

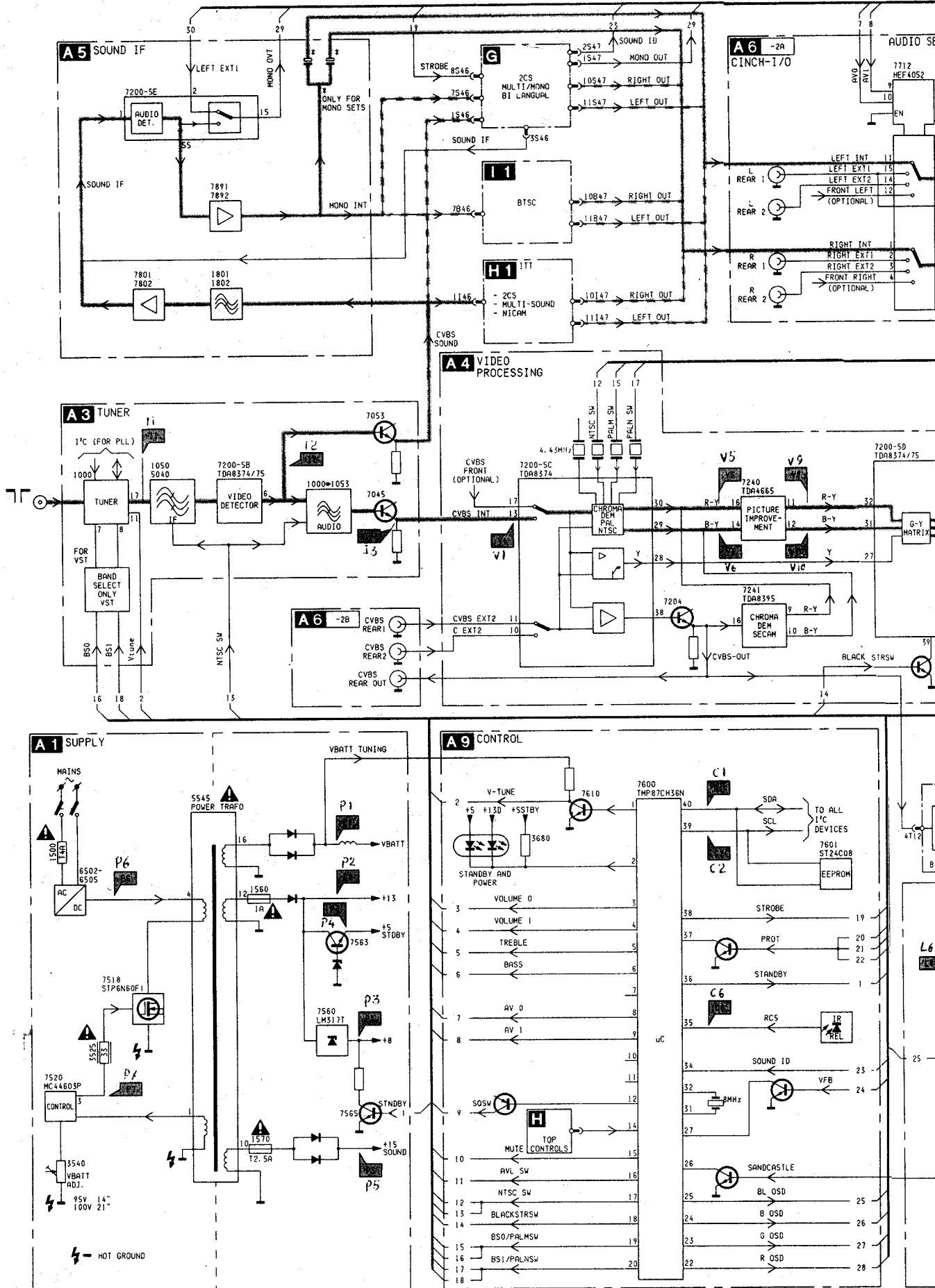
PHILIPS 21PT-238A

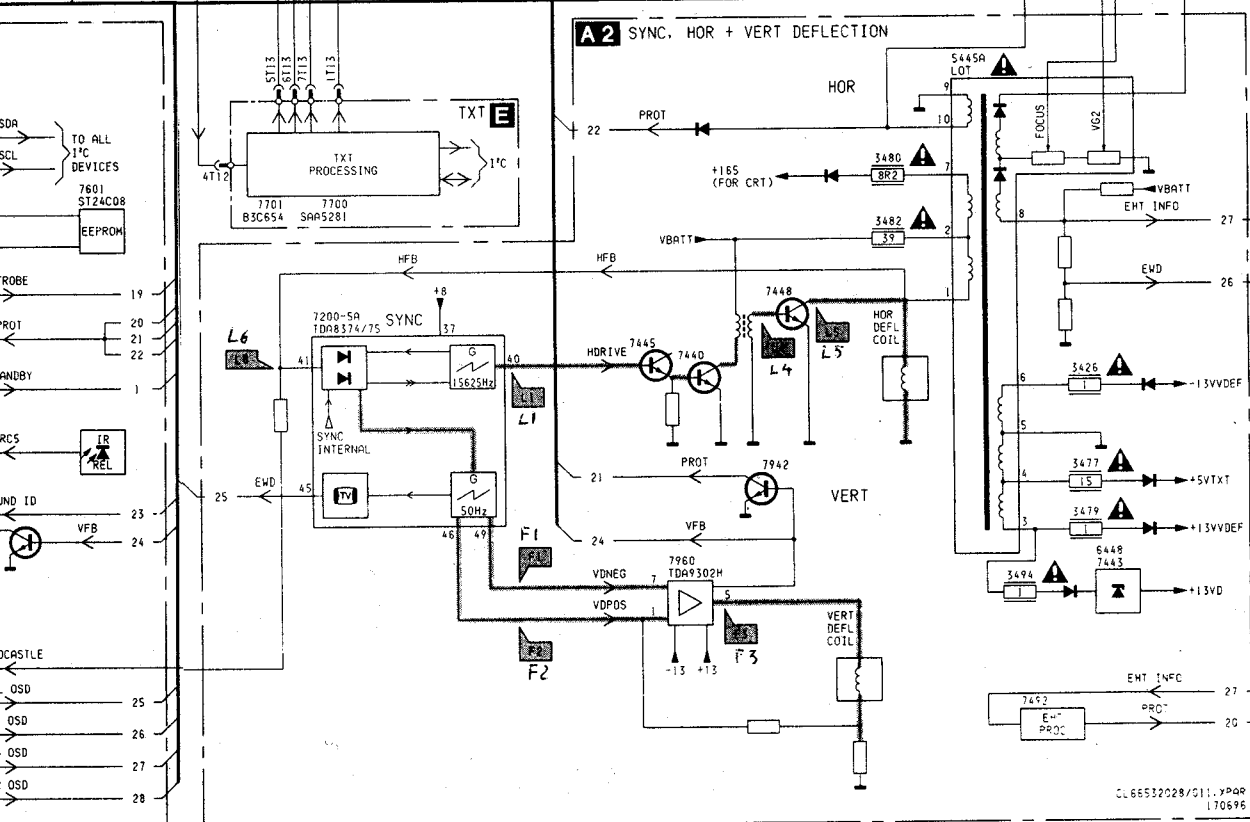
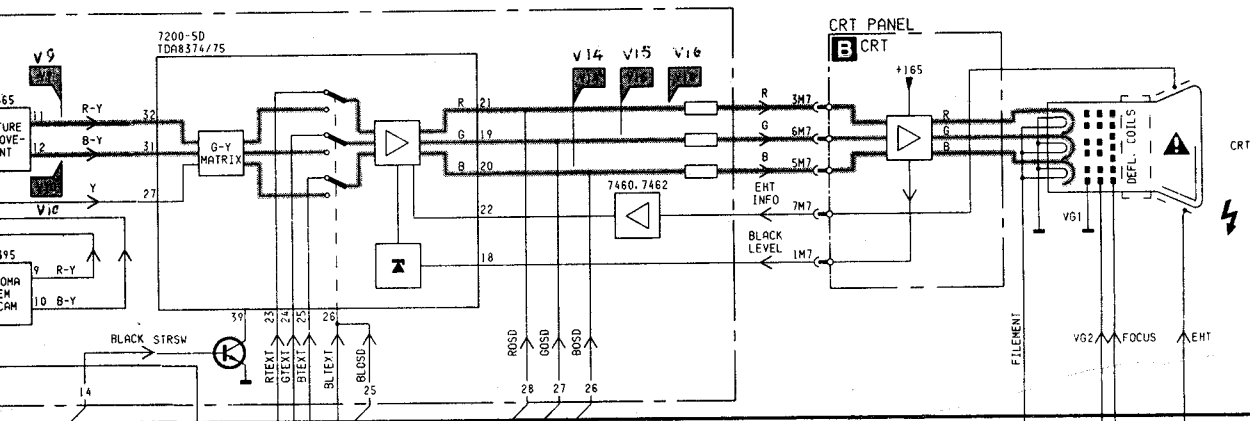
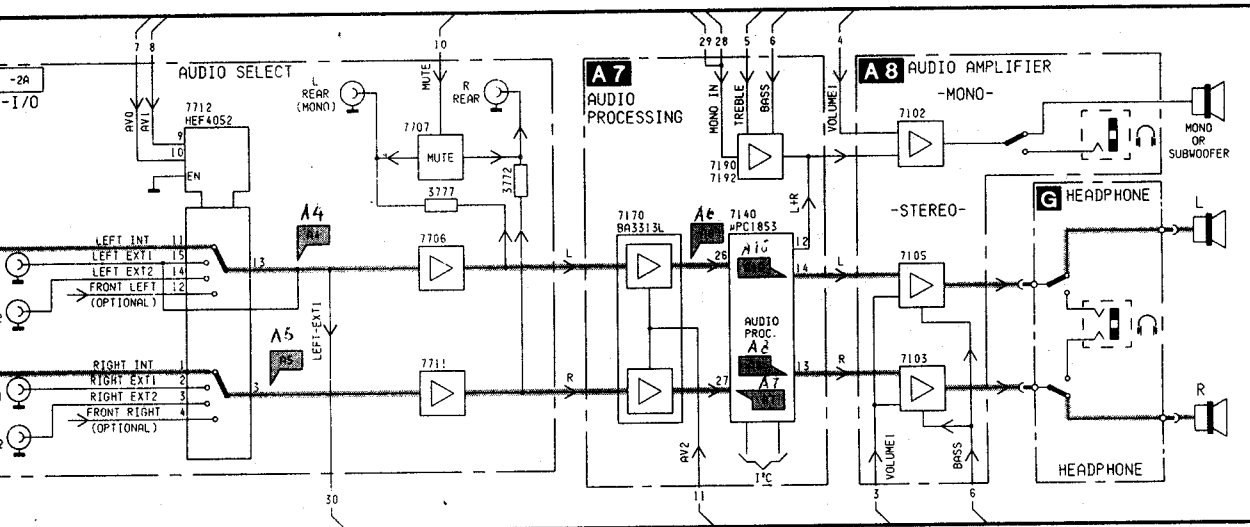
Block diagram

PHILIPS

Chassis PV4.0

PV4.0.AA





Survey of testpoints

32

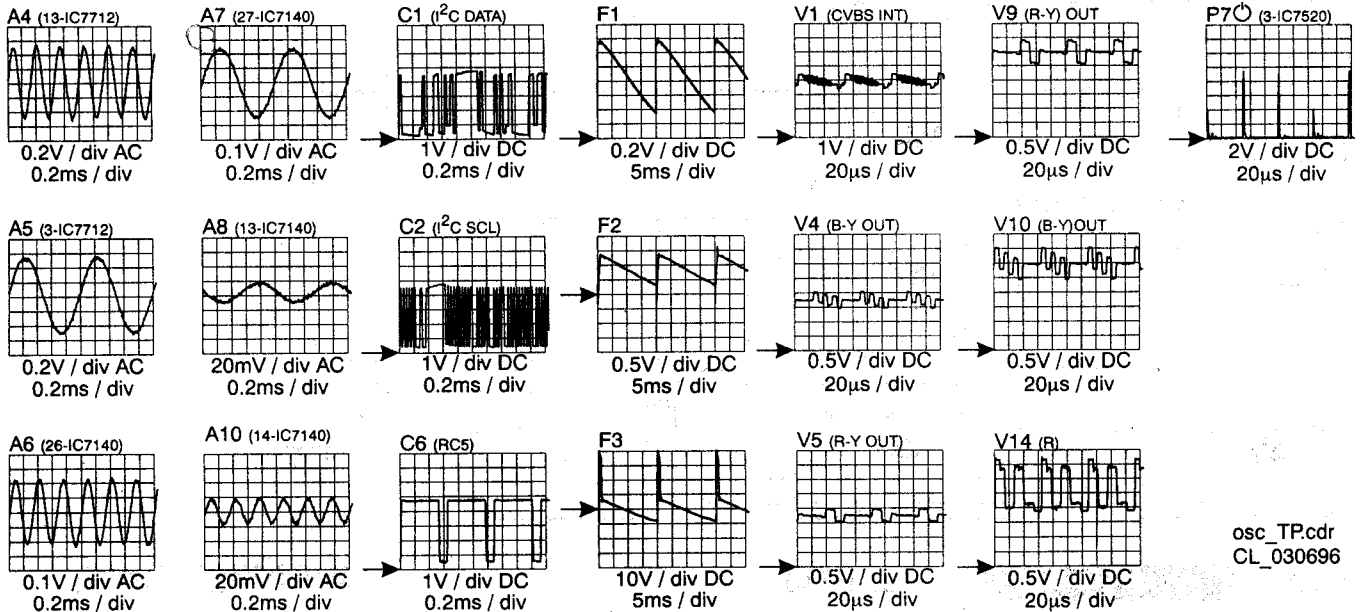
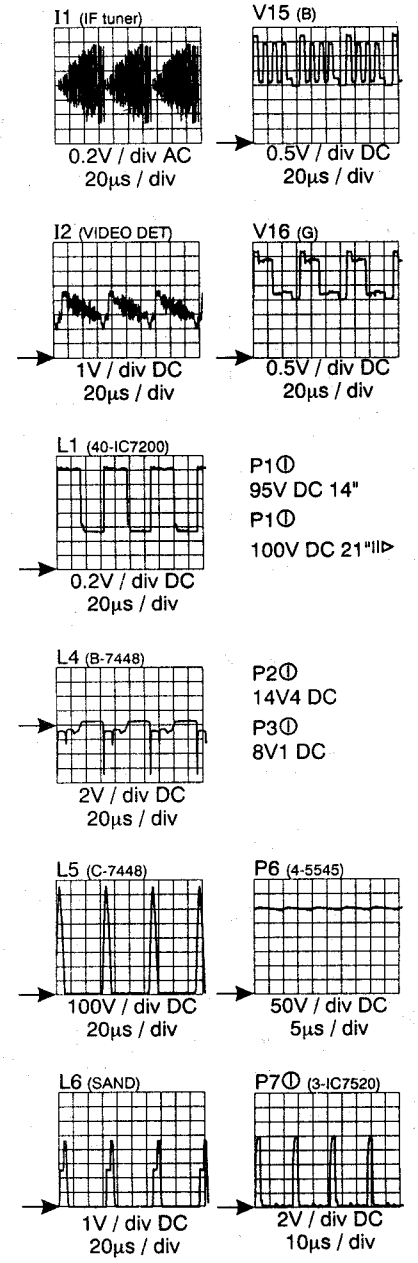
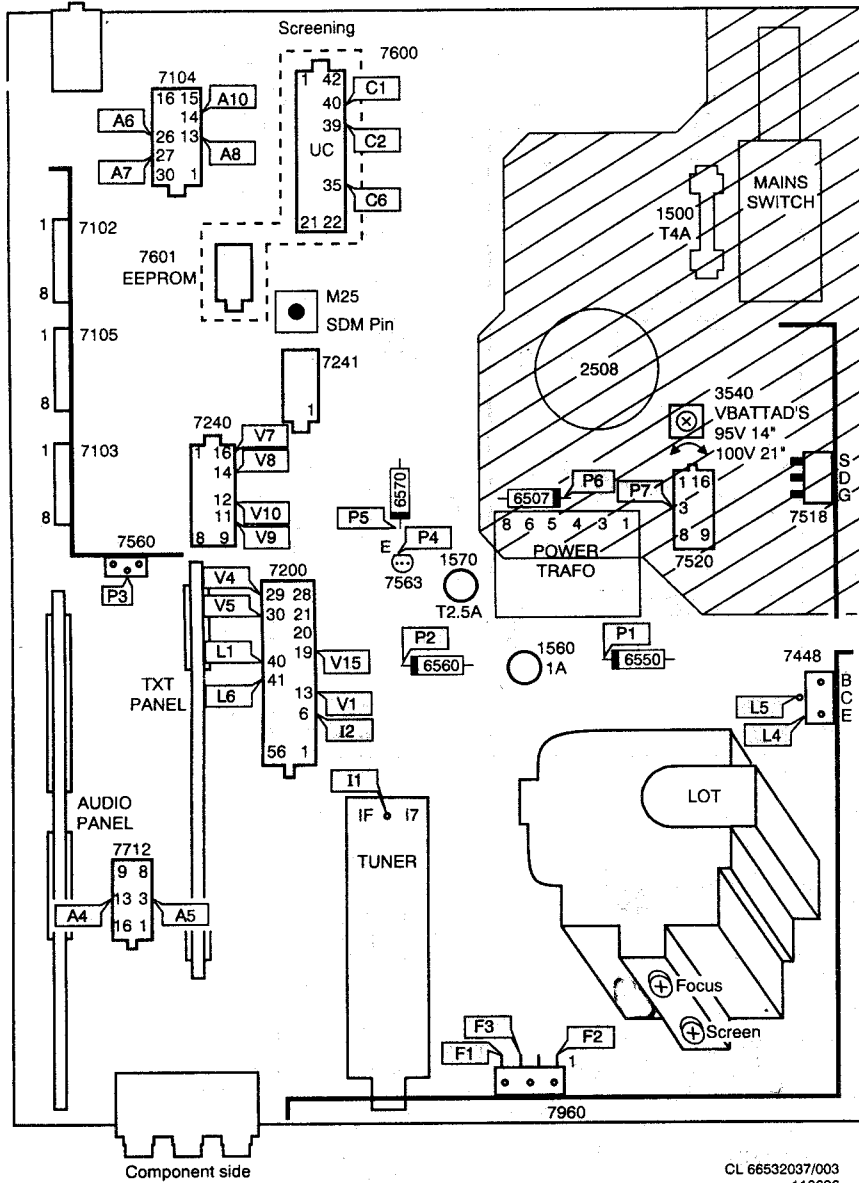
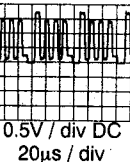


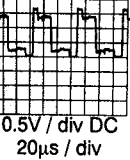
Diagram Supply voltages survey

Block Diagram Supply Voltage

1/15 (B)



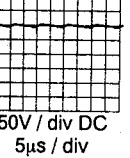
1/16 (G)



