

HITACHI

SERVICE MANUAL

TK

No.9211E

HTD-K160(S)



SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

DVD DIGITAL THEATER SYSTEM

December 2002

Digital Media Division, Tokai

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PRODUCT SAFETY NOTICE

Many electrical and mechanical parts have special safety-related characteristics. These are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for a higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual. Electrical components having such features are identified by marking with a on the schematics and the parts list in this Service Manual. The use of a substitute replacement component which does not have the same safety characteristics as the HITACHI recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards. Product safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current HITACHI Service Manual. A subscription to, or additional copies for, HITACHI Service Manual may be obtained at a nominal charge from HITACHI SALES CORPORATION.

LASER RADIATION

**CLASS 1
LASER PRODUCT**

1-1 SPECIFICATIONS**■ MAIN UNIT**

DVD Player

Pickup Semiconductor laser, Wavelength 650 nm
 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 step)
 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
 Component video out Y: 1 Vp-p 75 ohms
 Cb/Cr: NTSC 0.7 Vp-p 75 ohms / PAL 0.698 Vp-p 75 ohms

Audio line outputs

Audio L/R 1 Vrms, 1k ohms
 Subwoofer 1.2Vrms maximum (adjustable), 1k ohms
 Coaxial out 1 Vp-p 75 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, 50/60 Hz
 Power consumption 160 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, 50/60 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)

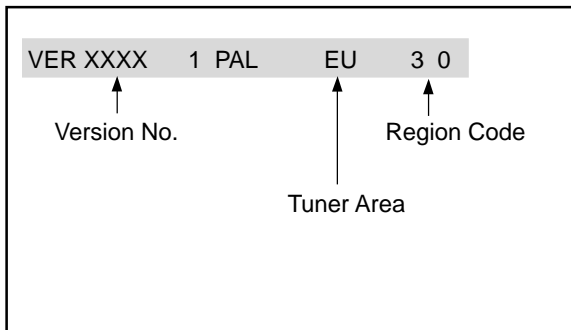
1-2 CONTROLLING VERSION OF FIRMWARE

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.)

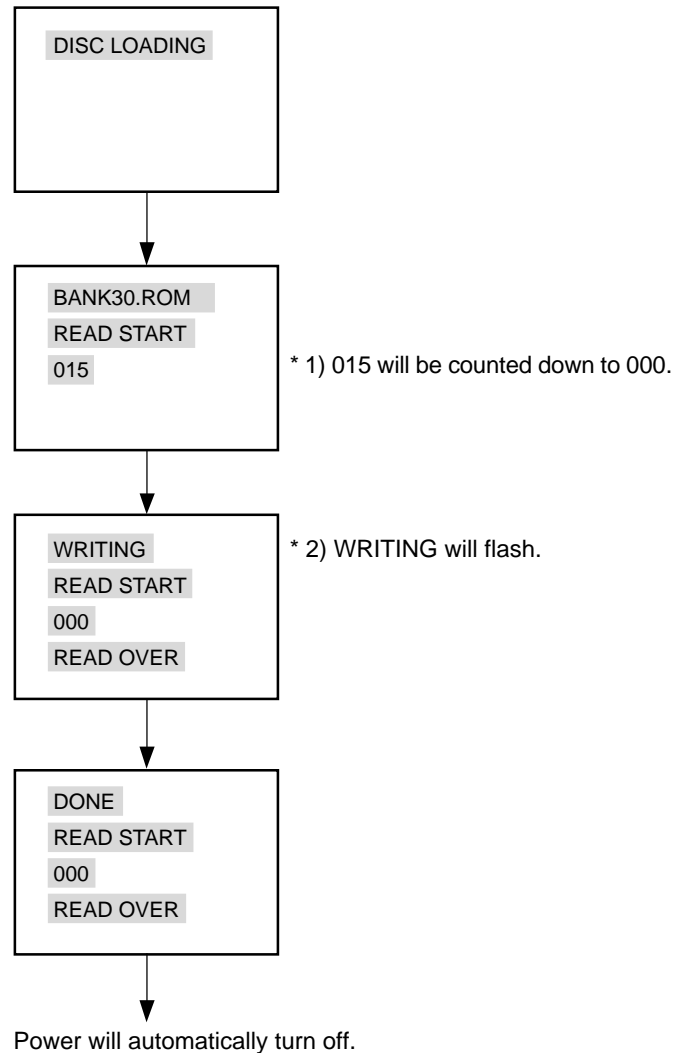


<Procedure for rewriting firmware>

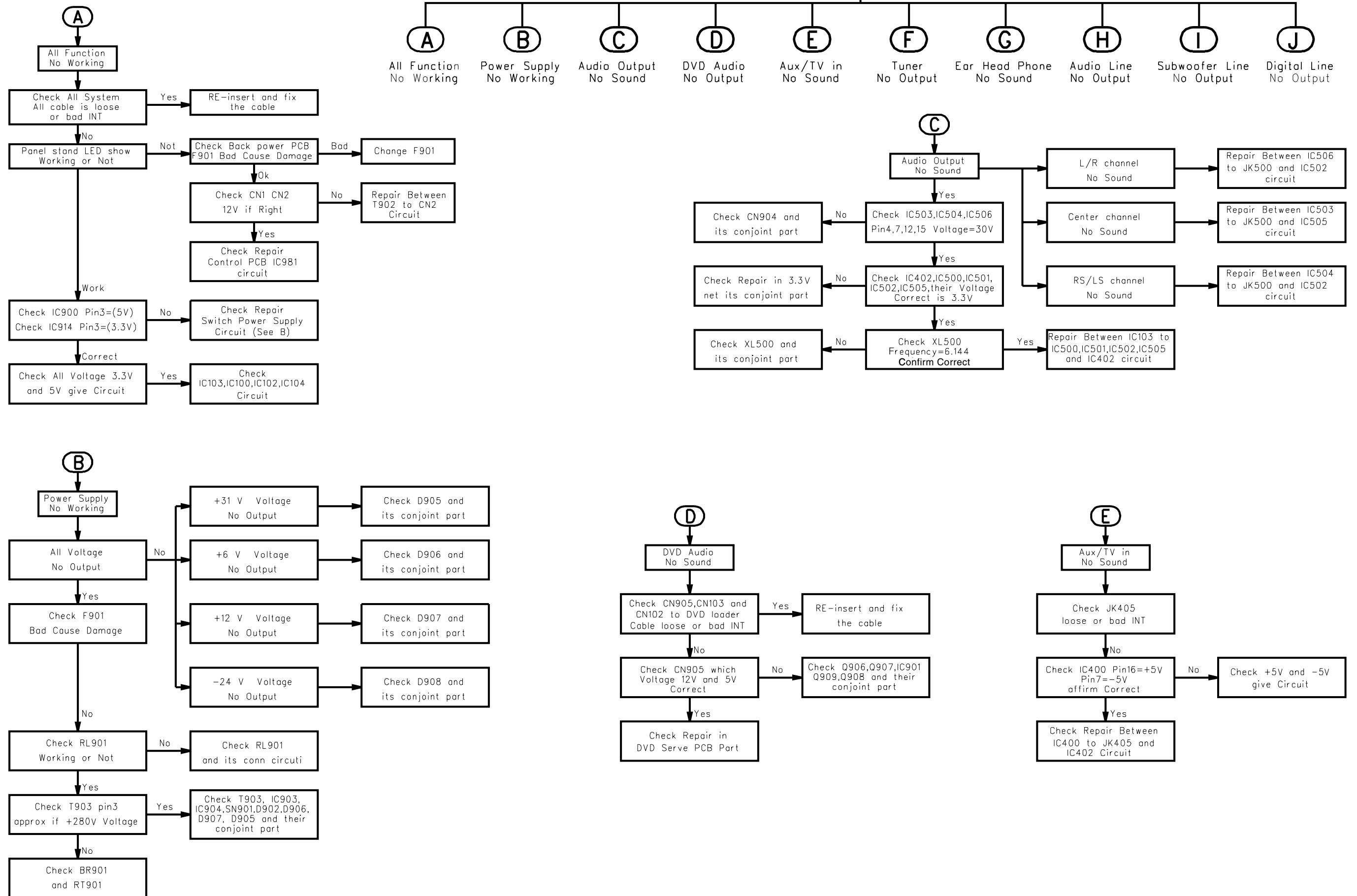
- 1) Turn power on.
- 2) Place the upgrade CD-R on tray, and press the "OPEN/CLOSE" or "PLAY" key.
- 3) Messages will appear at the top left of screen in the order shown below ("MP3 STOP" will appear in the display).
- 4) When rewrite of the firmware is complete, the system will automatically turn off.
- 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.

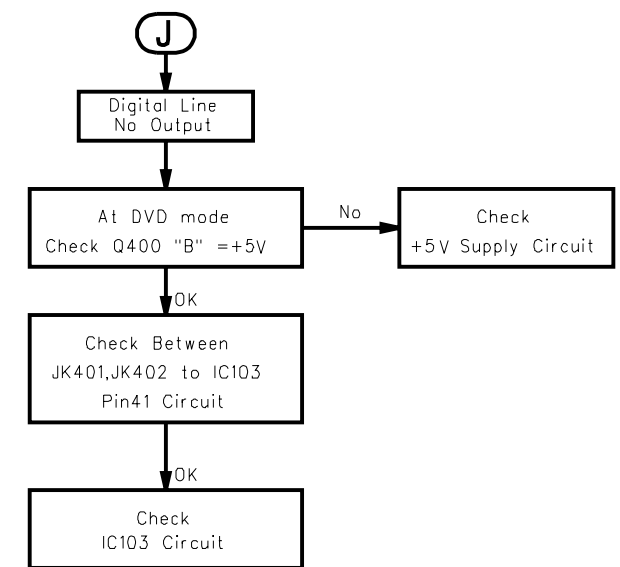
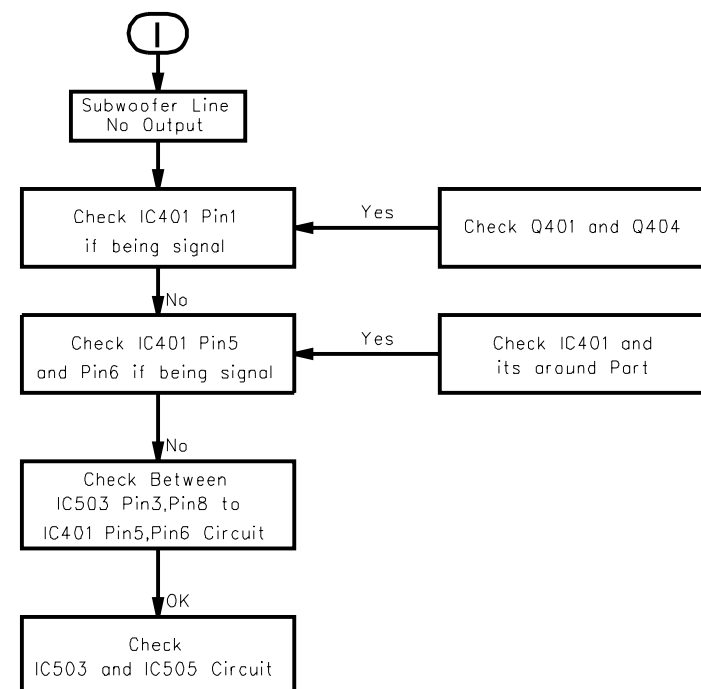
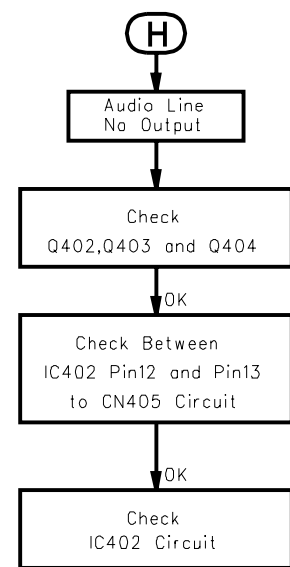
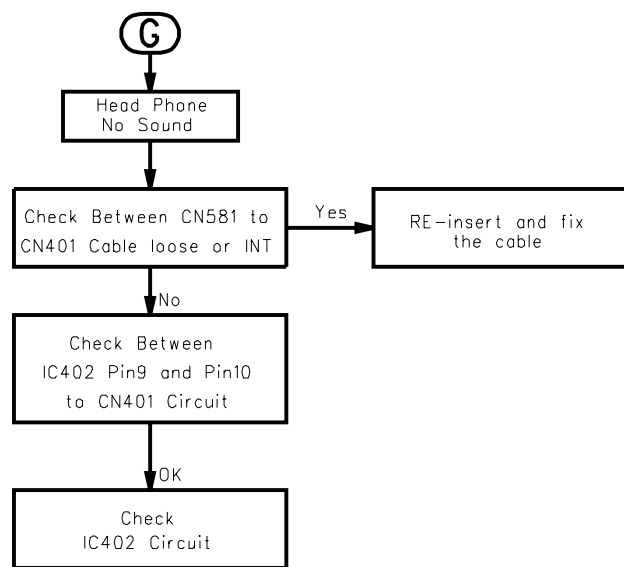
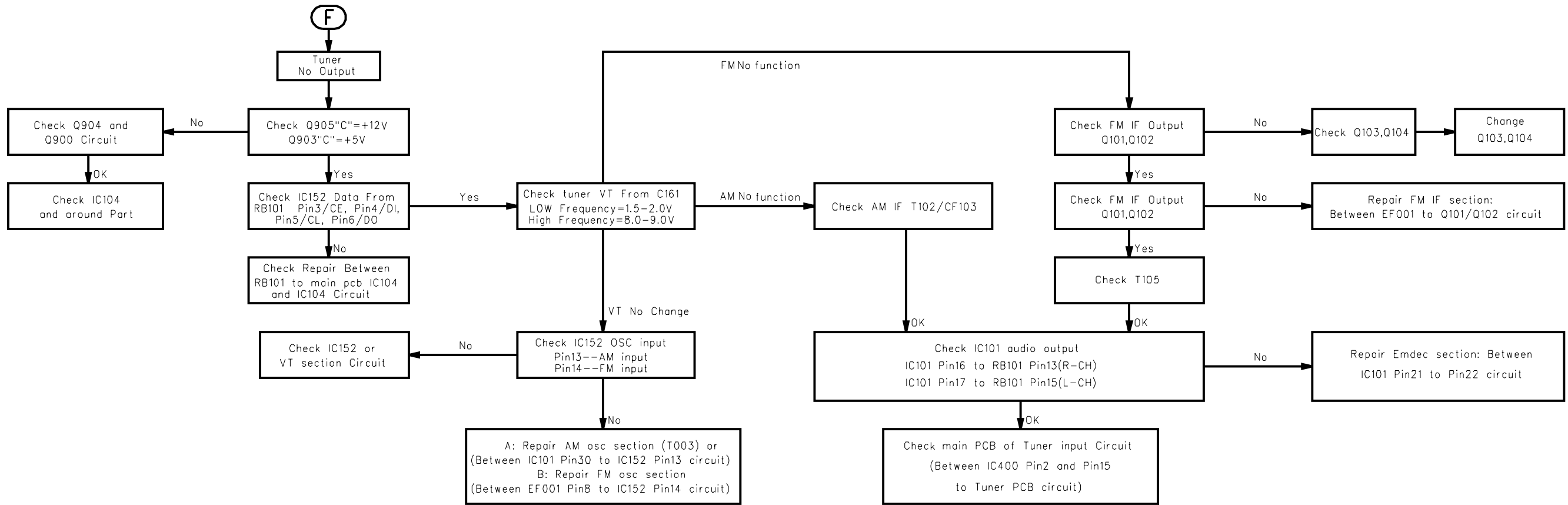
Note:

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.



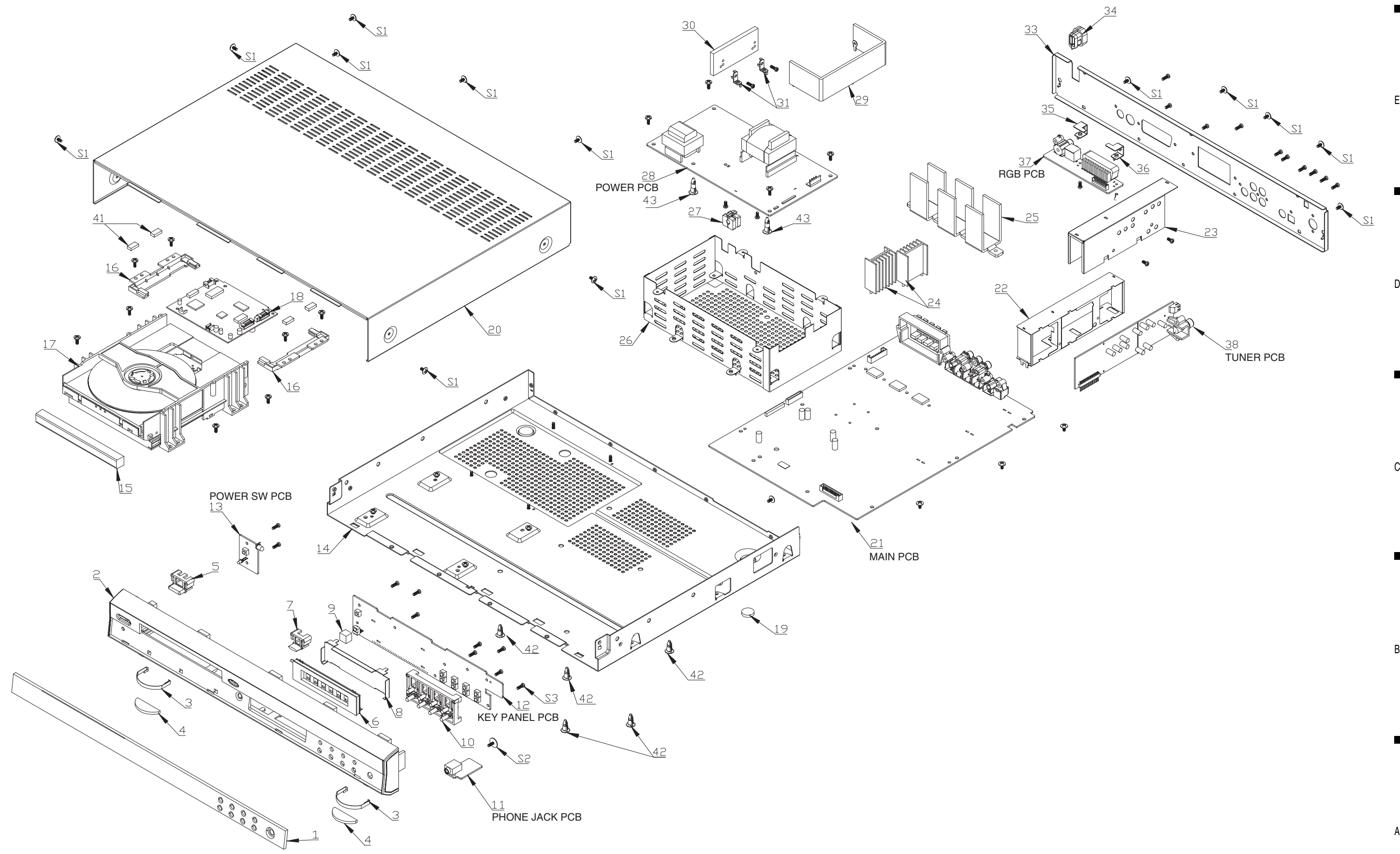
MAIN UNIT REPAIR CHART





2 EXPLODED VIEW

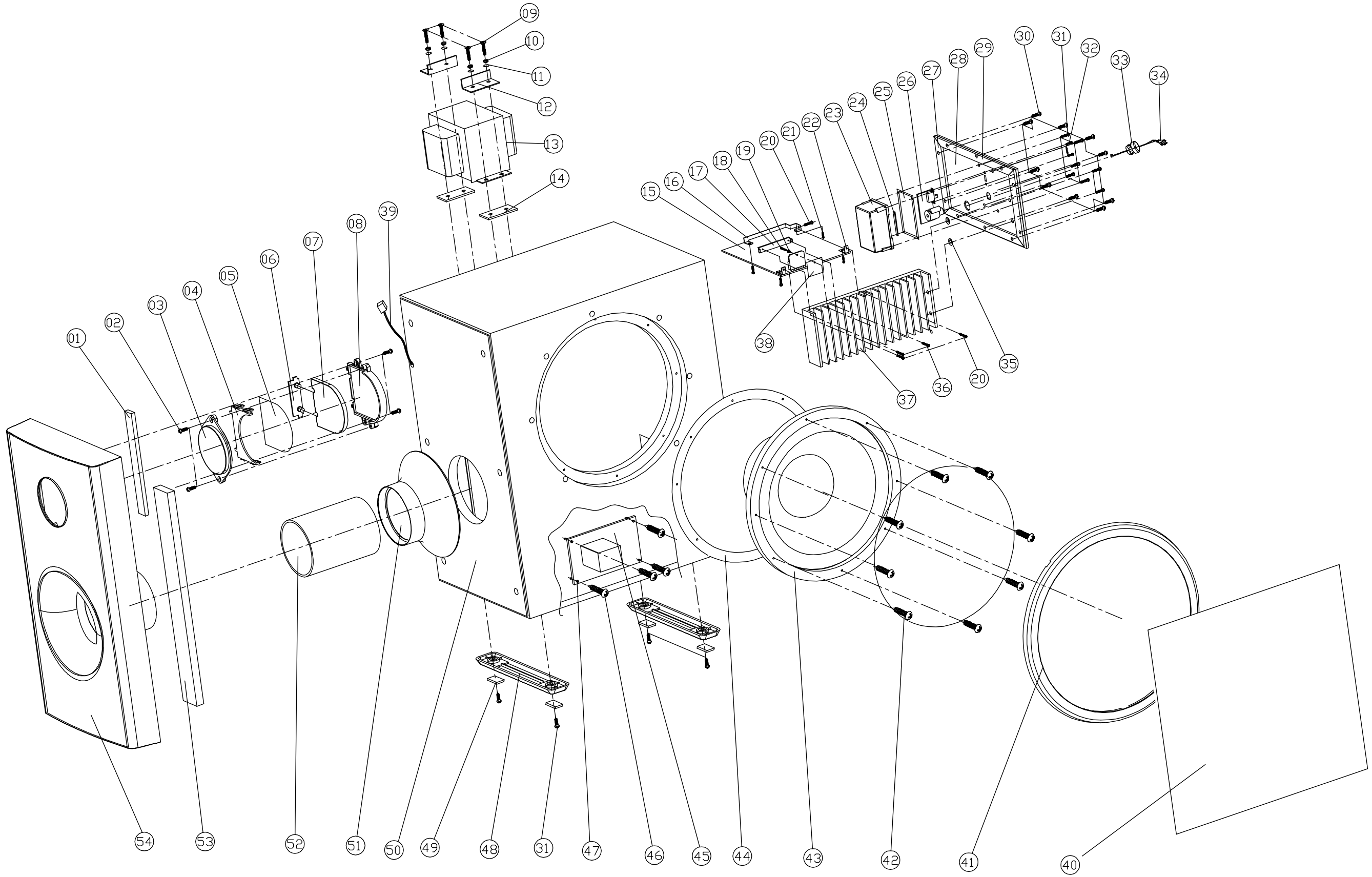
2-1 MAIN UNIT SECTION



1 2 3 4 5 6 7 8

2-2 SUBWOOFER SECTION

E
D
C
B
A



3 REPLACEMENT PARTS LIST

3-1 MECHANICAL PARTS LIST

3-1-1 MAIN UNIT SECTION

MECHANISM SECTION

No	Part No	Description
1	BPN100086-0001	DISPLAY WINDOW
2	BPF104014-0001	FRONT PANEL
3	GAL000092-0001	FRONT RING
4	DUF000024-0001	FRONT FOOT
5	BPK106028-0001	POWER KNOB
6	KVL0015-001	VFK
7	BPK108056-0001	OP/CL KNOB
8	GTP100008-0001	VFD BKT
9	IVE100176-0001	SPONGE
10	BPK108056-0001	FUNCTION KEY
11	APE0216C001	PHONE JACK
12	APE0223C001	CONTROL PCB
13	APE0202C003	POWER-SW PCB
14	GSE100164-0001	BOTTON CAB
15	BPD101040-0001	DOOR
16	BPH100059-0001	SV-PCB-HOLDER
17	WVD100004-0001	DVD LOADER
18	WPC0310-001	SV-PCB ASS'Y
19	BRB00049-0004	BTM-FOOT
20	GSE100163-0001	TOP COVER
21	APE0203C001	MAIN PCB
22	GTP100006-0001	TUNER-SHIELD COVER
23	GTP100007-0001	TUNER-SHIELD BASE
24	GAL000104-0002	IC KEATSINK
25	GAL100103-0001	POWER-IC HTSK
26	GSE100165-0001	POWER CAB
27	DBU001004-0010	AC-CORD HOLDER
28	APE0202C001	POWER PCB
29	GAL100187-0001	HEATSINK-1
30	GAL100188-0001	HEATSINK-2
31	GSE100155-0001	HESTSINK BKT
33	GSE100162-0001	REAR PANEL
34	DBU001005-0020	AC-CORD HOLDER
35	GSE100152-0001	SCART-PCB HOLDER-L
36	GSE100153-0001	SCART-PCB HOLDER-R
37	APE0193C001	SCART PCB
38	APE0187C001	TUNER PCB
39	BRB100038-0001	CABLE CLIP RUBBER
40	BRB100039-0001	CABLE CLIP RUBBER
41	BRB100049-0001	RUBBER
42	DSS100018-0001	SPACER
43	DSS100005-0001	SPACER
S3	HSP140054-1080	SCREW
S2	HSW140054-1081	SCREW
S1	HST143048-1060	SCREW

