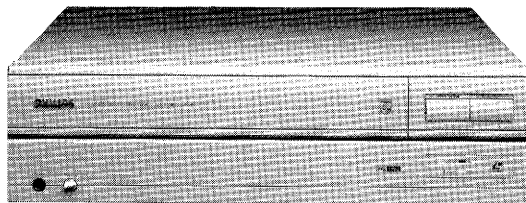


Professional optical disc drive multi standard 22VP380

Service
Service
Service



45 802 A

Service Manual



In this manual only the differences between the VP310 and the VP380 are mentioned. For repair and partslist the Service Manual of the VP310 must be used. Differences in the VP380:

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Additional information	15-2

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

(S)
Varning!
Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betakta ej strålen.

(DK)
Advarsel!
Usynlig laserstråling ved åbning når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

(SF)
Varoitus!
Laitte sisältää laseriodin, joka lähettää näkymätöntä silmille vaarallista lasersäteilyä.

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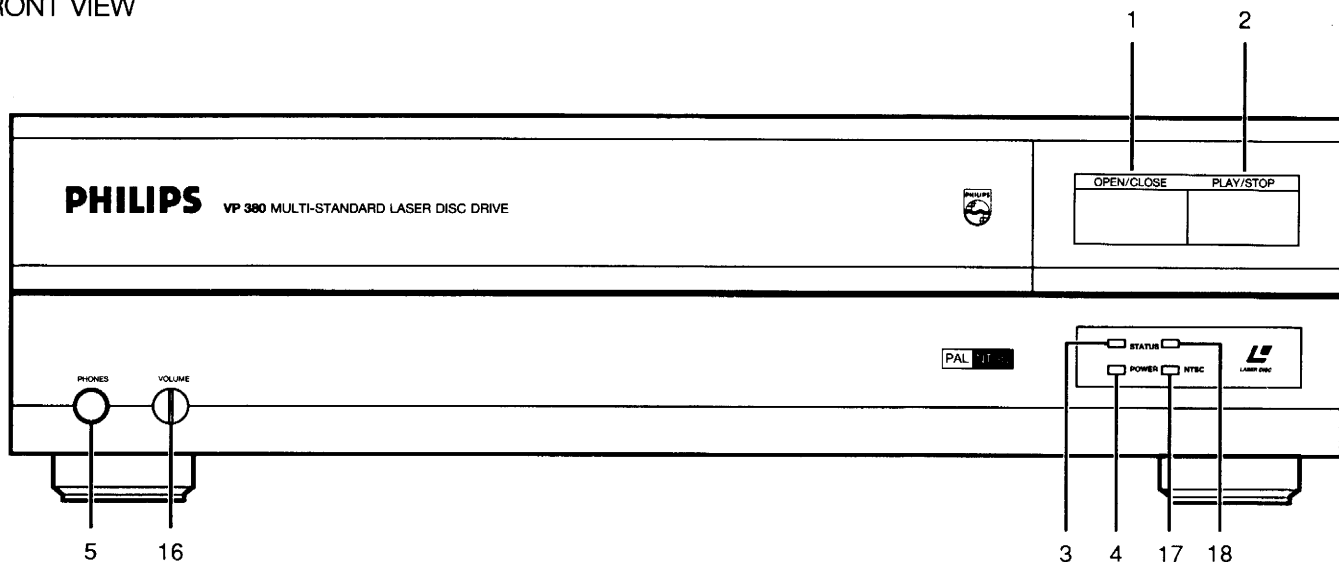
PHILIPS

CS 43 837

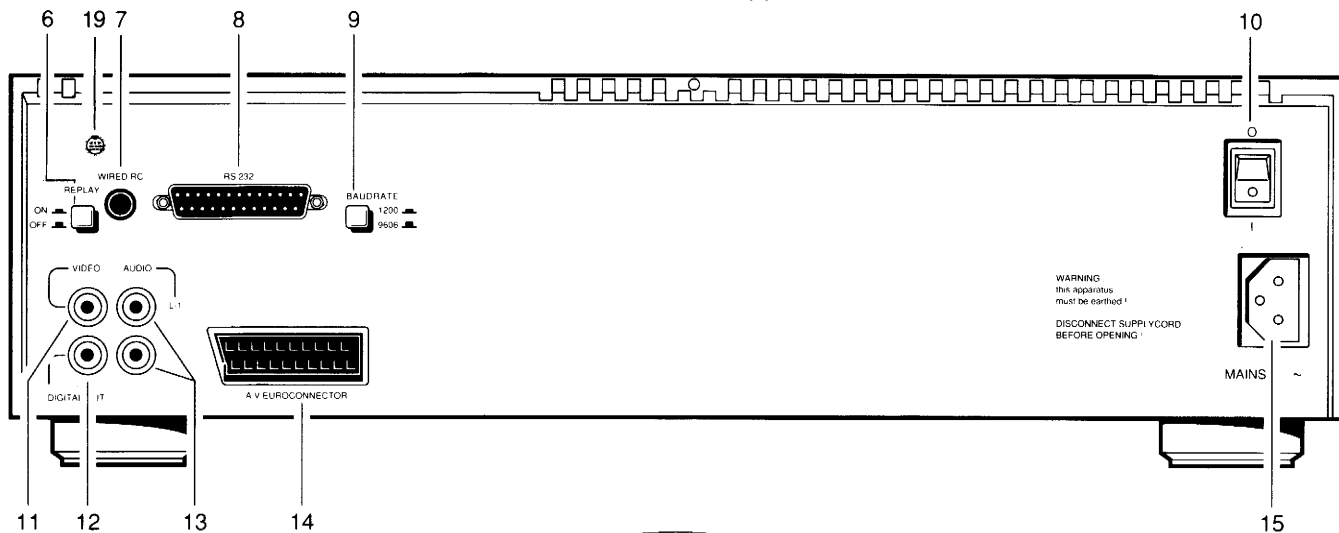
Controls and connections

VP 312 VP 380 LASER DISC DRIVE

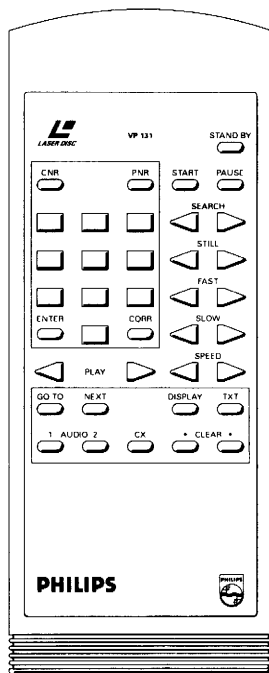
FRONT VIEW



VP 380 illustrated



REAR VIEW



Controls

Drive front

- OPEN/CLOSE (1)
For opening or closing the disc-tray.
- PLAY/STOP (2)
For switching between 'standby' and 'on' modes.
- STATUS (green) (3)
Indicates :

standby	off
ready	steady on
speeding up	short on, long off
slowing down	long on, short off
pausing or at end of disc	flashing steady on and off.
- POWER (4)
Indicates whether power is on (green) or off.
- VOLUME (16)
Adjusts the headphone sound level
- PAL (green) (18) **VP 380 only**
Indicates that the disc is recorded in PAL television system standard.
- NTSC (green) (17) **VP 380 only**
Indicates that the disc is recorded in NTSC television system standard.

Drive rear

- POWER ON/OFF switch (10)
Mains power.
- REPLAY on/off push button (6) [ON ,OFF]
Recessed push button, sets the replay function on or off.
- BAUD RATE push button (9) [1200, 9600]
For selecting the baud rate for RS232-C communications.

Connections

Drive front

- PHONES (5)
Allows headphone to be connected.

Drive rear

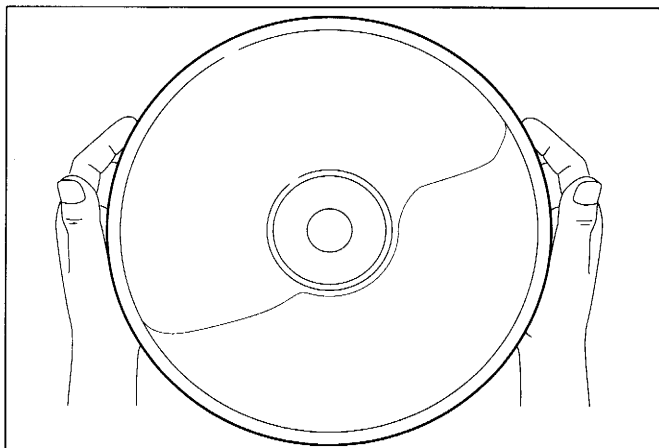
- MAINS lead socket (15)
For connection of the mains lead.
- WIRED RC socket (7)
For wired connection of the remote control handset.
- RS232-C socket (female) (8)
Provides a 25 pin serial interface for an external computer.
- AUDIO OUT (L1 and R2) sockets (13)
Used for connection of an external stereo or 2-channel mono sound amplifier.
- A/V EUROCONNECTOR (14)
Provides connection for variety of outputs for a monitor.
- VIDEO socket (11)
Provides a CVBS video signal output suitable for a monitor.
- DIGITAL OUT socket (12)
Provides digital sound output for a digital audio amplifier.
- Y/C socket (19) **VP-380 only**
Provides a Y/C (S-VHS) video signal output suitable for a monitor.

Operating your drive

The VP 312 drive has been developed for use with a computer (with or without overlay cards). It can also be used in stand alone application with a remote control. If you do use a computer, then depending on the software you use, you may have to change the setting of the BAUD RATE button (9) from 1200 to 9600 or vice versa.

Handling optical discs

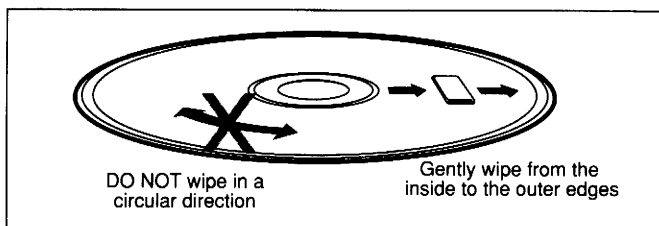
Always handle optical discs by their edge, keep them clean and always return them to their packaging each time you take them out of the drive.



Care of discs

To ensure the best results from discs follow these guidelines :

- Return the disc to the protective jacket immediately after use.
- Store discs vertically.
- Avoid heat and long exposure to sunlight as this can damage the disc.
- Remove finger prints from the surface using a lint free cloth. Always wipe from the centre to the edge. It is possible to remove more stubborn marks by moistening the cloth with lukewarm soapy water.



Cleaning disc

- Do not use solvents or abrasive cleaners on a disc.

Power consumption	50 W approx.
Electrical safety	acc. to IEC 950 class I
Operational conditions	10 to 35°C
Rel. humidity	20 to 80 %
Storage conditions	-40 to 70°C
Rel. humidity	5 to 90 %
Dimensions	420 x 125 x 415 mm
disc-tray open	420 x 125 x 655 mm
Weight	9 kg (approx.)
TV system	625/50 PAL VP380 : 625/50 PAL 525/50 NTSC

Video

CVBS output	
Cinch	1 V _{pp} ± 50 mV into 75 ohm
Euroconnector pin 19	1 V _{pp} ± 50 mV into 75 ohm

RGB output

Europconnector	
R (pin 15)	0.7 V into 75 ohm
G (pin 11)	0.7 V into 75 ohm
B (pin 7)	0.7 V into 75 ohm

Video bandwidth	RGB : PAL MHz (-3 dB),3 CVBS : MHz (-3 dB),3 encoded VP380 : NTSC CVBS 4.2 MHz (-8 dB)
-----------------	--

Signal-to-noise ratio	40 dB typ. unweighted (disc dependent) 50 dB typ. weighted (disc dependent)
-----------------------	--

Timebase instability	less than 20 ns (normal play)
----------------------	-------------------------------

Audio

Analog

Audio output	550 mV r.m.s./1k ohm at 100 % modulation depth
--------------	--

Cinch	
Audio output	
Euroconnector pins 1 & 3	275 mV r.m.s./1k ohm at 100 % modulation depth

Audio bandwidth	20 - 20 000 Hz - 3 dB
-----------------	-----------------------

Signal-to-noise ratio	>50 dB weighted VP380 : CX on > 62 dB (disc dependent)
-----------------------	--

Channel separation	>50 dB
--------------------	--------

Digital

Output voltage	Cinch 200 mVrms ±1.5 dB at -20 dB, 1 KHz
----------------	--

Euroconnector pins 1 x 3	Cinch 100 mVrms ±1.5 dB at -20 dB, 1 KHz
--------------------------	--

Signal to noise ratio	≥90 dB
-----------------------	--------

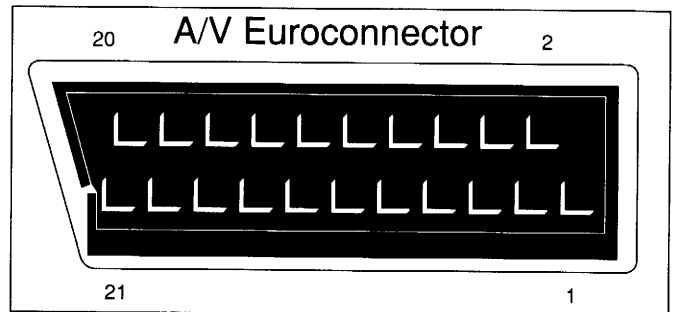
Dynamic range	≥86 dB
---------------	--------

Channel separation	≥80 dB
--------------------	--------

Digital out	0.5V _{pp} ± 20 % into 75 ohm
-------------	---------------------------------------

A/V Euroconnector

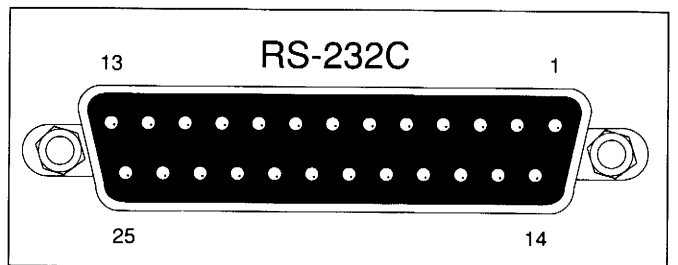
pin	signal
1	audio out (right)
2	not connected
3	audio out (left)
4	audio earth
5	blue earth
6	not connected
7	blue out
8	disc drive status 12 V
9	green earth
10	not connected
11	green out
12	not connected
13	red earth
14	earth
15	red out
16	fast blanking : 2.5 V into 75 ohm (RGB status)
17	CVBS earth
18	RGB status earth
19	CVBS out (also acts as sync out when using RGB)
20	not connected
21	not connected socket earth



RS232 interface

Serial computer interface, in accordance with international communication standard EIA-232-D.

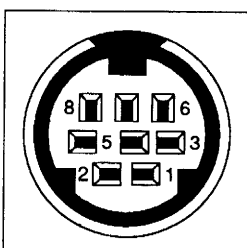
Full duplex
1200/9600 baud (selectable)
8 data bits, 1 stop bit, no parity



The drive is fitted with a 25-pole female D-type connector with the following pin connections :

PIN	SIGNAL
2	(T x D) transmitted date from drive to computer
3	(R x D) received data from computer to drive
5	(CTS) clear to send : a signal from computer to drive indicating the computer is ready to receive data
7	(GND) logic ground
20	(DTR) data terminal ready : a signal from drive to computer indicating the drive is ready to receive data.

Y/C CONNECTOR



PIN	SIGNAL
1	GND
2	GND
3	Y output
4	C output

Technical data VP380

Fault symptoms and possible causes

Drive remains in standby mode

- Check if transport locks have been removed.

Disc does not eject

- Check the REPLAY button.
- Check that the drive is connected to the mains supply and that the POWER indicator is lit.

Disc does not rotate

- Check that the drive is receiving power: the POWER indicator should be lit.
- Check that the disc-tray is properly closed.
- Check that the disc is properly loaded.

Disc rotates but picture is weak or absent

- Check the connection between monitor and drive.
- Check that the disc has been loaded correctly (label up) on the disc-tray. (Some discs have program content on one side only.)
- Press the [>] section of the SEARCH button.
- The drive is in the pause mode: Press the [>] section of the PLAY button.
- **VP380 only.**
If the sound is good but picture is poor (rolling/tearing/no colour) check that the disc being played is the expected television system standard (PAL/NTSC).

Drive sticks at particular point on disc

- Press the [>] section of the SEARCH button momentarily to skip over the affected part.
- Remove the disc and wipe both surfaces clean with a soft, dry cloth to remove possible opaque surface marks.

Special effects (still, slow, reverse, fast) do not function

- Check that a CAV disc is being played; when playing CLV discs, the special-effects buttons do not function.

Unstable still picture

- If still pictures taken from a fast moving scene sometimes flicker, this is no fault of the drive but results from the basic program material used for disc production.

Good picture but no sound

- Make sure that the drive is in its forward playing mode (in all other modes there is no sound).
- Check that the sound channels AUDIO 1 (left channel) and/or AUDIO 2 (right channel) are switched on.
- If an LV-ROM disc is being played, there may be data and therefore no sound on the disc. Try a non-LV-ROM disc.

Digit buttons are inoperative

- Check REPLAY button.
- Check whether the picture number or chapter number is displayed on the monitor. If not, press PNR or CNR.

Remote control does not function correctly

- Check batteries in remote control handset.
- If the drive is in the replay mode, most controls are disabled.
- Check mini jack plug is inserted correctly in the WIRED RC socket.

The drive fails to respond when under computer control

- Check baud rate and parity.
- Check the connections to the relevant interface.
- Ensure that DATA IN and DATA OUT are the right way around (RS232-C).
- Check that the DTR signal from the drive is being received by the computer (RS232-C).
- Check the CTS signal of the computer.
- To reset drive, switch the power off, wait ten seconds, switch power on.

Technical information

Optical discs

LaserVision/Laser Disc

Disc diameter	300 mm or 200 mm
Disc thickness	2.7 mm
Disc speed	CAV disc : 1500 r.p.m. CLV disc : 1500-570 r.p.m.

Maximum capacity	
300 mm - disc	CAV disc : 54 000 pictures per side
200 mm - disc	CAV disc : 24 000 pictures per side

Max. playing time	
300 mm - disc	CAV disc : 36 minutes per side CLV disc : 1 hour per side
200 mm - disc	CAV disc : 16 minutes per side CLV disc : 24 minutes per side

Average track pitch	1.6 - 1.8 μ m
---------------------	-------------------

Compact disc

Disc diameter	120 mm or 80 mm
Disc thickness	1.2 mm
Disc speed	600 - 200 r.p.m.

Maximum capacity	
120 mm disc	74 minutes
80 mm disc	26 minutes
Average track pitch	1.6 μ m

Drive

Front loading motor-powered disc-tray

startup time	
LV 300 mm :	\leq 20 sec
LV 200 mm :	\leq 14 sec
CD 120 mm :	\leq 10 sec
CD 80 mm :	\leq 10 sec
Clip 120 mm :	\leq 10 sec

unload time	
(time between Eject command and tray open)	
LV 300 mm :	\leq 9 sec
LV 200 mm :	\leq 4 sec
CD 120 mm :	\leq 3 sec
CD 80 mm :	\leq 3 sec
Clip 120 mm :	\leq 3 sec

SSL (solid state laser)

Laser type	AlGaAs semiconductor
Wavelength	780 nm
Aperture	0.5
Output of laser	< 5 mW

Random access time	
CAV, 300 mm	typically 3 sec max.
CLV, 300 mm	typically 12 sec max.

On-board programming	Up to 2 x 8 picture number/time code segment and 2 x 8 chapter segments
----------------------	---

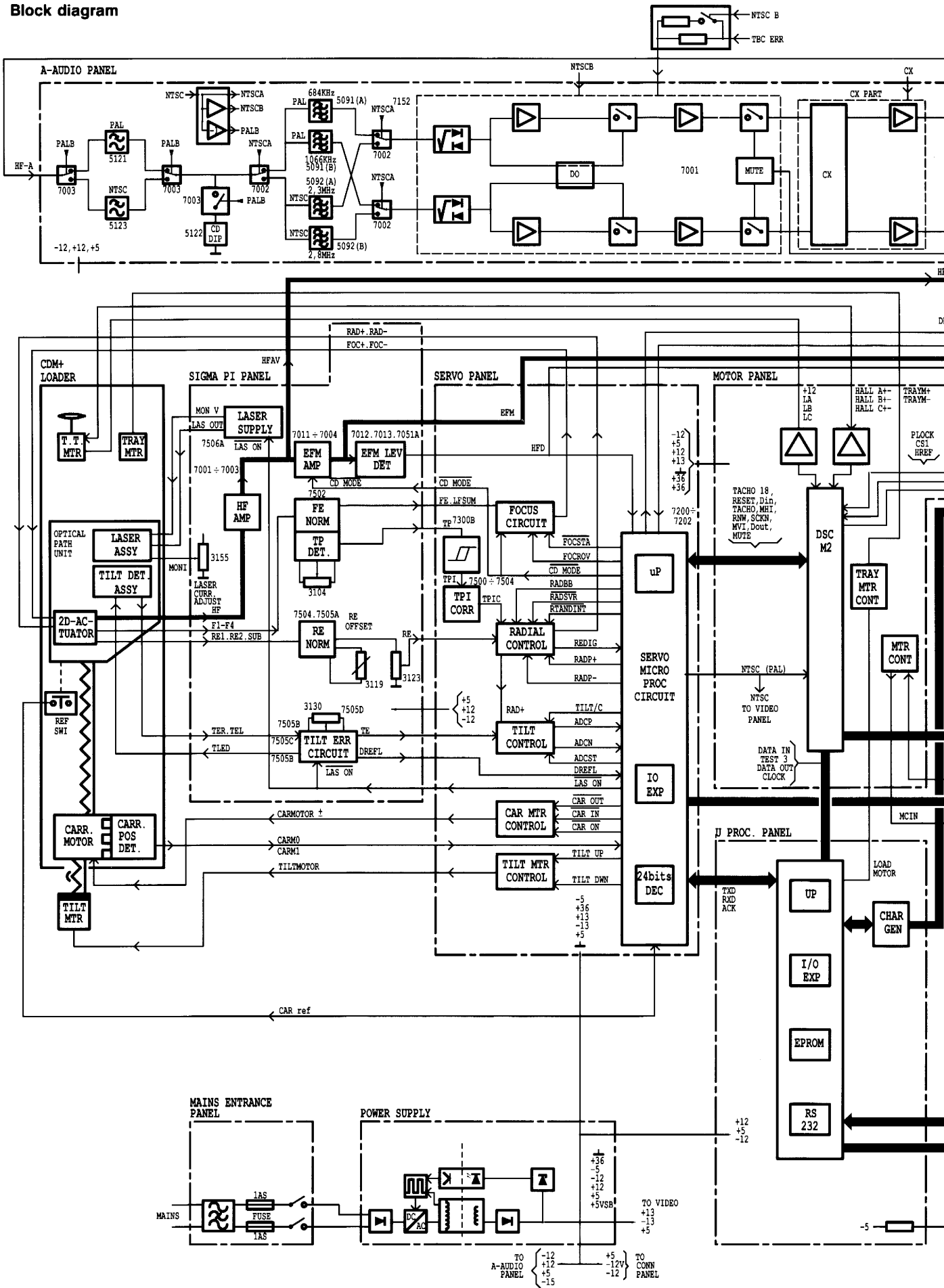
Capacity of on-board character display	12 lines of 24 characters each (F-C code programmable)
--	--

Program retention (with power off)	not retained (battery - backed memory retrofittable)
Mains voltage	220 to 240 V a.c. (\pm 10 %)
Mains frequency	50 to 60 Hz (+/- 5 %)

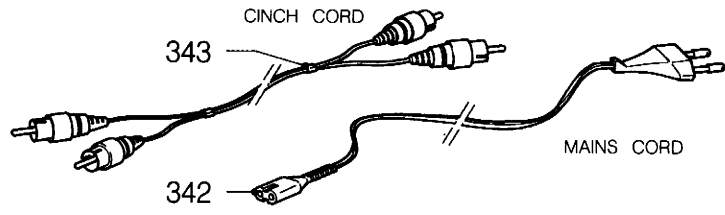
CABINET VP380

122	4822 444 20265	BACK PACK ASSY
301	4822 321 10472	MAINS CORD CW 3731
301	4822 443 63038	DOOR ASSY
302	4822 459 10966	WORDMARK
302	4822 736 21052	DIR. FOR USE VP380
303	4822 444 60691	ORN. CAP ASSY
304	4822 444 40444	FRONT ASSY
311	4822 528 81341	WHEEL
312	4822 492 33066	TENSION SPRING
313	4822 529 10244	AIR DAMPER
314	4822 535 92927	COUPLING PIECE
316	4822 492 70275	LEAF SPRING
318	4822 444 60689	CAP ASSY
319	4822 410 60701	KNOBUNIT ASSY
321	4822 444 60692	COVER ASSY
322	4822 535 20077	PAWL
323	4822 402 61331	PHONES BRACKET
324	4822 462 41693	FOOT
326	4822 466 40577	FELT
327	4822 535 92935	SHIPPING BOLT
328	4822 325 60324	GROMMET
329	4822 535 80807	SCREW
331	4822 532 11106	WASHER
333	4822 402 61329	BOARD SUPPORT
338	4822 444 50633	BODEM PLAAT
342	4822 321 10532	MAINS CORD

