

SM9209

HTDK160

HITACHI

SERVICE MANUAL



SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

DVD DIGITAL THEATRE SYSTEM

November 2002

Digital Media Division

ENGLISH

SAFETY PRECAUTIONS

WARNING: The following precautions must be observed.

ALL PRODUCTS

Before any service is performed on the chassis an isolation transformer should be inserted between the power line and the product.

1. When replacing the chassis in the cabinet, ensure all the protective devices are put back in place.
2. When service is required, observe the original lead dressing. Extra precaution should be taken to ensure correct lead dressing in any high voltage circuitry area.
3. Many electrical and mechanical parts in HITACHI products have special safety related characteristics. These characteristics are often not evident from visual inspection, nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified by marking with a  on the schematics and the replacement parts list.
The use of a substitute replacement component that does not have the same safety characteristics as the HITACHI recommended replacement one, shown in the parts list, may create electrical shock, fire, X-radiation, or other hazards.
4. Always replace original spacers and maintain lead lengths. Furthermore, where a short circuit has occurred, replace those components that indicate evidence of overheating.
5. Insulation resistance should not be less than 2M ohms at 500V DC between the main poles and any accessible metal parts.
6. No flashover or breakdown should occur during the dielectric strength test, applying 3kV AC or 4.25kV DC for two seconds between the main poles and accessible metal parts.
7. Before returning a serviced product to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock. The service technician must make sure that no protective device built into the instrument by the manufacturer has become defective, or inadvertently damaged during servicing.

CE MARK

1. HITACHI products may contain the CE mark on the rating plate indicating that the product contains parts that have been specifically approved to provide electromagnetic compatibility to designated levels.
2. When replacing any part in this product, please use only the correct part itemised in the parts list to ensure this standard is maintained, and take care to replace lead dressing to its original state, as this can have a bearing on the electromagnetic radiation/immunity.

PICTURE TUBE

1. The line output stage can develop voltages in excess of 25kV; if the E.H.T. cap is required to be removed, discharge the anode to chassis via a high value resistor, prior to its removal from the picture tube.
2. High voltage should always be kept at the rated value of the chassis and no higher. Operating at higher voltages may cause a failure of the picture tube or high voltage supply, and also, under certain circumstances could produce X-radiation levels moderately in excess of design levels. The high voltage must not, under any circumstances, exceed 29kV on the chassis (except for projection Televisions).
3. The primary source of X-radiation in the product is the picture tube. The picture tube utilised for the above mentioned function in this chassis is specially constructed to limit X-radiation. For continued X-radiation protection, replace tube with the same type as the original HITACHI approved type
4. Keep the picture tube away from the body while handling. Do not install, remove, or handle the picture tube in any manner unless shatterproof goggles are worn. People not so equipped should be kept away while picture tubes are handled

LASERS

If the product contains a laser avoid direct exposure to the beam when the cover is open or when interlocks are defeated or have failed.

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1-1 SPECIFICATIONS

■MAIN UNIT

DVD Player

Pickup Semiconductor laser, Wavelength 650 mm
Signal system NTSC / PAL
Video signal horizontal resolution 480 lines (DVD)
Video signal-to-noise ratio 50 dB (DVD)
Audio signal-to-noise ratio 60 dB
Total harmonic distortion 0.05%
Dynamic range DVD : 80 dB ; CD: 80 dB

FM Tuner

System PLL quartz-locked digital synthesizer system
Tuning range 87.50 ~ 108.00 MHz (50 kHz step)
Antenna FM pigtail antenna
Antenna terminals 75 ohms, unbalanced
Intermediate frequency 10.7 MHz

AM Tuner

System PLL quartz-locked digital synthesizer system
Tuning range 522~1620 kHz (9 kHz interval)
Antenna AM Loop antenna

Video outputs

CVBS Video 1 Vp-p 75 ohms
S-video Y: 1 Vp-p 75 ohms
C: PAL 0.3 Vp-p 75 ohms / NTSC 0.286 Vp-p 75 ohms
Scart out 1 Vp-p 75 ohms
Optical & Coaxial out 1 Vp-p 75 ohms

Audio line outputs

Audio L/R 1 Vrms, 1k ohms
Subwoofer 1.2Vrms maximum (adjustable), 1k ohms

Audio power outputs

Stereo mode 50 W + 50 W (8 ohms at 1 kHz, THD 10%)
Surround mode Front: 50 W + 50 W (8 ohms at 1 kHz, THD 10%)
Center: 50 W (8 ohms at 1 kHz, THD 10%)
Rear: 50 W + 50 W (8 ohms at 1 kHz, THD 10%)
Phones Headphones jack(stereo 3.54mm)

General (main unit)

Power requirements AC 220 - 240 V, 50 Hz
Power consumption 250 W
Dimensions W 435 x H 59 x D 345 mm
Weight 4.8 kg

■SPEAKERS

Active Subwoofer

Output power : 100 W (4 ohms at 55Hz, THD 10%)
Speaker system : Bass reflex
Power requirements : AC 220 - 240 V, 50 Hz
Power consumption : 165 W
Speaker unit : 8 inches
Rated impedance : 4 ohms
Dimensions : W 200 x H 360 x D 345 mm
Weight : 9.8 kg

Front / Center / Rear speakers

Power: 50 W maximum
Speaker system: Bass reflex
Speaker unit: 3 inches,cone type: paper
Rated impedance: 8 ohms
Dimensions: W 90 x H 150 x D 110 mm
Weight: 0.64 kg (rear speaker)
0.82 kg (front , center speaker)

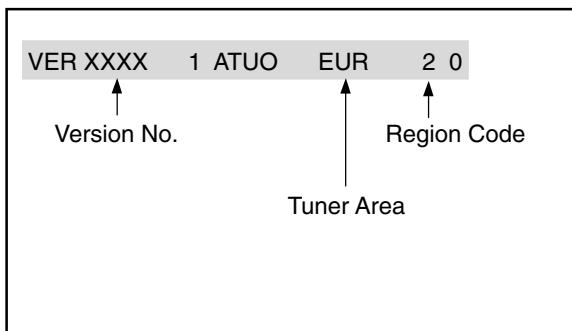
1-2 CONTROLLING VERSION OF FIRMWARE

The firmware is regularly modified as required to improve the performance.

Check to see whether the customer problem can be solved by upgrading the firmware : If it can, do so.

<Procedure for checking the version of firmware>

- 1) Open the tray with power on.
- 2) While holding down the "ADJ/VOL (+)" key on remote control, press the "Zoom" key.
- 3) The version of firmware will appear at the top left of screen.
(The display will disappear in approx. 5 seconds.)

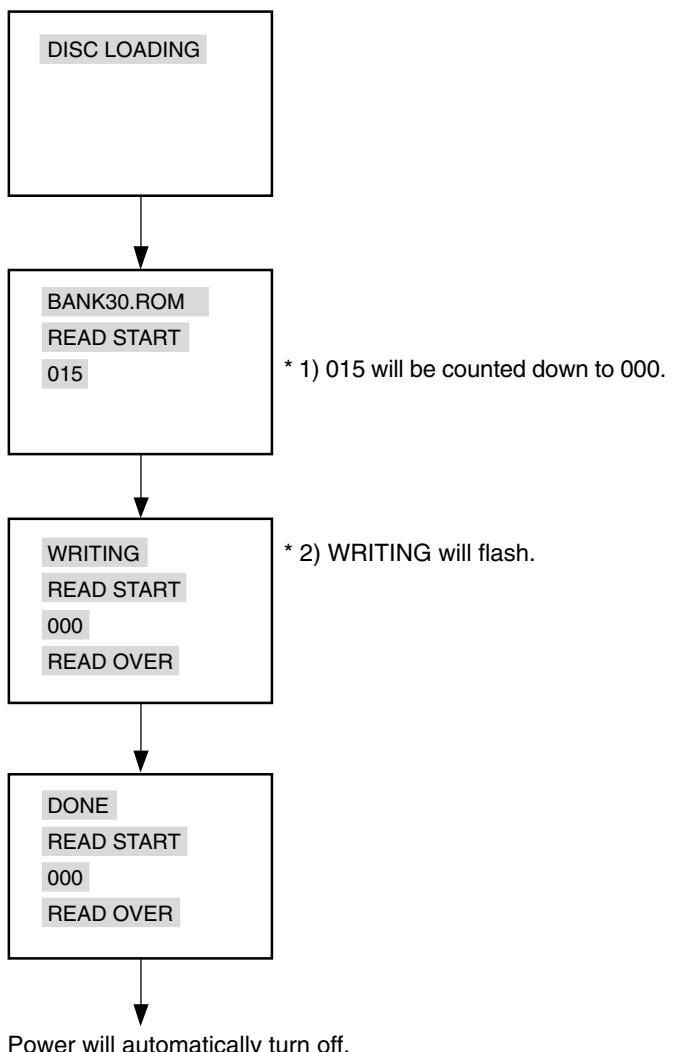


<Procedure for rewriting firmware>

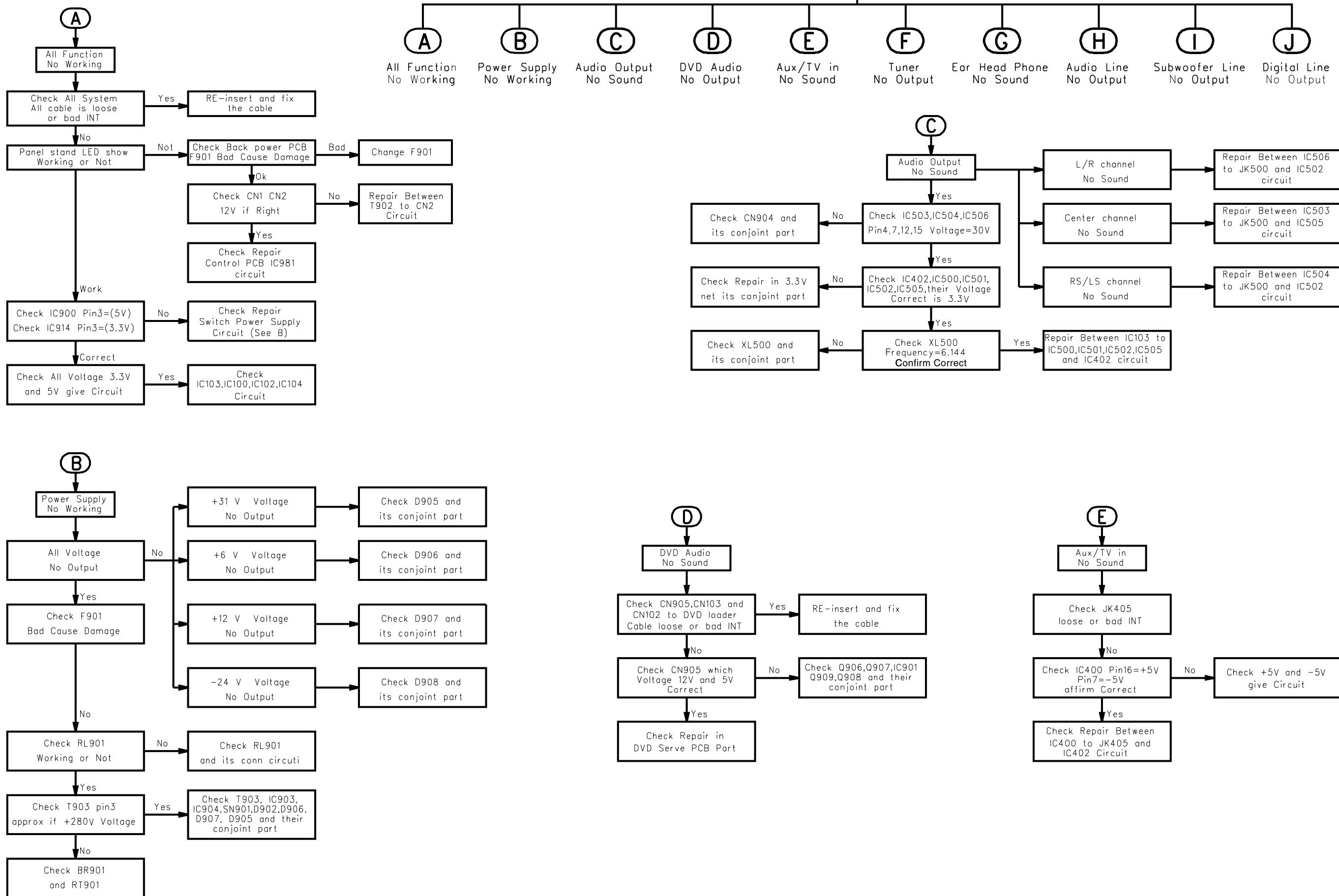
- 1) Turn power on.
- 2) Place the upgrade CD-R on tray, and press the "OPEN/CLOSE" or "PLAY" key.
- 3) Messages will appear at the top left of screen in the order shown below ("MP3 STOP" will appear in the display).
- 4) When rewrite of the firmware is complete, the system will automatically turn off.
- 5) Unplug the power cord and then plug it in again.
- 6) Turn power on, and press the "OPEN/CLOSE" key while "LOADING" is shown in the display to remove the upgrade CD-R (if the CD-R is left in the tray, rewrite of the firmware will restart).
- 7) Check the version of firmware.
Caution: Be sure not to unplug the power cord during the rewrite operation.

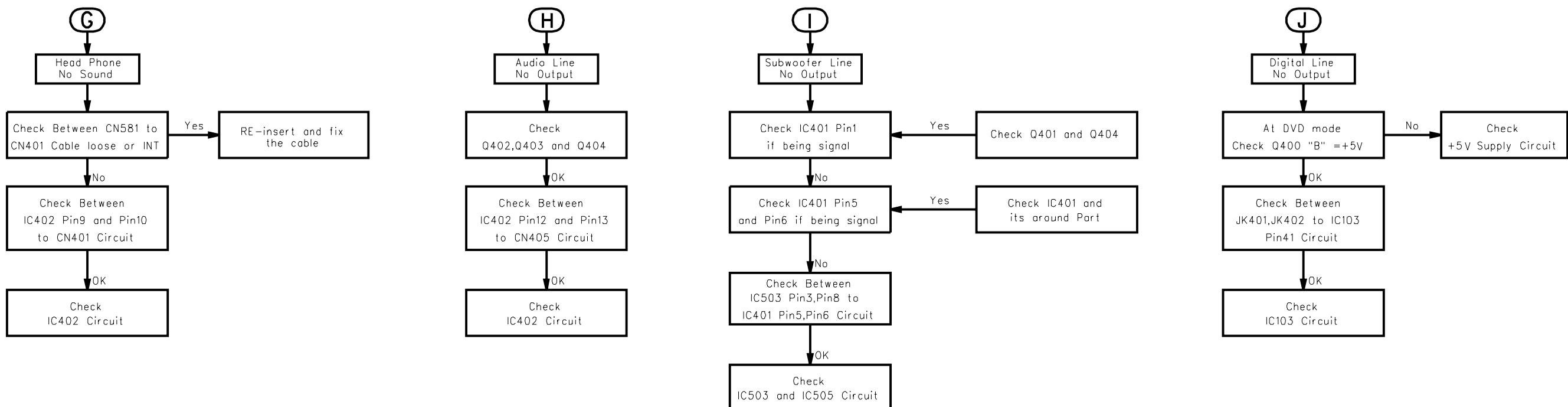
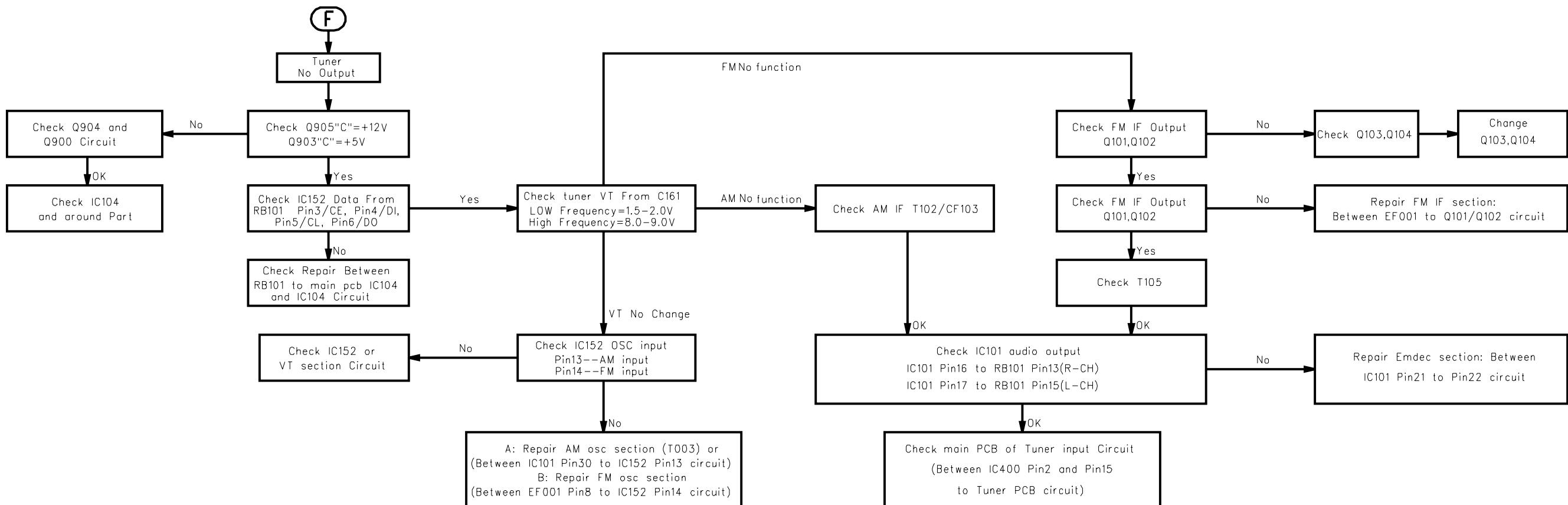
Note:

If the firmware has been changed, etc., we will use Service News, etc. to report on how to obtain new firmware data and create an upgraded disc.



