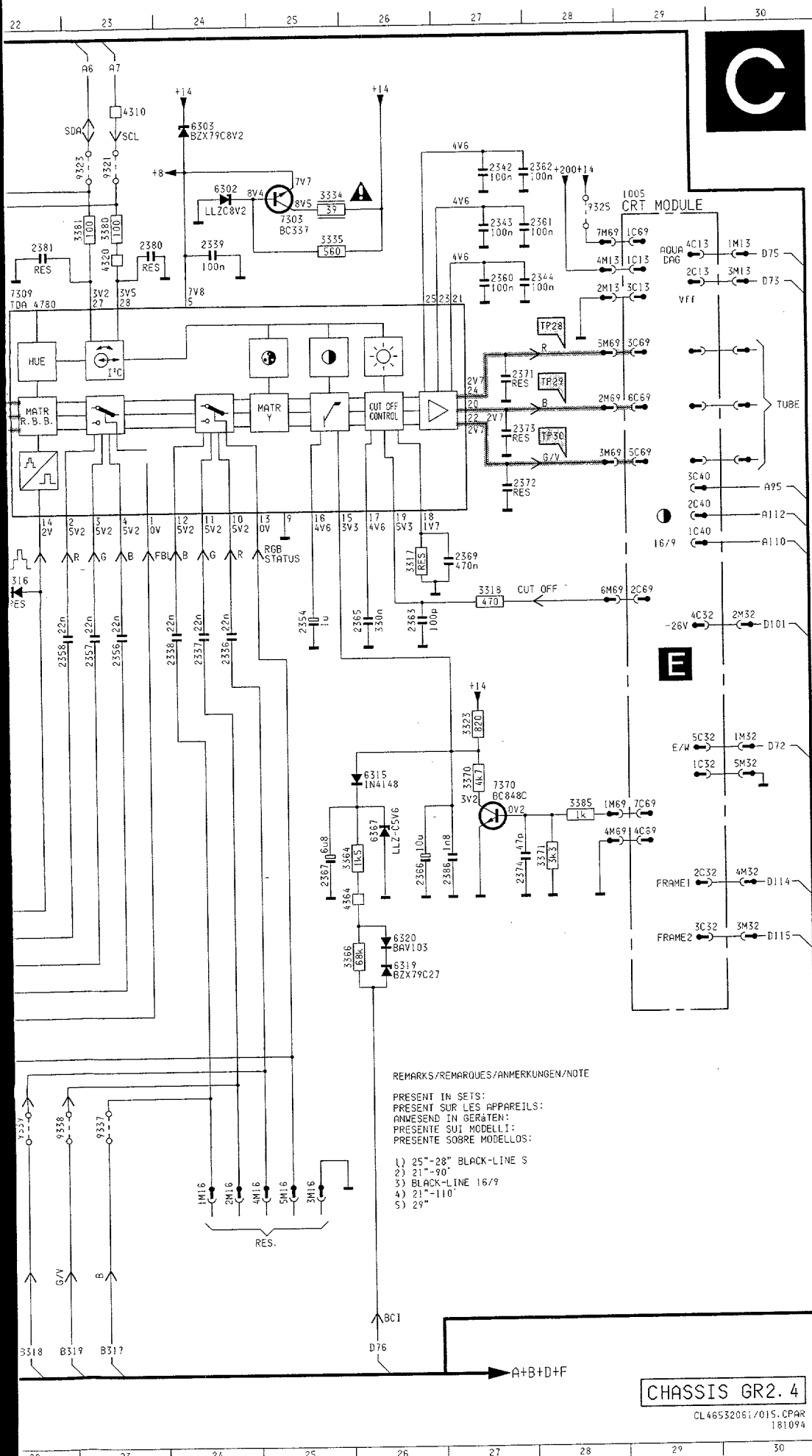
Video processing  
Video Verarbeitung  
Traitement video

* CFT30 (NO COMBITER)	CFT30 (WITH COMBITER)	*	1)	2)	3)	4)	5)
9322	imp	3307	680R	560R	-	560R	680R
2309	-						
6304	1N4148						
3329	2K7						
9347	imp						
9348	imp						
9349	imp						

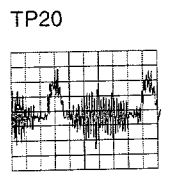


0.1V/div AC  
20µs div

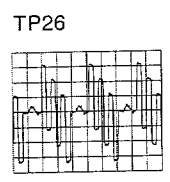




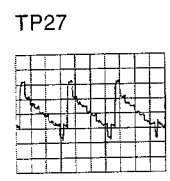
1005	B29	3319	G14	9328	L 5
1008	G 7	3320	F 5	9330	L15
1300	F 7	3321	E 3	9331	D21
1301	M 6	3322	F 6	9333	F 9
2500	C 2	3323	H27	9334	F17
2500	J 1	3324	M 5	9335	B14
2501	C 4	3325	B21	9336	I13
2501	J 3	3326	B21	9337	L23
2502	B20	3327	G17	9338	L22
2503	D 5	3328	G15	9339	L22
2503	L 4	3329	F 6	9340	L21
2504	E 3	3330	B15	9342	K18
2504	L 3	3331	B15	9343	L19
2505	D 4	3332	B14	9347	G 3
2506	B 9	3333	M 5	9348	G 3
2506	F10	3334	B25	9349	G 4
2507	B19	3335	C25		
2508	F 7	3342	H17		
2509	F16	3343	I15		
2510	B 7	3344	G13		
2511	J 9	3345	H17		
2511	D 5	3346	L15		
2512	L 4	3347	L16		
2513	M 6	3349	L16		
2514	M 7	3355	J 7		
2515	H16	3356	A18		
2516	L 5	3358	D16		
2517	E 4	3359	D16		
2519	B 7	3361	G18		
2520	G14	3362	J14		
2521	F 7	3363	E21		
2522	N 8	3364	I26		
2523	E21	3366	J26		
2525	F 8	3367	L16		
2525	M 6	3368	L16		
2526	G16	3369	L15		
2527	F15	3370	H27		
2528	D17	3371	I28		
2529	D17	3375	D13		
2530	F18	3376	D13		
2531	F18	3380	B23		
2532	F19	3381	B23		
2533	E17	3385	I28		
2535	F19	4301	D 3		
2535	C21	4302	L 3		
2536	G24	4303	F17		
2537	G24	4304	J11		
2538	G24	4305	M 9		
2539	C24	4306	I 9		
2540	D21	4307	F 8		
2541	D21	4308	F10		
2542	B27	4309	J 5		
2543	B27	4310	A23		
2544	C28	4311	E10		
2545	C16	4312	M 7		
2546	E16	4313	D11		
2548	F 8	4314	M 8		
2549	D14	4316	F 9		
2550	B19	4317	F 9		
2551	C15	4318	B19		
2552	D14	4320	C23		
2553	F 8	4321	G13		
2553	J 5	4329	F11		
2554	G25	4330	K 5		
2556	G23	4364	J26		
2557	G23	5301	D 3		
2558	G22	5301	K 3		
2559	D16	5303	H15		
2560	C27	5306	F17		
2561	B28	6300	C 3		
2562	B28	6302	B24		
2563	G26	6303	A24		
2565	G26	6304	G 4		
2566	I26	6310	C14		
2567	I25	6313	F 5		
2568	H15	6314	E 4		
2569	F27	6315	H26		
2570	L 5	6316	F22		
2571	D27	6317	E 4		
2572	E27	6319	J26		
2573	E27	6320	J26		
2574	I27	6321	F13		
2575	D13	6322	I14		
2576	E13	6323	H13		
2580	C23	6367	I26		
2581	C22	6532	A15		
2585	F21	7301	C 2		
2586	I27	7301	J 2		
3300	C 2	7302	E 4		
3300	J 2	7303	B25		
3301	D 2	7304	N 5		
3301	K 2	7305	J 5		
3302	K 3	7306	B 5		
3302	K 2	7307	C14		
3303	D 3	7308	C18		
3303	J 2	7309	C22		
3304	C 3	7310	F17		
3305	D 4	7311	I17		
3305	K 3	7312	I16		
3306	E 4	7320	I27		
3307	H14	9300	K 5		
3308	F 6	9305	F 8		
3308	N 9	9305	J 6		
3309	B 8	9312	D21		
3310	N 7	9314	L11		
3311	E11	9316	C11		
3312	N 5	9317	I13		
3313	G 8	9318	K18		
3313	N 7	9321	B23		
3314	E13	9322	G11		
3315	F13	9323	B23		
3316	F14	9325	B28		
3317	F26	9326	E 5		
3318	F27	9327	L 5		



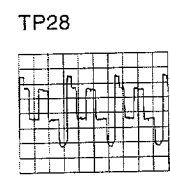
20mV/div AC  
10µs div



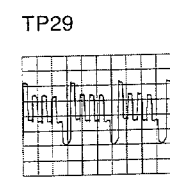
0.2V/div AC  
20µs div



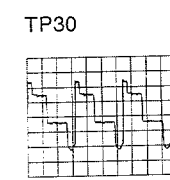
0.1V/div AC  
20µs div



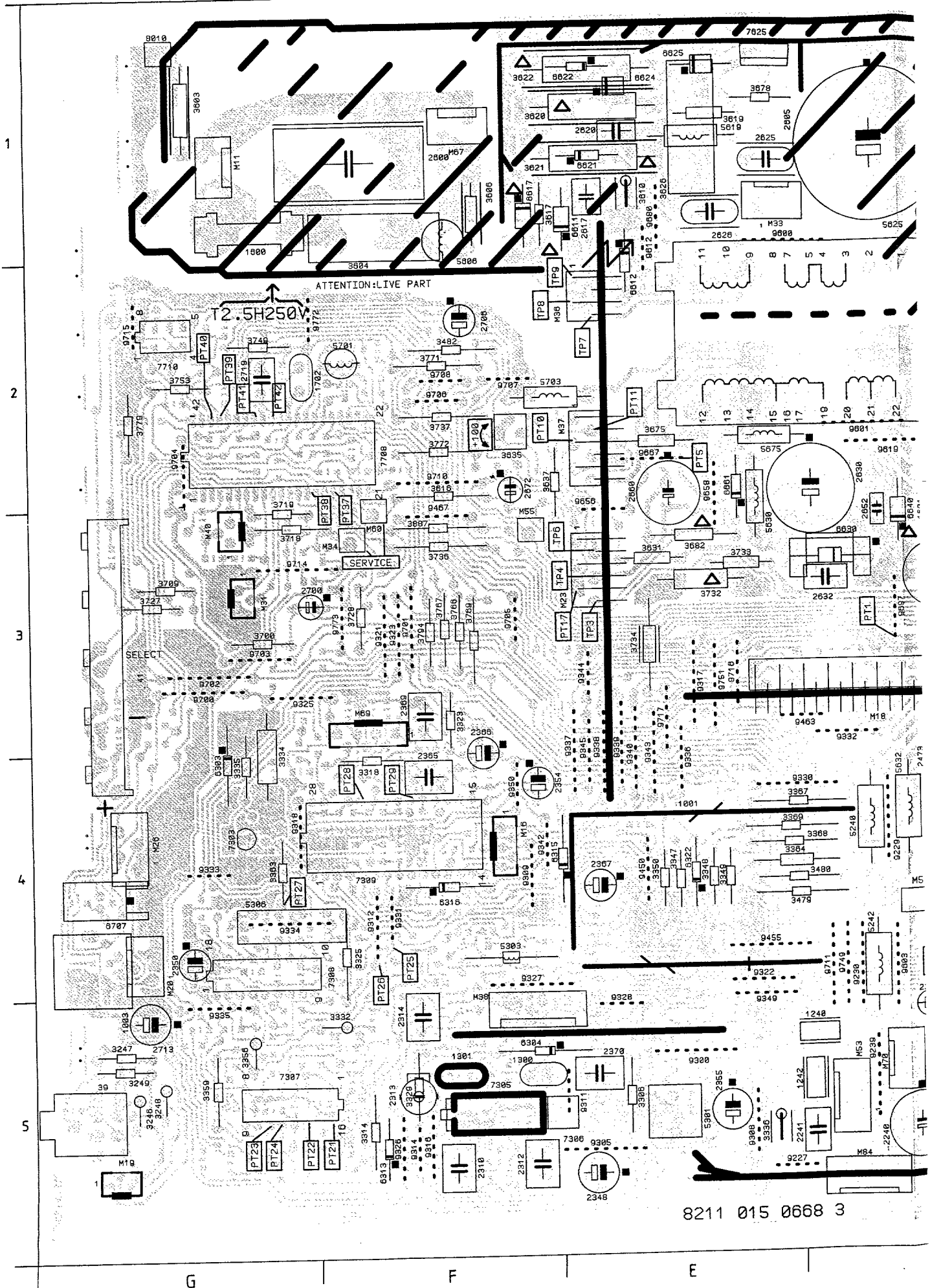
0.5V/div AC  
20µs div



0.5V/div AC  
20µs div



0.5V/div AC  
20µs div

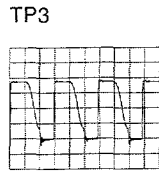


8211 015 0668 3

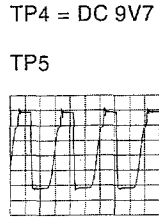


0049 A3	3323 F3	5582 B3	9345 E4
0050 C1	3325 F4	5588 B2	9347 A4
1000 A5	3329 F5	5606 F1	9348 B4
1003 G4	3332 F5	5619 E1	9349 E5
1240 D5	3334 G4	5625 D2	9350 F4
1242 D5	3335 G4	5630 E3	9450 E4
1300 F5	3336 E5	5631 C2	9451 C4
1301 F5	3347 E4	5632 D4	9452 C3
1534 D2	3348 E4	5675 E2	9453 B3
1559 B3	3349 E4	5701 F2	9454 A4
1580 B2	3350 E4	5703 E2	9455 E4
1600 G1	3356 G5	6204 C5	9456 C3
1601 D3	3359 G5	6303 G4	9457 B5
1702 G2	3363 G4	6304 F5	9463 D3
2001 A5	3364 D4	6313 F5	9464 B4
2005 B5	3366 C3	6315 E4	9467 F3
2010 B5	3367 D4	6316 F4	9471 C5
2231 C5	3368 E4	6319 C3	9472 C4
2240 D5	3369 E4	6322 E4	9500 A3
2241 D5	3450 A2	6483 B4	9501 B3
2242 D5	3451 D4	6503 A1	9502 B3
2243 D5	3453 C3	6546 B1	9503 A1
2245 D5	3454 C3	6547 A1	9504 C2
2246 D5	3459 B3	6549 D2	9505 B3
2248 B5	3460 A3	6551 C1	9506 C2
2252 B4	3461 A4	6561 D2	9508 B1
2253 B4	3462 C4	6563 B3	9509 C1
2254 A3	3463 C3	6570 B2	9510 C1
2255 B3	3467 C3	6571 B2	9511 C1
2258 B4	3470 C3	6580 B3	9512 B2
2259 B4	3471 C4	6585 C2	9513 C2
2260 A3	3473 C4	6591 B2	9514 C1
2261 A4	3479 D4	6611 E1	9515 C2
2310 F5	3480 D4	6612 E2	9517 A2
2312 F5	3481 C3	6617 F1	9522 A1
2313 F5	3482 F2	6621 E1	9534 D2
2314 F5	3483 B4	6622 E1	9535 C1
2348 E5	3487 C4	6624 E1	9536 C3
2350 G4	3490 C3	6625 E1	9549 C1
2354 F4	3502 A1	6630 D3	9554 C2
2355 E5	3503 A1	6640 D3	9600 E1
2365 F4	3504 A1	6641 D3	9601 D2
2366 F4	3513 A3	6661 E2	9602 D3
2367 E4	3516 A4	6666 D2	9603 D4
2369 F3	3520 B3	6675 D2	9612 E1
2370 E5	3537 C3	6707 G4	9619 D2
2453 C3	3538 C2	6709 B5	9656 E3
2456 D4	3539 B1	6861 A4	9658 E2
2458 C4	3541 C3	7240 C5	9667 E2
2465 C4	3543 C3	7303 G4	9680 E1
2466 C4	3545 C2	7305 F5	9693 D2
2468 C4	3546 A1	7306 F5	9697 D3
2469 C4	3548 C2	7307 F5	9699 D3
2471 D4	3549 C1	7308 G5	9700 G3
2473 D4	3550 C1	7309 F4	9701 F3
2502 A1	3551 C2	7470 C4	9702 G3
2506 A3	3552 C2	7500 A2	9703 G3
2509 A2	3553 C2	7502 A1	9704 G2
2524 C1	3560 C2	7503 A2	9705 F3
2538 C3	3570 B2	7504 A5	9706 F2
2539 B3	3588 B2	7505 A5	9707 F2
2545 B1	3589 B1	7540 C3	9708 F2
2546 A1	3590 C3	7545 B1	9710 F2
2547 A1	3603 G1	7625 E1	9711 D4
2548 C2	3604 F1	7708 G2	9714 G3
2549 B1	3606 F1	7710 G2	9715 G2
2550 C1	3610 E1	8010 G1	9716 E3
2551 C2	3616 F2	9001 B5	9717 E3
2559 C2	3617 F1	9222 C3	9718 B4
2560 A3	3619 E1	9223 B4	9749 D4
2570 C2	3620 E1	9225 A4	9751 E3
2574 B3	3621 E1	9226 D4	9772 F2
2580 B3	3622 E1	9227 E5	9773 F3
2590 C3	3626 E1	9228 C5	9853 A3
2600 F1	3631 E3	9229 D4	9854 B4
2605 D1	3635 F2	9230 D4	9856 A3
2607 D1	3637 E2	9231 D4	9860 A4
2617 E1	3675 E2	9233 C5	9861 B4
2620 E1	3678 E1	9234 C5	9860 B4
2625 E1	3682 E3	9235 D4	9861 B4
2626 E1	3700 G3	9236 B4	9882 A3
2630 D3	3709 G3	9237 B3	9883 A3
2631 C2	3718 G3	9239 D5	9884 A3
2632 D3	3719 G3	9240 D5	M11 G1
2640 D3	3727 G3	9241 C5	M12 A3
2641 D3	3728 F3	9242 D5	M13 B2
2652 D3	3732 E3	9250 B3	M16 F4
2653 D3	3733 E3	9251 A4	M18 D3
2660 E3	3734 E3	9252 A3	M19 G5
2672 F2	3736 F3	9253 B4	M20 G4
2675 D2	3737 F2	9300 E5	M21 B3
2676 D2	3749 G2	9305 E5	M23 E3
2700 F3	3752 B5	9308 E5	M26 G4
2706 F2	3753 G2	9309 F4	M31 G3
2713 G5	3766 F3	9311 E5	M32 C1
2719 G2	3767 F3	9312 F4	M33 E1
2853 A3	3769 F3	9314 F5	M34 F3
2860 A4	3771 F2	9316 F5	M36 E2
3001 A5	3772 F2	9317 E3	M37 E2
3002 B5	3779 G2	9318 G4	M38 E5
3003 B5	3794 F3	9321 F3	M40 G3
3009 B5	3850 A4	9322 E4	M50 B4
3010 B5	3855 B4	9323 F3	M51 D4
3203 C5	3856 A4	9325 G3	M53 D5
3207 C5	3860 A4	9326 F3	M55 F3
3208 D4	3862 A4	9327 F4	M56 B5
3209 D4	3865 A4	9328 E5	M60 F3
3222 D5	3867 A4	9330 D4	M67 F1
3228 C4	3887 F3	9331 F4	M69 F3
3240 C5	3888 A3	9332 D3	M70 D5
3241 D5	5001 B5	9333 G4	M71 B1
3246 G5	5240 D4	9334 G4	M84 D5
3247 G5	5242 D4	9335 G5	M90 C2
3248 G5	5301 E5	9336 E4	P01 B5
3249 G5	5303 F4	9337 E4	P02 D5
3250 A3	5306 G4	9338 E4	P03 A5
3251 A3	5534 D1	9339 E4	
3253 A4	5541 C2	9340 E4	
3254 A3	5545 B2	9341 C4	
3306 E5	5549 C1	9342 F4	
3314 F5	5554 C2	9343 E4	
3318 F4	5563 B3	9344 E3	

TP1 = DC 15V9  
TP2 = DC -15V9

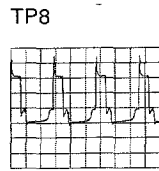


20V/div AC  
5µs div

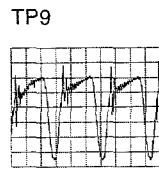


5V/div AC  
5µs div

TP6 = DC 4V8  
TP7 = DC 298V

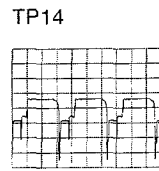


2V/div AC  
5µs div

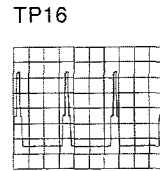


0.2V/div AC  
5µs div

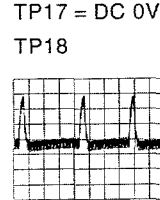
TP10 = DC 2V4  
TP11 = DC 0V  
TP12 = DC 2V7



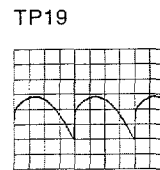
2V/div AC  
20µs div



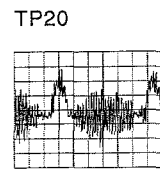
2V/div AC  
20µs div



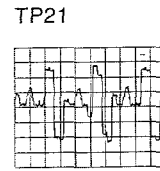
2V/div AC  
5ms div



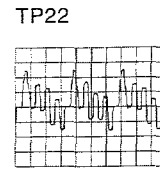
1V/div AC  
5ms div



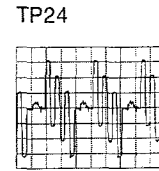
20mV/div AC  
10µs div



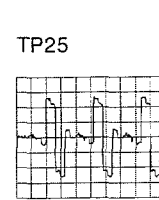
0.1V/div AC  
20µs div



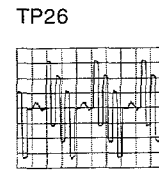
0.2V/div AC  
20µs div



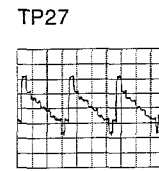
0.2V/div AC  
20µs div



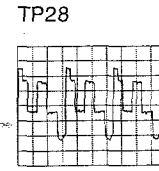
0.2V/div AC  
20µs div



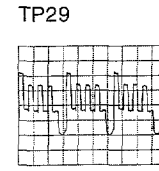
0.2V/div AC  
20µs div



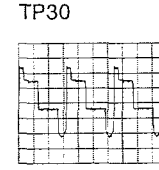
0.1V/div AC  
20µs div



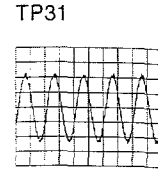
0.5V/div AC  
20µs div



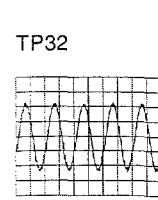
0.5V/div AC  
20µs div



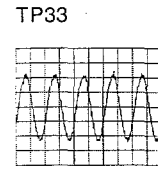
0.5V/div AC  
20µs div



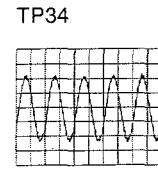
10mV/div AC  
0.5ms div



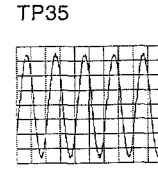
10mV/div AC  
0.5ms div



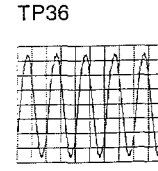
10mV/div AC  
0.5ms div



10mV/div AC  
0.5ms div



200mV/div AC  
0.5ms div

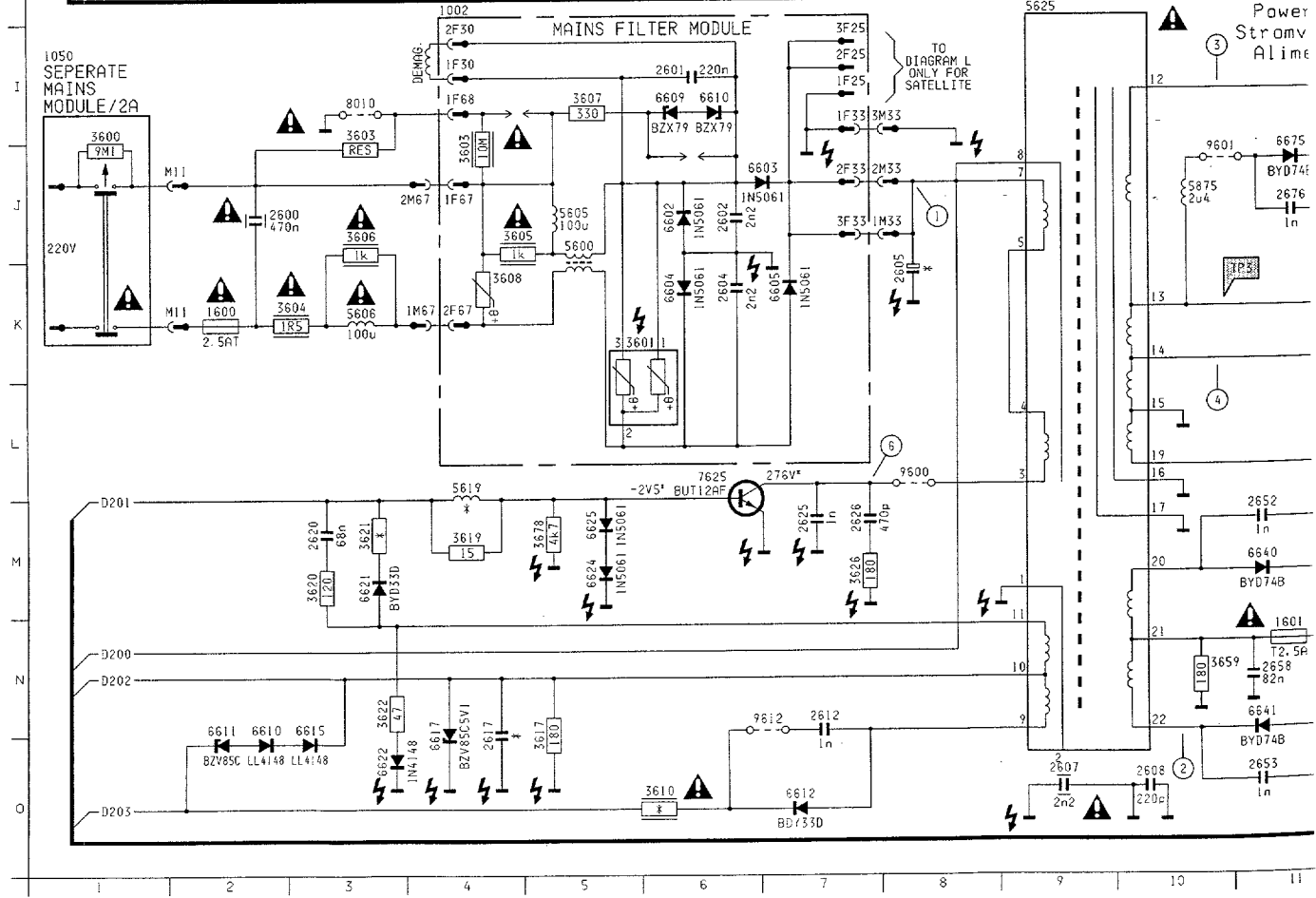
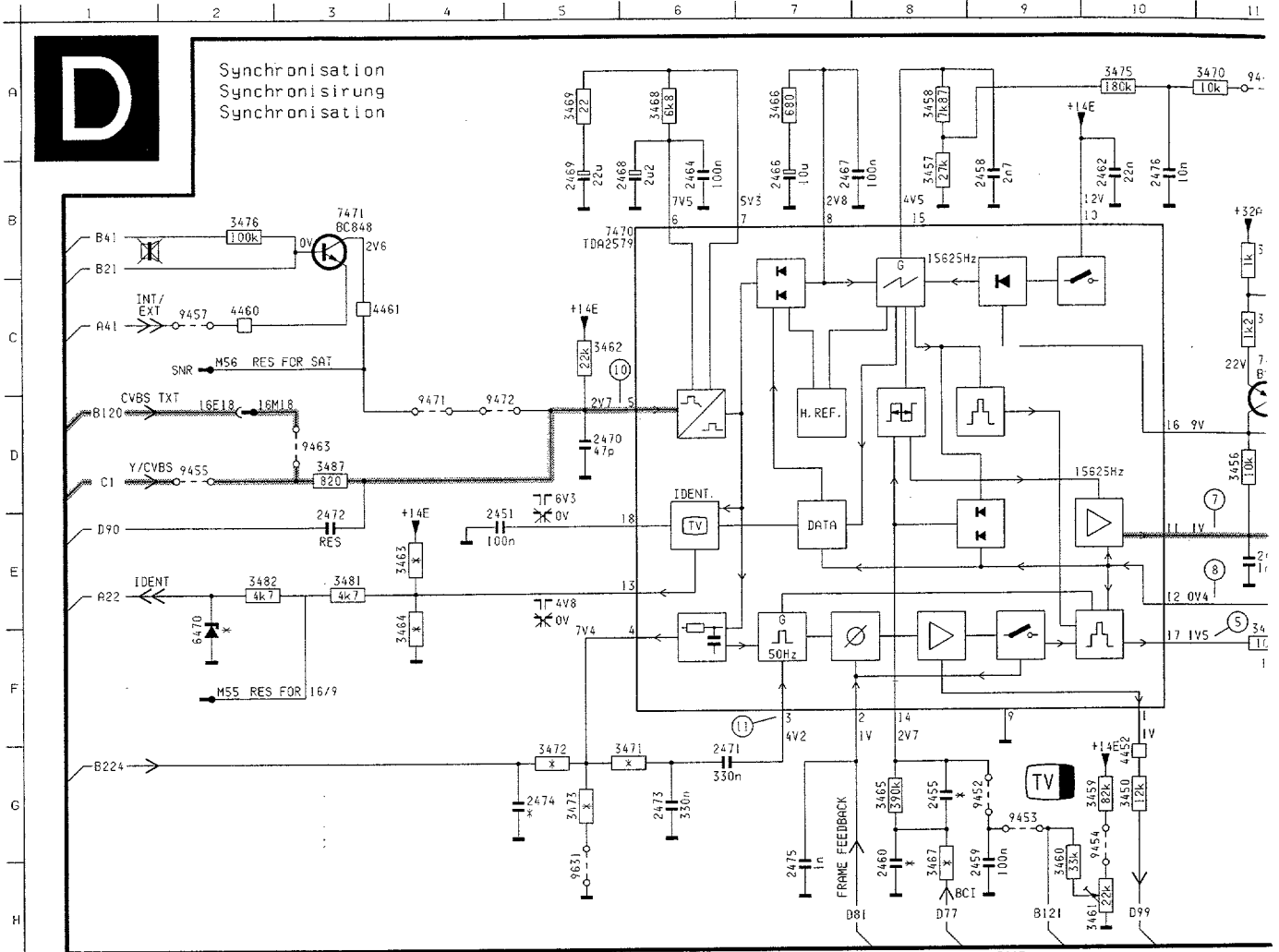


200mV/div AC  
0.5ms div

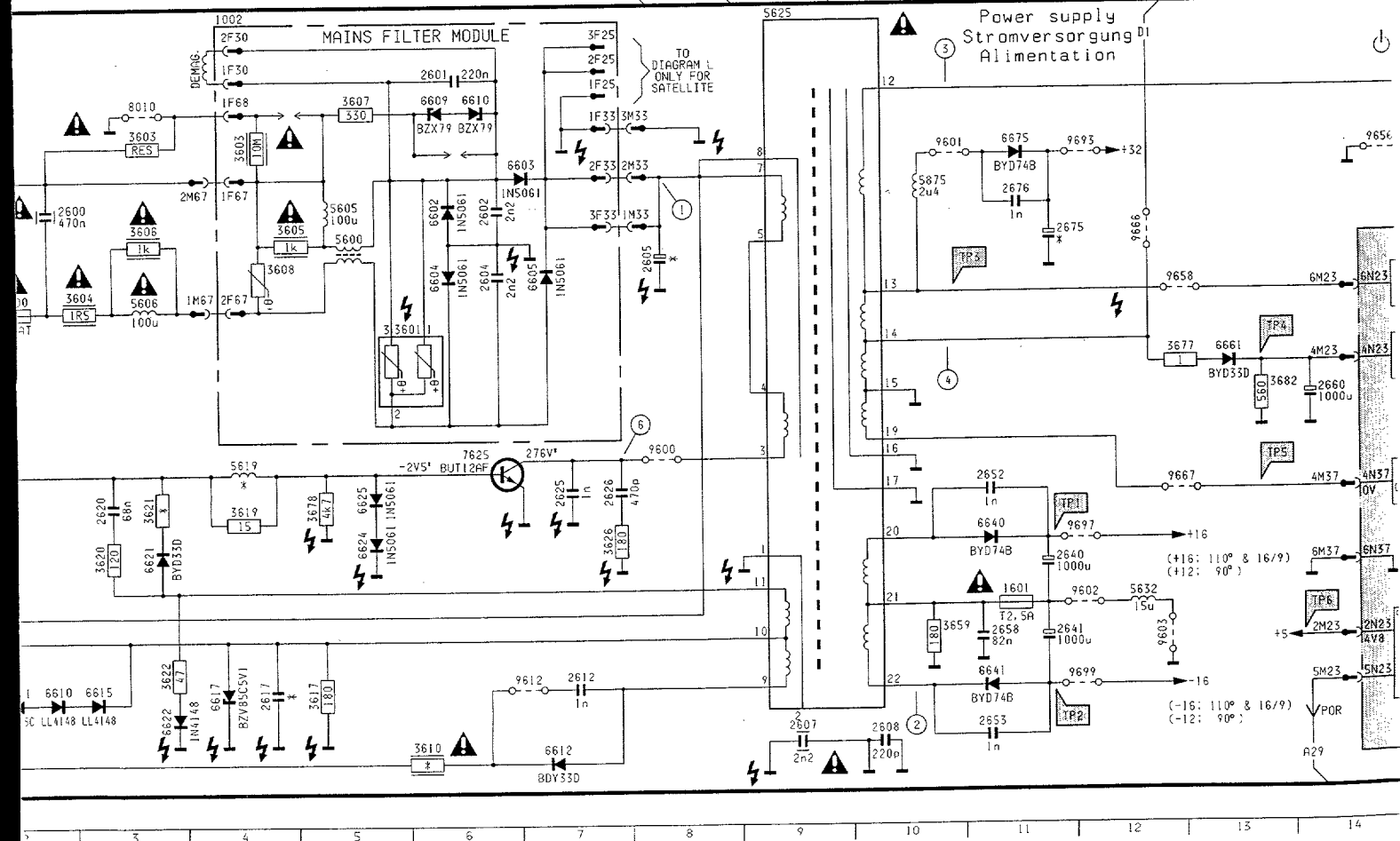
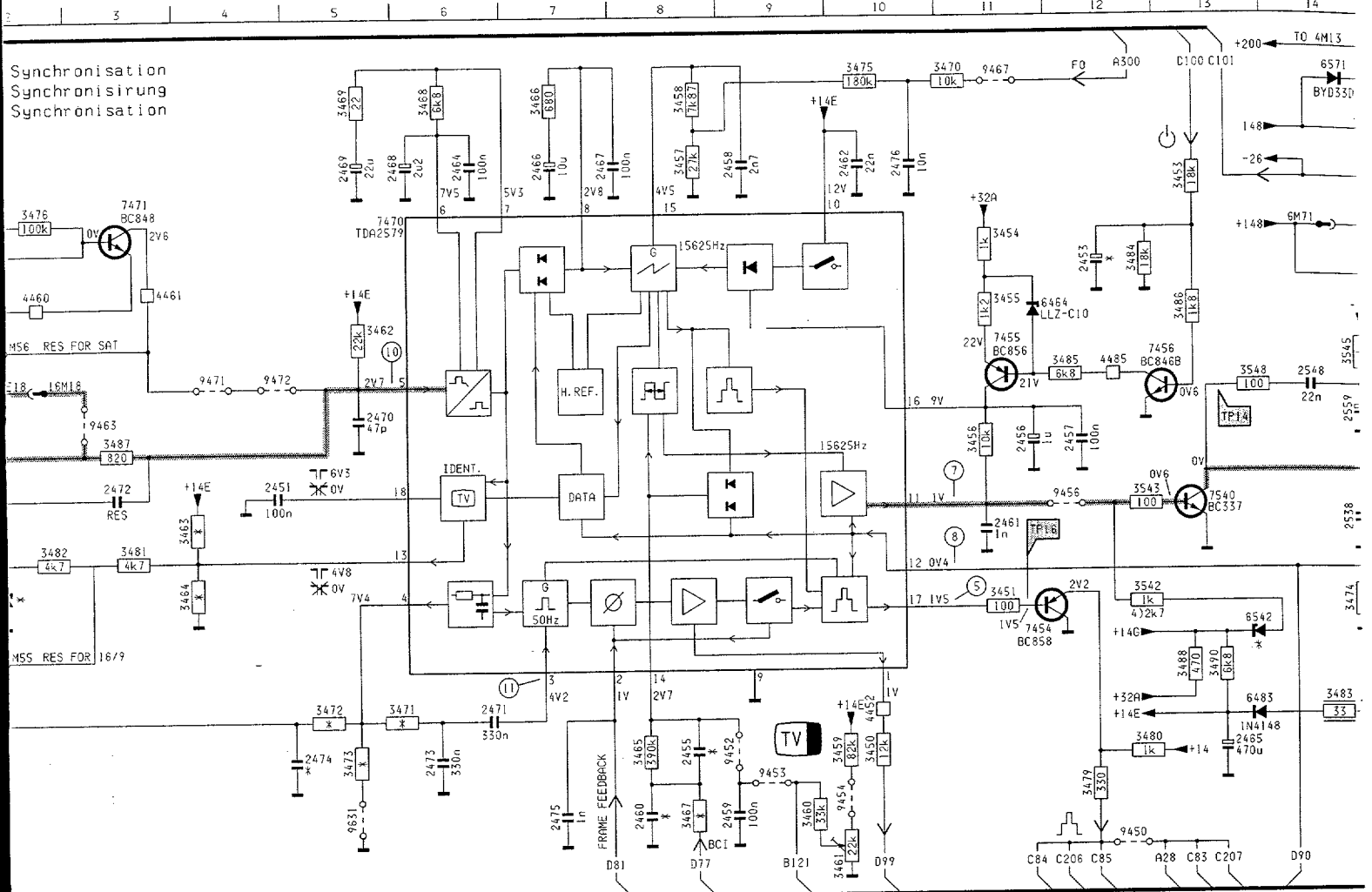
# Power supply/Stromversorgung/Alimentation

