

Service  
Service  
**Service**



# Service Manual



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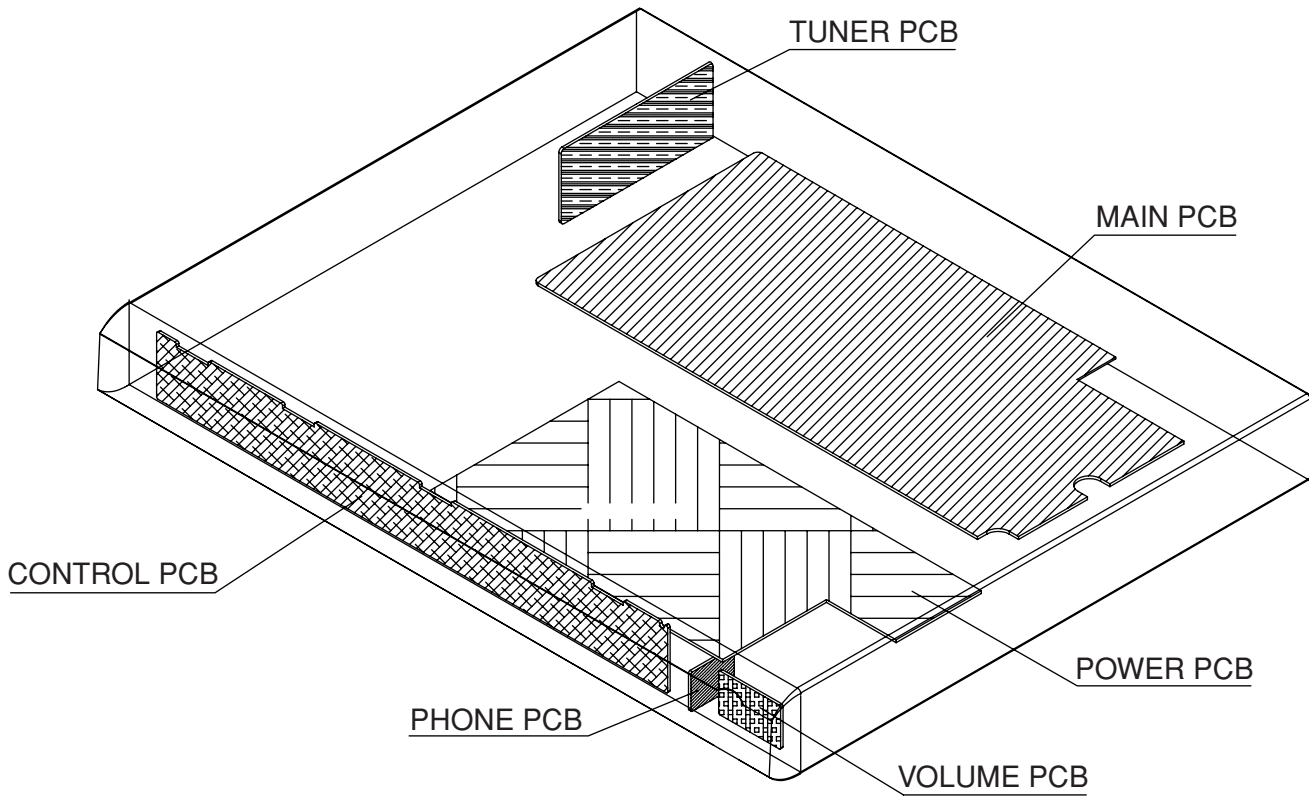
3139 785 30631

Version 1.1



# PHILIPS

## LOCATION OF PCB BOARDS



## VERSION VARIATION:

Type/Versions	LX600	LX600
	/ 01	/ 69
Features & Board in used		
RDS function	x	
Grid Switch		x
Line Cord (Detachable)	x	x
Line Cord (Fixed)		
AC Voltage (110V~127V / 220~240V)		x
AC Voltage (220V~240V)	x	

## SPECIFICATIONS

### AMPLIFIER SECTION

Output power	6000 PMPO
- Front	100W RMS / channel
- Rear	100W RMS / channel
- Center	100W RMS
- Subwoofer	100W RMS
Frequency Response	150 HZ - 20 kHz / -3 dB
Signal-to-Noise Ratio	> 60 dB (CCIR)
Input Sensitivity	
- TV In	500 mV
- AUX In	500 mV
- 6 Channel In	800 mV

### TUNER SECTION

Tuning Range	FM 87.5-108 MHz (50 kHz) (for / 01) FM 87.5-108 MHz (50kHz /100kHz) (for / 69) MW531 - 1602 kHz (9kHz) MW530 - 1700 kHz (10kHz) (for /69)
26 dB Quieting Sensitivity	FM 22 dBf 5 uV / m
Signal-to-Noise Ratio	FM 55 dB MW 40 dB
Harmonic Distortion	FM Mono 3% FM Stereo 3% MW5%
Frequency Response	FM 180 Hz-10kHz/±6 dB
Stereo Separation	FM 26 dB(1 kHz)
Stereo threshold	FM 23.5 dB

### MAIN UNIT

Power Supply Rating	220-240V; 50Hz (for / 01)
Power Supply Rating	110-127/ 220-240V; 50/60Hz Switchable (for / 69)
Power Consumption	180 W
Dimensions (w x h x d)	435mm x 54mm x 388mm
Weight	4.16 kg

### SPEAKERS

Front Speakers / Rear (surround) speaker	
System	2-way. closed box system
Impedance	3W
Speaker drivers	18mm cone dome tweeter
Frequency response	150 Hz - 20 kHz
Dimensions (w x h x d)	93mm x 169mm x 65mm
Weight	0.75 Kg / each

### CENTER SPEAKER

System	2-way. closed box system
Impedance	3W
Speaker drivers	18mm cone dome tweeter
Frequency response	150 Hz - 20 kHz
Dimensions (w x h x d)	245mm x 93mm x 70mm
Weight	1.37 Kg

### PASSIVE SUBWOOFER

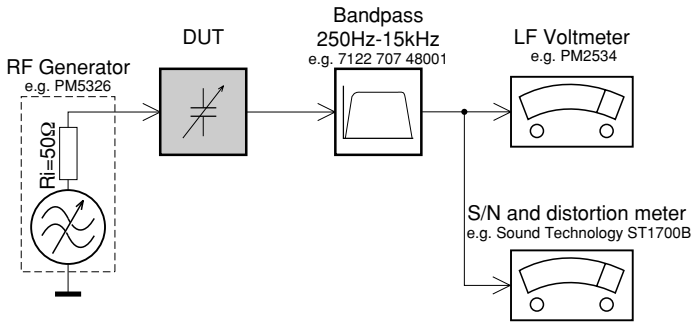
Frequency response	30 Hz - 150 kHz
Dimensions (w x h x d)	156mm x 350mm x 360mm

### TUNER AREA:

AREA	BAND	FREQUENCY (Hz)		STEP(Hz)
EU	FM	87.5M	108M	50K
	MW	531K	1602K	9K
APAC	FM	87.5M	108M	100K
	MW	531K	1602K	10K

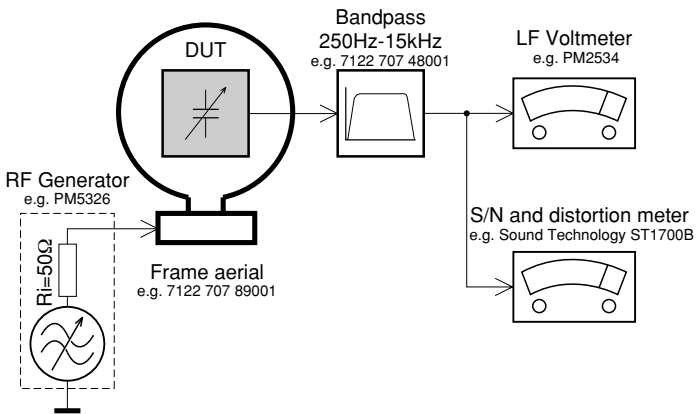
# MEASUREMENT SETUP

## Tuner FM



Use a bandpass filter to eliminate hum (50Hz, 100Hz) and disturbance from the pilotone (19kHz, 38kHz).

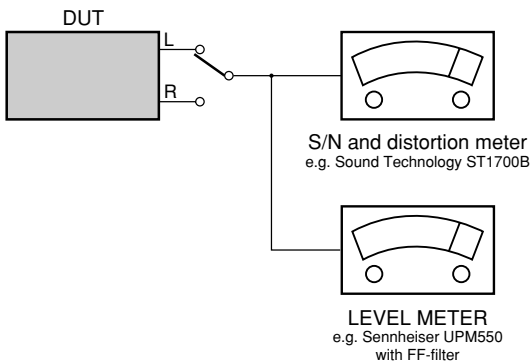
## Tuner AM (MW,LW)



To avoid atmospheric interference all AM-measurements have to be carried out in a Faraday's cage. Use a bandpass filter (or at least a high pass filter with 250Hz) to eliminate hum (50Hz, 100Hz).

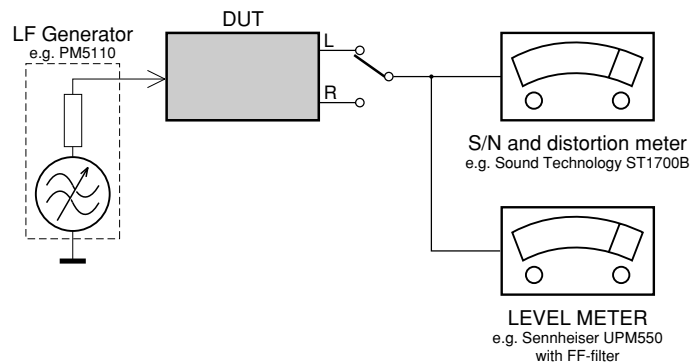
## CD

Use Audio Signal Disc SBC429 4822 397 30184 (replaces test disc 3)



## Recorder

Use Universal Test Cassette **CrO2** SBC419 4822 397 30069 or Universal Test Cassette **Fe** SBC420 4822 397 30071



# SERVICE AIDS

## Service Tools:

- Universal Torx driver holder .....4822 395 91019
- Torx bit T10 150mm .....4822 395 50456
- Torx driver set T6-T20 .....4822 395 50145
- Torx driver T10 extended .....4822 395 50423

## Compact Disc:

- SBC426/426A Test disc 5 + 5A .....4822 397 30096
- SBC442 Audio Burn-in test disc 1kHz .....4822 397 30155
- SBC429 Audio Signals disc .....4822 397 30184
- Dolby Pro-logic Test Disc .....4822 395 10216

## HANDLING CHIP COMPONENTS

**GENERAL**

**DISMOUNTING**

**MOUNTING**

**PRECAUTIONS**

**EXAMPLES**

**GB WARNING**

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.

When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools also at this potential.

**F ATTENTION**

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD).


Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation.

Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfiler le bracelet serti d'une résistance de sécurité.

Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

**GB**

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

Safety components are marked by the symbol .

**NL**

Veiligheidsbepalingen vereisen, dat het apparaat bij reparatie in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

De Veiligheidsonderdelen zijn aangeduid met het symbol .

**F**

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisés les pièces de rechange identiques à celles spécifiées.

Less composants de sécurité sont marqués .


**D**

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Geräts darf nicht verändert werden; für Reparaturen sind Original-Ersatzteile zu verwenden.

Sicherheitsbauteile sind durch das Symbol  markiert.

**I**

Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambio identici a quelli specificati.

Componenty di sicurezza sono marcati con .

**GB**

After servicing and before returning set to customer perform a leakage current measurement test from all exposed metal parts to earth ground to assure no shock hazard exist, The leakage current must not exceed 0.5mA.

**ESD****D WARNUNG**

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD).

Unvorsichtige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren.

Veranlassen Sie, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand verbunden sind mit dem gleichen Potential wie die Masse des Gerätes.

Bauteile und Hilfsmittel auch auf dieses gleiche Potential halten.

**NL WAARSCHUWING**

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD).

Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen.

Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.

Houd componenten en hulpmiddelen ook op hetzelfde potentiaal.

**I AVVERTIMENTO**

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).

La loro longevità potrebbe essere fortemente ridatta in caso di non osservazione della più grande cauzione alla loro manipolazione.

Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza.

Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

**GB ESD PROTECTION EQUIPMENT**

Complete Kit ESD3 (small tablemat, wristband, connection box, extension cable and earth cable ..... 4822 310 10671  
Wristband tester ..... 4822 344 13999

**GB Warning !**

Invisible laser radiation when open.  
Avoid direct exposure to beam.

**S Varning !**

Osynlig laserstrålning när apparaten är öppnad och spårren är urkopplad. Betrakta ej strålen.

**SF Varoitus !**

Avatussa laitteessa ja suojalukituksen ohitettaessa olet alltiina näkymättömälle laserisäteilylle. Älä katso säteeseen!

**DK Advarse !**

Usynlig laserstråling ved åbning når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

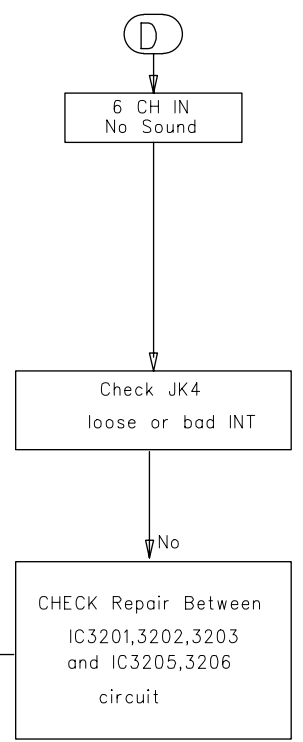
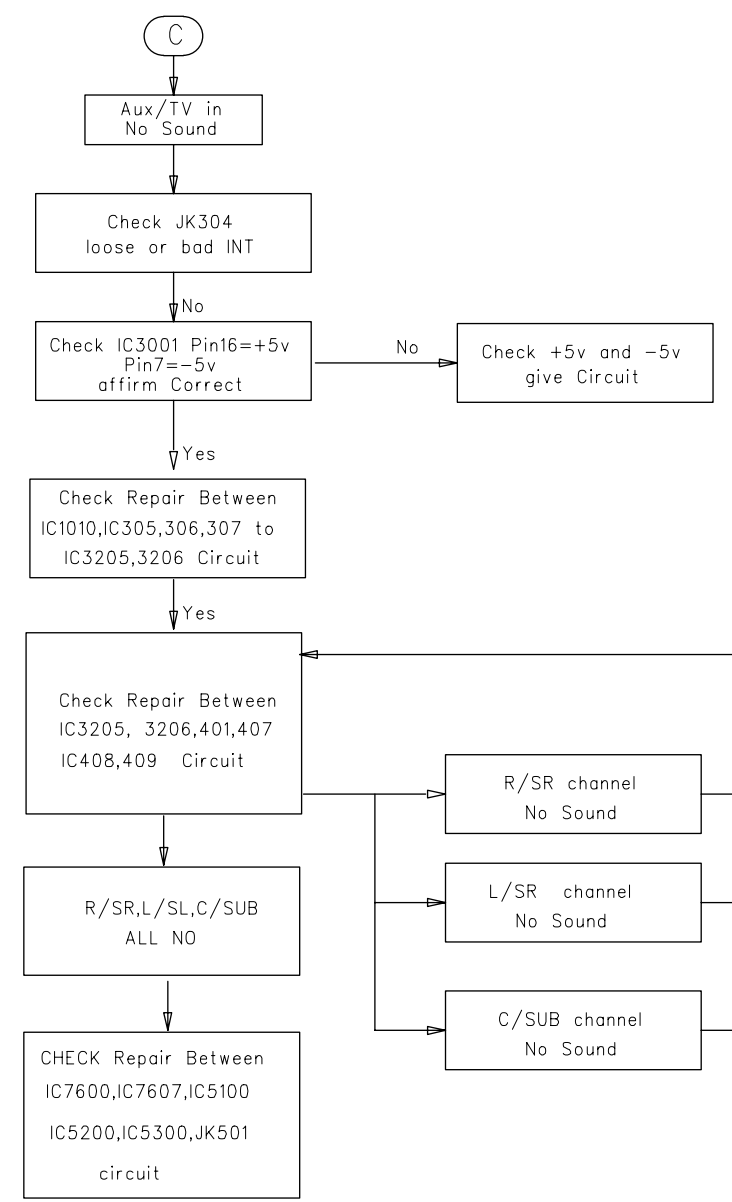
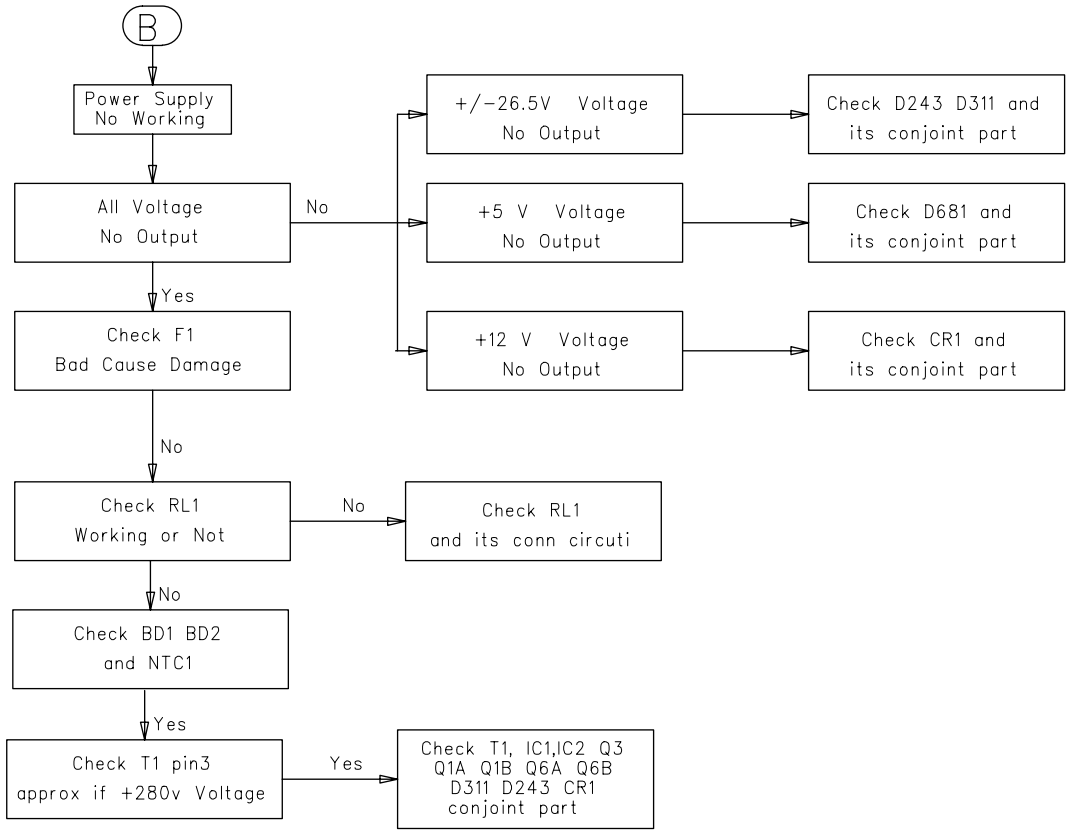
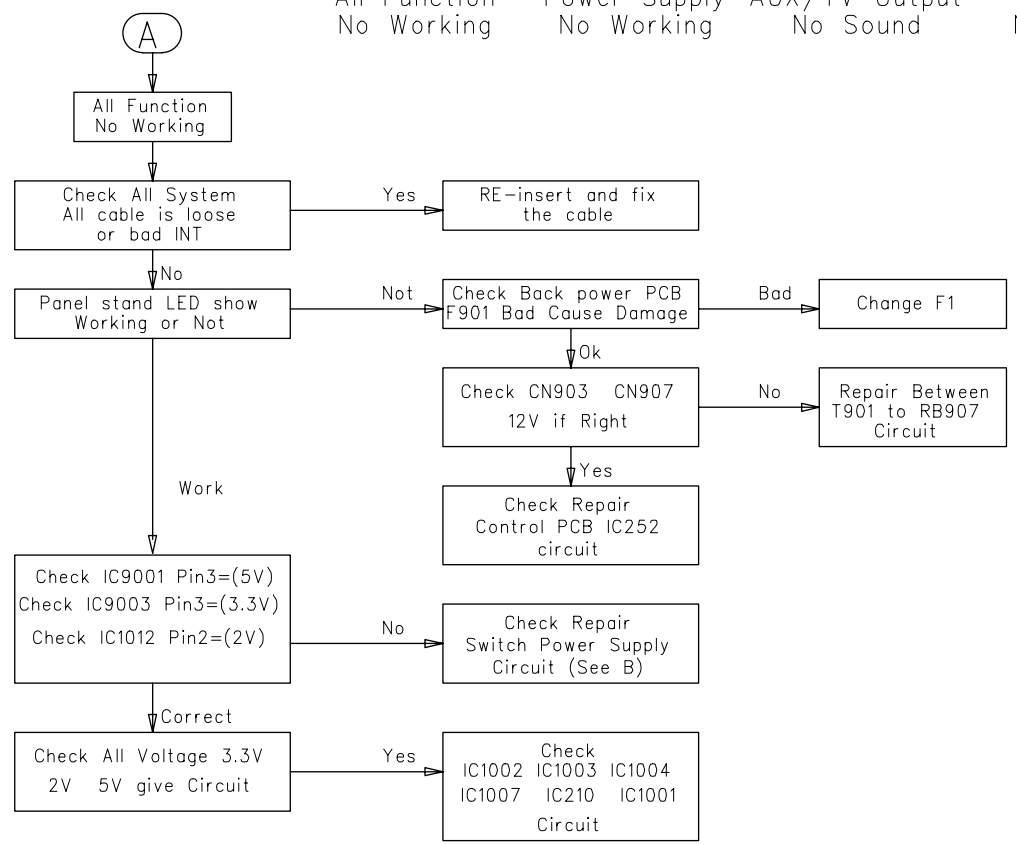
**F**

"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".