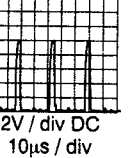
10
5V DC 14"
10
100V DC 21"|||>

20
4V4 DC
30
1 DC

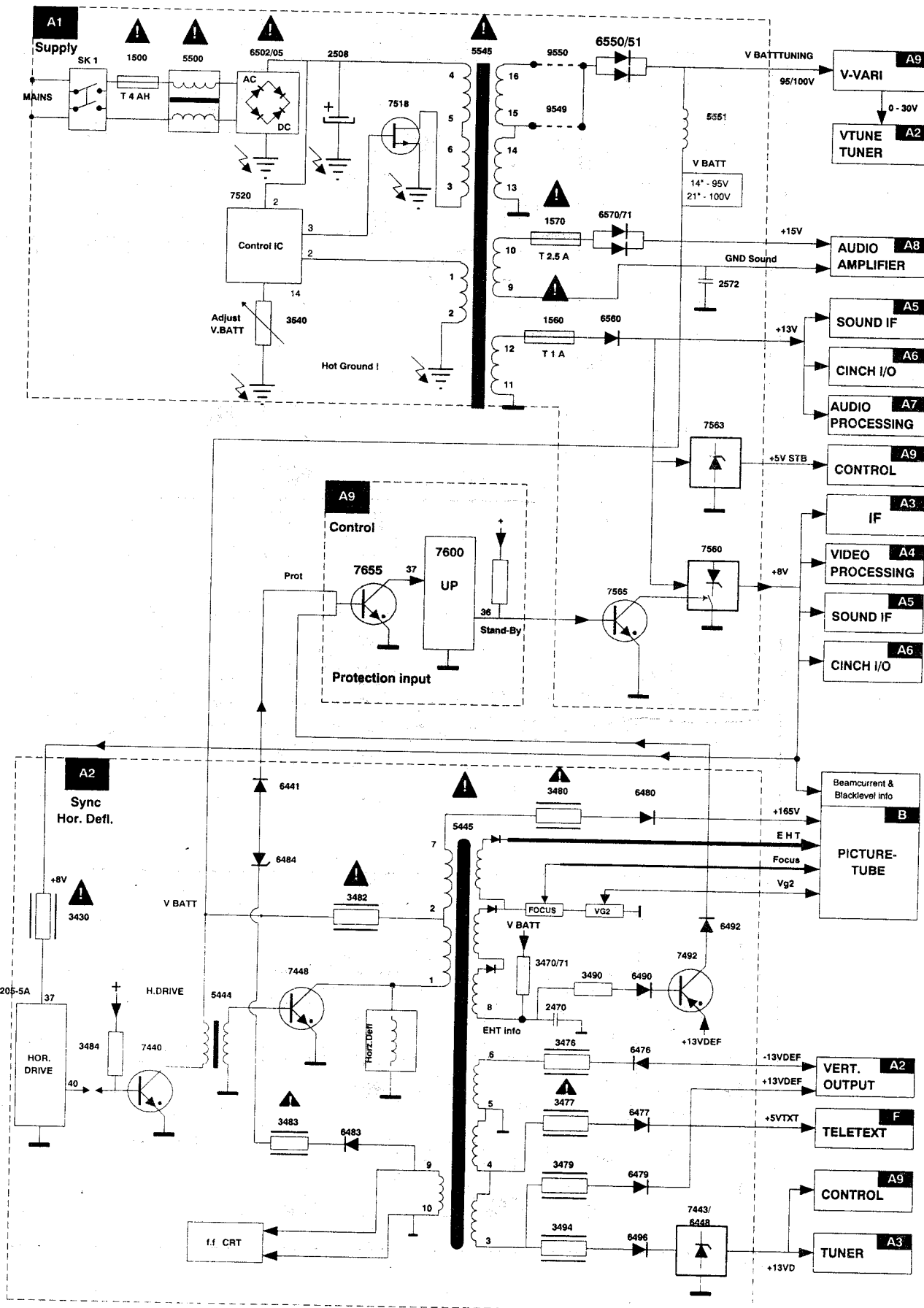
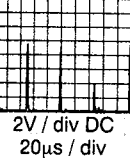
6 (4-5545)



70 (3-IC7520)



P70 (3-IC7520)



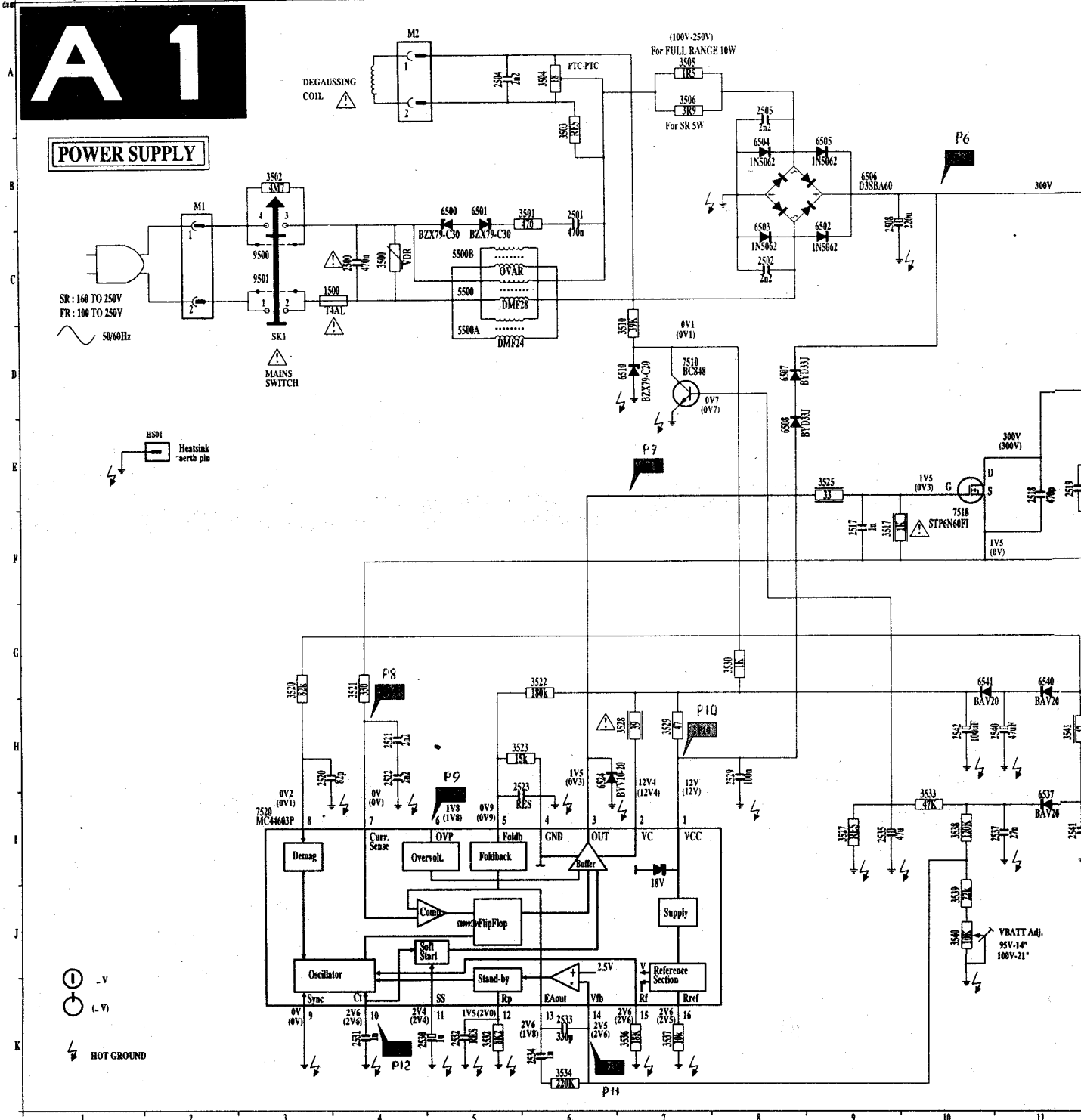


TABLE 1

ITEM NO.	NONCISPR	CISPR
2501	33nF	SURGE PROT.
2516	680pF	1u5
2545	1nF	2n2
2564	—	330pF
3519	3k9	1k5
5500	DMF 2820H	DMF 2415H
6500	BZX79-C20	jumper
6501	BZX79-C20	jumper
6520	OUT	IN

TABLE 2

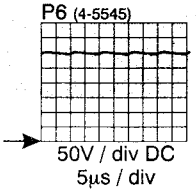
ITEM NO.	21"14"
9500	OPEN
9501	OPEN

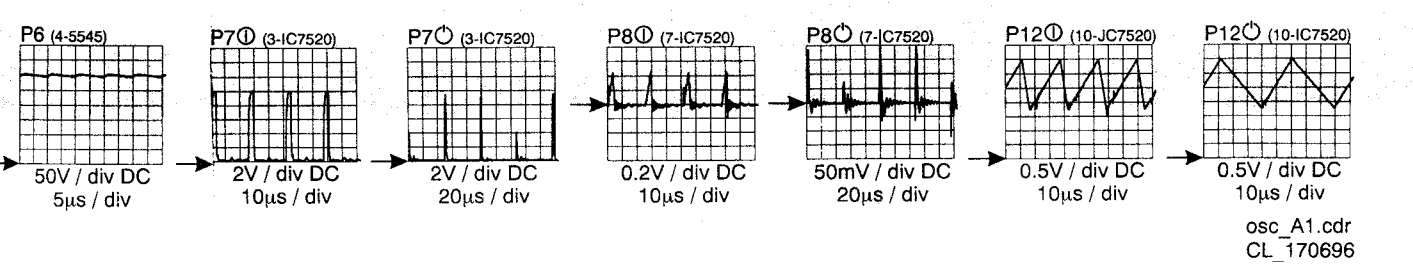
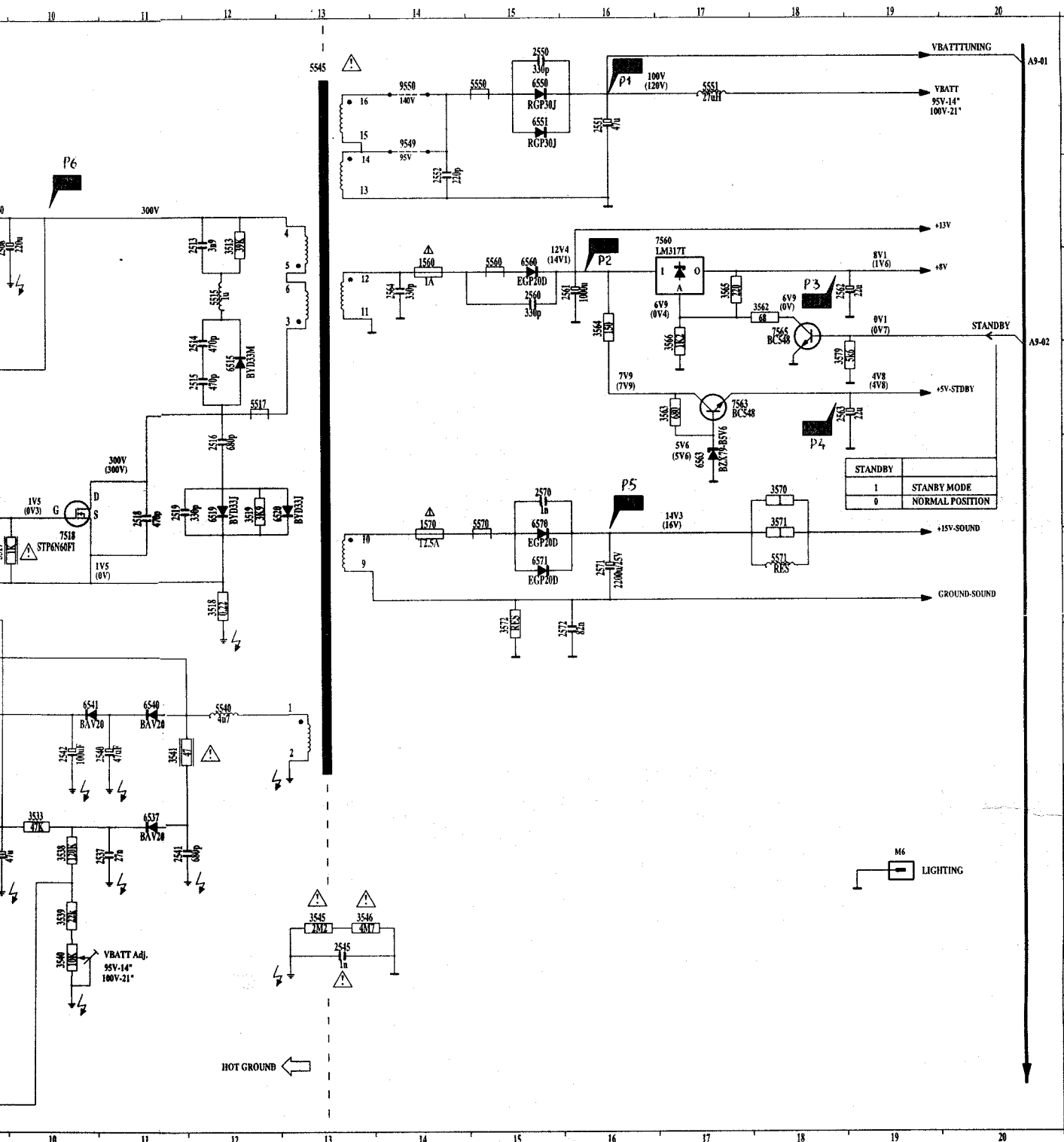
TABLE 3

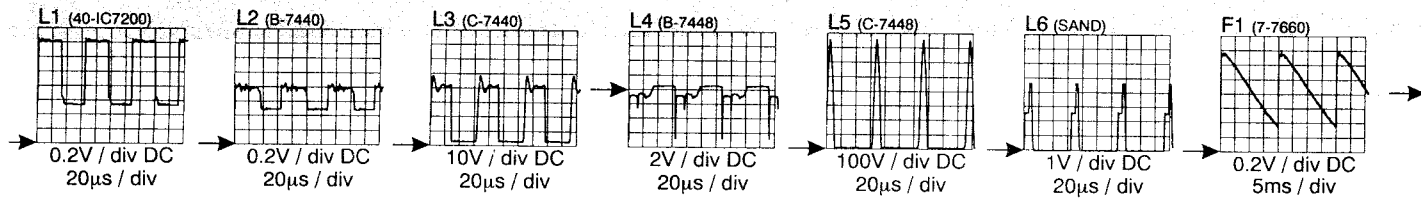
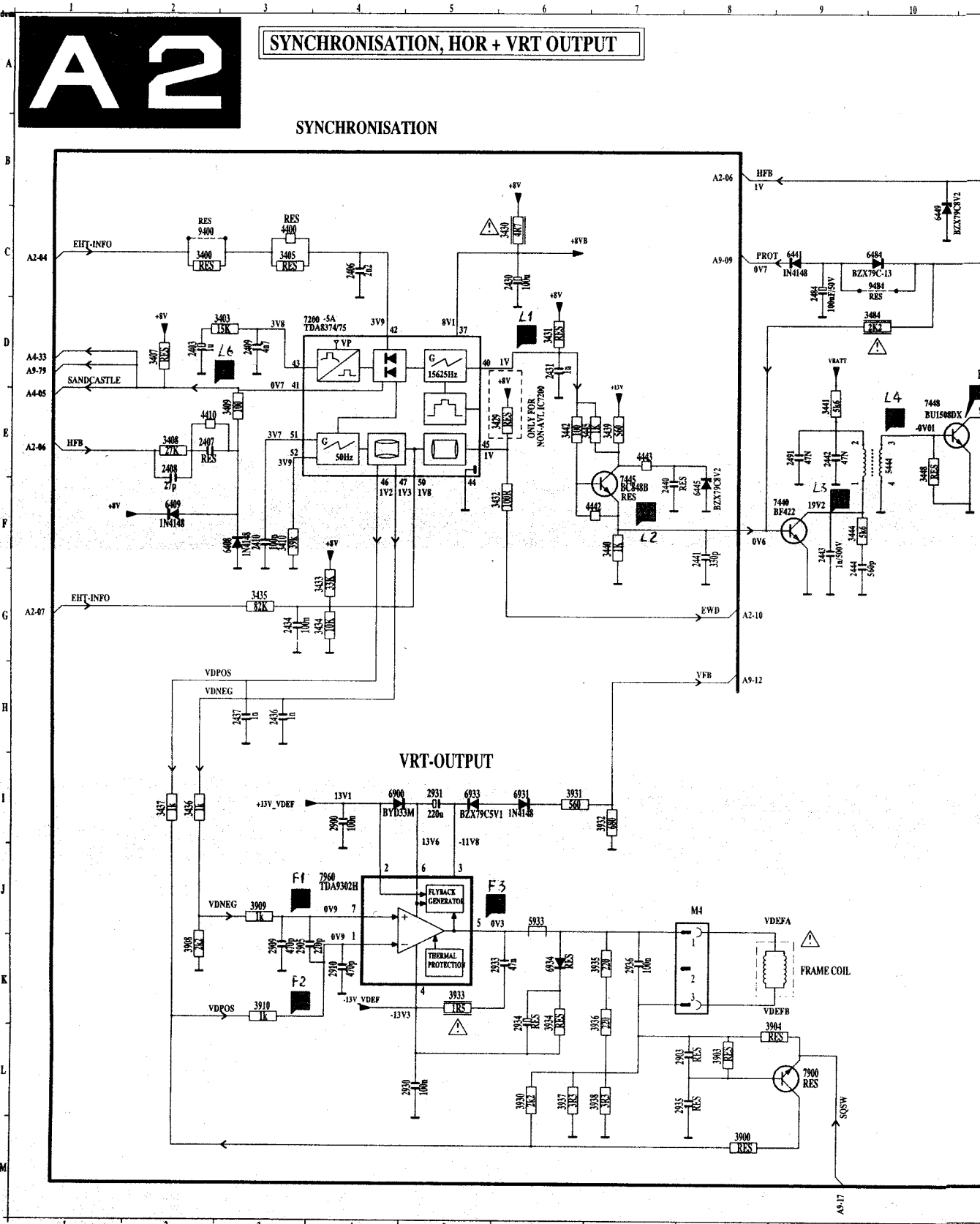
ITEM NO.	+100V	+95V
9549	IN	IN
9550	OPEN	OPEN

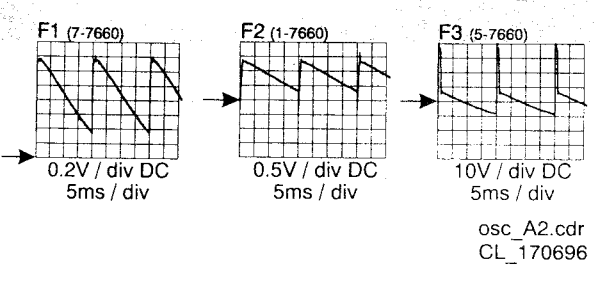
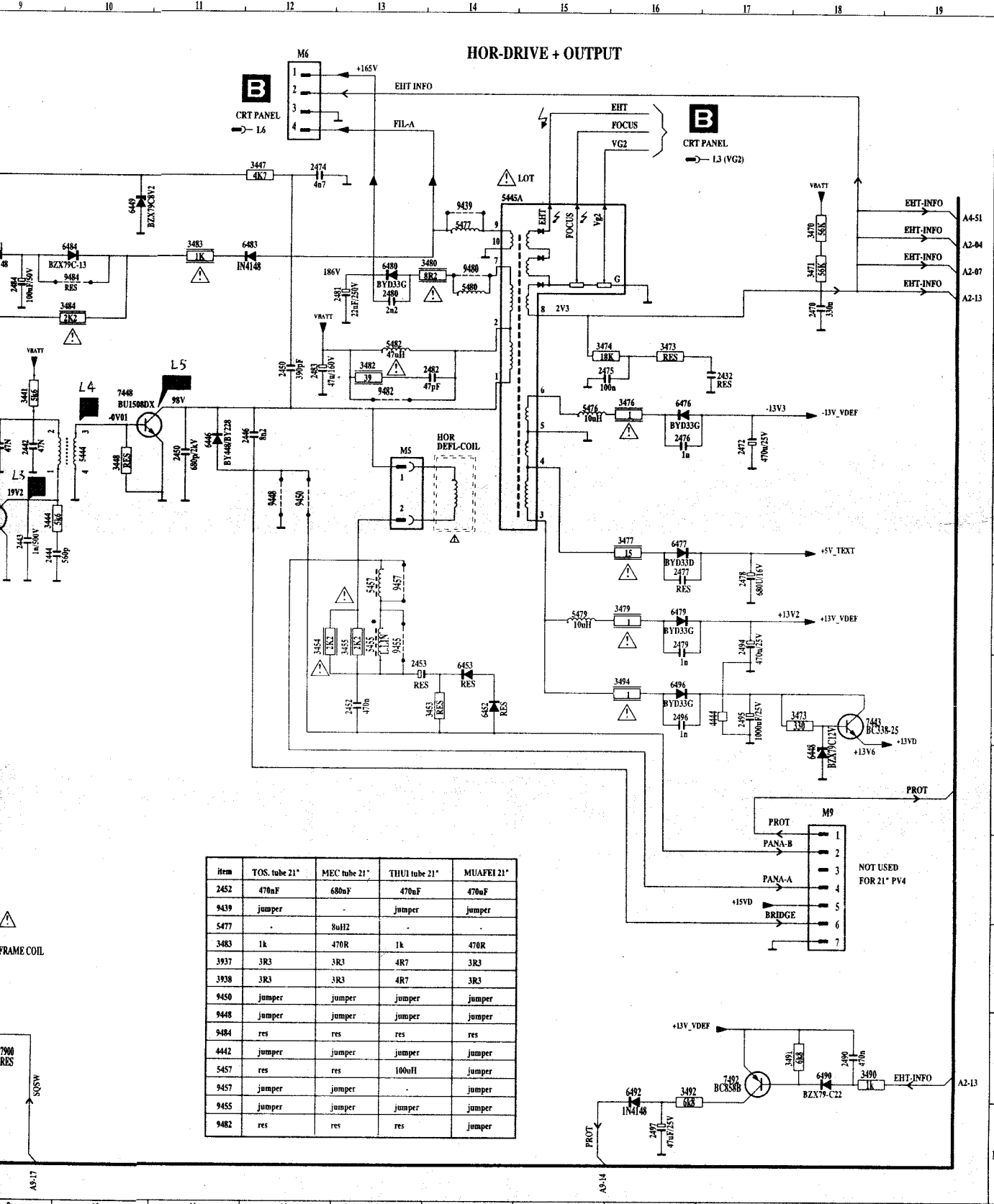
P10
95V DC 14"
P10
100V DC 21"