**D**

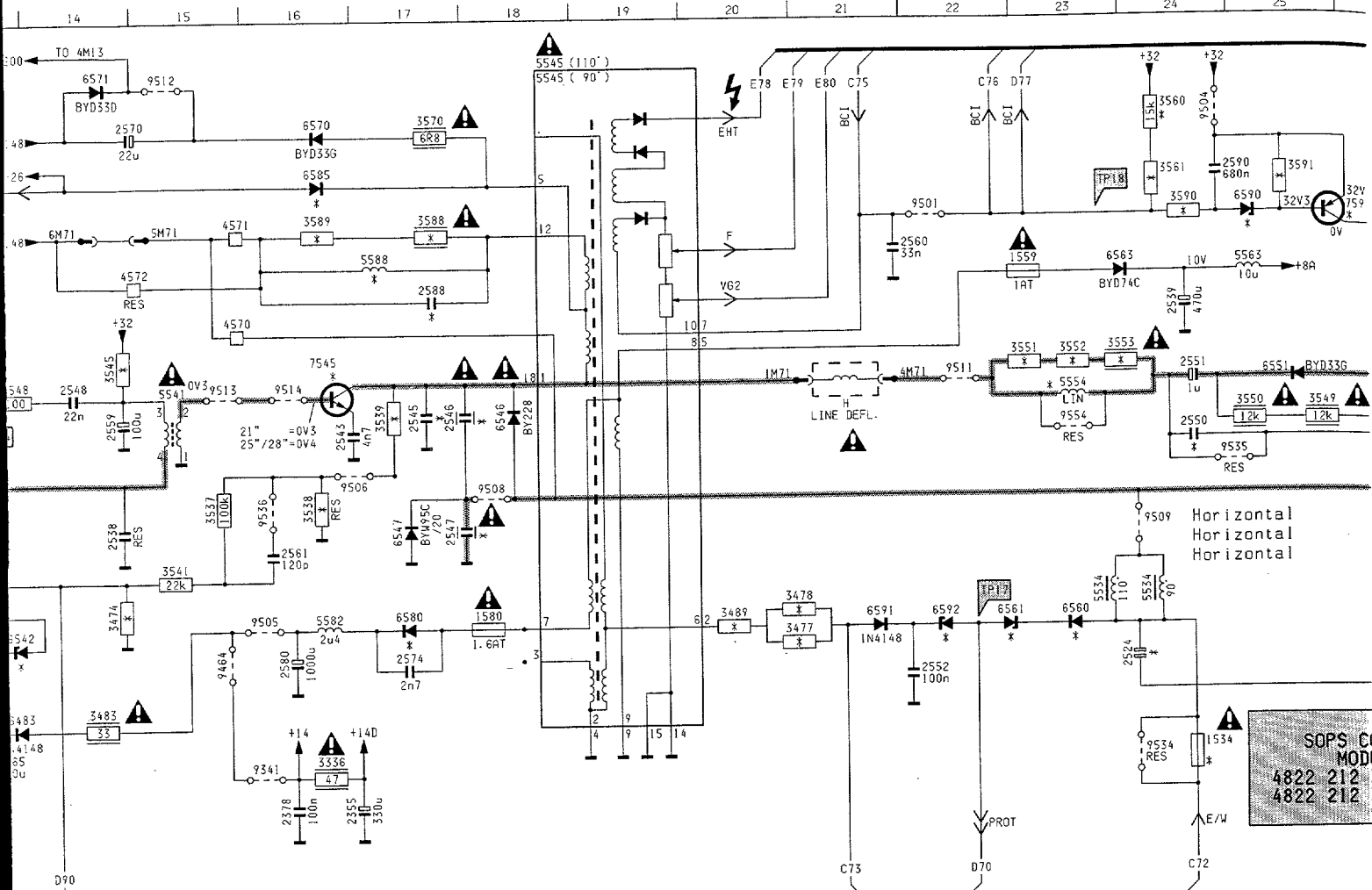
Synchronisation  
Synchronisierung  
Synchronisation



# Power supply/Stromversorgung/Alimentation

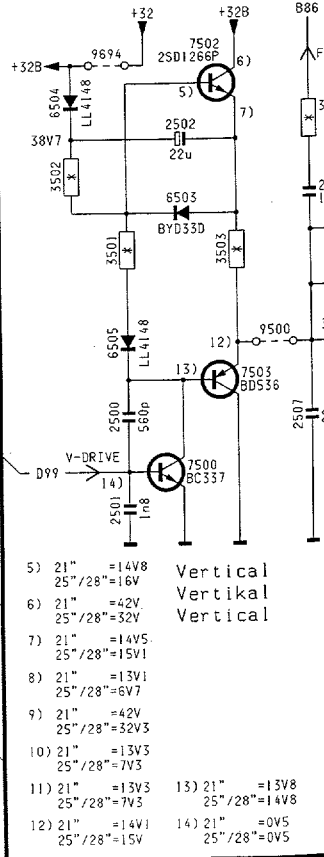
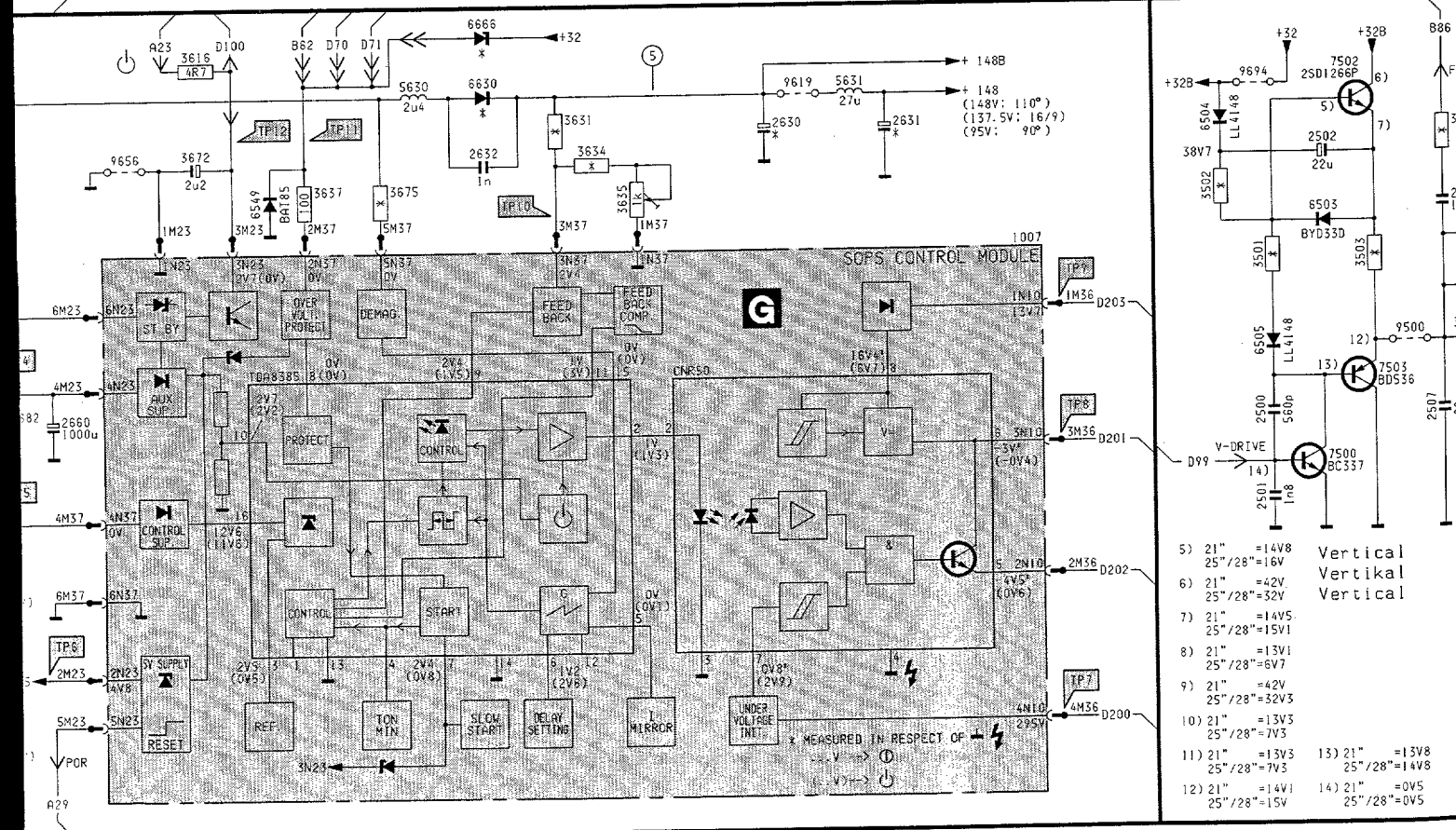






Horizontal  
Horizontal  
Horizontal

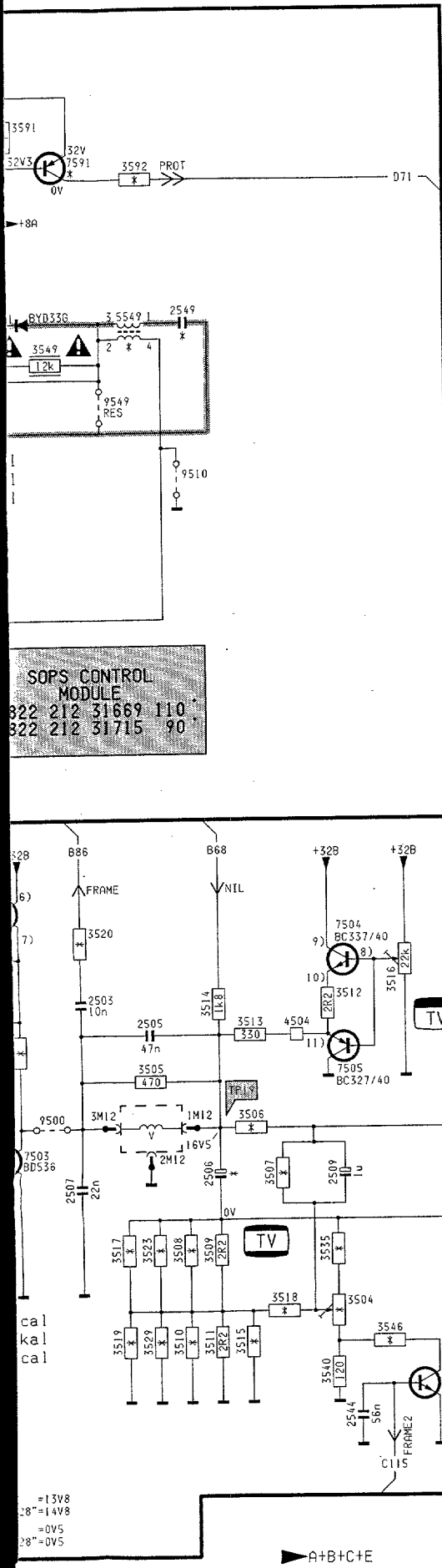
SOPS CONTROL MODULE  
4822 212  
4822 212



- 5) 21" = 14V8  
25"/28" = 16V
- 6) 21" = 42V  
25"/28" = 32V
- 7) 21" = 14V5  
25"/28" = 15V1
- 8) 21" = 13V1  
25"/28" = 6V7
- 9) 21" = 42V  
25"/28" = 32V3
- 10) 21" = 13V5  
25"/28" = 7V5
- 11) 21" = 13V3  
25"/28" = 7V3
- 12) 21" = 14V1  
25"/28" = 15V
- 13) 21" = 13V8  
25"/28" = 14V8
- 14) 21" = 0V5  
25"/28" = 0V5

Vertical  
Vertical  
Vertical





REMARKS/REMARQUES/ANMERKUNGEN/NOTE  
 PRESENT IN SETS:  
 ANWESEND IN GERÄTEN  
 PRESENTE SUI MODELLI:  
 PRESENTE SOBRE MODELLOS:  
 1) 25"-28" BLACK-LINE S  
 2) 21"-90"  
 3) BLACK-LINE 16/9  
 4) 21"-110"  
 5) 29"



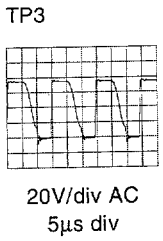
*	1)	2)	3)	4)	5)
1534	315mA	-	315mA	315mA	315mA
2453	22u	22u	22u	22u	22u
2455	1n	1n	3n3	560p	3n3
2460	2n7	10n	10n	1n5	3n3
2474	-	-	100n	-	-
2506	1000u	1000u	2200u	1000u	1000u
2524	-	4u7	-	-	-
2545	1n5	1n2	1n5	1n2	1n5
2546	11n	13n	7n5	13n	13n
2547	27n	47n	22n	22n	27n
2549	470n	-	470n	470n	-
2550	370n	680n	-	330n	680n
2588	JMP	RES	470p	-	-
2605	220u	150u	220u	220u	220u
2617	1u	470n	1u	1u	1u
2620	100u	47u	100u	100u	100u
2631	100u	47u	100u	100u	100u
2662	270p	220p	270p	-	270p
2663	82p	100p	82p	-	82p
2675	1000u	680u	1000u	100u	1000u
3463	18k	18k	3k3	-	-
3464	12k	12k	-	12k	12k
3467	2M7	3M3	2M2	3M9	2M7
3471	120k	470k	120k	270k	270
3472	-	-	820k	-	-
3473	270k	270k	330k	270k	270k
3474	5k6	5k6	2k7	5k6	5k6
3477	2R2	0R5	-	0R5	0R5
3478	4R7	0R5	-	0R5	0R5
3489	0R5	1R	-	0R5	0R5
3501	22	27	27	22	22
3502	1k2	2k7	1k2	1k2	1k2
3503	1R2	4R7	1R2	1R2	1R2
3504	100	100	-	100	100
3506	330k	330k	270k	330k	470k
3507	22k	27k	22k	27k	33k
3508	2R2	2R2	-	2R2	2R2
3510	2R2	2R2	2R2	-	2R2
3515	2R2	2R2	-	2R2	2R2
3517	2R2	-	2R2	2R2	2R2
3518	-	-	10	-	-
3519	2R2	-	2R2	2R2	2R2
3520	4k7	4k7	4k7	4k7	4k7
3523	2R2	1n	2R2	1n	2R2
3529	2R2	-	2R2	1n	2R2
3535	120	150	120	120	120
3539	470k	470k	470k	470k	470k
3542	1k	2k7	1k	1k	1k
3545	180	330	180	330	220
3546	180	120	150	180	180
3551	560	560	-	560	560
3552	560	560	-	560	560
3553	560	560	-	560	560
3560	15k	33k	15k	15k	15k
3561	2k2	3k3	5k6	12k	2k2
3588	-	27	560	27	-
3589	-	27	1k5	27	-
3590	330k	-	100k	330k	330k
3591	6k8	-	6k8	6k8	6k8
3592	680	-	680	680	680
3610	8R2	6R8	8R2	8R2	8R2
3621	27	56	27	27	27
3631	220k	120k	220k	220k	220k
3634	3k3	2k7	3k3	3k3	3k3
3675	120k	47k	120k	120k	120k
5549	100u	-	100u	100u	100u
5554	COIL	AT4042/97	-	AT4042/97	COIL
5588	LC90	97	100u	22u	LC90
5589	100u	22u	100u	22u	100u
5619	3u9	4u7	3u9	3u9	3u9
6642	BZX79/C15	-	BZX79/C22	BZX79/C15	BZX79/C15
6560	LL4148	-	LL4148	LL4148	LL4148
6561	BZX79/C68	-	BZX79/C68	BZX79/C68	BZX79/C68
6580	BYV28-200/20	BYV28-200	BYU29F	BYV28-200/20	200
6595	BYD33G	-	BYD33G	BYD33G	BYD33G
6599	LLZ/C33	-	LLZ/C33	LLZ/C33	LLZ/C33
6592	LLZ/C27	-	LLZ/C27	LLZ/C27	LLZ/C27
6630	BY229F-600	BYD74G	BY229F-600	BY229F-600	BY229F-600
6666	LLZ/C36	-	LLZ/C36	LLZ/C36	LLZ/C36
6470	-	-	LLZ/CW8	-	-
7575	BU508AF	BU508AF	BU508AF	BU508AF	BU508AF
7591	BC858B	BC858B	BC858B	BC858B	BU2520AF

1002	H 4	3481	E 3	6542	F13
1007	J22	3482	E 2	6546	D:8
1050	I 1	3483	G14	6547	E17
1534	G24	3484	C12	6549	J15
1559	C23	3485	C12	6551	D25
1580	F18	3486	C13	6560	F23
1600	K 2	3487	D 3	6561	F22
1601	N11	3488	F13	6563	C24
2355	G16	3489	F20	6570	A16
2378	G16	3490	F13	6571	A14
2451	E 4	3501	K24	6580	F17
2453	C12	3502	K24	6585	B18
2455	G 8	3503	K25	6590	B25
2456	D11	3504	M28	6591	F21
2457	D12	3505	X26	6592	F22
2458	B 9	3506	K27	6602	J 8
2459	H 9	3507	L27	6603	J 7
2460	H 8	3508	L27	6604	K 6
2461	E11	3509	L27	6605	K 7
2462	B10	3510	M27	6610	N 2
2464	B 6	3511	H27	6611	N 2
2465	G13	3512	J28	6612	O 7
2466	B 7	3513	J27	6615	N 3
2467	B 7	3514	J27	6617	N 4
2468	B 6	3515	M27	6621	M 3
2469	B 5	3516	J29	6622	O 3
2470	D 5	3517	L26	6624	M 5
2471	G 6	3518	M28	6625	M 5
2472	E 3	3519	M26	6630	I17
2473	G 6	3520	L26	6640	M11
2474	G 5	3523	L26	6641	N11
2475	H 7	3529	M26	6641	K13
2476	B10	3535	L28	6666	H17
2500	L24	3537	E15	6675	J11
2501	M24	3538	E16	7454	F12
2502	J25	3539	D17	7455	C11
2503	J26	3540	N28	7456	C13
2505	J26	3541	E15	7470	B 6
2506	L27	3542	F12	7471	B 3
2507	L26	3543	E12	7500	L25
2509	L28	3545	C14	7502	L25
2524	F24	3546	M29	7503	L25
2538	E14	3548	D13	7504	I28
2539	C24	3549	D25	7505	K28
2543	D16	3550	D25	7540	E13
2544	N28	3551	C23	7545	C16
2545	D17	3552	C23	7546	M29
2546	D17	3553	C24	7591	B26
2547	E17	3560	A24	7625	L 6
2548	D14	3561	B24	8010	I 3
2549	D27	3570	A17	9341	G16
2550	D24	3588	B17	9450	H12
2551	D24	3589	B16	9452	G 9
2552	F22	3590	B24	9453	G 9
2559	D14	3591	B25	9454	G10
2560	B22	3592	B26	9455	D 2
2561	E16	3600	I 1	9456	E12
2570	A14	3601	K 5	9467	D 3
2574	F17	3603	I 3	9463	C 2
2580	F16	3603	J 4	9464	F15
2588	C17	3604	K 3	9467	A11
2590	B24	3605	J 4	9471	D 4
2600	J 2	3606	J 3	9472	D 4
2601	I 6	3607	I 5	9500	K25
2602	J 6	3608	K 4	9501	B22
2604	K 6	3610	O 6	9504	A24
2605	K 8	3616	I15	9505	F16
2607	O 9	3617	N 5	9506	D17
2608	C10	3619	M 4	9508	E18
2612	N 7	3620	M 3	9509	E24
2617	N 4	3621	M 3	9510	E27
2620	M 3	3622	N 3	9511	D22
2625	M 7	3626	M 7	9512	A15
2626	M 7	3631	I18	9513	D15
2630	120	3634	J18	9514	D16
2631	120	3635	J19	9522	M29
2632	J17	3637	J16	9534	G24
2640	M11	3659	N10	9535	D25
2641	N11	3672	J15	9536	E16
2652	M11	3675	J17	9549	D26
2653	O11	3677	K12	9554	D23
2658	N11	3678	M 5	9600	L 8
2660	L14	3682	L13	9601	J10
2675	J11	4452	G10	9602	N12
2676	J11	4460	C 2	9603	N12
3336	G16	4461	C 3	9612	N 7
3450	G10	4485	C12	9619	I20
3451	F11	4504	J28	9631	H 5
3453	B13	4570	C15	9656	J14
3454	B11	4571	B15	9658	K12
3455	C11	4572	C15	9666	J12
3456	D11	5534	E23	9667	M12
3457	B 8	5534	E24	9693	J14
3458	A 8	5541	D15	9694	I24
3459	G10	5545	A18	9697	M12
3460	H 9	5545	A18	9699	N12
3461	H10	5549	D26	-	-
3462	C 5	5554	D23	-	-
3463	E 4	5583	C25	-	-
3464	F 4	5582	F16	-	-
3465	G 8	5588	B17	-	-
3466	A 7	5600	J 5	-	-
3467	H 8	5605	J 5	-	-
3468	A 6	5606	K 3	-	-
3469	A 5	5619	L 4	-	-
3470	A11	5625	H 9	-	-
3471	G 6	5630	I17	-	-
3472	G 5	5631	I21	-	-
3473	G 5	5632	N12	-	-
3474	F14	5875	J10	-	-
3475	A10	6464	C11	-	-
3476	B 2	6470	F 2	-	-
3477	F21	6483	G13	-	-
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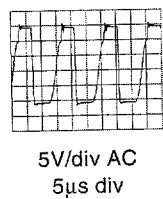
CHASSIS GR.2.4

CL46532061/016. DPAR 181094

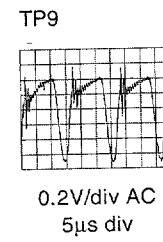
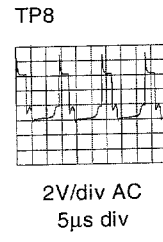
TP1 = DC 15V9  
 TP2 = DC -15V9



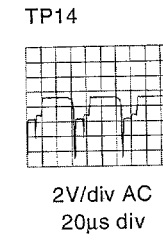
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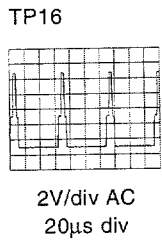
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 TP7 = DC 298V



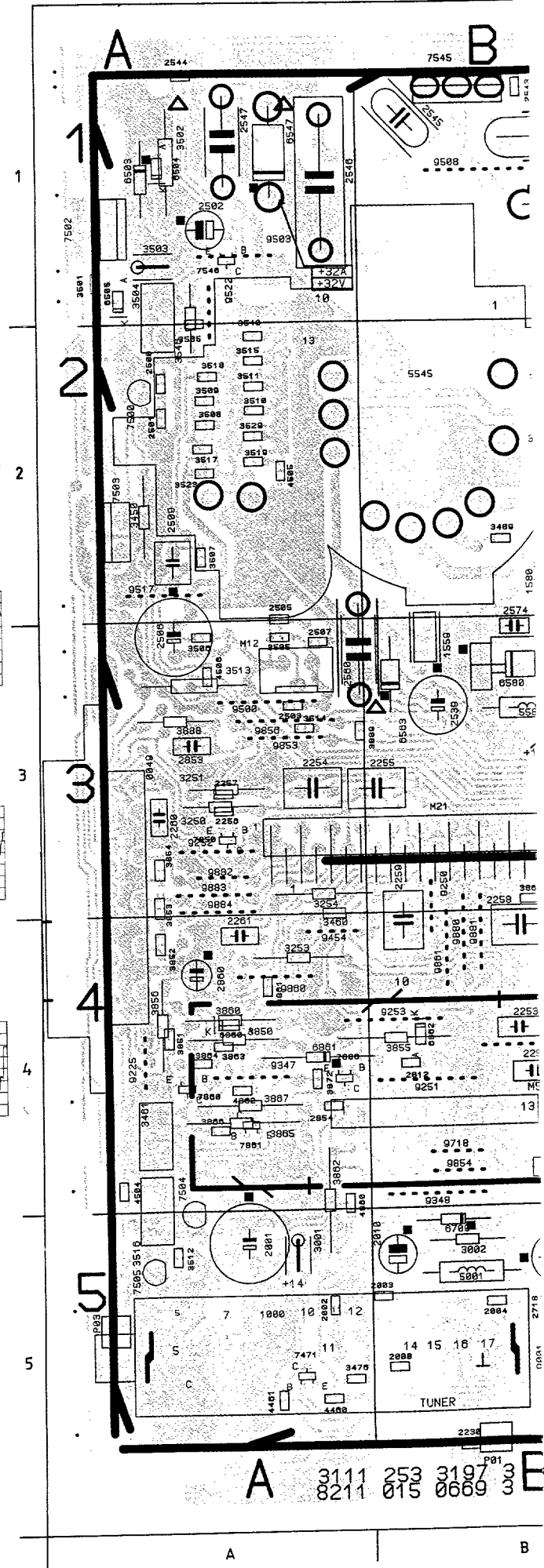
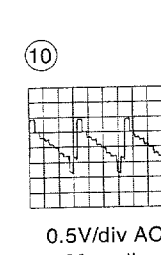
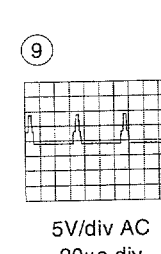
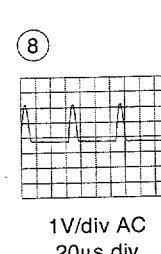
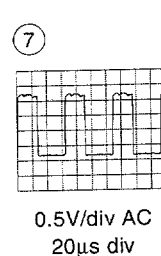
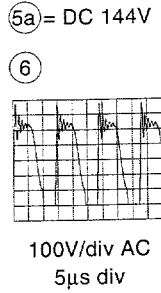
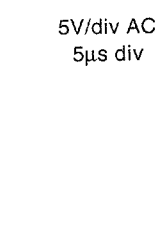
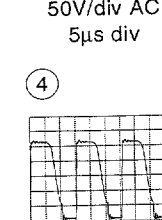
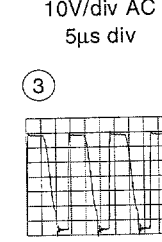
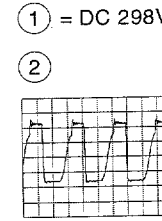
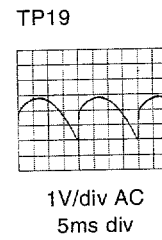
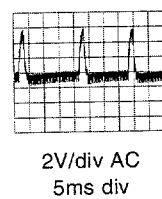
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 TP12 = DC 2V7