MAIN UNIT REPAIR CHART

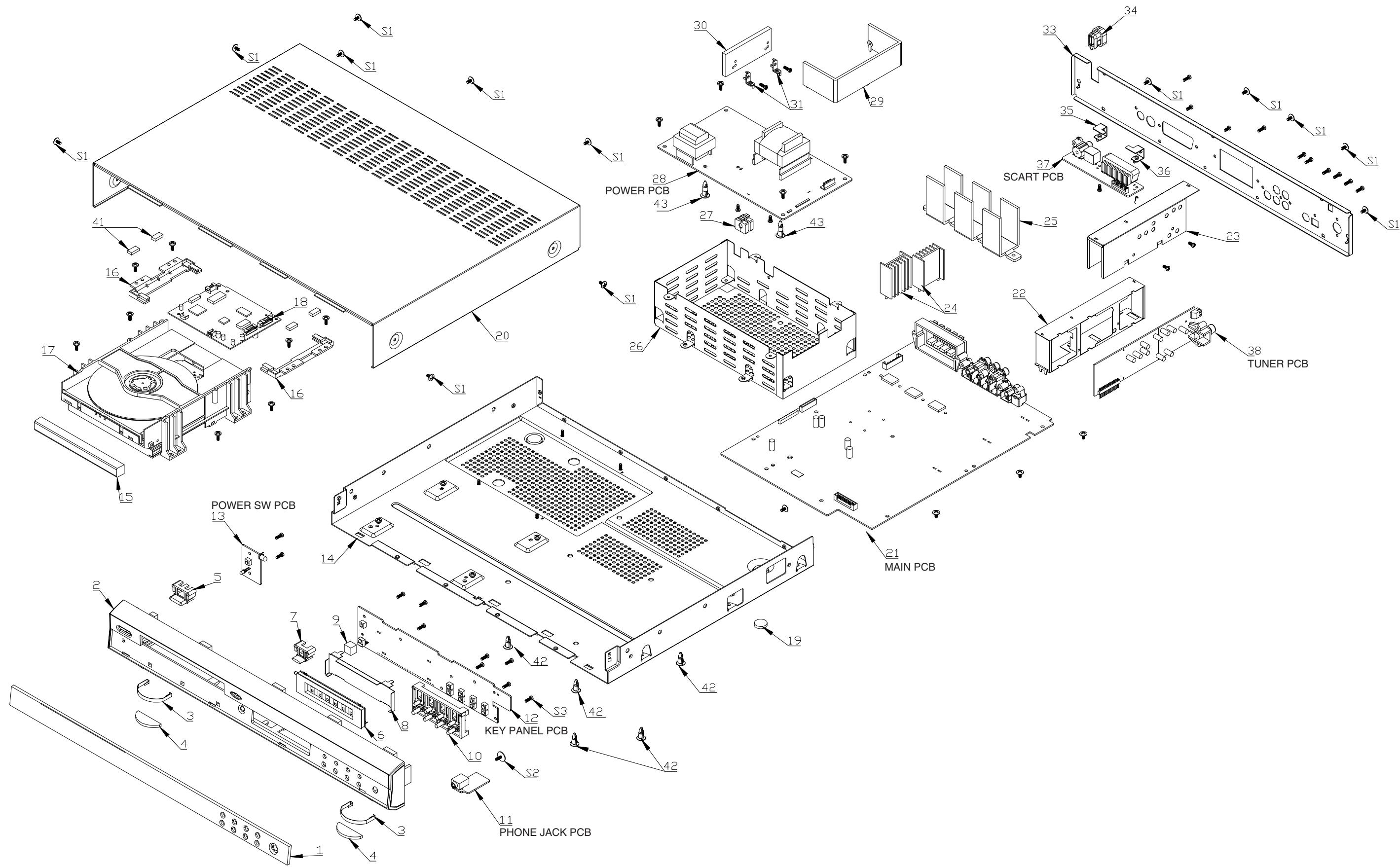




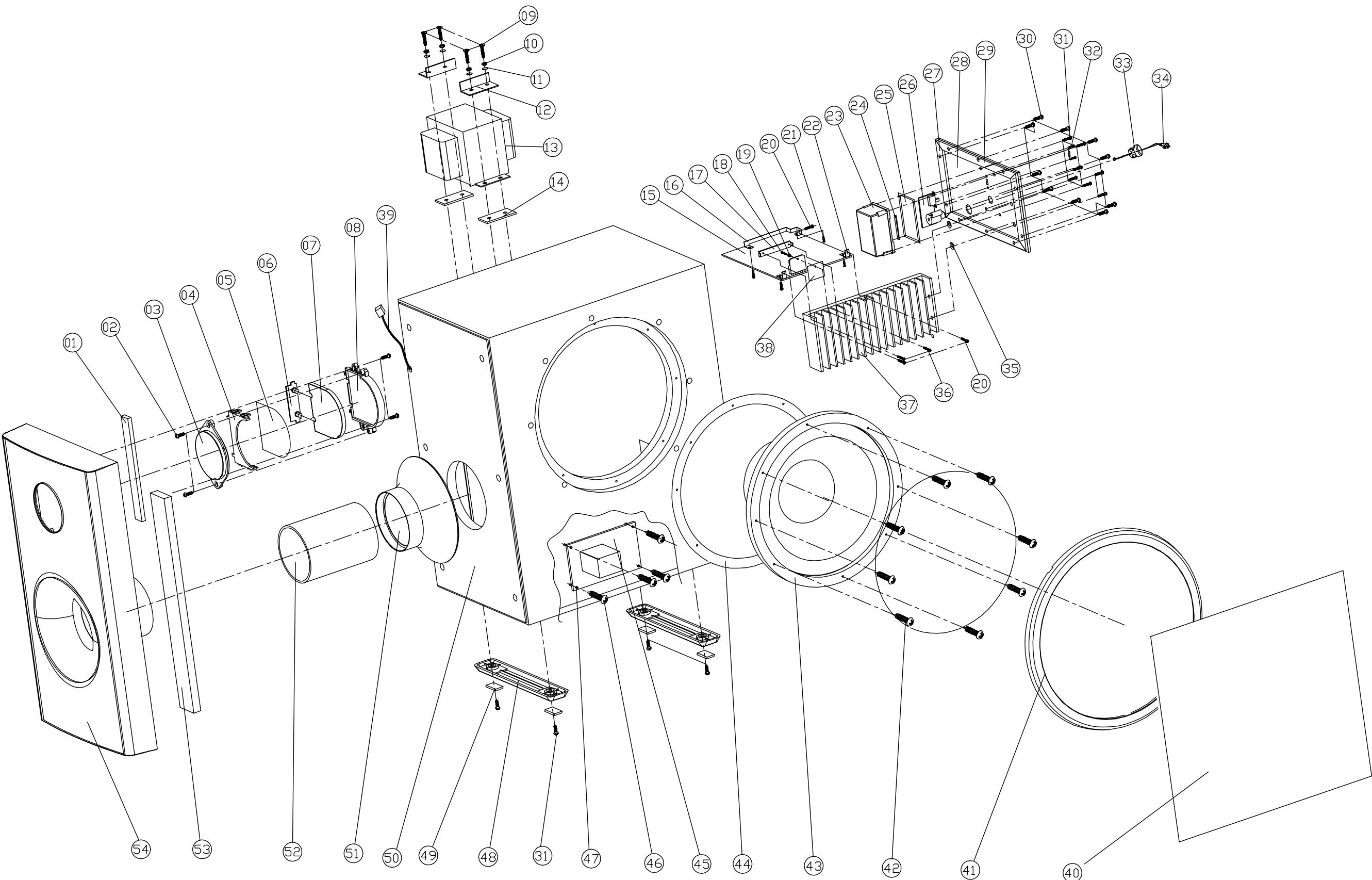
1 2 3 4 5 6 7 8

2 EXPLODED VIEW

2-1 MAIN UNIT



2-2 SUBWOOFER

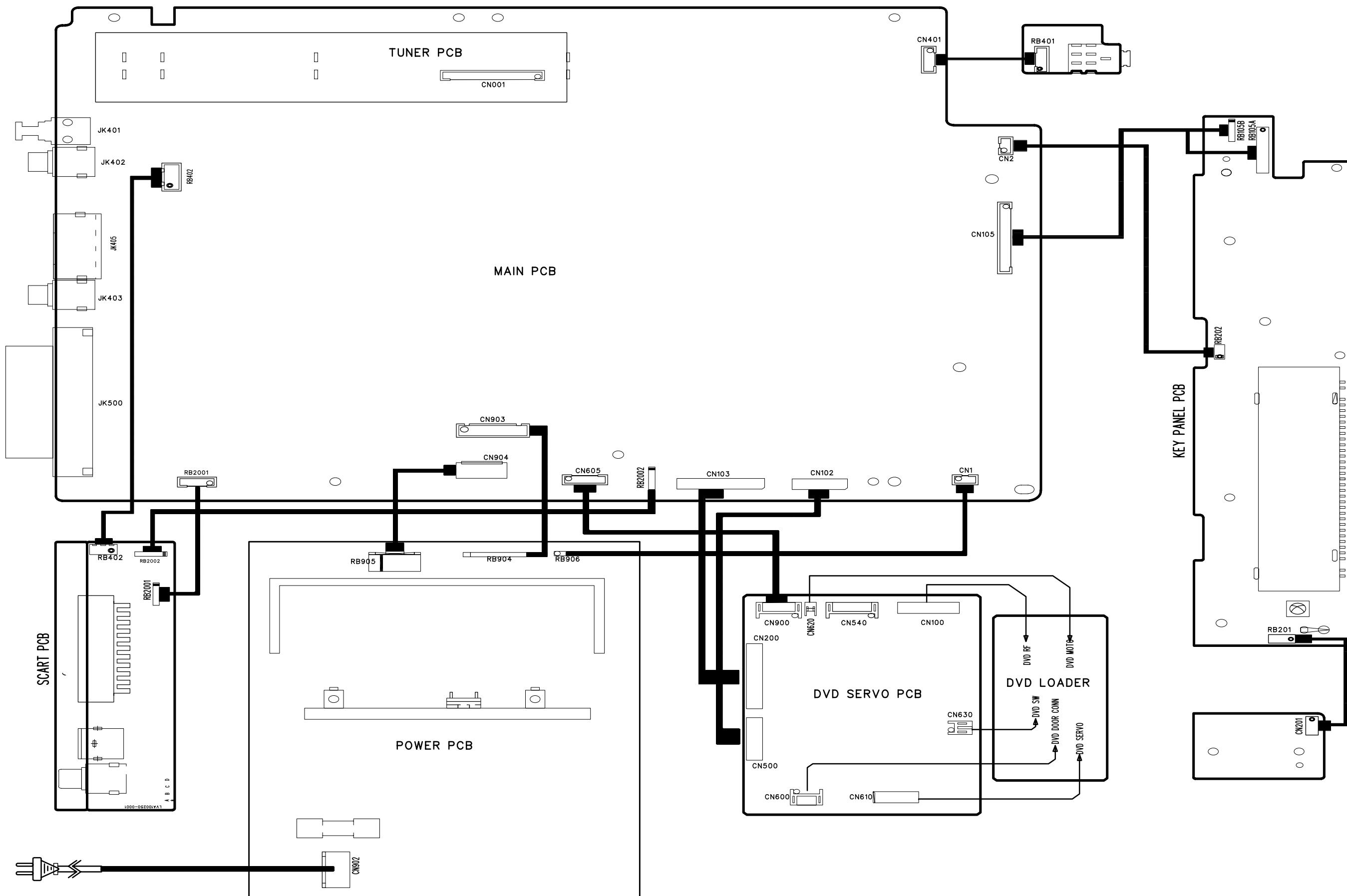


**THE UPDATED PARTS LIST
FOR THIS MODEL IS
AVAILABLE ON ESTA**

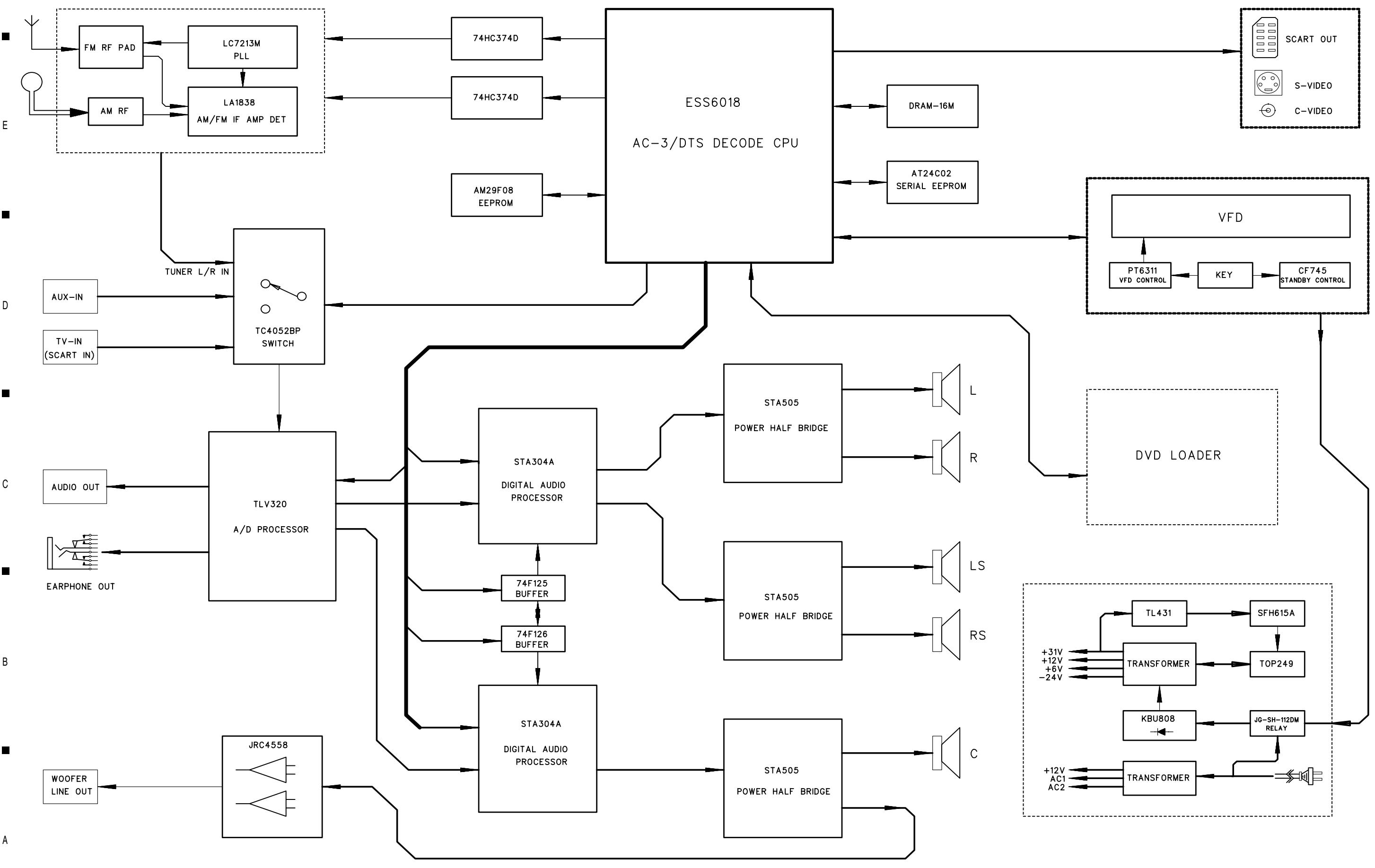
SCHEMATIC, CIRCUIT BOARD AND BLOCK DIAGRAMS

1 MAIN UNIT SECTION

1-1 WIRING DIAGRAM

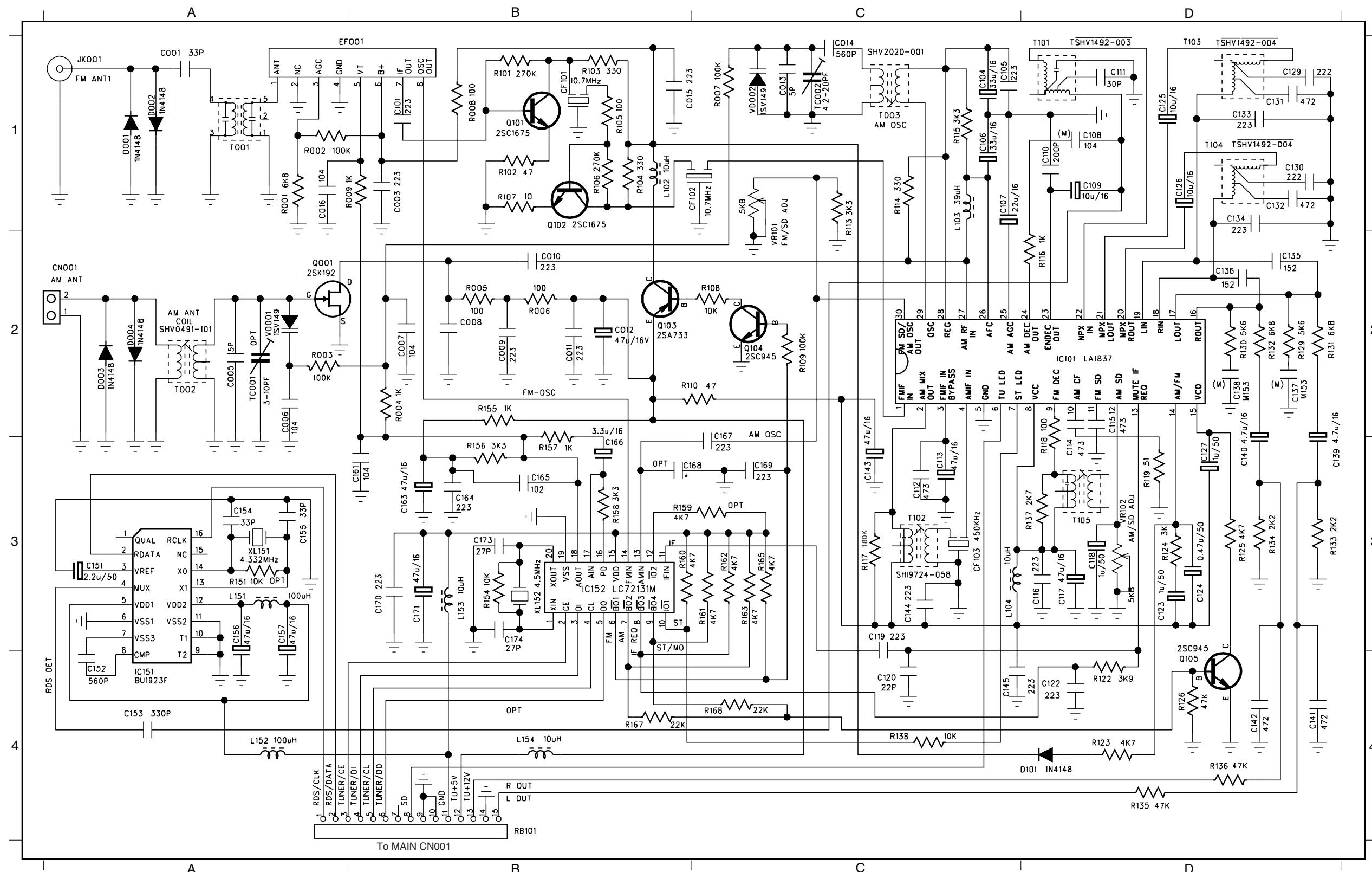


1-2 BLOCK DIAGRAM



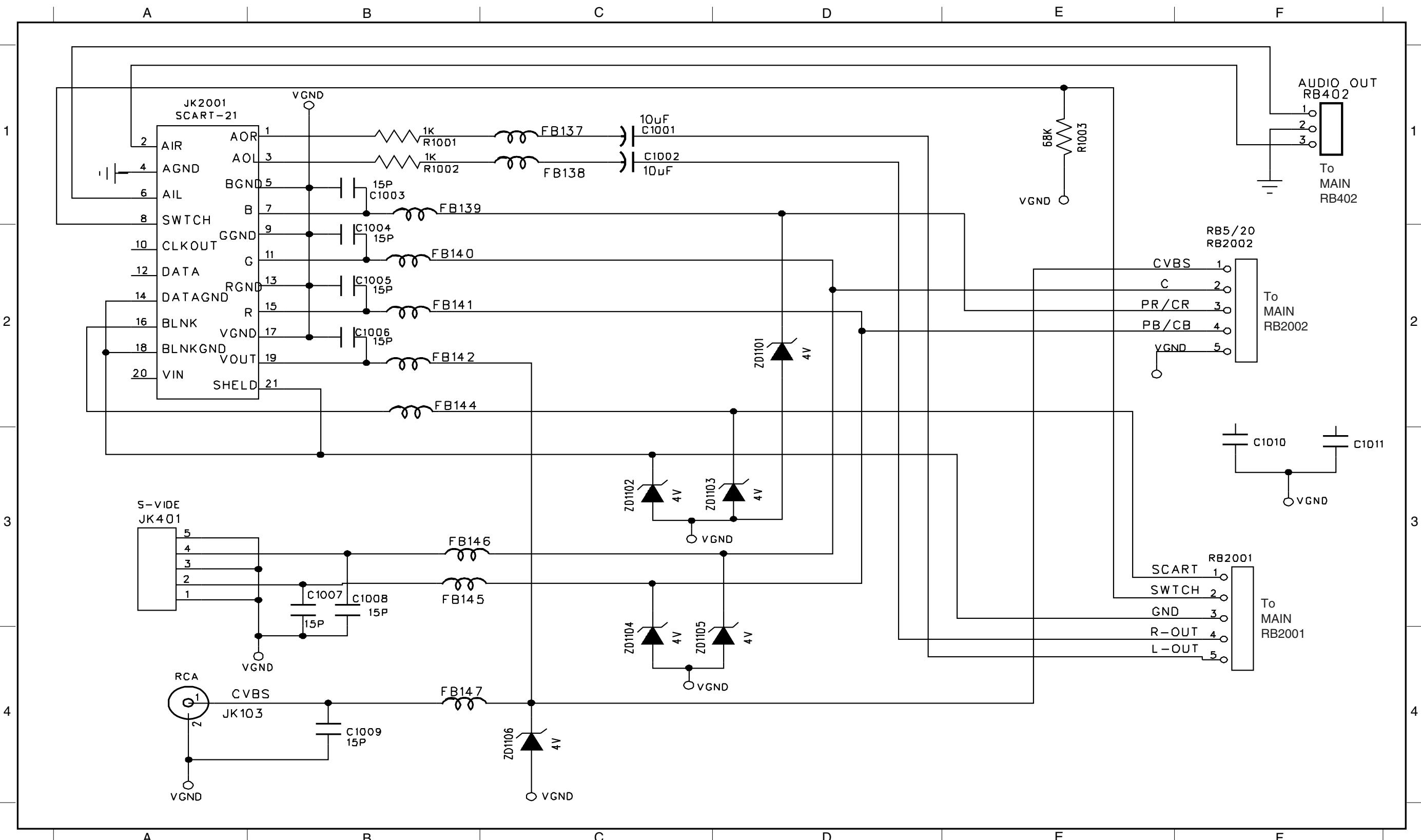
1-3 SCHEMATIC DIAGRAMS

TUNER SCHEMATIC DIAGRAM

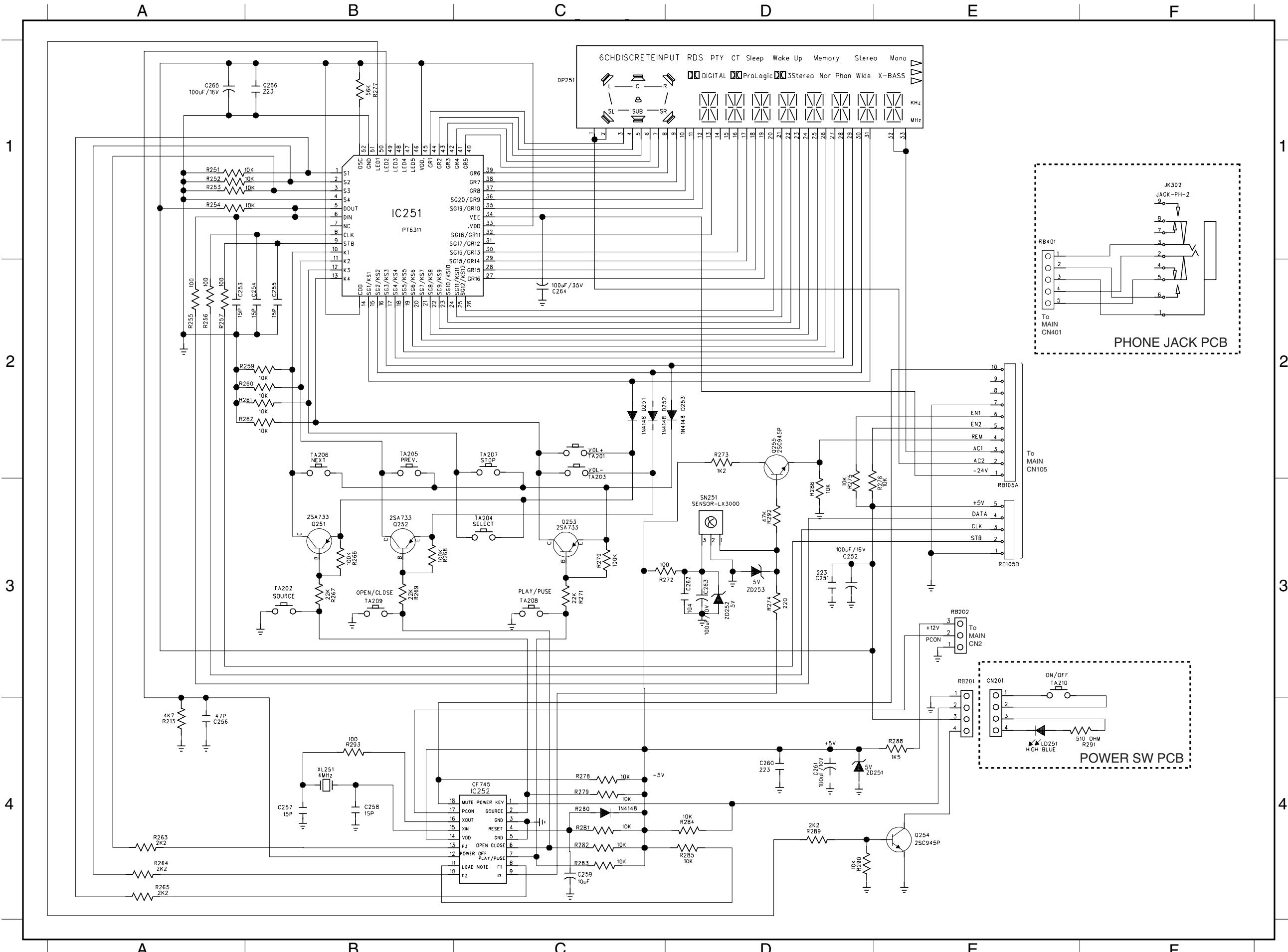


SCART SCHEMATIC DIAGRAM

C1001	C1	C1006	B2	C1011	F3	FB141	B2	FB147	B4	R1003	E1	ZD1102	C3
C1002	C1	C1007	B3	FB137	C1	FB142	B2	JK103	A4	RB402	F1	ZD1103	D3
C1003	B1	C1008	B3	FB138	C1	FB144	B2	JK401	A3	RB2001	F3	ZD1104	C4
C1004	B2	C1009	B4	FB139	B1	FB145	B2	R1001	B1	RB2002	F2	ZD1105	C4
C1005	B2	C1010	F3	FB140	B2	FB146	B3	R1002	B1	ZD1101	D2	ZD1106	C4

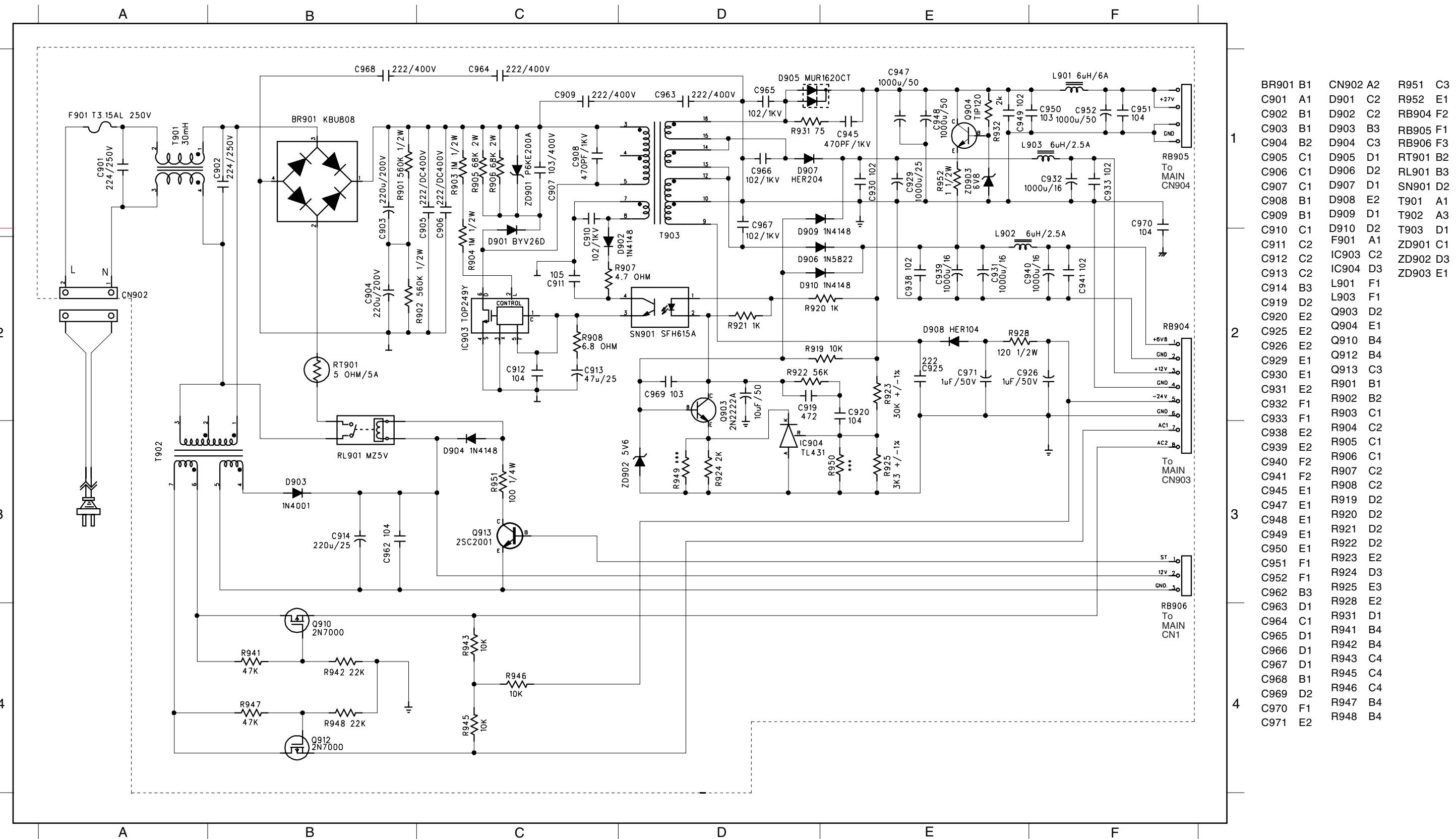


KEY PANEL SCHEMATIC DIAGRAM



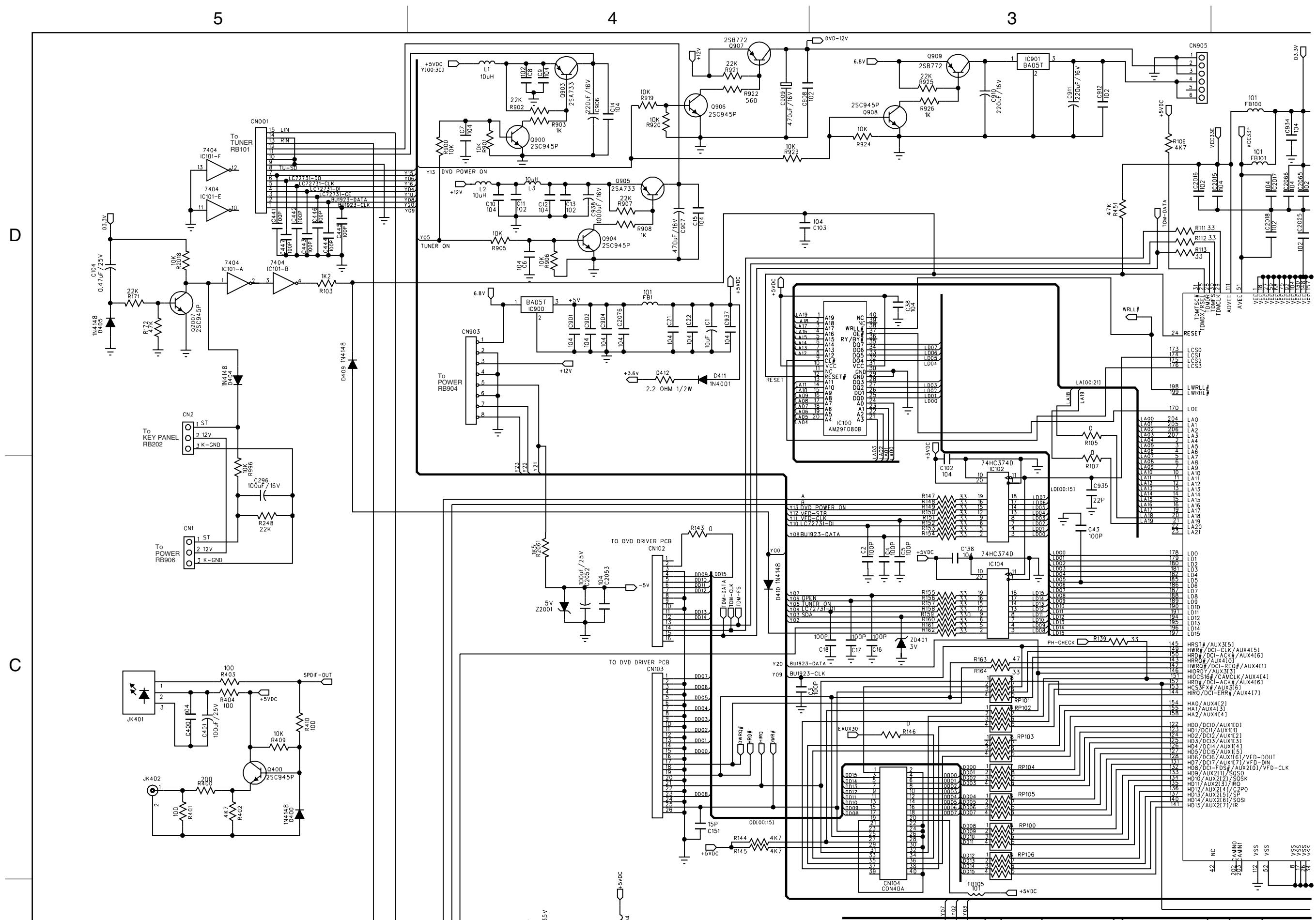
R286	D3
R288	E4
R289	D4
R290	D4
R291	f4
R292	D3
R293	B4
RB105A	E2
RB105B	E3
RB201	E4
RB202	E3
RB401	E1
D251	C2