ACCESSORIES

No	Part No	Description
1	VTA400003-0010	1000mm 1007#24 TC W/TERMINAL
2	VTA100001-0020	LOOP ANT SHINTA PS-100
3	AIR151009-0033	51 KEY Dr351 HITACHI
4	ESB015003-3021	SKT SPK ASS'Y
5	FBY064015-0003	BATTERY UM-4 1.5V
6	ESB015003-3021	SAT SPK AY 50W 8 OHM (5 P CS)
7	FBY064015-0003	BATTERY Di0x44mm UM-4 1.5V
8	VSC000002-0010	SCART CABL SC/G-SC/G,1000mm
9	VIC101002-0030	RCA CABLE 5000mm BLACK D2.44mm
10	YOM100150-0001	OWN MANUAL 8 LANGUAGE
11	VRC202001-0040	RCA CABLE 1200mm BLK OD2.6x5.2
12	VRC101008-0010	RCA CABLE 1200mm BLK OD2.6mm

3-1-2 SUBWOOFER SECTION

MECHANISM SECTION

No	Part No	Description
01	IVE100221-0001	SPONGE
02	HSP140054-3080	SCREW
03	BPN10082-0001	LED LENS
04	BPH100069-0001	LENS COVER
06	APE100426-0001	LED PCB
07	BPN100060-0001	IEWFINDER
08	BPH100060-0001	LENS HOLDE
09	HSD143103-3250	SCREW
10	HNT140700-1300	NUT
11	HWT168540-1100	WASHER
12	GSE000110-0001	X'FORMER BRACKET
13	TTI123001-0110	PWR TRANS
14	ICH080007-0007	RUBBER
15	APE100199-0011	MAIN PCB ASS'Y
16	GSE100117-0001	PCB BRACKET
17	GSE000206-0001	IC BRACKET
18	HSP140054-3100	SCREW
19	DHU201001-0001	WASHER
20	HSP143084-3100	SCREW
21	HSP143084-3060	SCREW
22	GSE000093-0002	PCB BKT
23	BPC000021-0001	REAR COVER
24	IVE000096-0002	COVER SPONGE
25	IVE000095-0001	COVER SPONGE
26	APE100199-0021	JACK ASS'Y
27	IVE100172-0001	SPONGE
28	GAL100090-0001	REAR PLATE
29	IVE100173-0001	SPONGE
30	HST140071-3140	SCREW
31	HSP140054-3100	SCREW
32	HSP143053-3060	SCREW
33	DBU001002-3060	BUSHING
34	VPE003252-0010	LINE CORD
35	HWF118040-6100	WASHING FIB
36	HSP143083-3160	SCREW
37	GAL100113-0001	HEAT SINK
38	HIM000001-0007	MICA SHEET
39	VFL211214-5500	CON/WIRE
40	IVN00042-0001	CLOTH
41	BPG101031-0001	SPK GRILLE
42	HST140091-3200	SCREW
43	FSB02A080-31110	SPK DRIVER
44	IVE000037-0001	DRV SPONGE
45	APE100200-0003	POWER PCB
46	HST140051-3220	SCREW
47	DSS100004-0003	SPACER
48	BPE100014-0001	PLAS.FOOT
49	BRF100021-0001	RUBBER FOOT
50	EVM100054-0001	WOOD BOX
51	BPR100027-0001	PORT TUBE
52	DPP017065-1250	PAPER PORT
53	IVE10074-0001	SPONGE
54	BPF102007-0001	FRONT CAB

KEY PANEL PCB SECTION

Misellaneous

	LVU100223-0001	PCB 94V0
	LVU100223-0011	KEY PCB
	LVU100223-0021	LED PCB
	LVU100223-0031	PHONE PCB 94V0
	IVE100m176-0001	L10xW10xT9mm BLK For SN251
TA201	MAW060001-0010	SKHVBE3520
TA202	MAW060001-0010	SKHVBE3520
TA203	MAW060001-0010	SKHVBE3520
TA204	MAW060001-0010	SKHVBE3520
TA205	MAW060001-0010	SKHVBE3520
TA206	MAW060001-0010	SKHVBE3520
TA207	MAW060001-0010	SKHVBE3520
TA208	MAW060001-0010	SKHVBE3520
TA209	MAW060001-0010	SKHVBE3520
TA210	MAW060001-0010	SKHVBE3520
JK302	CJM035002-3030	PHONE JACK
JMP1	XJP220000-0001	22 GA TINNED
JMP2	XJP220000-0001	22 GA TINNED
JMP3	XJP220000-0001	22 GA TINNED
JMP4	XJP220000-0001	22 GA TINNED
JMP5	XJP220000-0001	22 GA TINNED
JMP6	XJP220000-0001	22 GA TINNED
JMP7	XJP220000-0001	22 GA TINNED
JMP8	XJP220000-0001	22 GA TINNED
JMP9	XJP220000-0001	22 GA TINNED
JMP10	XJP220000-0001	22 GA TINNED
JMP11	XJP220000-0001	22 GA TINNED
JMP12	XJP220000-0001	22 GA TINNED
JMP13	XJP220000-0001	22 GA TINNED
JMP14	XJP220000-0001	22 GA TINNED
JMP15	XJP220000-0001	22 GA TINNED
JMP16	XJP220000-0001	22 GA TINNED
JMP17	XJP220000-0001	22 GA TINNED
JMP18	XJP220000-0001	22 GA TINNED
JMP19	XJP220000-0001	22 GA TINNED
JMP20	XJP220000-0001	22 GA TINNED
JMP21	XJP220000-0001	22 GA TINNED
JMP22	XJP220000-0001	22 GA TINNED
JMP23	XJP220000-0001	22 GA TINNED
JMP25	XJP220000-0001	22 GA TINNED
JMP26	XJP220000-0001	22 GA TINNED
JMP27	XJP220000-0001	22 GA TINNED
JMP28	XJP220000-0001	22 GA TINNED
JMP29	XJP220000-0001	22 GA TINNED
JMP30	XJP220000-0001	22 GA TINNED
JMP31	XJP220000-0001	22 GA TINNED
JMP32	XJP220000-0001	22 GA TINNED
JMP34	XJP220000-0001	22 GA TINNED
JMP35	XJP220000-0001	22 GA TINNED
JMP38	XJP220000-0001	22 GA TINNED
LD251	KED600005-0020	LED 5 DIA HI BLUE
RB105A	VFLF1124B-1600	15P 160mm UL2468#26 BLK
RB105B	VFLF1124B-1600	15P 160mm UL2468#26 BLK
RB201	VFL41155-2000	4P 200mm UL2468#26BLK To CN201
RB202	VFL31124B-1200	3P 120mm BLK
RB401	VFL51124B-0800	5P 80mm BLK
SN251	RHO200038-0001	IRT SENSOR
XL251	JQC023100-4050	4 MHZ HC-49US 30ppm

Capacitor

C251	PRD249670-2230	0.022 uF 50V +80-20%
C252	PVE839530-1010	100 uF 10V 20%
C253	PVD113580-1500	15pF 50V 5% NPO
C254	PVD113580-1500	15pF 50V 5% NPO
C255	PVD113580-1500	15pF 50V 5% NPO
C256	PVD113370-4700	47 pF 50V 5%
C257	PVD113580-1500	15pF 50V 5% NPO
C258	PVD113580-1500	15pF 50V 5% NPO
C259	PVE839540-1000	10 uF 16V 20%
C260	PRD249670-2230	0.022 uF 50V +80-20%
C261	PVE839530-1010	100 uF 10V 20%
C262	PRD339670-1040	0.1 uF 50V +80-20%
C263	PVE839530-1010	100 uF 10V 20%
C264	PME039560-1010	100 uF 35V 20%
C265	PVE839530-1010	100 uF 10V 20%
C266	PRD249670-2230	0.022 uF 50V +80-20%

Diode

D251	RAD114148-0010	DIODE SW
D252	RAD114148-0010	DIODE SW
D253	RAD114148-0010	DIODE SW
D254	RAD114148-0010	DIODE SW
DP251	KLV000015-0010	74x13mm
ZD251	RAZ005005-0030	5.0-5.2V 0.5W
ZD252	RAZ005005-0030	5.0-5.2V 0.5W
ZD253	RAZ005005-0030	5.0-5.2V 0.5W

Intergrated Circuit

IC251	RCI006311-0001	IC 52 PIN PT6311(PTC0)
IC252	RHI000745-0006	IC 18 PIN CF745 SOFTWARE-F

Transistor

Q251	RAP200733-0001	2SA733Q,P NEC
Q252	RAP200733-0001	2SA733Q,P NEC
Q253	RAP200733-0001	2SA733Q,P NEC
Q254	RAN200945-0001	2SC945P
Q255	RAN200945-0001	2SC945P

Resistor

R213	QAF065000-4720	4.7K OHM 1/6W 5% CF
R251	QAF065000-1030	10K OHM 1/6W 5% CF
R252	QAF065000-1030	10K OHM 1/6W 5% CF
R253	QAF065000-1030	10K OHM 1/6W 5% CF
R254	QAF065000-1030	10K OHM 1/6W 5% CF
R255	QAF065000-1010	100 OHM 1/6W 5% CF
R256	QAF065000-1010	100 OHM 1/6W 5% CF
R257	QAF065000-1010	100 OHM 1/6W 5% CF
R259	QAF065000-1030	10K OHM 1/6W 5% CF
R260	QAF065000-1030	10K OHM 1/6W 5% CF
R261	QAF065000-1030	10K OHM 1/6W 5% CF
R262	QAF065000-1030	10K OHM 1/6W 5% CF
R263	QAF065000-2220	2.2K OHM 1/6W 5% CF
R264	QAF065000-2220	2.2K OHM 1/6W 5% CF
R265	QAF065000-2220	2.2K OHM 1/6W 5% CF
R266	QAF065000-1040	100K OHM 1/6W 5% CF
R267	QAF065000-2230	22K 1/6W 5% CF
R268	QAF065000-1040	100K OHM 1/6W 5% CF
R269	QAF065000-2230	22K 1/6W 5% CF
R270	QAF065000-1040	100K OHM 1/6W 5% CF
R271	QAF065000-2230	22K 1/6W 5% CF

R272	QAF065000-1010	100 OHM 1/6W 5% CF
R273	QAF065000-1220	1.2K OHM 1/6W 5% CF
R274	QAF065000-2210	220 OHM 1/6W 5% CF
R275	QAF065000-1030	10K OHM 1/6W 5% CF
R276	QAF065000-1030	10K OHM 1/6W 5% CF
R277	QAF065000-5630	56K OHM 1/6W 5% CF
R278	QAF065000-1030	10K OHM 1/6W 5% CF
R279	QAF065000-1030	10K OHM 1/6W 5% CF
R281	QAF065000-1030	10K OHM 1/6W 5% CF
R282	QAF065000-1030	10K OHM 1/6W 5% CF
R283	QAF065000-1030	10K OHM 1/6W 5% CF
R284	QAF065000-1030	10K OHM 1/6W 5% CF
R285	QAF065000-1030	10K OHM 1/6W 5% CF
R286	QAF065000-1030	10K OHM 1/6W 5% CF
R288	QAF065000-1520	1.5K OHM 1/6W 5% CF
R289	QAF065000-2220	2.2K OHM 1/6W 5% CF
R290	QAF065000-1030	10K OHM 1/6W 5% CF
R291	QAF065000-2210	220 OHM 1/6W 5% CF
R292	QAF065000-4730	47K OHM 1/6W 5% CF
R293	QAF065000-1010	100 OHM 1/6W 5% CF

POWER PCB SECTION

Misellaneous

	LCP100202-0001	POWER PCB
	RAD114148-0010	DIODE SW
	FBY064015-0003	D10x44mm UM-4 1.5V
	VSC000002-0010	SCART CABL
	VRC101002-0030	5000mm BLACK D2.44mm
	CFC011000-1001	FUSE CLIP For F901x2
	VWA310007-0007	4P 600mm 1015#18 For RB905
△	BR901	RHD208080-0010 BRIDGE
△	CN902	CCN396021-0104 CONNECTOR
△	F901	KSA020315-0030 3.15A 250V SLOW
	L901	SIL106001-6090 6uH 10.5Ts 6A
	L902	SIL106002-6090 6uH 13.5Ts 2UEW
	L903	SIL106002-6090 6uH 13.5Ts 2UEW
	P901	VWR0333BB-0060 22 GA 60 mm RED 4-4 TO P902
	P903	VWR0333BB-0060 22 GA 60 mm RED 4-4TO P904
	RB904	VFL81131B-1400 8P 140mm BLK
	RB906	VFL31124B-2200 3P 220mm BLK
△	RL901	MRL012004-0011 RELAY
△	RT901	RNT005130-5090 5 OHM 5A DIA=13 mm
△	SN901	RHI000615-0001 SFH615A-3
△	T901	JFT006008-0020 AC FILTER
△	T902	TTB123011-0020 230V EI-35
△	T903	TSC100001-0010 EE-42 50W

Capacitor

△	C901	PVX2705F0-2240 0.22uF 275V X2P 20%
△	C902	PVX2705F0-2240 0.22uF 275V X2P 20%
△	C903	PJE0995E0-2210 220 uF 200V 20% 105C
△	C904	PJE0995E0-2210 220 uF 200V 20% 105C
△	C905	PVY1705K0-2222 0.0022uF 400V 20%
△	C906	PVY1705K0-2222 0.0022uF 400V 20%
	C907	PVD2355Q0-1030 0.01 uF 1KV 20%
	C908	PRD5564Q0-4710 470 pF 1KV 10% 125 C
△	C909	PVY1705K0-2222 0.0022uF 400V 20%
	C910	PVD2355Q0-1020 0.001 uF 1KV 20%
	C911	PRL048570-1050 1 uF 50V 20%
	C912	PRD249670-1040 0.1 uF 50V +80-20%
	C913	PME039550-4700 47 uF 25V 20%
	C914	PME039550-2210 220 uF 25V 20%
	C919	PRD235470-4720 4700 pF 50V 10%
	C920	PRD249670-1040 0.1 uF 50V +80-20%
	C925	PVD2355Q0-1020 0.001 uF 1KV 20%
	C926	PME039570-1090 1 uF 50V 20%
	C929	PVE039550-1020 1000 uF 25V 20% 85 C
	C930	PRD235470-1020 1000 pF 50V 10%
	C931	PVE039540-1020 1000 uF 16V 20% 85 C
	C932	PVE039540-1020 1000 uF 16V 20% 85 C
	C933	PRD235470-1020 1000 pF 50V 10%
	C938	PRD235470-1020 1000 pF 50V 10%
	C939	PVE039540-1020 1000 uF 16V 20% 85 C
	C940	PVE039540-1020 1000 uF 16V 20% 85 C
	C941	PRD235470-1020 1000 pF 50V 10%
	C945	PVD2354Q0-4710 470 pF 1KV 10%
	C947	PVE039570-1020 1000 uF 50V 20%
	C948	PVE039570-1020 1000 uF 50V 20%
	C949	PRD235470-1020 1000 pF 50V 10%
	C950	PRD235470-1030 0.01 uF 50V 10%
	C951	PRD249670-1040 0.1 uF 50V +80-20%

	C952	PVE039570-1020 1000 uF 50V 20%
	C962	PRD249670-1040 0.1 uF 50V +80-20%
△	C963	PVY1705K0-2222 0.0022uF 400V 20%
△	C964	PVY1705K0-2222 0.0022uF 400V 20%
	C965	PVD2355Q0-1020 0.001 uF 1KV 20%
	C966	PVD2355Q0-1020 0.001 uF 1KV 20%
	C967	PVD2355Q0-1020 0.001 uF 1KV 20%
△	C968	PVY1705K0-2222 0.0022uF 400V 20%
	C969	PRD235470-1030 0.01 uF 50V 10%
	C970	PRD249670-1040 0.1 uF 50V +80-20%
	C972	PME039570-1000 10 uF 50V 20%

Diode

△	D901	RAD100026-0010 DIODE BYV26D PHILIPS
	D902	RAD114148-0010 DIODE SW
△	D903	RAD114001-0010 DIODE
	D904	RAD114148-0010 DIODE SW
△	D905	RHD208020-0010 BRIDGE
△	D906	RHD115822-0010 1N5822 3A 45V
	D906x2	DSL001001-0100 SLEEVING
△	D907	RAD100204-0010 HER204 2A 300V 50nS
△	D908	RAD100104-0010 HER104 1A 300V 50nS
	D909	RAD114148-0010 DIODE SW
	D910	RAD114148-0010 DIODE SW
△	ZD901	RAD160200-0010 P6KE200A
	ZD902	RAZ005006-0020 5.6-5.9V 0.5W
	ZD903	RAZ005007-0020 6.9-7.2V 0.5W

Intergranted Circuit

△	IC903	RHI000249-0001 IC 6 PIN TOP 249 250W
△	IC904	RHI004310-0001 IC 3 PIN TI431

Transistor

	Q903	RAN202222-0001 2N2222A
△	Q904	RHN000120-0001 TIP120
	Q910	RAM207000-1001 2N7000 60V 200mA
	Q912	RAM207000-1001 2N7000 60V 200mA
	Q913	RAN202001-0001 2SC2001L NEC

Resistor

	R901	QAF025000-5640 560K OHM 1/2W 5% CF
	R901	QAF025000-5640 560K OHM 1/2W 5% CF
	R902	QAF025000-5640 560K OHM 1/2W 5% CF
	R902	QAF025000-5640 560K OHM 1/2W 5% CF
	R903	QAF025000-1050 1M OHM 1/2W 5% CF
	R904	QAF025000-1050 1M OHM 1/2W 5% CF
	R905	QGN205000-6830 68K OHM 2W 5% W/KINK
	R906	QGN205000-6830 68K OHM 2W 5% W/KINK
	R907	QAF065000-4790 4.7 OHM 1/6W 5% CF
	R908	QAF065000-6890 6.8 OHM 1/6W 5%
	R919	QAF065000-1030 10K OHM 1/6W 5% CF
	R919	QAF065000-1030 10K OHM 1/6W 5% CF
	R920	QAF065000-1020 1K OHM 1/6W 5% CF
	R921	QAF065000-1020 1K OHM 1/6W 5% CF
	R922	QAF065000-5630 56K OHM 1/6W 5% CF
	R923	QAM061000-3002 30K OHM 1/6W 1%
	R924	QAF065000-2020 2K OHM 1/6W 5% CF
	R925	QAF061000-2701 2.7K OHM 1/6W 1%
	R928	QAS025101-1210 120 OHM 1/2W
	R931	QAF065000-7500 75 OHM 1/6W 5% CF
	R932	QAF065000-2020 2K OHM 1/6W 5% CF

	R941	QAF065000-4730 47K OHM 1/6W 5% CF
	R942	QAF065000-2230 22K 1/6W 5% CF
	R943	QAF065000-1030 10K OHM 1/6W 5% CF
	R945	QAF065000-1030 10K OHM 1/6W 5% CF
	R946	QAF065000-1030 10K OHM 1/6W 5% CF
	R947	QAF065000-4730 47K OHM 1/6W 5% CF
	R948	QAF065000-2230 22K 1/6W 5% CF
	R951	QAF045000-1010 100 OHM 1/4W 5% CF
	R952	QAS025100-1090 1 OHM 1/2W 5%

Jumper

	JW903	XJP220000-0001 22 GA TINNED
	JW904	XJP220000-0001 22 GA TINNED
	JW905	XJP220000-0001 22 GA TINNED
	JW906	XJP220000-0001 22 GA TINNED
	JW907	XJP220000-0001 22 GA TINNED
	JW908	XJP220000-0001 22 GA TINNED
	JW909	XJP220000-0001 22 GA TINNED
	JW910	XJP220000-0001 22 GA TINNED
	JW911	XJP220000-0001 22 GA TINNED

C576 PME039570-1000 10 uF 50V 20%
 C577 PME039570-1000 10 uF 50V 20%
 C579 PYL456370-1040 0.1 uF 50V 5%
 C581 PYL456370-1040 0.1 uF 50V 5%
 C582 PYL410370-1020 1000 pF 50V 5%
 C583 PVE039570-1020 1000 uF 50V 20%
 C584 PYL410370-1020 1000 pF 50V 5%
 C585 PYL410370-3310 330 pF 50V 5%
 C586 PYL410370-3310 330 pF 50V 5%
 C587 PYL410370-1020 1000 pF 50V 5%
 C588 PRL048570-1050 1 uF 50V 20%
 C589 PRL048570-1050 1 uF 50V 20%
 C590 PRL048570-1050 1 uF 50V 20%
 C591 PRL048570-1050 1 uF 50V 20%
 C592 PRL048570-1050 1 uF 50V 20%
 C593 PRL048570-1050 1 uF 50V 20%
 C594 PRL048570-1050 1 uF 50V 20%
 C595 PRL048570-1050 1 uF 50V 20%
 C596 PRL048570-1050 1 uF 50V 20%
 C598 PRL048570-1050 1 uF 50V 20%
 C599 PRL048570-4740 0.47 uF 50V 20%
 C900 PME039540-2210 220 uF 16V 20%
 C901 PYL456370-1040 0.1 uF 50V 5%
 C902 PYL456370-1040 0.1 uF 50V 5%
 C903 PME039540-2210 220 uF 16V 20%
 C904 PYL456370-1040 0.1 uF 50V 5%
 C905 PYL456370-1040 0.1 uF 50V 5%
 C906 PME039540-2210 220 uF 16V 20%
 C907 PME039540-4710 470 uF 16V 20%
 C908 PYL410370-1020 1000 pF 50V 5%
 C909 PME039540-4710 470 uF 16V 20%
 C910 PME039540-2210 220 uF 16V 20%
 C911 PME039540-2210 220 uF 16V 20%
 C912 PYL410370-1020 1000 pF 50V 5%
 C928 PYL456370-1040 0.1 uF 50V 5%
 C929 PYL456370-1040 0.1 uF 50V 5%
 C930 PYL456370-1040 0.1 uF 50V 5%
 C931 PYL456370-1040 0.1 uF 50V 5%
 C934 PYL439570-1040 0.1 uF 50V 20%
 C935 PYL410370-2200 22 pF 50V 5%
 C936 PYL439570-1040 0.1 uF 50V 20%
 C937 PYL439570-1040 0.1 uF 50V 20%
 C938 PVE039540-1020 1000 uF 16V 20% 85 C
 C2015 PYL456370-1040 0.1 uF 50V 5%
 C2016 PYL410370-1020 1000 pF 50V 5%
 C2017 PYL456370-1040 0.1 uF 50V 5%
 C2018 PYL410370-1020 1000 pF 50V 5%
 C2019 PME039540-1010 100 uF 16V 20%
 C2020 PYL410370-1020 1000 pF 50V 5%
 C2021 PYL456370-1040 0.1 uF 50V 5%
 C2022 PYL410370-1020 1000 pF 50V 5%
 C2023 PYL410370-1020 1000 pF 50V 5%
 C2024 PYL456370-1040 0.1 uF 50V 5%
 C2025 PYL410370-1020 1000 pF 50V 5%
 C2026 PYL410370-1020 1000 pF 50V 5%
 C2027 PYL456370-1040 0.1 uF 50V 5%
 C2028 PYL456370-1040 0.1 uF 50V 5%
 C2029 PYL456370-1040 0.1 uF 50V 5%
 C2030 PYL410370-1020 1000 pF 50V 5%
 C2031 PYL456370-1040 0.1 uF 50V 5%
 C2032 PYL456370-1040 0.1 uF 50V 5%