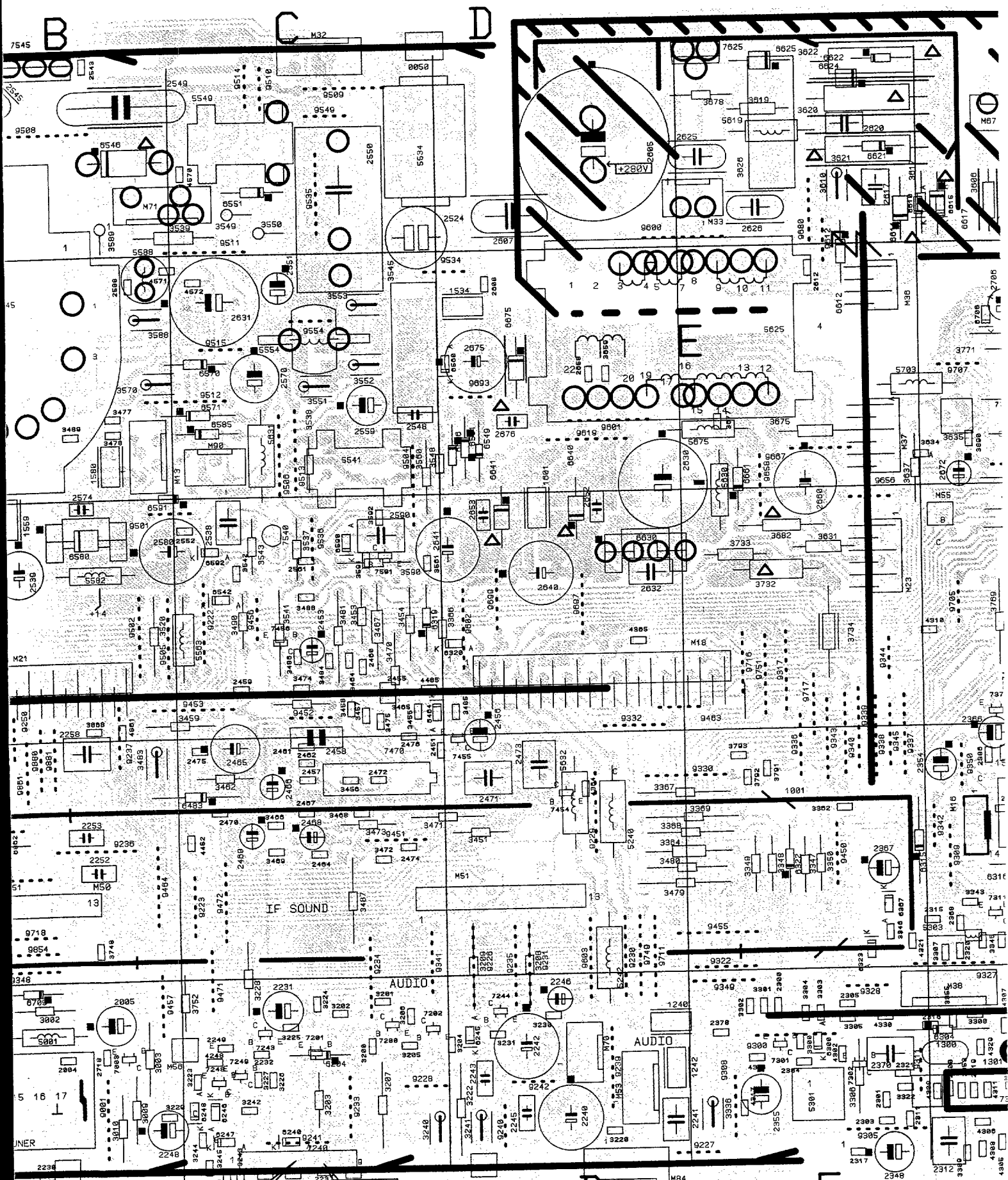


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TP17 = DC 0V



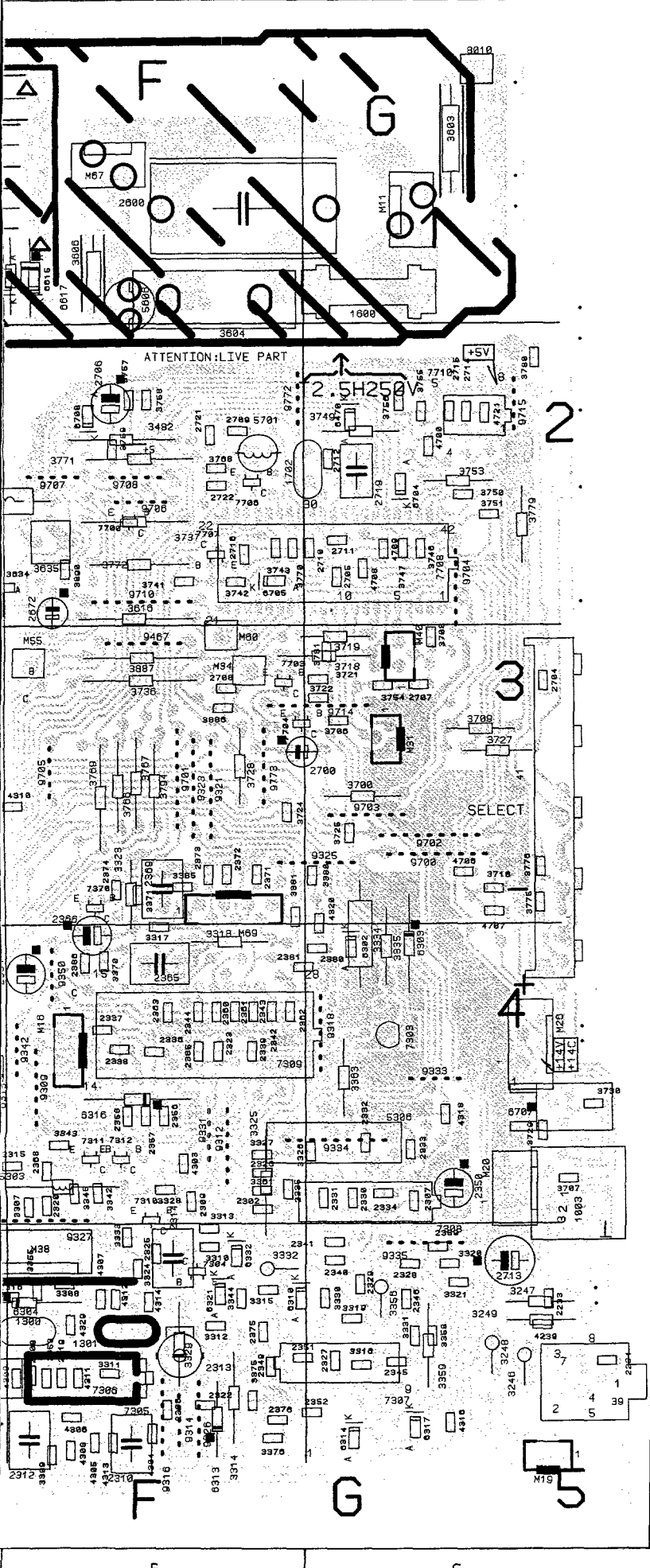


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0669 30 B

-16A C  
-16V/-12V

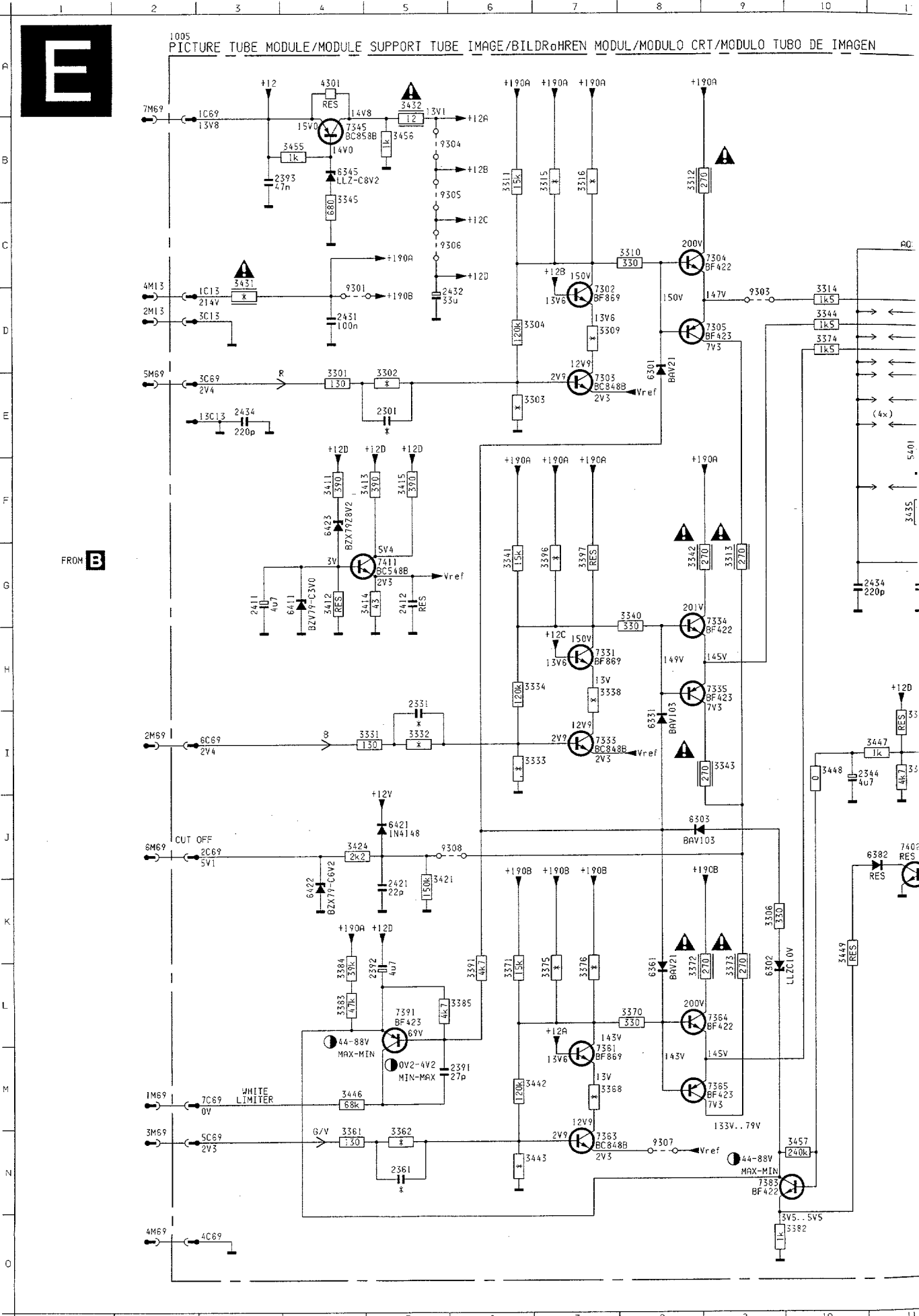
8211 015 0668 3 E

B C D E



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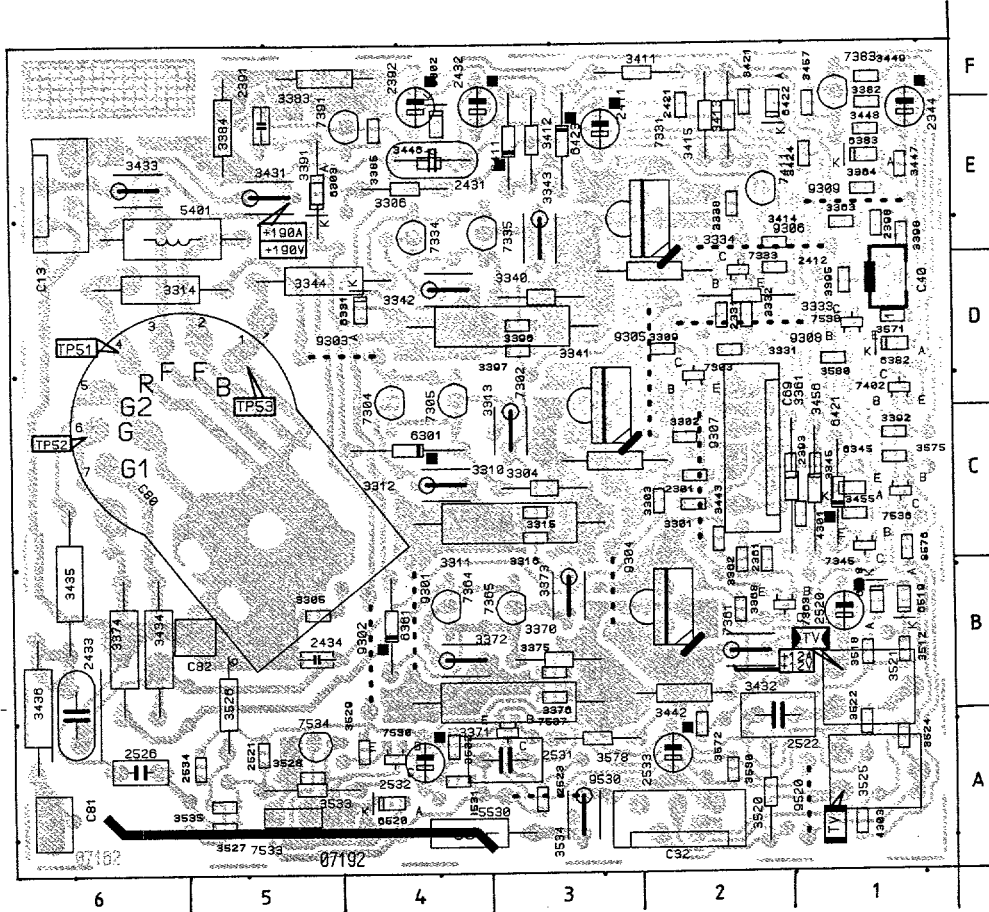
# Picture tube panel/Bildröhren platte/Platine TRC





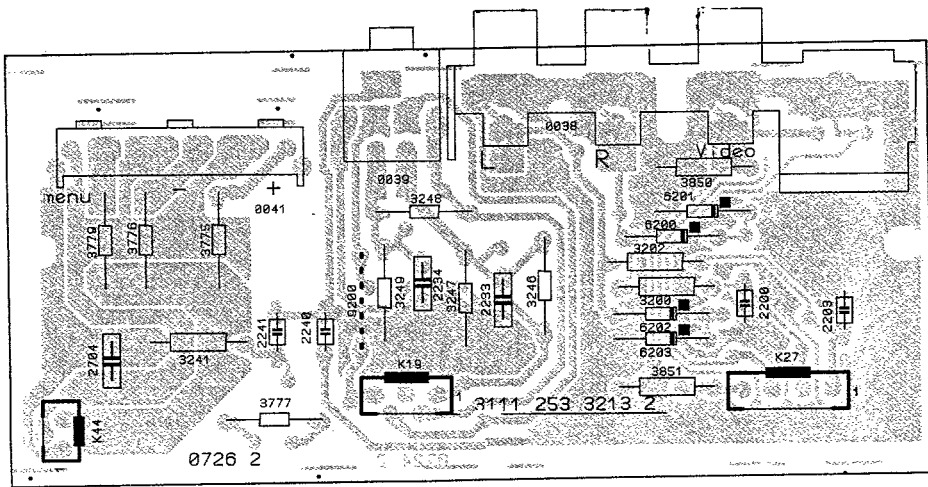


# 1005 PICTURE TUBE MODULE

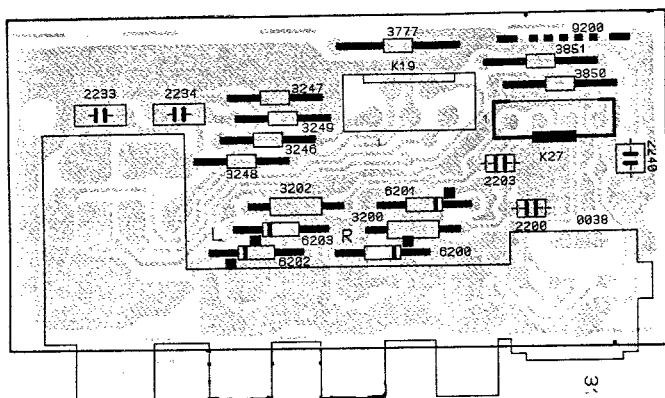


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2361	C2	3375	B3	3580	D1	C69	C2
2391	E5	3376	B3	4301	C1	C80	C5
2392	E4	3382	E1	4303	A1	C81	A6
2393	C1	3383	F5	5401	E6	C82	B5
2398	E1	3384	E5	6301	C4		
2411	E3	3385	E4	6302	E4		
2412	D2	3391	E5	6303	E5		
2421	E2	3392	C1	6331	D4		
2431	E4	3395	D1	6345	C1		
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2433	B6	3397	D3	6382	D1		
2434	B5	3398	E1	6383	E1		
2520	B1	3411	F2	6411	E3		
2521	A5	3412	E3	6421	C1		
2522	A2	3413	E2	6422	E2		
2523	A3	3414	E2	6423	E3		
2526	A6	3415	E2	6518	B1		
2531	A3	3421	F2	6519	B1		
2532	A4	3424	E1	6520	A4		
2533	A2	3431	E5	7302	D3		
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3304	C3	3436	B6	7333	D2		
3305	B5	3442	B2	7334	E4		
3306	E4	3443	C2	7335	E3		
3309	D2	3446	E4	7345	C1		
3310	C3	3447	E1	7361	B2		
3311	C3	3448	E1	7363	B2		
3312	C4	3449	F1	7364	B4		
3313	C3	3455	C1	7365	B3		
3314	D6	3456	C1	7383	F1		
3315	C3	3457	E1	7391	E4		
3316	C3	3512	B1	7402	D1		
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3332	D2	3520	A2	7530	A4		
3333	D2	3521	B1	7533	A5		
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3338	E2	3524	A1	7536	C1		
3340	D3	3525	A1	7537	A3		
3341	D3	3526	B5	7538	D1		
3342	D4	3527	A5	9301	B4		
3343	E3	3528	A5	9302	B4		
3344	D5	3529	A4	9303	D4		
3345	C1	3530	A2	9304	B3		
3361	C1	3531	A4	9305	D2		
3362	C2	3532	A4	9306	E2		
3363	E1	3533	A5	9307	C2		
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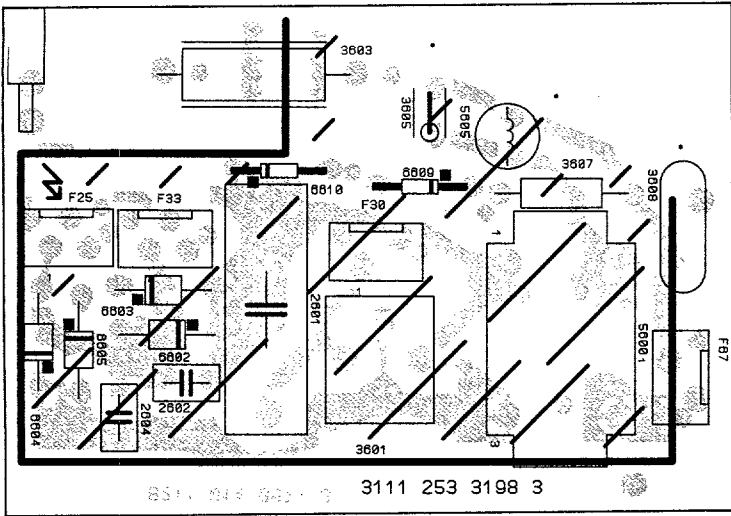
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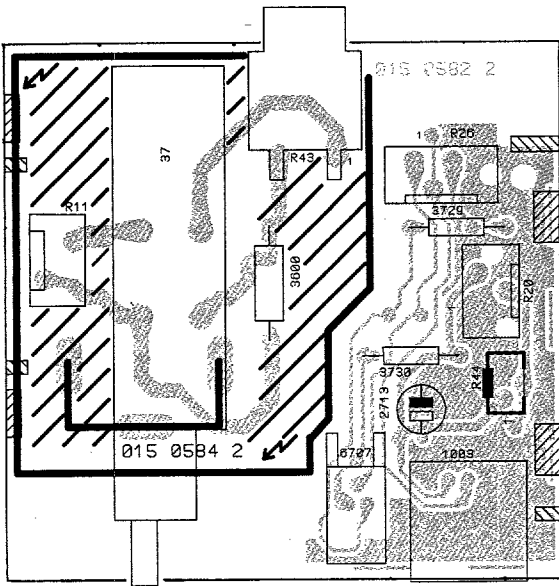
# 1060 SEPARATE CONTROL MODULE 29"



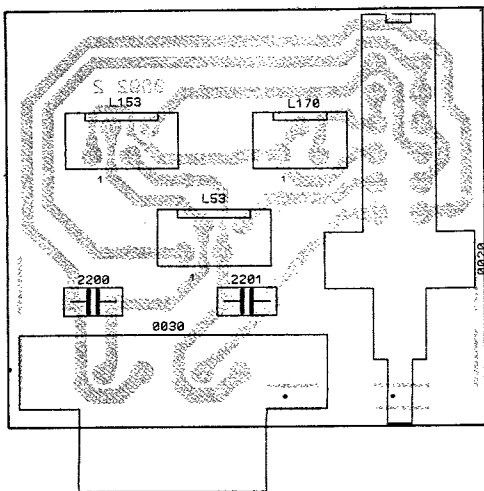
### 1002 MAINS FILTER MODULE



### 1050 SEPARATE MAINS MODULE

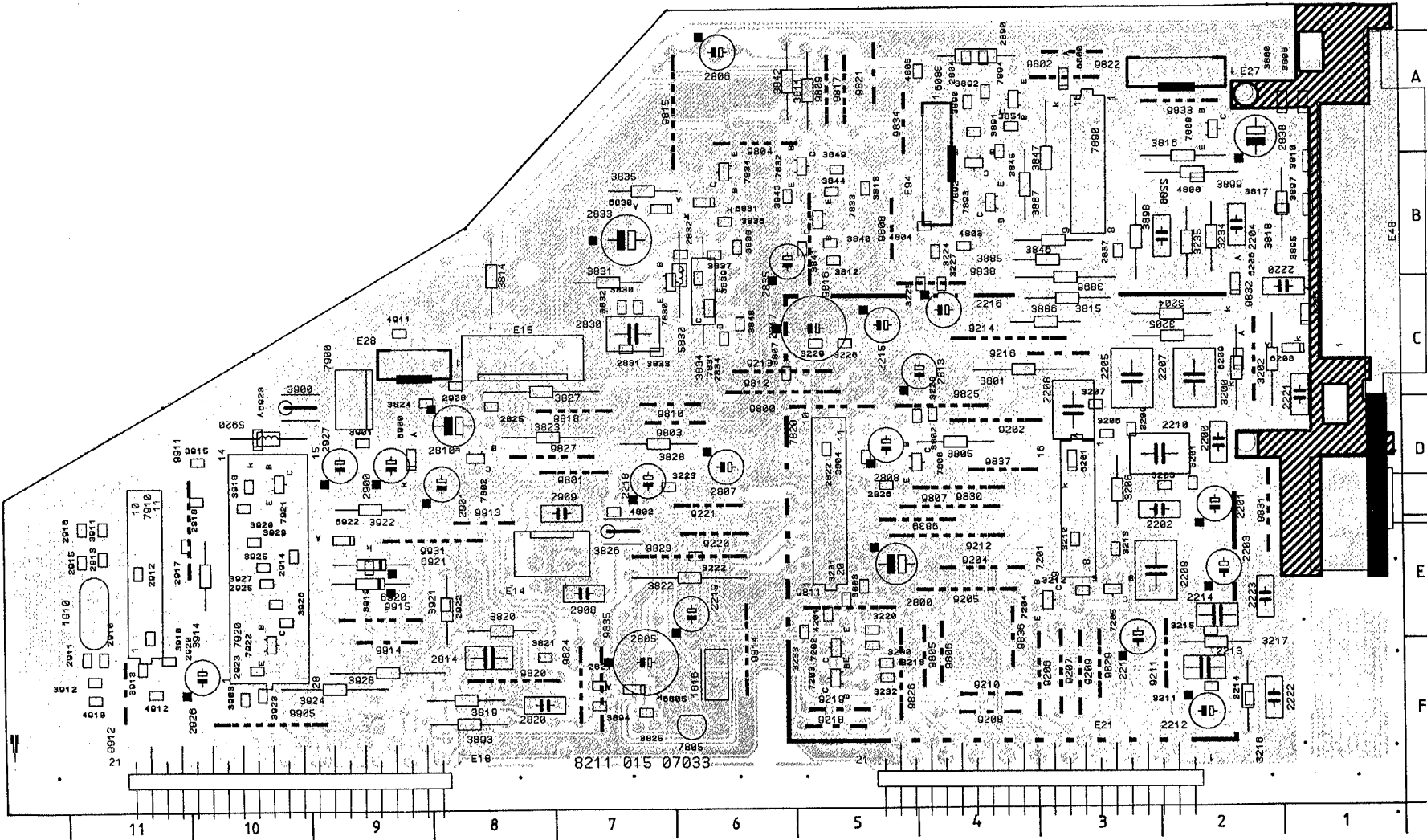


### 1040 EXTERNAL LOUDSPEAKER MODULE



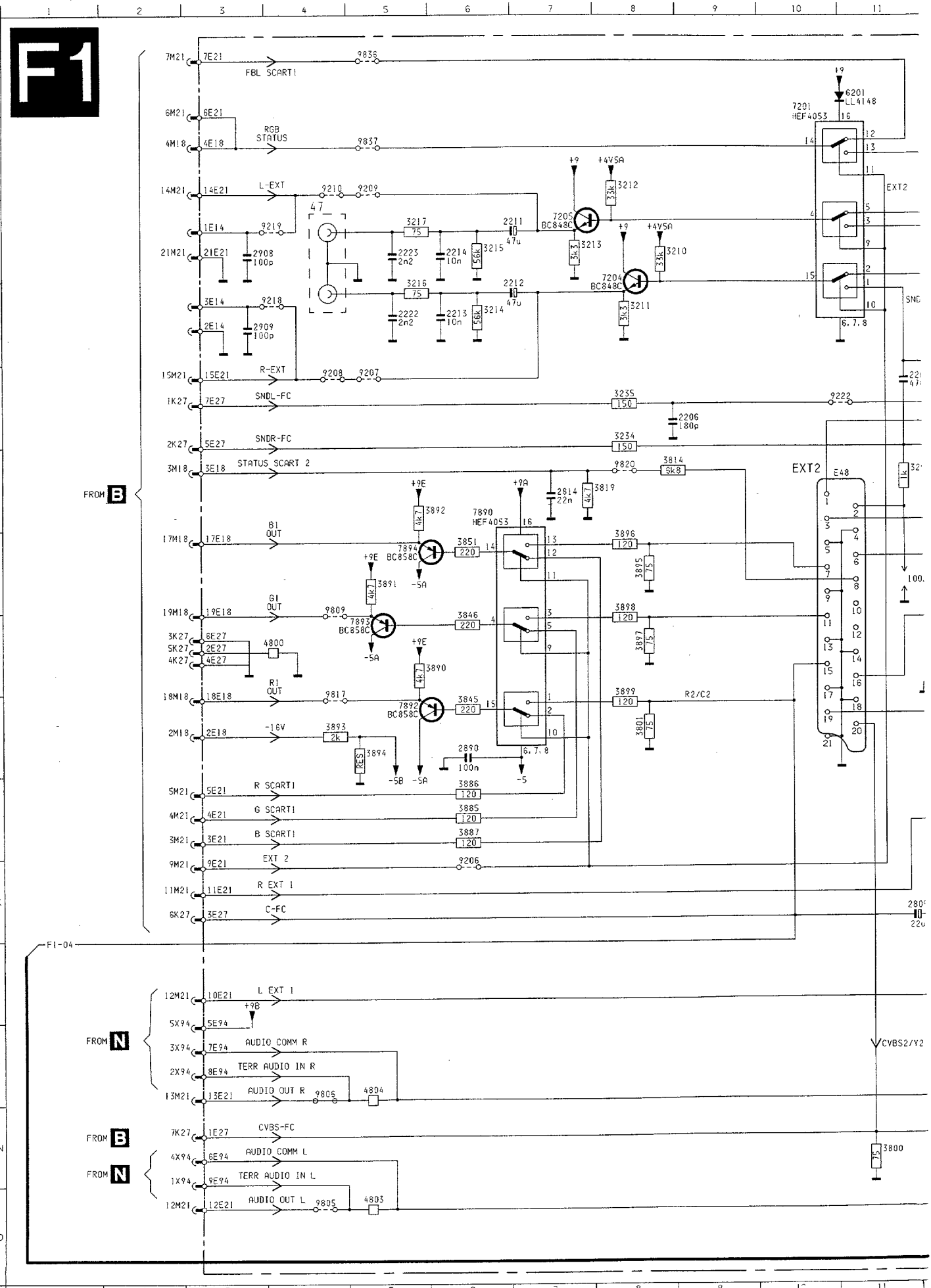


1003 TELETEXT MODULE 4/3



1000 C1	2209 E2	2800 E5	2832 C6	2914 E9	3203 D2	3218 F5	3235 B2	3815 C3	3831 C7	3846 B3	3897 B1	3921 E8	4910 F11	6920 E9	7831 C6	9205 E4	9800 D5	9816 B5	9833 A2	E15 C8
1001 C1	2210 D2	2804 A4	2833 B7	2915 E11	3204 C2	3220 F5	3800 A1	3816 B2	3832 C7	3847 B3	3898 B3	3922 E9	4911 C9	6921 E9	7832 B5	9206 F3	9801 D7	9817 A5	9834 A4	E18 G10
1002 C1	2211 F3	2805 F7	2834 C6	2916 E11	3205 C2	3222 E6	3801 C3	3817 B1	3833 C6	3848 C6	3899 B2	3923 F10	4912 F11	6922 E9	7833 B5	9207 F3	9802 A3	9818 D7	9835 F4	E21 G8
1003 C1	2212 F2	2807 D6	2835 C5	2917 E10	3206 D3	3223 D6	3802 D4	3818 B1	3834 C6	3849 B5	3900 D9	3924 F9	4913 C6	6923 D10	7834 B6	9208 F4	9803 D6	9819 A5	9836 F4	E27 A2
1816 F6	2213 F2	2808 D5	2837 C3	2918 E10	3207 D3	3224 C4	3803 E5	3819 F8	3835 B7	3851 B4	3901 D9	3925 E10	5920 D10	7201 E3	7890 B3	9209 F3	9804 B6	9821 A5	9837 D4	E28 C8
1910 E11	2214 F2	2810 D8	2838 B2	2920 F11	3208 E3	3225 C4	3804 D5	3820 F8	3836 B6	3855 C3	3903 F10	3926 F10	6201 D3	7202 F5	7892 B4	9210 F4	9805 F4	9822 A3	9838 C4	E48 C1
2200 D2	2215 C5	2813 D4	2890 A4	2922 E8	3209 D3	3226 C5	3805 D4	3821 F7	3837 C6	3886 C3	3910 F11	3927 E10	6202 C2	7203 F5	7893 B4	9211 F2	9806 F4	9823 E6	9839 E4	E48 B4
2201 E2	2216 C4	2814 F8	2900 D9	2923 F10	3210 E3	3227 C4	3807 D5	3822 E6	3838 B6	3887 B3	3911 E11	3928 F9	6207 C1	7204 E3	7894 A3	9212 D5	9808 B5	9824 F4	9911 F10	
2202 E2	2217 C5	2820 F7	2901 D8	2925 E10	3211 F2	3228 D4	3808 A1	3823 D7	3839 C6	3890 A4	3912 F11	3929 E10	6208 C1	7205 E3	7900 D9	9213 D5	9809 A5	9825 F4	9912 F11	
2203 E2	2218 D7	2821 F7	2908 E7	2926 F10	3212 E3	3229 C5	3809 A4	3824 D8	3840 B5	3891 B4	3913 F11	4201 F5	6209 C2	7800 D4	7910 E11	9214 C4	9808 B5	9826 F4	9913 E8	
2204 B2	2219 F6	2822 D5	2909 E7	2927 D9	3213 E3	3230 F5	3810 B1	3825 F7	3841 C5	3892 A4	3914 E10	4800 B2	6800 A3	7805 F8	7921 D10	9218 F5	9811 E5	9829 F3	9914 F9	
2205 D3	2220 C1	2825 D8	2910 F11	2928 D8	3214 F2	3231 E5	3811 A5	3826 E7	3842 A5	3893 F8	3915 D10	4802 E7	6805 A3	7809 B2	7922 F10	9219 F5	9812 D5	9830 D4	9915 F9	
2206 B2	2221 D1	2826 D5	2911 F11	3200 C2	3215 F2	3232 F5	3812 C5	3827 D7	3843 B5	3894 F7	3918 D10	4803 B4	6806 B6	7809 B2	7922 F10	9219 F5	9812 D5	9830 D4	9915 F9	
2207 D2	2222 F1	2830 C7	2912 E11	3201 D2	3216 F2	3233 F5	3813 B5	3828 D6	3844 B5	3895 C1	3919 E9	4804 B4	6831 B6	7820 E5	8202 D4	9220 E6	9814 F6	9831 E1	9931 E8	
2208 D3	2223 E1	2831 C7	2913 E11	3202 C1	3217 F2	3234 B2	3814 C8	3830 C7	3845 B4	3896 C3	3920 E10	4805 A4	6900 D8	7830 C6	9204 E4	9221 E6	9815 A6	9832 C2	E14 E7	

**F1**



FROM B

FROM N

FROM B

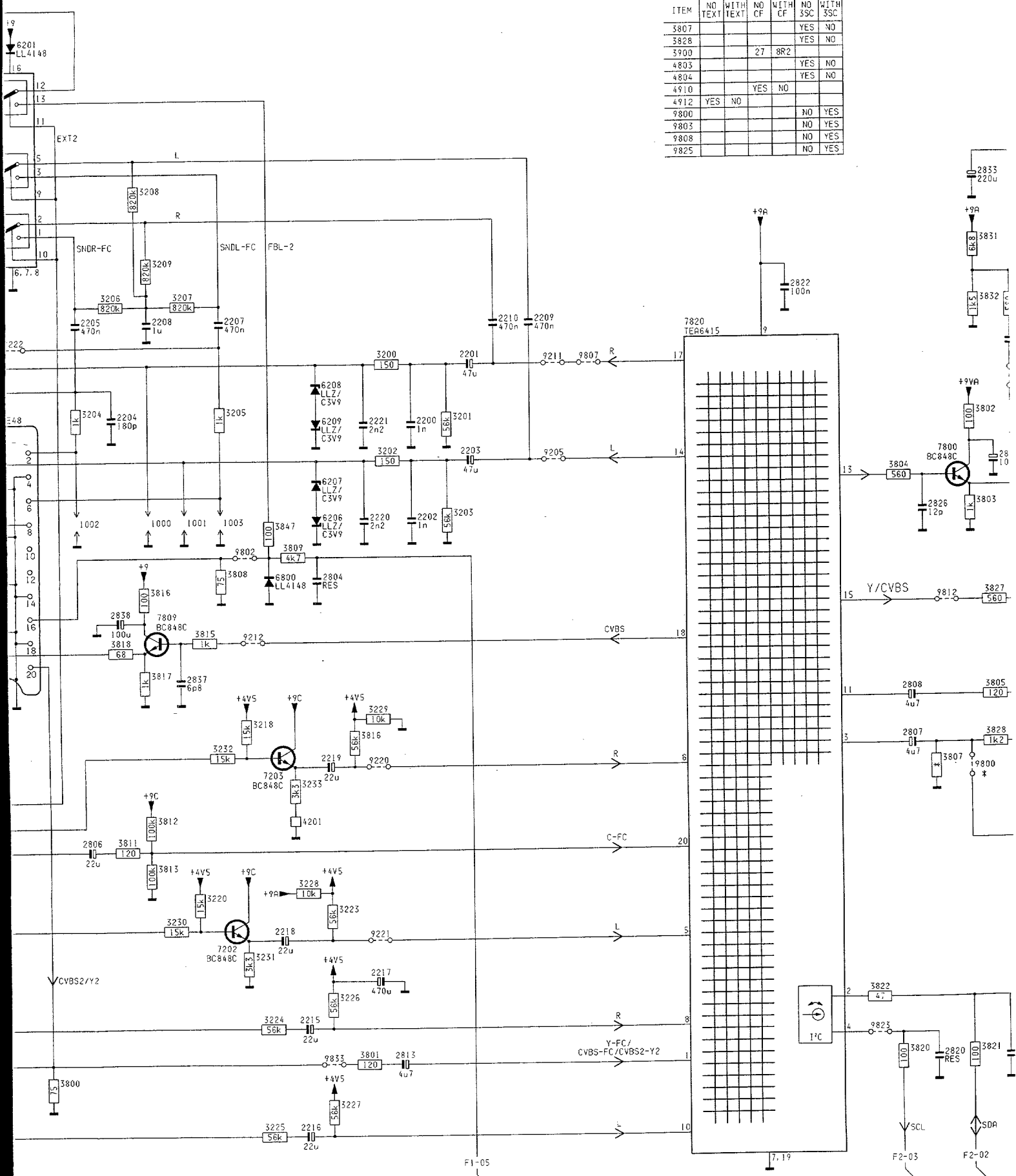
FROM N

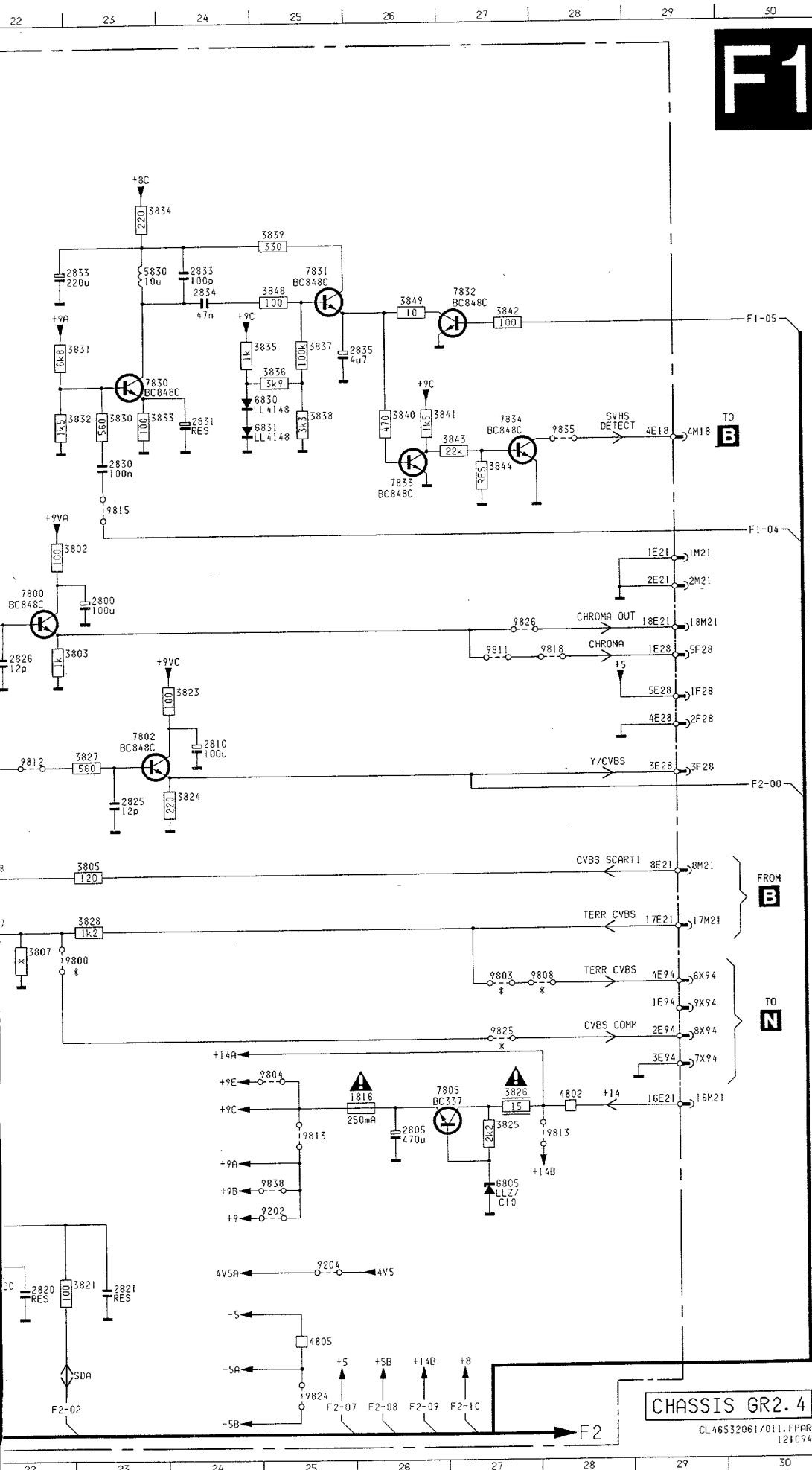
CVBS2/Y2

3800

280V  
220uF

ITEM	NO TEXT	WITH TEXT	NO CF	WITH CF	NO SSC	WITH SSC
3807					YES	NO
3828					YES	NO
3900			27	8R2		
4803					YES	NO
4804					YES	NO
4910			YES	NO		
4912	YES	NO				
7800					NO	YES
9803					NO	YES
9808					NO	YES
9825					NO	YES