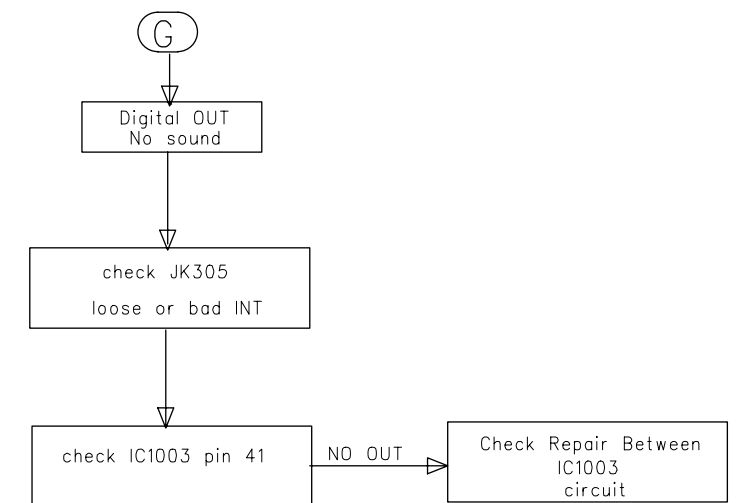
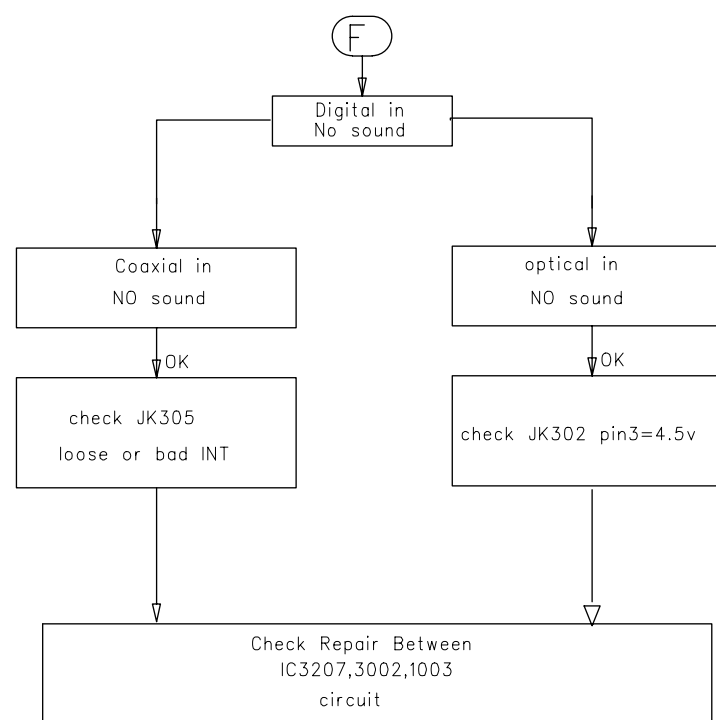
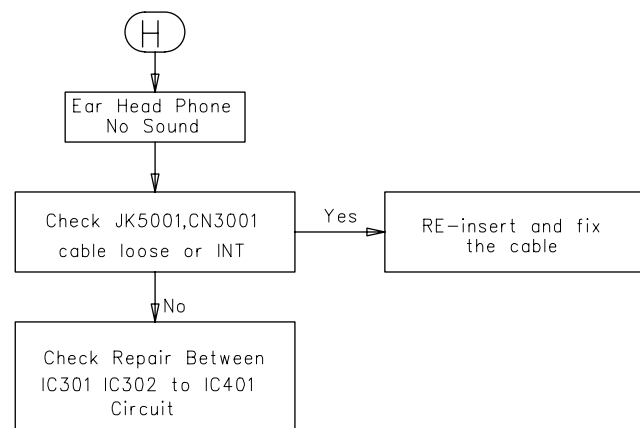
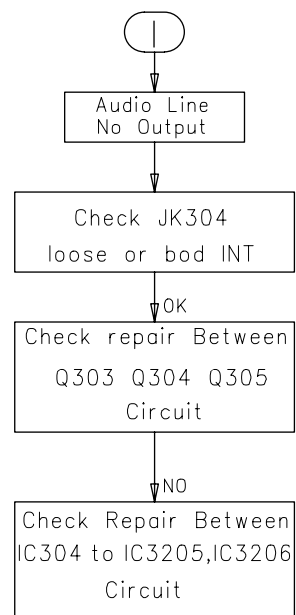
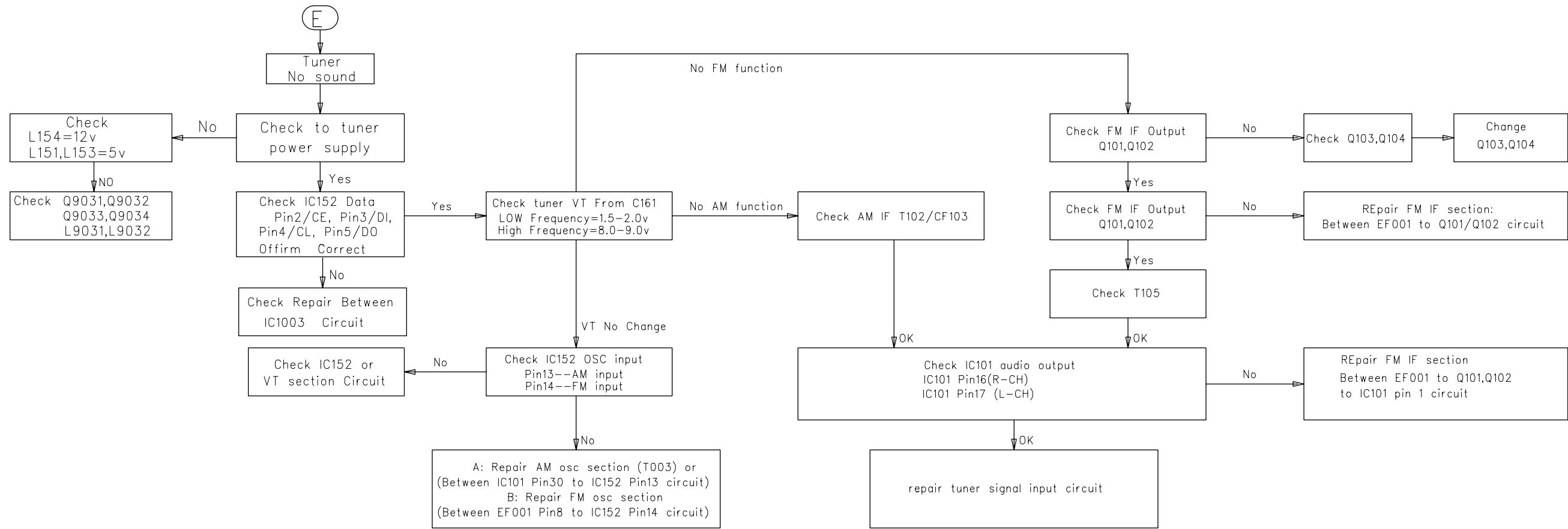
# REPAIR INSTRUCTION

## MAIN UNIT REPAIR CHART

- (A)  
All Function  
No Working
- (B)  
Power Supply  
No Working
- (C)  
AUX/TV Output  
No Sound
- (D)  
6 CH IN  
No Sound
- (E)  
Tuner  
No Sound
- (F)  
Digital IN  
No Sound
- (G)  
Digital IN  
No Output
- (H)  
Ear Head Phone  
No Sound
- (I)  
Audio Line  
No Output



# REPAIR INSTRUCTION





## DISASSEMBLY INSTRUCTIONS

- 1) Loosen 9 screws and remove the Top Cover by lifting the rear portion upwards before sliding it out towards the rear.
  - 5 screws on the back
  - 2 screws each on the left & right side
- 2) Loosen 7 screws & lift up the top edge of Front Panel assembly to free some catches before sliding it out towards the front.
  - 4 screws on the bottom
  - 1 screw "A" on the inside as indicated in Figure 1.
  - 1 screw each on the left & right side

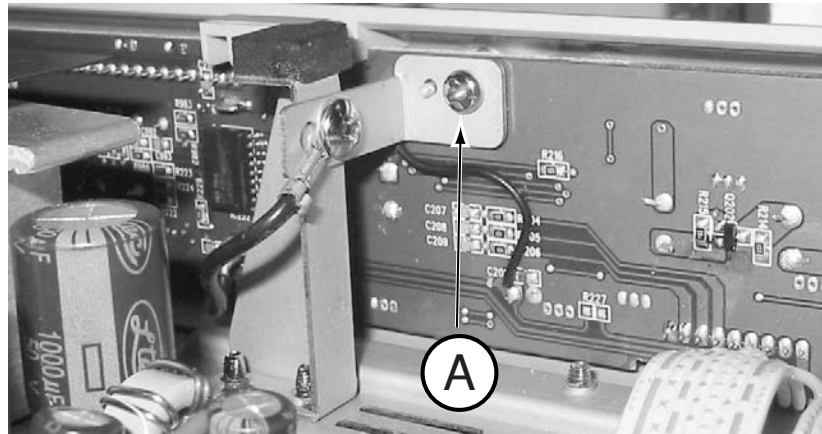


Figure 1

### ***Dismantling of the Main Board***

- 1) Loosen 4 screws "B" on the top of main board as shown in figure 2.
- 2) Loosen 8 screws "C" at the back panel as shown in figure 3.

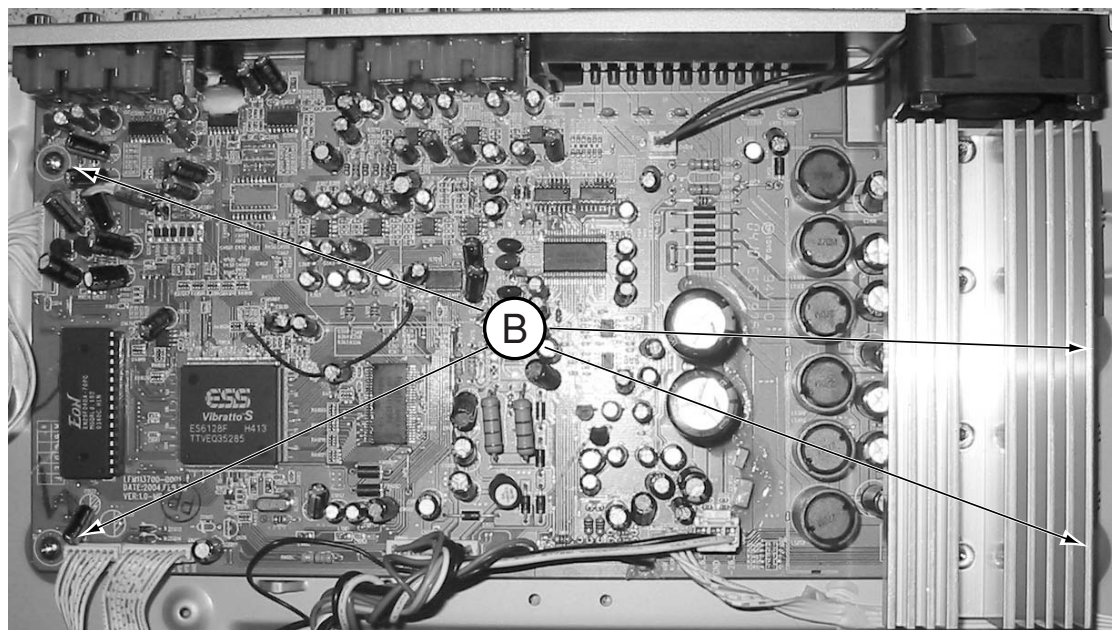


Figure 2

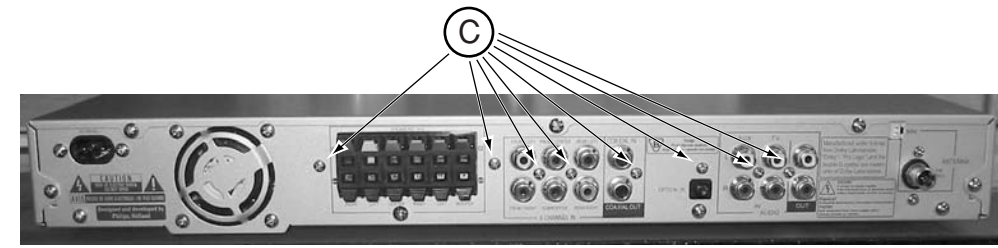


Figure 3

### ***Dismantling of the Power & Tuner Board***

- 1) Loosen 5 screws "D" on the top of power board as shown in figure 4.
- 2) Loosen 4 screws "E" on the top of tuner board as shown in figure 5.

