

Service

Service

Service

MD 2.21 E
2.22 E
2.23 E
AA

Service Manual

Table of contents

	Page		Page
1. Technical specifications	2	Electrical diagrams and print lay-outs	<i>Diagram PWB</i>
2. Connection facilities	2	Dolby Audio module	34
Chassis overview	3	(with VDS audio processing)	33
3. Safety instructions, Maintenance instructions, Warnings and Notes	3	COMB filter module	34
4. Mechanical instructions	4	PIP interface panel	36
5. Block diagram non-Top-Dolby version	5	PIP2 module	35
Block diagram Top-Dolby version (front control styling)	6	Mains input + RC5 panel (top control middle styling)	36
Survey of testpoints	7	Mains input + RC5 panel (top control right styling)	36
6. Service modes, DST, Error messages, Protections, Faultfinding and Repair tips	8	Front input/output panel (top control styling)	36
Block diagram supply voltages and I ² C-tree	12	Top control panel (top control middle styling)	37
7. Electrical diagrams and print lay-outs	<i>Diagram PWB</i>	Top control panel (top control right styling)	37
Large Signal Panel	App. 14	Mains input panel (classic line styling)	37
Small Signal Panel	App. 13	Control board (classic line styling)	37
Overview oscilloscopes	15	Audio amplifier panel	38
Mains filter panel	16	Audio supply panel	39
+5V Supply panel 1.6A	16	Video DualScreen panel	40
+5V Supply panel 2.1/2.5A	16	YUV-interface panel	43
DDP (geometry) panel	App. 16	Wireless Dolby	44
Picture tube + SCAVEM panel	17	VGA-interface panel	47
North/South + Frame rotation + S-correction panel	18	Mains input + RC5 panel (front control styling)	49
External DC shift panel	18	Front input/output panel (front control styling)	49
Surround sound panel	18	Front input/output panel with VGA input (front control styling)	49
Clickfit panel	19	8. Electrical adjustments	50
DBE (Dynamic Bass Enhancement) panel	19	9. Circuit description	52
TXT + Control panel	20	10. Directions for use	60
IF module	23	11. List of abbreviations	65
Feature Box (Digital Scan) panel	24	12. Spare parts list	67
Block diagrams of IC's in Feature Boxes	26		
Feature Box (natural motion) panel	29		
AI (Artificial Intelligence) panel	30		
PALplus panel	31		
Audio module (no dolby)	32		
	34		

Protections, Faultfinding and Repair tips

Styling with front operation:

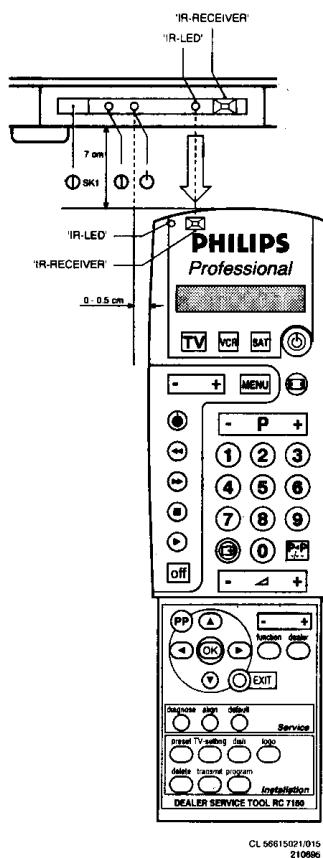


Fig. 6.3

Dealer Mode

Press the 'DEALER' key on the DST to enter the Dealer Mode. In the dealer mode some settings can be changed in order to customize the set.

6.2.2 Diagnose features for the servicer

The MD2 sets can be put in the various service modes via the DST RC7150. The Service Alignment Mode and the Service Default Mode can also be entered by connecting the pins on the SSP.

Service Default Mode (SDM)

Specification of the SDM:

- Tuning frequency 475.25 MHz;
- TV-system for BGML set to BG, for BGLL'I sets to LL';
- All picture settings at 50% (brightness, colour, contrast, HUE);
- All sound settings at 50% except volume at 25% (so bass, treble, balance at 50%, volume at 25%);
- All service-unfriendly modes are disabled (like sleep timer, child lock, automatic switch off, blue mute).

Entering the SDM can be done in 2 ways:

- By the 'DEFAULT' key on the DST while the set is in the normal operation mode.
- By shortcircuiting the two pins on the component side of the SSP with the indication 'SERVICE DEFAULT MODE' (activation can be performed in all modes except when the set has a problem with the main-processor (indicated by a slow (1.25Hz) blanking LED)).

Note: If the SDM is entered via the pins, the Series Switch protection (error 47) and the +8V protection (error 45) is de-activated.

Exiting the SDM can only be done via the STANDBY command. By switching off-on the set with the mains switch the MD2 will come up again in the SDM.

Service Alignment Mode (SAM)

Specification of the SAM:

- Software alignments (see chapter 8);
- Option settings (see chapter 8);
- Error buffer reading and erasing. The most recent error code is displayed on the left side;
- Operation counter;
- Software version.

Entering the SAM can be done in 2 ways:

- By the 'ALIGN' key on the DST while the set is in the normal operation mode (or SDM). Enter the password '3-1-4-0' and press OK.
- By shortcircuiting the two pins on the component side of the SSP with the indication 'SERVICE ALIGNMENT MODE' (activation can be performed in all modes except when the set has a problem with the main-processor (indicated by a slow (1.25Hz) blanking LED)).

Note: If the SAM is entered via the pins, the Series Switch protection (error 47) and the +8V protection (error 45) is de-activated.

Exiting the SAM can be done via the MENU command or via switching off-on the set with the mains switch.

Customer Service Mode (CSM)

In order to be able to deal with 'house repairs' and 'nuisance calls' better in the future, the so-called 'Customer Service Mode' will be introduced in all future chassis relevant for this. This 'Customer Service Mode' (CSM) is a special service mode which can be activated and deactivated by the customer. This CSM is a 'read only' mode, therefore the customer is unable to write into this.

The customer activates the CSM by pressing and holding the 'MUTE' button on the remote control for at least 4 seconds at the same time as pressing the MENU button on the TV. This activation only works if there is no menu on the screen.

The customer deactivates the CSM by:

- selecting any button on the remote control;
- switching the set off (mains switch) and then switching back on again.

The following settings are displayed in the CSM:

- Software version.
- Error code buffer.
- Overall setting of the PP (Personal Preference) values for volume, colour, brightness, contrast (all 0-63) and focus (0-4).
- Dolby Signalling detection indication: 'Present' or 'Not Present'.
- Attention: the presence of Dolby can only be tested by the software on the Dolby Signalling Bit. If a Dolby transmission is therefore received without a Dolby Signalling Bit, then this indicator will show 'not present' even though such a Dolby transmission is received.

- Overall setting of the Surround Mode: 'Pro Logic' or 'Dolby 3 Stereo' or 'Hall' or 'Off'.
- Overall setting of the Rear Volume (0-63); volume of the surround sound speakers in 'Pro Logic' or 'Dolby 3 Stereo' or 'Hall' mode.
- Overall setting of the Centre Volume (0-63); volume of the centre speakers in 'Pro Logic' or 'Dolby 3 Stereo' mode.
- Local setting of the DNR and a value for the noise number (good signal 0-2, average signal 4-5, bad signal 7 or higher).
- Overall setting of the Digital Option ('100 Hz', 'Digital Scan' or 'Natural motion').
- Local setting / detection of TV and Audio system information: 'NICAM'/'MONO'/'A2' (analogue stereo sound) /'DUAL' and 'PAL'/'SECAM'/'NTSC'.
- Detuned bit is 'Yes' or 'No';

This bit indicates whether the selected programme is stored after a micro-search or not: for 'Yes' the programme is stored via manual entry of the frequency when a transmitter was not present on that frequency. In that case the TV will attempt to perform a micro-search every time the programme number is selected. Once the micro-search has been successful the Detuned Bit will be set to 'No'.
- Overall setting of the configuration menu for 'VCR type' is 'PALplus' or 'Non PALplus';

If PALplus VCR type is selected the luminance and chrominance on the PALplus panel is decoded for the VCR signal. If this configuration is set incorrectly this will result in stripes on the picture.
- Overall setting in the configuration menu for 'CD-i/Photo-CD' is 'Present' or 'Not Present';

If 'Present' is selected the starting point is a top quality signal and a number of settings are therefore changed automatically. If this configuration is set incorrectly this will result in a worse picture quality.

All settings are displayed in 'real time'. The settings displayed are therefore the settings which were set at the moment of activating the CSM. The 'overall' settings apply for all programmes, the 'local' settings are only for that programme viewed that was selected at the moment at which the CSM was activated.

The screen appears as follows:

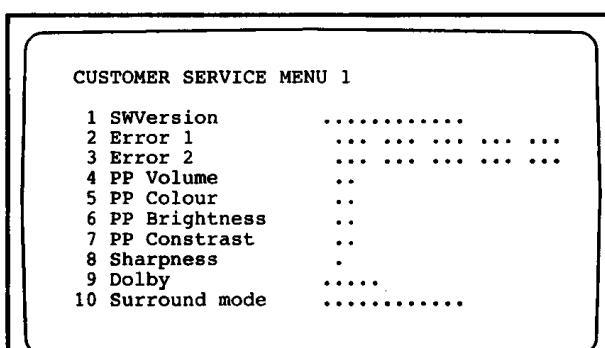


Fig. 6.4a

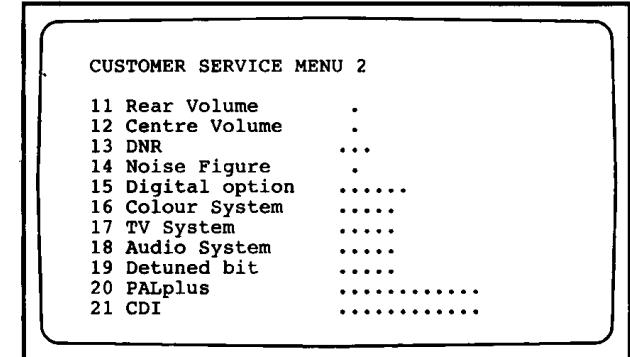


Fig. 6.4b

Diagnose Mode (only active during transmission of error codes and diagnose 99)

This mode is activated by the DIAGNOSE command on the DST for reading the error codes and erasing the error buffer by the DST even when the set is in protection and so there is no picture (assuming that the power supply and the control part are working). For activation see paragraph 6.3. The diagnose Mode is only a temporarily mode (the set will go back to the previous mode), and can not be switched on permanently.

Note: The diagnose mode can not be entered if the SAM is activated.

6.3 Error codes

6.3.1 Reading error codes from the error buffer

The error buffer can be read in 2 ways:

1. On the screen via the Service Alignment Mode (SAM): In case picture is OK, the error buffer can be read the easiest via the SAM. In the main menu of the SAM the last 10 different error codes occurred are displayed. The most recent detected error code is displayed on the left side, so e.g.:

0 0 0 0	means no error codes present in the buffer
3 0 0 0	means one error code present in the buffer; error code 3
2 3 0 0	means two error codes present in the buffer; error code 2 is the most recent, error code 3 is detected before 2.

2. On the display of the DST:

If an error has been detected by the MD2 chassis, the set might go into protection. Without the presence of a picture the errors can be read by the DST, as long as the main-processor is still active (green LED continuous and red LED blinking fast (5Hz); in case of red LED is blinking slow (1,25Hz) there is a main-processor problem).

Blockschaltbild nicht Top-Dolby-Version /

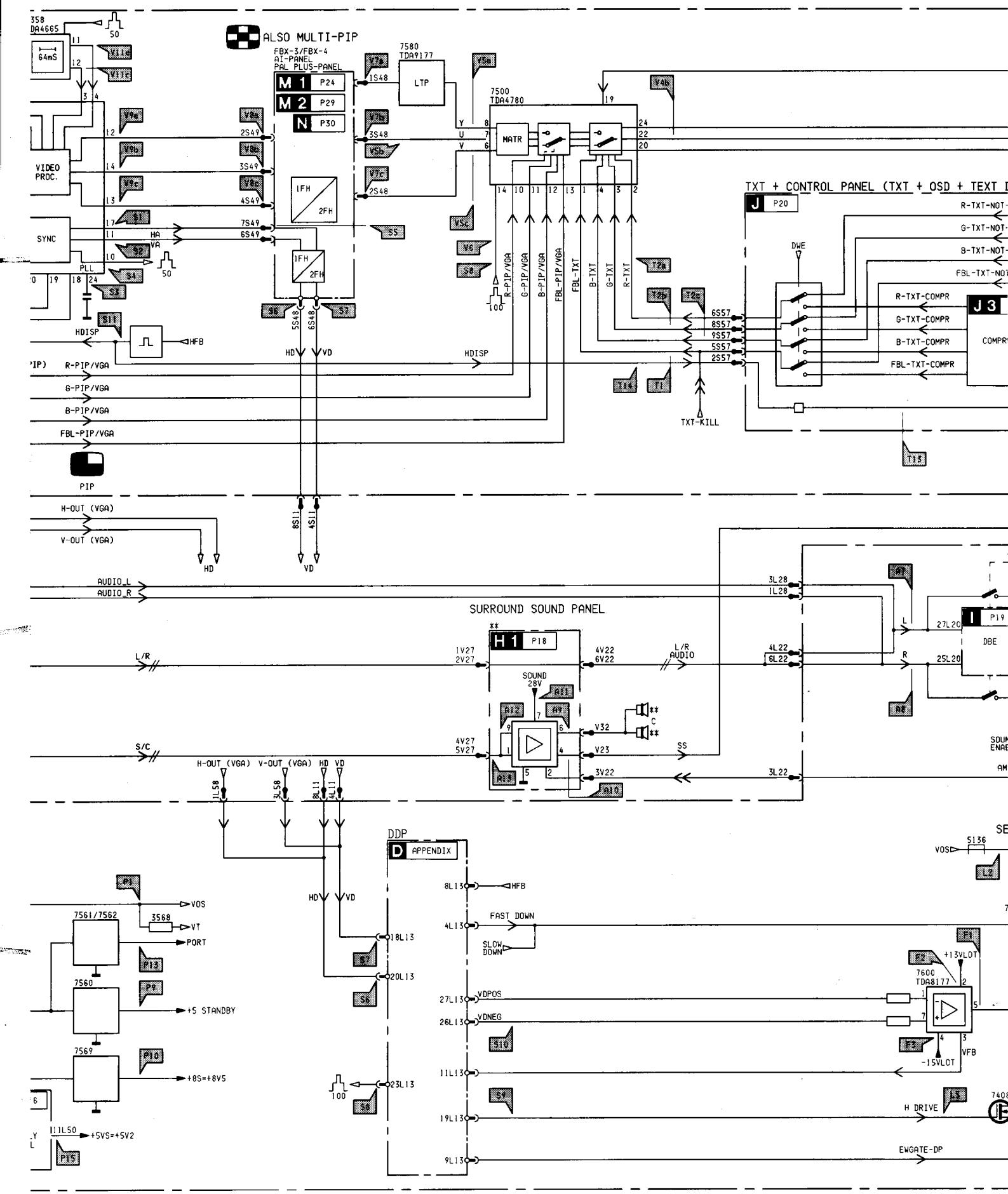
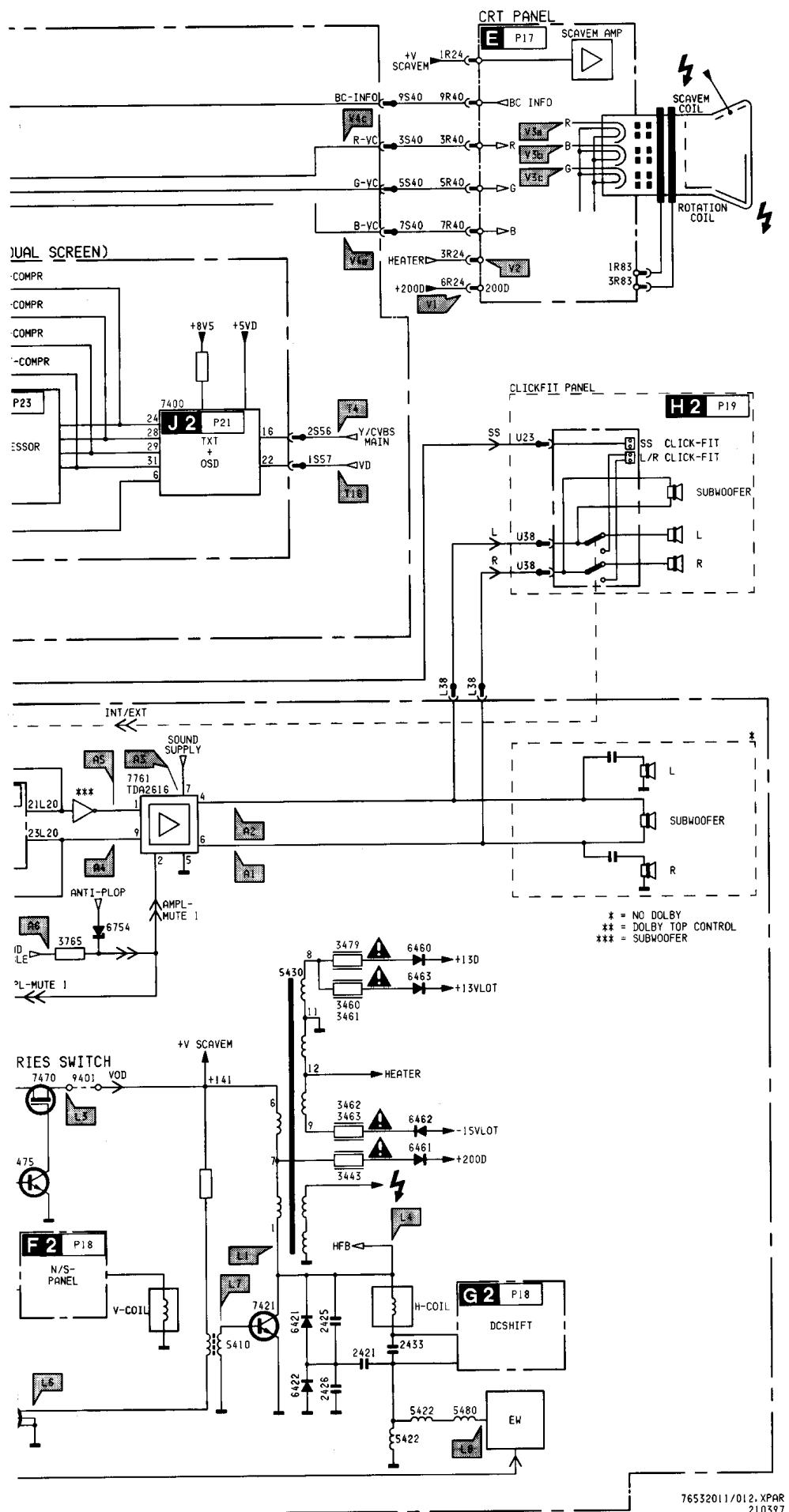
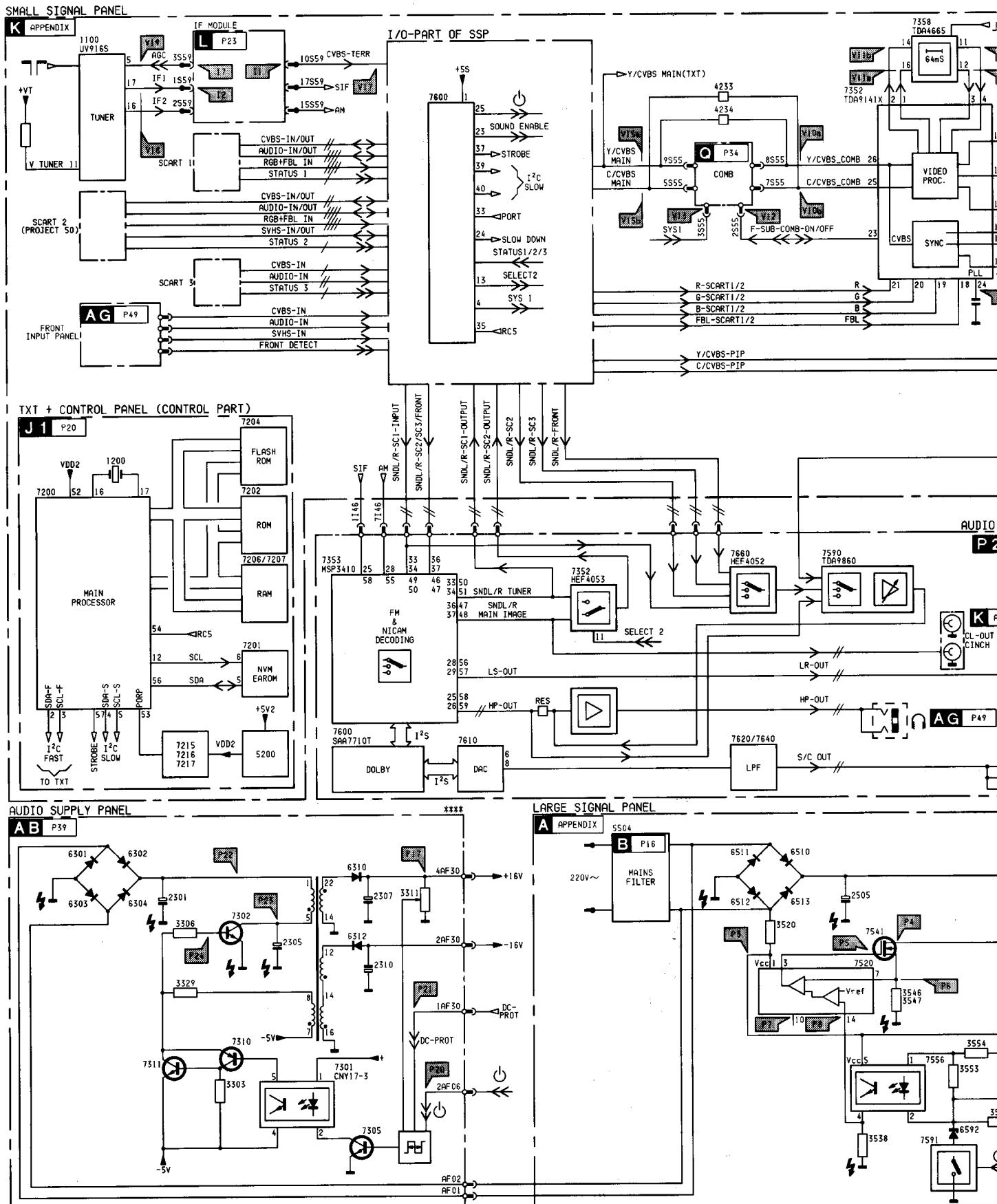


Diagramme synoptique version non Top-Dolby



Block diagram Top-Dolby version (front control styling) /



Blockschaltbild der Top-Dolby-Version /

MD 2.21/2.22/2.23

6

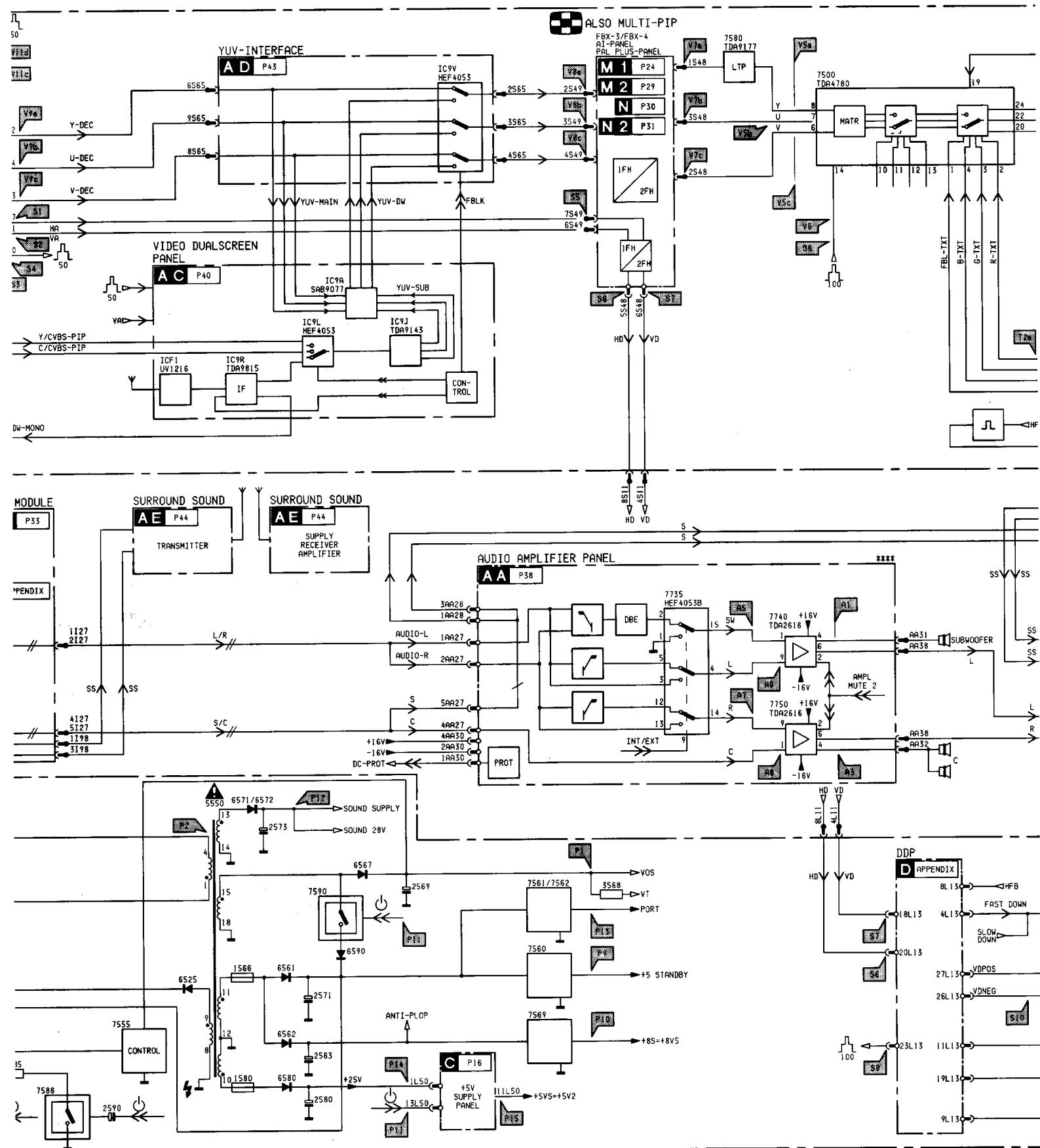
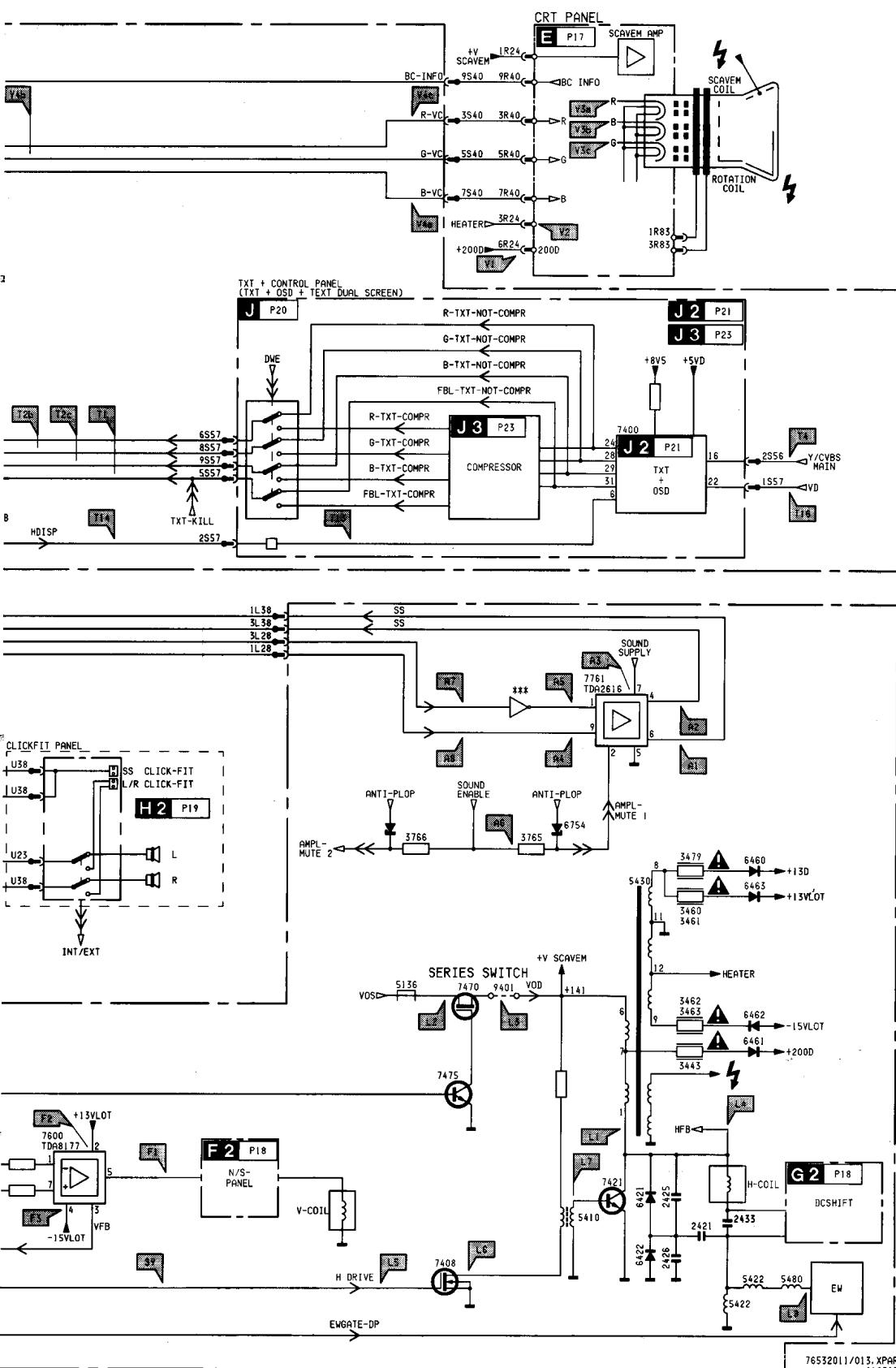


Diagramme synoptique de la version Top-Dolby

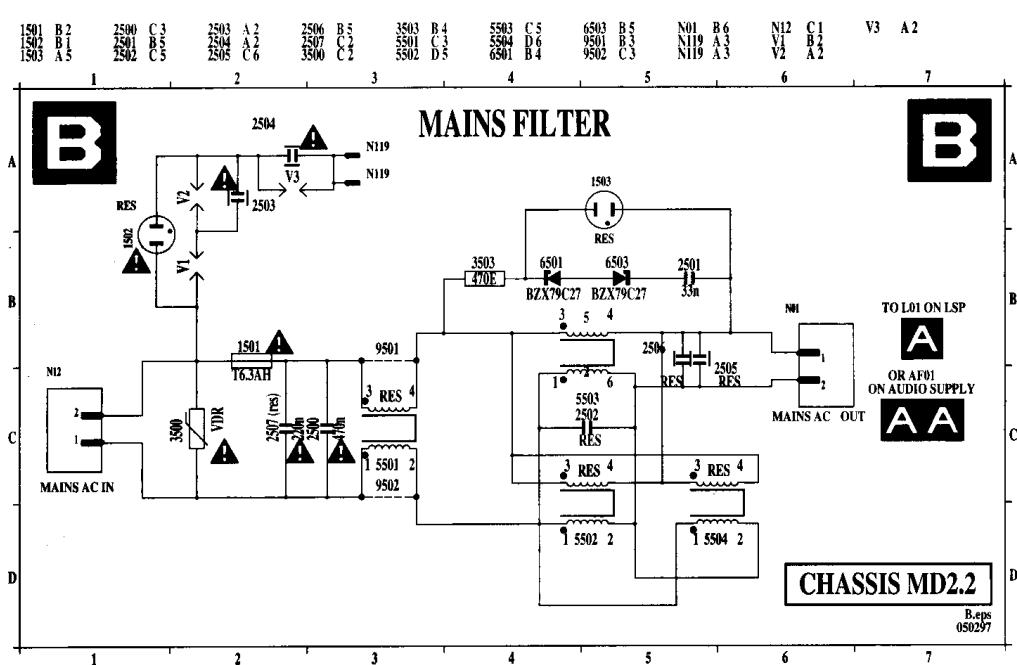


76532011/013, XPAR
210397

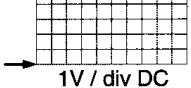
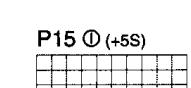
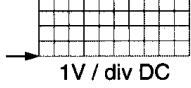
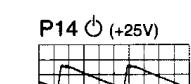
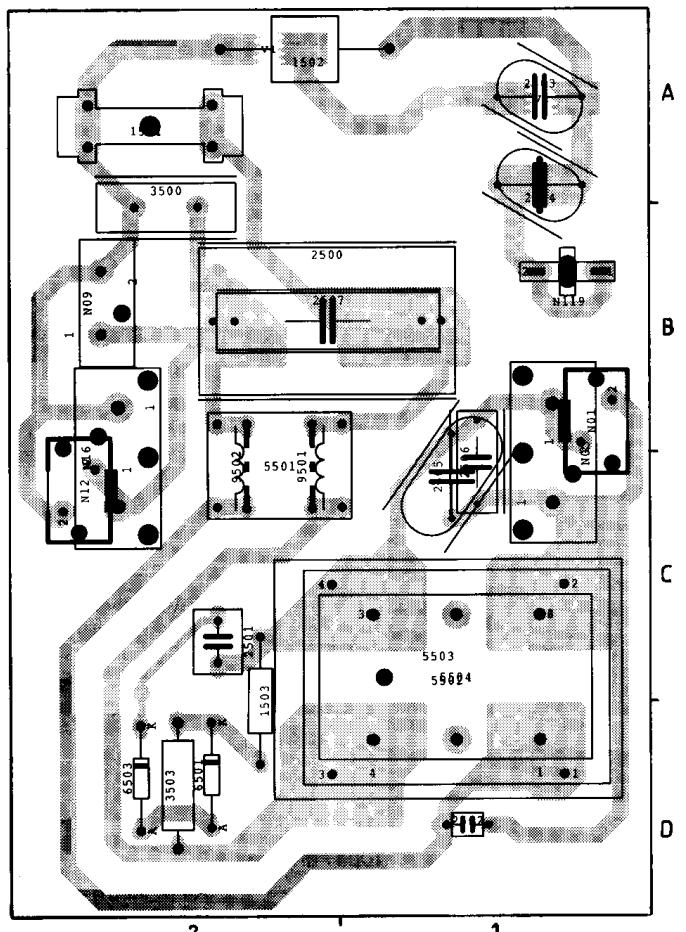
Mains filter panel / Netzfilterplatine / Platine filtre d'alimentation

MD 2.21/2.22/2.23

16

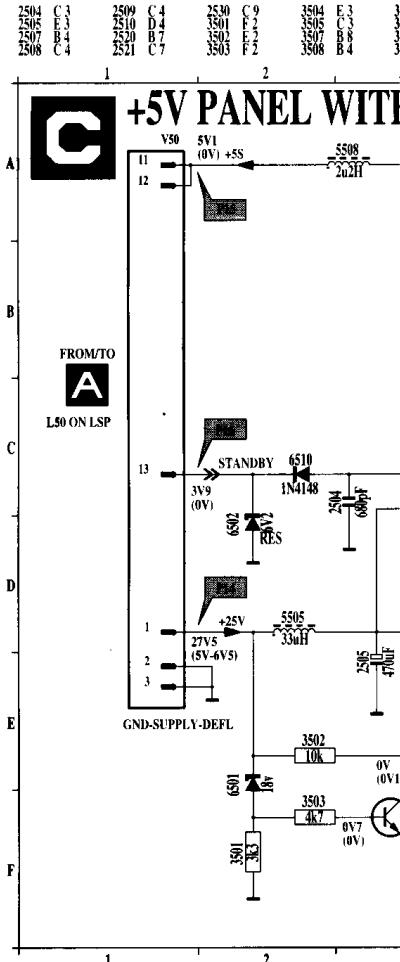


1501	A	2	2500	B	2	2503	A	1	2506	C	1	3503	D	2	5503	D	1	6503	D	2	N01	B	1	N12	C	2
1502	A	1	2501	C	2	2504	A	1	2507	B	2	5501	B	2	5504	D	1	9501	B	2	N03	C	1	N16	B	2
1503	C	2	2502	D	1	2505	C	1	3500	B	2	5502	D	1	6501	D	2	9502	B	2	N09	B	2	N119	B	2

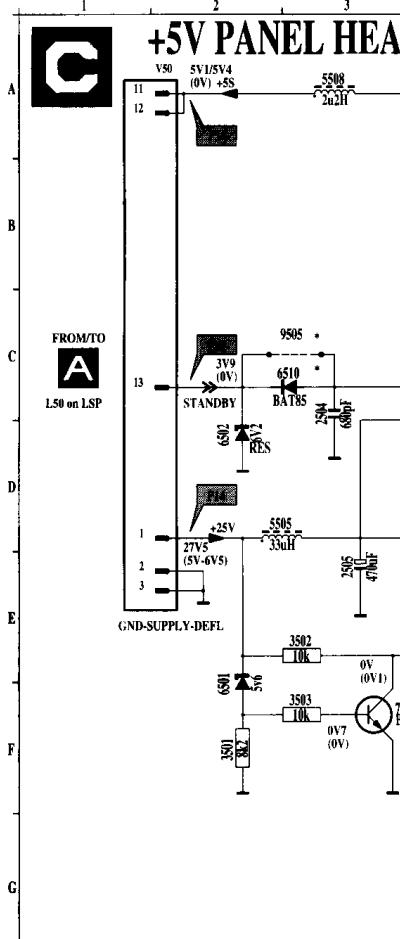


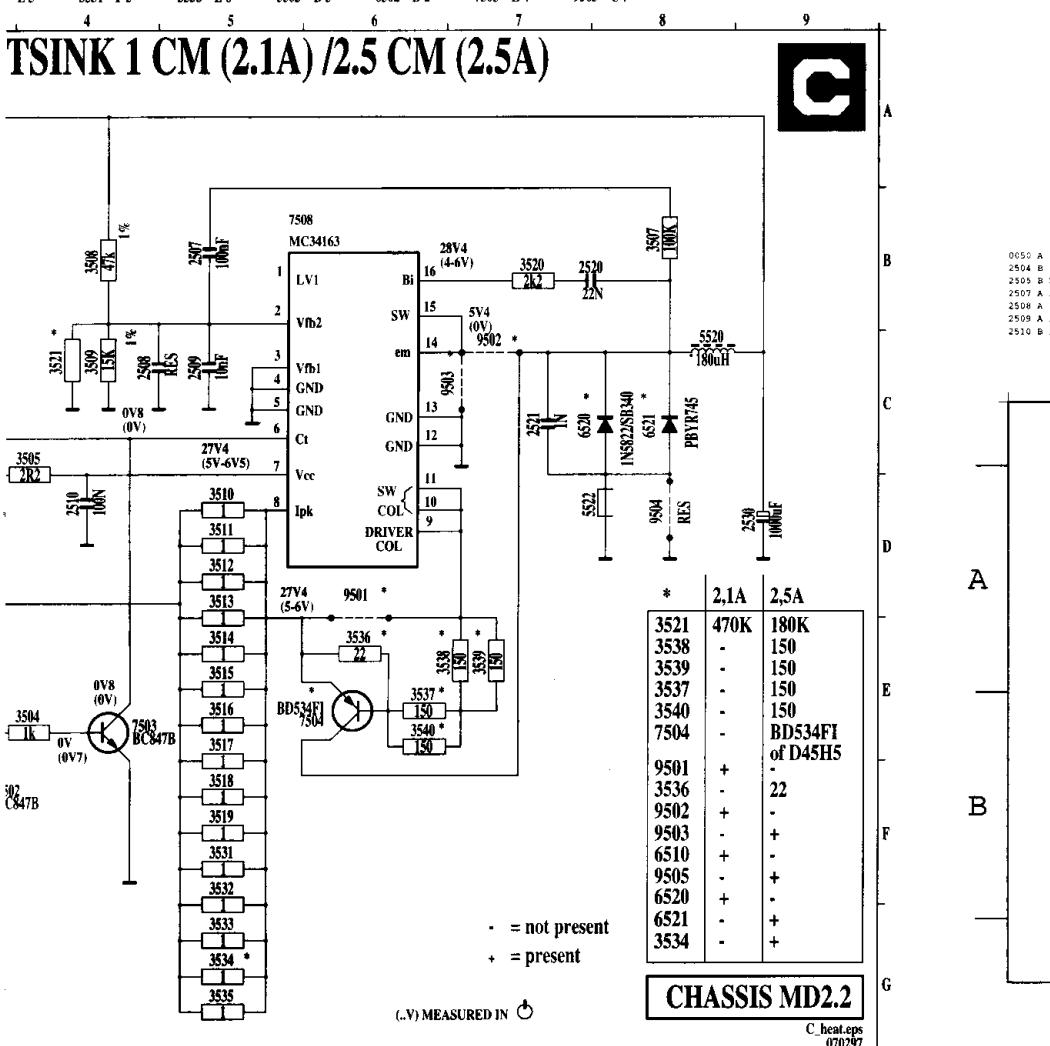
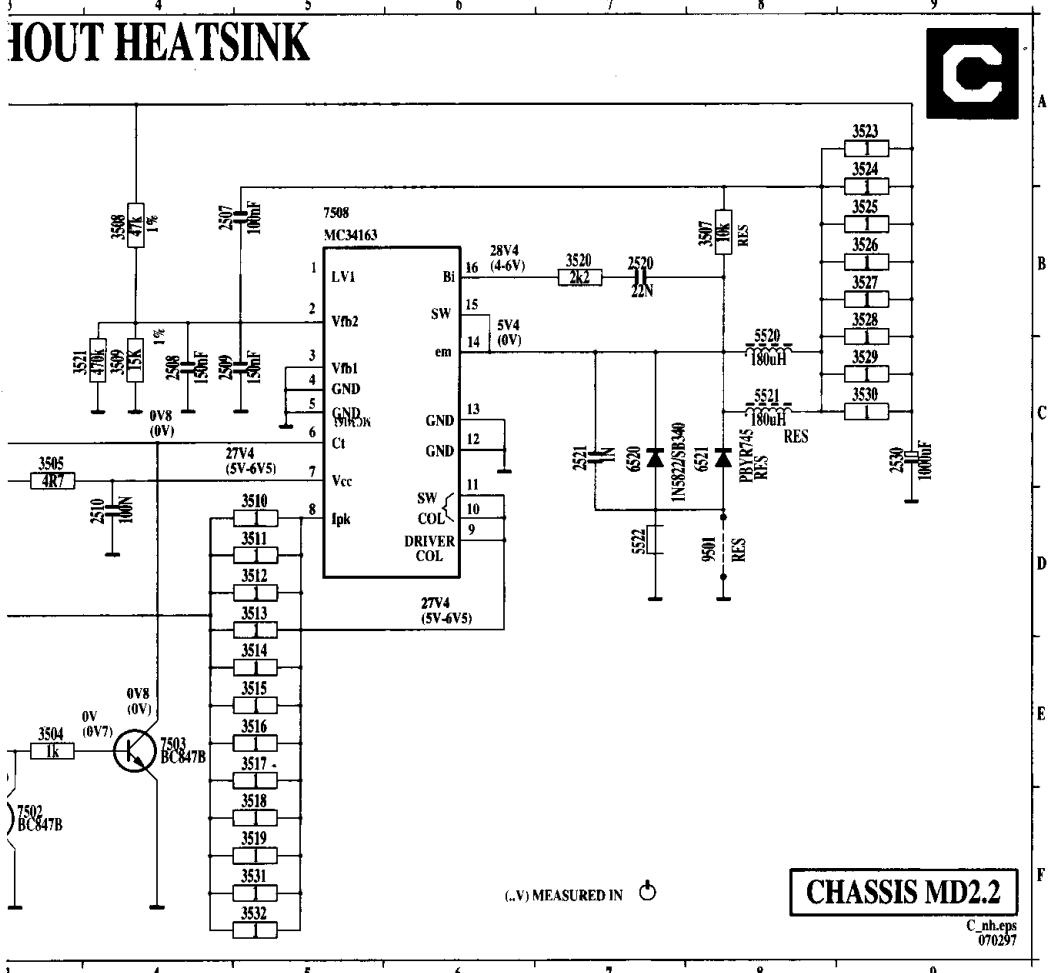
0.1V / div DC
0.1s / div