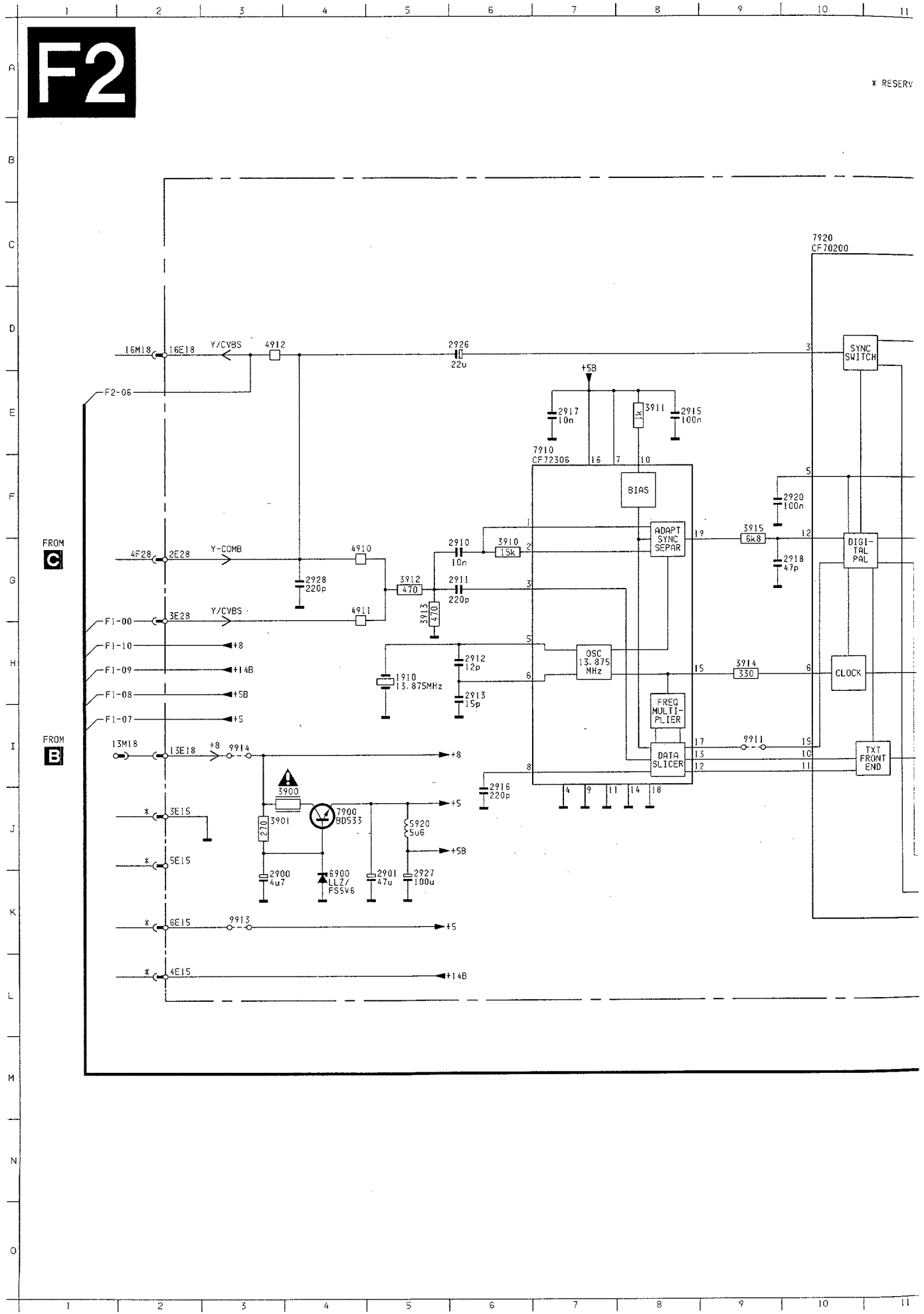


A	1000	G12	3828	J23
	1001	G13	3850	D23
	1002	G11	3851	D23
	1003	G13	3852	D23
	1216	L26	3853	D23
	2200	F16	3834	R23
	2201	E16	3835	D25
	2202	G16	3836	D25
	2203	F16	3837	D25
	2204	E11	3838	D25
	2205	F11	3839	C25
	2206	E 9	3840	D26
B	2207	E13	3841	D26
	2208	E12	3842	C27
	2209	E17	3843	E27
	2210	E17	3844	E27
	2211	C 7	3845	I 6
	2212	D 7	3846	H 6
	2213	D 6	3847	G14
	2214	C 6	3848	C26
C	2215	M14	3849	C26
	2216	Q14	3851	G 6
	2217	M15	3885	J 6
	2218	L14	3886	J 6
	2219	J14	3887	J 6
	2220	G15	3890	H 5
	2221	F15	3891	G 5
D	2222	D 5	3892	F 5
	2223	C 5	3893	I 4
	2800	F23	3894	I 5
	2804	H14	3895	G 8
	2805	L26	3896	G 8
	2806	K11	3897	H 8
	2807	J22	3898	G 8
E	2808	I22	3899	I 8
	2810	H24	4201	K14
	2813	N15	47	C 4
	2814	F 7	4802	L28
	2820	N22	4803	O 5
	2821	N23	4804	M 5
	2822	D20	4805	N25
	2825	I23	5830	C23
F	2826	G22	6201	A11
	2830	E23	6206	G14
	2830	E23	6207	G14
	2831	E24	6208	F14
	2833	C23	6209	F14
	2834	C24	6800	H14
	2835	D26	6830	D25
G	2837	I15	6831	E25
	2838	H12	7201	A10
	2890	I 6	7202	L15
	2908	C 3	7203	J14
	2909	D 3	7204	D 8
	3200	E15	7205	C 7
	3201	F16	7800	F22
	3202	G15	7802	H23
H	3203	F16	7805	L26
	3204	F11	7807	H12
	3205	F13	7820	E19
	3206	D12	7830	D23
	3207	D13	7831	C25
	3208	C12	7832	C27
	3209	D12	7833	E26
I	3210	C 8	7834	E27
	3211	D 8	7839	F 6
	3212	B 8	7892	I 5
	3213	C 7	7893	H 5
	3214	D 6	7894	G 5
	3215	C 6	9202	M25
	3216	D 5	9204	N25
J	3217	C 5	9205	F17
	3218	J13	9206	K 6
	3220	L13	9207	E 5
	3223	L14	9208	E 4
	3224	M14	9209	B 5
	3225	O14	9210	B 4
	3226	M14	9211	E17
	3227	N14	9212	I15
K	3228	L14	9218	D 4
	3229	J15	9219	C 4
	3230	L12	9220	J15
	3231	L13	9221	L15
	3232	J13	9222	E11
	3233	J14	9800	J22
	3234	E 8	9802	H13
	3235	E 8	9803	K27
L	3800	N11	9804	L25
	3801	I 8	9805	O 4
	3801	N15	9806	M 4
	3802	F22	9807	E18
	3803	G22	9808	K28
	3804	G21	9809	H 4
	3805	I23	9811	G27
M	3807	J22	9812	H22
	3808	H13	9813	L25
	3809	G14	9813	L28
	3811	K12	9815	E23
	3812	K12	9817	I 4
	3813	K12	9818	G28
	3814	F 8	9820	F 8
N	3815	I13	9823	N21
	3816	H12	9824	O25
	3816	J15	9825	K27
	3817	I12	9826	G27
	3818	I12	9833	N14
	3819	F 8	9835	E28
	3820	N22	9836	A 5
	3821	N22	9837	B 5
	3822	M21	9838	M25
O	3823	G24	E48	F11
	3824	H24		
	3825	L27		
	3826	L27		
	3827	H25		

# Teletext

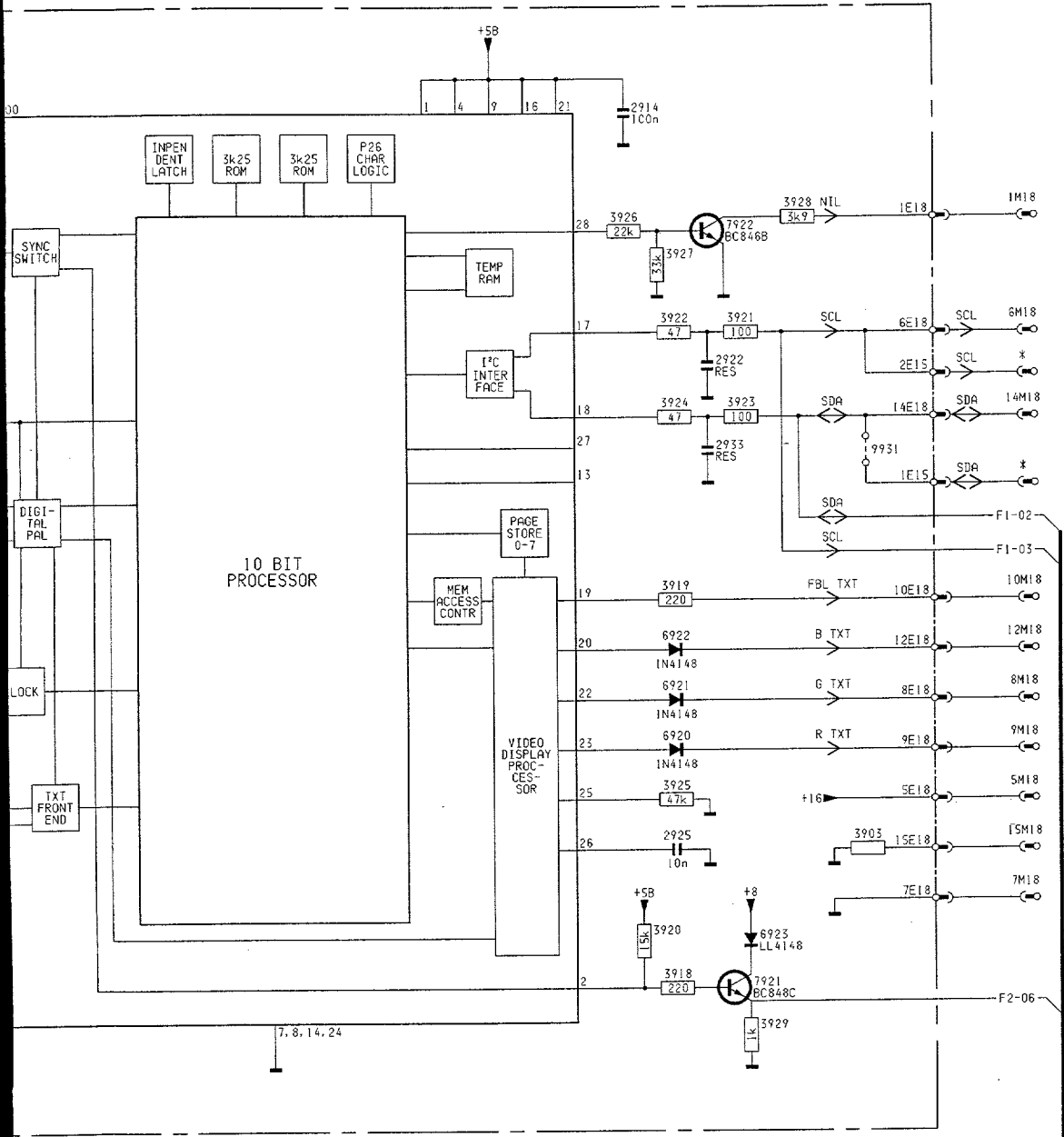
# F2

\* RESERV



F2

\* RESERVED FOR DOLBY



1910	H 5
2900	K 3
2901	K 5
2910	G 8
2911	G 6
2912	H 6
2913	H 6
2914	C16
2915	E 8
2916	J 6
2917	E 7
2918	G 7
2920	F 9
2922	E17
2925	J17
2926	D 6
2927	K 5
2928	G 3
2933	F17
3900	J 4
3901	J 3
3903	J18
3910	G 6
3911	E 8
3912	G 5
3913	G 5
3914	H 9
3915	F 9
3918	K17
3919	G17
3920	J16
3921	E17
3922	E17
3923	F17
3924	F17
3925	I17
3926	D16
3927	D16
3928	D18
3929	K17
4910	G 4
4911	G 4
4912	D 3
5920	J 5
6900	K 4
6920	I17
6921	H17
6922	H17
6923	J17
7900	J 4
7910	F 6
7920	C10
7921	K17
7922	D17
9911	I 9
9913	K 3
9914	I 3
9931	F18

TO B

TO B

CHASSIS GR2.4

CL46532061/012.FPAR  
121094

## Teletext

The TXT-decoder is integrated in the Euro-module.

The TXT-decoder can process the following systems:

- World Teletext System (WST)
- BBC system: FLOF (full level one feature)
- German system: TOP (table of Pages).

The TXT-decoder has a memory of 8 pages with the objective to decrease the waiting time.

The content of the memory depends on the system.

- \* WST with pages without sub-codes: page -1, +1, +2, +3, +4, page last received, table of contents + page displayed.
- \* WST with pages with sub-codes: page -1, +1, +2, next sub-page, next +1 sub-page, page last received + table of contents.
- \* FLOF: 4 pages linked to the coloured buttons (red, green, yellow, blue) page -1, page last displayed and table of contents.
- \* TOP: basic Top table, page +1, 1 or 2 subsequent group, 2 or 3 subsequent blocks, or page +1, +2.

The 'Page Look Up Table' (PLUT) is built up immediately in the 3 systems after switch-on.

The Plut ensures that only the transmitted pages are stored in the memory.

### The TXT circuit consists of 2 ICs:

- IC 7910: Teletext Data Slicer: CF 72306.
- IC 7920: Universal Teletext Decoder: 'Eurotext': CF 70200.

### The Teletext Data Slicer: CF 72306

The CF 72306 IC sees to:

- Sync. separation
- Teletext data processing
- Data clock regeneration
- Transfer of clock, data and composite sync. signals to the digital IC teletext decoder.

The sync. separator slicing level is adjustable, so that it can process a whole series of video amplitudes and disturbed signals.

The data slicer uses an adjustable signal recognition and clock phase algorithm, so that it can work in a broad area of clock run-in amplitudes.

- The IC has 3 video inputs (pins 1, 2, 3). Pins 1, 2 are used for sync. processing and pin 3 is used for taking TXT information from the video.  
Resistor 3910 forms LPF (Low Pass Filter) with capacity in the IC for the removal of the high frequencies at the sync. level.  
Resistors R 3912, R 3913 are adaptations of the level from 2V to 1V pp.

The TXT clock of 6.937MHz is conducted from the 13.875MHz oscillator frequency. The black level is stocked on pin 8 (C REF) via C 2916.

The frequency is raised to 69MHz via a 'Frequency multiplier', to enable the processing of all signals in the IC.

The 'OSCOUT' (pin 15) transfers the 13.876 MHz to the TXT-decoder.

R 3914 is present in order to avoid irradiation in the MF part. During the VBi the data slicer is activated via 'WIND', so that the TXT data can come out on pin 13.

The sync. signal (pin 19) is sent to pin 12 TXT decoder via LDF filter (R 3915, C 2918).

### Universal Teletext decoder 'Eurotext': CF 70200

Digital IC for the benefit of decoding the world standard systems:

- 8 pages of memory
- automatic detection of WST, FLOF, or TOP
- Packet 26 flicker-free character processing.

The TDATA, T.CIK and composite sync. of the data slicer are offered to inputs 10, 11 and 12.

The IC is connected to the I<sup>2</sup>C line via 16 (data) and 17 (clock).

Via Flag 2 (28) the NIL signal is offered to prevent the text from flickering on the screen.

The Reset is effected via C 2920 on pin 5.

Via diodes 6920, 6921, 6922 the RGB outputs are transmitted to the TDA 4780 together with the blanking signal (pin 19).

The diodes prevent 'blooming' of the text, as well as the level of the OSD being pulled down.

The amplitude of the output signals is determined by C 2925 (REF) and R 3925 (RGB set).

Pin 2 (sync. out of CSB) is the output of the internal switch, which transmits either the composite sync. signal of the internal sync. generator or the video input inlet when picture information is shown (mixed mode - subtitling).

Via the clock in (pin 6) 13.876 MHz is received from the data slicer.

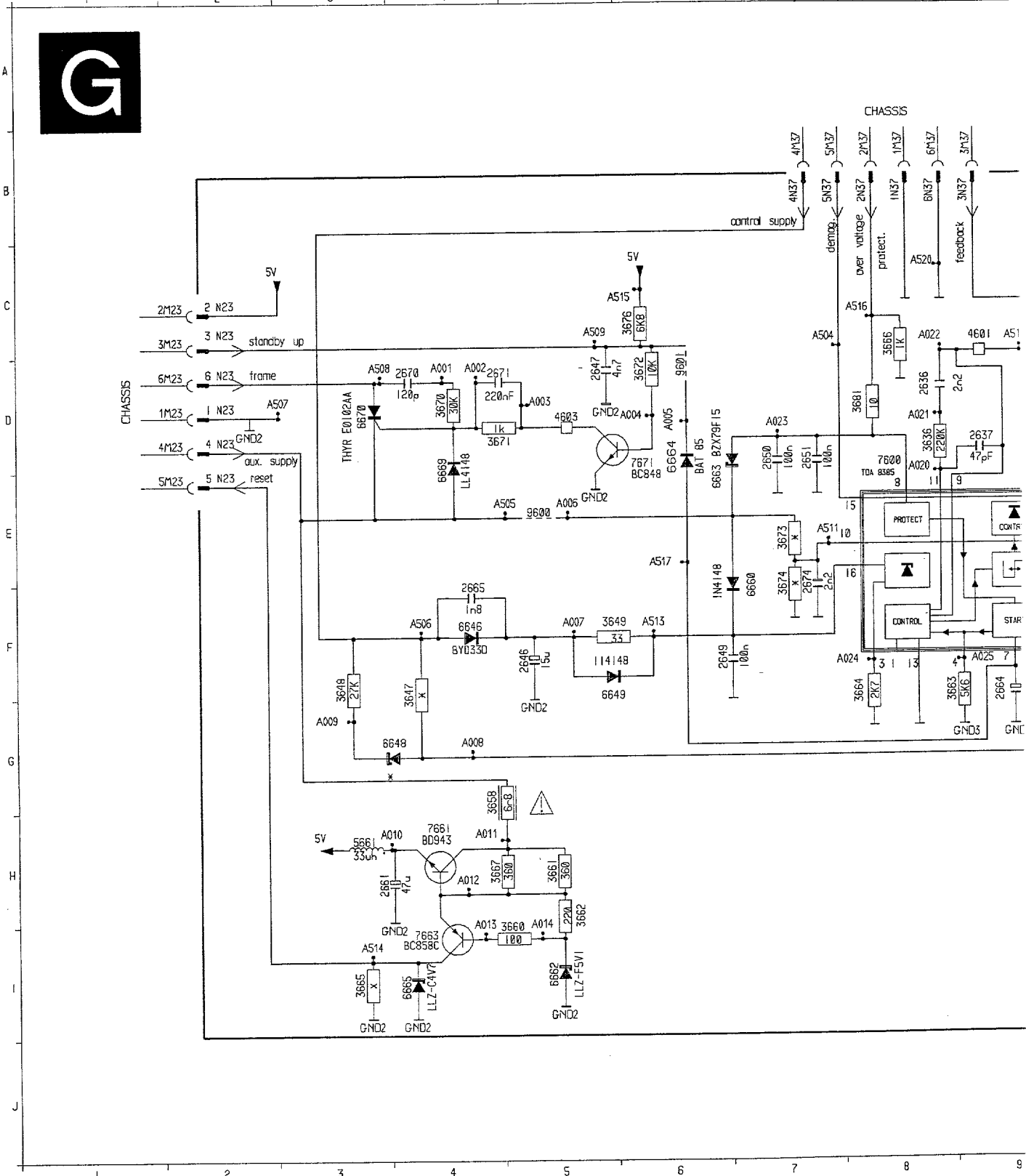
Via PLL the pulses in the TXT-decoder are synchronized to the sync. of the video signal.

Character generator is available in the IC.

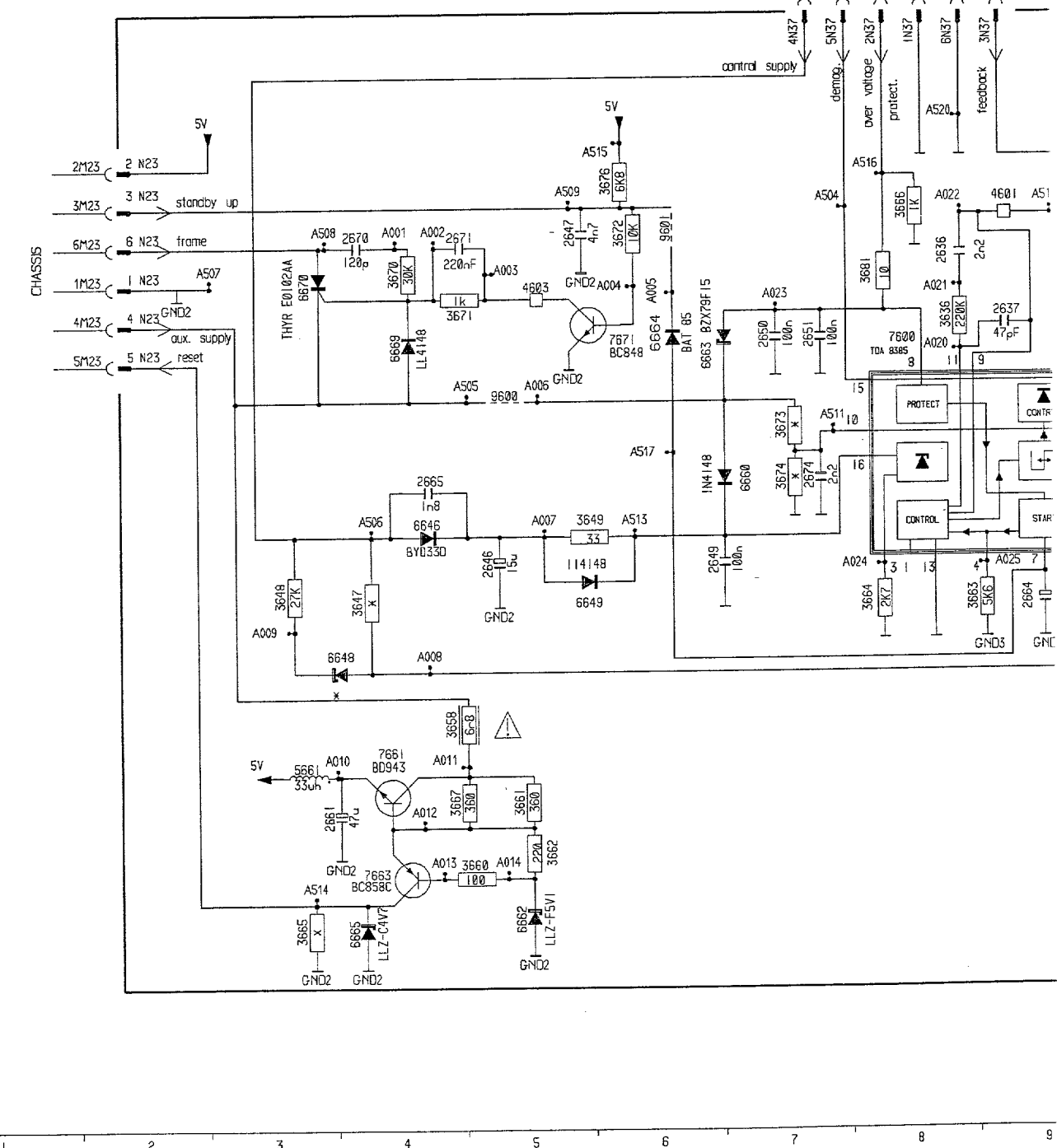
The internal ROM controls the decoding and the choice of the display.

In the internal RAM 8 pages can be stored.

2611	G13	2647	D 5	2662	G10	2671	D 4	3628	G13	3649	F 4	3663	F 8	3670	D 4	3676	C 6	4604	G10	6649	F 5	6665	I 4	7661	H 4	A2
2629	G12	2649	D 6	2663	F11	2674	F 7	3629	G12	3650	F 8	3664	F 8	3671	D 4	3680	D 10	4605	G11	6650	F 5	6666	D 4	7662	H 4	A3
2636	D 8	2650	D 7	2664	F 9	2623	H14	3636	G 8	3660	F 8	3665	I 5	3672	C 8	3681	D 10	5651	H 3	6651	F 5	6667	D 4	7671	H 4	A4
2637	D 9	2651	H 3	2665	F 4	2624	G14	3647	F14	3661	H 10	3666	C 8	3673	D 10	4601	C 6	5646	G 4	6652	F 5	6668	D 4	7680	D 10	A5
2646	D 5	2661	H 3	2678	D 4	2625	H13	3648	F 3	3662	H 10	3667	C 8	3674	F 7	4603	C 6	5648	G 4	6664	F 5	6669	F14	7614	D 10	A6

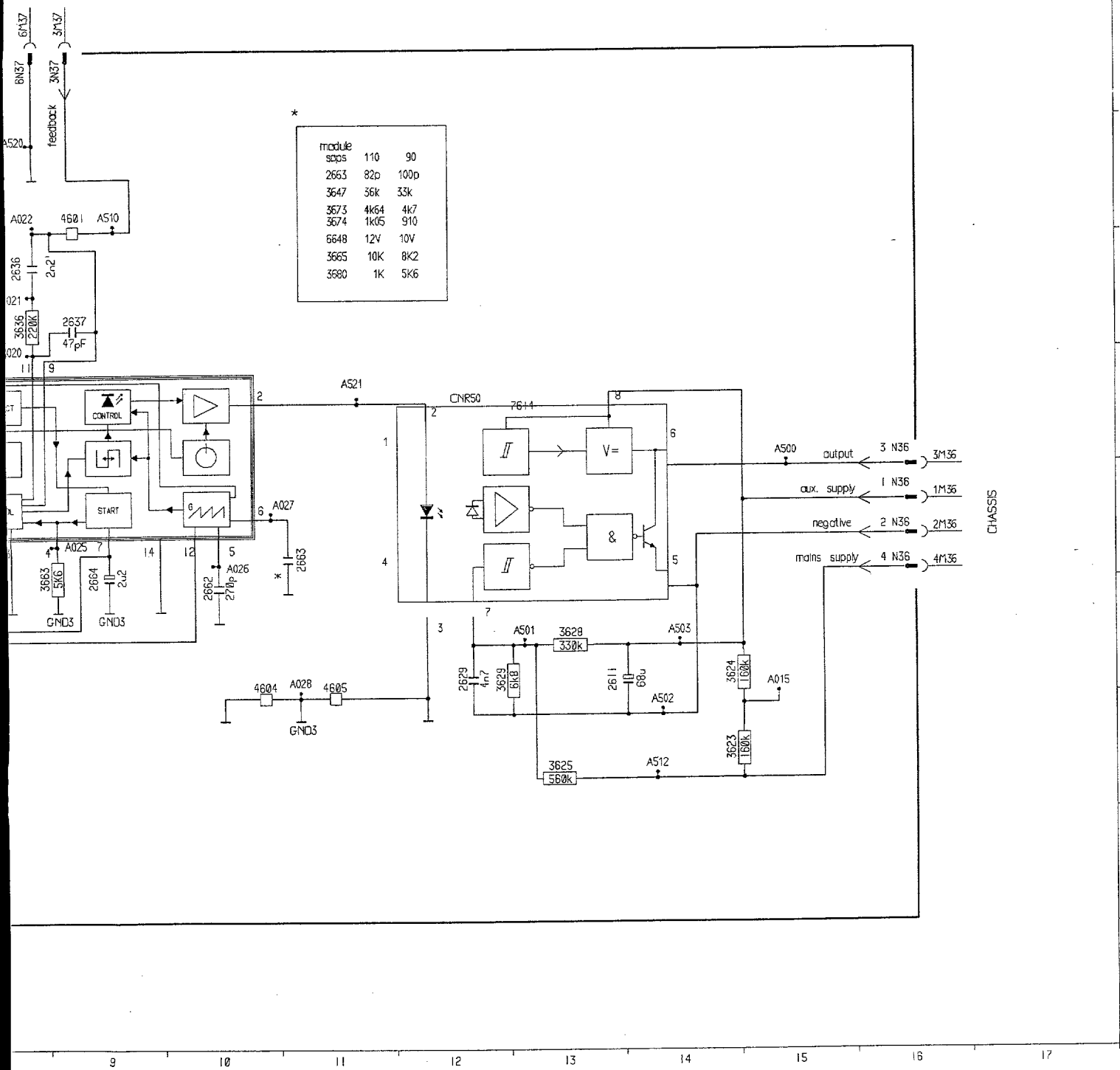


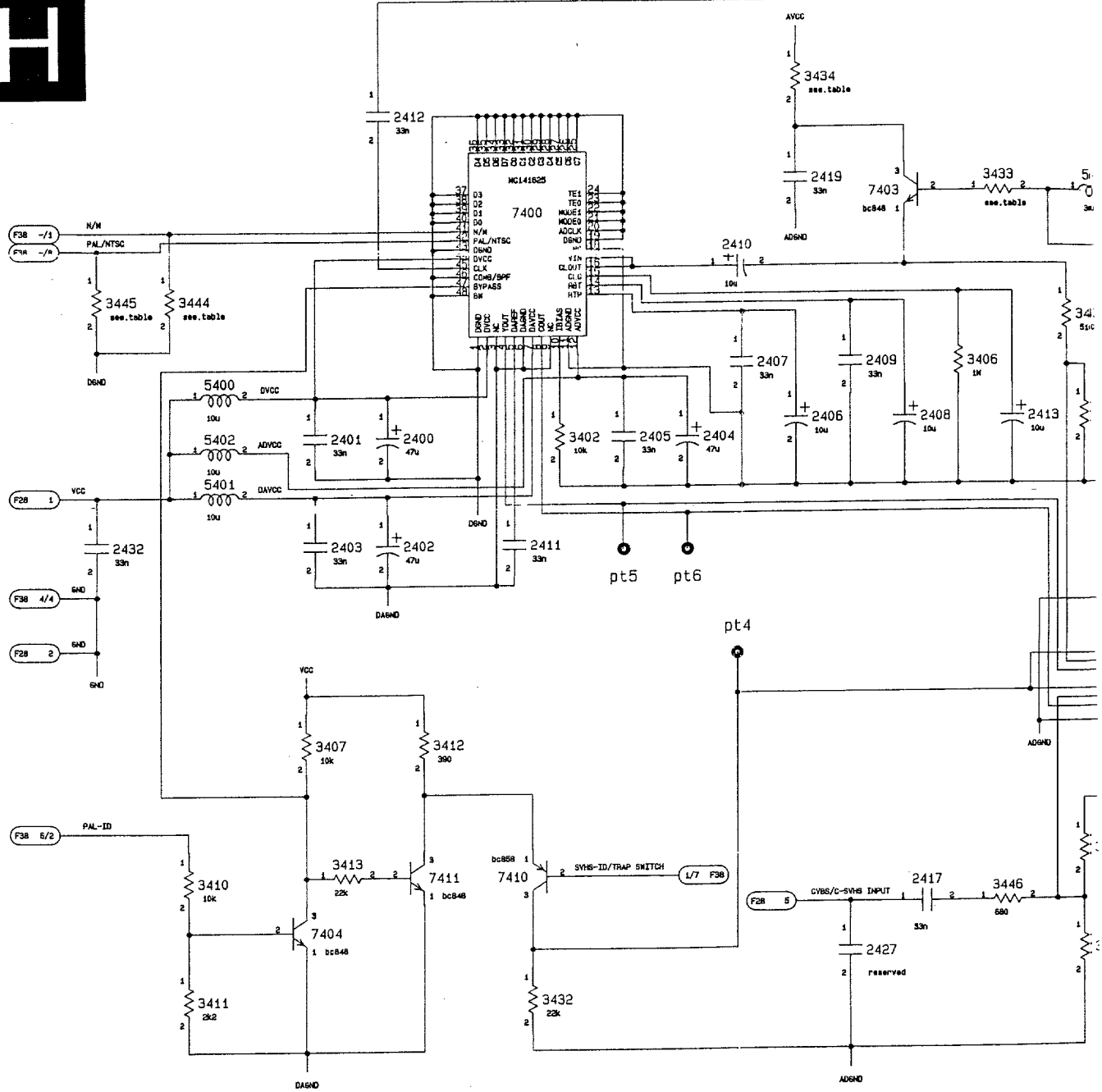
A  
B  
C  
D  
E  
F  
G  
H  
I  
J





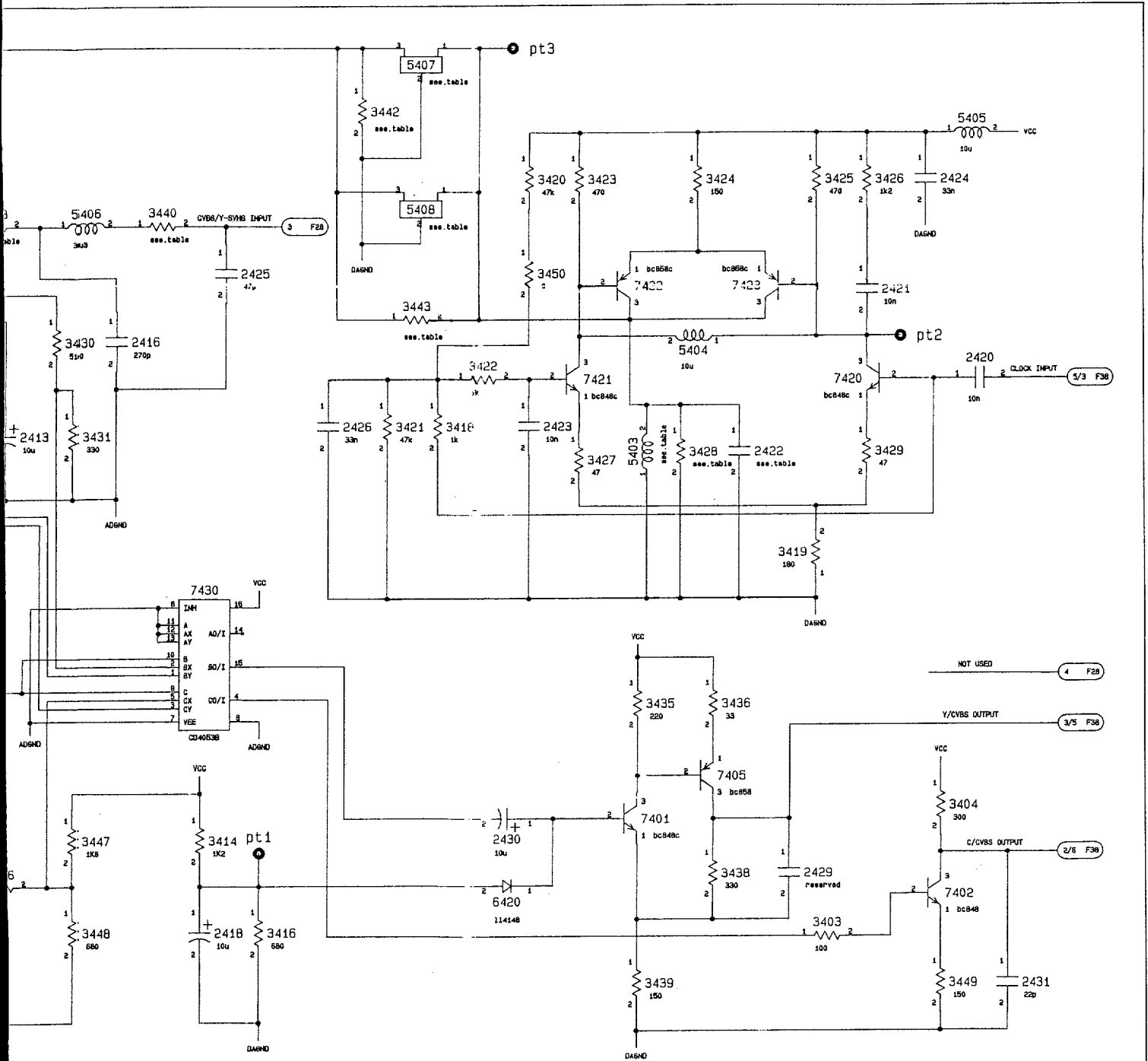
7661	H 4	A001	D 4	A006	E 5	A011	H 4	A020	E 8	A025	F 9	A501	G13	A506	F 4	A511	E 7	A516	C 8	A521	E11	N23	F 2	N36	F16	N37	G 7
7663	I 4	A002	D 4	A007	F 5	A012	H 4	A021	D 8	A026	F10	A502	G14	A507	D 3	A512	F14	A517	E 6	A522	D11	N23	F 2	N37	G 7	N37	G 8
7671	J 4	A003	D 5	A008	G 4	A013	I 4	A022	C 8	A027	F11	A503	G14	A508	D 3	A513	F14	A518	F 6	A523	D12	N23	F 2	N37	G 7	N37	G 8
9600	M 6	A004	D 6	A009	G 3	A014	I 5	A023	D 7	A028	G11	A504	C 7	A509	C 5	A514	I 1	A519	I 10	A524	D12	N23	F 2	N37	G 7	N37	G 8
9601	D 6	A005	D 6	A010	H 3	A015	G15	A024	F 8	A500	E15	A505	E 5	A510	C 9	A515	C 6	A520	C 9		D 2	N23	F 2	N37	G 7	N37	G 8
	9		10						11				12									15					17





COMPONENTS

	2422	3428	5403	3443	3442	5407	5408	3444	3445	3440	3433	3434	sta
STANDARD VERSION :	100p	820	0.68u	0	-	-	-	0	0	100	220	220	
OVERSEAS VERSION :	-	240	-	-	-	SFE14-3	SFE17-7	-	-	120	47	0	