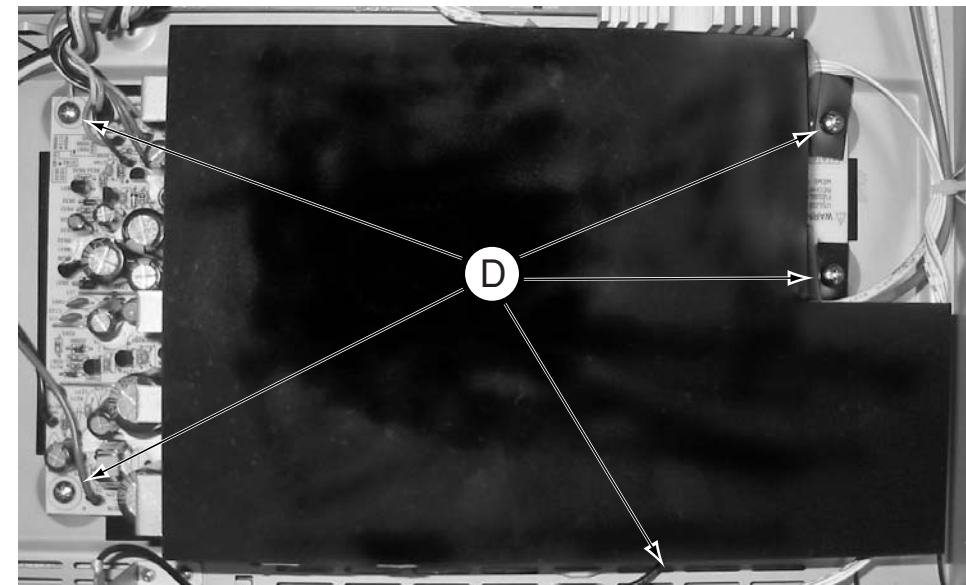


Figure 4

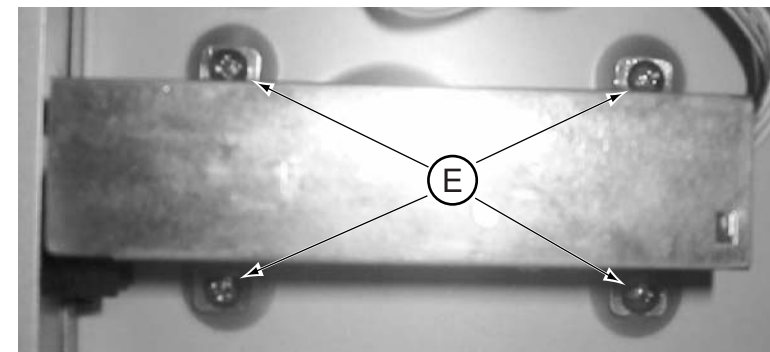


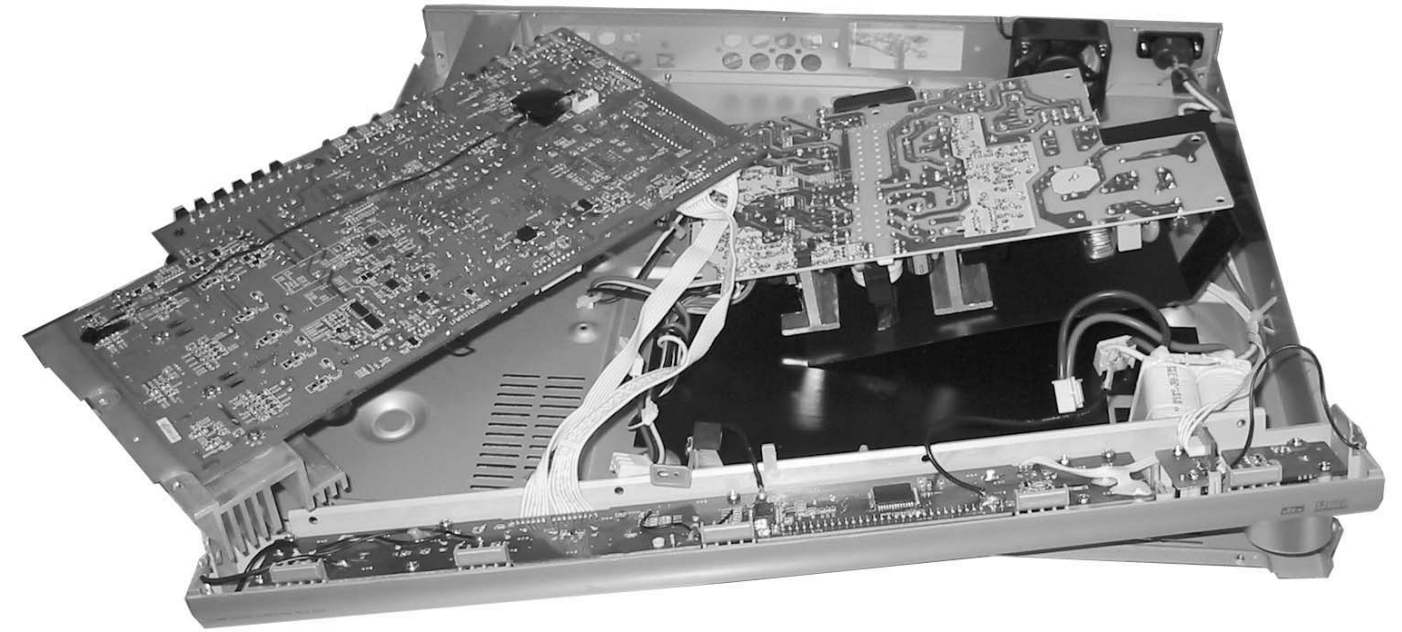
Figure 5

## SERVICE POSITIONS

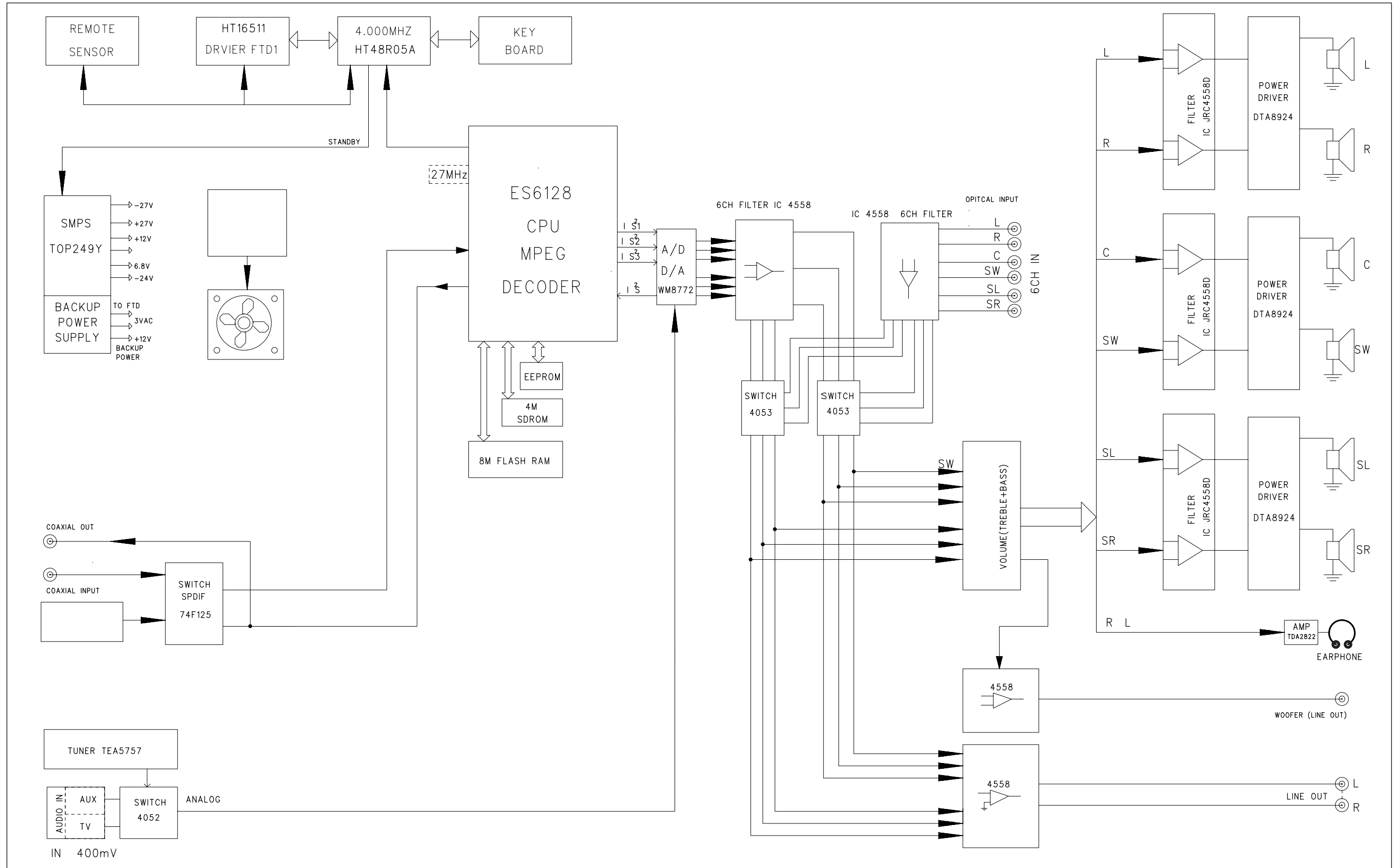
Service position A



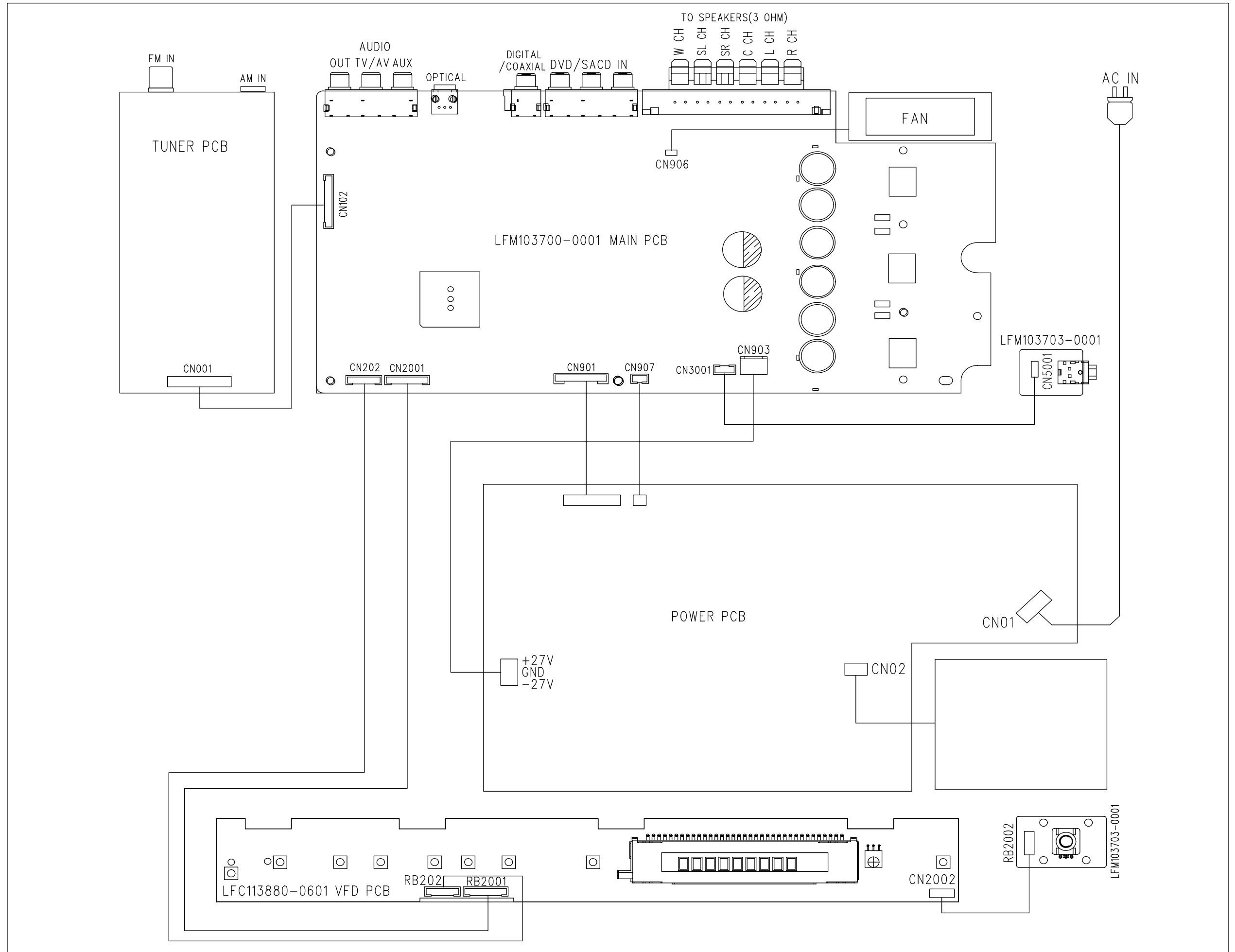
Service position B



# BLOCK DIAGRAM

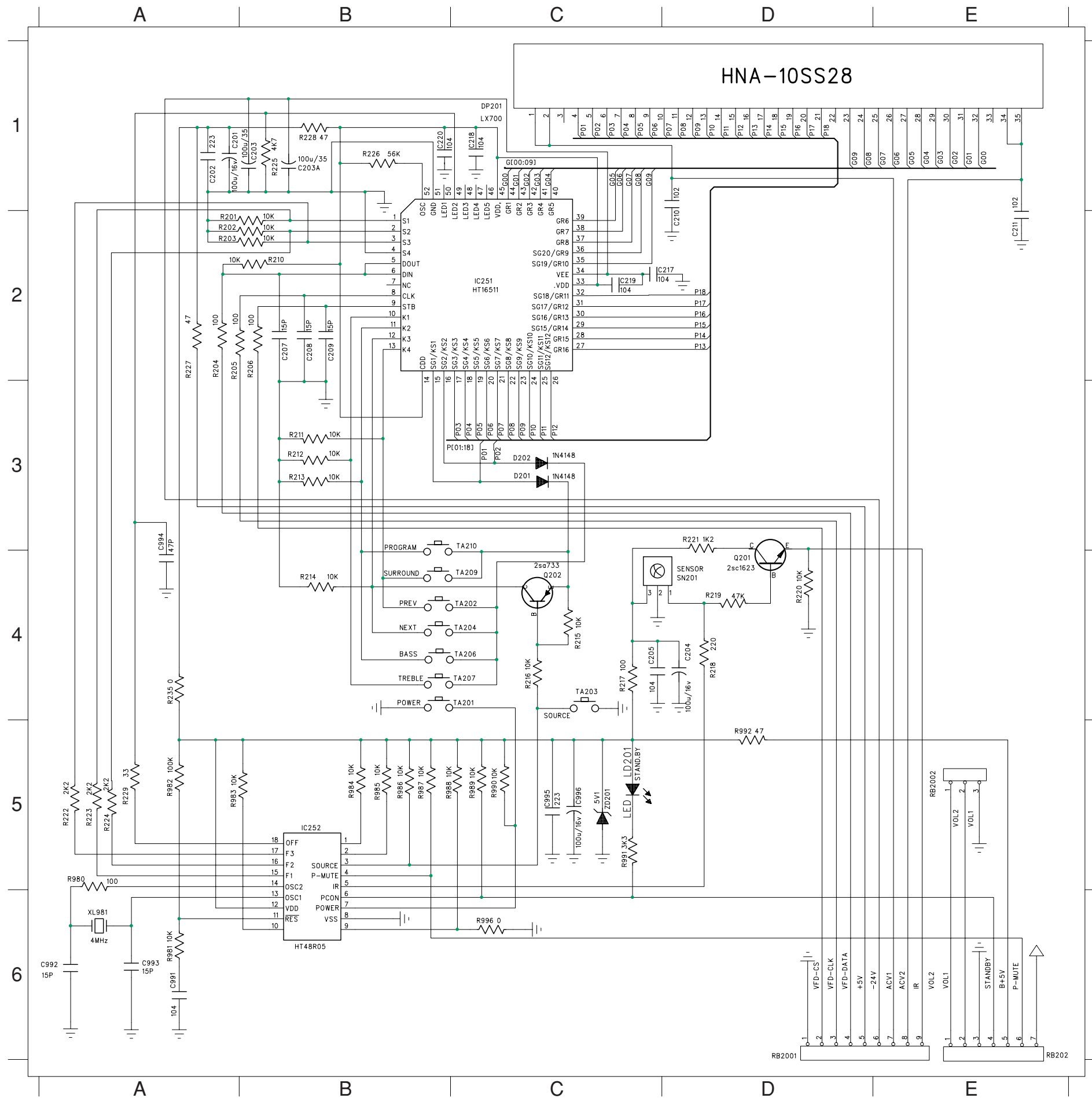


# WIRING DIAGRAM





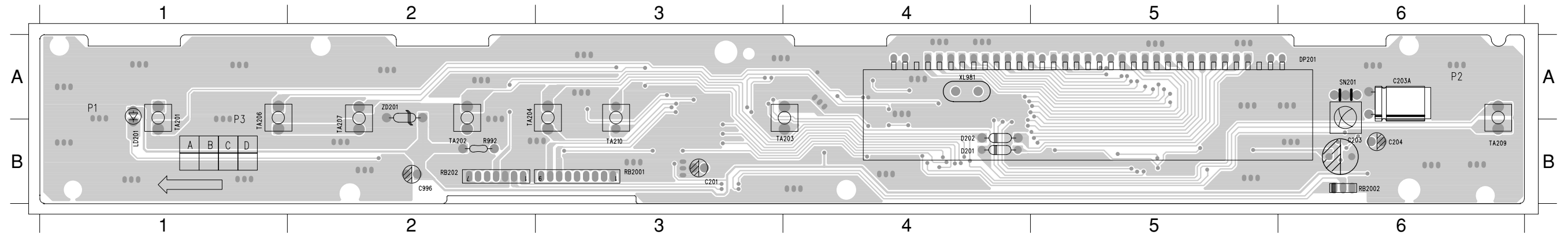
# CIRCUIT DIAGRAM - CONTROL BOARD



C201	A1	R992	D5
C202	A1	R996	C6
C203	B1	RB202	D6
C203A	B1	RB2001	D6
C204	D4	RB2002	E5
C205	C4	SN201	D4
C207	B2	TA201	C4
C208	B2	TA202	C4
C209	B2	TA203	C4
C210	D2	TA204	C4
C211	E2	TA206	C4
C217	C2	TA207	C4
C218	C1	TA209	C4
C219	C2	TA210	C3
C220	B1	XL981	A6
C991	A6	ZD201	C5
C992	A6		
C993	A6		
C994	A3		
C995	C5		
C996	C5		
D201	C3		
D202	C3		
DP201	C1		
IC251	C2		
IC252	B5		
LD201	C5		
Q201	D4		
Q202	C4		
R201	A2		
R202	A2		
R203	A2		
R204	A2		
R205	A2		
R206	B2		
R210	B2		
R211	B3		
R212	B3		
R213	B3		
R214	B4		
R215	C4		
R216	C4		
R217	C4		
R218	D4		
R219	D4		
R220	D4		
R221	D3		
R222	A5		
R223	A5		
R224	A5		
R225	B1		
R226	B1		
R228	B1		
R229	A5		
R235	A2		
R980	A5		
R981	A6		
R982	A5		
R983	A5		
R984	B5		
R985	B5		
R986	B5		
R987	B5		
R988	B5		
R989	C5		
R990	C5		
R991	C5		

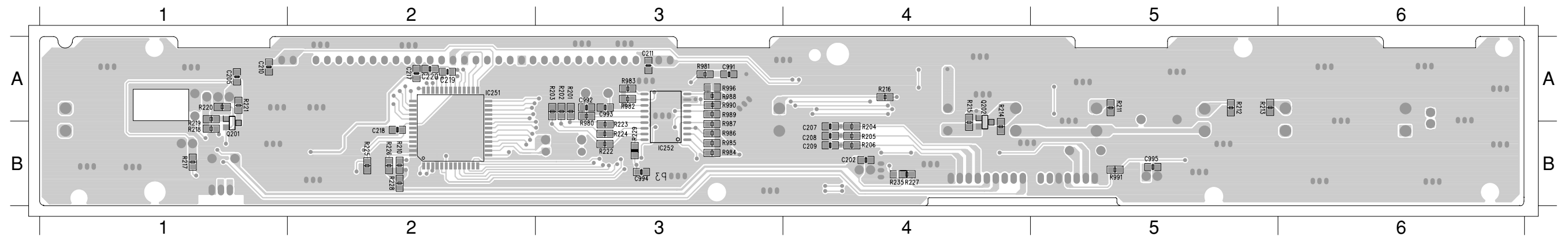
PCB LAYOUT - TOP VIEW

C201	B2	D201	B4	P2	A6	RB2001	B3	TA203	B4	TA210	B3
C203	B6	D202	B4	R992	B2	RB202	B6	TA204	B2	XL980	A4
C203A	A6	DP201	A6	RB202	B2	SN201	A6	TA206	B1	ZD201	A2
C204	B6	LD201	B1	RB2001	B3	TA201	B1	TA207	B2		
C966	B2	P1	A1	RB202	B6	TA202	B2	TA209	B6		



PCB LAYOUT - BOTTOM VIEW

C202	B4	C211	A3	C992	A3	P3	B3	R204	B4	R213	A5	R219	B1	R225	B2	R981	A3	R987	B3
C205	A1	C217	A2	C993	A3	Q201	B1	R205	B4	R214	A4	R220	A1	R226	B2	R982	A3	R988	A3
C207	B4	C218	A2	C994	B3	Q202	A4	R206	B4	R215	A4	R221	A1	R228	B2	R983	A3	R989	A3
C208	B4	C219	A2	C995	B5	R201	A3	R210	B2	R216	A4	R222	B3	R229	B3	R984	B3	R990	A3
C209	B4	C220	A2	IC251	B2	R202	A3	R211	A5	R217	B1	R223	B3	R235	B4	R985	B3	R991	B5
C210	A1	C991	A3	IC252	B3	R203	A3	R212	A5	R218	B1	R224	B3	R980	B3	R986	B3	R996	A3



**ELECTRICAL PARTS LIST - CONTROL BOARD**

---

MISCELLANEOUS

---

DP201	9965 000 17398	VFD 35P HNA-10SS28
LD201	9965 000 17400	LED 3DIA RED ROUND
SN201	9965 000 23591	IRT RECEIV IRM-2038F4
TA201	9965 000 20267	TACT SWITCH
TA202	9965 000 20267	TACT SWITCH
TA203	9965 000 20267	TACT SWITCH
TA204	9965 000 20267	TACT SWITCH
TA206	9965 000 20267	TACT SWITCH
TA207	9965 000 20267	TACT SWITCH
TA209	9965 000 20267	TACT SWITCH
TA210	9965 000 20267	TACT SWITCH
X981	9965 000 23590	CRYSTAL 4MHz HC-49US +/-15PPM

DIODES

---

D201	4822 130 30621	1N4148
D202	4822 130 30621	1N4148
ZD201	4822 130 34233	BZX79-B5V1

TRANSISTORS & INTEGRATED CIRCUITS

---

Q202	9965 000 14175	2SA733Q,P
Q201	9965 000 20268	XISTR NPN SMT TYPE (2SC1623)
IC251	9965 000 23593	IC 52P HT16511 QFP HOLTEK
IC252	9965 000 23592	IC 18P HT48R05A-1 SOP HOLTEK

Note : Only the parts mentioned in this list are normal service spare parts.



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# POWER BOARD

---

## *(For Information only)*

It is not recommended for component repair on this board but to replace the board when it becomes defective.

Therefore no service parts list is published in this chapter.

The only service part available for replacement is:

SW PWR SUP ASSY 230V (/01) ..... 9965 000 23905

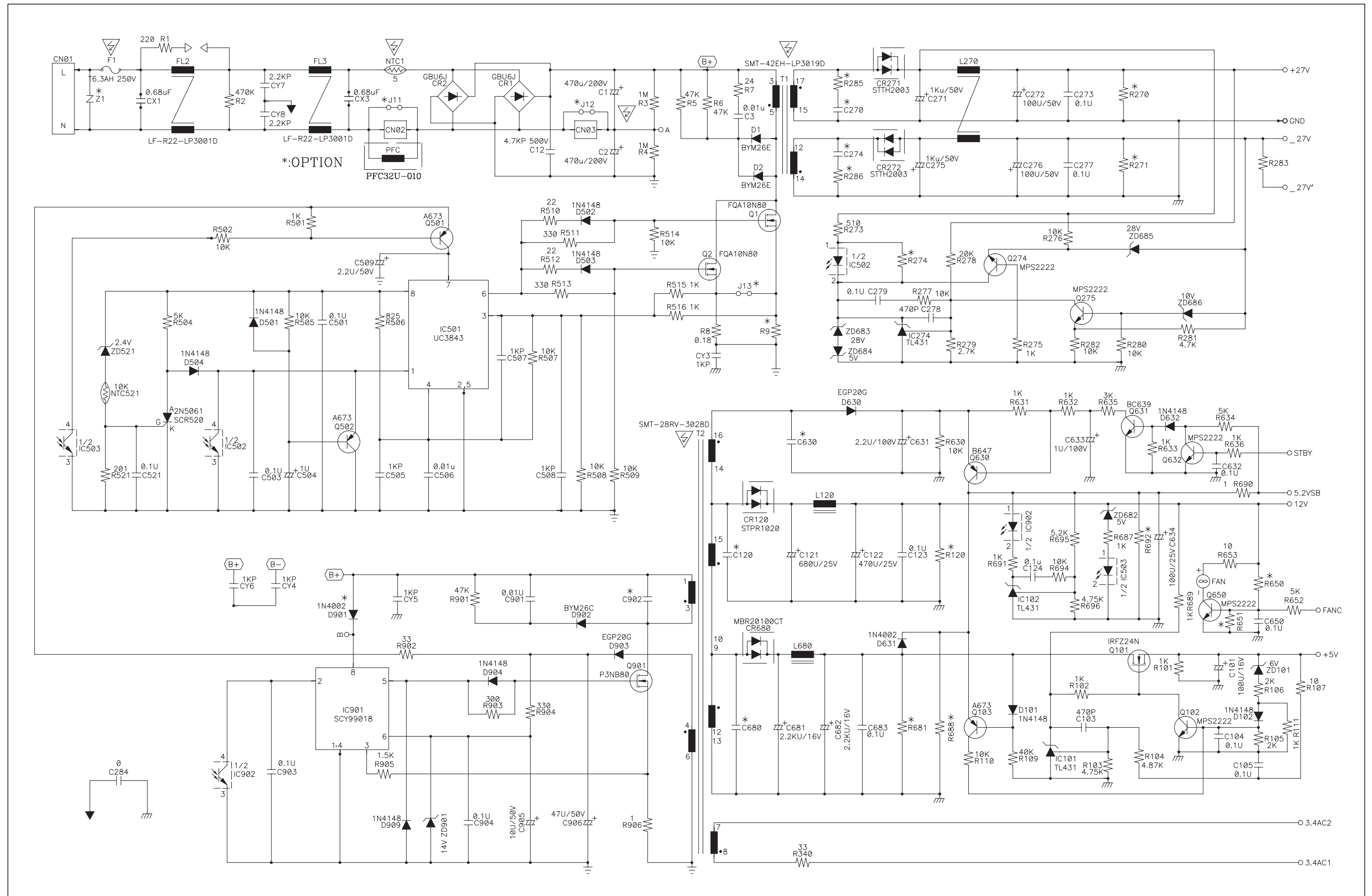
SW PWR SUP ASSY 110-230V (/69) ..... 9965 000 23949

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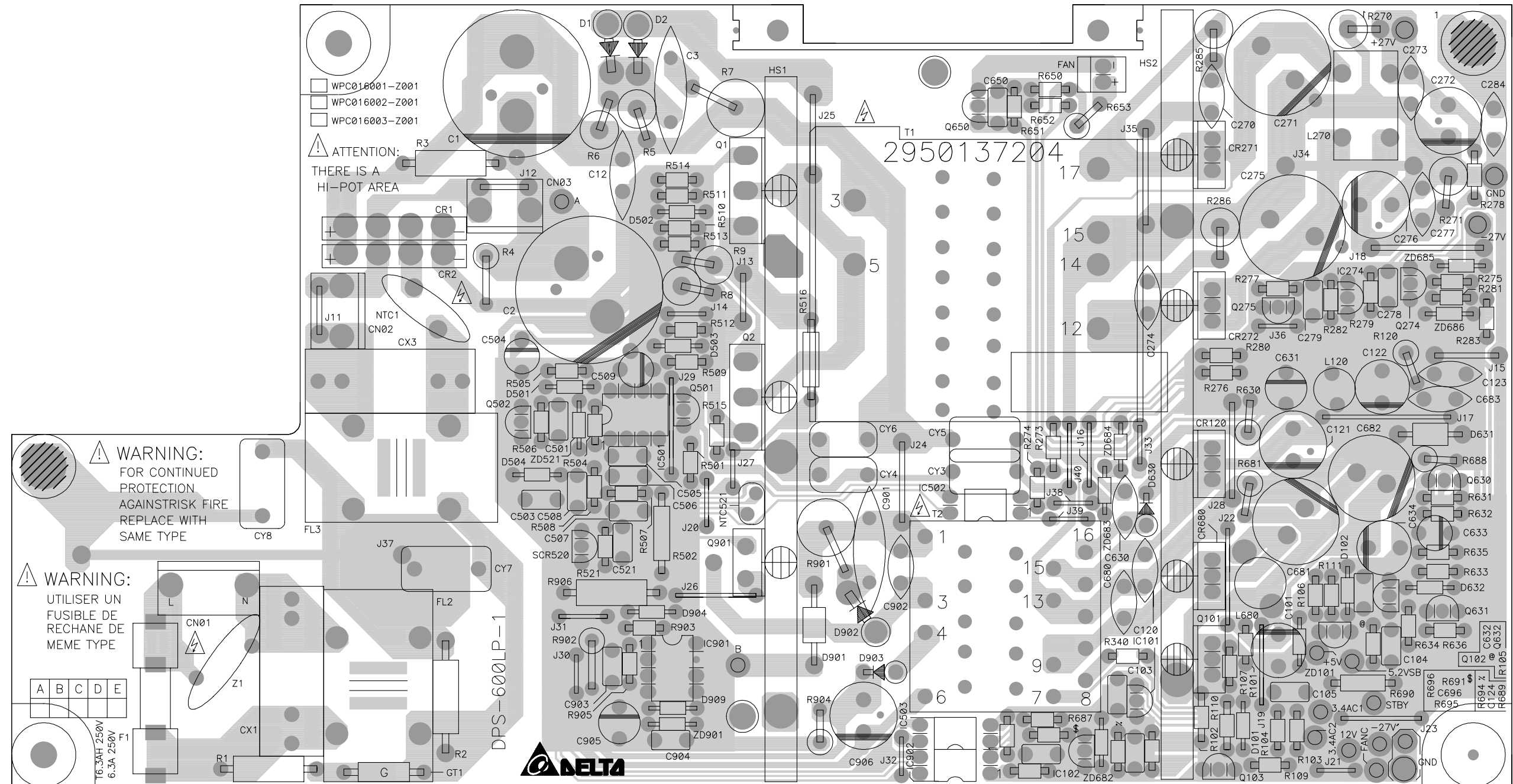
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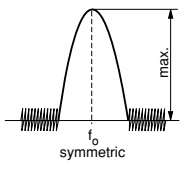
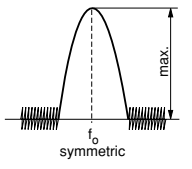
CIRCUIT DIAGRAM - POWER BOARD ( / 69 )



# PCB LAYOUT - POWER BOARD



**TUNER ADJUSTMENT TABLE**

Waverange	Input f requency	Input	Tuned to	Adj ust	Output	Scope/Voltmeter
<i>VARICAP ALIGNMENT</i>						
<b>FM</b> 87.5 - 108MHz (50kHz grid)			108MHz	check		7.5V ± 1V
			87.5MHz	check		1.4V ± 0.2V
<b>MW</b> 531-1602kHz (10kHz grid) ( 21L / 21L / 37S )			1602KHz	check		7.2V ± 1V
			531KHz	T005		1.1V ± 0.2V
<i>FM - RF</i>						
<b>FM</b>	108MHz		106MHz	VC001	MAX	MAX
	87.5MHz	mod=1kHz Δf=±2.5kHz	90.1MHz	L001		
<i>AM IF</i>						
<b>AM</b>	450kHz	Connect pin 6 of IC001 (AM Osc.) with short wire to ground (pin 4)		T001 T002	MAX	
<b>AM AFC</b> <b>MW</b>				ΔV=mV		
<i>AM RF <sup>3)</sup></i>						
<b>MW</b>	1404kHz		1404kHz	VC001	MAX	
	612kHz		612kHz	T006		

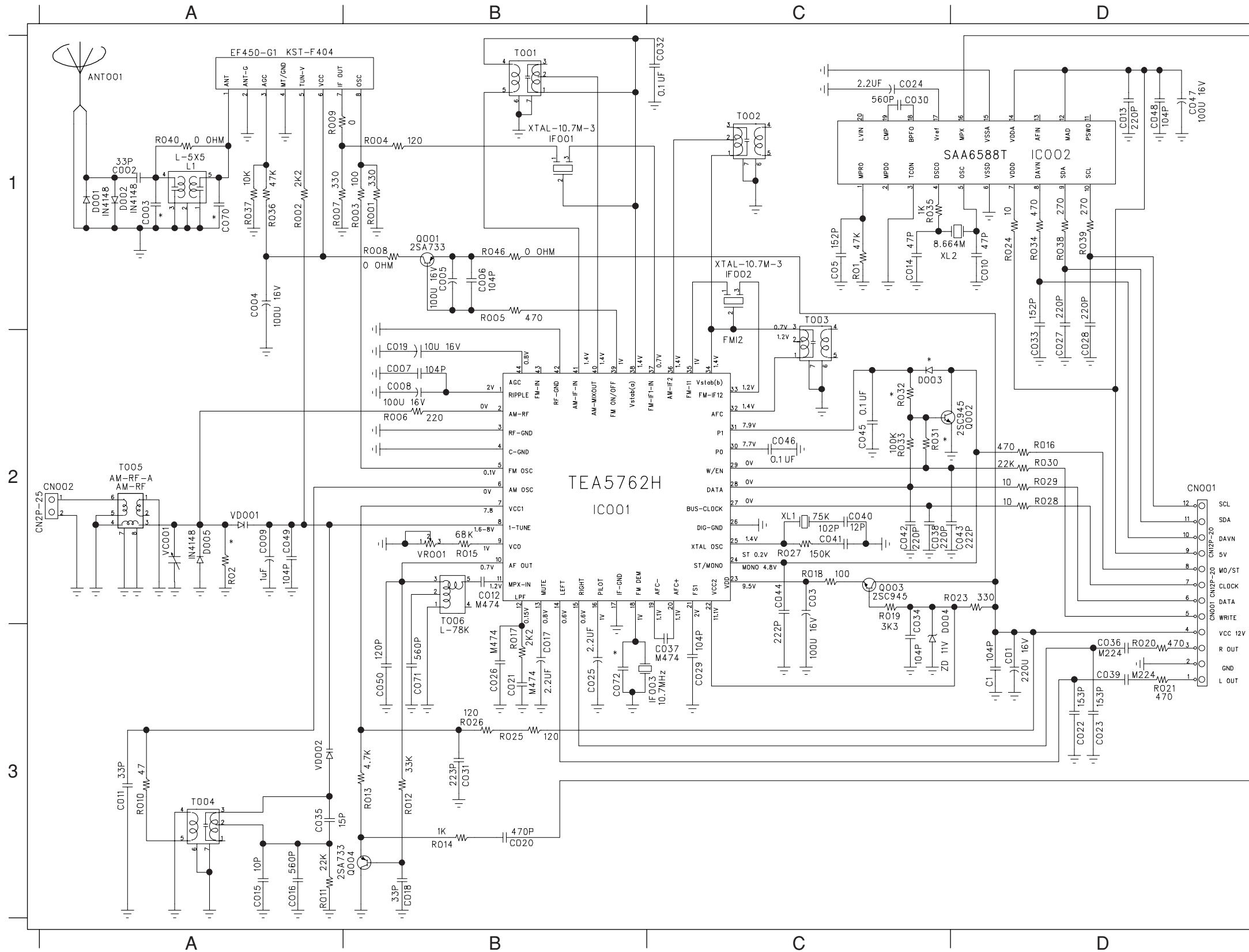
# TUNER BOARD (/01)

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Use Service Testprogram. By selecting the TUNER TEST test frequencies will be stored as preset frequencies automatically.  
 1) If sensitivity of frequency counter is too low adjust to max. channel separation (input signal: stereo left 90% + 9%, adjust output on right channel to minimum)  
 2) RC network serves for damping the IF-filter while adjusting the other one.  
 3) For AM RF adjustments the original frame antenna has to be used!