→ = 0V

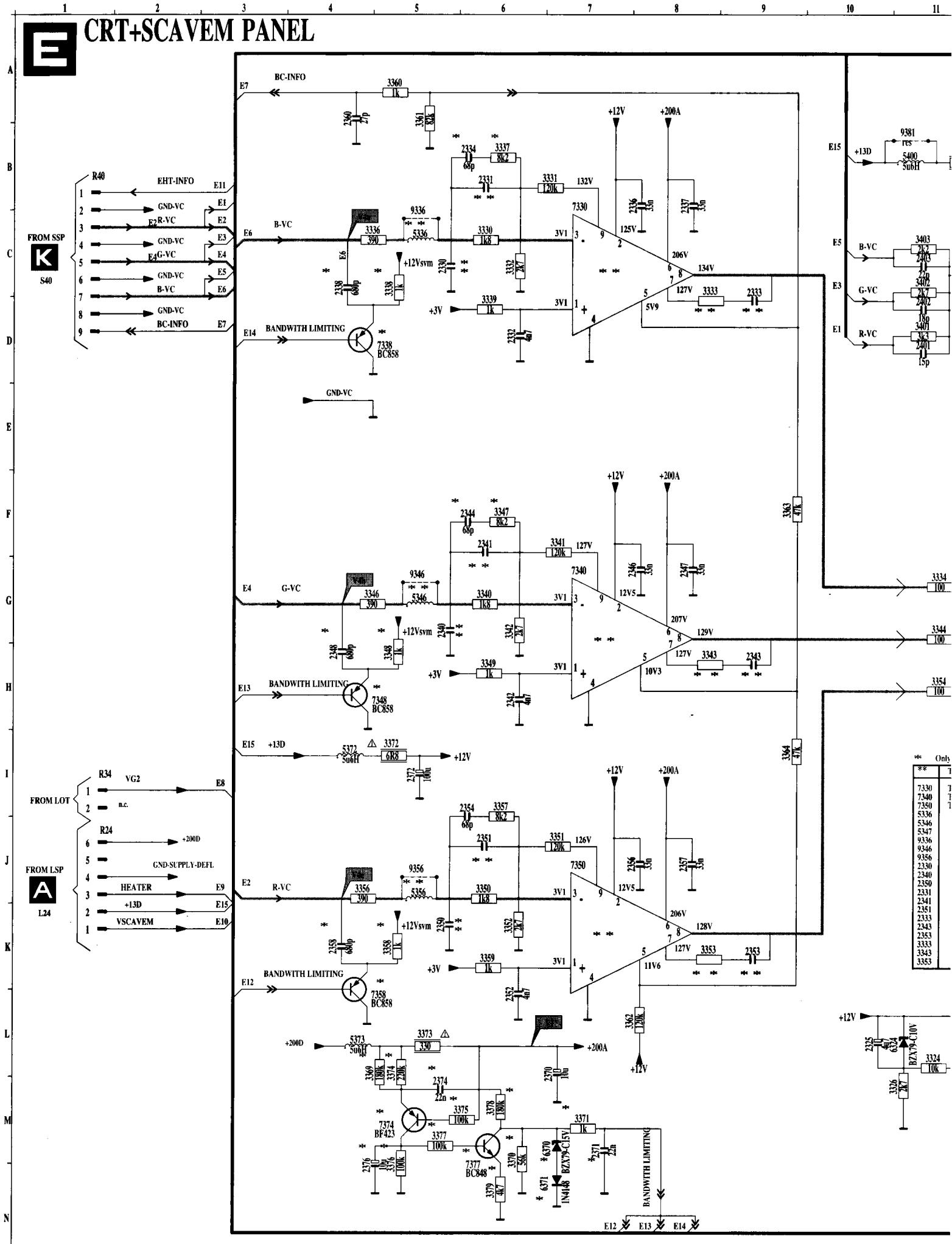


2504	C 3	2510	D 4	3502	E 3	3508	B 4	3513
2505	B 3	2520	B 8	3503	B 4	3509	C 4	3514
2507	B 3	2521	C 7	3504	C 4	3510	D 5	3515
2508	C 4	2530	D 9	3505	C 4	3511	D 5	3516

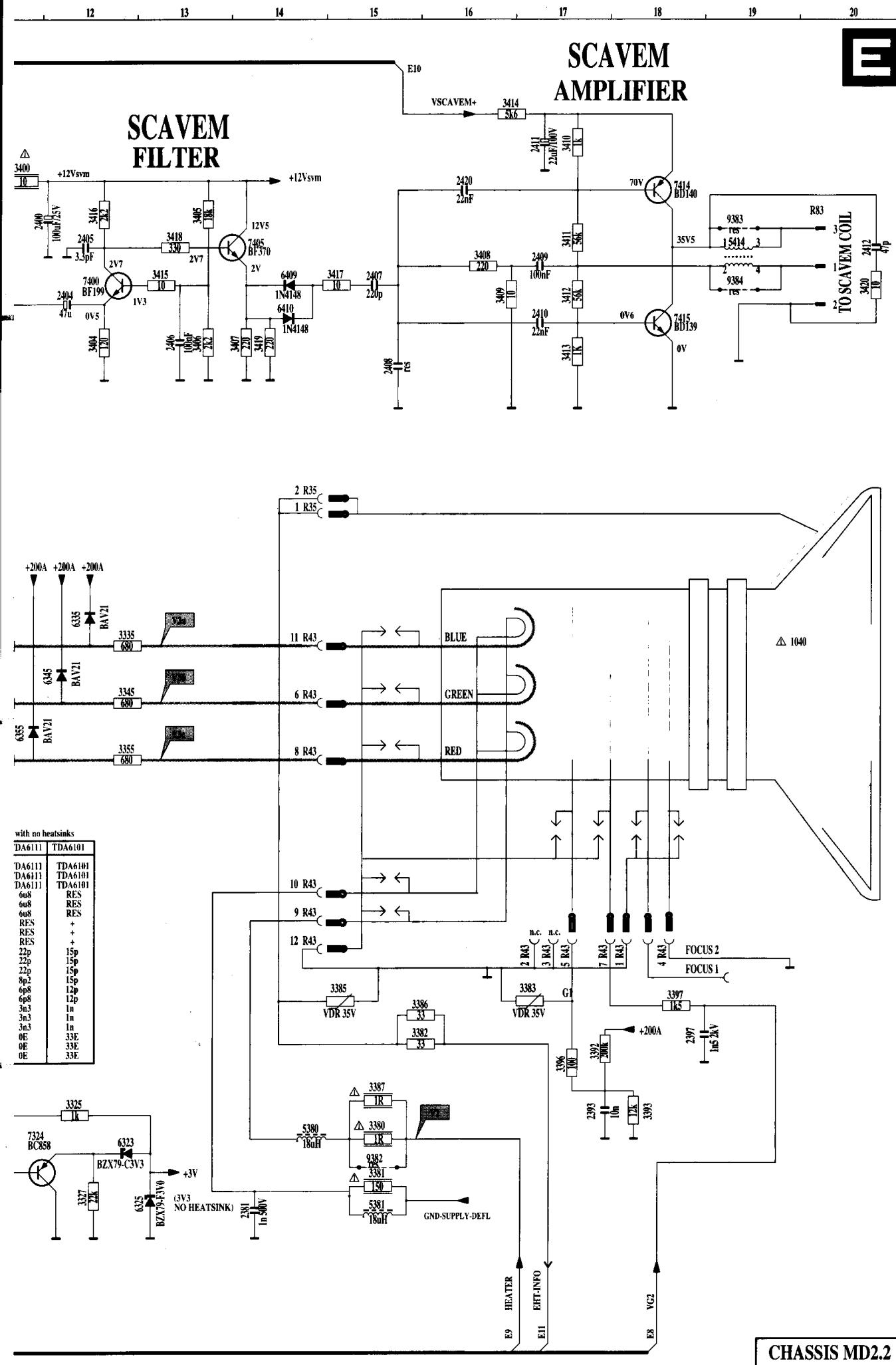




E CRT+SCAVEM PANEL



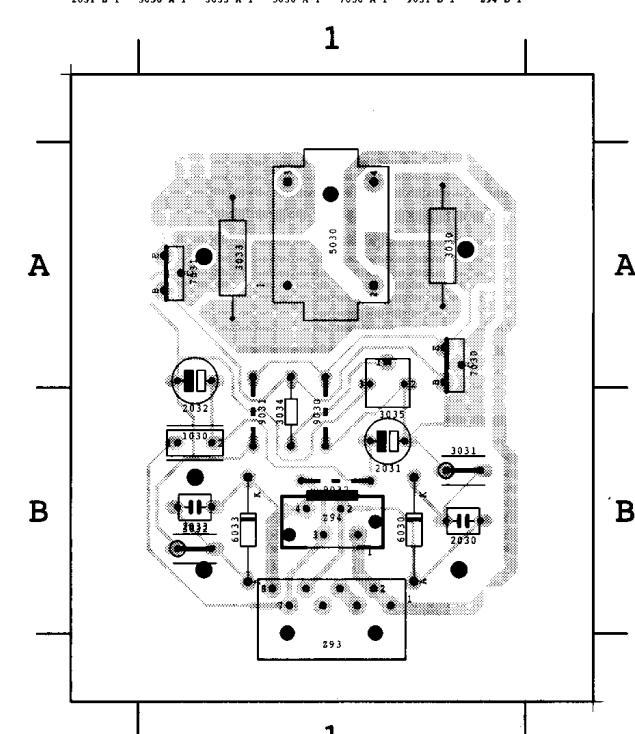
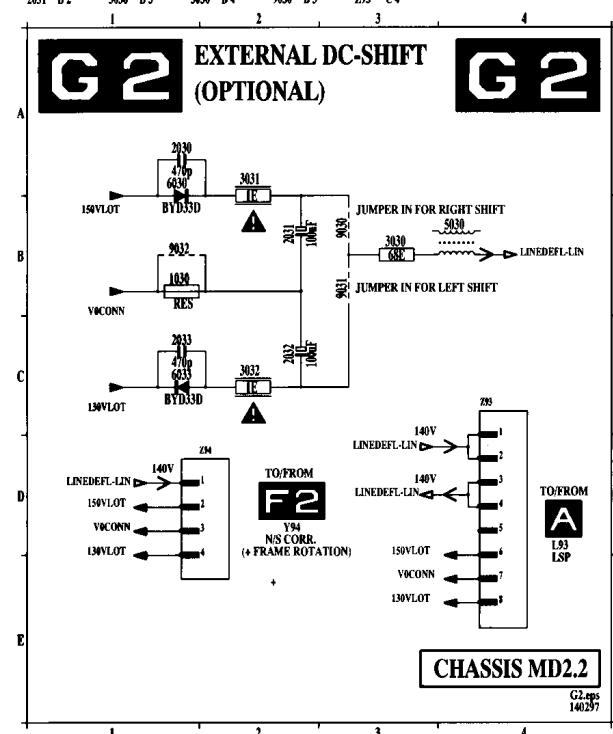
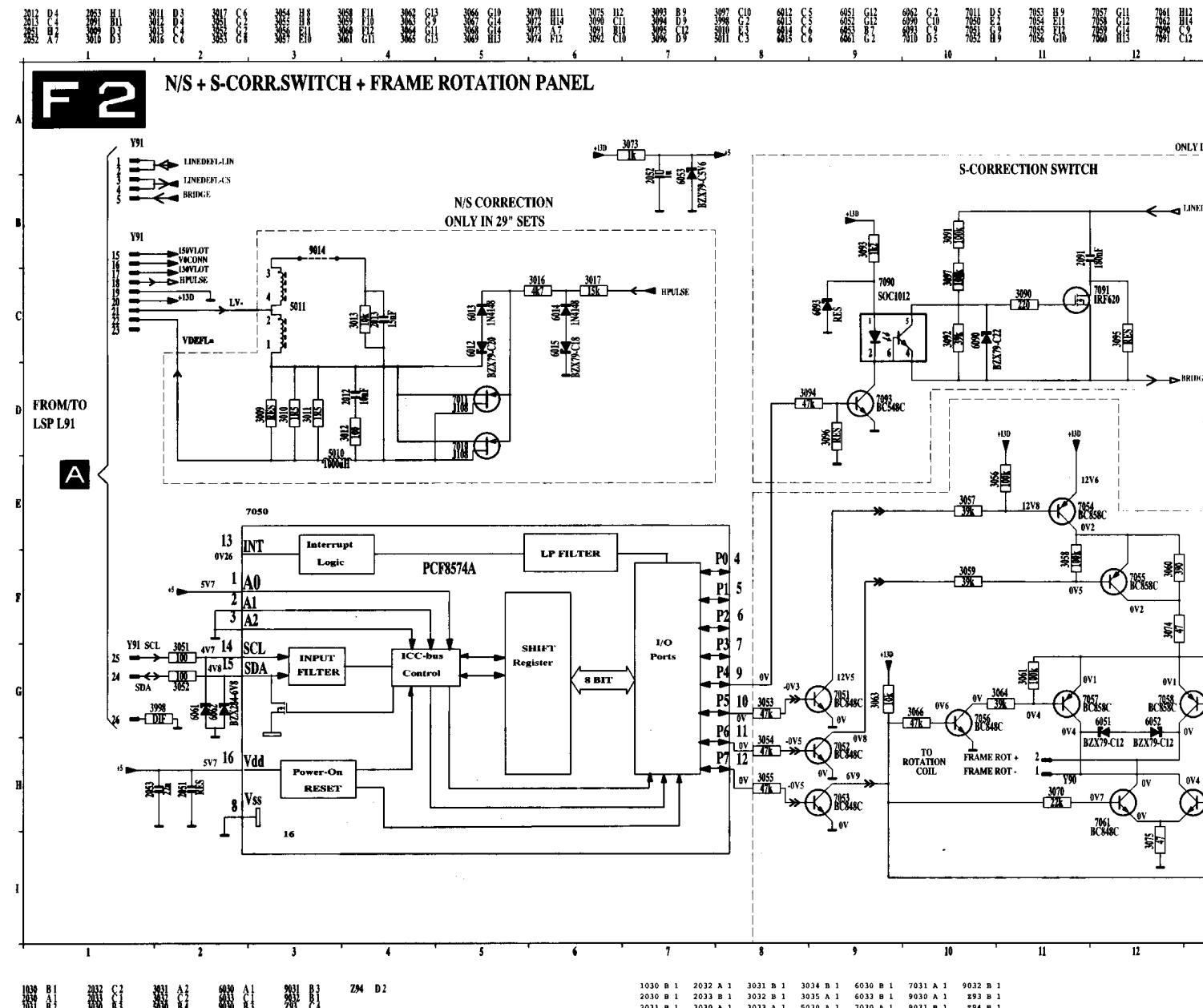
Bildröhren & SCAVEM-Platine / Platine tube-image & SCAVEM



CHASSIS MD2.2

E.eps 7338 D 5
140297 7340 G 7
7348 H 4

**North/South + Frame rotation + S-correction panel /
Nord/Süd + Drehrahmen + S-Korrekturplatine /
Platine N/S + rotation de Trame + Correction S**

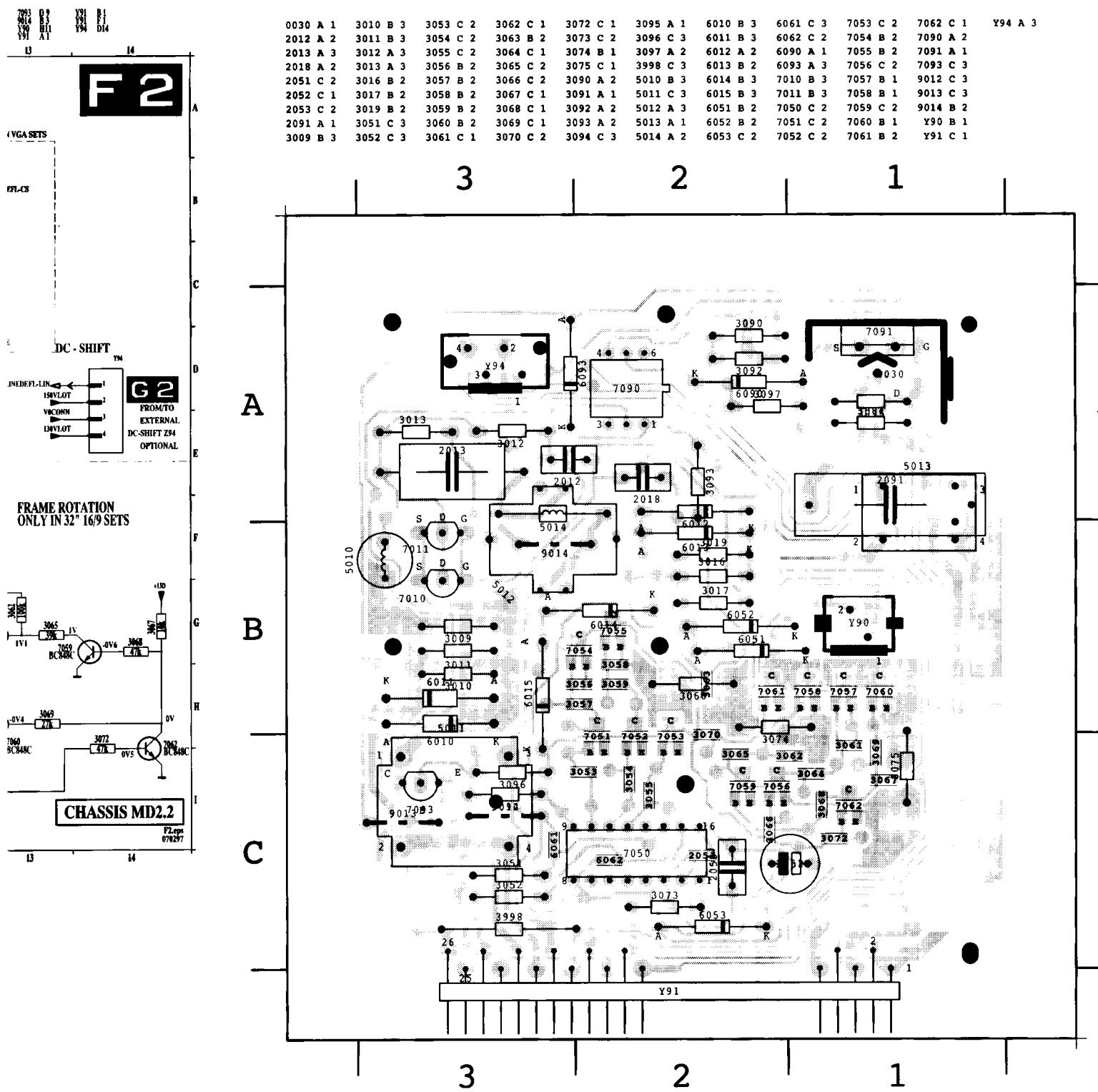


External DC shift panel /

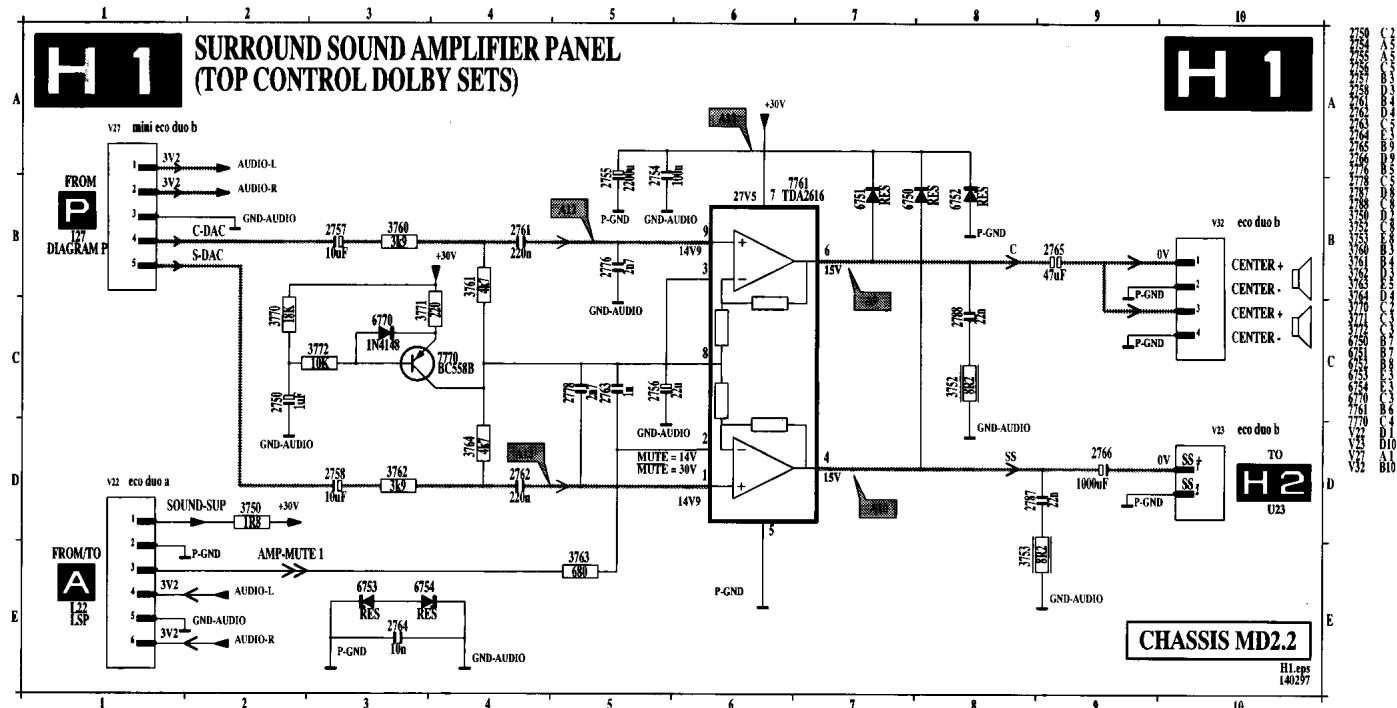
MD 2.21/2.22/2.23

18

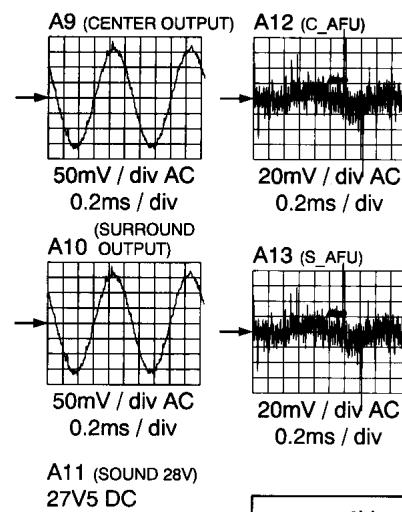
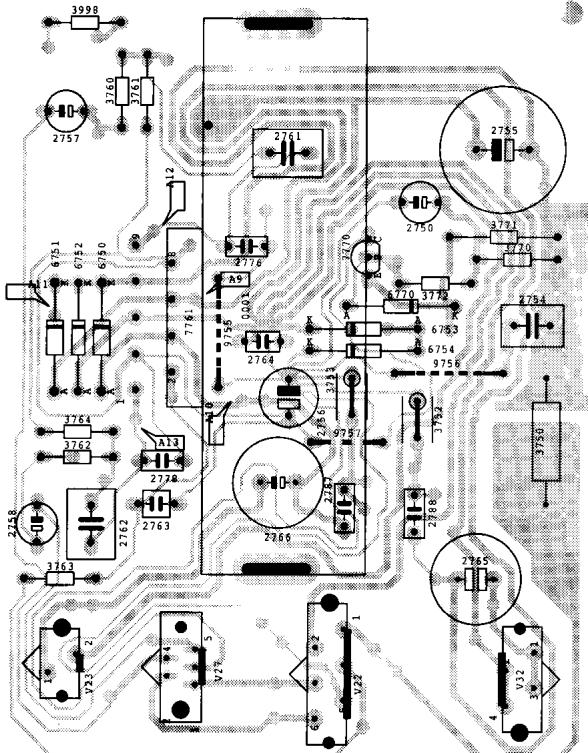
Externe-DC-verschiebungs-Platine / Platine déphasage externe CC



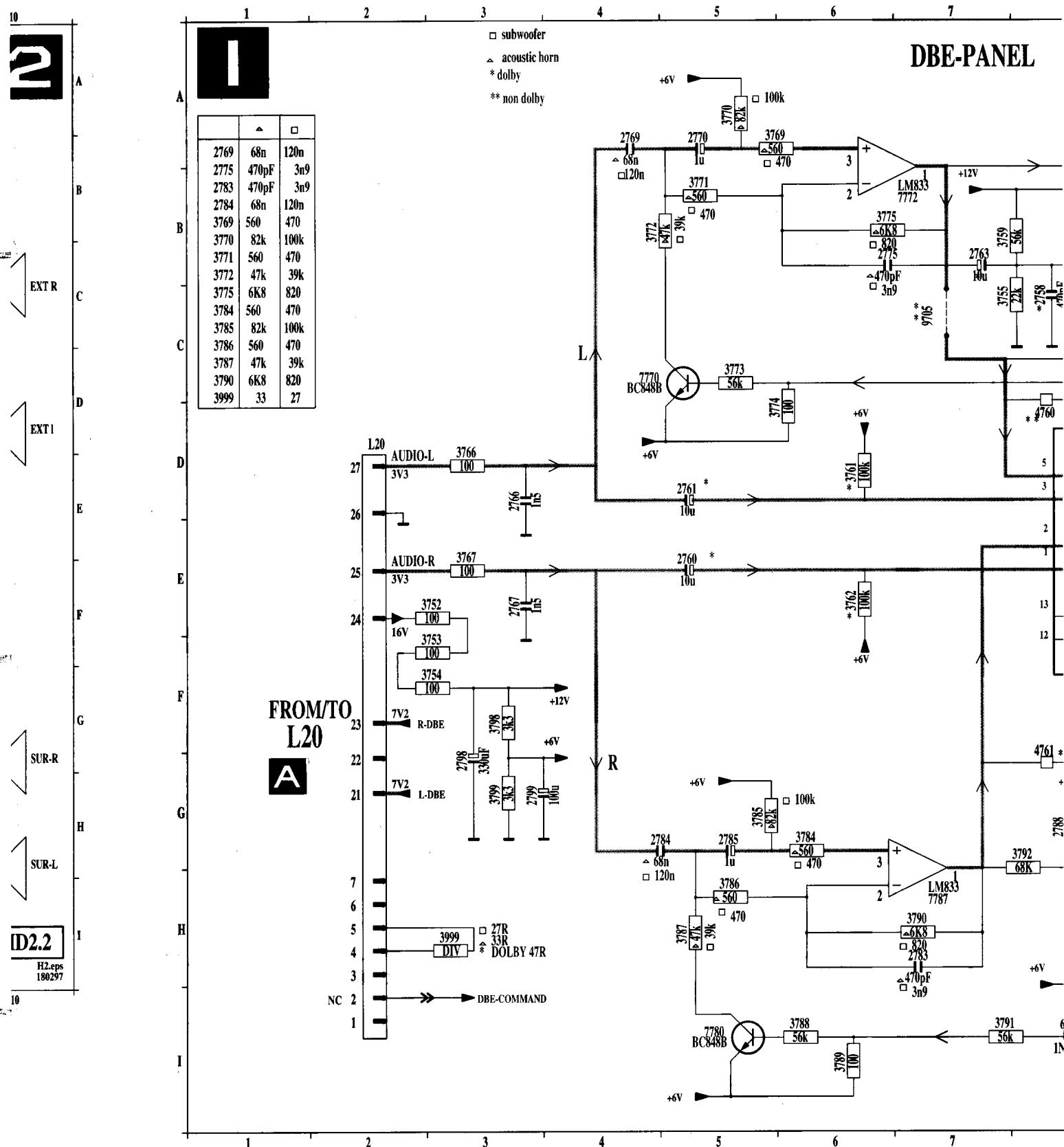
Surround sound panel / Surround Sound-Platine / Platine son Surround



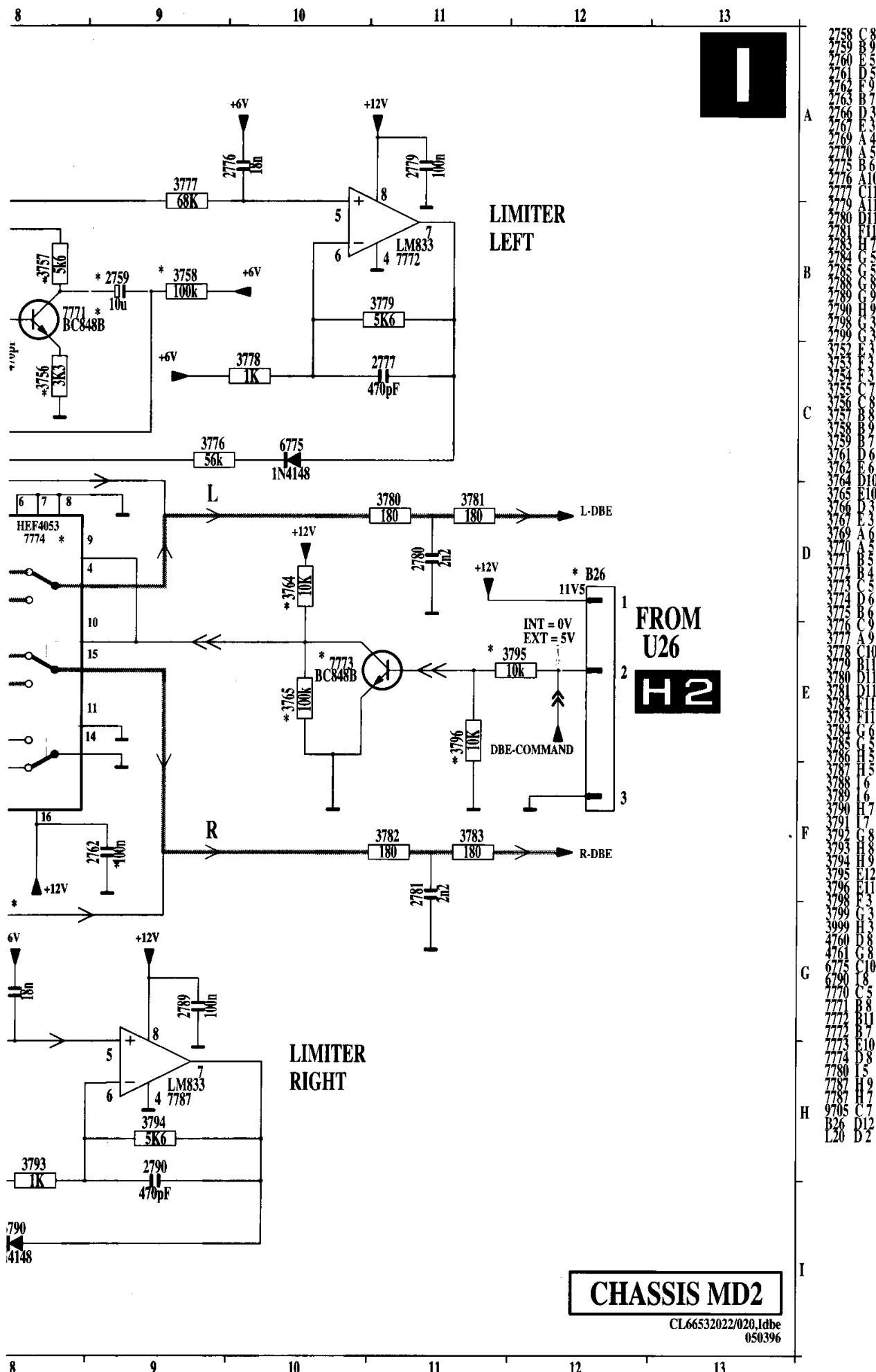
0001	A	2	2757	A	2	2764	B	2	2787	B	1	3760	A	2	3770	A	1	6751	B	2	7761	B	2	V22	C	1
2750	A	1	2758	C	2	2765	C	1	2788	C	1	3761	A	2	3771	A	1	6752	B	2	7770	A	1	V23	C	2
2754	B	1	2761	A	2	2766	B	2	3750	C	1	3762	B	2	3772	B	1	6753	B	1	9755	B	2	V27	C	2
2755	A	1	2762	C	2	2776	A	2	3752	B	1	3763	C	2	3998	A	2	6754	B	1	9756	B	1	V32	C	1
2756	B	2	2763	C	2	2778	B	2	3783	C	1	3764	B	2	6750	B	2	6720	A	1	8753	B	1	V33	C	2



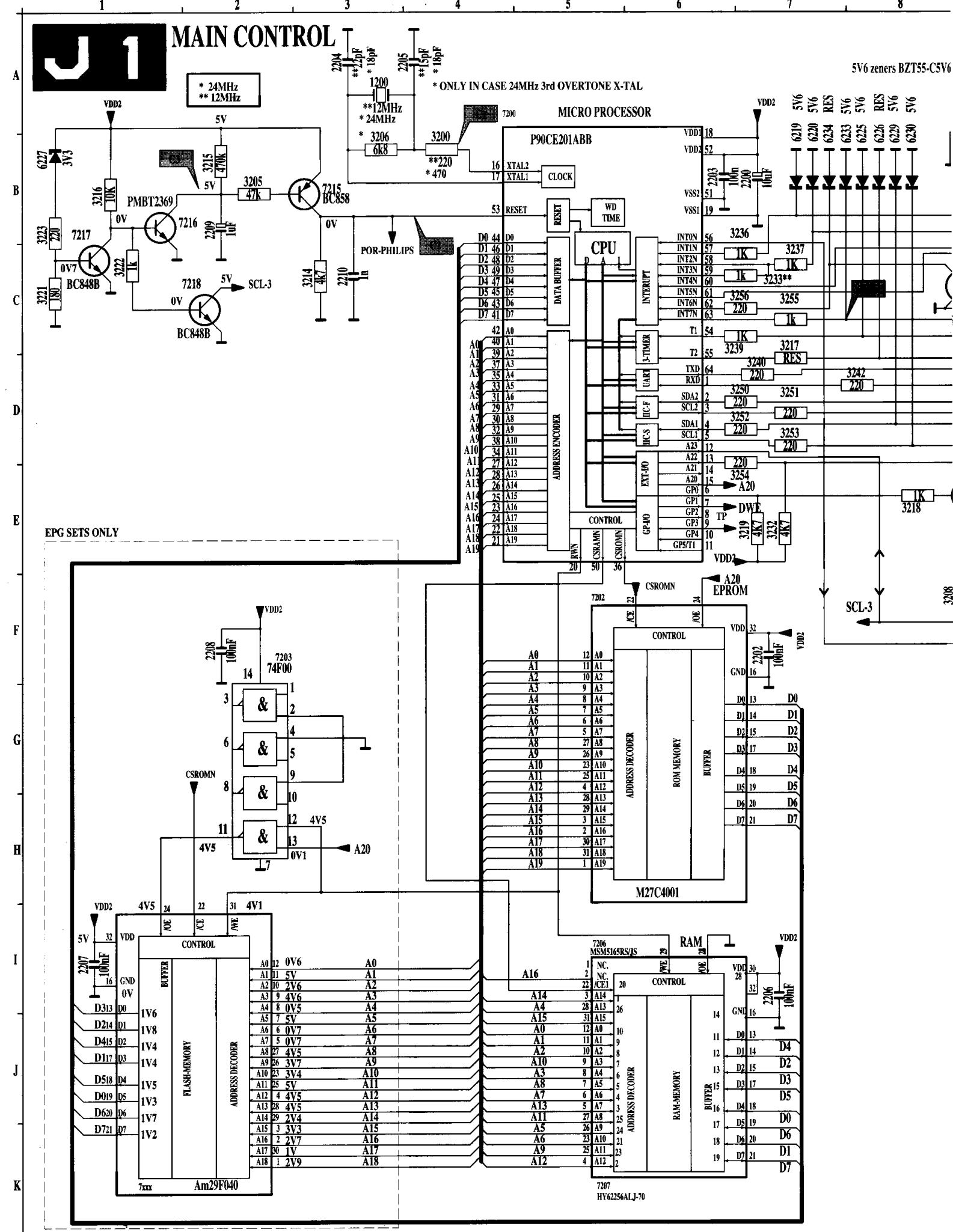
DBE (Dynamic Bass Enhancement) panel / DBE Dynamic Bass Enhancement)-Platine