C2033 PYL410370-1020 1000 pF 50V 5%
 C2036 PYL456370-1040 0.1 uF 50V 5%
 C2052 PME039550-1010 100 uF 25V 20%
 C2053 PYL456370-1040 0.1 uF 50V 5%
 C2056 PYL410370-1020 1000 pF 50V 5%
 C2062 PYL456370-1040 0.1 uF 50V 5%
 C2063 PYL410370-1020 1000 pF 50V 5%
 C2064 PYL456370-1040 0.1 uF 50V 5%
 C2065 PYL410370-1020 1000 pF 50V 5%
 C2066 PYL456370-1040 0.1 uF 50V 5%
 △ C2073 PVE039570-4720 4700 uF 50V 20%
 C2074 PRM0373A0-1040 0.1 uF 100V 5%
 C2076 PYL456370-1040 0.1 uF 50V 5%
 C2079 PME039550-1010 100 uF 25V 20%
 C2092 PYL410370-3300 33 pF 50V 5%
 C2094 PYL410370-3300 33 pF 50V 5%
 C2095 PYL410370-1020 1000 pF 50V 5%
 C2096 PYL456370-1040 0.1 uF 50V 5%
 C2164 PYL410370-1020 1000 pF 50V 5%
 C2165 PYL410370-1020 1000 pF 50V 5%
 C2175 PYL456370-1040 0.1 uF 50V 5%
 C2176 PYL456370-1040 0.1 uF 50V 5%
 C2177 PYL410370-1020 1000 pF 50V 5%
 C2204 PYL456370-1040 0.1 uF 50V 5%
 C2208 PRL048570-1050 1 uF 50V 20%
 C2216 PRD235470-1040 0.1 uF 50V 10%
 C2247 PYL456370-1040 0.1 uF 50V 5%
 C2248 PYL410370-1020 1000 pF 50V 5%
 C2249 PYL410370-1020 1000 pF 50V 5%
 C2250 PYL456370-1040 0.1 uF 50V 5%
 C2252 PYL410370-1020 1000 pF 50V 5%
 C2253 PYL456370-1040 0.1 uF 50V 5%
 C2254 PYL410370-1020 1000 pF 50V 5%
 C2255 PYL456370-1040 0.1 uF 50V 5%
 C2256 PYL456370-1040 0.1 uF 50V 5%
 C2257 PYL410370-1020 1000 pF 50V 5%
 C2258 PYL456370-1040 0.1 uF 50V 5%
 C2259 PYL410370-1020 1000 pF 50V 5%
 C2260 PYL456370-1040 0.1 uF 50V 5%
 C2261 PYL410370-1020 1000 pF 50V 5%
 C2262 PYL410370-1020 1000 pF 50V 5%
 C2263 PYL456370-1040 0.1 uF 50V 5%
 C2264 PYL456370-1040 0.1 uF 50V 5%
 C2265 PYL456370-1040 0.1 uF 50V 5%
 C2268 PYL410370-1020 1000 pF 50V 5%
 C2269 PYL410370-1020 1000 pF 50V 5%
 C2270 PYL410370-1020 1000 pF 50V 5%
 C2271 PYL456370-1040 0.1 uF 50V 5%
 C2272 PYL410370-1020 1000 pF 50V 5%
 C2273 PYL456370-1040 0.1 uF 50V 5%
 C2274 PYL456370-1040 0.1 uF 50V 5%
 C2275 PYL410370-1020 1000 pF 50V 5%
 C2276 PYL456370-1040 0.1 uF 50V 5%
 C2277 PYL456370-1040 0.1 uF 50V 5%
 C2278 PYL410370-1020 1000 pF 50V 5%
 C2279 PYL456370-1040 0.1 uF 50V 5%
 C2280 PYL410370-1020 1000 pF 50V 5%
 C2281 PYL456370-1040 0.1 uF 50V 5%
 C2282 PYL456370-1040 0.1 uF 50V 5%
 C2283 PYL456370-1040 0.1 uF 50V 5%
 C2284 PYL456370-1040 0.1 uF 50V 5%

C2285 PYL410370-1020 1000 pF 50V 5%
 C2286 PYL410370-1020 1000 pF 50V 5%
 C2287 PYL410370-1020 1000 pF 50V 5%
 C2288 PYL456370-1040 0.1 uF 50V 5%
 C2289 PYL410370-1020 1000 pF 50V 5%
 C2290 PYL456370-1040 0.1 uF 50V 5%
 C2291 PYL410370-1020 1000 pF 50V 5%
 C2292 PYL456370-1040 0.1 uF 50V 5%
 C2293 PYL410370-1020 1000 pF 50V 5%
 C2294 PYL456370-1040 0.1 uF 50V 5%
 C2295 PYL456370-1040 0.1 uF 50V 5%
 C2296 PYL410370-1020 1000 pF 50V 5%
 C2297 PYL410370-1020 1000 pF 50V 5%
 C2297 PYL456370-1040 0.1 uF 50V 5%
 C2298 PYL456370-1040 0.1 uF 50V 5%
 C2299 PYL456370-1040 0.1 uF 50V 5%
 C2300 PYL456370-1040 0.1 uF 50V 5%
 C2301 PYL410370-1020 1000 pF 50V 5%
 C2302 PYL456370-1040 0.1 uF 50V 5%
 C2303 PYL410370-1020 1000 pF 50V 5%
 C2304 PYL410370-1020 1000 pF 50V 5%
 C2305 PYL410370-1020 1000 pF 50V 5%
 C2306 PYL456370-1040 0.1 uF 50V 5%
 C2307 PYL410370-1020 1000 pF 50V 5%
 C5011 PRL048570-4740 0.47 uF 50V 20%
 C5012 PRL048570-4740 0.47 uF 50V 20%
 C5015 PRD235470-1040 0.1 uF 50V 10%
 C5016 PRD235470-1040 0.1 uF 50V 10%
 C5019 PYL456450-1050 1uF 25V 10%
 C5020 PYL456450-1050 1uF 25V 10%
 C5021 PYL456450-1050 1uF 25V 10%
 C5022 PYL456450-1050 1uF 25V 10%
 C5023 PRD235470-1040 0.1 uF 50V 10%
 C5024 PRD235470-1020 1000 pF 50V 10%
 C5031 PZL456550-1050 1uF 25V 20% 1206
 C5032 PZL456550-1050 1uF 25V 20% 1206
 C5033 PZL456550-1050 1uF 25V 20% 1206
 C5034 PZL456550-1050 1uF 25V 20% 1206
 C5035 PZL456550-1050 1uF 25V 20% 1206
 C5036 PZL456550-1050 1uF 25V 20% 1206
 C5037 PZL456550-1050 1uF 25V 20% 1206
 C5038 PZL456550-1050 1uF 25V 20% 1206
 C5039 PZL456550-1050 1uF 25V 20% 1206
 C5040 PZL456550-1050 1uF 25V 20% 1206
 C5041 PZL456550-1050 1uF 25V 20% 1206
 C5042 PZL456550-1050 1uF 25V 20% 1206

Diode
 D1 RAZ005004-0020 3.8-4.0V 0.5W
 D100 RAD114148-0010 DIODE SW
 D101 RAZ005007-0010 6.4-6.7V 0.5W
 D102 RAZ005007-0010 6.4-6.7V 0.5W
 D103 RAZ005007-0010 6.4-6.7V 0.5W
 D104 RAZ005007-0010 6.4-6.7V 0.5W
 D105 RAZ005007-0010 6.4-6.7V 0.5W
 D106 RAZ005007-0010 6.4-6.7V 0.5W
 D107 RAZ005007-0010 6.4-6.7V 0.5W
 D108 RAZ005007-0010 6.4-6.7V 0.5W
 D400 RAD114148-0010 DIODE SW
 D404 RAD114148-0010 DIODE SW
 D405 RAD114148-0010 DIODE SW

D406 RAD114148-0010 DIODE SW
 D407 RAD114148-0010 DIODE SW
 D408 RAD114148-0010 DIODE SW
 D409 RAD114148-0010 DIODE SW
 D410 RAD114148-0010 DIODE SW
 D411 RAD114001-0010 DIODE
 D412 QAF025000-2790 2.7OHM 0.5W
 D910 RAD115392-0010 1N5392 1.5A 100V
 Z2001 RAZ005005-0030 5.0-5.2V 0.5W
 ZD100 RAZ005005-0030 5.0-5.2V 0.5W
 ZD401 RAZ005003-0020 2.9-3.1V 0.5W
 ZD402 RAZ005024-0020 23.6-24.7V 0.5W

Intergrated Circuit
 IC100 RCI290080-0001 IC 40 PIN AM29F080B-90CE
 IC101 RCI740004-0001 IC 14 PIN TC74HC04AFN TOSHIBA
 IC102 RCI740374-0002 IC 20 PIN 74HC374
 IC103 RCI006018-0001 IC 208 PINES6018
 IC104 RCI740374-0002 IC 20 PIN 74HC374
 IC105 RCI024002-0001 IC 8 PIN AT24C02
 IC106 RCI400160-0001 IC 54 PIN 4MX16 Y3V TW StarRam
 IC400 RHI004052-0001 IC 16 PIN TC4052BP
 IC401 RCI004558-0001 IC 8 PIN JRC4558D JRC
 IC402 RCI280320-0001 IC 28 PIN TLV320A IC23PW
 IC500 RCI740126-0002 IC 14 PIN 74LVT126 3.3V
 IC501 RCI741250-0002 IC 14 PIN 74LVT125 3.3V
 IC502 RCI000304-0001 IC 44 PIN STA304A
 △ IC503 RCI000505-0001 IC 36 PIN STA505 50Wx2
 △ IC504 RCI000505-0001 IC 36 PIN STA505 50Wx2
 IC505 RCI000304-0001 IC 44 PIN STA304A
 △ IC506 RCI000505-0001 IC 36 PIN STA505 50Wx2
 △ IC900 RHI007805-0005 IC 3 PIN BA05T ROHM
 △ IC901 RHI007805-0005 IC 3 PIN BA05T ROHM
 △ IC914 RHI000330-0001 IC 3 PIN BA033T 3.3V 1A ROHM

Transistor
 Q101 RAN202001-0001 2SC2001L NEC
 Q102 RAN200945-0001 2SC945P
 Q400 RAN200945-0001 2SC945P
 Q401 RAN202878-0001 2SC2878-A (TEI.M)
 Q402 RAN202878-0001 2SC2878-A (TEI.M)
 Q403 RAN202878-0001 2SC2878-A (TEI.M)
 Q404 RAP200733-0001 2SA733Q,P NEC
 Q900 RAN200945-0001 2SC945P
 Q903 RAP200733-0001 2SA733Q,P NEC
 Q904 RAN200945-0001 2SC945P
 Q905 RAP200733-0001 2SA733Q,P NEC
 Q906 RAN200945-0001 2SC945P
 Q907 RHP200772-0001 2SB772P/Q NEC
 Q908 RAN200945-0001 2SC945P
 Q909 RHP200772-0001 2SB772P/Q NEC
 Q2007 RAN200945-0001 2SC945P

Resistor
 R1 QCF015020-4730 47K OHM 1/10W 5%
 R2 QAF065000-2220 2.2K OHM 1/6W 5% CF
 R3 QAF065000-2220 2.2K OHM 1/6W 5% CF
 R41 QCF015020-1010 100 OHM 1/10W 5%
 R42 QCF015020-1010 100 OHM 1/10W 5%
 R103 QCF015020-1220 1.2K OHM 1/10W 5%

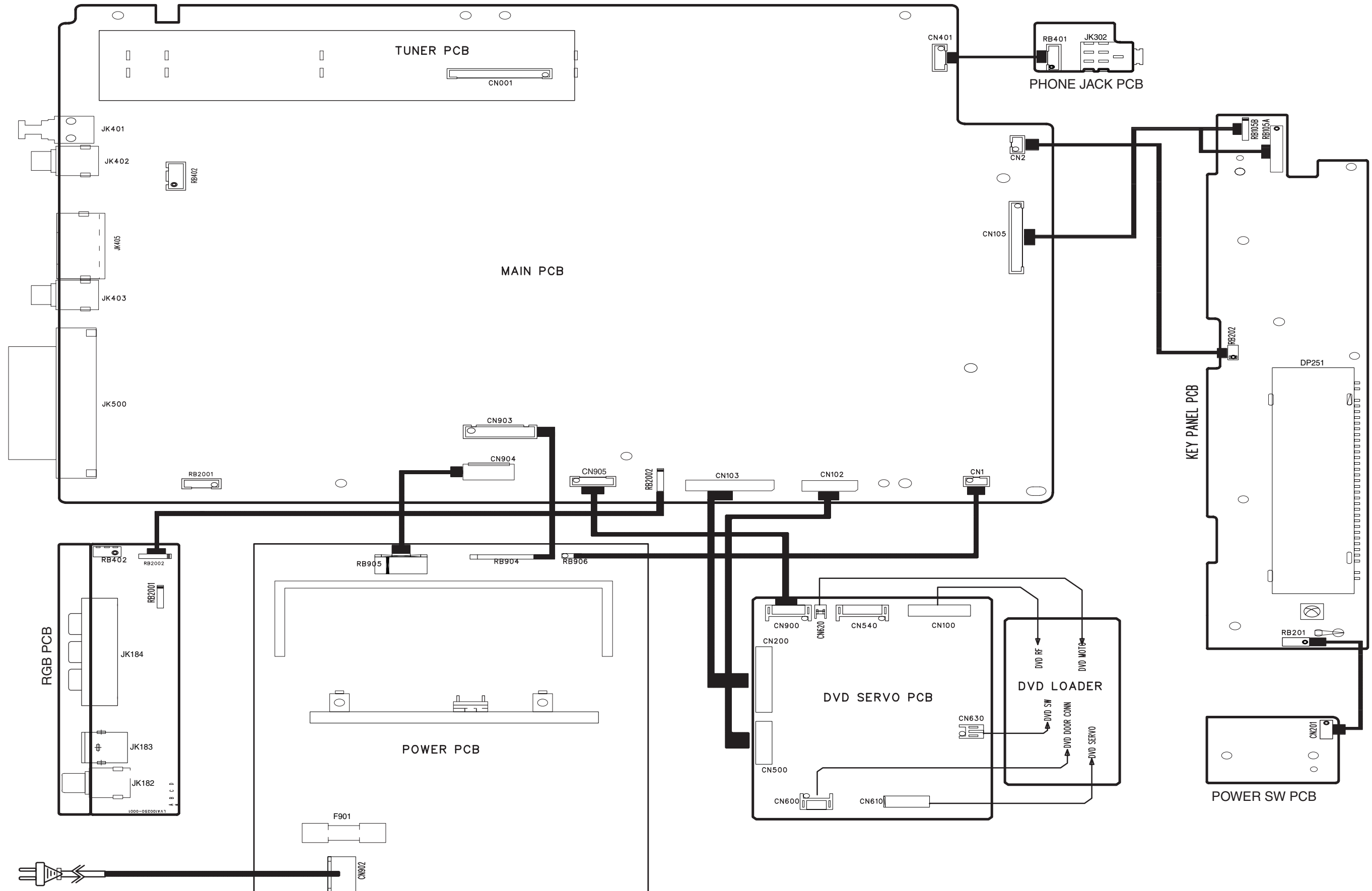
R105 QCF015020-0000 0 OHM JUMP WIRE
R107 QCF015020-0000 0 OHM JUMP WIRE
R108 QCF015020-3010 300 OHM 1/10W 5%
R109 QCF015020-4720 4.7K OHM 1/10W 5%
R111 QCF015020-3300 33 OHM 1/10W 5%
R112 QCF015020-3300 33 OHM 1/10W 5%
R113 QCF015020-3300 33 OHM 1/10W 5%
R114 QCF015020-4720 4.7K OHM 1/10W 5%
R116 QCF015020-4720 4.7K OHM 1/10W 5%
R118 QCF015020-4720 4.7K OHM 1/10W 5%
R120 QCF015020-4720 4.7K OHM 1/10W 5%
R121 QCF015020-1020 1K OHM 1/10W 5%
R122 QCF015020-3300 33 OHM 1/10W 5%
R123 QCF015020-3300 33 OHM 1/10W 5%
R124 QCF015020-3300 33 OHM 1/10W 5%
R125 QCF015020-3300 33 OHM 1/10W 5%
R126 QCF015020-3300 33 OHM 1/10W 5%
R129 QCF015020-2710 270 OHM 1/10W 5%
R130 QCF015020-1020 1K OHM 1/10W 5%
R131 QCF015020-7500 75 OHM 1/10W 5%
R132 QCF015020-7500 75 OHM 1/10W 5%
R133 QCF015020-7500 75 OHM 1/10W 5%
R134 QCF015020-7500 75 OHM 1/10W 5%
R135 QCF015020-0000 0 OHM JUMP WIRE
R137 QCF015020-3300 33 OHM 1/10W 5%
R139 QCF015020-3300 33 OHM 1/10W 5%
R143 QCF015020-0000 0 OHM JUMP WIRE
R144 QCF015020-4720 4.7K OHM 1/10W 5%
R145 QCF015020-4720 4.7K OHM 1/10W 5%
R146 QCF015020-0000 0 OHM JUMP WIRE
R147 QCF015020-3300 33 OHM 1/10W 5%
R148 QCF015020-3300 33 OHM 1/10W 5%
R149 QCF015020-3300 33 OHM 1/10W 5%
R150 QCF015020-3300 33 OHM 1/10W 5%
R151 QCF015020-3300 33 OHM 1/10W 5%
R152 QCF015020-3300 33 OHM 1/10W 5%
R154 QCF015020-3300 33 OHM 1/10W 5%
R155 QCF015020-3300 33 OHM 1/10W 5%
R156 QCF015020-3300 33 OHM 1/10W 5%
R157 QCF015020-3300 33 OHM 1/10W 5%
R158 QCF015020-3300 33 OHM 1/10W 5%
R159 QCF015020-3310 330 OHM 1/10W 5%
R160 QCF015020-3300 33 OHM 1/10W 5%
R161 QCF015020-3300 33 OHM 1/10W 5%
R162 QCF015020-3300 33 OHM 1/10W 5%
R163 QCF015020-4700 47 OHM 1/10W 5%
R164 QCF015020-3300 33 OHM 1/10W 5%
R171 QCF015020-2230 22K OHM 1/10W 5%
R172 QCF015020-4730 47K OHM 1/10W 5%
R177 QCF015020-1000 10 OHM 1/10W 5%
R178 QCF015020-3300 33 OHM 1/10W 5%
R179 QCF015020-3300 33 OHM 1/10W 5%
R180 QCF015020-1020 1K OHM 1/10W 5%
R181 QCF015020-3320 3.3K OHM 1/10W 5%
R182 QCF015020-1020 1K OHM 1/10W 5%
R183 QCF015020-4720 4.7K OHM 1/10W 5%
R184 QCF015020-4720 4.7K OHM 1/10W 5%
R185 QCF015020-4720 4.7K OHM 1/10W 5%
R186 QCF015020-4720 4.7K OHM 1/10W 5%
R187 QCF015020-1000 10 OHM 1/10W 5%
R189 QCF015020-3300 33 OHM 1/10W 5%

R191 QCF015020-0000 0 OHM JUMP WIRE
R193 QCF015020-0000 0 OHM JUMP WIRE
R248 QCF015020-2230 22K OHM 1/10W 5%
R400 QCF015020-2010 200 OHM 1/10W 5%
R401 QCF015020-1010 100 OHM 1/10W 5%
R402 QCF015020-4720 4.7K OHM 1/10W 5%
R403 QCF015020-1010 100 OHM 1/10W 5%
R404 QCF015020-1010 100 OHM 1/10W 5%
R405 QCF015020-1530 15K OHM 1/10W 5%
R406 QCF015020-1530 15K OHM 1/10W 5%
R407 QCF015020-1530 15K OHM 1/10W 5%
R408 QCF015020-1530 15K OHM 1/10W 5%
R409 QCF015020-1030 10K OHM 1/10W 5%
R410 QCF015020-1010 100 OHM 1/10W 5%
R411 QCF015020-1520 1.5K OHM 1/10W 5%
R412 QCF015020-1020 1K OHM 1/10W 5%
R413 QCF015020-1020 1K OHM 1/10W 5%
R414 QCF015020-1010 100 OHM 1/10W 5%
R415 QCF015020-1010 100 OHM 1/10W 5%
R417 QCF015020-1530 15K OHM 1/10W 5%
R418 QCF015020-1530 15K OHM 1/10W 5%
R419 QCF015020-1030 10K OHM 1/10W 5%
R420 QCF015020-4720 4.7K OHM 1/10W 5%
R421 QCF015020-1030 10K OHM 1/10W 5%
R424 QCF015020-0000 0 OHM JUMP WIRE
R425 QCF015020-5630 56K OHM 1/10W 5%
R427 QCF015020-1530 15K OHM 1/10W 5%
R428 QCF015020-1530 15K OHM 1/10W 5%
R429 QCF015020-1030 10K OHM 1/10W 5%
R430 QCF015020-4720 4.7K OHM 1/10W 5%
R431 QCF015020-1020 1K OHM 1/10W 5%
R432 QCF015020-4720 4.7K OHM 1/10W 5%
R433 QCF015020-4720 4.7K OHM 1/10W 5%
R434 QCF015020-4720 4.7K OHM 1/10W 5%
R435 QCF015020-4720 4.7K OHM 1/10W 5%
R436 QCF015020-1020 1K OHM 1/10W 5%
R439 QCF015020-4720 4.7K OHM 1/10W 5%
R440 QCF015020-4710 470 OHM 1/10W 5%
R441 QCF015020-4710 470 OHM 1/10W 5%
R442 QCF015020-4730 47K OHM 1/10W 5%
R443 QCF015020-4720 4.7K OHM 1/10W 5%
R444 QCF015020-1030 10K OHM 1/10W 5%
R446 QCF015020-4720 4.7K OHM 1/10W 5%
R448 QCF015020-4720 4.7K OHM 1/10W 5%
R449 QCF015020-4720 4.7K OHM 1/10W 5%
R500 QCF015020-4720 4.7K OHM 1/10W 5%
R501 QCF015020-1050 1M OHM 1/10W 5%
R502 QCF015020-1030 10K OHM 1/10W 5%
R503 QCF015020-1030 10K OHM 1/10W 5%
R504 QCF015020-1030 10K OHM 1/10W 5%
R505 QCF045010-2200 22 OHM 1/4W 5%
R506 QCF045010-2200 22 OHM 1/4W 5%
R507 QCF045010-2200 22 OHM 1/4W 5%
R508 QCF045010-6290 6.2 OHM 1/4W 5%
R509 QCF045010-6290 6.2 OHM 1/4W 5%
R510 QCF045010-6290 6.2 OHM 1/4W 5%
R511 QCF045010-6290 6.2 OHM 1/4W 5%
R512 QCF045010-6290 6.2 OHM 1/4W 5%
R513 QCF045010-6290 6.2 OHM 1/4W 5%
R514 QCF045010-6290 6.2 OHM 1/4W 5%
R515 QCF015020-4720 4.7K OHM 1/10W 5%