D252	C2
D253	D2
CN201	E4
DP251	C1
IC251	B1
IC252	C4
JK302	F1
LD251	E4
Q251	B3
Q252	B3
Q253	C3
Q254	E4
Q255	D2
TA201	C2
TA202	B3
TA203	C2
TA204	C3
TA205	B2
TA206	B2
TA207	C2
TA208	C3
TA209	B3
TA210	E3
SN251	D3
XL251	B4
ZD251	D4
ZD252	D3
ZD253	D3

POWER SCHEMATIC DIAGRAM



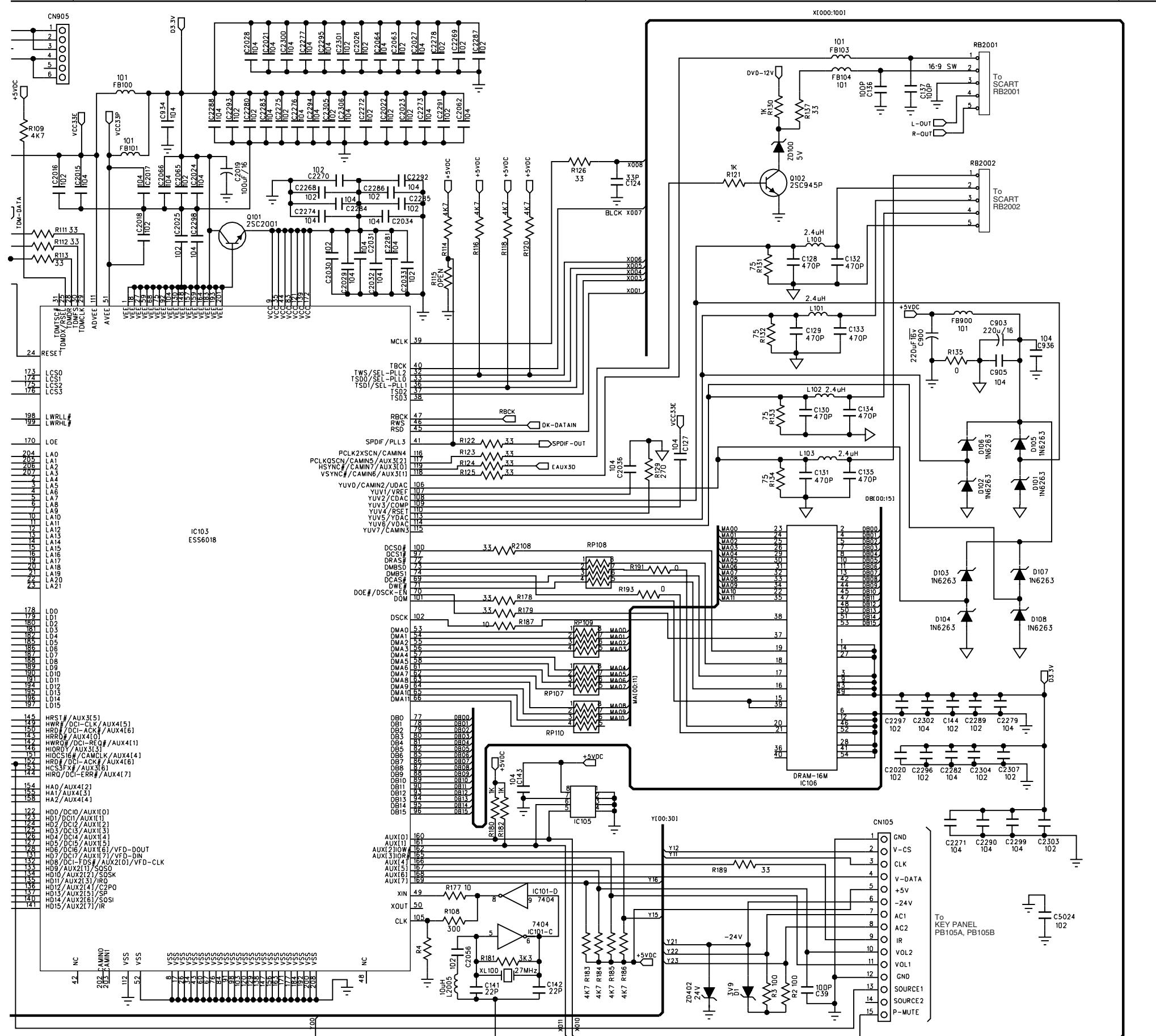
BR901 B1	CN902 A2	R951 C3
C901 A1	D901 C2	R952 E1
C902 B1	D902 C2	RB904 F2
C903 B1	D903 B3	RB905 F1
C904 B2	D904 C3	RB906 F3
C905 C1	D905 D1	RT901 B2
C906 C1	D906 D2	RL901 B3
C907 C1	D907 D1	SN901 D2
C908 B1	D908 E2	T901 A1
C909 B1	D909 D1	T902 A3
C910 C1	D910 D2	F901 A1
C911 C2	D911 D3	ZD901 C1
C912 C2	IC903 C2	ZD902 D3
C913 C2	IC904 D3	ZD903 E1
C914 B3	L901 F1	
C919 D2	L903 F1	
C920 E2	Q903 D2	
C925 E1	Q910 B4	
C930 E1	Q912 B4	
C931 E2	Q913 C3	
C932 F1	R901 B1	
C933 F1	R902 B2	
C938 E2	R903 C1	
C939 E2	R904 C2	
C940 F2	R905 C1	
C941 F2	R906 C1	
C945 E1	R907 C2	
C947 E1	R908 D2	
C948 E1	R921 D2	
C949 E1	R922 D2	
C950 E1	R923 D2	
C951 F1	R924 D2	
C952 F1	R925 D2	
C962 B3	R926 D2	
C963 D1	R927 D2	
C964 C1	R928 E2	
C965 D1	R931 D1	
C966 D1	R941 B4	
C967 D1	R942 B4	
C968 D1	R943 C4	
C969 D1	R944 C4	
C970 D2	R945 B4	
	R946 B4	
	R947 B4	
	R948 B4	
	R949 E2	

