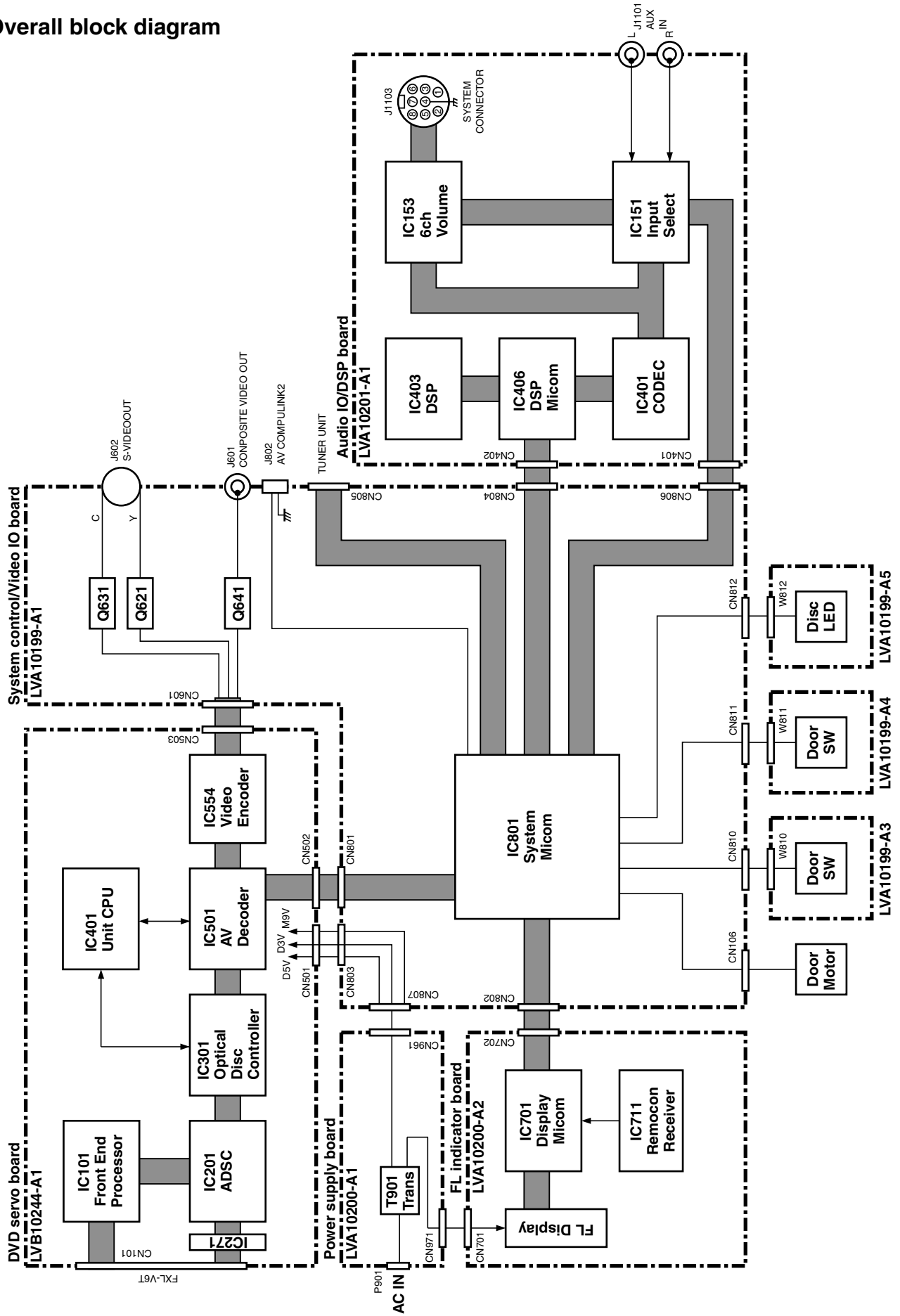
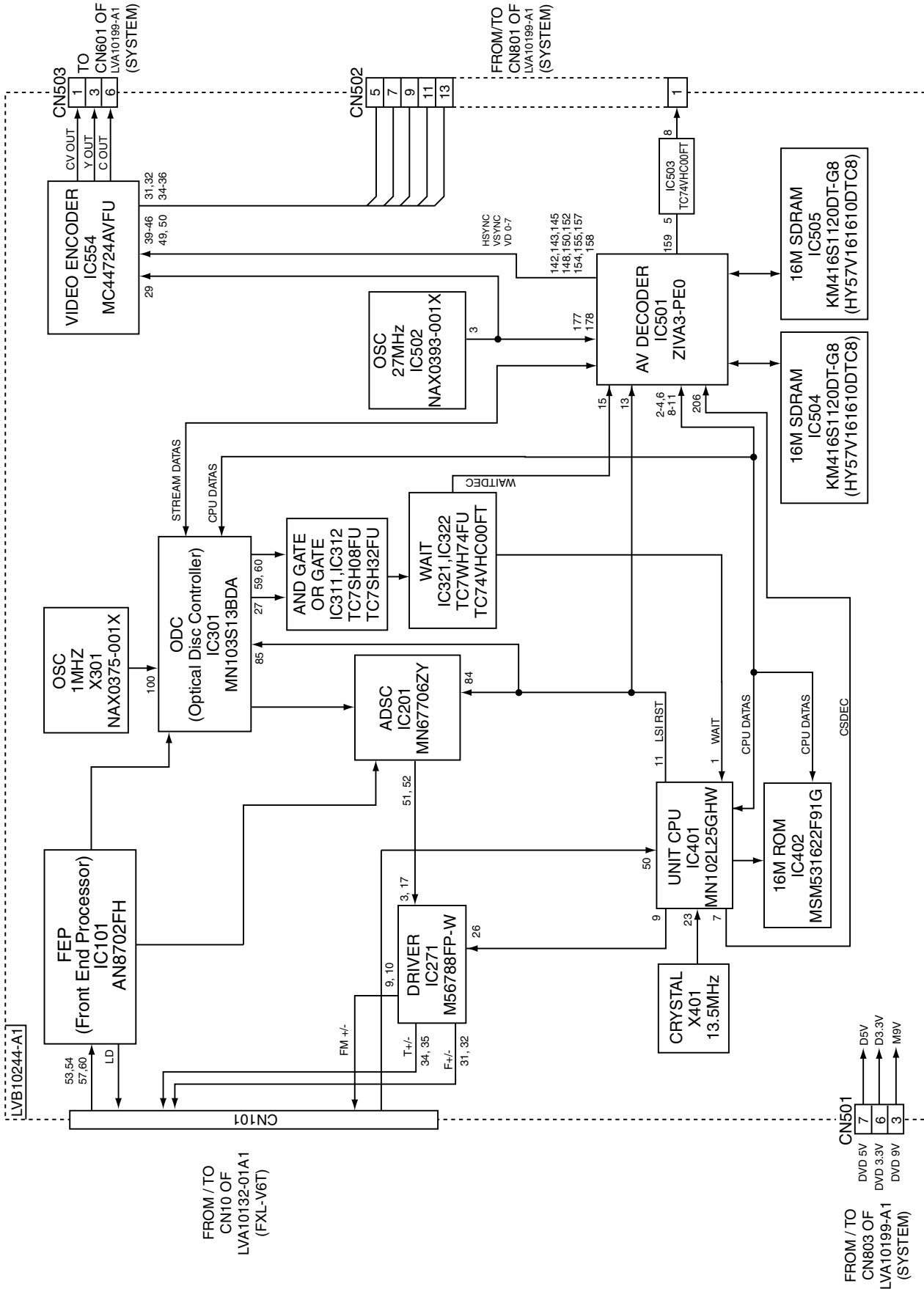