P20
14V4 DC
P30
8V1 DC









A3

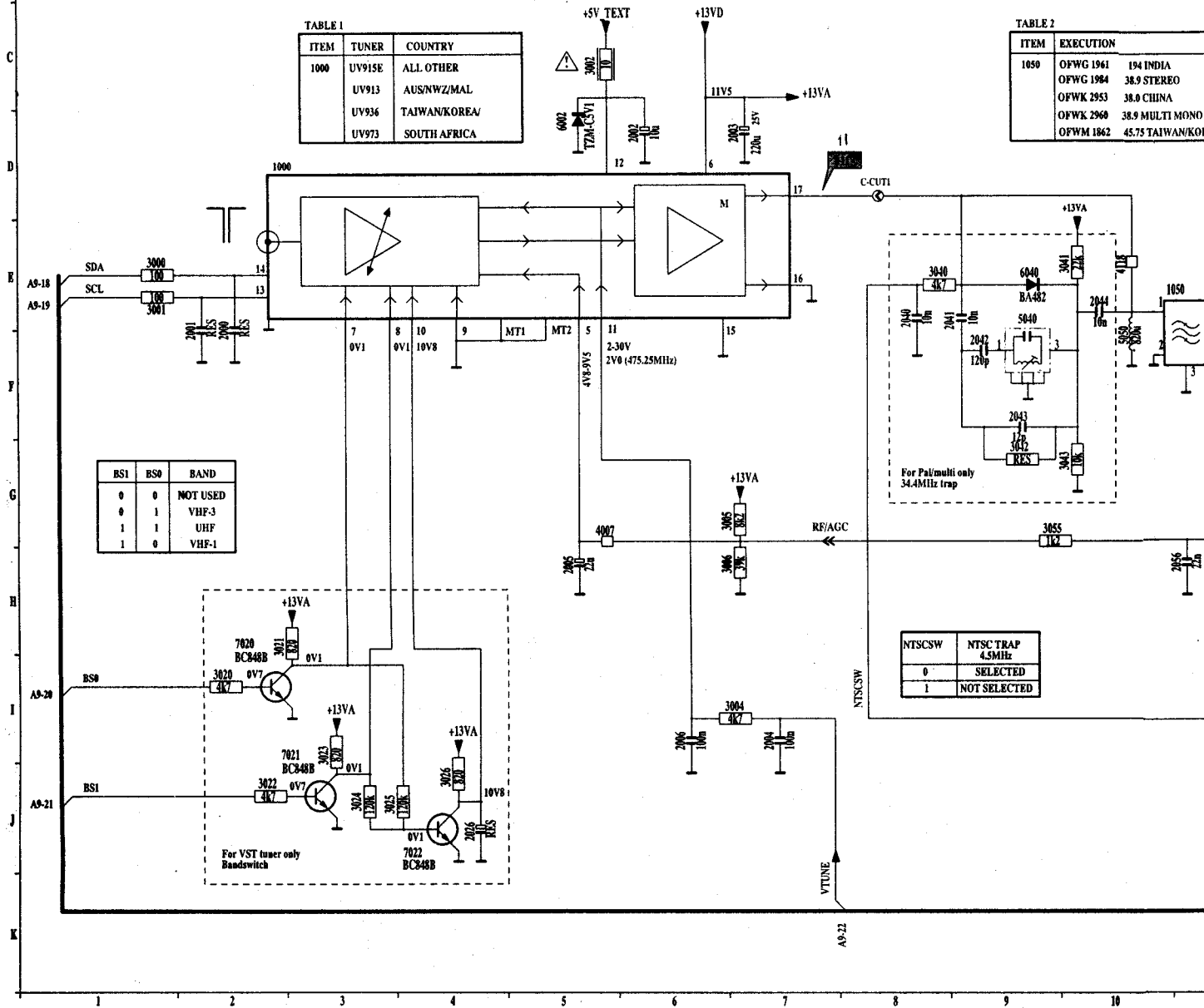
TUNER + IF

TABLE 1

ITEM	TUNER	COUNTRY
1000	UV915E	ALL OTHER
	UV913	AUS/NWZ/MAL
	UV936	TAIWAN/KOREA/
	UV973	SOUTH AFRICA

TABLE 2

ITEM	EXECUTION
1050	OFWG 1961 194 INDIA
	OFWG 1984 38.9 STEREO
	OFWK 2953 38.0 CHINA
	OFWK 2960 38.9 MULTI MONO
	OFWM 1862 45.75 TAIWAN/KO



BS1	BS0	BAND
0	0	NOT USED
0	1	VHF-3
1	1	UHF
1	0	VHF-1

NTSCSW	NTSC TRAP
0	SELECTED
1	NOT SELECTED

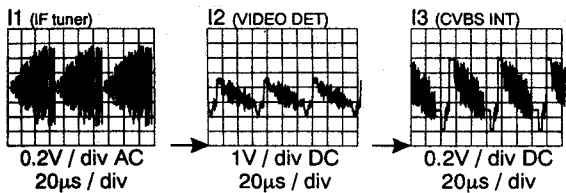
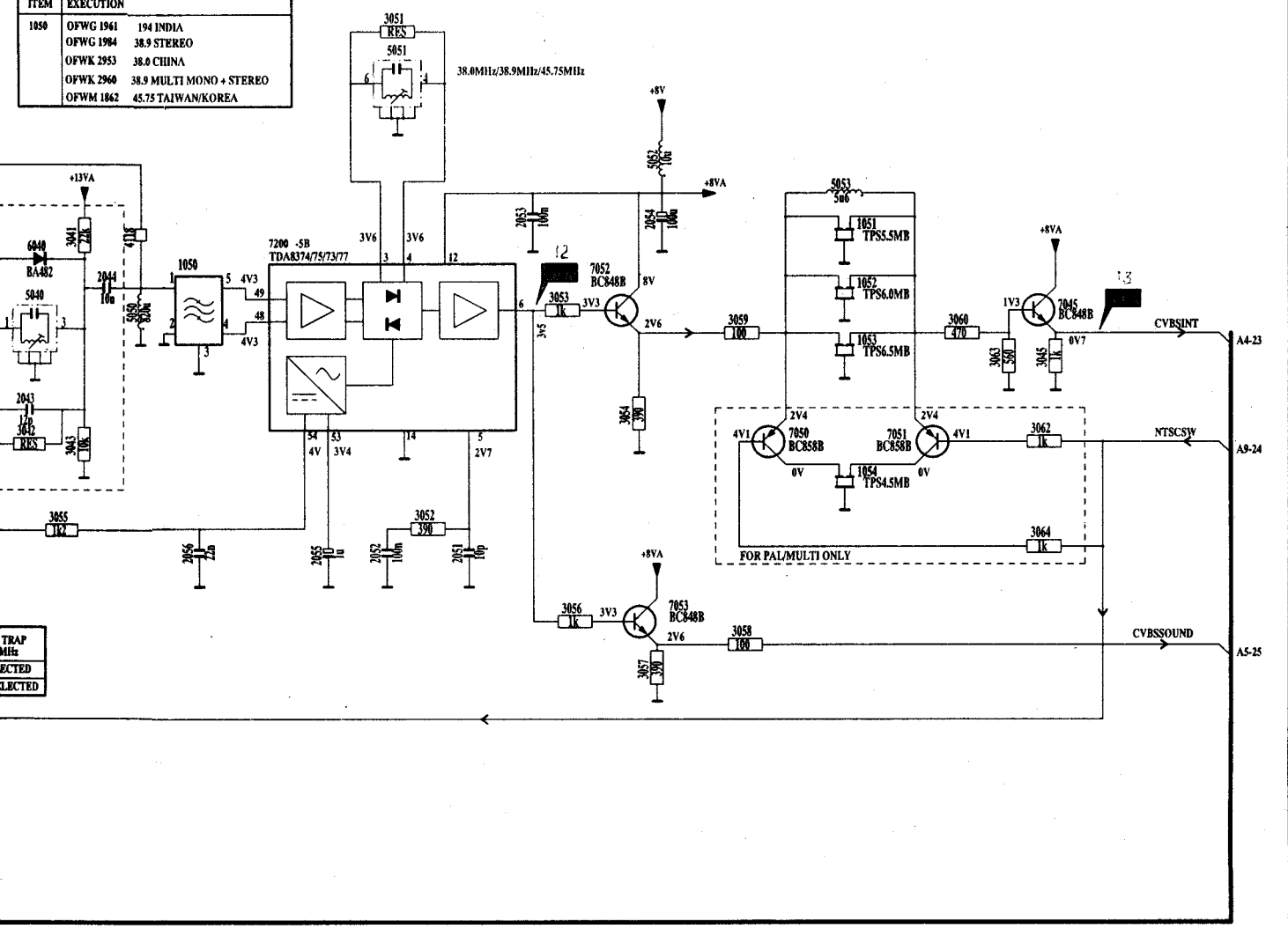


TABLE 2

ITEM	EXECUTION
1050	OFWG 1961 194 INDIA
	OFWG 1984 38.9 STEREO
	OFWK 2953 38.0 CHINA
	OFWK 2960 38.9 MULTI MONO + STEREO
	OFWM 1862 45.75 TAIWAN/KOREA



TRAP
MHz
ECTED
LECTED

A
B
C
D
E
F
G
H
I
J
K

A4

VIDEO PROCESSING

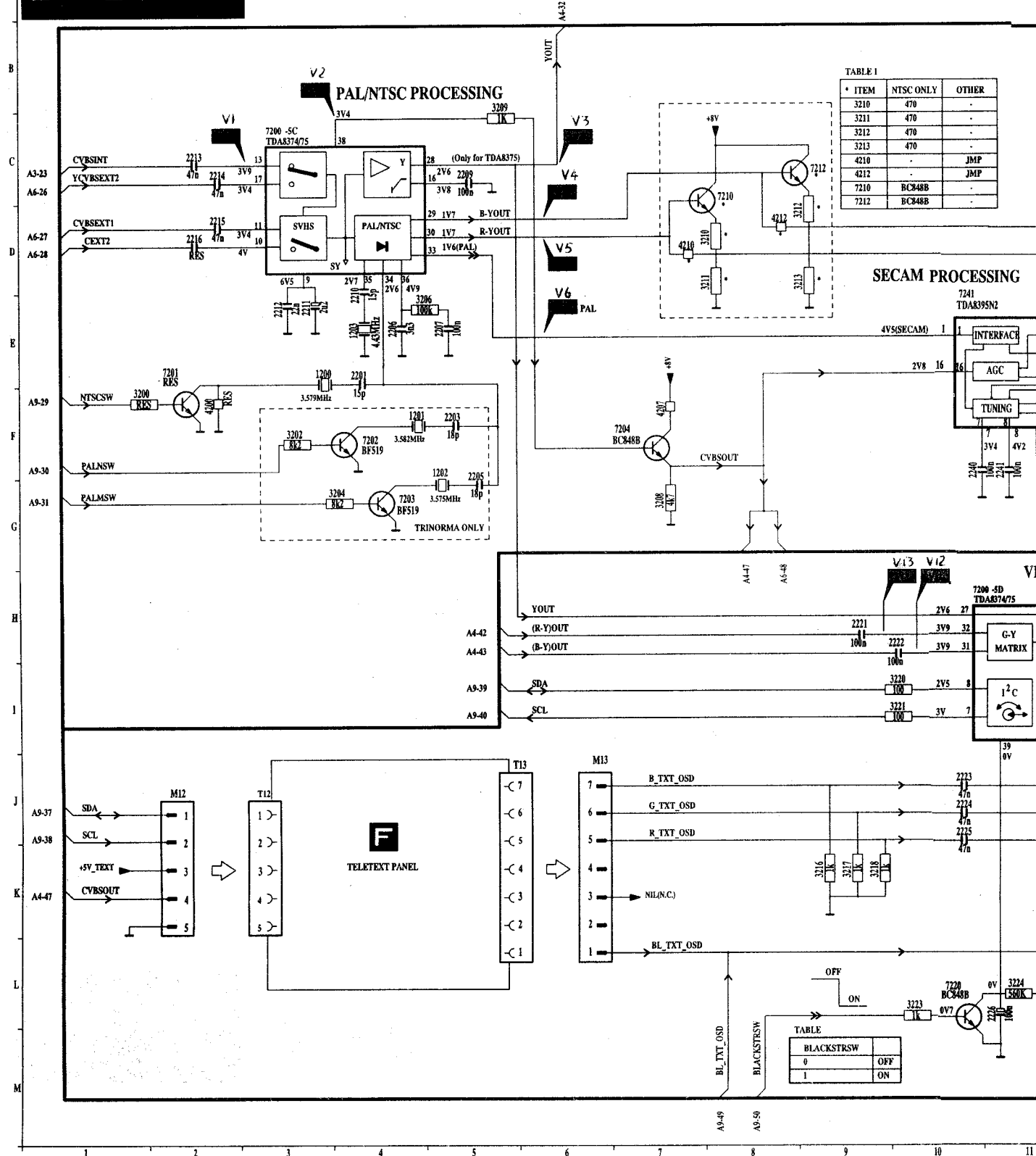
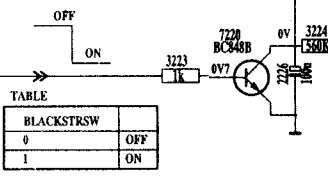
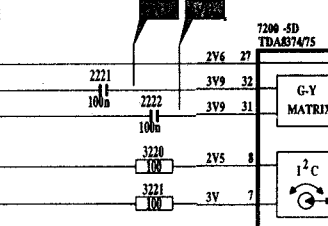
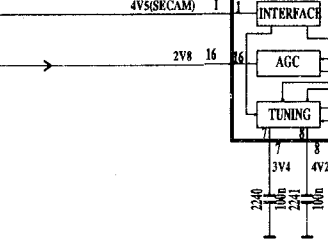


TABLE 1

ITEM	NTSC ONLY	OTHER
3210	470	-
3211	470	-
3212	470	-
3213	470	-
4210	-	JMP
4212	-	JMP
7210	BC848B	-
7212	BC848B	-



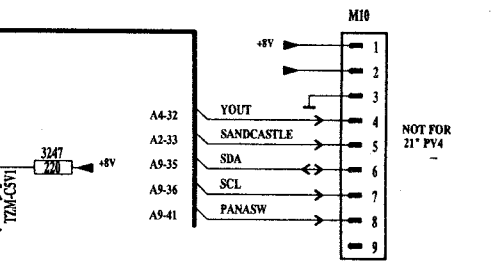
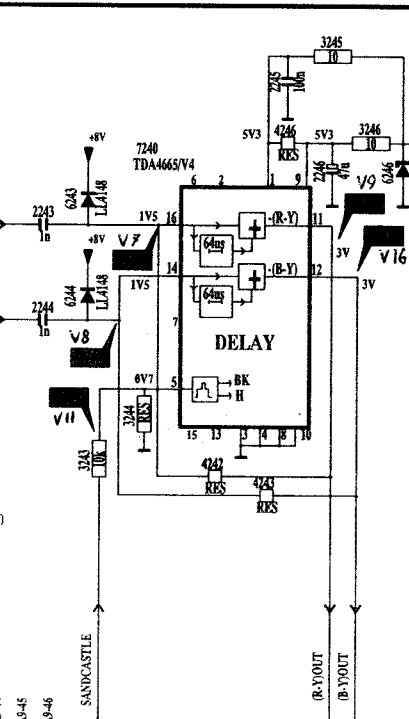
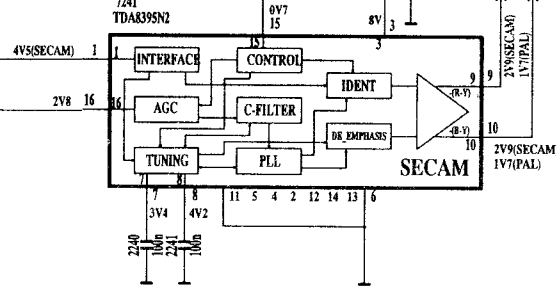
TABLE

BLACKSTRSW	OFF	ON
0	OFF	ON
1	ON	OFF

Video processing

ITEM	NTSC ONLY	OTHER
210	470	-
211	470	-
212	470	-
213	470	-
210	-	JMP
212	-	JMP
218	-	BC848B
212	-	BC848B

SECAM PROCESSING



NOT FOR 21' PV4

VIDEO CONTROL

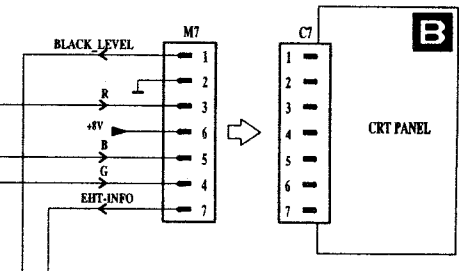
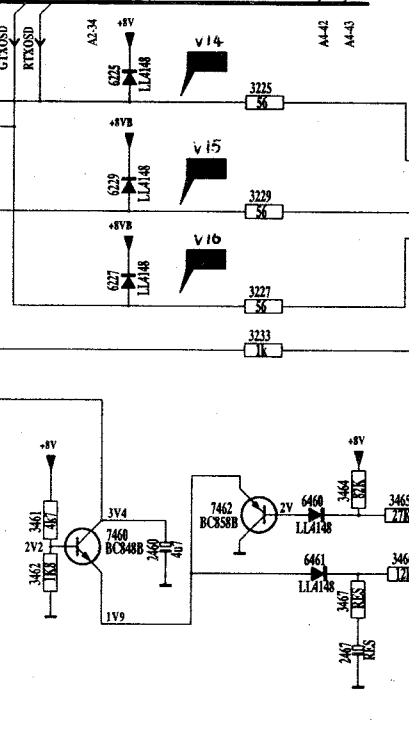
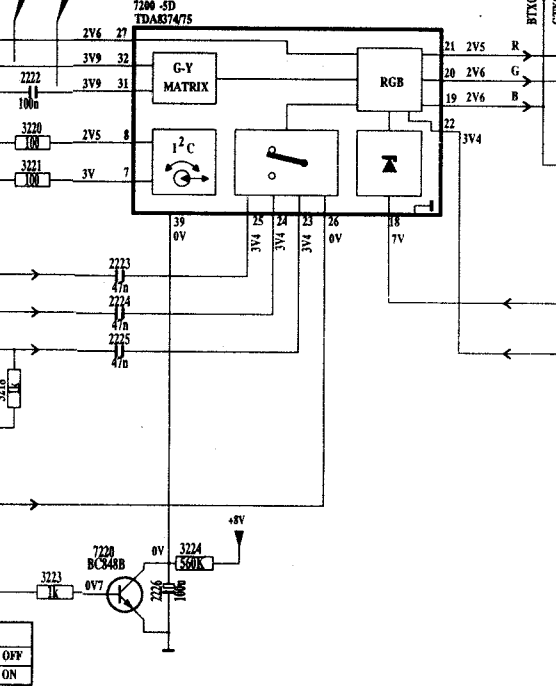