CIRCUIT DIAGRAM - TUNER BOARD

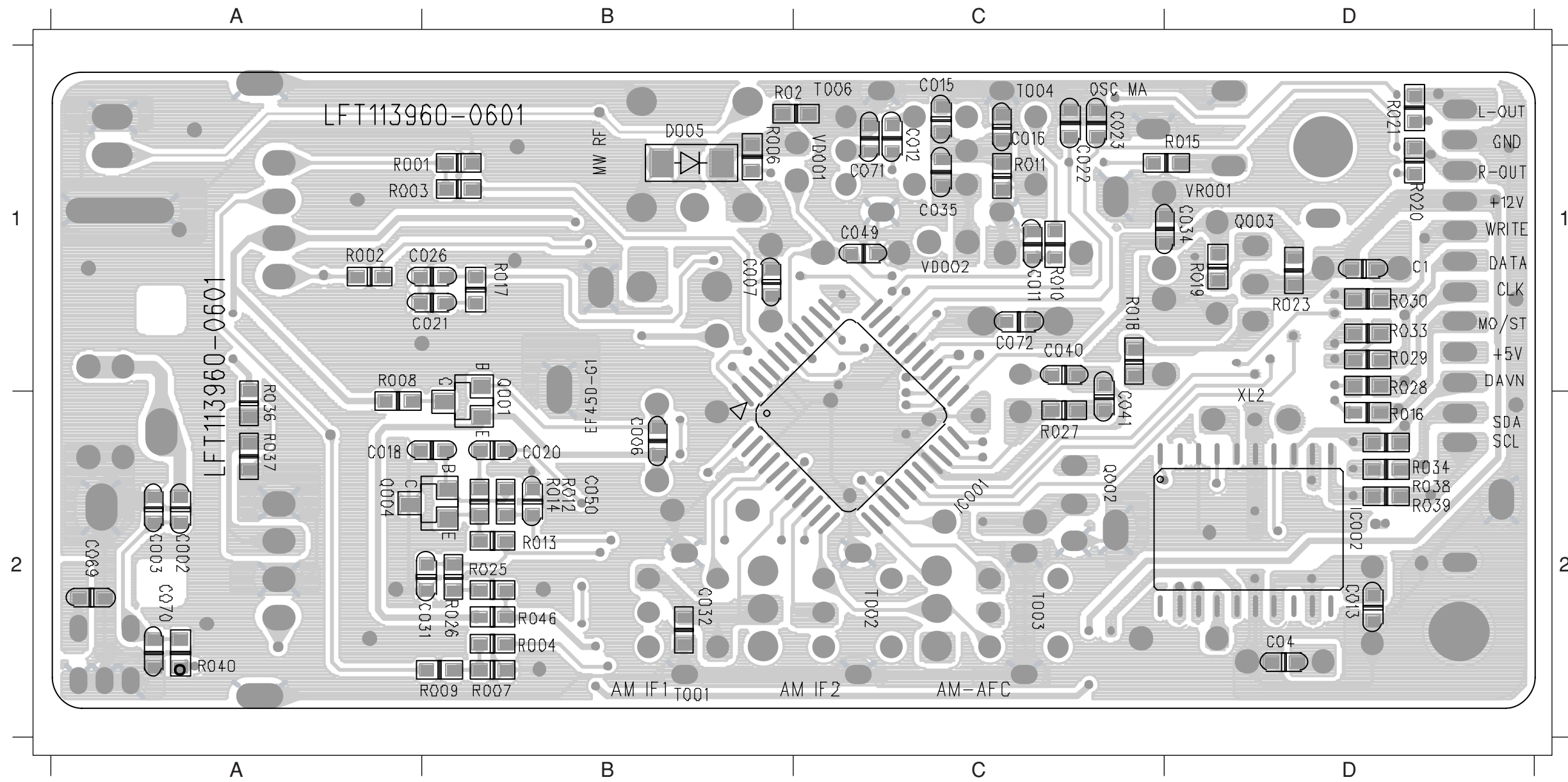


ANT001	A1	R01	C1
C1	D3	R001	B1
C01	D3	R002	A1
C03	C2	R003	B1
C05	C1	R004	B1
C002	A1	R005	B1
C004	A1	R006	B2
C005	B1	R007	A1
C006	B1	R008	B1
C007	B2	R009	A1
C008	B2	R010	A3
C009	A2	R011	A3
C010	D1	R012	B3
C011	A3	R013	B3
C012	B2	R014	B3
C013	D1	R015	B2
C014	C1	R016	D2
C015	A3	R017	B3
C016	A3	R018	C2
C017	B3	R019	C2
C018	B3	R020	D3
C019	B2	R021	D3
C020	B3	R023	D2
C021	B3	R024	D1
C022	D3	R025	B3
C023	D3	R026	B3
C024	C1	R027	C2
C025	B3	R028	D2
C026	B3	R029	D2
C027	D2	R030	D2
C028	D2	R033	C2
C029	C3	R034	D1
C030	C1	R035	C1
C031	B3	R036	A1
C032	B3	R037	A1
C033	D2	R038	D1
C034	C2	R039	D1
C035	A3	R040	A1
C036	D3	R046	B1
C037	C3	T001	B1
C038	C2	T002	C1
C039	D3	T003	C1
C040	C2	T004	A3
C041	C2	T005	A2
C042	C2	T006	B2
C043	D2	VC001	A2
C044	C2	VD001	A2
C045	C2	VD002	A3
C046	C2	VR01	B2
C047	D1	XL1	C2
C048	D1	XL2	C1
C049	A2		
C050	B3		
C071	B3		
CN001	D2		
CN002	A2		
D001	A1		
D002	A1		
D004	C2		
D005	A2		
EF450-G1	A1		
IC001	B2		
IC002	D1		
IF001	B1		
IF002	C1		
IF003	C3		
Q001	B1		
Q002	D2		
Q003	C2		
Q004	B3		



PCB LAYOUT - TUNER BOARD (BOTTOM VIEW)

C1	D1	C016	C1	C032	B2	D005	B1	R002	A1	R011	C1	R019	D1	R029	D1	R040	A2	VR001	D1
C002	A2	C018	A2	C034	D1	IC001	C2	R003	A1	R012	B2	R020	D1	R030	D1	R046	B2	XL2	D2
C006	B2	C020	B2	C035	C1	IC002	D2	R004	B2	R013	B2	R021	D1	R033	D1	T002	C2		
C007	B1	C021	B1	C040	C1	Q001	B2	R006	B1	R014	B2	R023	D1	R034	D2	T003	C2		
C011	C1	C022	C1	C041	C2	Q002	C2	R007	B2	R015	D1	R025	B2	R036	A2	T004	C1		
C012	C1	C023	C1	C049	C1	Q003	D1	R008	A1	R016	D2	R026	B2	R037	A2	T006	C1		
C013	D2	C026	B1	C050	B2	Q004	A2	R009	B2	R017	B1	R027	C2	R038	D2	VD001	C1		
C015	C1	C031	B2	C071	C1	R001	A1	R010	C1	R018	C1	R028	D1	R039	D2	VD002	C1		





**ELECTRICAL PARTS LIST - TUNER BOARD (/01 Version)****MISCELLANEOUS**

ANT001	9965 000 17361	RF JACK FEMALE TYPE
CN002	9965 000 15855	CONNECTOR S2B-XH-A 2P
CN02	9965 000 23917	BALUN COIL PFC32U-010
EF450-G1	9965 000 19410	TUNER PACK KST-F404HA-2B
IF001	9965 000 15867	CER FILTER 10.7MHz
IF002	9965 000 15868	CER FILTER 10.7MHz
IF003	9965 000 23585	CER FILTER CDA10.7MG-18A
T001	9965 000 22254	AM IFT 450kHz 180pF
T002	9965 000 22255	AM IFT 450kHz 180pF
T003	9965 000 22255	AM IFT 450kHz 180pF
T004	9965 000 22253	OSC COIL AM 120uH (796kHz)
T005	9965 000 15874	ANT OSC AM 4-6:10T 1-3:86T
T006	9965 000 15877	BIAS COIL 78kHz
VC001	9965 000 15866	COND TRIM 4.2 - 20pF N450
VR001	9965 000 22264	CNTL TRIMMER 100K OHM
XL1	9965 000 23918	CRYSTAL 75kHz 20 PPM
XL2	9965 000 23919	CRYSTAL DY8.664MHz HC-49US

**DIODES**

D001	4822 130 30621	1N4148
D002	4822 130 30621	1N4148
D004	9965 000 16337	DIODE ZENER 11.1 - 11.6V 0.5W
D005	9965 000 19409	DIODE CHIP BAV16W/IN4148W
VD001	4822 130 81673	1SV149
VD002	4822 130 81673	1SV149

**TRANSISTORS & INTEGRATED CIRCUITS**

Q001	9965 000 14175	2SA733Q,P
Q002	4822 130 41198	2SC945P
Q003	4822 130 41198	2SC945P
Q004	9965 000 14175	2SA733Q,P
IC001	9965 000 23920	IC 44P TEA5762H QFP44 PHILIPS
IC002	9965 000 23921	IC 20P SAA6588T SO20 PHILIPS

Note : Only the parts mentioned in this list are normal service spare parts.

**Voltages**

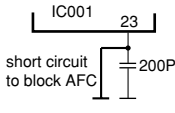
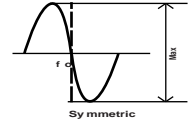
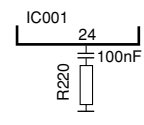
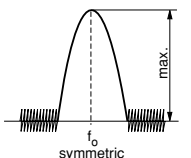
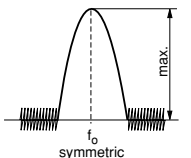
IC 001 (TEA5762H)																				
PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Voltage	2.1	0	0	0	0.1	0	7.1	10	1.0	0.7	1.2	0.8	1.0	0.6	0.6	1.0	0	1.0	1.2	1.1
PIN NO	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Voltage	2.0	11.2	9.6	0	1.4	0	1.0	0.2	0	0	9.4	1.5	1.6	1.5	1.6	1.5	0.7	1.4	5.7	1.4
PIN NO	41	42	43	44																
Voltage	1.4	0	0	0.3																
IC 002 (SAA6588T)																				
PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Voltage	0	0	0	2.4	2.0	0	4.8	4.8	4.5	1.0	0	4.8	0	0	0	2.4	2.4	2.4	2.4	2.4
Q001 (2SA812)				Q002 (2SA945P)				Q003 (2SA945P)				Q004 (2SA812)								
PIN NO	b	c	e	PIN NO	b	c	e	PIN NO	b	c	e	PIN NO	b	c	e					
Voltage	2	0	0	Voltage	10.4	11.2	11.2	Voltage	10.4	11.2	11.2	Voltage	1.8	0	1.1					

**TUNER ADJUSTMENT TABLE**

# TUNER BOARD (/69)

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 PCB Layout Bottom View ..... 7B-4  
 Electrical Parts List & Voltage List ..... 7B-5

Waverange	Input f requency	Input	Tuned to	Adj ust	Output	Scope/Voltmeter
<i>VARICAP ALIGNMENT</i>						
<b>FM</b> 87.5 - 108MHz (50kHz grid)			108MHz	check		6.5V ± 1.2V
			87.5MHz	check		1.0V ± 0.5V
<b>AM</b> 530-1710kHz (10kHz grid) ( 21L / 21L / 37S )			1602KHz	check		7.8V ± 0.2V
			531KHz	T005		1.1V ± 0.5V
			1700KHz	check		8.0V ± 1HV
			530KHz	T005		1.1V ± 0.2V
<i>FM - IF</i>						
<b>FM</b>	10.7MHz, 50mV continuous wave			No need to adjust		
<i>FM - RF</i>						
<b>FM</b>	108MHz		106MHz	VC001	MAX	MAX
	87.5MHz	mod=1kHz $\Delta f = \pm 2.5\text{kHz}$	90.1MHz	L001		
<i>AM IF</i>						
<b>AM</b>	450kHz	$\Delta f = \pm 15\text{kHz}$ $V_{RF} = 3\text{mV}$		T001 T002	MAX	
<b>AM AFC</b> <b>MW</b>	Connect pin 29 of IC001 (AM Osc.) with short wire to ground (pin 6)	$\Delta V = \text{mV}$		T003		
<i>AM RF <sup>3)</sup></i>						
<b>MW</b>	1404kHz		1404kHz	VC001	MAX	
	576kHz		612kHz	T006		
	1400kHz	$\Delta f = \pm 30\text{kHz}$ $V_{RF}$ as low as possible	1400kHz	VC002		
	610kHz		610kHz	T006		

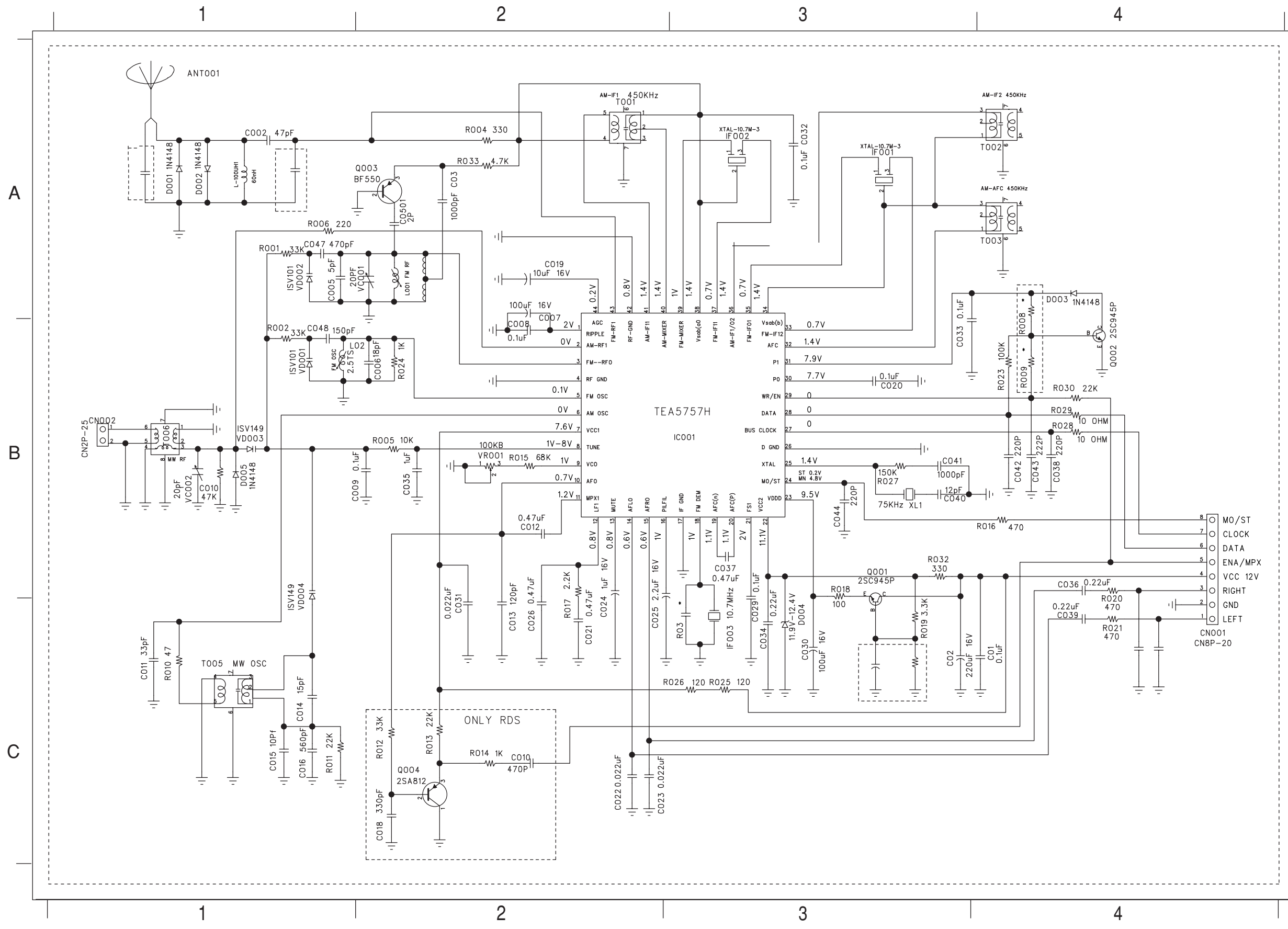
Use Service Testprogram. By selecting the TUNER TEST test frequencies will be stored as preset frequencies automatically.

1) If sensitivity of frequency counter is too low adjust to max. channel separation (input signal: stereo left 90% + 9%, adjust output on right channel to minimum)

2) RC network serves for damping the IF-filter while adjusting the other one.

3) For AM RF adjustments the original frame antenna has to be used!

# CIRCUIT DIAGRAM - TUNER BOARD

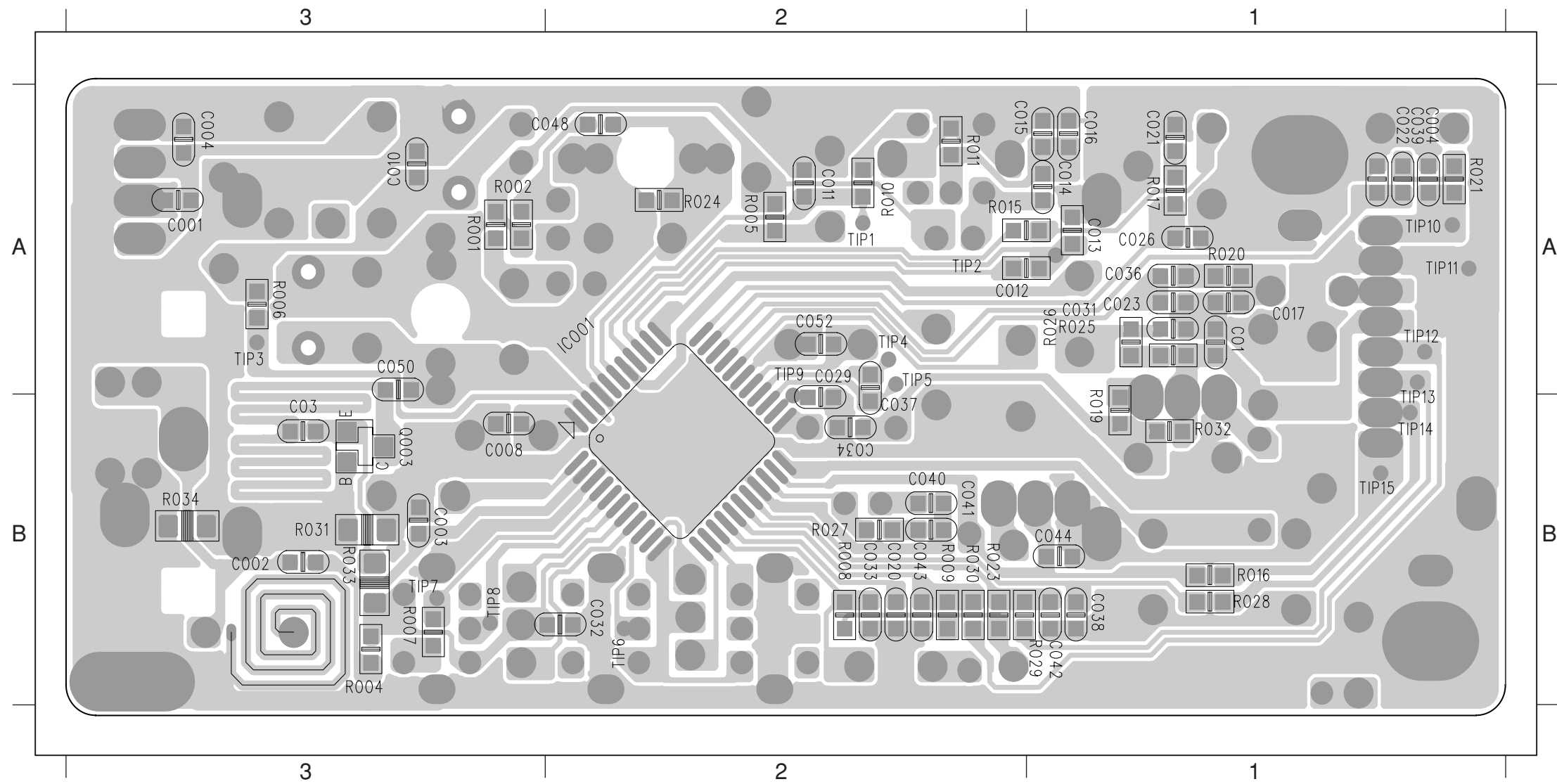


ANT001	A1	R004	A2
C002	A1	R005	B2
C005	A1	R006	A1
C007	A2	R010	C1
C006	B2	R011	C1
C008	B2	R015	B2
C009	B2	R016	B4
C01	C4	R017	C2
C02	C3	R018	B3
C03	A2	R019	C3
C010	B1	R020	B4
C011	C1	R021	C4
C012	B2	R023	B4
C013	C2	R024	B2
C014	C1	R025	C3
C015	C1	R026	C3
C016	C1	R027	B3
C019	A2	R028	B4
C020	B3	R029	B4
C021	C2	R030	B4
C022	C2	R032	B3
C023	C2	R033	A2
C024	C2	T001	A2
C025	C2	T002	A4
C026	C2	T003	A4
C029	C3	T005	C1
C030	C3	T006	B1
C031	C2	VC001	A2
C032	A3	VC002	B1
C033	B3	VD001	B1
C034	C3	VD002	A1
C035	B2	VD003	B1
C036	B4	VD004	C1
C037	B3	VR001	B2
C038	B4	XL1	B3
C039	C4		
C040	B3		
C041	B3		
C042	B4		
C043	B4		
C044	B3		
C047	A1		
C048	B1		
C050	A2		
CN001	C4		
CN002	B1		
D001	A1		
D002	A1		
D003	A4		
D004	C3		
D005	B1		
IC001	B3		
IF001	A3		
IF002	A3		
IF003	C3		
L02	B1		
L001	A2		
Q001	B3		
Q002	B4		
Q003	A2		
R001	A1		
R002	B1		



PCB LAYOUT - BOTTOM VIEW

C01	A1	C014	A3	C029	A2	C039	A3	IC001	A2	R010	A2	R023	B2	R031	B3
C03	B3	C015	A2	C031	A3	C040	B2	Q003	B3	R011	A2	R024	A2	R032	B3
C002	B3	C016	A3	C032	A2	C041	B2	R001	A3	R015	A2	R025	A3	R033	B3
C008	B3	C020	B2	C033	B2	C042	B3	R002	A3	R016	B3	R026	A3	R034	B3
C010	A3	C021	A3	C034	B2	C043	B2	R004	B3	R017	A3	R027	B2		
C011	A2	C022	A3	C036	A3	C044	B3	R005	A2	R019	B3	R028	B3		
C012	A2	C023	A3	C037	A2	C048	A2	R006	A3	R020	A3	R029	B3		
C013	A3	C026	A3	C038	B3	C050	A3	R007	B3	R021	A3	R030	B2		



**ELECTRICAL PARTS LIST - TUNER BOARD (/69 Version)**

**MISCELLANEOUS**

ANT001	9965 000 17361	RF JACK FEMALE TYPE
CN002	9965 000 15855	CONNECTOR S2B-XH-A 2P
IF001	9965 000 17368	CER FILYER 10.7MHz
IF002	9965 000 15868	CER FILTER 10.7MHz
IF003	9965 000 23585	CER FILTER CDA10.7MG-18A
L001	9965 000 23587	MOULDED COIL 2.5T 57-89nH
L02	9965 000 23586	SPRING COIL 0.8X4.5DX(1-2)2.5T
T001	9965 000 22254	AM IFT 450kHz 180pF
T002	9965 000 22255	AM IFT 450kHz 180pF
T003	9965 000 22255	AM IFT 450kHz 180pF
T005	9965 000 22253	OSC COIL AM 120uH (796kHz)
T006	9965 000 15874	ANT OSC AM 4-6:10T 1-3:86T
VC001	9965 000 15866	COND TRIM 4.2 - 20pF N450
VC002	9965 000 15866	COND TRIM 4.2 - 20pF N450
VR001	9965 000 22264	CNTL TRIMMER 100K OHM P=5X5MM
XL1	9965 000 23588	CRYSTAL 75kHz +/-15 PPM COLUMN

**DIODES**

D001	4822 130 30621	1N4148
D002	4822 130 30621	1N4148
D003	4822 130 30621	1N4148
D004	9965 000 17375	DIODE ZENR 11.9-12.4V 0.5W
D005	4822 130 30621	1N4148
VD001	4822 130 30621	1N4148
VD002	4822 130 30621	1N4148
VD003	4822 130 81673	1SV149
VD004	4822 130 81673	1SV149

**TRANSISTORS & INTEGRATED CIRCUITS**

Q001	4822 130 41198	2SC945P
Q002	4822 130 41198	2SC945P
Q003	9965 000 22272	XISTR PNP BF550 SOT23
IC001	9965 000 22265	IC 44P TEA5757H QFP44

Note : Only the parts mentioned in this list are normal service spare parts.