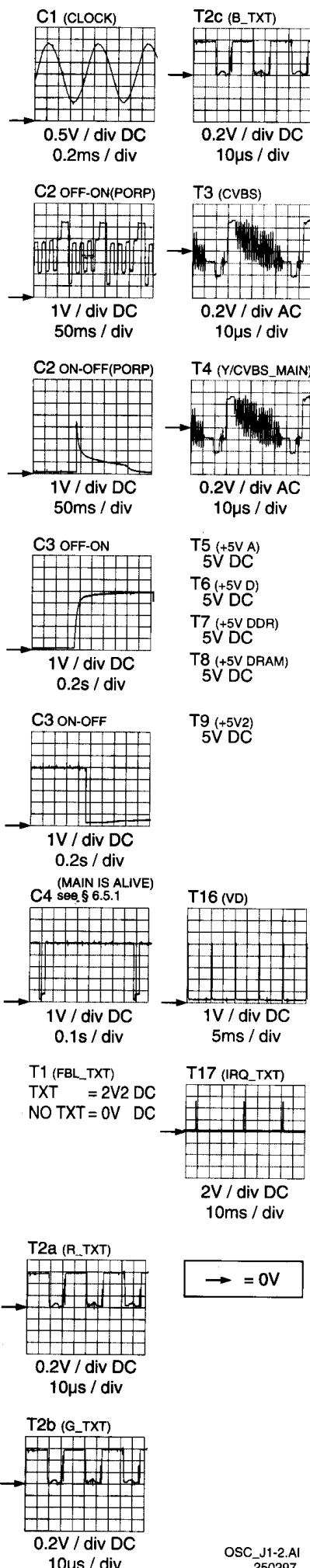
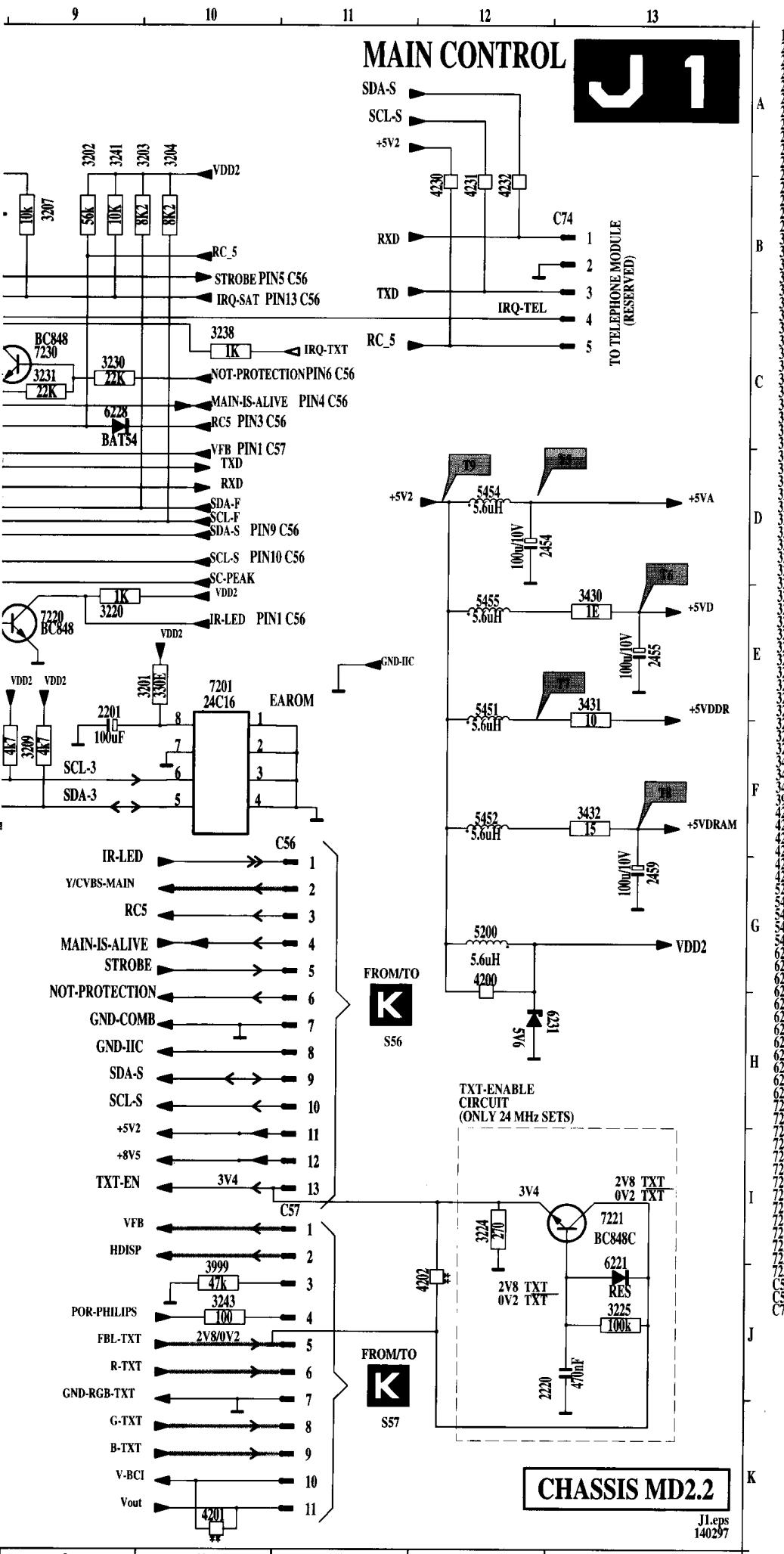


Platine DBE (Amélioration Dynamique des Basses)



MAIN CONTROL





1201	A 9	2437	F12	2450	C 1	2456	E 2	2461	C 3	2465	C 4	2472	E 5	3440	C12	3444	C14	3448	D15	3452	C 1	3456	C 2	3460
2430	I 9	2438	C11	2451	A 5	2457	C 2	2462	A10	2466	A 9	3437	B12	3441	D12	3445	C14	3449	D13	3453	E 1	3457	H 9	3463
2435	E13	2441	A 7	2452	A 8	2458	D 3	2463	A10	2468	C 5	3438	B14	3442	D12	3446	C14	3450	D 1	3453	E 1	3458	E 2	3466
2436	F12	2442	C 2	2453	A 8	2460	C 3	2464	D 4	2469	C 5	3439	B15	3443	C14	3447	C13	3451	B 5	3455	A 7	3459	H 8	3467

1

2

3

4

5

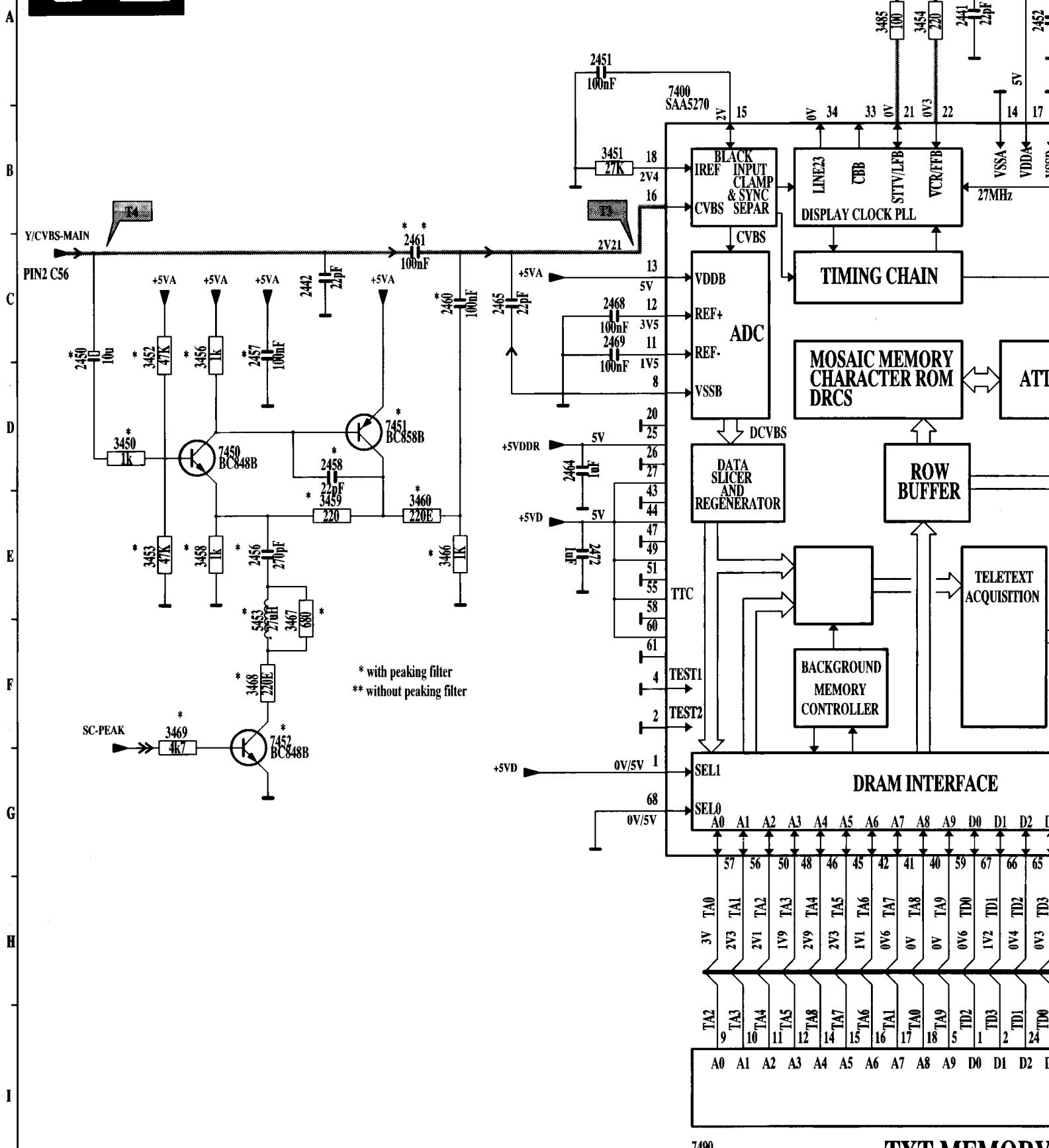
6

7

8

J 2

TXT



*** 7490 HYB514400BJ-70

TXT MEMORY

TXT & Control-Platine / Platine TXT & Commande

E 3	3468	F 2	3483	G 12	3489	F 11	3495*	F 12	7400	A 5	7452	F 2	7456	C 14	7490	1.5
A 10	3469	F 1	3484	G 12	3490	F 11	3497	B 11	7449	D 13	7453	D 12	7457	B 12		
F 3	3481	H 10	3485	A 7	3491*	E 12	5453	E 2	7450	D 2	7454	D 14	7458	B 14		
E 2	3482	H 10	3488	F 11	3493*	E 12	5460	A 10	7451	D 3	7455	C 13	7459	A 15		

A

B

C

D

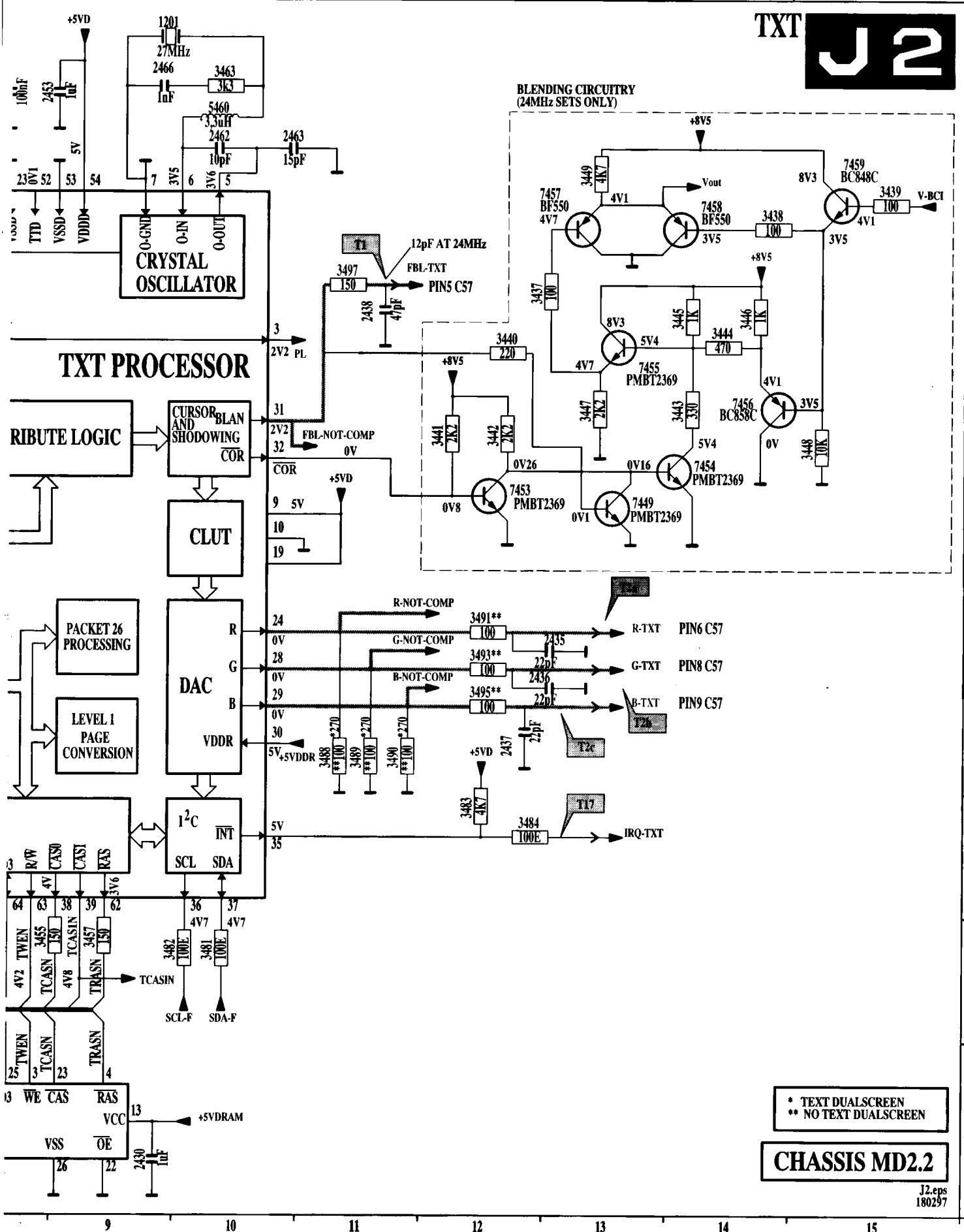
E

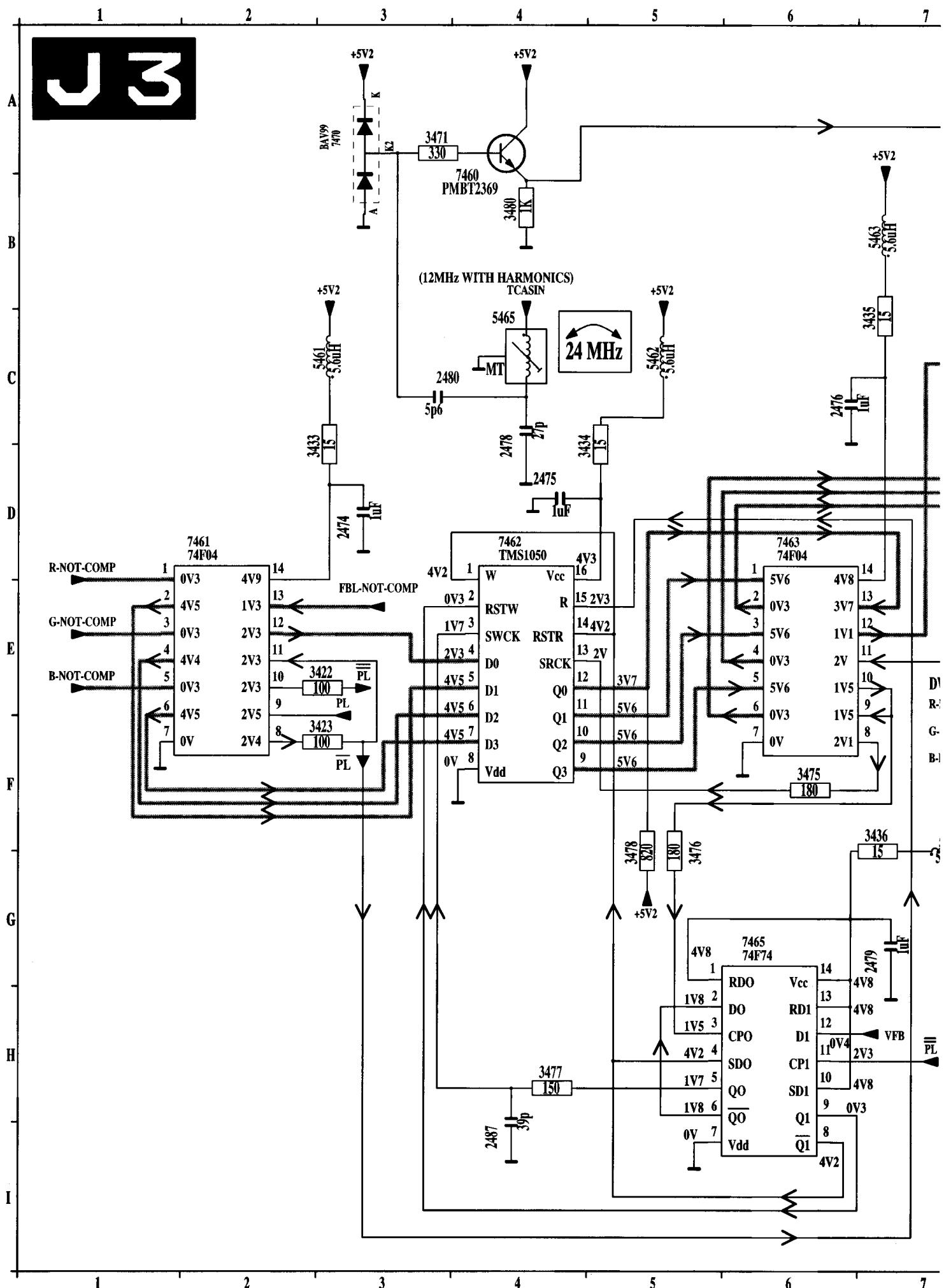
F

G

H

I





TXT & Control-Platine / Platine TXT & Commande

8

9

10

11

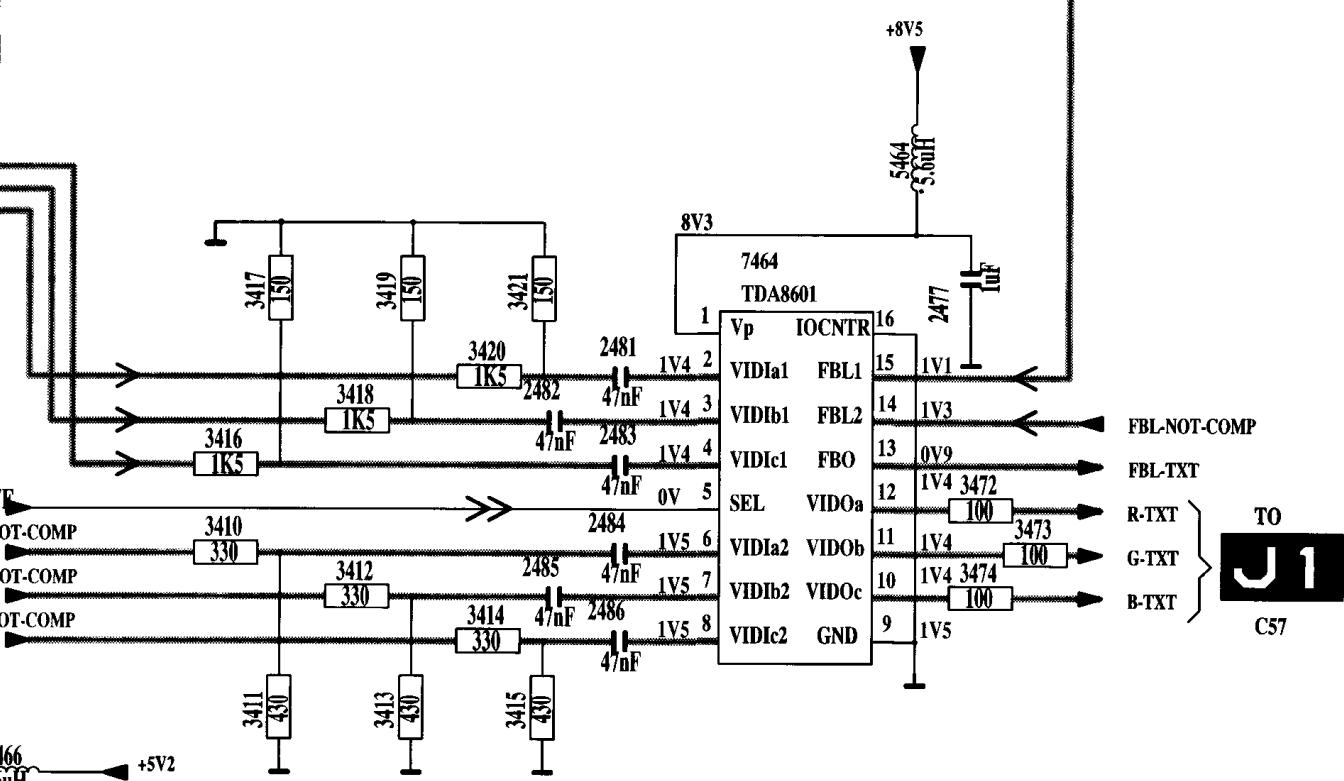
12

13

TEXT DUALSCREEN ONLY

J 3

2474	D 3
2475	D 4
2476	C 6
2477	C 7
2478	C 4
2479	G 7
2480	C 3
2481	E 10
2482	E 10
2483	E 10
2484	E 10
2485	F 10
2486	F 10
2487	I 4
3410	E 8
3411	F 8
3412	F 9
3413	F 9
3414	F 10
3415	F 10
3416	E 8
3417	D 8
3418	D 9
3419	D 9
3420	E 9
3421	D 10
3422	E 3
3423	F 3
3433	C 3
3434	C 5
3435	C 7
3436	F 7
3471	A 3
3472	E 12
3473	E 12
3474	F 12
3475	F 6
3476	F 5
3477	H 4
3478	F 5
3480	B 4
5461	C 3
5462	C 5
5463	B 7
5464	D 11
5465	C 4
5466	F 7
7460	B 4
7461	D 2
7462	D 4
7463	D 6
7464	D 11
7465	G 6
7470	A 3

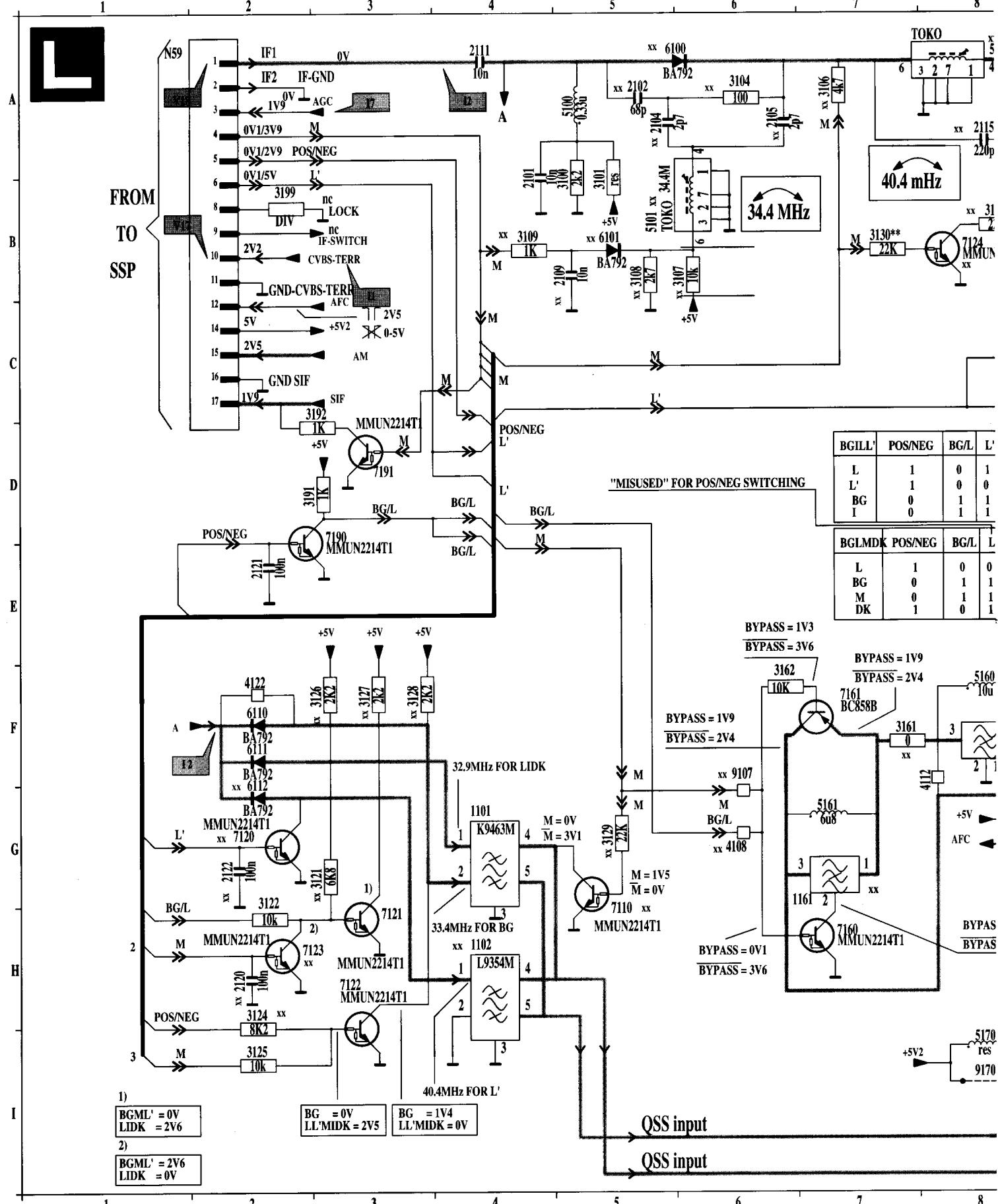


MEASURED IN TEXT DUALSCREEN MODE

CHASSIS MD2.2

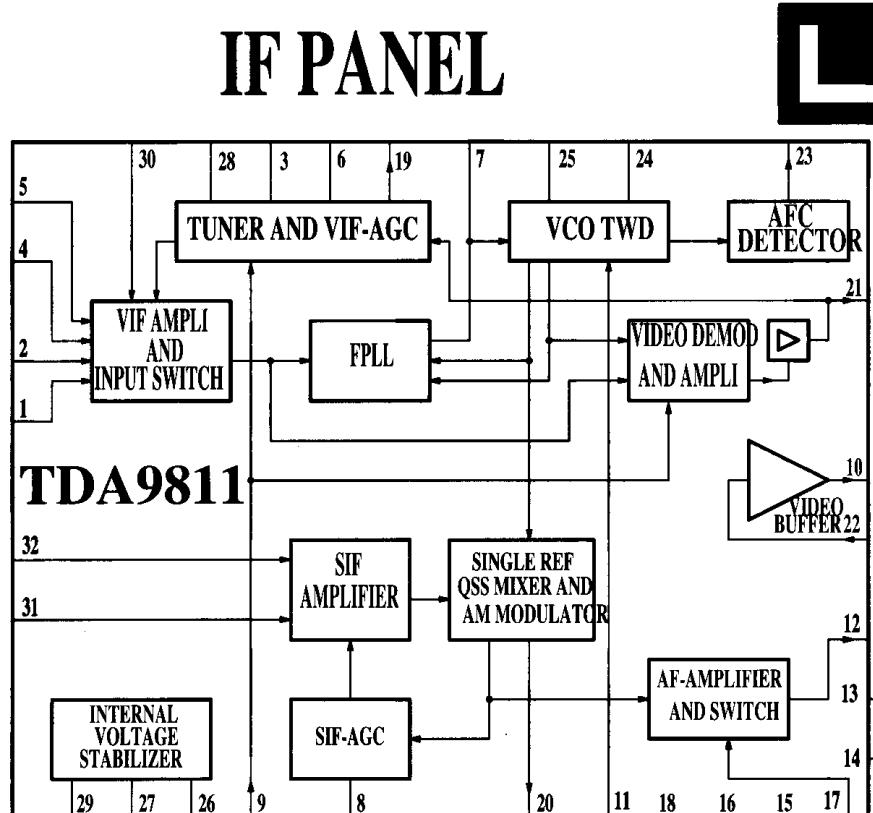
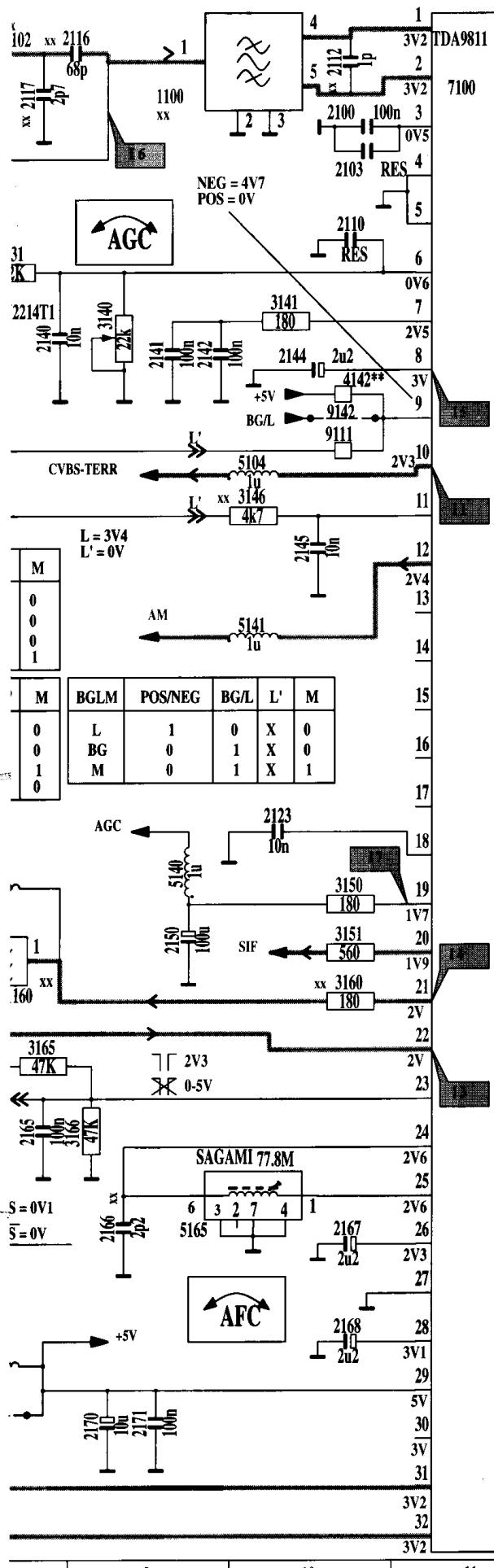
J3.eps
180297

1100	A 9	2100	A 10	2105	A 6	2115	A 8	2122	G 2	2144	B10	2167	H10	3101	A 5	3109	B 4	3126	F 3	3131	B 8	3151	F10	3166
1101	G 4	2101	A 4	2109	B 5	2116	A 9	2123	E10	2145	D10	2168	H10	3104	A 6	3121	G 3	3127	F 3	3140	B 9	3160	F10	3191
1102	H 4	2102	A 5	2110	B10	2117	A 8	2140	B 8	2150	F 9	2170	I 9	3106	A 7	3122	G 2	3128	F 3	3141	B10	3161	F 7	3192
1106	F 8	2103	A10	2111	A 4	2120	H 2	2141	B 9	2165	G 8	2171	I 9	3107	B 6	3124	H 2	3129	G 5	3146	C10	3162	F 6	3199
1161	G 7	2104	A 5	2112	A10	2121	E 2	2142	B 9	2166	H 9	3100	A 5	3108	B 5	3125	I 2	3130*	B 7	3150	F10	3165	G 8	4108



G9 4112 F8 5102 A8 5161 G7 6110 F2 7120 G2 7160 H7 9111 C10
 D3 4122 F2 5104 C10 5165 H9 6111 F2 7121 H3 7161 F7 9142 C10
 C3 4142* C10 5140 F9 5170 I8 6112 G2 7122 H3 7190 D3 9170 I8
 B2 5100 A5 5141 D10 6100 A6 7100 H5 7123 H2 7191 D3 N59 A1
 G6 5101 B5 5160 F8 6101 B5 7110 H5 7124 B8 9107 F6

9 10 11 12 13 14 15



**	BGLM	BGLI
1100	OFWG3956M	OFWG3953M
1102		OFWG9354M
1160	TPS5,5MW	TPS6,0MB
1161	TPS4,5MB	TPS5,5MW
2102	68pF	JUMPER
2104	2p7	-
2105	2p7	-
2109	10n	-
2112		-
2115	JUMPER	330p
2116		56p
2117		2p2
2120		100n
2122		100n
3104	150	47
3106	4K7	-
3107	10K	-
3108	2k7	-
3109	1k	-
3121		6k8
3124	8k2	6k8
3126		2k2
3127	2k2	4k7
3128	2k2	4k7
3129	22k	-
3130	22k	-
3131	22k	-
3146		4k7
3160	180	220
4107	JUMPER	-
4108		4142
4142		-
5101	34,4MC	-
5102	-	40,4MC
6100	BA582	-
6101	BA582	-
6112		BA582
7110	MMUN2214T1	-
7120	-	MMUN2214T1
7123	-	MMUN2214T1
7124	MMUN2214T1	-

BGLMDK ; LIKE BGLM EXCEPT:	
1100	OFWG3953M
9111	IN
9142	NOT IN

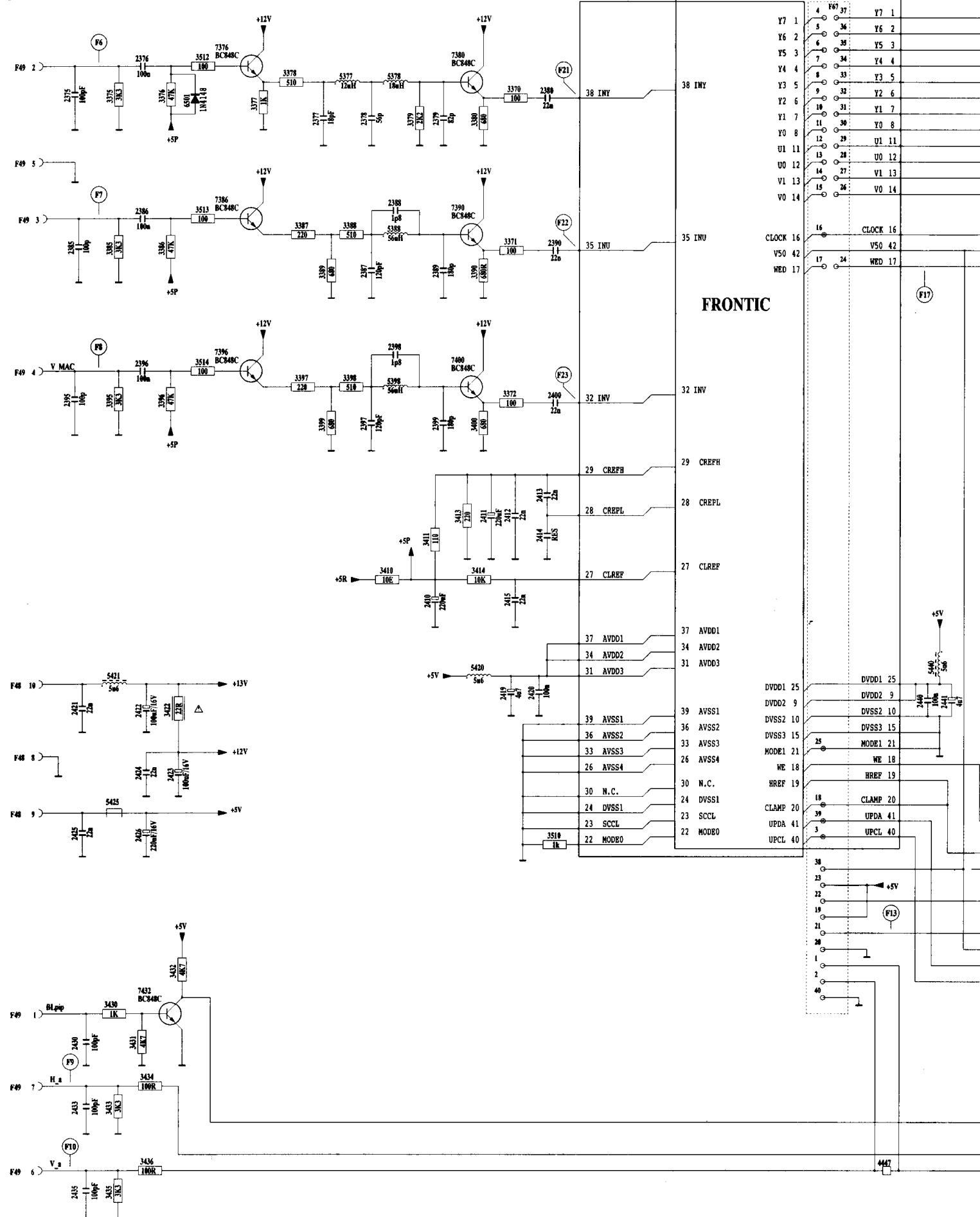
CHASSIS MD2.2

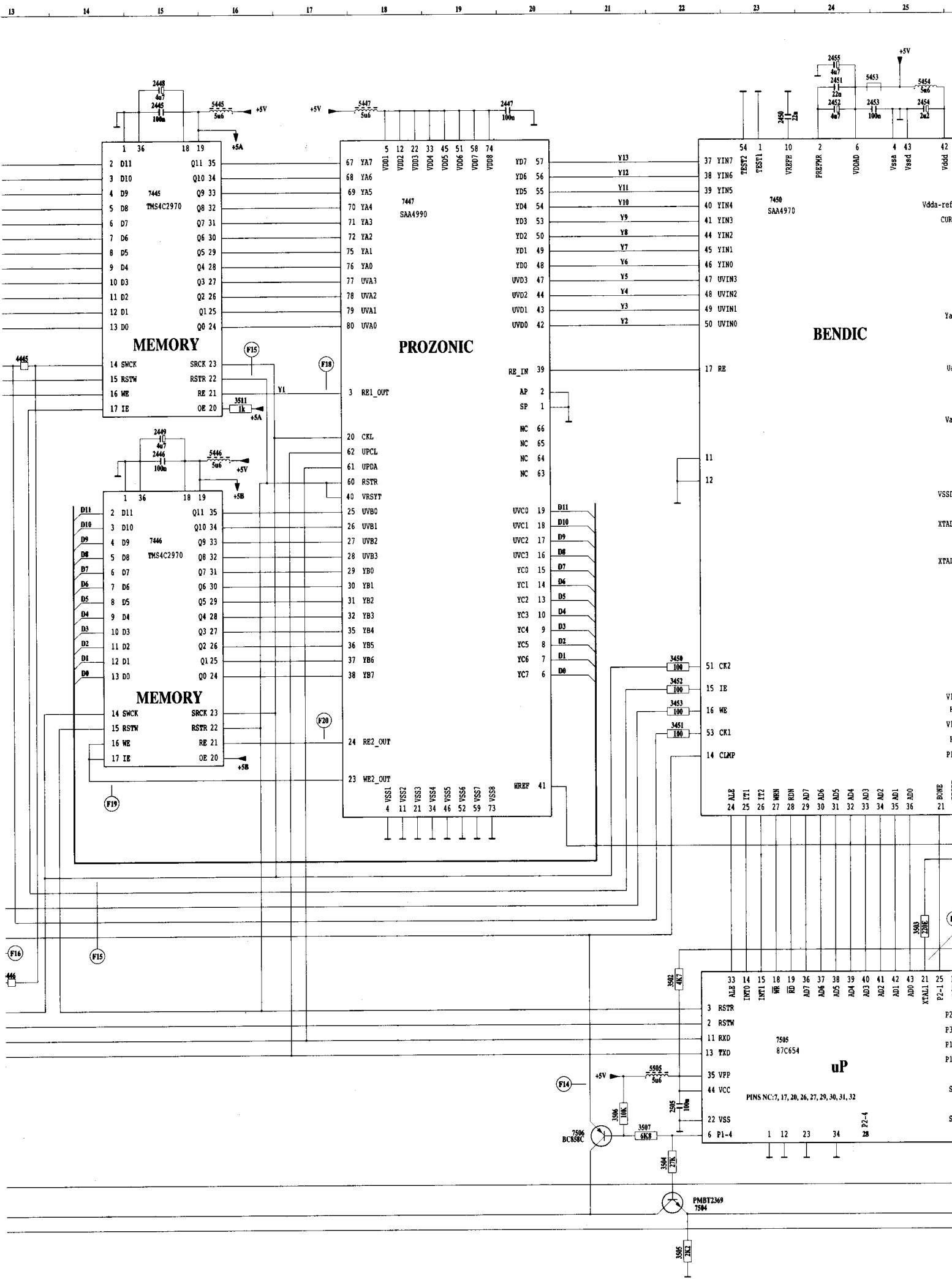
Leps
140297

Feature Box (Digital Scan) panel /

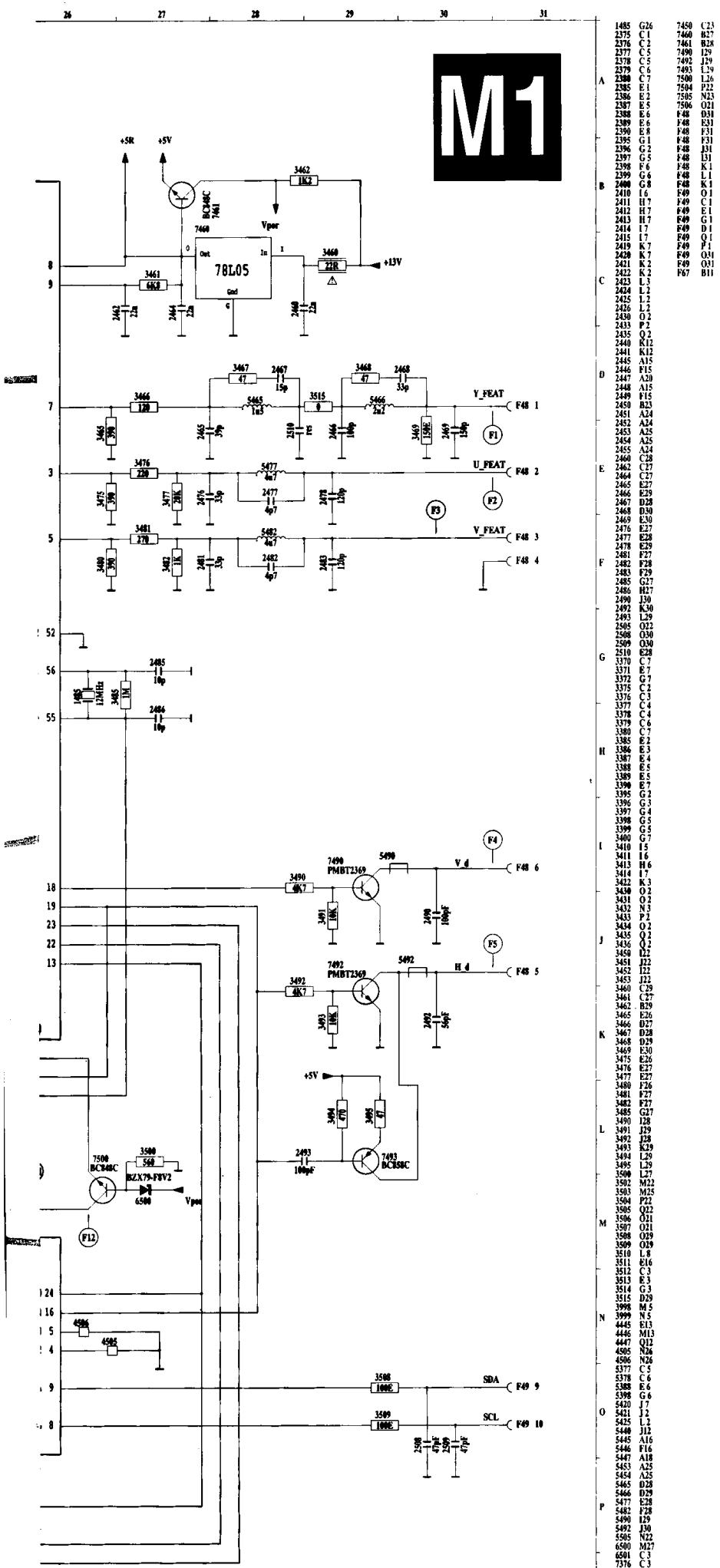
FEATURE BOX 3

M1





Platine Boîtier Numérique (balayage numérique)