TABLE 2

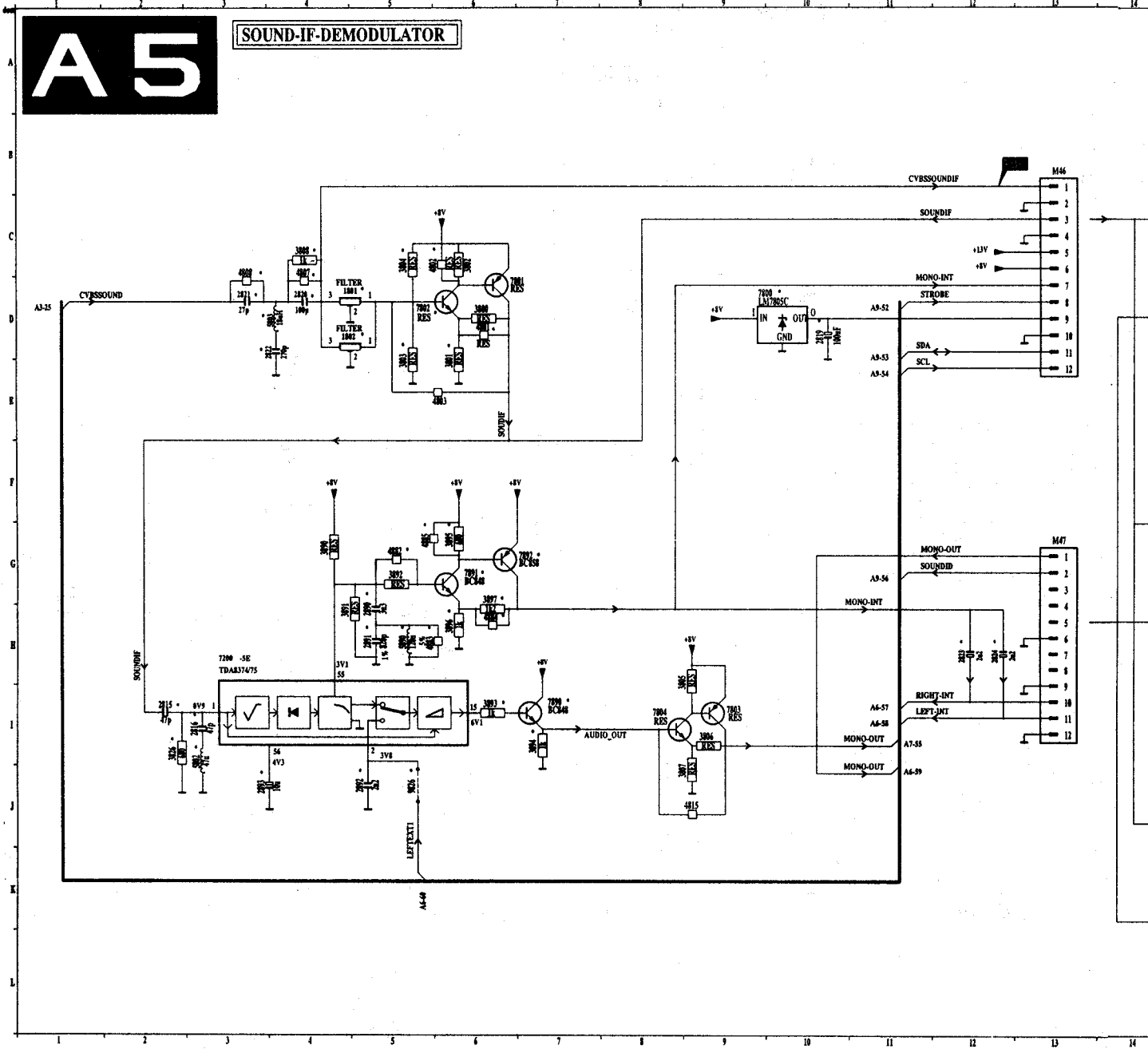
ITEM		
4200	ALL VERSION	
4207	ALL VERSION	
4242	RES	
4243	RES	
4246	RES	

OFF
ON

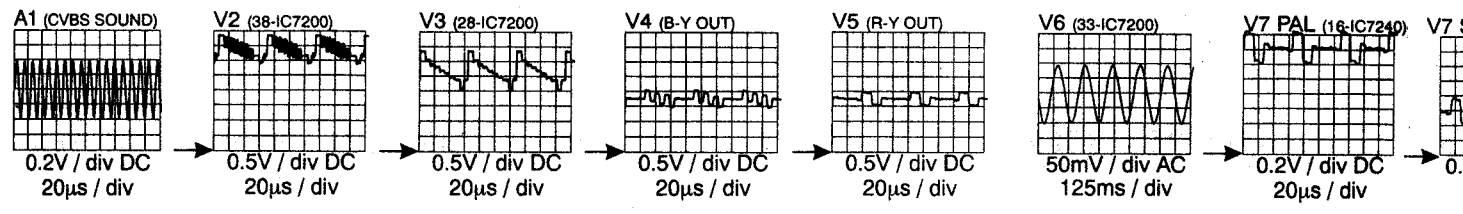
A
B
C
D
E
F
G
H
I
J
K
L
M

A5

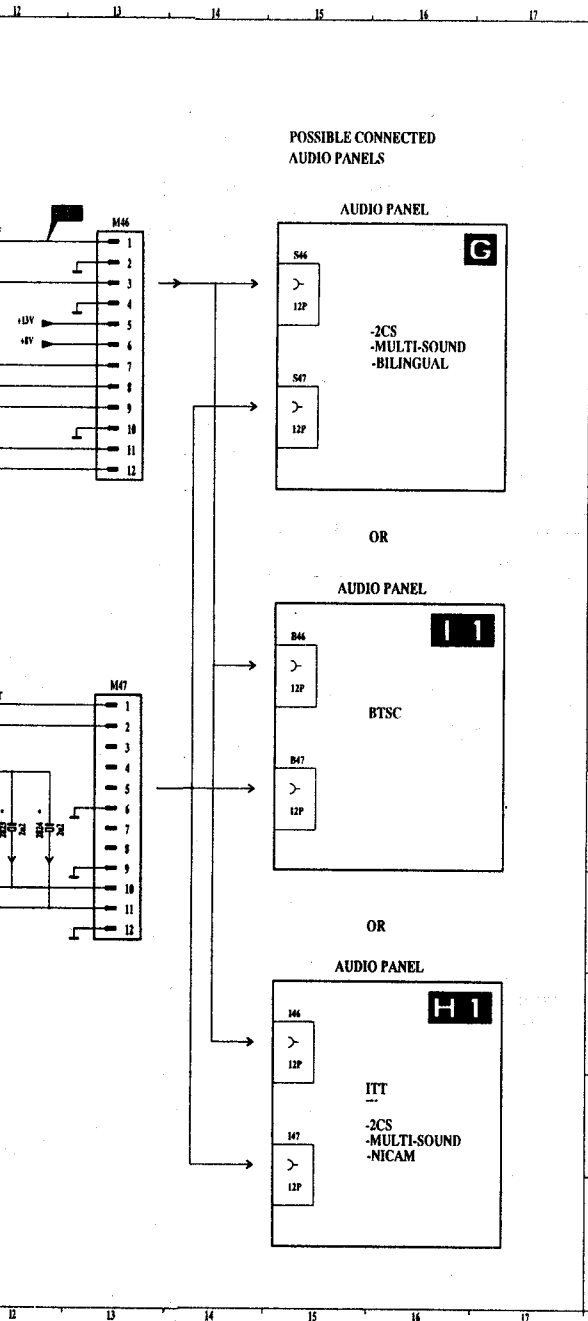
SOUND-IF-DEMODULATOR



37



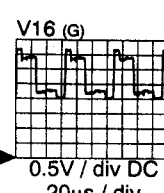
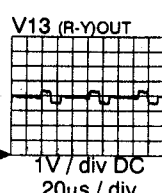
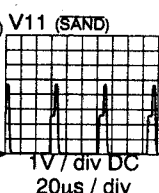
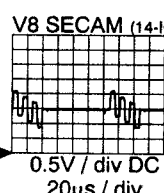
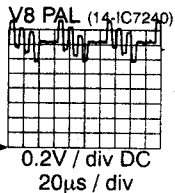
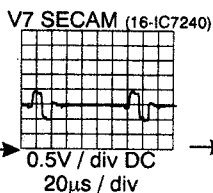
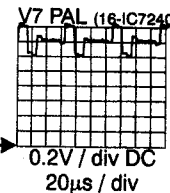
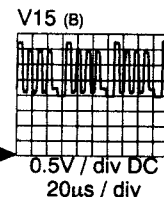
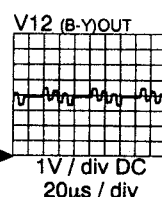
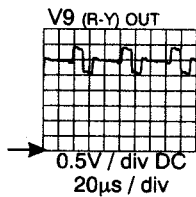
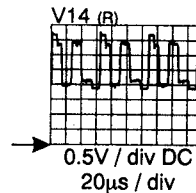
Sound IF demodulator

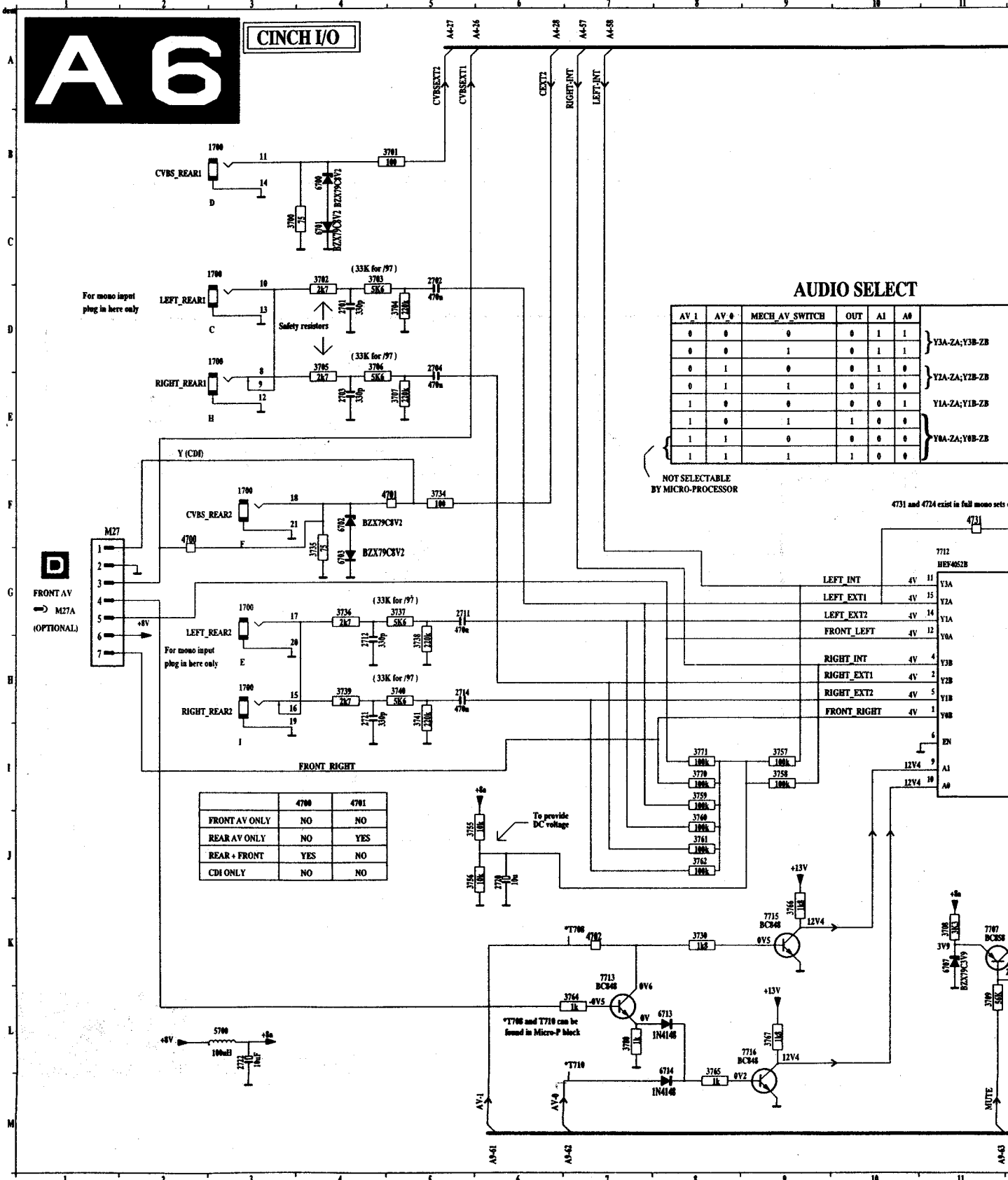


DIVERSITY TABLE

1	SIF ST PB + 5.5	8	SIF ST PB + 5.5/6.3
2	SIF MONO PB + BILINGUAL	9	SIF MONO PB + 4.5
3	SIF ST PB + BILINGUAL	10	SIF MONO PB + 6.5
4	SIF MONO PB + 5.5/4.5	11	SIF ST PB + MULTI
5	SIF MONO PB + 5.5	12	SIF ITT
6	SIF ST PB + MULTI (93)	13	SIF MONO PB + MULTI
7	SIF MONO PB + MULTI (93)	14	SIF 2CS
		15	SIF BTSC

ITEM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1001	5.5MHz			5.5MHz	5.5MHz			5.5MHz	6.5MHz						
1002				6.5MHz				6.5MHz		6.5MHz					
2815	47pF	47pF	47pF	47pF	47pF	47pF	47pF	47pF	47pF	47pF	47pF	47pF	47pF	47pF	47pF
2816	47pF	47pF	47pF	47pF	47pF	47pF	47pF	47pF	47pF	47pF	47pF	47pF	47pF	47pF	47pF
2819															
2820												100pF			
2821												100pF			100pF
2822												27pF			27pF
2823												27pF			27pF
2824	2.2nF		2.2nF			2.2nF		2.2nF				2.2nF			
2826	2.2nF		2.2nF			2.2nF		2.2nF				2.2nF			
2890	3.3nF	3.3nF	3.3nF	3.3nF	3.3nF	3.3nF	3.3nF	3.3nF	3.3nF	3.3nF	3.3nF	3.3nF	3.3nF	3.3nF	3.3nF
2891															
2892	2.2nF	2.2nF	2.2nF	2.2nF	2.2nF	2.2nF	2.2nF	2.2nF	2.2nF	2.2nF	2.2nF	2.2nF	2.2nF	2.2nF	2.2nF
2893	10nF	10nF	10nF	10nF	10nF	10nF	10nF	10nF	10nF	10nF	10nF	10nF	10nF	10nF	10nF
3001	1k			1k	1k			1k	1k	1k	1k	1k	1k	1k	1k
3003	10k			10k	10k			10k	10k	10k	10k	10k	10k	10k	10k
3004	10k			10k	10k			10k	10k	10k	10k	10k	10k	10k	10k
3008		1k	1k										1k	1k	1k
3026	680R	680R	680R	680R	680R	680R	680R	680R	680R	680R	680R	680R	680R	680R	680R
3053	1k	1k	1k	1k	1k	1k	1k	1k	1k	1k	1k	1k	1k	1k	1k
3054	1k	1k	1k	1k	1k	1k	1k	1k	1k	1k	1k	1k	1k	1k	1k
3055	680R	680R	680R	680R	680R	680R	680R	680R	680R	680R	680R	680R	680R	680R	680R
3056	1k	1k	1k	1k	1k	1k	1k	1k	1k	1k	1k	1k	1k	1k	1k
3057	470R		470R			470R		470R				470R			1k
4001	Jump			Jump	Jump			Jump	Jump	Jump	Jump	Jump	Jump	Jump	Jump
4002	Jump			Jump	Jump			Jump	Jump	Jump	Jump	Jump	Jump	Jump	Jump
4007	Jump			Jump	Jump			Jump	Jump	Jump	Jump	Jump	Jump	Jump	Jump
4008	Jump	Jump	Jump	Jump	Jump	Jump	Jump	Jump	Jump	Jump	Jump	Jump	Jump	Jump	Jump
4002	Jump	Jump	Jump	Jump	Jump	Jump	Jump	Jump	Jump	Jump	Jump	Jump	Jump	Jump	Jump
4003	Jump	Jump	Jump	Jump	Jump	Jump	Jump	Jump	Jump	Jump	Jump	Jump	Jump	Jump	Jump
4004	Jump			Jump	Jump			Jump	Jump	Jump	Jump	Jump	Jump	Jump	Jump
4005	Jump			Jump	Jump			Jump	Jump	Jump	Jump	Jump	Jump	Jump	Jump
5002	47nH	47nH	47nH	47nH	47nH	47nH	47nH	47nH	47nH	47nH	47nH	47nH	47nH	47nH	47nH
5003															
5050						120nH 5%	120nH 5%					120nH 5%		120nH 5%	120nH 5%
7000													L700MSCP		
7002	BC340			BC340	BC340			BC340	BC340	BC340	BC340	BC340	BC340	BC340	BC340
7000		BC340	BC340	BC340	BC340	BC340	BC340	BC340	BC340	BC340	BC340	BC340	BC340	BC340	BC340
7001	BC340	BC340	BC340	BC340	BC340	BC340	BC340	BC340	BC340	BC340	BC340	BC340	BC340	BC340	BC340
7002	BC350	BC350	BC350	BC350	BC350	BC350	BC350	BC350	BC350	BC350	BC350	BC350	BC350	BC350	BC350
9026	Jump			Jump	Jump			Jump	Jump	Jump	Jump	Jump	Jump	Jump	Jump

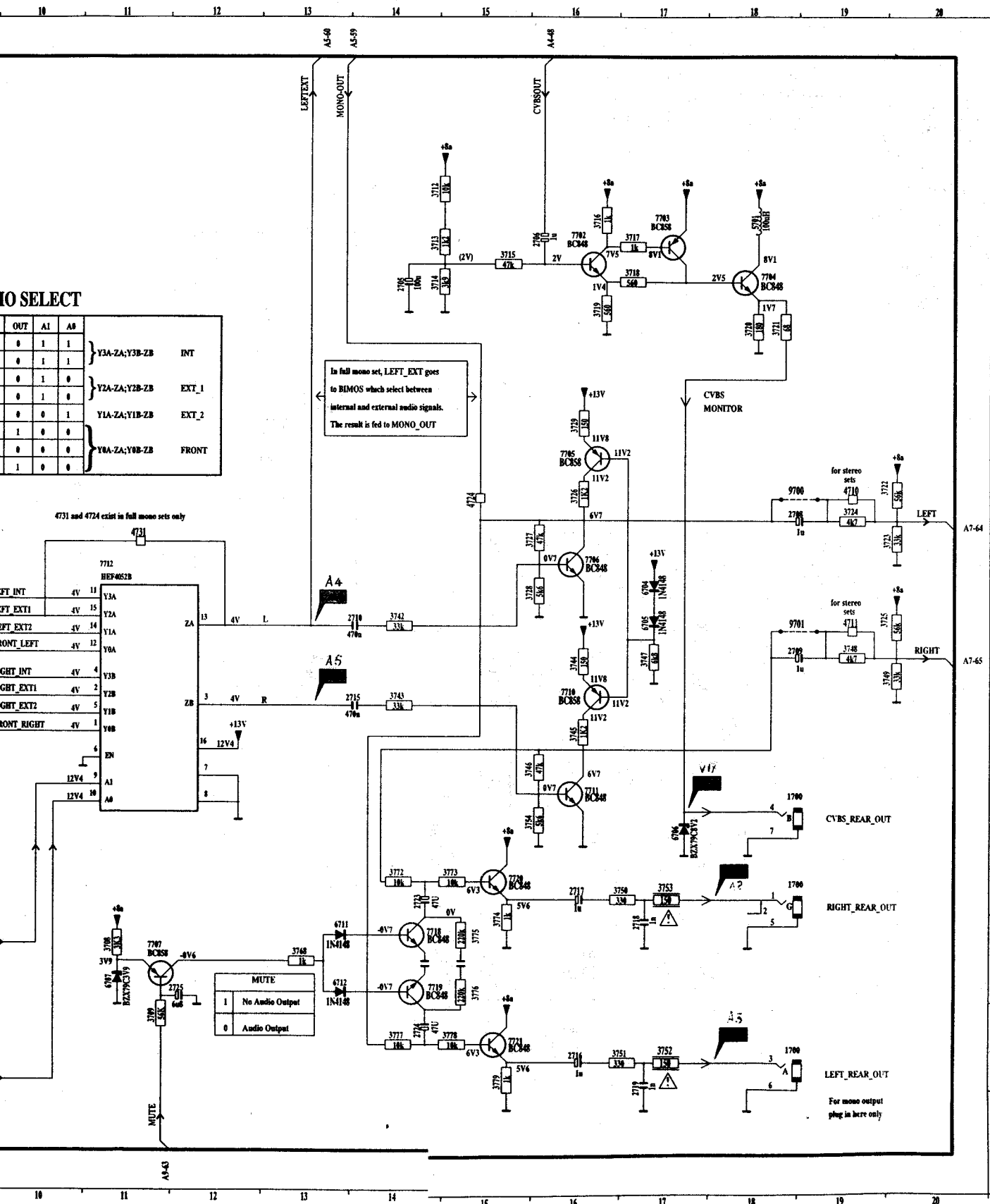




Cinch A/V in/outputs

MODE SELECT

OUT	A1	A8	Mode
0	1	1	Y3A-ZA; Y3B-ZB INT
0	1	1	
0	1	0	Y2A-ZA; Y2B-ZB EXT_1
0	1	0	
0	0	1	Y1A-ZA; Y1B-ZB EXT_2
1	0	0	Y0A-ZA; Y0B-ZB FRONT
0	0	0	
1	0	0	