MAIN SCHEMATIC DIAGRAM (TOP LEFT VIEW)



MAIN SCHEMATIC DIAGRAM (TOP RIGHT VIEW)

2



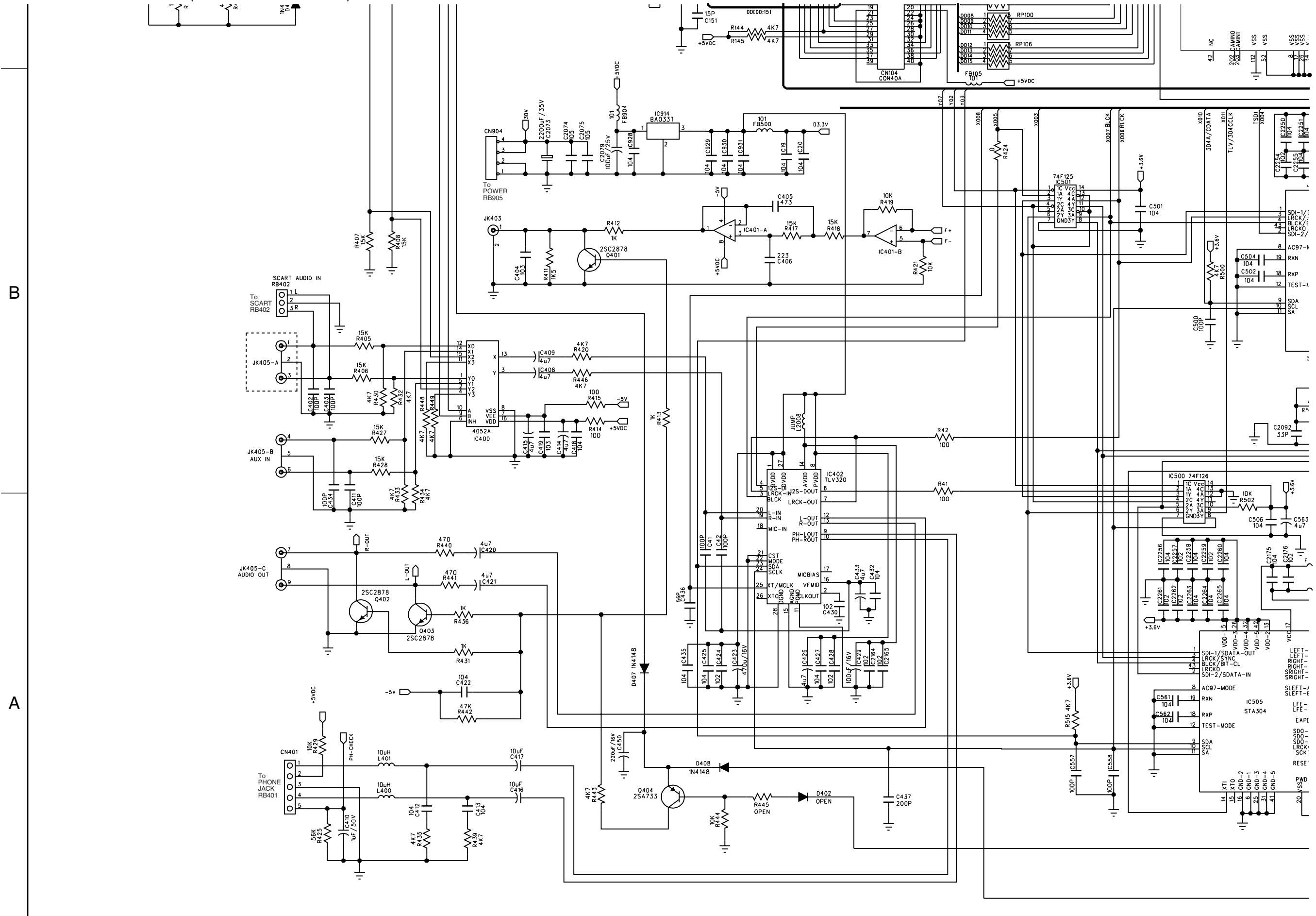
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CN1	C5	L507	A1	R160	C3	R518	A2
CN2	D5	L508	B1	R161	C3	R519	A1
CN102	C4	L509	B1	R162	C3	R520	B1
CN103	C4	L513	A1	R163	C3	R521	A1
CN105	C1	L514	A1	R164	C3	R522	A1
CN401	A5	L515	B1	R171	D5	R523	A1
CN903	D4	L2005	C2	R172	D5	R524	A1
CN904	B4	L2008	B4	R177	C2	R525	A1
CN905	D3	L2009	B2	R178	C2	R526	A1
D1	C1	L2010	B2	R179	C2	R527	A1
D101	D1	L2032	B1	R180	C2	R528	A1
D102	D1	L2034	A1	R181	C2	R529	A1
D103	C1	L2036	B1	R182	C2	R530	A1
D104	C1	L2037	B1	R183	C1	R531	A1
D105	D1	L2038	A1	R184	C1	R532	A1
D106	D1	L2045	A1	R185	C1	R533	B2
D107	C1	Q101	D2	R186	C1	R534	B2
D108	C1	Q102	D1	R187	C2	R900	D4
D400	C5	Q400	C5	R189	C1	R901	D4
D402	A3	Q401	B4	R191	C1	R902	D4
D404	D5	Q402	A5	R193	C1	R903	D4
D405	D5	Q403	A4	R248	C5	R906	D4
D407	A4	Q404	A4	R400	C5	R907	D4
D408	A4	Q900	D4	R401	C5	R908	D4
D409	D5	Q903	D4	R402	C5	R919	D4
D410	C4	Q904	D4	R403	C5	R920	D4
D411	D4	Q905	D4	R404	C5	R921	D4
D412	D4	Q906	D4	R405	B5	R922	D4
FB1	D4	Q907	D4	R406	B5	R924	D3
FB100	D2	Q908	D3	R407	B5	R925	D3
FB101	D2	Q909	D3	R408	B3	R926	D3
FB103	D1	Q2007	D5	R409	C5	R996	C5
FB104	D1	R1	B2	R410	C5	R2018	D5
FB500	B4	R2	C1	R411	B4	R2061	C4
FB502	A2	R3	C1	R412	B4	R2108	C2
FB503	A2	R4	C2	R413	B4	RB2001D1	
FB900	D1	R41	B3	R414	B4	RB402	B5
IC100	D3	R42	B3	R415	B4	RB2002D1	
IC101-A	D5	R103	D5	R417	B4	RP100	C3
IC101-B	D5	R105	D3	R418	B3	RP101	C3
IC101-C	C2	R107	D3	R419	B3	RP102	C3
IC101-D	C2	R108	C2	R420	B4	RP103	C3
IC101-E	D5	R109	D3	R421	B3	RP104	C3
IC101-F	D5	R111	D3	R424	B3	RP105	C3
IC102	C3	R112	D3	R425	A5	RP106	C3
IC103	C2	R113	D3	R427	B5	RP107	C2
IC104	C3	R114	D2	R428	B5	RP108	C1
IC105	C1	R115	D2	R429	A5	RP109	C1
IC106	C1	R116	D2	R430	B5	RP110	C2
IC400	B4	R118	D2	R431	A4	XL100	C2
IC401-A	B4	R120	D2	R432	B5	XL500	B2
IC401-B	B3	R121	D1	R433	A5	Z2001	C4
IC402	B3	R122	D2	R434	A4	ZD100	D1
IC500	B3	R123	D2	R435	A4	ZD401	C3
IC501	B3	R124	D2	R436	A4	ZD402	C1
IC502	B2	R125	D2	R439	A4		
IC503	A1	R126	D2	R440	A4		
IC504	A1	R129	D1	R441	A4		
IC505	A2	R130	D1	R442	A4		
IC506	B1	R131	D1	R443	A4		
IC900	D4	R132	D1	R444	A4		
IC901	D3	R133	D1	R446	B4		
IC914	B4	R134	D1	R448	B4		
JK401	C5	R135	D1	R449	B4		
JK402	C5	R137	D1	R451	D3		
JK403	B4	R139	C3	R500	B2		
JK405-A	B5	R143	C4	R501	B2		
JK405-B	B5	R144	C4	R502	A2		
JK500	B1	R145	C4	R503	B2		
L1	D4	R146	C3	R504	A2		
L2	D4	R147	C3	R505	B1		
L3	D4	R148	C3	R506	B1		
L100	D1	R149	C3	R507	A1		
L101	D1	R150	C3	R508	B1		
L102	D1	R151	C3	R509	A1		
L103	D1	R152	C3	R510	B1		
L400	A5	R153	C3	R511	B1		
L401	A5	R154	C3	R512	B1		
L500	B1	R155	C3	R513	B1		
L501	B1	R156	C3	R514	B1		
L502	B1	R157	C3	R515	A3		
L503	B1	R158	C3	R516	A2		
L504	A1	R159	C3	R517	A2		

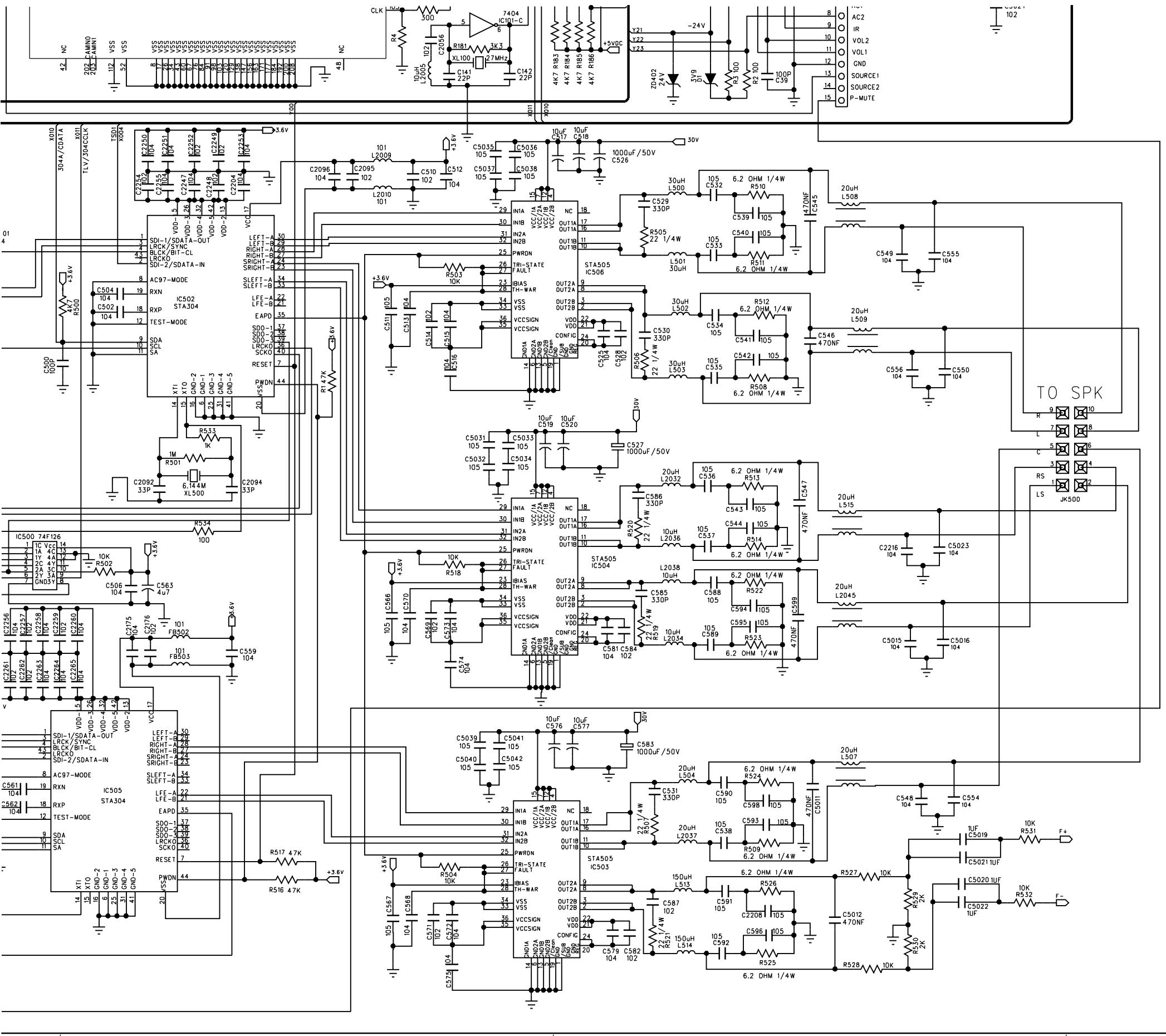
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1

MAIN SCHEMATIC DIAGRAM (BOTTOM LEFT VIEW)



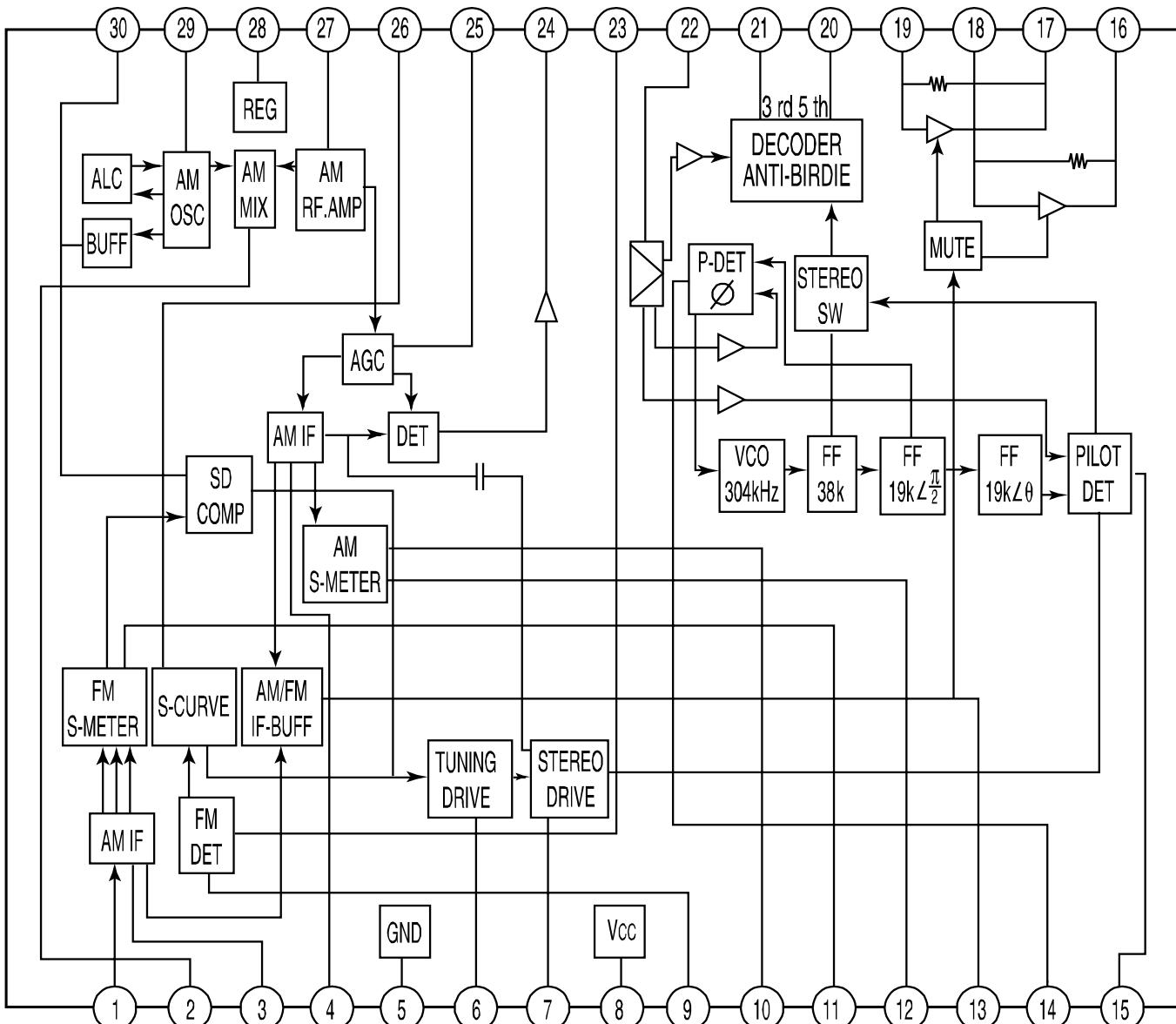
MAIN SCHEMATIC DIAGRAM (BOTTOM RIGHT VIEW)