**Voltages**

IC 001 (TEA5757H)																				
PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Voltage	2.1	0	0	0	0.1	0	7.1	10	1.0	0.7	1.2	0.8	1.0	0.6	0.6	1.0	0	1.0	1.2	1.1
PIN NO	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Voltage	2.0	11.2	9.6	0	1.4	0	1.0	0.2	0	0	9.4	1.5	1.6	1.5	1.6	1.5	0.7	1.4	5.7	1.4
PIN NO	41	42	43	44																
Voltage	1.4	0	0	0.3																

Q002 (2SA945P)			
PIN NO	b	c	e
Voltage	10.4	11.2	11.2

Q003 (2SA945P)			
PIN NO	b	c	e
Voltage	10.4	11.2	11.2

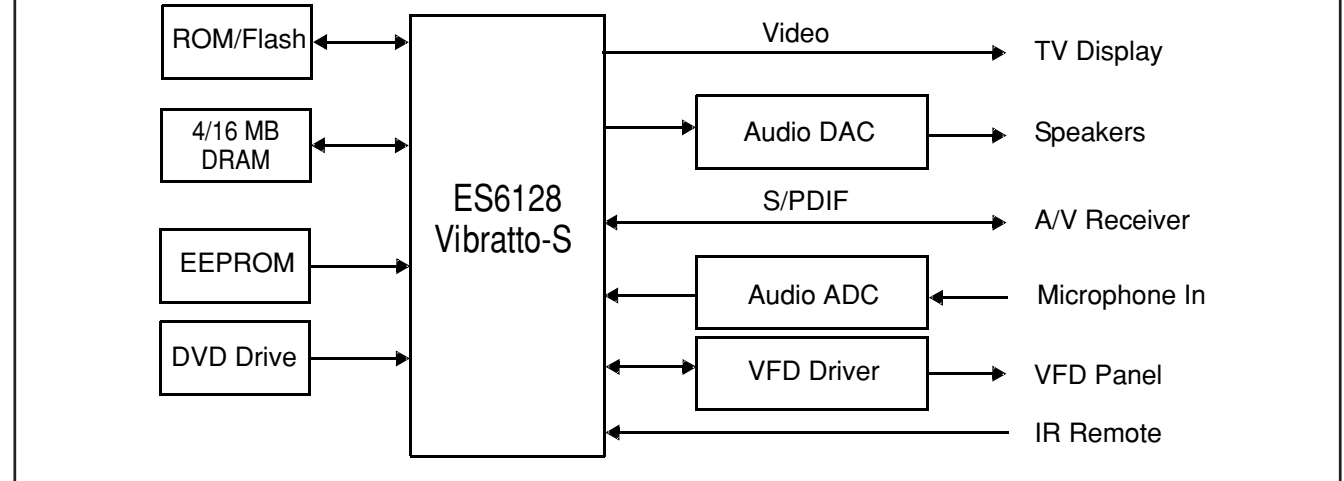
Q004 (BF550)			
PIN NO	b	c	e
Voltage	1.6	0	1.3

# MAIN BOARD

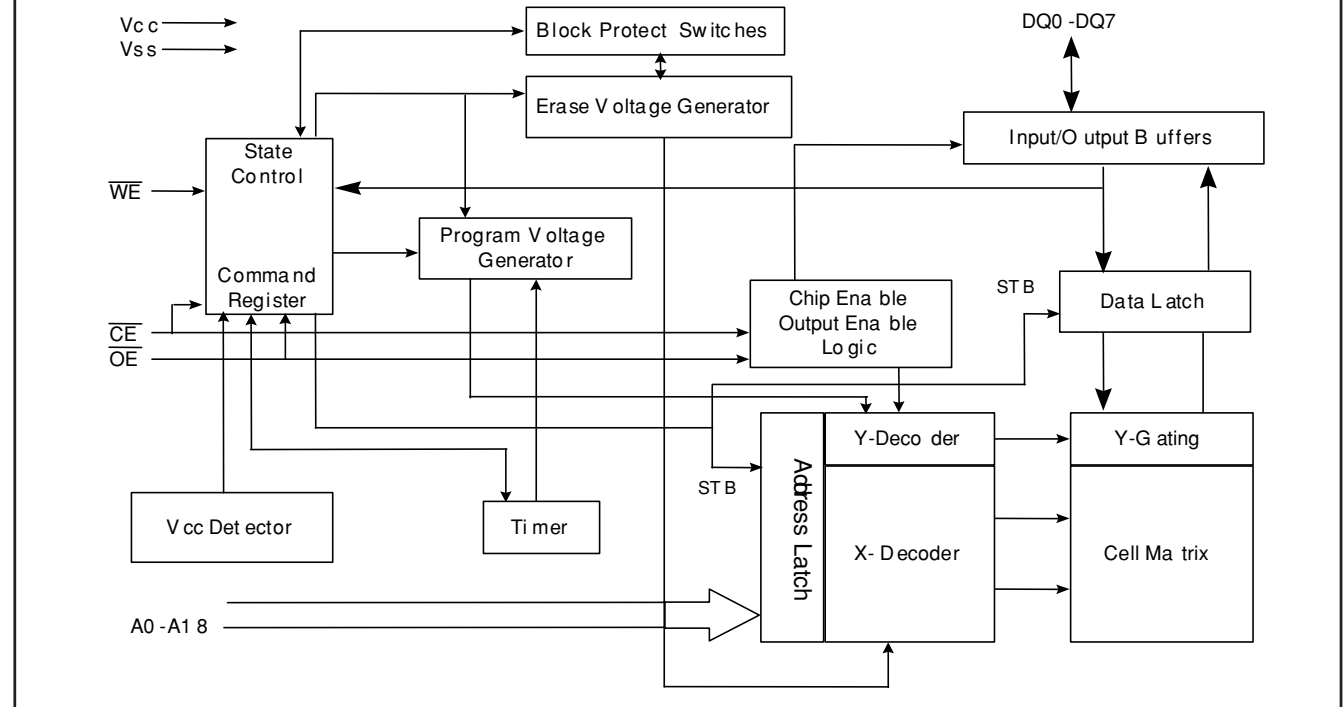
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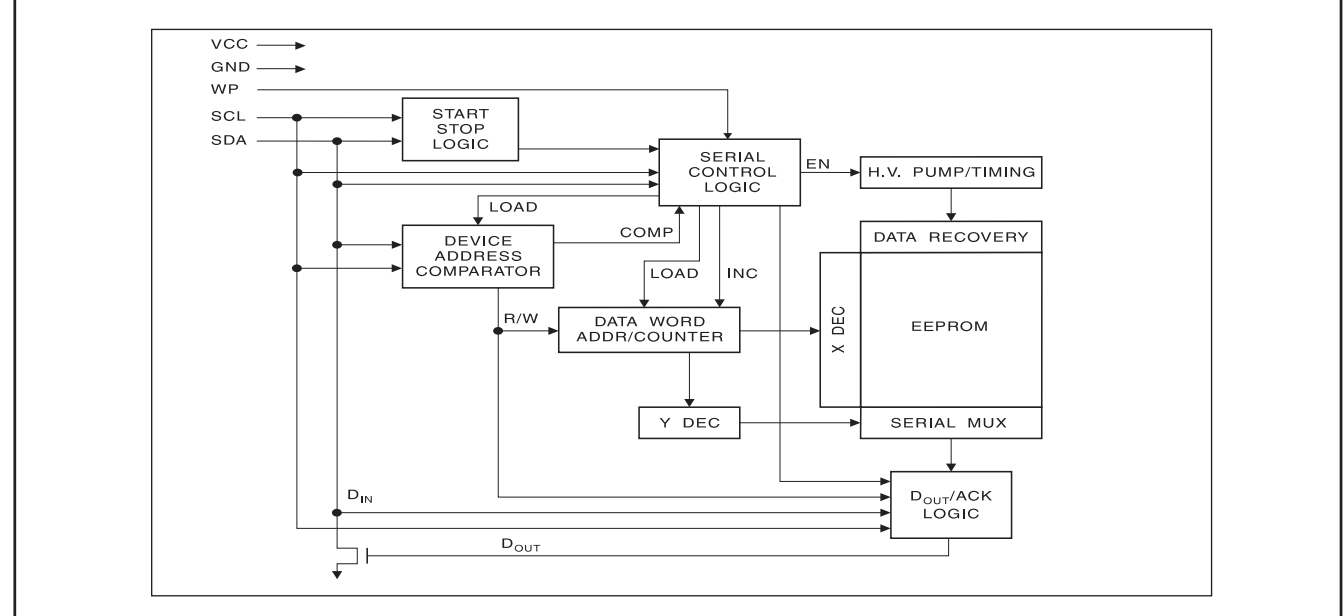
### ES6128 INTERNAL IC DIAGRAM



### EN29F0401 INTERNAL IC DIAGRAM



### M24C02 INTERNAL IC DIAGRAM



**Voltages:**

IC210 (IMP809SEUR-T)																				
PIN NO	1	2	3																	
Voltage	0	3.3	3.3																	

IC301 (TP5228)																				
PIN NO	1	2	3	4	5	6	7	8												
Voltage	0	0	0	0	0	0	0	5												

IC303 & IC304 & IC305 & IC306 & IC307 & IC309 & IC407 & IC408 & IC409 & IC3201 & IC3202 & IC3203 (RC4558D)																				
PIN NO	1	2	3	4	5	6	7	8												
Voltage	0	0	0	-11.5	0	0	0	11.3												

IC401 (M62446)																				
PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Voltage	0	0	0	0	5.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PIN NO	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Voltage	0	0	0	0	0	0	0	0	0	-5.2	0	0	0	0	0	0	0	0	0.1	0.1
PIN NO	41	42																		
Voltage	4.6	5.0																		

IC1002 (EN29F0401)																				
PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Voltage	1.8	0.2	0.8	1.8	1.1	1.3	1.5	1.4	1.4	1.4	0	0	1.8	1.7	1.7	0	1.3	1.3	0.7	1.3
PIN NO	21	22	23	24	25	26	27	28	29	30	31	32								
Voltage	1.3	3.3	0.7	3.2	1.9	2.0	1.7	0.2	3.0	0.2	3.3	5.0								

IC1003 (ES6128)																				
PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Voltage	3.3	1.4	1.5	1.3	1.1	1.7	1.9	0	2.1	0.6	1.8	1.7	0	3.0	0.7	0.2	0	3.3	0.2	1.8
PIN NO	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Voltage	0	0	0	3.3	2.2	0	3.3	1.7	1.6	1.6	2.2	0	1.2	0	2.0	1.1	1.1	1.1	1.4	1.6
PIN NO	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Voltage	1.6	0	0	2.0	1.6	2.0	1.8	1.8	1.8	1.8	3.3	0	0	0.7	0.7	1.7	1.5	0	3.3	0
PIN NO	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Voltage	1.1	0	0	0	0	0	0	3.3	3.3	3.3	3.3	3.3	0	0	3.3	0	0	1.1	1.2	1.3
PIN NO	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
Voltage	1.3	0	0	0	1.3	1.2	1.1	0	1.1	1.1	0	3.3	1.0	1.4	1.5	0.6	3.3	0	3.3	3.3
PIN NO	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
Voltage	0	1.7	0	3.3	1.8	0	0	0	0	0	3.3	0.2	0	0	2.2	1.9	1.8	0	0	0
PIN NO	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
Voltage	1.4	4.0	4.0	1.4	1.3	2.7	3.2	3.3	0	3.3	3.3	0	3.3	0	0	3.3	0	0	2.1	3.3
PIN NO	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
Voltage	0	1.7	0	4.6	4.6	0	0	3.3	0	0	3.3	1.6	0	0.2	0	0	3.3	0.2	3.3	4.6
PIN NO	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
Voltage	4.6	4.2	0	3.3	4.6	4.2	3.8	3.8	0.2	3.3	3.3	0	2.1	3.3	3.3	0	0.9	0.8	0.9	
PIN NO	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
Voltage	0.9	0.9	3.3	0	1.4	2.0	2.0	2.1	2.1	2.1	2.0	0	3.3	2.0	2.0	1.9	1.9	3.3	3.3	0
PIN NO	201	202	203	204	205	206	207	208												
Voltage	3.3	2.0	2.0	0	0	1.4	1.5	0												

IC1004 (SD41620)																				
PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Voltage	3.3	1.2	3.3	1.2	1.2	0	1.3	1.3	3.3	1.3	1.3	0	1.1	3.3	0	3.3	3.3	3.3	3.3	0
PIN NO	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Voltage	0	0	0	0.8	0.7	1.8	3.3	0	2.0	1.4	1.7	1.8	0	0	0	0	3.3	1.7	0	0
PIN NO	41	42	43	44	45	46	47	48	49	50	51	52	53	54						
Voltage	0	1.3	3.3	1.3	1.2	0	1.0	1.0	3.3	1.2	1.3	0	1.3	0						

IC1007 (M24C02)																				
PIN NO	1	2	3	4	5	6	7	8												
Voltage	4.6	4.6	0	5.0	0	0	0	0												

IC1010 (WM8772)																				
PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Voltage	0	1.7	1.7	3.3	0	0	0	0	0	0	0	0	0	5	5	0	5	5	0	0
PIN NO	21	22	23	24	25	26	27	28												
Voltage	0	0	0	0	0	0	0	5												

IC1012 (B1117N)																				
PIN NO	1	2	3	4																
Voltage	0.8	2.1	5.0	0																

IC3001 (TC4052BFN)																				
PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Voltage	0	0	0	0	0	0	-5.3	0	0	0	0	0	0	0	0	5.3				

IC3002 (SN74HC125DR)																				
PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
Voltage	3.3	0.2	1.6	0	1.6	1.6	0	1.3	0.2	3.3	1.3	1.6	0	3.3						

IC3205 (TC4053BFN)																				
PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Voltage	0	0	0	0	0	0	-5.3	0	3.3	3.3	3.3	0	0	0	0	5.3				

IC3206 (TC4053BFN)																				
PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Voltage	0	0	0	0.2	0	0	-5.3	0	3.3	3.3	0	0	0	0	0	5.3				

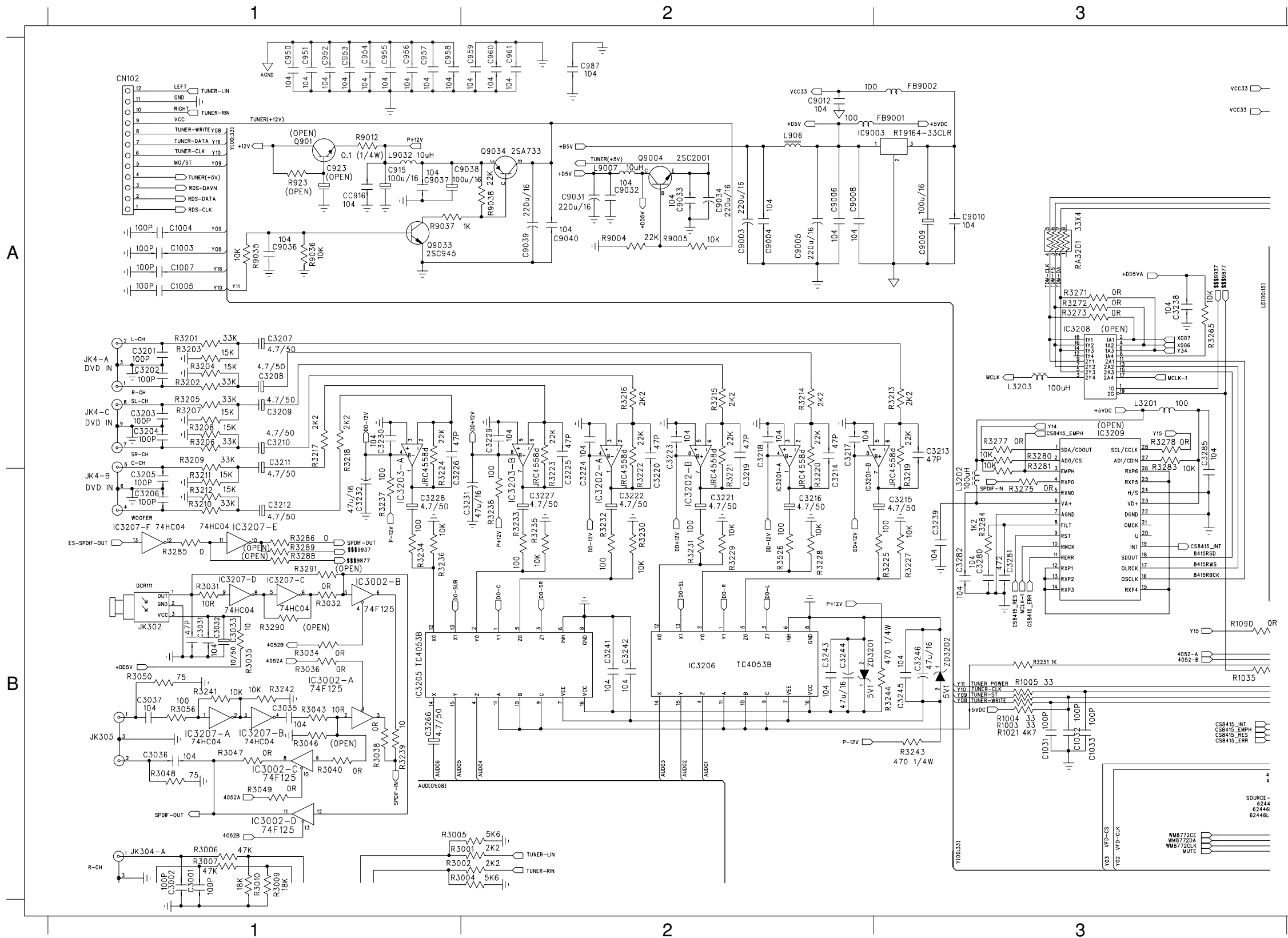
IC3207 & IC7600 (7RHC04D)																				
PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
Voltage	1.6	1.6	1.6	1.7	1.7	1.6	0	1.6	2.1	1.3	1.9	1.9	0	3.3						

IC5100 & IC5200 & IC5300 (TDA8924TH)																				
PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Voltage	-27	0	-0.9	-1.4	-1.4	4.1	2.8	-1.4	-1.4	-0.9	0	-27	-16	27	1.8	-5.5	-27	-13.4	-27	-27
PIN NO	21	22	23	24																
Voltage	-5.5	-1.8	27	-27																

IC7607 (HEF4013BT)																				
PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
Voltage	2.4	2.5	2.4																	