In full mono set, LEFT_EXT goes to BIMOS which select between internal and external audio signals. The result is fed to MONO_OUT

4731 and 4724 exist in full mono sets only

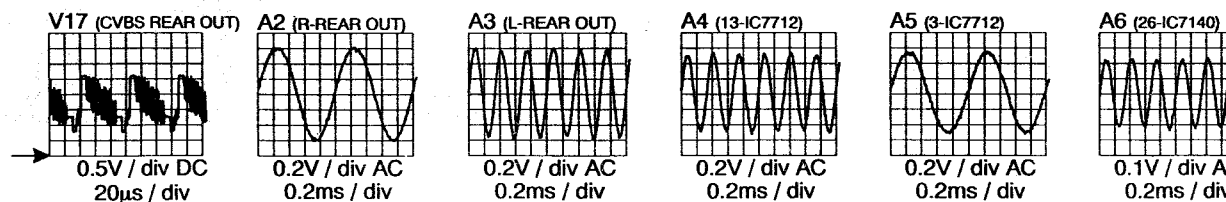
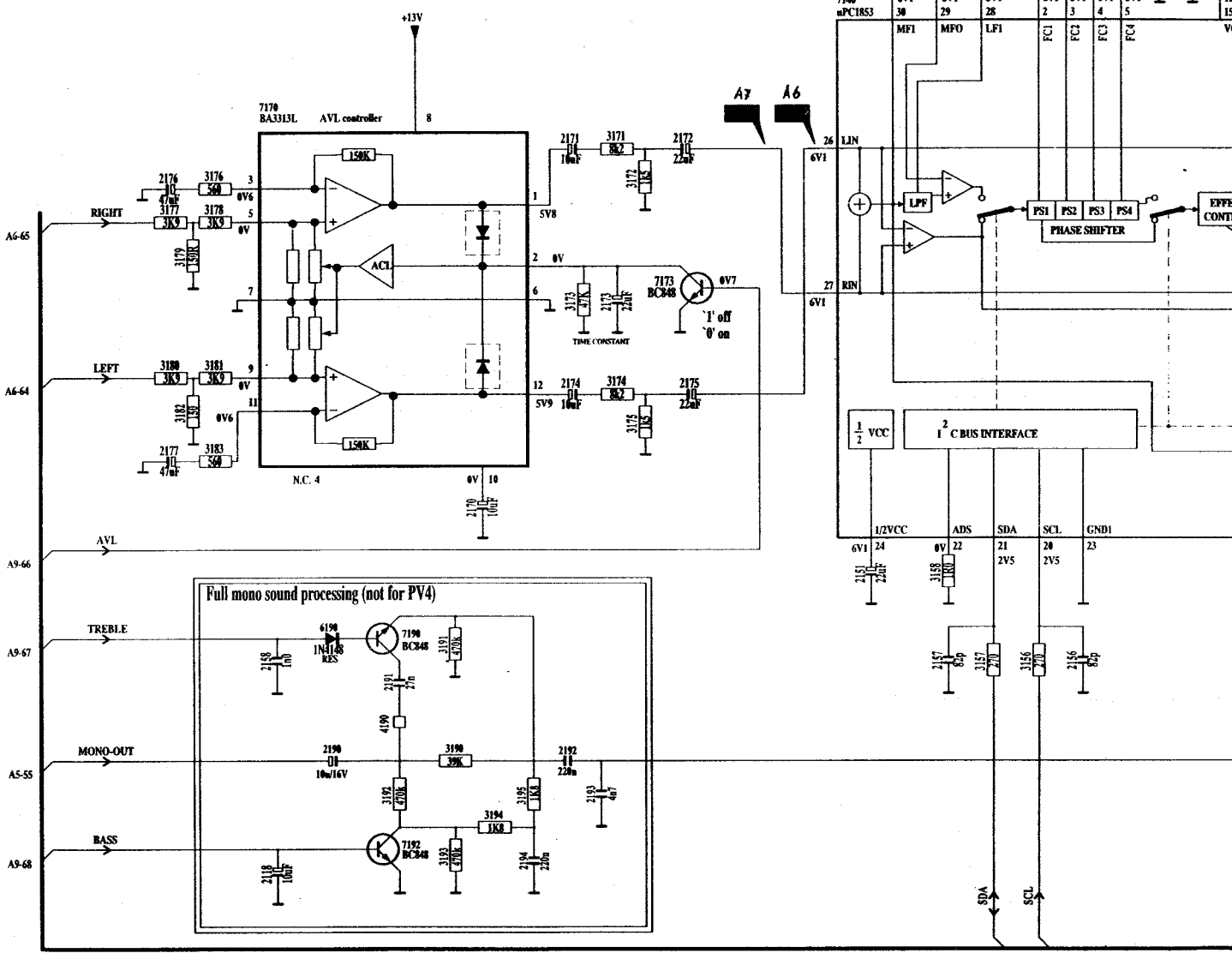
MUTE

1	No Audio Output
0	Audio Output

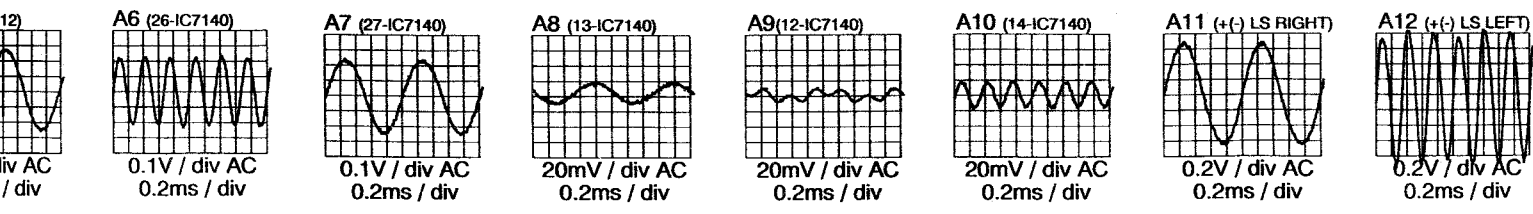
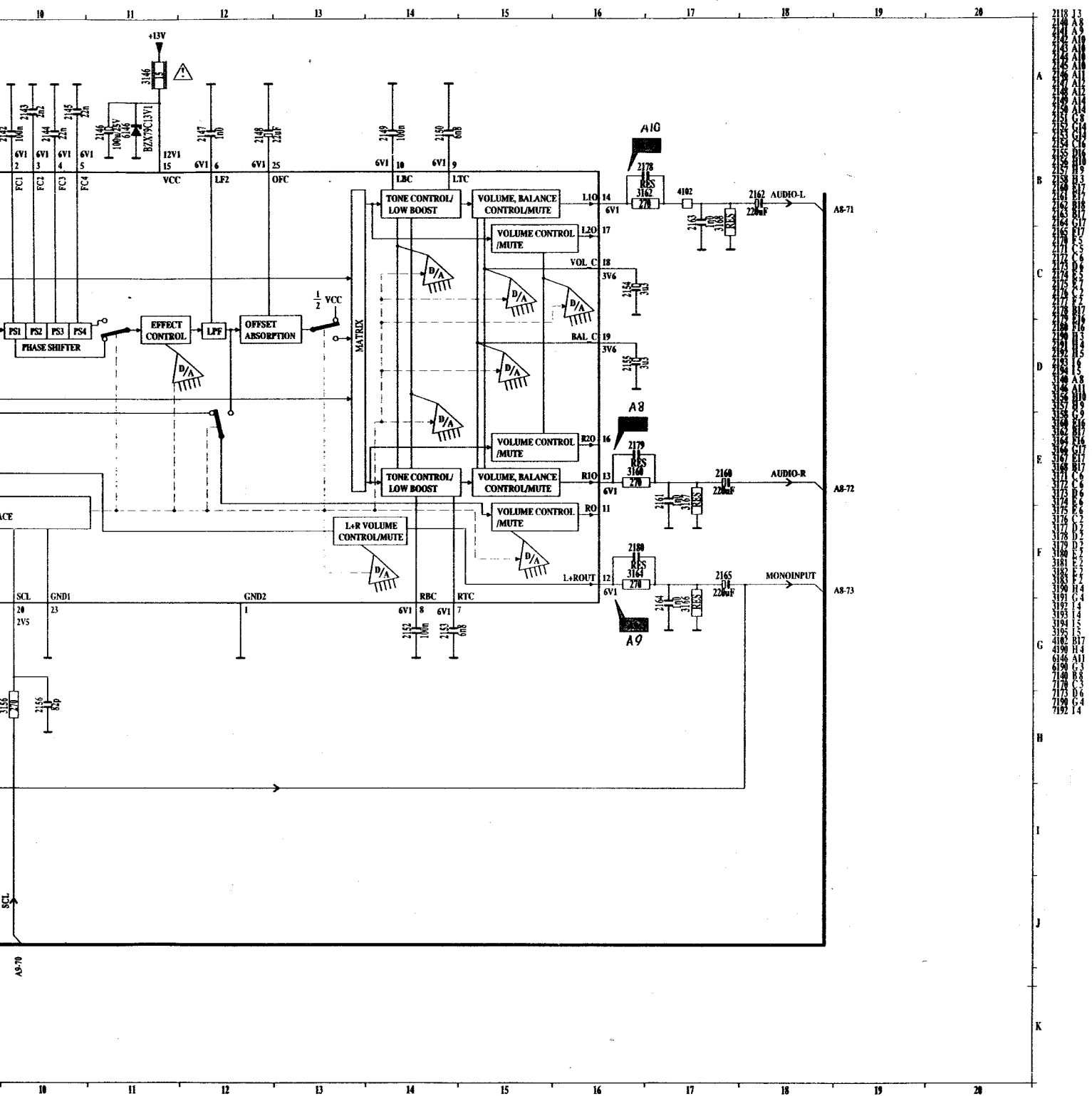
For mono output plug in here only

A7

AUDIO PROCESSING

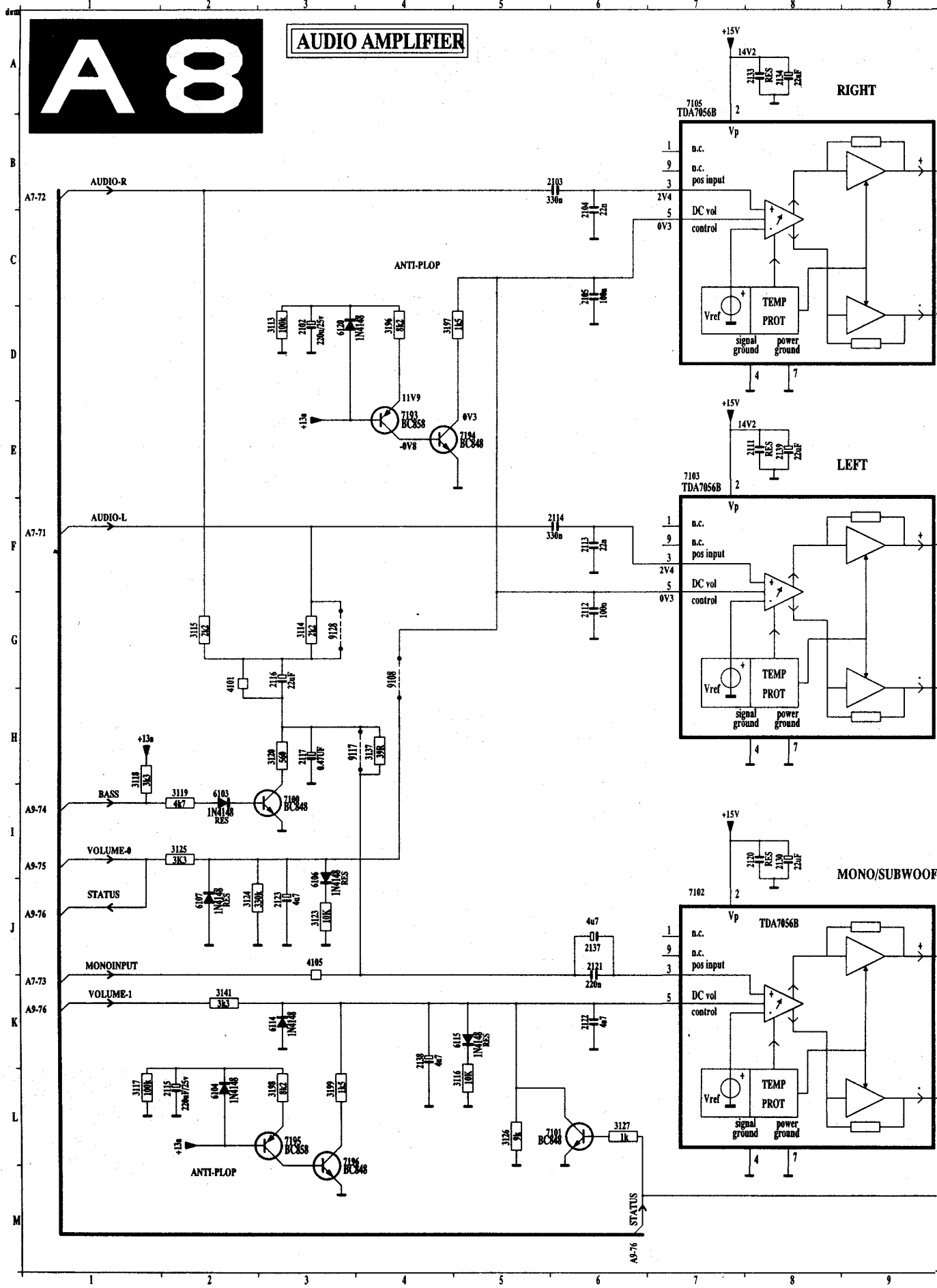


Audio processing



A8

AUDIO AMPLIFIER



Audio output amplifiers

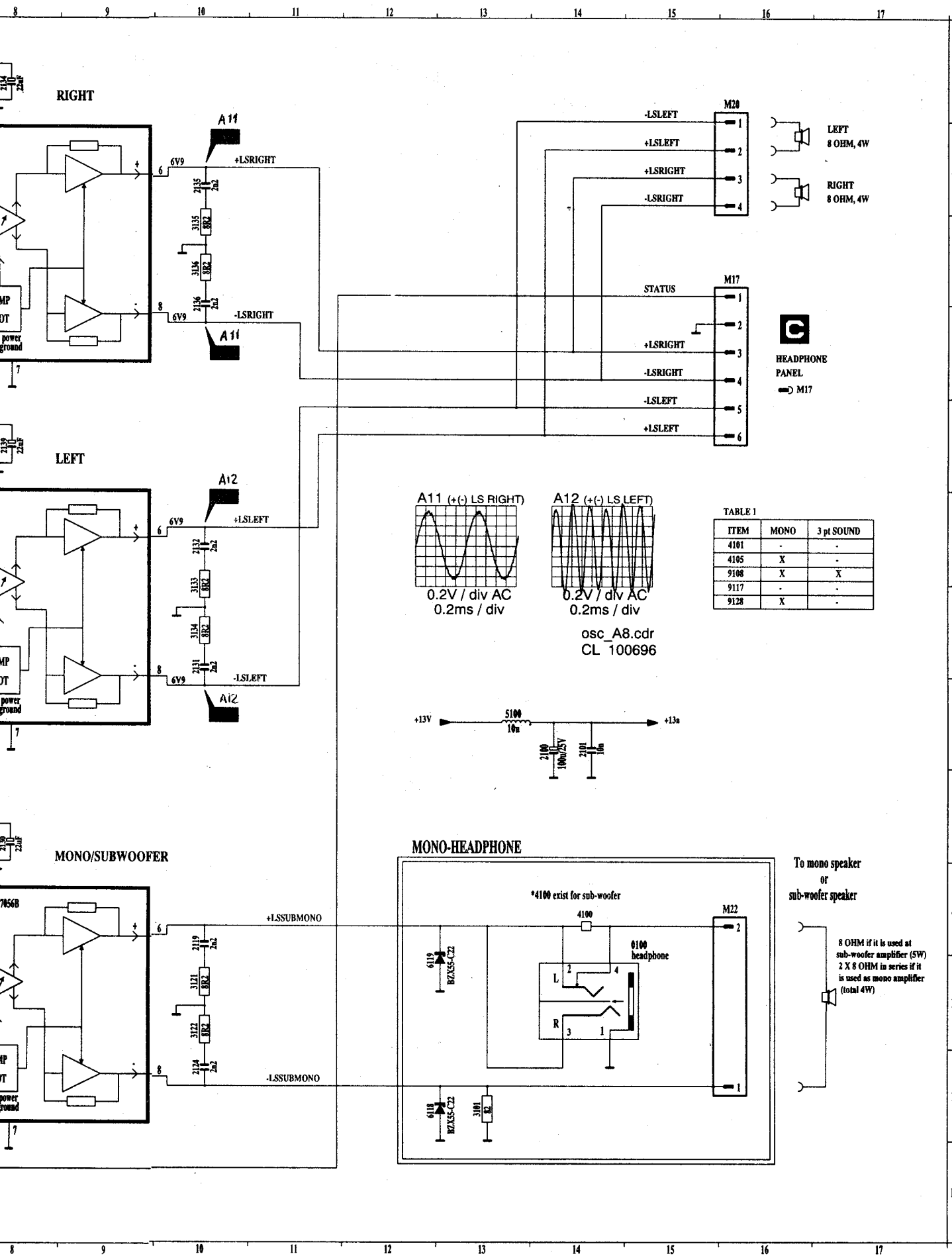


TABLE 1

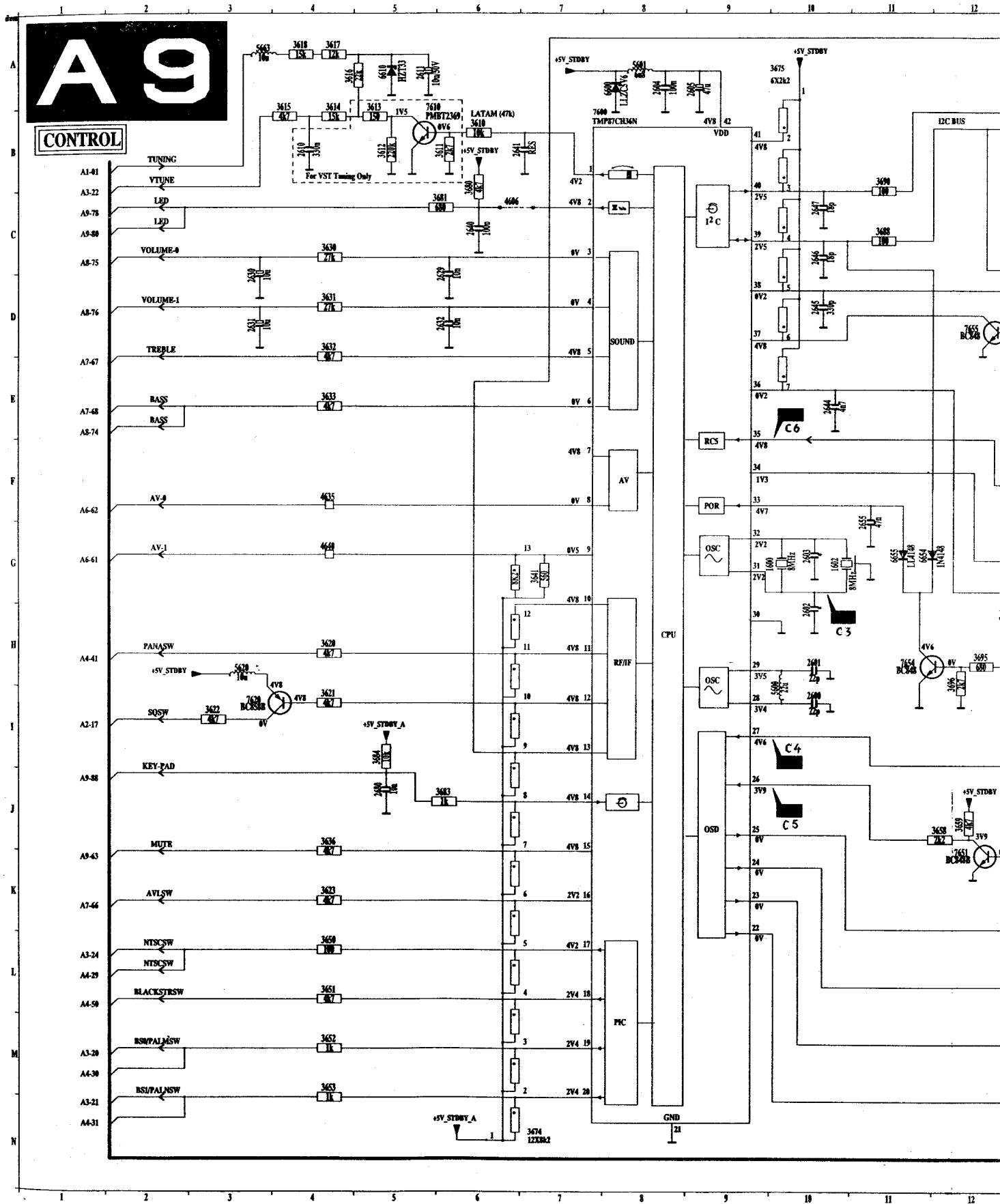
ITEM	MONO	3 pt SOUND
4101	-	-
4105	X	-
9108	X	X
9117	-	-
9128	X	-