Block diagram



EXPLODED VIEW CABINET

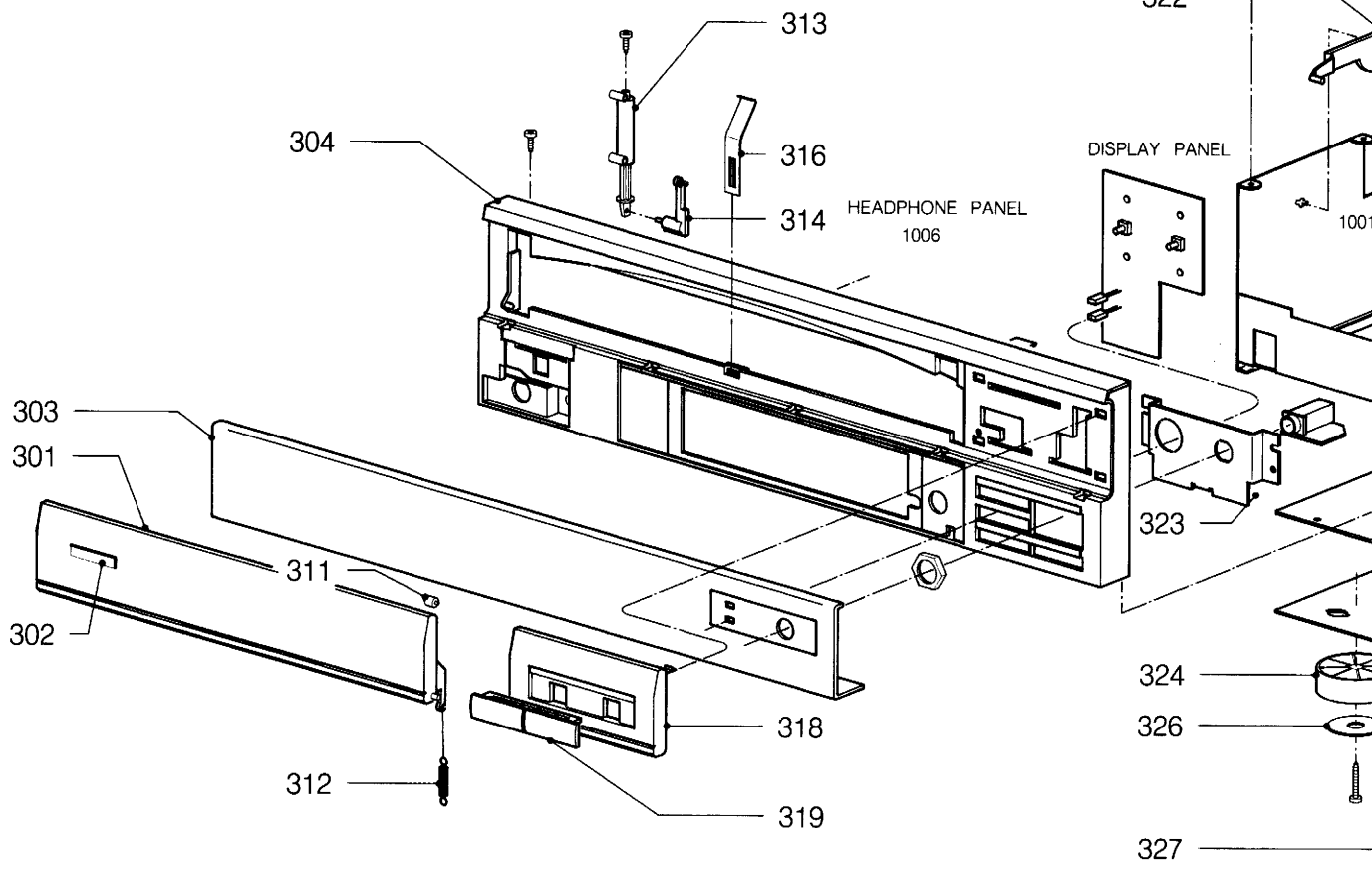


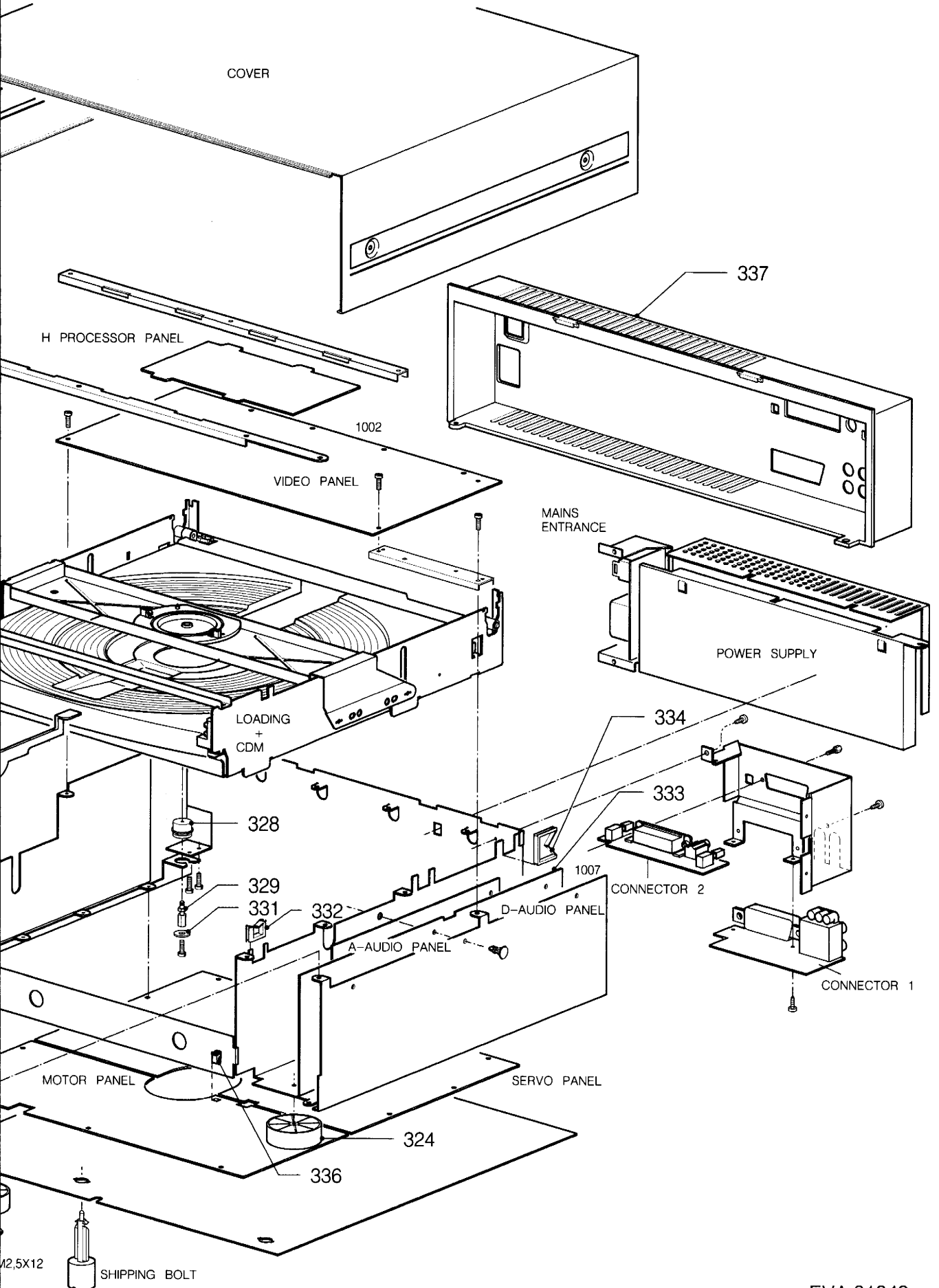
321

322

DISPLAY PANEL

HEADPHONE PANEL
1006

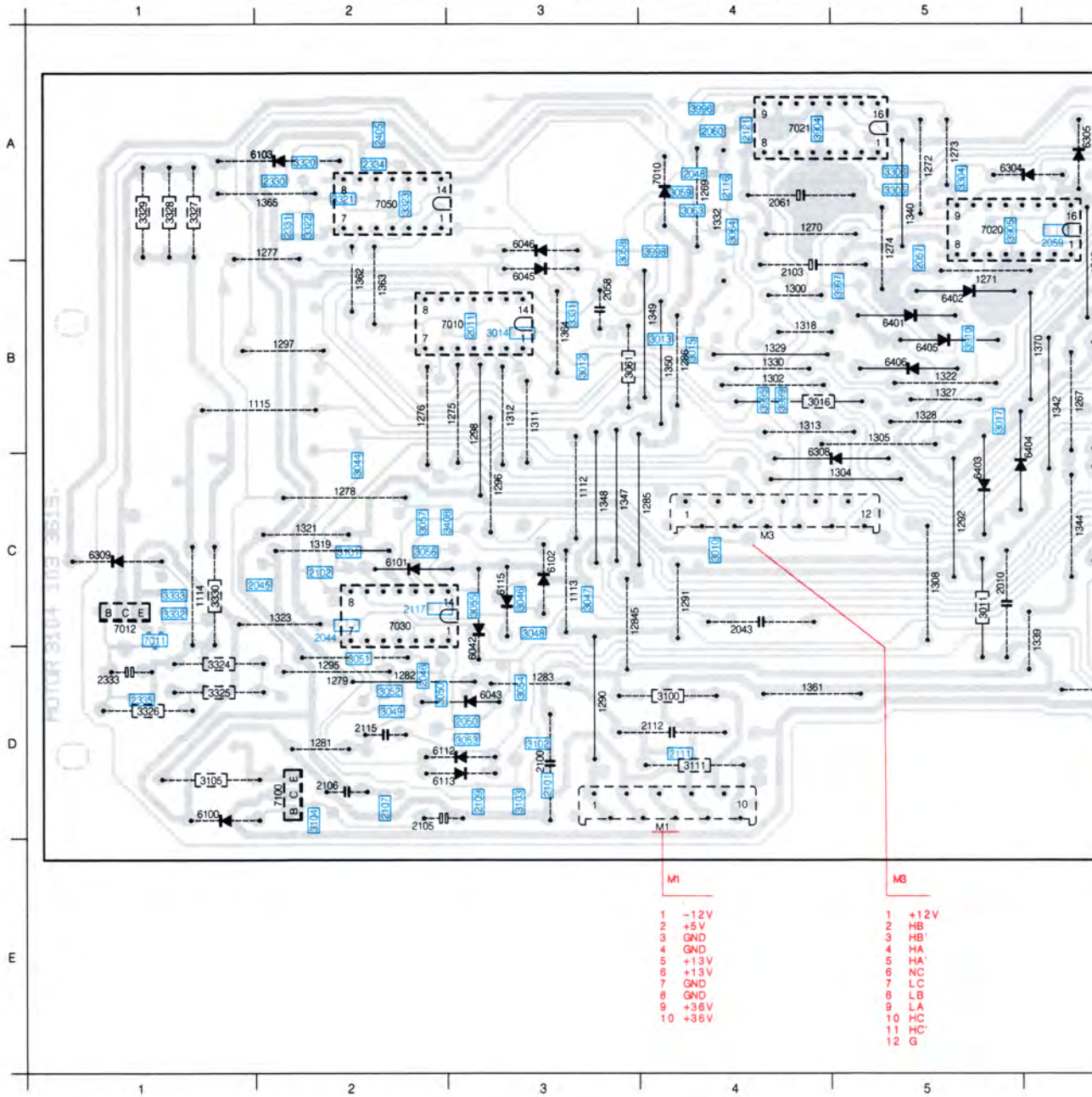




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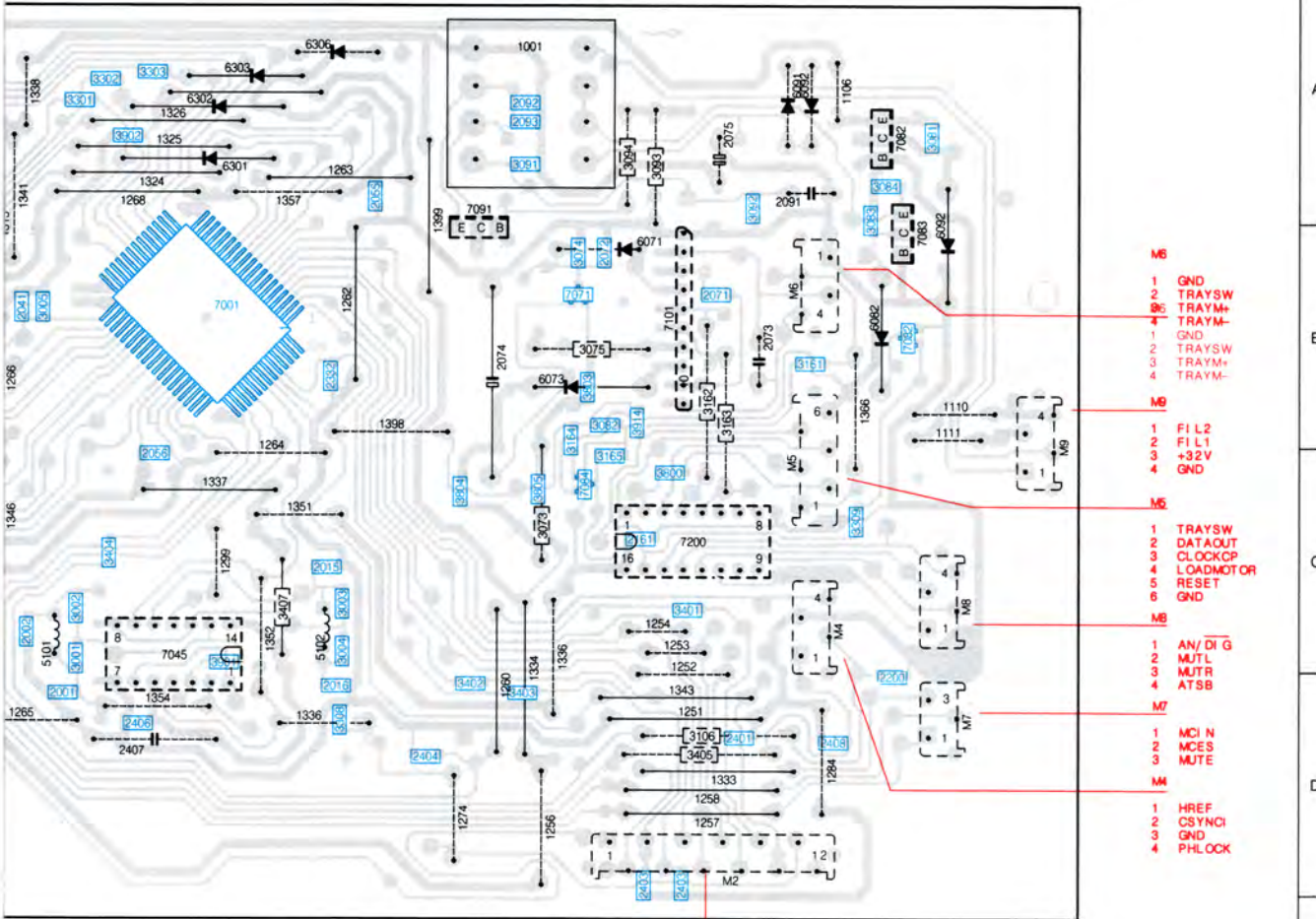
6.10 MOTORPANEL SOLDERSIDE

M1	D4	1115	B1	1269	A4	1285	C4	1312	B3	1333	D9	1350	B4	2010	C5	2060	A4	2107	D2	2401	D8	3013	B4
M2	D9	1251	D9	1270	A4	1286	B4	1313	B4	1334	D8	1351	C7	2011	B3	2061	A4	2108	D3	2403	E9	3014	B3
M3	C4	1252	C9	1271	B5	1290	D3	1315	B6	1336	C8	1352	C7	2015	C7	2071	B9	2111	D4	2403	E9	3015	B4
M4	C10	1253	C9	1272	A5	1291	C4	1318	B4	1336	D7	1354	D7	2016	D7	2072	B9	2112	D4	2404	D8	3016	B4
M5	C9	1254	C9	1273	A5	1292	C5	1319	C2	1337	C7	1357	A7	2041	B6	2073	B9	2115	D2	2405	A2	3017	B5
M6	B9	1256	D8	1274	A5	1295	D2	1321	C2	1338	A6	1361	D4	2043	C4	2074	B8	2116	A4	2406	D6	3044	C2
M7	D10	1257	D9	1274	D8	1296	C3	1322	B5	1339	D6	1362	B2	2044	C2	2075	A9	2117	C2	2407	D6	3046	C3
M8	C10	1258	D9	1275	B3	1297	B2	1323	C2	1340	A5	1363	B2	2045	C1	2091	A9	2121	A4	2408	D10	3047	C3
M9	C11	1260	D8	1276	B2	1298	B3	1324	A6	1341	A6	1364	B3	2046	D2	2092	A8	2161	C9	3001	D6	3048	C3
1001	A8	1262	B7	1277	A2	1299	C7	1325	A7	1342	B6	1365	A2	2048	A4	2093	A8	2200	D10	3002	C6	3049	D2
1106	A10	1263	A7	1278	C2	1300	B4	1326	A7	1343	D9	1366	B10	2050	D3	2100	D3	2330	A2	3003	C7	3050	D2
1110	B10	1264	C7	1279	D2	1302	B4	1327	B5	1344	C6	1370	B6	2055	A8	2101	D3	2331	A2	3004	C7	3051	D2
1111	B10	1265	D6	1281	D2	1304	C4	1328	B5	1346	C6	1398	B8	2056	C7	2102	C2	2332	B7	3005	B6	3052	D2
1112	C3	1266	B6	1282	D2	1305	B5	1329	B4	1347	C3	1399	B8	2057	B5	2103	B4	2333	D1	3010	C4	3053	D3
1113	C3	1267	B6	1283	D3	1308	C5	1330	A4	1348	C3	1401	D5	2058	B3	2105	D2	2334	A2	3011	C5	3054	D3
1114	C1	1268	A6	1284	D10	1311	B3	1332	A4	1349	B4	1402	C6	2059	A6	2106	D2	2335	D1	3012	B3	3055	C3



3056 C2	3093 A9	3302 A6	3329 A1	3901 C7	6046 A3	6302 A7	7011 C1	12845 C3
3057 C2	3094 A9	3303 A7	3330 C1	3902 A6	6071 B9	6303 A7	7012 C1	
3058 B3	3100 D4	3304 A5	3331 B3	3904 A4	6073 B8	6304 A5	7020 A5	
3059 A4	3101 C2	3305 A5	3332 C1	3905 A5	6082 B10	6305 A6	7021 A4	
3061 B3	3102 D3	3306 A5	3333 C1	3910 B5	6091 A9	6306 A7	7030 C2	
3063 A4	3103 D3	3308 D7	3401 C9	3914 B9	6092 A9	6308 C4	7045 C7	
3064 A4	3104 D2	3309 C10	3402 D8	3995 B4	6092 B10	6309 C1	7050 A2	
3073 C8	3105 D1	3320 A2	3403 D8	3996 A4	6100 D1	6401 B5	7071 B8	
3074 B8	3106 D9	3321 A2	3404 C6	3997 B5	6101 C2	6402 B5	7082 A10	
3075 B8	3111 D4	3322 A2	3405 D9	3998 A4	6102 C3	6403 C5	7082 B10	
3081 A10	3161 B9	3323 A2	3407 C7	3999 B4	6103 A1	6404 C6	7083 B10	
3082 B9	3162 B9	3324 D1	3408 C3	5101 C6	6103 A1	6405 B5	7084 C9	
3083 B10	3163 B9	3325 D1	3800 C9	5102 C7	6112 D2	6406 B5	7091 A8	
3084 A10	3164 C8	3326 D1	3803 B9	6042 D3	6113 D2	7001 B7	7100 D2	
3091 A8	3165 C9	3327 A1	3804 C8	6043 D3	6115 C3	7010 A4	7101 B9	
3092 A9	3301 A6	3328 A1	3805 C8	6045 B3	6301 A7	7010 B2	7200 C9	

6 | 7 | 8 | 9 | 10 | 11



- M6**
- 1 GND
- 2 TRAYSW
- 3 TRAYM-
- 4 TRAYM-
- M9**
- 1 GND
- 2 TRAYSW
- 3 TRAYM+
- 4 TRAYM-
- M5**
- 1 FIL L2
- 2 FIL L1
- 3 +32V
- 4 GND
- M6**
- 1 TRAYSW
- 2 DATAOUT
- 3 CLOCKCP
- 4 LOADMOTOR
- 5 RESET
- 6 GND
- M8**
- 1 AN/DI G
- 2 MJTL
- 3 MJTR
- 4 ATSB
- M7**
- 1 MCI N
- 2 MCES
- 3 MJTE
- M4**
- 1 HREF
- 2 CSYNCI
- 3 GND
- 4 PHLOCK

- M2**
- 1 TACHO18
- 2 MJTE
- 3 M/I
- 4 M/I
- 5 DI N
- 6 DOUT
- 7 SCKN
- 8 RNW
- 9 TACHO
- 10 RESET
- 11 PLN
- 12 NC

6 | 7 | 8 | 9 | 10 | 11

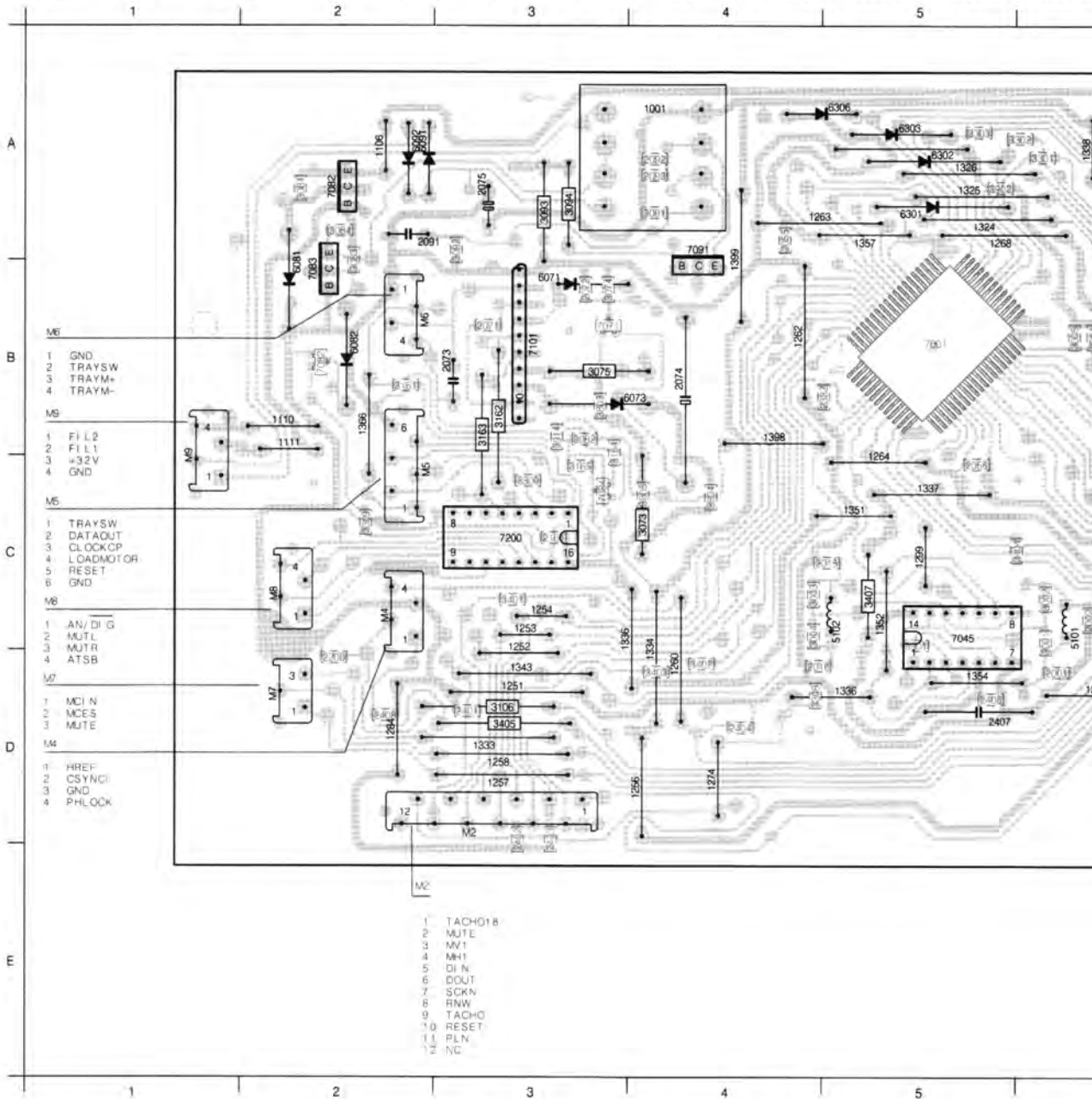
PCB 01871
T27/001

6.9 PARTSLIST OF MOTOR PANEL

1001	4822 148 80876	E20GAP3C8	7001	4822 209 60626	DSC-M2
3073	4822 111 30492	2Ω NFR25	7010	4822 209 80587	LM324N
3075	4822 111 30517	22Ω NFR25	7011	5322 130 41982	BC848B
3093	4822 111 30492	2Ω NFR25	7012	5322 130 44647	BC368
3094	4822 111 30492	2Ω NFR25	7020	4822 209 60628	LM18293N
3100	4822 111 30499	4Ω7 NFR25	7021	4822 209 60628	LM18293N
3105	4822 111 30483	1Ω NFR25	7030	4822 209 70691	MC34004P
3111	4822 111 30508	10Ω NFR25	7040	4822 209 72542	MC74HC00N
3330	4822 111 30483	1Ω NFR25	7050	4822 209 62092	MC14070BCP
3407	4822 111 30508	10Ω NFR25	7071	5322 130 41983	BC858B
5101	4822 242 72046	7,5 MHz	7081	4822 130 40937	BC548B
6042	4822 130 31983	BAT85	7082	5322 130 41982	BC848B
6043	4822 130 31983	BAT85	7083	4822 130 41691	BC556B
6045	4822 130 30621	1N4148	7084	5322 130 41982	BC848B
6046	4822 130 30621	1N4148	7091	4822 130 40855	BC337
6071	4822 130 30861	BZX55-C7V5	7100	5322 130 44647	BC368
6073	4822 130 81908	EGP20B	7101	4822 209 82059	BA6109
6081	4822 130 34328	BZX55-B30	7200	5322 209 10421	MC14094BCP
6082	4822 130 34197	BZX55-C12			
6091	4822 130 30621	1N4148			
6092	4822 130 30621	1N4148			
6100	4822 130 34197	BZX55-C12			
6101	4822 130 31983	BAT85			
6102	4822 130 30621	1N4148			
6103	4822 130 31983	BAT85			
6112	4822 130 30621	1N4148			
6113	4822 130 30621	1N4148			
6114	4822 130 31983	BAT85			
6115	4822 130 30621	1N4148			
6201	4822 130 30621	1N4148			
6203	4822 130 30621	1N4148			
6301	4822 130 31983	BAT85			
6302	4822 130 31983	BAT85			
6303	4822 130 31983	BAT85			
6304	4822 130 31983	BAT85			
6305	4822 130 31983	BAT85			
6306	4822 130 31983	BAT85			
6308	4822 130 30621	1N4148			
6309	4822 130 30621	1N4148			
6401	4822 130 81908	EGP20B			
6402	4822 130 81908	EGP20B			
6403	4822 130 81908	EGP20B			
6404	4822 130 81908	EGP20B			
6405	4822 130 81908	EGP20B			
6406	4822 130 81908	EGP20B			

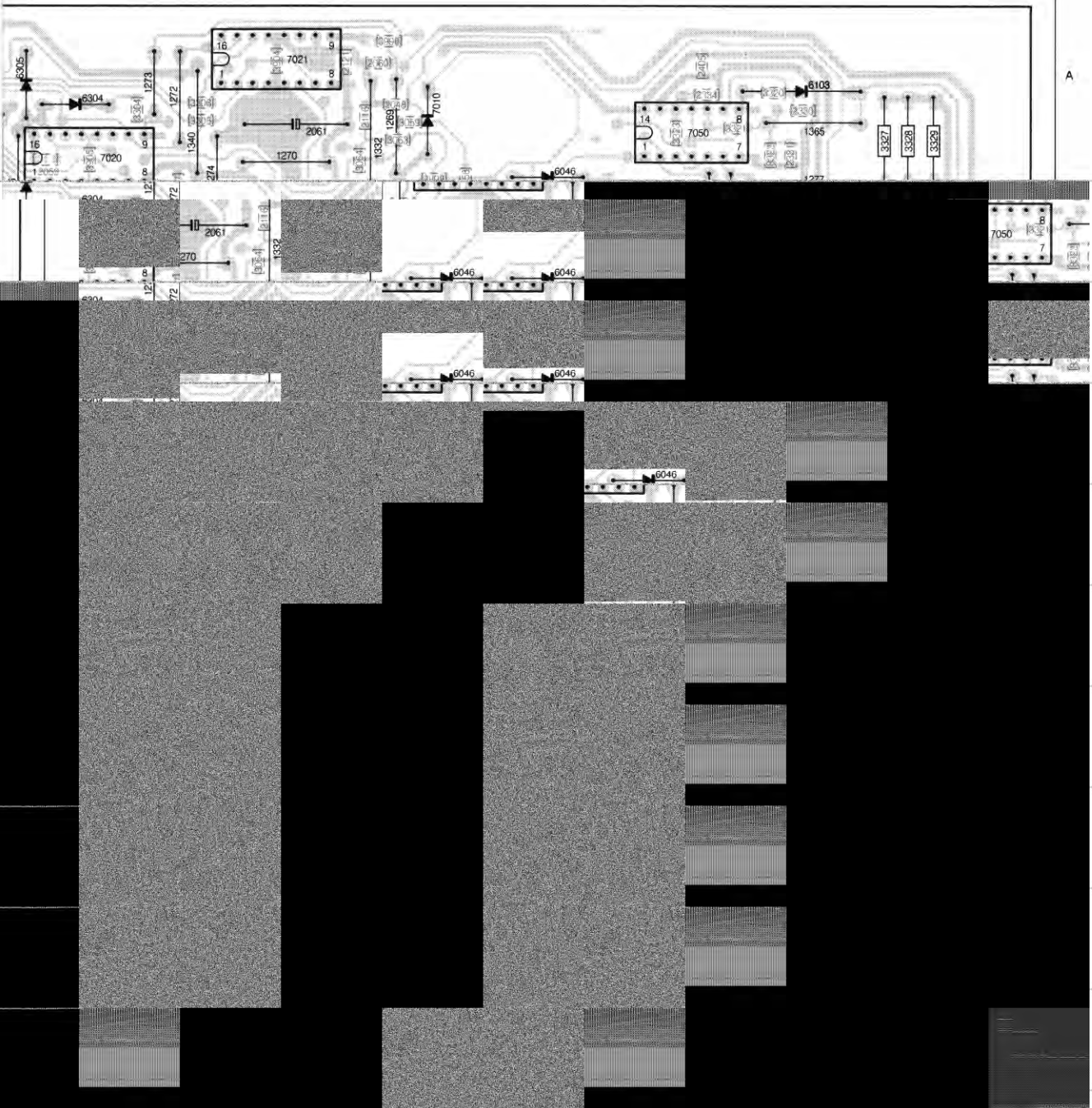
6.11 MOTORPANEL COMP.SIDE

M1 D8	1253 C3	1274 D4	1299 C5	1328 B7	1349 B8	2015 C4	2074 B4	2161 C3	3004 C4	3054 D8	3094 A5
M2 D3	1254 C3	1275 B9	1300 B7	1329 B8	1350 B8	2016 D4	2075 A3	2200 D2	3005 B6	3055 C9	3100 D8
M3 C8	1256 D4	1276 B10	1302 B8	1330 B8	1351 C5	2041 B6	2075 A3	2330 A10	3010 C8	3056 C9	3101 C8
M4 C2	1257 D3	1277 A10	1304 C7	1332 A8	1352 C5	2043 C8	2092 A4	2331 A10	3011 C7	3057 C10	3102 D9
M5 C2	1258 D3	1278 C10	1305 B7	1333 D3	1354 D5	2044 C10	2093 A4	2332 B5	3012 B9	3058 B8	3103 D9
M6 B2	1260 D4	1279 D10	1308 C7	1334 D4	1357 A5	2045 C10	2100 D9	2333 D11	3013 B8	3059 A8	3104 D7
M7 D2	1262 B4	1281 D10	1311 B9	1336 D4	1361 D7	2046 D10	2101 D9	2334 A10	3014 B9	3061 B8	3105 D7
M8 C2	1263 A4	1282 D10	1312 B9	1336 D5	1362 B10	2048 A8	2102 C10	2335 D11	3015 B8	3063 A8	3106 D7
M9 C1	1264 C5	1283 D9	1313 B7	1337 C5	1363 B10	2050 D9	2103 B8	2401 D3	3016 B7	3064 A8	3111 D7
1001 A4	1265 D6	1284 D2	1315 B6	1338 A6	1364 B9	2055 A4	2105 D9	2402 E3	3017 B6	3073 C4	3161 B2
1106 A2	1266 B6	1285 C8	1318 B7	1339 D6	1365 A10	2056 C5	2106 D10	2403 E3	3044 C10	3074 B3	3162 B2
1110 B2	1267 B6	1286 B8	1319 C10	1340 A7	1366 B2	2057 B7	2107 D10	2404 D4	3046 C9	3075 B3	3163 B2
1111 B2	1268 A5	1290 D9	1321 C10	1341 A6	1370 B6	2058 B9	2109 D9	2405 A10	3047 C9	3081 A2	3164 C2
1112 C9	1269 A8	1291 C8	1322 B7	1342 B6	1388 B4	2059 A6	2111 D8	2406 D5	3048 C9	3082 B3	3165 C2
1113 C9	1270 A7	1292 C7	1323 C10	1343 D3	1399 B4	2060 A8	2112 D8	2407 D5	3049 D10	3083 B2	3301 A8
1114 C11	1271 B7	1295 D10	1324 A5	1344 C6	2001 D6	2061 A8	2115 D10	2408 D2	3050 D9	3084 A2	3302 A5
1115 B10	1272 A7	1296 C9	1325 A5	1346 C6	2002 C6	2071 B3	2116 A8	3001 D6	3051 D10	3091 A4	3303 A5
1251 D3	1273 A7	1297 B10	1326 A5	1347 C6	2010 C7	2072 B3	2117 C9	3002 C6	3052 D10	3092 A3	3304 A5
1252 D3	1274 B7	1298 B9	1327 B7	1348 C9	2011 B9	2073 B3	2121 A8	3003 C4	3053 D9	3093 A3	3305 A5