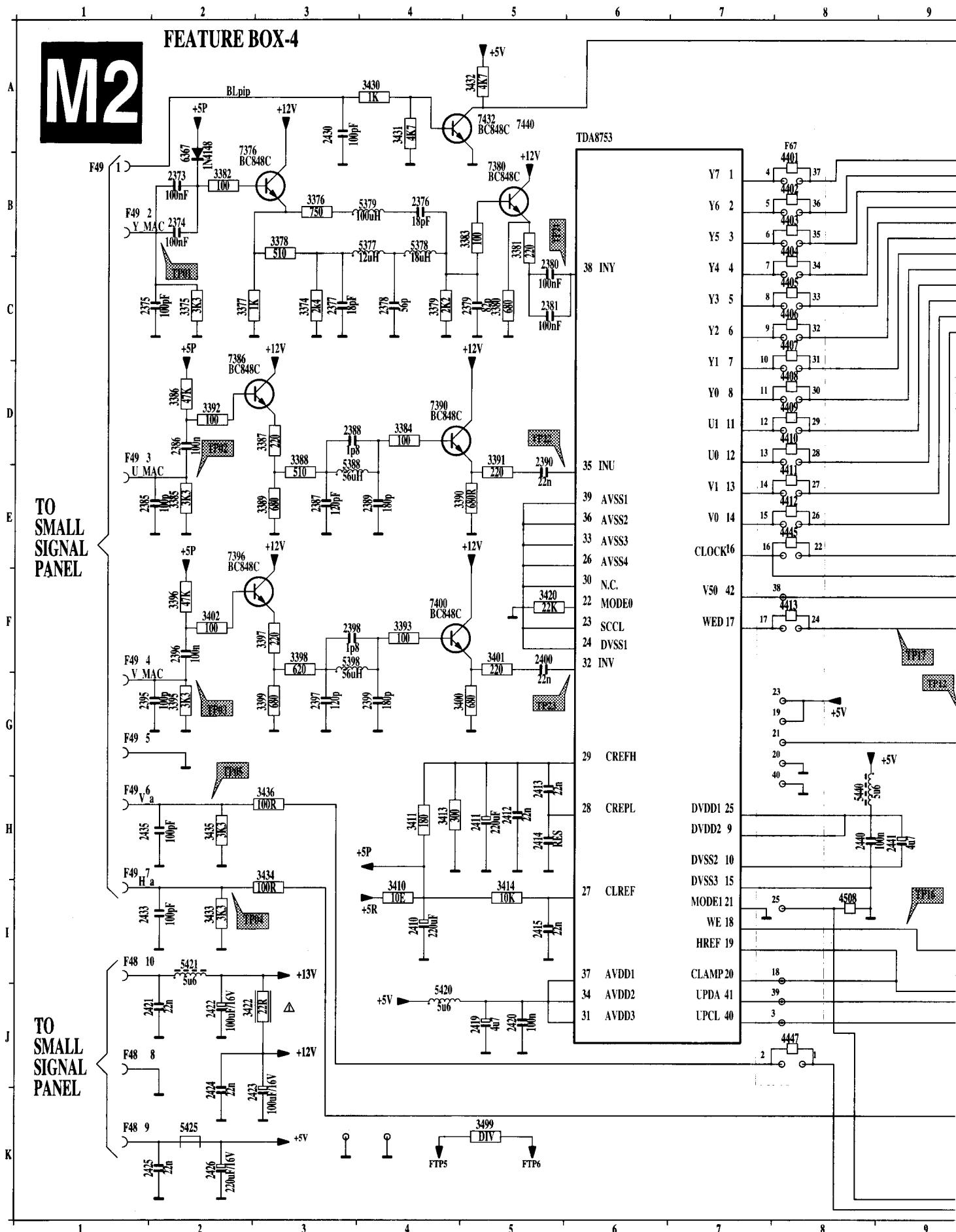
CHASSIS MD2

A	1485	G26	7450	C23
	2375	C1	7460	B27
	2376	C2	7461	B28
	2377	C5	7490	I29
	2378	C5	7492	J29
	2379	C6	7493	K29
	2380	E1	7500	L26
	2381	E2	7504	P22
	2382	E5	7509	N23
	2383	E6	7509	O21
	2384	E8	7509	D4
	2385	E8	7509	P31
	2386	E2	7509	N21
	2387	E5	7509	O21
	2388	E6	7509	D4
	2389	E8	7509	P31
	2390	E8	7509	F31
	2395	G1	7509	J31
	2396	G2	7509	J31
	2397	G5	7509	I31
	2398	G6	7509	K31
	2399	G6	7509	K31
	2400	G8	7509	K1
	2410	I6	7509	O1
	2411	H7	7509	C1
	2412	H7	7509	E21
	2413	I7	7509	F29
	2414	I7	7509	D1
	2415	I7	7509	O1
	2419	K7	7509	P1
	2420	K7	7509	O1
	2421	K2	7509	O1
	2422	K2	7509	B11
	2423	L3		
	2424	L2		
	2425	L2		
	2426	L2		
	2427	O2		
	2433	P2		
	2435	Q2		
	2440	K12		
	2441	K12		
	2445	A15		
	2446	A20		
	2448	A15		
	2449	F15		
	2450	B3		
	2451	A3		
	2452	A24		
	2453	A25		
	2454	A25		
	2455	A24		
	2456	C28		
	2462	C27		
	2464	C27		
	2465	E27		
	2466	E29		
	2467	D28		
	2468	I28		
	2469	E20		
	2470	E20		
	2476	E27		
	2477	E28		
	2478	E29		
	2479	E27		
	2482	F28		
	2483	F29		
	2485	G27		
	2486	H27		
	2490	J30		
	2491	J30		
	2493	L29		
	2505	O22		
	2508	O30		
	2509	O30		
G	2510	S28		
	3371	E7		
	3372	G7		
	3375	C2		
	3376	C3		
	3377	C4		
	3378	C4		
	3379	C6		
	3380	C7		
	3385	E2		
	3386	E3		
	3387	E4		
	3388	E5		
	3390	E7		
	3395	G2		
	3396	G3		
	3398	G5		
	3399	G5		
	3400	G7		
	3410	I5		
	3411	H6		
	3414	I7		
	3422	K3		
	3430	O2		
	3432	N3		
	3433	P2		
	3434	O2		
	3435	Q2		
	3436	Q2		
	3451	I22		
	3452	I22		
	3453	J22		
	3460	C29		
	3462	E27		
	3463	B29		
	3465	E26		
	3466	D27		
	3467	D28		
	3468	D29		
	3475	E26		
	3476	E27		
	3477	E27		
	3480	F26		
	3481	F27		
	3483	F27		
	3485	G27		
	3490	I28		
	3491	J28		
	3492	J28		
	3493	K30		
	3495	L29		
	3496	L27		
	3502	M22		
	3503	M23		
	3507	M22		
	3508	O22		
	3509	O21		
	3507	O21		
	3508	O29		
	3510	O8		
	3511	E16		
	3512	C3		
	3513	E3		
	3514	G3		
	3515	D39		
	3516	N5		
	3599	N5		
	3445	E13		
	4446	M13		
	4447	Q12		
	4456	N26		
	4506	N26		
	5377	C5		
	5378	C6		
	5388	E6		
	5389	G6		
	5390	J7		
	5421	I2		
	5425	L2		
	5440	J12		
	5445	A16		
	5446	A16		
	5447	A18		
	5453	A25		
	5454	A25		
	5465	D28		
	5466	D29		
	5467	E27		
	5482	F28		
	5490	I29		
	5492	J30		
	5505	N22		
	5507	M27		
	5501	J3		
	7376	C3		
	7380	C6		
	7386	E3		
	7398	E6		
	7400	F3		
	7406	F6		
	7432	N2		
	7440	B8		
	7441	B9		
	7445	C15		
	7446	G13		
	7447	C18		

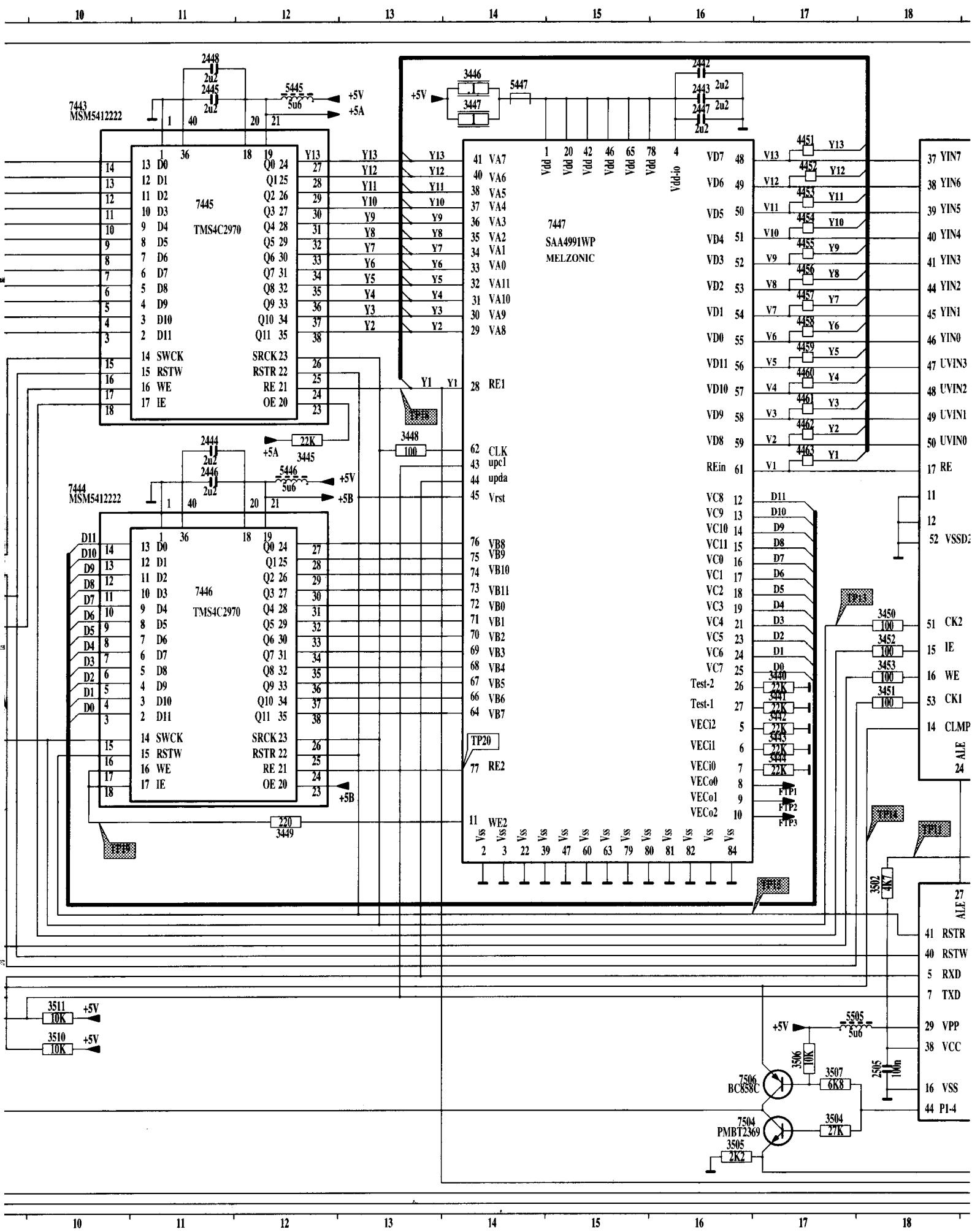
Feature Box (natural motion) panel /

MD 2.21/2.22/2.23

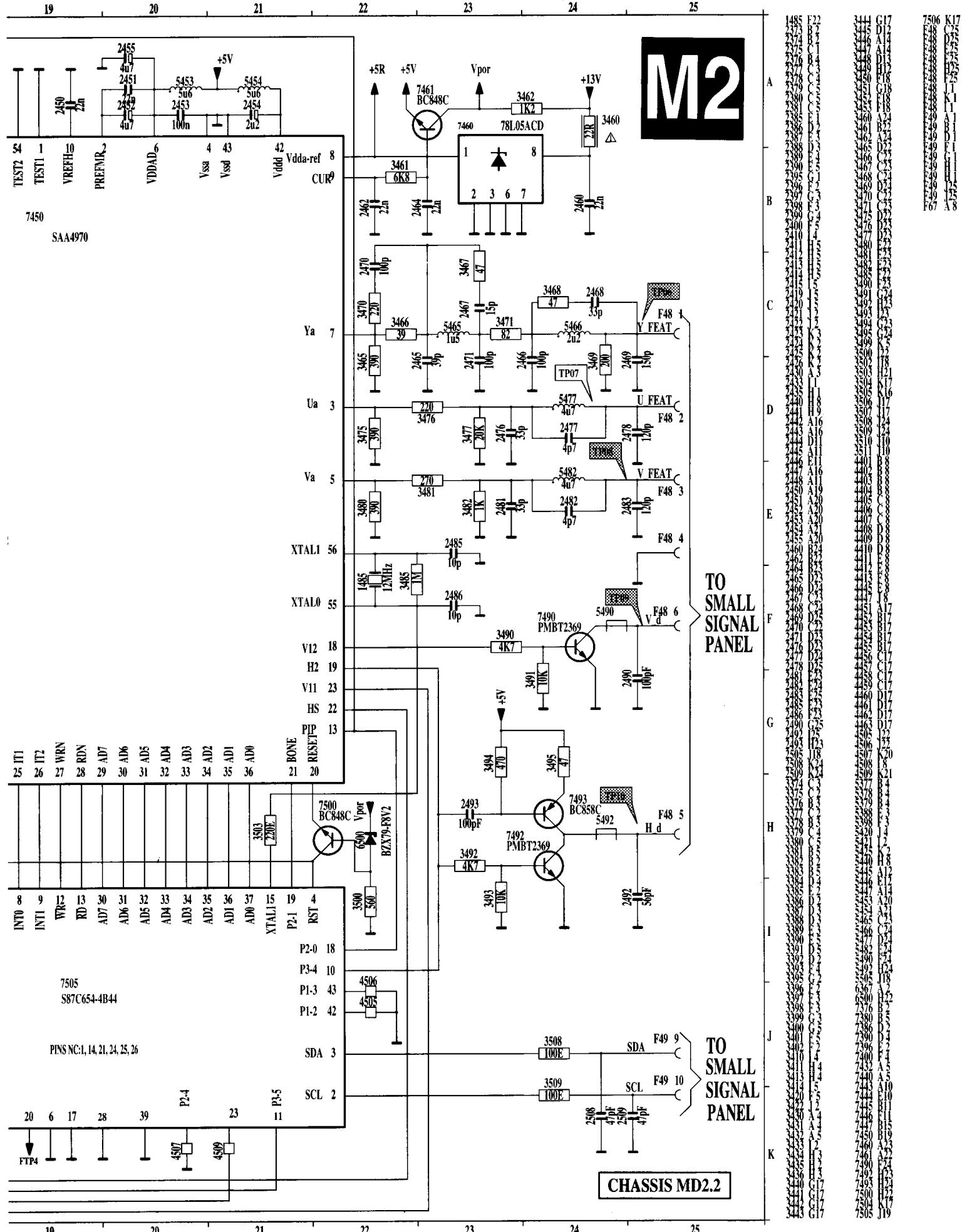
29



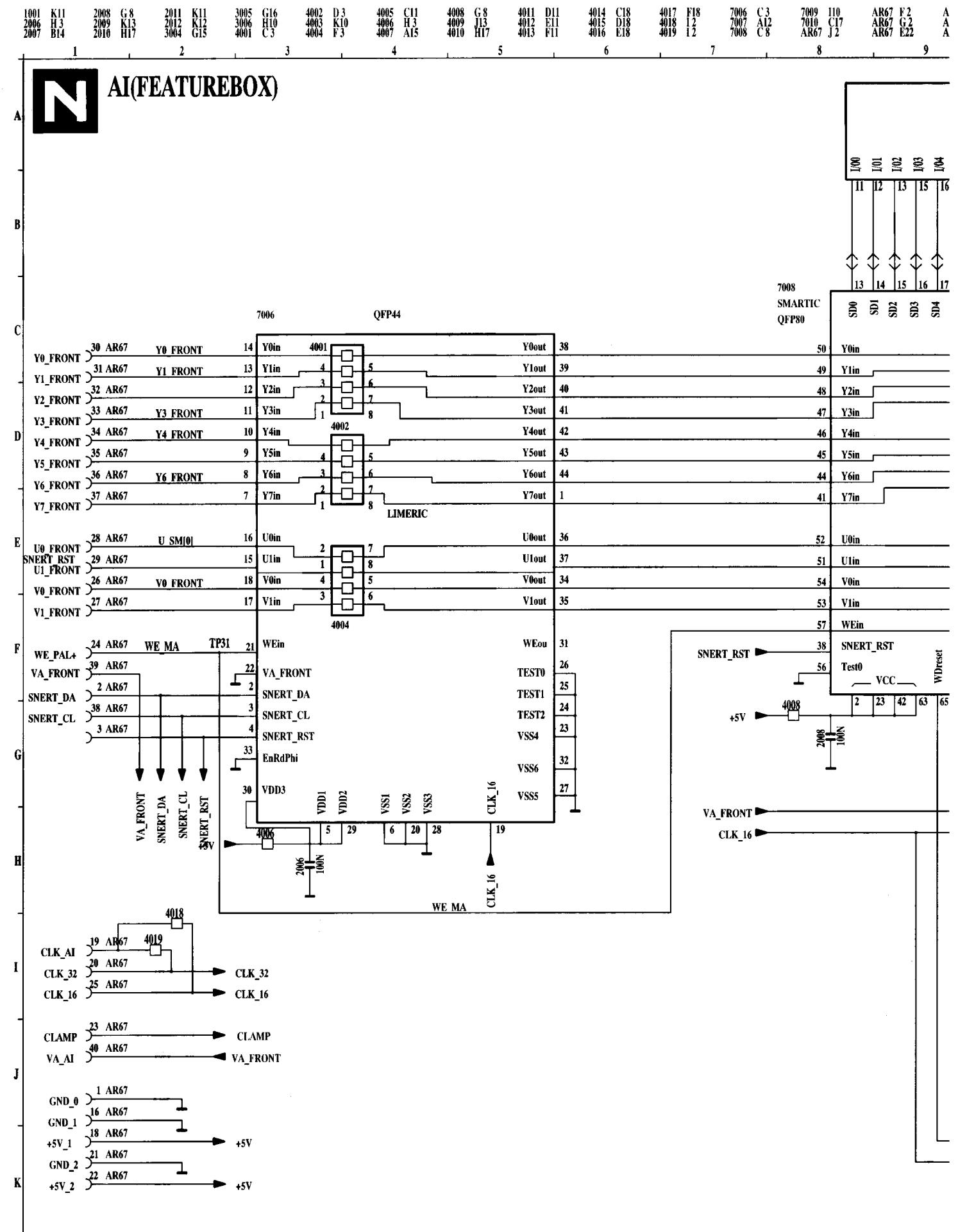
Feature-Box-Platine (Natürliche Bewegung) /

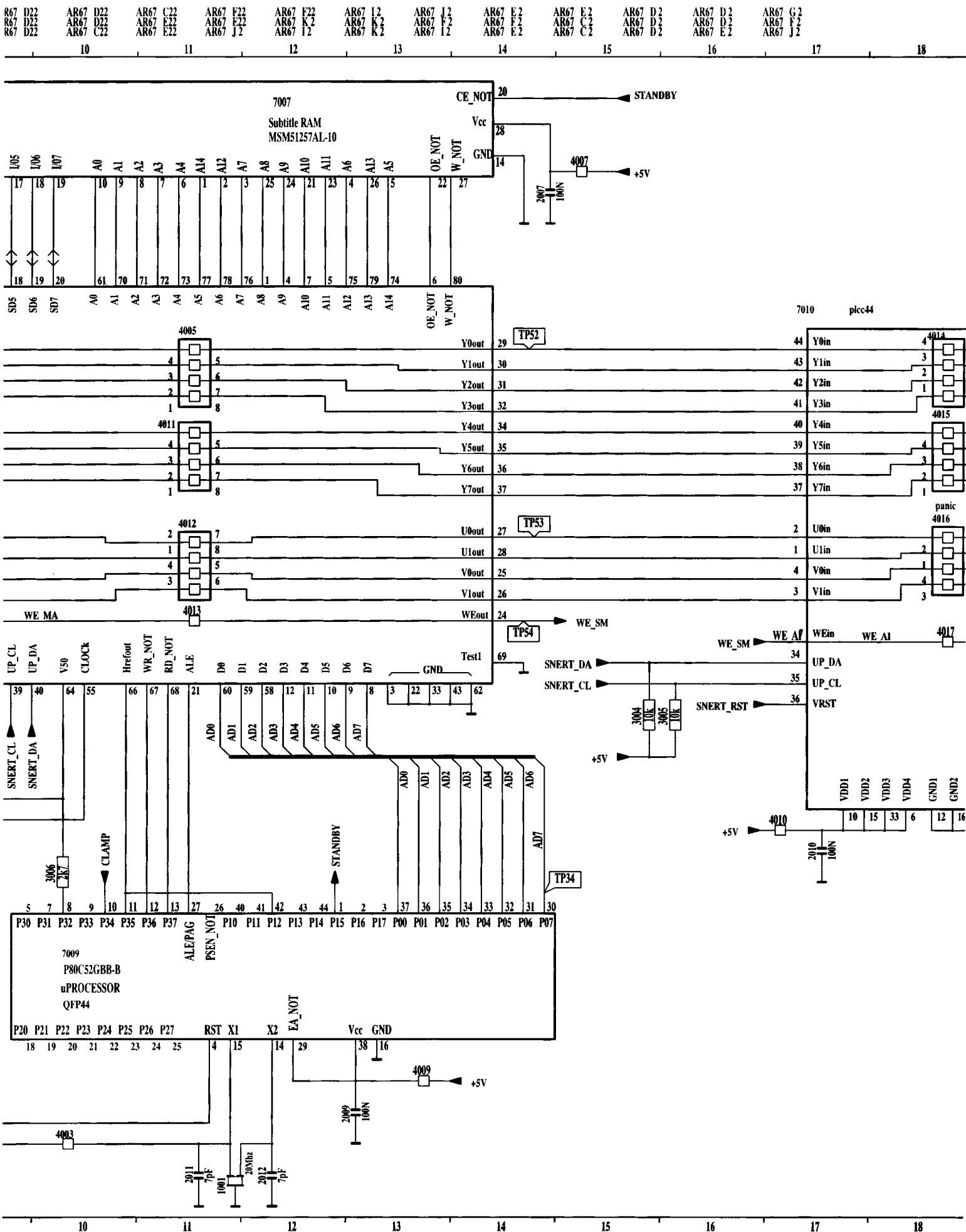


Platine Boîtier Numérique (mouvement naturel)

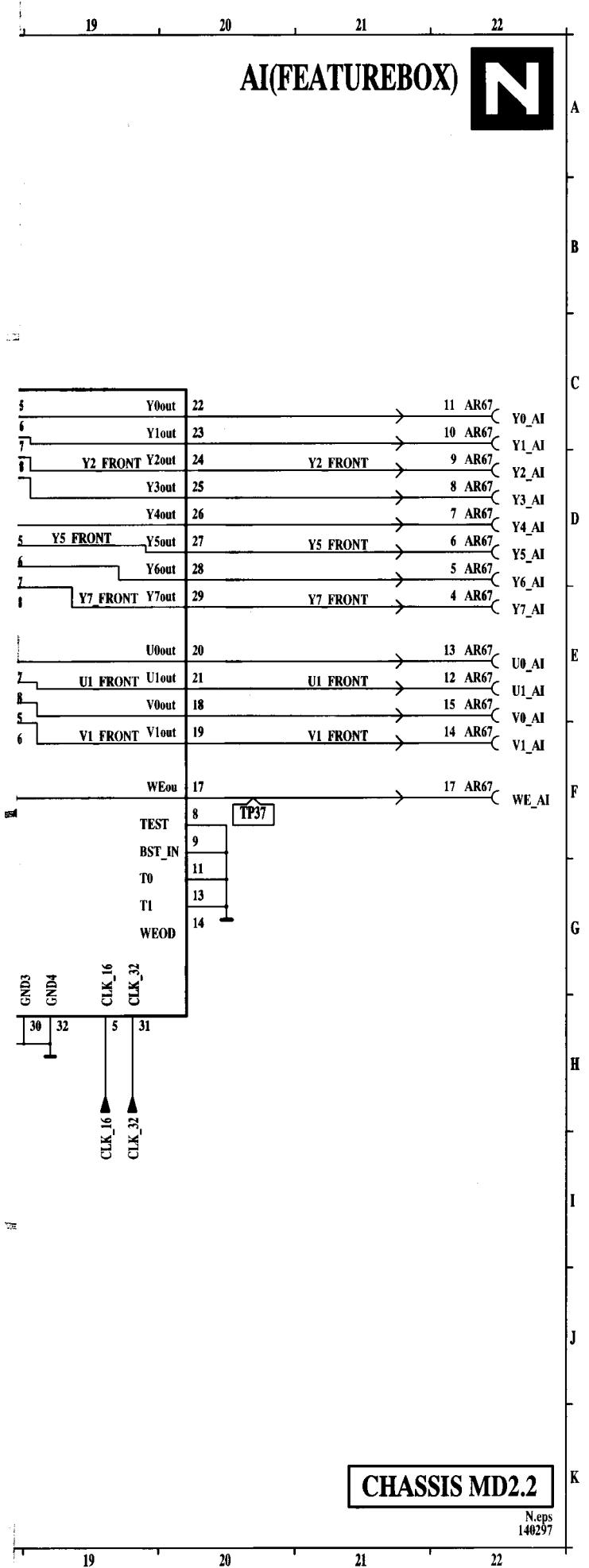


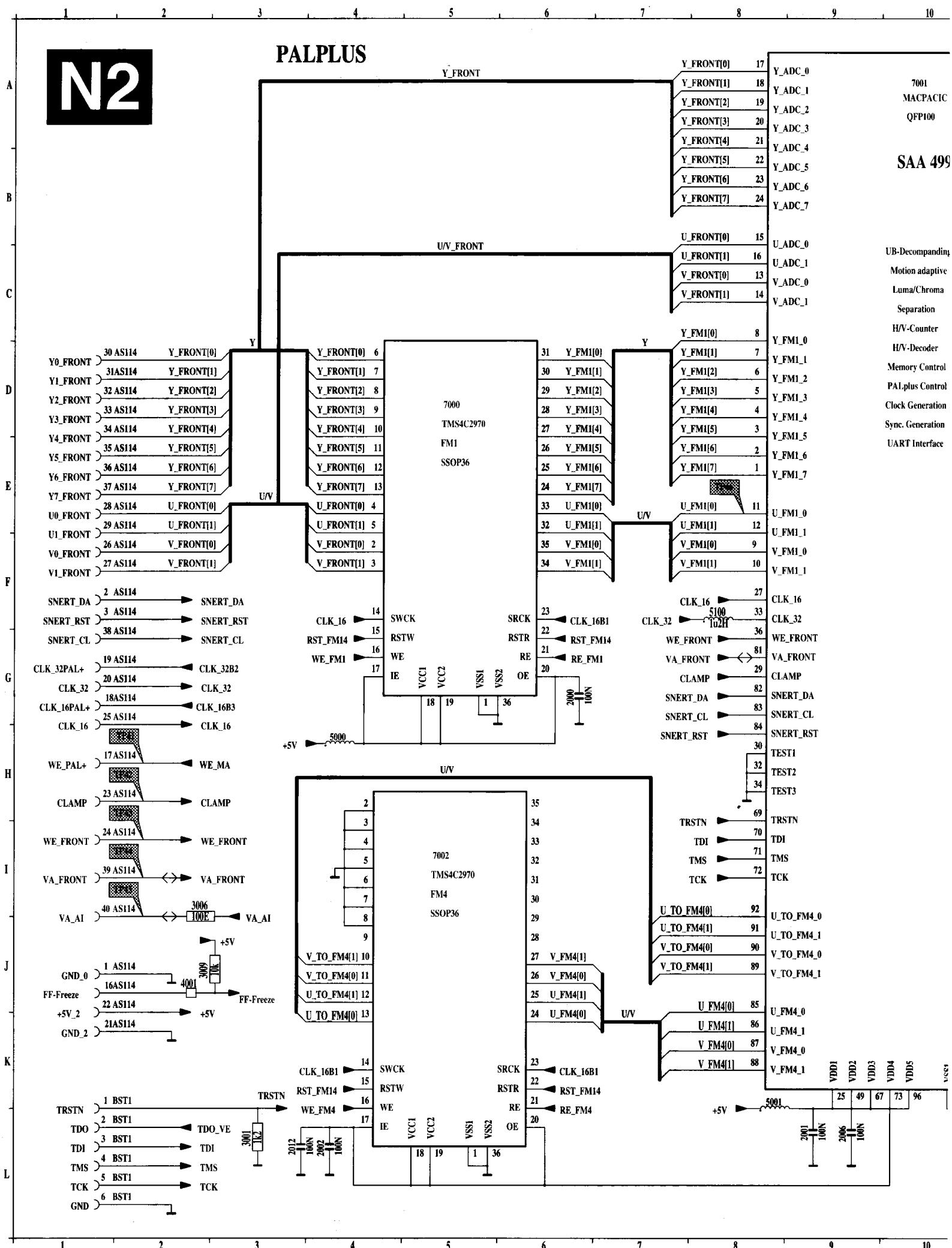
AI (Artificial Intelligence) panel /



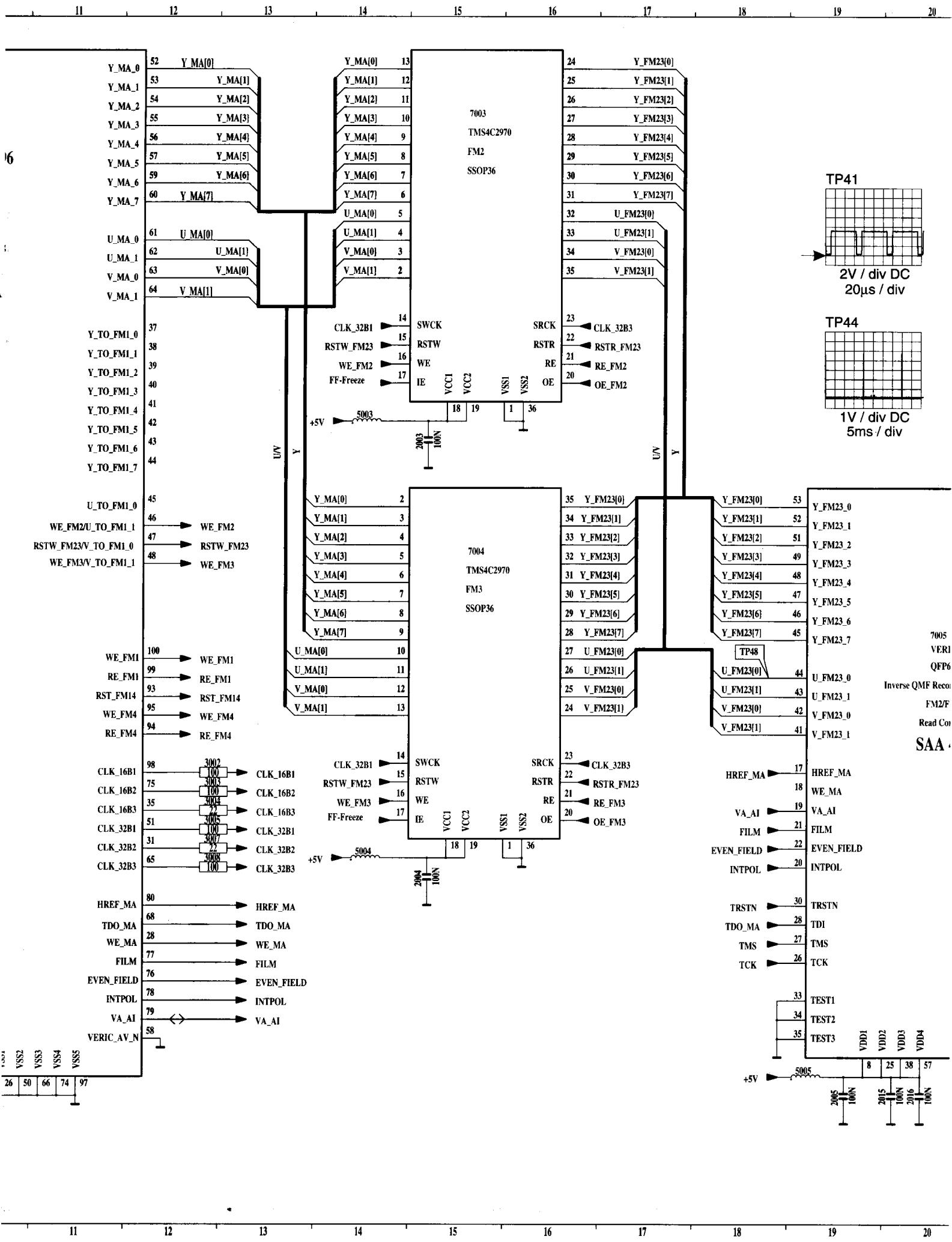


Platine AI (Intelligence Artificielle)