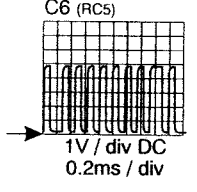
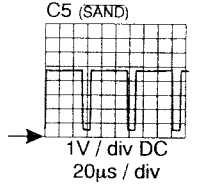
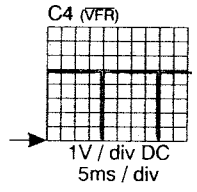
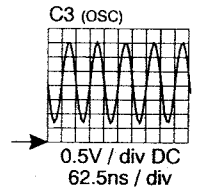
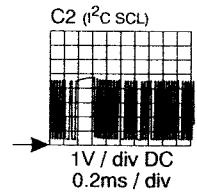
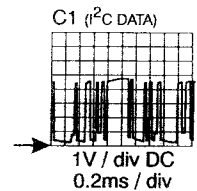
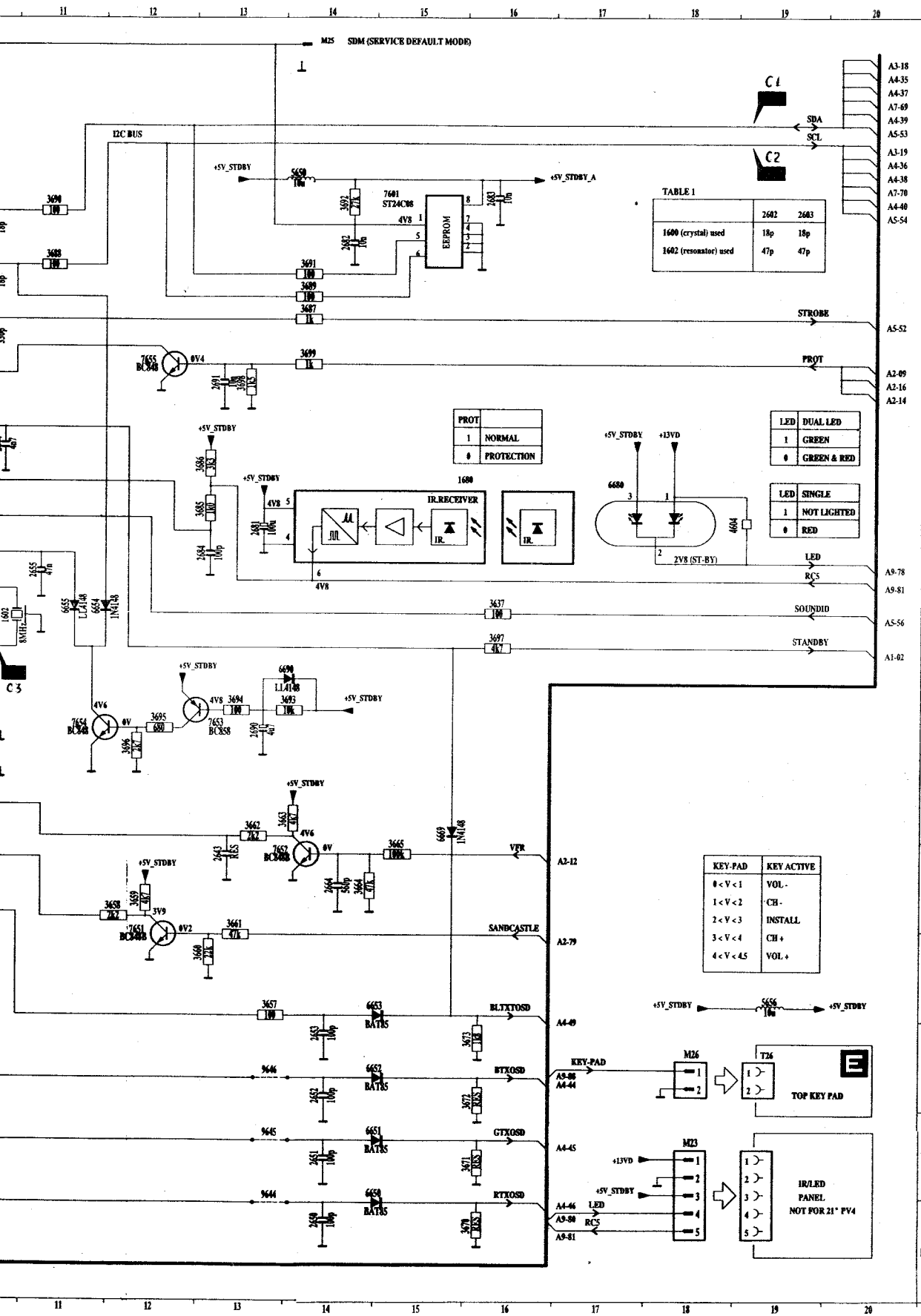
To mono speaker or sub-woofer speaker

8 OHM if it is used at sub-woofer amplifier (SW)
2 X 8 OHM in series if it is used as mono amplifier (total 4W)

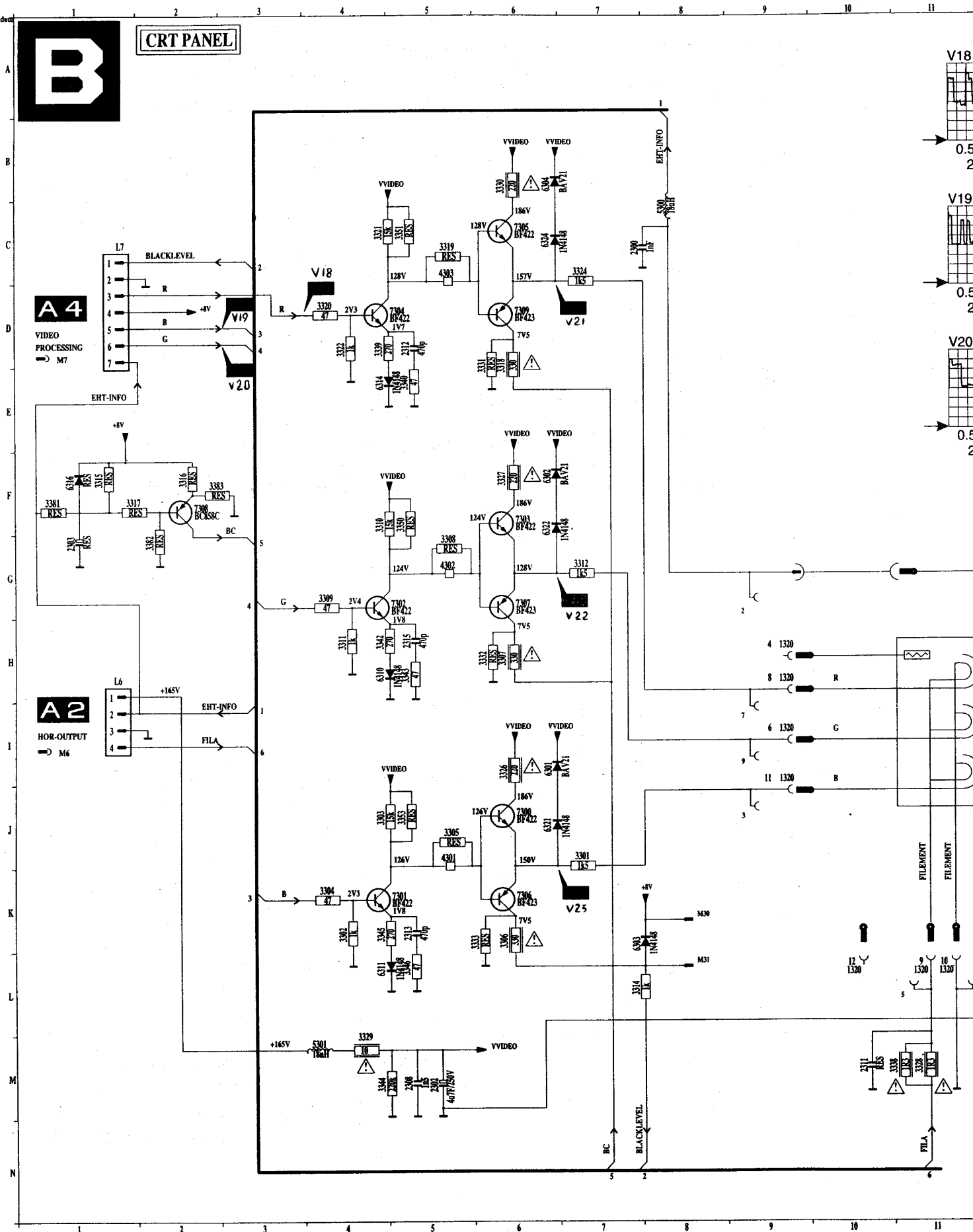
A
B
C
D
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G
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I
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K
L
M



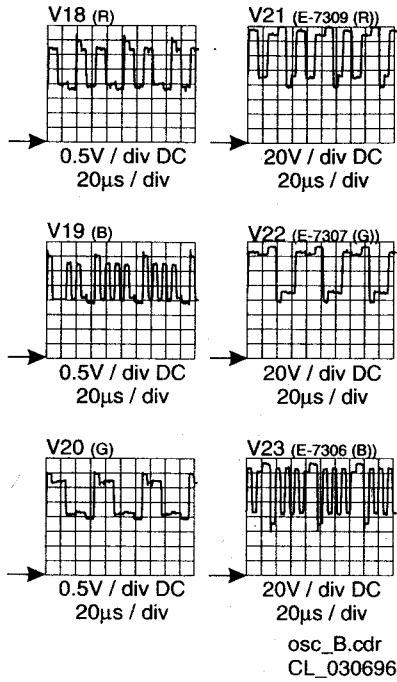
Controls (µC)



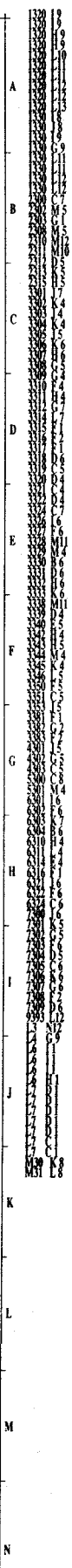
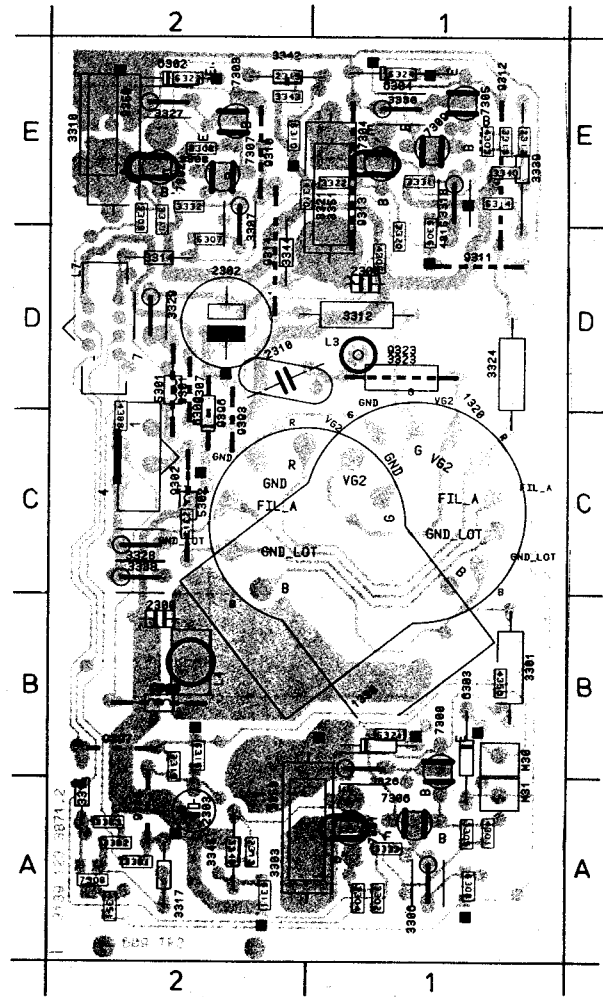
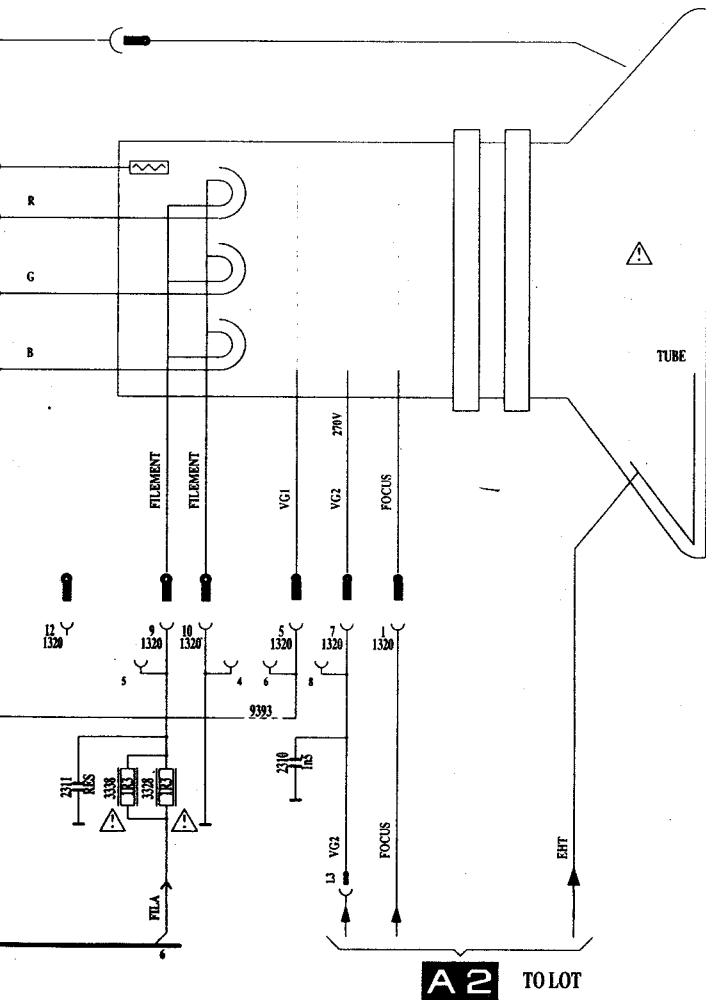
osc_A9.cdr
CL 030696



CRT panel

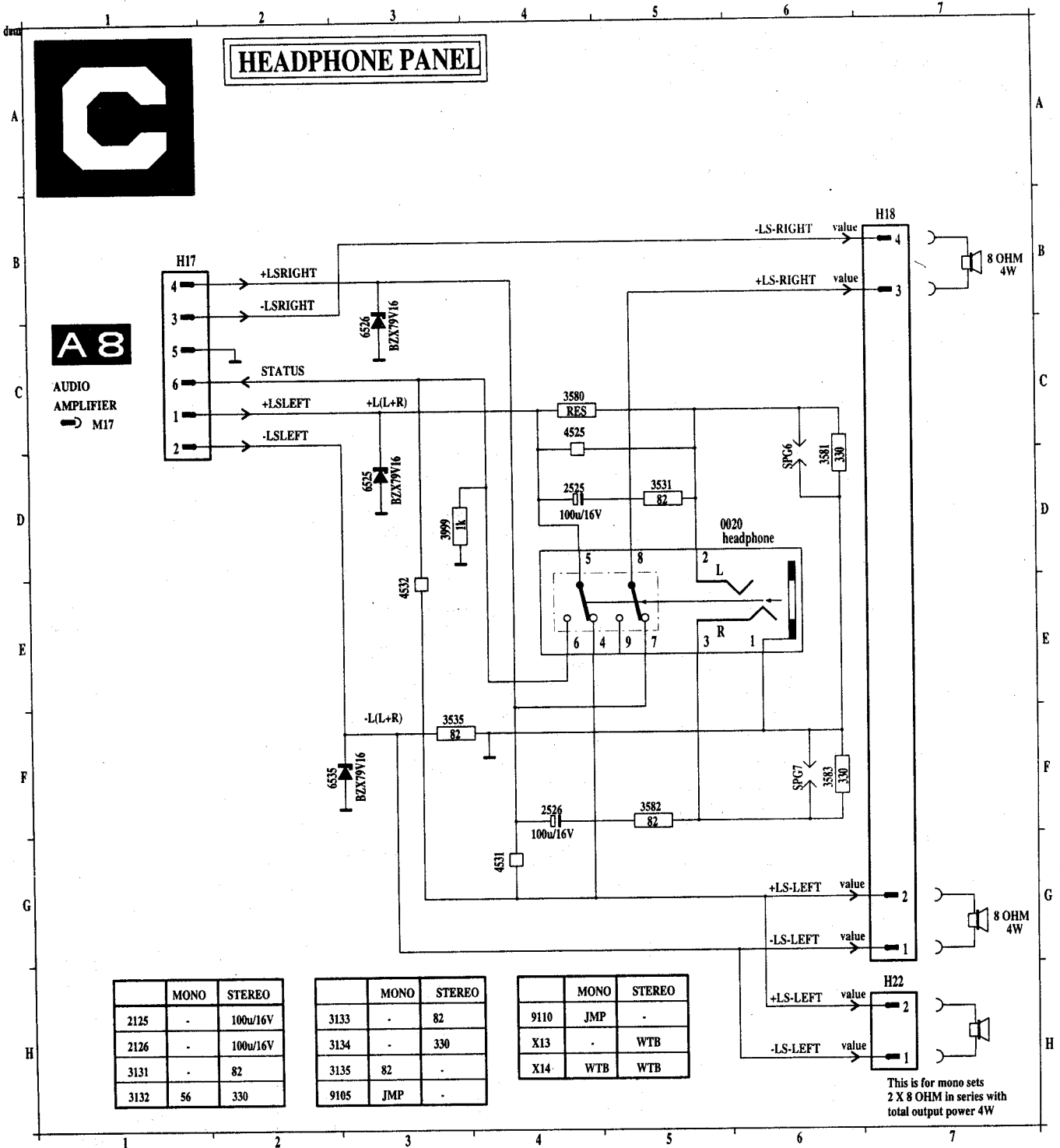


L4	B2	3301	B1	3318	E1	3339	E1	4306	D1	6310	E2	7309	E1
L6	C2	3302	A1	3319	E1	3340	E1	4310	E1	6311	A2	9300	B2
L7	D2	3303	A1	3320	D1	3342	E2	4350	B1	6314	A1	9302	C2
M30	B1	3304	A1	3321	E1	3343	E2	4351	A2	6316	B2	9307	D2
M31	A1	3305	A1	3322	E1	3344	D2	4388	C2	6321	B1	9310	E2
1320	C1	3306	A1	3323	D1	3345	A2	5300	B2	6322	E2	9311	D1
1330	C2	3307	D2	3324	D1	3346	A2	5301	D2	6324	E1	9312	E1
2300	B2	3308	E2	3326	A1	3350	E2	5302	C2	7300	A1	9313	E1
2302	D2	3309	D2	3327	E2	3351	E1	6301	B1	7301	A1	9314	D2
2303	A2	3310	E2	3328	C2	3353	A1	6302	E2	7302	E2	9323	D1
2308	D1	3311	D2	3329	D2	3381	A2	6303	B1	7303	E2	9388	A2
2310	D2	3312	D1	3330	E1	3382	A2	6304	E1	7304	E1	9393	C2
2311	C2	3314	D2	3331	E1	3383	A2	6306	D1	7305	E1	9396	C2
2312	E1	3315	A2	3332	E2	4301	A1	6307	D2	7306	A1	9397	B2
2313	A2	3316	A2	3333	A1	4302	E2	6308	A1	7307	E2		
2315	E2	3317	A2	3338	B2	4303	E1	6309	C2	7308	A2		