# Block diagrams

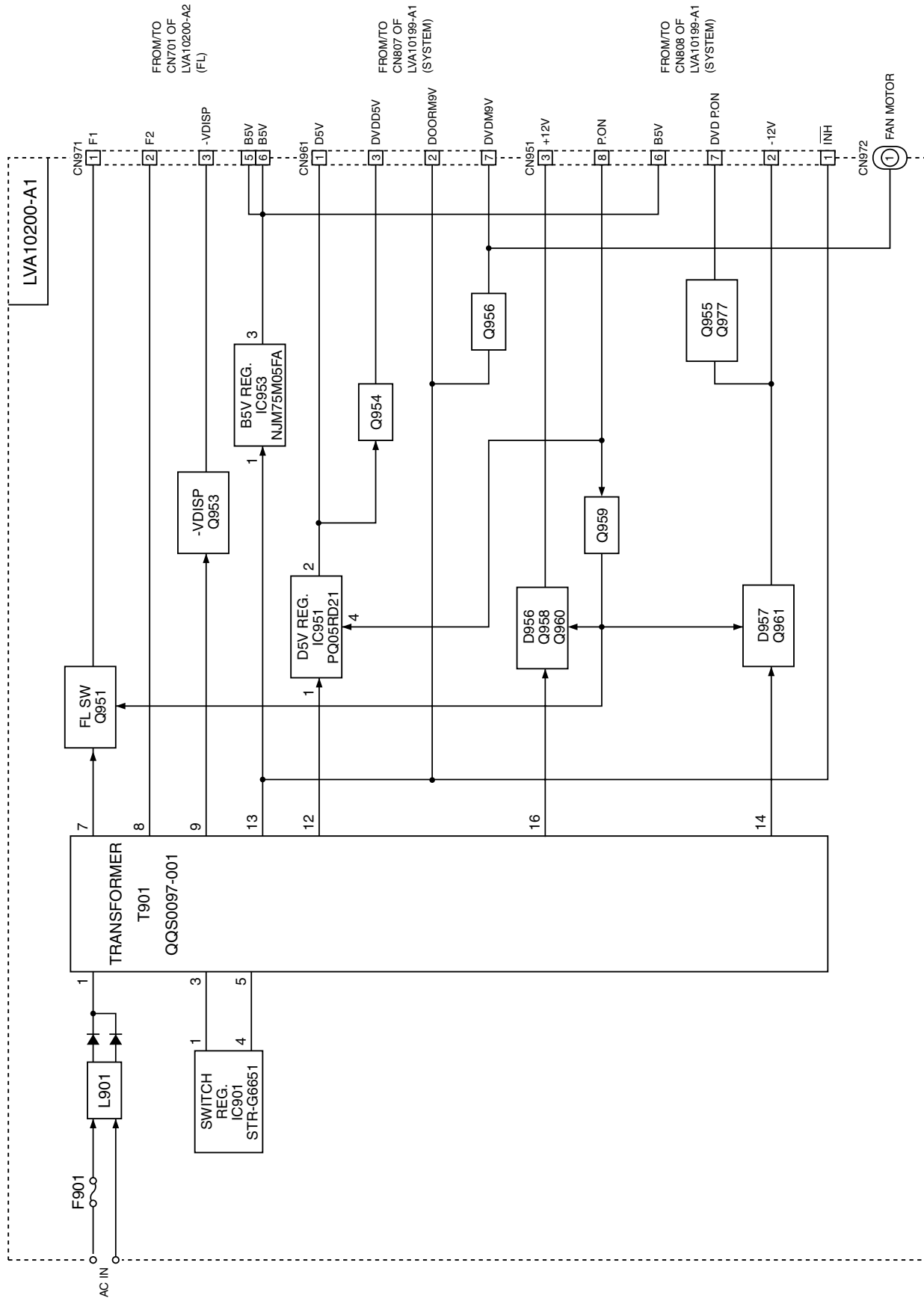
## Overall block diagram



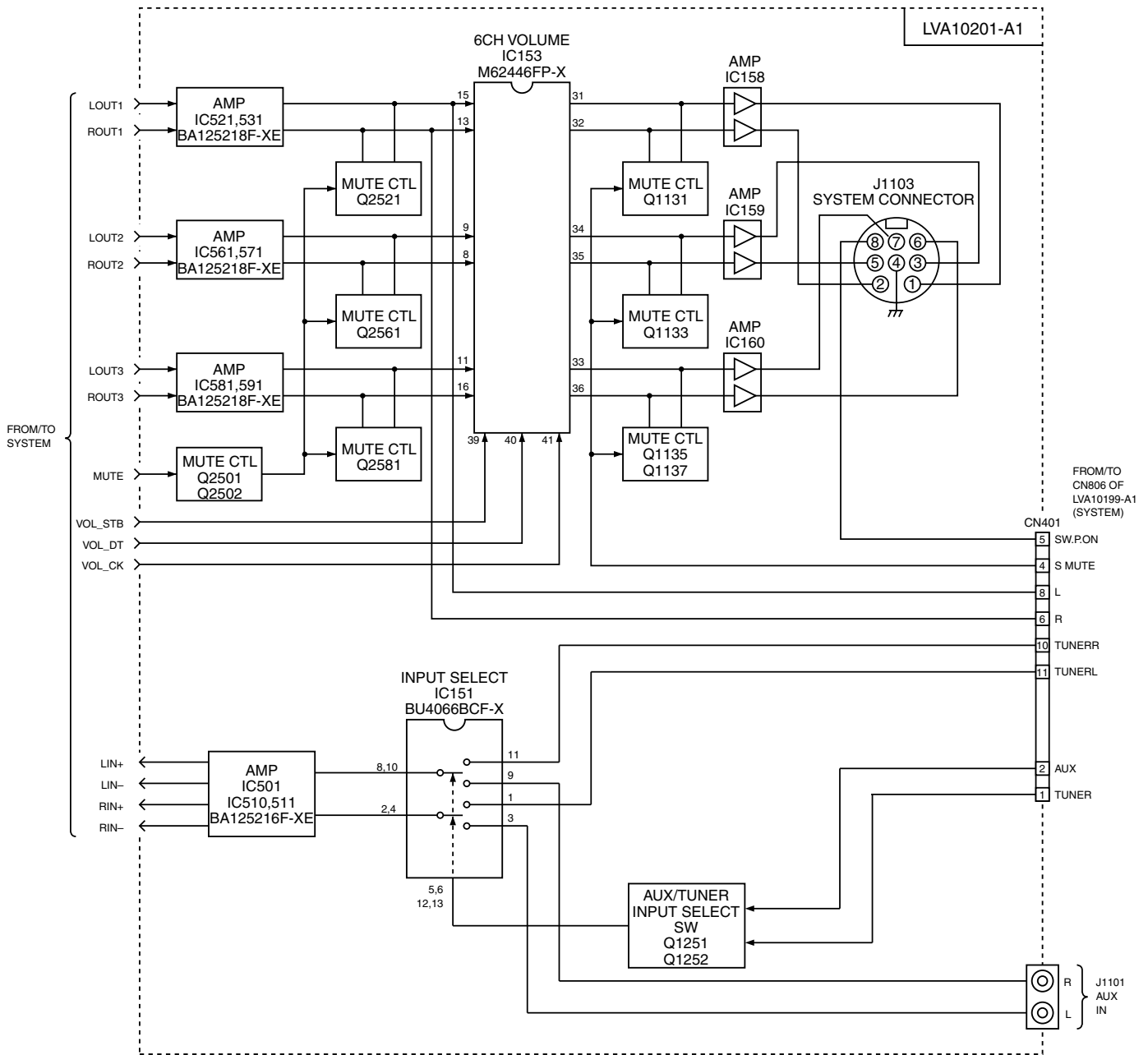
Overall block diagram



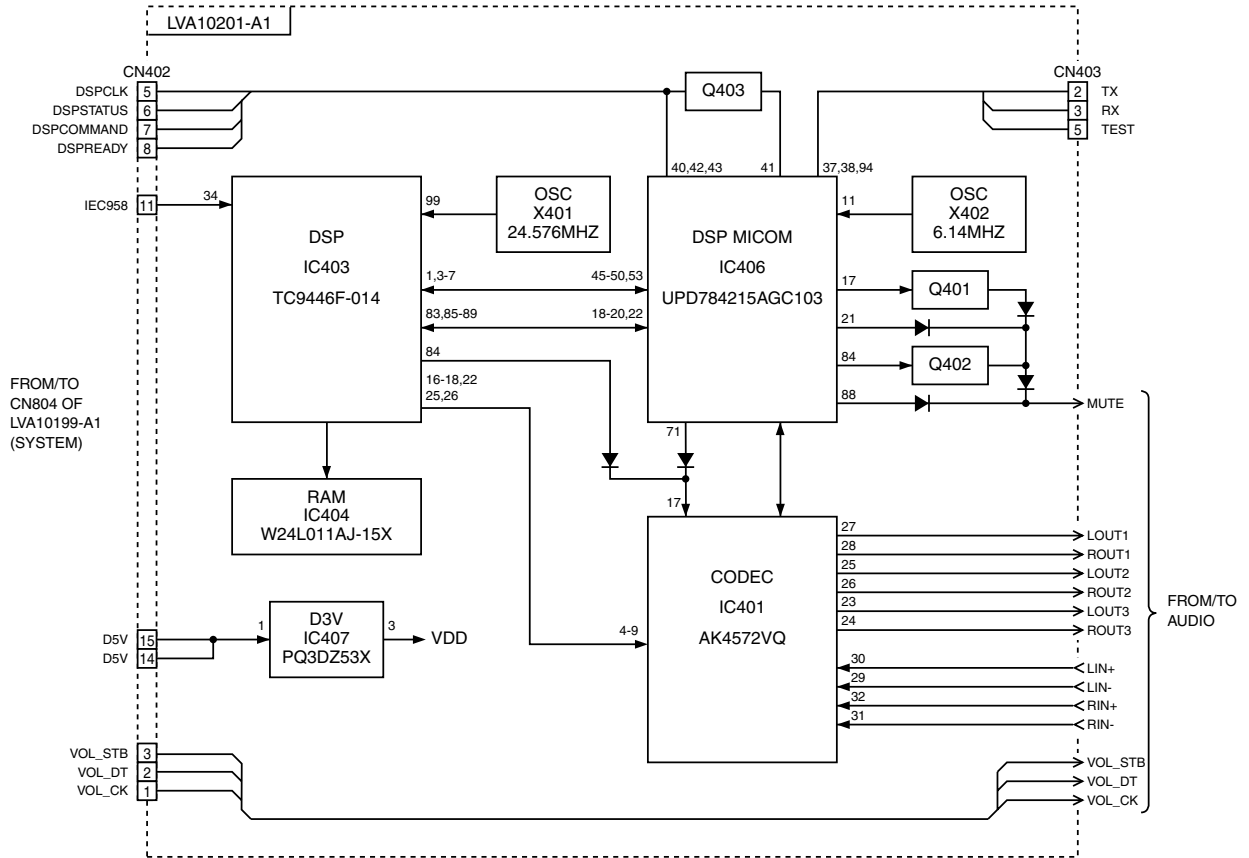
■ Block diagram (power supply section)



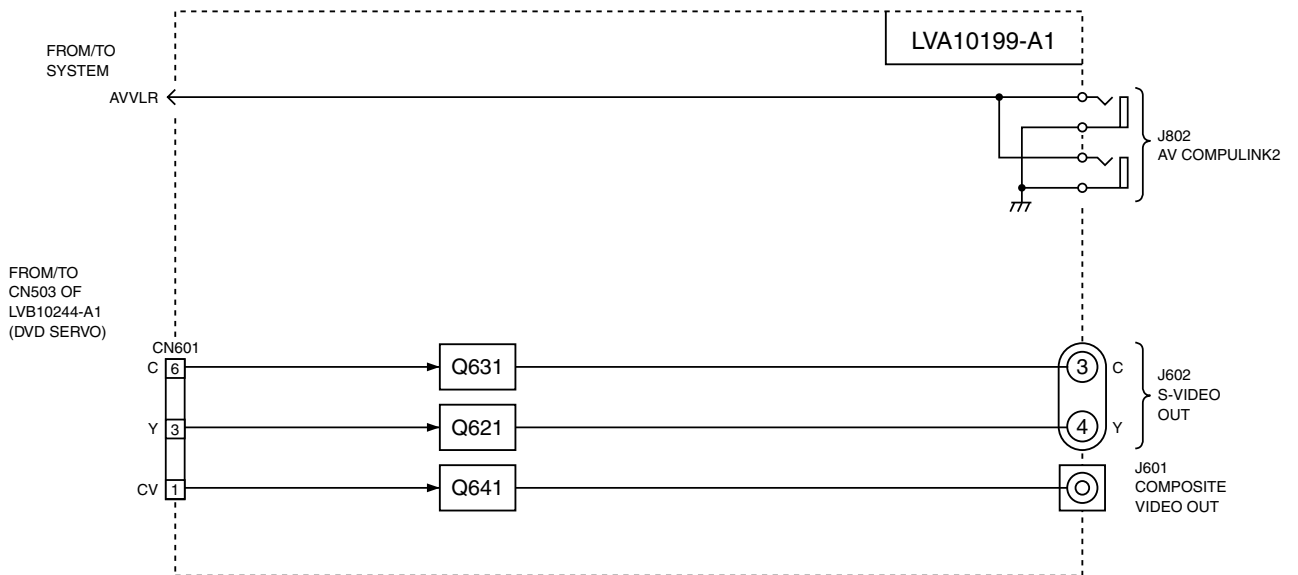
■ Block diagram (audio input/output section)



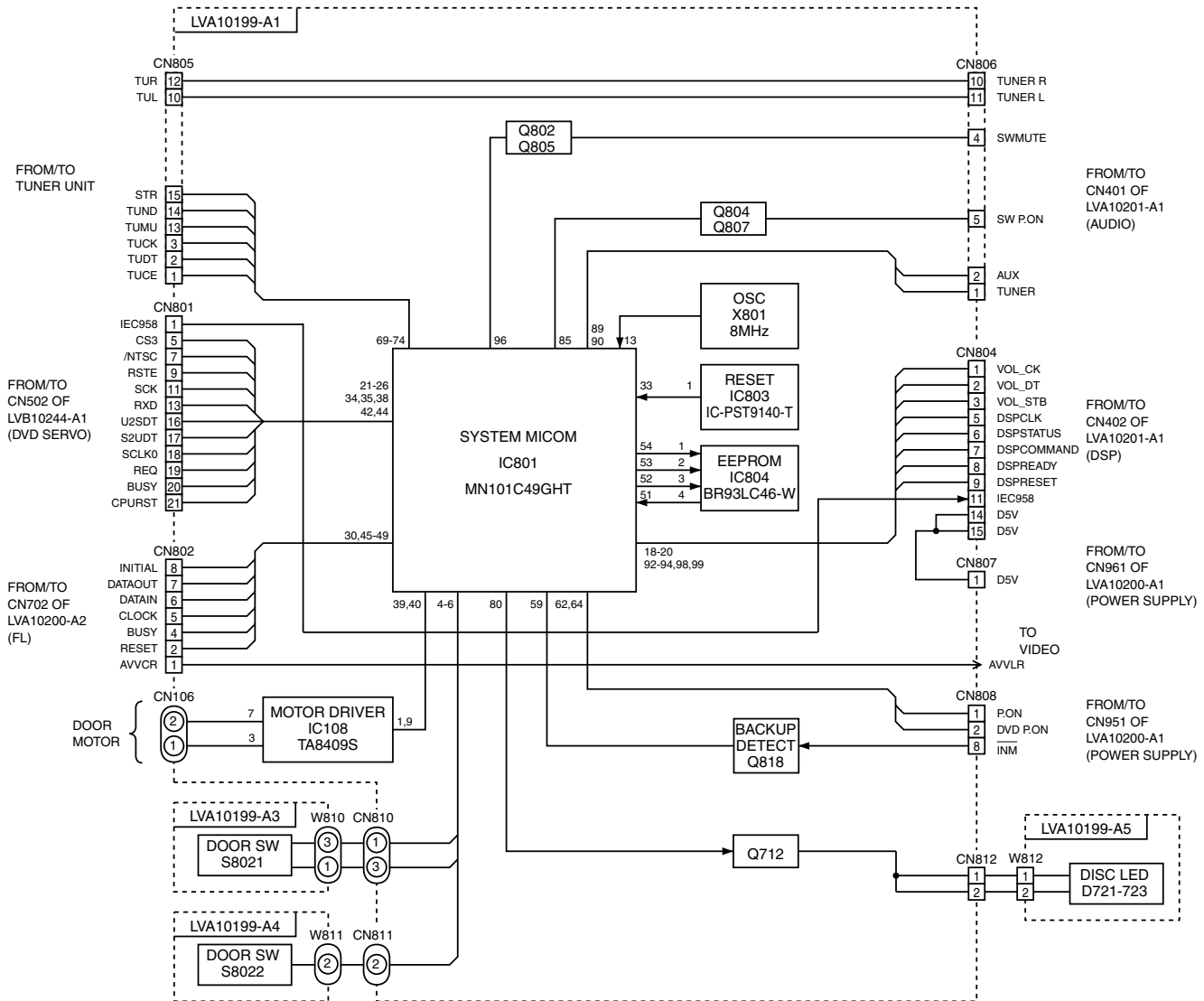
■ Block diagram (DSP section)