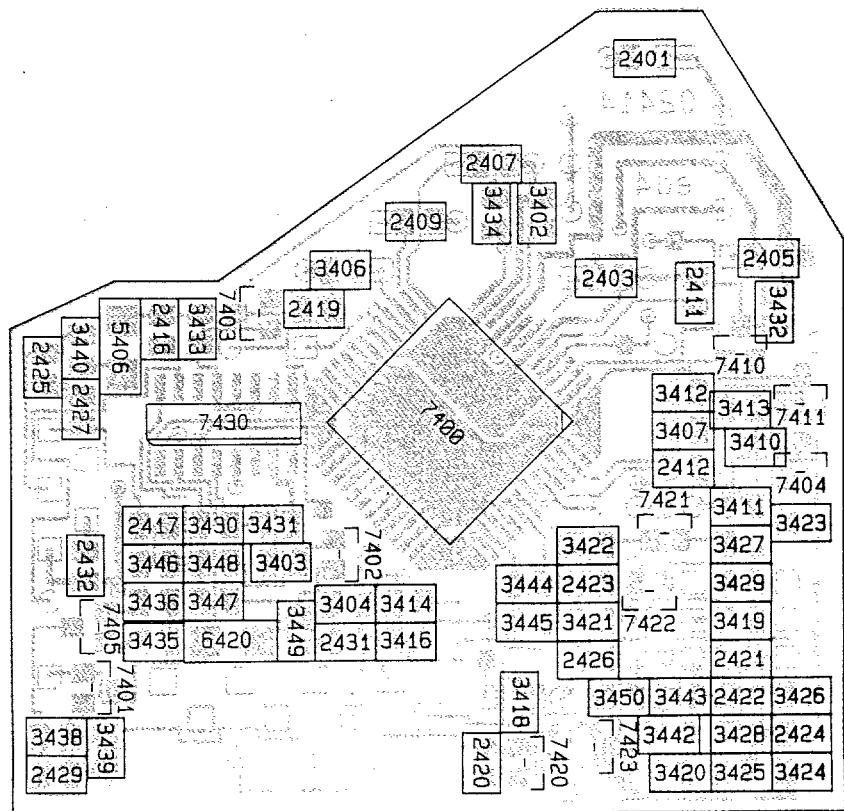
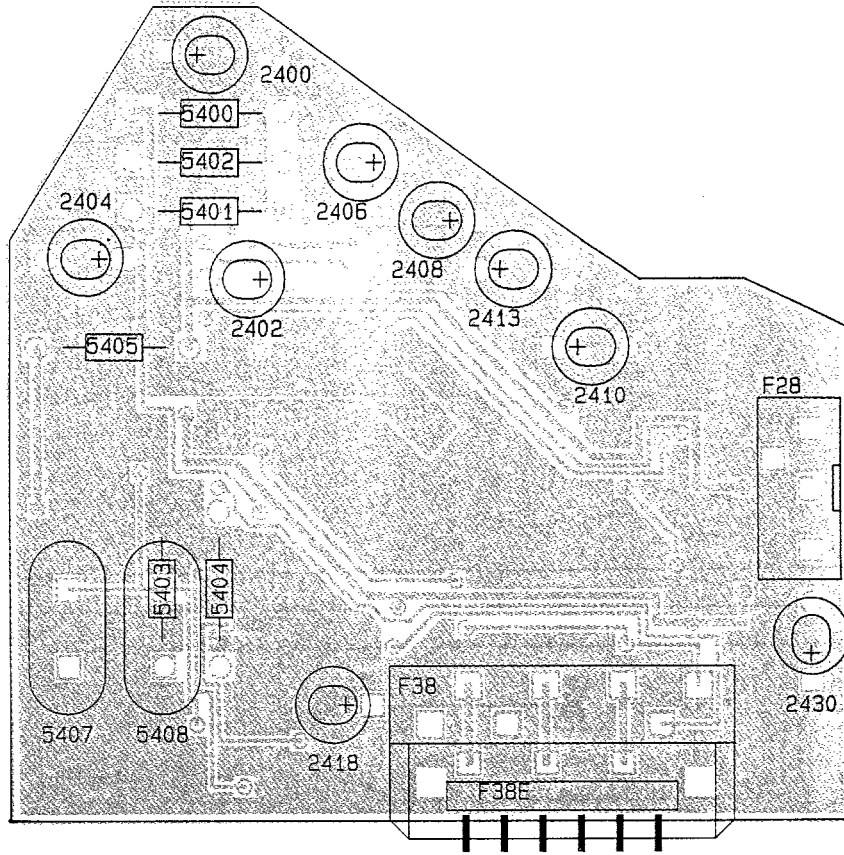
CONNECTOR F38

12 NC NUMBER

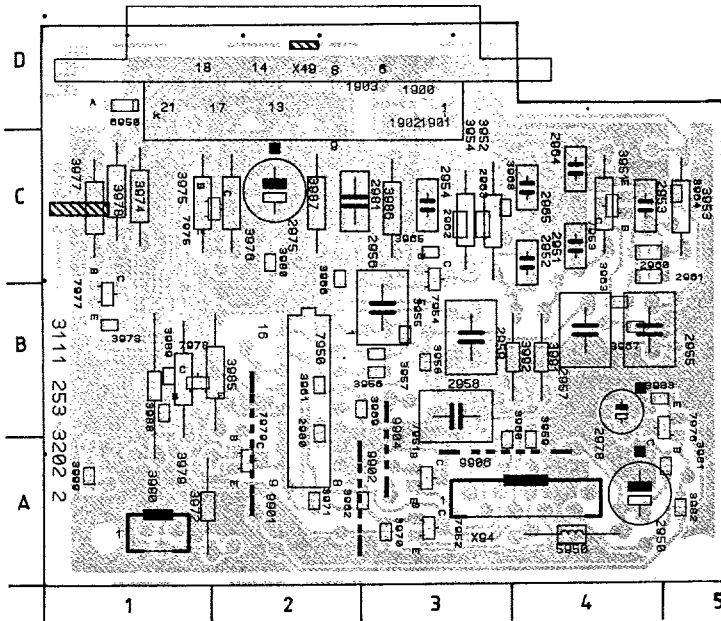
standar ver / overseas ver

- 6 5 4 3 2 1 -
- 1 2 3 4 5 6 7 8

- 3111 258 020:0
- 3111 258 002:0



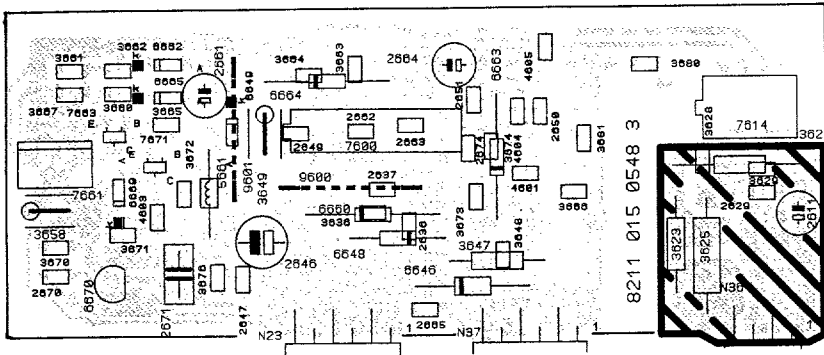
# Third scart module 1006



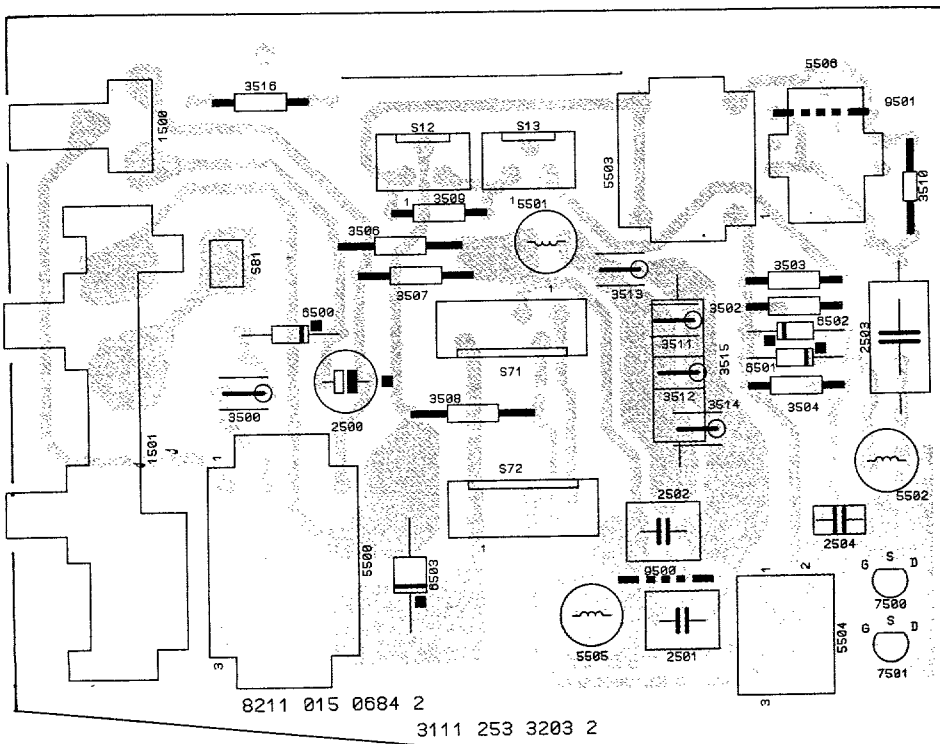
- |         |         |         |
|---------|---------|---------|
| 1900 D3 | 3962 A3 | 7953 C4 |
| 1901 D3 | 3963 B4 | 7954 C3 |
| 1902 D3 | 3964 C5 | 7975 C2 |
| 1503 D3 | 3965 C3 | 7976 B5 |
| 2950 A4 | 3966 C2 | 7977 B1 |
| 2951 C4 | 3967 B4 | 7978 B2 |
| 2952 C4 | 3968 C4 | 7979 A2 |
| 2953 C5 | 3969 B3 | 9901 B2 |
| 2954 C3 | 3970 A3 | 9902 A3 |
| 2955 B5 | 3971 A2 | 9903 A3 |
| 2956 B3 | 3972 A2 | 9906 A4 |
| 2957 B4 | 3973 B1 | X31 A1  |
| 2958 B3 | 3974 C1 | X49 D3  |
| 2959 B3 | 3975 C2 | X94 A4  |
| 2960 C5 | 3976 C2 |         |
| 2961 C5 | 3977 C1 |         |
| 2962 C3 | 3978 C1 |         |
| 2963 C3 | 3979 B1 |         |
| 2964 C4 | 3980 C2 |         |
| 2965 C4 | 3981 A5 |         |
| 2975 C2 | 3982 A5 |         |
| 2978 B4 | 3983 B5 |         |
| 2980 B2 | 3985 B2 |         |
| 2981 C3 | 3986 C3 |         |
| 3951 C4 | 3987 C2 |         |
| 3952 C3 | 3988 B1 |         |
| 3953 C5 | 3989 B1 |         |
| 3954 C3 | 3990 B1 |         |
| 3955 B3 | 3991 B4 |         |
| 3956 B3 | 3992 B4 |         |
| 3957 B3 | 5950 A4 |         |
| 3958 B3 | 6950 D1 |         |
| 3959 B4 | 7950 B2 |         |
| 3960 B4 | 7951 A3 |         |
| 3961 B2 | 7952 A3 |         |

# Sops controle module/Scanning module

## SOPS CONTROLE MODULE 1007

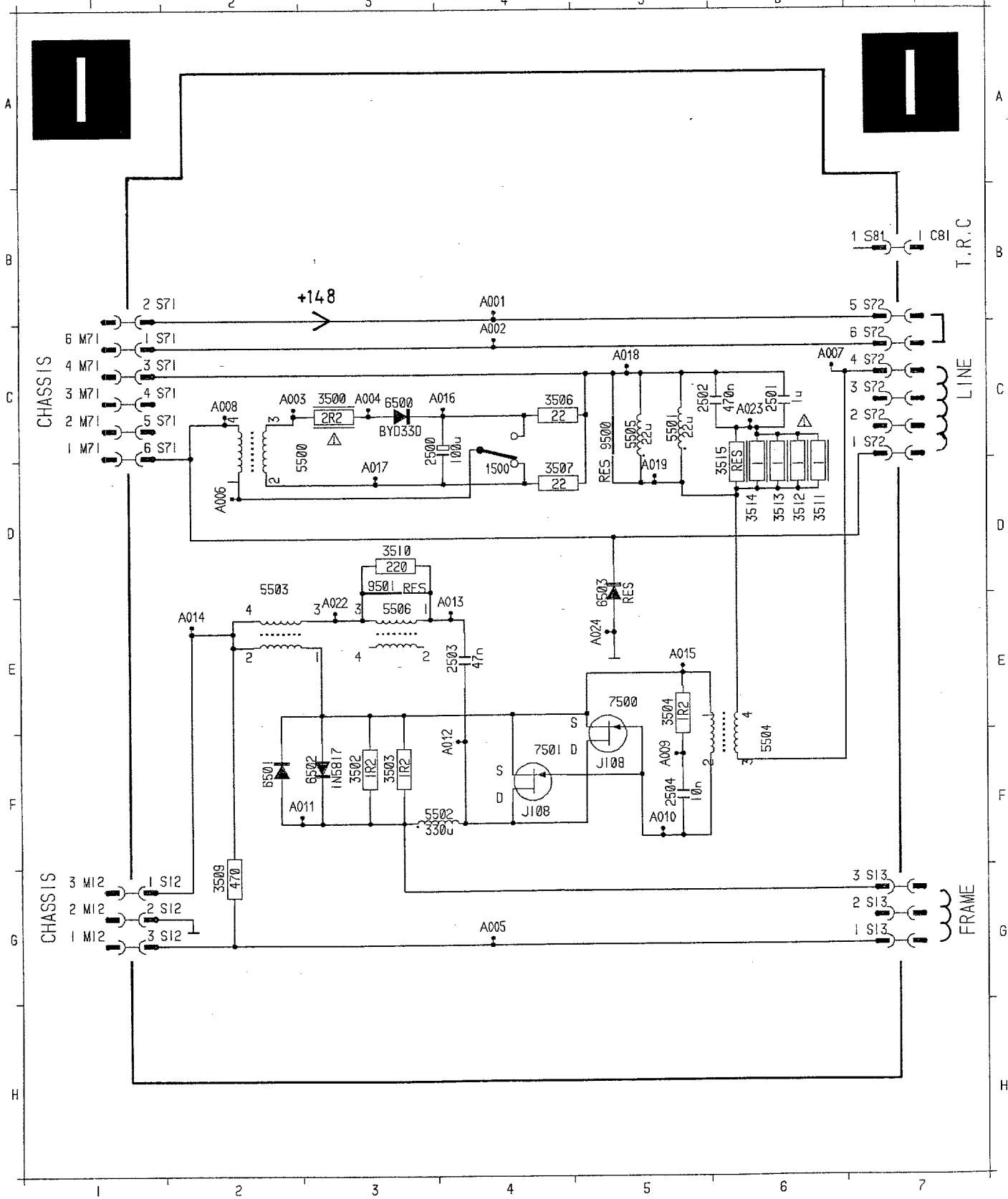


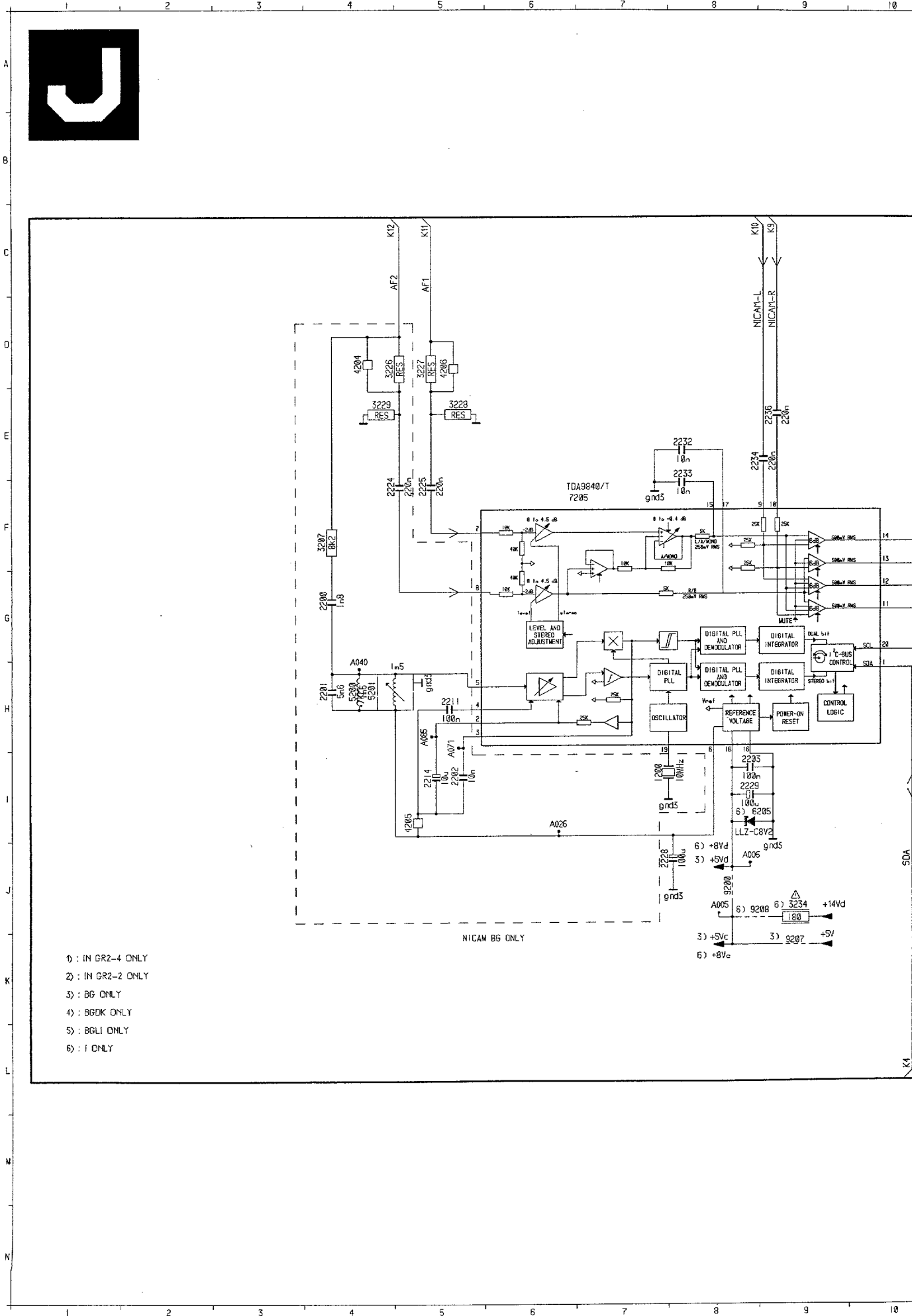
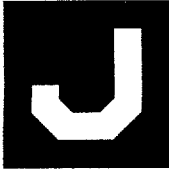
## SCANNING MODULE 1009



# Scanning module

1500	D 4	3503	F 3	3513	D 6	5505	C 5	9501	D 3	A009	F 5	A018	C 5	S12	G 2	S71	C 2	S81	B 7
1501	A 4	3504	E 5	3514	D 6	5506	C 5	A001	B 4	A010	F 5	A019	D 5	S12	G 2	S71	C 2		
2500	C 3	3506	C 4	3515	D 6	6500	C 3	A002	C 4	A011	F 2	A020	B 5	S12	G 2	S71	C 2		
2501	C 6	3507	D 4	3516	D 6	6501	C 3	A003	C 3	A012	F 4	A021	B 5	S12	G 2	S71	C 2		
2502	C 4	3508	B 3	5500	C 3	6502	F 3	A004	A 4	A013	E 4	A022	F 3	S12	G 2	S71	C 2		
2503	F 4	3509	G 2	5501	C 3	6503	F 3	A005	G 4	A014	E 2	A023	C 3	S12	G 2	S71	C 2		
2504	F 5	3510	D 3	5502	C 4	7500	F 4	A006	G 4	A015	E 5	A024	F 5	S12	G 2	S71	C 2		
3500	C 3	3511	D 6	5503	C 4	7501	F 4	A007	C 2	A016	C 4	A025	F 5	S12	G 2	S71	C 2		
3502	F 3	3512	D 6	5504	D 6	9500	C 5	A008	C 2	A017	D 3	A026	G 3	S12	G 2	S71	C 2		





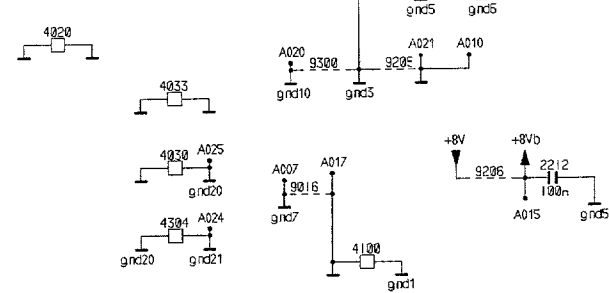
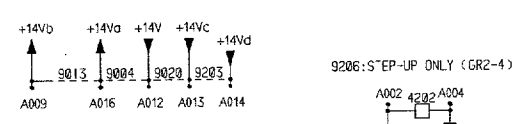
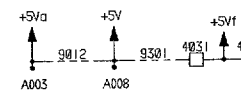
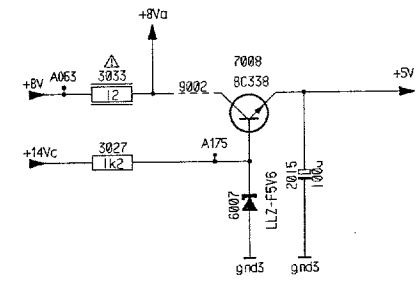
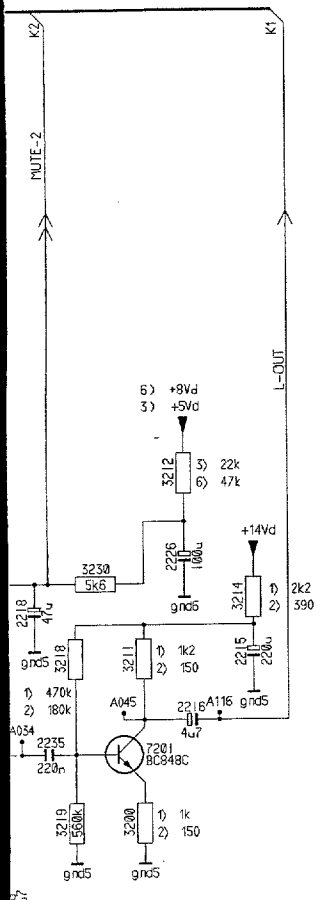
- 1) : IN GR2-4 ONLY
- 2) : IN GR2-2 ONLY
- 3) : BG ONLY
- 4) : BGDK ONLY
- 5) : BGLI ONLY
- 6) : I ONLY

NICAM BG ONLY

SDA  
SCL  
grnd3

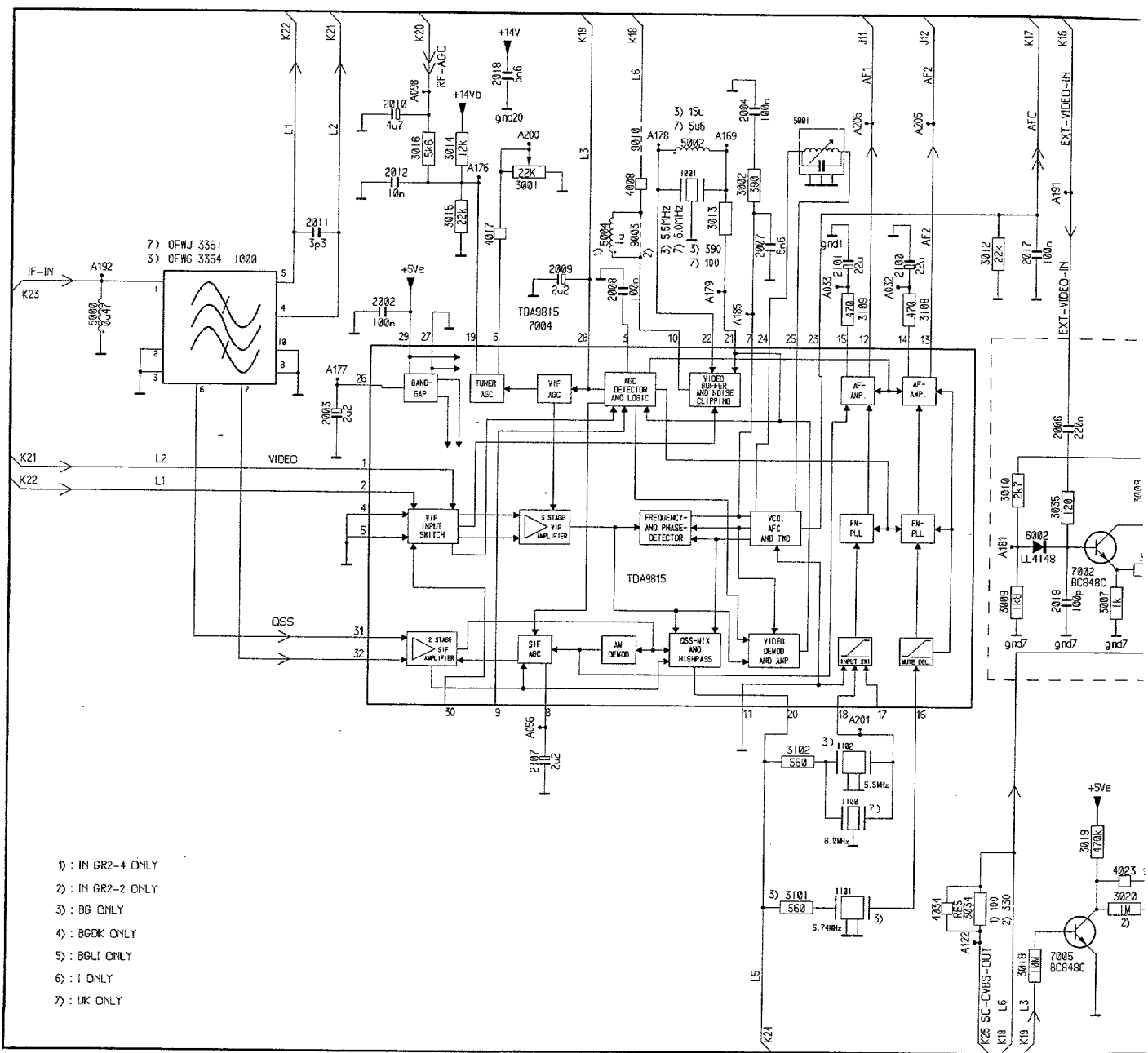
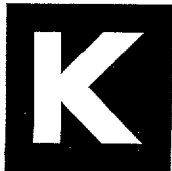






1200	I 7	A043	E16
2015	E26	A044	C16
2200	G 4	A045	H21
2201	H 4	A046	I12
2202	I 5	A054	F11
2203	I 8	A055	F11
2204	I14	A060	I15
2205	F18	A062	I14
2206	F18	A063	D24
2207	J18	A071	H 5
2208	I18	A085	H 5
2209	J17	A112	J12
2210	J17	A113	J12
2211	H 5	A114	G14
2212	K28	A115	H14
2213	I 5	A116	H22
2215	G22	A117	I26
2216	H21	A175	E26
2217	J15		
2218	G20		
2219	I20		
2220	D18		
2221	E18		
2222	F11		
2223	F11		
2224	F 4		
2225	F 4		
2226	G21		
2227	I14		
2228	J 7		
2229	I 8		
2230	J11		
2231	J11		
2232	E 8		
2233	E 8		
2234	E 8		
2235	H20		
2236	E 9		
2237	D17		
2238	E17		
3027	E25		
3033	D25		
3200	I21		
3207	F 4		
3208	I14		
3211	G21		
3212	F21		
3214	G22		
3218	G20		
3219	I20		
3220	K11		
3221	K11		
3222	D17		
3223	D17		
3226	D 4		
3227	D 5		
3228	E15		
3229	E15		
3230	G21		
3231	G20		
3232	I12		
3233	I12		
3234	J 9		
3237	E17		
3239	F17		
4020	J24		
4030	K25		
4031	G26		
4033	J26		
4037	G27		
4100	K26		
4200	H20		
4201	G15		
4202	I27		
4203	G15		
4204	D 4		
4205	I 5		
4206	D 5		
4207	E18		
4304	K25		
5200	H 4		
5201	H 4		
5207	E26		
6200	I11		
6201	K13		
6202	I14		
6203	I12		
6204	K13		
6205	I 9		
6206	C18		
6207	D18		
6208	E18		
6209	F18		
7008	D26		
7201	H21		
7202	D17		
7203	C17		
7204	G17		
7205	F 6		
7206	H11		
7207	I11		
7208	E17		
7209	F17		
9002	E25		
9004	I25		
9012	G25		
9015	I24		
9016	K26		
9020	I25		
9200	J 8		
9201	H20		
9202	F16		
9203	I25		
9204	I25		
9205	J26		
9206	K27		
9207	K 9		
9208	J 9		
9209	J27		
9300	J26		
9301	G26		
A001	E18		
A002	I27		
A003	G25		
A004	I27		
A005	J 8		
A006	J 8		
A007	K26		
A008	G26		
A009	J24		
A010	J24		
A011	H27		
A012	I25		
A013	I25		
A014	I25		
A015	I25		
A016	K27		
A017	K25		
A018	K26		
A019	I26		
A020	J26		
A021	J27		
A022	C18		
A023	I27		
A024	K25		
A025	K25		
A026	I 6		
A034	H20		
A035	C18		
A038	I11		
A039	E18		
A040	H 4		

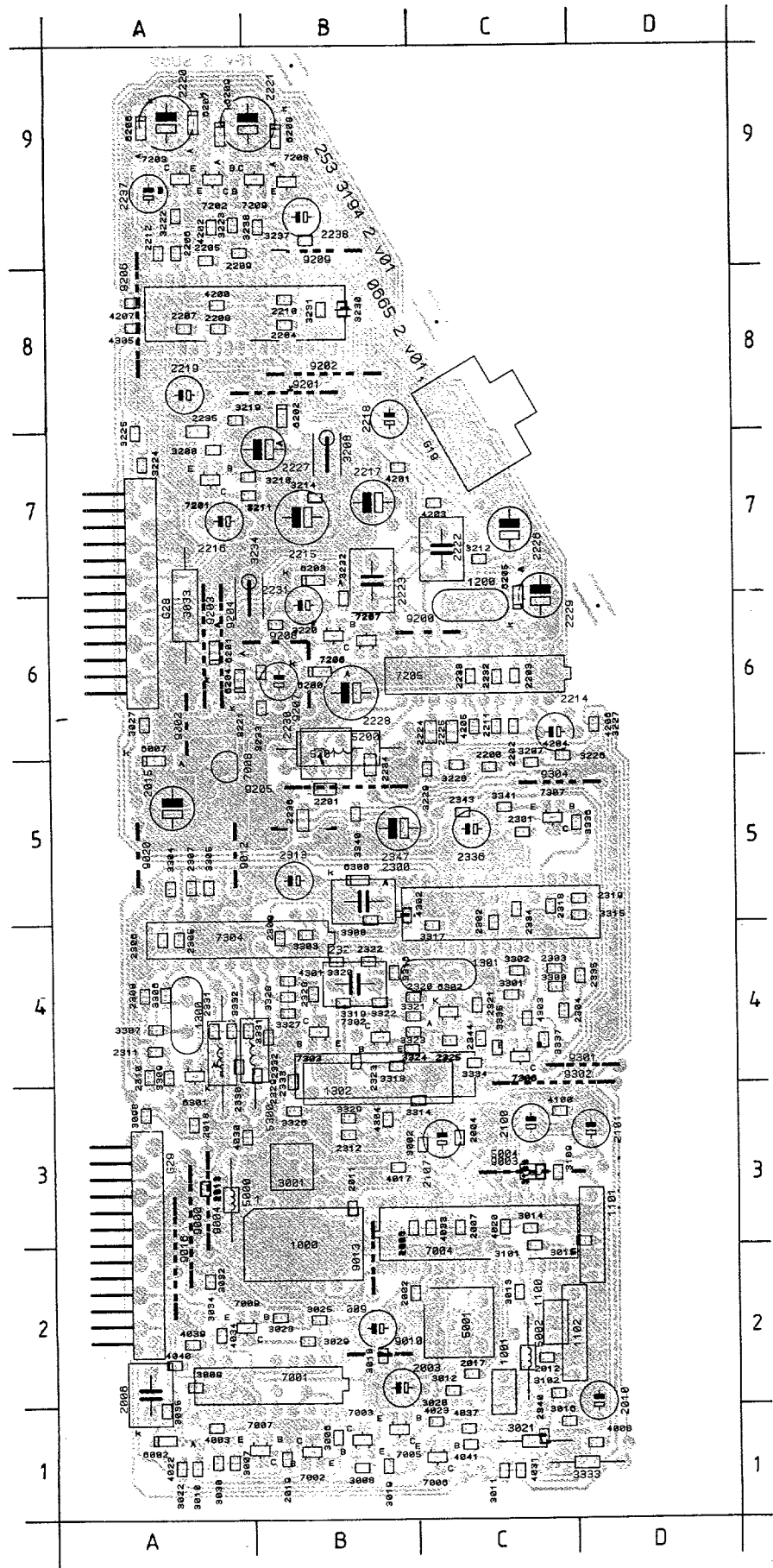
# Nicam IF-Sound module/Nicam ZF-Ton module



- 1) : IN GR2-4 ONLY
- 2) : IN GR2-2 ONLY
- 3) : BG ONLY
- 4) : BGDK ONLY
- 5) : BGLI ONLY
- 6) : I ONLY
- 7) : UK ONLY

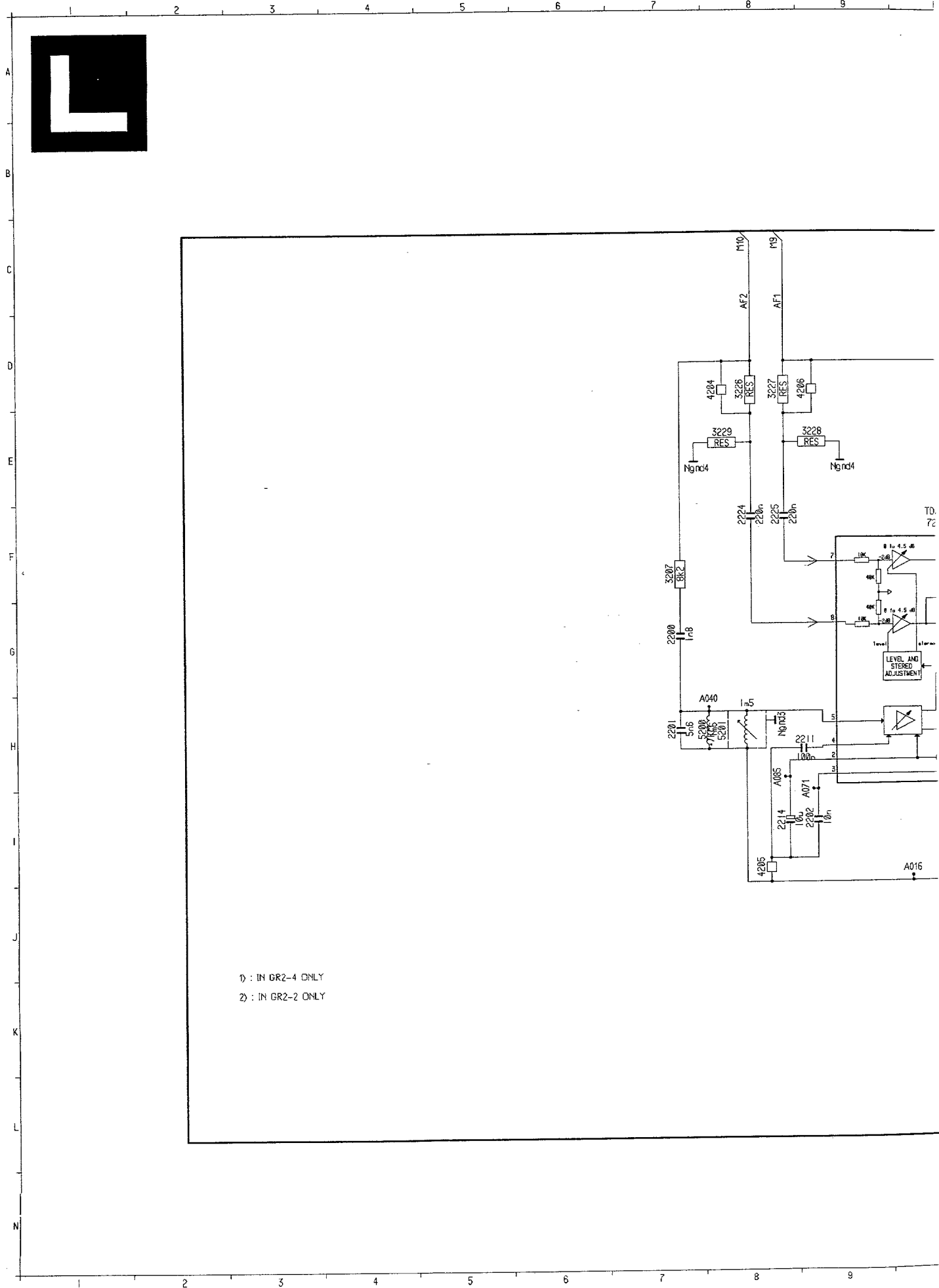
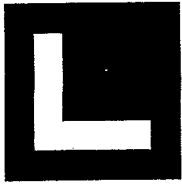






