

Service
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Service Manual

For repair information on the Subwoofer please refer to
Service Manual of Active Subwoofer SW3000/SW3500
12NC: 3139 785 30057



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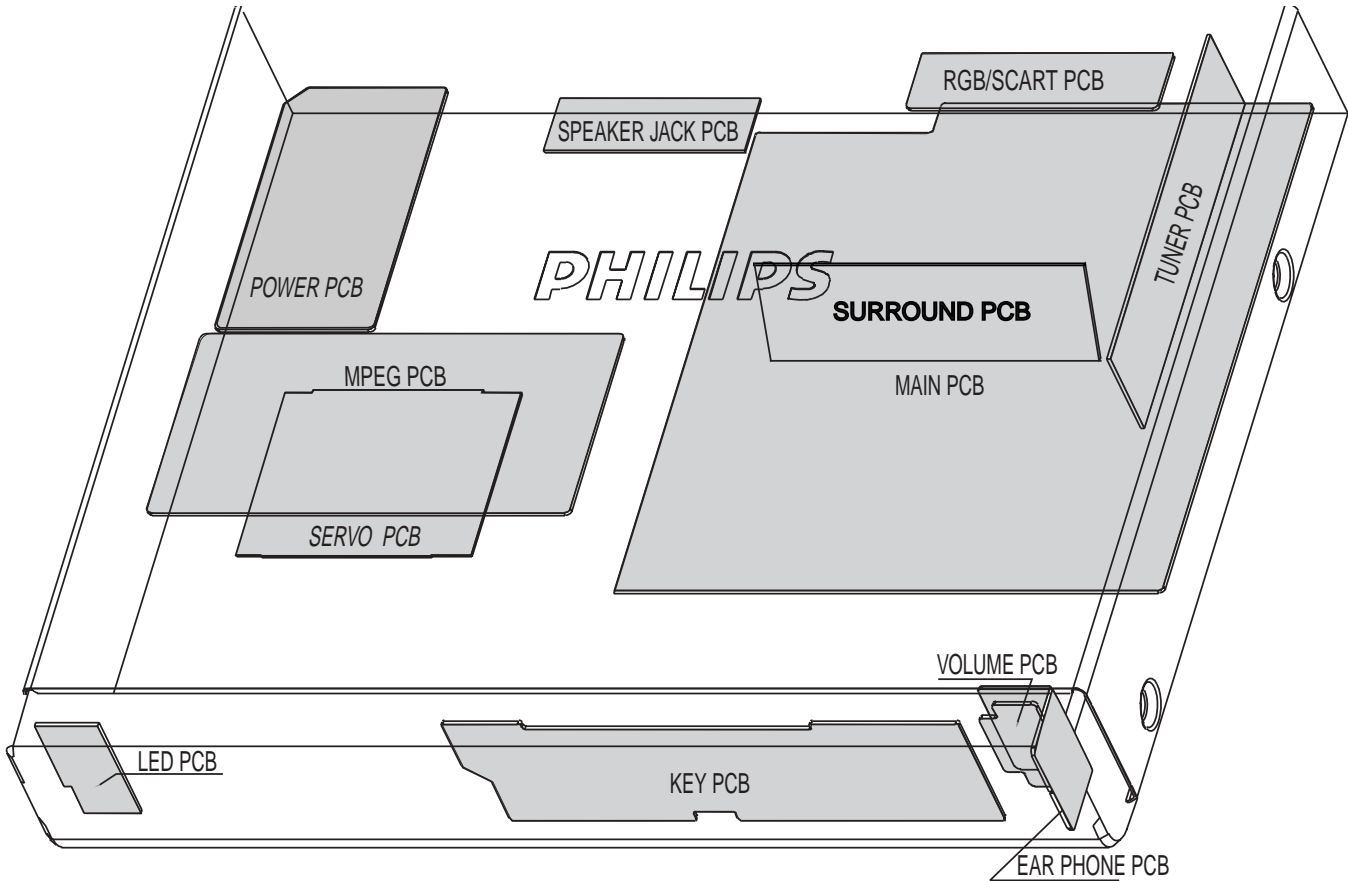
3139 785 30045

Version 1.0



PHILIPS

LOCATION OF PC BOARDS



VERSION VARIATION:

Type /Versions:	LX 3000D				LX 3500D		
	/22S	/21S	/21L	/30S	/37S	/21R	/21H
Features & Board in used							
RDS function	x						
Progressive scan					x	x	x
Scart board	x						
RGB board		x	x	x	x	x	x
Power PCB (110V~127V/120V)			x		x	x	
Power PCB (220V~240V)	x	x		x			x