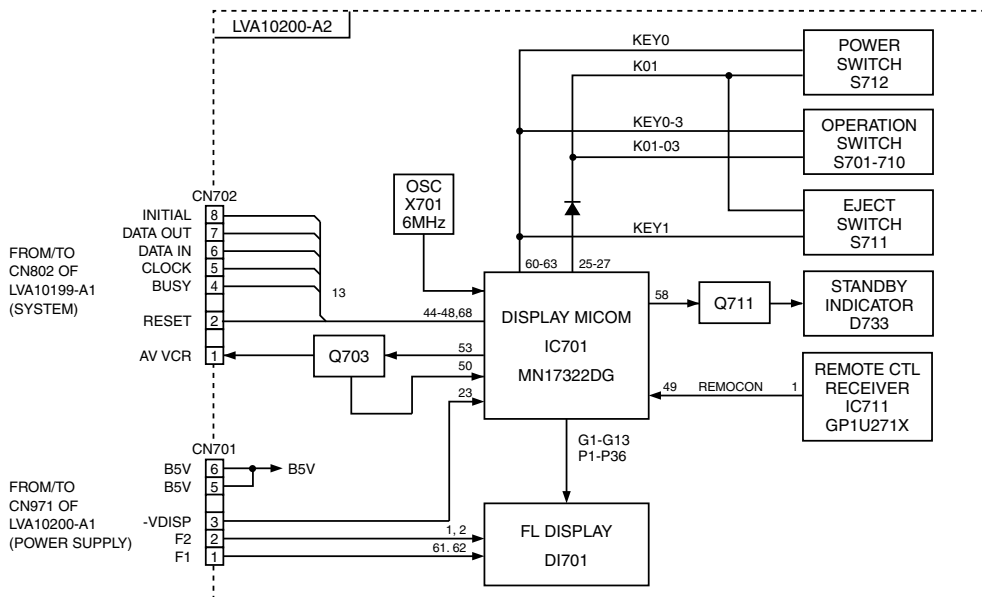
■ Block diagram (video input/output section)



■ Block diagram (system control section)



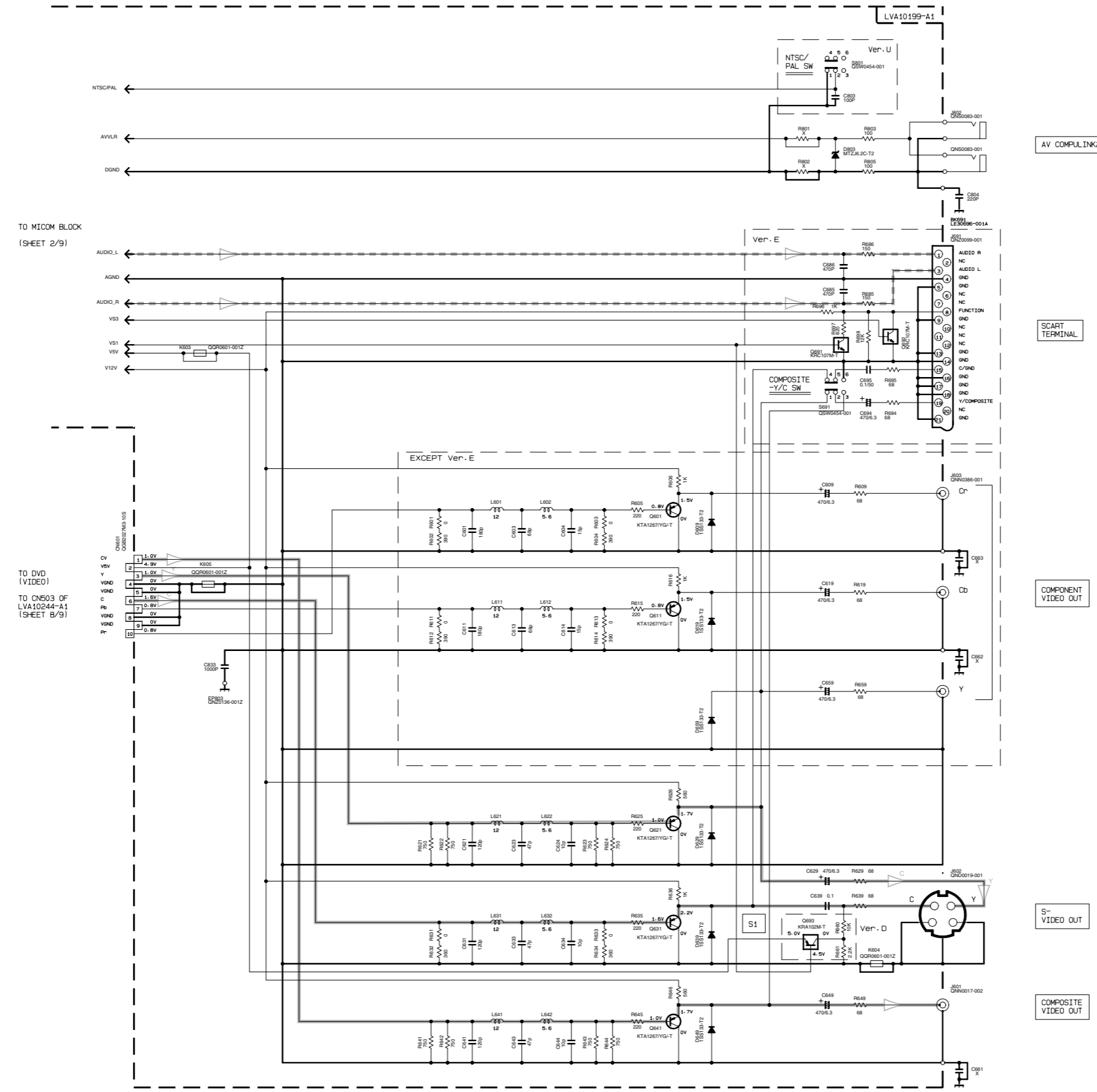
■ Block diagram (FL section)





Video input/output circuit

7  
6  
5  
4  
3  
2  
1



- Video (composite) signal
- Video (Y) signal
- Video (C) signal
- Audio signal

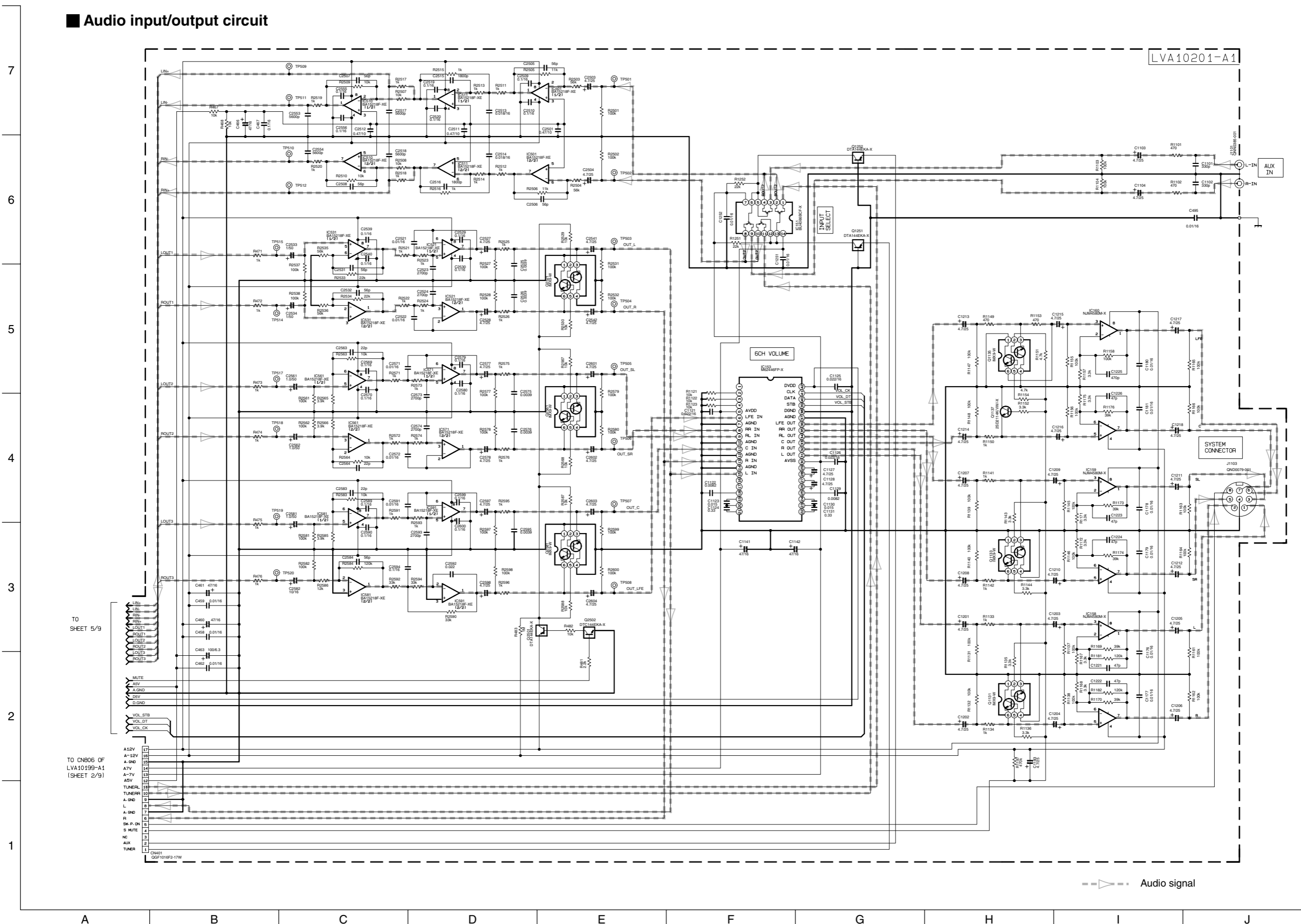
S-VIDEO OUT  
COMPOSITE VIDEO OUT

NOTES  
1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL.  
CONDITION — POWER ON DVD STOP  
2. UNLESS OTHERWISE SPECIFIED:  
ALL RESISTORS ARE 1/4W 5% CARBON RESISTOR.  
ALL CAPACITORS ARE 50V CERAMIC CAPACITOR.  
ALL RESISTANCE VALUES ARE IN OHM(S).  
ALL CAPACITANCE VALUES ARE IN UF(PMF1).  
ALL E-CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(UF)/RATED VOLTAGE (V).  
ALL DIODES ARE 1SS133-12.

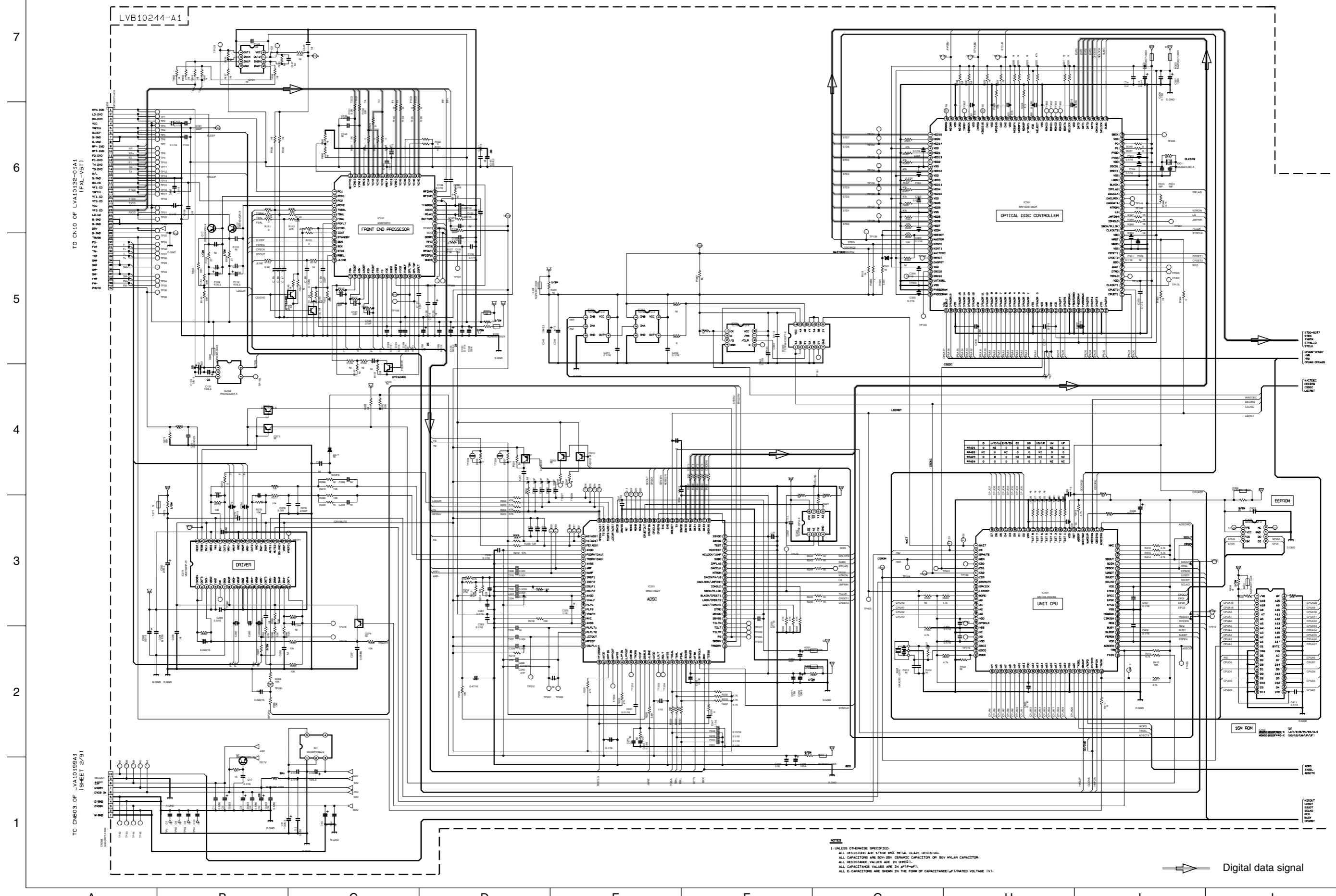
A B C D E F G H I J



Audio input/output circuit



DVD servo circuit 1/2



TO CN10 OF LVA10132-01A1 (FAL-V6T)