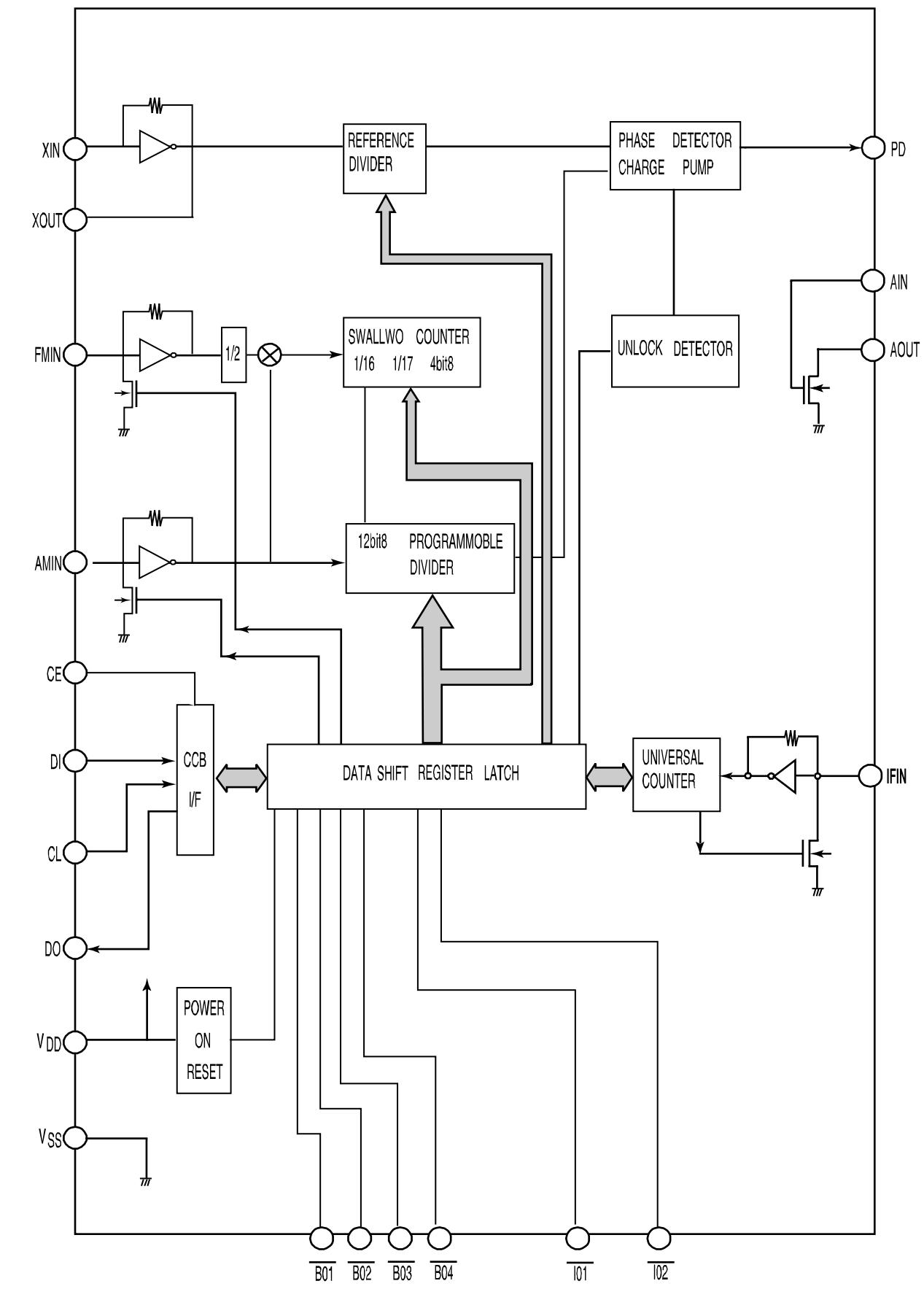
C1	D4	C436	A4	C590	A1	C2257	A3
C2	C3	C441	D5	C591	A1	C2258	A3
C3	C3	C442	D5	C592	A1	C2259	A3
C4	C3	C443	D5	C593	A1	C2260	A2
C5	C3	C444	D5	C594	A1	C2261	A3
C6	D4	C445	D5	C595	A1	C2262	A3
C7	D4	C446	D5	C596	A1	C2263	A3
C8	D4	C447	D5	C598	A1	C2264	A3
C9	D4	C437	A3	C599	A1	C2265	A2
C10	D4	C450	A4	C900	D1	C2268	D2
C11	D4	C500	B3	C901	D4	C2269	D2
C12	D4	C501	B3	C902	D4	C2270	D2
C13	D4	C502	B2	C903	D1	C2271	C1
C14	D4	C504	B2	C904	D4	C2272	D2
C15	D4	C506	A2	C905	D1	C2273	D2
C16	C3	C510	A2	C906	D4	C2274	D2
C17	C3	C511	B2	C907	D4	C2275	D2
C18	C3	C512	A2	C908	D4	C2276	D2
C19	B4	C513	B2	C909	D4	C2277	D2
C20	B4	C514	B2	C910	D3	C2278	D2
C21	D4	C515	B2	C911	D3	C2279	C1
C22	D4	C516	B2	C912	D3	C2280	D2
C38	D3	C517	B1	C928	B4	C2281	D2
C39	C1	C518	B1	C929	B4	C2282	C1
C41	A4	C519	B2	C930	B4	C2283	D2
C42	A4	C520	B1	C931	B4	C2284	D2
C43	C3	C523	B4	C934	D2	C2285	D2
C102	C3	C525	B1	C935	C3	C2286	D2
C103	D4	C526	B1	C937	D4	C2287	D2
C104	D5	C527	B1	C938	D4	C2288	D2
C124	D1	C528	B1	C2015	D2	C2289	C1
C127	D1	C529	B1	C2016	D3	C2290	C1
C128	D1	C530	B1	C2017	D2	C2291	D2
C129	D1	C531	A1	C2018	D2	C2292	D2
C130	D1	C532	B1	C2019	D2	C2293	D2
C131	D1	C533	B1	C2020	C1	C2294	D2
C132	D1	C534	B1	C2021	D2	C2295	D2
C133	D1	C535	B1	C2022	D2	C2296	C1
C134	D1	C536	B1	C2023	D2	C2297	C1
C135	D1	C537	B1	C2024	D2	C2298	D2
C136	D1	C538	A1	C2025	D2	C2299	C1
C137	D1	C539	B1	C2026	D2	C2300	D2
C138	C3	C540	B1	C2027	D2	C2301	D2
C141	C2	C541	B1	C2028	D2	C2302	C1
C142	C2	C542	B1	C2029	D2	C2303	C1
C143	C2	C543	B1	C2030	C1	C2304	C1
C144	C1	C544	B1	C2031	D2	C2305	D2
C151	C4	C545	B1	C2032	D2	C2306	D2
C296	C5	C546	B1	C2033	D2	C2307	C1
C400	C5	C547	B1	C2034	D2	C5011	A1
C401	C5	C548	A1	C2036	D1	C5012	A1
C402	B5	C549	B1	C2052	C4	C5015	A1
C403	B5	C550	B1	C2053	C4	C5016	A1
C404	B4	C554	A1	C2056	C2	C5019	A1
C405	B4	C555	D4	C2062	D2	C5020	A1
C406	B4	C556	A2	C2063	A1	C5021	A1
C407	B4	C557	A3	C2064	D2	C5022	A1
C408	B4	C558	A3	C2065	D2	C5023	B1
C409	B4	C559	A3	C2066	D2	C5024	C1
C410	A5	C561	A3	C2073	B4	C5031	B2
C411	A5	C562	A3	C2074	B4	C5032	B2
C412	A4	C563	A2	C2076	D4	C5033	B2
C413	A4	C566	A2	C2079	B2	C5034	B2
C414	B4	C567	A2	C2092	B2	C5035	B2
C415	B4	C568	A2	C2094	B2	C5036	B2
C416	B4	C569	A2	C2095	B2	C5037	B2
C417	A4	C570	A2	C2096	B2	C5038	B2
C418	B4	C571	A2	C2164	A3	C5039	A1
C419	B4	C572	A2	C2165	A3	C5040	A1
C420	A4	C573	A2	C2175	A2	C5041	A1
C421	A4	C574	A2	C2176	A2	C5042	A1
C422	A4	C575	A2	C2204	B2		
C423	A4	C576	A1	C2208	A1		
C424	A4	C577	A1	C2216	B1		
C425	A4	C578	A1	C2247	B2		
C426	A3	C579	A1	C2248	B2		
C427	A3	C580	A1	C2249	B2		
C428	A3	C583	A1	C2250	B2		
C429	A3	C584	A1	C2251	B2		
C430	A3	C585	A1	C2252	B2		
C432	A3	C586	B1	C2253	B2		
C433	A3	C587	A1	C2254	B2		
C434	A5	C588	A1	C2255	B2		
C435	A4	C589	A1	C2256	A3		

1-4 IC BLOCK DIAGRAMS

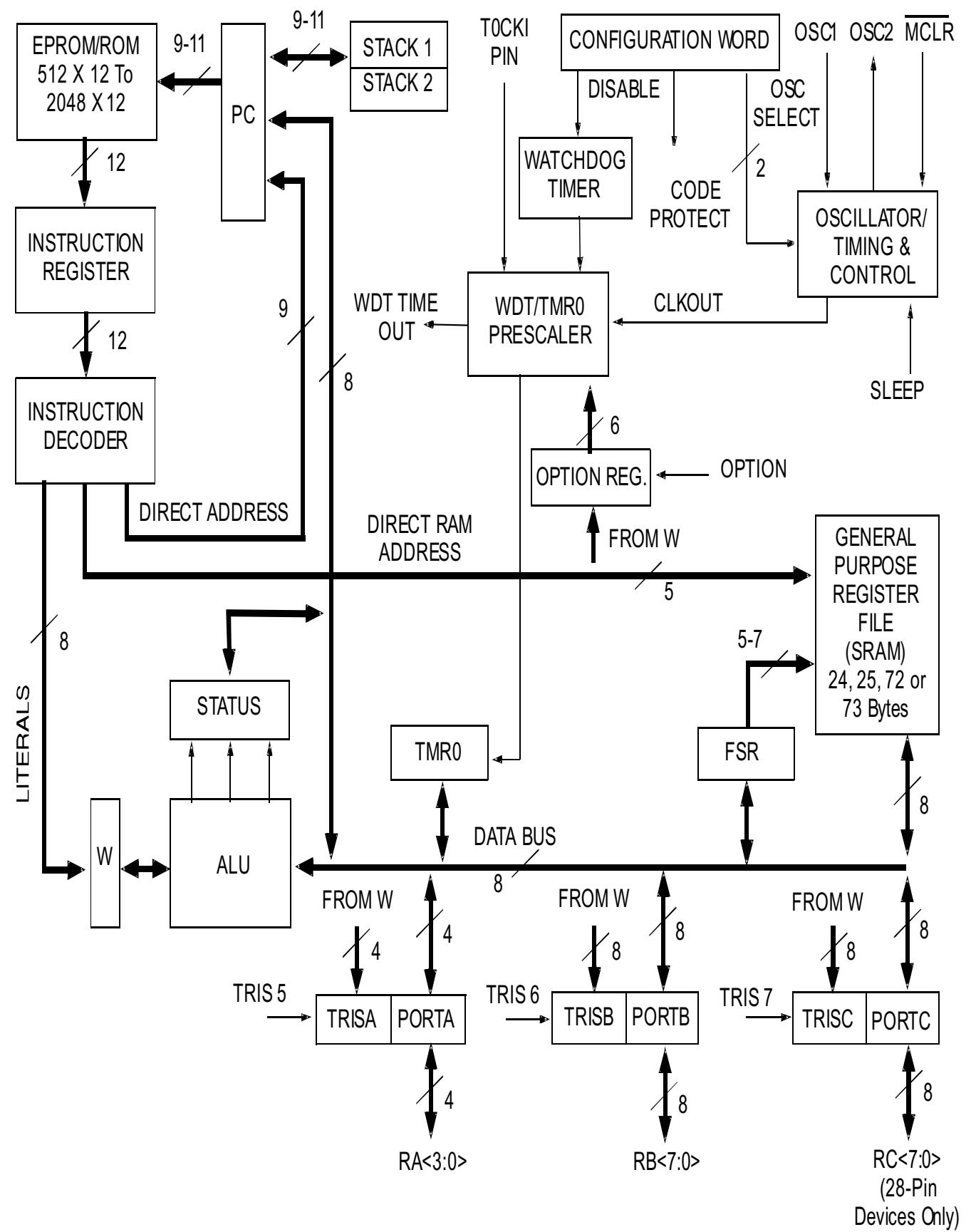
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LC7213M

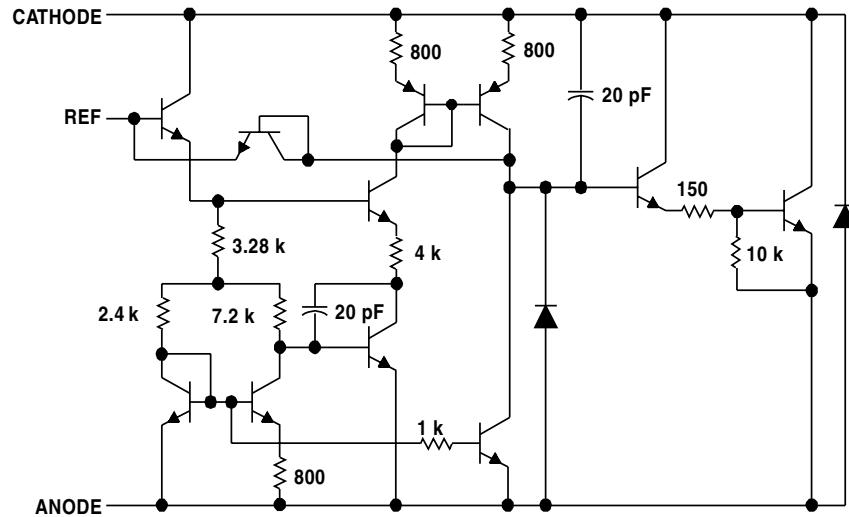


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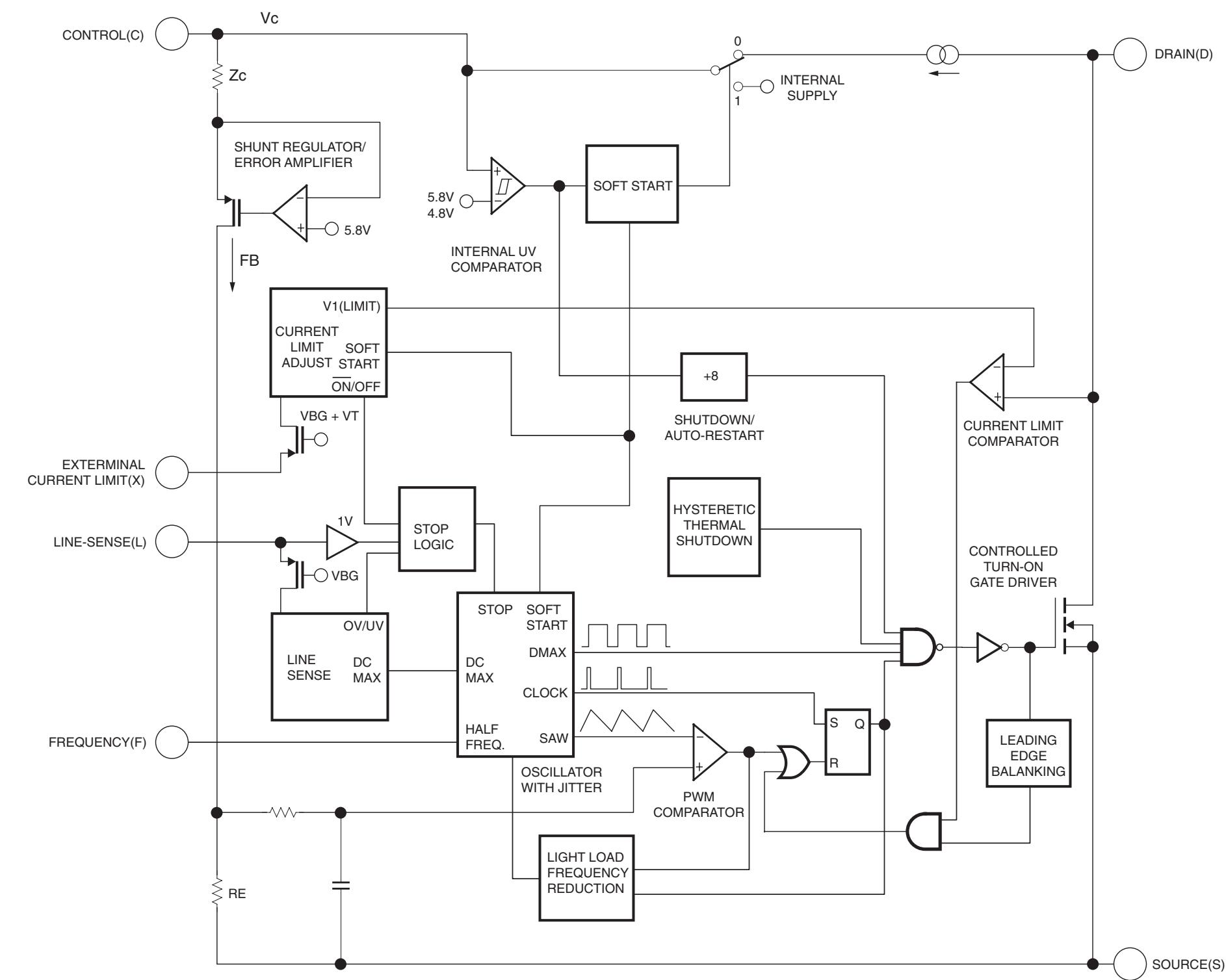