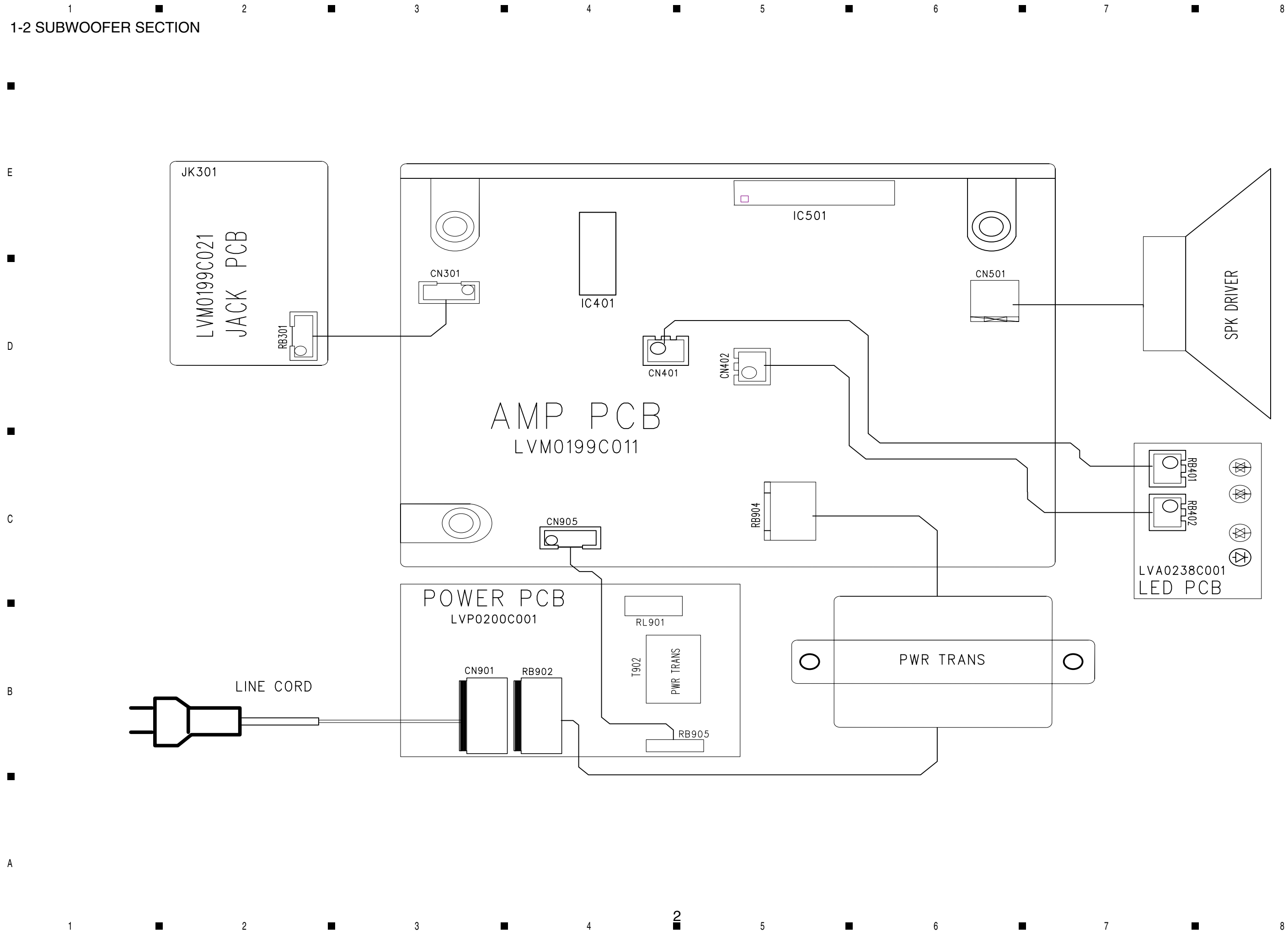
R516 QCF015020-4730 47K OHM 1/10W 5%
R517 QCF015020-4730 47K OHM 1/10W 5%
R518 QCF015020-1030 10K OHM 1/10W 5%
R519 QCF045010-2200 22 OHM 1/4W 5%
R520 QCF045010-2200 22 OHM 1/4W 5%
R521 QCF045010-2200 22 OHM 1/4W 5%
R522 QCF045010-6290 6.2 OHM 1/4W 5%
R524 QCF045010-6290 6.2 OHM 1/4W 5%
R525 QCF045010-6290 6.2 OHM 1/4W 5%
R526 QCF045010-6290 6.2 OHM 1/4W 5%
R527 QCF015020-1030 10K OHM 1/10W 5%
R528 QCF015020-1030 10K OHM 1/10W 5%
R529 QCF015020-2020 2K OHM 1/10W 5%
R530 QCF015020-2020 2K OHM 1/10W 5%
R531 QCF015020-1030 10K OHM 1/10W 5%
R532 QCF015020-1030 10K OHM 1/10W 5%
R533 QCF015020-1020 1K OHM 1/10W 5%
R534 QCF015020-1010 100 OHM 1/10W 5%
R900 QCF015020-1030 10K OHM 1/10W 5%
R901 QCF015020-1030 10K OHM 1/10W 5%
R902 QCF015020-2230 22K OHM 1/10W 5%
R903 QCF015020-1020 1K OHM 1/10W 5%
R905 QCF015020-1030 10K OHM 1/10W 5%
R906 QCF015020-1030 10K OHM 1/10W 5%
R907 QCF015020-2230 22K OHM 1/10W 5%
R908 QCF015020-1020 1K OHM 1/10W 5%
R919 QCF015020-1030 10K OHM 1/10W 5%
R920 QCF015020-1030 10K OHM 1/10W 5%
R921 QCF015020-2230 22K OHM 1/10W 5%
R922 QCF015020-5610 560 OHM 1/10W 5%
R924 QCF015020-1030 10K OHM 1/10W 5%
R925 QCF015020-2230 22K OHM 1/10W 5%
R926 QCF015020-1020 1K OHM 1/10W 5%
R996 QCF015020-1030 10K OHM 1/10W 5%
R2018 QCF015020-1030 10K OHM 1/10W 5%
R2061 QCF015020-1520 1.5K OHM 1/10W 5%
R2108 QCF015020-3300 33 OHM 1/10W 5%

SCHEMATIC, CIRCUIT BOARD AND BLOCK DIAGRAMS

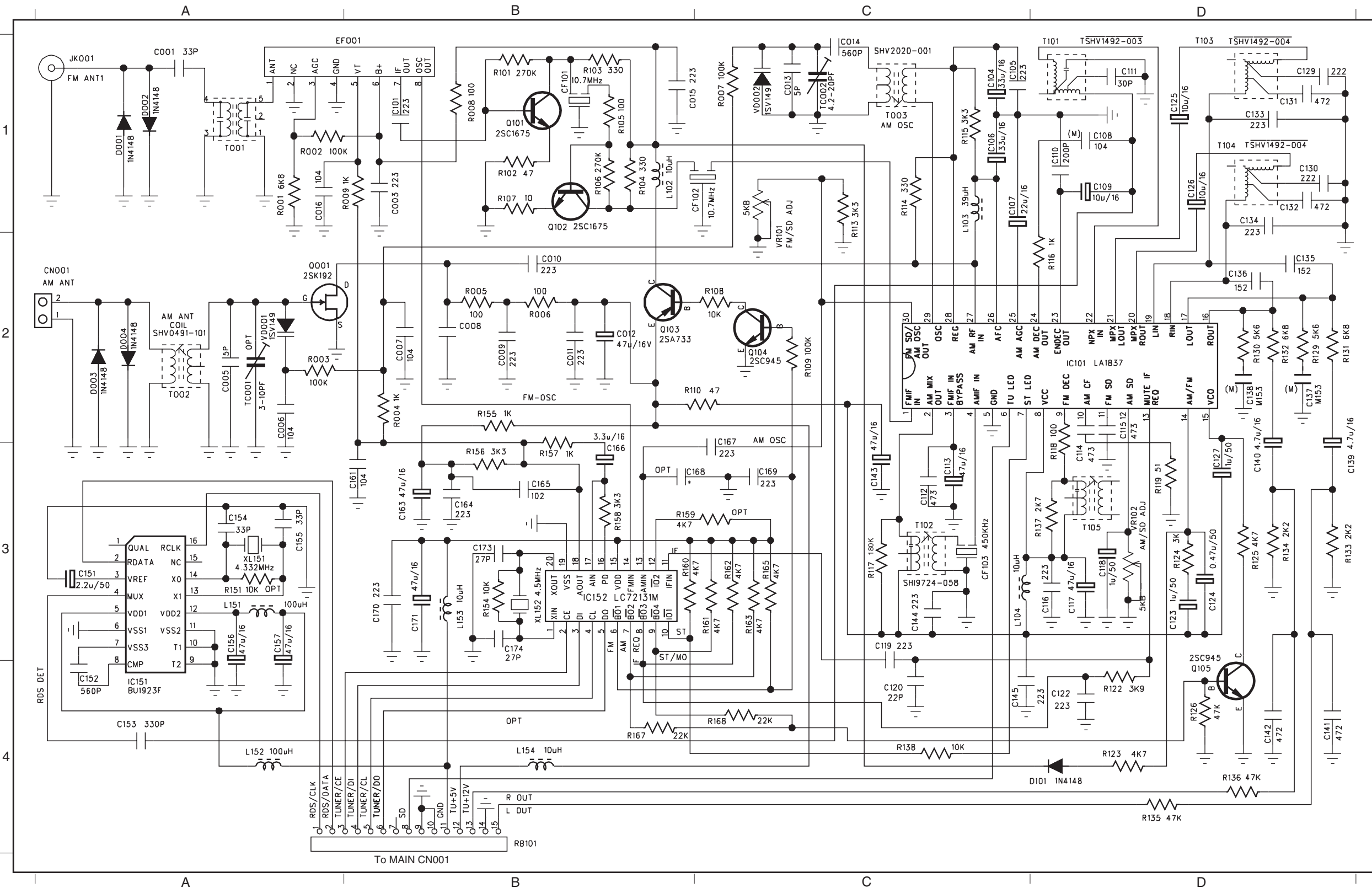
1 WIRING DIAGRAMS 1-1 MAIN UNIT SECTION



1-2 SUBWOOFER SECTION



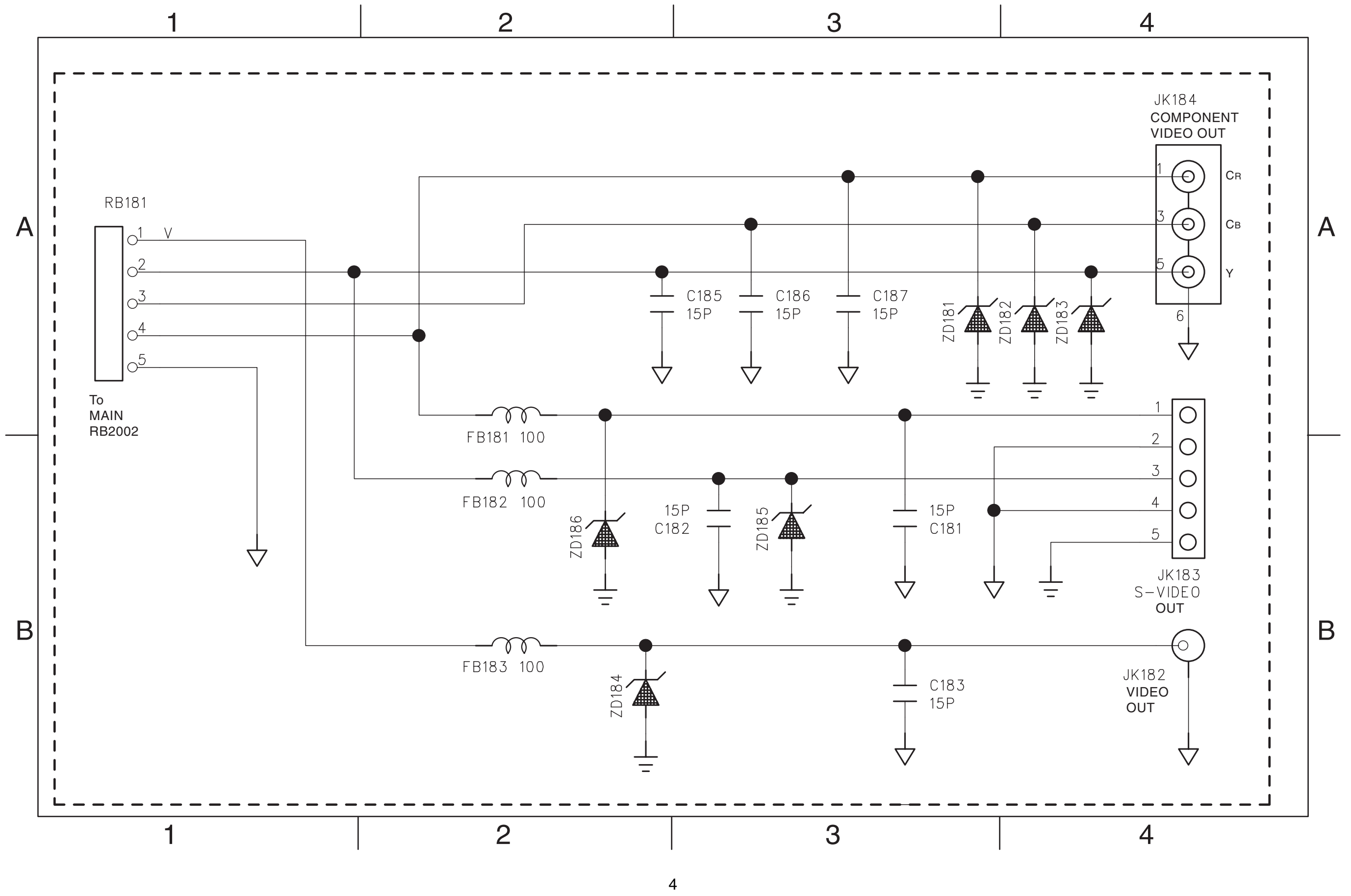
2 SCHEMATIC DIAGRAMS
 2-1 MAIN UNIT SECTION
 TUNER SCHEMATIC DIAGRAM



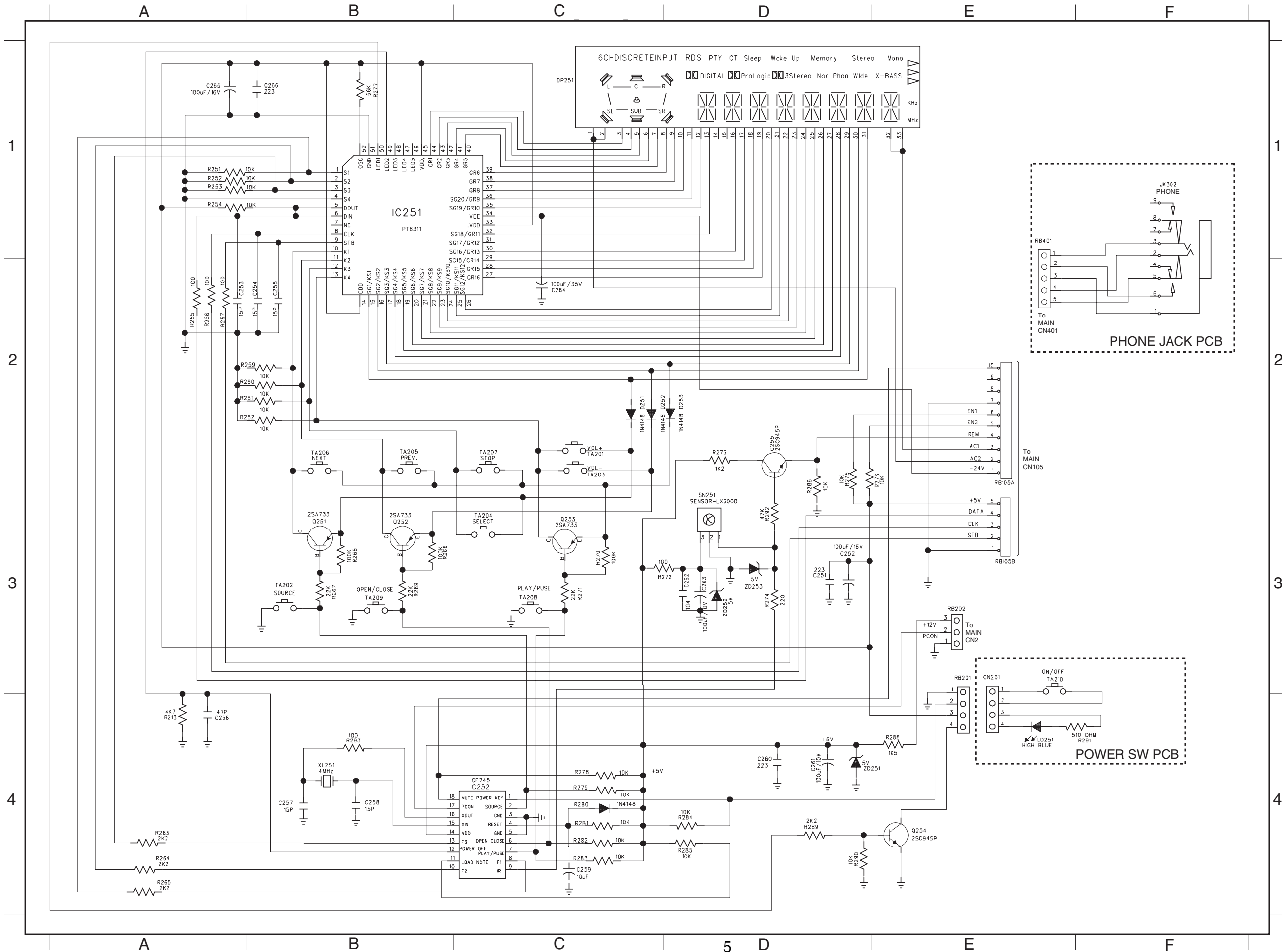
C001	A1	C161	B3	R122	D4
C003	B1	C163	B3	R123	D4
C005	A2	C164	B3	R124	D3
C006	A2	C165	B3	R125	D3
C007	B2	C166	B3	R126	D4
C008	B2	C167	C3	R129	D2
C009	B2	C169	C3	R130	D2
C010	B2	C170	B3	R131	D2
C011	B2	C171	B3	R133	D3
C012	B2	C173	B3	R134	D3
C013	C1	C174	B3	R135	D4
C014	C1	CF101	B1	R136	D4
C015	B1	CF102	C1	R137	D3
C016	A1	CF103	B3	R138	C4
C101	B1	CN001	A2	R151	A3
C104	C1	D101	D4	R154	B3
C105	C1	D001	A1	R155	B2
C106	C1	D002	A1	R156	B3
C107	C1	D003	A2	R157	B3
C108	D1	D004	A2	R158	B3
C109	D1	EF001	B1	R159	B3
C110	D1	IC101	D2	R160	B3
C111	D1	IC151	A4	R161	C3
C112	C3	IC152	B3	R162	C3
C113	C3	JK001	A1	R163	C3
C114	D3	L102	B1	R165	C3
C115	D2	L103	C1	R167	B4
C116	D3	L104	C3	R168	C4
C117	D3	L151	A3	RB101	B4
C118	D3	L152	A4	T101	D1
C119	C3	L153	B3	T102	C3
C120	C4	L154	B4	T103	D1
C122	D4	Q101	B1	T104	D1
C123	D3	Q102	B1	T105	D3
C125	D1	Q104	D2	TC001	A2
C126	D1	Q105	D4	T001	A1
C127	D3	Q001	A2	T002	A2
C129	D1	R001	A1	T003	C1
C130	D1	R002	A1	VD002	A5
C132	D1	R003	A2	VR102	D3
C133	D1	R004	B2	XL151	A3
C134	D1	R005	B2	XL152	B3
C135	D2	R007	C1		
C136	D2	R008	B1		
C138	D2	R101	B1		
C139	D3	R102	B1		
C140	D3	R103	B1		
C141	D4	R104	B1		
C142	D4	R105	B1		
C143	C3	R107	B1		
C144	C3	R106	B1		
C145	C4	R108	C2		
C151	A3	R109	C2		
C152	A4	R110	C2		
C153	A4	R113	C1		
C154	A3	R114	C1		
C155	A3	R115	C1		
C156	A3	R116	D2		
C157	A3	R117	C3		
		R118	D3		
		R119	D3		

RGB SCHEMATIC DIAGRAM

C187 A3	C183 B3	FB181 A2	JK182 B4	RB181 A1	ZD183 A4	ZD186 B2
C181 B3	C185 A3	FB182 B2	JK183 B4	ZD181 A3	ZD184 B2	
C182 B3	C186 A3	FB183 B2	JK184 A4	ZD182 A4	ZD185 B3	

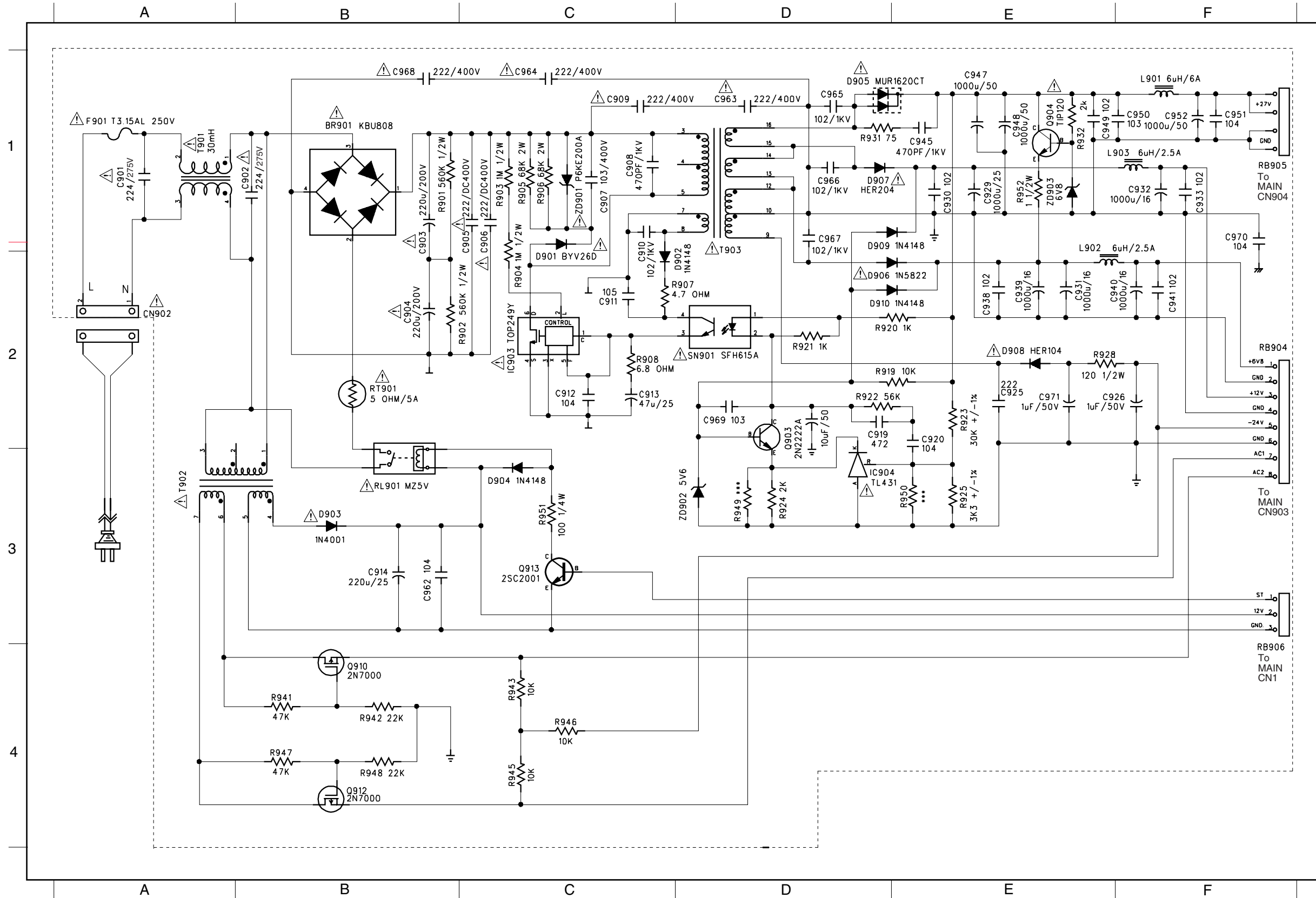


KEY PANEL, PHONE JACK & POWER SW SCHEMATIC DIAGRAMS



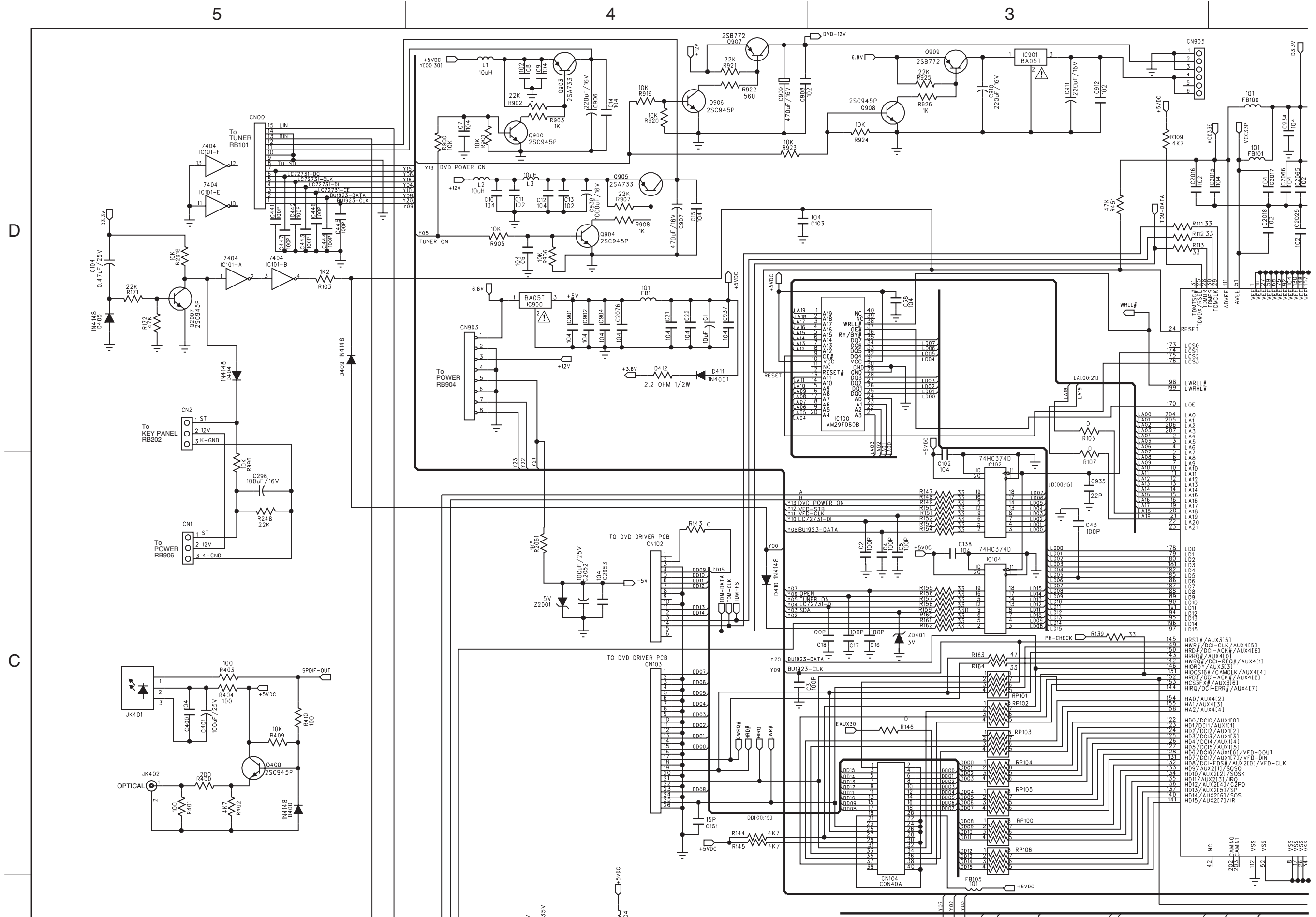
C251	D3	R286	D3
C252	D3	R288	E4
C253	A2	R289	D4
C254	B2	R290	D4
C255	B2	R291	F4
C256	A4	R292	D3
C257	B4	R293	B4
C258	B4	RB105A	E2
C259	C4	RB105B	E3
C260	D4	RB201	E4
C261	D4	RB202	E3
C262	D3	RB401	E1
C263	D3	D251	C2
C264	C2	D252	C2
C265	A1	D253	D2
C266	B1	CN201	E4
R213	A4	DP251	C1
R251	A1	IC251	B1
R252	A1	IC252	C4
R253	A1	JK302	F1
R254	A1	LD251	E4
R255	A2	Q251	B3
R256	A2	Q252	B3
R257	A2	Q253	C3
R259	B2	Q254	E4
R260	B2	Q255	D2
R261	B2	TA201	C2
R262	B2	TA202	B3
R263	A4	TA203	C2
R264	A4	TA204	C3
R265	A4	TA205	B2
R266	B3	TA206	B2
R267	B3	TA207	C2
R268	B3	TA208	C3
R269	B3	TA209	B3
R270	C3	TA210	E3
R271	C3	SN251	D3
R272	C3	XL251	B4
R273	D2	ZD251	D4
R274	D3	ZD252	D3
R275	D3	ZD253	D3
R276	E3		
R277	B1		
R278	C4		
R279	C4		
R281	C4		
R282	C4		
R283	C4		
R284	D4		
R285	D4		