TO CNB03 OF LVA10199A1 (SHEET 2/9)

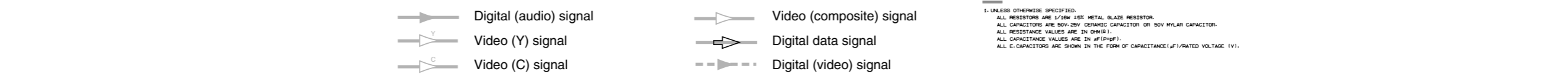
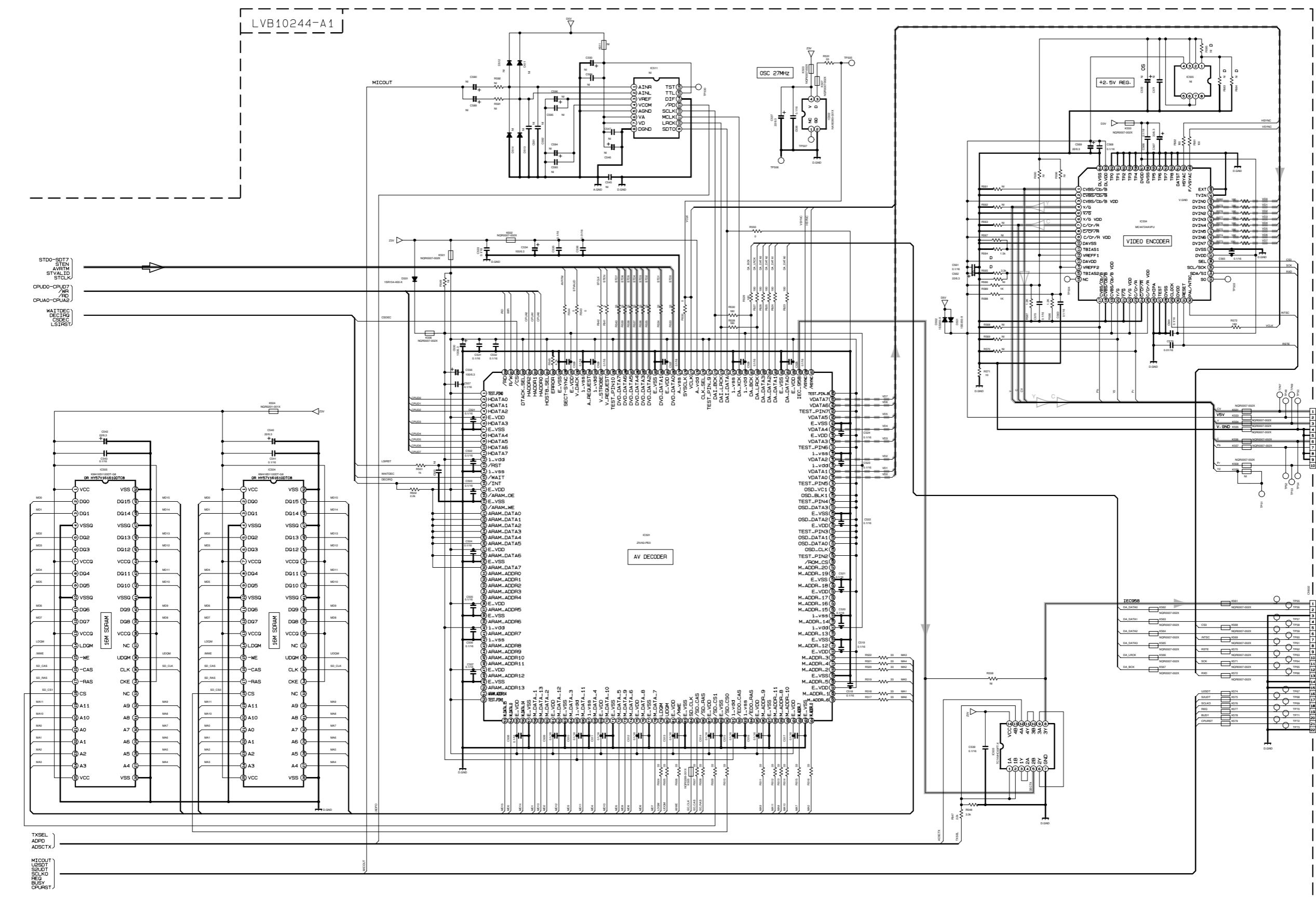
PHASE	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
PHASE 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
PHASE 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
PHASE 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PHASE 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NOTES:  
 1. UNLESS OTHERWISE SPECIFIED:  
 ALL RESISTORS ARE 1/16W 45K METAL GLAZE RESISTOR.  
 ALL CAPACITORS ARE 50V 20% CERAMIC CAPACITOR OR 50V POLYMER CAPACITOR.  
 ALL RESISTANCE VALUES ARE IN OHMS (Ω).  
 ALL CAPACITANCE VALUES ARE IN pF (pF).  
 ALL G-CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE (pF)/RATED VOLTAGE (V).

Digital data signal

DVD servo circuit 2/2

7  
6  
5  
4  
3  
2  
1



A B C D E F G H I J

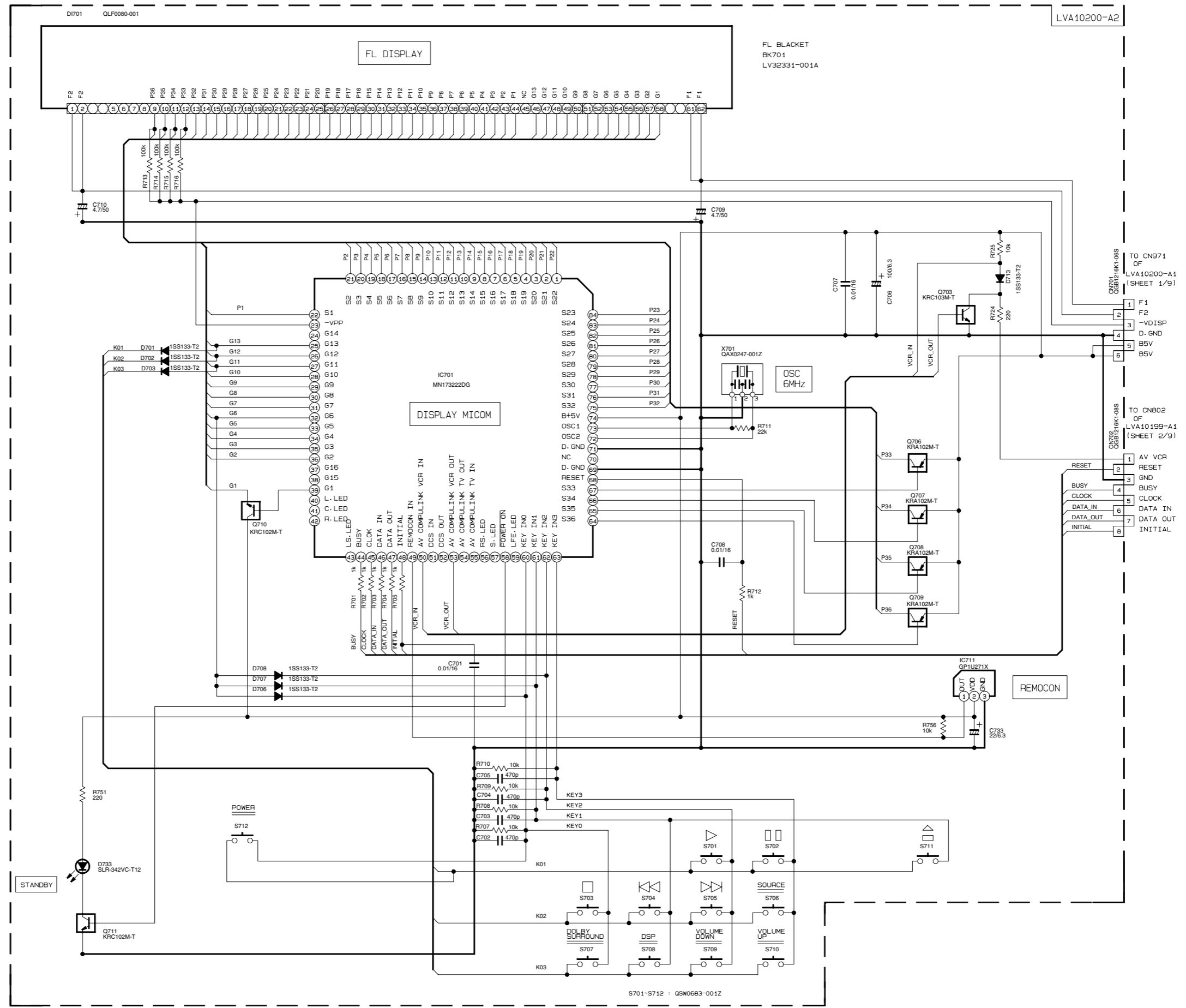
TO CN601 OF LVA10199A1 (SHEET 3/9)

TO CN601 OF LVA10199A1 (SHEET 2/9)

NOTES  
1- UNLESS OTHERWISE SPECIFIED:  
ALL RESISTORS ARE 1/8W ±5% METAL GLAZE RESISTOR.  
ALL CAPACITORS ARE 50V, 25V CERAMIC CAPACITOR OR 50V MYLAR CAPACITOR.  
ALL RESISTANCE VALUES ARE IN OHMS (Ω).  
ALL CAPACITANCE VALUES ARE IN PICOFARAD (PF).  
ALL E. CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE (μF)/RATED VOLTAGE (V).

FL circuit

7  
6  
5  
4  
3  
2  
1

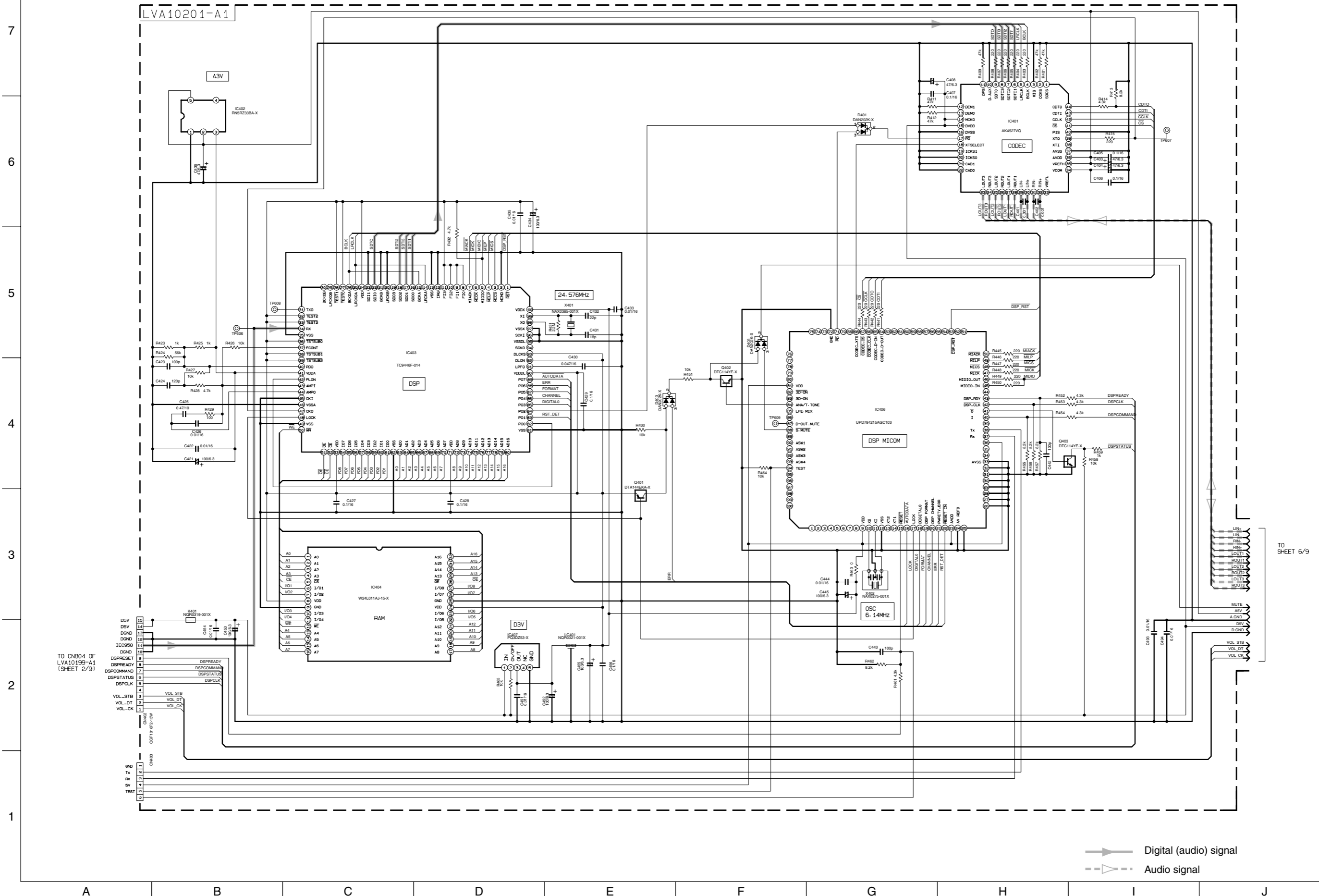




Version	D706	D707	D708
D	NONE	USE	NONE
C/J	NONE	NONE	NONE
B/E/EN/EE	USE	NONE	NONE
UG/UJ/UP/US	NONE	NONE	USE
UM	NONE	USE	USE