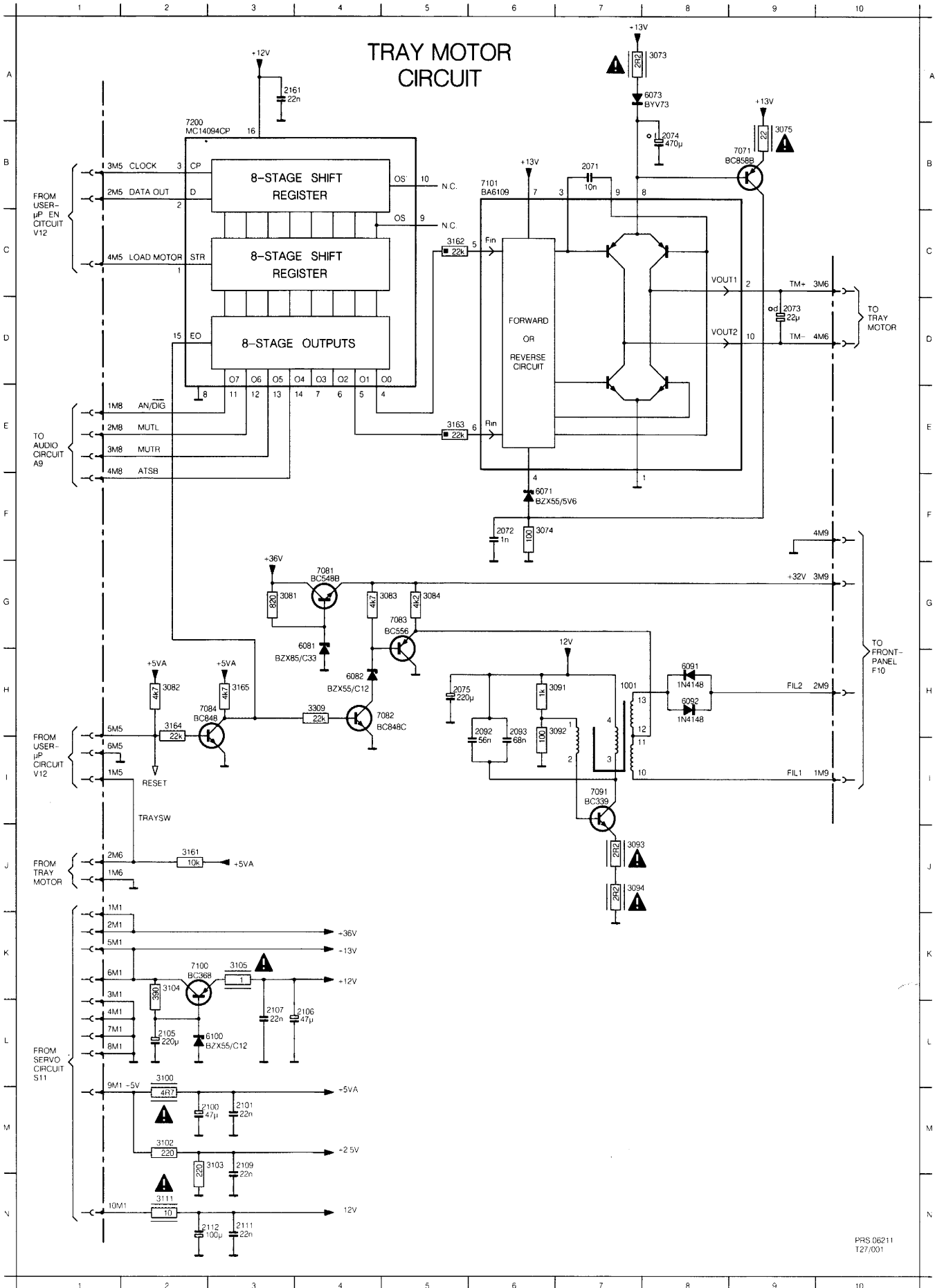
3306 A7	3403 D4	3999 B8	6113 D9	7011 C11
3308 D4	3404 C6	5101 C6	6115 C9	7012 C11
3309 C2	3405 D3	5102 C5	6301 A5	7020 A6
3320 A10	3407 C5	6042 D9	6302 A5	7021 A7
3321 A10	3408 C9	6043 D9	6303 A5	7030 C10
3322 A10	3800 C3	6045 B9	6304 A6	7045 C5
3323 A10	3803 B3	6046 A9	6305 A6	7050 A10
3324 D11	3804 C4	6071 B3	6306 A5	7071 B3
3325 D11	3805 C4	6073 B3	6308 C7	7082 A2
3326 D11	3901 C5	6081 B2	6309 C11	7082 B2
3327 A11	3902 A5	6082 B2	6401 B7	7083 B2
3328 A11	3904 A7	6091 A2	6402 B7	7084 C3
3329 A11	3905 A6	6092 A2	6403 C7	7091 A4
3330 C11	3910 B7	6100 D11	6404 C6	7100 D10
3331 B9	3914 B3	6101 C10	6405 B7	7101 B3
3332 C11	3995 B8	6102 C9	6406 B7	7200 C3
3333 C11	3996 A8	6103 A10	7001 B5	12845 C8
3401 C3	3997 B7	6103 A10	7010 A8	
3402 D4	3998 A8	6112 D9	7010 B9	

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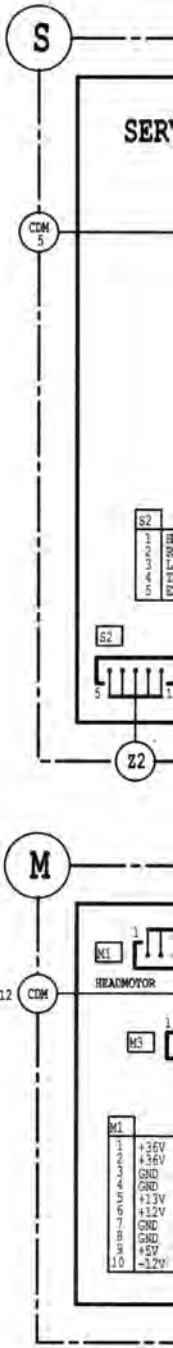
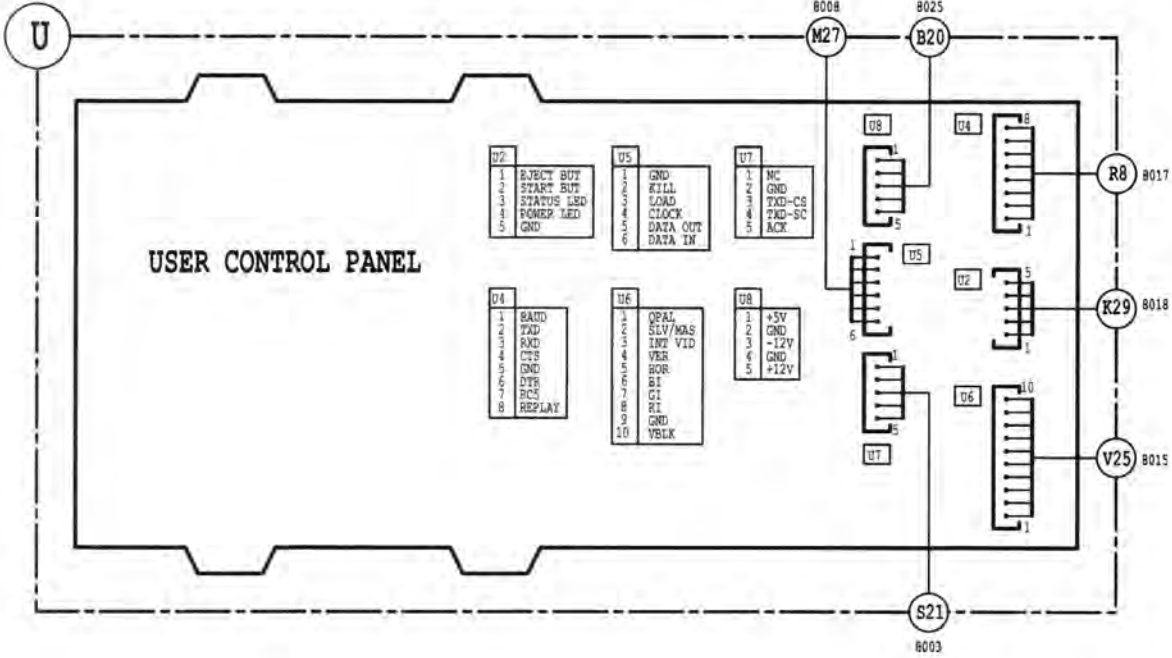
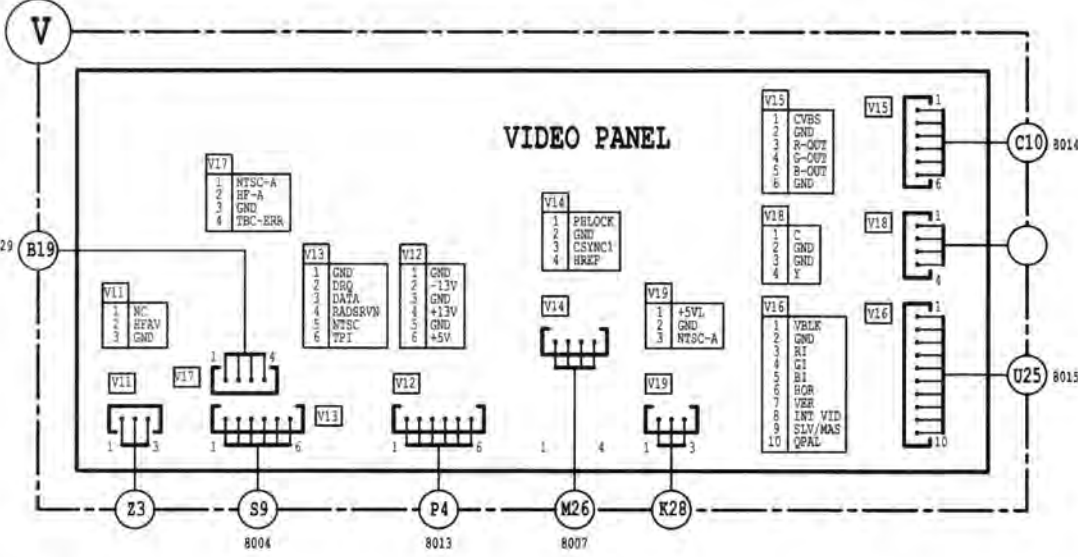
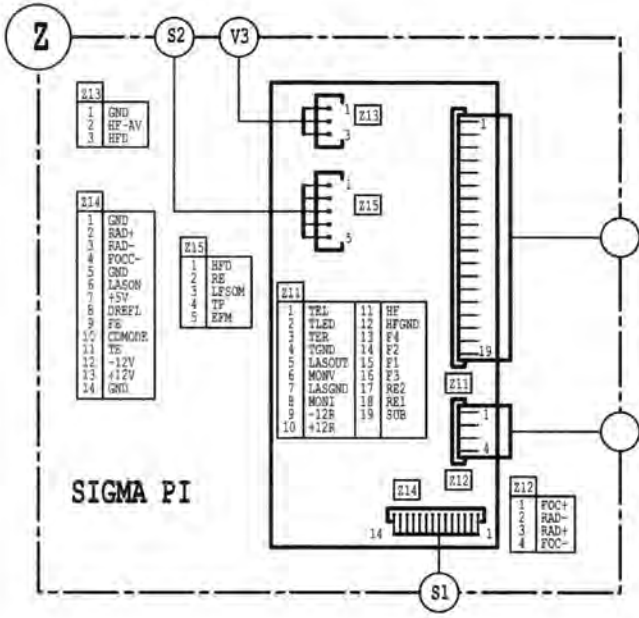


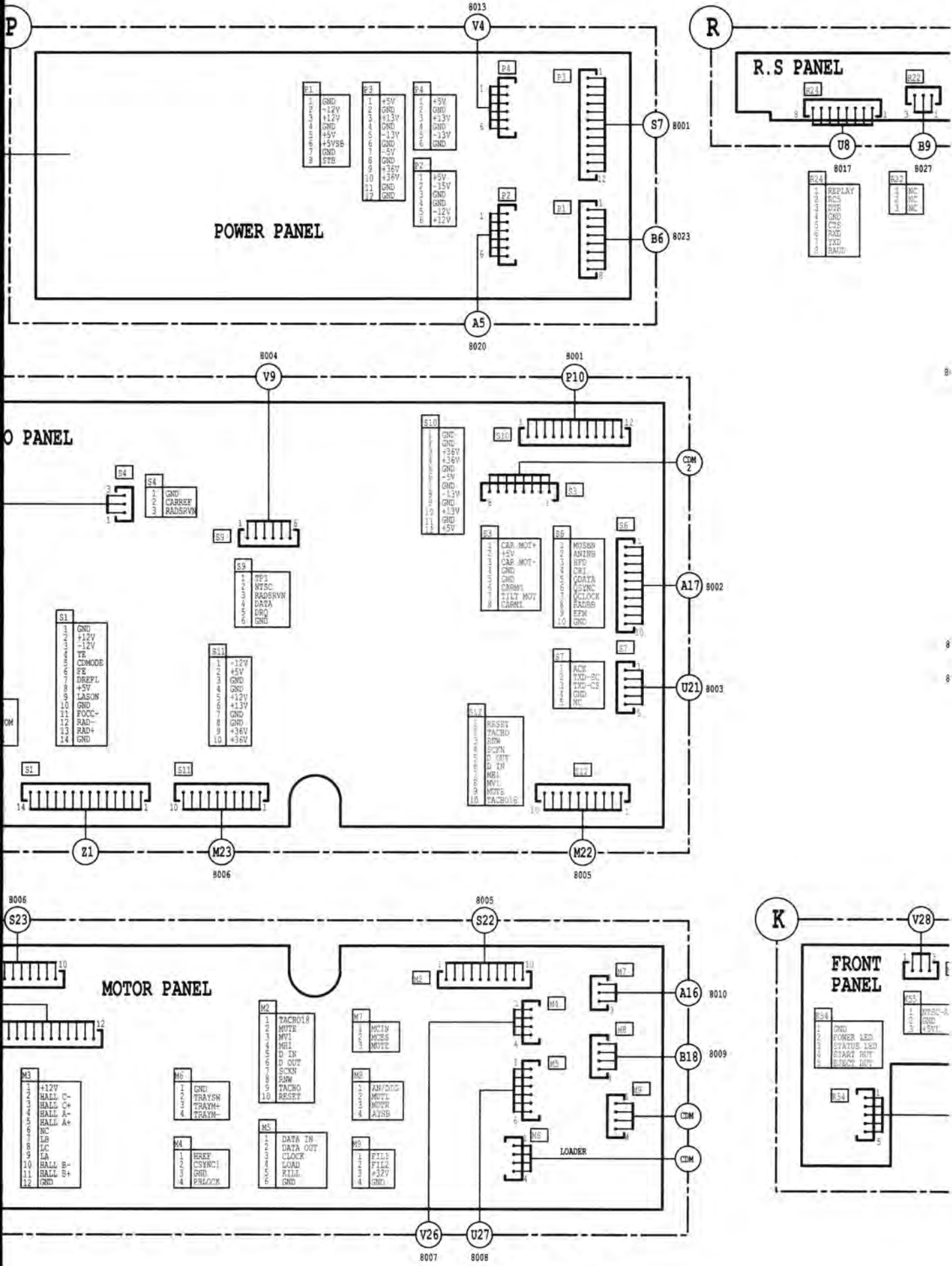
6.12 TRAYMOTOR CIRCUITDIAGRAM

1001	G 7	2075	G 5	2105	L 2	2112	N 3	3081	F 3	3092	H 7	3103	M 3	3162	C 5	6071	F 6	6092	G 8	7084	H 3
2071	B 7	2092	H 6	2106	L 4	2161	A 4	3082	G 2	3093	I 7	3104	K 2	3163	E 5	6073	A 8	6100	L 3	7091	I 7
2072	F 6	2093	H 6	2107	L 3	3073	A 8	3083	F 5	3094	J 7	3105	K 3	3164	H 2	6081	G 4	7071	B 9	7100	K 2
2073	D 9	2100	M 3	2109	M 3	3074	F 6	3084	F 5	3100	L 2	3111	N 2	3165	G 3	6082	G 4	7081	F 4	7101	B 6
2074	B 8	2101	M 3	2111	N 3	3075	B 9	3091	G 7	3102	M 2	3161	J 2	3309	H 4	6091	G 8	7082	H 5	7200	B 2

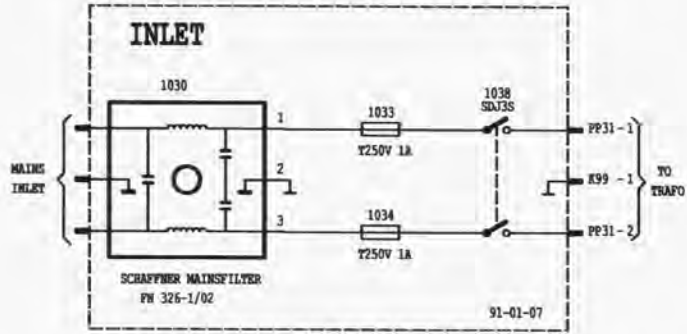


Wiring diagram

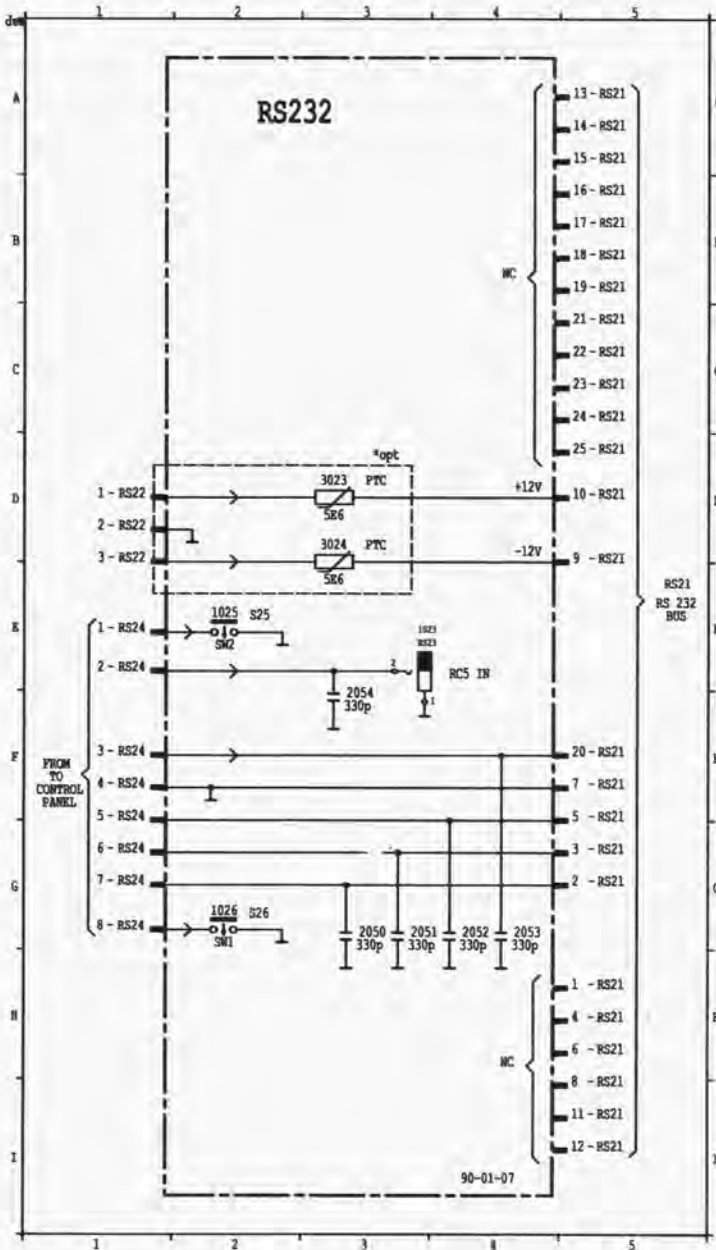




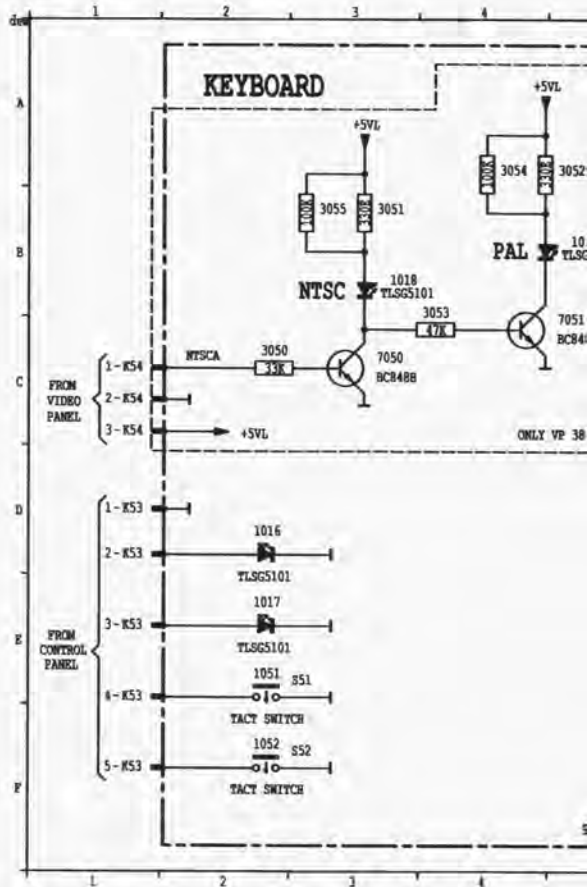
Multipanel diagrams

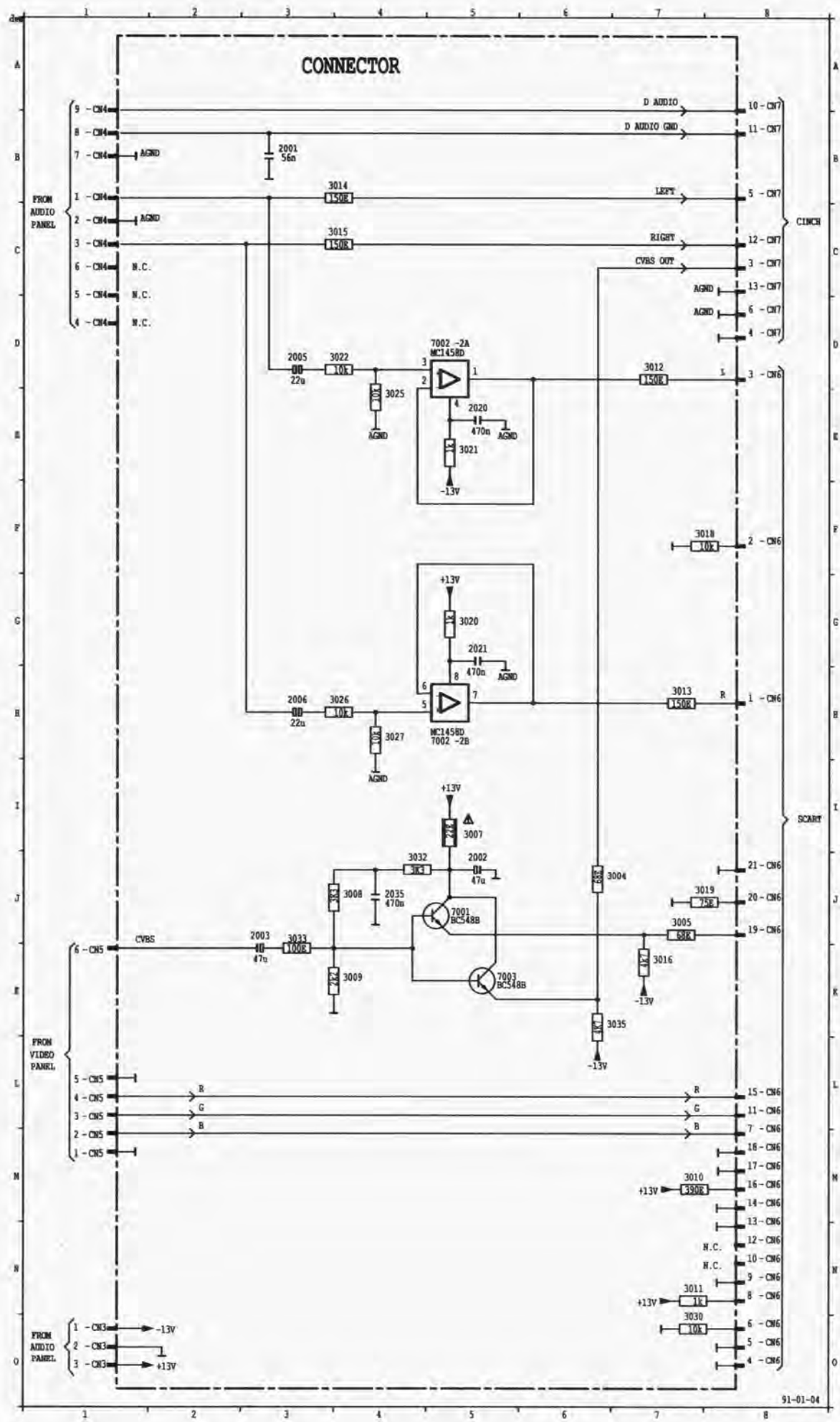


1023	B	2053	G 4	RS24	P 1
1025	B	2054	F 4		
1026	B	3023	D		
2050	B	3024	D		
2051	B	RS21	D		
2052	B	RS22	D 1		



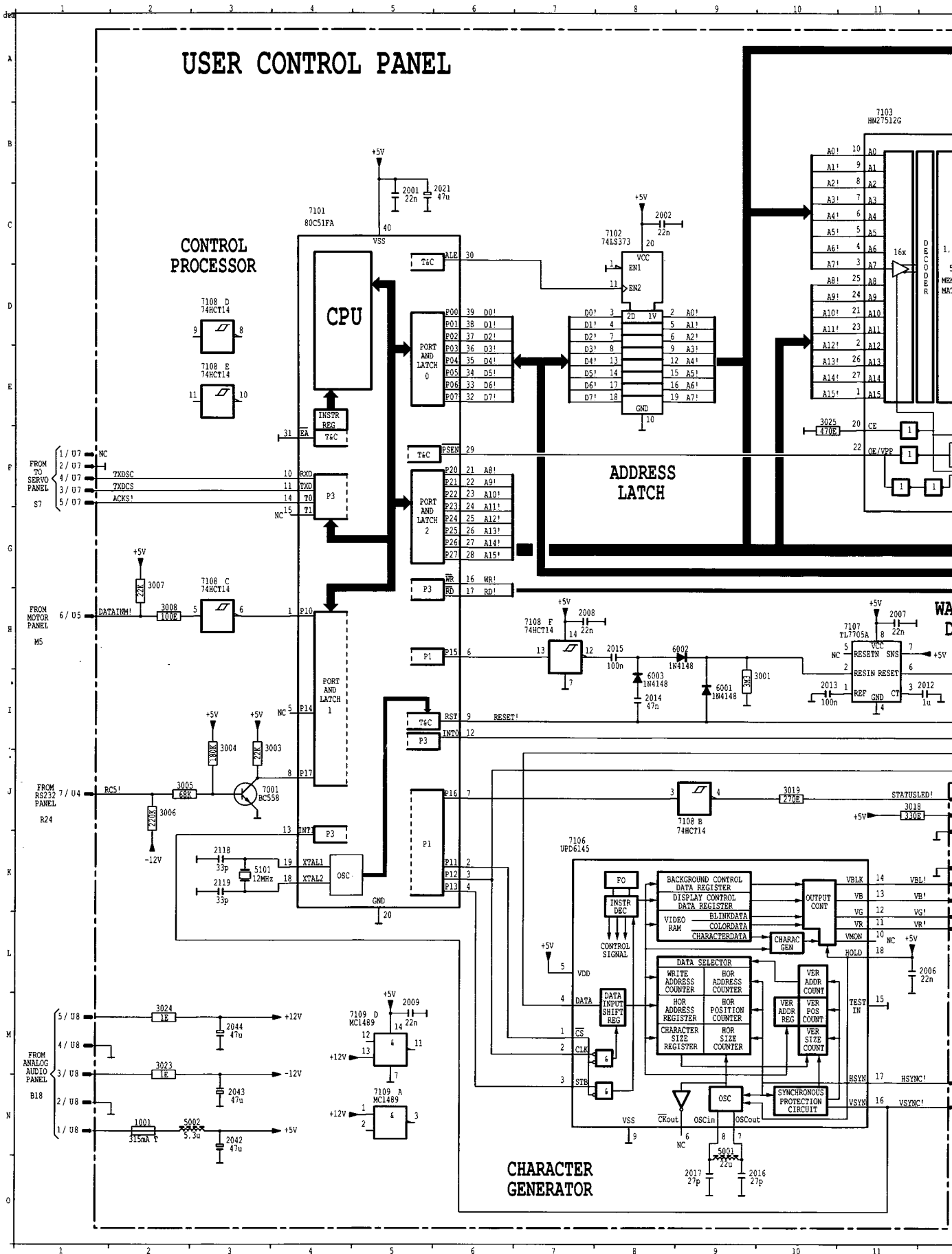
1016	D 2	1051	B	3052	A 5	7050	C 3
1017	B 2	1052	B	3053	B 4	7051	B C 3
1018	B 3	3050	B C 3	3054	A 4	RS3	B C 1
1019	B 5	3051	B C 3	3055	B 3	RS4	C 1