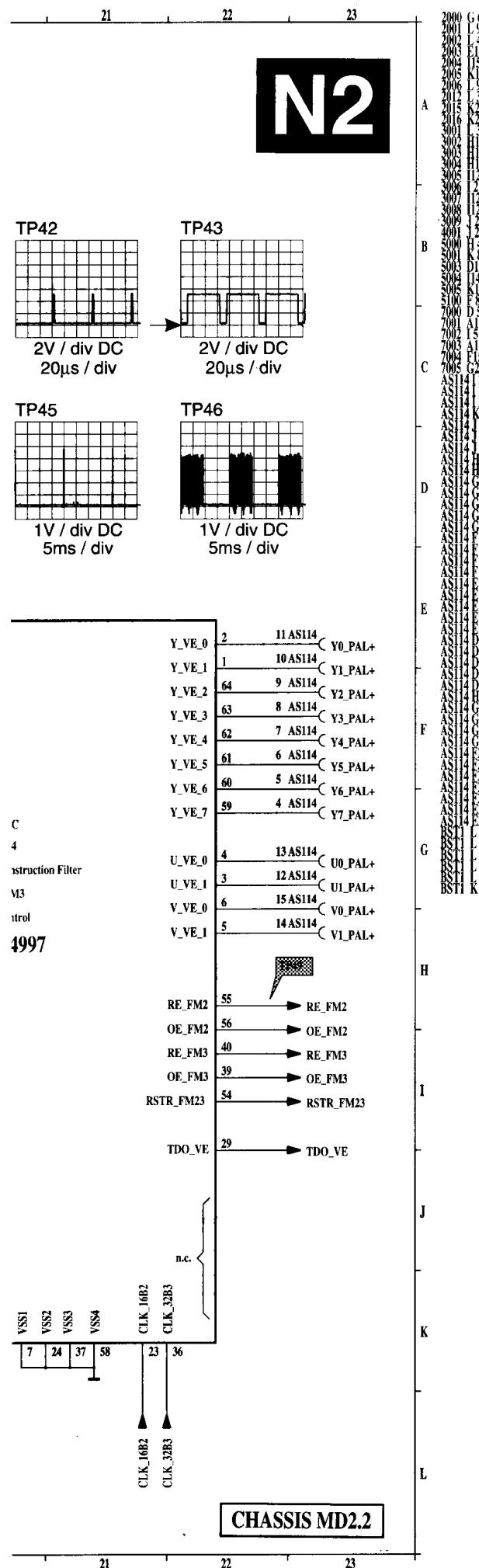




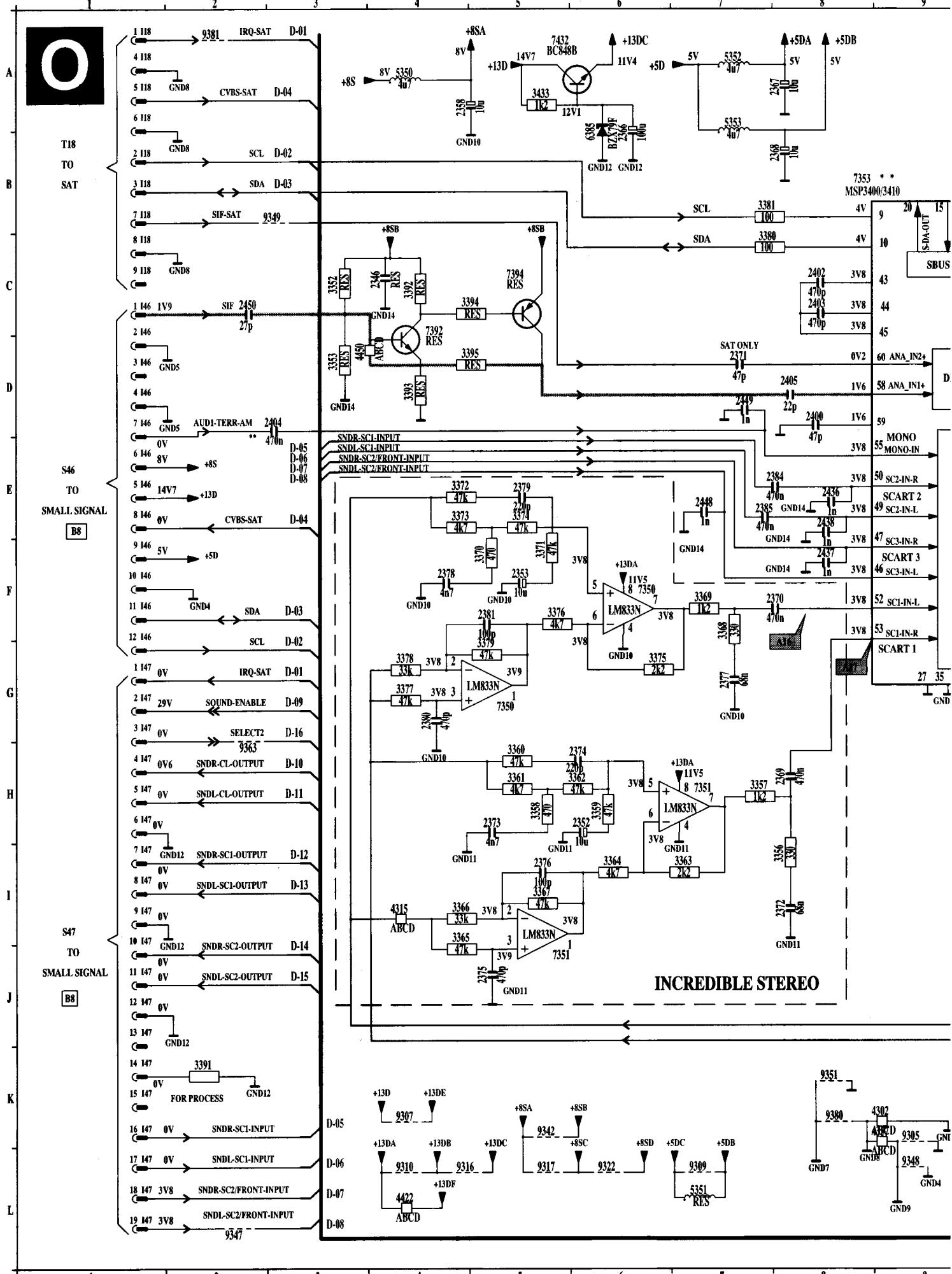
Platine PALplus



PALplus panel / PALplus-Pla



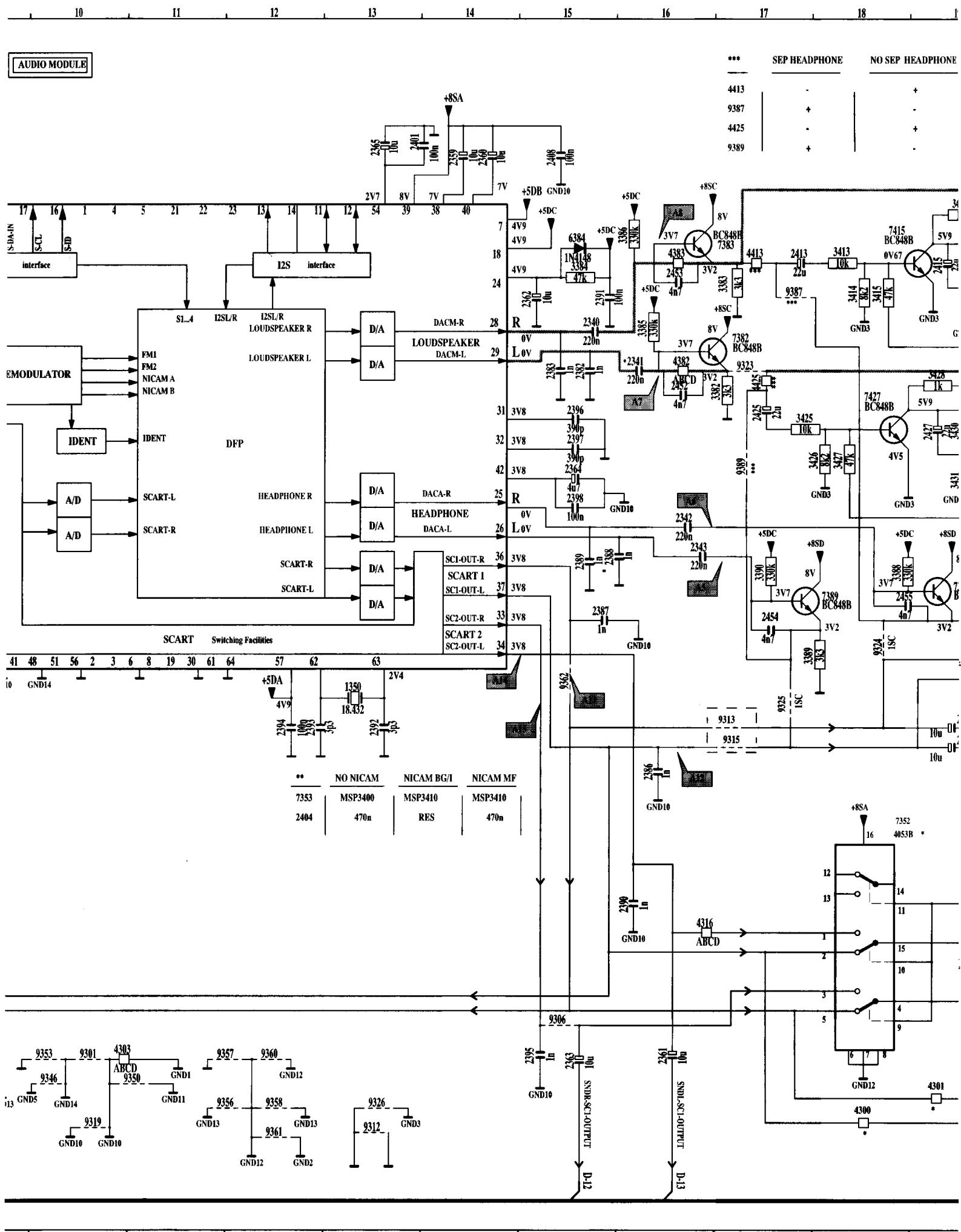
Audio module (no dolby) /



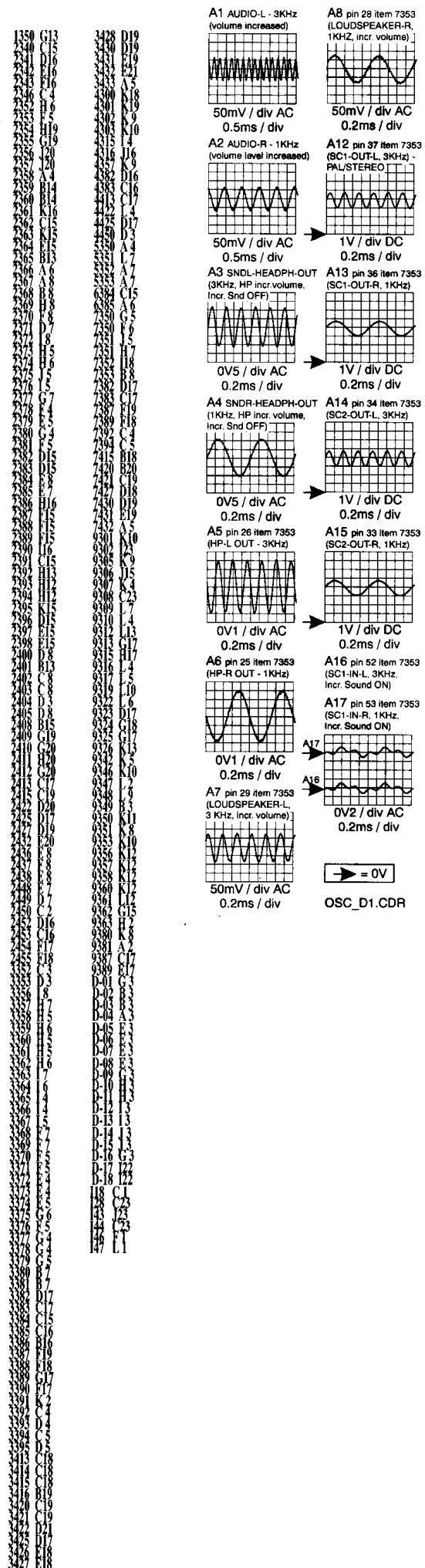
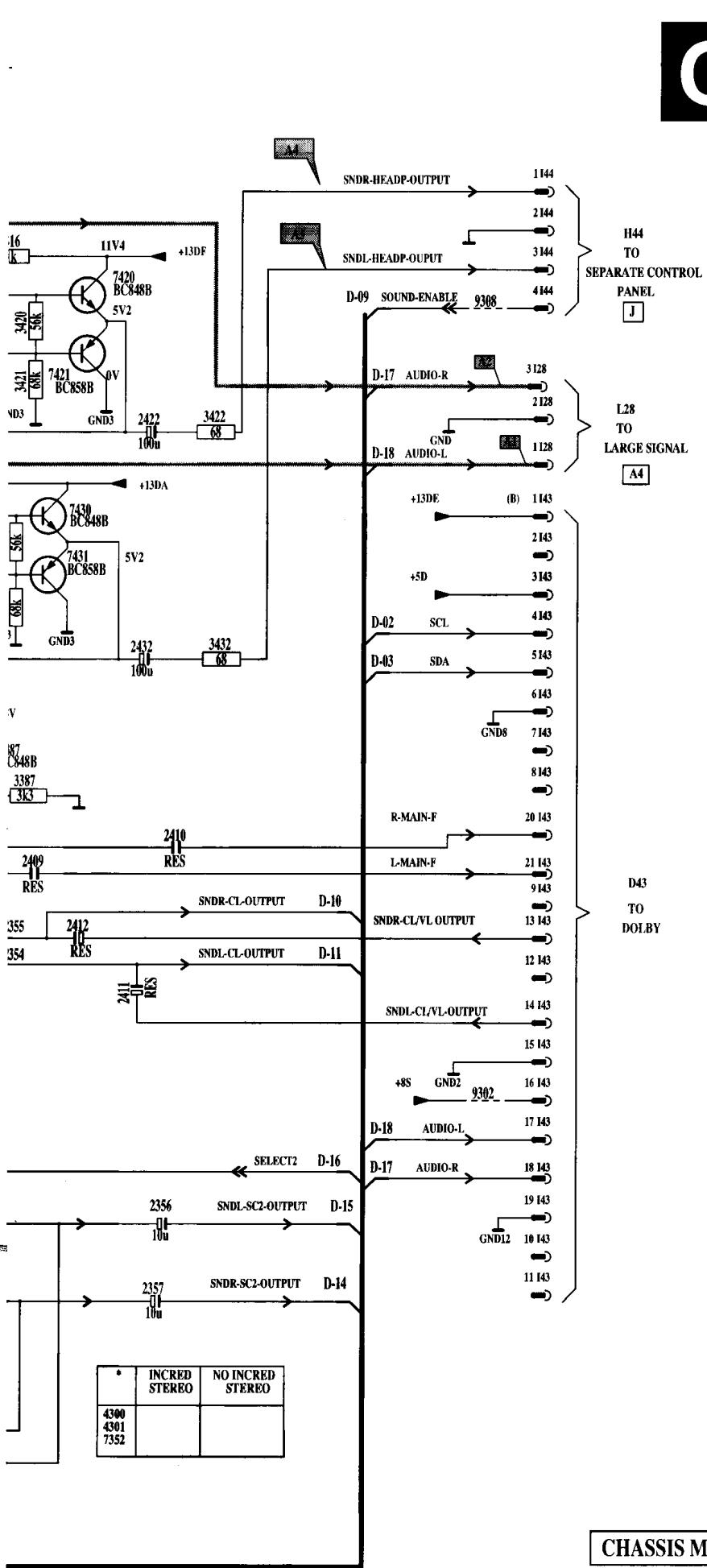
Audio-Modul (kein Dolby) /

MD 2.21/2.22/2.23

32



Module audio (non Dolby)



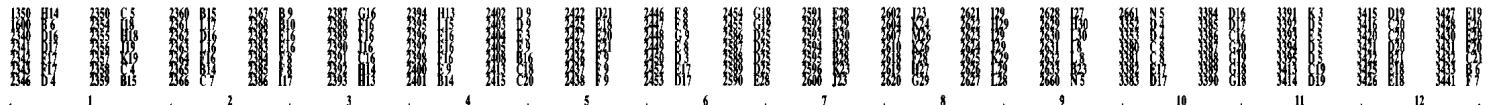
CHASSIS MD2.2

D1.EPS

Dolby audio module (with VDS audio processing) /

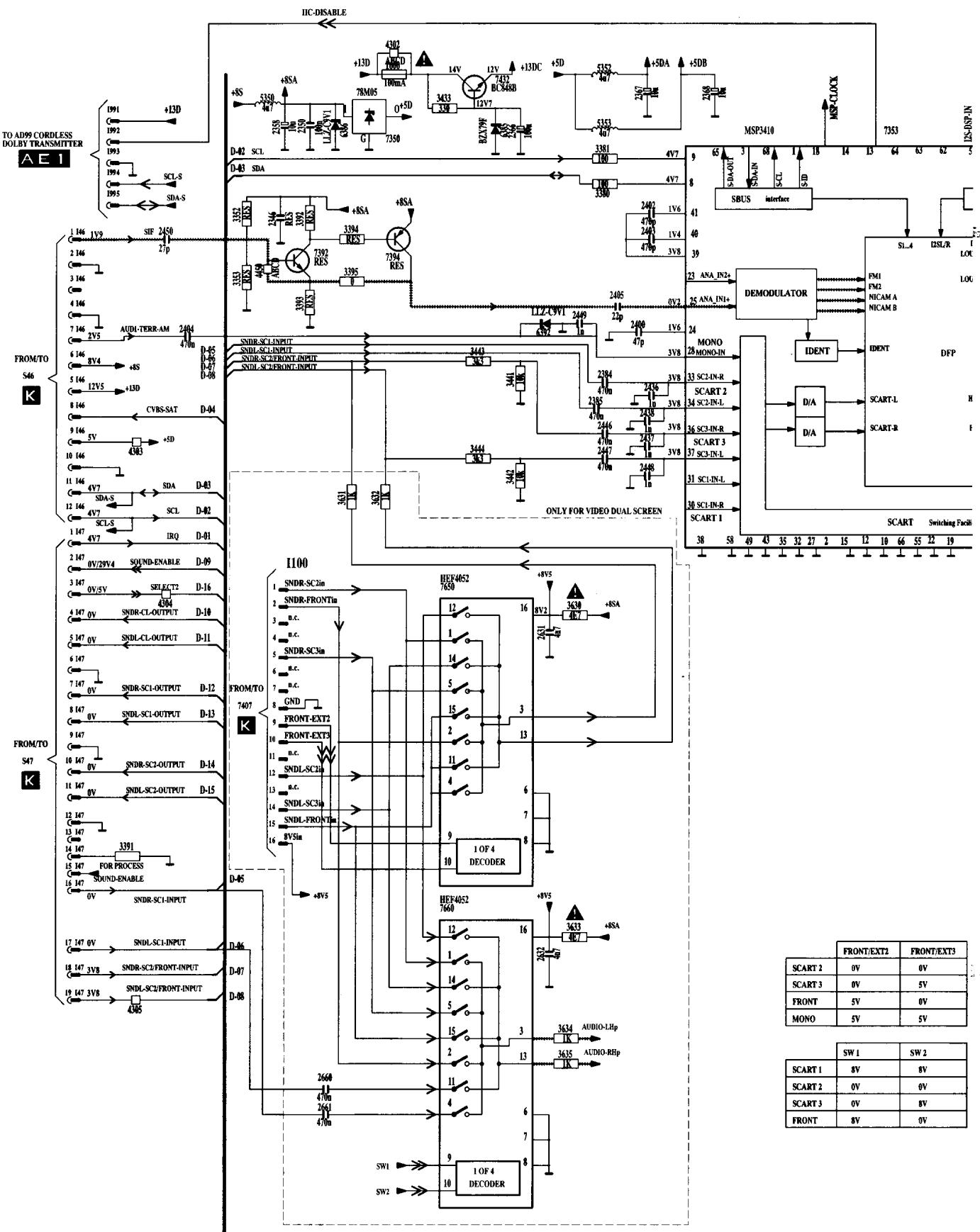
MD 2.21/2.22/2.23

33

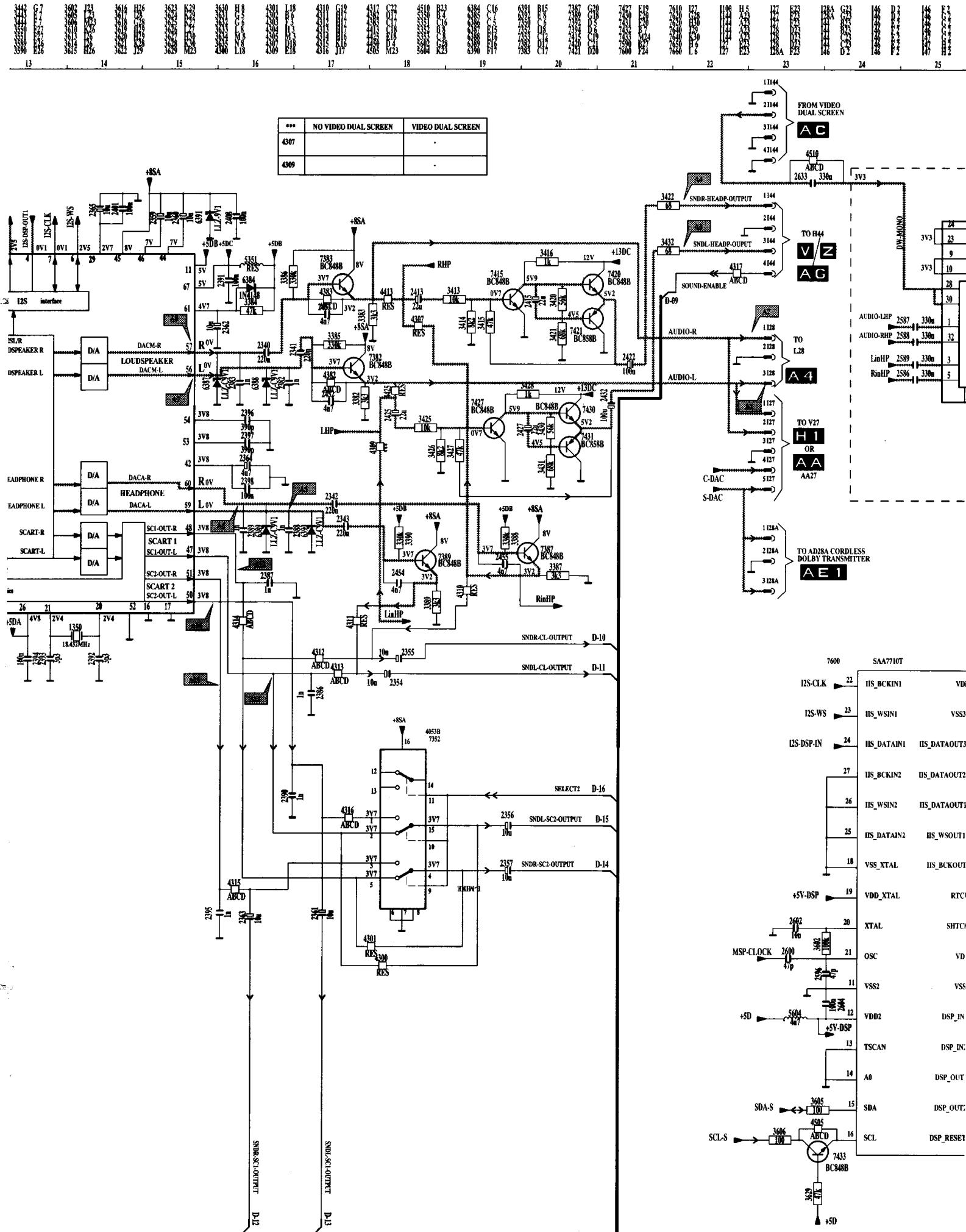


P 2

AUDIO PANEL
WITH DOLBY

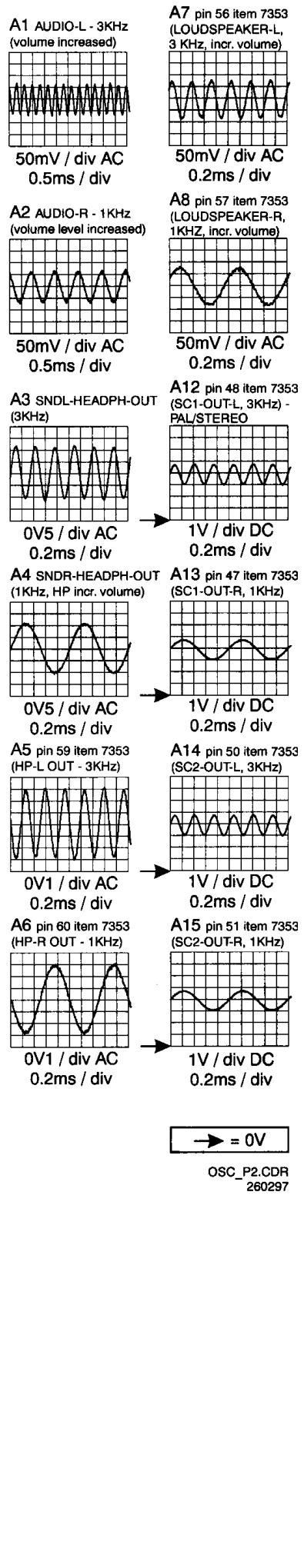
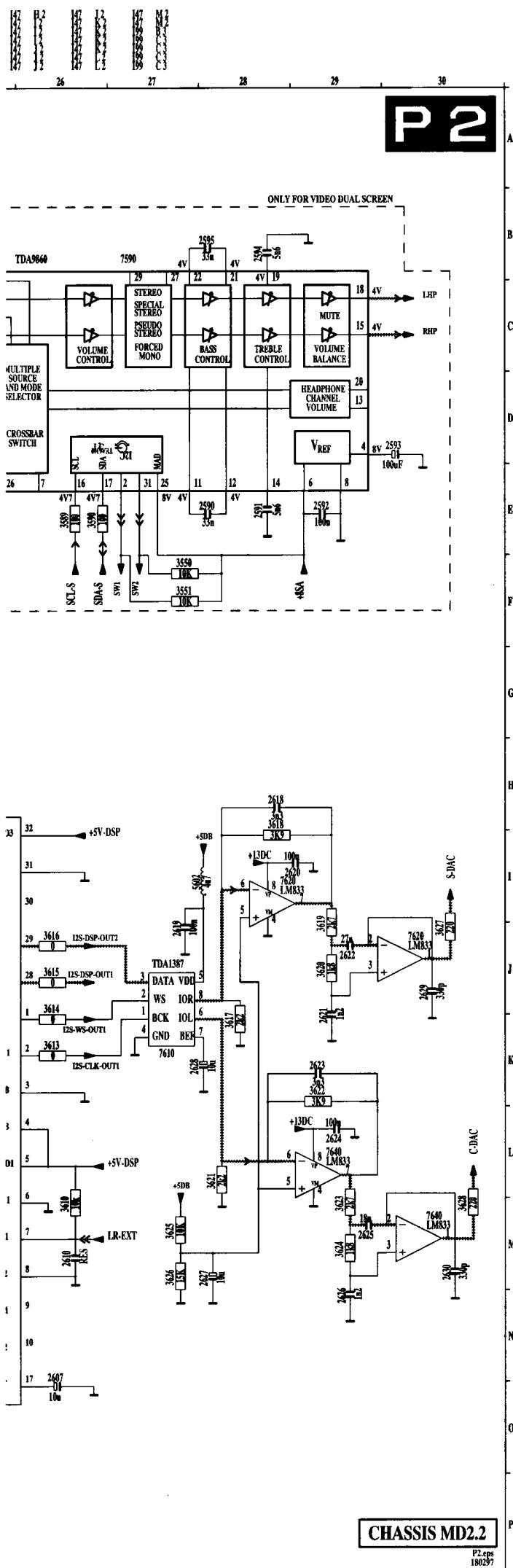


Dolby Audio Modul (mit VDS-Tonprozessor) /



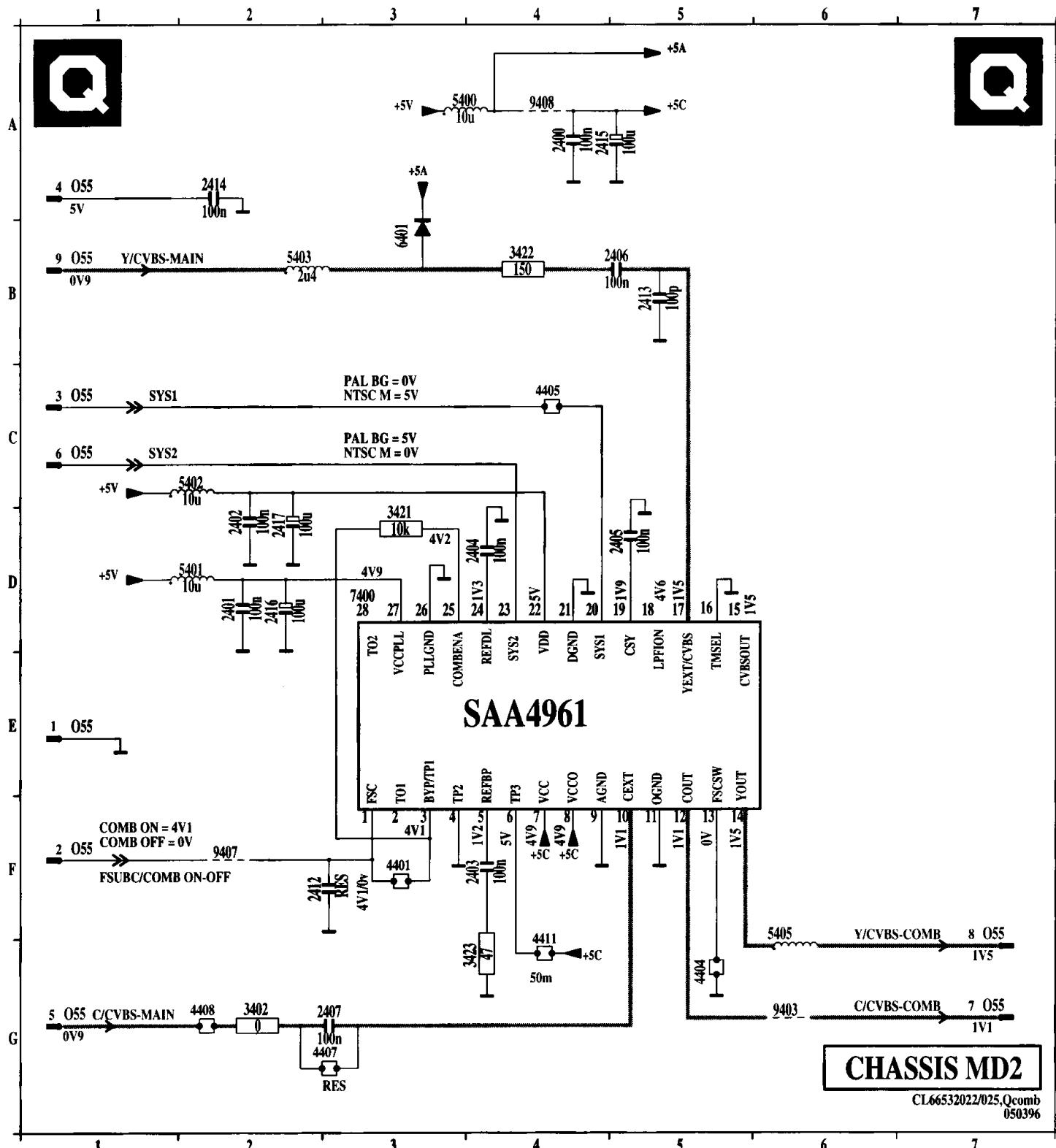
13 14 15 16 17 18 19 20 21 22 23 24 25

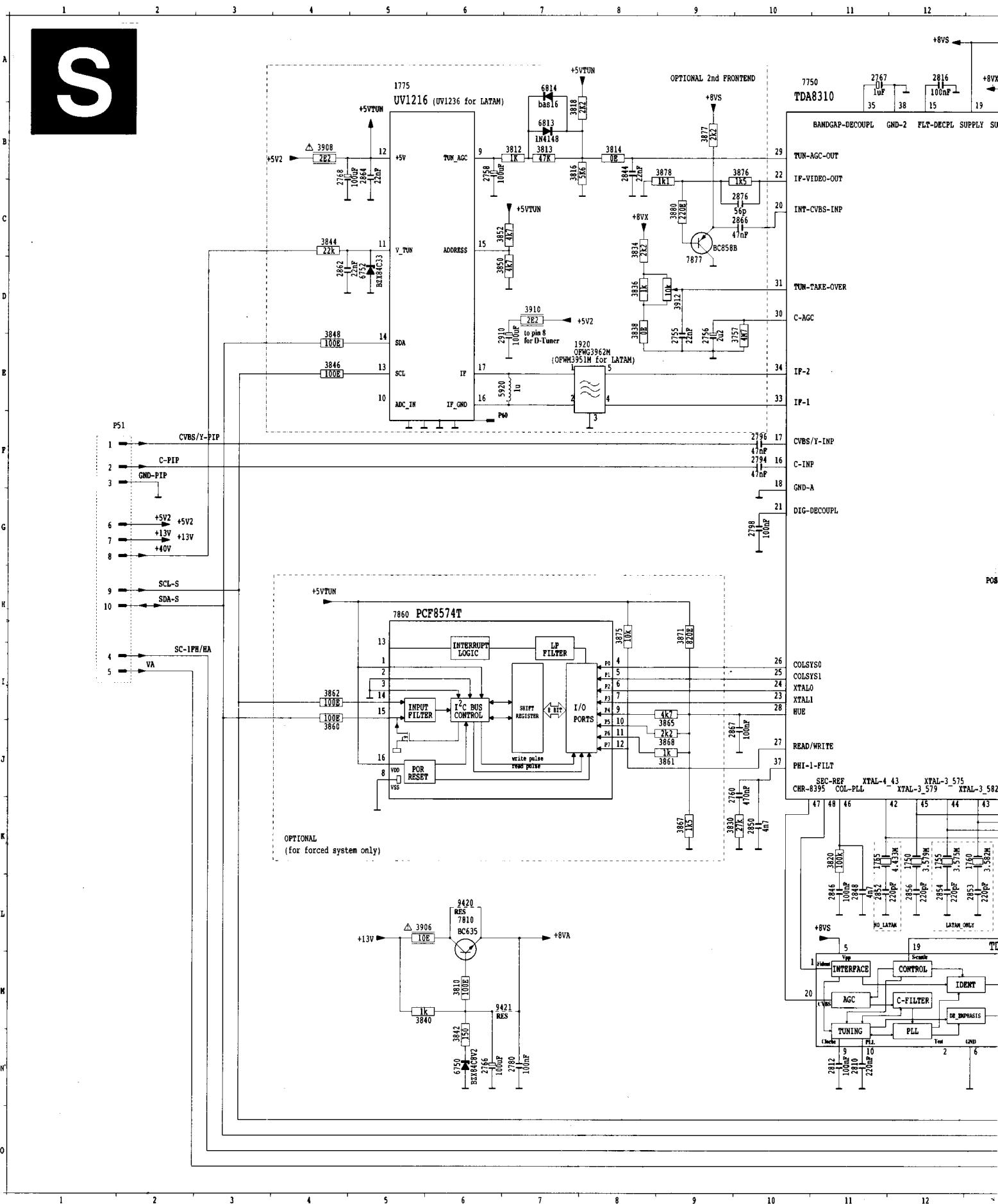
I Module audio Dolby (avec traitement audio VDS)



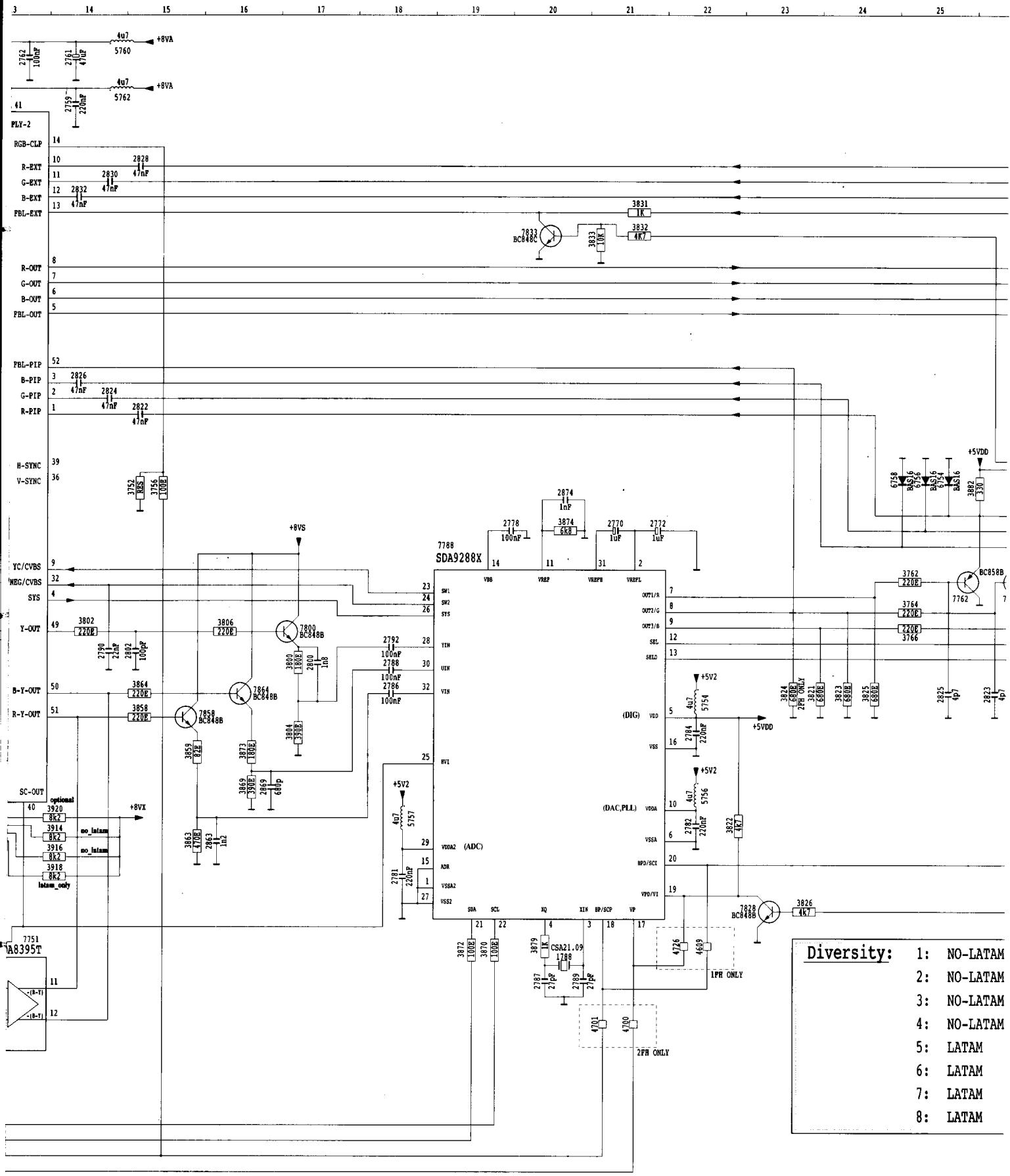
COMB filter module / Kammfilter-Modul / Module filtre en peigne

2400 A 4	2405 D 5	2414 A 2	3402 G 2	4404 G 5	5400 A 4	6401 B 3	9408 A 4	055 G 1
2401 D 2	2406 B 5	2415 A 4	3421 D 3	4405 C 4	5401 D 2	7400 D 3	055 E 1	055 C 1
2402 D 2	2407 G 3	2416 D 2	3422 B 4	4407 G 3	5402 C 2	9403 G 6	055 F 1	055 G 7
2403 F 4	2412 F 2	2417 D 2	3423 G 4	4408 C 2	5403 B 2	9406 E 1	055 C 1	055 F 7
2404 D 4	2413 B 5	3401 B 3	4401 F 3	4411 F 4	5405 F 6	9407 F 2	055 A 1	055 B 1