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G29	C3	3016	A1	6200	B6
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1001	A2	3019	B1	6202	B8
1100	A2	3020	A1	6203	B7
1101	A3	3021	A1	6204	C6
1102	A2	3022	C1	6205	A6
1200	A6	3023	B2	6206	C9
1300	C4	3025	B2	6207	C9
1301	A4	3027	C6	6208	B9
1302	B3	3029	B2	6209	C9
1303	B3	3030	C1	6300	B5
2002	B2	3032	C2	6301	C4
2003	B2	3033	C6	6302	A4
2004	A3	3034	C2	7001	C2
2006	C2	3035	C1	7002	B1
2007	A3	3038	C3	7003	B1
2008	B3	3101	A2	7004	A3
2009	B2	3102	A2	7005	B1
2010	A1	3108	A3	7006	A1
2011	B3	3109	A3	7007	C1
2012	A2	3200	C7	7008	C5
2013	C3	3207	A5	7009	C2
2015	C5	3208	B7	7201	C7
2017	A2	3211	C7	7202	C9
2018	C3	3212	A7	7203	C9
2019	B1	3214	B7	7204	C8
2100	A3	3218	C7	7205	A6
2101	A3	3219	C8	7206	B6
2107	A3	3220	B6	7207	B6
2200	A5	3221	C8	7208	B9
2201	B5	3222	C9	7209	C9
2202	A6	3223	C9	7302	B4
2203	A6	3224	C7	7303	B4
2204	B8	3226	A6	7304	C4
2205	C9	3227	A5	7305	A5
2206	C9	3228	A5	7306	A4
2207	C8	3229	B5	7307	A5
2208	C8	3230	B8	9000	C3
2209	C9	3231	B8	9002	C6
2210	B8	3232	B6	9003	A3
2211	A6	3233	C6	9004	C3
2212	C9	3234	C6	9010	B2
2214	A6	3237	B9	9012	C5
2215	B7	3238	C9	9013	B2
2216	C7	3300	A4	9016	C2
2217	B7	3301	A4	9025	A1
2218	B8	3302	A4	9200	B6
2219	C8	3303	B4	9201	B8
2220	C9	3304	C5	9202	B8
2221	C9	3305	C5	9203	C6
2222	A7	3306	C4	9204	C6
2223	B7	3307	C4	9205	B5
2224	A6	3308	B4	9207	B6
2225	A6	3309	C4	9208	B6
2226	A7	3314	B3	9209	B9
2227	C7	3315	A5	9300	B5
2228	B6	3316	B4	9301	A4
2229	A6	3317	A4	9302	A3
2230	B6	3318	B4	9304	A5
2231	B6	3319	B4		
2232	A6	3320	B4		
2233	A6	3321	B4		
2234	B5	3322	B4		
2235	C8	3323	B4		
2236	B5	3324	B4		
2237	C9	3326	B3		
2238	B9	3327	B4		
2300	B5	3328	B4		
2301	A5	3329	B3		
2302	A4	3331	C4		
2303	A4	3332	C4		
2304	A4	3333	A1		
2305	C4	3334	A4		
2306	C4	3335	A4		
2307	C5	3336	A5		
2308	C4	3337	A4		
2309	B4	3340	B5		
2310	C4	3341	A5		
2311	C4	4003	C1		
2312	B3	4008	A1		
2313	B5	4017	B3		
2318	A5	4020	A3		
2319	A5	4022	C1		
2320	B4	4023	A1		
2321	A4	4030	C3		
2322	B4	4031	A1		
2323	B4	4033	B3		
2324	B4	4034	C2		
2325	A4	4037	A1		
2328	B4	4039	C2		
2329	C4	4040	C2		
2330	C4	4041	A1		
2331	C4	4100	A3		
2332	C4	4200	C8		
2333	B4	4201	B7		
2334	A5	4202	C9		
2335	A4	4203	A7		
2336	A5	4204	A6		
2340	A1	4205	A6		
2343	A5	4206	A6		
2344	A4	4301	B4		
2347	B5	4302	B5		
3001	B3	4303	A4		
3002	B3	4304	B3		
3006	B1	5000	C3		
3007	C1	5001	A2		
3008	B1	5002	A2		
3009	C2	5004	A3		
3010	C1	5200	B6		
3011	A1	5201	B6		
3012	A2	5300	C4		
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3014	A3	6002	C1		





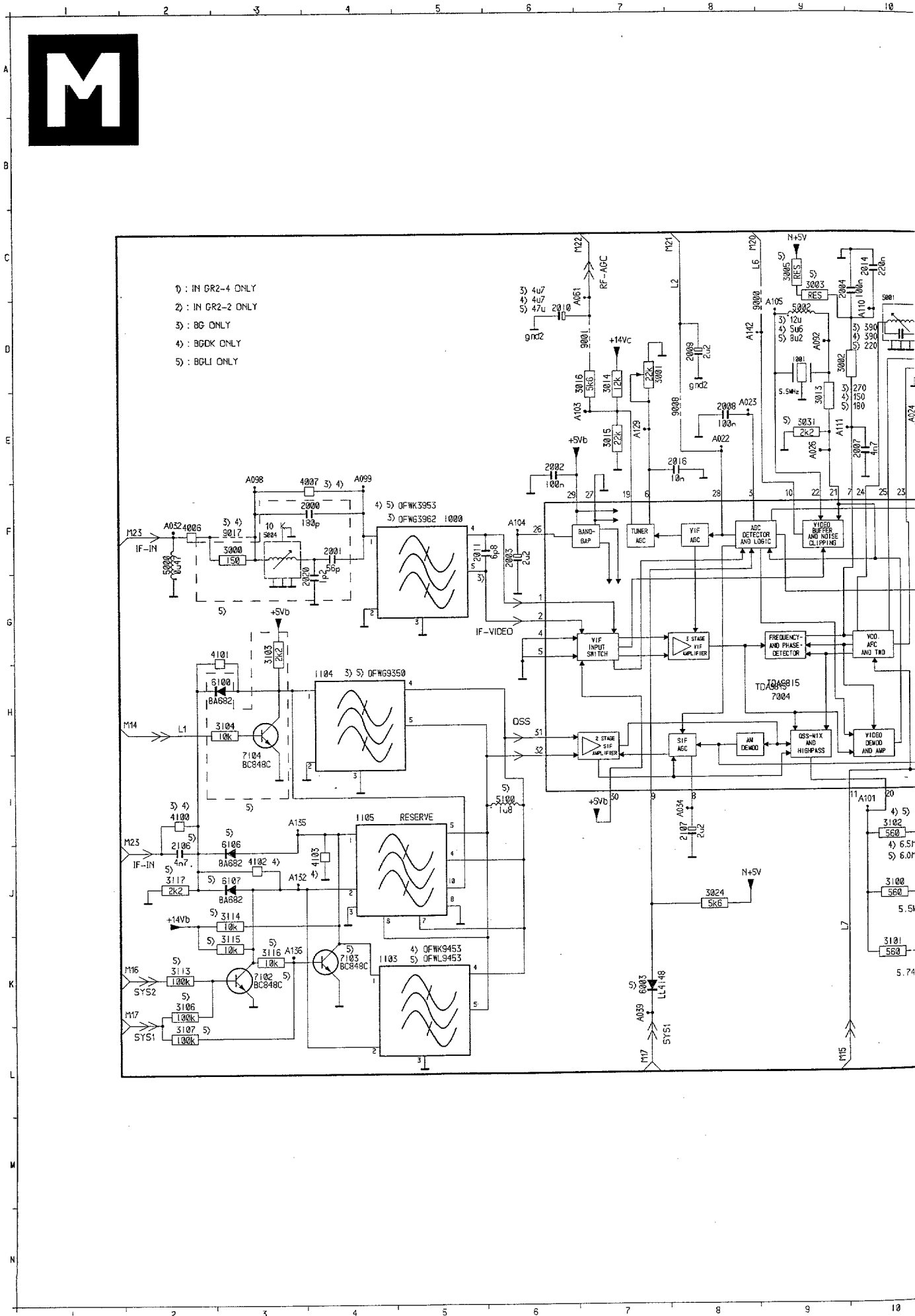
1) : IN GR2-4 ONLY  
 2) : IN GR2-2 ONLY







# Stereo IF-Sound module/Stereo ZF-Ton module

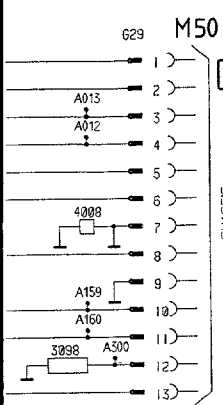


- 1) : IN GR2-4 ONLY
- 2) : IN GR2-2 ONLY
- 3) : BG ONLY
- 4) : BODK ONLY
- 5) : BGLI ONLY

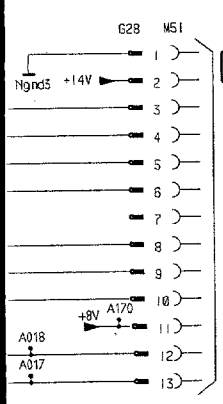
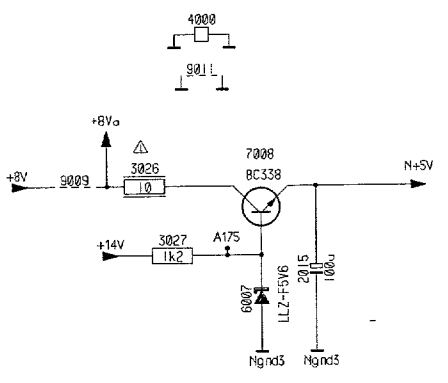




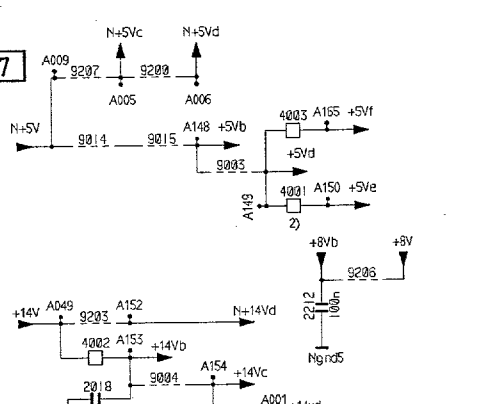
21 22 23 24 25 26 27 28



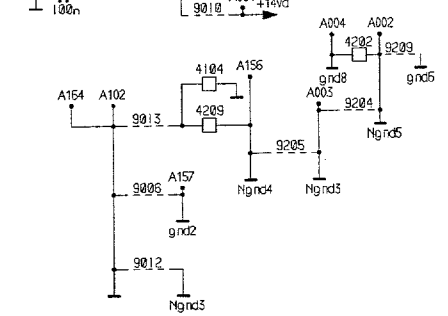
B P7



B P7



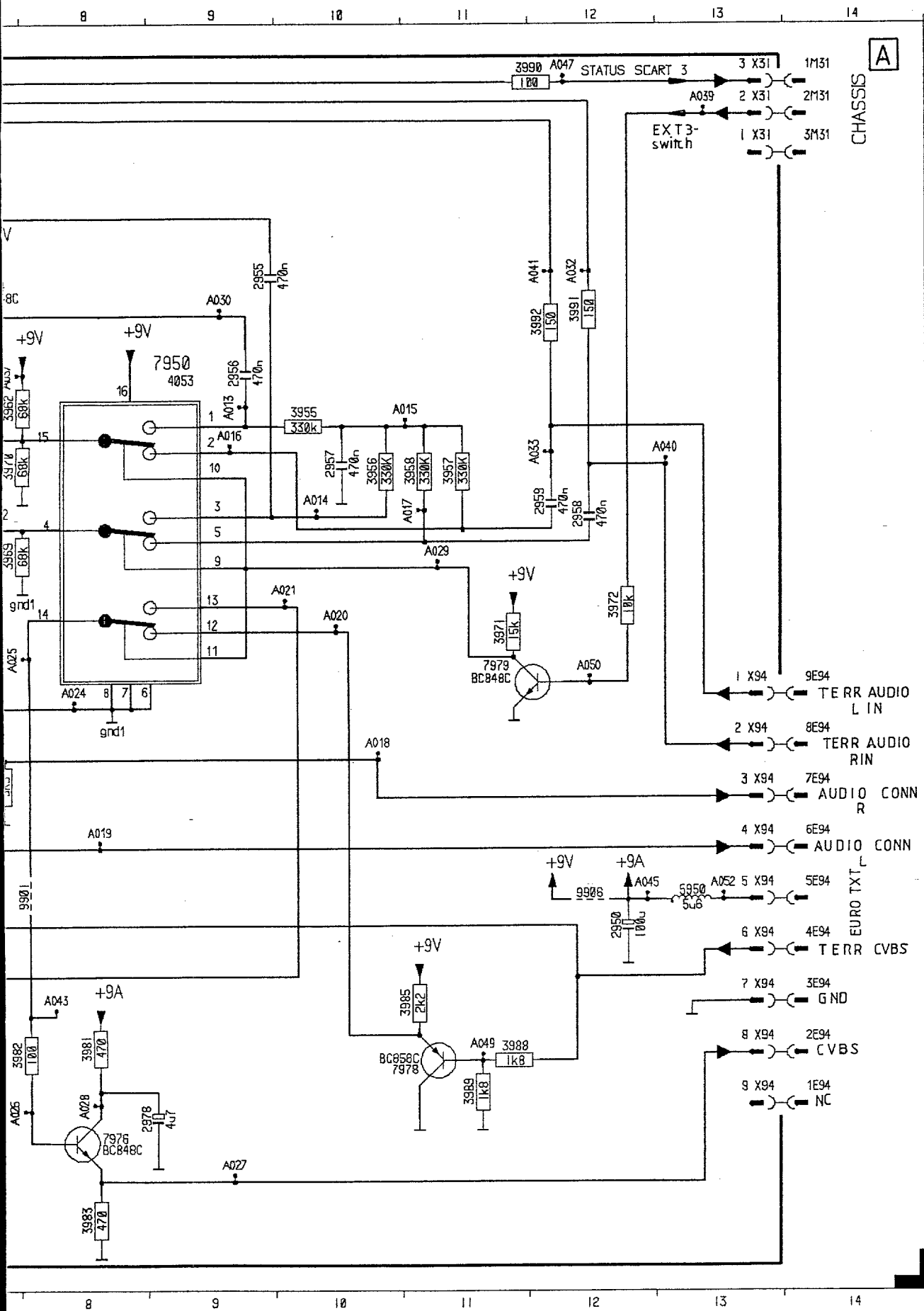
B P7



1000	F 5	A001	I24
1001	D 9	A002	J25
1100	J10	A003	K26
1101	K10	A004	L25
1102	I10	A005	M23
1103	K 4	A006	N24
1104	H 4	A009	O23
1105	I 4	A012	P24
2000	F 4	A013	Q21
2001	F 4	A017	R20
2002	E 6	A018	S20
2003	F 6	A019	T14
2004	C 9	A022	U18
2005	E 9	A023	V18
2006	G12	A024	W10
2007	E10	A025	X11
2008	E 8	A026	Y 9
2009	D 8	A028	Z11
2010	D 8	A029	AA 2
2011	F 6	A032	AB 2
2014	C10	A034	AC 8
2015	E25	A039	AD 7
2016	E18	A049	AE 123
2017	E22	A051	AF 7
2018	I23	A056	AG 12
2019	H12	A058	AH 13
2020	G 4	A059	AI 14
2100	E11	A091	AJ 8
2101	E10	A092	AK 9
2102	E11	A093	AL 8
2103	E11	A098	AM 3
2106	J 2	A099	AN 4
2107	I 8	A101	AO 10
2108	F19	A102	AP 10
3012	I24	A103	AQ 124
3000	F 3	A104	AR 6
3001	D 7	A105	AS 9
3002	D 9	A107	AT 10
3003	C 9	A110	AU 10
3004	D14	A111	AV 10
3005	C 9	A120	AW 12
3006	H13	A122	AX 11
3007	H13	A129	E 7
3008	G13	A130	J 1
3009	H10	A132	J 3
3010	G10	A135	J 3
3011	D12	A136	K 3
3012	E12	A138	CL 11
3013	E 9	A139	CM 10
3014	D 7	A142	CO 10
3015	E 7	A143	K10
3016	D 7	A146	CP 10
3018	K12	A149	H24
3019	J13	A150	CP 10
3020	K13	A152	CP 10
3021	K14	A153	CP 10
3022	K14	A154	CP 10
3023	J15	A156	CP 10
3024	J 8	A157	CP 10
3025	J15	A159	CP 10
3026	J15	A160	CP 10
3027	E24	A164	CP 10
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3032	K16	A170	CP 10
3034	K12	A175	CP 10
3035	G12	A300	CP 10
3036	F21	G19	CP 10
3100	J10	G19	CP 10
3101	K10	G19	CP 10
3102	I10	G19	CP 10
3103	G 3	G19	CP 10
3104	H 3	G28	CP 10
3106	K 2	G28	CP 10
3107	L 2	G28	CP 10
3108	E11	G28	CP 10
3109	E10	G28	CP 10
3113	K 2	G28	CP 10
3114	K 3	G28	CP 10
3115	K 3	G28	CP 10
3116	K 3	G28	CP 10
3117	J 2	G28	CP 10
3224	I20	G28	CP 10
3225	I20	G28	CP 10
4000	H24	G29	CP 10
4001	H24	G29	CP 10
4002	I23	G29	CP 10
4003	G24	G29	CP 10
4006	F 2	G29	CP 10
4007	F 4	G29	CP 10
4008	E21	G29	CP 10
4022	K14	G29	CP 10
4023	J13	G29	CP 10
4034	K11	G29	CP 10
4041	K14	G29	CP 10
4100	I 2	G29	CP 10
4101	G 3	G29	CP 10
4102	J 3	G29	CP 10
4103	J 4	G29	CP 10
4104	J24	G29	CP 10
4202	J24	G29	CP 10
4203	J24	G29	CP 10
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5001	D10	G29	CP 10
5002	D 9	G29	CP 10
5004	F 3	G29	CP 10
5100	F 6	G29	CP 10
6002	G12	G29	CP 10
6003	K 7	G29	CP 10
6007	F24	G29	CP 10
6100	H 3	G29	CP 10
6106	H 3	G29	CP 10
6107	J 3	G29	CP 10
7001	F15	G29	CP 10
7002	H12	G29	CP 10
7003	G13	G29	CP 10
7004	H 9	G29	CP 10
7005	K13	G29	CP 10
7006	J14	G29	CP 10
7007	I16	G29	CP 10
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7009	J15	G29	CP 10
7102	K 3	G29	CP 10
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8000	D 9	G29	CP 10
9001	D 7	G29	CP 10
9002	D14	G29	CP 10
9003	H24	G29	CP 10
9004	E19	G29	CP 10
9005	E19	G29	CP 10
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9008	E 8	G29	CP 10
9009	E23	G29	CP 10
9010	J24	G29	CP 10
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9016	D14	G29	CP 10
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9200	G23	G29	CP 10
9203	I23	G29	CP 10
9204	J23	G29	CP 10
9205	K24	G29	CP 10
9206	I25	G29	CP 10
9207	G23	G29	CP 10
9209	J25	G29	CP 10

21 22 23 24 25 26 27 28





1980	A	2	A025	E	7
1981	B	3	A026	F	8
1982	C	4	A027	G	9
1983	D	5	A028	H	10
1984	E	6	A029	I	11
1985	F	7	A030	J	12
1986	G	8	A031	K	13
1987	H	9	A032	L	14
1988	I	10	A033	M	15
1989	J	11	A034	N	16
1990	K	12	A035	O	17
1991	L	13	A036	P	18
1992	M	14	A037	Q	19
1993	N	15	A038	R	20
1994	O	16	A039	S	21
1995	P	17	A040	T	22
1996	Q	18	A041	U	23
1997	R	19	A042	V	24
1998	S	20	A043	W	25
1999	T	21	A044	X	26
2000	U	22	A045	Y	27
2001	V	23	A046	Z	28
2002	W	24	A047	AA	29
2003	X	25	A048	AB	30
2004	Y	26	A049	AC	31
2005	Z	27	A050	AD	32
2006	AA	28	A051	AE	33
2007	AB	29	A052	AF	34
2008	AC	30	A053	AG	35
2009	AD	31	A054	AH	36
2010	AE	32	A055	AI	37
2011	AF	33	A056	AJ	38
2012	AG	34	A057	AK	39
2013	AH	35	A058	AL	40
2014	AI	36	A059	AM	41
2015	AJ	37	A060	AN	42
2016	AK	38	A061	AO	43
2017	AL	39	A062	AP	44
2018	AM	40	A063	AQ	45
2019	AN	41	A064	AR	46
2020	AO	42	A065	AS	47
2021	AP	43	A066	AT	48
2022	AQ	44	A067	AU	49
2023	AR	45	A068	AV	50
2024	AS	46	A069	AW	51

## Setting conditions

All electrical settings should be made under the following conditions:

- \* supply voltage: 220 - 240 V  $\pm$  10%;  
50 Hz  $\pm$  5%
- \* warming-up time  $\approx$  10 minutes
- \* the voltages and oscillograms have been measured with regard to tuner earth.
- \* measuring probe: Ri > 10 M $\Omega$ ; Ci < 2.5 pF.

## 1. Settings on the carrier board

### 1.1 +148V/+95V supply voltage

Connect a voltmeter over C2631. Using R3635, set the supply voltage to +148V  $\pm$  0.5V for 25" and 28" units or to 95V  $\pm$  0.5V for 21" units.

### 1.2 Focusing

This is set using the focusing potentiometer (on the top of the line output transformer).

### 1.3 Vg2 setting

Connect a pattern generator and supply a blanking frame signal (black picture). Switch the unit to the service default mode (see section 9). Connect an oscilloscope to the emitters of transistors 7304 and 7364 on the picture tube module. Set the oscilloscope to frame frequency. Measure the DC voltage level of the measuring pulses (see Fig. 7.2). Using the Vg2 potentiometer on the line output transformer, set the measuring pulse with the lowest DC voltage level to:  
\* +130V  $\pm$  5V for all sets.

### 1.4 Horizontal synchronization

Connect pin 5-IC7470 to pin 9-IC7470. Supply an aerial signal and tune the set. Adjust in service menu (see section 9), sync.freq. by means of the menu +/- button until the picture is straight. Remove the interconnection.

### 1.5 Horizontal centring

Set using potentiometer 3461.

### 1.6 Vertical centring

Set using potentiometer 3516.

### 1.7 Picture height

Set using potentiometer 3504.

### 1.8 Picture width

Set using potentiometer 3525.

### 1.9 East/west correction

Is adjusted with potentiometer 3521

### 1.10 Chroma bandpass filter

#### a. Setting for PAL/SECAM sets (TDA4657)

Connect a signal generator (e.g. PM 5138) to pin 20 of the euroconnector (EXT1) and set its frequency to 4.286 MHz/0.5 Vpp. Switch the unit to EXT1. Connect pin 18-IC7306 to +12V. Connect an oscilloscope to pin 9-IC7306. Set 5301 to maximum amplitude. Remove the interconnection.

#### b. Setting for PAL sets (TDA4510)

Connect a signal generator (e.g. PM 5138) to pin 20 of the euroconnector (EXT1) and set its frequency to 4.436 MHz/0.5Vpp. Connect the unit to EXT1. Connect an oscilloscope to pin 9-IC7305 (TDA4510). Set 5301 to maximum amplitude

### 1.11 Chroma auxiliary oscillator

Connect a pattern generator and supply a PAL colour bar pattern. Connect pin 11-IC7305 (TDA4510) to earth. Set 2313 so that the colour on the screen has practically stopped. Remove the interconnection.

### 1.12 White balance

Connect a pattern generator and select a white picture. Switch on the service menu (see section 9) and select "WHITE BALANCE". Set the value of "Green" to 50(G/AMP), and the Value of "Blue" to 45(B/AMP). Value of "Red" to 57(R/AMP). In most cases no further adjustments are required.

### 1.13 Peak white limiter

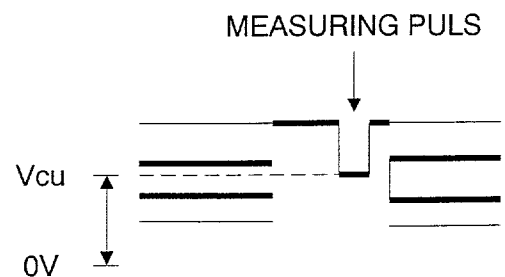
Switch on the service menu (see section 9) and select "WHITE BALANCE". Set "WH/LIM" to the value:  
- 35 for blackline units  
- 51 for non-blackline units  
- 63 for 21" 110 degree sets.  
- 45 for 29" sets

### 1.14 Cut-off points of the picture tube

Connect a pattern generator and select a black picture. Switch on the service menu (see section 9) and select "CUT OFF". Set the value of "Red" to 30, and fore "Green" to 30, and for "Blue" to 30. In most cases no further adjustments are required.

### 1.15 Options

Switch on the service menu and select "OPTIONS" or "OPTION 1". Switch the options "ON" and "OFF" according to whether the following options are present:  
- "THIRD SCART" on a set with third scart.  
- "TELETEXT" on a teletext set  
- "MULTI SYSTEM" for multisystem sets  
- "UHF ONLY" for a tuner which can only be tuned to the UHF band  
- "NICAM" for stereo sets which can also receive NICAM sound.



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Fig. 7.2



### 2.1 RF-AGC

If the picture from a strong local transmitter is distorted, adjust 3016 until the picture is not distorted.

**2.2a MF-AFC** For multi system sets (PAL-BG/SECAM-DK). Connect a pattern generator to pin 8 of connector G29 (IF-module) and select a frequency of 38,9 MHz. Connect a voltmeter to pin 11 of connector G29. Adjust with 5001 the DC voltage to 1.9 V.

**2.2b MF-AFC** For all other sets. Connect a pattern generator to pin 8 of connector G29 (IF-module) and select a frequency of 38,9 MHz. Connect a voltmeter to pin 11 of connector G29. Adjust with 5001 the DC voltage to 2.3 V.

### 2.3 Stereo matrix

Connect a pattern generator and supply a PAL BG signal with stereo sound. Select only the right-hand channel sound. Go into service mode. Choose SND stereo and pull out the right connector (seen from the front side of the set). Put volume maximum with volume button. Align with menu-button so that the sound is just not hearable in the left loudspeaker. Leave now the service mode by putting the set in standby.

## 8. Survey of error messages on the screen

Message on screen	Description	Possible fault
PIP	I <sup>2</sup> C error PIP module	+5 on PIP module, IC7406
NICA	I <sup>2</sup> C error IC7305 (NICAM sets)	IC7305, +5 on IF module
9860	I <sup>2</sup> C error IC7204	+5/+8 on IF module, IC7305
9840	I <sup>2</sup> C error IC7205	+5/+8 on IF module, IC7205
TXT	I <sup>2</sup> C error teletext module	IC7910/IC7920, +5 on TEXT module
EPROM	I <sup>2</sup> C error IC7710	IC7708/IC7710, +5 on IC's
TUNE	I <sup>2</sup> C error tuner	+5/+14 on tuner, TS7003
CHR1	I <sup>2</sup> C error IC7308	+14 on IC7308
CHR2	I <sup>2</sup> C error IC7309	+14 on IC7309
6415	I <sup>2</sup> C error IC7820	
BUS + blinking LED	I <sup>2</sup> C bus blocked	I <sup>2</sup> C bus check on all IC's

### Error messages

Internal microcomputer errors and external errors will be signalled by displaying the error number (by OSD) and by continuous blinking the LED (video related errors only).

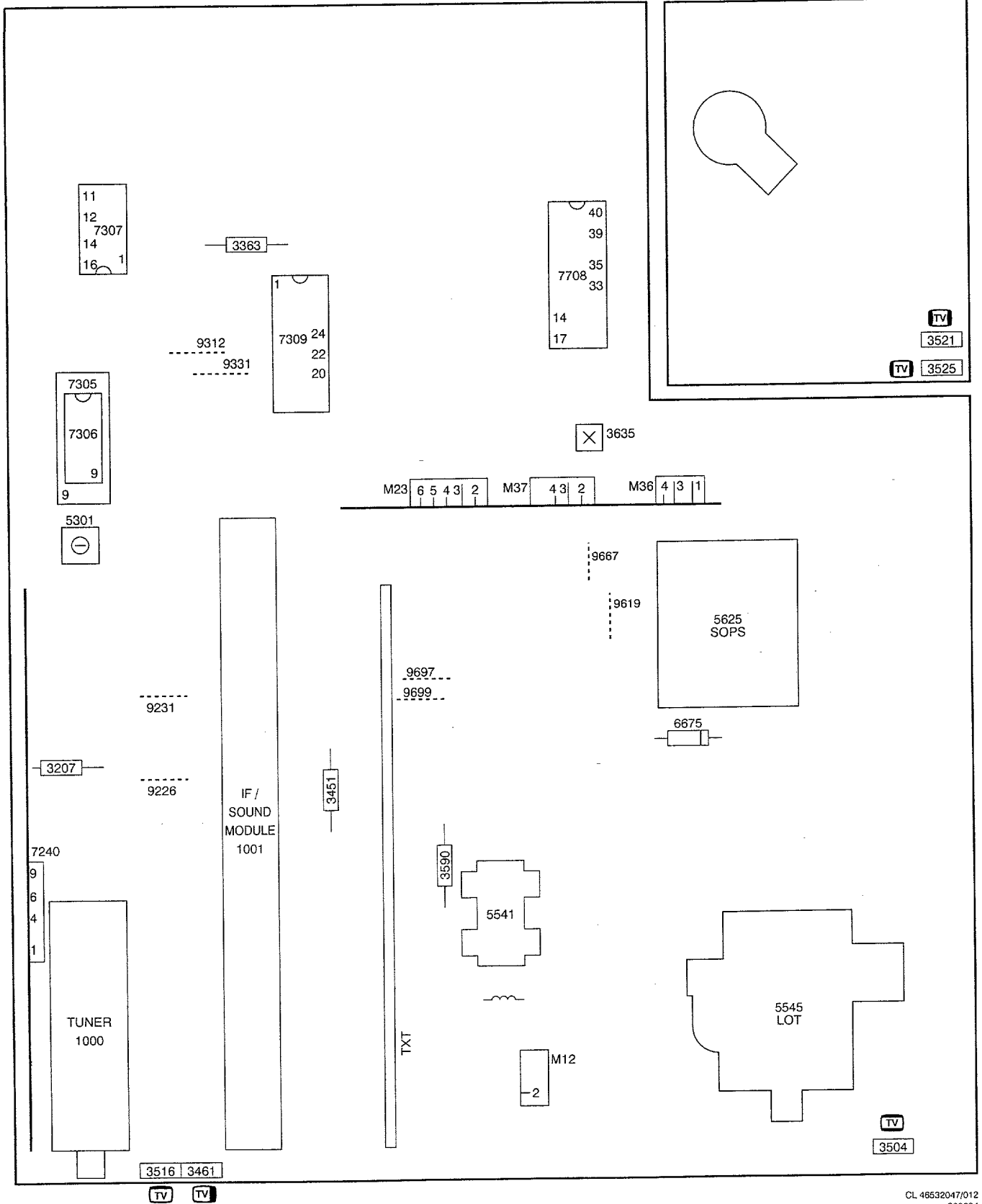
The last five errors will be remembered in the non volatile memory (if possible), this is called the error buffer. After a startup of the system (on by main switch or on from standby) only one error will be added to the buffer (first in, first out procedure), only errors different from the last error in the buffer, will be added to this buffer.

The error will be cleared when the "standby" command is given while the system is in service menu mode.

An active error is displayed continuously in service default mode. The buffer is shown in the service menu mode (Service main menu).

## MONO CARRIER

## CRT MODULE 4/3



## 9. Directions for use

### 1. Service-Default-Mode

The GR2.4 is equipped with a service default mode. The service default mode is a fixed defined condition in which the television can be set.

#### 1.1 Mode definition

The definition of the fixed mode in the service default mode is as follows:

- all sound and picture adjustments are set in the middle position (except volume, which is set at low and zoom set at zero) in 4/3 mode.

- The set is tuned to 475.25 MHz

- system:

- \* PAL BG or PAL I for single system sets (MULTI-SYSTEM "OFF")


- \* SECAM L/DK for multi-system sets (MULTI-SYSTEM "ON")

- \* SECAM DK for sets for Eastern Europe (MULTI-SYSTEM "ON").

- \* PAL BG for sets for Eastern Europe (MULTI-SYSTEM "OFF").

#### 1.2 Service-default-mode

The service default mode is switched on by briefly short-circuiting the pins M33 and M34 (SERVICE) behind the INSTALL key on the carrier panel when switching the unit on with the mains switch. In order to indicate that the unit is in the service default mode, an "SER" appears on the screen.

The service default mode can only be switched off by switching the unit to standby (  ). The set is switched off and then on again using the mains switch or mains plug, the service default mode remains switched on. Searching for transmitter frequencies begins following the simultaneous pressing of both "install" keys on the remote control. When the service default mode is operational the following functions are switched off:

- automatic cut-off circuit.

The set can be controlled normally.

#### 1.3 Service menu

- Service menu

The service menu is activated by simultaneously pressing the "menu" and "-" keys on the local operating panel. The service menu now appears on the screen. The service menu offers the facility to set various options and make a number of picture tube settings. The various components in the service menu are selected using the coloured keys on the remote control. The adjustment of the various components is performed with the aid of the "menu +/-" keys on the remote control. The adjusted values and options are immediately stored in the EEPROM when the service menu is exited via "menu on" or "mainsknob" button. With the "menu" key you return to the "default service mode".

#### Remarks 1:

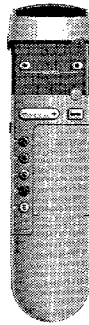
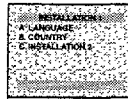
If a multi-system set is nevertheless to be used with the PAL BG system in the service default mode, the option "MULTI" can be temporarily switched off ("OFF").

#### Remarks 2:

If a multi-system set for Eastern Europe is nevertheless to be used with the PAL BG system in the service default mode, the option "MULTI" can be temporarily switched off ("OFF").

## Calling up the installation menu

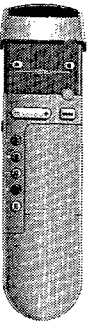
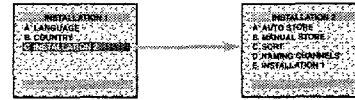
- This menu enables you to tune in the channels on the TV set.
- Open the flap on the remote control.
- Press both the **⏻** and **⏸** keys at the same time.
- The **INSTALLATION 1** menu appears on the screen.



## Tuning-in TV channels

Starting from the **INSTALLATION 1** menu:

- Press the yellow key **⏻**.
- The **INSTALLATION 2** menu appears on the screen.



You have the choice between two methods:

- automatic store:** the TV set stores all the available channels in your area. You just have to renumber the channels according to your preference.
- manual store:** you can manually tune-in each channel, one by one.

## Selecting the menu language

You may choose between several languages for the menus which appear on the screen.

- You can select **ENGLISH** or one of the other languages offered.
- After calling up the **INSTALLATION 1** menu:
  - Press the red key **⏻**.
  - A display area appears at the bottom of the screen.
  - Press the **⏻** key to select your chosen language.
  - The text for all menus will appear in the language which you have chosen. Go on to the next adjustment.



## Automatic store

After calling up the **INSTALLATION 2** menu (see above):

- Press the red key **⏻**.
- The **AUTO STORE** menu appears.
  - Press the red key **⏻** to start the search.
  - The indication **SEARCHING PLEASE WAIT** appears on the screen. The TV set searches through the complete frequency range and stores all the TV channels which it finds. The search takes several minutes. A horizontal scale shows the progress of the search.
  - You must wait until the horizontal bar has reached the end of the line.

When the search has finished:

The indication **CHANNELS FOUND** flashes. The total number of TV channels found is displayed. The TV channels have been numbered in the order in which they were found. You must therefore sort them to give them the desired channel numbers.

- Press the **⏻** key.
- The **INSTALLATION 2** menu reappears. You now have to sort the channels: turn to **chapter 8** on page 7.



## Selecting the country

You should now select the country in which you are situated.