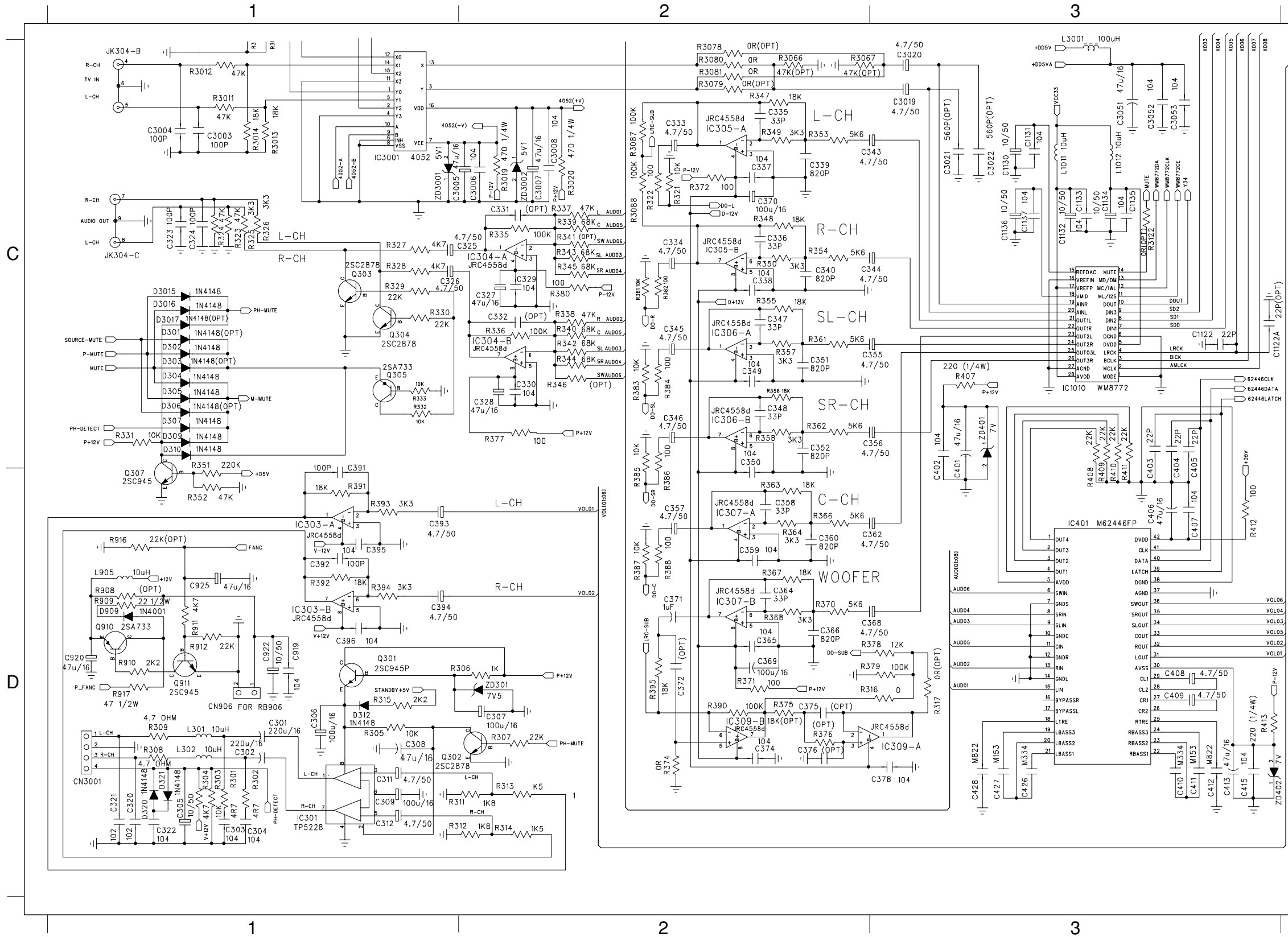
CIRCUIT DIAGRAM - TOP LEFT



C915	A1	C9005	A2	R3050	B1
C950	A1	C9008	A2	R3056	B1
C951	A1	C9009	A3	R3201	A1
C952	A1	C9010	A3	R3202	A1
C953	A1	C9012	A2	R3203	A1
C954	A1	C9031	A2	R3204	A1
C955	A1	C9032	A2	R3205	A1
C956	A1	C9033	A2	R3206	A1
C957	A1	C9034	A2	R3207	A1
C958	A1	C9036	A1	R3208	A1
C959	A2	C9037	A1	R3209	A1
C960	A2	C9038	A2	R3210	B1
C961	A2	C9039	A2	R3211	B1
C987	A2	C9040	A2	R3212	B1
C1003	A1	CC916	A1	R3213	A3
C1004	A1	FB9001	A3	R3215	A2
C1005	A1	FB9002	A3	R3216	A2
C1007	A1	FB9002	A3	R3216	A2
C1031	B3	IC3002-A	B1	R3217	A1
C1032	B3	IC3002-B	B1	R3218	A1
C1033	B3	IC3002-C	B1	R3219	B3
C3001	B2	IC3002-D	B1	R3220	B2
C3002	B2	IC3201-A	B2	R3221	B2
C3031	B1	IC3201-B	B2	R3222	A2
C3032	B1	IC3202-A	B2	R3223	A2
C3033	B1	IC3203-A	B1	R3224	B1
C3035	B1	IC3203-B	B2	R3225	B3
C3036	B1	IC3205	B1	R3227	B3
C3037	B1	IC3206	B2	R3228	B2
C3201	A1	IC3207-A	B1	R3229	B2
C3202	A1	IC3207-B	B1	R3230	B2
C3203	A1	IC3207-C	B1	R3231	B2
C3204	A1	IC3207-D	B1	R3232	B2
C3205	B1	IC3207-E	B1	R3233	B2
C3206	B1	IC3207-F	B1	R3234	B1
C3207	A1	IC9003	A3	R3235	B2
C3208	A1	JK4-A	A1	R3236	B1
C3209	A1	JK4-C	A1	R3237	B1
C3210	A1	JK4-B	B1	R3238	A2
C3211	A1	JK302	B1	R3239	B1
C3212	B1	JK304-A	B1	R3241	B1
C3213	A3	JK305	B1	R3242	B1
C3214	B2	L3201	A3	R3243	B3
C3215	B3	L3202	B3	R3244	B3
C3216	B2	L3203	A3	R3251	B3
C3217	A2	L906	A2	R3265	A3
C3218	A2	L9032	A1	R3272	A3
C3220	A2	Q9004	A2	R3273	A3
C3221	B2	Q9033	A1	R3275	B3
C3222	B2	Q9034	A2	R3277	A3
C3223	A2	R1003	B3	R3278	A3
C3224	A2	R1004	B3	R3280	A3
C3225	A2	R1005	B3	R3281	A3
C3226	B1	R1021	B3	R3283	A3
C3227	B2	R1035	B3	R3284	B3
C3228	B1	R1090	B3	R3285	B1
C3229	A2	R3001	B2	R3286	B1
C3230	A1	R3002	B2	R3526	B2
C3231	B2	R3004	B2	R9004	A2
C3232	B1	R3005	B2	R9005	A2
C3238	A3	R3006	B1	R9012	A1
C3239	B3	R3007	B1	R9035	A1
C3241	B2	R3009	B1	R9036	A1
C3242	B2	R3010	B1	R9037	A1
C3243	B2	R3031	B1	R9038	A2
C3244	B2	R3032	B1	RA3201	A3
C3245	B3	R3034	B1	ZD3201	B2
C3246	B3	R3035	B1	ZD3202	B3
C3266	B1	R3036	B1		
C3280	B3	R3038	B1		
C3281	B3	R3040	B1		
C3282	B3	R3043	B1		
C3285	A3	R3047	B1		
C9003	A2	R3048	B1		
C9004	A2	R3049	B1		

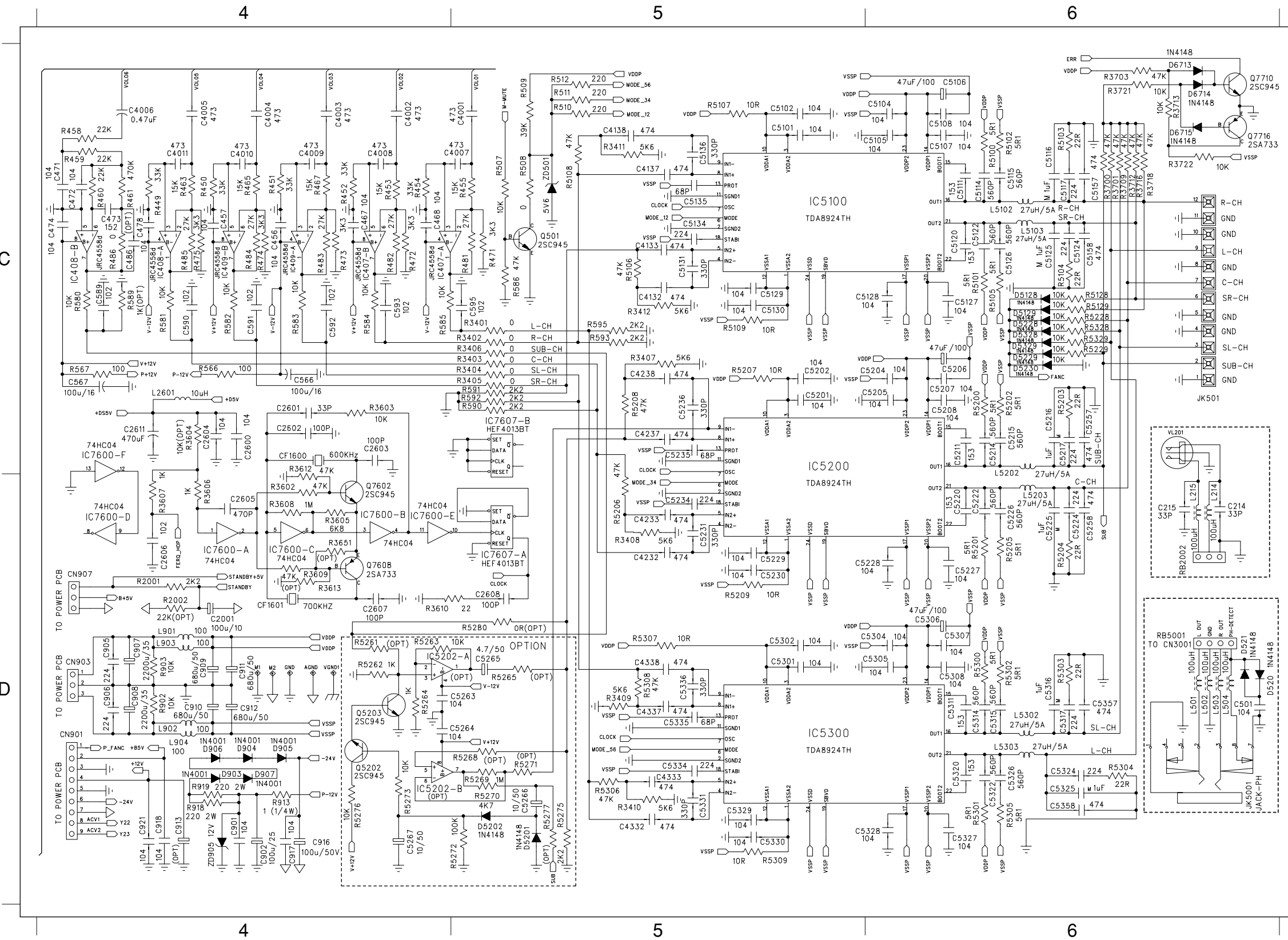


# CIRCUIT DIAGRAM - BOTTOM LEFT



C301	D1	C426	D3	Q911	D1	R391	D1
C302	D1	C427	D3	R301	D1	R392	D1
C303	D1	C428	D3	R302	D1	R393	D1
C304	D1	C919	D1	R303	D1	R394	D1
C305	D1	C920	D1	R304	D1	R395	D2
C306	D1	C922	D1	R305	D1	R407	C3
C307	D2	C925	D1	R306	D2	R408	C3
C308	D1	C1122	C3	R307	D2	R409	C3
C309	D1	C1122A	C3	R308	D1	R410	C3
C310	D1	C1130	C3	R309	D1	R411	C3
C312	D1	C1132	C3	R311	D2	R412	D3
C320	D1	C1132	C3	R312	D2	R413	D3
C321	D1	C1133	C3	R313	D2	R909	D1
C322	D1	C1134	C3	R314	D2	R910	D1
C323	C1	C1135	C3	R315	D1	R911	D1
C324	C1	C1136	C3	R316	D3	R912	D1
C325	C2	C1137	C3	R321	C2	R917	D1
C326	C1	C3003	C1	R322	C2	R3011	C1
C327	C2	C3004	C1	R323	C1	R3012	C1
C328	C2	C3005	C1	R324	C1	R3013	C1
C329	C2	C3006	C2	R325	C1	R3014	C1
C330	C2	C3007	C2	R326	C1	R3019	C2
C333	C2	C3008	C2	R327	C1	R3020	C2
C334	C2	C3019	C3	R328	C1	R3078	C2
C335	C2	C3020	C3	R329	C1	R3079	C2
C336	C2	C3021	C3	R330	C1	R3080	C2
C337	C2	C3022	C3	R331	C1	R3081	C2
C338	C2	C3051	C3	R332	C1	R3087	C2
C339	C2	C3052	C3	R333	C1	R3088	C2
C340	C2	C3053	C3	R335	C2	ZD301	D2
C343	C3	CN906	D1	R336	C2	ZD402	D3
C344	C3	CN3001	D1	R337	C2	ZD3001	C1
C345	C2	D301	C1	R338	C2	ZD3002	C2
C346	C2	D302	C1	R339	C2		
C347	C2	D304	C1	R340	C2		
C348	C2	D305	C1	R342	C2		
C349	C2	D307	C1	R343	C2		
C350	C2	D309	C1	R344	C2		
C351	C2	D310	C1	R345	C2		
C352	C2	D312	D1	R347	C2		
C355	C3	D320	D1	R348	C2		
C356	C3	D321	D1	R349	C2		
C357	D2	D909	D1	R350	C2		
C358	D2	D3015	C1	R351	C1		
C359	D2	D3016	C1	R352	D1		
C360	D2	IC301	D1	R353	C2		
C362	D3	IC401	D3	R354	C2		
C364	D2	IC303-A	D1	R355	C2		
C365	D2	IC303-B	D1	R356	C2		
C366	D2	IC304-A	C2	R357	C2		
C368	D3	IC304-B	C2	R358	C2		
C369	D2	IC305-A	C2	R361	C2		
C370	C2	IC305-B	C2	R362	C2		
C371	D2	IC306-A	C2	R363	D2		
C374	D2	IC306-B	C2	R364	D2		
C378	D3	IC307-A	D2	R366	D2		
C391	D1	IC307-B	D2	R367	D2		
C392	D1	IC309-A	D3	R368	D2		
C394	D1	IC1010	C3	R371	D2		
C395	D1	IC3001	C1	R372	C2		
C396	D1	JK304-B	C1	R374	D2		
C401	C3	JK304-C	C1	R375	D2		
C402	C3	L301	D1	R377	C2		
C403	C3	L302	D1	R378	D3		
C404	C3	L905	D1	R379	D3		
C405	C3	L1011	C3	R380	C2		
C406	D3	L1012	C3	R381	C2		
C407	D3	L3001	C3	R382	C2		
C408	D3	Q301	D1	R383	C2		
C409	D3	Q302	D1	R384	C2		
C410	D3	Q303	C1	R385	D2		
C411	D3	Q304	C1	R386	D2		
C412	D3	Q305	C1	R387	D2		
C413	D3	Q307	D1	R388	D2		
C415	D3	Q910	D1	R390	D2		

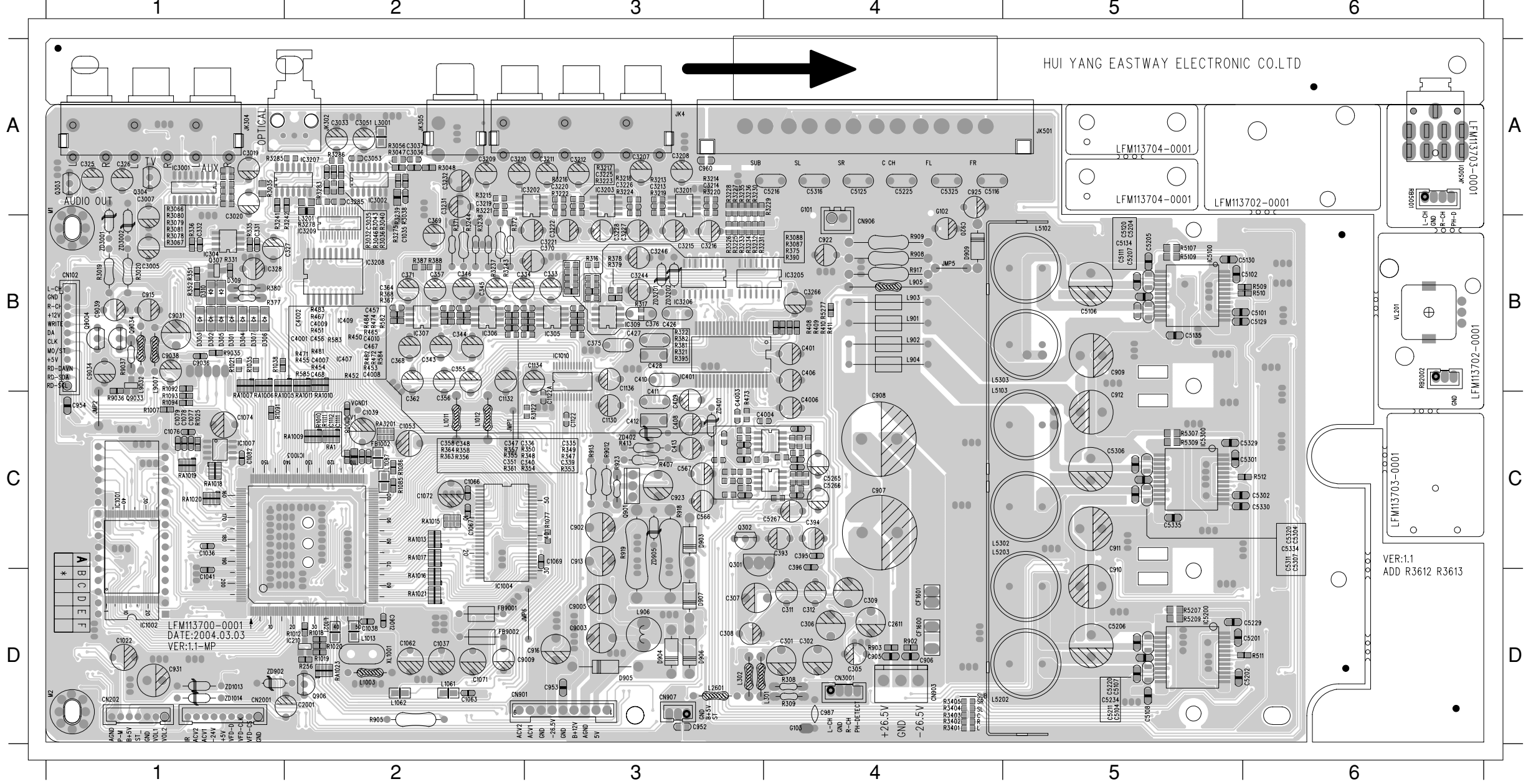
# CIRCUIT DIAGRAM - BOTTOM RIGHT



C214	D6	C5127	C6	D5329	C6	R595	C5
C215	D6	C5128	C6	D6713	C6	R902	D4
C456	C4	C5129	C5	D6714	C6	R903	D4
C457	C4	C5130	C5	D6715	C6	R913	D4
C467	C4	C5131	C5	IC407-A	C4	R918	D4
C468	C4	C5134	C5	IC407-B	C4	R919	D4
C471	C4	C5135	C5	IC408-A	C4	R2001	D4
C472	C4	C5136	C5	IC409-A	C4	R3401	C5
C473	C4	C5157	C6	IC409-B	C4	R3402	C5
C474	C4	C5158	C6	IC408-B	C4	R3403	C5
C478	C4	C5201	C5	IC5200	C5	R3404	C5
C501	D6	C5202	C5	IC5300	D5	R3405	C5
C566	C4	C5204	C6	IC7600-A	D4	R3406	C5
C567	C4	C5205	C6	IC7600-B	D4	R3407	C5
C589	C4	C5206	C6	IC7600-C	D4	R3408	D5
C590	C4	C5207	C6	IC7600-D	D4	R3410	D5
C591	C4	C5208	C6	IC7600-E	D4	R3411	C5
C592	C4	C5211	C6	IC7600-F	C4	R3412	C5
C593	C4	C5214	C6	IC7607-A	D5	R3602	D4
C595	C5	C5215	C6	JK501	C6	R3603	C4
C901	D4	C5216	C6	JK5001	D6	R3604	C4
C902	D4	C5217	C6	L214	D6	R3605	D4
C905	D4	C5220	D6	L215	D6	R3606	D4
C906	D4	C5222	D6	L502	D6	R3607	D4
C907	D4	C5224	D6	L503	D6	R3608	D4
C908	D4	C5225	D6	L504	D6	R3609	D4
C909	D4	C5226	D6	L901	D4	R3610	D4
C910	D4	C5227	D6	L902	D4	R3612	C4
C911	D4	C5228	D6	L903	D4	R3700	C6
C912	D4	C5229	D5	L904	D4	R3701	C6
C916	D4	C5230	D5	L2601	C4	R3703	C6
C917	D4	C5231	D5	L5102	C6	R3709	C6
C918	D4	C5234	D5	L5103	C6	R3712	C6
C921	D4	C5235	C5	L5202	C6	R3713	C6
C2001	D4	C5236	C5	L5203	C6	R3716	C6
C2600	C4	C5257	D6	L5302	D6	R3718	C6
C2601	C4	C5258	D6	L5303	D6	R3721	C6
C2602	C4	C5263	D5	Q5202	D4	R3722	C6
C2603	C4	C5264	D5	Q5203	D4	R5100	C6
C2604	C4	C5265	D5	Q7602	D4	R5101	C6
C2605	D4	C5266	D5	Q7608	D4	R5102	C6
C2606	D4	C5267	D4	Q7710	C6	R5103	C6
C2607	D4	C5301	D5	Q7716	C6	R5104	C6
C2608	D5	C5302	D5	R449	C4	R5105	C6
C2611	C4	C5304	D6	R450	C4	R5106	C5
C4001	C5	C5305	D6	R451	C4	R5107	C5
C4002	C4	C5306	D6	R452	C4	R5108	C5
C4003	C4	C5307	D6	R453	C4	R5109	C5
C4004	C4	C5308	D6	R454	C4	R5128	C6
C4005	C4	C5311	D6	R455	C5	R5129	C6
C4006	C4	C5314	D6	R458	C4	R5200	C6
C4007	C5	C5315	D6	R459	C4	R5201	D6
C4008	C4	C5316	D6	R460	C4	R5202	C6
C4009	C4	C5317	D6	R461	C4	R5203	C6
C4010	C4	C5320	D6	R463	C4	R5204	D6
C4011	C4	C5322	D6	R465	C4	R5205	D6
C4132	C5	C5324	D6	R467	C4	R5207	C5
C4133	C5	C5325	D6	R471	C5	R5208	D5
C4137	C5	C5326	D6	R472	C4	R5209	D5
C4138	C5	C5327	D6	R473	C4	R5228	C6
C4232	D5	C5328	D6	R474	C4	R5229	C6
C4233	D5	C5329	D5	R475	C4	R5262	D4
C4237	C5	C5330	D5	R481	C5	R5263	D4
C4238	C5	C5331	D5	R482	C4	R5264	D4
C4332	D5	C5334	D5	R483	C4	R5269	D5
C4333	D5	C5335	D5	R484	C4	R5270	D6
C4337	D5	C5336	D5	R485	C4	R5272	D5
C4338	D5	CF1600	C4	R486	C4	R5275	D6
C5101	C5	CF1601	D4	R507	C5	R5276	D4
C5102	C5	CN901	D4	R508	C5	R5273	D4
C5103	C6	CN903	D4	R509	C5	R5280	D6
C5104	C6	CN907	D4	R510	C5	R5300	D6
C5105	C6	D520	D6	R511	C5	R5301	D6
C5106	C6	D521	D6	R512	C5	R5302	D6
C5107	C6	D522	D6	R513	C5	R5303	D6
C5108	C6	D523	D6	R514	C5	R5304	D6
C5109	C6	D524	D6	R515	C5	R5305	D6
C5110	C6	D525	D6	R516	C5	R5306	D5
C5111	C6	D526	D6	R517	C5	R5307	D5
C5112	C6	D527	D6	R518	C5	R5308	D5
C5113	C6	D528	D6	R519	C5	R5309	D5
C5114	C6	D529	D6	R520	C5	R5310	D5
C5115	C6	D530	D6	R521	C5	R5311	D5
C5116	C6	D531	D6	R522	C5	R5312	D5
C5117	C6	D532	D6	R523	C5	R5313	D5
C5118	C6	D533	D6	R524	C5	R5314	D5
C5119	C6	D534	D6	R525	C5	R5315	D5
C5120	C6	D535	D6	R526	C5	R5316	D5
C5121	C6	D536	D6	R527	C5	R5317	D5
C5122	C6	D537	D6	R528	C5	R5318	D5
C5123	C6	D538	D6	R529	C5	R5319	D5
C5124	C6	D539	D6	R530	C5	R5320	D5
C5125	C6	D540	D6	R531	C5	R5321	D5
C5126	C6	D541	D6	R532	C5	R5322	D5
C5127	C6	D542	D6	R533	C5	R5323	D5
C5128	C6	D543	D6	R534	C5	R5324	D5
C5129	C6	D544	D6	R535	C5	R5325	D5
C5130	C6	D545	D6	R536	C5	R5326	D5
C5131	C6	D546	D6	R537	C5	R5327	D5
C5132	C6	D547	D6	R538	C5	R5328	D5
C5133	C6	D548	D6	R539	C5	R5329	D5
C5134	C6	D549	D6	R540	C5	R5330	D5
C5135	C6	D550	D6	R541	C5	R5331	D5
C5136	C6	D551	D6	R542	C5	R5332	D5
C5137	C6	D552	D6	R543	C5	R5333	D5
C5138	C6	D553	D6	R544	C5	R5334	D5
C5139	C6	D554	D6	R545	C5	R5335	D5
C5140	C6	D555	D6	R546	C5	R5336	D5
C5141	C6	D556	D6	R547	C5	R5337	D5
C5142	C6	D557	D6	R548	C5	R5338	D5
C5143	C6	D558	D6	R549	C5	R5339	D5
C5144	C6	D559	D6	R550	C5	R5340	D5
C5145	C6	D560	D6	R551	C5	R5341	D5
C5146	C6	D561	D6	R552	C5	R5342	D5
C5147	C6	D562	D6	R553	C5	R5343	D5
C5148	C6	D563	D6	R554	C5	R5344	D5
C5149	C6	D564	D6	R555	C5	R5345	D5
C5150	C6	D565	D6	R556	C5	R5346	D5
C5151	C6	D566	D6	R557	C5	R5347	D5
C5152	C6	D567	D6	R558	C5	R5348	D5
C5153	C6	D568	D6	R559	C5	R5349	D5
C5154	C6	D569	D6	R560	C5	R5350	D5
C5155	C6	D570	D6	R561	C5	R5351	D5
C5156	C6	D571	D6	R562	C5	R5352	D5
C5157	C6	D572	D6	R563	C5	R5353	D5
C5158	C6	D573	D6	R564	C5	R5354	D5
C5159	C6	D574	D6	R565	C5	R5355	D5
C5160	C6	D575	D6	R566	C5	R5356	D5
C5161	C6	D576	D6	R567	C5	R5357	D5
C5162	C6	D577	D6	R568	C5	R5358	D5
C5163	C6	D578	D6	R569	C5	R5359	D5
C5164	C6	D579	D6	R570	C5	R5360	D5
C5165	C6	D580	D6	R571	C5	R5361	D5
C5166	C6	D581	D6	R572	C5	R5362	D5
C5167	C6	D582	D6	R573	C5	R5363	D5
C5168	C6	D583	D6	R574	C5	R5364	D5
C5169	C6	D584	D6	R575	C5	R5365	D5
C5170	C6	D585	D6	R576	C5	R5366	D5
C5171	C6	D586	D6	R577	C5	R5367	D5
C5172	C6	D587	D6	R578	C5	R5368	D5
C5173	C6	D588	D6	R579	C5	R5369	D5
C5174	C6	D589	D6	R580	C5	R5370	D5
C5175	C6	D590	D6	R581	C5	R5371	D5
C5176	C6	D591	D6	R582	C5	R5372	D5
C5177	C6	D592	D6	R583	C5	R5373	D5
C5178	C6	D593	D6	R584	C5	R5374	D5
C5179	C6	D594	D6	R585	C5	R5375	D5
C5180	C6	D595	D6	R586	C5	R5376	D5
C5181	C6	D596	D6	R587	C5	R5377	D5
C5182	C6	D597	D6	R588	C5	R5378	D5
C5183	C6	D598	D6	R589	C5	R5379	D5
C5184	C6	D599	D6	R590	C5	R5380	D5
C5185	C6	D600	D6	R591	C5	R5381	D5
C5186	C6	D601	D6	R592	C5	R5382	D5
C5187	C6	D602	D6	R593	C5	R5383	D5
C5188	C6	D603	D6	R594	C5	R5384	D5
C5189	C6	D604	D6	R595	C5	R5385	D5
C5190	C6	D605	D6	R596	C5	R5386	D5
C5191	C6	D606	D6	R597	C5	R5387	D5
C5192	C6	D607	D6	R598	C5	R5388	D5
C5193	C6	D608	D6	R599	C5	R5389	D5
C5194	C6	D609	D6	R600	C5	R5390	D5
C5195	C6	D610	D6	R601	C5	R5391	D5
C5196	C6	D611	D6	R602	C5	R5392	D5
C5197	C6	D612	D6	R603	C5	R5393	D5
C5198	C6	D613	D6	R604	C5	R5394	D5
C5199	C6	D614	D6	R605	C5	R5395	D5
C5200	C6	D615	D6	R606	C5	R5396	D5
C5201	C6	D616	D6	R607	C5	R5397	D5
C5202	C6	D617	D6	R608	C5	R5398	D5
C5203	C6	D618	D6	R609	C5	R5399	D5
C5204	C6	D619	D6	R610	C5	R5400	D5
C5205	C6	D620	D6	R611	C5	R5401	D5
C5206	C6	D621	D6	R612	C5	R5402	D5
C5207	C6	D622	D6	R613	C5	R5403	D5
C5208	C6	D623	D6	R614	C5	R5404	D5
C5209	C6	D624	D6	R615	C5	R5405	D5
C5210	C6	D625	D6	R616	C5	R5406	D5
C5211	C6	D626	D6	R617	C5	R5407	D5
C5212	C6	D627	D6	R618	C5	R5408	D5
C5213	C6	D628	D6	R619	C5	R5409	D5
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C5215	C6	D630	D6	R621	C5	R5411	D5