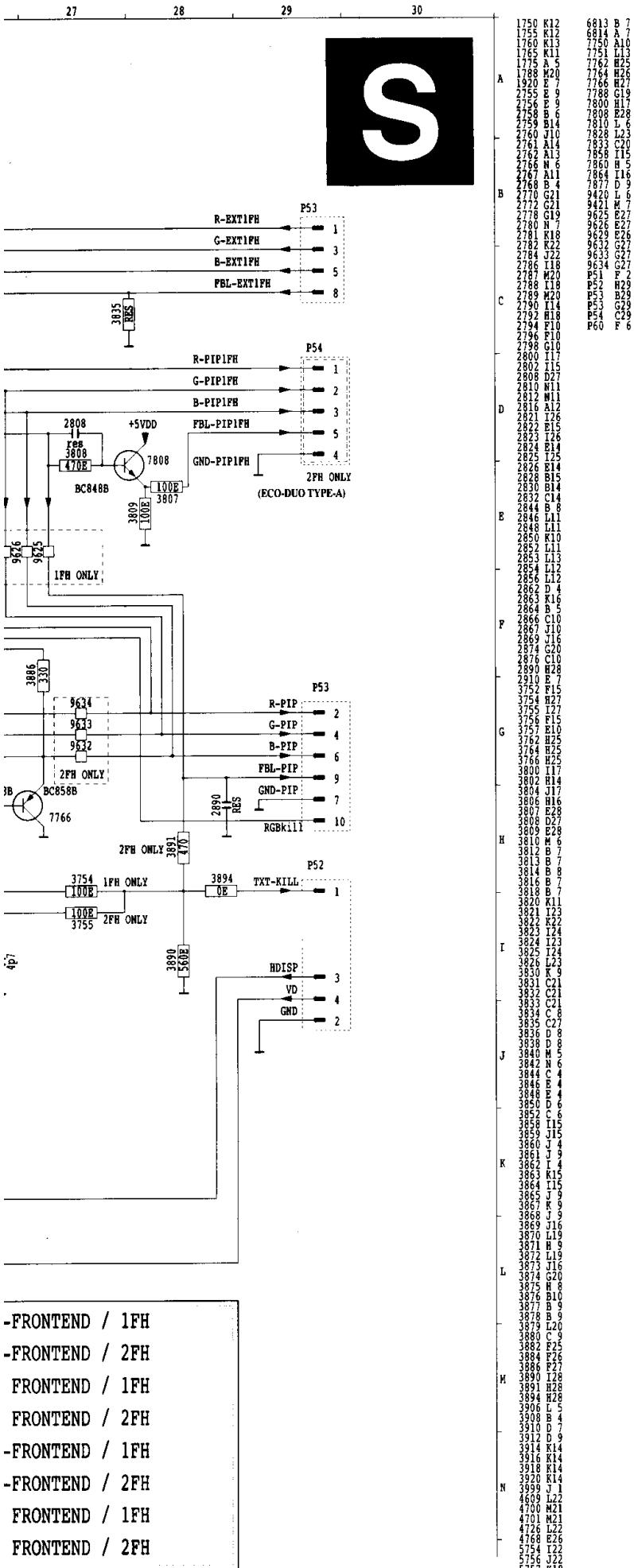
PIP2-Modul



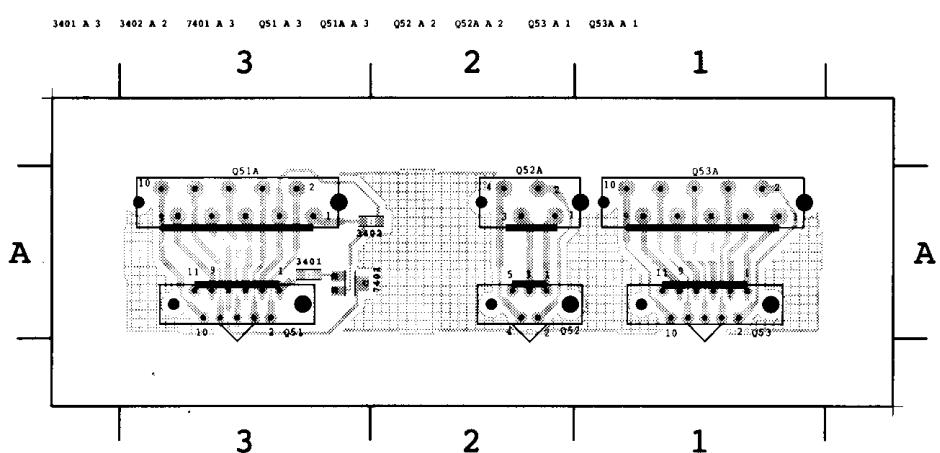
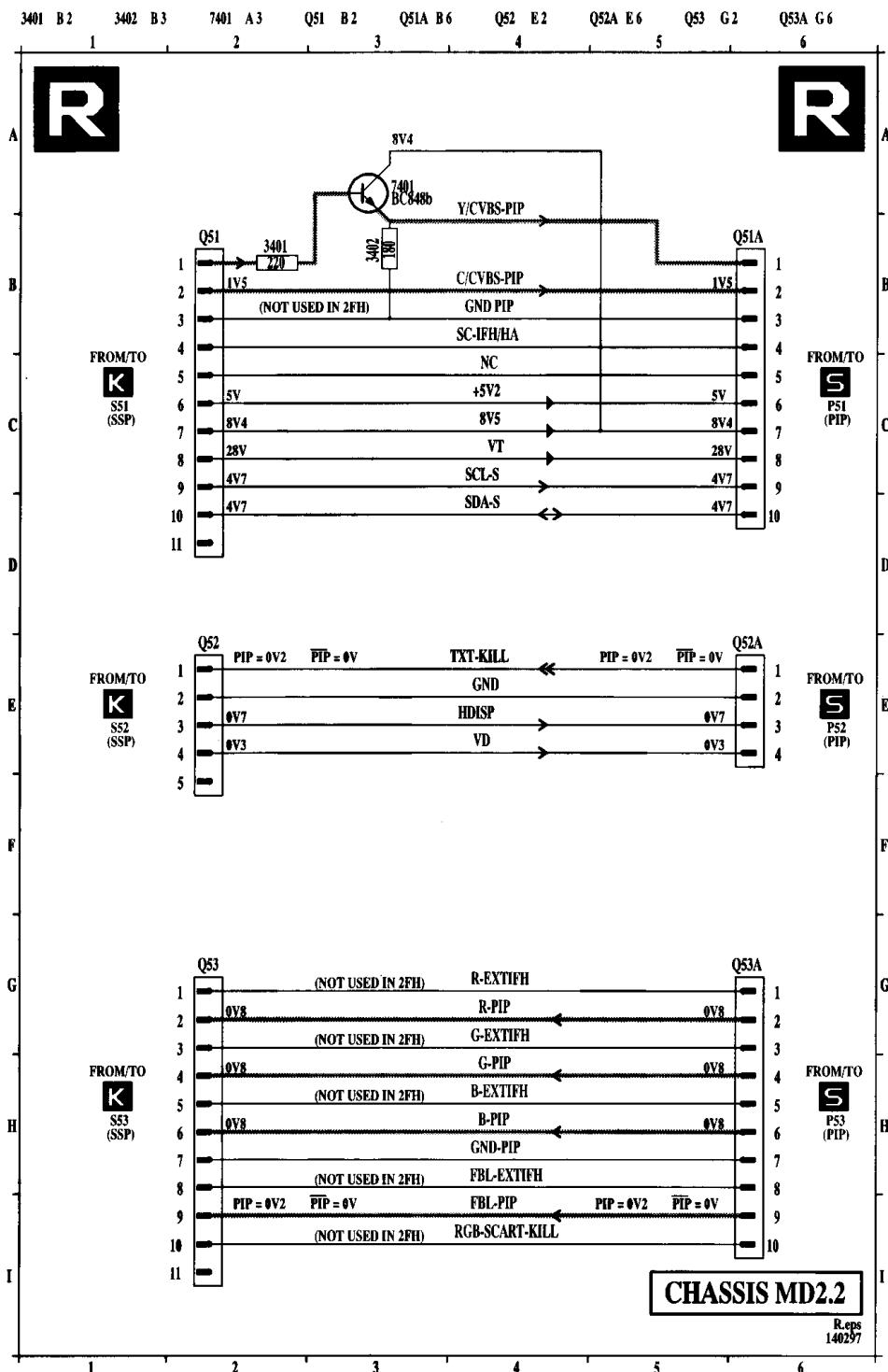
Diversity:

1:	NO-LATAM
2:	NO-LATAM
3:	NO-LATAM
4:	NO-LATAM
5:	LATAM
6:	LATAM
7:	LATAM
8:	LATAM

Module PIP2

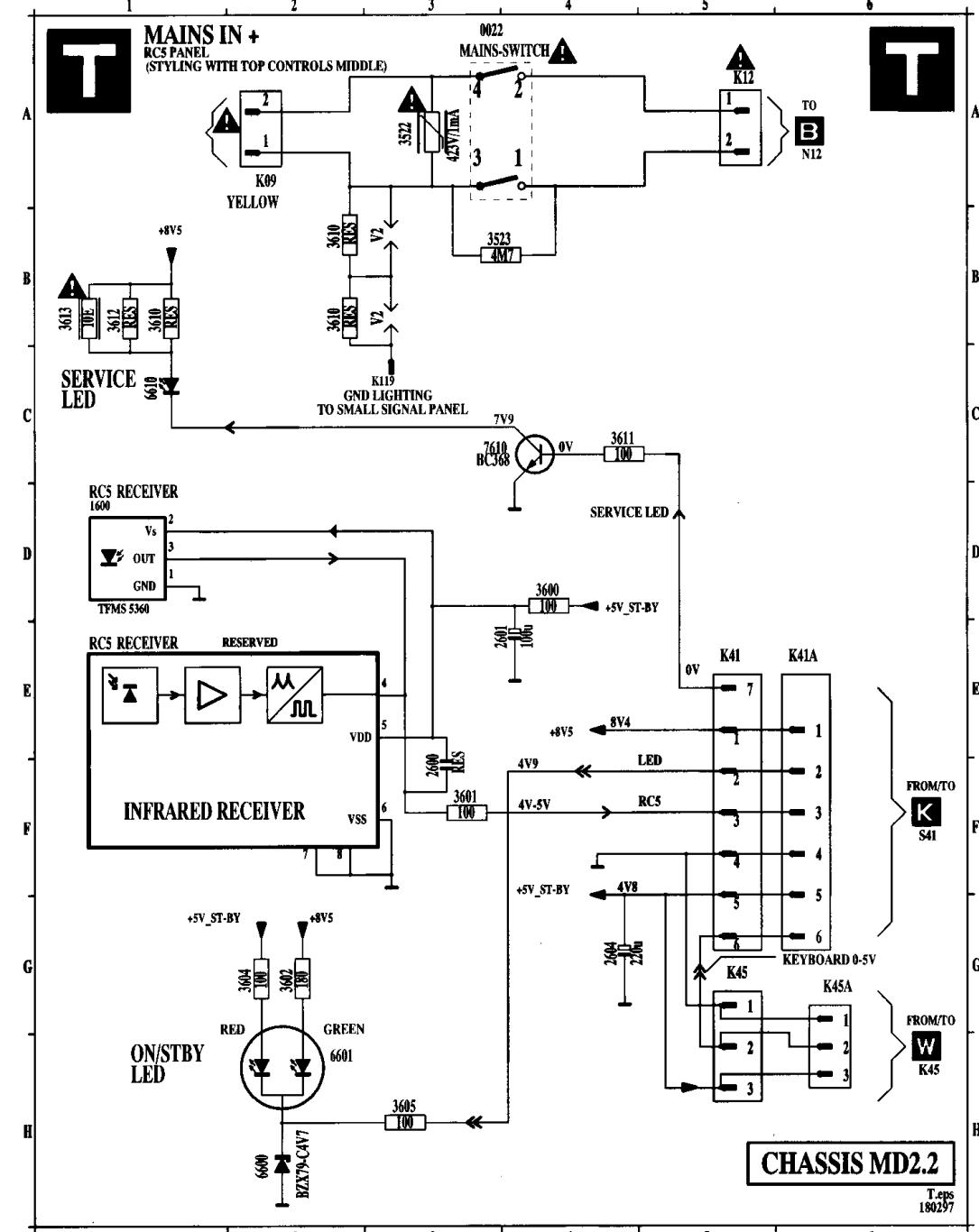


PIP interface panel / PIP-Schnittstellenplatine / Platine interface PIP (image incrustée)



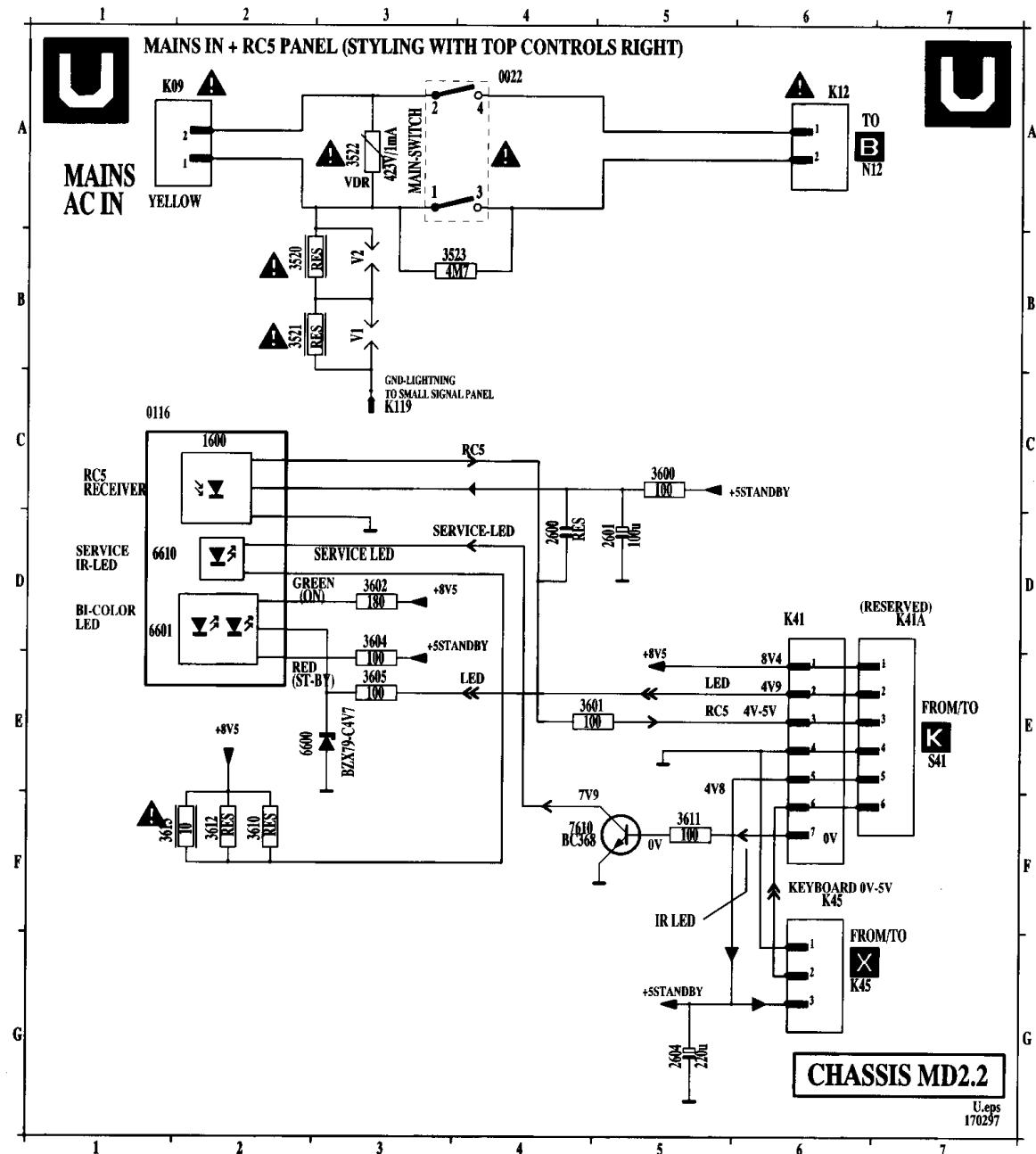
Mains input & RC5 panel (top control middle styling) / Netzeingang- & RC5-Platine (Bedienung mitte oben) / Platine entrée secteur & RC5 (style commande sur le haut, milieu)

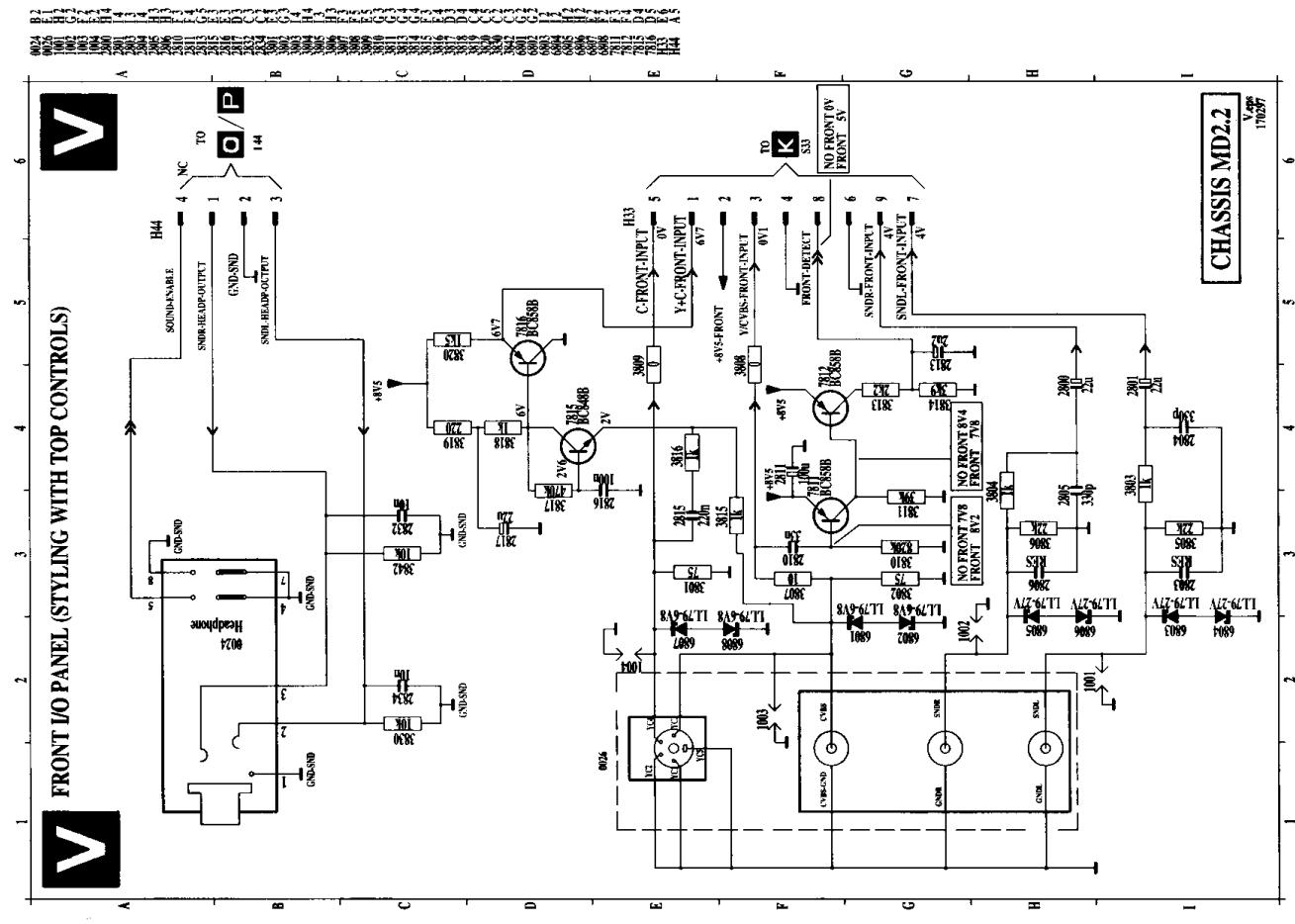
0022 A3	2604 G4	3601 F3	3610 B2	3612 B1	6610 C1	K12 A5	K45A G6
1600 D1	3522 A3	3602 G2	3610 B2	3613 B1	6610 C4	K41 A3	V2 B3
2600 F3	3523 B4	3604 G2	3610 B1	6600 H2	K19 A2	K41A E3	V2 B3
2601 E4	3600 D4	3605 H3	3611 C4	6601 H2	K19 C3	K45 G3	



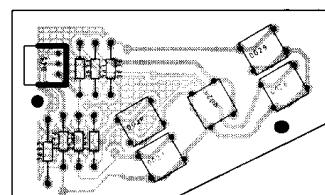
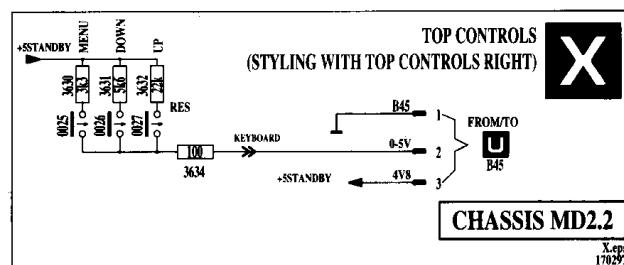
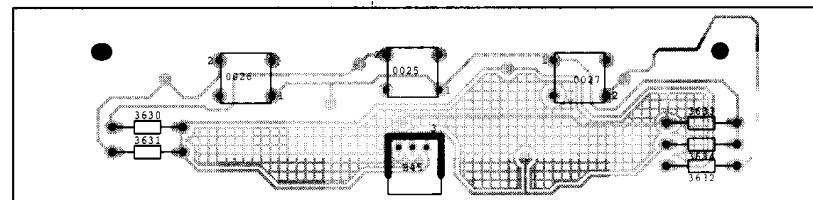
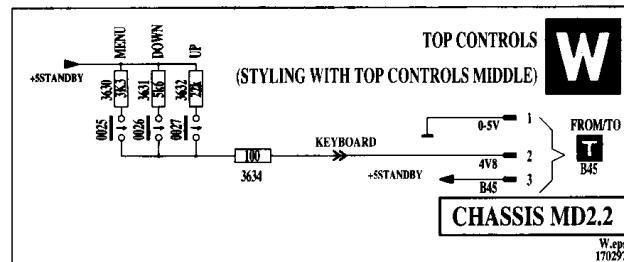
Mains input & RC5 panel (top control right styling) / Netzeingang- & RC5-Platine (Bedienung rechts oben) / Platine entrée secteur & RC5 (style commande sur le haut, droite)

0022 A4 2601 D5 3521 B2 3600 C5 3604 D3 3611 F5 6600 E2 K119 C3 K41A D7 V2 B3
0116 D4 3520 B2 3523 B4 3601 D3 3605 F2 3613 F1 7610 A1 K12 D6 K45 E6
2600 3522 A3 3524 AM7 3522 42V/1mA MAIN-SWITCH 0022 K12 T0 B N12

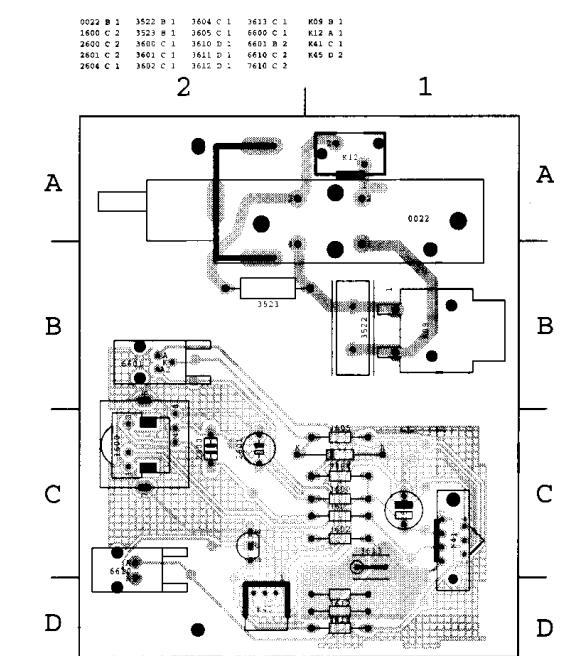
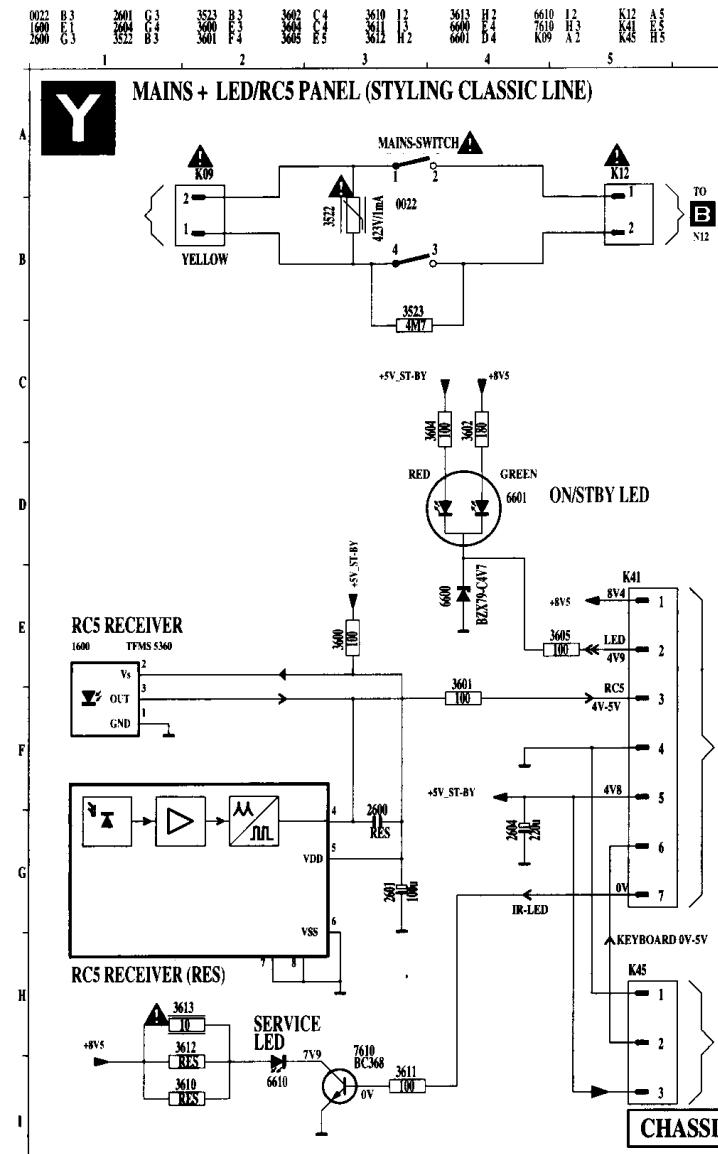




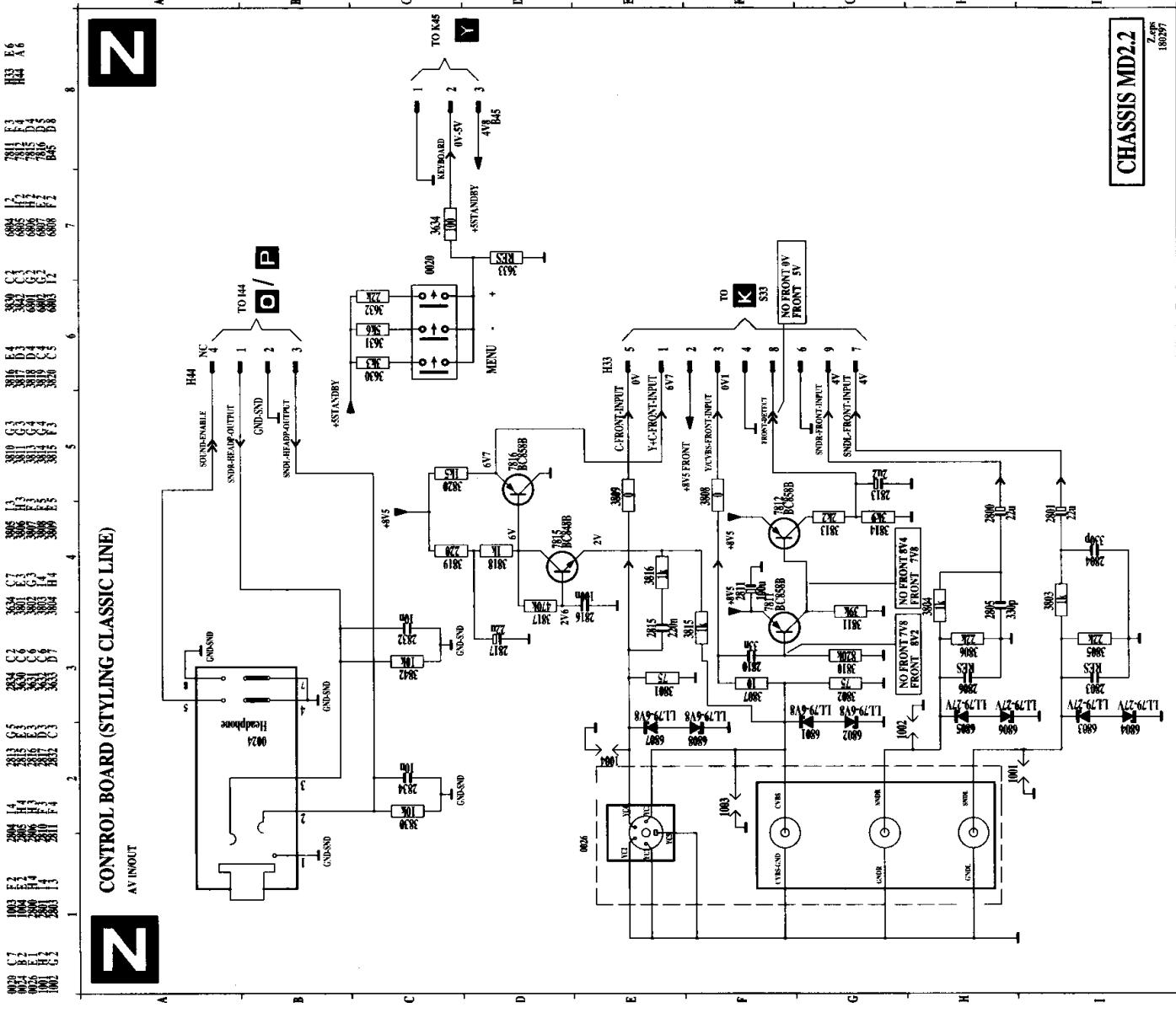
Top control panel / Obere bedienungsplatine / Platine supérieure de commande



Mains input panel (classic line styling) / Netzeingangsplatine (herkömmliche Bedienung) / Platine entrée secteur (style ligne classique)

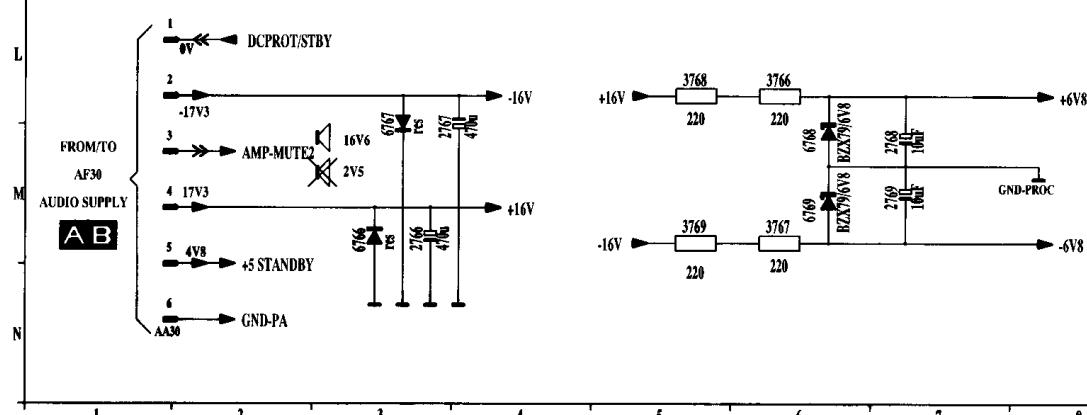
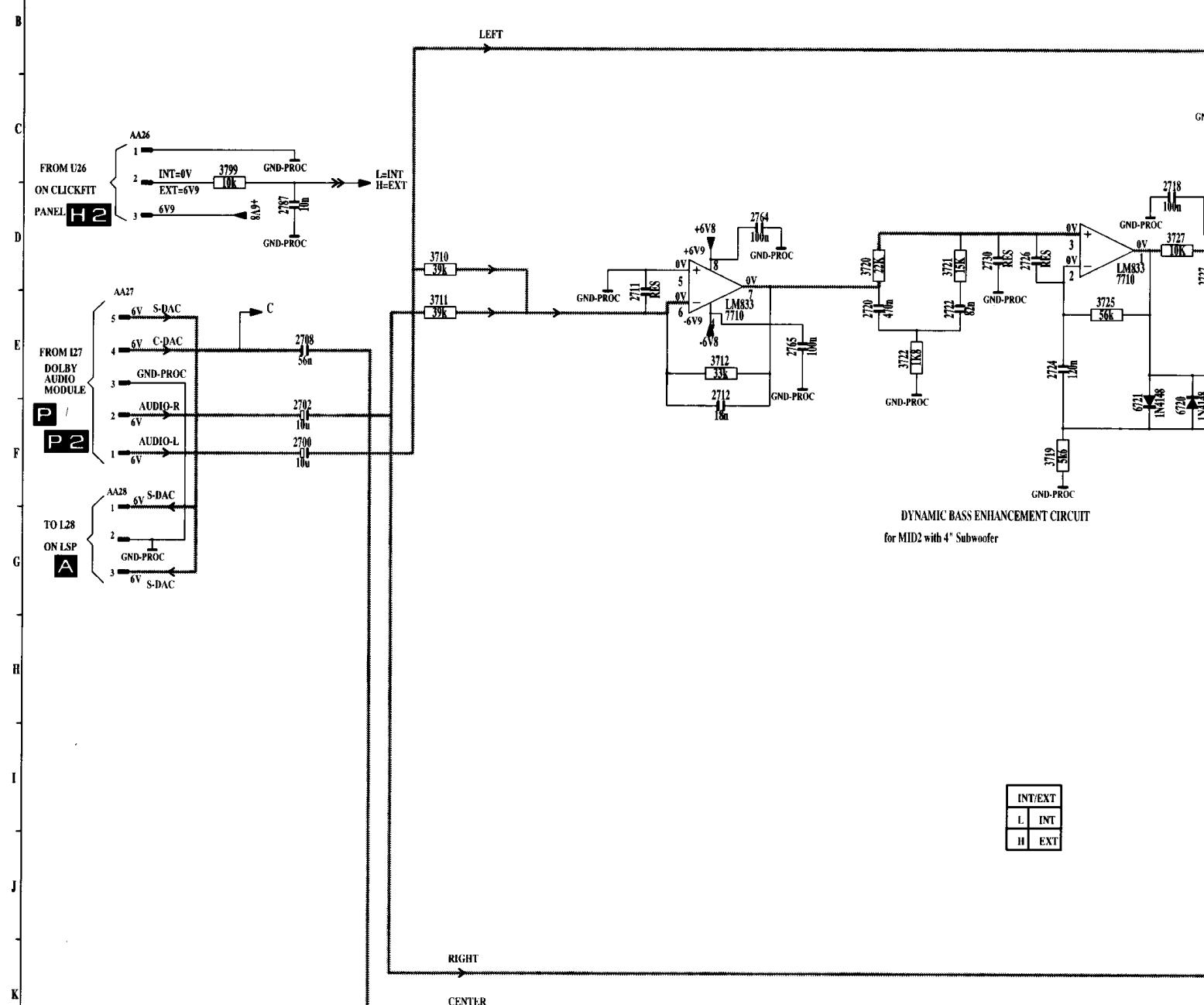


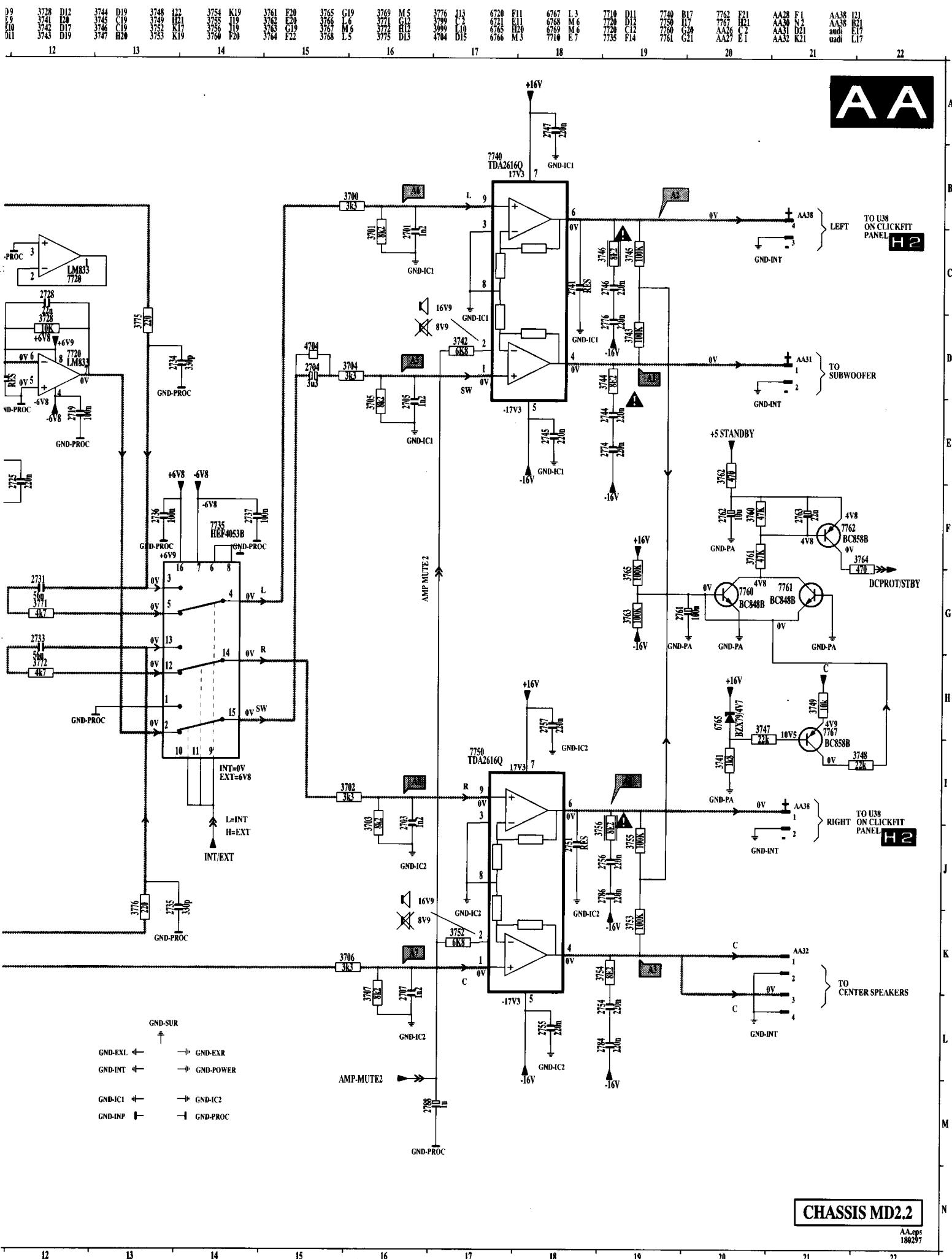
Control board (classic line styling) / Steuerplatine (herkömmliche Bedienung) / Tableau de commande (style ligne classique)



2700	F 3	2704	D 15	2711	D 6	2720	E 8	2726	D 10	2731	G 12	2736	F 13	2745	E 18	2754	L 19	2761	G 19	2765	E 8	2769	M 7	2786	J 19	3701	C 16	3705	E 16	3711	E 4	3722
2701	C 16	2705	E 16	2712	E 7	2722	E 9	2727	D 11	2733	G 12	2737	F 14	2746	C 19	2755	L 19	2762	F 20	2766	M 3	2774	E 19	2787	D 3	3702	I 16	3706	K 16	3712	E 7	3723
2702	F 3	2707	K 16	2718	D 11	2724	E 10	2728	D 13	2734	D 13	2741	C 18	2747	A 18	2756	J 19	2763	F 21	2767	L 3	2776	D 17	2788	M 17	3703	I 16	3707	P 10	3719	P 10	3724
2703	H 6	2708	E 3	2719	E 12	2725	E 12	2730	D 9	2735	J 13	2744	E 19	2751	J 18	2757	H 18	2764	D 7	2768	M 7	2784	L 19	3700	B 16	3704	D 16	3710	D 8	3720		

AUDIO POWER AMPLIFIER





Audio supply panel / Ton-Speiseplatine /

MD 2.21/2.22/2.23

39

1300	C 2	2306	F13	2312	G 9	2318	D 5	2325	E11	3303	E 3	3309	F13	3315	G13	3321	D11	3329	E 4	3336	F 4	3342	F10	334
2301	C 5	2307	C 9	2313	F1	2319	D 9	2326	E13	3304	E 4	3310	C11	3316	E 9	3322	D12	3331	E 9	3337	F 5	3343	F 5	334
2302	E 1	2308	C 4	2314	F12	2320	D 9	2327	E 6	3305	E 4	3311	D11	3317	F 9	3323	F 9	3332	F 1	3338	D13	3344	F 1	339
2303	F 6	2309	C 4	2315	G13	2321	G12	3300	C 2	3306	D 4	3312	D11	3318	F12	3325	G12	3333	C14	3339	F10	3345	D 6	530
2304	E 5	2310	E 9	2316	C 6	2322	F11	3301	D 2	3307	G 2	3313	C10	3319	F14	3326	D12	3334	E15	3340	F10	3346	E 7	530
2305	D 7	2311	E10	2317	G10	2323	F 8	3302	D 2	3308	F12	3314	D10	3320	G14	3327	D 4	3335	D14	3341	G12	3347	D 6	530

1

2

3

4

5

6

7

8

AUDIO SUPPLY

A B

FROM N01 ON MAINS FILTER

B

MAIN 1 AF01

MAIN 2 AF01

MAIN 1 AF01A

MAIN 2 AF01A

TO L01 ON LSP

B

Mains

A

D

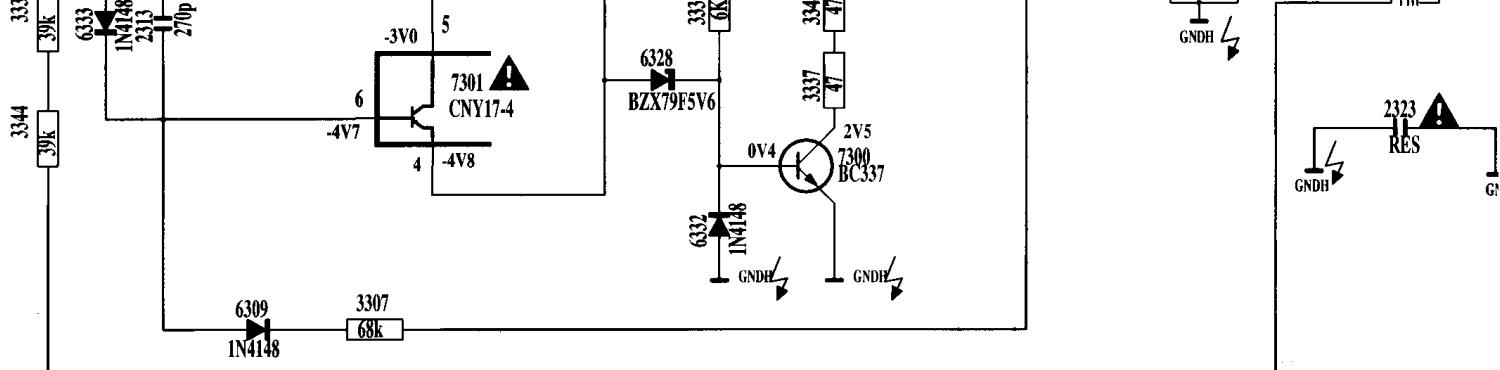
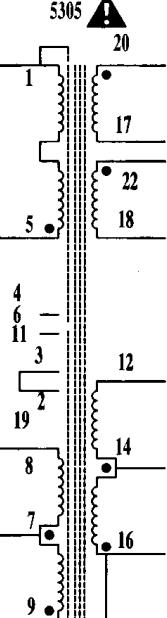
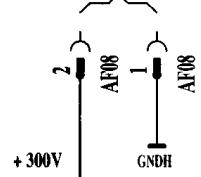
E