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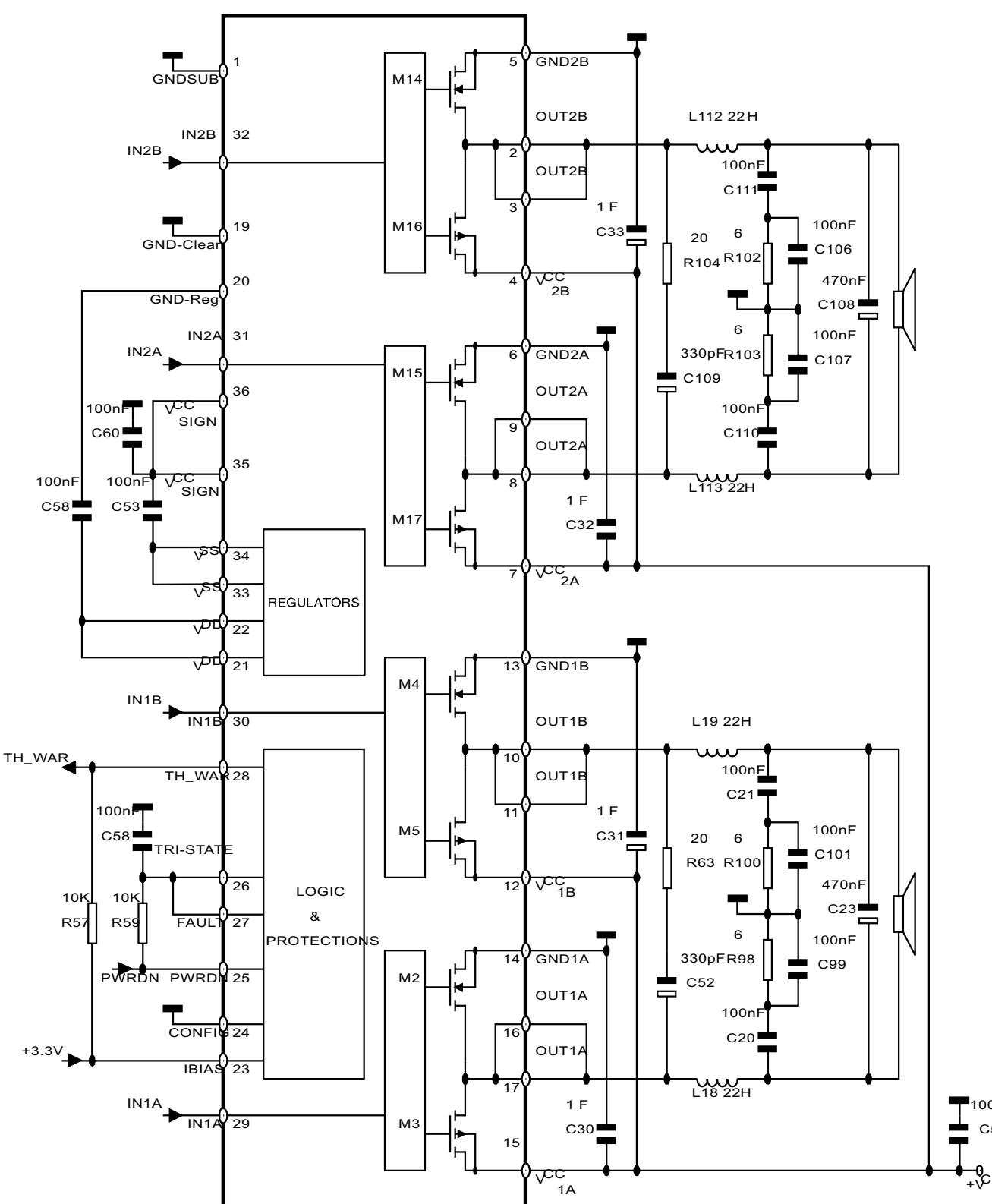
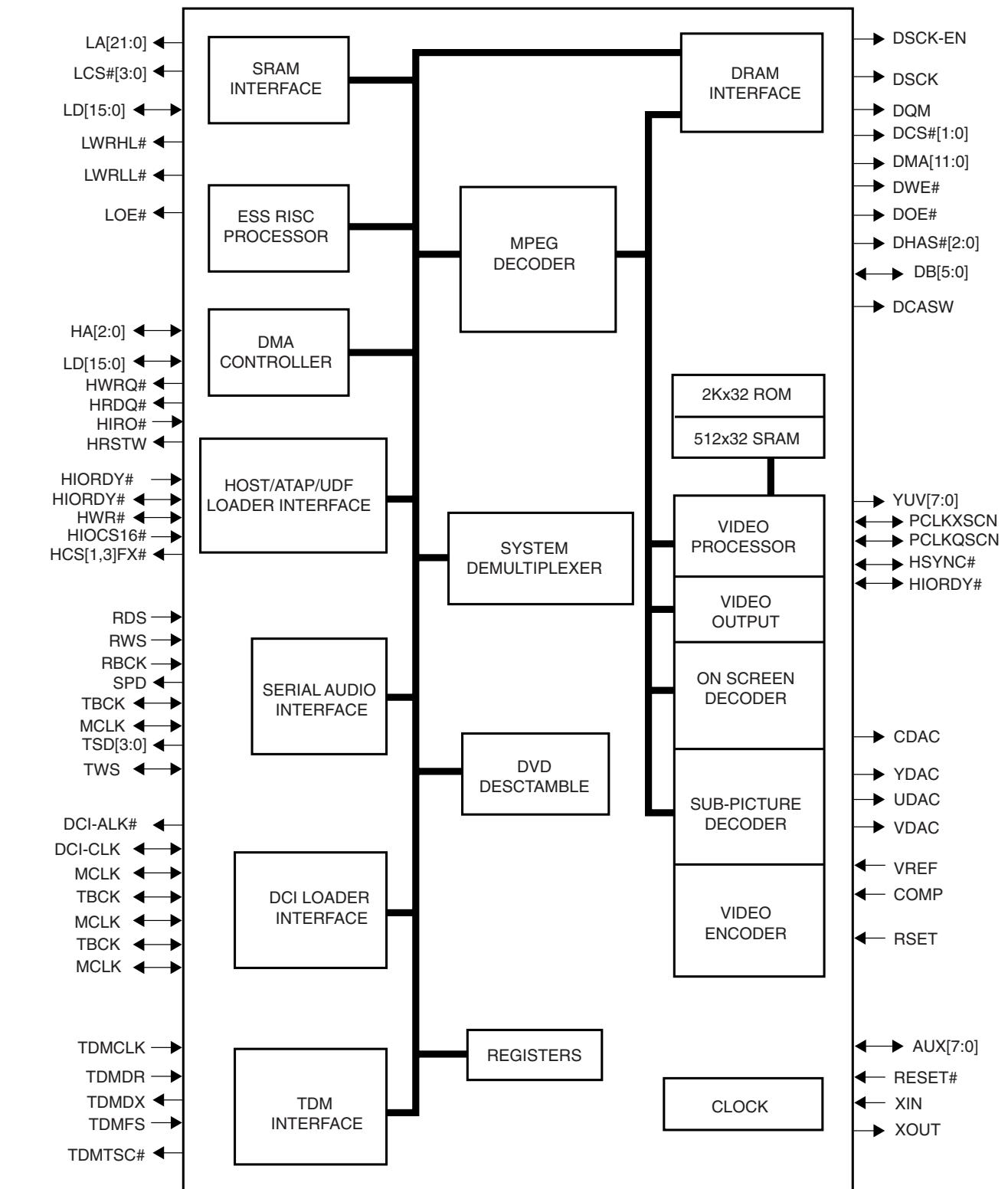
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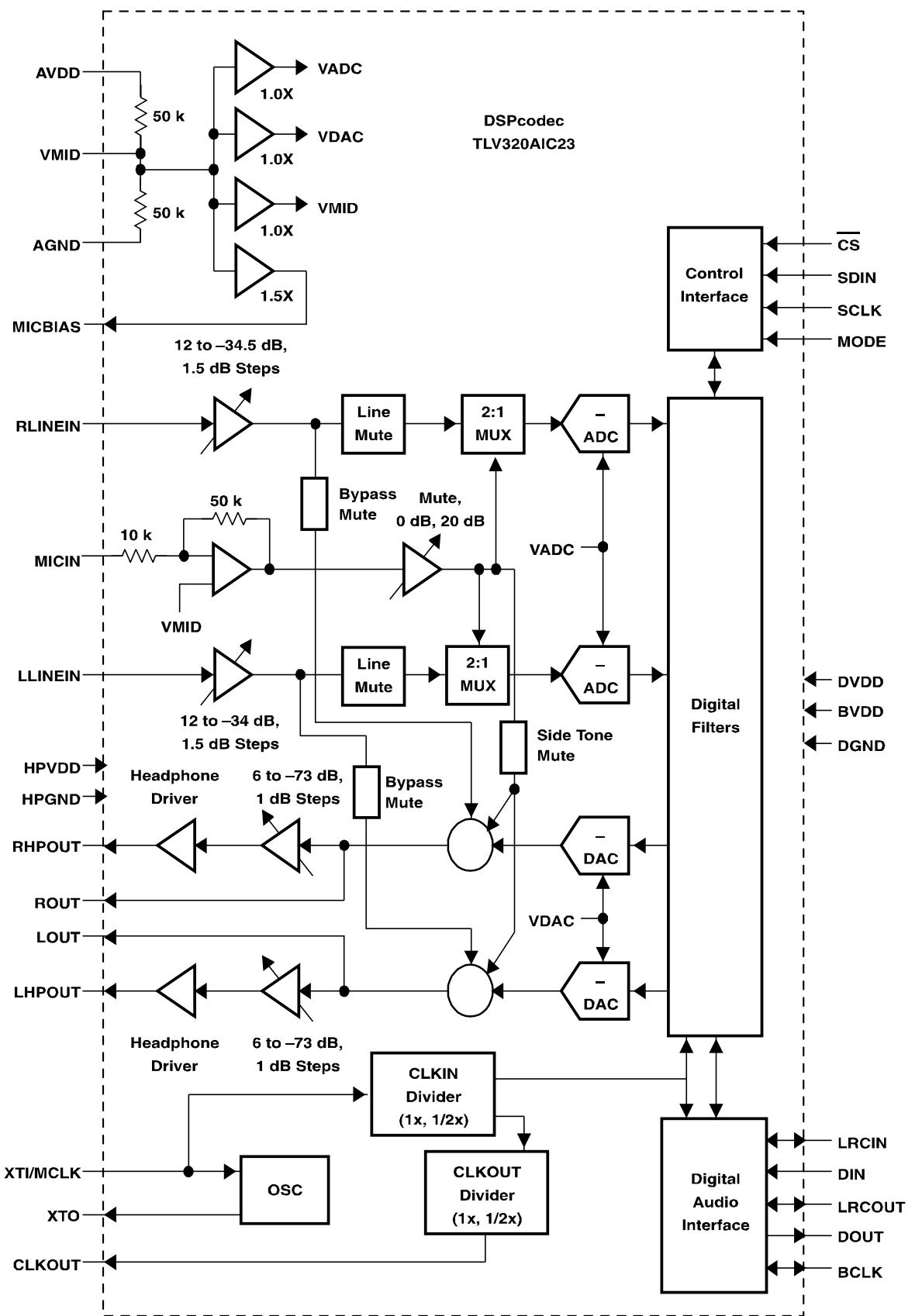


TOP249



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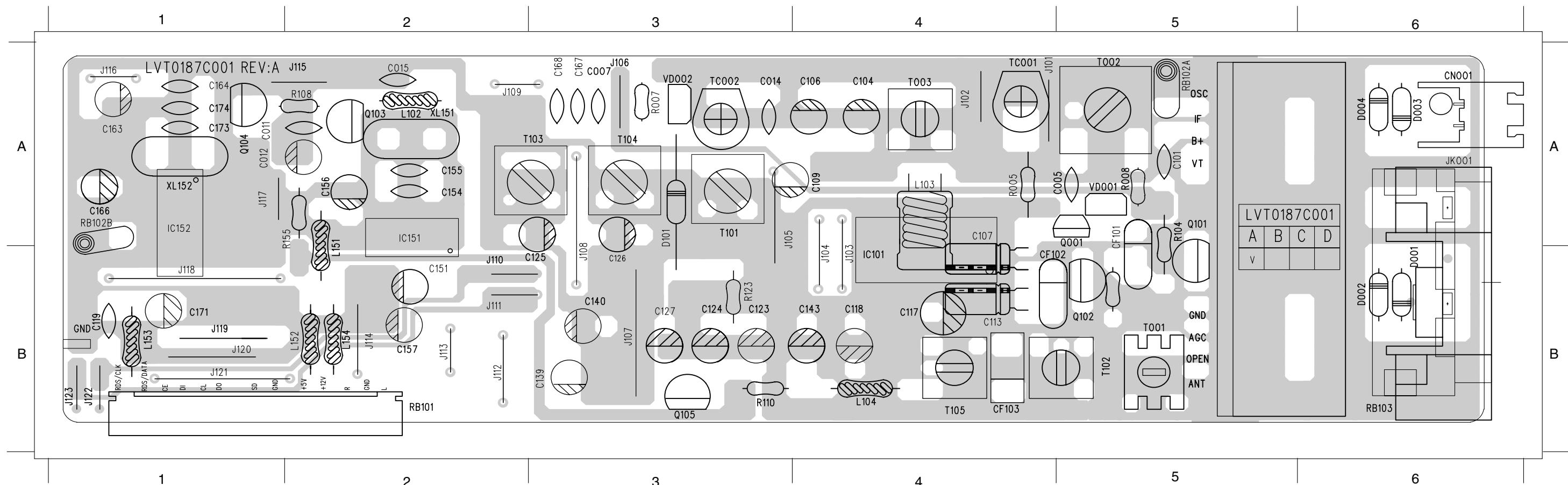
STA505**ESS6018**

TLV320A

1-5 CIRCUIT BOARD DIAGRAMS

TUNER CIRCUIT BOARD DIAGRAM (TOP VIEW)

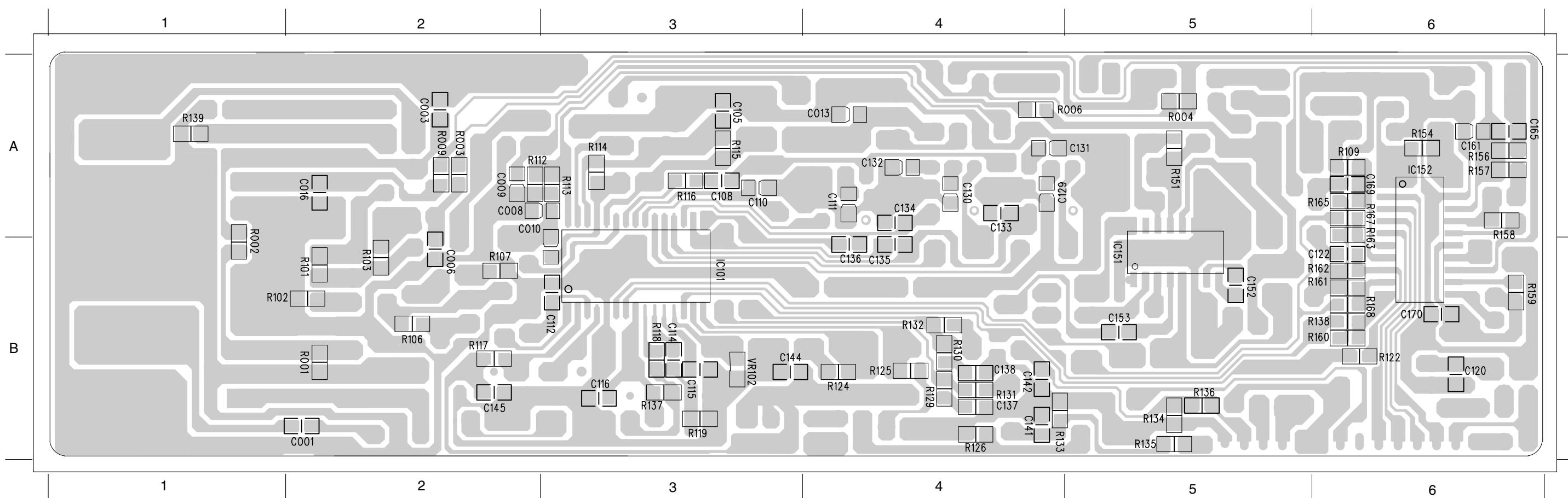
C005	A5	C109	A4	C139	B3	C166	A1	J102	A4	J111	B2	J121	B1	L153	B1	T104	A3	VD001	A5	R007	A3	RB103	B
C007	A3	C113	B4	C140	B3	C167	A3	J103	B4	J112	B2	J122	B1	L154	B2	T105	B4	VD002	A3	R008	A5		
C011	A1	C117	B4	C143	B4	C171	B1	J104	B4	J113	B2	J123	B1	IC151	A2	TC001	A4	XL151	A2	R104	A5		
C012	A1	C118	B4	C151	B2	C173	A1	J116	A1	J114	B2	IC101	B4	IC152	A1	TC002	A3	XL152	A1	R108	A2		
C014	A3	C119	B1	C154	A2	C174	A1	J105	A3	J115	A2	JK001	A6	T001	A1	Q001	A5	D001	B6	R110	B3		
C015	A2	C123	B3	C155	A2	CF101	A5	J106	A3	J116	B5	L102	A2	T002	A5	Q101	A5	D002	B6	R123	B3		
C101	A5	C124	B3	C156	A2	CF102	B5	J107	B3	J117	A1	L103	A4	T003	A4	Q102	B5	D003	A6	R155	A2		
C104	A4	C125	A3	C157	B2	CF103	B4	J108	A3	J118	B1	L104	B4	T101	A3	Q103	A2	D004	A6	RB101	B2		
C106	A4	C126	B3	C163	A1	CN001	A6	J109	A2	J119	B1	L151	A2	T102	B5	Q104	A1	D101	A3	RB102A	A5		
C107	B4	C127	B3	C164	A1	J101	A4	J110	B2	J120	B1	L152	B2	T103	A3	Q105	B3	R005	A4	RB102B	A1		



TUNER CIRCUIT BOARD DIAGRAM (BOTTOM VIEW)

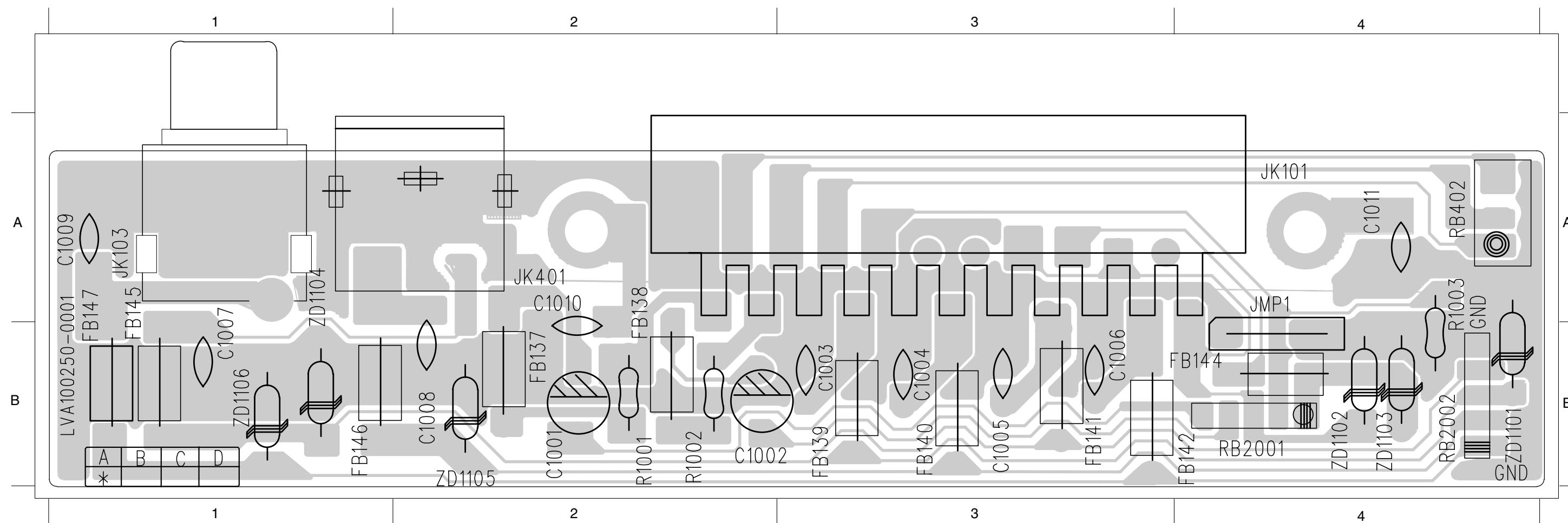
C001	B2	C108	A3	C129	A4	C138	B4	C169	A6	R006	A4	R113	A3	R125	B4	R136	B5	R158	A6
C003	A2	C110	A3	C130	A4	C141	B4	C170	B6	R009	A2	R114	A3	R126	B4	R137	B3	R159	B6
C006	B2	C111	A4	C131	A4	C142	B4	IC101	B3	R101	B2	R115	A3	R129	B4	R138	B6	R160	B6
C008	A2	C112	B3	C132	A4	C144	B3	IC151	B5	R102	B2	R116	A3	R130	B4	R139	A1	R161	B6
C009	A2	C114	B3	C133	A4	C145	B2	IC152	A6	R103	B2	R117	B2	R131	B4	R145	B2	R162	B6
C010	B3	C115	B3	C134	A4	C152	B5	R001	B2	R106	B2	R118	B3	R132	B4	R151	A5	R163	A6
C013	A4	C116	B3	C135	B4	C153	B5	R002	B1	R107	B2	R119	B3	R133	B4	R154	A6	R165	A6
C016	A2	C120	B6	C136	B4	C161	A6	R003	A2	R109	A6	R122	B6	R134	B5	R156	A6	R167	A6
C105	A3	C122	B6	C137	B4	C165	A6	R004	A5	R112	A2	R124	B4	R135	B5	R135	B5	R168	B6

VR102 B3



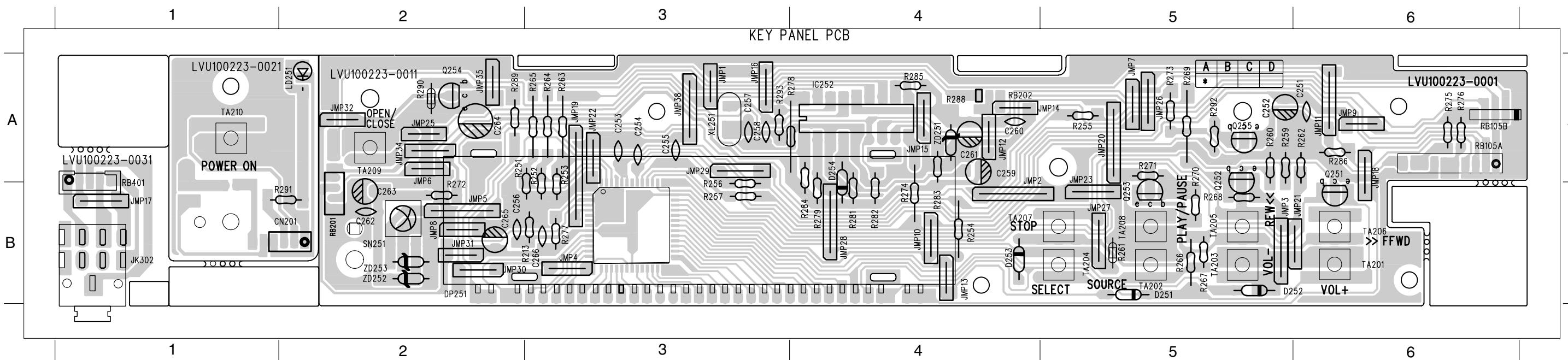
SCART CIRCUIT BOARD DIAGRAM

C1001	B2	C1009	A1	R1001	B2	FB140	B3	ZD1102	B4
C1002	B2	C1010	A2	R1002	B2	FB141	B3	ZD1103	B4
C1003	B3	C1011	A4	R1003	A4	FB142	B4	ZD1104	A1
C1004	B3	JK101	A4	RB2001	B4	FB144	B4	ZD1105	B2
C1005	B3	JK103	A1	RB2002	B4	FB145	B1	ZD1106	B1
C1006	B3	JK401	A2	FB137	B2	FB146	B1		
C1007	B1	JMP1	A4	FB138	B2	FB147	B1		
C1008	B2	RB402	A4	FB139	B3	ZD1101	B4		