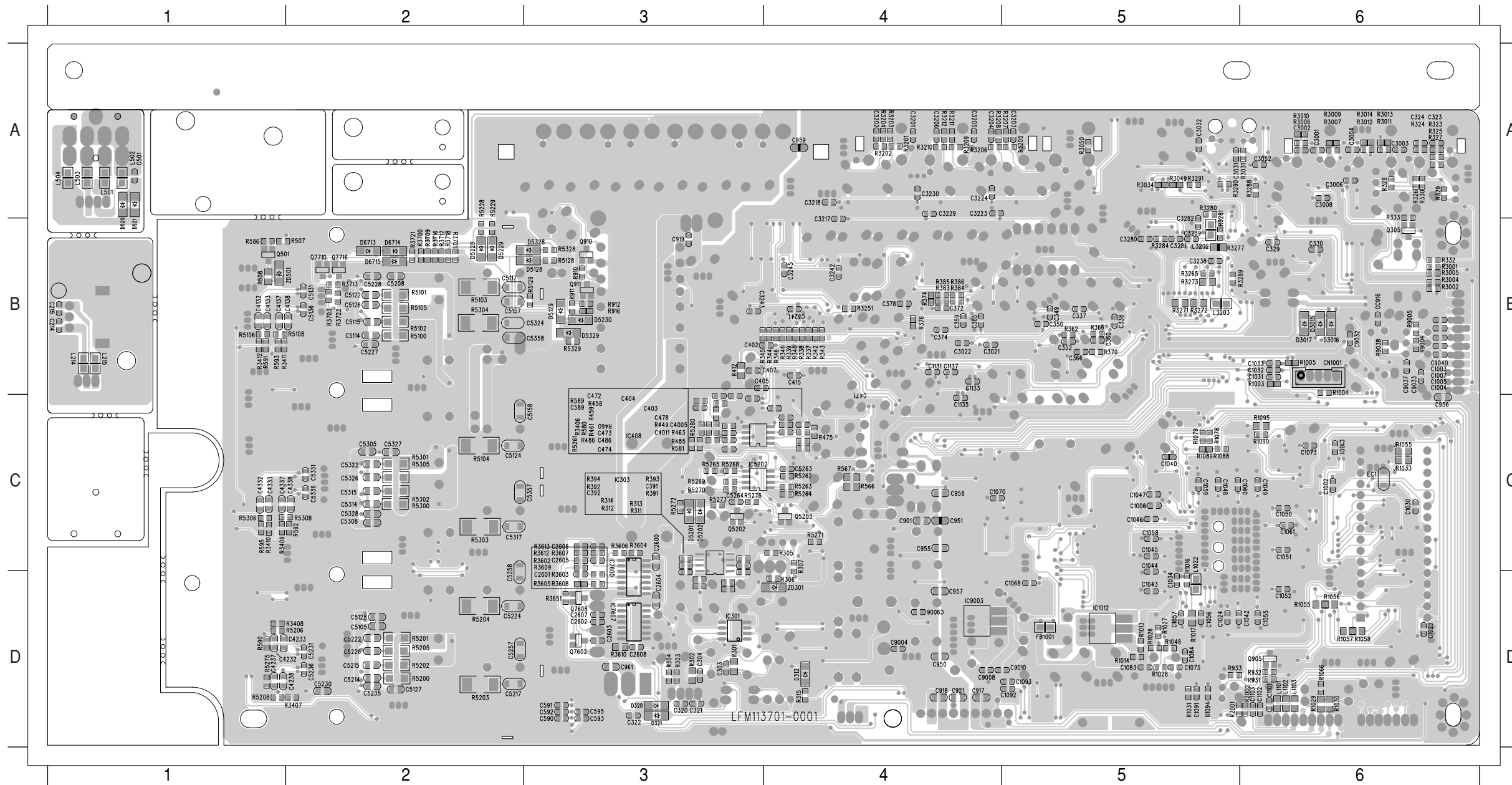
# PCB LAYOUT - TOP VIEW

C301	D4	C351	C2	C428	B3	C987	D4	C1122	C3	C3214	A3	C4010	B2	C5225	A4	C9036	B1	D909	B4	IC3207	A2	L1011	C2	Q9034	B1	R367	B2	R454	B2	R917	B4	R3036	B2	R3225	B3	R3403	D4	RA1018	C1
C302	D4	C355	B2	C456	B2	C1008	C2	C1122A	C3	C3215	B3	C5101	B6	C5229	D6	C9038	B1	FB1002	C2	IC3208	B2	L1012	C2	R256	D2	R368	B2	R455	B2	R918	C3	R3038	A2	R3227	A3	R3404	D4	RA1019	C1
C305	D4	C356	C2	C457	B2	C1022	D1	C1130	C3	C3216	B3	C5102	B5	C5234	D5	C9039	B1	FB9001	D2	IC3209	B2	L1013	D2	R308	D4	R371	B2	R465	B2	R919	C3	R3040	B2	R3228	A3	R3405	D4	RA1020	C1
C306	D4	C357	B2	C467	B2	C1035	B2	C1132	C2	C3219	A2	C5104	D5	C5265	C4	CF1600	D4	FB9002	D2	IC5100	B5	L1021	D2	R309	D4	R372	B2	R467	B2	R1007	C1	R3043	B2	R3229	A4	R3526	B3	RA1021	D2
C307	D3	C358	C2	C468	B2	C1036	C1	C1134	B3	C3220	A3	C5106	B5	C5266	C4	CF1601	D4	IC210	D2	IC5200	D5	L1061	D2	R316	B3	R375	B4	R471	B2	R1010	C2	R3047	A2	R3230	A3	R5107	B5	RA1023	D2
C308	D3	C362	C2	C566	C3	C1037	D2	C1136	B3	C3221	B3	C5107	D5	C5267	C4	CN102	B1	IC304	B1	IC5300	C5	L1062	D2	R321	B3	R377	B1	R472	B2	R1012	D2	R3048	A2	R3231	B3	R5109	B5	RA3201	C2
C309	D4	C364	B2	C567	C3	C1038	D2	C2001	D2	C3222	B3	C5108	D5	C5301	C6	CN202	D1	IC305	B3	J K4	A3	L1087	C2	R322	B3	R378	B3	R473	C3	R1018	D2	R3056	A2	R3232	B3	R5207	D5	RB2002	B6
C311	D4	C368	B2	C902	C3	C1039	C2	C2611	D4	C3225	A3	C5111	B5	C5302	C6	CN901	D2	IC306	B2	J K302	A2	L2601	D3	R331	B1	R379	B3	R474	B2	R1019	D2	R3078	B1	R3233	B3	R5209	D5	RB5001	A6
C312	D4	C369	B2	C905	D4	C1041	D1	C3005	B1	C3226	A3	C5116	A4	C5304	C6	CN903	D4	IC307	B2	J K304	A1	L3001	A2	R335	B1	R380	B1	R481	B2	R1020	D2	R3079	B1	R3234	B3	R5307	C5	VL201	B6
C325	A1	C370	B3	C906	D4	C1053	C2	C3007	A1	C3227	B3	C5120	B5	C5306	C5	CN906	B4	IC309	B3	J K305	A2	L3201	B2	R336	B1	R381	B3	R482	B2	R1021	B1	R3080	A1	R3235	A3	R5309	C5	XL1001	D2
C326	A1	C371	B2	C907	C4	C1062	D2	C3019	A1	C3228	B3	C5125	A4	C5307	C6	CN907	D3	IC401	B3	J K501	A5	L5102	B5	R347	C3	R382	B3	R483	B2	R1025	C1	R3081	B1	R3236	A3	R9012	C3	ZD401	C3
C327	B2	C393	C4	C908	C4	C1063	D2	C3020	A1	C3231	A2	C5129	B6	C5311	C6	CN2001	D1	IC407	B2	J K5001	A6	L5103	C5	R348	C3	R387	B2	R484	B2	R1035	B1	R3087	B4	R3237	B2	R9035	B1	ZD402	C3
C328	B1	C394	C4	C909	B5	C1066	C2	C3033	A2	C3232	A2	C5130	B5	C5316	A4	CN3001	D4	IC409	B2	J MP1	C2	L5202	D5	R349	C3	R388	B2	R509	B6	R1038	B1	R3088	B4	R3238	B2	R9036	B1	ZD905	C3
C333	B3	C395	C4	C910	D5	C1067	C2	C3035	B2	C3244	B3	C5134	B5	C5320	C6	D301	B1	IC1002	D1	J MP2	C1	L5203	C5	R350	C3	R390	B4	R510	B6	R1077	C3	R3213	A3	R3239	A2	R9037	B1	ZD1013	D1
C334	B2	C396	C4	C911	C5	C1069	C3	C3036	A2	C3246	B3	C5135	B5	C5325	A4	D302	B1	IC1003	C2	J MP5	B4	L5302	C5	R351	B1	R395	B3	R511	D6	R1085	C2	R3214	A3	R3241	A1	RA1	C2	ZD1014	D1
C335	C3	C401	B4	C912	C5	C1071	D2	C3037	A2	C3266	B4	C5201	D6	C5329	C6	D304	B1	IC1004	D2	J MP6	D3	L5303	B5	R352	B1	R407	C3	R512	C6	R1086	C2	R3215	A2	R3242	A2	RA1005	C1	ZD3001	B1
C336	C3	C406	B4	C915	B1	C1072	C2	C3051	A2	C3285	A2	C5202	D6	C5330	C6	D305	B1	IC1007	C1	L301	D4	L9007	B1	R353	B3	R408	B4	R582	B2	R1091	C1	R3216	A3	R3243	B2	RA1006	C1	ZD3002	B1
C339	C3	C408	C3	C916	D3	C1074	C1	C3053	A2	C4001	B2	C5204	B5	C5334	C6	D307	B1	IC1010	B3	L302	D3	L9032	B1	R354	C3	R409	B4	R583	B2	R1092	B1	R3217	A3	R3244	B2	RA1007	C1	ZD3201	B3
C340	C3	C409	C3	C920	B4	C1076	C1	C3207	A3	C4002	B2	C5205	B5	C5335	C5	D309	B1	IC3001	A1	L901	B4	Q301	C3	R355	C2	R410	B4	R584	B2	R1093	C1	R3218	A3	R3275	B2	RA1009	C2	ZD3202	B3
C343	B2	C410	B3	C922	B4	C1077	C1	C3208	A3	C4003	C3	C5205	B5	C9003	D3	D310	B1	IC3002	A2	L902	B4	Q302	C3	R356	C2	R411	B4	R585	B2	R1094	C1	R3219	A3	R3278	B2	RA1010	C2		
C344	B2	C411	C3	C925	A4	C1078	C1	C3209	A2	C4004	C4	C5206	D5	C9005	D3	D903	C3	IC3201	A3	L903	B4	Q303	A1	R357	C2	R413	C3	R902	D4	R1111	C2	R3220	A3	R3283	A2	RA1011	C2		
C345	B2	C412	C3	C925	D3	C1079	C1	C3210	A2	C4006	C4	C5207	B5	C9009	D2	D904	D3	IC3202	A3	L904	B4	Q304	A1	R358	C2	R450	B2	R903	D4	R3019	B1	R3221	A2	R3285	A1	RA1013	C2		
C346	B2	C413	C3	C953	D3	C1082	C1	C3211	A3	C4007	B2	C5211	D5	C9012	D2	D905	D3	IC3203	A3	L905	B4	Q307	B1	R361	C2	R451	B2	R905	D2	R3020	B1	R3222	A3	R3286	A2	RA1015	C2		
C347	C2	C426	B3	C954	C1	C1111	C2	C3212	A3	C4008	B2	C5216	A4	C9031	B1	D906	D3	IC3205	B4	L906	D3	Q9004	B1	R363	C2	R452	B2	R909	B4	R3032	B2	R3223	A3	R3401	D4	RA1016	D2		
C348	C2	C427	B3	C960	A3	C1112	C2	C3213	A3	C4009	B2	C5220	D5	C9034	B1	D907	D3	IC3206	B3	L1003	D2	Q9033	B1	R364	C2	R453	B2	R913	C3	R3035	A1	R3224	A3	R3402	D4	RA1017	C2		



# PCB LAYOUT - BOTTOM VIEW

C214	B1	C403	C3	C956	C6	C1047	C5	C1103	D6	C3201	A4	C4137	B1	C5215	D2	C5331	C2	D5228	B2	L1022	C5	R313	C3	R383	B4	R590	D1	R1088	C5	R3207	A5	R3605	D3	R5128	B3	R5303	C2
C215	B1	C404	C3	C957	D4	C1048	C5	C1131	B4	C3202	A4	C4138	B2	C5217	D2	C5336	C2	D5229	B2	L1101	D6	R314	C3	R384	B4	R591	B1	R1090	C6	R3208	A4	R3606	C3	R5129	B3	R5304	B2
C303	D3	C405	B3	C958	C4	C1049	C6	C1133	B4	C3203	A5	C4232	D1	C5222	D2	C5357	C3	D5230	B3	L1102	D6	R315	D4	R385	B4	R592	C2	R2001	D5	R3209	A4	R3607	C3	R5200	D2	R5305	C2
C304	D3	C407	B4	C959	A4	C1050	C6	C1135	C4	C3204	A4	C4233	D2	C5224	D2	C5358	B3	C5322	C2	L1103	D6	R323	A6	R386	B4	R593	B1	R3001	B6	R3210	A4	R3608	D3	R5201	D2	R5306	C1
C320	D3	C415	B4	C961	D3	C1051	C6	C1137	B4	C3205	A4	C4237	D1	C5226	D2	C9004	D4	D5328	B3	L3202	B5	R324	A6	R391	C3	R595	C1	R3002	B6	R3211	A4	R3609	C3	R5202	D2	R5308	C2
C321	D3	C471	B4	C1001	C6	C1052	D6	C2600	C3	C3206	A4	C4238	D2	C5227	B2	C9006	D4	D5329	B3	L3203	B5	R325	A6	R392	C3	R910	B3	R3004	B6	R3212	A4	R3610	D3	R5203	D2	R5328	B3
C322	D3	C472	C3	C1002	C6	C1055	D6	C2601	D3	C3217	A4	C4332	C1	C5227	D2	C9008	D4	D6713	B2	Q305	B6	R326	A6	R393	C3	R911	B3	R3005	B6	R3251	B4	R3612	C3	R5204	D2	R5329	B3
C392	C3	C473	C3	C1003	B6	C1056	D5	C2602	D3	C3218	A4	C4333	C1	C5228	B2	C9010	D5	D6714	B2	Q501	B1	R327	A6	R394	C3	R912	B3	R3006	A6	R3265	B5	R3700	B2	R5205	D2	R9004	B6
C323	A6	C474	C3	C1004	B6	C1057	D5	C2603	D3	C3223	A4	C4337	C1	C5230	D2	C9032	B6	D6715	B2	Q910	B3	R328	A6	R412	B3	R1003	B6	R3007	A6	R3271	B5	R3701	B2	R5206	D2	R9005	B6
C324	A6	C478	C3	C1005	B6	C1058	C5	C2604	D3	C3224	A4	C4338	C2	C5231	D2	C9033	B6	EC1	C6	Q911	B3	R329	A6	R449	C3	R1004	B6	R3009	A6	R3272	B5	R3703	B2	R5208	D1	R9038	B6
C329	B6	C501	A1	C1006	C5	C1059	C5	C2605	C3	C3229	A4	C5105	D2	C5235	D2	C9037	B6	FB1001	D5	Q5202	C3	R330	A6	R458	C3	R1005	B6	R3010	A6	R3273	B5	R3709	B2	R5228	A2	ZD501	D4
C330	B6	C589	C3	C1007	B6	C1060	C6	C2606	C3	C3230	A4	C5114	B2	C5236	D2	C9040	B6	IC301	D3	Q5203	C4	R332	B6	R459	C3	R1013	D5	R3011	A6	R3277	B5	R3712	A2	R5229	A2	ZD501	B2
C337	B5	C590	D3	C1023	D6	C1061	C6	C2607	D3	C3238	B5	C5115	B2	C5257	D2	CC916	B6	IC303	C3	Q7602	D3	R333	A6	R460	C3	R1014	D5	R3012	A6	R3280	A5	R3713	B2	R5262	C4		
C338	B5	C591	D3	C1024	D5	C1068	D5	C2608	D3	C3239	B5	C5117	B2	C5258	D2	CN1001	B6	IC408	C3	Q7608	D3	R337	B4	R461	C3	R1026	D5	R3013	A6	R3281	B5	R3716	B2	R5263	C4		
C349	B5	C592	D3	C1030	C6	C1070	C4	C3001	A6	C3241	B4	C5122	B2	C5263	C2	D312	D4	IC1012	D5	Q7710	B2	R338	B4	R463	C3	R1027	D5	R3014	A6	R3284	B5	R3718	B2	R5264	C4		
C350	B5	C593	D3	C1031	B6	C1073	C6	C3002	A6	C3242	B4	C5124	C2	C5264	C3	D320	D3	IC7600	C3	Q7716	B2	R339	B4	R475	C4	R1028	D5	L3031	A6	R3406	C3	R3721	B2	R5269	C3		
C352	B5	C595	D3	C1032	B6	C1075	D5	C3003	A6	C3243	B3	C5126	B2	C5305	C2	D321	D3	IC7607	D3	R301	D3	R340	B4	R485	C3	R1029	D6	R3034	A5	R3407	D2	R3722	B2	R5270	C3		
C359	B4	C901	C4	C1033	B6	C1083	D5	C3021	A6	C3245	B4	C5127	D2	C5308	C2	D520	A1	IC9003	D4	R302	D3	R342	B4	R486	C3	R1030	D6	R3049	A5	R3408	D2	R5100	B2	R5272	C3		
C360	B5	C917	D4	C1034	D5	C1084	D5	C3006	A6	C3280	B5	C5128	D2	C5314	C2	D521	A1	JR1033	C6	R303	D3	R343	B4	R507	B2	R1031	D5	R3050	A5	R3409	C1	R5101	B2	R5273	C3		
C365	B4	C918	D4	C1040	C5	C1091	D5	C3008	A6	C3281	B5	C5131	B2	C5315	C2	D3015	B6	L214	B1	R304	D3	R344	B4	R508	B1	R1048	D5	R3201	A4	R3410	C1	R5102	B2	R5275	D1		
C366	B5	C919	B3	C1042	D6	C1092	D5	C3021	B4	C3282	B5	C5136	B2	C5317	C2	D3016	B6	L215	B1	R305	C4	R345	B3	R566	C4	R1055	D6	R3202	A4	R3411	B1	R5103	B2	R5276	C3		
C374	B4	C921	D4	C1043	D5	C1093	D5	C3022	B4	C4005	C3	C5157	B2	C5324	B3	D5128	B3	L501	A1	R306	D4	R362	B5	R567	C4	R1057	D6	R3203	A4	R3412	B1	R5104	C2	R5280	C3		
C378	B4	C950	D4	C1044	C5	C1094	D5	C3031	A5	C4011	C3	C5158	C3	C5326	C2	D5129	B3	L502	A1	R307	C4	R366	B5	R580	C3	R1066	D6	R3204	A4	R3602	C3	R5105	B2	R5300	C2		
C391	C3	C951	C4	C1045	C5	C1101	D6	C3032	A5	C4132	B1	C5208	B2	C5327	C2	D5201	C3	L503	A1	R311	C3	R370	B5	R581	C3	R1078	C5	R3205	A5	R3603	D3	R5106	B1	R5301	C2		
C402	B3	C955	C4	C1046	C5	C1102	D6	C3052	A6	C4133	B1	C5214	D2	C5328	C2	D5202	C3	L504	A1	R312	C3	R374	B4	R586	B1	R1079	C5	R3206	A4	R3604	C3	R5108	B2	R5302	C2		