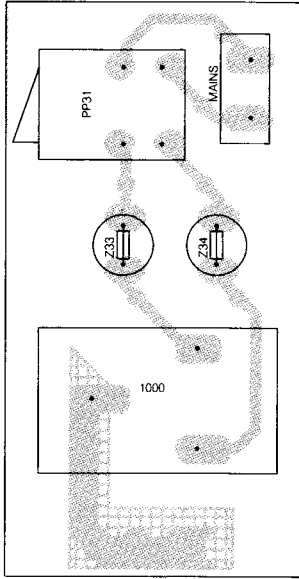


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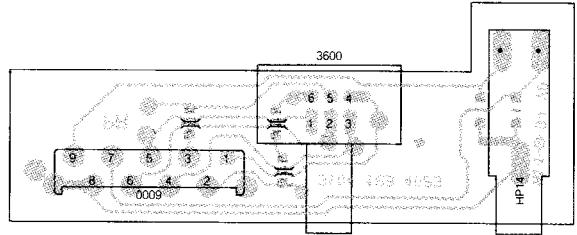
μProcessor diagram



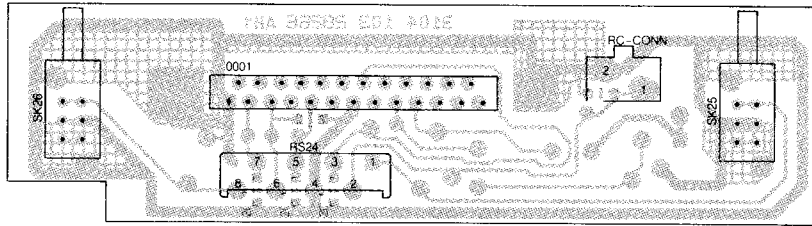
Multipanel lay-out



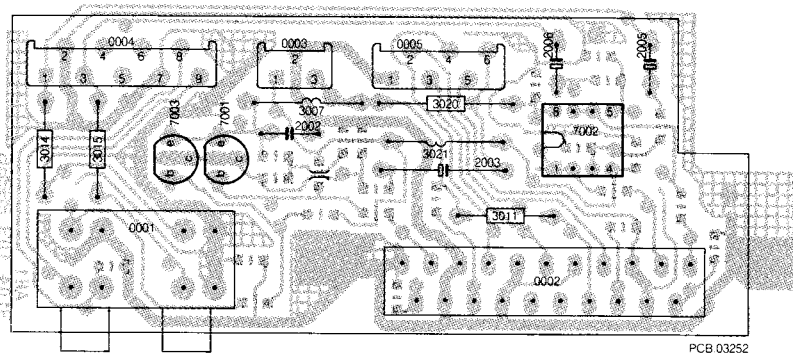
PCB 03259
T21/121



PCB 03193
T21/122

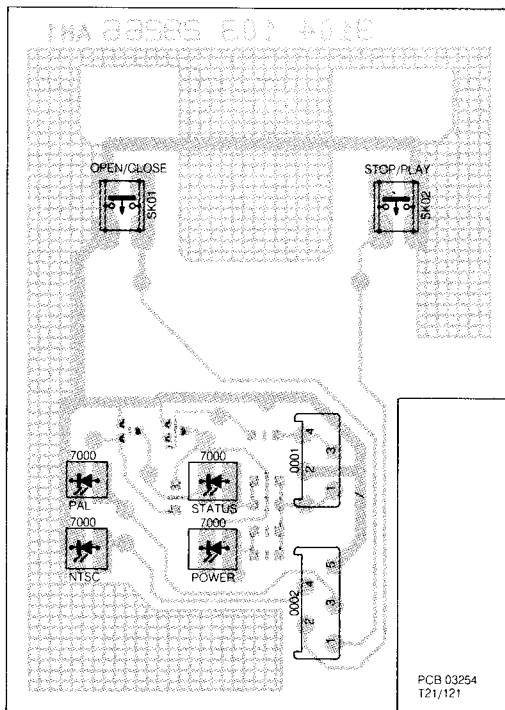


PCB 03253
T21/121



PCB 03252
T21/121

PARTSLIST MULTIPANEL VP380



6	4822 267 60243	EUROCONN. SOCKET
7	4822 214 51806	JACK BOARD JALLO 4P
25	4822 276 11301	SWITCH
26	4822 276 11301	SWITCH
27	4822 410 23697	KNOB UNIT
28	4822 410 23697	KNOB UNIT
31	4822 265 40596	CONNECTOR ASSY
33	4822 071 51002	FUSE T 1,00 A
34	4822 071 51002	FUSE T 1,00 A
38	4822 276 12913	MAINS SWITCH
39	4822 265 20492	MAINS SOCKET
39	4822 218 10387	MAINS FILTER
51	4822 276 12276	TACT SWITCH
52	4822 276 12276	TACT SWITCH

2005	4822 124 41557	B1P 22MU 10V
2006	4822 124 41557	B1P 22MU 10V
2506	4822 124 41557	BIP 22 MU 10V
2508	4822 124 41557	BIP 22 MU 10V

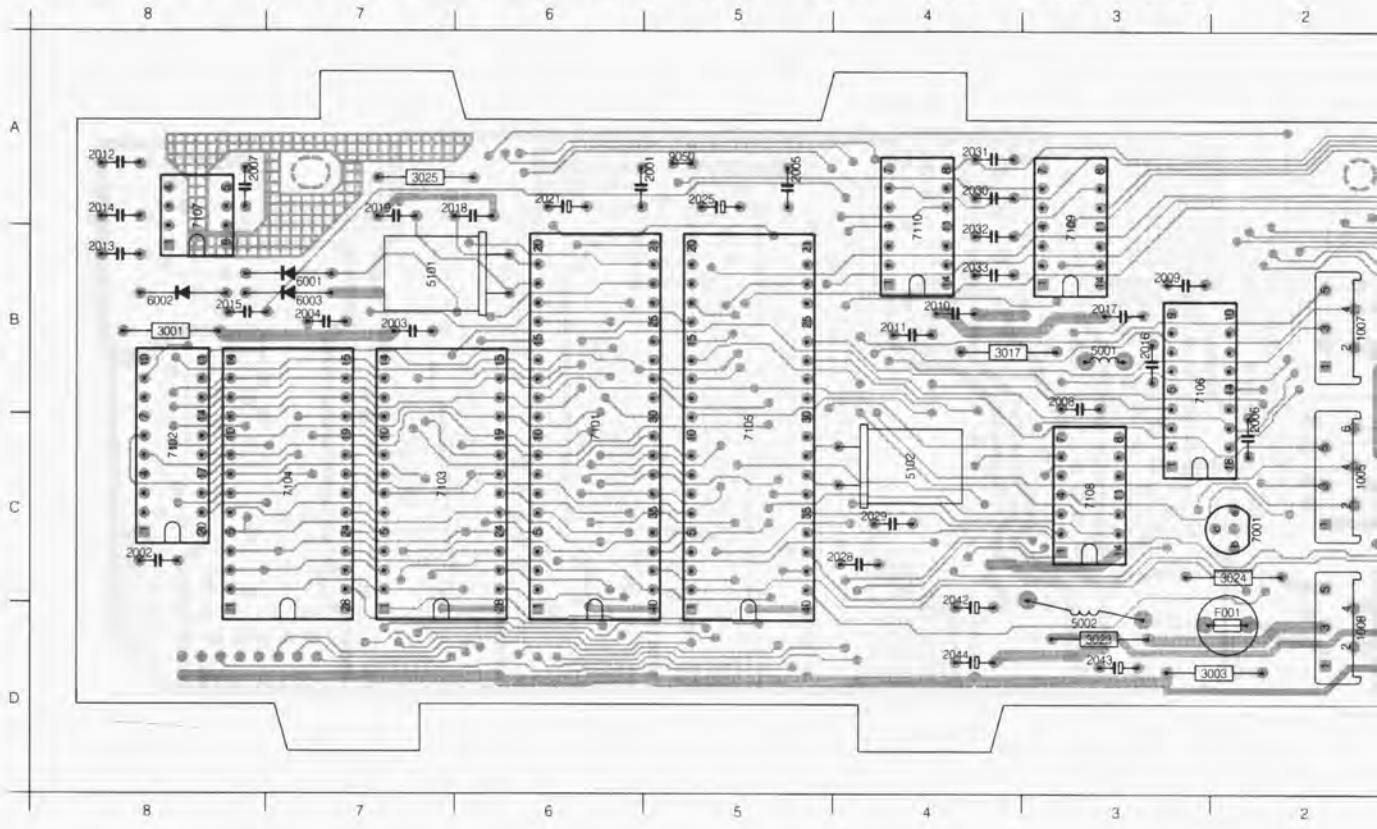
3007	4822 052 10229	NFR25 22R
3518	4822 052 10478	NFR25 4R7
3530	4822 052 10479	NFR25 47R

7001	4822 130 40937	BC548B
7002	5322 209 84488	LM1458N

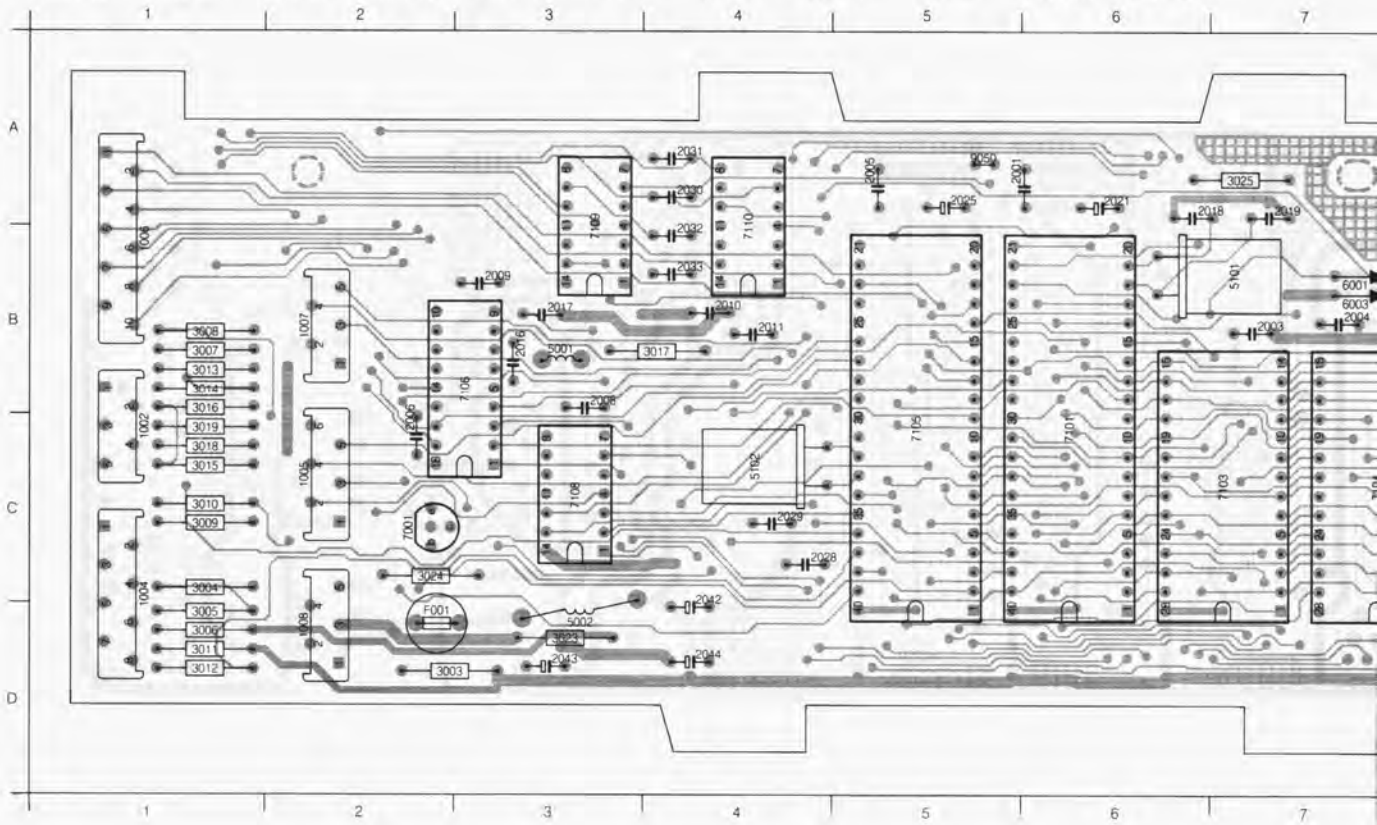
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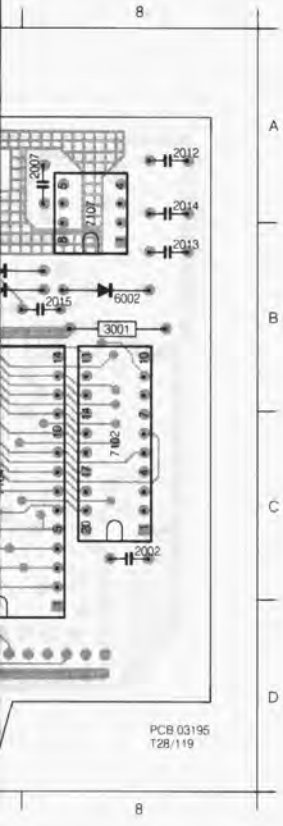
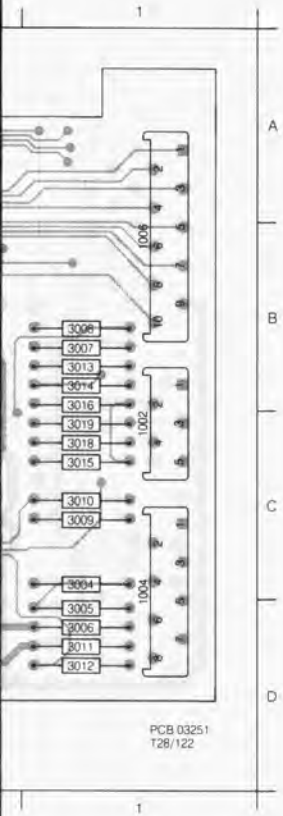
μProcessor lay-out

1002 C1	2002 C8	2009 B3	2016 B3	2029 C4	2044 D4	3008 B1	3015 C1	3025 A7	6003 B7	7106 B3
1004 D1	2003 B7	2010 B4	2017 B3	2030 A4	3001 B8	3009 C1	3016 B1	5001 B3	7001 C2	7107 B8
1005 C2	2004 B7	2011 B4	2018 A6	2031 A4	3003 D2	3010 C1	3017 B4	5002 D3	7101 C6	7108 C3
1006 B1	2005 A5	2012 A8	2019 A7	2032 B4	3004 C1	3011 D1	3018 C1	5101 B7	7102 C8	7109 B3
1007 B2	2006 C2	2013 B8	2021 A6	2033 B4	3005 D1	3012 D1	3019 C1	5102 C4	7103 C7	7110 B4
1008 D2	2007 A8	2014 A8	2025 A5	2042 D4	3006 D1	3013 B1	3023 D3	6001 B7	7104 C7	9050 A5
2001 A5	2008 B3	2015 B8	2028 C4	2043 D3	3007 B1	3014 B1	3024 C2	6002 B8	7105 C5	F001 D2



1002 C1	2002 C8	2009 B3	2016 B3	2029 C4	2044 D4	3008 B1	3015 C1	3025 A7	6003 B7	7106 B3
1004 D1	2003 B7	2010 B4	2017 B3	2030 A4	3001 B8	3009 C1	3016 B1	5001 B3	7001 C2	7107 B8
1005 C2	2004 B7	2011 B4	2018 A6	2031 A4	3003 D2	3010 C1	3017 B4	5002 D3	7101 C6	7108 C3
1006 B1	2005 A5	2012 A8	2019 A7	2032 B4	3004 C1	3011 D1	3018 C1	5101 B7	7102 C8	7109 B3
1007 B2	2006 C2	2013 B8	2021 A6	2033 B4	3005 D1	3012 D1	3019 C1	5102 C4	7103 C7	7110 B4
1008 D2	2007 A8	2014 A8	2025 A5	2042 D4	3006 D1	3013 B1	3023 D3	6001 B7	7104 C7	9050 A5
2001 A5	2008 B3	2015 B8	2028 C4	2043 D3	3007 B1	3014 B1	3024 C2	6002 B8	7105 C5	F001 D2





VIDEO SIGNAL PAHT DESCRIPTION

1.1 High frequency input

The HF-AV signal enters the video panel on connector 2V11/.

The HF-A (analog audio) leaves the video panel via buffer 7312 on connector 2V17. The amplitude of the HF-AV is 400 mV at the CAV disk-inside and 800 mV at the CAV disk outside.

The video HF is then split-up in a PAL- and NTSC branch.

The PAL-branch via buffer 7315 consists of a 1,7 MHz HPF-5304 and a double notch-filter 5311-684 kHz and 5313-1066 kHz to remove the analog audio carriers.

The NTSC-branch via buffer 7316 consists of a 3,22 MHz HPF-5300 and a double notch-filter 5308-2,3 MHz and 5316-2,8 MHz to remove the analog audio carriers.

After this a LPF of 14 MHz-5314 and 5315 for both the PAL and NTSC-signal.

1.2 Modulation transfer function

The filtered HF-video signal comes at pin 7 of 7903-A. Here the MTF takes place for PAL with 5305-8 MHz and for NTSC with 5303-10 MHz. In 7903-B the MTF-corrected signal is amplified 8 dB.

1.3 Demodulation

In 7903-C the signal at pin 14 is demodulated. Between pin 18 and 23 a separate LPF for PAL and NTSC takes place. For PAL via 5317-5 MHz and for NTSC via 53123-4,2 MHz 7901 is a video switch for PAL/NTSC.

In 7903-C pin 23 deemphasis takes place for PAL and NTSC. For NTSC 3387, 2387 and 3319 are switched parallel to 3333 and 2325. The AGC control will keep the video amplitude on pin 29 at 0,85 Vpp.

1.4 Drop out correction

The next part of 7903-C is the drop-out function. Drop-outs are detected in the limiter and via block D.O.D. a DRQ (data request) on pin 17 can be blocked. The data on pin 25 is for the 24-bit or manchester decoder.

On pin 48 chroma-signal is available not time base corrected. The chroma separator can be adjusted for 3,66 MHz this is the middle of 4,43 MHz (PAL) and 3,58 MHz (NTSC) with 5310 on pin 1.

Pin 2 will provide the composite sync. signal from the disk-video.

Note : 3347, 3382 and 3381 are not mounted because the feed forward servo of the time base correction is not within specification for NTSC.

7902 is the drop-out delay line. the signal at pin 6 is notched at 4,43 MHz with 5302. At pin 7 the F72 clock for NTSC (7,1 MHz is double NTSC chroma carrier) is provided. For PAL an additional delay is needed of 0,5 μ S with 5318 and 5306 switched via 7313 and 7321 because the NTSC delay time is 36,5 μ S.

The drop-out LPF 5301-3,75 MHz is to remove the clock pulse rests. The drop-out amplitude can be adjusted with 3338 for the same amplitude as for the not drop-out signal.

1.5 Time base correction

Between pin 29 of 7903-C and pin 31 of 7903-D the time base is corrected. See chapter time base correction.

5307 removes double carrier rests with a notch on 15,5 MHz.

7904 is the time base correction delay line.

5400 is a LPF of 5,9 MHz for removing the clock pulse rests.

The time base corrected video enters the 7903-D on pin 31 (Part II video schematic) first the signal is controlled for a constant DC-level with 2350, then for the time fault measuring the chroma and composite sync. signals are removed from the video signal and available on respectively pin 44 and 46. On pin 45 the chroma separation filter can be adjusted with 5309 on 3,66 MHz.

1.6 Noise suppression

After the special burst suppression in 7903-D the noise suppression filter is located, this filter is only active via 7318 on high frequencies in the luminance signal. During teletext lines the noise suppression filter is switched off with the VWIN-signal (vertical window) on pin 36.

In NTSC the capacitor 2382 is switched to ground so 2382 and 2383 are switched parallel.

The half picture part in 7903-D is not used.

Before the video signal leaves the 7903-D the signal is amplified to a level of 1 Vpp.

1.7 Video processing

The DC-level after amplifier 7305, 7306 is 3,4V, this signal is split-in a video and a teletext signal line. For teletext the signal part under the black level is cut of in 6811 and 6812 and delayed in 5681 with 400 nS and amplified in 7681 and 7682. In multiplexer 7926 the teletext lines are mixed with the CVBS-signal by means of the TXT.WIN (TXT windows) and INT.VID (Internal video) with respect that no teletext is possible when the player is starting up.

With the SDC2 signal (sand castle 2) the CVBS and TXT-CVBS are clamped on the black level.

The video signal line from C-7306 is split-up in a NTSC and PAL luminance/chrominance dividers. The PAL divider, the lower line in the schematic diagram part II, is the same as in the VP310 also the adjustments are the same.

In the NTSC divider first the signal is delayed one line time. At pin 2 of 5513 is 180° shifted to the signal on C-7511. These two signals are added to remove the sub carrier of

3,58 MHz and becomes available on e-7513, no chrominance is left here. On e-7512 only chrominance is available because the signal on 1-5513 is in phase with the signal on e-7511. Filter 5515 removes luminance rests on 3,58 MHz.

With 5514 the group delay time is corrected (minimum chrominance signal on e-7513). The flatness of the full field multi burst is adjusted with 5515 (with NTSC test disc). Filter 5516 on 3,58 MHz \pm 600 kHz is for limiting the bandwidth.

1.8 RGB decoder/encoder

The RGB multi standard decoder 7922 is adjusted for PAL in the same procedure as for the VP310 after that the specific NTSC-adjustments (HEU and 7,16 MHz loopfilter). The loopfilter on pin 24 and 25 is active for NTSC when the DC-level is low, the filter is responding on the HUE-adjustment potentiometer 3580. In NTSC the H/2 demodulator is controlled with 3559 and for PAL with 3560. SDC1 and SDC2 (sand castle) are added to the frame pulse and feed to pin 7 of 7922.

On pin 12, 14 and 16 the characters are inserted with blanking signal on pin 9.

The RGB output of 7922 on pin 13, 15 and 17 are followed by sync. removers respectively 7601, 7602 and 7610, 7611 and 7612, 7613. After these sync. removers, the filters 5601, 5611 and 5614 will filter the double subcarrier frequency of 7,78 MHz between PAL and NTSC out.

The red and green color signals are going via potmeter 3608 and 3611 for amplitude adjustment to the encoder 7925 pin 2 and 3. the blue signal is going direct to the encoder pin 4. The encoder is functioning to the PAL standards when the Q-PAL line is high the Q-NTSC line is high on pin 7 of 7925. The Q-PAL (Quasi-PAL) will switch the 4,43 MHz subcarrier frequency from X-tall 5675 to pin 6 of 7925 when the Q-PAL signal is low. The RGB output is buffered in the IC and fed to the scart connector. The Y-output on pin 16 is going via a delay line of 270 ns to pin 18 where it is added to the chrominance signal (for PAL and NTSC) chrominance coming from pin 15 is going via a switchable filter (PAL/NTSC) to the encoder pin 17.

On pin 20 the CVBS signal is coming out and goes to the multiplexer 7926 on part II for mixing with teletext lines.

Luminance and chrominance is also going via buffers 7658 and 7651 to a separate Y/C output connector.

The composite sync. (C.S.) is coming into the encoder on pin 10 for NTSC 15734 Hz and for PAL 15625 Hz.

1.9 The time base correction

The TBC-MD 7911 IC is in the VP380 multi standard position working with a 14,32 MHz Kristal 5700 instead of the 17,7 MHz in the VP310.

The TBC-MD is normal in master mode. When a CAV disc is started up the IC is switched for a short moment to slave-mode this is to lock the video from the disc. When the disc is locked to the Ref H (Reference signal) the TBC-MD is switch to master-mode again.

The TBC-MA 7910 is switched between PAL and NTSC via NTSC-A on pin 2.

MEASUREMENTS AND ADJUSTMENTS VIDEO

1. Introduction

1.1 Required measurement equipment

The required measure equipment:

- Oscilloscope 50 MHz with TV triggering
- Frequency counter
- Color monitor with RGB and CVBS and Y/C input
- HF generator multistandard 1 KHz - 10 MHz
- Multimeter
- PAL video test disc 4822 397 30207
- NTSC Video test disc 4822 397 30244

1.2. Adjustment conditions

- When a video disk is required search for a colour bar and the player mode is 'STILL PICTURE' unless otherwise mentioned.
- Carry out adjustments after a warm-up time of 5 minutes

1.3. Adjustments when item replaced

Replace	Adjust
7903	5303, 5303, 3338, 5309

2. DC voltages measured with the multimeter

2.1. - Reference point for DC-measurements = GND on connector 1V12.

Measurement point	designation in schematic diagram	Value
connector 6V12	(+5V)	+5.30 Vdc
12 7903	TEA7650 pin 12 = +5VA	+5.18 Vdc
30 7903	TEA7650 pin 30 = +5VC	+5.13 Vdc
34 7911	TBC-MD pin 34 = +5VDD	+5.17 Vdc
24 7911	TBC-MD pin 24 = +5VE	+5.1 Vdc
6 7910	TBC-MA pin 6 = +5VH	+4.8 Vdc
19 7925	CXA1145 pin 19 = +5VH	+4.91 Vdc
20 7910	TBC-MA pin 20 = +5VN	+5.13 Vdc
1 7501	12V regulator input	+13 Vdc
3 7501	12V regulator output	+12 Vdc
1 7922	RGB decoder supply	+11.5 Vdc
8 7913	MC1458 - loopfilter	+12.4 Vdc
4 7913	MC1458 - loopfilter	-12.0 Vdc
1 7902	Drop out CCD	+9.1 Vdc
2 1900	TFU VCO/2 = ELCO 2805/+	+9.25 Vdc
7 1900	TFU VCO/7 = ELCO 2806/-	-9.25 Vdc
10 7904	Video CCD pin 10	+5.00 Vdc
13 7904	Video CCD pin 13	+4.80 Vdc
D6401/cathode	Video CCD	+5.6 Vdc
D6402/anode	Video CCD	-3.6 Vdc
1 7904	Video CCD pin 1	-3.0 Vdc
7 7904	Video CCD pin 7/Vref	+1.00 Vdc
14 7925	CXA1145 - Vref pin 14	+2.00 Vdc
C2601/+	Vref - sync.sep.	+2.14 Vdc
HUE INPUT:		
24 7922	RGB decoder in PAL-mode	9,4 Vdc
24 7922	RGB decoder in NTSC-mode	7,5 Vdc
VIDEO MUTE:		
C-7306	Video (when INTVID is low, mute)	3,4 Vdc
C-7682	Video (mute)	1,46 Vdc
RGB DECODER		
14 7920	Luminance to RGB decoder in PAL-mode	2,2 Vdc
14 7920	Luminance to RGB decoder NTSC-mode.	2,37 Vdc

3. AC voltages and signals measured with the scope

3.1 - HF-AV input measure point connect 2V11.