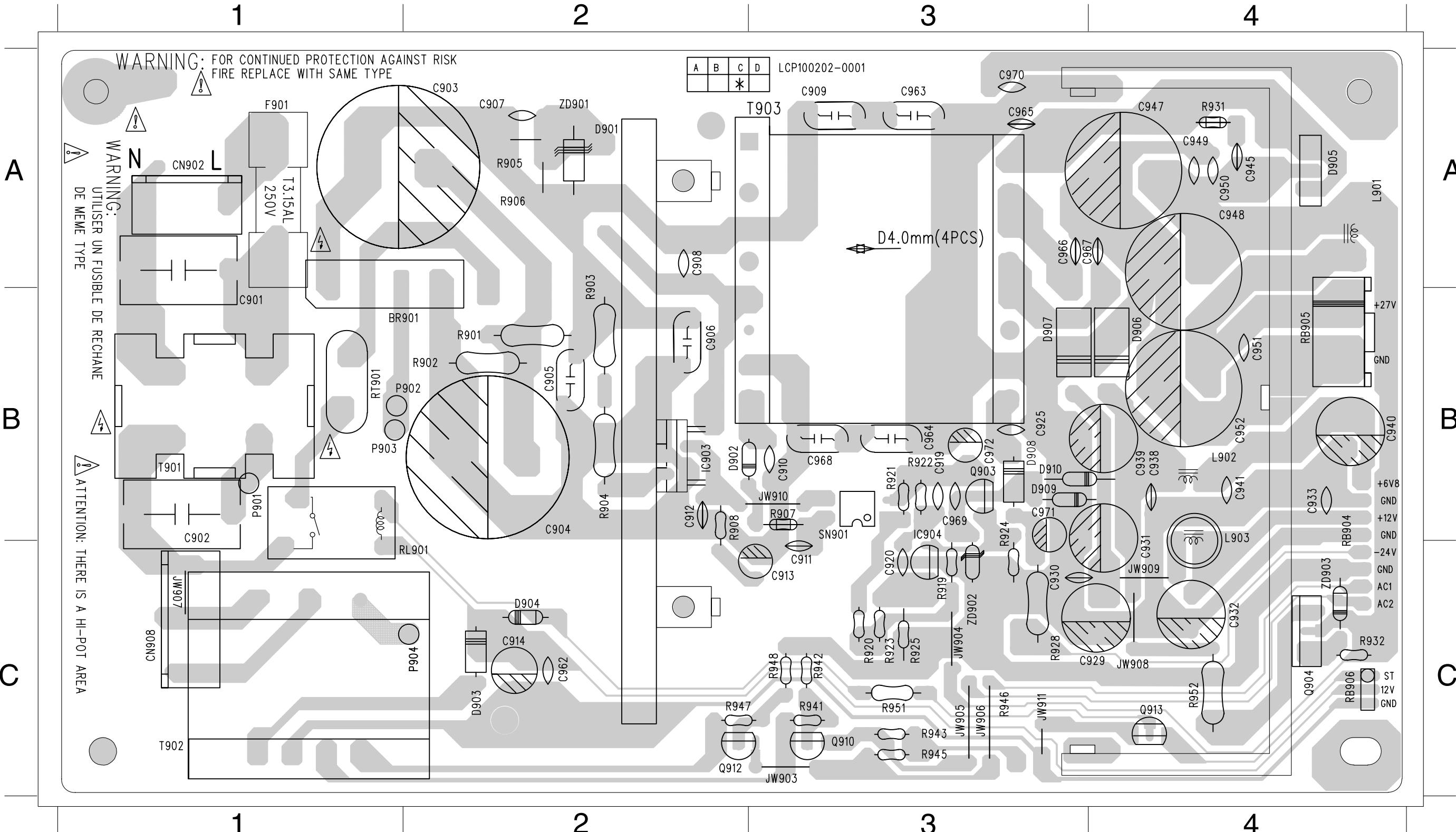
KEY PANEL CIRCUIT BOARD DIAGRAM

C251	A6	C260	A4	D251	B5	R252	A3	R262	A6	R271	A5	R282	B4	R294	B1	JMP2	B4	JMP11	A6	JMP20	A5	JMP30	B2	Q253	B5	TA207	B4
C252	A5	C261	A4	D252	B5	R253	A3	R263	A3	R272	B2	R283	B4	RB105A	A6	JMP3	B5	JMP12	A4	JMP21	A6	JMP31	B2	Q254	A2	TA208	B5
C253	A3	C262	B2	D253	B4	R254	B4	R264	B2	R273	A5	R284	B4	RB105B	A6	JMP4	B3	JMP13	B4	JMP22	A3	JMP32	A2	Q255	A5	TA209	A2
C254	A3	C263	B2	D254	A4	R255	A5	R265	A3	R274	B4	R285	A4	RB201	B2	JMP5	B2	JMP14	A4	JMP23	B5	JMP34	A2	TA201	B6	TA210	A1
C255	A3	C264	A2	DP251	B2	R256	B3	R266	B5	R275	A6	R286	A6	RB202	A4	JMP6	A2	JMP15	A4	JMP25	A2	JMP35	A2	TA202	B5	SN251	B2
C256	B2	C265	B2	ZD251	A4	R257	B3	R267	B5	R276	A6	R289	A2	RB401	B1	JMP7	A5	JMP16	A3	JMP26	A5	JMP38	A3	TA203	B5	XI251	A3
C257	A3	C266	B3	R213	B3	R259	A5	R268	B5	R277	B3	R291	B2	IC252	A4	JMP8	B2	JMP17	B1	JMP27	B5	JW30	B2	TA204	B5	ZD252	B2
C258	A3	C293	A3	R288	A4	R260	A5	R269	A5	R278	A4	R292	A5	JK302	A1	JMP9	A6	JMP18	A6	JMP28	B4	Q251	B6	TA205	B5	TA206	B6
C259	A4	CN201	B2	R251	A3	R261	B5	R270	B5	R281	B4	R290	A2	JMP1	A3	JMP10	B4	JMP19	A3	JMP29	A3	Q252	B5	TA206	B6	ZD253	B2

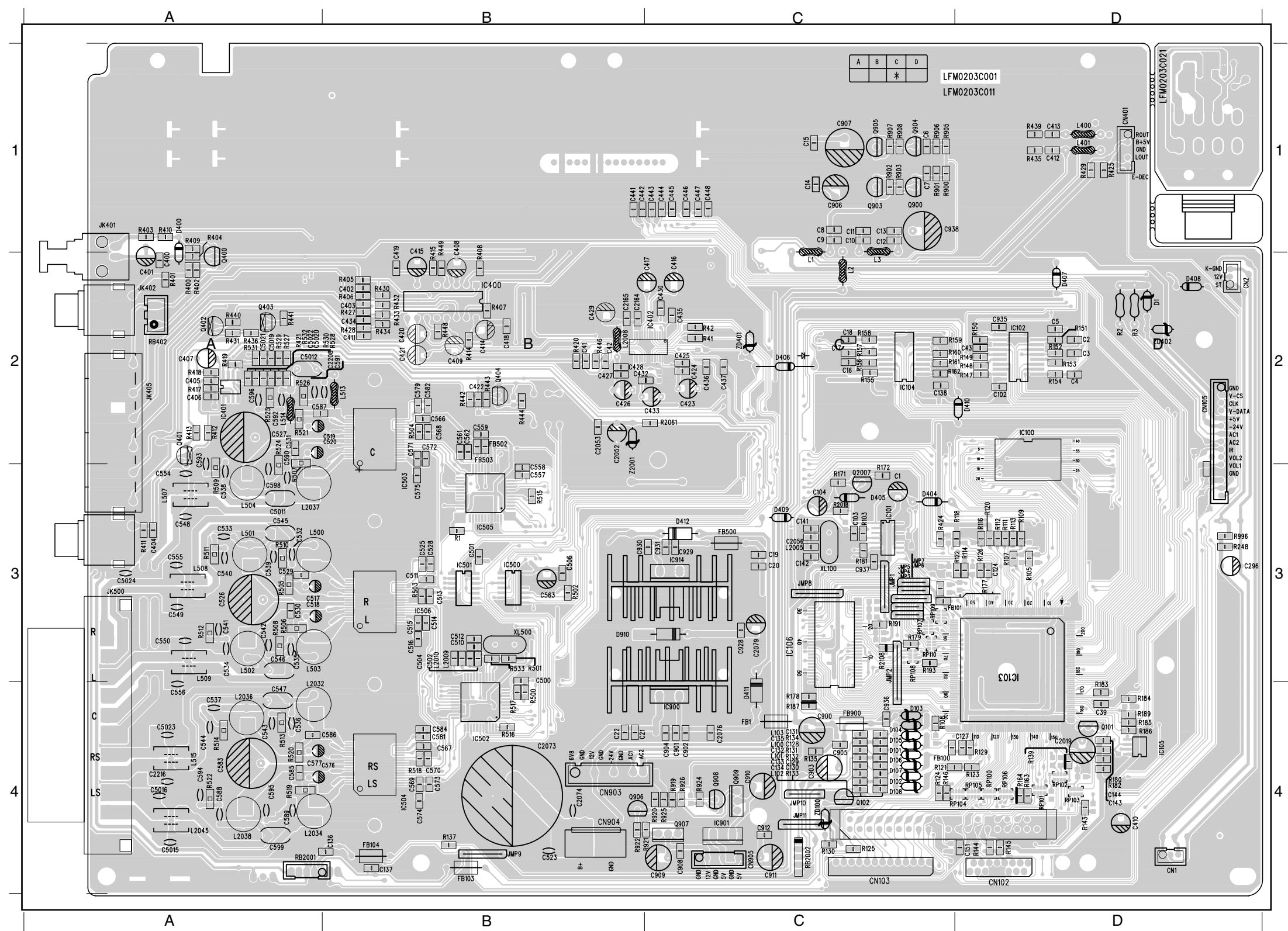


POWER CIRCUIT BOARD DIAGRAM

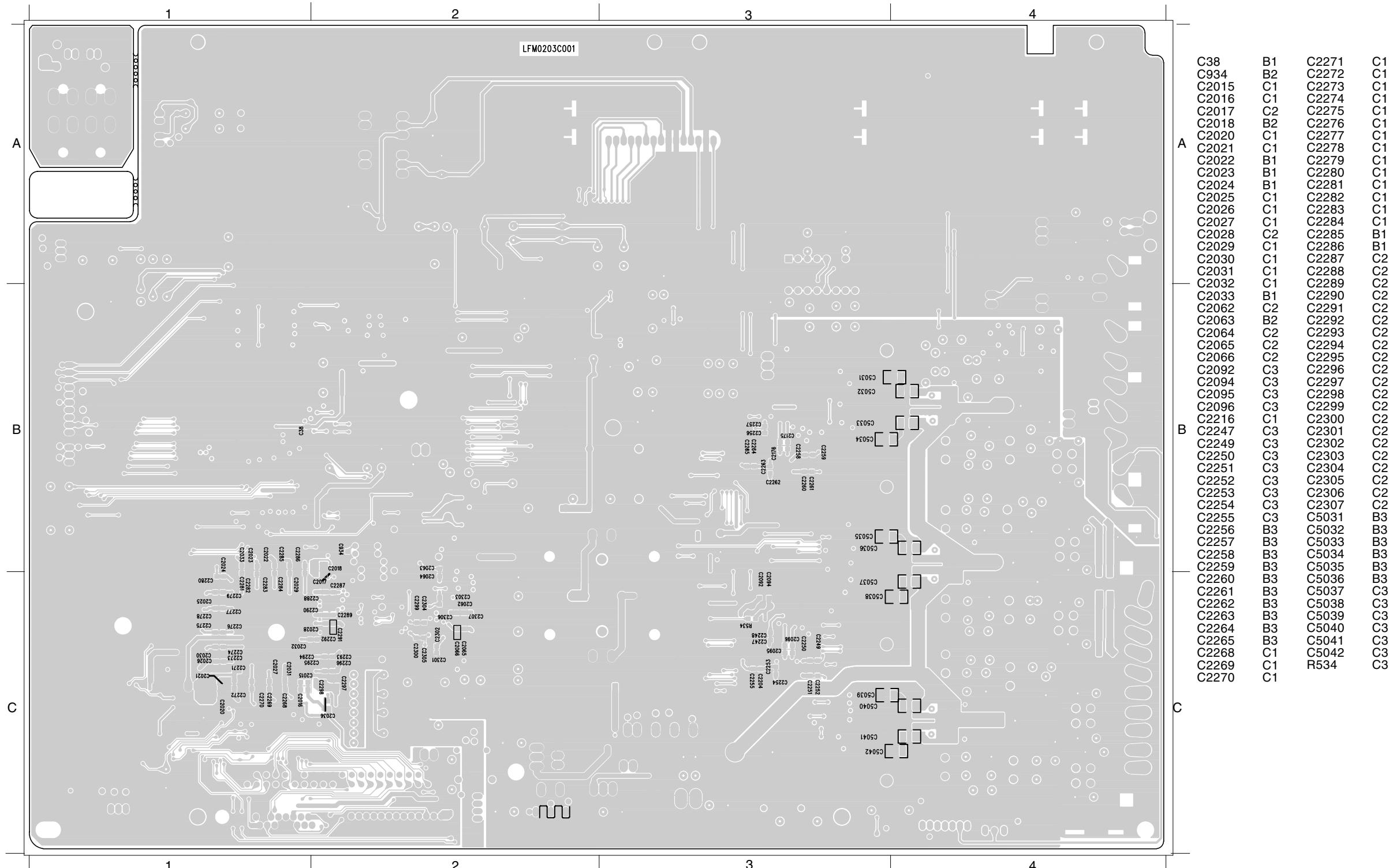
C901 A1	C909 A3	C925 B3	C940 B4	C952 B4	C969 B3	R905 A2	R923 C3	R943 C3	RB905 B4	D905 A4	ZD903 C4	JW905 C3	L902 B4	IC904 C3	T903 A3
C902 B1	C910 B3	C929 C4	C941 B4	C963 C2	C970 A3	R906 A2	R924 C3	R945 C3	RB906 C4	D906 B4	Q903 B3	JW906 C3	L903 B4	P901 B1	
C903 A2	C911 C3	C930 C3	C945 A4	C963 A3	C971 B3	R907 B3	R925 C3	R946 C3	RL901 B1	D907 B3	Q904 C4	JW907 C1	BR901 B1	P902 B1	
C904 B2	C913 C3	C931 C4	C947 A4	C964 B3	C972 B3	R908 B2	R928 C3	R947 C2	RT901 B1	D908 B3	Q910 C3	JW908 C4	CN902 A1	P903 B1	
C905 B2	C912 B2	C932 C4	C948 A4	C965 A3	R901 B2	R919 C3	R931 A4	R948 C3	D901 A2	D909 B3	Q912 C2	JW909 C4	BR901 B1	P904 C2	
C906 B2	C914 C2	C933 B4	C949 A4	C966 A3	R902 B2	R920 C3	R932 C4	R951 C3	D902 B2	D910 B3	Q913 C4	JW910 B3	CN902 A1	SN901 B3	
C907 A2	C919 B3	C938 B4	C950 A4	C967 A4	R903 B2	R921 B3	R941 C3	R952 C4	D903 C2	ZD901 A2	JW903 C3	JW911 C3	F901 A1	T901 B1	
C908 A2	C920 C3	C939 B4	C951 B4	C968 B3	R904 B2	R922 B3	R942 C3	RB904 B4	D904 C2	ZD902 C3	JW904 C3	L901 A4	IC903 B2	T902 C1	



MAIN CIRCUIT BOARD DIAGRAM (TOP VIEW)



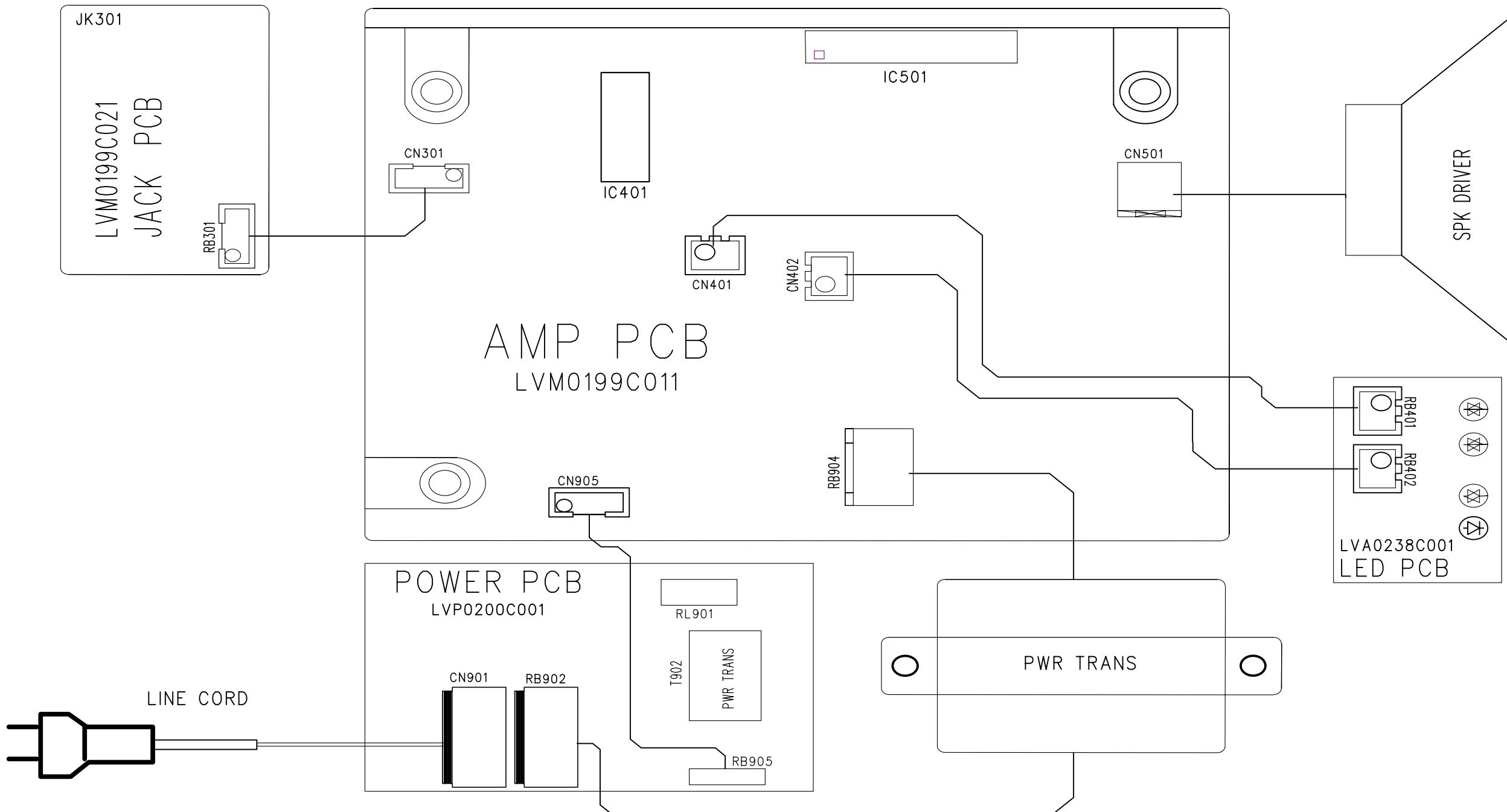
MAIN CIRCUIT BOARD DIAGRAM (BOTTOM VIEW)