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	T903	D1
C911	C2	F901	A1	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	E2	Q904	E1		
C926	E2	Q910	B4		
C929	E1	Q912	B4		
C930	E1	Q913	C3		
C931	E2	R901	B1		
C932	F1	R902	B2		
C933	F1	R903	C1		
C938	E2	R904	C2		
C939	E2	R905	C1		
C940	F2	R906	C1		
C941	F2	R907	C2		
C945	E1	R908	C2		
C947	E1	R919	D2		
C948	E1	R920	D2		
C949	E1	R921	D2		
C950	E1	R922	D2		
C951	F1	R923	E2		
C952	F1	R924	D3		
C962	B3	R925	E3		
C963	D1	R928	E2		
C964	C1	R931	D1		
C965	D1	R941	B4		
C966	D1	R942	B4		
C967	D1	R943	C4		
C968	B1	R945	C4		
C969	D2	R946	C4		
C970	F1	R947	B4		
C971	E2	R948	B4		

MAIN SCHEMATIC DIAGRAM (TOP LEFT VIEW)



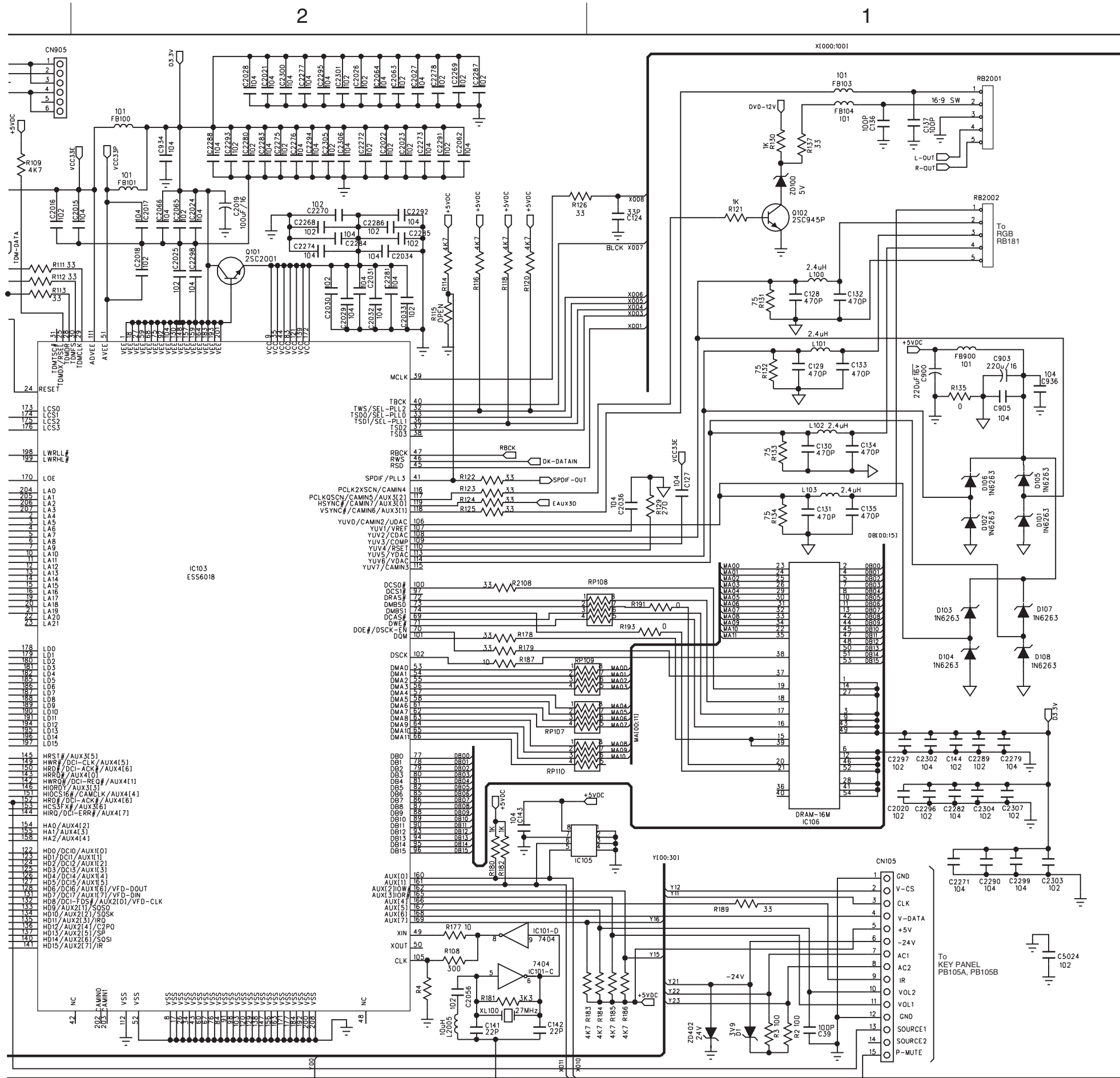
D

C

MAIN SCHEMATIC DIAGRAM (TOP RIGHT VIEW)

2

1



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	RB2001D5	
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	R434	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		

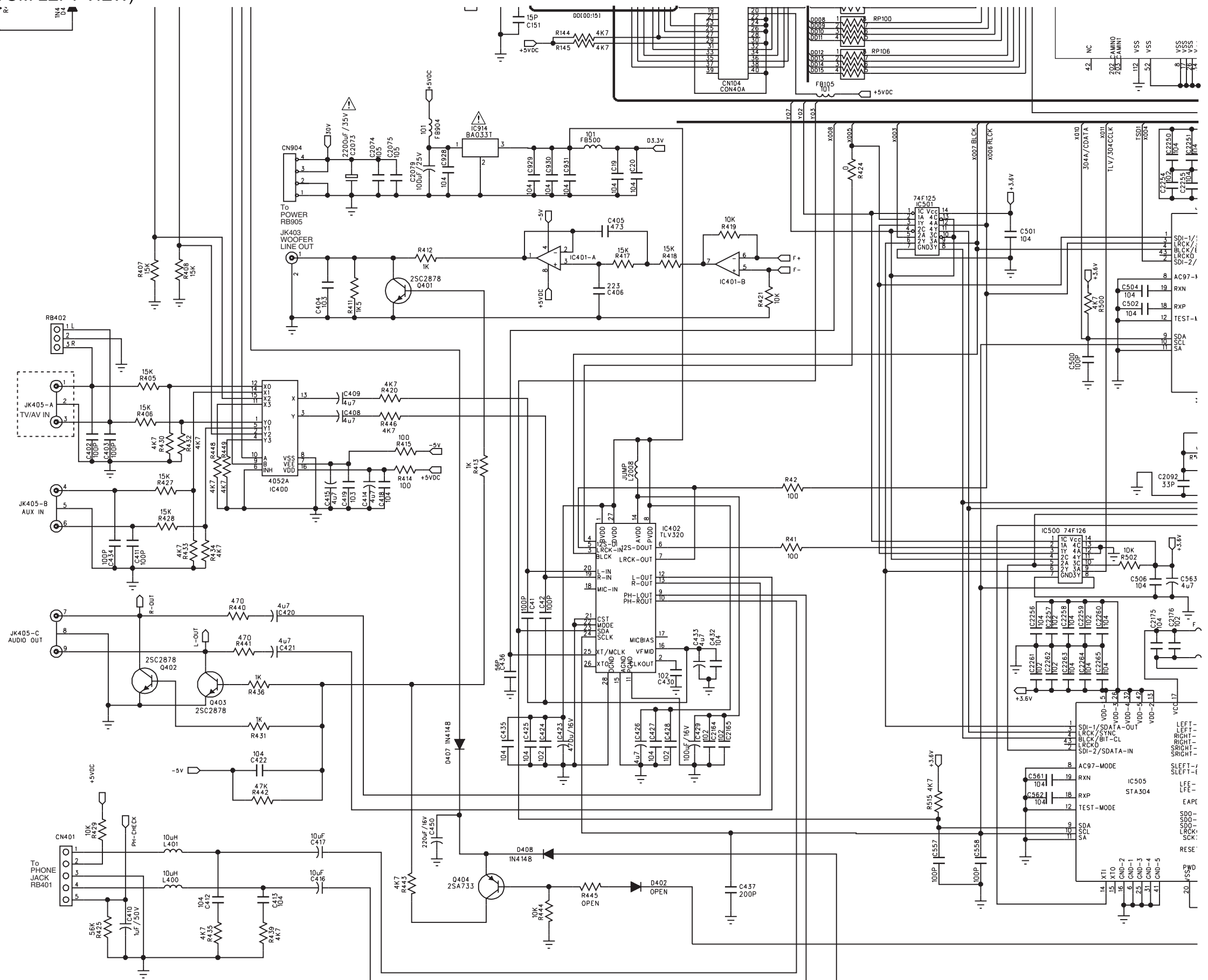
D

C

MAIN SCHEMATIC DIAGRAM (BOTTOM LEFT VIEW)

B

A



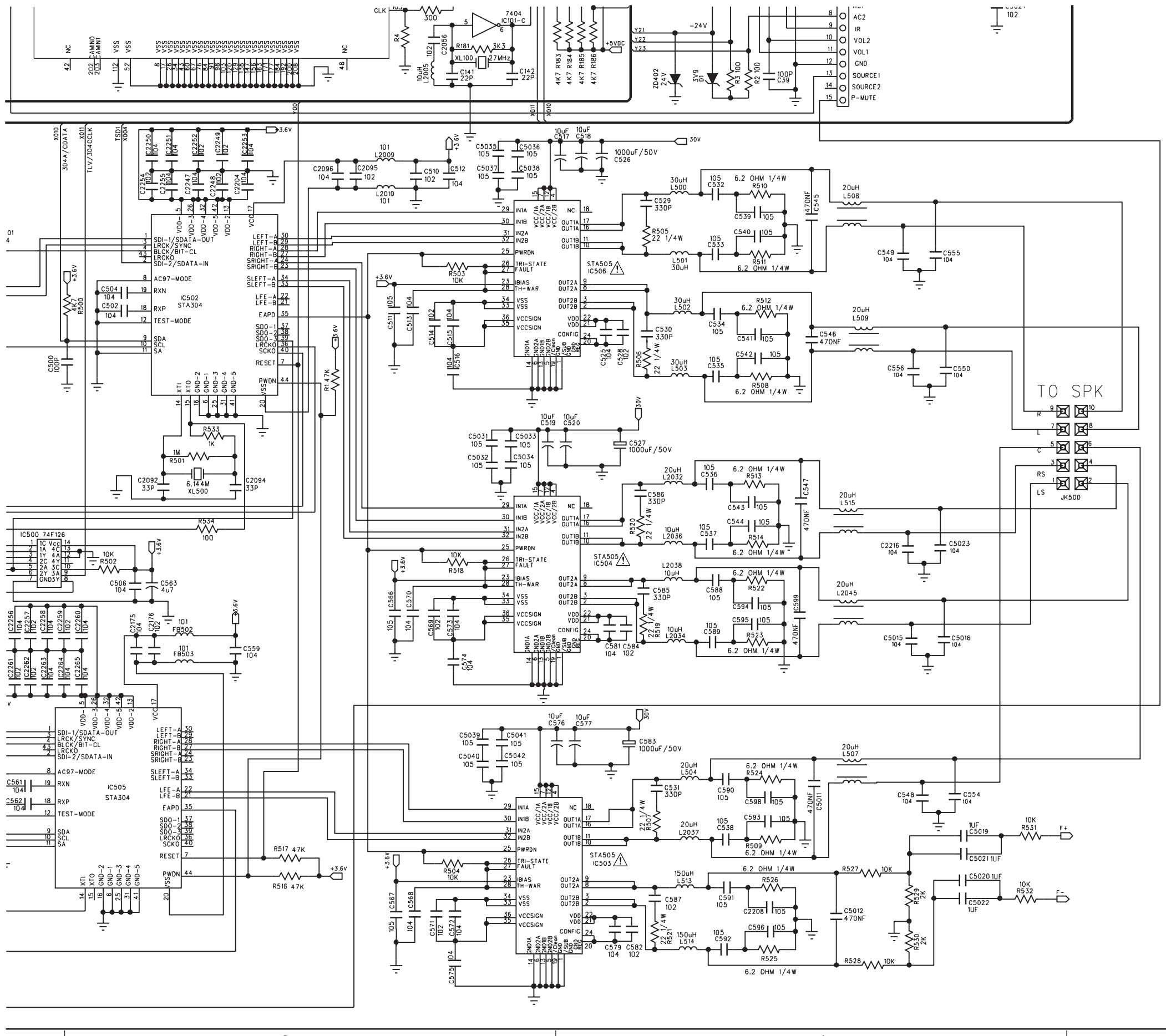
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4

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3

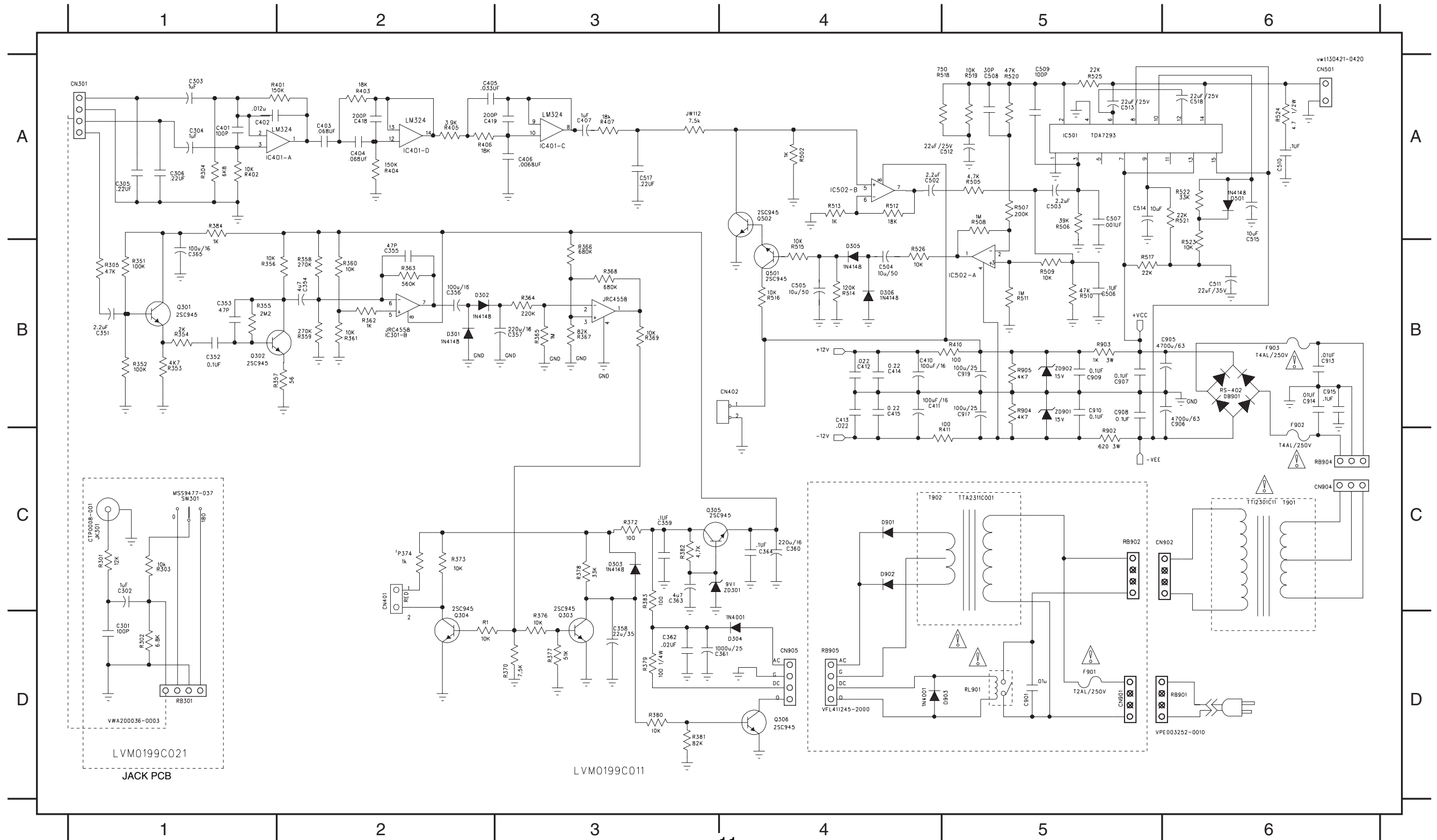
MAIN SCHEMATIC DIAGRAM (BOTTOM RIGHT VIEW)



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	D2	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	D2	C5021	A1
C407	B4	C557	A3	C2064	D2	C5022	A1
C4080	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	C579	A1	C2247	B2		
C426	A3	C581	A1	C2248	B2		
C427	A3	C582	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		

2-2 SUBWOOFER SECTION AMP & JACK SCHEMATIC DIAGRAMS

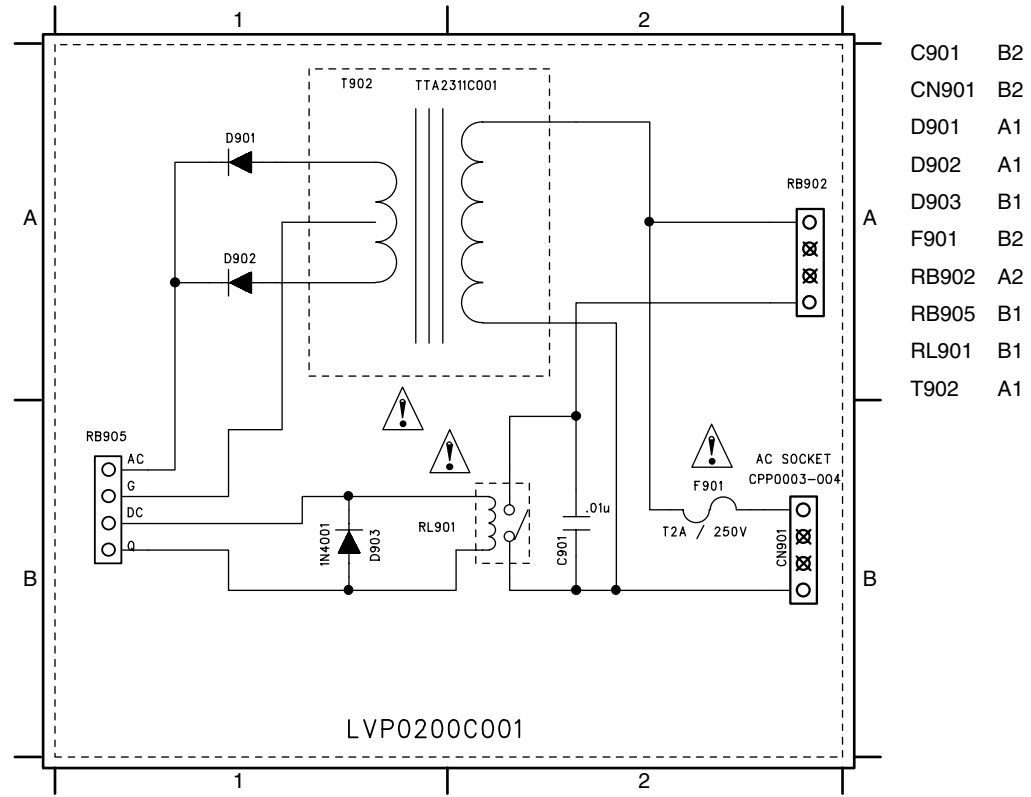
C301 D1	C358 D3	C402 A1	C414 B4	C508 A5	C518 A6	C917 B5	D303 C3	IC401-C A3	Q304 D2	R351 B1	R362 B2	R372 C3	R383 C3	R407 A3	R513 A4	R523 A6	RB904 C6
C302 C1	C357 B3	C403 A2	C415 B4	C509 A5	C905 B6	C919 B5	D305 B4	IC401-DA2	Q305 C3	R352 B1	R363 B2	R373 C2	R384 A1	R502 A4	R514 B4	R524 A6	SW301C1
C303 A1	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	