S701-S712 : OSW0683-001Z

A B C D E F G H I J

DSP circuit

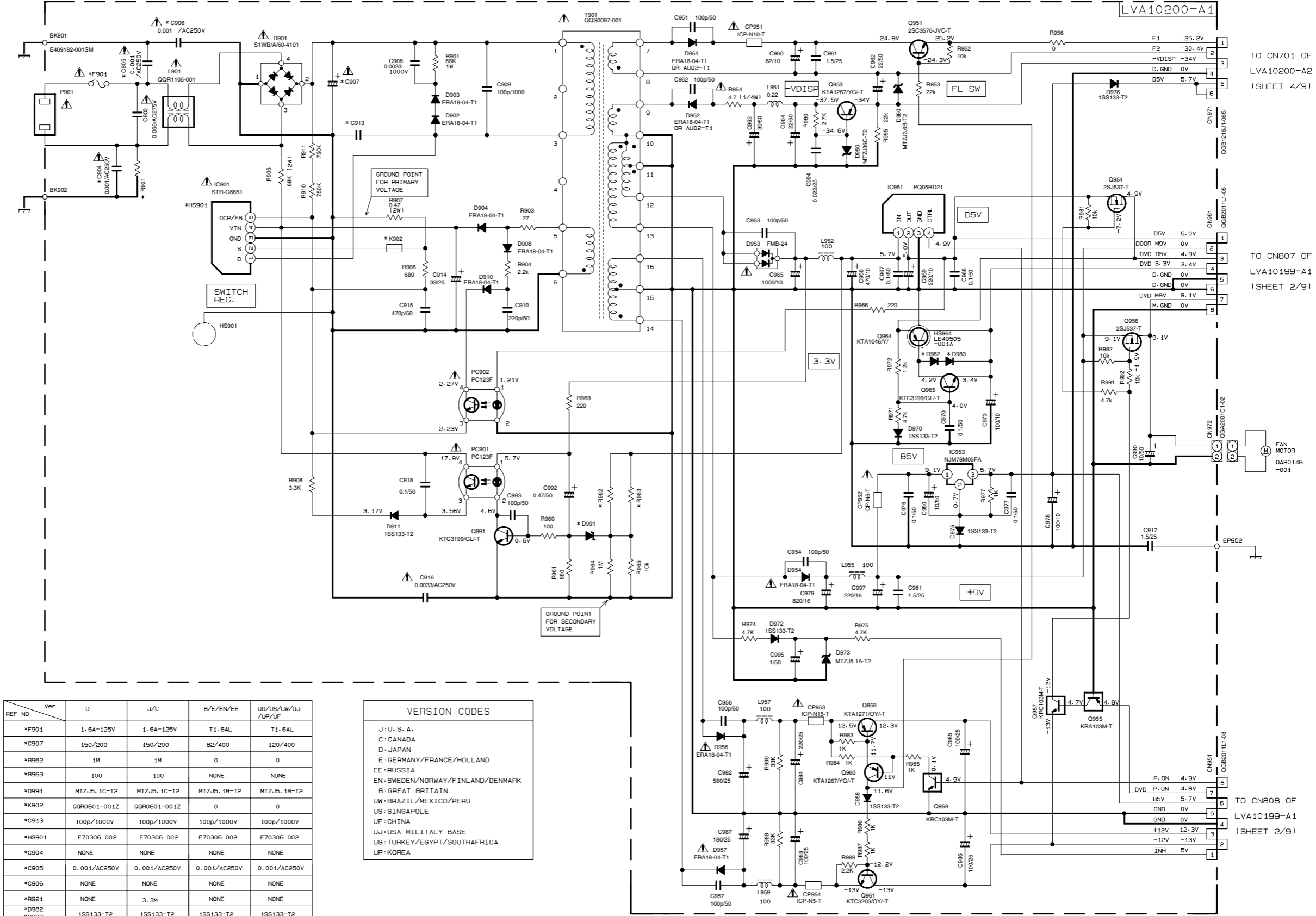


 Digital (audio) signal  
 Audio signal

TO SHEET 6/9

Power supply circuit

- Ver. J/C  
120V 60Hz
- Ver. D  
100V 50/60Hz
- Ver. B/E/EN/EE  
230V 50Hz
- Ver. UG/US/UW/UJ  
110~240V 50/60Hz
- Ver. UP  
220V 60Hz
- Ver. UF  
220V 50Hz



REF NO	Ver	D	J/C	B/E/EN/EE	UG/US/UW/UJ /UP/UF
*F901		1.6A-125V	1.6A-125V	T1.6AL	T1.6AL
*C907		150/200	150/200	B2/400	120/400
*R962		1M	1M	0	0
*R963		100	100	NONE	NONE
*D991		MTZJ5.1C-T2	MTZJ5.1C-T2	MTZJ5.1B-T2	MTZJ5.1B-T2
*K902		QDR0501-001Z	QDR0501-001Z	0	0
*C913		100p/1000V	100p/1000V	100p/1000V	100p/1000V
*HS901		E70306-002	E70306-002	E70306-002	E70306-002
*C904		NONE	NONE	NONE	NONE
*C905		0.001/AC250V	0.001/AC250V	0.001/AC250V	0.001/AC250V
*C906		NONE	NONE	NONE	NONE
*R921		NONE	3.3M	NONE	NONE
*D982		1SS133-T2	1SS133-T2	1SS133-T2	1SS133-T2
*D983		1SS133-T2	1SS133-T2	1SS133-T2	1SS133-T2
P901		QNC0006-001	QNC0046-001	QNC0006-001	QNC0006-001

VERSION CODES

- J : U. S. A.
- C : CANADA
- D : JAPAN
- E : GERMANY/FRANCE/HOLLAND
- EE : RUSSIA
- EN : SWEDEN/NORWAY/FINLAND/DENMARK
- B : GREAT BRITAIN
- UW : BRAZIL/MEXICO/PERU
- US : SINGAPOLE
- UF : CHINA
- UJ : USA MILITARY BASE
- UG : TURKEY/EGYPT/SOUTHAFRICA
- UP : KOREA

TO CN701 OF LVA10200-A2 (SHEET 4/9)

TO CN807 OF LVA10199-A1 (SHEET 2/9)

TO CN808 OF LVA10199-A1 (SHEET 2/9)

**Voltage value table**

**IC102**

NO	DC(V)
1	0V
2	5.0V
3	0V
4	4.3V
5	0V

**IC101**

NO	DC(V)	NO	DC(V)	NO	DC(V)	NO	DC(V)
1	0V	17	1.7V	33	0V	49	2.2V
2	4.2V	18	1.7V	34	1.3V	50	2.2V
3	0V	19	1.7V	35	2.4V	51	2.2V
4	4.3V	20	1.7V	36	3.3V	52	2.2V
5	1.7V	21	1.7V	37	1.9V	53	2.2V
6	1.7V	22	1.7V	38	2.4V	54	2.2V
7	1.7V	23	0V	39	0V	55	4.8V
8	4.1V	24	1.7V	40	0V	56	2.2V
9	3.3V	25	3.3V	41	1.7V	57	2.2V
10	0V	26	0V	42	1.5V	58	2.2V
11	4.9V	27	2.1V	43	1.6V	59	2.2V
12	4.9V	28	4.8V	44	1.1V	60	2.2V
13	4.9V	29	4.8V	45	2.5V	61	0V
14	4.9V	30	2.1V	46	2.1V	62	2.2V
15	1.2V	31	2.1V	47	2.1V	63	2.2V
16	1.7V	32	2.0V	48	2.1V	64	1.6V

**IC311**

NO	DC(V)
1	5.0V
2	4.6V
3	0V
4	4.7V
5	5.0V

**IC301**

NO	DC(V)	NO	DC(V)	NO	DC(V)	NO	DC(V)
1	3.3V	37	0V	73	0.8V	109	2.5V
2	3.3V	38	0.3V	74	0.8V	110	0V
3	3.3V	39	0V	75	1.7V	111	1.7V
4	3.3V	40	4.1V	76	3.3V	112	1.1V
5	0V	41	4.3V	77	0V	113	1.1V
6	3.3V	42	4.2V	78	3.3V	114	1.1V
7	3.3V	43	1.6V	79	0V	115	1.1V
8	0V	44	2.6V	80	3.3V	116	3.3V
9	3.3V	45	3.3V	81	0V	117	3.3V
10	3.6V	46	3.6V	82	0V	118	3.3V
11	3.3V	47	3.7V	83	0V	119	0V
12	3.3V	48	3.8V	84	0V	120	0V
13	3.3V	49	3.7V	85	4.8V	121	0V
14	3.3V	50	3.8V	86	2.6V	122	0V
15	3.3V	51	1.0V	87	1.7V	123	0V
16	3.3V	52	1.0V	88	0V	124	3.3V
17	3.3V	53	3.6V	89	0V	125	2.6V
18	0V	54	3.8V	90	0V	126	1.3V
19	0V	55	1.0V	91	0V	127	0V
20	3.3V	56	0V	92	3.3V	128	1.4V
21	3.3V	57	0.7V	93	0V	129	1.1V
22	4.5V	58	4.9V	94	3.3V	130	3.3V
23	4.5V	59	4.9V	95	0V	131	1.6V
24	0V	60	4.4V	96	3.3V	132	3.3V
25	0.1V	61	3.3V	97	0V	133	0V
26	4.9V	62	1.2V	98	0V	134	0V
27	4.9V	63	2.4V	99	0V	135	3.3V
28	1.4V	64	0V	100	1.6V	136	1.3V
29	0V	65	0V	101	1.6V	137	0V
30	3.3V	66	2.6V	102	3.3V	138	3.3V
31	0V	67	0V	103	0V	139	1.3V
32	3.3V	68	1.0V	104	3.3V	140	1.0V
33	0V	69	2.1V	105	3.3V	141	1.1V
34	0V	70	1.0V	106	3.3V	142	0V
35	0V	71	0V	107	0V	143	3.3V
36	2.6V	72	2.3V	108	0V	144	3.3V

**IC312**

NO	DC(V)
1	5.0V
2	4.7V
3	0V
4	5.0V
5	5.0V

**IC321**

NO	DC(V)
1	5.0V
2	5.0V
3	5.0V
4	0V
5	0V
6	0V
7	5.0V
8	5.0V

**IC322**

NO	DC(V)
1	5.0V
2	5.0V
3	0V
4	0V
5	0V
6	5.0V
7	0V
8	5.0V
9	0V
10	0V
11	0V
12	5.0V
13	5.0V
14	5.0V

**IC403**

NO	DC(V)
1	4.9V
2	5.0V
3	0V
4	0V
5	0V
6	1.0V
7	0V
8	0V

**IC402**

NO	DC(V)	NO	DC(V)
1	4.9V	23	5V
2	0V	24	2.3V
3	0V	25	0V
4	3.5V	26	2.3V
5	1.7V	27	0V
6	2.1V	28	2.3V
7	1.8V	29	0V
8	2.7V	30	2.4V
9	1.9V	31	0V
10	2.1V	32	0V
11	0V	33	0V
12	4.6V	34	0V
13	0V	35	5V
14	4.2V	36	0V
15	1.1V	37	4V
16	0V	38	4.3V
17	1.5V	39	2.6V
18	0V	40	2V
19	0V	41	2.1V
20	0V	42	3.5V
21	0V	43	0V
22	0V	44	0V