Type /Versions:	LX 3000D				LX 3500D		
	/22S	/21S	/21L	/30S	/37S	/21R	/21H
Subwoofer/ Satellite Speaker							
SW3000 / 00S	x	x		x			
SW3000 / 06S			x				
SW3500 / 17S					x		
SW3500 / 02S							x
SW3500 / 06S						x	
CS3000 / 00S	x	x	x	x			
CS3500 / 00S					x	x	x

SPECIFICATIONS

AMPLIFIER SECTION

Power Output	
- Stereo mode (DIN).....	2 x 25 W
- Surround mode (1 kHz).....	15 WRMS/channel
Total Harmonic Distortion.....	10 % at rated power (1 kHz)
Frequency Response	180 Hz-14 kHz/±1 dB
Signal-to-Noise Ratio.....	> 65dB(CCIR)
Input Sensitivity.....	400 mV

TUNER SECTION

Tuning Range.....	FM 87.5 -108 MHz (100 kHz steps)
.....	AM 530 - 1700 kHz (10 kHz steps)
26 dB Quieting Sensitivity.....	FM 20 dB
26 dB Quieting Sensitivity.....	AM 3162 uV/m
Image Rejection Ratio.....	FM 25 dB
.....	AM 28 dB
IF Rejection Ratio.....	FM 60 dB
.....	AM 24 dB
Signal-to-Noise Ratio.....	FM 60 dB
.....	AM 40 dB
AM Suppression Ratio.....	FM 30 dB
Harmonic Distortion.....	FM Mono 3%
.....	FM Stereo 3%
.....	AM 5%
Frequency Response.....	FM 180 Hz-10kHz/±6 dB
Stereo Separation.....	FM 26 dB(1 kHz)
Stereo threshold.....	FM 23.5 dB

DVD SECTION

Audio Performance :

Laser Type.....	Semiconductor
Disc Diameter.....	12cm/8cm
Video S/N ratio.....	65 dB/A - WTD
Audio DAC.....	24 Bits/96 kHz
Frequency Response.....	4 Hz-20 kHz (44.1kHz)
.....	4 Hz-22 kHz (48 kHz)
.....	4 Hz-44 kHz (96 kHz)
Digital Output.....	SPDIF Coaxial & Optical
Distortion.....	0.5% (1kHz)

MP3 :

MP3 - CD bitrate.....	32, 64, 96, 128, 192, 256(kbps)
MP3 - CD sampling frequencies.....	32, 44.1, 48(KHz)
Recording format.....	JPEG

Video Performances :

Video Decoding.....	MPEG-2
Video DAC.....	10 Bits
Signal System.....	PAL/NTSC
Video Format.....	4:3/16:9
Composite Video Output.....	1.0Vp-p,75Ω
S-Video Output.....	Y - 1.0Vp-p,75Ω
.....	C - 0.286Vp-p,75Ω

MISCELLANEOUS / GENERAL SECTION

Power Supply Rating.....	120V/60 Hz (for /37S)
.....	110~127V/60Hz (for /21L, /21R)
.....	220~240V/50Hz (for /22S, /30S)
.....	220~240V/50/60Hz (for /21S, /21H)
Power Consumption.....	160 W
Dimensions (w x h x d).....	435 mm x 69 mm x 359mm
Weight.....	7.1 kg