- CAV disc - inside 400 mV pp
- CAV disc - outside 800 mV pp.

3.2 MTF circuit

- Disconnect V11
- Apply a HF generator signal to 2V11 and GND to 3V11
- Switch the player on
- Connect 5V13 to ground (PAL-mode)
- Connect +3 volt to 6-7903
- Measure on 14 7903
- Set the HF-generator to 8 MHz/400 mV
- Adjust 5305 for max. amplitude
- Disconnect 5V13 from ground (NTSC-mode)
- Set the HF-generator to 10 MHz/400 mV
- Adjust 5303 for max. amplitude.

4. Drop out circuit

4.1 Input CCD filter

- Power off
- Inject via a capacitor of 220 nF in serial with a resistor of 3k3 a frequency of 4,433618 MHz at 3315 and 3317
- Measure on junction 3315 and 3317
- Adjust 5302 for minimum amplitude.

4.2 Drop out amplitude

- Search for drop-out on the PAL test disc
- Adjust 3338 for the drop-out amplitude has the same value as normal video
- Check on T.V. screen.

5. Synchronization signals (sync) and special burst separation

5.1 Chroma separator

- Use the scope with a 10:1 probe
- Measure via a 10 k resistor on 10-7910
- Adjust 5309 for max. amplitude.

6. Time base control

6.1 CCD pre filter 5307

- Player off
- Inject via a 220 nF capacitor a HF signal 15,5 MHz/1 Vpp on 29-7903
- Measure via a 10 K resistor on 5-7904 adjust 5307 for minimum frequency.

7. Noise filter

7.1 Adjusting noise filter 5380

- Player off
- Inject via a serial circuit of a capacitor of 220 nF and a 1K resistor to junction 3389 and 5380 a HF signal of 4,43 MHz
- Measure on 35-7903
- Adjust 5380 for minimum amplitude.

8. Oscillators

8.1. TBC MD

- Connect 5V13 to ground (PAL-mode)
- Connect 9V16 to ground (master-mode)
- Measure via a 10:1 probe on 40-7911 with a frequency counter
- Adjust 2708 for a frequency of 7.500.000 Hz \pm 5 Hz
- Connect 5V13 to +5V (NTSC-mode)
- Measure via a 10:1 probe on 40-7911 with a frequency counter
- Adjust 2705 for a frequency of 7.159.000 Hz \pm 5 Hz.

8.2. PAL-encoder

- Connect 10V16 to +5V (Q-PAL = Pal-mode)
- Measure via a 10:1 probe with a frequency counter on 8-7924
- Adjust 2675 for a frequency of $4.433.618 \text{ Hz} \pm 3 \text{ Hz}$.

9. Luminance/chrominance separators**9.1. PAL filter**

- Connect 5V13 to ground and INTVID (8V16) to ground (=mute)
- Connect the cathode of 6551 to ground
- Measure on 8-7922, the luminance input of the RGB decoder
- Adjust 5532 for minimum chrominance signal
- Measure on 4-7922, the chrominance input of the RGB decoder
- Adjust 5533 for maximum chrominance signal
- Search for a CROSS-HATCH signal on the PAL test disc and measure on 8-7922 again
- Adjust 5531 for an equal amplitude of the under and over shoots.

9.2. NTSC-Comb filter

- Connect 5V13 to +5V (NTSC-mode)
- Inject a HF signal of 3,579545 MHz/1,5V pp to C-7306
- Measure on e-7513 (lum-out)
- Adjust 3518 to minimum amplitude
- Adjust 5514 to minimum amplitude
- Repeat adjustments 3518 and 5514 until a minimum is reached
- Disconnect HF-generator
- Inject via a capacitor of $1 \mu\text{F}$ a frequency of 3,25 MHz into e-7513
- Measure on 8-7922
- Adjust 5515 for a minimum amplitude
- Disconnect HF-generator
- Inject via a capacitor of $1 \mu\text{F}$ a frequency of 3,57954 MHz into e-7512
- Measure on 4-7922
- Adjust 5516 for maximum amplitude.

10. RGB-decoder (PAL)**10.1 RGB filters**

- Player off
- Inject via a resistor of 750Ω on junction 3615 and 2615 a frequency of 7,78 MHz
- Measure on 3614
- Adjust 5614 for minimum amplitude
- Repeat this procedure for : junction 3620 and 2617 measure on 3611 and adjust 5611, junction 3609 and 2606 a measure on 3608 and adjust 5601.

10.2 Brightness 3542

- Use the PAL-video test disc, search for picture number 505 (black picture)
- Measure on B-out connect 5V15
- Adjust 3542 for a black level of 2-5 mVp relative to black level during CVBS sync.

10.3 Contrast 3545

- Use the PAL-video test disc, search for picture number 405
- Measure on B-out connector 5V15
- Adjust 3545 for an amplitude of 700 mVp relative to blanking level.

10.4 Minimum chroma on white colour 3611 and 3608

- Use the PAL-video test disc, search for picture number 405
- Measure on G-out on connector 4V15 and R-out on connector 3V15
- Adjust 3611 and 3608 for the same amplitude as for B-out.

10.5 8,86 MHz oscillator

- Use the PAL-video test disc search for picture number 10.000 (red picture)
- Play mode reverse
- Adjust 2584 until no colour disturbance is visible in the upper part of the TV-screen.

10.6 PAL demodulator 3626

- Use the PAL-video test disc search for picture number 1690 (DEM-pattern)
- Measure on B-out connector 5V15.
Scope : time base $10 \mu\text{sec.div}$. trigger on TVL on CVBS out
- Adjust 3626 for minimum amplitude jitter in the last two levels of the scope-picture.

10.7 PAL delay line 5623/5621

- Use the Pal video test disc search for picture number 250 (colour bar)
- Measure on B-out connector 5V15
- Adjust 5623 and/or 5621 for minimum amplitude jitter.

10.8 Saturation 3551

- Use Pal video test disc search for a colour bar
- Measure on B-out connector 5V15
- Adjust 3551 for equal amplitudes of the signals of the colours yellow, cyan and green.

11. RGB decoder (NTSC)**11.1 NTSC comb. filter**

- Use the NTSC-video test disc search for a colour bar
- Measure on B-out connector 5V15
- Adjust 2581 for minimum jitter in the cyan and blue colour signals
- Check the TV screen for a stable picture
- Adjust 3580 (HUE) for the right colour
- Adjust 3518 for minimum amplitude jitter
- Adjust 5514 and/or 5511 for minimum jitter
- Repeat adjustment 3518.

11.2 NTSC decoder 2581

- Play a NTSC colour bar reverse
- Adjust 2581 for minimum colour disturbances in the upper part of the TV screen.

Video panel connecting information

Name: VII

Coming from: Sigma pi panel connector 13

Pin number	Name	IN/OUT	Level	Comment
1	N.C.	IN	+5V	Negative pulses from 70-200 μ s in situation off track in Still-mode not used in the VP380.
2	HF-AV	IN	800-1100 mV _{pp} on 5.5Vdc	
3	GND	IN		

Name: V12

Coming from: Power supply connector p4

Pin number	Name	IN/OUT	Level	Comment
1	GND	IN		During Play CAV
2	-13Vdc	IN	Ripple 150 mV _{pp}	
3	GND	IN		
4	+13Vdc	IN	Ripple 150 mV _{pp}	

Name: V13

Coming from: Servo panel connector S9

Pin number	Name	IN/OUT	Level	Comment
1	GND	IN		Pulse during video line. 16-20 and 329-333. Source: BC 848b open collector with a 4k7 pull-up resistor. Data pulses during DRQ. Load = input for the 24-bit decoder 21-7202. During: out of radial tracking with Jump or Stop. Source: 31-7201 I/O Expander. With NTSC disc. Source: I/O gate of the 24-bit decoder 20-7202. Low during off track. Source: LM393 7-7300 via resistor 4k7 and diode and 4k7 pull-up resistor.
2	DRQ	IN	+5V	
3	DATA	OUT	+5V	
4	RADSRVN	IN	+5V	
5	NTSC	IN	+5V	
6	TPI	IN	+5V	

Name: V14

Coming from: Motor panel connector M4

Pin number	Name	IN/OUT	Level	Comment
1	PHLOCK	IN	+5V	During phase lock. Source: 49-7001-4A via serie resistor 3404 (470 Ω) and capacitor 2404 (100pF) to ground. During sync. for time base correction. Load: capacitor 2200 (100pF) to ground and via a serie resistor 3106 (470 Ω) to 53-7001. During reference-pulse. In mid-position of active video line (CVBS-out). Load: capacitor 2408 (100pF) to ground and via serie resistor 3405 (470 Ω) to 52-7001.
2	GND	OUT		
3	CS1	OUT	+5V	
4	HREF	OUT	+5V	

Name: V15

Coming from: Connector panel connector CN5

Pin number	Name	IN/OUT	Level	Comment
1	CVBS	OUT	2V _{pp}	On 2Vdc. Load: approx. 2k Ω after capacitor 2003 (47 μ F).
2	GND	OUT		
3	R0	OUT	700mV _{pp}	Load: 75 Ω when monitor is connected via scart connector.
4	G0	OUT	700mV _{pp}	Load: 75 Ω when monitor is connected via scart connector.
5	B0	OUT	700mV _{pp}	Load: 75 Ω when monitor is connected via scart connector.
6	GND	OUT		

Name: V16

Coming from: μ processor panel connector U15

Pin number	Name	IN/OUT	Level	Comment
1	VBLANK	IN	+5V	During vertical blanking. Active: during video line 58-73. Source: character generator 14-7106.
2	GND	IN		
3	Ri	IN	+5V	During white characters. Source: character generator 11-7106.
4	Gi	IN	+5V	During white characters. Source: character generator 12-7106.
5	Bi	IN	+5V	During white characters. Source: character generator 13-7106.
6	HOR	OUT	+5V	Between horizontal sync. pulses. Load: character generator 17-7106.
7	VER	OUT	+5V	Between vertical sync. pulses. Load: character generator 16-7106 and 13-7101.
8	INTVID	IN	+5V	When no video mute is needed. Source: DUART 13-7105.
9	SLV/MAS	IN	+5V	In slave mode when PLOCK is LOW. Source: Duart 28-7105.
10	QPAL	IN	+5V	During CVBS out with PAL chrominance. Source: Duart 12-7105.

Name: V17

Coming from: Analog Audio panel connector B2

Pin number	Name	IN/OUT	Level	Comment
1	NTSC-A	OUT	+5V	With NTSC Disc. Source: collector BC 858b with 1k Ω resistor to ground.
2	HF-audio	OUT	60mV _{pp}	Load: HF audio level (when HF-AV = 800mV _{pp}). DC level = 2Vdc via 68 Ω resistor. Load: 47 Ω resistor and 470pF capacitor to ground after 22nF capacitor.
3	GND	OUT		
4	TBC-ERR	OUT	800mV _{pp}	DC level = 0V. Source: via 3811 (1k) from 7-7913 (opamp). Load: resistor of 15k Ω via capacitor of 22nF.

Name: V18

Coming from: Y/C connector

Pin number	Name	IN/OUT	Level	Comment
1	C	OUT	300mV _{pp}	Burst, when Y/C connector is terminated with 75Ω. Source: e-7652 via 3648 (68Ω).
2	GND	OUT		
3	GND	OUT		
4	Y	OUT	1V _{pp}	Luminance, when Y/C connector is terminated with 75Ω . Source: e-7659 via 3657 (68Ω).

Name: V19

Coming from: front panel (LED's) connector K54.

Pin number	Name	IN/OUT	Level	Comment
1	5VL	OUT	+5Vdc	Supply via 3505 (4,7Ω.) non flammable resistor. Load: 2×led via 330Ω resistor.
2	GND	OUT		
3	NTSC-A	OUT	+5Vdc	With NTSC-disc. Source: +5VA via 7319 (BC858b) and 3305 (1k) to ground. Load: resistor of 33k.

PARTSLIST VIDEOPANEL

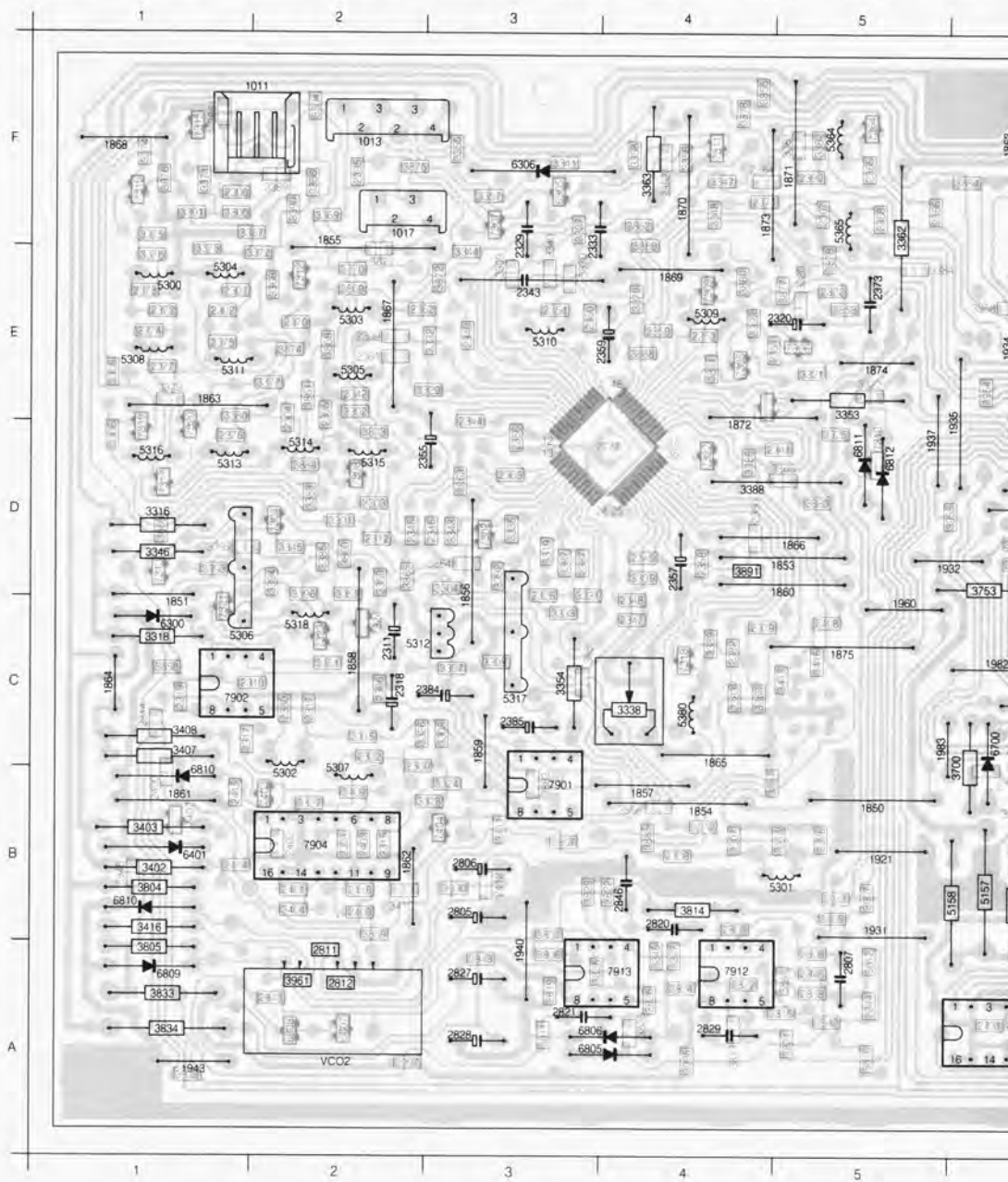
Connectors			— —		
1011	4822 267 40575	3P MALE FOR WTB	2820	4822 121 43869	68NF 5% 50V
1012	4822 267 40722		2821	4822 121 43867	22NF 5% 50V
1014	4822 267 40699	4.FOLD	2827	4822 124 40196	220UF20% 16V
1017	4822 265 30378	4P MALE FOR BTB-WTB	2828	4822 124 40196	220UF20% 16V
1018	4822 265 30378	4P MALE FOR BTB-WTB	2829	4822 121 43867	22NF 5% 50V
			2846	4822 121 41854	150NF 5% 63V
unit			□		
1900	4822 214 51801		3316	4822 050 14709	47R00 1% 0,4W
			3318	4822 050 21801	180R00 1% 0,6W
			3338	5322 101 10372	10K 20% 0,5W
			3346	4822 050 15602	5K60 1% 0,4W
			3353	4822 050 24703	47K00 1% 0,6W
			3354	4822 050 21002	1K00 1% 0,6W
			3361	4822 052 10478	4R70 5% 0,33W
			3362	4822 052 10478	4R70 5% 0,33W
			3363	4822 052 10478	4R70 5% 0,33W
			3402	4822 050 21002	1K00 1% 0,6W
			3403	4822 050 21501	150R00 1% 0,6W
			3407	4822 050 22202	2K20 1% 0,6W
			3412	4822 050 22401	240R00 1% 0,6W
			3505	4822 052 10478	4R70 5% 0,33W
			3518	5322 101 14011	100E CERM LIN 0,5W
			3527	4822 050 29101	910R00 1% 0,6W
			3529	4822 050 15602	5K60 1% 0,4W
			3542	5322 101 10372	10K 20% 0,5W
			3545	5322 101 10372	10K 20% 0,5W
			3551	5322 101 10372	10K 20% 0,5W
			3558	4822 050 29103	91K00 1% 0,6W
			3562	4822 051 10473	47K00 2% 0,25W
			3568	4822 050 23302	3K30 1% 0,6W
			3570	4822 050 23302	3K30 1% 0,6W
			3580	5322 101 14008	2K2 CERM LIN 0,5W
			3596	4822 050 21002	1K00 1% 0,6W
			3608	5322 101 14008	2K2 CERM LIN 0,5W
			3611	5322 101 14008	2K2 CERM LIN 0,5W
			3621	4822 052 10478	4R70 5% 0,33W
			3626	4822 100 10254	1K CERM LIN 0,5W
			3674	4822 050 22202	2K20 1% 0,6W
			3681	4822 050 21002	1K00 1% 0,6W
			3683	4822 051 10102	1K00 2% 0,25W
			3687	4822 050 22202	2K20 1% 0,6W
			3701	4822 052 10478	4R70 5% 0,33W
			3702	4822 052 10121	120R00 5% 0,33W
			3710	4822 050 21002	1K00 1% 0,6W
			3722	4822 116 52224	470E 5% 0,5W
			3754	4822 050 21002	1K00 1% 0,6W
			3755	4822 050 23309	33R00 1% 0,6W
			3804	4822 116 52217	270E 5% 0,5W
			3814	4822 050 24122	4K12 1% 0,6W
			3833	4822 052 10109	10R00 5% 0,33W
			3834	4822 052 10109	10R00 5% 0,33W
			5158	4822 156 21452	100UH
			—m—		
			5300	4822 157 63052	
			5301	4822 157 53137	
			5302	4822 157 60017	
			5303	4822 156 11001	
			5304	4822 157 53132	
			5305	4822 156 21147	
			5306	4822 320 40229	
			5307	4822 156 10995	
			5308	4822 156 11003	



7901	4822 209 63716	NJM2233BD
7902	4822 209 63704	MSM7400
7903	4822 209 30216	TEA7650H/V4
7904	4822 209 62877	SAA7630P
7910	4822 209 63703	TBC-MA3
7911	4822 209 60753	TBC M-D
7912	4822 209 81349	MC1458P1
7913	4822 209 81349	MC1458P1
7914	4822 209 63505	PC74HC40103P
7915	5322 209 83218	PC74HC00P
7920	4822 209 71584	PC74HCT4053P
7921	5322 209 10422	HEF4538BP
7922	4822 209 61689	TDA3566/N5
7923	5322 209 11265	PC74HCT08P
7924	5322 209 83218	PC74HC00P
7925	4822 209 63497	CXA1145P
7926	4822 209 71584	PC74HCT4053P

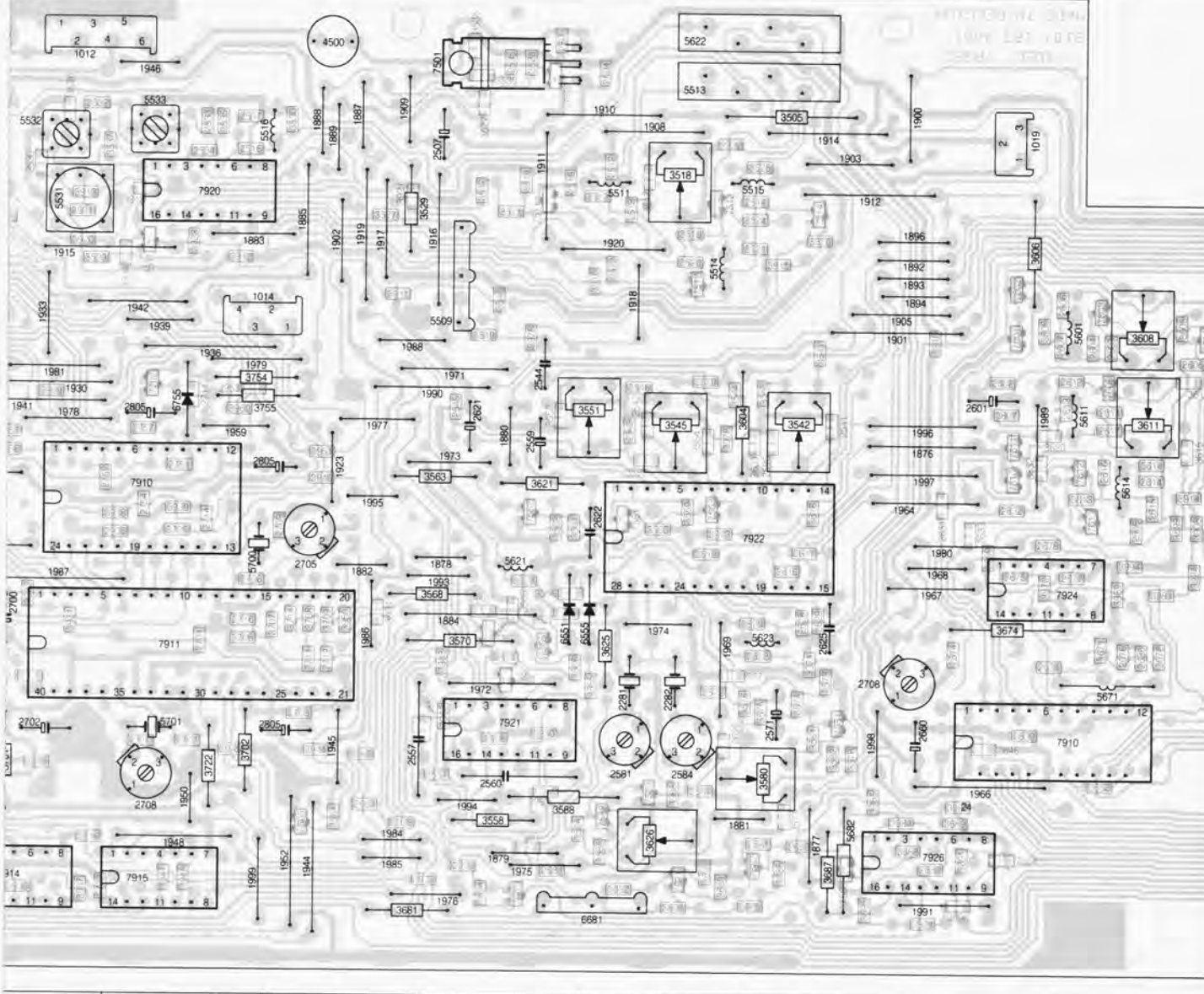
Video panel lay-out clip side

1011 F1	1883 E7	1934 E6	1991 A12	2347 C4	2400 B1	2591 E14	2649 C14	2805 D7	3327 B2
1012 F6	1884 C9	1935 D6	1993 C9	2348 C4	2401 B2	2592 D14	2650 C14	2805 D7	3328 B2
1013 F2	1885 E8	1936 D7	1994 A9	2349 D4	2402 B2	2593 E15	2654 C14	2806 B3	3329 E2
1014 E7	1886 D14	1937 D5	1995 C8	2350 D4	2403 B2	2594 D15	2657 C14	2807 A5	3331 C3
1016 F15	1887 F8	1939 D7	1996 D12	2351 E4	2408 C5	2595 E15	2658 C14	2808 B4	3332 E3
1017 F2	1888 F8	1940 A3	1997 D12	2352 F4	2409 B2	2596 D11	2660 B12	2811 A2	3333 C3
1018 B15	1889 F8	1941 D6	1998 B11	2353 E4	2412 B3	2601 D12	2662 A14	2812 A2	3335 D3
1018 D15	1890 B14	1942 E7	1999 A7	2354 E3	2414 B1	2602 D12	2662 B14	2818 A5	3337 F3
1019 F12	1891 D15	1943 A1	2281 B10	2355 D3	2415 B1	2603 D13	2662 B14	2819 A3	3338 C4
1850 B5	1892 E11	1944 A8	2282 B10	2356 D3	2416 B2	2604 D13	2674 B12	2820 B4	3339 D3
1851 C1	1893 E11	1945 B8	2300 F1	2357 D4	2501 F9	2605 D13	2676 B13	2821 A3	3340 D3
1852 F6	1894 E12	1946 F7	2301 E1	2358 D4	2504 F10	2606 E13	2677 C12	2822 B4	3341 F3
1853 D4	1895 E14	1948 A7	2302 E1	2359 E4	2505 C13	2607 D12	2678 C12	2827 A3	3343 D3
1854 B4	1896 E11	1950 A7	2304 D2	2360 E3	2506 D15	2611 D13	2681 A11	2828 A3	3344 E3
1855 F2	1898 C15	1952 A8	2305 E2	2361 E2	2507 F9	2612 D12	2682 A11	2829 A4	3345 D2
1856 C3	1899 D15	1959 D7	2306 B5	2362 E2	2512 E10	2613 D13	2683 A12	2843 A2	3346 D1
1857 B4	1900 F12	1960 C5	2307 B4	2363 D3	2513 E10	2614 D13	2684 A9	2844 A5	3347 F4
1858 C2	1901 D11	1964 C11	2308 B4	2364 F4	2514 E10	2615 C13	2700 C6	2845 A5	3348 A4
1859 C3	1902 E8	1966 B12	2309 E2	2365 F5	2516 F7	2616 D13	2701 B7	2846 B4	3350 D2
1860 D4	1903 F11	1967 C12	2310 C1	2366 F5	2517 F7	2617 D13	2702 B6	3300 F1	3351 C2
1861 B1	1904 D15	1968 C12	2311 C2	2367 F5	2530 E6	2621 D9	2703 B8	3301 D2	3352 C2
1862 B2	1905 E11	1969 B10	2312 D2	2368 F5	2531 E6	2622 C10	2705 C8	3302 E2	3353 E5
1863 E1	1907 D14	1971 D9	2314 C1	2369 F5	2532 E6	2623 B11	2706 C7	3303 D2	3354 C3
1864 C1	1908 F10	1972 B9	2315 B2	2370 E2	2533 F7	2626 B10	2707 B7	3304 F2	3355 F3
1865 C4	1909 F8	1973 D9	2317 C1	2371 F4	2534 F7	2627 C9	2708 A7	3305 E1	3356 F4
1866 D5	1910 F10	1974 C10	2318 C2	2372 E1	2535 F9	2628 C11	2708 B11	3306 D1	3357 F3
1867 E2	1911 E9	1975 A9	2319 C1	2373 E5	2541 D11	2629 C11	2709 C8	3308 C3	3358 F4
1868 F1	1912 E11	1976 A9	2320 E4	2374 E1	2542 D10	2631 C12	2710 B7	3309 E3	3359 E4
1869 E4	1912 E14	1977 D8	2322 E5	2375 E1	2543 D10	2632 C12	2711 B8	3312 B4	3360 C4
1870 F4	1914 F11	1978 D6	2325 C3	2376 D1	2544 D9	2633 C12	2712 B8	3313 E5	3362 E5
1871 F5	1915 E6	1979 D7	2329 E3	2377 E1	2545 D9	2634 B12	2714 C7	3316 C5	3364 D3
1872 D4	1916 E9	1980 C12	2330 B2	2378 E1	2547 B8	2636 B13	2714 D7	3316 D1	3364 F5
1873 F4	1917 E8	1981 D6	2331 B2	2379 C4	2558 B9	2638 B15	2716 C7	3317 C2	3365 D4
1874 E5	1918 E10	1982 C6	2332 C2	2380 C2	2559 D9	2639 B12	2721 B6	3318 C1	3366 F2
1875 C5	1919 E8	1983 C5	2333 E3	2382 C4	2560 B9	2640 B14	2731 A6	3319 D3	3367 F1
1876 D12	1920 E10	1984 A8	2340 E3	2383 C4	2561 A8	2641 C15	2732 A6	3320 E5	3368 E2
1877 A11	1921 B5	1985 A8	2341 D4	2384 C2	2571 B11	2642 C14	2751 D7	3321 E5	3369 F2
1878 C9	1923 D8	1986 B8	2342 E2	2385 C3	2572 B10	2643 C15	2752 C6	3322 E4	3372 E1
1879 A9	1930 D6	1987 C6	2343 E3	2386 C2	2573 B11	2644 C15	2754 C7	3323 E4	3371 F1
1880 D9	1931 B5	1988 D8	2344 D3	2387 D3	2581 B10	2645 C15	2757 D7	3324 B3	3372 E1
1881 A10	1932 D5	1989 D12	2345 D2	2390 F5	2583 A9	2646 B12	2805 B3	3325 D5	3373 E1
1882 C8	1933 D6	1990 D8	2346 D3	2395 F2	2584 B10	2648 C14	2805 B7	3326 C2	3374 F1