Headphone panel

0020 D 5 3531 D 5 3581 D 6 3999 D 3 4532 E 3 6535 F 2 H17 C 1 H17 B 1 H18 G 7 H22 H 7
 2525 D 4 3535 F 3 3582 F 5 4525 C 4 6525 D 3 H17 B 2 H17 C 1 H18 G 7 H18 E 7 SPG6 D 6
 2526 F 4 3580 C 4 3583 F 6 4531 G 4 6526 C 3 H17 B 1 H17 B 1 H18 E 7 H22 H 7 SPG7 F 6

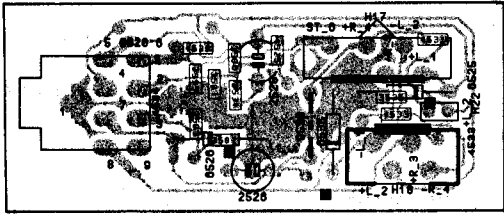


A8
 AUDIO AMPLIFIER
 M17

	MONO	STEREO
2125	-	100u/16V
2126	-	100u/16V
3131	-	82
3132	56	330

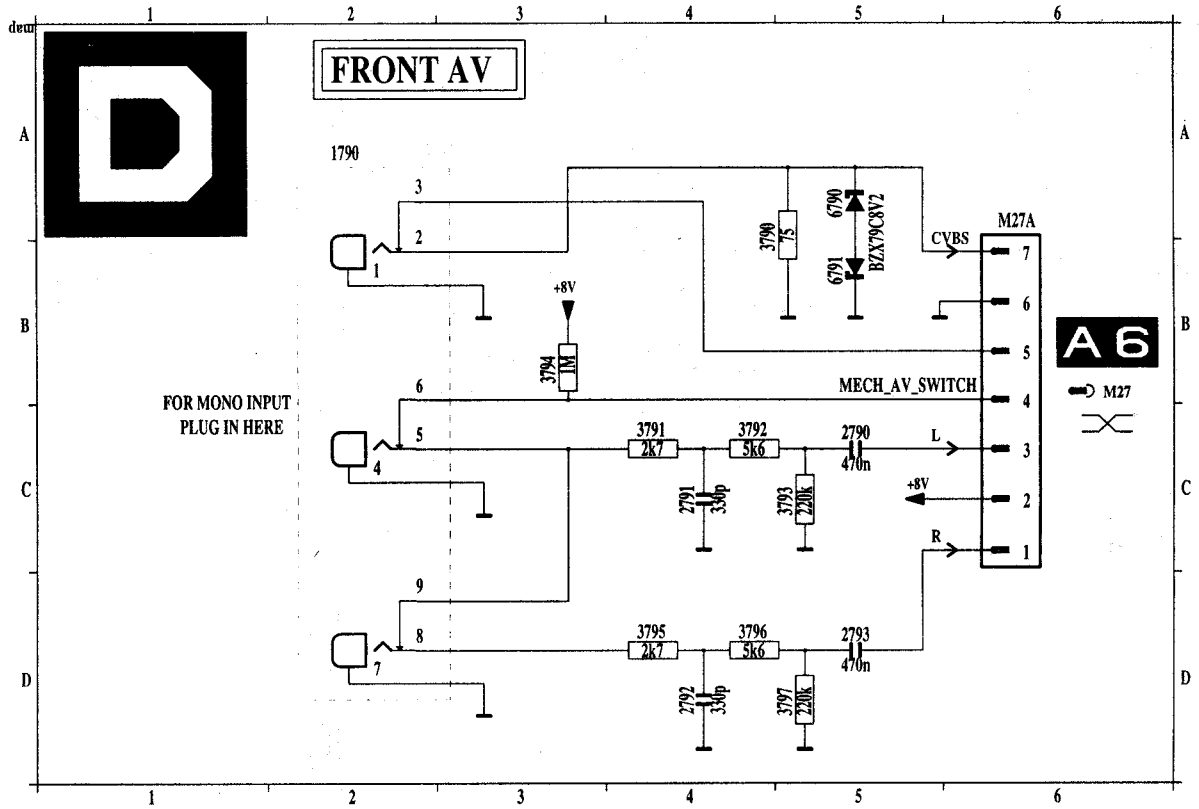
	MONO	STEREO
3133	-	82
3134	-	330
3135	82	-
9105	JMP	-

	MONO	STEREO
9110	JMP	-
X13	-	WTB
X14	WTB	WTB

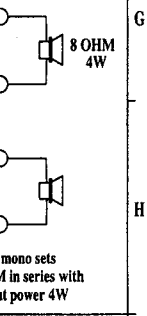
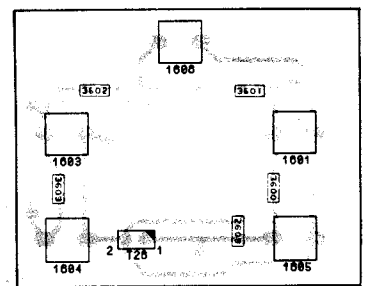
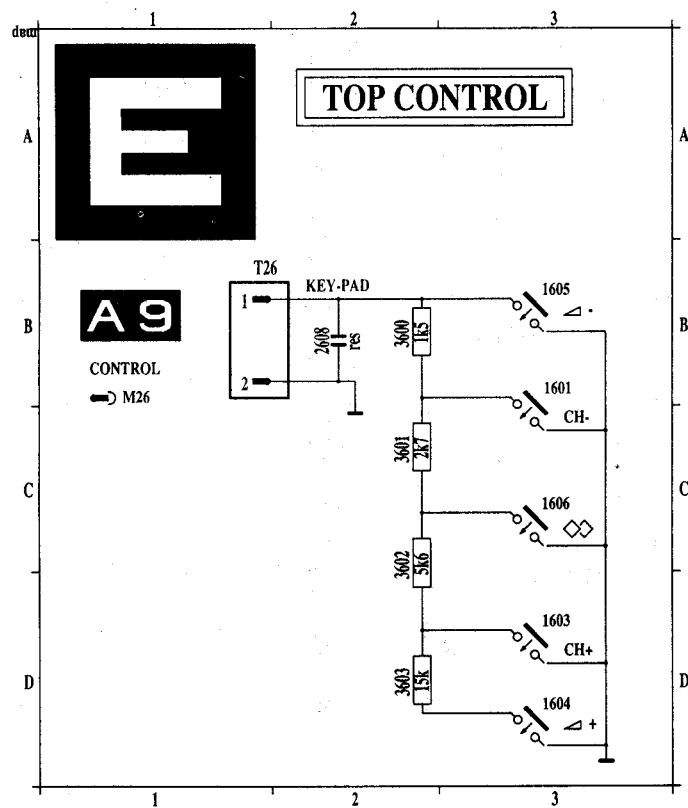


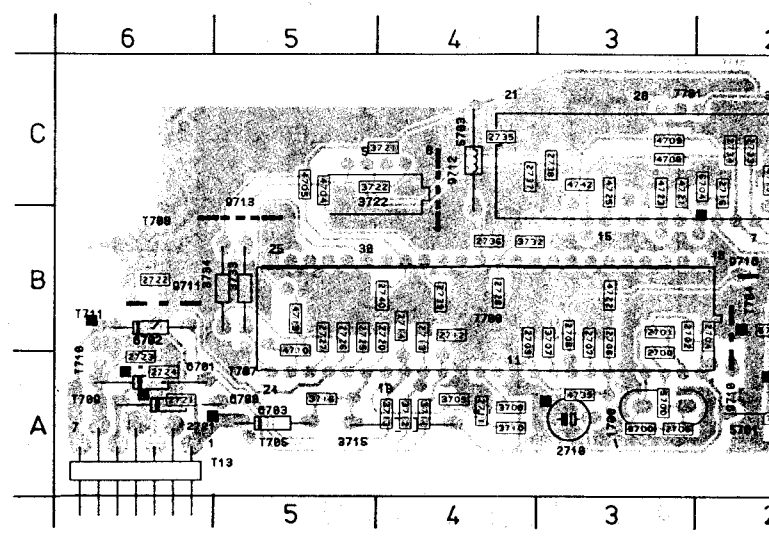
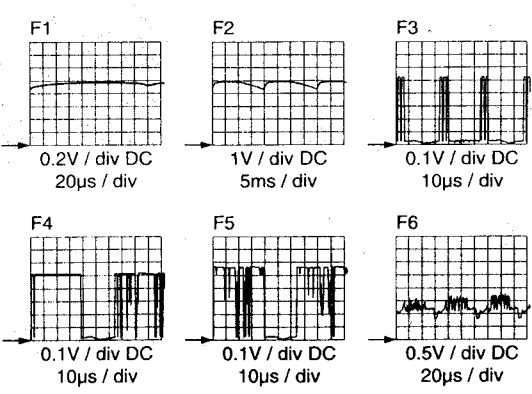
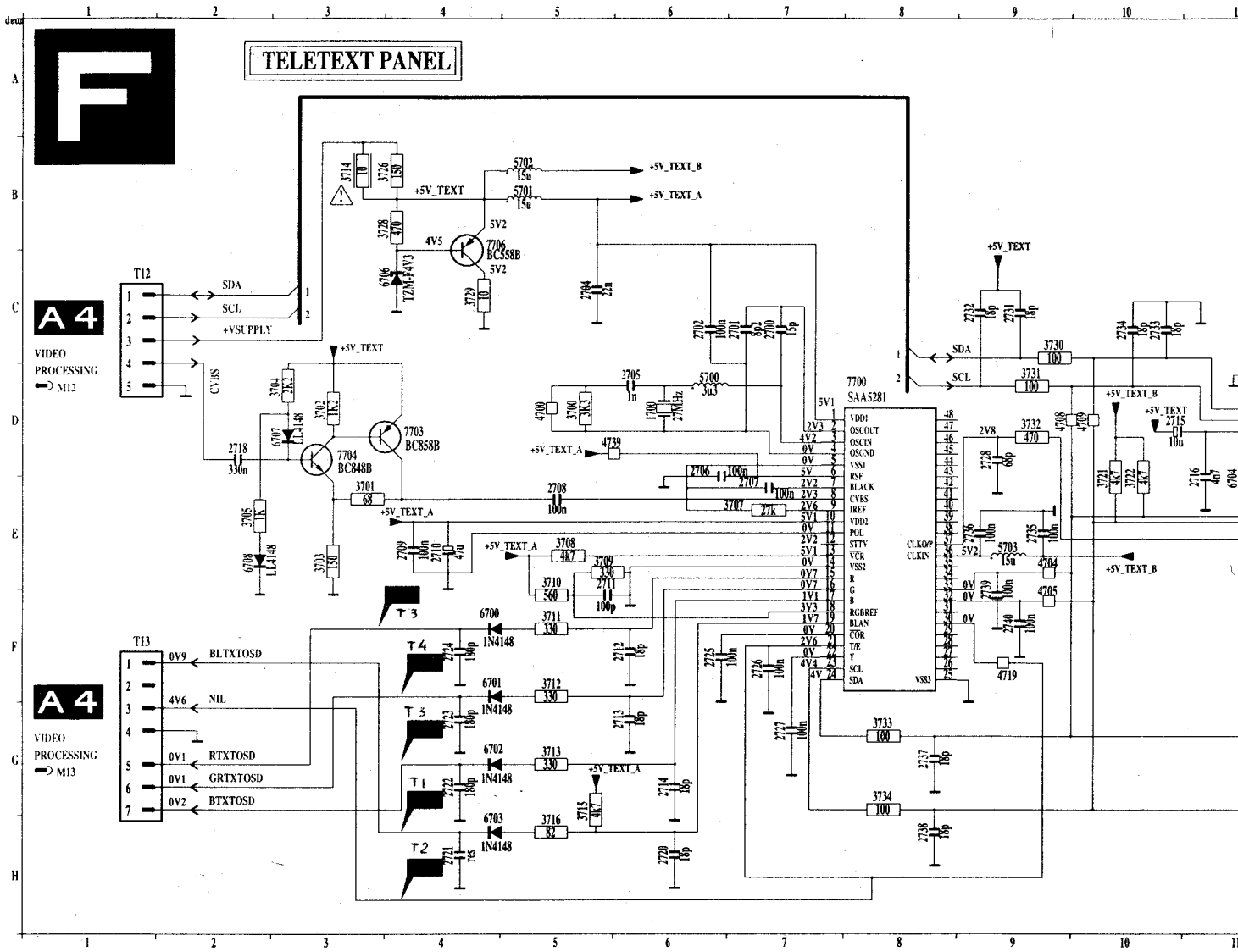
Front A/V panel & Top control panel

1790 A 2	2792 D 4	3791 C 4	3794 B 3	3797 D 5	M27A A 6
2790 C 5	2793 D 5	3792 C 4	3795 D 4	6790 A 5	
2791 C 4	3790 A 4	3793 C 5	3796 D 4	6791 B 5	

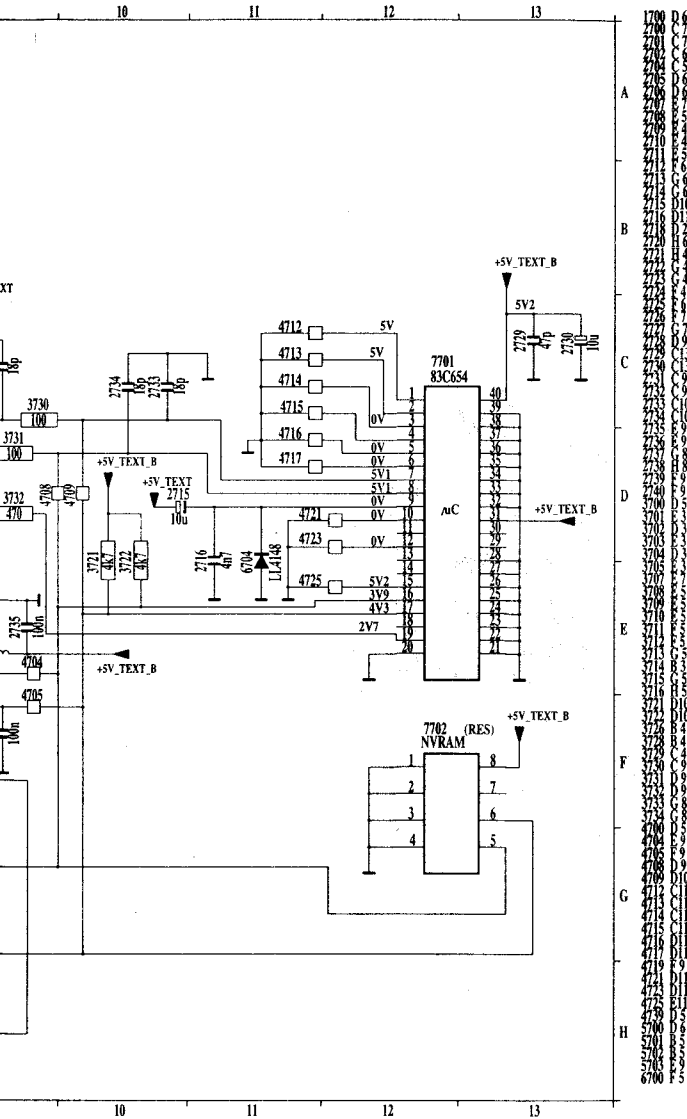


1601 B 3	1605 B 3	3600 B 2	3603 D 2
1603 D 3	1606 C 3	3601 C 2	T26 B 2
1604 D 3	2608 B 2	3602 C 2	T26 B 1

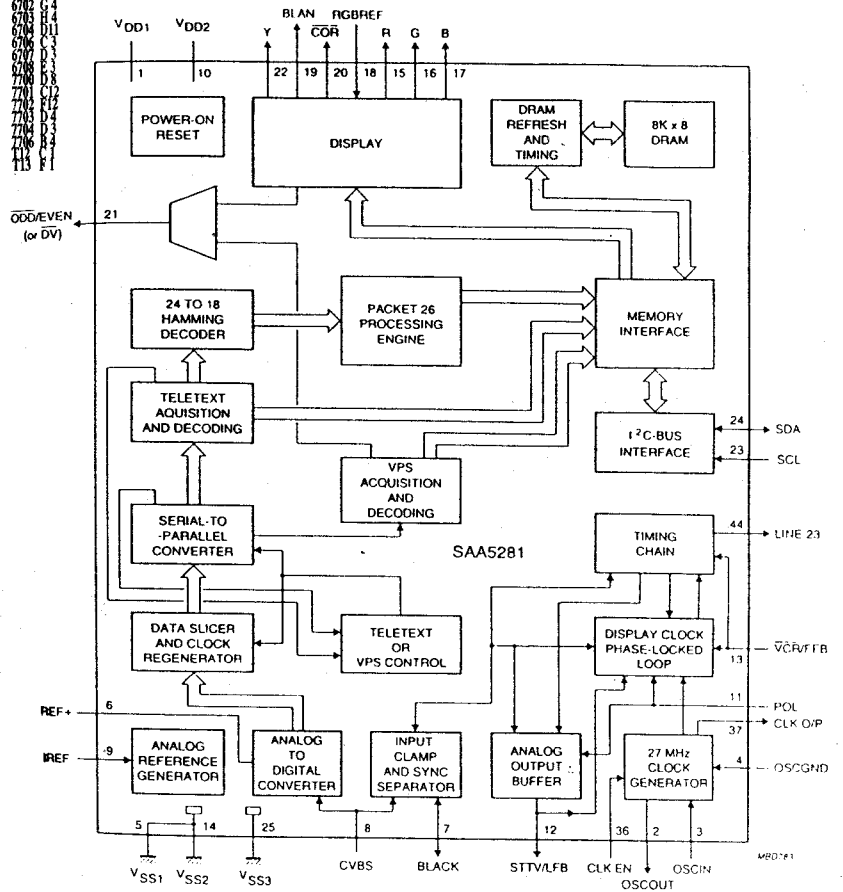




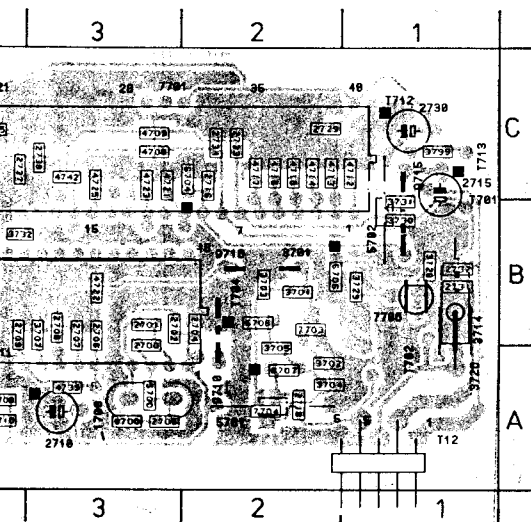
Teletext panel



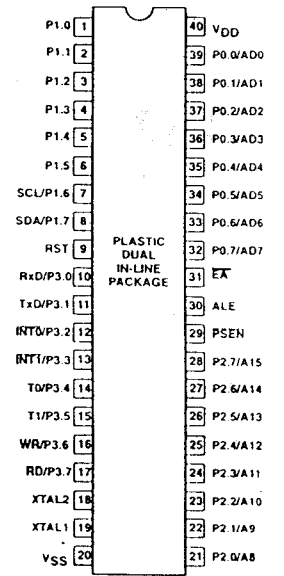
Blockdiagram IC7700



Pin configuration IC7701



T13 A6	2727 B5	3713 A5	4717 C2	9710 B3
1700 A3	2728 B4	3714 B1	4719 B5	9711 B6
2700 B3	2729 C2	3715 A5	4721 C3	9712 C5
2701 B3	2730 C1	3716 A5	4722 B3	9713 C6
2702 B3	2731 B1	3721 C5	4723 C3	9715 C2
2704 B3	2732 B1	3722 C5	4725 C3	9716 B2
2705 A3	2733 C3	3726 B1	4739 A4	
2706 B3	2734 C3	3728 B1	4742 C4	
2707 B4	2735 C4	3729 B2	5700 A3	
2708 B4	2736 C4	730 C2	5701 A2	
2709 B4	2737 C4	3731 C2	5702 C2	
2710 A4	2738 C4	3732 C4	5703 C4	
2711 A4	2739 B5	3733 B6	6700 A6	
2712 B4	2740 B5	3734 B6	6701 B6	
2713 B5	3700 A3	3799 C1	6702 B6	
2714 B5	3701 B2	4700 A3	6703 A6	
2715 C1	3702 B2	4704 C5	6704 C3	
2716 C3	3703 B2	4705 C5	6706 B2	
2718 A2	3704 B2	4708 C3	6707 B2	
2720 B5	3705 B2	4709 C3	6708 B2	
2721 A6	3707 B4	4710 B5	7700 B4	
2722 B6	3708 A4	4712 C2	7701 C3	
2723 B6	3709 A4	4713 C2	7702 C5	
2724 B6	3710 A4	4714 C2	7703 B2	
2725 B5	3711 A5	4715 C2	7704 A2	
2726 B5	3712 A5	4716 C2	7706 B1	