F

G

H

NOT USED



1

2

3

4

5

6

7

8

Platine alimentation audio

8 D12	5319	F14	6302	C5	6309	G2	6315	F8	6321	F9	6327	E5	6333	F1	7301	F3	7306	F11	9300	B2	AF06	E15
C9	5320	G14	6303	C4	6310	C9	6316	D14	6322	E9	6328	F4	6334	E2	7301	E10	7310	D3	9301	B2	AF08	B7
H8	5333	C14	6304	C5	6311	D10	6317	G11	6323	F11	6329	C10	6335	E4	7302	C6	7311	E3	AF01	B1	AF08	B7
D4	5334	E15	6305	E1	6312	D9	6318	D11	6324	D5	6330	E13	6336	E5	7303	D11	7312	G12	AF01	A1	AF30	C15
E4	5335	D14	6307	D5	6313	E9	6319	G10	6325	D5	6331	F12	6337	E9	7304	E2	7314	E12	AF01AC1	K1	B8	
C8	6301	C4	6308	F11	6314	E9	6320	D7	6326	E5	6332	G4	7300	G5	7305	F10	7315	D6	AF01AC1	K3	B7	

9 10 11 12 13 14 15

AUDIO SUPPLY

A B

TO AA30
ON AUDIO
AMPLIFIER
PANEL

AA

AMP
MUTE 2

+16V

-16V

+5 STANDBY

DC PROT

4V8

+5 STANDBY

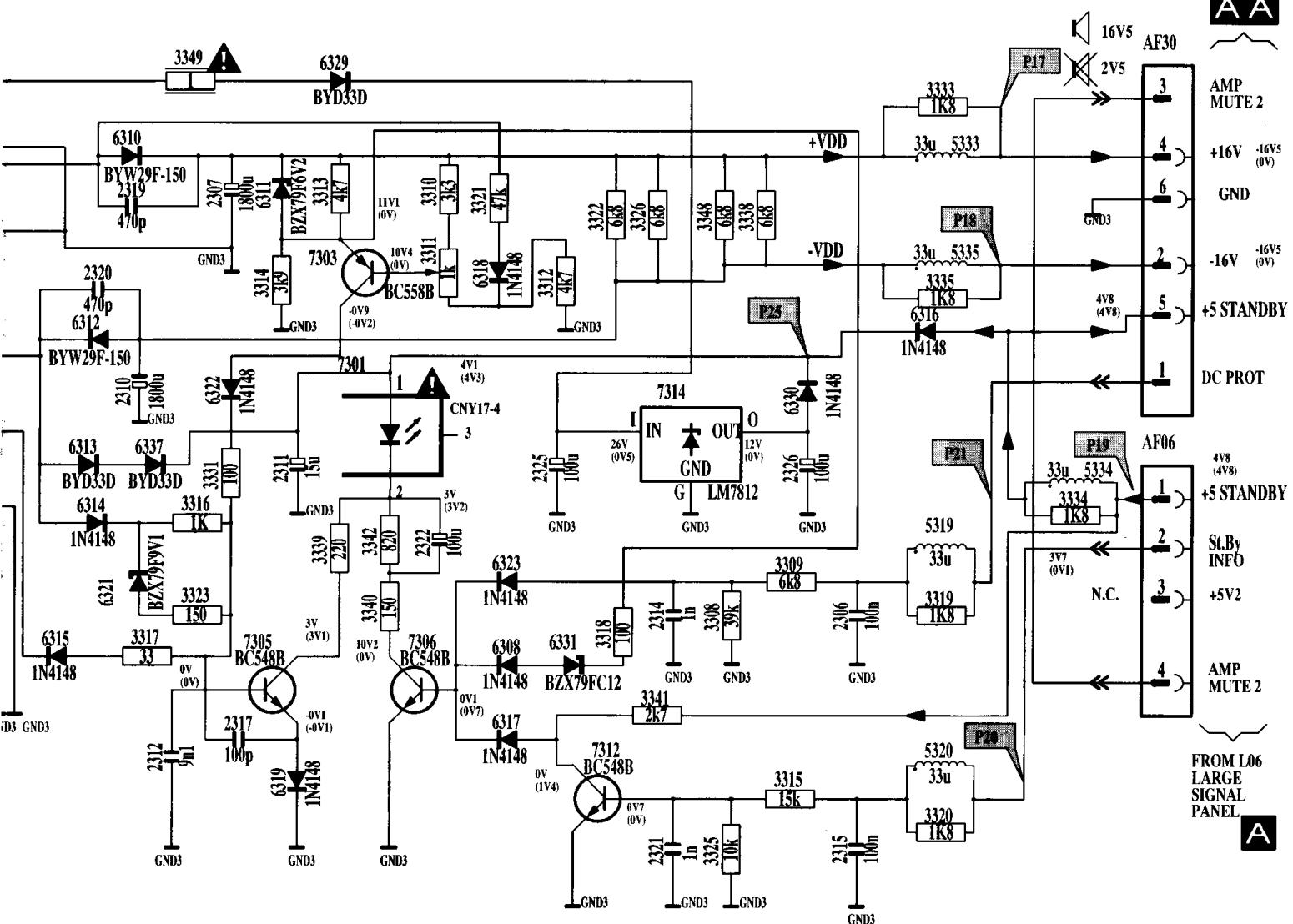
SLBy
INFO

+5V2

AMP
MUTE 2

FROM L06
LARGE
SIGNAL
PANEL

A



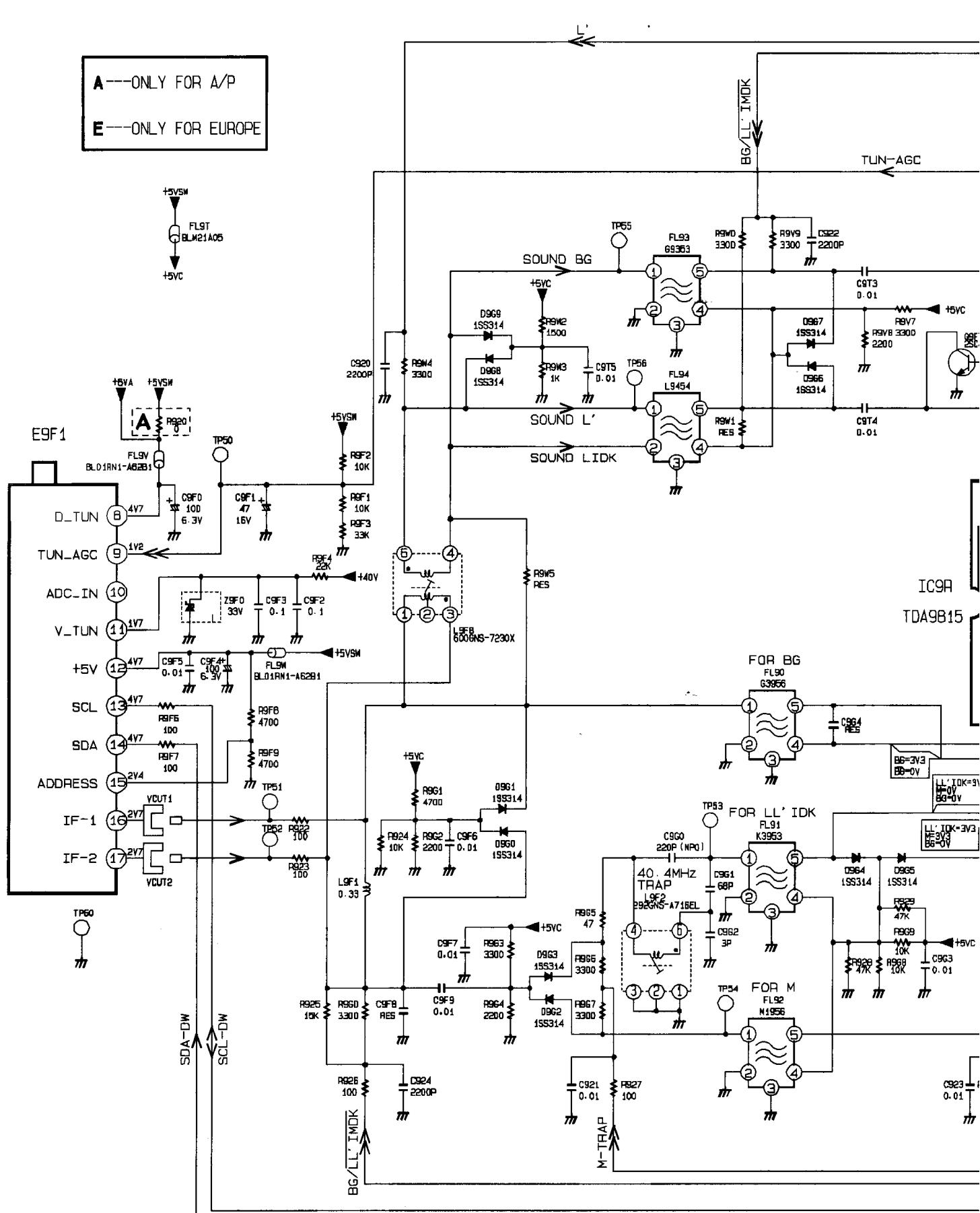
(...V) MEASURED IN

CHASSIS MD2.2

AB.eps
180297

AC1 Double Window

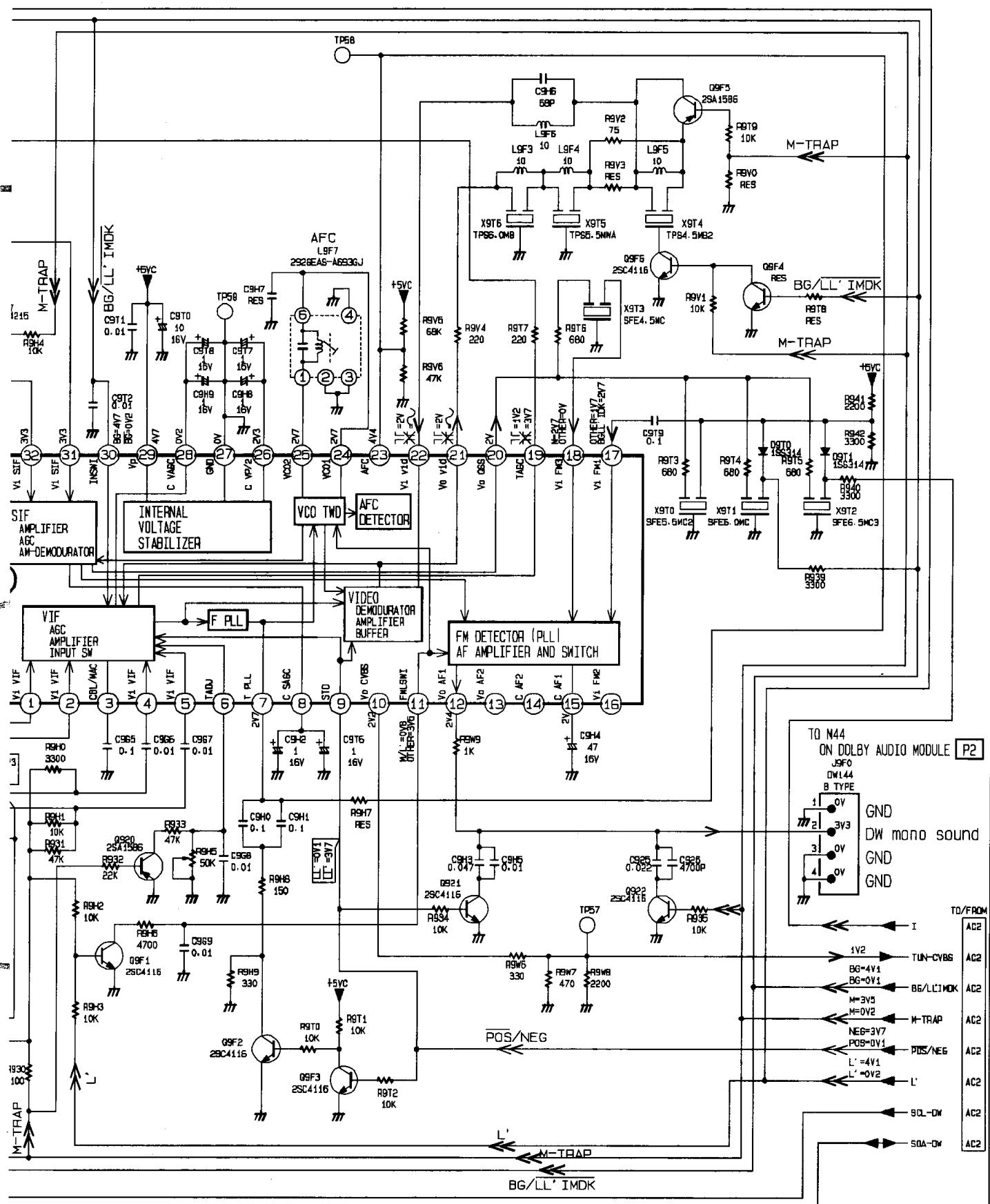
Setting for



F G H I J

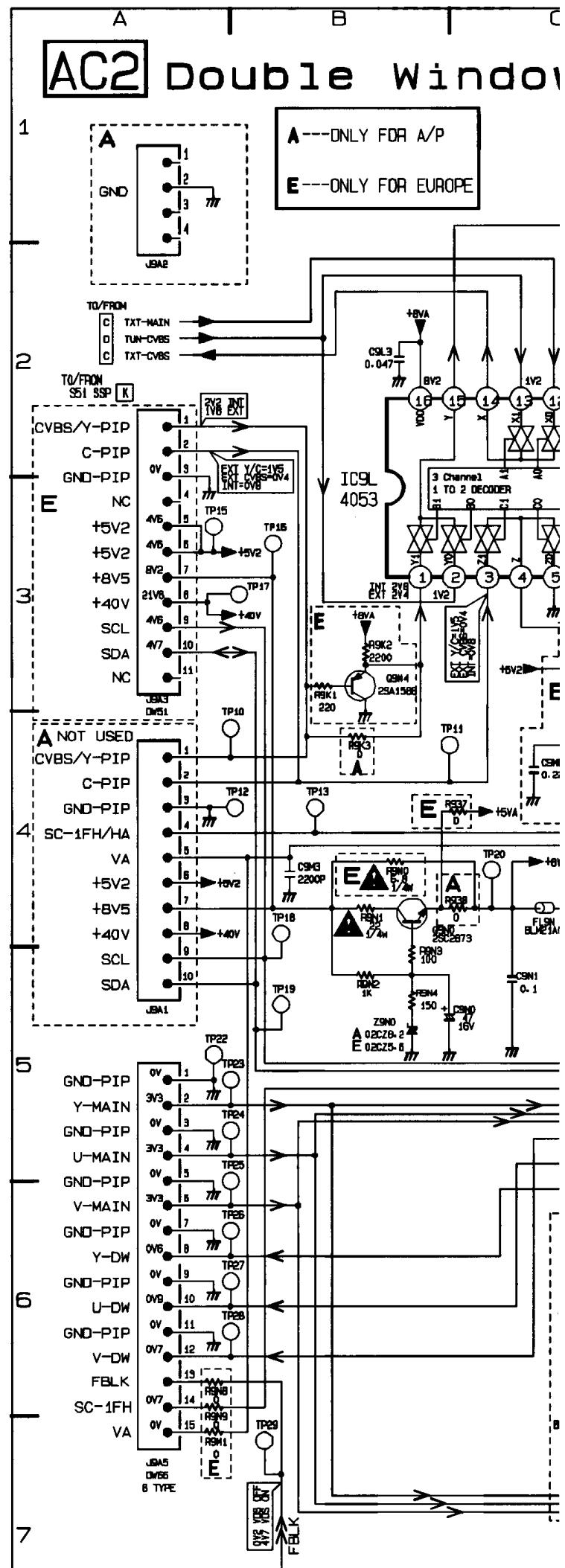
measurements : SDM+VDS picture mode

AC1

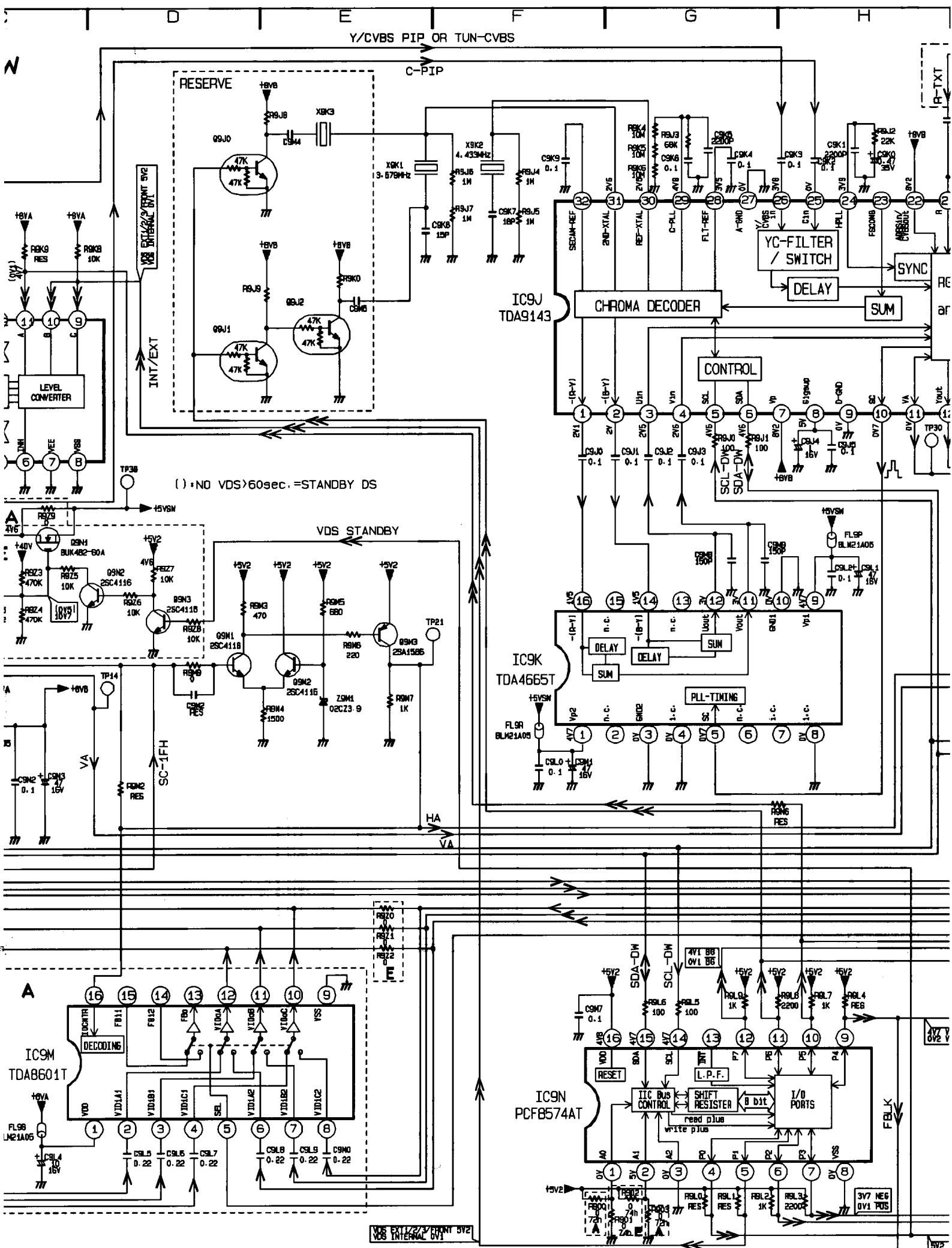


CHASSIS MD2.2

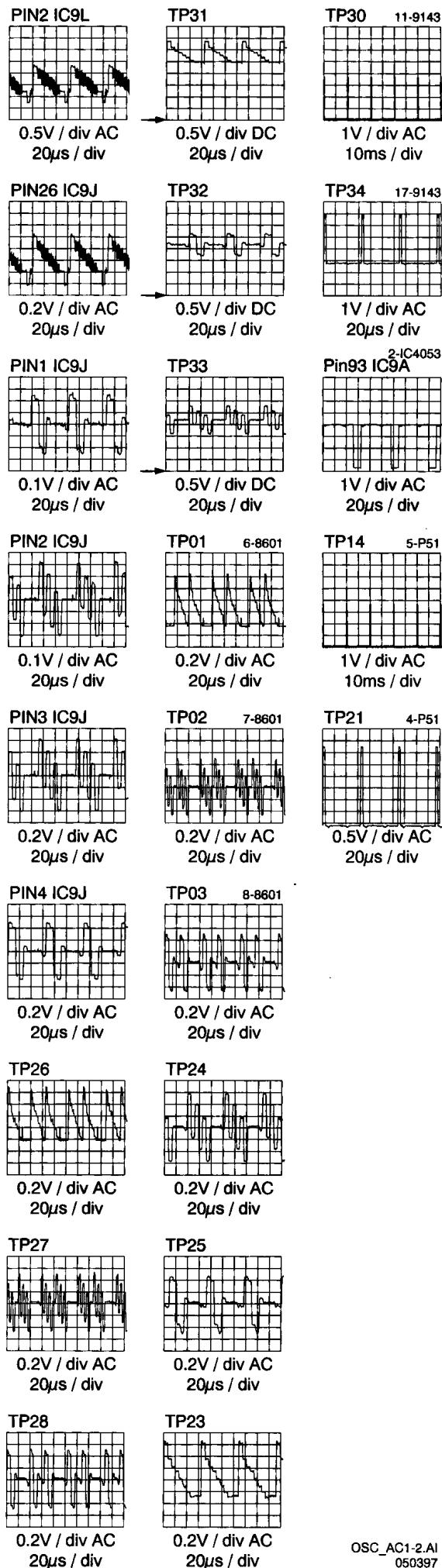
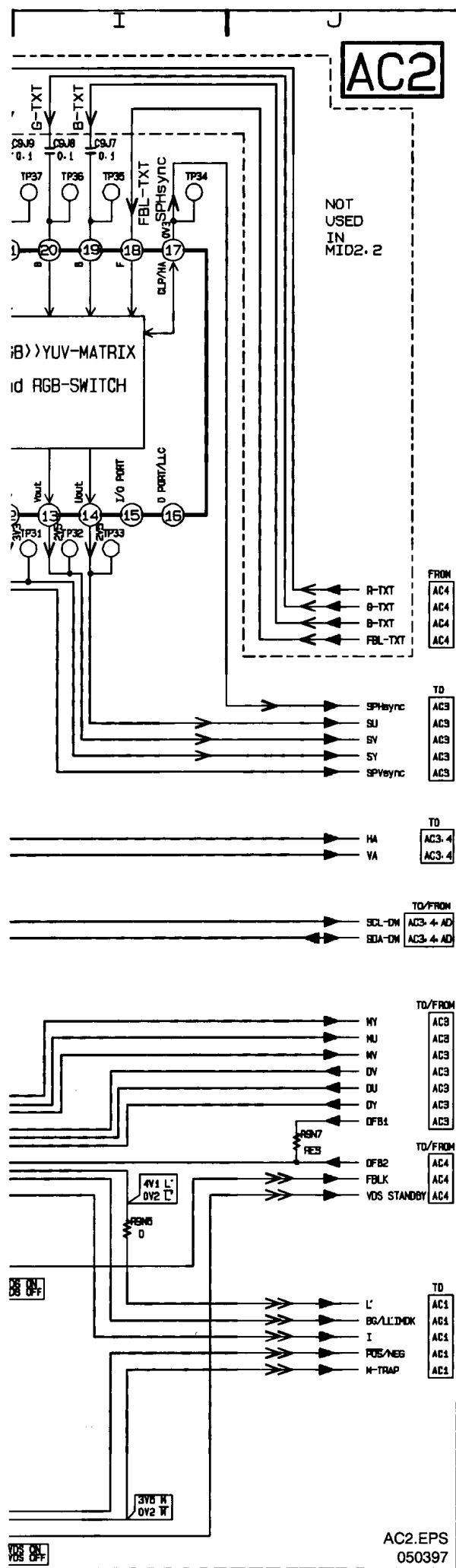
AC1.EPS
120397



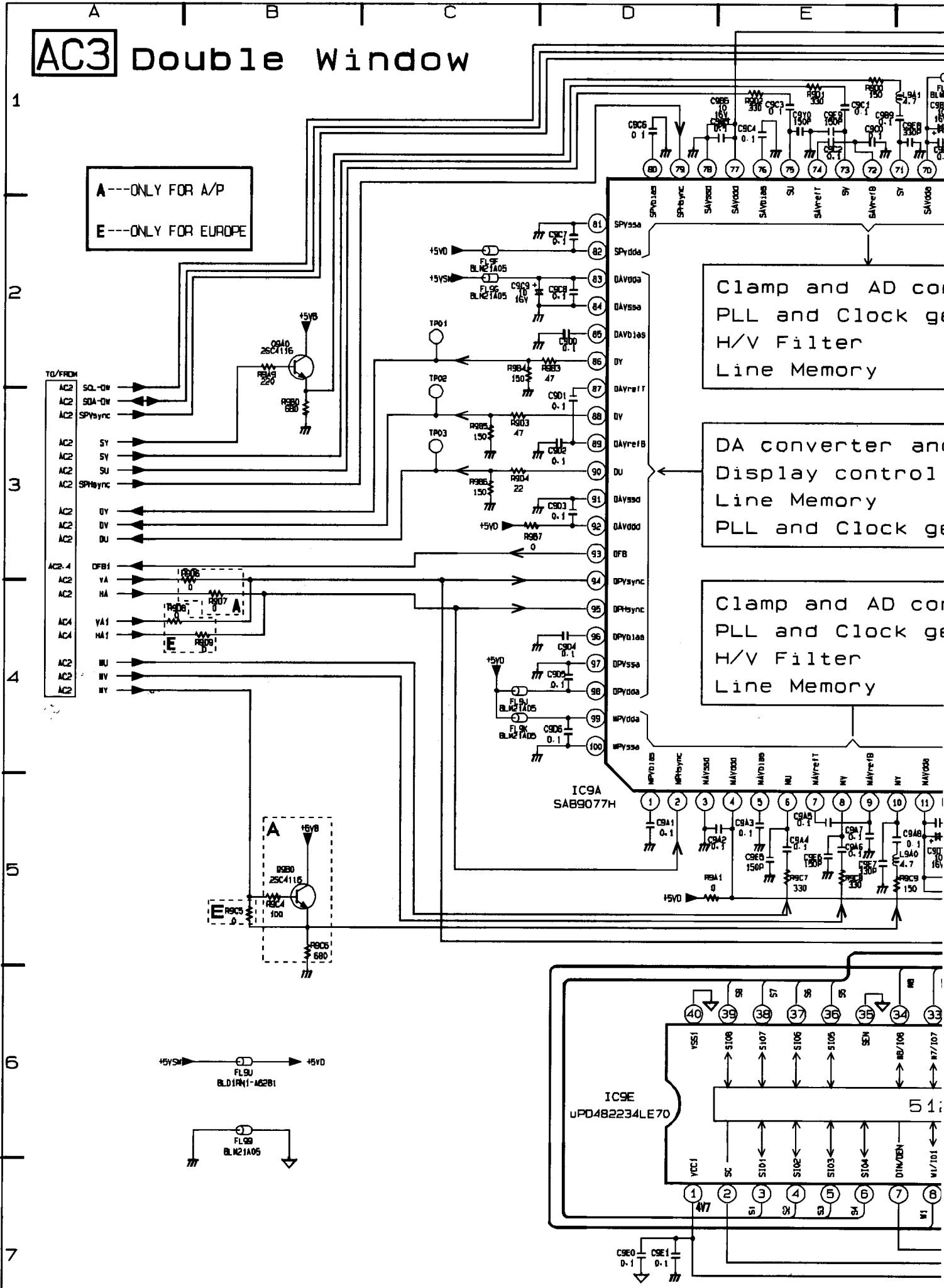
Video-DualScreen-Platine / Platine Video DualScreen

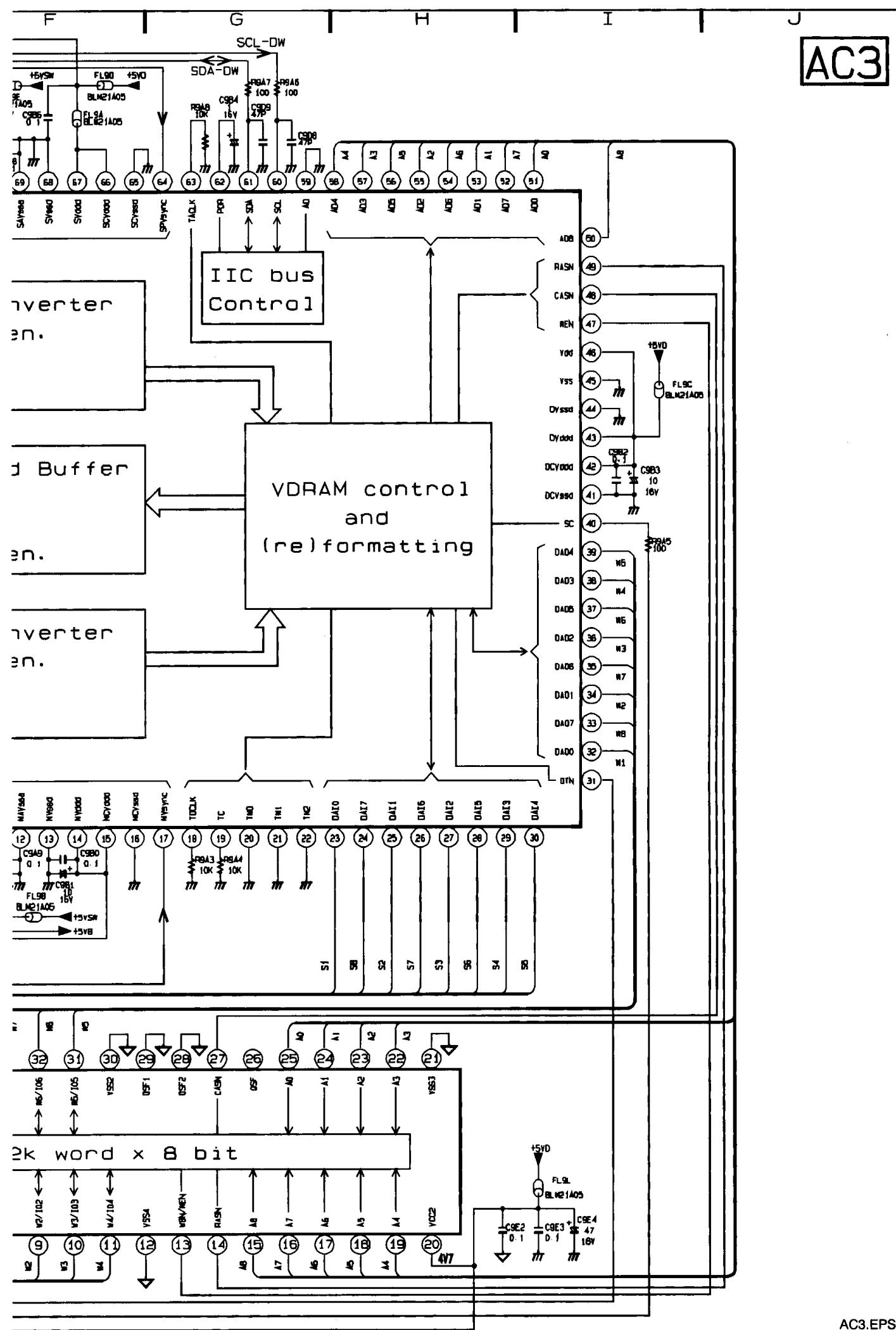


Video DualScreen panel /



OSC_AC1-2.AI
050397





Video-DualScreen-Platine / Platine Video DualScreen

A B C D E

AC4 Double Window

1

RESERVE

2

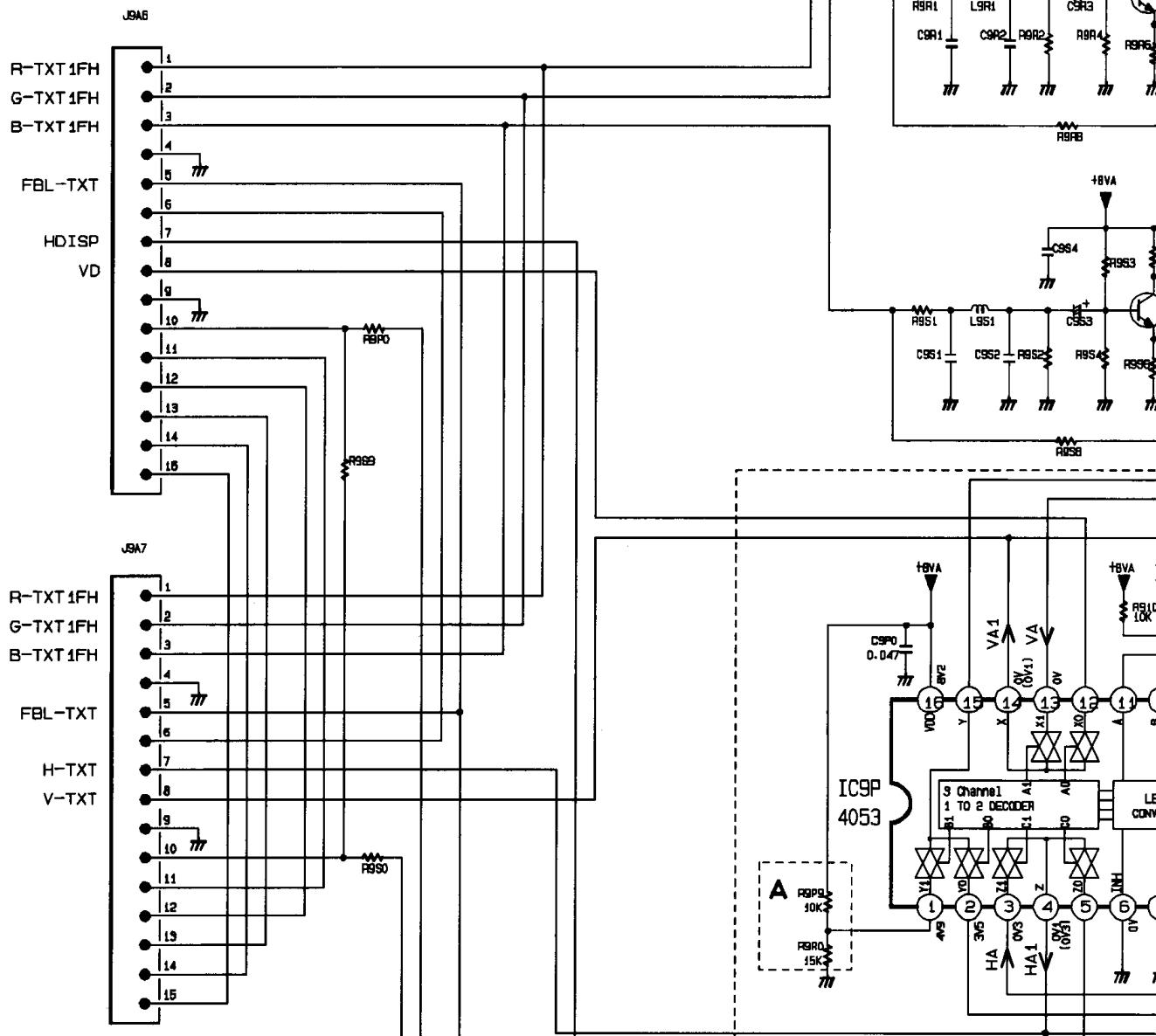
3

4

5

6

7



F G H I J
COMPONENT SIDE VIEW

AC4

A—ONLY FOR A/P
E—ONLY FOR EUROPE

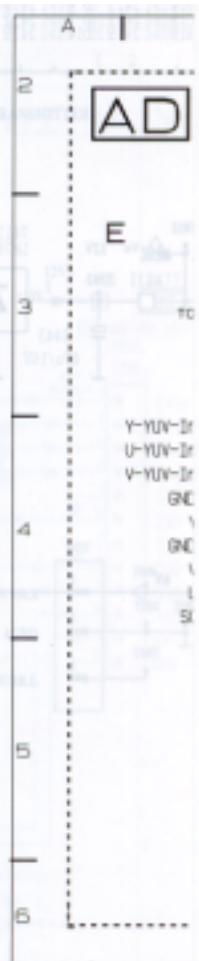
FBLK	
L	NON DW
H	DW

TO/FROM

R-TXT	AC2
R-TXT	AC2
R-TXT	AC2
DFB2	AC2
RA	AC2
FBLK	AC2
RA1	AC3
IOS STAND	AC2
RA	AC2
DFB1	AC2
RA1	AC3
FBL-TXT	AC2
TXT-MAN	AC2
TXT-CVBS	AC2

I → NO VDS>60sec. =STANDBY DS

AC4.EPS
050397



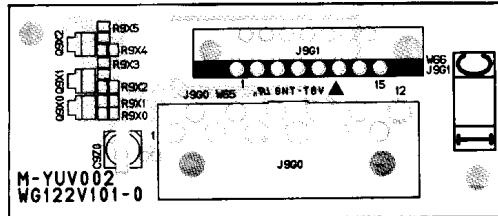
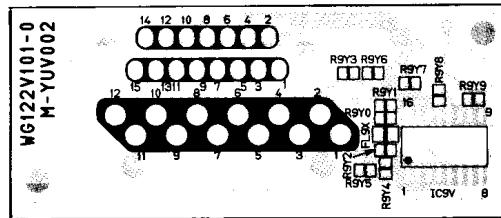
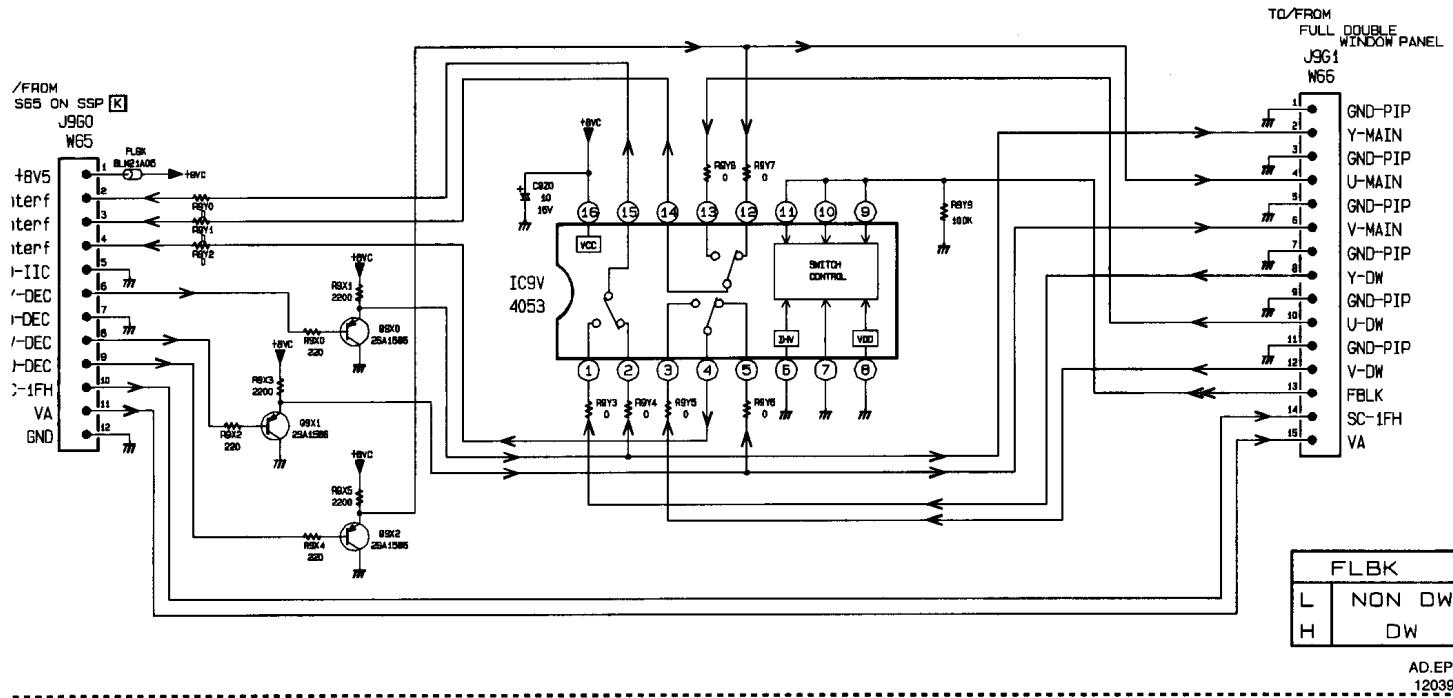
YUV-interface panel / YUV-Schnittstellenplatine / Platine YUV-interface