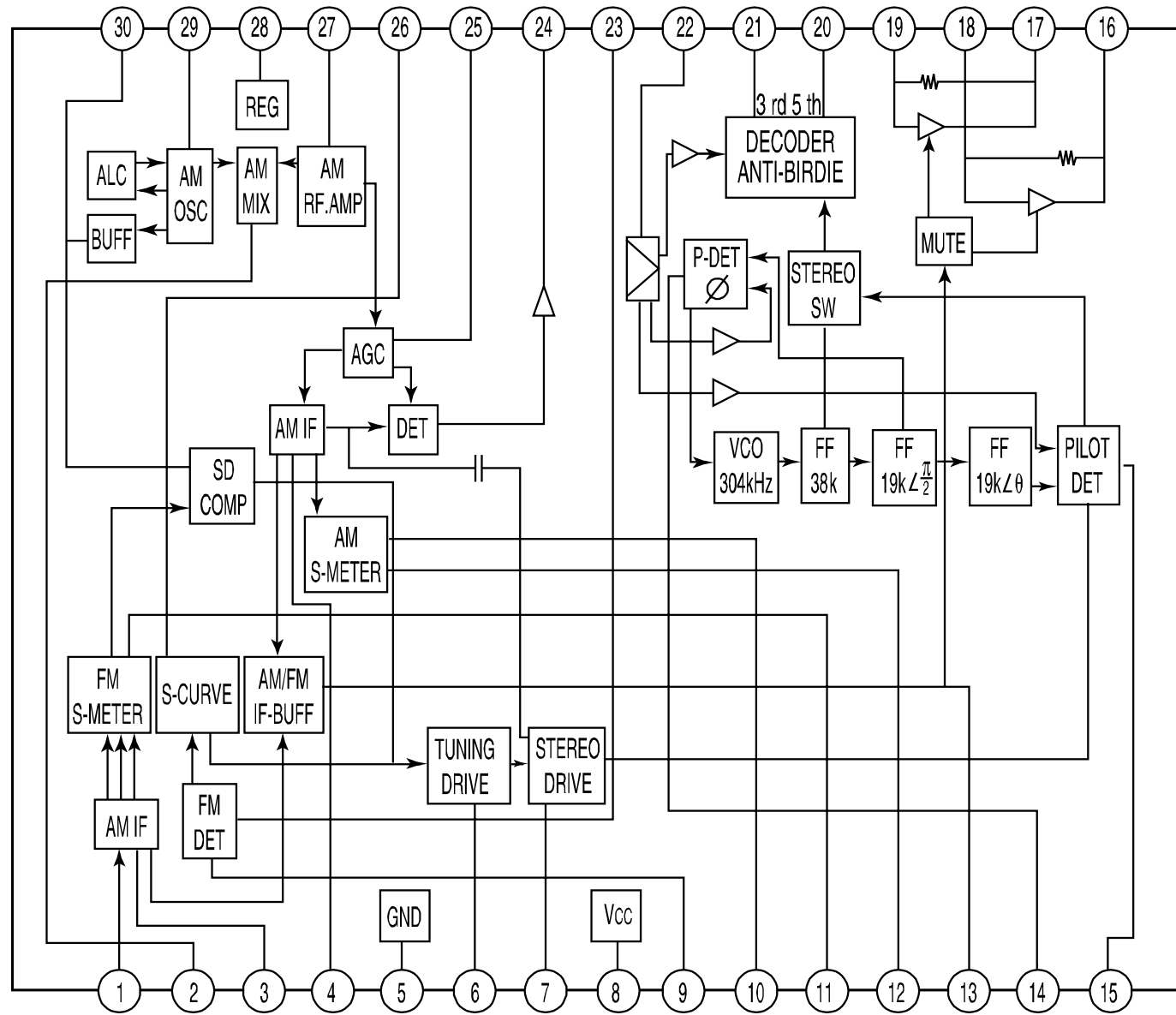
LVM0199C021
JACK PCB

LVM0199C011

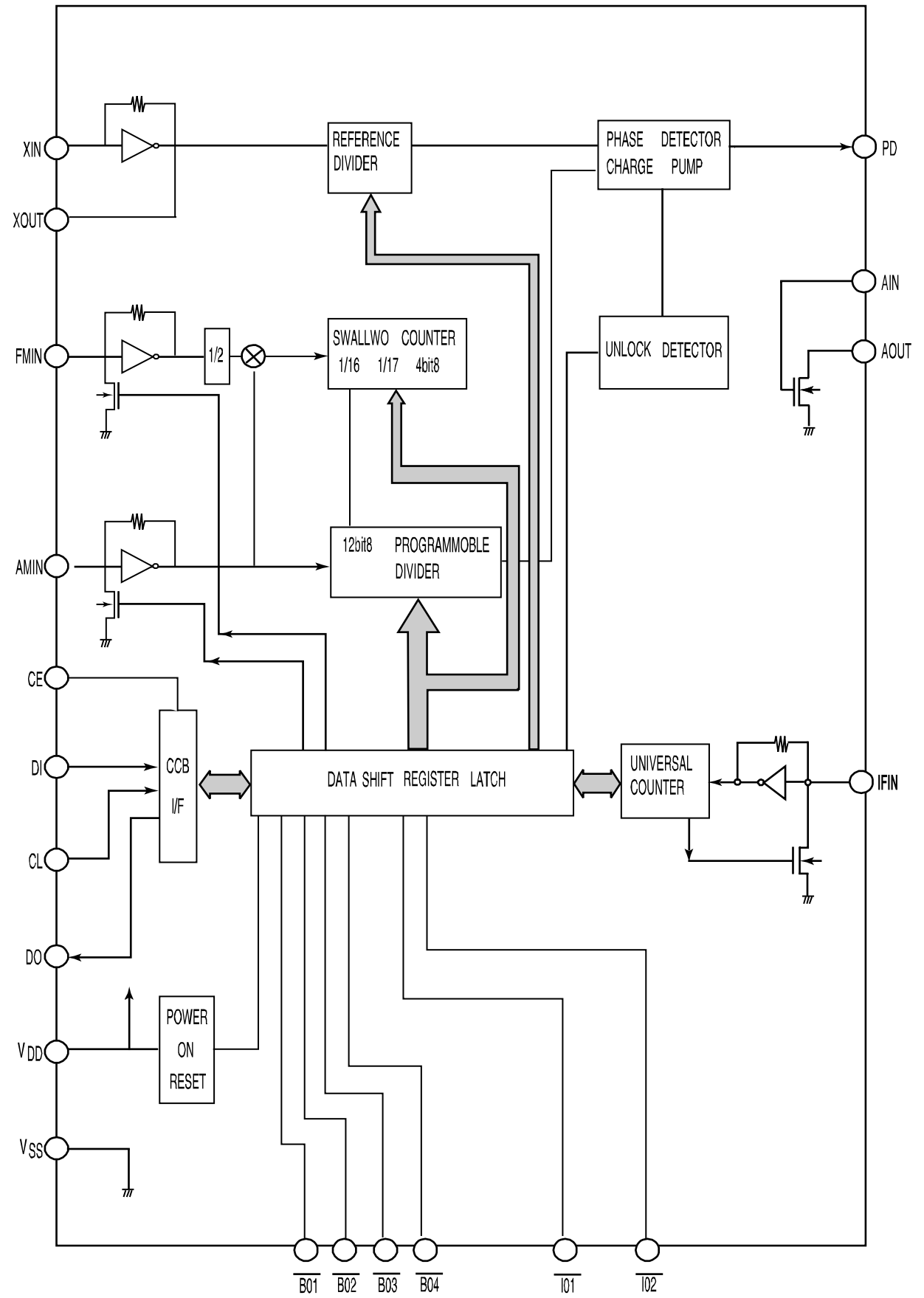
POWER SCHEMATIC DIAGRAM



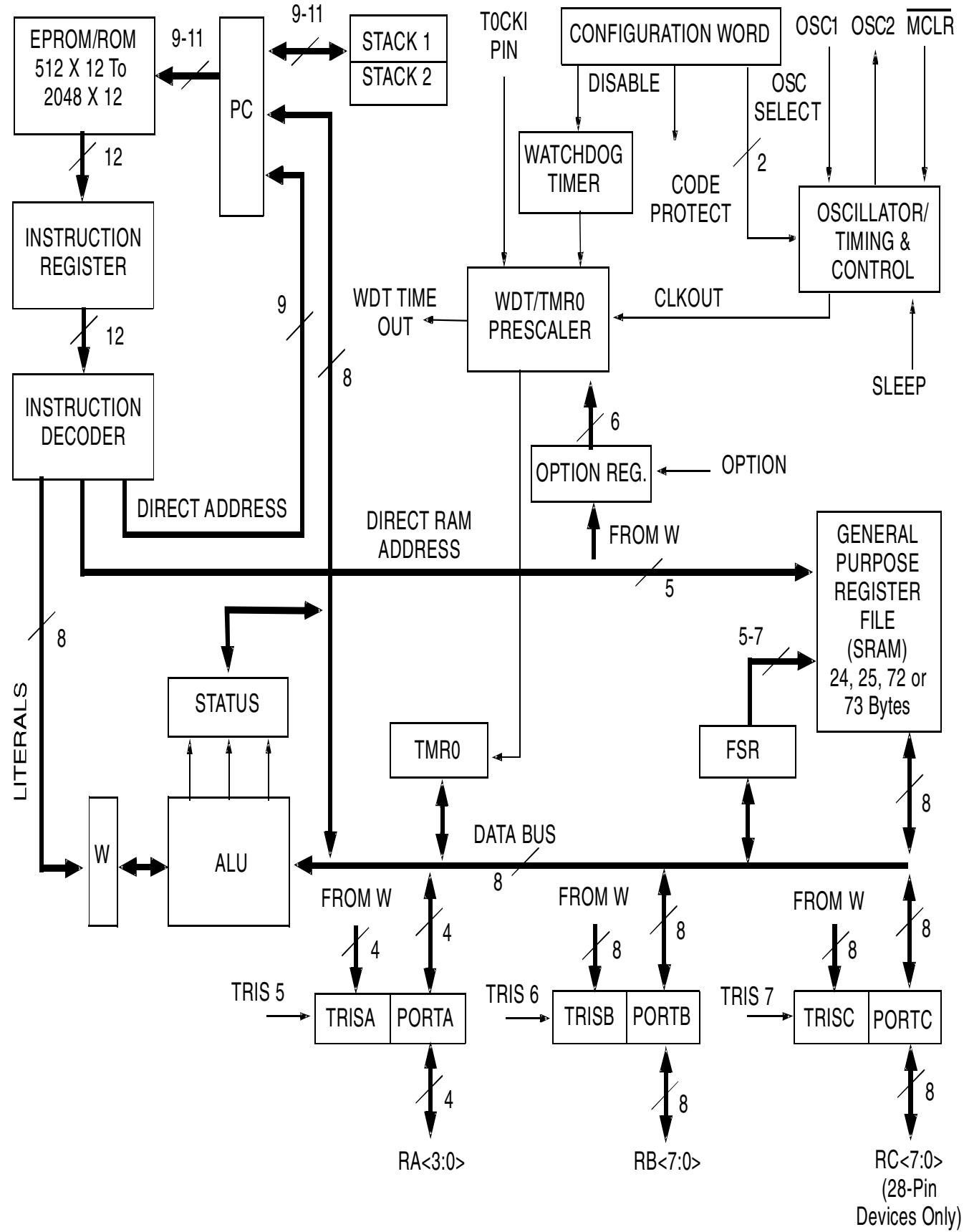
LA1837 (IC101)



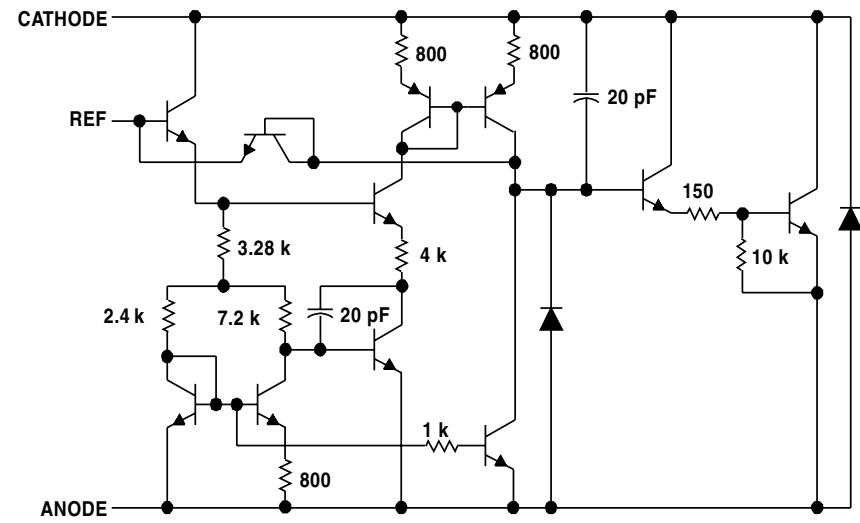
LC7213M (IC152)



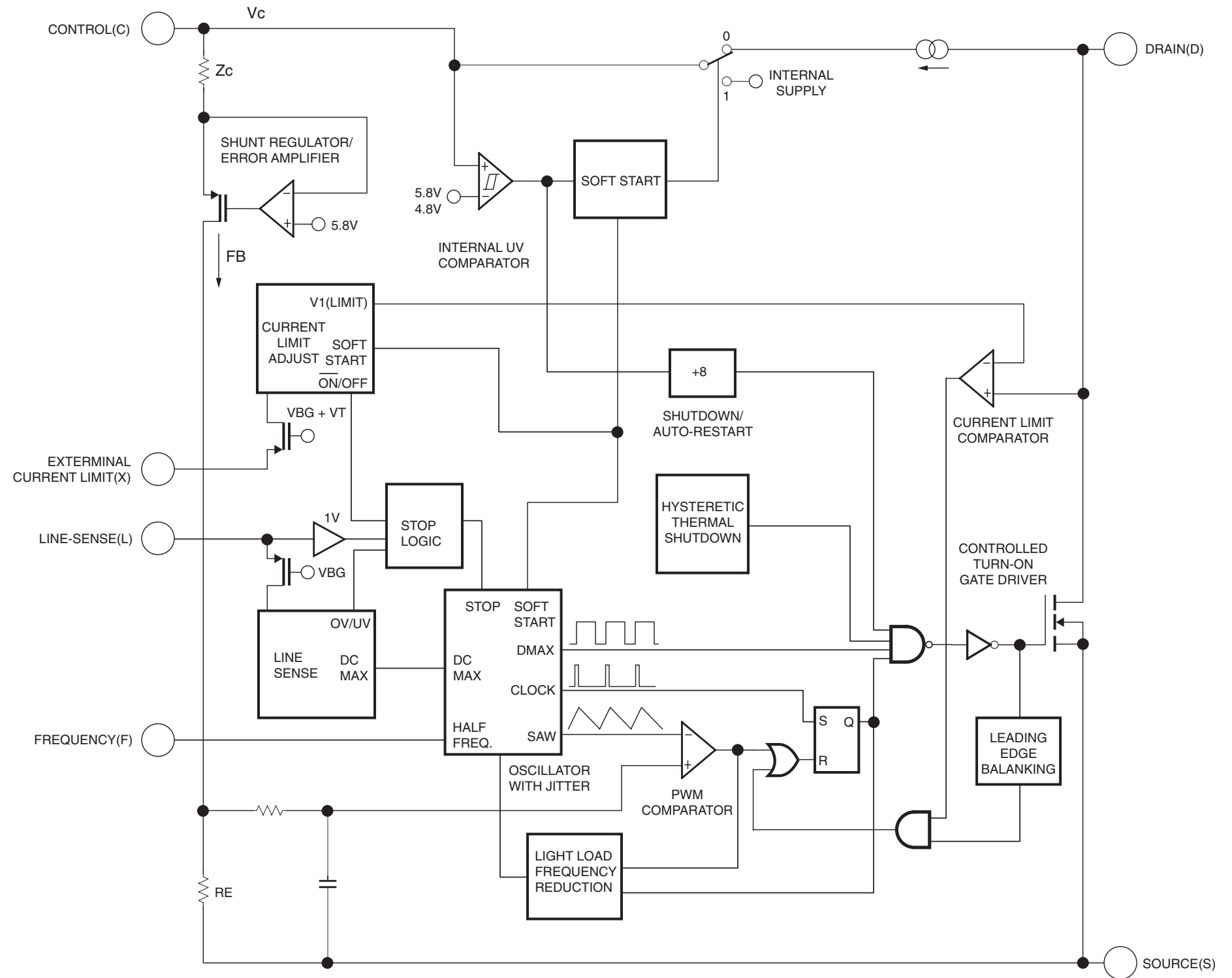
CF745 (IC252)



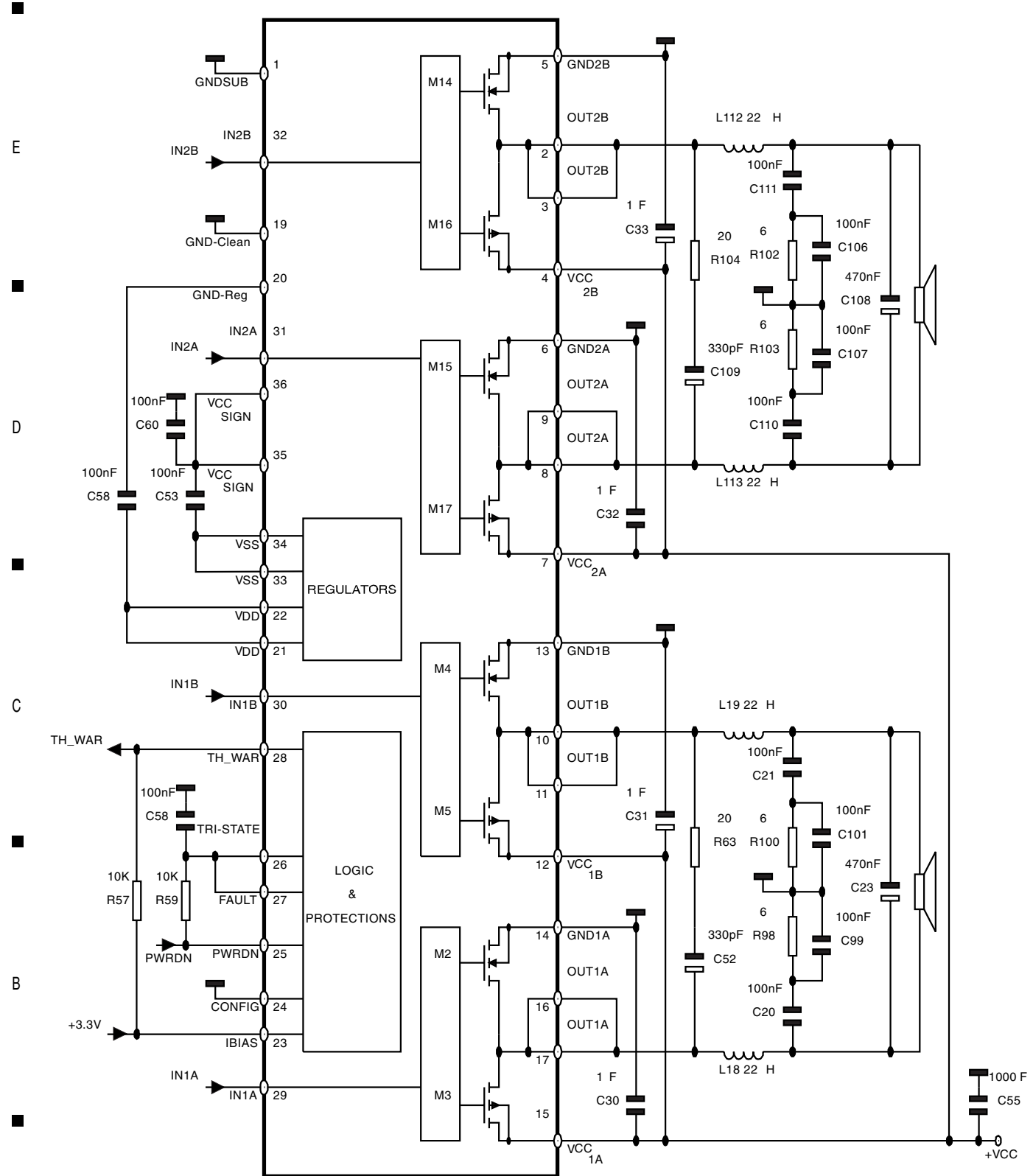
TL431 (IC904)



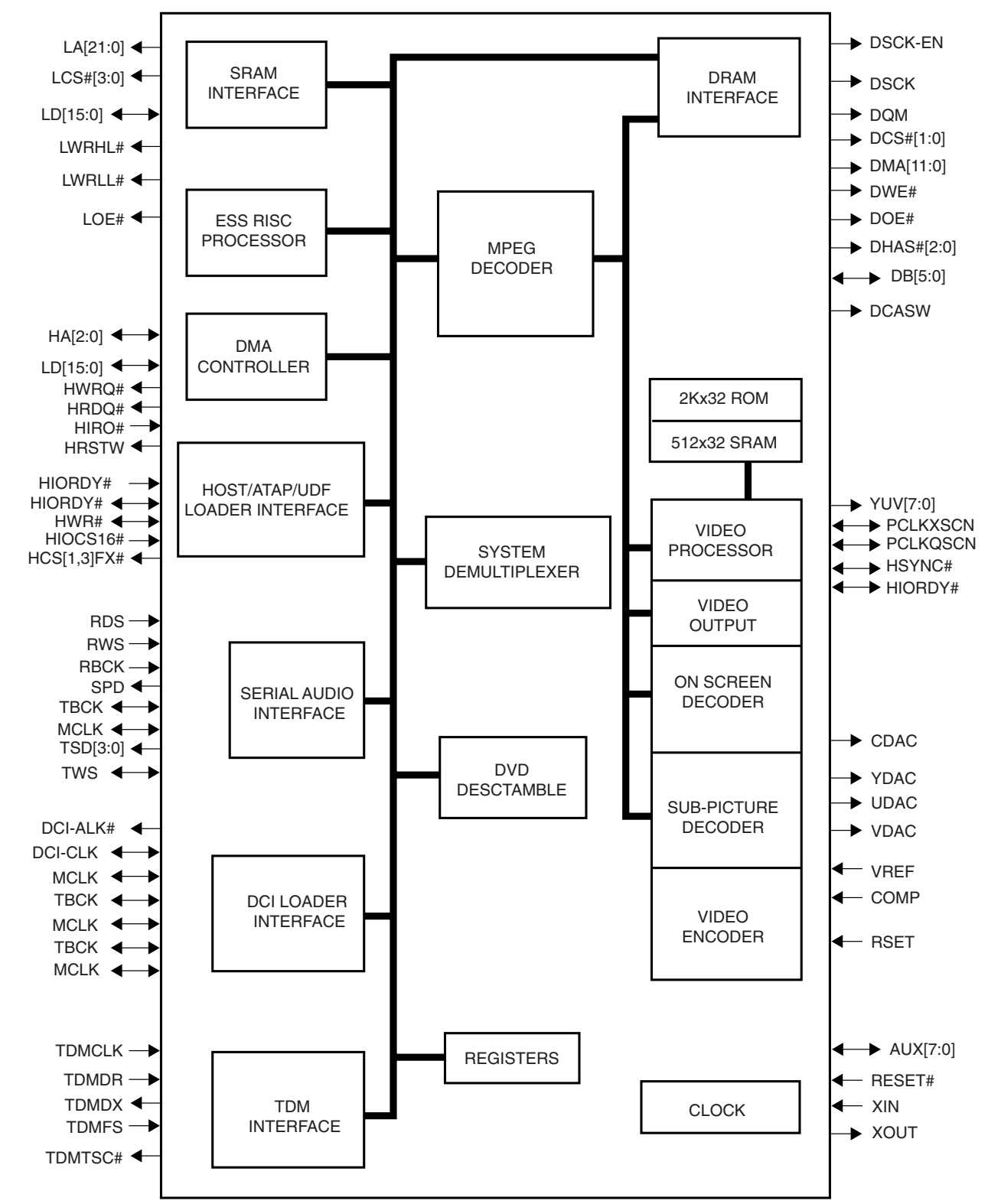
TOP249 (IC903)



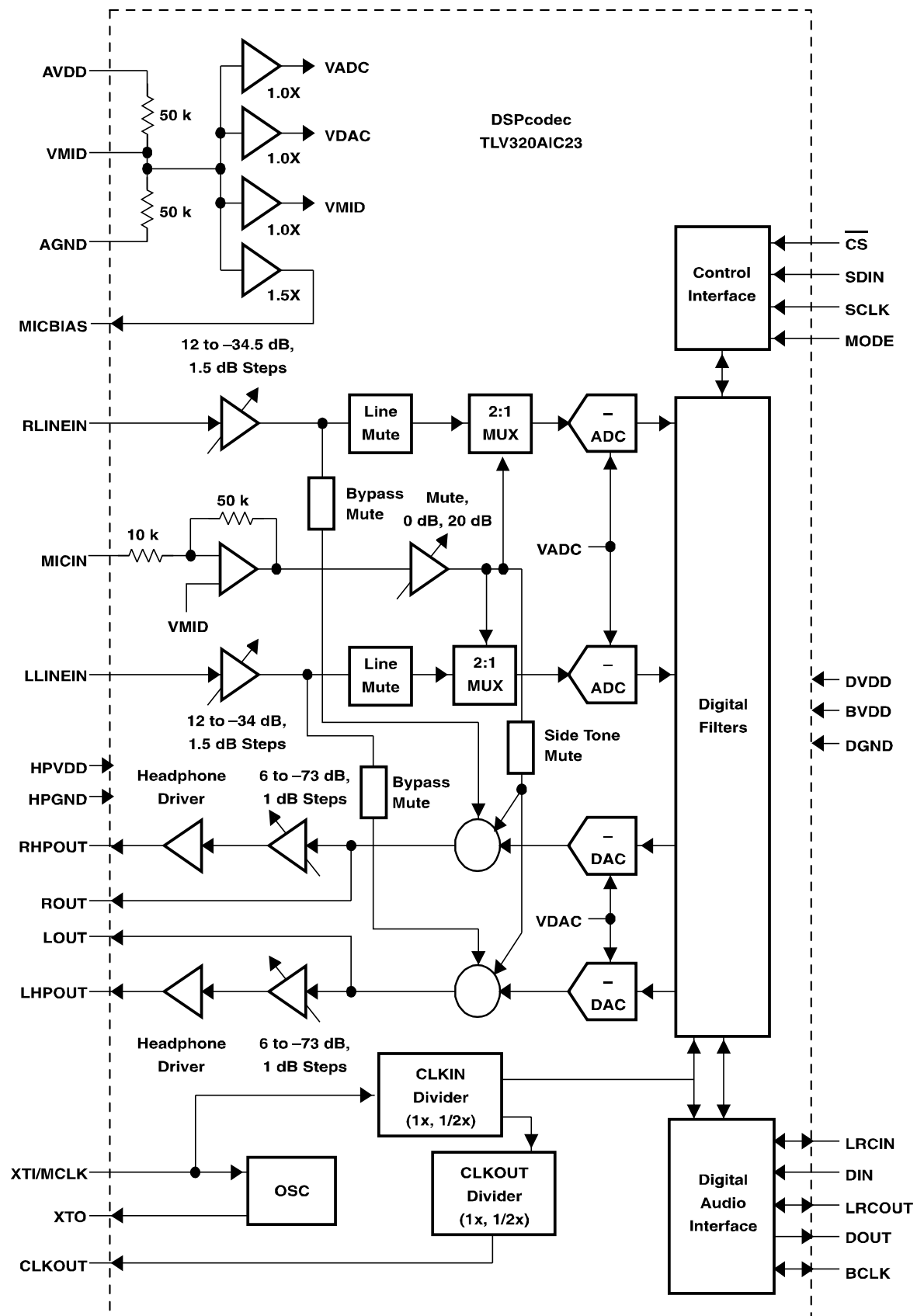
STA505 (IC503, IC504, IC506)