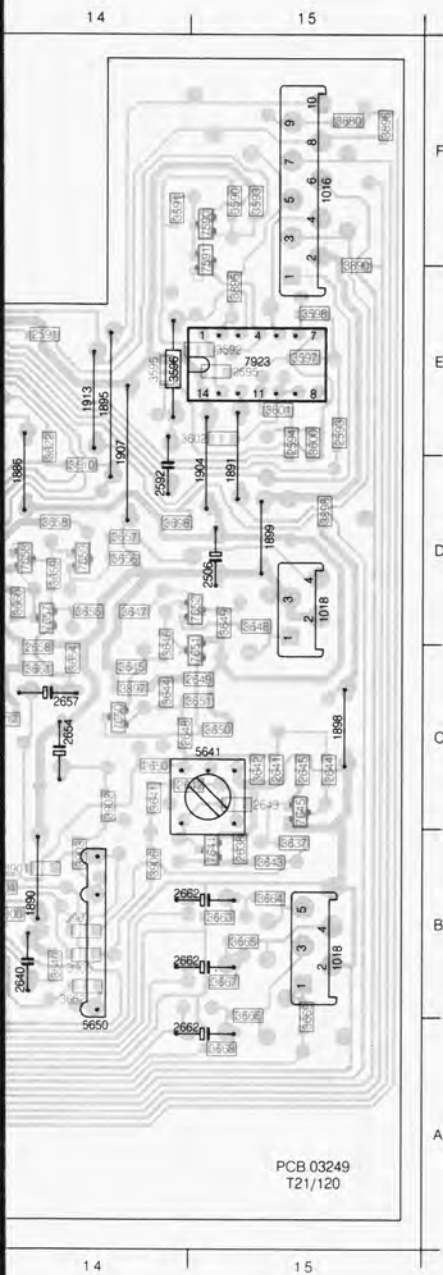


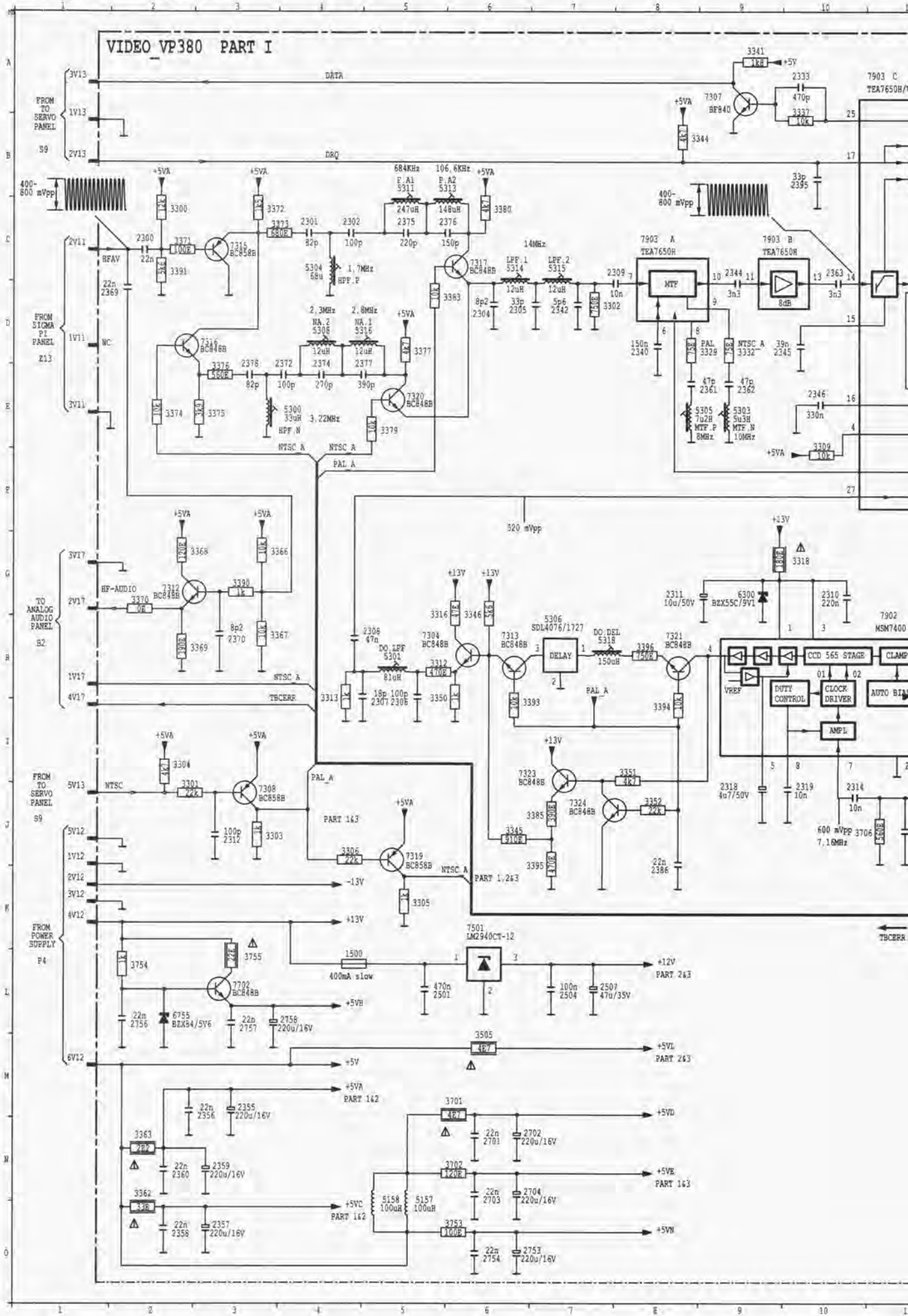
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3377 E2	3520 E10	3566 B9	3615 D13	3669 A15	3809 B5	3874 E2	3920 E6	3976 D9	5511 E10	7306 E5	7602 E12
3378 F4	3521 E10	3567 C9	3616 C11	3671 B13	3810 A5	3875 F2	3921 E8	3978 D10	5513 F10	7307 F3	7603 E13
3379 E1	3522 F9	3568 C8	3617 C11	3672 B13	3811 A3	3876 F1	3922 F10	3979 B11	5514 E10	7308 D2	7609 D11
3380 D1	3523 E10	3569 B8	3618 C11	3673 C12	3812 A5	3877 E5	3923 E7	3980 B9	5515 E8	7309 E4	7610 C12
3381 F5	3524 E10	3570 B9	3619 C10	3674 C12	3813 A4	3878 E5	3924 C13	3981 C13	5516 F8	7310 D5	7611 D12
3382 F5	3525 E11	3571 B9	3620 D12	3675 F15	3814 B4	3879 E4	3930 B3	3982 B9	5532 F6	7311 F4	7612 D13
3383 D2	3526 E11	3574 B11	3621 C9	3681 A8	3815 A4	3880 E4	3931 C6	3983 B9	5533 F7	7312 E2	7613 C13
3384 E5	3527 E8	3575 B11	3622 D14	3682 A10	3821 A5	3881 E4	3932 C6	3984 A11	5534 F7	7313 D1	7614 D15
3385 D2	3528 F9	3576 B11	3623 B10	3683 A10	3822 A4	3882 B3	3933 A1	3985 A11	5601 D13	7314 F5	7615 B16
3386 D4	3529 E9	3577 A11	3624 A10	3684 A10	3823 A4	3883 D5	3934 C8	3987 A12	5611 D13	7315 F1	7645 C15
3387 D3	3530 F8	3578 B11	3625 B10	3685 A10	3824 A4	3884 D2	3935 A6	3988 A10	5614 C13	7316 F1	7650 C14
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3389 C4	3534 E7	3581 B11	3627 C9	3687 A11	3826 A4	3886 C3	3937 A6	3993 A9	5622 F10	7318 C4	7652 D15
3390 F2	3535 F7	3582 B11	3628 C10	3688 A11	3827 A4	3887 B4	3938 C6	3994 C13	5623 C11	7319 D1	7657 D14
3391 F1	3536 F6	3584 A9	3629 B15	3689 A12	3828 B3	3888 E4	3939 C7	3997 A2	5641 C15	7320 D1	7658 D14
3392 D3	3537 F7	3585 A10	3630 A10	3690 A12	3829 B3	3889 E4	3940 D8	3998 A4	5650 A14	7321 C1	7659 D14
3393 D1	3538 F9	3587 B10	3631 C15	3691 A12	3830 A1	3890 E5	3941 B5	4500 F8	5671 B13	7322 D4	7681 A10
3394 D2	3539 F9	3588 A9	3632 A10	3692 A10	3831 A1	3891 D4	3942 A5	5157 B6	5682 A11	7323 C2	7682 A11
3395 D1	3541 D11	3590 F15	3633 A11	3693 A9	3832 A1	3892 E5	3943 A3	5158 B6	5700 C7	7324 C2	7683 A11
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3397 C3	3543 D11	3592 E15	3635 C14	3695 A11	3834 A1	3894 C13	3945 B7	5302 B2	6300 C1	7402 B2	7685 A8
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3407 C1	3553 D9	3603 E15	3645 D11	3705 C7	3844 A5	3904 B14	3955 D6	5312 C2	6806 A3	7562 C9	7914 A6
3408 C1	3554 D9	3604 D11	3646 D11	3706 B7	3845 A4	3905 B14	3956 D6	5313 O1	6807 A2	7563 C10	7915 A7
3409 B2	3555 B10	3605 D13	3647 D12	3707 C8	3846 D2	3906 B14	3957 D6	5314 O1	6808 A2	7564 C9	7920 E7
3410 B2	3556 B10	3606 E12	3648 D12	3708 C8	3847 E2	3907 B14	3958 E6	5315 D2	6809 A1	7565 B9	7921 B9
3411 B3	3557 B9	3607 D12	3649 D12	3709 C8	3848 E2	3908 C13	3959 D6	5316 D1	6810 B1	7567 B9	7922 C1
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3416 B1	3562 C9	3612 D13	3654 D14	3714 B8	3853 D2	3913 E6	3964 A2				
3417 B1	3563 D9		3655 D14	3715 D6	3854 D1	3914 C13	3970 C12				
			3656 A15	3716 D7	3855 E2	3915 E11	3971 B11				
				3717 E3	3856 F2	3916 E10	3972 A8				
				3718 E3	3857 A1	3917 C13	3973 C10				
				3806 A3							

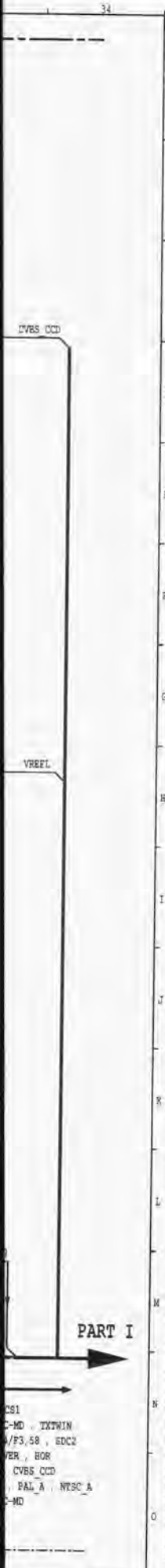
6 7 8 9 10 11 12 13



6 7 8 9 10 11 12 13







1500	A	1111
1900	A	1111
2000	A	1111
2100	A	1111
2200	A	1111
2300	A	1111
2400	A	1111
2500	A	1111
2600	A	1111
2700	A	1111
2800	A	1111
2900	A	1111
3000	A	1111
3100	A	1111
3200	A	1111
3300	A	1111
3400	A	1111
3500	A	1111
3600	A	1111
3700	A	1111
3800	A	1111
3900	A	1111
4000	A	1111
4100	A	1111
4200	A	1111
4300	A	1111
4400	A	1111
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6800	A	1111
6900	A	1111
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7100	A	1111
7200	A	1111
7300	A	1111
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7600	A	1111
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7800	A	1111
7900	A	1111
8000	A	1111
8100	A	1111
8200	A	1111
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9100	A	1111
9200	A	1111
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9800	A	1111
9900	A	1111
10000	A	1111

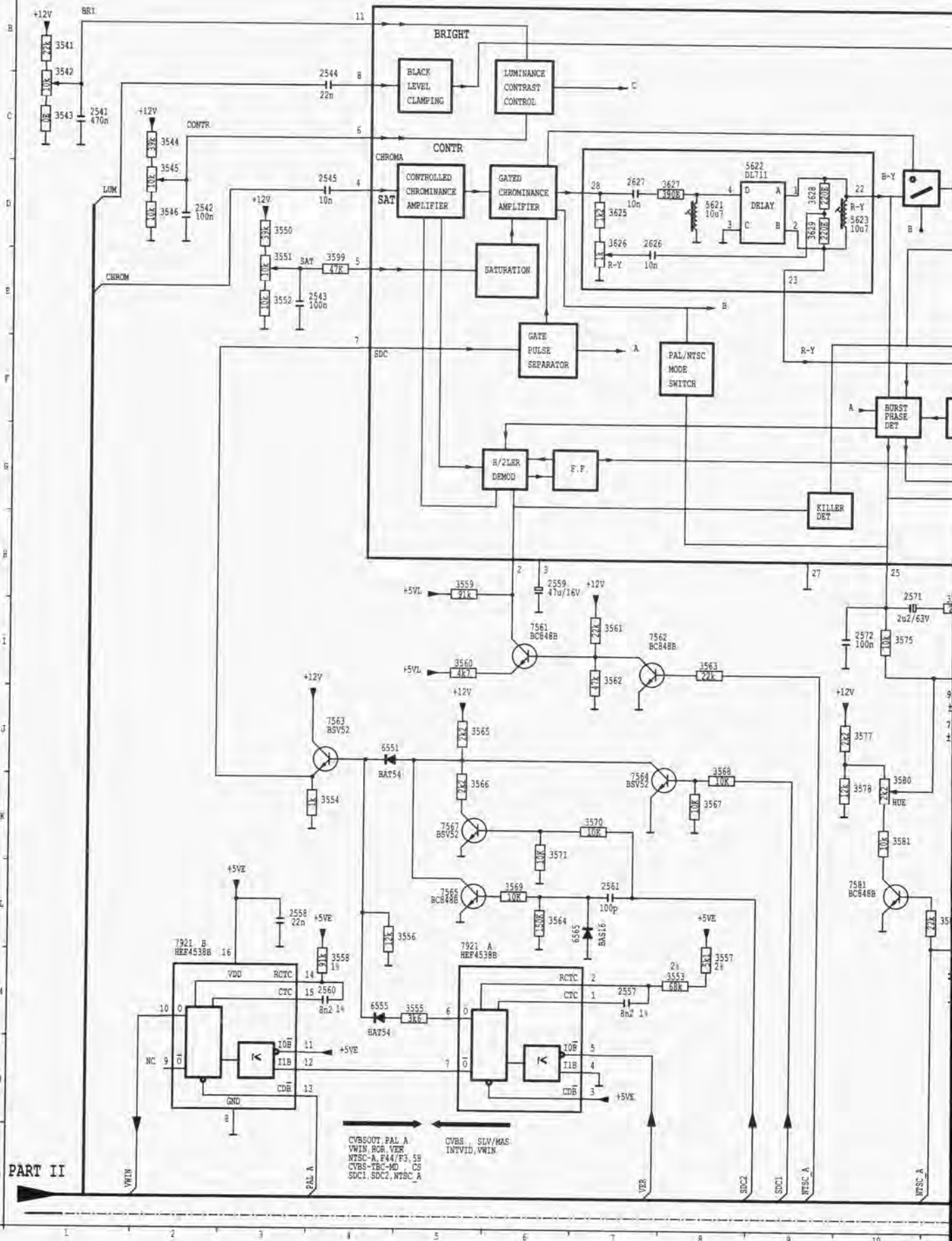
V13
V17
V17
V17
V17

A
C
G
H
I
J
K
L
M
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O

PART I

VIDEO_VP380 PART III

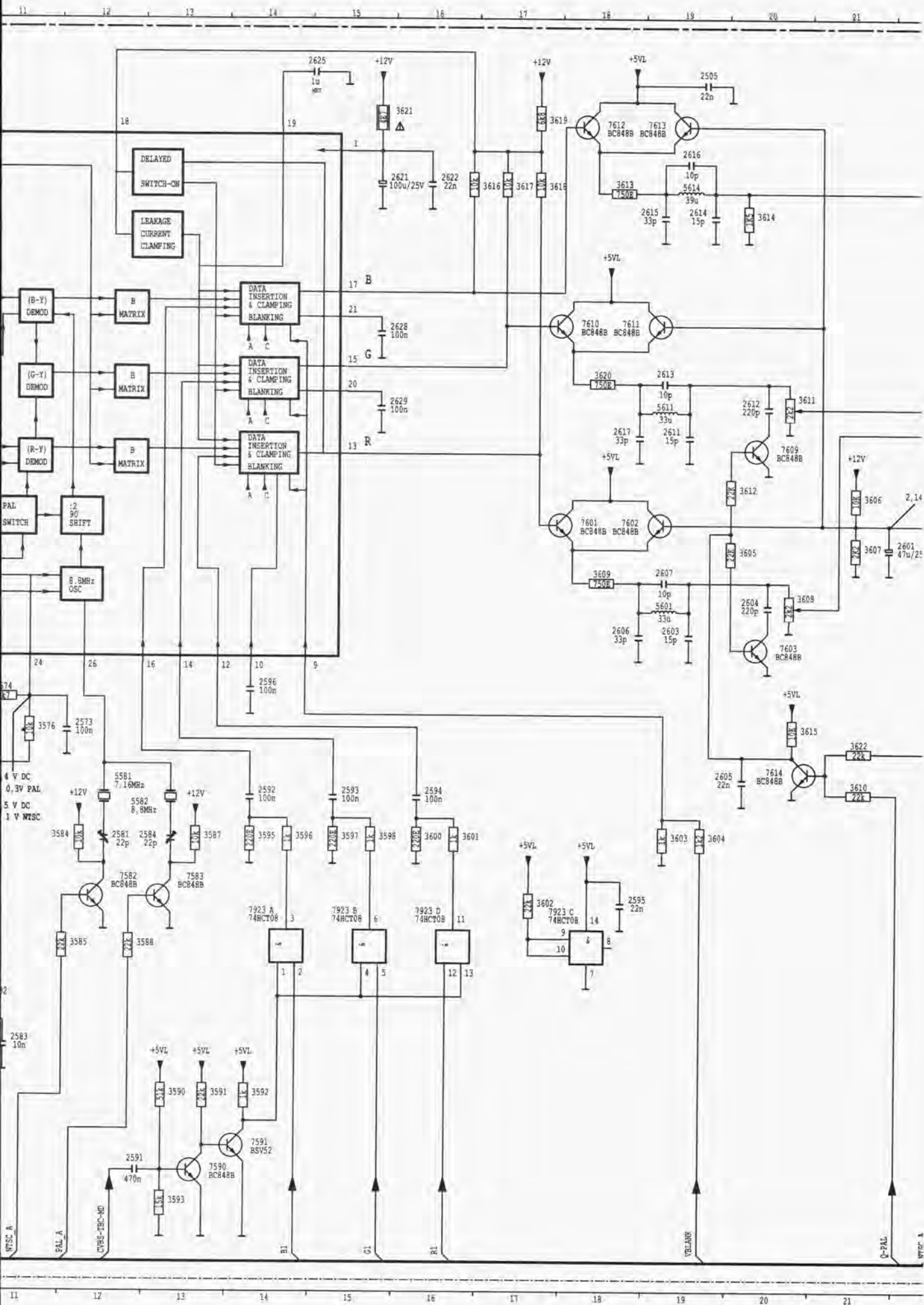
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7DA3566B



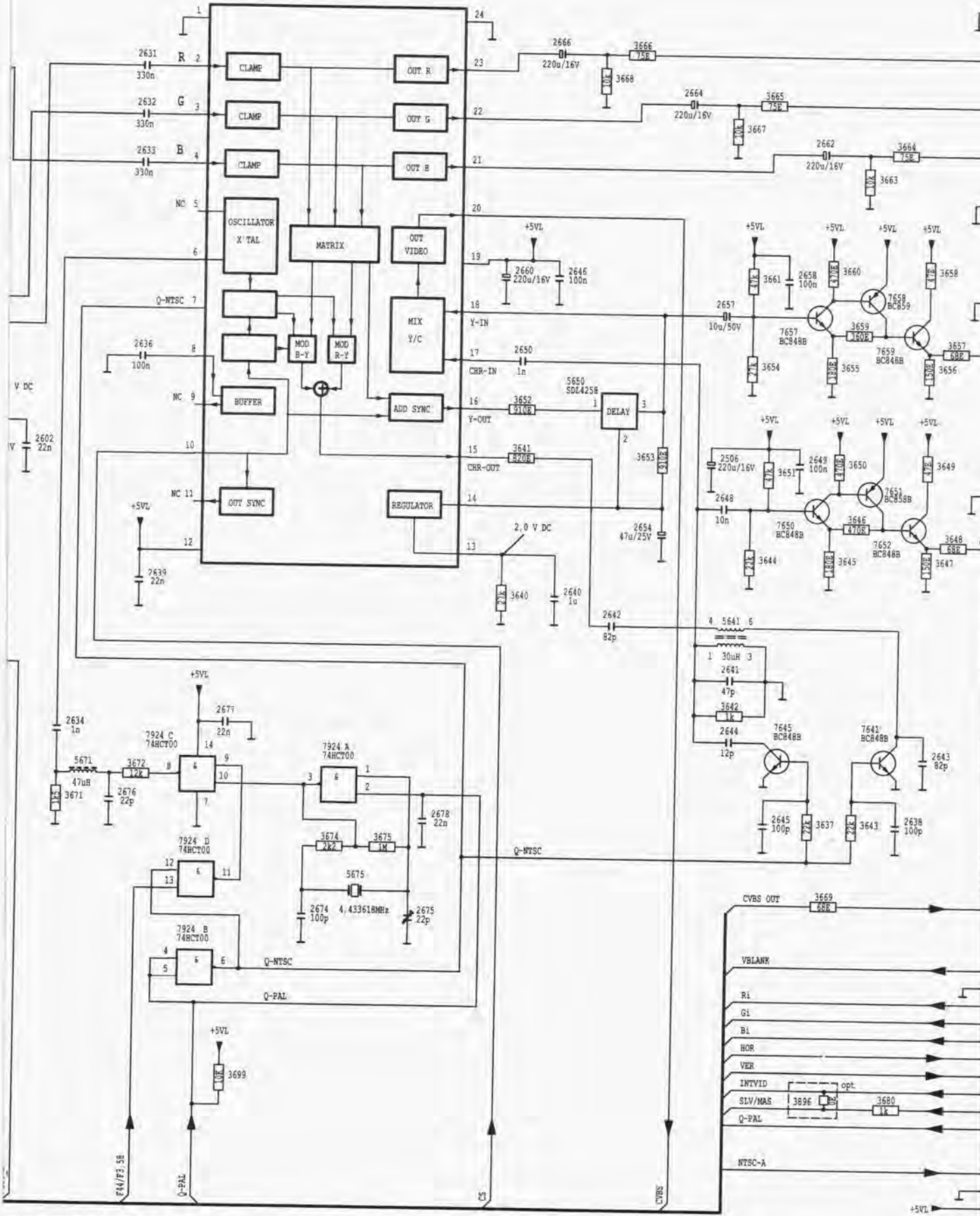
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VWIN, ROB, VER
NTSC-A, F44/F3, 5B
CVBS-FBC-MD CS
SDC1, SDC2, NTSC-A