## ELECTRICAL PARTS LIST - MAIN BOARD

## MISCELLANEOUS

CF1600	9965 000 23595	RES 2P 600kHz
CF1601	9965 000 23596	RES 2P 700kHz
CN901	9965 000 23658	CONNECTOR B9B-XH-A 9P
CN903	9965 000 19399	CONNECTOR 3P CL3962WVO
CN906	9965 000 15862	CONNECTOR B2B-XH-A 2P
FB1001	9965 000 17369	CHIP BEAD 100R AT 100MHz /01
FB1001	9965 000 12470	BEAD FERITE 100R 100MHz /69
FB1002	9965 000 23922	CHIP BEAD 300R 25% AT 100MHz
FB9001	9965 000 12470	BEAD FERITE 100R 100MHz /01
FB9002	9965 000 12470	BEAD FERITE 100R AT 100MHz
JK302	9965 000 23923	TOSK. JACK RX179AFT RECEIVE
JK303	9965 000 17363	RCA JACK 1P W/GND PIN /69
JK304	9965 000 17364	RCA JACK 6P WHTx3/REDx3
JK305	9965 000 23924	RCA JACK 2P BLKX2
JK4	9965 000 23925	RCA JACK 6P (WHT-GN-BU/RD-PR-GY)
JK5001	9965 000 18032	PHONE JACK D3.5 9P NICKEL
JK501	9965 000 23926	SPK JACK 12P
L1003	9965 000 15871	CHOKE 10uH 10%
L1011	9965 000 15871	CHOKE 10uH 10%
L1012	9965 000 15871	CHOKE 10uH 10%
L3001	9965 000 15871	CHOKE 10uH 10%
L1013	9965 000 23922	CHIP BEAD 300R 25% AT 100MHz
L1021	9965 000 23922	CHIP BEAD 300R 25% AT 100MHz
L1022	9965 000 18025	CHIP INDUCTOR 2.4uH 5%
L1061	9965 000 23927	FERRITE 120 OHM 100MHz
L1062	9965 000 23922	CHIP BEAD 300R 25% AT 100MHz
L1087	9965 000 23927	FERRITE 120 OHM 100MHz
L1101	9965 000 17369	CHIP BEAD 100 OHM AT 100MHz
L1102	9965 000 17369	CHIP BEAD 100 OHM AT 100MHz
L1103	9965 000 17369	CHIP BEAD 100 OHM AT 100MHz
L214	9965 000 17369	CHIP BEAD 100 OHM AT 100MHz
L215	9965 000 17369	CHIP BEAD 100 OHM AT 100MHz
L301	9965 000 15931	INDUCTOR 100uH 10%
L302	9965 000 15931	INDUCTOR 100uH 10%
L3201	9965 000 12471	CHIP BEAD 600 OHM AT 100MHz
L3202	9965 000 17369	CHIP BEAD 100 OHM AT 100MHz
L3203	9965 000 17369	CHIP BEAD 100 OHM AT 100MHz
L5102	9965 000 22223	INDUCTOR 27uH 20% 4.3A
L5103	9965 000 22223	INDUCTOR 27uH 20% 4.3A
L5202	9965 000 22223	INDUCTOR 27uH 20% 4.3A
L5203	9965 000 22223	INDUCTOR 27uH 20% 4.3A
L5302	9965 000 22223	INDUCTOR 27uH 20% 4.3A
L5303	9965 000 22223	INDUCTOR 27uH 20% 4.3A
L9007	9965 000 15871	CHOKE 10uH 10%
L901	9965 000 12470	BEAD FERITE 100R AT 100MHz
L902	9965 000 12470	BEAD FERITE 100R AT 100MHz
L903	9965 000 12470	BEAD FERITE 100R AT 100MHz
L9032	9965 000 15871	CHOKE 10uH 10%
L904	9965 000 12470	BEAD FERITE 100R AT 100MHz
L905	9965 000 15871	CHOKE 10uH 10%
L906	9965 000 23928	INDUCTOR 6uH 14.5TS 2UEW

LZ601	9965 000 15931	INDUCTOR 100uH 10%
VL201	9965 000 23589	ENCODER L20 A=12
XL1001	9965 000 23929	CRYSTAL 27MHz HC-49/US /01
XL1001	9965 000 23952	CRYSTAL 27MHz HC-49/US /69

## CAPACITORS

C375	9965 000 23930	COND MYLAR 0.12uF 100V 5%
C376	9965 000 23931	COND MYLAR 0.033uF 100V 5%
C411	9965 000 23659	COND MYLAR 0.015uF 100V 5%
C412	9965 000 23932	CONDMYLAR 0.0082uF 100V 5%
C427	9965 000 23659	COND MYLAR 0.015uF 100V 5%
C428	9965 000 23932	CONDMYLAR 0.0082uF 100V 5%
C907	9965 000 23933	COND ELECT 2200uF 35V 20%
C908	9965 000 23933	COND ELECT 2200uF 35V 20%
C5104	9965 000 23603	CHIP CAP 0.1uF 100V 20%
C5106	9965 000 23934	COND ELECT 47uF 100V 20%
C5107	9965 000 23603	CHIP CAP 0.1uF 100V 20%
C5114	9965 000 23896	CHIP CAP 560pF 100V 10%
C5115	9965 000 23896	CHIP CAP 560pF 100V 10%
C5116	9965 000 23935	COND MULTI 1uF 100V 20%
C5122	9965 000 23896	CHIP CAP 560pF 100V 10%
C5125	9965 000 23935	COND MULTI 1uF 100V 20%
C5126	9965 000 23896	CHIP CAP 560pF 100V 10%
C5206	9965 000 23934	COND ELECT 47uF 100V 20%
C5207	9965 000 23603	CHIP CAP 0.1uF 100V 20%
C5214	9965 000 23896	CHIP CAP 560pF 100V 10%
C5215	9965 000 23896	CHIP CAP 560pF 100V 10%
C5216	9965 000 23935	COND MULTI 1uF 100V 20%
C5222	9965 000 23896	CHIP CAP 560pF 100V 10%
C5225	9965 000 23935	COND MULTI 1uF 100V 20%
C5226	9965 000 23896	CHIP CAP 560pF 100V 10%
C5304	9965 000 23603	CHIP CAP 0.1uF 100V 20%
C5306	9965 000 23934	COND ELECT 47uF 100V 20%
C5307	9965 000 23603	CHIP CAP 0.1uF 100V 20%
C5314	9965 000 23896	CHIP CAP 560pF 100V 10%
C5315	9965 000 23896	CHIP CAP 560pF 100V 10%
C5316	9965 000 23935	COND MULTI 1uF 100V 20%
C5322	9965 000 23896	CHIP CAP 560pF 100V 10%
C5325	9965 000 23935	COND MULTI 1uF 100V 20%
C5326	9965 000 23896	CHIP CAP 560pF 100V 10%

## RESISTORS

R407	9965 000 23936	RESISTOR 220R 1/4W 5% CF
R413	9965 000 23936	RESISTOR 220R 1/4W 5% CF
R905	9965 000 23937	RESISTOR 330R 1/2W 5% CF
R908	9965 000 23938	RESISTOR 150R 1/2W 5% CF
R909	9965 000 23660	RESISTOR 22R 1/2W 5% CF
R913	9965 000 23610	RESISTOR 1R 1/4W 5%
R917	9965 000 23609	RESISTOR 47R 1/2W 5% CF
R918	9965 000 23939	RESISTOR 220R 2W 5% MF HI
R919	9965 000 23939	RESISTOR 220R 2W 5% MF HI
R3019	9965 000 23940	RESISTOR 470R 1/4W 5% CF

## ELECTRICAL PARTS LIST - MAIN BOARD

R3020	9965 000 23940	RESISTOR 470R 1/4W 5% CF
R3243	9965 000 23940	RESISTOR 470R 1/4W 5% CF
R3244	9965 000 23940	RESISTOR 470R 1/4W 5% CF
R5100	4822 051 10518	5R1 5% 0,25W
R5101	4822 051 10518	5R1 5% 0,25W
R5102	4822 051 10518	5R1 5% 0,25W
R5103	9965 000 23608	CHIP RES 22R 1/2W 5%
R5104	9965 000 23608	CHIP RES 22R 1/2W 5%
R5105	4822 051 10518	5R1 5% 0,25W
R5200	4822 051 10518	5R1 5% 0,25W
R5201	4822 051 10518	5R1 5% 0,25W
R5202	4822 051 10518	5R1 5% 0,25W
R5203	9965 000 23608	CHIP RES 22R 1/2W 5%
R5204	9965 000 23608	CHIP RES 22R 1/2W 5%
R5205	4822 051 10518	5R1 5% 0,25W
R5300	4822 051 10518	5R1 5% 0,25W
R5301	4822 051 10518	5R1 5% 0,25W
R5302	4822 051 10518	5R1 5% 0,25W
R5303	9965 000 23608	CHIP RES 22R 1/2W 5%
R5304	9965 000 23608	CHIP RES 22R 1/2W 5%
R5305	4822 051 10518	5R1 5% 0,25W
R9012	9965 000 23610	RESISTOR 1R 1/4W 5%
RA1	9965 000 23612	CHIP ARRAY 4X33RX4 1/16W 5%
RA1005	9965 000 23612	CHIP ARRAY 4X33RX4 1/16W 5%
RA1006	9965 000 23612	CHIP ARRAY 4X33RX4 1/16W 5%
RA1007	9965 000 23612	CHIP ARRAY 4X33RX4 1/16W 5%
RA1009	9965 000 23612	CHIP ARRAY 4X33RX4 1/16W 5%
RA1010	9965 000 23612	CHIP ARRAY 4X33RX4 1/16W 5%
RA1011	9965 000 23612	CHIP ARRAY 4X33RX4 1/16W 5%
RA1013	9965 000 23612	CHIP ARRAY 4X33RX4 1/16W 5%
RA1015	9965 000 23612	CHIP ARRAY 4X33RX4 1/16W 5%
RA1016	9965 000 23614	CHIP ARRAY 10R X 4 1/16W 5%
RA1017	9965 000 23614	CHIP ARRAY 10R X 4 1/16W 5%
RA1018	9965 000 23613	CHIP ARRAY 4X4.7k 1/16W 5%
RA1019	9965 000 23614	CHIP ARRAY 10R X 4 1/16W 5%
RA1020	9965 000 23941	CHIP ARRAY 47k 1/16W 5%
RA1021	9965 000 23614	CHIP ARRAY 10R X 4 1/16W 5%
RA1023	9965 000 23612	CHIP ARRAY 4X33RX4 1/16W 5%
RA3201	9965 000 23612	CHIP ARRAY 4X33RX4 1/16W 5%

## DIODES

D302	9965 000 19409	DIODE CHIP BAV16W/IN4148W
D304	9965 000 19409	DIODE CHIP BAV16W/IN4148W
D305	9965 000 19409	DIODE CHIP BAV16W/IN4148W
D307	9965 000 19409	DIODE CHIP BAV16W/IN4148W
D309	9965 000 19409	DIODE CHIP BAV16W/IN4148W
D310	9965 000 19409	DIODE CHIP BAV16W/IN4148W
D312	9965 000 19409	DIODE CHIP BAV16W/IN4148W
D903	4822 130 31438	1N4001G
D904	4822 130 31438	1N4001G
D905	4822 130 31438	1N4001G
D906	4822 130 31438	1N4001G

D907	4822 130 31438	1N4001G
D3015	9965 000 19409	DIODE CHIP BAV16W/IN4148W
D3016	9965 000 19409	DIODE CHIP BAV16W/IN4148W
D5128	9965 000 19409	DIODE CHIP BAV16W/IN4148W
D5129	9965 000 19409	DIODE CHIP BAV16W/IN4148W
D5201	9965 000 19409	DIODE CHIP BAV16W/IN4148W
D5202	9965 000 19409	DIODE CHIP BAV16W/IN4148W
D5228	9965 000 19409	DIODE CHIP BAV16W/IN4148W
D5229	9965 000 19409	DIODE CHIP BAV16W/IN4148W
D5230	9965 000 19409	DIODE CHIP BAV16W/IN4148W
D5328	9965 000 19409	DIODE CHIP BAV16W/IN4148W
D5329	9965 000 19409	DIODE CHIP BAV16W/IN4148W
D6713	9965 000 19409	DIODE CHIP BAV16W/IN4148W
D6714	9965 000 19409	DIODE CHIP BAV16W/IN4148W
D6715	9965 000 19409	DIODE CHIP BAV16W/IN4148W
ZD301	9965 000 19431	CHIP ZENER 7.5V 5% 0.5W
ZD401	4822 130 80272	DIODE ZENR 6.9-7.2V 0.5W
ZD402	4822 130 80272	DIODE ZENR 6.9-7.2V 0.5W
ZD501	9965 000 19397	CHIP ZENER 5.6V 5% 0.5W
ZD905	9965 000 17375	DIODE ZENR 11.9-12.4V 0.5W
ZD1013	9965 000 23942	DIODE ZENR 19.5-20.4V 0.5W
ZD1014	4822 130 34233	BZX79-B5V1
ZD3001	4822 130 34233	BZX79-B5V1
ZD3002	4822 130 34233	BZX79-B5V1
ZD3201	4822 130 34233	BZX79-B5V1
ZD3202	4822 130 34233	BZX79-B5V1

## TRANSISTORS &amp; INTEGRATED CIRCUITS

Q301	4822 130 41198	2SC945P
Q302	4822 130 43818	2SC2878-A
Q303	4822 130 43818	2SC2878-A
Q304	4822 130 43818	2SC2878-A
Q305	9965 000 14175	2SA733Q,P
Q307	9965 000 20268	XISTR NPN SMT (2SC1623)
Q501	9965 000 20268	XISTR NPN SMT (2SC1623)
Q910	9965 000 14175	2SA733Q,P
Q911	9965 000 20268	XISTR NPN SMT (2SC1623)
Q5202	9965 000 20268	XISTR NPN SMT (2SC1623)
Q5203	9965 000 20268	XISTR NPN SMT (2SC1623)
Q7602	9965 000 20268	XISTR NPN SMT (2SC1623)
Q7608	9965 000 14175	2SA733Q,P
Q7710	9965 000 20268	XISTR NPN SMT (2SC1623)
Q7716	9965 000 14175	2SA733Q,P
Q9004	4822 130 41651	2SC2001L
Q9033	9965 000 20268	XISTR NPN SMT (2SC1623)
Q9034	4822 130 63876	2SA733R
IC210	9965 000 15890	IC 3P IMP809SEUR-T SOT23
IC210	9965 000 23943	IC 3P CM3403-29ST 2.93V
IC301	9965 000 17384	IC 8P TP5228
IC303	9965 000 15886	IC 8P RC4558D
IC304	9965 000 15886	IC 8P RC4558D
IC305	9965 000 15886	IC 8P RC4558D

**ELECTRICAL PARTS LIST - MAIN BOARD**

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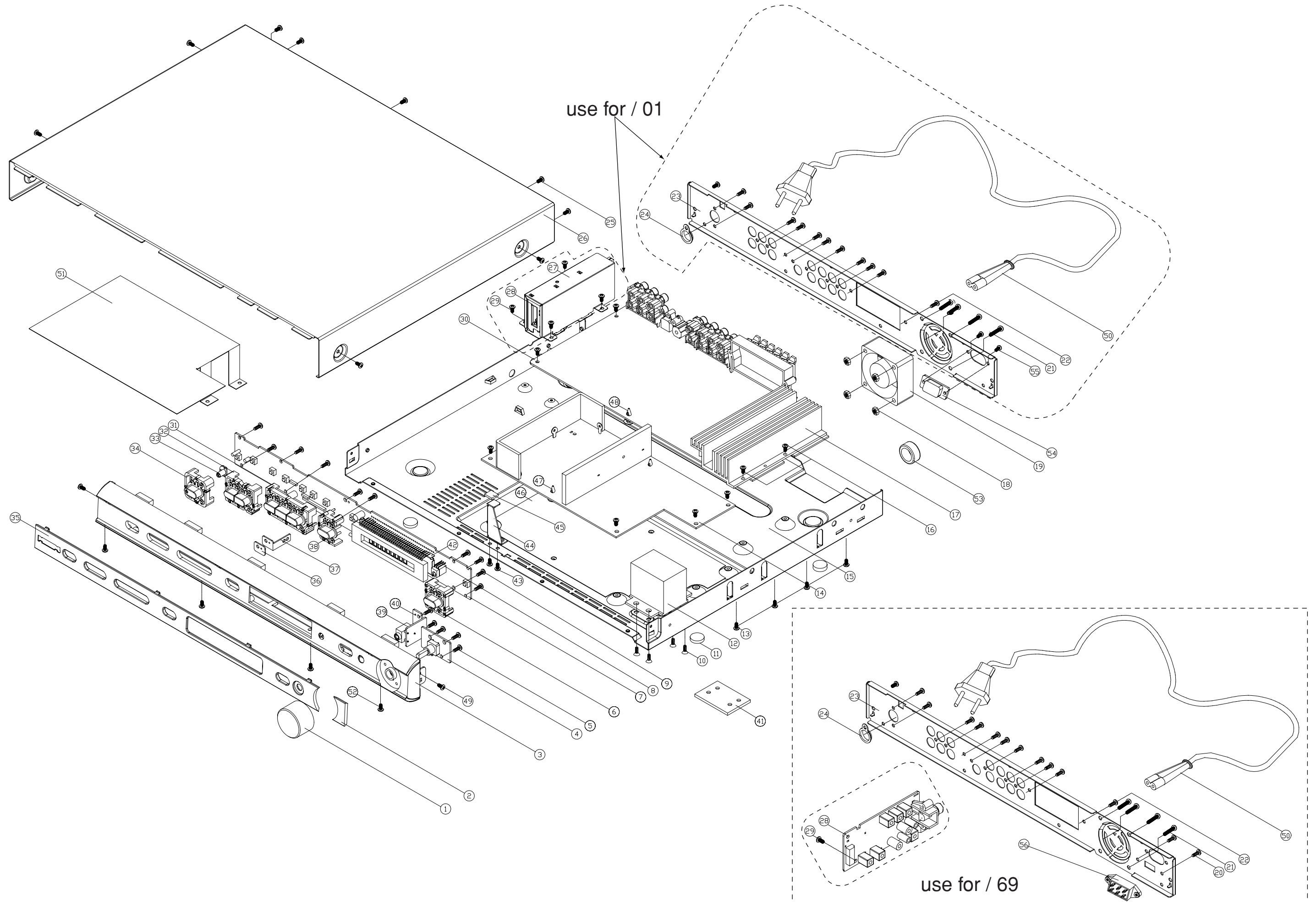
## TRANSISTORS &amp; INTEGRATED CIRCUITS

IC306	9965 000 15886	IC 8P RC4558D
IC307	9965 000 15886	IC 8P RC4558D
IC309	9965 000 15886	IC 8P RC4558D
IC401	9965 000 12514	IC 42P M62446FP
IC407	9965 000 15886	IC 8P RC4558D 8D
IC408	9965 000 15886	IC 8P RC4558D
IC409	9965 000 15886	IC 8P RC4558D
IC1002	9965 000 23944	IC 32P EN29F0401-70PI
IC1003	9965 000 23945	IC 208P ES6128F ESS PQFP
IC1004	9940 000 00029	IC 54P SD41620HGT-6
IC1004	9965 000 12499	IC 54P 4MX16Y3VTW StarRam
IC1007	9965 000 23616	IC 8P M24C02-MN6T ST SD8
IC1010	9965 000 20295	IC 28P WM8772 TSOP
IC1012	9965 000 19385	IC 4P B1117N-2.85 SOT-223
IC3001	9965 000 12510	IC 16P TC4052BFN CHIP
IC3002	9965 000 23946	IC 14P SN74HC125DR SOIC TI
IC3002	9965 000 23947	IC 14P TC74HC125AFN
IC3201	9965 000 15886	IC 8P RC4558D
IC3202	9965 000 15886	IC 8P RC4558D
IC3203	9965 000 15886	IC 8P RC4558D
IC3205	9965 000 12492	IC 16P TC4053BFN
IC3206	9965 000 12492	IC 16P TC4053BFN
IC3207	9965 000 23948	IC 14P 74HCU04D
IC5100	9352 719 94518	IC 24P TDA8924TH
IC5200	9352 719 94518	IC 24P TDA8924TH
IC5300	9352 719 94518	IC 24P TDA8924TH
IC7600	9965 000 23948	IC 14P 74HCU04D
IC7607	9965 000 22229	IC 14P HEF4013BT
IC9003	9965 000 15887	IC 3P RT9164-33CLR

Note : Only the parts mentioned in this list are normal service spare parts.



# EXPLODED DRAWING



**MECHANICAL & ACCESSORIES PARTS LIST - MAIN UNIT**

	9965 000 23898	MAIN+VOL+PHONE PCBA	/01
	9965 000 23885	MAIN+VOL+PHONE PCBA	/69
	9965 000 23899	CONTROL PCBA	
	9965 000 23900	TUNER PCBA	/01
	9965 000 23561	TUNER (RADIO) PCBA	/69
1	9965 000 23901	VOLUME KNOB	
2	9965 000 23902	VOLUME LENS	
3	9965 000 23903	FRONT PANEL	
6	9965 000 23904	SOUND BUTTON	
11	9965 000 23571	FOOT RUBBER	
14	9965 000 23905	SW PWR SUPPLY ASSY 230V/01	
14	9965 000 23949	SW PWR SUPPLY ASSY 110-230V /69	
19	9965 000 23906	FAN 12V 0.09A 4000RPM	
24	9965 000 23575	FM ANTENNA HOLDER	
31	9965 000 23907	TUNER BUTTON	
32	9965 000 23908	BASS BUTTON	
33	9965 000 23909	LED LENS	
34	9965 000 23910	POWER BUTTON	
35	9965 000 23911	DISPLAY LENS	
38	9965 000 23912	SOURCE BUTTON	
47	9965 000 23651	SPACER PCB	
48	9965 000 23651	SPACER PCB	
50	9965 000 23913	△ LINE CORD	
53	9965 000 23914	BEAD FERIT K5A	
54	9965 000 20576	△ AC SOCKET	
56	9965 000 16339	SW SLIDE 6 PIN	/69
	9965 000 23915	SATELLITE SPEAKER ASSY	
	9965 000 23916	SUBWOOFER ASSY	
	9965 000 14632	FM ANTENNA	
	9965 000 14633	LOOP ANTENNA	
	9965 000 23889	RCA CABLE 1500MM	
	9965 000 23950	RCA CABLE 1500MM	/69
	9965 000 23951	RCA CABLE 1500MM	/69
	9965 000 23656	REMOTE CONTROL	

**Satellite Speaker Assembly Breakdown**

	9965 000 24031	SPEAKER BOX FRONT-L
	9965 000 24032	SPEAKER BOX FRONT-R
	9965 000 24033	SPEAKER BOX REAR-L
	9965 000 24034	SPEAKER BOX REAR-R
	9965 000 24035	SPEAKER BOX CENTER
	9965 000 24036	BRACKET & SCREW PACKING

Note : Only the parts mentioned in this list are normal service spare parts.

**SCREW LISTS - MAIN UNIT**

5	D3 x 8
9	D3 x 8
10	D2.5 x 8
13	M3 x 6
16	M3 x 6
20	M3 x 6
21	M4 x 25
22	D3 x 8
25	M3 x 6
29	M3 x 5
43	M3 x 6
49	M3 x 6
52	M3 x 6
55	D3.5 x 10

**REVISION LIST**

**Version 1.0 (3139 785 30630)**

\* Initial Release LX600/01/69

**Version 1.1 (3139 785 30631)**

\* Page 9-2 : Additional of Satellite Speaker Assembly Breakdown