**IC201**

NO	DC(V)	NO	DC(V)	NO	DC(V)	NO	DC(V)
1	1.7V	26	2.1V	76	1.7V	51	1.7V
2	1.7V	27	3.2V	77	1.1V	52	1.7V
3	1.7V	28	1.7V	78	1.1V	53	3.2V
4	3.2V	29	0V	79	1.1V	54	0V
5	1.7V	30	0V	80	1.1V	55	0V
6	1.7V	31	1.7V	81	0V	56	0V
7	0V	32	0V	82	3.3V	57	0V
8	1.6V	33	1.7V	83	3.3V	58	2.6V
9	1.6V	34	1.7V	84	4.8V	59	0V
10	1.5V	35	0.1V	85	4.9V	60	0V
11	1.5V	36	1.6V	86	4.9V	61	0V
12	1.7V	37	1.7V	87	3.3V	62	0V
13	1.5V	38	3.2V	88	4.9V	63	0V
14	3.2V	39	1.6V	89	4.9V	64	0V
15	1.7V	40	1.6V	90	0.5V	65	0V
16	2.7V	41	0V	91	1.7V	66	0V
17	0.2V	42	1.7V	92	2.5V	67	3.3V
18	2.2V	43	1.7V	93	3.3V	68	1.7V
19	1.5V	44	1.7V	94	0.7V	69	3.3V
20	0V	45	0V	95	0V	70	2.5V
21	1.6V	46	3.3V	96	2.6V	71	0V
22	1.6V	47	0V	97	1.8V	72	0V
23	1.5V	48	1.7V	98	1.6V	73	0V
24	1.7V	49	0V	99	1.6V	74	0V
25	1.5V	50	0.3V	100	1.7V	75	3.3V

**IC202**

NO	DC(V)
1	0V
2	3.3V
3	4.9V
4	0V
5	0V
6	4.9V
7	0V
8	4.9V

**IC271**

NO	DC(V)	NO	DC(V)
1	0V	22	1.37V
2	0V	23	1.37V
3	0V	24	0V
4	9V	25	5.0V
5	9V	26	5.0V
6	0V	27	1.37V
7	0V	28	1.37V
8	1.37V	29	0V
9	3.9V	30	1.41V
10	3.4V	31	2.37V
11	0V	32	2.56V
12	3.4V	33	0V
13	4.5V	34	2.39V
14	5.7V	35	2.56V
15	3V	36	1.34V
16	0V	37	1.37V
17	0V	38	4.93V
18	0V	39	9V
19	0V	40	1.37V
20	1.37V	41	3.2V
21	0V	42	3V

**IC401**

NO	DC(V)	NO	DC(V)	NO	DC(V)	NO	DC(V)
1	5.0V	26	2.7V	51	0.6V	76	5.0V
2	5.0V	27	1.8V	52	5.0V	77	5.0V
3	5.0V	28	2.1V	53	5.0V	78	3.1V
4	5.0V	29	1.7V	54	5.0V	79	0V
5	0V	30	3.5V	55	5.0V	80	5.0V
6	5.0V	31	3.5V	56	5.0V	81	5.0V
7	5.0V	32	2.1V	57	0V	82	4.9V
8	4.4V	33	2V	58	0V	83	5.0V
9	5.0V	34	5.0V	59	5.0V	84	5.0V
10	0V	35	2.6V	60	0V	85	0V
11	4.9V	36	4.3V	61	0V	86	0V
12	5.0V	37	4V	62	0V	87	0V
13	0V	38	0V	63	0V	88	5.0V
14	0V	39	5V	64	0V	89	5.0V
15	2.1V	40	0V	65	0V	90	5.0V
16	1.9V	41	0V	66	5.0V	91	5.0V
17	5.0V	42	0V	67	4.8V	92	0V
18	2.3V	43	0V	68	3.8V	93	1.1V
19	0V	44	0V	69	4.8V	94	1.5V
20	0V	45	0V	70	5.0V	95	0V
21	5.0V	46	0V	71	0V	96	0V
22	5.0V	47	0V	72	5.0V	97	2.3V
23	2.4V	48	5V	73	5.0V	98	2.3V
24	2.4V	49	0V	74	5.0V	99	2.3V
25	5.0V	50	5.0V	75	5.0V	100	2.4V

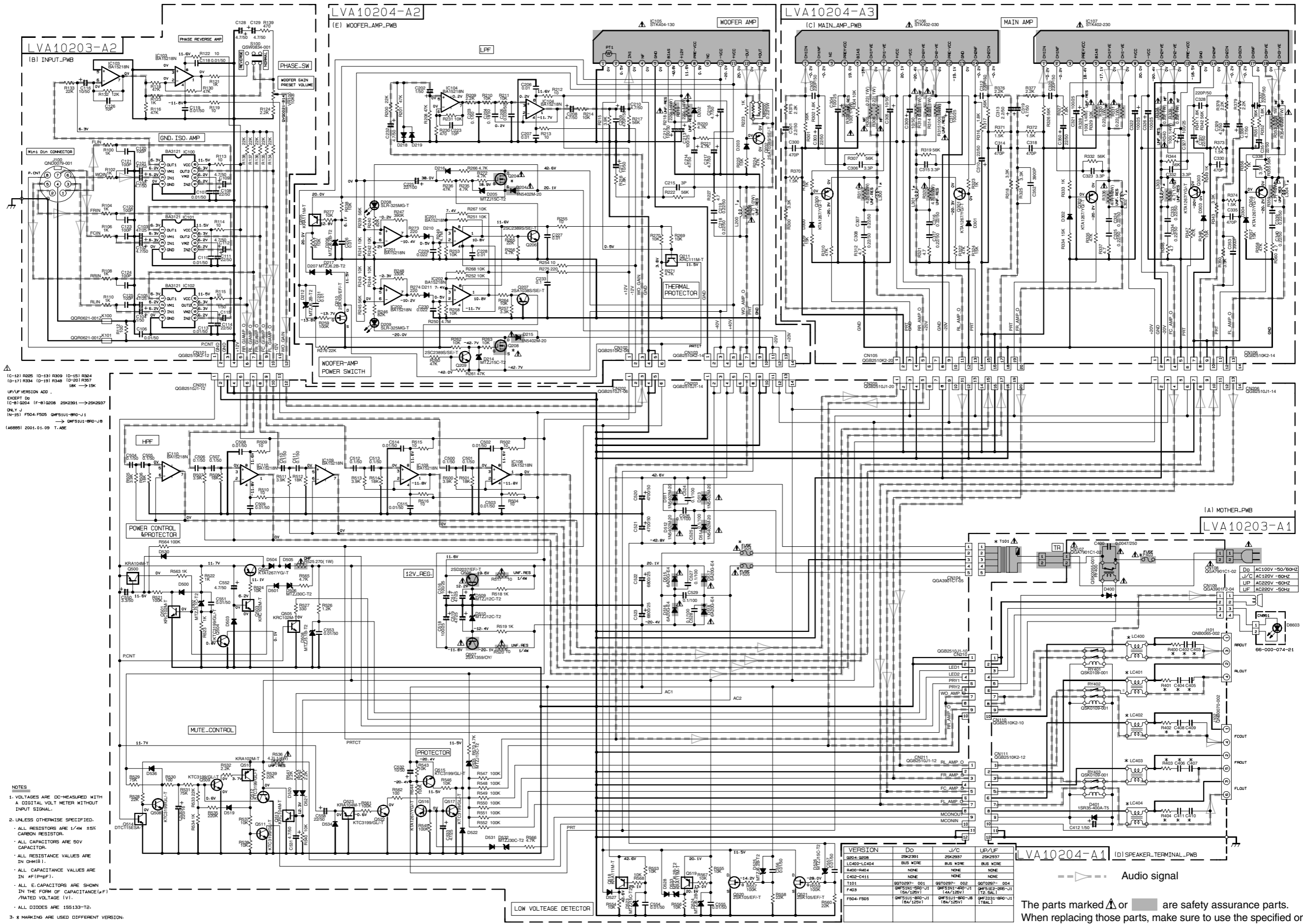
**IC505**

NO	DC(V)	NO	DC(V)
1	3.2V	26	0V
2	0V	27	3.1V
3	0V	28	0V
4	0V	29	3.1V
5	0V	30	0V
6	0.3V	31	3.1V
7	3.2V	32	0V
8	0V	33	0V
9	0V	34	3.2V
10	0V	35	1.7V
11	0V	36	0V
12	0V	37	0V
13	3.2V	38	3.2V
14	0V	39	0V
15	3.1V	40	0V
16	3.1V	41	0V
17	3.1V	42	0V
18	2.3V	43	0V
19	0V	44	3.2V
20	0V	45	0V
21	0V	46	0V
22	3.1V	47	0V
23	3.1V	48	0V
24	0V	49	0V
25	3.2V	50	0V

**IC504**

NO	DC(V)	NO	DC(V)
1	3.2V	26	0V
2	0V	27	3.1V
3	0V	28	0V
4	0V	29	3.1V
5	0V	30	0V
6	0.3V	31	3.1V
7	3.2V	32	0V
8	0V	33	0V
9	0V	34	3.2V
10	0V	35	1.7V
11	0V	36	0V
12	0V	37	0V
13	3.2V	38	3.2V
14	0V	39	0V
15	3.1V	40	0V
16	3		

Powered subwoofer circuit (SP-PWA9)



(C-12) R205 (D-13) R309 (D-15) R304  
 (D-17) R334 (D-19) R348 (D-20) R357  
 10K → 15K  
 U/F VERSION ADD .  
 EXCEPT DO (C-8) Q208 29K2391 → 29K2397  
 DLY J (N-15) F504-F505 90F511-00V-11  
 (A6885) 2001-01-09 T.ABC

- NOTES
- VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL.
  - UNLESS OTHERWISE SPECIFIED, ALL RESISTORS ARE 1/4W 5% CARBON RESISTOR.
  - ALL CAPACITORS ARE 50V CAPACITOR.
  - ALL RESISTANCE VALUES ARE IN OHM(Ω).
  - ALL CAPACITANCE VALUES ARE IN #F(P=PF).
  - ALL E-CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(LF) / RATED VOLTAGE (V).
  - ALL DIODES ARE 1SS133-T2.
  - \* MARKING ARE USED DIFFERENT VERSION.

VERSION	DO	J/C	LP/LF
9904-9908	28K2391	28K2397	28K2397
LC400-LC404	BUS WIRE	BUS WIRE	BUS WIRE
R400-R404	NONE	NONE	NONE
C402-C411	NONE	NONE	NONE
T101	90T099V-001 (16A/125V)	90T099V-002 (16A/125V)	90T099V-004 (16A/125V)
F403	90F511-00V-11 (8A/125V)	90F511-00V-11 (8A/125V)	90F511-00V-11 (8A/125V)
F504-F505	90F511-00V-11 (8A/125V)	90F511-00V-11 (8A/125V)	90F511-00V-11 (8A/125V)

---▶--- Audio signal  
 The parts marked or are safety assurance parts. When replacing those parts, make sure to use the specified one.