1 2 3 4 5 6 7 8

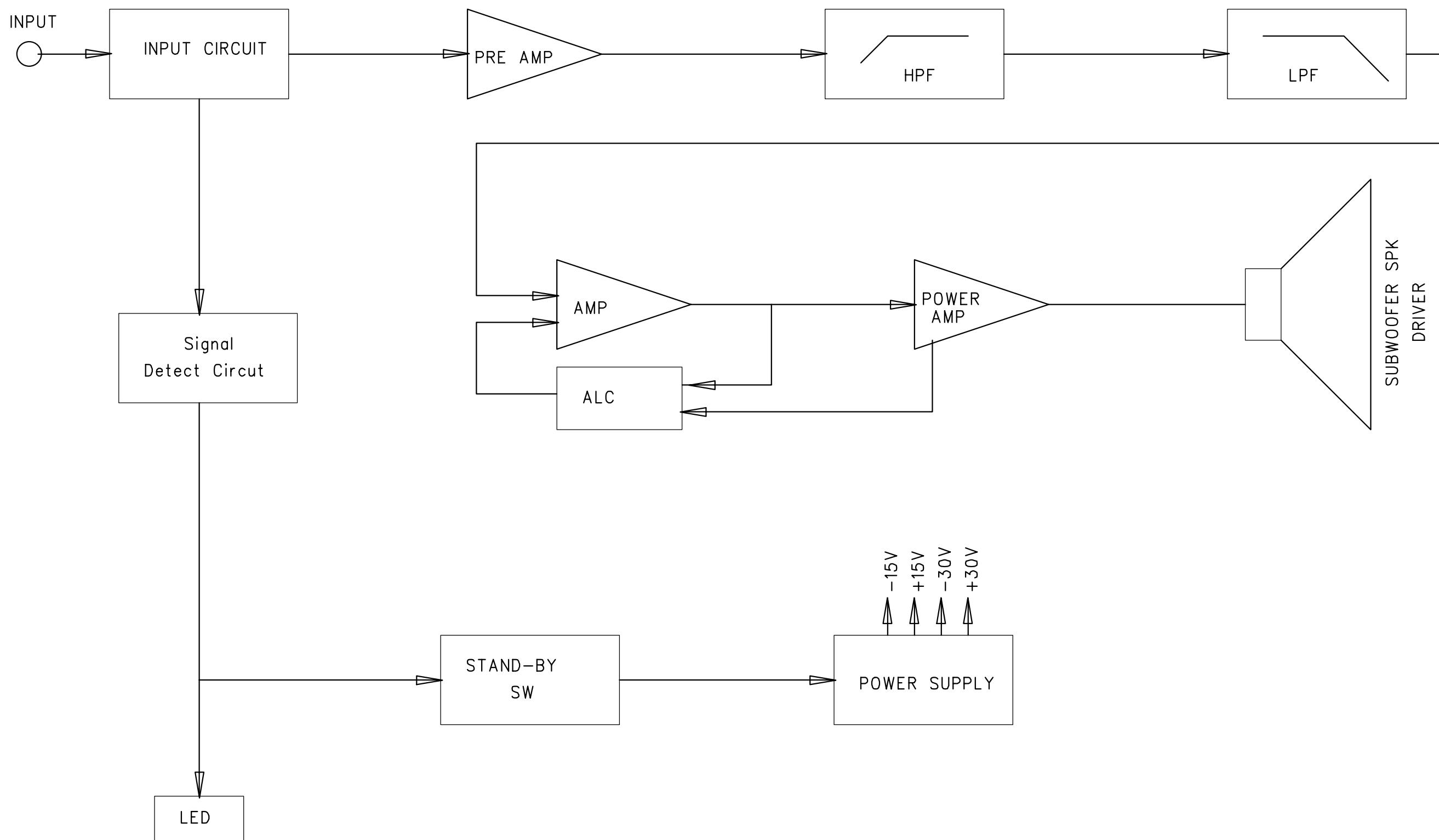
2 SUBWOOFER SECTION

2-1 WIRING DIAGRAM



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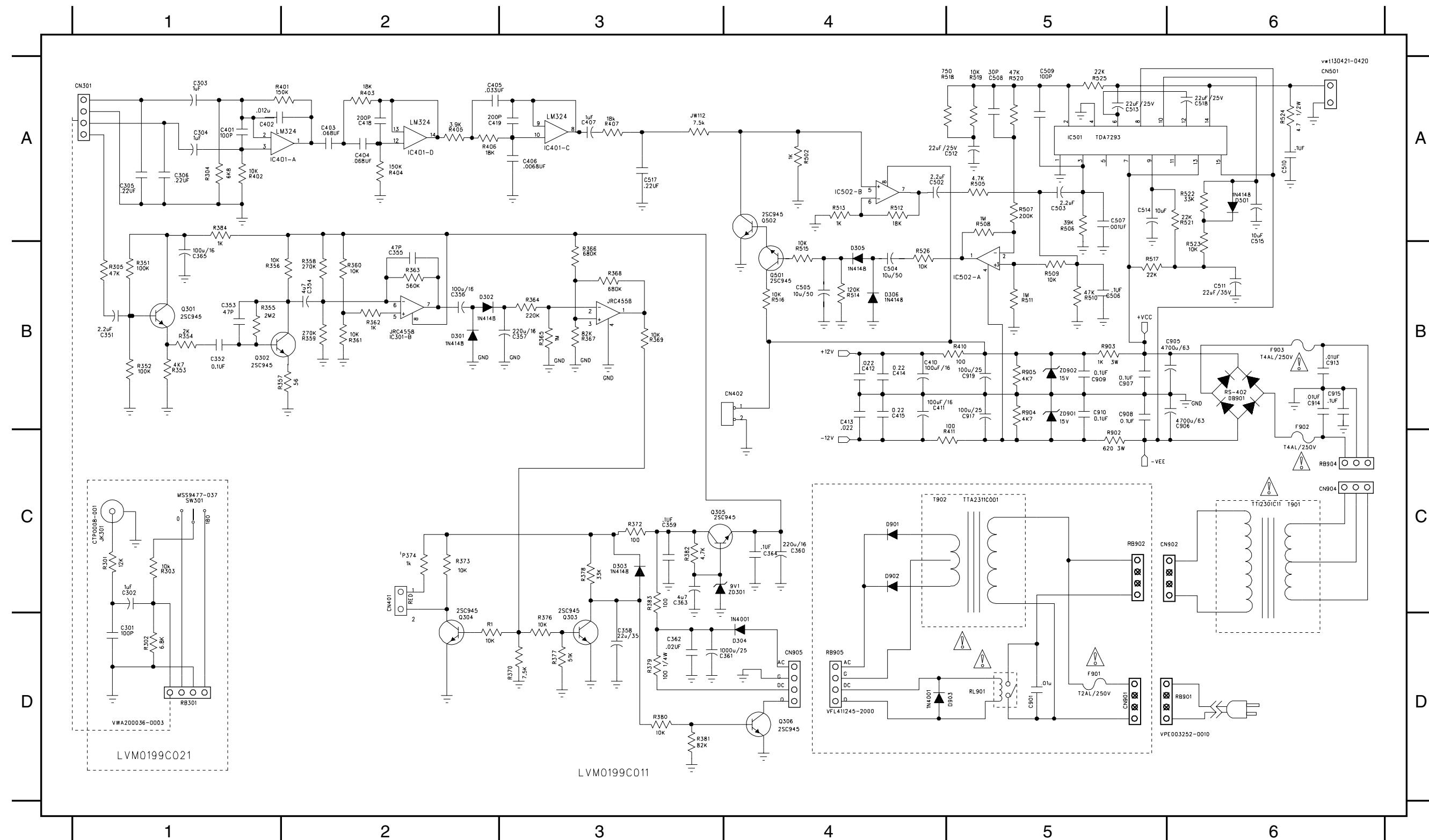
2-2 BLOCK DIAGRAM



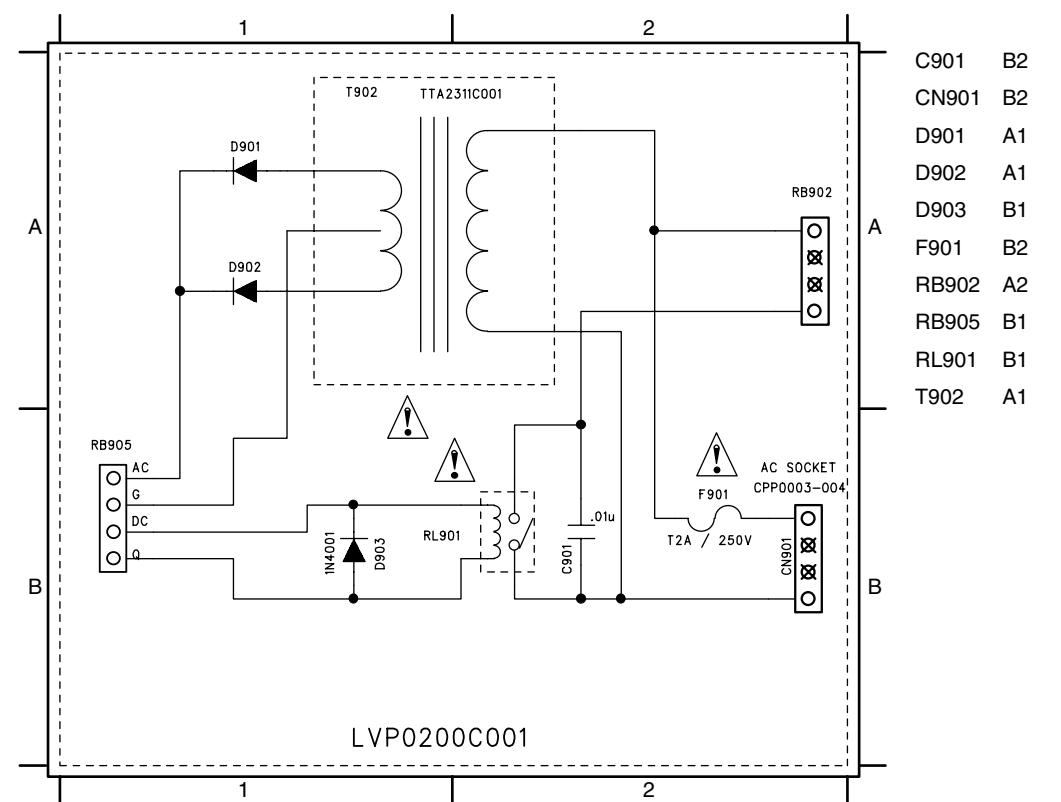
2-3 SCHEMATIC DIAGRAMS

AMP & JACK SCHEMATIC DIAGRAM

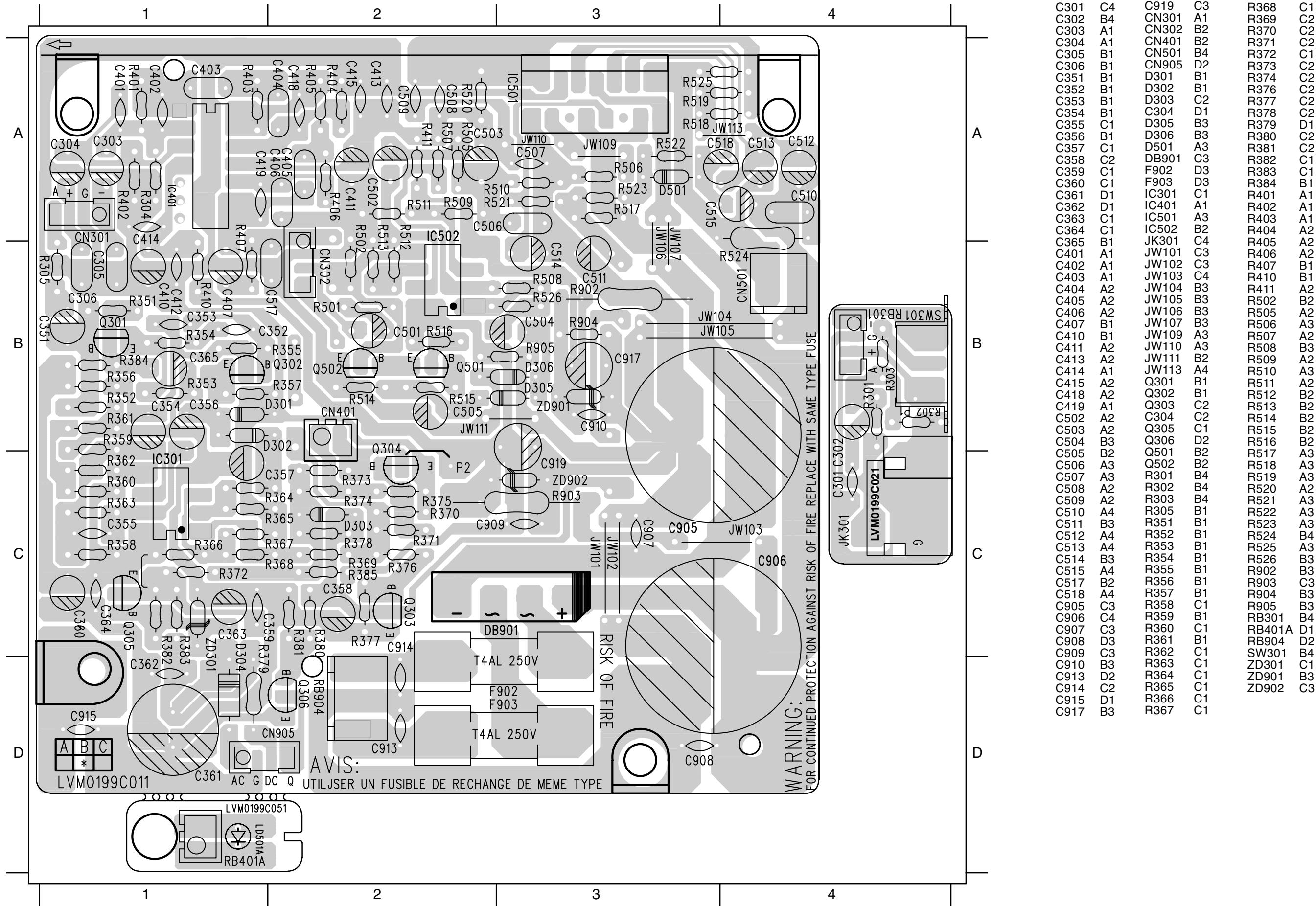
C301 D1	C358 D3	C402 A1	C414 B4	C508 A5	C518 A6	C917 B5	D303 C3	IC401-C A3	Q304 D2	R351 B1	R362 B2	R372 C3	R383 C3	R407 A3	R513 A4	R523 A6	RB904 C6
C302 C1	C357 B3	C403 A2	C415 B4	C509 A5	C905 B6	C919 B5	D305 B4	IC401-D A2	Q305 C3	R352 B1	R363 B2	R373 C2	R384 A1	R502 A4	R514 B4	R524 A6	SW301C1
C303 A1	C359 C3	C404 A2	C418 A2	C510 A6	C906 B6	CN301 A1	D306 B4	IC501 A5	Q306 D4	R353 B1	R364 B3	R374 C2	R401 A1	R505 A5	R515 B4	R525 A5	ZD301 C3
C304 A1	C360 C4	C405 A2	C419 A2	C510A A6	C907 B5	CN302 B3	D501 A6	IC502-A B5	Q501 B4	R354 B1	R365 B3	R376 D3	R402 A1	R506 A5	R516 B4	R526 B4	ZD901 B5
C352 B1	C361 D3	C406 A3	C502 A4	C511 B6	C908 B5	CN401 C2	DB901 B6	IC502-B A4	Q502 A4	R355 B1	R366 B3	R377 D3	R403 A2	R507 A5	R517 B5	R902 C5	ZD902 B5
C354 B2	C362 D3	C407 A3	C503 A5	C512 A5	C909 B5	CN402 B4	F902 C6	JK301 C1	R301 C1	R356 B1	R367 B3	R378 C3	R404 A2	R508 A5	R518 A5	R903 B5	
C351 B1	C363 C3	C410 B4	C504 B4	C513 A5	C910 B5	CN501 A6	F903 B6	JW112 A3	R302 D1	R358 B2	R368 B3	R379 D3	R405 A2	R509 B5	R519 A5	R904 B5	
C353 B1	C364 C4	C411 B4	C505 B4	C514 A5	C913 B6	CN905 D4	IC301-BB2	Q301 B1	R303 C1	R359 B2	R369 B3	R380 D3	R406 A2	R510 B5	R520 A5	R905 B5	
C355 B2	C365 B1	C412 B4	C506 B5	C515 A6	C914 B6	D301 B2	IC401-AA2	Q302 B1	R304 A1	R360 B2	R370 D3	R381 D3	R410 B5	R511 B5	R521 A6	RB301 D1	
C356 B2	C401 A1	C413 B4	C507 A5	C517 A3	C915 B6	D302 B2	IC401-B A1	Q303 D3	R305 B1	R361 B2	R371 D2	R382 C3	R411 C4	R512 A4	R522 A6	RB401 C1	



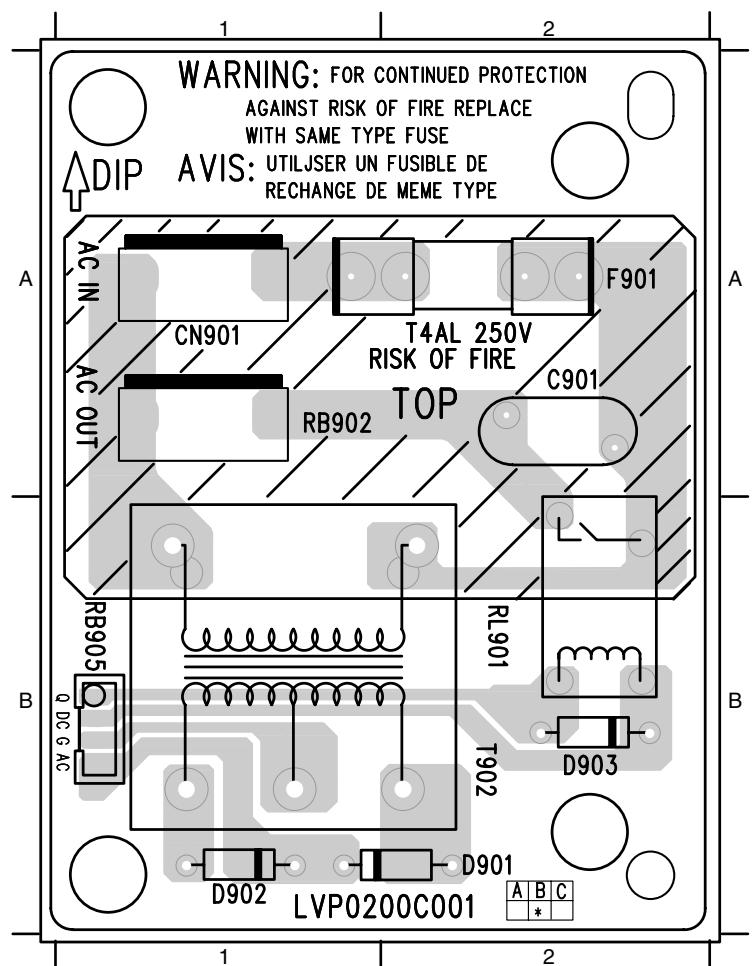
POWER SCHEMATIC DIAGRAM



2-4 CIRCUIT BOARD DIAGRAMS
AMP & JACK CIRCUIT BOARD DIAGRAMS



POWER CIRCUIT BOARD DIAGRAM



C901	A2
CN901	A1
D901	B2
D902	B1
D903	B2
F901	A2
RB902	B1
RB905	B1
RL901	B2
T902	B2

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