Audio panel (2CS, multi sound, bilingual)



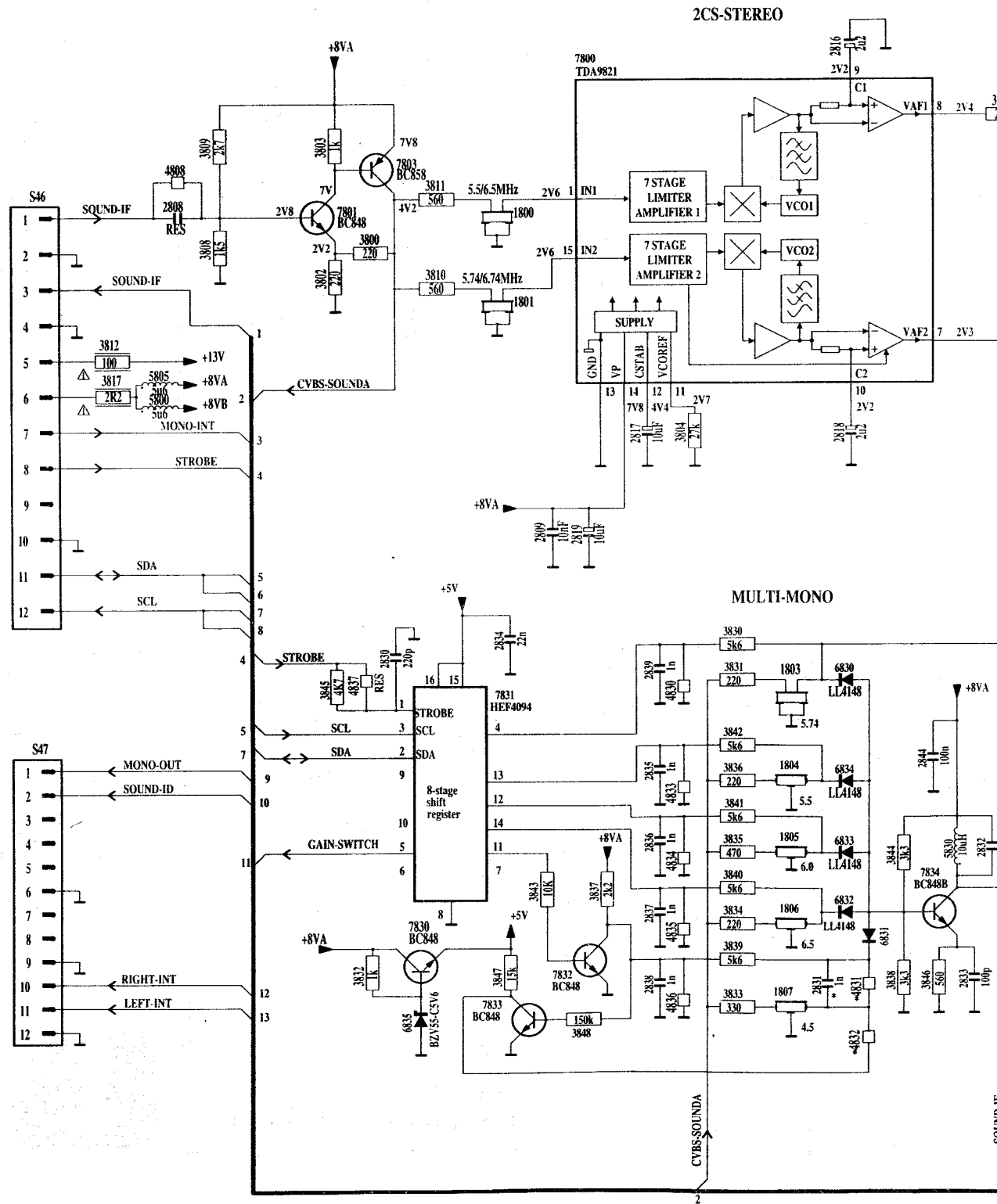
SOUND PANEL (2CS/MULTI-SOUND/BILINGUAL)

A5

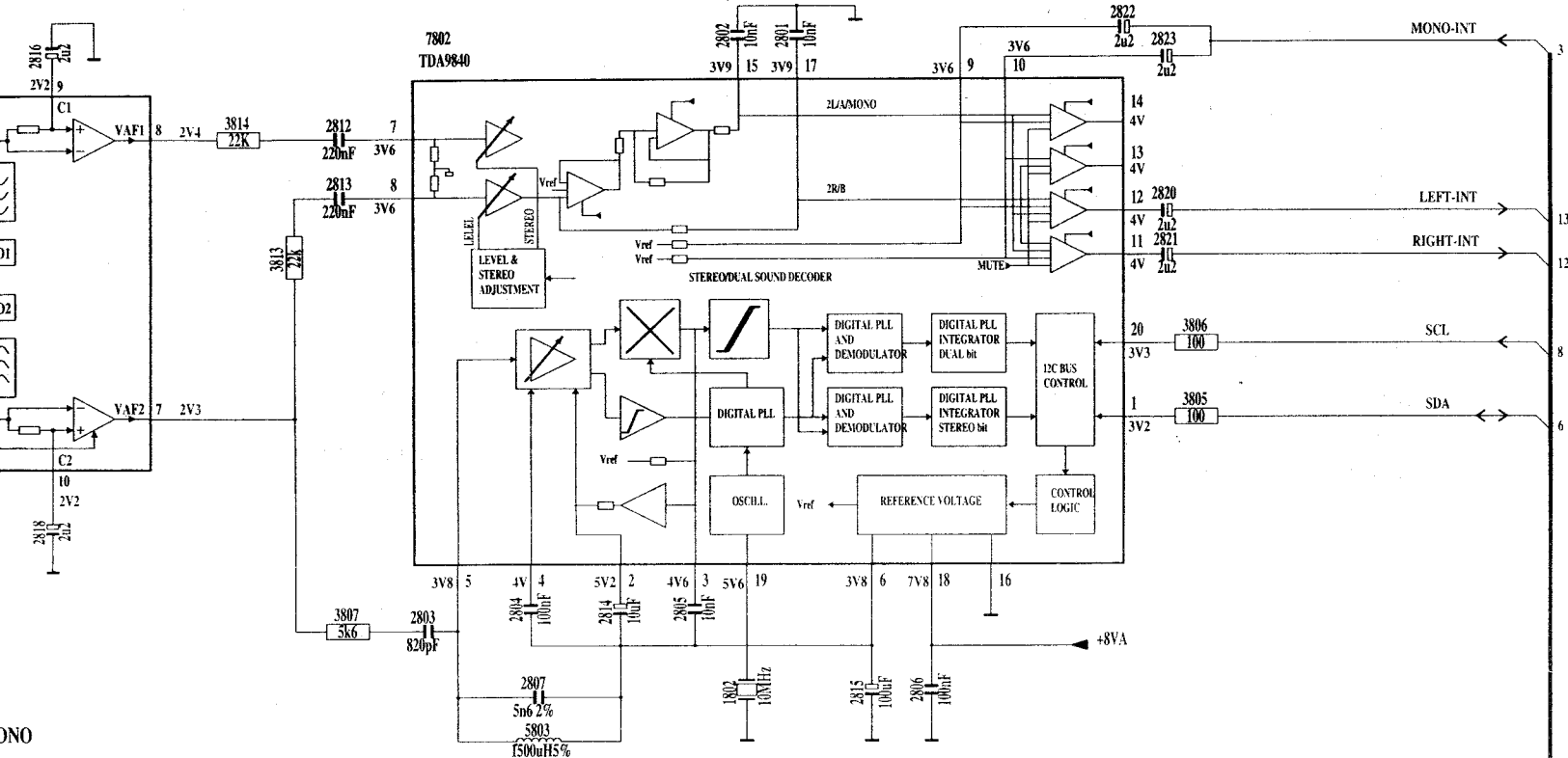
SOUND IF
→ M46

A5

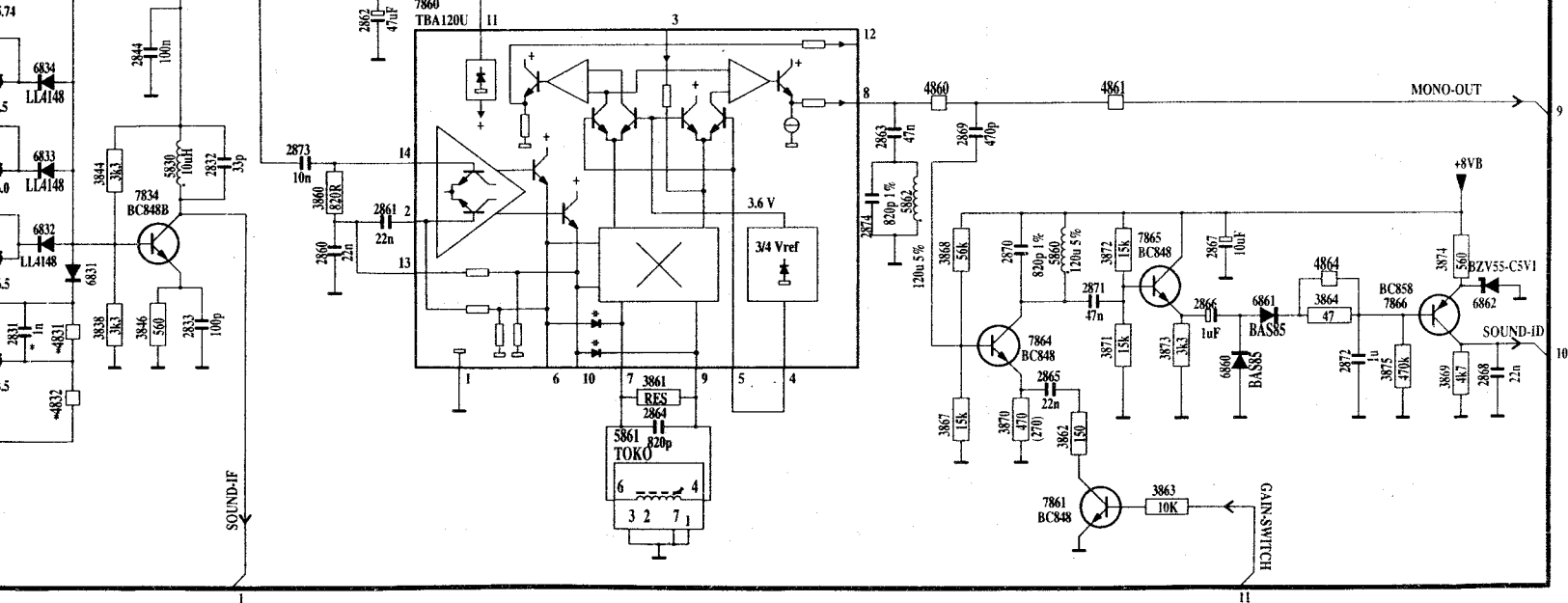
SOUND IF
→ M47



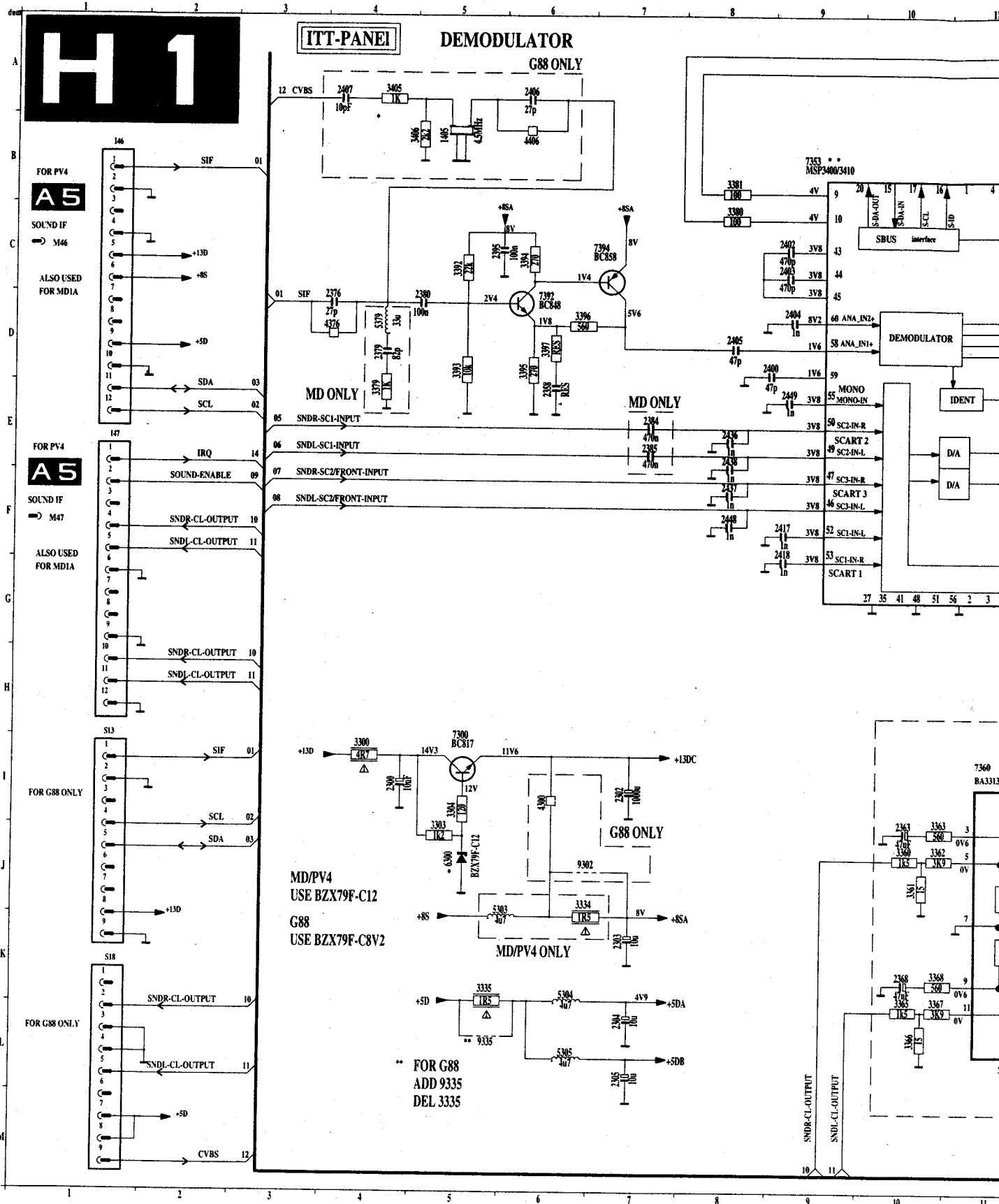
STEREO DUAL SOUND DECODER

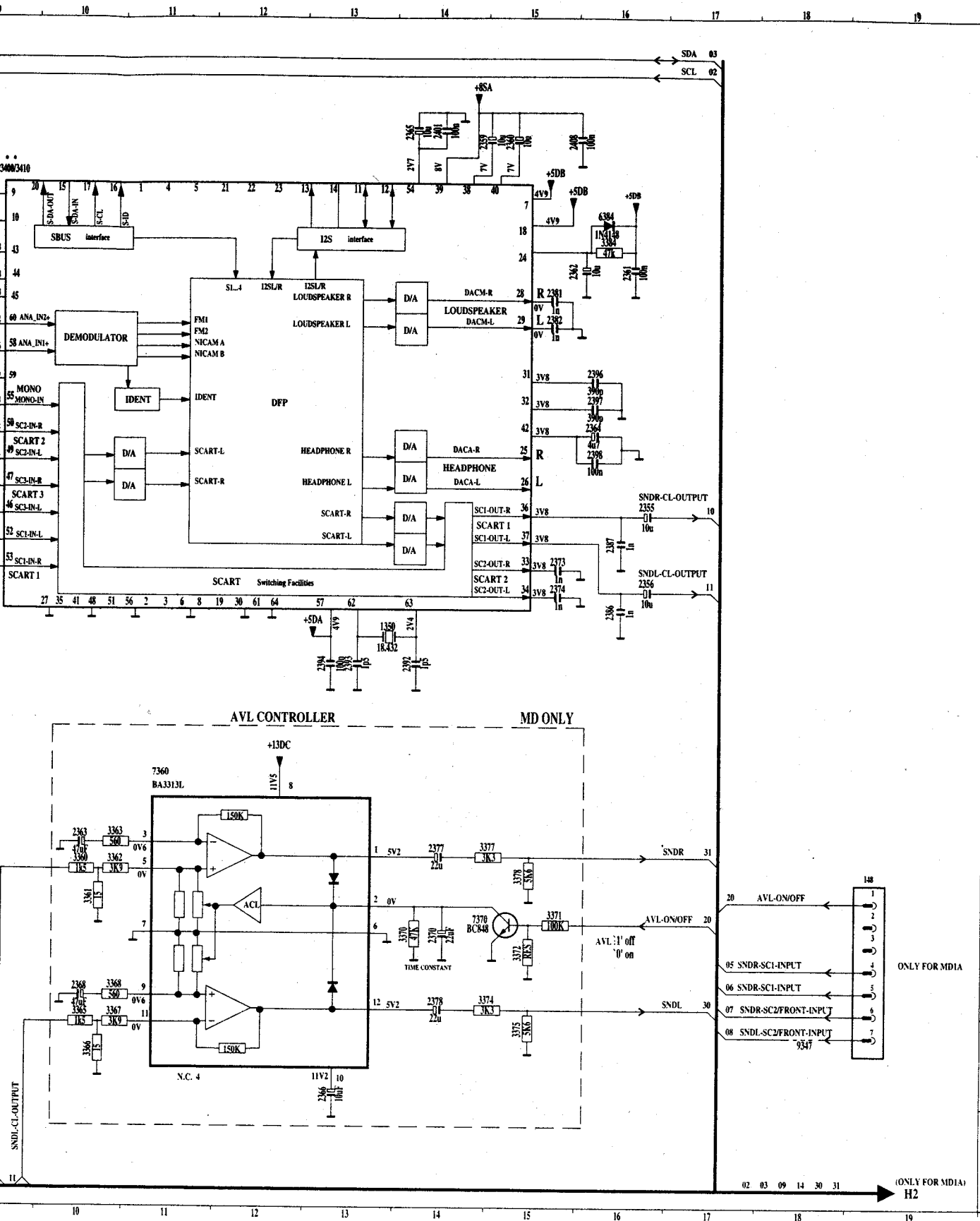


FM DEMODULATOR

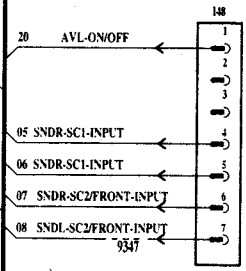


Audio panel 2CS NICAM, Multisound





A
B
C
D
E
F
G
H
I
J
K
L
M



(ONLY FOR MDIA)
H2