CVBS, SLV/MAS
INTVID, VWIN

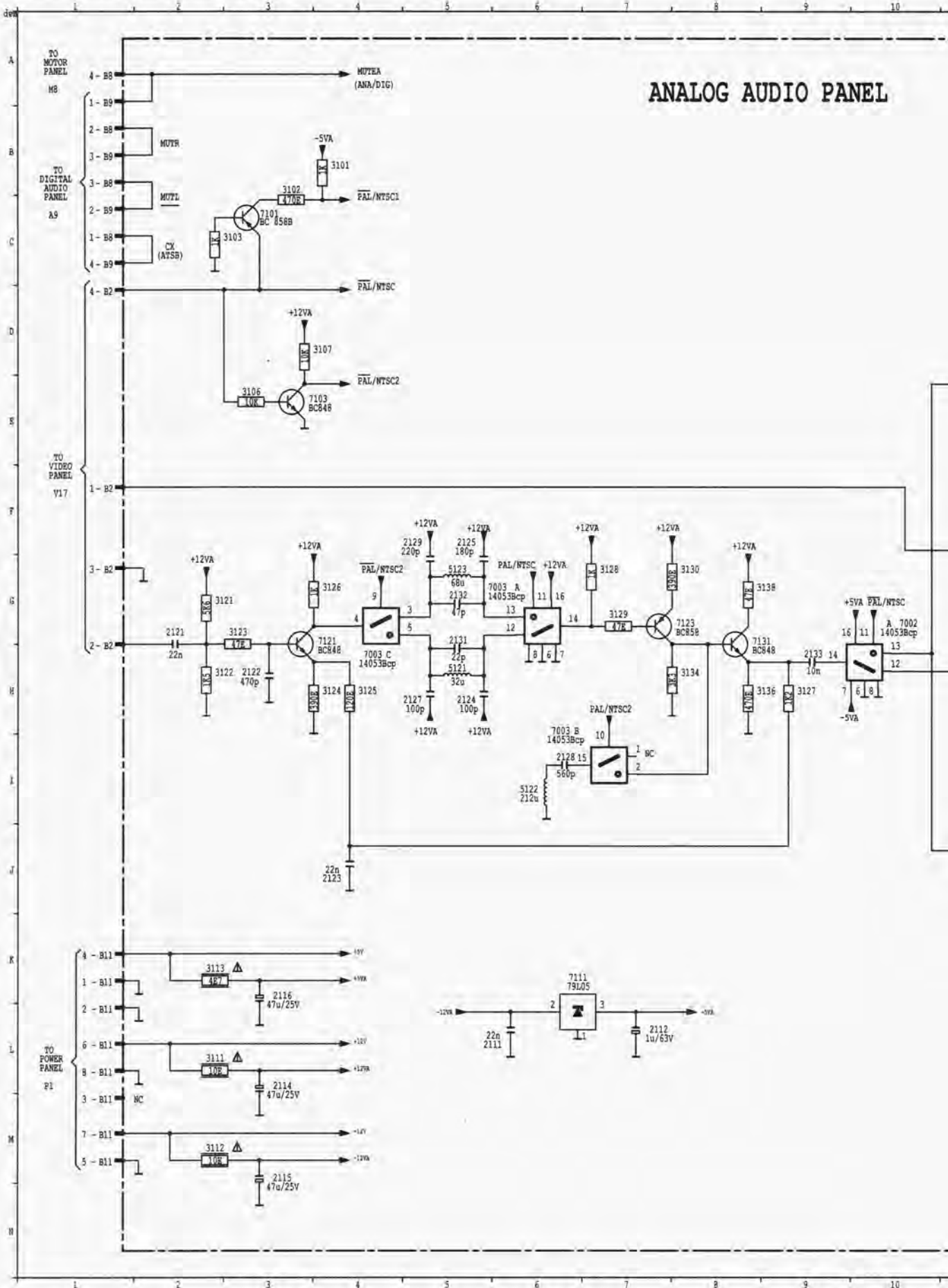
PART II

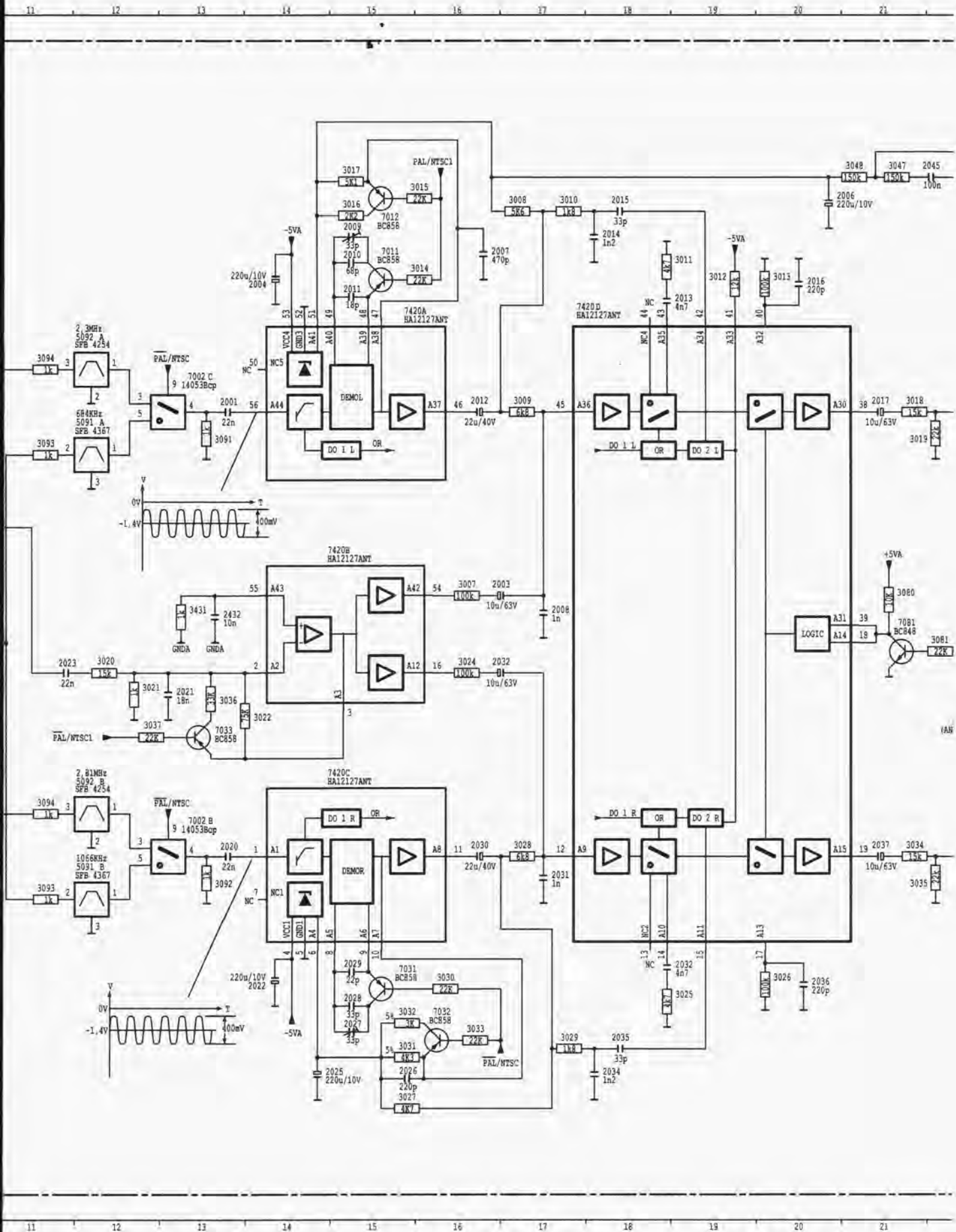


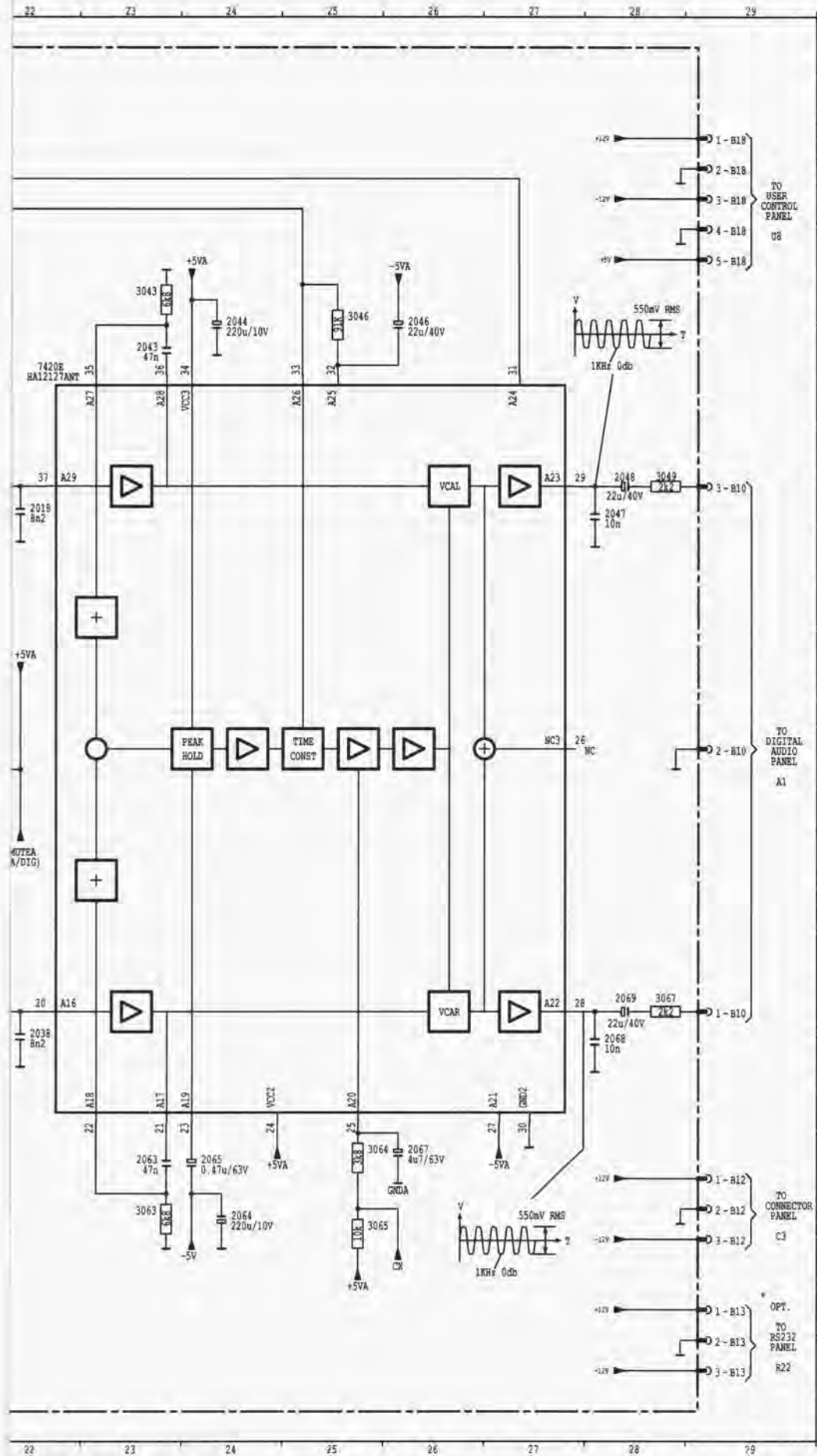
7925
CX1145P



Analog audio schematic diagram







2	7420	HA12127ANT
3	3043	RES
4	2044	220u/10V
5	3046	RES
6	2046	22u/40V
7	2048	22u/40V
8	2047	10n
9	2069	22u/40V
10	2068	10n
11	2065	0.47u/63V
12	2064	220u/10V
13	3063	RES
14	3064	RES
15	2067	4u7/53V
16	3065	RES
17	7420	HA12127ANT
18	3043	RES
19	2044	220u/10V
20	3046	RES
21	2046	22u/40V
22	2048	22u/40V
23	2047	10n
24	2069	22u/40V
25	2068	10n
26	2065	0.47u/63V
27	2064	220u/10V
28	3063	RES
29	3064	RES
30	2067	4u7/53V
31	3065	RES

List of F-codes commands

Note :

Detailed information for programmers is provided in the programmer's guide. (This may be ordered separately).

TABLE 1 - F-CODE COMMAND LIST

This table lists the necessary codes to be sent by the computer to the drive in order to perform each function.

dec = decimal code

hex = hexadecimal code

char = character

dec	hex	char	function	dec	hex	char	function
36	24	\$0	Replay switch disable			FxxxxNyyyyyA	Goto picture number xxxxx and play until yyyy then repeat until cleared.
		\$1	Replay switch enable (default)				
39	27	'	Eject (open the frontloader tray)				
40	28	(0	# CX off	72	48	H0	Remote control not routed to computer (default)
		(1	# CX on			H1	Remote control routed to computer
41	29	(X	# CX normal (default)				
)0	Transmission delay off (default)				
)1	Transmission delay on				
42	2A	*	Halt (still mode)	73	49	I0	Local front-panel buttons disabled
44	2C	,0	Standby (unload)			I1	Local front-panel buttons enabled (default)
		,1	On (load)				
47	2F	/	Pause (halt + all muted)	74	4A	J0	Remote control disabled for drive control
58	3A	:	Reset to default values			J1	Remote control enabled for drive control (default)
63	3F	?F	Picture number request				
		?C	Chapter number request	76	4C	L	Still forward
		?T	Time code request	77	4D	M	Still Reverse
		?N	Track number information request	78	4E	N	Normal play forward
		?Snn	Track start time request	79	4F	O	Normal play reverse
		?I	Disc I.D. request	81	51	QxxR	Goto chapter number and halt
		?D	Disc program status request			QxxN	Goto chapter number and play
		?P	Drive status request			QxyyzzS	Play chapter/track (sequence) and halt
		?E	Disc lead-out start request			Qxx[mmssff]N	Goto track number [time code in track] and play
		?U	User code request			QxxP	Goto track number and pause
		?=	Revision level request			QxyyzzA	Play chapter/track (sequence) then repeat until cleared
65	41	A0	Audio-1 off				
		A1	Audio-1 on (default)				
66	42	B0	Audio-2 off				
		B1	Audio-2 on (default)	83	53	SxxF	Set fast speed value, 3, 4, or 8
67	43	C0	Chapter number display off (default)			SxxxS	Set slow speed value, 1/2, 1/4, 1/8, 1/16, 1 step/sec or 1 step/3 sec
		C1	Chapter number display on			SA	# Sound forced analogue (4-channel NTSC disc)
68	44	D0	Picture number/time code display off (default)			SN	# Sound normal (digital sound if available)
		D1	Picture number/time code display on				
		D/	Text on screen				
69	45	E0	Video off	84	54	TmmssffN	Goto time code and play
		E1	Video on (default)			TmmssffI	Load time code information register
		EM	# Video multistandard			TmmssffS	Load time code stop register
		EP	# Video transcoded PAL			TmmssffA	Load time code auto-stop register
		EN	# Video transcoded NTSC			TmmssffP	Goto time code then pause
70	46	Fxxxxl	Load picture number information register			TmmssffNmmssffS	Goto first time code and play until second time code, then halt
		FxxxxS	Load picture number stop register			TmmssffNmmssffA	Goto first time code and play until second time code, then repeat until cleared
		FxxxxR	Goto picture number then Still mode				
		FxxxxN	Goto picture number then normal play forward	85	55	U	Slow motion forward
		FxxxxQ	Goto picture number and continue previous play mode	86	56	V	Slow motion reverse
		FxxxxA	Load picture number autostop register	87	57	W	Fast forward
		FxxxxP	Goto picture number then still mode	88	58	X	Clear
		FxxxxNyyyyyS	Goto picture number xxxxx and play until yyyy then halt.	90	5A	Z	Fast reverse

Notes :

1. Each command must be terminated by a carriage return <CR>.
2. Digits (x,y,z) must be in ASCII; leading zeros are optional.
m, s, f
3. Digits mm,ss,ff represent minutes, seconds, frames.
4. Commands marked # are for VP380 only.

TABLE 2 - ACKNOWLEDGEMENTS BACK TO EXTERNAL COMPUTER

On some F-Code commands, the drive will return a response code to the host computer. These are summarised below.

dec	hex	response syntax (ASCII)	description
79	4F	O	Returned when disc-tray is opened by an F-code command ":" or when disc-tray is open and a command which expects a response is received
83	53	S	Acknowledgement on ON (,1) command when disc reaches correct speed
85	55	U	Acknowledgement on ON (,1) command when no disc is loaded
61	3D	= x1 x2 x3 x4 x5	Returned after revision level request (?=)
70	46	F x1 x2 x3 x4 x5	Returned after picture number request command (?F)
67	43	C x1 x2[x3 x4]	Returned after chapter/number request command (?C)
78	4E	N x1 x2 x3 x4 x5 x6	Returned after track number information request command (?N)
83	53	S x1 x2 x3 x4 x5 x6	Returned after track start time request command (?Snn)
69	45	E x1 x2 x3 x4 x5 x6	Returned after disc lead-out start request command (?E)
68	44	D x1 x2 x3 x4 x5	Returned after disc status request command (?D)
73	49	I x 1...x 12	Returned after disc i.d. request command (?I)
80	50	P x1 x2 x3 x4 x5	Returned after drive status request command (?P)
84	54	T x1 x2 x3 x4 x5 x6	Returned after time code request command (?T)
85	55	U x1 x2 x3 x4 x5	Returned after user code request command (?U)
88	58	X	Returned after ?F, ?C, ?T, ?N, ?Snn, ?I, ?D, ?E, ?U when information is not available
65	41	A 0	Acknowledgement on FxxxxR, FxxxxQ or FxxxxP when completed
		A 1	Acknowledgement on FxxxxN when completed, or on FxxxxNyyyyyS or FxxxxNyyyyyA when started
		A 2	Acknowledgement on FxxxxS when stopped, or on FxxxxNyyyyyS when completed
		A 3	Acknowledgement on FxxxxI when passed
		A 4	Acknowledgement on TmmssffS when stopped, or on TmmssffNmmssffS when completed
		A 5	Acknowledgement on FxxxxA or TmmssffA when stopped
		A 6	Acknowledgement on QxxN, or QxxR, when completed
		A 7	Acknowledgement on QxyyzzS when completed

dec	hex	response syntax (ASCII)	description
		A 8	Acknowledgement on TmmssffN or TmmssffP when completed, or on TmmssffNmmssffS or TmmssffNmmssffA when started
		A 9	Acknowledgement on TmmssffI when passed
		A N	Negative acknowledgement : picture number, chapter number or time code in error

Notes :

1. Each response is terminated by a carriage return <CR>.
2. All response characters, including leading zeros, are sent.
3. Digits (x1...x12) are in ASCII.

Additional information

TABLE 3 - DRIVE RESPONSES TO COMPUTER ON COMMANDS FROM REMOTE CONTROL HANDSET (OPTIONAL)

Drive commands from remote control handset when routed to host computer, after H1 command (RC to computer on), are of the form :

dec	hex	syntax
76	4C	L x

Where x is given by the following codes :

EJECT	E
STANDBY	,
DISPLAY	!
NEXT	*
CLEAR	X
ENTER	P
START/REPEAT	F
AUDIO 1	A
AUDIO 2	B
CNR	R
PNR	D
CORR	C
GOTO	K
FAST >	W
FAST <	Z
SLOW >	U
SLOW <	T
SPEED +	H
SPEED -	G
TXT	Y
PAUSE	V
SEARCH >	>
SEARCH <	<
STILL >	L
STILL <	M
PLAY >	N
PLAY <	O
CX	(

Note :

There is no EJECT button on the VP131 remote control handset.

Similarly, when an H1 command routes RC commands to the host computer, the numeric keys of the remote control handset, will give a response of the form :

dec	hex	syntax
86	56	V x

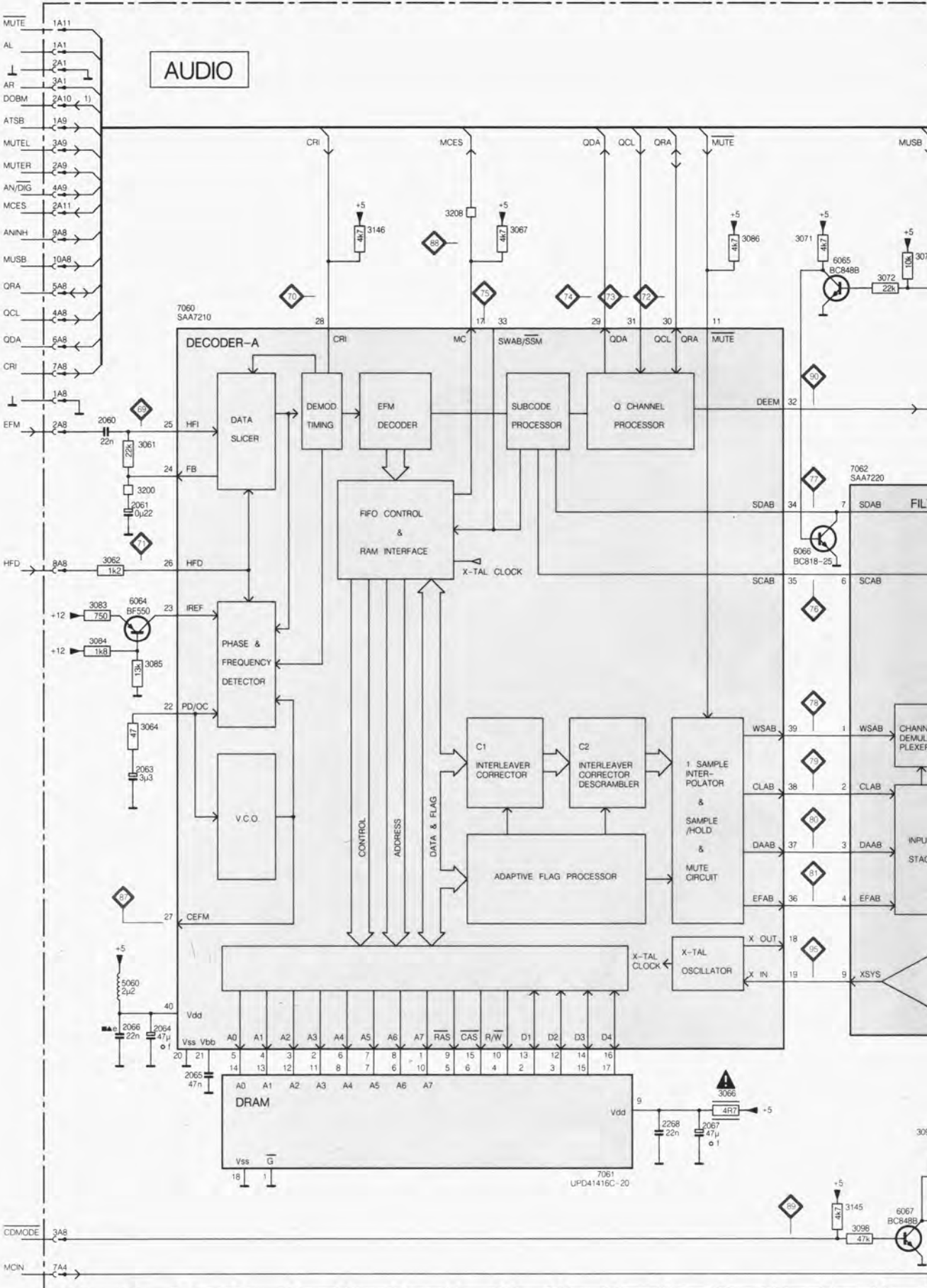
Where x is the key value in ASCII :

DIGIT 0	0
DIGIT 1	1
DIGIT 2	2
DIGIT 3	3
DIGIT 4	4
DIGIT 5	5
DIGIT 6	6
DIGIT 7	7
DIGIT 8	8
DIGIT 9	9

Nota : Each response is terminated by a carriage return <CR>.

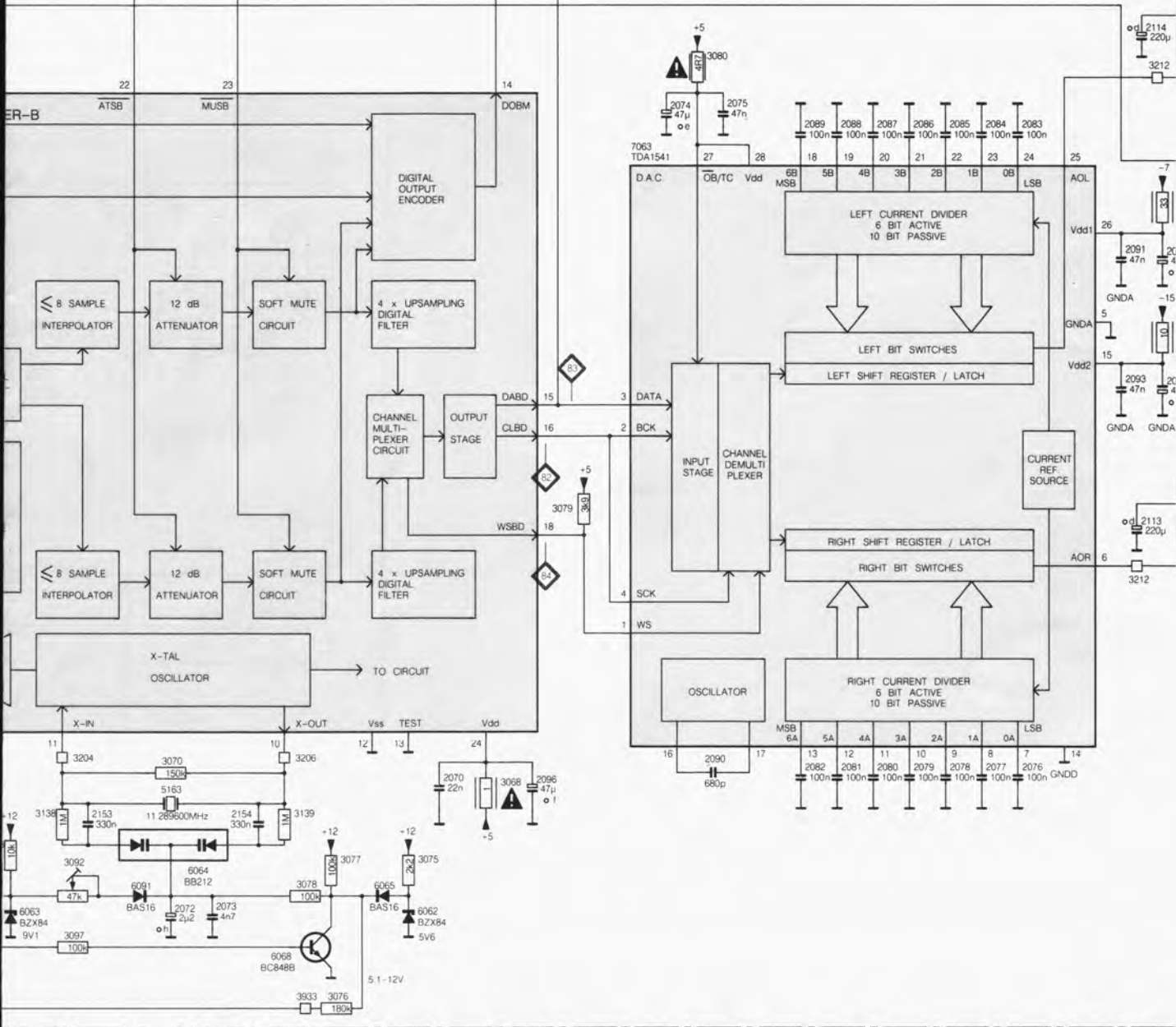
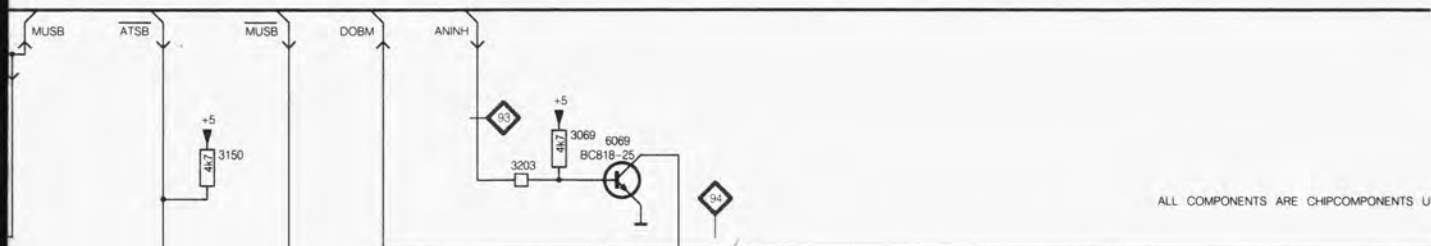
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2064	L 3	2073	N14	2079	M20	2085	F21	2091	H22	2098	C33	2105	H24	2114	E23	2122	E24	2135	E30	2143	O35	2149	K29	2268	M 8	3068
2065	M 3	2074	F18	2080	M20	2086	F20	2092	H23	2099	A37	2107	F26	2117	L31	2123	E24	2136	K30	2144	O34	2150	F32	3061	F 3	3069

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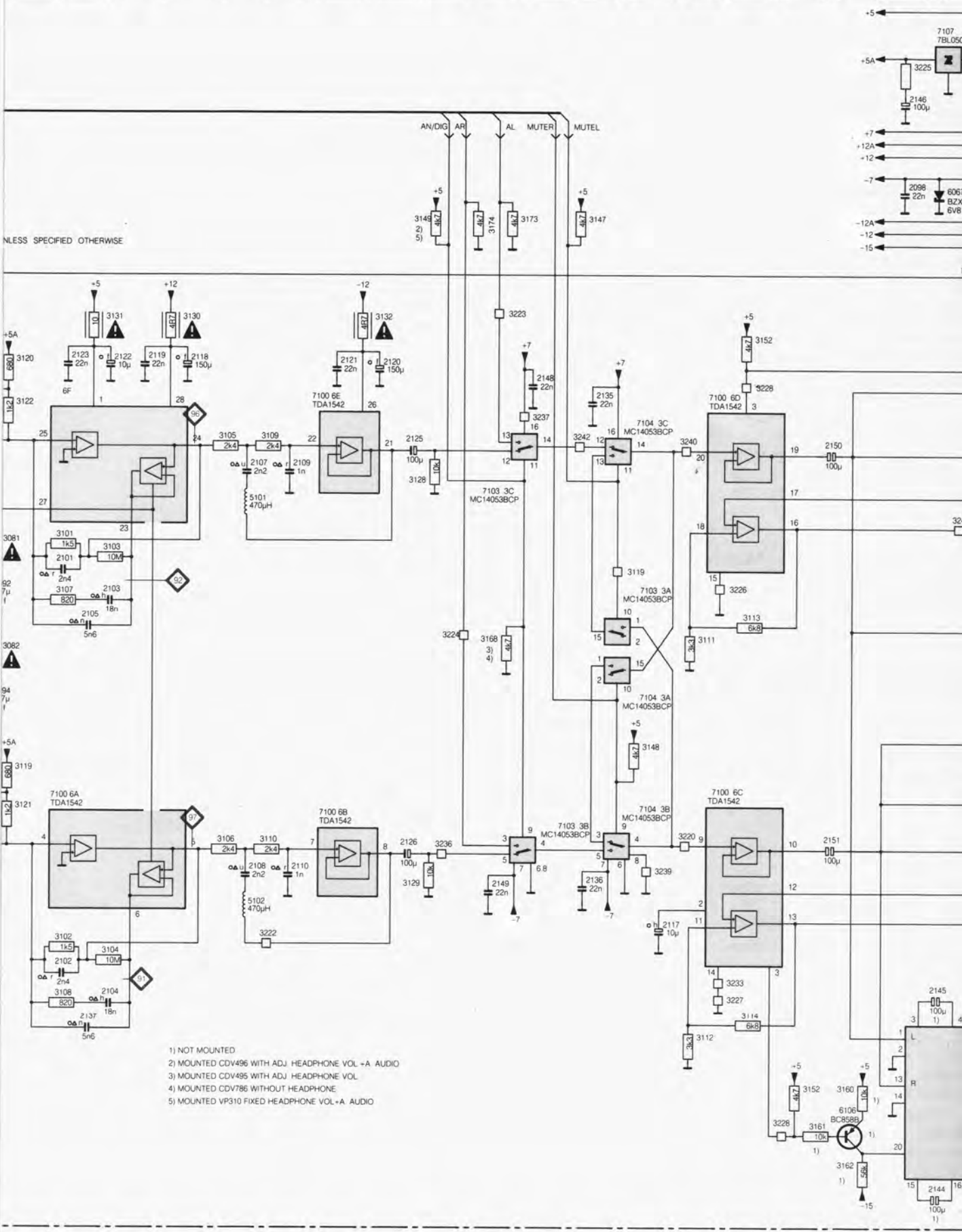
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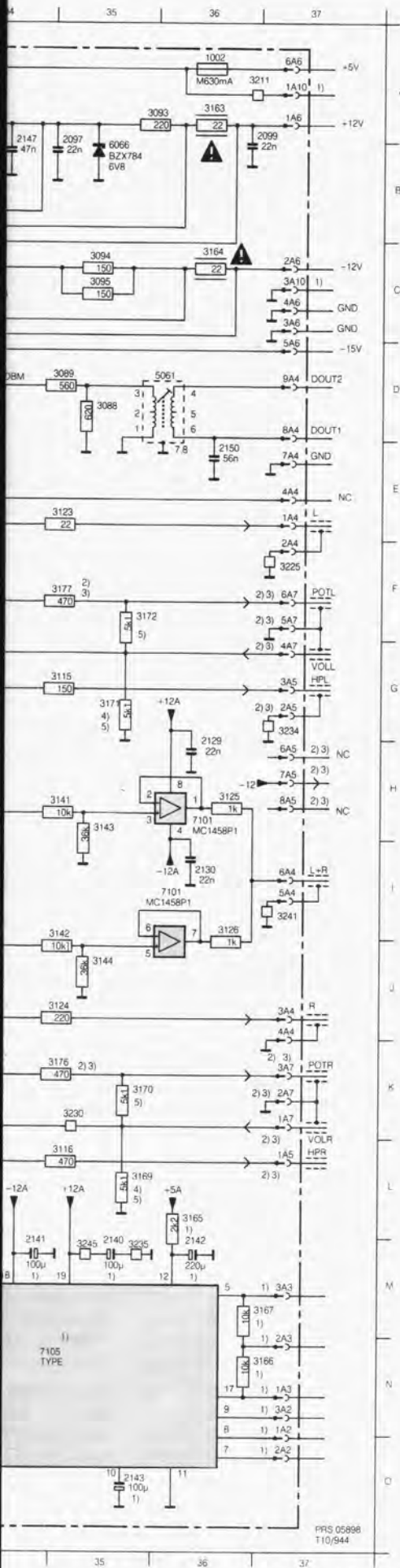