- After calling up the **INSTALLATION 1** menu:
  - Press the green key **⏻**.
  - A display area appears at the bottom of the screen.
  - Press the **⏻** key to select the letters corresponding to your country (GB for Great Britain).
  - Your choice is displayed at the bottom of the screen. You can now go on to **chapter 7** on page 4.



## Manual store

After calling up the **INSTALLATION 2** menu (see previous page):

- Press the green key **⏻**.
- The **MANUAL STORE** menu appears.



### step a

#### Selecting the tuning mode

This TV set allows you to choose the tuning mode: **tuning by channel number** (if you know the channel numbers on which the TV channels are broadcast) or **tuning by frequency**.

- Press the red key **⏻**.
- The lower bar of the menu is displayed in red.
- Press the **⏻** key to select the tuning mode.
- The indication **FREQ xxx MHz** means tuning by frequency. The indication **C xx** or **S xx** means tuning by channel number. Go on to **step b**.



### step c

#### Numbering the programme

- Press the yellow key **⏻**.
- A display area appears at the bottom of the screen.
- Press the **⏻** key or the keys numbered **0** to **9** to enter the programme number. Go on to **step d**.



#### Direct selection of a transmitter

If you know the frequency or the channel number of the TV programme which you wish to receive, you can directly enter the number using the keys numbered **0** to **9** or the **⏻** key.

For example: in tuning by frequency mode, enter 064 for 64 MHz; in tuning by channel number mode, enter 21 for C21 (for 64.25 MHz, enter 064: the exact adjustment is carried out automatically). Go directly to **step c**.

### step d

#### Storing

- Press the blue key **⏻**.
- The indication **PROGRAMME STORED** appears at the bottom of the screen, the TV channel is stored.



### step b

#### Search

- Press the green key **⏻**.
- The lower bar of the menu is displayed in green, the search starts. The frequency or channel number counts upwards. As soon as a TV channel is found, the counting stops and the rectangle is displayed in blue.

If you want to store this channel, go on to **step c**.

If you do not want to store the channel:

- Press the green key **⏻** again.
- The search continues.



### repeat

- steps **b, c, d**
- or **a, b, c, d** if you want to change the tuning mode.

#### When tuning-in of TV channels is completed

- Press the **⏻** key.
- The **INSTALLATION 2** menu reappears. You can now give names to the TV channels: turn to **chapter 8** on page 8.

To exit from the **INSTALLATION 2** menu:

- Press the **⏻** key again.
- You can now proceed with operating the TV set (page 9).

## Naming channels

You can give a name of up to 5 characters to each of the first 40 channels on your TV set (examples: BBC1, CNN...). This function allows you to recognise and display the name and number of the programme being watched.

Starting from the **INSTALLATION 2** menu:

- o Press the blue key **Ⓚ**.
- ▶ The **NAMING CHANNELS** menu appears.

### step a Programme number

- o Press the red key **Ⓛ**.
- ▶ The programme number is displayed at the bottom of the screen.
- o Use the **←** key or the keys numbered **①** to **⑤** to select the channel to which you want to give a name.

### step b Auto name

The **AUTO NAME** function enables you to automatically assign the first 5 characters of a name to a TV channel when teletext is available.

When the TV channel is on the screen:

- o Press the green key **Ⓜ**.
- ▶ The lower bar of the menu is displayed in green.
- o Press the **→** key to carry out the **AUTO NAME**.
- ▶ The first 5 characters of the programme name are displayed. If nothing is displayed, this means that the programme name is not broadcast, go on to **step c**.

### step c Select character

- o Press the yellow key **Ⓝ**.
- ▶ The character display area appears. A cursor is positioned at the first character.
- o Use the **←** key to select the first character.

### step d Next position

When the desired character has been chosen:

- o Press the blue key **Ⓚ** to enable the cursor to be moved.
- ▶ Use the **←** key to move the cursor to the left or to the right.
- o Press the yellow key **Ⓝ** again.
- ▶ Use the **←** key to choose the second character. Repeat the operation as many times as needed to select all characters.

**repeat** steps **a**, **b**, **c** and **d** for all the TV channels you wish to name

**To exit from the NAMING CHANNELS menu:**

- o Press the **Ⓚ** key.
- ▶ The **INSTALLATION 2** menu reappears.

**To exit from the INSTALLATION 2 menu:**

- o Press the **Ⓚ** key again.

## Special features

Starting from the **MAIN MENU**:

- o Press the yellow key **Ⓝ**.
- ▶ The **SPECIAL FEATURES** menu appears on the screen.

### Child lock

The child lock function is an electronic lock which disables the keys on the TV set. This function enables you to prevent operation of the TV set (by your children for example). You then simply have to activate the child lock and hide the remote control so that the TV set is unusable.

Starting from the **SPECIAL FEATURES** menu:

- o Press the red key **Ⓛ**.
- ▶ The indication **OFF** is displayed at the bottom of the screen.
- o Press the **←** key.
- ▶ The indication **ON** appears. The keys on the TV set are no longer active.

**To check that the child lock is functioning:**

- o Press the **Ⓚ** key on the front of the TV set to switch off the set.
- o Press the **Ⓚ** key again to switch on.
- ▶ The TV set remains in standby (the red indicator lights up).
- o Press one of the keys on the TV set.
- ▶ The indication **CHILD LOCK** appears for a few moments and the screen remains black. The only way of switching on the TV set is to use the remote control.

**To cancel the child lock:**

- o Select the function again and reposition the menu display to **OFF**.

### Sleeptimer

This function allows you to program the TV set to automatically switch off after a certain period of time.

Starting from the **SPECIAL FEATURES** menu:

- o Press the green key **Ⓜ**.
- ▶ The indication **00** is displayed at the bottom of the screen.
- o Press the **←** key to program the duration.
- ▶ Each time you press the key, the duration increases by 15 minutes (up to 90 minutes).
- o Press the **Ⓚ** key twice to exit from the menu.
- ▶ The TV set automatically switches to standby after the programmed time period has elapsed.

**To display the remaining time:**

- o Press the **Ⓚ** key.
- ▶ The remaining time is displayed for a few moments on the screen.

**To cancel the programmed switching off:**

- o Select the function again and reset the menu display to **00**.

### Demonstration

The demonstration mode triggers off an automatic display of all the TV set's menus:

Starting from the **SPECIAL FEATURES** menu:

- o Press the yellow key **Ⓝ**.
- ▶ The indication **OFF** appears at the bottom of the screen.
- o Press the **←** key to switch on the demonstration mode.
- ▶ The indication **DEMONSTRATION** is displayed, the **OPERATION** and **INSTALLATION** menus are displayed automatically one after the other.

**To switch off the demonstration mode:**

- o Press the **Ⓚ** key.

## Calling up the main menu

The main menu gives you access to the adjustments and special features of your TV set.

The **Ⓚ** key enables you to call up or to exit from the menu.

The coloured keys **Ⓛ**, **Ⓝ**, **Ⓜ** and **Ⓚ** allow access to the various choices within the menus. The **←** key enables you to make the adjustments.

**To call up the MAIN MENU:**

- o Press the **Ⓚ** key on the remote control.
- ▶ The **MAIN MENU** appears on the screen.



## Adjusting the picture

After calling up the **MAIN MENU** (see above):

- o Press the red key **Ⓛ**.
- ▶ The **PICTURE** menu appears on the screen.

### Brightness, colour, contrast, sharpness

- o Press the coloured key **Ⓛ**, **Ⓝ**, **Ⓜ** or **Ⓚ** corresponding to the adjustment which you want to modify.
- ▶ A horizontal scale appears at the bottom of the screen.
- o Press the **←** key to make the adjustment.
- ▶ The cursor moves according to your adjustment.
- o Press the corresponding coloured key to select another adjustment.

### Tint

The tint adjustment allows you to influence the colour reproduction by modifying the white reference.

- o Press the white key **Ⓚ**.
- ▶ A horizontal scale appears at the bottom of the screen.
- o Press the **←** key to make the adjustment.
- ▶ For a 'warm' picture (redder whites): move the cursor to the maximum (+) position.
- ▶ For a balanced colour reproduction: move the cursor to the middle position.
- ▶ For a 'cool' picture (bluer whites): move the cursor to the minimum (-) position.

**To exit from the PICTURE menu**

- o Press the **Ⓚ** key.
- ▶ The **MAIN MENU** reappears, move on to "Adjusting the sound".
- o To exit from the **MAIN MENU** press the **Ⓚ** key a second time.

## Programme list

This function allows you to consult the list of programme names and numbers of the first 40 channels which you have stored in the **INSTALLATION** menu.

- o Press the **Ⓚ** key.
- ▶ The **MAIN MENU** appears on the screen.
- o Press the blue key **Ⓜ**.
- ▶ The **PROGRAMME LIST** menu appears on the screen with the list of the first 10 channels.

**To display the next page:**

- o Press the red key **Ⓛ**.

**To display the previous page:**

- o Press the green key **Ⓜ**.

## Screen size

This function enables you to adapt 16/9 format pictures to the proportions of your screen (4/3).

- o Press the **Ⓚ** key.
- ▶ The **MAIN MENU** appears on the screen.
- o Press the white key **Ⓚ**.
- ▶ The indication **NORMAL** is displayed at the bottom of the screen.
- o Press the **←** key.
- ▶ The indication **LARGE** is displayed and a black band appears at the top and bottom of the screen. The picture is reproduced in 16/9 format.

## Programmable keys

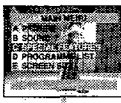
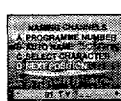
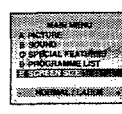
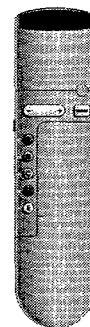
The remote control has two blue programmable keys **Ⓜ** and **Ⓚ**. If you regularly use certain adjustments within the menus (for example the spatial effect, headphone volume, brightness...) it is possible to program direct access to one of these adjustments.

- o Press the **Ⓚ** key.
- ▶ The **MAIN MENU** appears on the screen.
- o Select the adjustment which you wish to program.
- o For example, to program the spatial effect:
  - o Press the green key **Ⓝ** to call up the **SOUND** menu.
  - o Press the blue key **Ⓜ** to select **SPATIAL** effect.
  - ▶ The indication **OFF** or **ON** appears at the bottom of the screen.
  - o Use the blue keys **Ⓜ** and **Ⓚ** instead of the **←** key to make the adjustment.
  - ▶ The sound is modified. The keys **Ⓜ** and **Ⓚ** are automatically programmed.
  - o Press the **Ⓚ** key twice to exit from the menu.

**To check the function:**

- o Press the blue keys **Ⓜ** and **Ⓚ**.
- ▶ Each time the keys are pressed, the spatial effect is switched on or off.
- ▶ From now onwards, these two keys allow you to adjust the spatial effect directly, without using the menus.

Carry out the operation on the adjustment of your choice.



# 10. Spare parts list / Stükliste / Liste des pièces

Main carrier [A/B/C/D]		Various						
2308	4822 122 31797	22nF 10% 63V	2545▲	4822 126 12273	1200pF 10%R(HR) 2KV	3227	4822 051 10333	33k 2% 0.25W
2310	4822 121 41857	10nF 5% 250V	2545▲	4822 126 12274	1500pF 10%R(HR) 2KV	3228	4822 116 52211	150Ω 5% 0.5W
2310	4822 121 42408	220nF 5% 63V	2546▲	4822 121 70434	11nF 5% 1.6KV	3229	4822 051 10562	56k 2% 0.25W
2311	4822 122 33496	100nF 10% 63V	2546▲	4822 121 70538	13nF 5% 1.6KV	3230	4822 051 10223	22k 2% 0.25W
2312	4822 121 41857	10nF 5% 250V	2547▲	4822 121 42934	27nF 10% 400V	3231▲	4822 051 10472	4k7 2% 0.25W
2312	4822 121 42408	220nF 5% 63V	2547▲	4822 121 42934	27nF 10% 400V	3240▲	4822 052 10828	8k2 5% 0.33W
2313	4822 125 50045	1p8-22p 250V	2547▲	4822 121 42934	27nF 10% 400V	3241▲	4822 052 10828	8k2 5% 0.33W
2314	5322 121 42661	330nF 5% 63V	2547▲	5322 121 42934	27nF 10% 400V	3242	4822 051 10563	56k 2% 0.25W
2314	5322 122 32818	2.2nF 10% 100V	2548	4822 121 41856	22nF 5% 250V	3243	4822 051 10563	56k 2% 0.25W
2315	4822 122 31825	27pF 2% 63V	2549▲	4822 121 42074	470 nF 10% 400V	3244▲	4822 051 10103	10k 2% 0.25W
2316	4822 122 33496	100nF 10% 63V	2550▲	4822 121 51528	470nF 5% 250V	3245▲	4822 051 10103	10k 2% 0.25W
2319▲	4822 122 32442	10nF 50V	2550▲	5322 121 44128	680nF 10% 250V	3250	4822 116 80175	4k7 5% 0.5W
2321	4822 122 31797	22nF 10% 63V	2551	4822 124 80069	1µF 20% 160V	3251	4822 116 80175	4k7 5% 0.5W
2322	4822 122 31797	22nF 10% 63V	2552	4822 122 33496	100nF 10% 63V	3253	4822 116 52211	150Ω 5% 0.5W
2323	4822 122 32542	47nF 10% 63V	2559	4822 124 80059	100µF 20% 25V	3254	4822 116 52211	150Ω 5% 0.5W
2325	4822 122 31965	220pF 2% 63V	2560▲	4822 121 51408	33nF 10% 250V	3300	4822 051 10822	8k2 5% 0.25W
2325	4822 122 32542	47nF 10% 63V	2561	4822 122 31766	120pF 2% 63V	3301	4822 051 10272	2k7 2% 0.25W
2326	4822 122 31839	82pF 2% 63V	2570	4822 124 80071	22µF 20% 160V	3302	4822 051 20222	2k2 5% 0.1W
2328▲	4822 122 32442	10nF 50V	2574	4822 122 30057	2.7nF 10% 100V	3303	4822 051 10122	1k2 2% 0.25W
2329▲	4822 122 32442	10nF 50V	2580	4822 124 80061	1000µF 20% 25V	3303	4822 051 10392	3k9 2% 0.25W
2330	4822 122 33496	100nF 10% 63V	2588	4822 051 10008	0R0Ω 5% 0.25W	3304	4822 051 10182	1k8 2% 0.25W
2331	4822 122 33496	100nF 10% 63V	2590	5322 121 42498	680nF 5% 63V	3305	4822 051 10431	430Ω 2% 0.25W
2332	4822 122 33496	100nF 10% 63V	2600▲	4822 121 70285	470nF 10% 250V	3306▲	4822 116 52233	10k 5% 0.5W
2333	4822 122 33496	100nF 10% 63V	2605	4822 124 33492	220nF 10% 385V	3307	4822 051 10661	560Ω 5% 0.25W
2334	4822 122 33496	100nF 10% 63V	2605▲	4822 124 80728	150µF 20% 385V	3307	4822 051 10681	680Ω 2% 0.25W
2336	4822 122 31797	22nF 10% 63V	2607▲	4822 121 51469	1nF 400V	3308	4822 051 20183	18k 5% 0.1W
2337	4822 122 31797	22nF 10% 63V	2608	4822 122 31965	220pF 2% 63V	3309	4822 051 10562	56k 2% 0.25W
2338	4822 122 31797	22nF 10% 63V	2612	5322 122 31647	1nF 10% 63V	3310▲	4822 051 10472	4k7 2% 0.25W
2339	4822 122 33496	100nF 10% 63V	2617	4822 121 51252	470nF 5% 63V	3311▲	4822 051 10103	10k 2% 0.25W
2340	4822 122 31797	22nF 10% 63V	2617	4822 121 51319	1µF 10% 63V	3312	4822 051 10331	330Ω 2% 0.25W
2341	4822 122 31797	22nF 10% 63V	2620	5322 121 42465	68nF 5% 63V	3313	4822 051 10274	270k 2% 0.25W
2342	4822 122 33496	100nF 10% 63V	2625▲	4822 126 12272	1nF 10%R(HR) 2KV	3314▲	4822 116 52233	10k 5% 0.5W
2343	4822 122 33496	100nF 10% 63V	2626▲	4822 126 12267	470pF 10%R(HR) 2KV	3318	4822 116 52224	470Ω 5% 0.5W
2344	4822 122 33496	100nF 10% 63V	2630	4822 124 23418	47µF 200V	3319▲	4822 051 10103	10k 2% 0.25W
2345	4822 122 31797	22nF 10% 63V	2630	4822 124 42448	100µF 20% 200V	3321	4822 051 10473	47k 2% 0.25W
2348▲	4822 124 40196	220µF 20% 16V	2631	4822 124 23418	47µF 200V	3323	4822 116 52305	820k 5% 0.5W
2349	5322 122 31647	1nF 10% 63V	2631	4822 124 42448	100µF 20% 200V	3324	4822 051 10331	330Ω 2% 0.25W
2350▲	4822 124 40433	47µF 20% 25V	2632▲	4822 126 11382	1nF 10% 1KV	3325	4822 116 52175	100Ω 5% 0.5W
2351	4822 122 31797	22nF 10% 63V	2640	4822 124 80061	1000µF 20% 25V	3326	4822 051 10101	100Ω 2% 0.25W
2352	5322 122 31647	1nF 10% 63V	2641	4822 124 80061	1000µF 20% 25V	3328	4822 051 10102	1k 2% 0.25W
2353	4822 122 33496	100nF 10% 63V	2642	4822 122 32331	1nF 10% 100V	3329▲	4822 116 52256	2k2 5% 0.5W
2354	4822 124 40242	1µF 20% 63V	2653	5322 122 32331	1nF 10% 100V	3330	4822 051 10109	10k 2% 0.25W
2355	4822 124 40849	330µF 20% 16V	2658	5322 122 32838	82nF 10% 63V	3331	4822 051 10109	10k 2% 0.25W
2356	4822 122 31797	22nF 10% 63V	2660	5322 124 80061	1000µF 20% 25V	3332	4822 050 15609	56k 1% 0.4W
2357	4822 122 31797	22nF 10% 63V	2672	5322 124 41379	2.2µF 20% 50V	3333	4822 051 20222	2k2 5% 0.1W
2358	4822 122 31797	22nF 10% 63V	2675	4822 124 80064	680µF 20% 50V	3334▲	4822-053 11279	27Ω 5% 2W
2359	4822 122 31765	100pF 2% 63V	2675	4822 124 80065	1000µF 20% 50V	3334	4822 053 11399	39Ω 5% 2W
2360	4822 122 33496	100nF 10% 63V	2676	5322 122 32331	1nF 10% 100V	3335	4822 116 52226	560Ω 5% 0.5W
2361	4822 122 33496	100nF 10% 63V	2700	4822 124 40248	10µF 20% 63V	3336▲	4822 052 10479	47Ω 5% 0.33W
2362	4822 122 33496	100nF 10% 63V	2704	4822 122 32542	47nF 10% 63V	3342	4822 051 10103	10k 2% 0.25W
2363	4822 122 31765	100pF 2% 63V	2705	4822 122 31766	120pF 2% 63V	3343	4822 051 10473	47k 2% 0.25W
2365	5322 121 42661	330nF 5% 63V	2706	4822 124 41643	100µF 20% 16V	3346	4822 051 10332	3k3 2% 0.25W
2366	4822 124 40248	10µF 20% 63V	2707▲	4822 124 32442	10nF 50V	3347▲	4822 116 52219	330Ω 5% 0.5W
2367	4822 124 40753	6.8µF 20% 63V	2707▲	4822 122 32442	10nF 50V	3348▲	4822 116 52219	330Ω 5% 0.5W
2368	4822 126 13094	11pF 2% 63V	2708	4822 122 31766	120pF 2% 63V	3349▲	4822 116 52219	330Ω 5% 0.5W
2369	4822 121 51252	470nF 5% 63V	2709	4822 122 32139	12pF 2% 63V	3350	4822 050 11002	1k 1% 0.4W
2370	4822 121 42408	220nF 5% 63V	2710	4822 122 32139	12pF 2% 63V	3356▲	4822 050 21008	1Ω 1% 0.6W
2374	4822 122 31772	47pF 2% 63V	2711	4822 122 31825	27pF 2% 63V	3358	4822 051 10331	330Ω 2% 0.25W
2378	4822 122 33496	100nF 10% 63V	2712	4822 122 31825	27pF 2% 63V	3359▲	4822 116 52219	330Ω 5% 0.5W
2385	4822 122 31772	47pF 2% 63V	2713▲	4822 124 41525	100µF 20% 25V	3361	4822 051 10101	100Ω 2% 0.25W
2386	4822 122 33481	1800pF 2% 63V	2716	4822 122 33496	100nF 10% 63V	3362	4822 051 10102	1k 2% 0.25W
2451	4822 122 33496	100nF 10% 63V	2718	4822 122 33496	100nF 10% 63V	3363	4822 116 52175	100Ω 5% 0.5W
2453	5322 124 41431	22µF 20% 35V	2719	5322 121 42386	100nF 5% 63V	3364	4822 050 21502	1k5 1% 0.6W
2455	5322 122 31647	1nF 10% 63V	2721	4822 122 31784	4.7nF 10% 50V	3366	4822 116 52297	68k 5% 0.5W
2456	4822 124 40242	1µF 20% 63V	2722	4822 122 33496	100nF 10% 63V	3367	4822 116 52175	100Ω 5% 0.5W
2457	4822 122 33496	100nF 10% 63V	2853	4822 121 43856	4.7nF 5% 250V	3368	4822 116 52175	100Ω 5% 0.5W
2458	4822 121 42937	2.7nF 1% 250V	2854	4822 122 33496	100nF 10% 63V	3369	4822 116 52175	100Ω 5% 0.5W
2459	4822 122 33496	100nF 10% 63V	2860	4822 124 40248	10µF 20% 63V	3370▲	4822 051 10472	4k7 2% 0.25W
2460	4822 122 32566	3.9nF 10% 63V	3001▲	4822 052 10399	39Ω 5% 0.33W	3371	4822 051 10332	3k3 2% 0.25W
2460	4822 122 33498	2.7nF 10% 63V	3002	4822 116 52257	22k 5% 0.5W	3375	4822 051 10109	10k 2% 0.25W
2461	5322 122 31647	1nF 10% 63V	3003	4822 116 52296	6k8 5% 0.5W	3376	4822 051 10109	10k 2% 0.25W
2462	4822 122 31797	22nF 10% 63V	3009	4822 116 52175	100Ω 5% 0.5W	3380	4822 051 10101	100Ω 2% 0.25W
2464	4822 122 33496	100nF 10% 63V	3010	4822 116 52175	100Ω 5% 0.5W	3381	4822 051 10101	100Ω 2% 0.25W
2465	4822 124 40198	470µF 20% 16V	3200	4822 051 10223	22k 2% 0.25W	3385	4822 051 10102	1k 2% 0.25W
2466	4822 124 40248	10µF 20% 63V	3201	4822 051 10562	5k6 2% 0.25W	3450	4822 116 52238	12k 5% 0.5W
2467	4822 122 33496	100nF 10% 63V	3202	4822 051 10122	1k2 5% 0.25W	3451	4822 116 52175	100Ω 5% 0.5W
2468	4822 124 22652	2.2µF 20% 50V	3203▲	4822 116 52233	10k 5% 0.5W	3453	4822 116 52251	18k 5% 0.5W
2469	4822 124 41596	22µF 20% 50V	3204	4822 051 10101	100Ω 2% 0.25W	3454	4822 050 11002	1k 1% 0.4W
2470	4822 122 31772	47pF 2% 63V	3205	4822 051 10223	22k 2% 0.25W	3455	4822 051 10122	1k2 2% 0.25W
2471	5322 121 42661	330nF 5% 63V	3206	4822 051 10562	5k6 2% 0.25W	3456▲	4822 051 10103	10k 2% 0.25W
2473	5322 121 42661	330nF 5% 63V						

3465	4822 051 10394	390k 2% 0.25W	3626	4822 113 80565	180Ω 5% 5W	5001	4822 156 20966	47μH 10%	7003	4822 130 42133	BC817
3466	4822 051 10681	680Ω 2% 0.25W	3631	4822 050 21204	120k 1% 0.6W	5240	4822 157 53066	15μH 10%	7200	5322 130 42136	BC848C
3467	4822 053 20275	2MΩ 5% 0.25W	3631	4822 050 22204	220k 1% 0.6W	5242	4822 157 53066	15μH 10%	7201	5322 130 42136	BC848C
3467	4822 053 20335	3MΩ 5% 0.25W	3634	4822 051 10272	2k7 2% 0.25W	5301	4822 157 63075	7.95 μH 8%	7202	5322 130 42136	BC848C
3468	4822 051 10682	6k8 2% 0.25W	3634	4822 051 10272	2k7 2% 0.25W	5303	4822 157 70827	33μH -5%	7240	4822 209 73853	TDA1521/N4
3469	4822 051 10229	22k 2% 0.25W	3634	4822 051 10332	3k3 2% 0.25W	5534	4822 157 62771	Coil 90°	7243	4822 130 42513	BC858C
3470	4822 116 52233	10k 5% 0.5W	3635	4822 101 11187	1k 30% LIN 0.1W	5534	4822 158 10728	Coil 110°	7244	4822 130 42513	BC858C
3471	4822 116 52239	120k 5% 0.5W	3637	4822 116 52175	100Ω 5% 0.5W	5541	4822 157 63078	Driver transformer	7248	5322 130 42136	BC848C
3471	4822 116 52285	470k 5% 0.5W	3659	4822 051 10181	180Ω 2% 0.25W	5545	4822 140 10499	LOT-21°-90°	7249	5322 130 42136	BC848C
3473	4822 116 52265	270k 5% 0.5W	3675	4822 116 52239	120k 5% 0.5W	5545	4822 140 10501	LOT 25°/28° BLS	7302	4822 130 42513	BC858C
3474	4822 051 10562	5k6 2% 0.25W	3675	4822 116 52284	47k 5% 0.5W	5554	4822 156 50097	Linearity coil LC90	7303	4822 130 40855	BC337
3475	4822 051 10184	180k 2% 0.25W	3677	4822 051 10108	1Ω 5% 0.25W	5554	4822 157 63079	Linearity coil AT4042	7304	5322 130 42718	BFS20
3476	4822 051 10104	100k 2% 0.25W	3678	4822 116 52283	4k7 5% 0.5W	5563	4822 157 51462	10μH	7305	4822 209 30389	TDA4510/V8
3477	4822 051 10008	0Ω 5% 0.25W	3682	4822 053 10561	560Ω 5% 1W	5582	4822 157 70826	2.4μH	7306	4822 209 33671	TDA4657/V2
3477	4822 051 10228	2Ω 2% 0.25W	3700	4822 116 52257	22k 5% 0.5W	5588	4822 157 53252	Coil	7307	4822 209 12635	TDA4665/V3
3478	4822 051 10008	0Ω 5% 0.25W	3706	4822 051 10103	10k 2% 0.25W	5606	4822 157 53995	100μH 10%	7308	4822 209 32593	TDA4671/V1
3478	4822 051 10478	40k 5% 0.25W	3707	4822 051 10101	100Ω 2% 0.25W	5619	4822 156 21125	3.9μH 10%	7309	4822 209 33725	TDA4780/V2
3479	4822 116 52219	330Ω 5% 0.5W	3708	4822 051 10103	10k 2% 0.25W	5619	4822 157 53139	4.7μH	7310	5322 130 42136	BC848C
3480	4822 050 11002	1k 1% 0.4W	3708	4822 051 10103	10k 2% 0.25W	5625	4822 146 31062	SOPS transformer	7311	5322 130 42136	BC848C
3481	4822 116 52283	4k7 5% 0.5W	3708	4822 051 10103	10k 2% 0.25W	5630	4822 157 70826	2.4μH	7312	5322 130 42136	BC848C
3482	4822 116 52283	4k7 5% 0.5W	3708	4822 051 10103	10k 2% 0.25W	5631	4822 158 10551	27μH	7370	5322 130 42136	BC848C
3483	4822 052 10339	33Ω 5% 0.33W	3708	4822 051 10223	22k 2% 0.25W	5632	4822 157 53066	15μH 10%	7454	5322 130 41983	BC858B
3484	4822 051 20183	18k 5% 0.1W	3709	4822 116 52283	4k7 5% 0.5W	5675	4822 157 70826	2.4μH	7455	4822 130 60136	BC856
3485	4822 051 10682	6k8 2% 0.25W	3710	4822 051 10104	100k 2% 0.25W	5701	4822 157 53253	27μH 5%	7456	5322 130 60159	BC846B
3486	4822 051 10182	1k8 2% 0.25W	3710	4822 051 10104	100k 2% 0.25W	5703	4822 156 20915	33μH	7470	4822 209 63423	TDA2579B/N2
3487	4822 116 52231	820Ω 5% 0.5W	3711	4822 116 52215	220Ω 5% 0.5W	6204	4822 130 30621	1N4148	7471	5322 130 42136	BC848C
3488	4822 051 10471	470Ω 2% 0.25W	3711	4822 116 52215	220Ω 5% 0.5W	6245	4822 130 80446	LL4148	7500	4822 130 41344	BC337-40
3489	4822 051 10008	0Ω 5% 0.25W	3722	4822 051 10103	10k 2% 0.25W	6246	4822 130 81139	LLZ-C3V3	7505	4822 130 41327	BC327-40
3490	4822 116 52296	6k8 5% 0.5W	3724	4822 051 10103	10k 2% 0.25W	6247	4822 130 81139	LLZ-C3V3	7540	4822 130 41344	BC337-40
3501	4822 051 10229	22Ω 2% 0.25W	3725	4822 051 10103	10k 2% 0.25W	6248	4822 130 80446	LL4148	7545	4822 130 61265	BU508AF
3501	4822 051 10279	27k 2% 0.25W	3725	4822 051 10103	10k 2% 0.25W	6300	4822 130 80446	LL4148	7546	5322 130 41982	BC848B
3502	4822 053 10122	1k2 5% 1W	3727	4822 116 52217	270Ω 5% 0.5W	6302	4822 130 82192	LLZ-C8V2	7591	5322 130 41983	BC858B
3502	4822 053 10272	2k7 5% 1W	3728	4822 116 52175	100Ω 5% 0.5W	6303	4822 130 34382	BZX79-C8V2	7625	4822 130 62735	BUT12AF
3503	4822 052 10128	15Ω 5% 0.33W	3729	4822 051 10911	910Ω 2% 0.25W	6310	4822 130 80884	LLZ-C5V1	7700	5322 130 41982	BC848B
3503	4822 052 10478	40k 5% 0.33W	3730	4822 051 10221	220Ω 2% 0.25W	6313	4822 130 80446	LL4148	7703	5322 130 41982	BC848B
3504	4822 100 11684	100Ω 10% 0.1W	3732	4822 053 11103	10k 5% 2W	6314	4822 130 80446	LL4148	7704	5322 130 41982	BC848B
3505	4822 051 10471	470Ω 2% 0.25W	3732	4822 053 11332	3k3 5% 2W	6315	4822 130 30621	1N4148	7706	5322 130 41982	BC848B
3506	4822 051 10334	330k 2% 0.25W	3733	4822 050 23902	3k9 1% 0.6W	6319	4822 130 80446	LL4148	7707	5322 130 41982	BC848B
3507	4822 051 10223	22k 2% 0.25W	3734	4822 050 23902	3k9 1% 0.6W	6319	4822 130 34379	BZX79-C27	7708	4822 209 52642	VERSION-1.2
3507	4822 051 10273	27k 2% 0.25W	3734	4822 050 23902	3k9 1% 0.6W	6320	4822 130 80877	BAV103	7708	4822 209 52643	EUROPA
3508	4822 051 10228	22Ω 5% 0.25W	3734	4822 050 23902	3k9 1% 0.6W	6322	4822 130 30621	1N4148	7710	4822 209 52643	VERSION-1.2-EAS
3509	4822 051 10228	22Ω 5% 0.25W	3734	4822 050 23902	3k9 1% 0.6W	6332	4822 130 82583	LLZ-C9V1	7710	4822 209 32283	ST24C08B
3510	4822 051 10228	22Ω 5% 0.25W	3734	4822 050 23902	3k9 1% 0.6W	6367	4822 130 80954	LLZ-C5V6	7850	5322 130 42136	BC848C
3511	4822 051 10228	22Ω 5% 0.25W	3734	4822 050 23902	3k9 1% 0.6W	6464	4822 130 81015	LLZ-C10	7860	5322 130 42136	BC848C
3512	4822 051 10228	22Ω 5% 0.25W	3734	4822 050 23902	3k9 1% 0.6W	6483	4822 130 30621	1N4148	7861	5322 130 42136	BC848C
3513	4822 053 10331	330Ω 5% 1W	3734	4822 050 23902	3k9 1% 0.6W	6503	4822 130 42488	BYD33D	7886	5322 130 42136	BC848C
3514	4822 051 10182	1k8 2% 0.25W	3734	4822 050 23902	3k9 1% 0.6W	6504	4822 130 80446	LL4148	7886	5322 130 42136	BC848C
3515	4822 051 10228	22Ω 5% 0.25W	3734	4822 050 23902	3k9 1% 0.6W	6505	4822 130 80446	LL4148			
3516	4822 100 10436	22k CARB LIN 0.1W	3734	4822 050 23902	3k9 1% 0.6W	6505	4822 130 80446	LL4148			
3517	4822 051 10228	22Ω 5% 0.25W	3734	4822 050 23902	3k9 1% 0.6W	6505	4822 130 80446	LL4148			
3519	4822 051 10228	22Ω 5% 0.25W	3734	4822 050 23902	3k9 1% 0.6W	6505	4822 130 80446	LL4148			
3520	4822 116 52283	4k7 5% 0.5W	3734	4822 050 23902	3k9 1% 0.6W	6505	4822 130 80446	LL4148			
3523	4822 051 10228	22Ω 5% 0.25W	3734	4822 050 23902	3k9 1% 0.6W	6505	4822 130 80446	LL4148			
3529	4822 051 10228	22Ω 5% 0.25W	3734	4822 050 23902	3k9 1% 0.6W	6505	4822 130 80446	LL4148			
3535	4822 051 10151	150Ω 2% 0.25W	3734	4822 050 23902	3k9 1% 0.6W	6505	4822 130 80446	LL4148			
3535	4822 051 51201	120Ω 1% 0.125W	3734	4822 050 23902	3k9 1% 0.6W	6505	4822 130 80446	LL4148			
3537	4822 116 52234	100Ω 5% 0.5W	3734	4822 050 23902	3k9 1% 0.6W	6505	4822 130 80446	LL4148			
3539	4822 053 20474	470k 5% 0.25W	3734	4822 050 23902	3k9 1% 0.6W	6505	4822 130 80446	LL4148			
3540	4822 051 51201	120Ω 1% 0.125W	3734	4822 050 23902	3k9 1% 0.6W	6505	4822 130 80446	LL4148			
3541	4822 116 52257	22k 5% 0.5W	3734	4822 050 23902	3k9 1% 0.6W	6505	4822 130 80446	LL4148			
3542	4822 051 10102	1k 2% 0.25W	3734	4822 050 23902	3k9 1% 0.6W	6505	4822 130 80446	LL4148			
3542	4822 051 10272	2k7 2% 0.25W	3734	4822 050 23902	3k9 1% 0.6W	6505	4822 130 80446	LL4148			
3543	4822 116 52175	100Ω 5% 0.5W	3734	4822 050 23902	3k9 1% 0.6W	6505	4822 130 80446	LL4148			
3545	4822 113 80576	180Ω 10% 5W	3734	4822 050 23902	3k9 1% 0.6W	6505	4822 130 80446	LL4148			
3545	4822 113 80668	330Ω 5% 5W	3734	4822 050 23902	3k9 1% 0.6W	6505	4822 130 80446	LL4148			
3546	4822 116 52206	120Ω 5% 0.5W	3734	4822 050 23902	3k9 1% 0.6W	6505	4822 130 80446	LL4148			
3546	4822 116 52213	180Ω 5% 0.5W	3734	4822 050 23902	3k9 1% 0.6W	6505	4822 130 80446	LL4148			
3548	4822 116 52175	100Ω 5% 0.5W	3734	4822 050 23902	3k9 1% 0.6W	6505	4822 130 80446	LL4148			
3549	4822 050 21203	12k 1% 0.6W	3734	4822 050 23902	3k9 1% 0.6W	6505	4822 130 80446	LL4148			
3550	4822 050 21203	12k 1% 0.6W	3734	4822 050 23902	3k9 1% 0.6W	6505	4822 130 80446	LL4148			
3551	4822 050 25601	560Ω 1% 0.6W	3734	4822 050 23902	3k9 1% 0.6W	6505	4822 130 80446	LL4148			
3552	4822 050 25601	560Ω 1% 0.6W	3734	4822 050 23902	3k9 1% 0.6W	6505	4822 130 80446	LL4148			
3553	4822 052 10561	560Ω 2% 0.33W	3734	4822 050 23902	3k9 1% 0.6W	6505	4822 130 80446	LL4148			
3560	4822 116 52244	15k 5% 0.5W	3734	4822 050 23902	3k9 1% 0.6W	6505	4822 130 80446	LL4148			
3560	4822 116 52271	33k 5% 0.5W	3734	4822 050 23902	3k9 1% 0.6W	6505	4822 130 80446	LL4148			
3561	4822 051 10332	3k3 2% 0.25W	3734	4822 050 23902	3k9 1% 0.6W	6505	4822 130 80446	LL4148			
3561	4822 051 20222	2k2 5% 0.1W	3734	4822 050 23902	3k9 1% 0.6W	6505	4822 130 804				