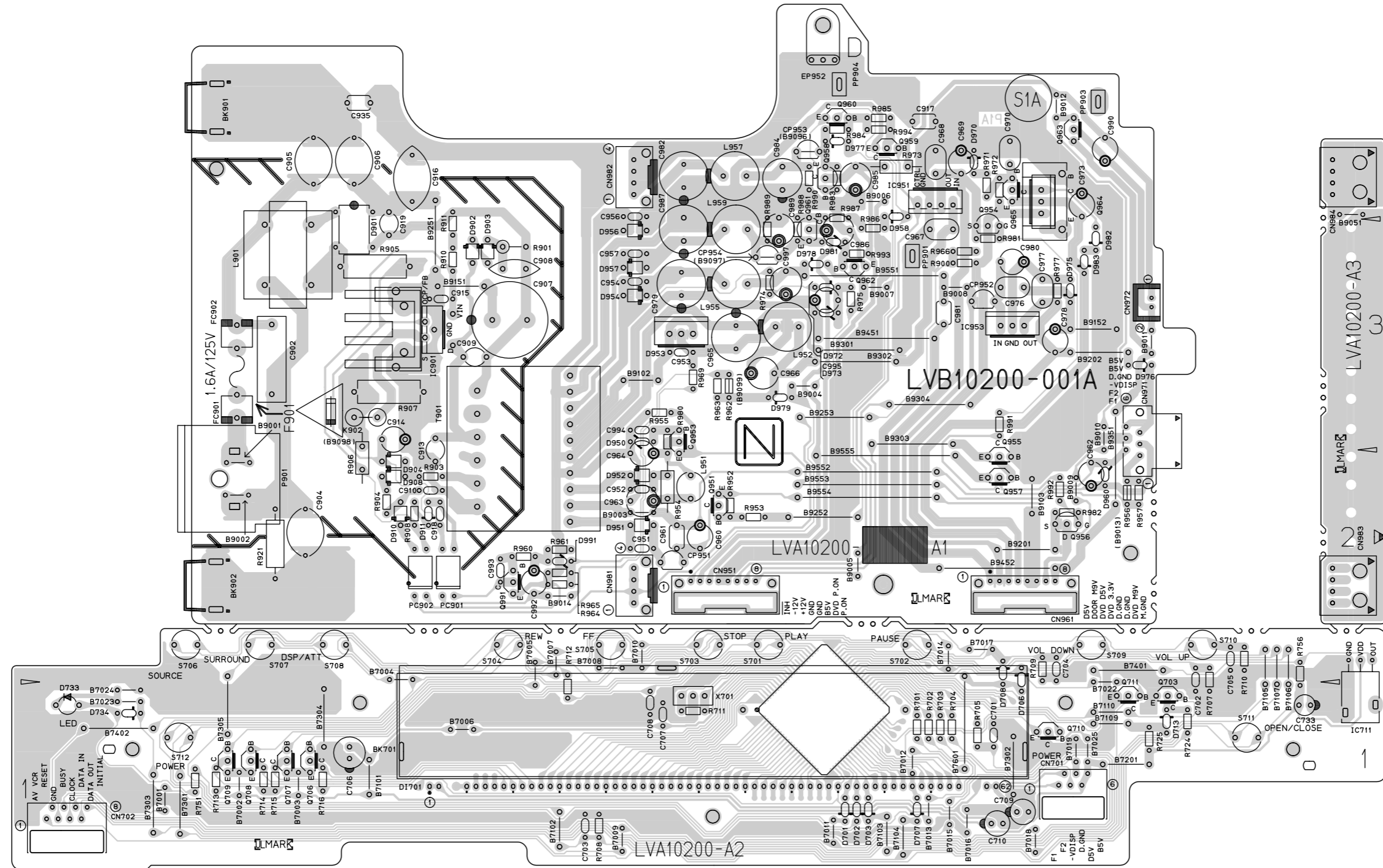


# Printed circuit boards

## ■ Power supply and front panel boards

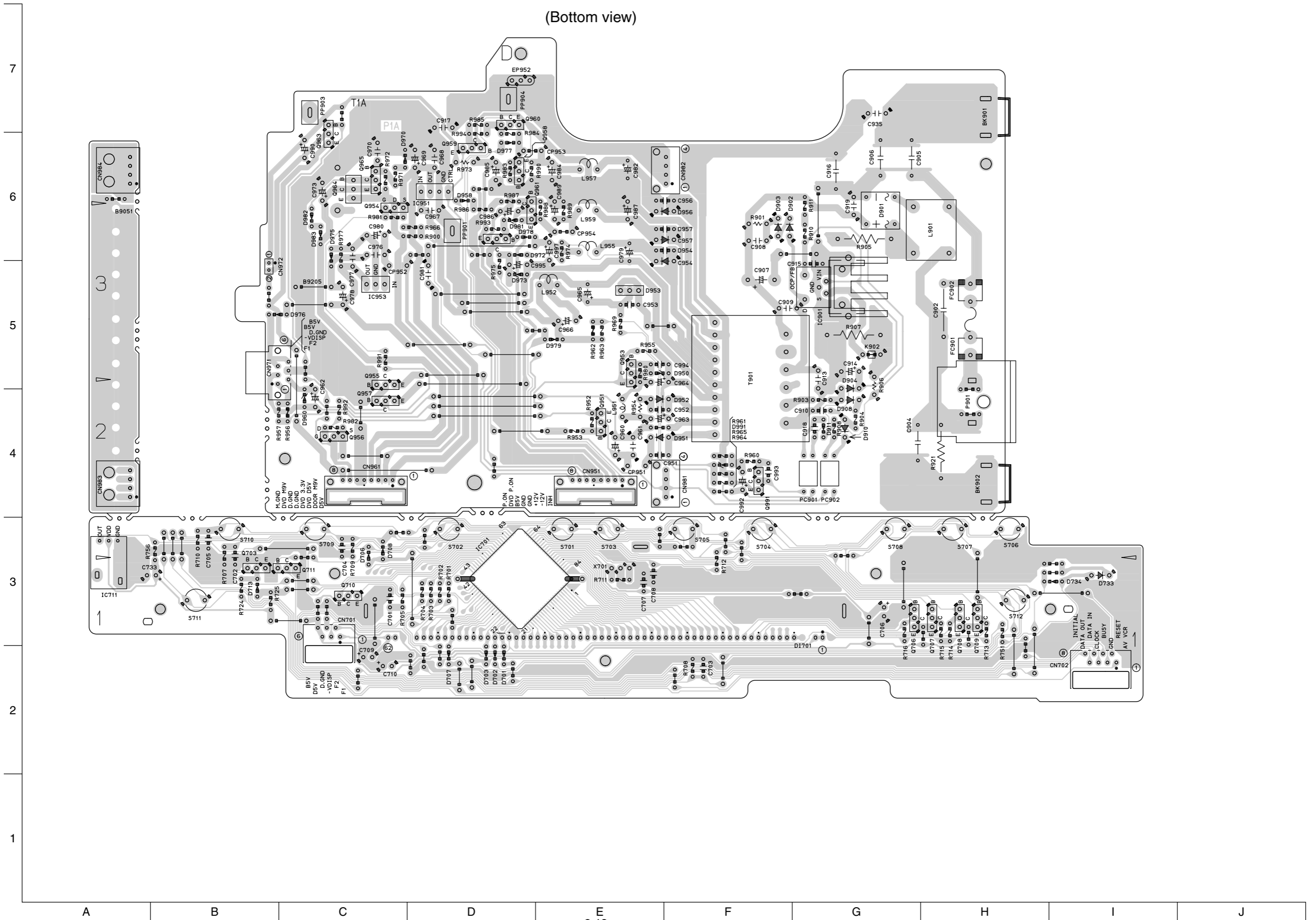
(Surface view)

7  
6  
5  
4  
3  
2  
1



A B C D E F G H I J

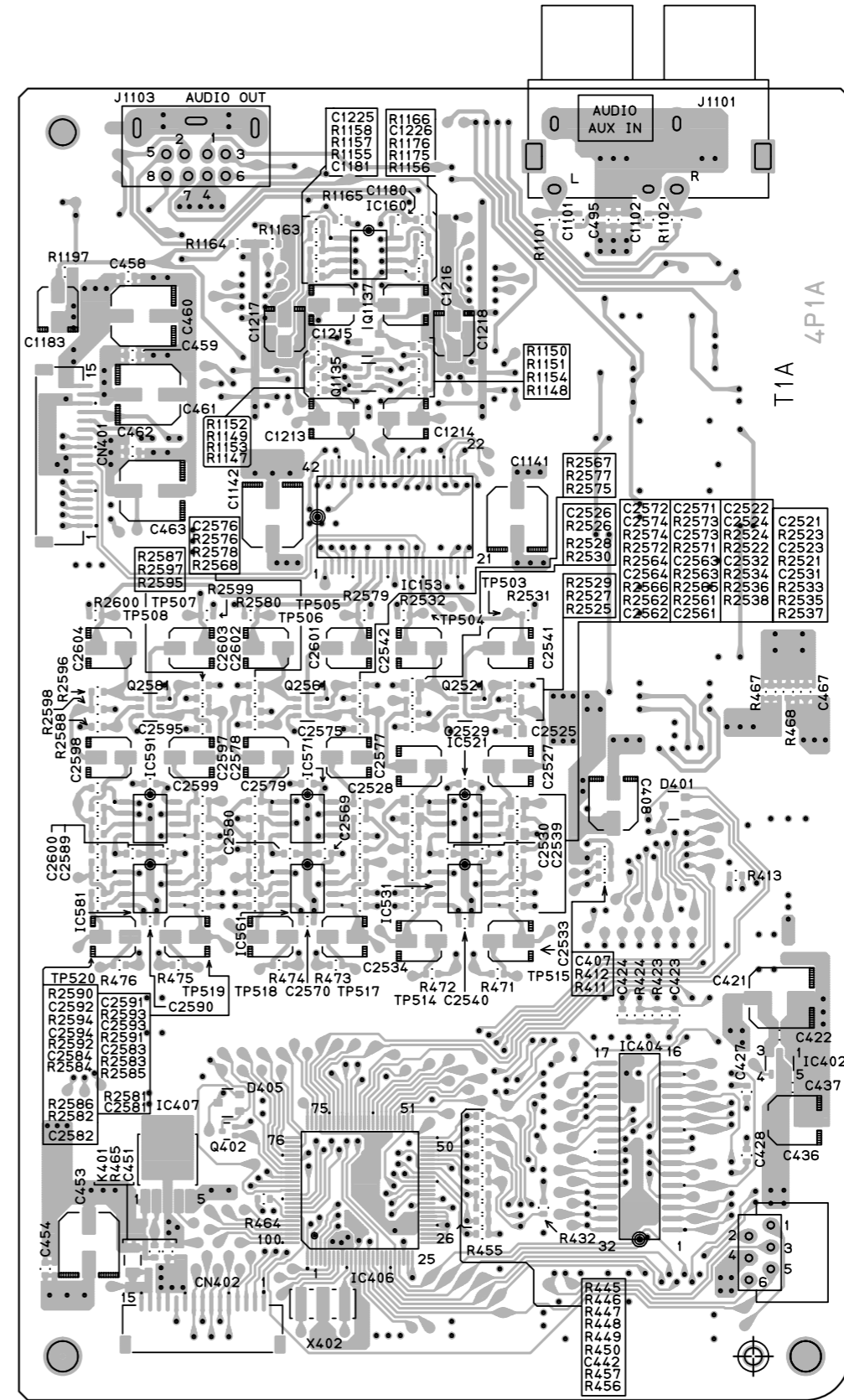
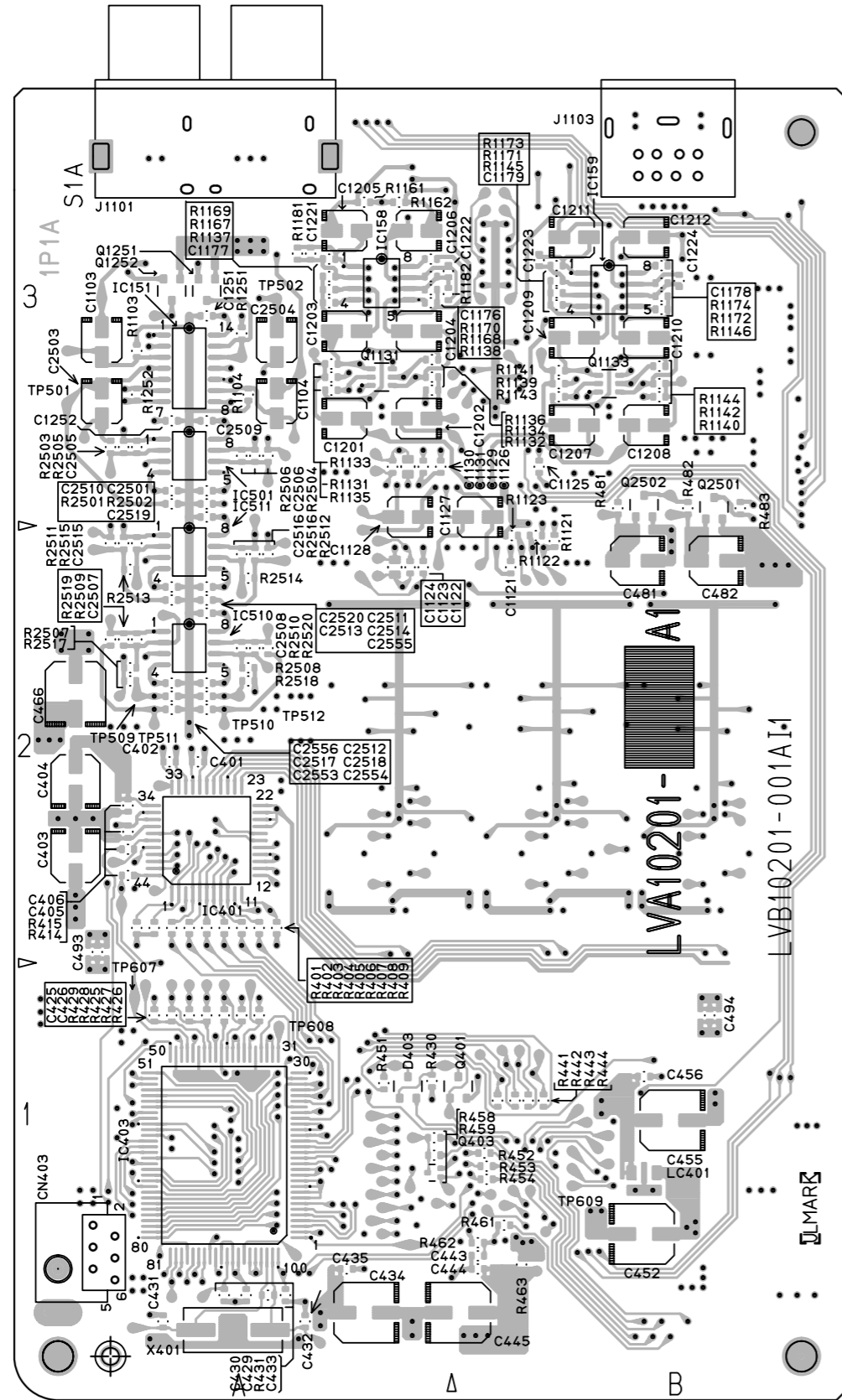
(Bottom view)