ESS6018 (IC103)



TLV320A (IC402)



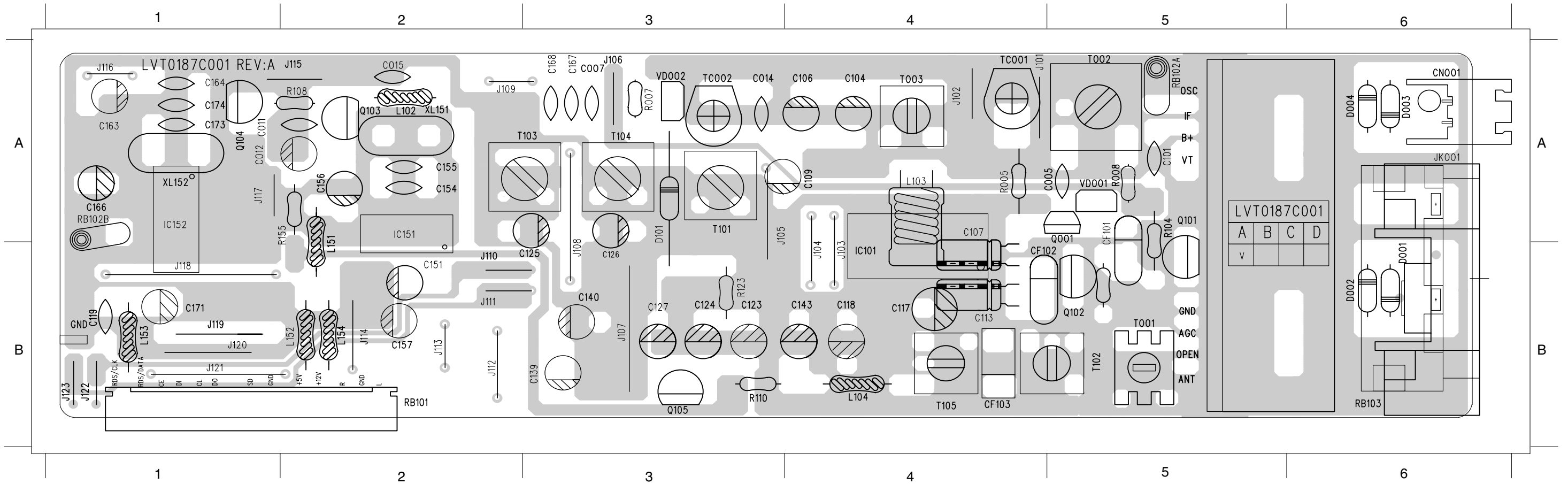
E
D
C
B
A

4 CIRCUIT BOARD DIAGRAMS

4-1 MAIN UNIT SECTION

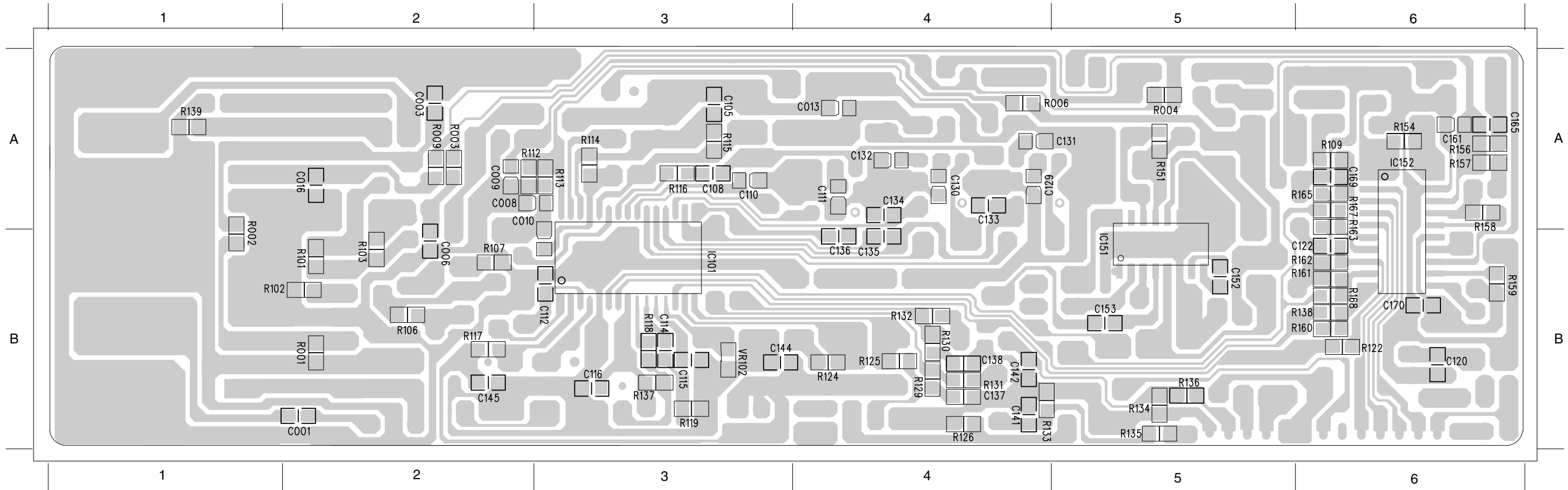
TUNER CIRCUIT BOARD DIAGRAM (TOP VIEW)

C005	A5	C109	A4	C139	B3	C166	A1	J102	A4	J111	B2	J121	B1	L153	B1	T104	A3	VD001	A5	R007	A3	RB103	B6
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	B4	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		



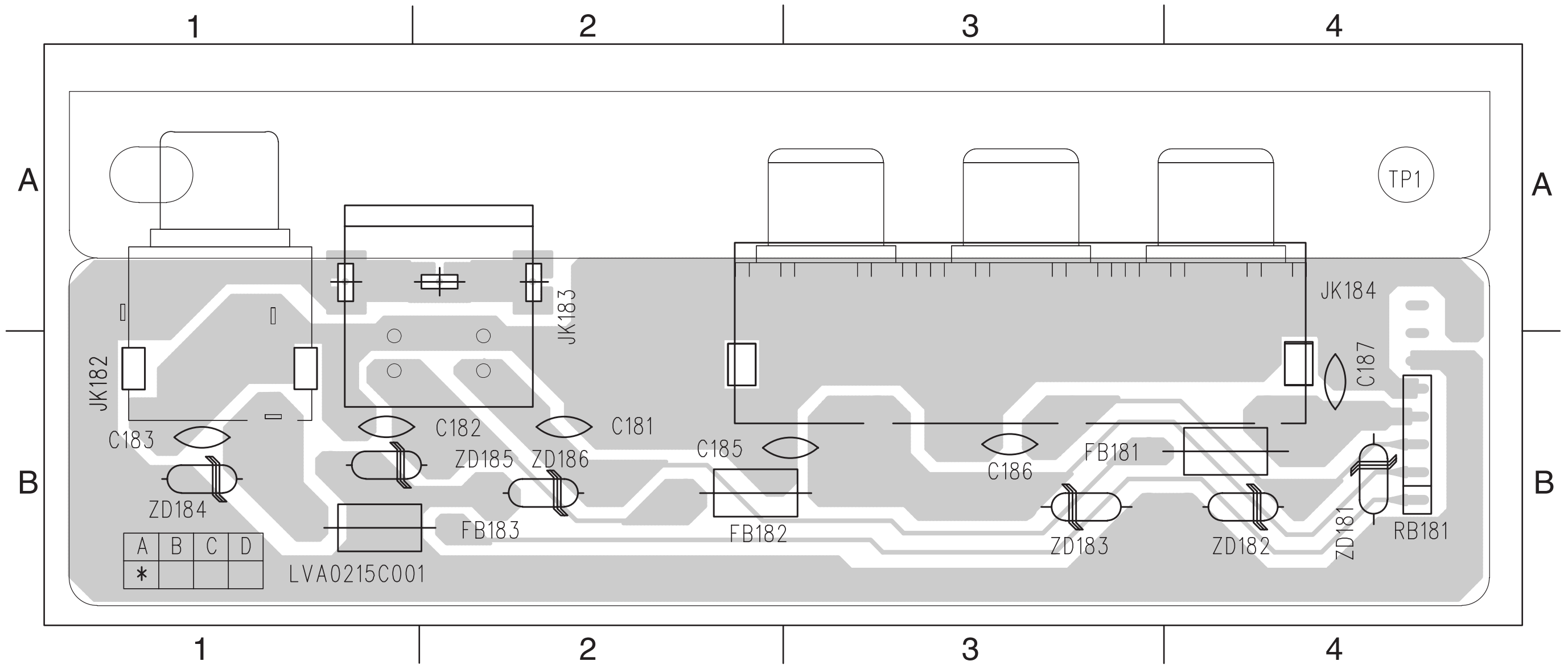
TUNER CIRCUIT BOARD DIAGRAM (BOTTOM VIEW)

C001	B2	C108	A3	C129	A4	C138	B4	C169	A6	R006	A4	R113	A3	R125	B4	R136	B5	R158	A6	VR102	B3
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		



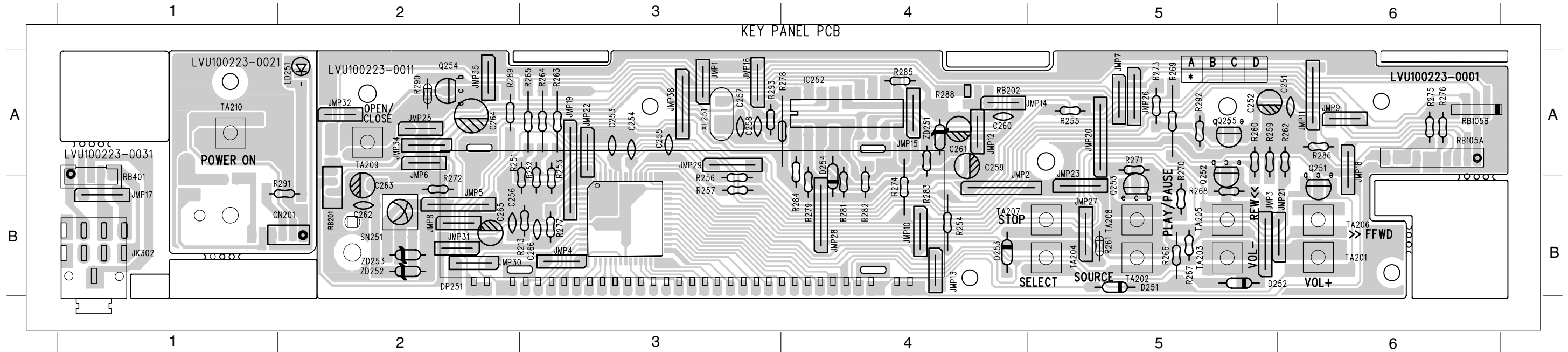
RGB CIRCUIT BOARD DIAGRAM

C187 A3 C183 B3 FB181 A2 JK182 B4 FB181 A1 ZD183 A4 ZD186 B2
 C181 B3 C185 A3 FB182 B2 JK183 B4 ZD181 A3 ZD184 B2
 C182 B3 C186 A3 FB183 B2 JK184 A4 ZD182 A4 ZD185 B3



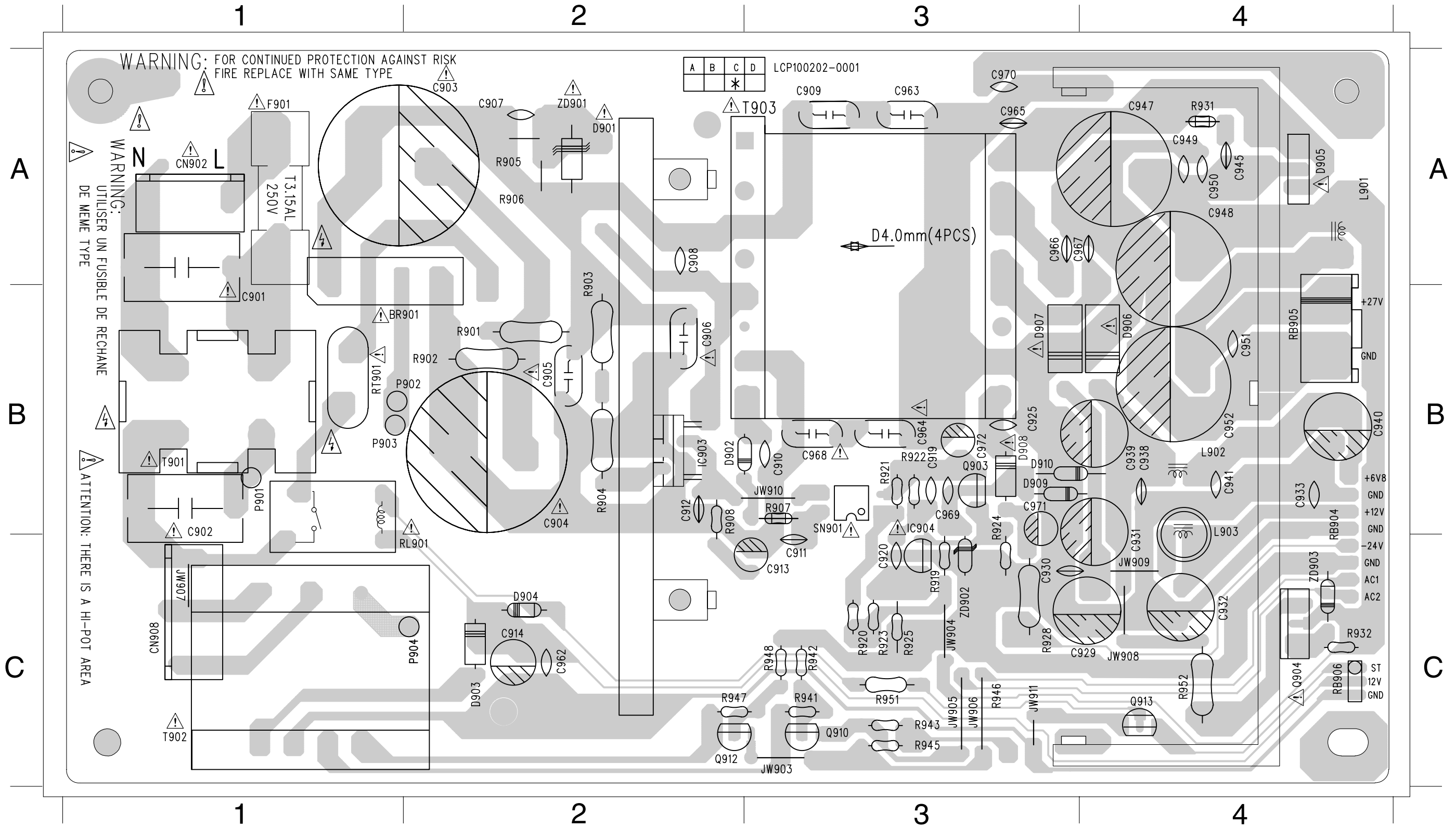
KEY PANEL, PHONE JACK & POWER SW CIRCUIT BOARD DIAGRAMS

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	B1	JMP9	A6	JMP18	A6	JMP28	B4	Q251	B6	TA205	B5	ZD253	B2
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		

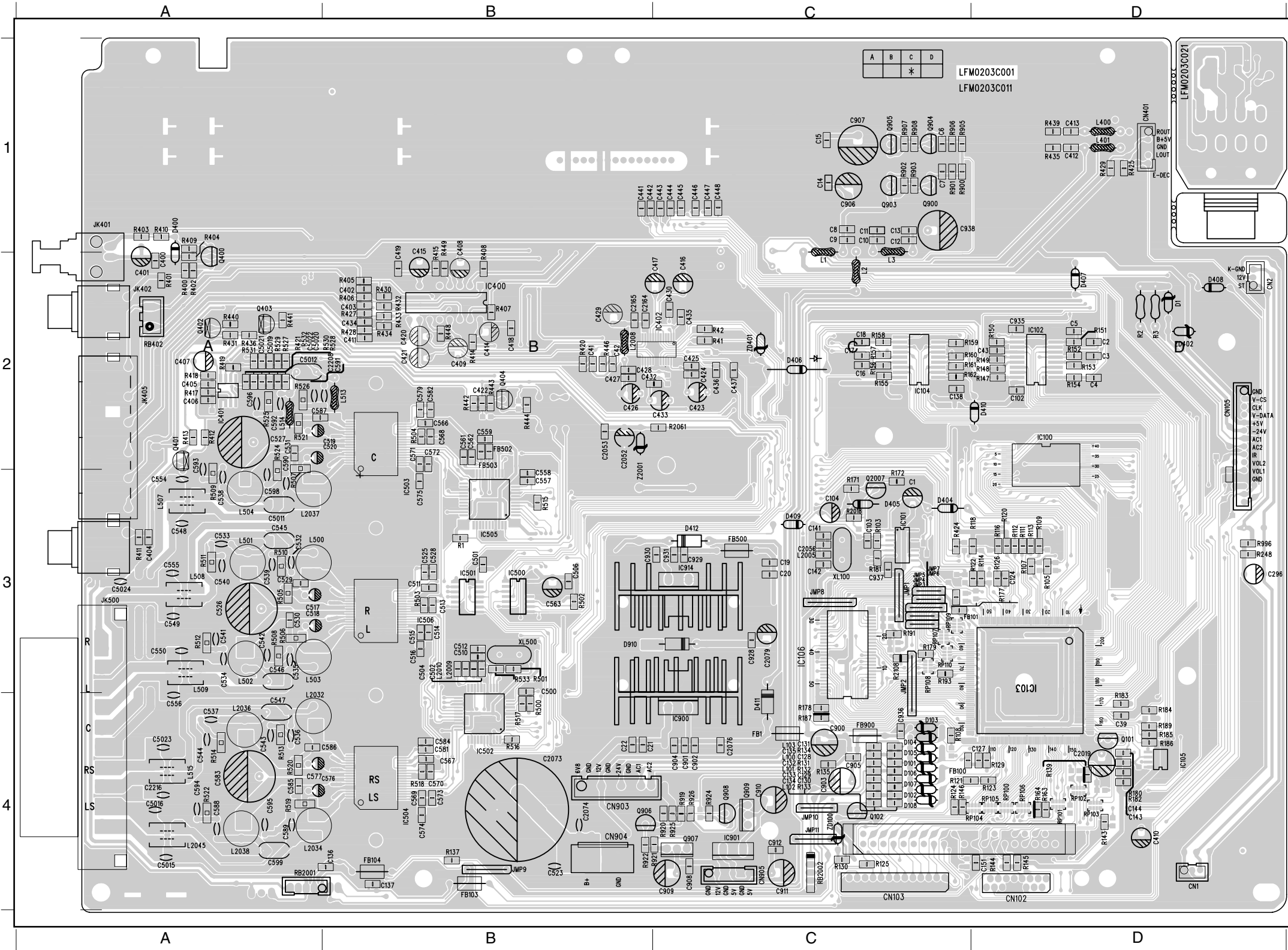


POWER CIRCUIT BOARD DIAGRAM

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	C962 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	

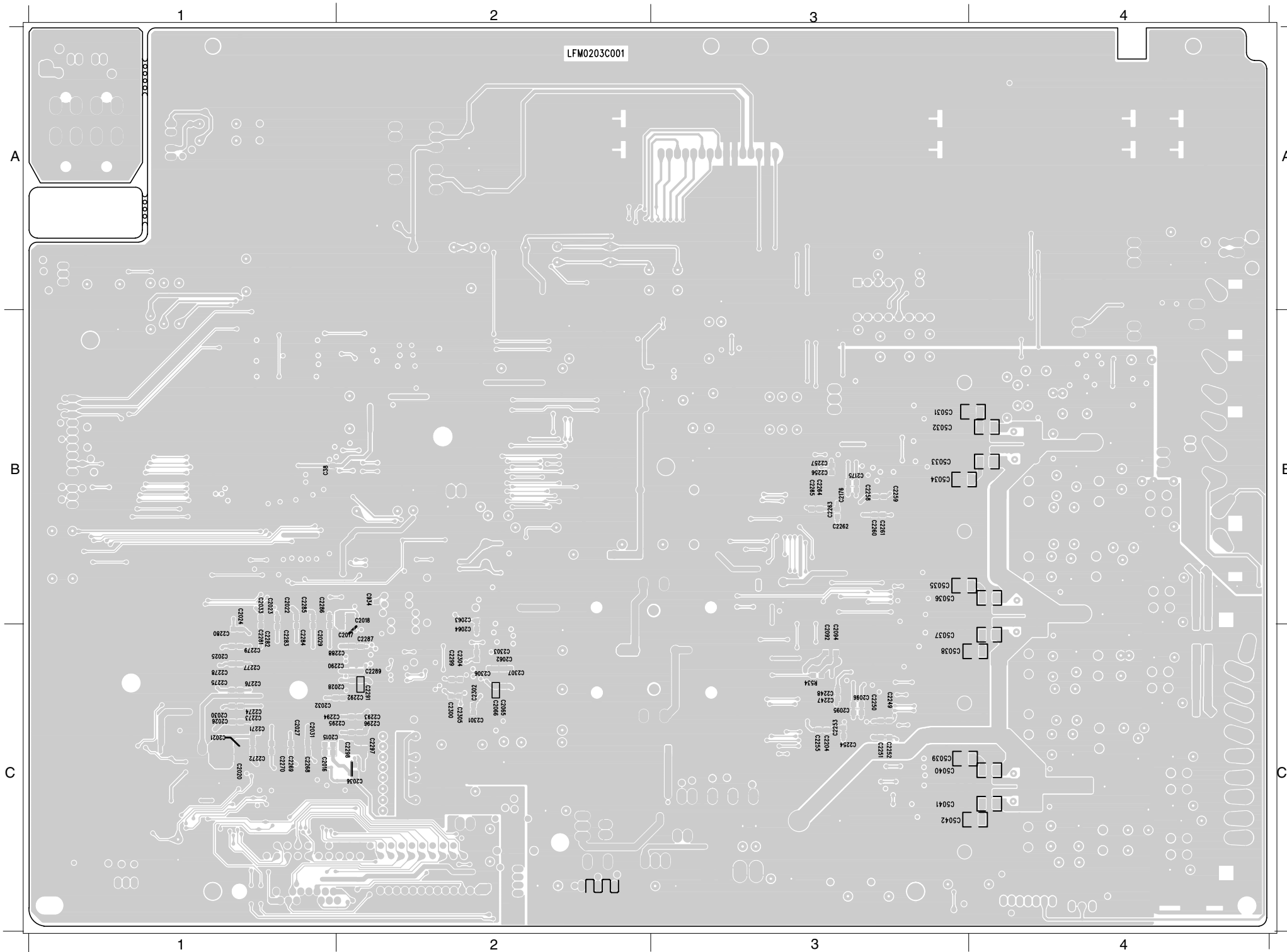


MAIN CIRCUIT BOARD DIAGRAM (TOP VIEW)