# Spare parts list / Stükliste / Liste des pièces

<p>6200 4822 130 31981 BZX79-F3V9 6201 4822 130 31981 BZX79-F3V9 6202 4822 130 31981 BZX79-F3V9 6203 4822 130 31981 BZX79-F3V9</p>		<p>2521 4822 122 32891 68nF 10% 63V 2522 5322 121 42661 330nF 5% 63V 2523 4822 122 31981 33nF +/-0.5pF 50V</p>		<p>3512 4822 051 10228 2Ω 5% 0.25W 3518 4822 051 10151 150Ω 2% 0.25W 3520 4822 116 52211 150Ω 5% 0.5W 3521 4822 101 20902 4k7 10% LIN 0.05W</p>		<p>1003 4822 212 31626 Euro module (3<sup>rd</sup> scart + teletext) 1816▲ 4822 252 51169 Fuse 250 mA 1910 4822 242 73552 Crystal 13.875MHz</p>			
<p><b>1002 Mains filter module [D]</b></p>		<p>2526 4822 121 51093 6.8nF 5% 250V 2531 4822 121 42408 220nF 5% 63V 2531 4822 121 43396 120nF 5% 63V 2532 4822 124 80066 1μF 20% 63V 2532▲ 4822 124 80067 4.7μF 20% 63V 2533 4822 124 40242 1μF 20% 63V 2534 5322 122 31647 1nF 10% 63V</p>		<p>3522 4822 051 10152 1k5 2% 0.25W 3524 4822 051 10683 68k 2% 0.25W 3525 4822 100 20169 10k 10% LIN 0.05W</p>		<p><b>-II-</b></p> <p>2200 4822 121 51299 1nF 10% 50V 2201▲ 4822 124 40433 47μF 20% 25V 2202 4822 121 51299 1nF 10% 50V 2203▲ 4822 124 40433 47μF 20% 25V 2204 4822 122 31211 100pF 10% 500V 2205 4822 121 51252 470nF 5% 63V 2206 4822 122 31211 100pF 10% 500V 2207 4822 121 51252 470nF 5% 63V 2208 4822 121 51252 470nF 5% 63V 2209 4822 121 51252 470nF 5% 63V</p>			
<p><b>Various</b></p> <p>4822 265 30389 2P male vert yellow 4822 265 30877 3P male vertB 4822 267 40794 3P female vert grey WTB 4822 290 40288 Snap connector 4822 404 31317 Mains filter module bracket</p>		<p>30301 4822 051 10131 130Ω 2% 0.25W 3302 4822 051 10182 1k8 2% 0.25W 3302 4822 051 10362 3k6 2% 0.25W 3303▲ 4822 051 10242 2k4 2% 0.25W 3303 4822 051 10272 2k7 2% 0.25W 3304 4822 116 52239 120k 5% 0.5W 3305 4822 051 10154 150k 2% 0.25W 3305 4822 051 10823 82k 2% 0.25W 3306▲ 4822 116 52219 330Ω 5% 0.5W 3309 4822 051 10108 1Ω 5% 0.25W</p>		<p>3526 4822 050 26804 680k 1% 0.6W 3527 4822 051 10274 270k 2% 0.25W 3528 4822 051 20222 2k2 5% 0.1W 3529 4822 051 10008 0Ω 5% 0.25W 3529 4822 051 10471 470Ω 2% 0.25W 3530 4822 051 10008 0Ω 5% 0.25W 3530 4822 051 10102 1k 2% 0.25W 3531 4822 051 10008 0Ω 5% 0.25W 3531 4822 051 10104 100k 2% 0.25W 3532▲ 4822 051 10103 10k 2% 0.25W</p>		<p>2210 4822 121 51252 470nF 5% 63V 2211▲ 4822 124 40433 47μF 20% 25V 2212▲ 4822 124 40433 47μF 20% 25V 2213 4822 121 41857 10nF 5% 250V 2214 4822 121 41857 10nF 5% 250V 2215 5322 124 41431 22μF 20% 35V 2216 5322 124 41431 22μF 20% 35V 2217 4822 124 40198 470nF 20% 16V 2218 5322 124 41431 22μF 20% 35V 2219 5322 124 41431 22μF 20% 35V</p>			
<p>1002 4822 212 30975 Mains filter module</p>		<p>3309 4822 051 10479 47Ω 2% 0.25W 3310▲ 4822 116 52219 330Ω 5% 0.5W 3311▲ 4822 053 12153 15k 5% 3W 3312▲ 4822 052 10271 270Ω 5% 0.33W 3313▲ 4822 052 10271 270Ω 5% 0.33W 3314 4822 050 21502 1k5 1% 0.6W 3315 4822 051 10184 180k 2% 0.25W 3315 4822 051 10823 82k 2% 0.25W 3316 4822 051 10224 220k 2% 0.25W 3316 4822 051 10823 82k 2% 0.25W</p>		<p>3533 4822 116 52207 1k2 5% 0.5W 3533 4822 116 52303 8k2 5% 0.5W 3534▲ 4822 052 10828 8Ω 2% 0.33W 3535 4822 051 10008 0Ω 5% 0.25W 3535 4822 051 10074 470k 2% 0.25W 3571 4822 051 10273 27k 2% 0.25W 3572 4822 051 10153 15k 2% 0.25W 3575 4822 051 10182 1k8 2% 0.25W 3578 4822 116 52245 150k 5% 0.5W 3580▲ 4822 051 10103 10k 2% 0.25W</p>		<p>2220 4822 122 31116 2.2nF 10% 500V 2221 4822 122 31116 2.2nF 10% 500V 2222 4822 122 31116 2.2nF 10% 500V 2223 4822 122 31116 2.2nF 10% 500V 2800 4822 124 41643 100μF 20% 16V 2805 4822 124 40198 470nF 20% 16V 2806 5322 124 41431 22μF 20% 35V 2807▲ 4822 124 40246 4.7μF 20% 63V 2808▲ 4822 124 40246 4.7μF 20% 63V 2810 4822 124 41643 100μF 20% 16V</p>			
<p><b>-II-</b></p> <p>2602 4822 126 11141 2.2nF 10% 1K 2604 4822 126 11141 2.2nF 10% 1K</p>		<p>3331 4822 051 10131 130Ω 2% 0.25W 3332 4822 051 10182 1k8 2% 0.25W 3332 4822 051 10362 3k6 2% 0.25W 3333 4822 116 52259 2k4 5% 0.5W 3333▲ 4822 116 52263 2k7 5% 0.5W 3334 4822 116 52239 120k 5% 0.5W 3338 4822 051 10108 1Ω 5% 0.25W 3338 4822 051 10479 47Ω 2% 0.25W 3340▲ 4822 116 52219 330Ω 5% 0.5W 3341▲ 4822 053 12153 15k 5% 3W</p>		<p>4xxx 4822 051 10008 0Ω 5% 0.25W</p>		<p>2813▲ 4822 124 40246 4.7μF 20% 63V 2814 4822 121 41856 22nF 5% 250V 2822 4822 126 13161 100nF 10% 25V 2825 4822 122 32139 12pF 2% 63V 2826 4822 122 32139 12pF 2% 63V 2830 5322 121 42386 100nF 5% 63V 2832 5322 122 32531 100pF 5% 50V 2833▲ 4822 124 40196 220nF 20% 16V 2834 4822 126 12944 47nF 10% 50V 2835▲ 4822 124 40246 4.7μF 20% 63V</p>			
<p><b>Various</b></p> <p>3601 4822 116 40211 P.T.C. 3603 4822 117 10492 10M 5% 3605 4822 052 10102 1k 5% 0.33 3607 4822 050 23901 390Ω 1% 0.6 3608 4822 116 21213 VDR 1mA/275V</p>		<p>3342▲ 4822 052 10271 270Ω 5% 0.33W 3343▲ 4822 052 10271 270Ω 5% 0.33W 3344 4822 050 21502 1k5 1% 0.6W 3345 4822 051 10681 680Ω 2% 0.25W 3361 4822 116 52208 130Ω 5% 0.5W 3362 4822 051 10182 1k8 2% 0.25W 3362 4822 051 10362 3k6 2% 0.25W 3364▲ 4822 051 10472 4k7 2% 0.25W 3368 4822 051 10108 1Ω 5% 0.25W 3368 4822 051 10479 47Ω 2% 0.25W</p>		<p>5401 4822 156 20966 47μH 5401 4822 157 71295 100μH 5530 4822 152 20559 390μH 10%</p>		<p>2837 5322 122 32269 6.8pF 5% 50V 2838 4822 124 41643 100μF 20% 16V 2890 4822 126 13161 100nF 10% 25V 2900▲ 4822 124 40246 4.7μF 20% 63V 2901▲ 4822 124 40433 47μF 20% 25V 2908 4822 122 31211 100pF 10% 500V 2909 4822 122 31211 100pF 10% 500V 2910▲ 4822 122 33177 10nF 20% 50V 2911 5322 126 10794 220pF 5% 63V 2912 5322 122 32481 15pF 5% 50V</p>			
<p>5600 4822 157 63073 Mains filter 5605 4822 157 53995 100μH 10%</p>		<p>3370▲ 4822 116 52219 330Ω 5% 0.5W 3371▲ 4822 053 12153 15k 5% 3W 3372▲ 4822 052 10271 270Ω 5% 0.33W 3373▲ 4822 052 10271 270Ω 5% 0.33W 3374 4822 050 21502 1k5 1% 0.6W 3375 4822 051 10184 180k 2% 0.25W 3375 4822 051 10823 82k 2% 0.25W 3376 4822 051 10224 220k 2% 0.25W 3376 4822 051 10823 82k 2% 0.25W 3382 4822 051 10102 1k 2% 0.25W</p>		<p>6301 4822 130 30842 BAV21 6302 4822 130 81015 LLZ-C10 6303 4822 130 80877 BAV103 6331 4822 130 80877 BAV103 6345 4822 130 82192 LLZ-C8V2 6361 4822 130 30842 BAV21 6383 4822 130 80448 LL4148 6411 4822 130 32831 BZX79-F3V0 6421▲ 4822 130 30621 1N4148 6422 4822 130 81512 LLZ-C6V2</p>		<p>2837 5322 122 32269 6.8pF 5% 50V 2838 4822 124 41643 100μF 20% 16V 2890 4822 126 13161 100nF 10% 25V 2900▲ 4822 124 40246 4.7μF 20% 63V 2901▲ 4822 124 40433 47μF 20% 25V 2908 4822 122 31211 100pF 10% 500V 2909 4822 122 31211 100pF 10% 500V 2910▲ 4822 122 33177 10nF 20% 50V 2911 5322 126 10794 220pF 5% 63V 2912 5322 122 32481 15pF 5% 50V</p>			
<p><b>1005 Picture tube (CRT) module [E]</b></p>		<p>3414 4822 051 10439 43Ω 2% 0.25W 3415 4822 116 52222 390Ω 5% 0.5W 3421 4822 051 10154 150k 2% 0.25W 3424 4822 051 20222 2k2 5% 0.1W 3431▲ 4822 052 10181 180Ω 5% 0.33W 3431▲ 4822 052 10271 270Ω 5% 0.33W 3432▲ 4822 052 10229 220Ω 5% 0.33W 3433▲ 4822 052 10128 1Ω 2% 0.33W 3433▲ 4822 052 10188 1Ω 5% 0.33W 3434 4822 050 21502 1k5 1% 0.6W</p>		<p>6423 4822 130 34382 BZX79-F8V2 6518 4822 130 80446 LL4148 6519 4822 130 80446 LL4148</p>		<p>7302 4822 130 41773 BF869 7303▲ 5322 130 41982 BC848B 7304 4822 130 41782 BF422 7305 4822 130 41646 BF423 7331 4822 130 41773 BF869 7333▲ 5322 130 41982 BC848B 7334 4822 130 41782 BF422 7335 4822 130 41646 BF423 7345 5322 130 41983 BC858B 7361 4822 130 41773 BF869</p>		<p>2913 5322 122 32481 15pF 5% 50V 2914 4822 126 13161 100nF 10% 25V 2915 4822 126 13161 100nF 10% 25V 2916 5322 126 10794 220pF 5% 63V 2917▲ 4822 122 33177 10nF 20% 50V 2918 5322 122 32452 47pF 5% 63V 2920 4822 126 13161 100nF 10% 25V 2925▲ 4822 122 33177 10nF 20% 50V 2926 5322 124 41431 22μF 20% 35V 2927 4822 124 41643 100μF 20% 16V</p>	
<p><b>Various</b></p> <p>4822 265 31133 3P male white 4822 265 30378 4P male grey 4822 265 50824 4P female grey 4822 290 40283 5P male grey 4822 290 40287 5P female green 4822 290 40295 7P male grey 4822 267 51275 7P female white 4822 265 40252 7P female grey 4822 267 51033 Single connector 4822 492 70871 Spring 4822 256 91879 Holder 4822 255 70261 CRT-socket</p>		<p>3396 4822 051 10104 100k 2% 0.25W 3398 4822 051 10008 0Ω 5% 0.25W 3411 4822 116 52222 390Ω 5% 0.5W 3413 4822 116 52222 390Ω 5% 0.5W</p>		<p>7363▲ 5322 130 41982 BC848B 7364 4822 130 41782 BF422 7365 4822 130 41646 BF423 7383 4822 130 41782 BF422 7391 4822 130 41646 BF423 7411 4822 130 40937 BC548B 7530 5322 130 60159 BC846B 7533 4822 130 63015 BD440 7534 4822 130 44283 BC636 7537▲ 5322 130 41982 BC848B</p>		<p>3200 4822 116 52211 150Ω 5% 0.5W 3201 4822 051 20563 56k 5% 0.1W 3202 4822 116 52211 150Ω 5% 0.5W 3203 4822 051 20563 56k 5% 0.1W 3204 4822 050 11002 1k 1% 0.4W 3205 4822 050 11002 1k 1% 0.4W 3206 4822 051 20334 330k 5% 0.1W 3207 4822 051 20334 330k 5% 0.1W 3208▲ 4822 116 52272 330k 5% 0.5W 3209 4822 051 20334 330k 5% 0.1W</p>			
<p>1005 4822 212 31629 CRT module 90° narrow neck</p>		<p>3434 4822 050 21502 1k5 1% 0.6W 3435 4822 050 21502 1k5 1% 0.6W 3436 4822 053 20825 8MΩ 5% 0.25W 3442 4822 116 52239 120k 5% 0.5W 3443▲ 4822 051 10242 2k4 2% 0.25W 3443 4822 051 10272 2k7 2% 0.25W 3446 4822 051 10683 68k 2% 0.25W 3447 4822 051 10102 1k 2% 0.25W 3448 4822 051 10008 0Ω 5% 0.25W 3455 4822 051 10102 1k 2% 0.25W 3456 4822 050 11002 1k 1% 0.4W</p>		<p>7538▲ 5322 130 41982 BC848B</p>		<p>3210 4822 051 20333 33k 5% 0.1W 3211 4822 051 20332 3k3 5% 0.1W 3212 4822 051 20333 33k 5% 0.1W 3213 4822 051 20332 3k3 5% 0.1W 3214 4822 051 20563 56k 5% 0.1W 3215 4822 051 20563 56k 5% 0.1W 3216 4822 116 52201 75Ω 5% 0.5W 3217 4822 116 52201 75Ω 5% 0.5W 3218 4822 051 20153 15k 5% 0.1W 3220 4822 051 20153 15k 5% 0.1W</p>			
<p>1005 4822 212 31628 CRT module 110° BL-S</p>		<p>3457 4822 051 10244 240k 2% 0.25W</p>		<p><b>1003 Euro module [F]</b></p>		<p>3222 4822 051 20562 5k6 5% 0.1W 3223 4822 051 20562 5k6 5% 0.1W 3224 4822 051 20562 5k6 5% 0.1W</p>			
<p><b>-II-</b></p> <p>2301 4822 122 31769 18pF 2% 63V 2301 4822 126 10324 33pF 2% 63V 2331 4822 122 31769 18pF 2% 63V 2331 4822 126 10324 33pF 2% 63V 2344▲ 4822 124 40246 4.7μF 20% 63V 2361 4822 122 31825 27pF 2% 63V 2361 4822 122 32504 15pF 2% 63V 2391 4822 121 43878 27pF 2% 500V 2392 4822 124 80213 4.7μF 20% 100V 2393 4822 122 32542 47nF 10% 63V</p>		<p>3457 4822 051 10244 240k 2% 0.25W</p>		<p><b>Various</b></p> <p>4822 267 30631 2P cinch female 4822 267 50621 7P male white 4822 267 50721 9P male white 4822 267 60243 Euroconnector blue 4822 256 91879 Holder</p>		<p>3224 4822 051 20562 5k6 5% 0.1W 3225 4822 051 20562 5k6 5% 0.1W 3226 4822 051 20562 5k6 5% 0.1W</p>			
<p>2411▲ 4822 124 80067 4.7μF 20% 63V 2421 4822 122 32482 22pF 2% 63V 2431 4822 121 41689 100nF 10% 250V 2432 5322 124 41378 33μF 20% 35V 2433▲ 4822 126 12274 1500pF 10%R(HR) 2KV 2434 5322 122 32334 220pF 10% 100V 2520 5322 124 41299 68μF 20% 25V</p>		<p>3457 4822 051 10244 240k 2% 0.25W</p>		<p>1003 4822 212 31624 Euro module (non teletext)</p>		<p>1003 4822 212 31625 Euro module (teletext)</p>			



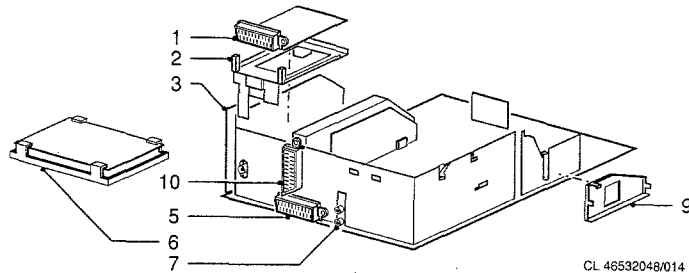
3966	4822 051 20332	3k3 5% 0.1W
3967	4822 051 20104	100k 5% 0.1W
3968	4822 051 20104	100k 5% 0.1W
3969	4822 051 20683	68k 5% 0.1W
3970	4822 051 20683	68k 5% 0.1W
3971	4822 051 20153	15k 5% 0.1W
3972▲	4822 116 52233	10k 5% 0.5W
3973	4822 051 20222	2k2 5% 0.1W
3974	4822 116 80173	10k 5% 0.5W
3975	4822 116 52201	75Ω 5% 0.5W
3976	4822 050 11002	1k 1% 0.4W
3977	4822 116 52175	100Ω 5% 0.5W
3978	4822 116 52201	75Ω 5% 0.5W
3979	4822 116 52175	100Ω 5% 0.5W
3980	4822 051 20221	220Ω 5% 0.1W
3981	4822 051 20471	470Ω 5% 0.1W
3982	4822 051 20101	100Ω 5% 0.1W
3983	4822 051 20471	470Ω 5% 0.1W
3985▲	4822 116 52256	2k2 5% 0.5W
3986	4822 116 52296	6k8 5% 0.5W
3987	4822 116 80175	4k7 5% 0.5W
3988	4822 051 20182	1k8 5% 0.1W
3989	4822 051 20182	1k8 5% 0.1W
3990	4822 116 52175	100Ω 5% 0.5W
3991	4822 116 52211	150Ω 5% 0.5W
3992	4822 116 52211	150Ω 5% 0.5W

5950 4822 157 53634 5.6μH 10%

6950 4822 130 80446 LL4148



7950	5322 209 10576	HEF4053BP
7951	5322 130 42136	BC848C
7952	5322 130 42136	BC848C
7953	5322 130 42136	BC848C
7954	5322 130 42136	BC848C
7975	5322 130 42136	BC848C
7976	5322 130 42136	BC848C
7977	4822 130 42513	BC858C
7978	4822 130 42513	BC858C
7979	5322 130 42136	BC848C



CL 48532048/014  
270694

### Mechanical parts list

1	4822 267 60366	Third scart euroconnector
2	4822 404 31322	3 <sup>rd</sup> scart holder
3		Not applicable
5	4822 267 60243	Euroconnector
6	4822 403 70926	Sep. mains holder
7	4822 267 30631	2 Fold cinch
9	4822 404 31317	Mains filter bracket
10	4822 267 60243	Euroconnector

### 1003 IF module [J/K/L/M]

#### Various

1003	4822 265 31059	5P red
1003	4822 212 31618	IF module Nicam PAL I
1003	4822 212 31619	IF module Stereo PAL BG
1003	4822 212 31621	IF module Nicam PAL BG
1003	4822 212 31622	IF module Stereo P/S BGLI
1003	4822 212 31623	IF module Stereo P/S BG/DK
1000	4822 242 80295	SAW 38.9 MHz Stereo PAL BG
1000	4822 242 81436	SAW 38.9 MHz Stereo P/S
1000	4822 242 81717	SAW 38.9 MHz NICAM PAL BG
1000	4822 242 81718	SAW 38.9 MHz NICAM PAL I
1001	4822 153 30025	6.0 MHz
1001	4822 242 72211	5.5 MHz
1100	4822 242 70714	5.5 MHz
1100	4822 242 71713	6.0 MHz
1101	4822 242 70485	5.74 MHz
1102	4822 242 70714	5.5 MHz
1102	4822 242 71713	6.0 MHz
1102	4822 242 72057	6.5 MHz
1103	4822 242 81423	38.9 MHz P/S BGLI
1103	4822 242 81716	38.9 MHz P/S BGDK
1104	4822 242 81715	33.4 MHz
1200	4822 242 81813	Crystal 10 MHz
1300	4822 242 81187	Crystal 11.700 MHz
1300	4822 242 81188	Crystal 13.104 MHz
1301	4822 242 81719	Crystal 8.192 MHz
1302	4822 242 72301	TH316BOM-20800 DAH
1302	4822 242 72303	TH316BQM
<b>-II-</b>		
2000	4822 126 13159	180pF 5% 50V
2001	4822 126 13162	56pF 5% 50V
2002	4822 126 13161	100nF 10% 25V
2003	4822 124 41576	2.2µF 20% 50V
2004	4822 122 32927	220nF 20% 50V
2004	4822 126 13061	220nF 20% 25V
2005	5322 126 10223	4.7nF 10% 63V
2007	5322 122 31866	6.8nF 10% 63V
2007	5322 126 10223	4.7nF 10% 63V
2008	4822 126 13161	100nF 10% 25V
2008	4822 126 13346	39nF 10% 50V
2009	4822 124 41576	2.2µF 20% 50V
2010	4822 124 40246	4.7µF 20% 63V
2010	4822 124 40433	47µF 20% 25V
2011	5322 122 32269	6.8pF 5% 50V
2011	5322 122 32286	3.3pF 5% 50V
2012	4822 122 33177	10nF 20% 50V
2013	4822 126 13161	100nF 10% 25V
2014	4822 122 33496	100nF 10% 63V
2015	4822 124 41643	100µF 20% 16V
2016	4822 122 33177	10nF 20% 50V
2017	4822 126 13161	100nF 10% 25V
2018	4822 122 32646	5.6nF 10% 50V
2018	4822 126 13161	100nF 10% 25V
2020	5322 122 33537	1.2pF 5% 63V
2021	5322 122 33063	2.2pF 5% 50V
2100	5322 124 41431	22µF 20% 35V
2101	5322 124 41431	22µF 20% 35V
2102	5322 126 10223	4.7nF 10% 63V
2103	5322 126 10223	4.7nF 10% 63V
2106	5322 126 10223	4.7nF 10% 63V
2107	4822 124 41576	2.2µF 20% 50V
2108	5322 126 10223	4.7nF 10% 63V
2200	4822 122 33219	1.8nF 10% 50V
2201	4822 051 10008	Jumpers
2202	4822 122 33177	10nF 20% 50V
2203	4822 126 13161	100nF 10% 25V
2204	4822 126 13161	100nF 10% 25V
2205	4822 122 33342	33nF 10% 63V
2206	4822 122 32646	5.6nF 10% 50V
2207	4822 122 32646	5.6nF 10% 50V
2208	4822 122 33342	33nF 10% 63V
2209	4822 122 33128	15nF 10% 63V
2210	4822 122 33128	15nF 10% 63V
2211	4822 126 13161	100nF 10% 25V
2212	4822 126 13161	100nF 10% 25V
2214	4822 124 40248	10µF 20% 63V
2215	4822 124 40196	220µF 20% 16V

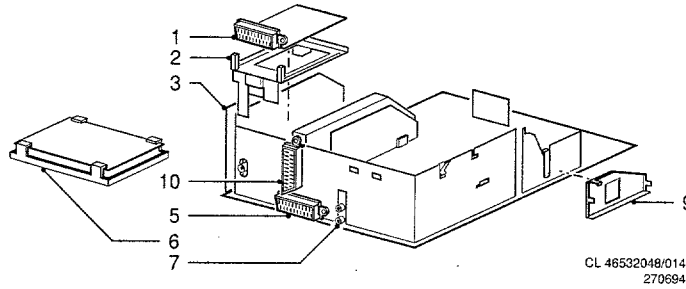
2216	4822 124 40246	4.7µF 20% 63V
2217	4822 124 41643	100µF 20% 16V
2218	4822 124 40433	47µF 20% 25V
2219	4822 124 40246	4.7µF 20% 63V
2220	4822 124 40196	220µF 20% 16V
2221	4822 124 40196	220µF 20% 16V
2222	5322 121 42498	680nF 5% 63V
2223	5322 121 42498	680nF 5% 63V
2224	4822 122 32927	220nF 20% 50V
2225	4822 122 32927	220nF 20% 50V
2226	4822 124 41643	100µF 20% 16V
2227	4822 124 41643	100µF 20% 16V
2228	4822 124 41643	100µF 20% 16V
2228	4822 124 80702	100µF 20% 25V
2229	4822 124 41643	100µF 20% 16V
2230	5322 124 41431	22µF 20% 35V
2231	5322 124 41431	22µF 20% 35V
2232	5322 122 34098	10nF 10% 63V
2233	5322 122 34098	10nF 10% 63V
2234	4822 122 32927	220nF 20% 50V
2235	4822 122 32927	220nF 20% 50V
2236	4822 122 32927	220nF 20% 50V
2237	5322 124 41431	22µF 20% 35V
2238	5322 124 41431	22µF 20% 35V
2300	4822 121 42408	220nF 5% 63V
2301	4822 126 13161	100nF 10% 25V
2302	4822 126 13161	100nF 10% 25V
2303	4822 122 33514	68pF 5% 50V
2304	5322 122 31863	330pF 5% 50V
2305	4822 126 13161	100nF 10% 25V
2306	5322 122 33538	150pF 2% 63V
2307	5322 122 33538	150pF 2% 63V
2308	5322 122 34123	1nF 10% 50V
2309	4822 126 13161	100nF 10% 25V
2310	5322 122 31863	330pF 5% 50V
2311	5322 122 31866	6.8nF 10% 63V
2312	5322 122 31863	330pF 5% 50V
2313	4822 124 40433	47µF 20% 25V
2318	5322 122 31863	330pF 5% 50V
2319	4822 122 33514	68pF 5% 50V
2320	4822 122 33172	390pF 5% 50V
2321	5322 122 34123	1nF 10% 50V
2322	4822 122 33177	10nF 20% 50V
2323	5322 122 32654	22nF 10% 63V
2324	5322 121 42661	330nF 5% 63V
2325	5322 122 34123	1nF 10% 50V
2328	4822 122 33177	10nF 20% 50V
2329	5322 122 32659	33pF 5% 50V
2330	5322 122 32659	33pF 5% 50V
2331	5322 122 32531	100pF 5% 50V
2332	5322 122 32531	100pF 5% 50V
2333	4822 122 33177	10nF 20% 50V
2334	4822 126 13161	100nF 10% 25V
2335	4822 126 13161	100nF 10% 25V
2336	4822 124 40433	47µF 20% 25V
2340	4822 122 33177	10nF 20% 50V
2343	4822 122 33219	1.8nF 10% 50V
2343	5322 122 32654	22nF 10% 63V
2344	4822 122 33219	1.8nF 10% 50V
2344	5322 122 32654	22nF 10% 63V
2347	4822 124 41643	100µF 20% 16V



3000	4822 116 52211	150Ω 5% 0.5W
3001	4822 101 11192	22k 30% LIN 0.1W
3002	4822 051 20181	180Ω 5% 0.1W
3004	4822 116 52289	5k6 5% 0.5W
3011	4822 051 20223	22k 5% 0.1W
3011	4822 116 52257	22k 5% 0.5W
3012	4822 051 20223	22k 5% 0.1W
3013	4822 051 20101	100Ω 5% 0.1W
3013	4822 051 20151	150Ω 5% 0.1W
3013	4822 051 20181	180Ω 5% 0.1W
3013	4822 051 20271	270Ω 5% 0.1W
3013	4822 051 20391	390Ω 5% 0.1W
3014	4822 051 20123	12k 5% 0.1W
3015	4822 051 20223	22k 5% 0.1W
3016	4822 051 20562	5k6 5% 0.1W
3018	4822 051 20106	10M 5% 0.1W
3019	4822 051 20474	470k 5% 0.1W
3024	4822 051 20562	5k6 5% 0.1W
3026	4822 052 10109	10Ω 5% 0.33W
3027	4822 051 20122	1k2 5% 0.1W
3031	4822 051 20222	2k2 5% 0.1W
3033	4822 053 10688	608 5% 0.1W
3034	4822 051 20101	100Ω 5% 0.1W
3098	4822 051 20104	100k 5% 0.1W
3098	4822 051 20223	22k 5% 0.1W
3098	4822 051 20224	220k 5% 0.1W
3098	4822 051 20564	560k 5% 0.1W
3098	4822 051 20822	8k2 5% 0.1W
3100	4822 051 20561	560Ω 5% 0.1W
3101	4822 051 20561	560Ω 5% 0.1W

3102	4822 051 20561	560Ω 5% 0.1W
3103	4822 051 20222	2k2 5% 0.1W
3104	4822 051 20103	10k 5% 0.1W
3106	4822 116 52234	100Ω 5% 0.5W
3107	4822 116 52234	100Ω 5% 0.5W
3108	4822 051 20471	470Ω 5% 0.1W
3109	4822 051 20471	470Ω 5% 0.1W
3113	4822 116 52234	100Ω 5% 0.5W
3114	4822 051 20103	10k 5% 0.1W
3115	4822 051 20103	10k 5% 0.1W
3116	4822 051 20103	10k 5% 0.1W
3117	4822 051 20222	2k2 5% 0.1W
3200	4822 051 10102	1k 2% 0.25W
3207	4822 051 20822	8k2 5% 0.1W
3208	4822 052 10181	180Ω 5% 0.33W
3211	4822 051 20122	1k2 5% 0.1W
3212	4822 051 20223	22k 5% 0.1W
3212	4822 051 20473	47k 5% 0.1W
3214	4822 051 20222	2k2 5% 0.1W
3218	4822 051 20474	470k 5% 0.1W
3219	4822 051 20564	560k 5% 0.1W
3220	4822 051 20563	56k 5% 0.1W
3221	4822 051 20563	56k 5% 0.1W
3222	4822 051 20823	82k 5% 0.1W
3223	4822 051 20333	33k 5% 0.1W
3224	4822 051 20101	100Ω 5% 0.1W
3225	4822 051 20101	100Ω 5% 0.1W
3230	4822 051 20562	5k6 5% 0.1W
3231	4822 051 20332	3k3 5% 0.1W
3232	4822 051 10102	1k 2% 0.25W
3233	4822 051 10102	1k 2% 0.25W
3234	4822 051 20101	100Ω 5% 0.1W
3234	4822 052 10181	180Ω 5% 0.33W
3235	4822 051 20101	100Ω 5% 0.1W
3237	4822 051 20823	82k 5% 0.1W
3238	4822 051 20333	33k 5% 0.1W
3240	4822 051 20101	100Ω 5% 0.1W
3241	4822 051 20101	100Ω 5% 0.1W
3300	4822 051 20563	56k 5% 0.1W
3301	4822 051 20109	10Ω 5% 0.1W
3302	4822 051 20228	202 5% 0.1W
3303	4822 051 20392	3k9 5% 0.1W
3304	4822 051 20223	22k 5% 0.1W
3305	4822 051 20223	22k 5% 0.1W
3306	4822 051 20104	100k 5% 0.1W
3307	4822 051 20159	150 5% 0.1W
3308	4822 051 20224	220k 5% 0.1W
3309	4822 051 20823	82k 5% 0.1W
3314	4822 051 20471	470Ω 5% 0.1W
3315	4822 051 20563	56k 5% 0.1W
3316	4822 051 10102	1k 2% 0.25W
3317	4822 051 20105	1M 5% 0.1W
3318	4822 051 20223	22k 5% 0.1W
3319	4822 117 11139	1k5 1% 0.1W
3320	4822 051 20103	10k 5% 0.1W
3321	4822 051 20104	100k 5% 0.1W
3322		

3966	4822 051 20332	3k3 5% 0.1W
3967	4822 051 20104	100k 5% 0.1W
3968	4822 051 20104	100k 5% 0.1W
3969	4822 051 20683	68k 5% 0.1W
3970	4822 051 20683	68k 5% 0.1W
3971	4822 051 20153	15k 5% 0.1W
3972	4822 116 52233	10k 5% 0.5W
3973	4822 051 20222	2k2 5% 0.1W
3974	4822 116 80173	10k 5% 0.5W
3975	4822 116 52201	75Ω 5% 0.5W
3976	4822 050 11002	1k 1% 0.4W
3977	4822 116 52175	100Ω 5% 0.5W
3978	4822 116 52201	75Ω 5% 0.5W
3979	4822 116 52175	100Ω 5% 0.5W
3980	4822 051 20221	220Ω 5% 0.1W
3981	4822 051 20471	470Ω 5% 0.1W
3982	4822 051 20101	100Ω 5% 0.1W
3983	4822 051 20471	470Ω 5% 0.1W
3985	4822 116 52256	2k2 5% 0.5W
3986	4822 116 52296	6k8 5% 0.5W
3987	4822 116 80175	4k7 5% 0.5W
3988	4822 051 20182	1k8 5% 0.1W
3989	4822 051 20182	1k8 5% 0.1W
3990	4822 116 52175	100Ω 5% 0.5W
3991	4822 116 52211	150Ω 5% 0.5W
3992	4822 116 52211	150Ω 5% 0.5W



CL 46532048/014  
270694

### Mechanical parts list

5950 4822 157 53634 5.6μH 10%



6950 4822 130 80446 LL4148



7950 5322 209 10576 HEF4053BP  
7951 5322 130 42136 BC848C  
7952 5322 130 42136 BC848C  
7953 5322 130 42136 BC848C  
7954 5322 130 42136 BC848C  
7975 5322 130 42136 BC848C  
7976 5322 130 42136 BC848C  
7977 4822 130 42513 BC858C  
7978 4822 130 42513 BC858C  
7979 5322 130 42136 BC848C

1 4822 267 60366 Third scart  
euroconnector  
2 4822 404 31322 3<sup>rd</sup> scart holder  
3 Not applicable  
5 4822 267 60243 Euroconnector  
6 4822 403 70926 Sep. mains holder  
7 4822 267 30631 2 Fold cinch  
9 4822 404 31317 Mains filter bracket  
10 4822 267 60243 Euroconnector