■ Audio input/output and DSP boards

(Surface view)

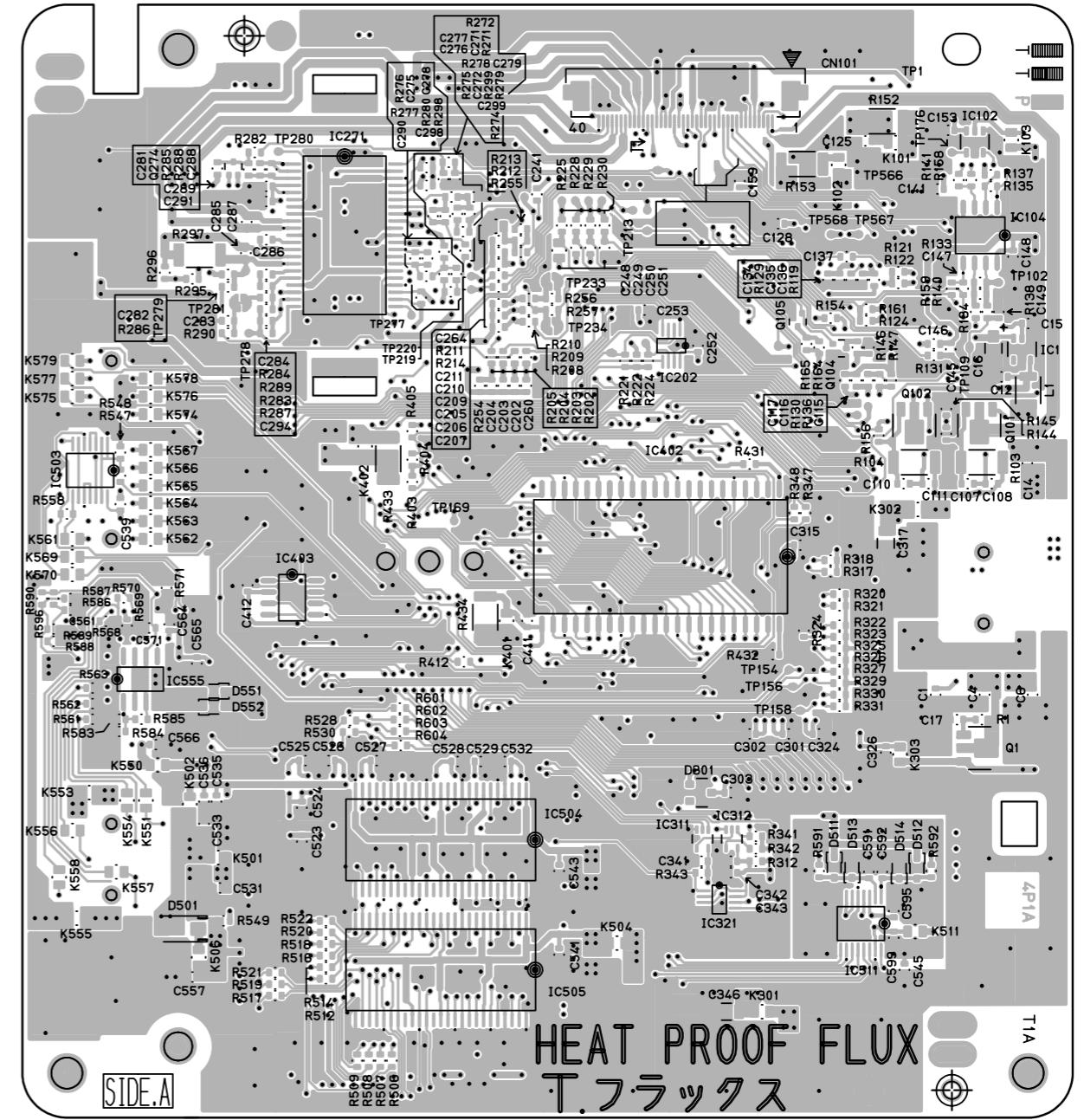
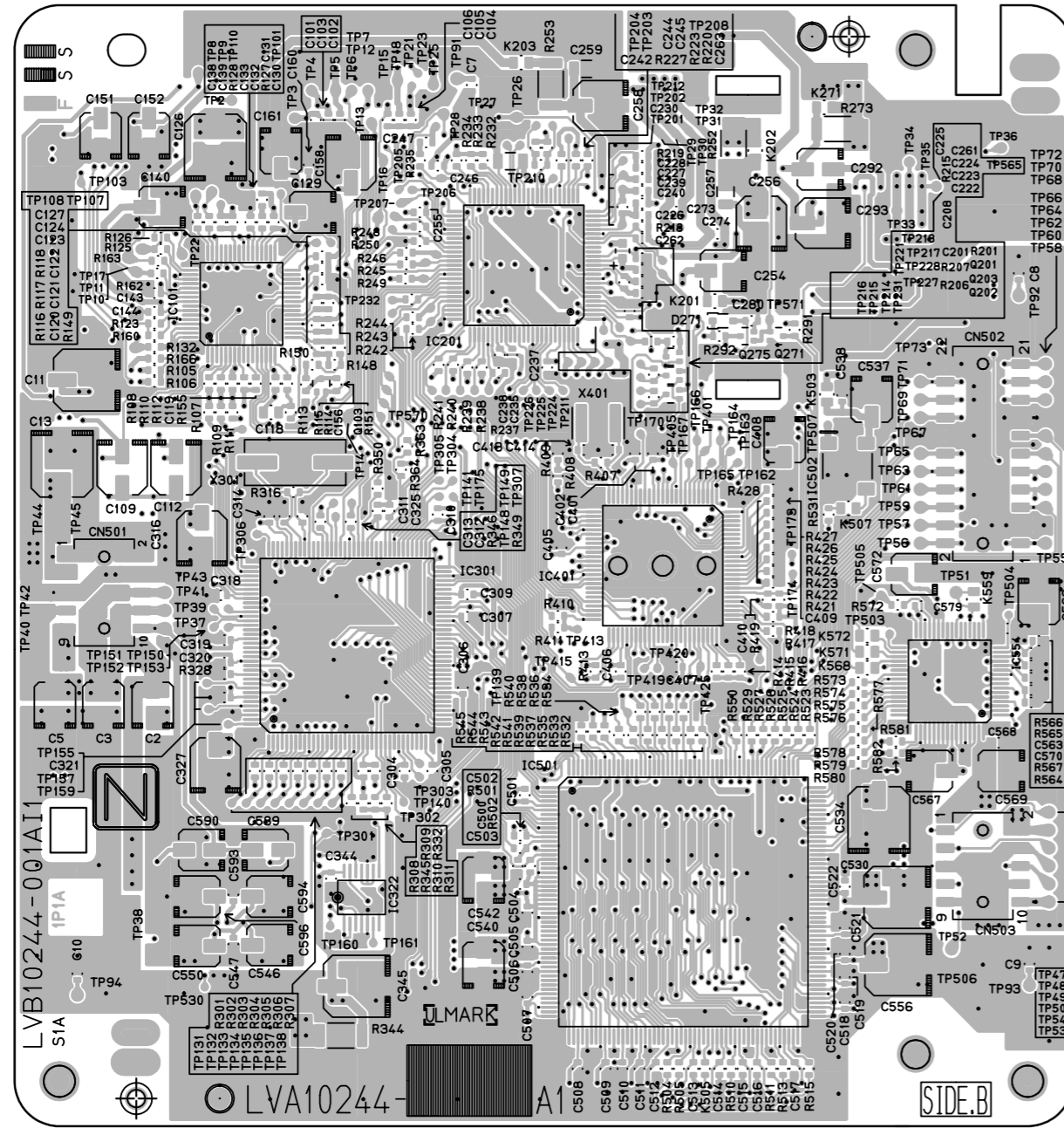
(Bottom view)



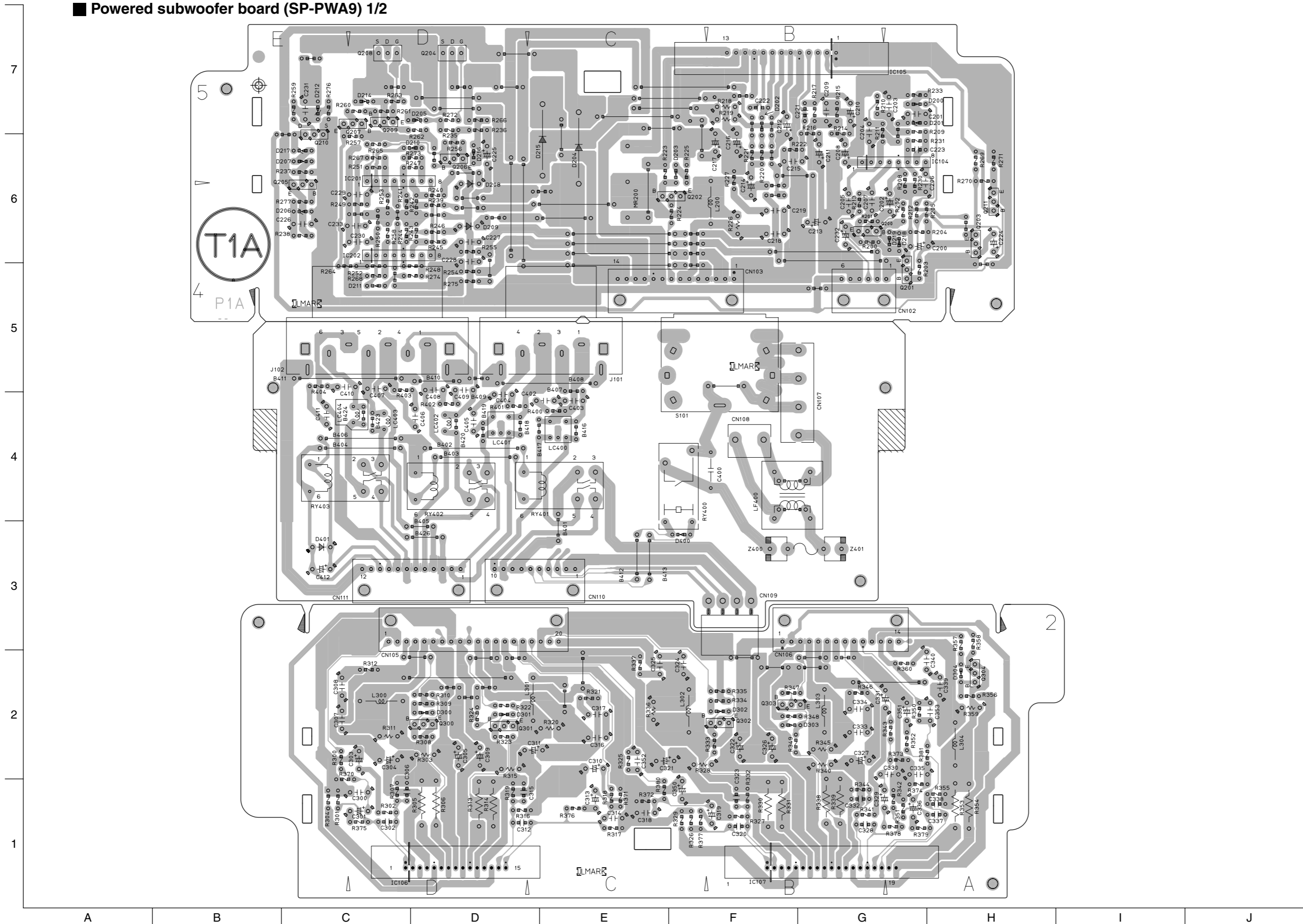
DVD servo board

(Surface view)

(Bottom view)



■ Powered subwoofer board (SP-PWA9) 1/2



■ Powered subwoofer board (SP-PWA9) 2/2