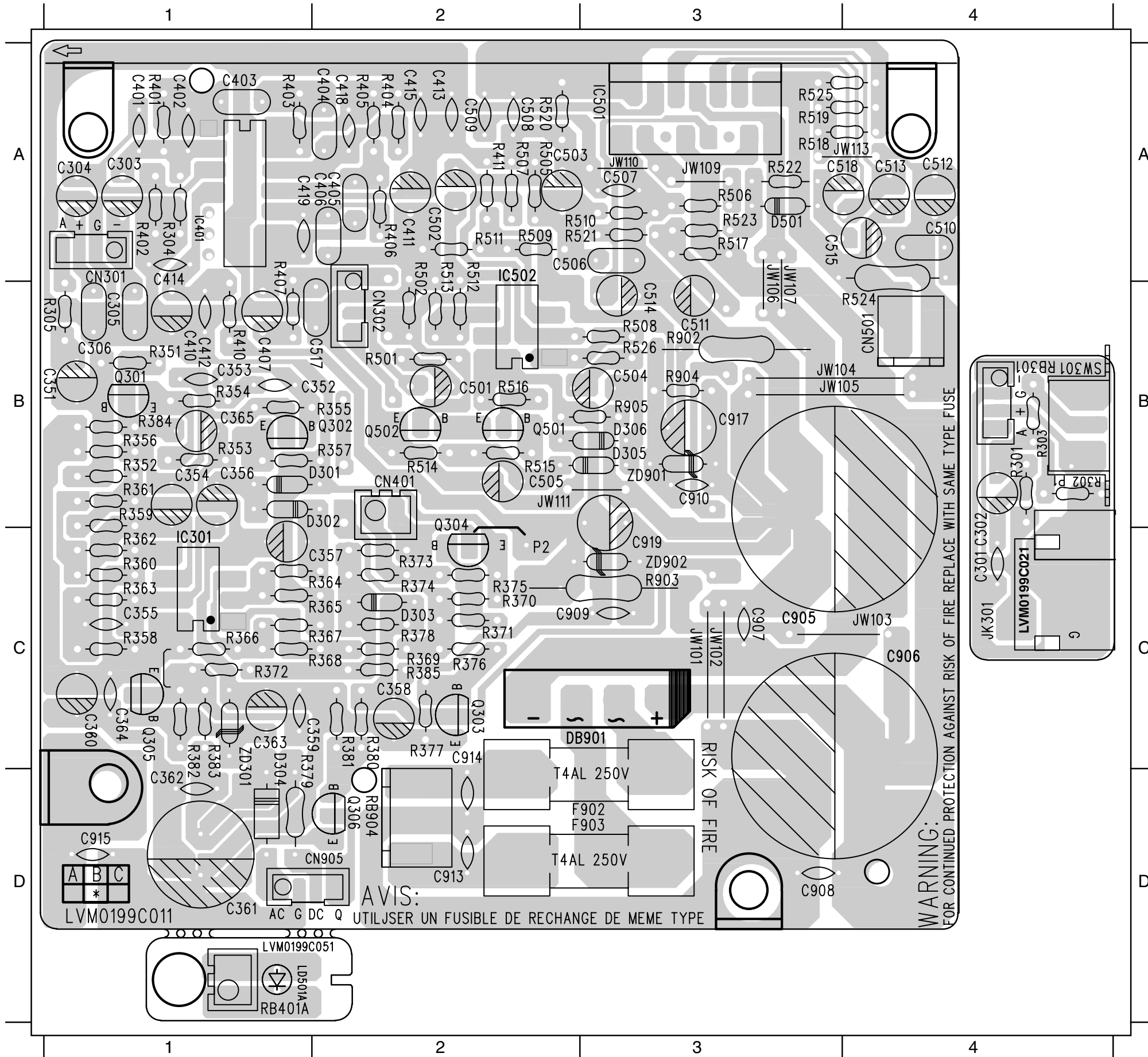
R1	B3	R410	A1	R996	D3	C414	B2	C562	B2	CN105	D2	L502	A3
R2	D2	R411	A3	R2018	C3	C415	B2	C563	B3	CN401	D1	L503	A3
R3	D2	R412	A2	R2061	C2	C416	C2	C566	B2	CN903	B4	L504	A3
R41	C2	R413	A2	R2108	C3	C417	C2	C567	B4	CN904	B4	L507	A3
R42	C2	R414	B2	RB402	A2	C418	B2	C568	B2	CN905	C4	L508	A3
R103	C3	R415	B2	RB2001	A4	C419	B2	C569	B4	D1	D2	L509	A3
R105	D3	R417	A2	RB2002	C4	C420	B2	C570	B4	D101	C4	L513	B2
R107	D3	R418	A2	RB400	A2	C421	B2	C571	B2	D102	C4	L514	A2
R108	C4	R419	A2	RP100	D4	C422	B2	C572	B2	D103	C4	L515	A4
R109	D3	R420	B2	RP101	D4	C423	C2	C573	B4	D104	C4	L2005	C3
R111	D3	R421	A2	RP102	D4	C424	C2	C574	B4	D105	C4	L2008	B2
R112	D3	R424	C3	RP103	D4	C425	C2	C575	B3	D106	C4	L2009	B3
R113	D3	R425	D1	RP104	D4	C426	B2	C576	A4	D107	C4	L2010	B3
R114	D3	R427	B2	RP105	D4	C427	B2	C577	A4	D108	C4	L2032	A4
R116	D3	R429	D1	RP107	C3	C429	B2	C581	B4	D400	A1	L2034	A4
R118	D3	R430	B2	RP108	C3	C430	C2	C582	B2	D405	C3	L2036	A4
R120	D3	R431	A2	RP109	C3	C432	B2	C583	A4	D406	C2	L2037	A3
R121	C4	R432	B2	RP110	C3	C433	C2	C584	B4	D407	D2	L2038	A4
R122	D3	R433	B2	C1	C3	C434	B2	C585	A4	D408	D2	L2045	A4
R123	D4	R434	B2	C2	D2	C435	C2	C586	A4	D409	C3	Q101	D4
R124	C4	R435	D1	C3	D2	C436	C2	C587	A2	D410	D2	Q102	C4
R125	C4	R436	A2	C4	D2	C437	C2	C588	A4	D411	C4	Q400	A2
R126	D3	R439	D1	C5	D2	C441	B1	C589	A4	D412	C3	Q401	A2
R129	D4	R440	A2	C6	C1	C442	B1	C590	A2	D910	B3	Q402	A2
R130	C4	R441	A2	C7	C1	C443	C1	C591	A2	FB1	C4	Q403	A2
R131	C4	R442	B2	C8	C1	C444	C1	C592	A2	FB100	C4	Q404	B2
R132	C4	R443	B2	C9	C1	C445	C1	C593	A2	FB101	C3	Q900	C1
R133	C4	R444	B2	C10	C1	C446	C1	C594	A4	FB103	B4	Q903	C1
R134	C4	R446	B2	C11	C1	C447	C1	C595	A4	FB104	B4	Q904	C1
R134	C4	R448	B2	C12	C1	C448	C1	C596	A2	FB500	C3	Q905	C1
R135	C4	R449	B2	C13	C1	C500	B3	C598	A3	FB502	B2	Q906	B4
R137	B4	R500	B4	C14	C1	C501	B3	C599	A4	FB503	B2	Q907	C4
R139	D4	R501	B3	C15	C1	C502	B3	C900	C4	FB900	C4	Q908	C4
R143	D4	R502	B3	C16	C2	C504	B3	C901	C4	IC100	D2	Q909	C4
R144	D4	R503	B3	C17	C2	C506	B3	C902	C4	IC101	C3	Q2007	C3
R145	D4	R504	B2	C18	C2	C510	B3	C903	C4	IC102	D2	XL100	C3
R146	C4	R505	A3	C19	C3	C511	B3	C904	B4	IC103	D3	XL500	B3
R147	D2	R506	A3	C20	C3	C512	B3	C905	C4	IC104	C2	Z2010	B2
R148	D2	R507	A3	C21	B4	C513	B3	C906	C1	IC105	D4	ZD100	C4
R149	D2	R508	A3	C22	B4	C514	B3	C907	C1	IC106	C3	ZD401	C2
R150	D2	R509	A3	C39	D4	C515	B3	C908	C4	IC106	C3	ZD402	D2
R151	D2	R510	A3	C41	B2	C516	B3	C909	B4	IC400	B2		
R152	D2	R511	A3	C42	B2	C517	A3	C910	C4	IC401	A2		
R154	D2	R512	A3	C43	D2	C518	A3	C911	C4	IC402	C2		
R155	C2	R513	A4	C102	D2	C519	A2	C912	C4	IC500	B3		
R156	C2	R514	A4	C103	C3	C520	A2	C928	C3	IC501	B3		
R157	C2	R515	B3	C104	C3	C523	B4	C929	C3	IC502	B4		
R158	C2	R516	B4	C124	D3	C525	B3	C930	B3	IC503	B3		
R159	C2	R517	B4	C127	D4	C526	A3	C931	C3	IC504	B4		
R160	C2	R518	B4	C128	C4	C527	A2	C935	D2	IC505	B3		
R161	C2	R519	A4	C129	C4	C528	B3	C936	C4	IC506	B3		
R162	C2	R520	A4	C130	C4	C529	A3	C937	C3	IC900	C4		
R163	D4	R522	A4	C132	C4	C531	A2	C2019	D4	IC914	C3		
R164	D4	R524	A2	C133	C4	C532	A3	C2052	B2	JK401	A1		
R171	C3	R187	C4	C134	C4	C533	A3	C2053	B2	JK402	A2		
R172	C3	R185	A2	C135	C4	C534	A3	C2056	C3	JK405	A2		
R177	D3	R182	A2	C136	B4	C535	A3	C2073	B4	JK500	A3		
R178	C4	R187	A2	C137	B4	C537	A4	C2074	B4	JMP1	C3		
R179	C3	R182	A2	C138	C2	C536	A4	C2076	C4	JMP2	C3		
R180	D4	R182	A2	C141	C3	C538	A3	C2079	C4	JMP3	C3		
R181	C3	R183	A2	C142	C3	C539	A3	C2079	C4	JMP4	C3		
R182	D4	R183	A2	C143	D4	C540	A3	C2164	B2	JMP5	C3		
R183	D4	R183	B3	C144	D4	C541	A3	C2165	B2	JMP6	C3		
R184	D4	R182	A2	C151	D4	C542	A3	C2208	A2	JMP7	C3		
R185	D4	R900	C1	C296	D3	C543	A4	C2216	A4	JMP8	C3		
R186	D4	R901	C1	C400	A2	C544	A4	C5011	A3	JMP9	B4		
R187	C4	R902	C1	C401	A2	C545	A3	C5012	A2	JMP10	C4		
R189	D4	R903	C1	C402	B2	C546	A3	C5015	A4	JMP11	C4		
R191	C3	R905	C1	C403	B2	C547	A4	C5016	A4	L1	C2		
R193	C3	R906	C1	C404	A3	C548	A3	C5019	A2	L2	C2		
R248	D3	R907	C1	C405	A2	C549	A3	C5020	A2	L3	C2		
R400	A2	R908	C1	C406	A2	C550	A3	C5021	A2	L100	C4		
R401	A2	R919	B4	C407	A2	C554	A3	C5022	A2	L101	C4		
R402	A2	R920	B4	C408	B2	C555	A3	C5023	A4	L102	C4		
R403	A1	R921	B4	C409	B2	C556	A3	C5024	A3	L103	C4		
R404	A1	R922	B4	C410	D4	C557	B3	CN1	D4	L400	D1		
R405	B1	R924	C4	C411	B2	C558	B3	CN2	D2	L401	D1		
R406	B2	R925	C4	C412	D1	C559	B2	CN102	D4	L500	A3		
R407	B2	R926	C4	C413	D1	C561	B2	CN103	C4	L501	A3		
R408	B2												
R409	A1												

MAIN CIRCUIT BOARD DIAGRAM (BOTTOM VIEW)



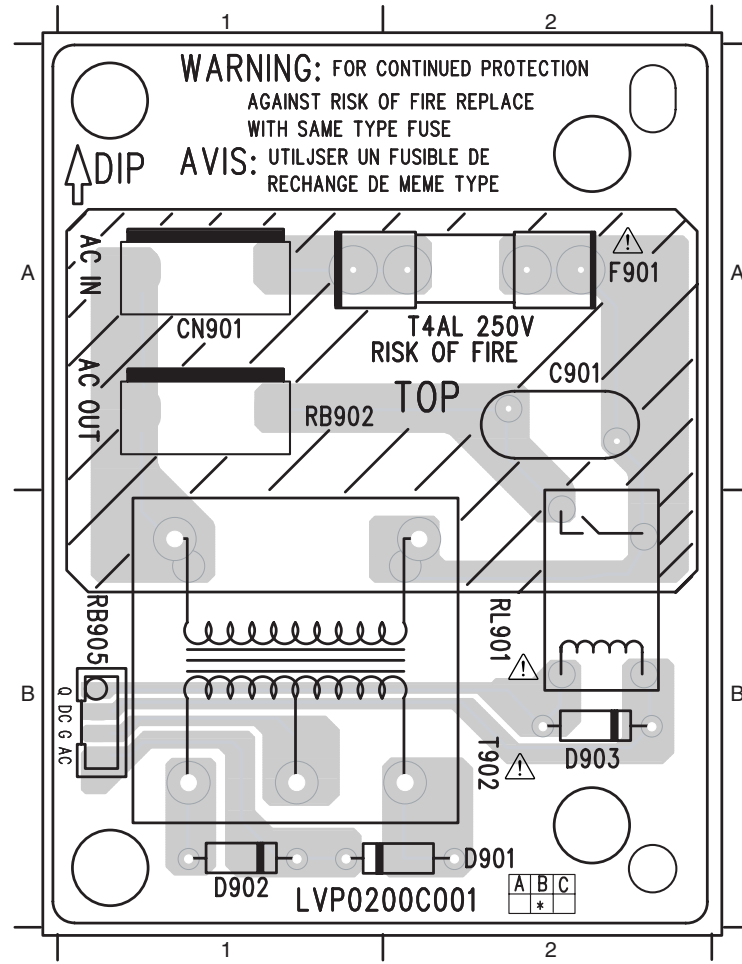
C38	B1	C2271	C1
C934	B2	C2272	C1
C2015	C1	C2273	C1
C2016	C1	C2274	C1
C2017	C2	C2275	C1
C2018	B2	C2276	C1
C2020	C1	C2277	C1
C2021	C1	C2278	C1
C2022	B1	C2279	C1
C2023	B1	C2280	C1
C2024	B1	C2281	C1
C2025	C1	C2282	C1
C2026	C1	C2283	C1
C2027	C1	C2284	C1
C2028	C2	C2285	B1
C2029	C1	C2286	B1
C2030	C1	C2287	C2
C2031	C1	C2288	C2
C2032	C1	C2289	C2
C2033	B1	C2290	C2
C2062	C2	C2291	C2
C2063	B2	C2292	C2
C2064	C2	C2293	C2
C2065	C2	C2294	C2
C2066	C2	C2295	C2
C2092	C3	C2296	C2
C2094	C3	C2297	C2
C2095	C3	C2298	C2
C2096	C3	C2299	C2
C2216	C1	C2300	C2
C2247	C3	C2301	C2
C2249	C3	C2302	C2
C2250	C3	C2303	C2
C2251	C3	C2304	C2
C2252	C3	C2305	C2
C2253	C3	C2306	C2
C2254	C3	C2307	C2
C2255	C3	C5031	B3
C2256	B3	C5032	B3
C2257	B3	C5033	B3
C2258	B3	C5034	B3
C2259	B3	C5035	B3
C2260	B3	C5036	B3
C2261	B3	C5037	C3
C2262	B3	C5038	C3
C2263	B3	C5039	C3
C2264	B3	C5040	C3
C2265	B3	C5041	C3
C2268	C1	C5042	C3
C2269	C1	R534	C3
C2270	C1		

4-2 SUBWOOFER SECTION
AMP & JACK CIRCUIT BOARD DIAGRAMS



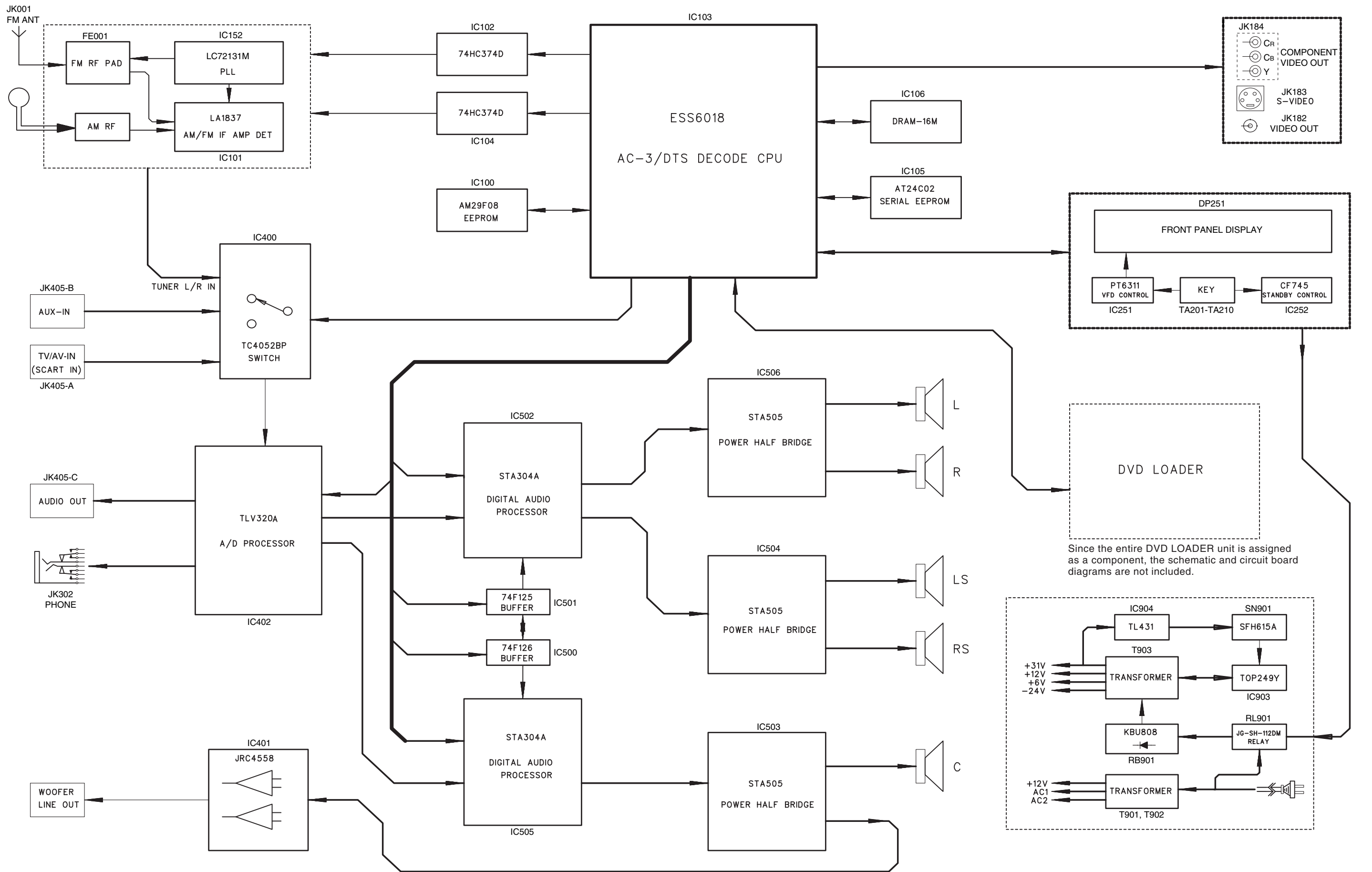
C301	C4	C919	C3	R368	C1
C302	B4	CN301	A1	R369	C2
C303	A1	CN302	B2	R370	C2
C304	A1	CN401	B2	R371	C2
C305	B1	CN501	B4	R372	C1
C306	B1	CN905	D2	R373	C2
C351	B1	D301	B1	R374	C2
C352	B1	D302	B1	R376	C2
C353	B1	D303	C2	R377	C2
C354	B1	C304	D1	R378	C2
C355	C1	D305	B3	R379	D1
C356	B1	D306	B3	R380	C2
C357	C1	D501	A3	R381	C2
C358	C2	DB901	C3	R382	C1
C359	C1	F902	D3	R383	C1
C360	C1	F903	D3	R384	B1
C361	D1	IC301	C1	R401	A1
C362	D1	IC401	A1	R402	A1
C363	C1	IC501	A3	R403	A1
C364	C1	IC502	B2	R404	A2
C365	B1	JK301	C4	R405	A2
C401	A1	JW101	C3	R406	A2
C402	A1	JW102	C3	R407	B1
C403	A1	JW103	C4	R410	B1
C404	A2	JW104	B3	R411	A2
C405	A2	JW105	B3	R502	B2
C406	A2	JW106	B3	R505	A2
C407	B1	JW107	B3	R506	A3
C410	B1	JW109	A3	R507	A2
C411	A2	JW110	A3	R508	B3
C413	A2	JW111	B2	R509	A2
C414	A1	JW113	A4	R510	A3
C415	A2	Q301	B1	R511	A2
C418	A2	Q302	B1	R512	B2
C419	A1	Q303	C2	R513	B2
C502	A2	C304	C2	R514	B2
C503	A2	Q305	C1	R515	B2
C504	B3	Q306	D2	R516	B2
C505	B2	Q501	B2	R517	A3
C506	A3	Q502	B2	R518	A3
C507	A3	R301	B4	R519	A3
C508	A2	R302	B4	R520	A2
C509	A2	R303	B4	R521	A3
C510	A4	R305	B1	R522	A3
C511	B3	R351	B1	R523	A3
C512	A4	R352	B1	R524	B4
C513	A4	R353	B1	R525	A3
C514	B3	R354	B1	R526	B3
C515	A4	R355	B1	R902	B3
C905	C3	R356	B1	R903	C3
C906	C4	R357	B1	R904	B3
C907	C3	R358	C1	R905	B3
C908	D3	R359	B1	ZD901	B4
C909	C3	R360	C1	ZD902	D2
C910	B3	R361	B1		
C913	D2	R362	C1		
C914	C2	R363	C1		
C915	D1	R364	C1		
C917	B3	R365	C1		
		R366	C1		
		R367	C1		

POWER CIRCUIT BOARD DIAGRAM

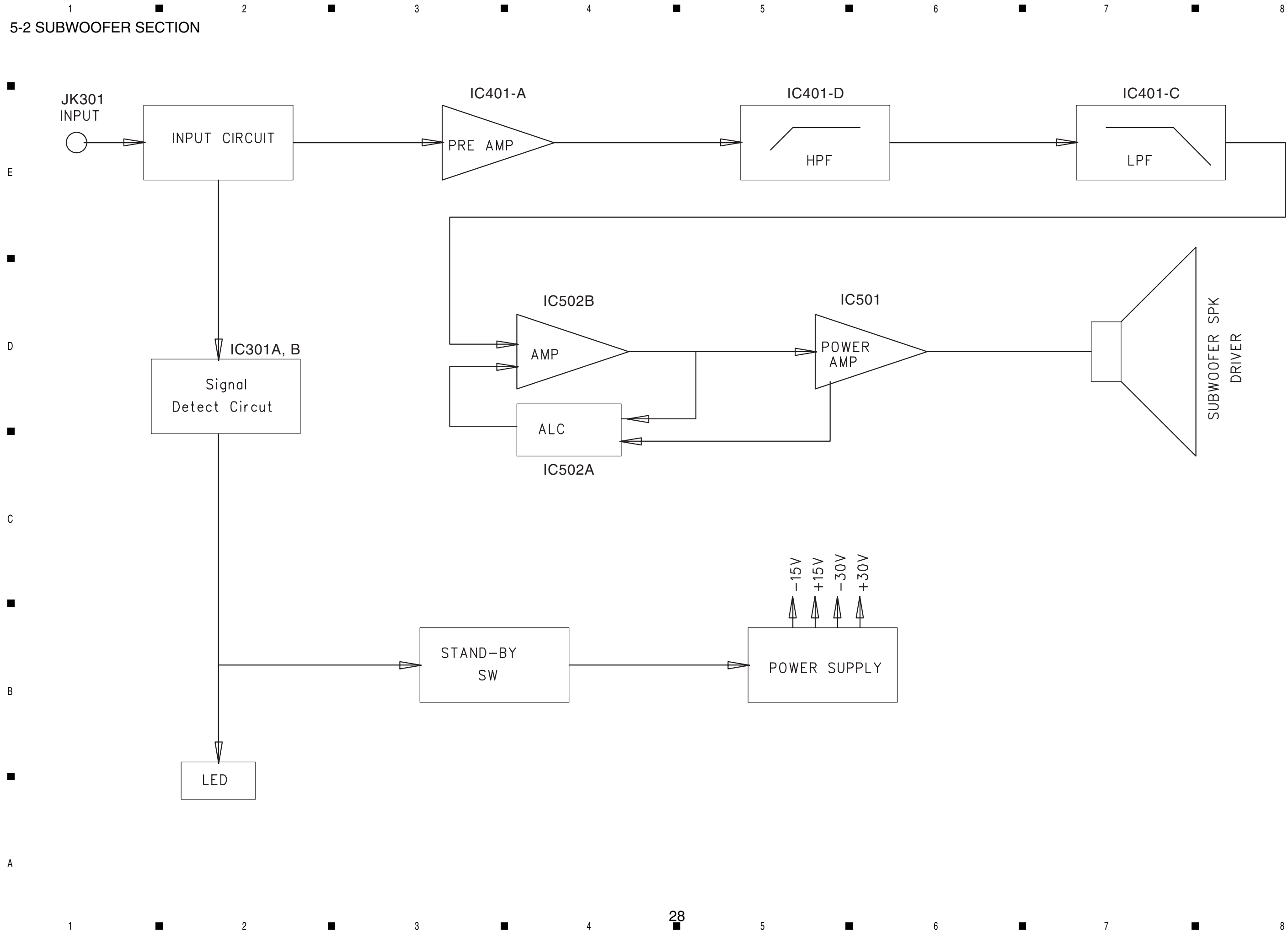


- C901 A2
- CN901 A1
- D901 B2
- D902 B1
- D903 B2
- F901 A2
- RB902 B1
- RB905 B1
- RL901 B2
- T902 B2

5 BLOCK DIAGRAMS
5-1 MAIN UNIT SECTION



5-2 SUBWOOFER SECTION



HITACHI