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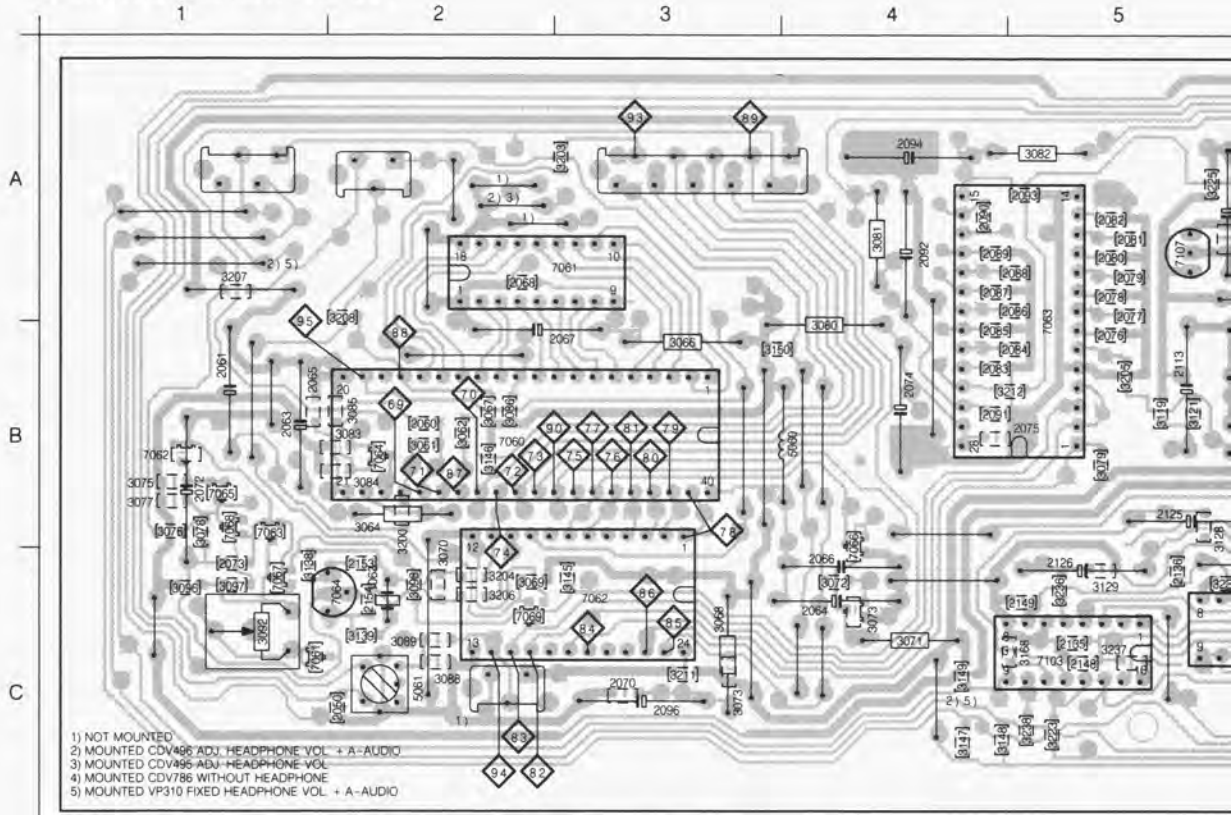
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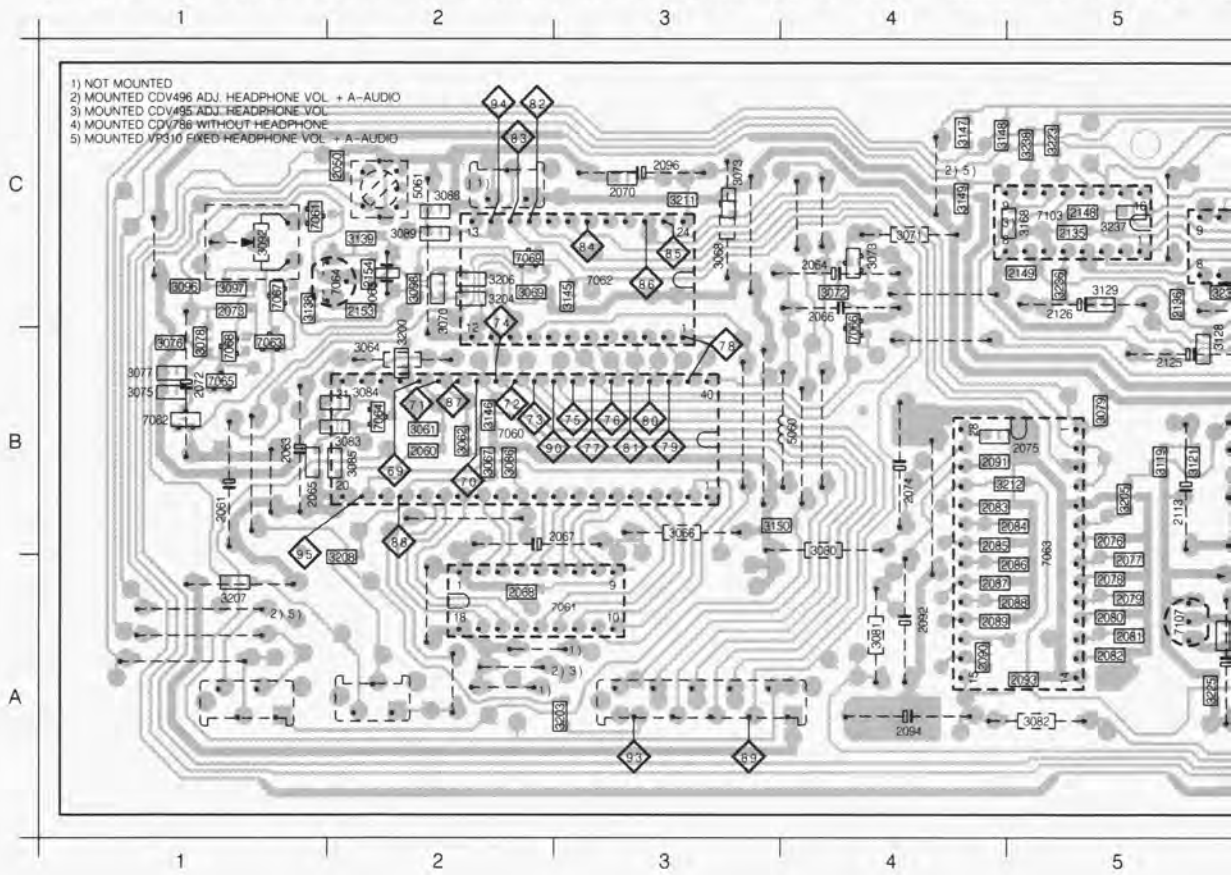
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- 2) MOUNTED CDV496 WITH ADJ HEADPHONE VOL +A AUDIO
- 3) MOUNTED CDV495 WITH ADJ HEADPHONE VOL
- 4) MOUNTED CDV786 WITHOUT HEADPHONE
- 5) MOUNTED VP310 FIXED HEADPHONE VOL +A AUDIO



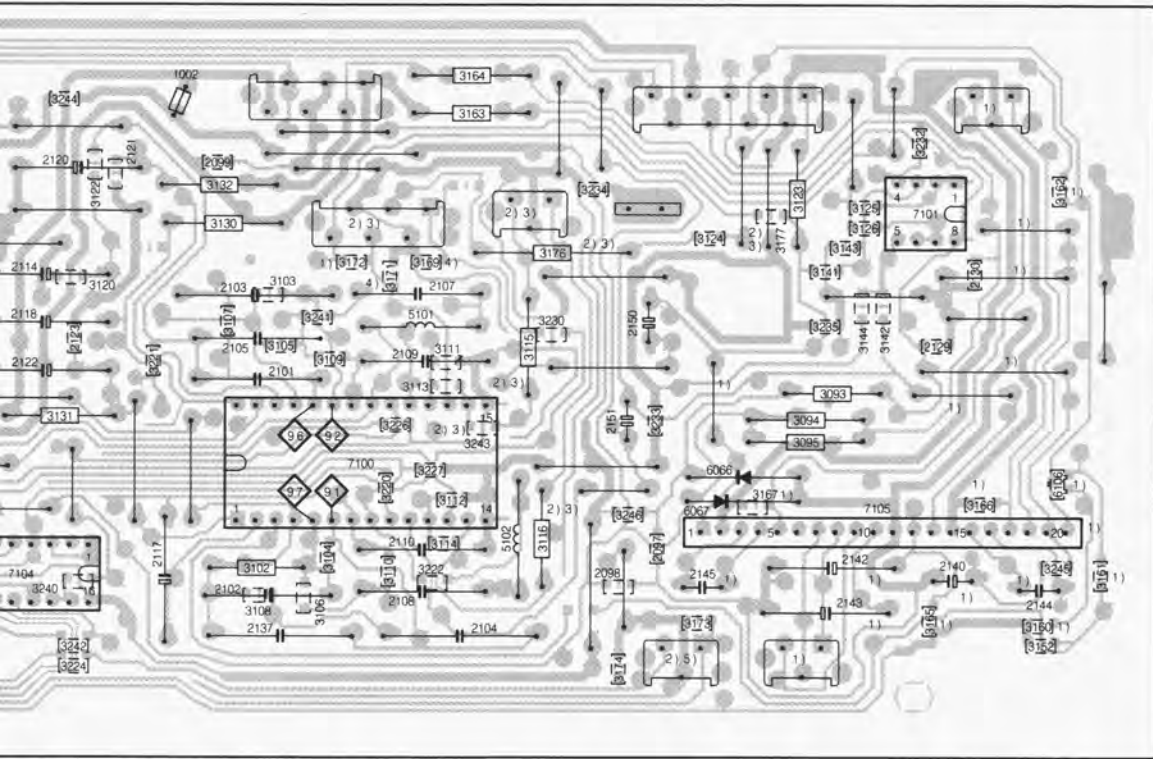
DIGITAL AUDIO PRINT LAY-OUT



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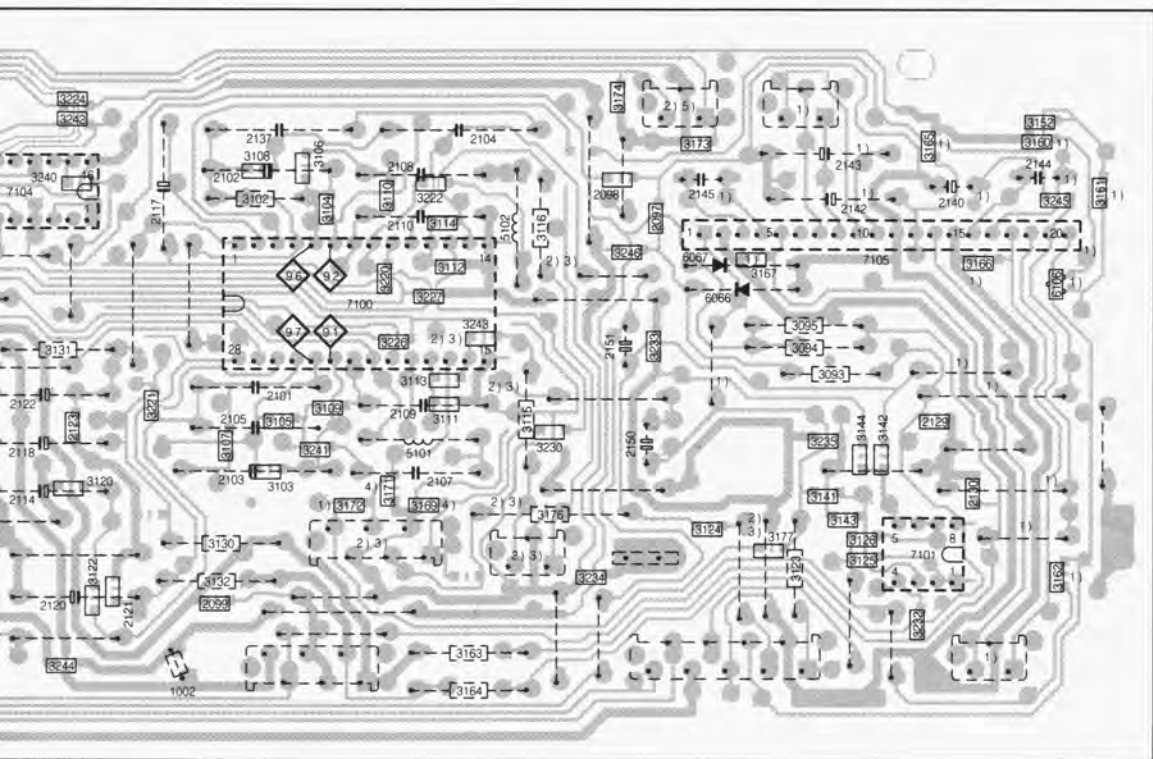


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1 B7	3122 A6	3132 A6	3147 C4	3164 A8	3174 C8	3208 B2	3226 B7	3238 C5	5060 B4	7061 C1	7067 C1	
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5 B8	3126 A9	3142 B9	3152 C10	3168 C5	3203 A3	3221 B6	3233 B8	3242 C6	6066 B9	7063 B5	7101 A10	
6 C8	3128 C5	3143 A9	3160 C10	3169 B7	3204 C2	3222 C7	3234 A8	3243 B8	6067 C9	7064 B2	7103 C5	
9 B5	3129 C5	3144 B9	3161 C10	3171 B7	3205 B5	3223 C5	3235 B9	3244 A6	6106 C10	7064 C2	7104 C6	
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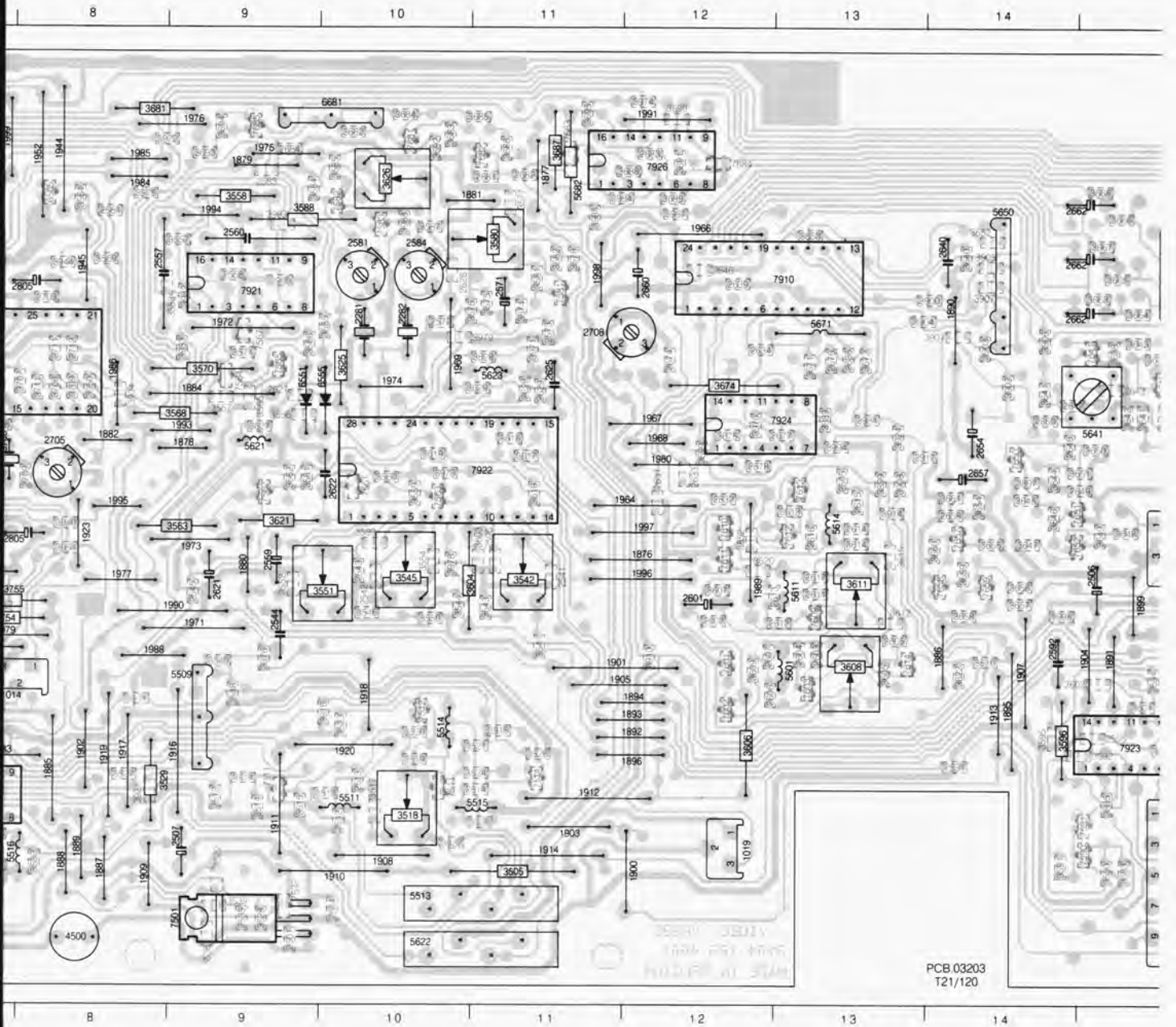
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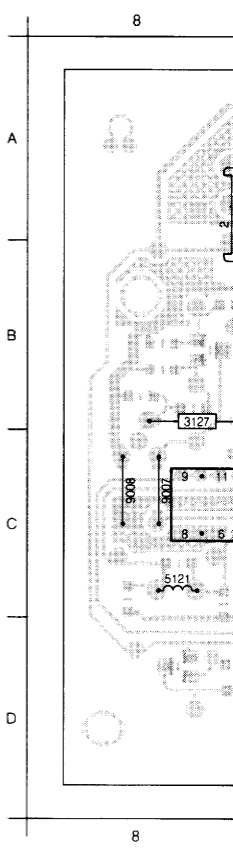


PCB 03203
T21/120

PARTSLIST ANALOG AUDIO

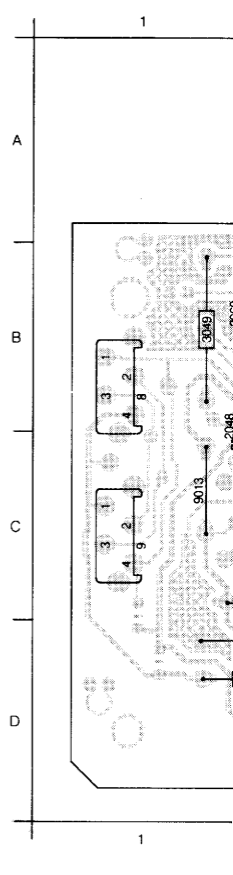
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 3008 4822 050 15602 5K60 1% 0,4W 3012 4822 050 21203 12K00 1% 0,6W 3016 4822 050 21302 1K30 1% 0,6W 3017 4822 050 23602 3K60 1% 0,6W 3031 4822 050 24302 4K30 1% 0,6W 3032 4822 050 22202 2K20 1% 0,6W 3049 4822 050 22202 2K20 1% 0,6W 3093 4822 050 21002 1K00 1% 0,6W 3094 4822 050 21002 1K00 1% 0,6W 3095 4822 050 21002 1K00 1% 0,6W 3096 4822 050 21002 1K00 1% 0,6W 3111 4822 052 10109 10R00 5% 0,33W 3112 4822 052 10109 10R00 5% 0,33W 3113 4822 052 10478 4R70 5% 0,33W	 7001 4822 209 63698 HA12127ANT 7002 5322 209 10576 MC14053BCP 7003 5322 209 10576 MC14053BCP 7111 4822 209 73233 MC79L05ACP
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Chipside

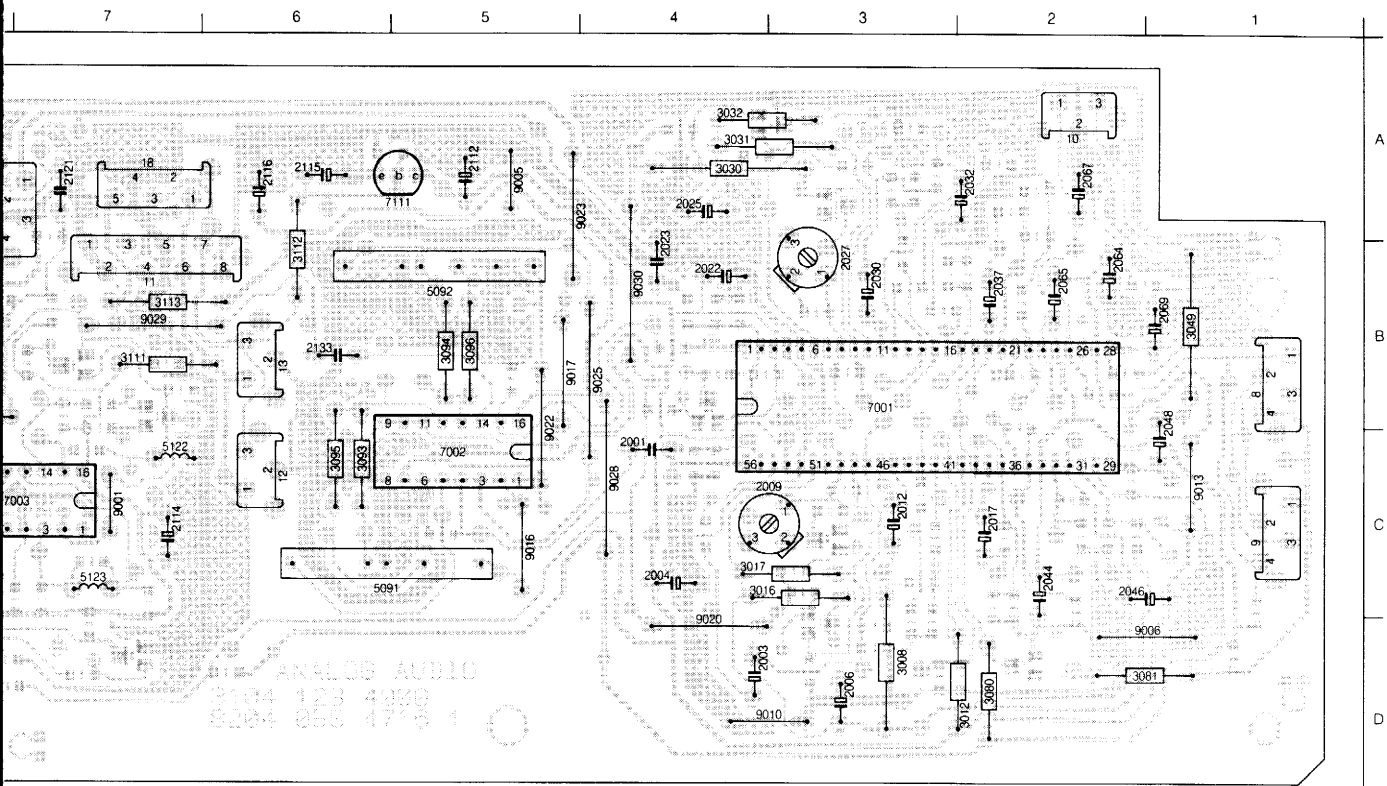


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11	B7	2012	C3
12	C6	2013	C3
13	B6	2014	D3
18	A7	2015	C3
2001	C4	2016	D2
2002	C4	2017	C2
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component side

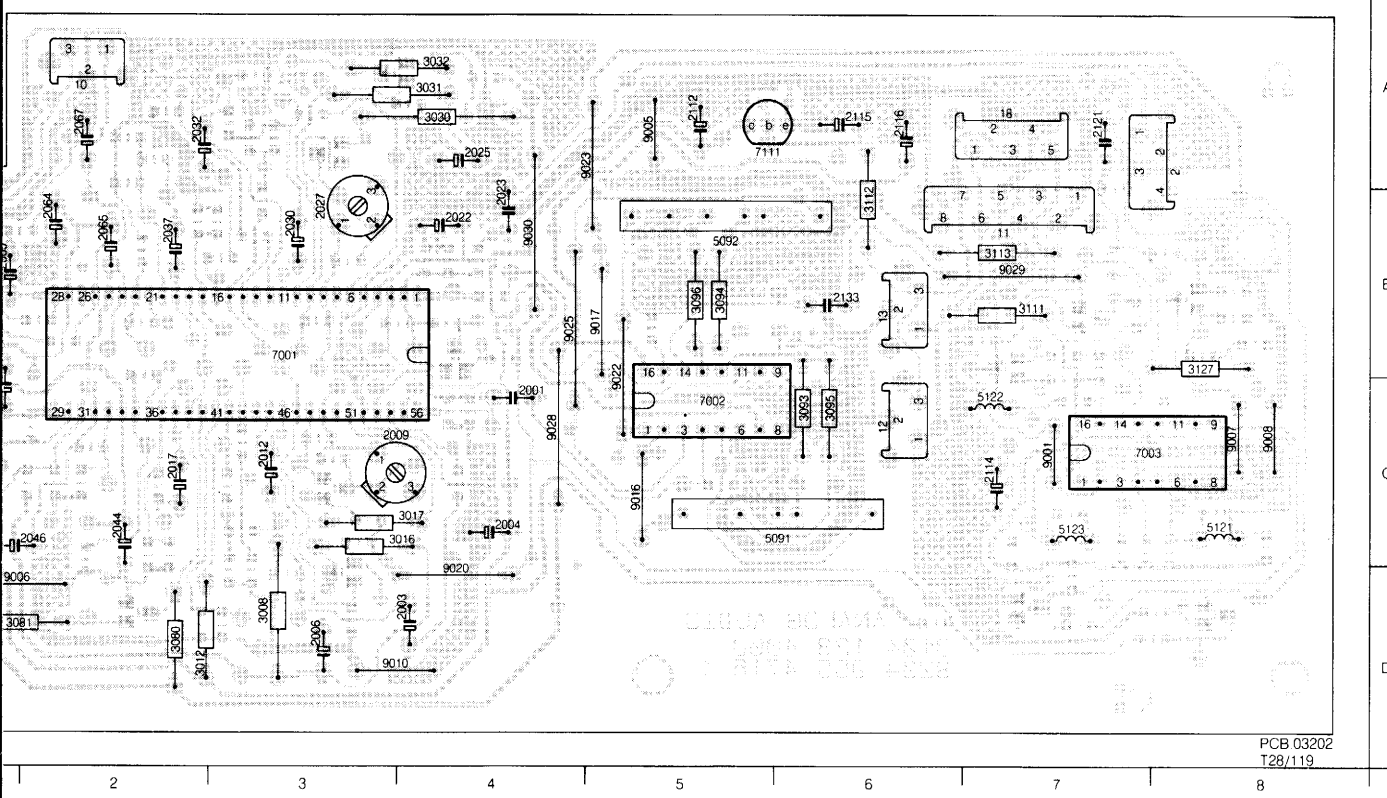


Analog audio panel lay-out



PCB 03250
T28/122

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2026 A3	2044 C2	2115 A6	3007 C4	3021 B4	3036 B4	3091 C5	3121 B7	5092 B5	7103 D7	9020 D4
2027 B3	2045 C2	2116 A6	3008 D3	3022 B3	3037 B4	3092 B5	3122 B7	5121 C8	7111 A5	9022 C5
2028 B3	2046 C2	2121 A7	3009 D3	3024 B3	3043 D2	3094 C5	3123 B8	5123 C7	7121 B8	9025 A5
2029 B3	2047 C2	2122 B8	3010 C3	3025 A2	3046 C2	3094 B5	3124 B8	5123 C7	7123 C7	9025 B4
2030 B3	2048 C1	2123 B8	3011 D3	3026 B3	3047 C2	3095 C6	3125 B8	7001 B3	7131 B7	9028 C4
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2033 B3	2065 B2	2127 D8	3014 C3	3029 A3	3063 B2	3102 D7	3128 C7	7011 C3	9006 D1	
2034 A3	2067 A2	2128 C7	3015 C3	3030 A4	3064 B2	3103 D7	3129 B7	7012 D3	9007 C8	
2035 B3	2068 B2	2129 D7	3016 C3	3031 A4	3065 D1	3106 D7	3130 C7	7031 A5	9008 C8	
2036 B2	2069 B1	2131 C8	3017 C4	3032 A4	3067 B1	3107 D7	3134 B7	7032 A4	9010 C3	
2037 B2	2111 A5	2132 C7	3018 C2	3033 A4	3080 D2	3111 B7	3136 B7	7033 B4	9013 C1	



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