B C D E F G H I J

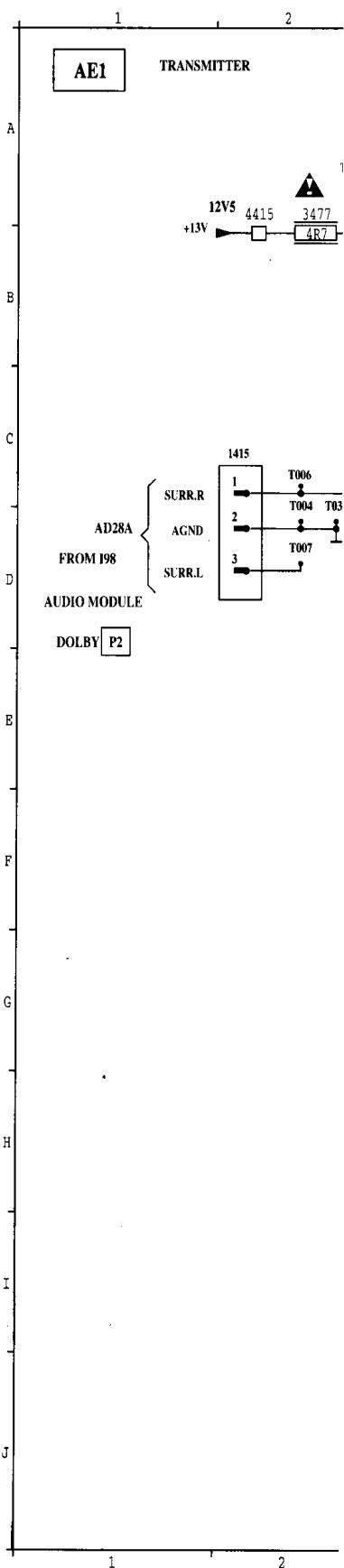
YUV-Interface

A---ONLY FOR A/P
E---ONLY FOR EUROPE

AD

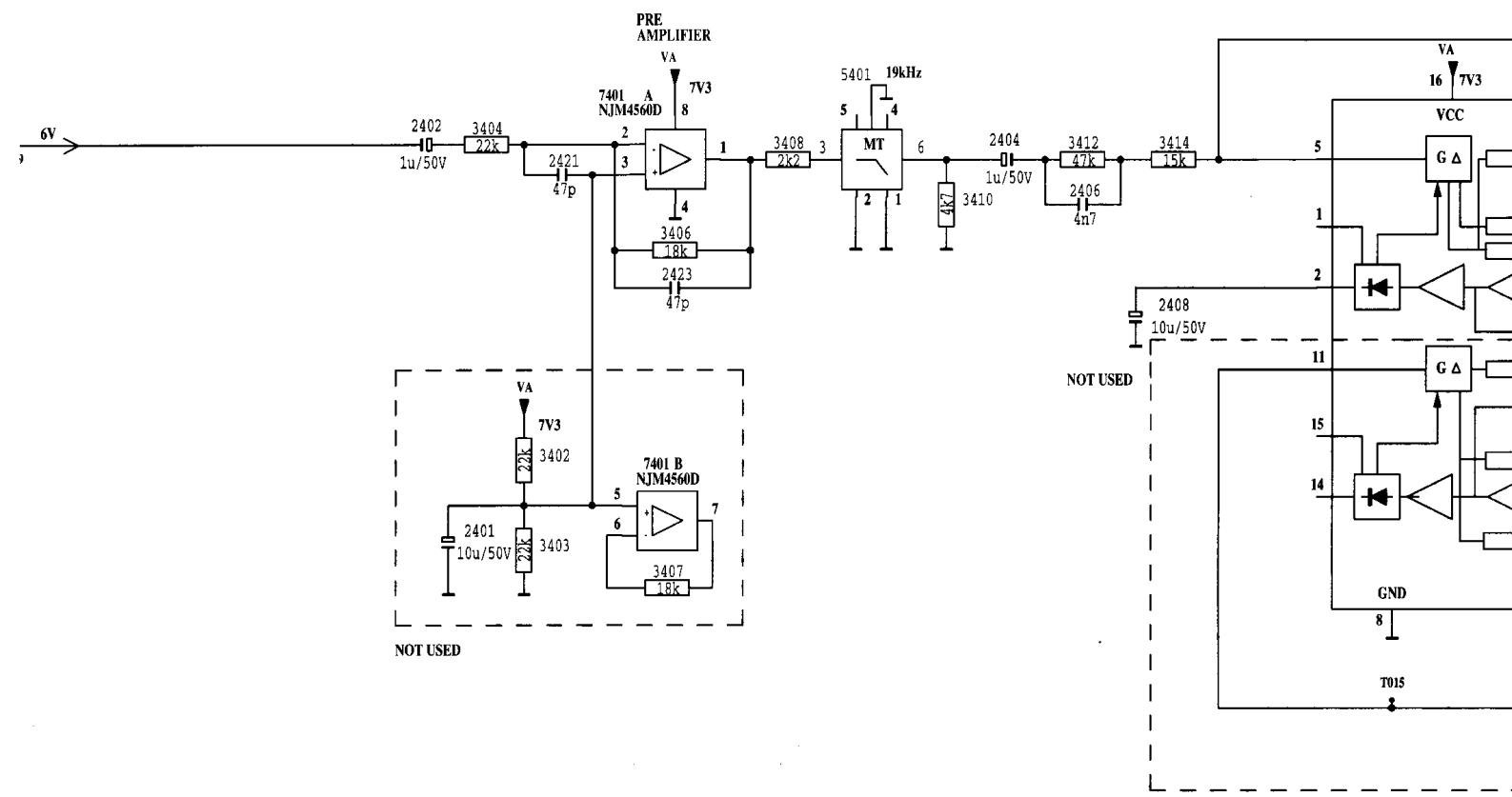
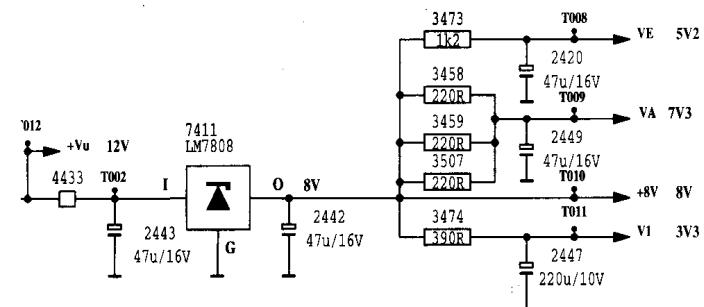


1403 E18 1415 C 2 2404 C 9 2412
1407 H21 1419 J14 2406 D 9 2414
1408 E21 2401 E 5 2408 D11 2416
1414 F21 2402 C 5 2410 D15 2418

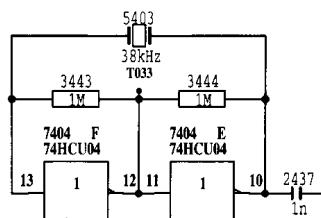


E13	2420	A 6	2429	C14	2436	F18	2442	B 4	2447	B 6	2462	G17	3404	C 6	3410	D 9	3418	C13	3426	C16	3441	F17	3445	J14	3449	J16	3458	A 5	3477	I
D14	2421	D 6	2430	C17	2437	I12	2443	B 3	2448	J18	3401	J14	3406	D 7	3412	C 9	3419	F13	3430	C17	3442	F17	3446	I14	3450	J16	3459	A 5	3482	I
C15	2423	D 7	2432	B18	2438	J16	2444	E20	2449	A 6	3402	3407	E 7	3414	C10	3422	B14	3432	A18	3443	I11	3447	I14	3451	J17	3473	A 5	3484	I	
315	2425	D14	2435	G17	2439	J17	2445	G18	2460	A15	3403	E 6	3408	C 8	3416	D14	3424	B15	3440	G17	3444	I12	3448	H16	3453	J17	3474	B 5	3486	I

3 4 5 6 7 8 9 10 11 12

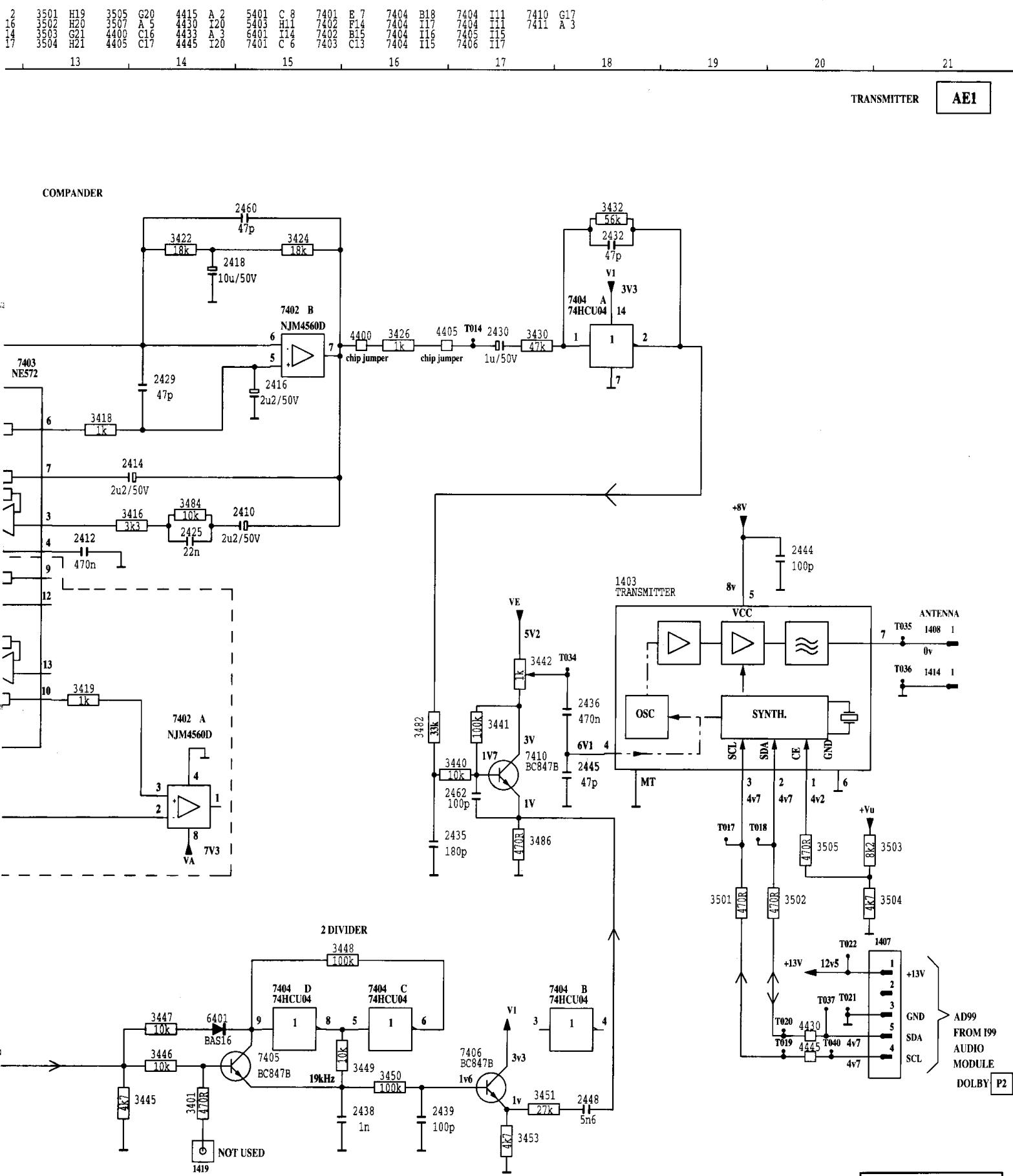


38 kHz OSCILLATOR



3 4 5 6 7 8 9 10 11 12

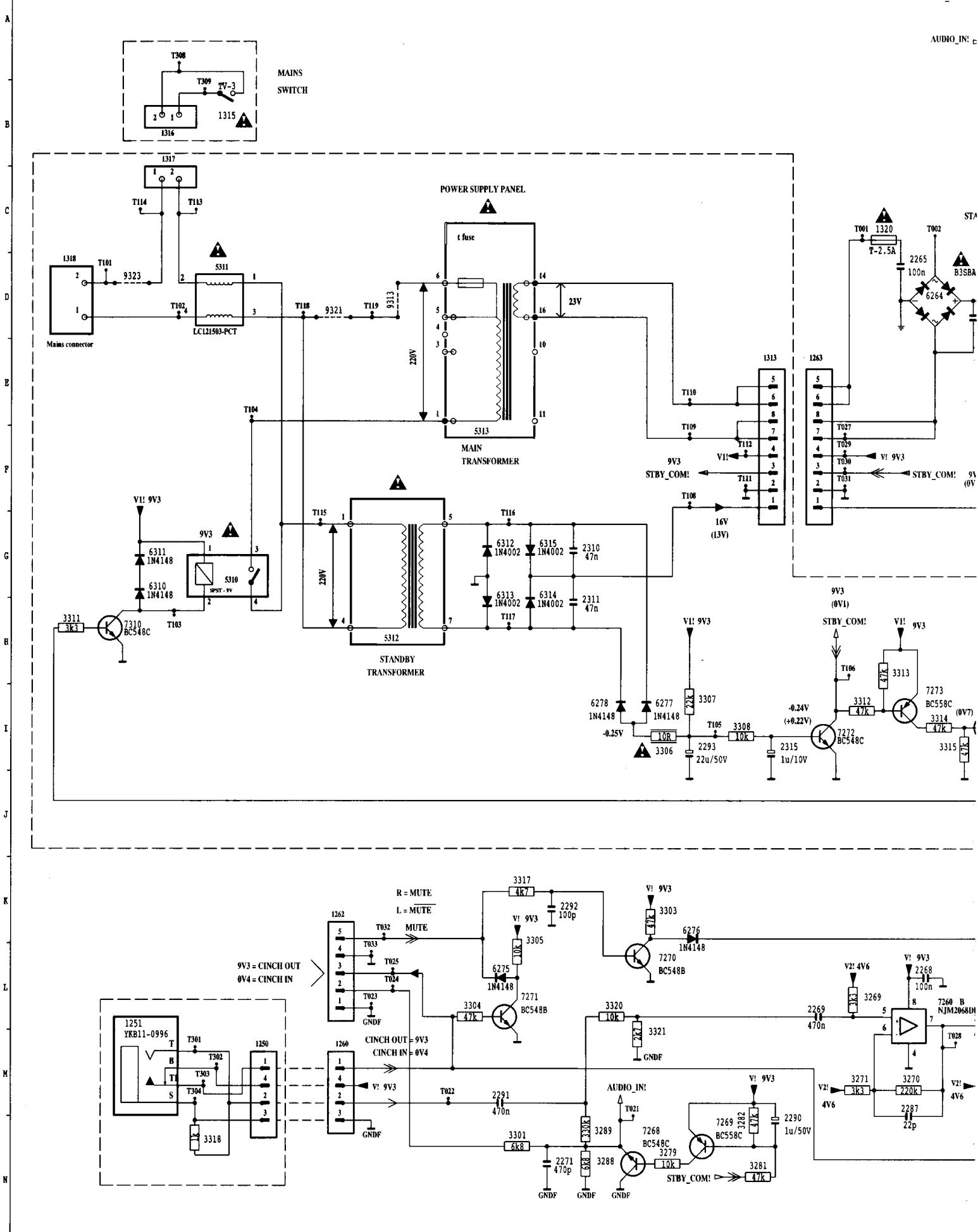
Wireless Dolby / Drahtlos-Dolby / Dolby sans fil

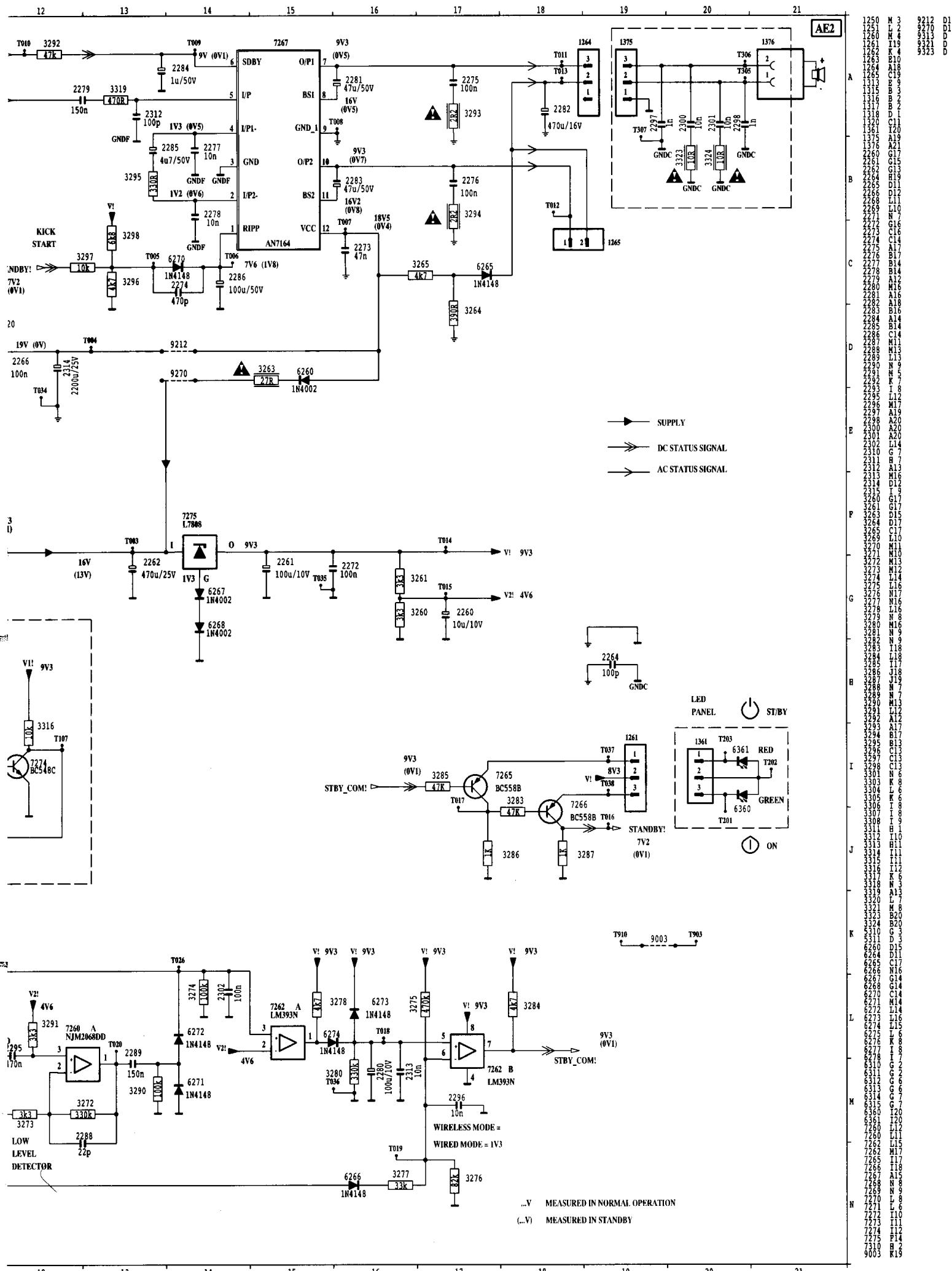


CHASSIS MD2.2

AE2 POWER SUPPLY + AMPLIFIER + STANDBY CIRCUITRY

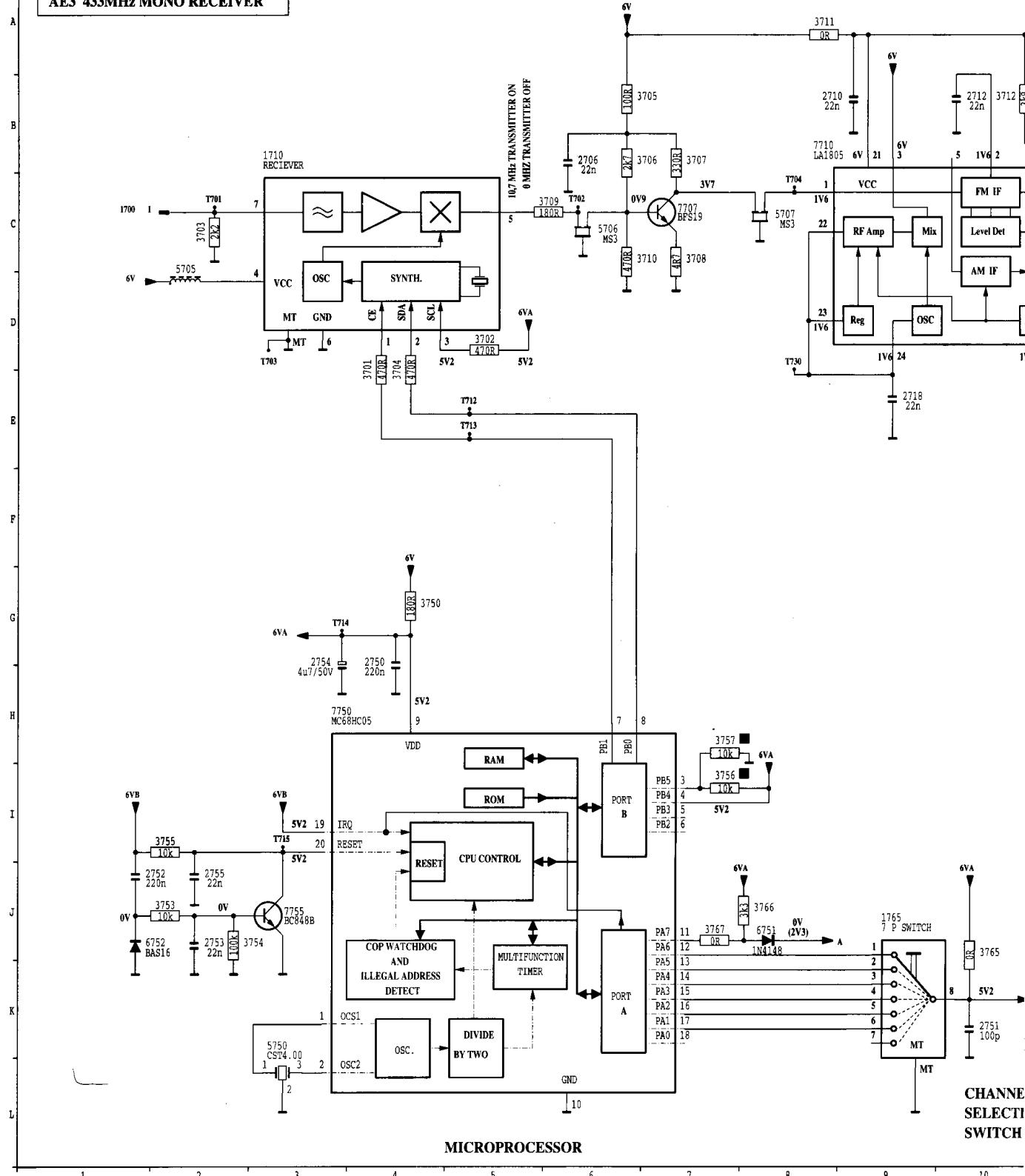
STBY COM! ⚡





1700	C 1	2706	B 6	2715	B12	2731	F15	2752	J 2	2770	H14	2774	J12	2782	H17	2792	E20	3703	C 2	3707	B 7	3711	A 8	3719	E12	3730	F13	3734	F16	3750	G
1710	B 3	2710	B 6	2716	B12	2732	G15	2753	J 2	2771	H12	2779	H15	2783	I17	2794	J16	3704	D 4	3708	B 7	3712	A 8	3720	E12	3731	G13	3735	G16	3753	J
1765	J 9	2712	B10	2718	E 9	2750	G 4	2754	G 3	2772	I12	2780	J15	2790	G19	3701	D 4	3705	B 7	3709	C 6	3716	D 14	3721	E 16	3732	F15	3736	G16	3754	J
1791	E21	2714	B12	2720	K10	2755	J 2	2773	J12	2781	J16	2791	G20	3702	D 5	3706	B 7	3710	E11	3729	P13	3733	G15	3744	G12	3754	J				

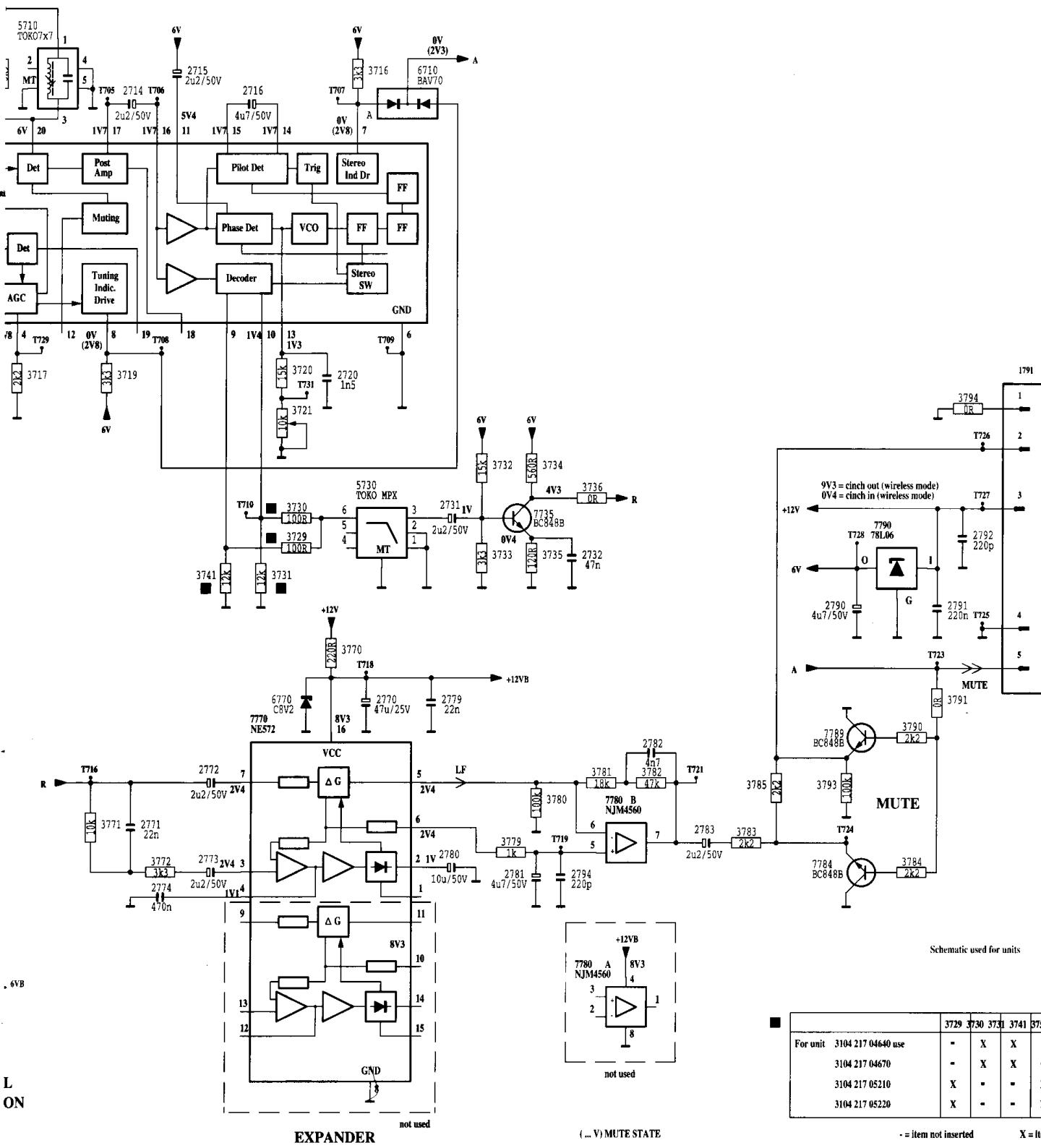
AE3 433MHz MONO RECEIVER



Wireless Dolby / Drahtlos-Dolby / Dolby sans fil

3756 I 7 3767 J 7 3779 116 3783 118 3791 H20 5706 C 6 5750 K 3
 3757 H 7 3770 H14 3780 116 3784 J20 3793 H19 5707 C 8 5710 B15
 3758 J10 3772 J12 3781 116 3785 H20 3794 E20 5708 C 2 5711 A14 6710 B16
 3766 J 8 3773 J17 3782 117 3790 H20 3795 C 2 5712 F14 6712 J 2
 11 12 13 14 15 16 17 18 19 20 21

AE3



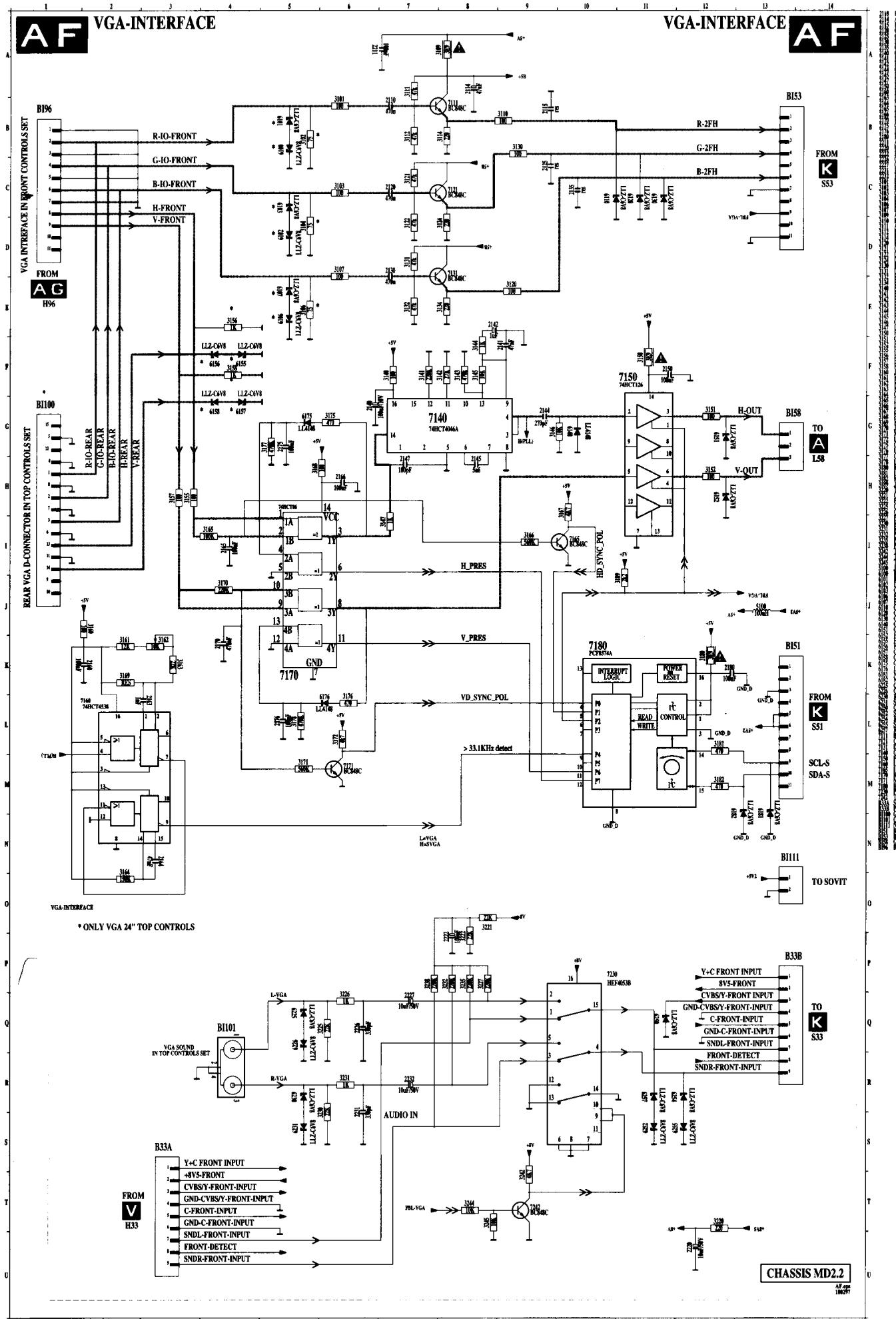
Schematic used for units
 3104 217 04640
 3104 217 04670
 3104 217 05210
 3104 217 05220

- = item not inserted X = item inserted

VGA interface panel / VGA-Schnittstellenplatine / Platine VGA-interface

MD 2.21/2.22/2.23

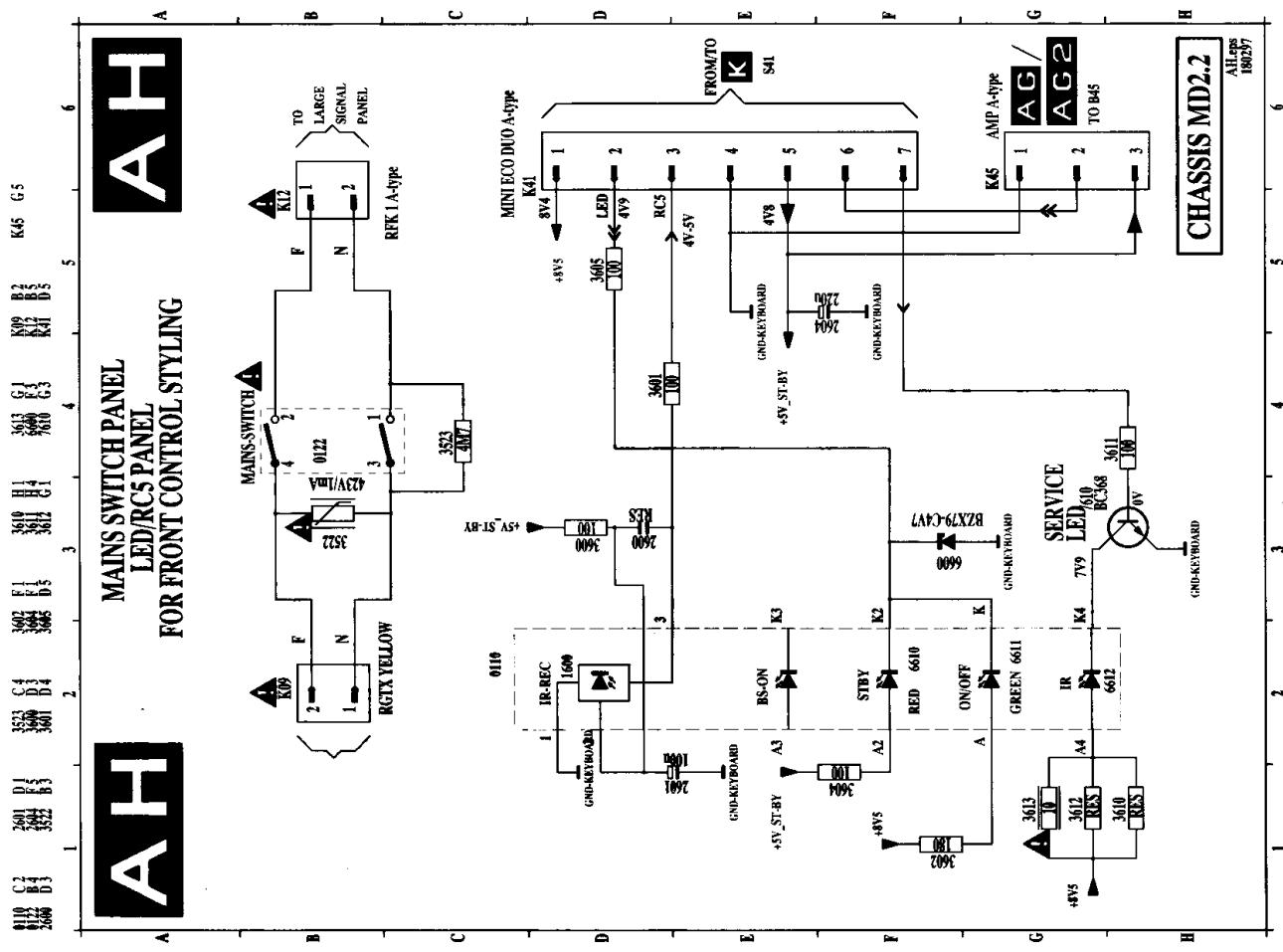
47



Mains input & RC5 panel (front control styling) /

Netzeingang & RC5-Platine (Frontbedienung) /

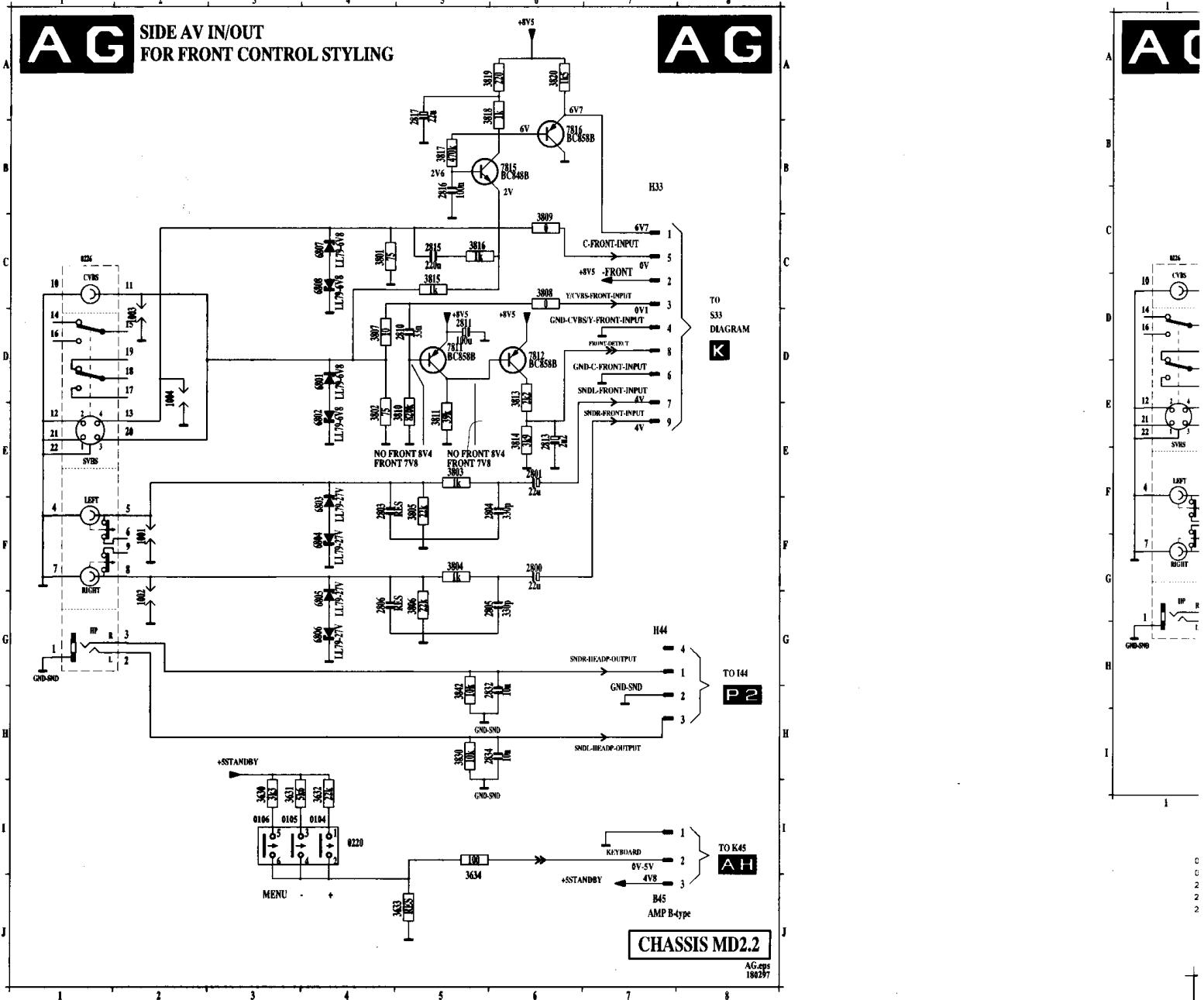
Platine entrée secteur & RC5 (style commande de sur le haut)



Front input/output panel (top control styling) / Fronteingangs-/Ausgangsplatine / Platine frontale entrée/sortie

0220 I.4
2800 F.6
2810 D.5
2832 H.5
3634 J.5
3805 C.5
3813 D.6
3819 A.6
6803 F.4
7811 D.5
H44 G.7
1001 C.1
1002 C.2
1003 C.3
1004 D.2
2806 G.4
2817 A.5
3433 J.5
3805 F.5
3811 E.5
3818 A.6
6802 E.4
6803 C.4
B45 B.6
H33 B.7

0220 B.10
0224 C.1
0225 C.2
1002 D.1
2806 E.1



Front input/output panel with VGA input (front control styling) /

Fronteingangs-/Ausgangsplatine mit VGA-Eingang /

Platine frontale entrée/sortie avec entrée VGA