IR REMOTE CONTROL

Effective Range.....	> 8 Meter
Number of Keys.....	45
Battery (1.5V).....	AA x 2

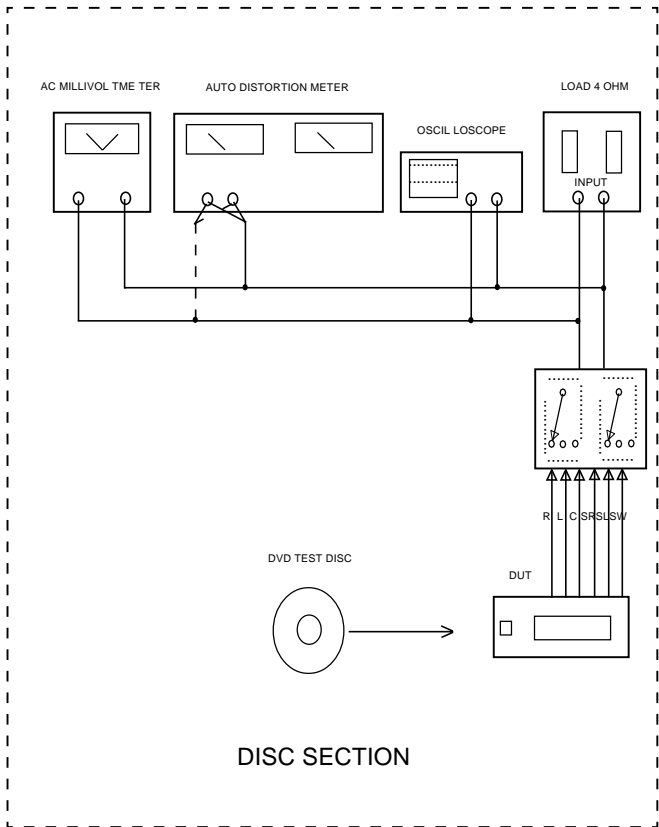
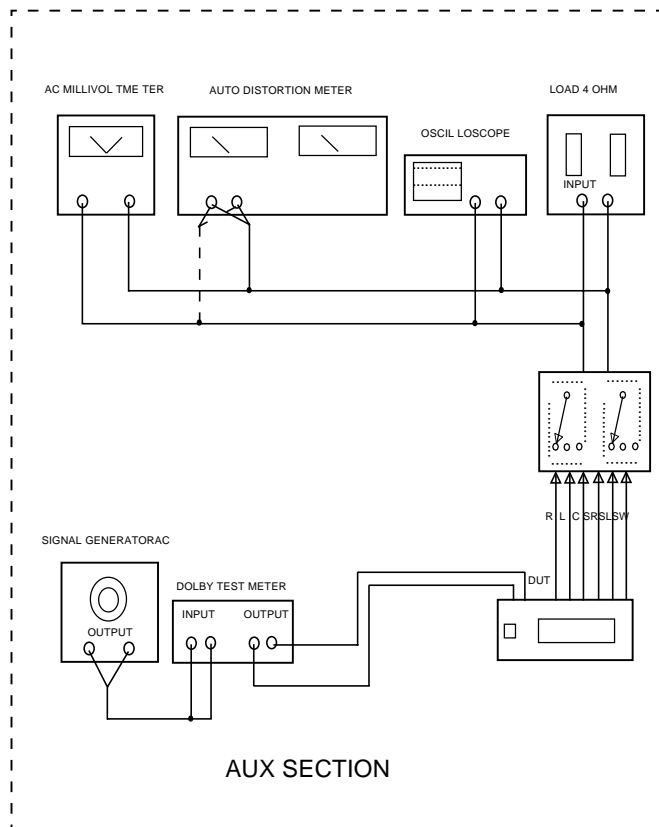
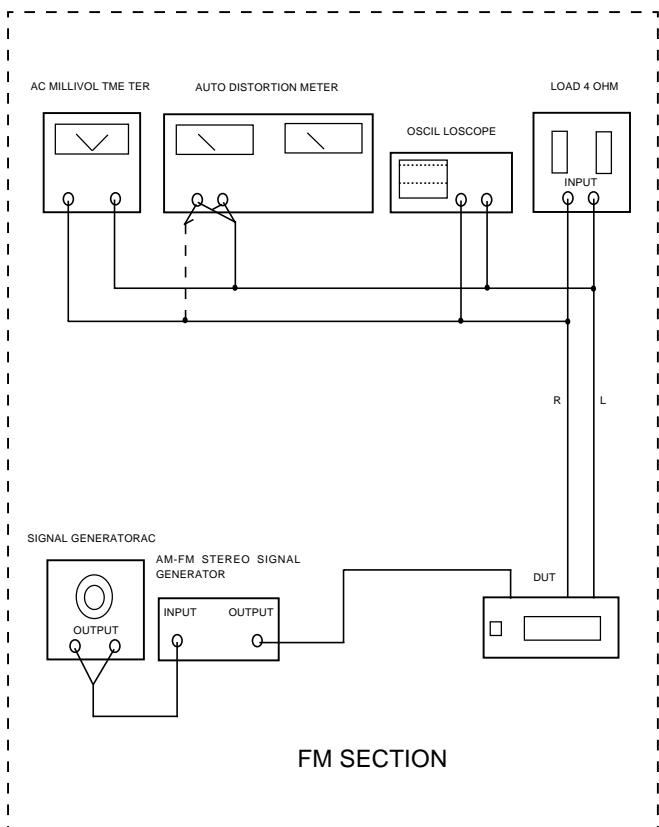
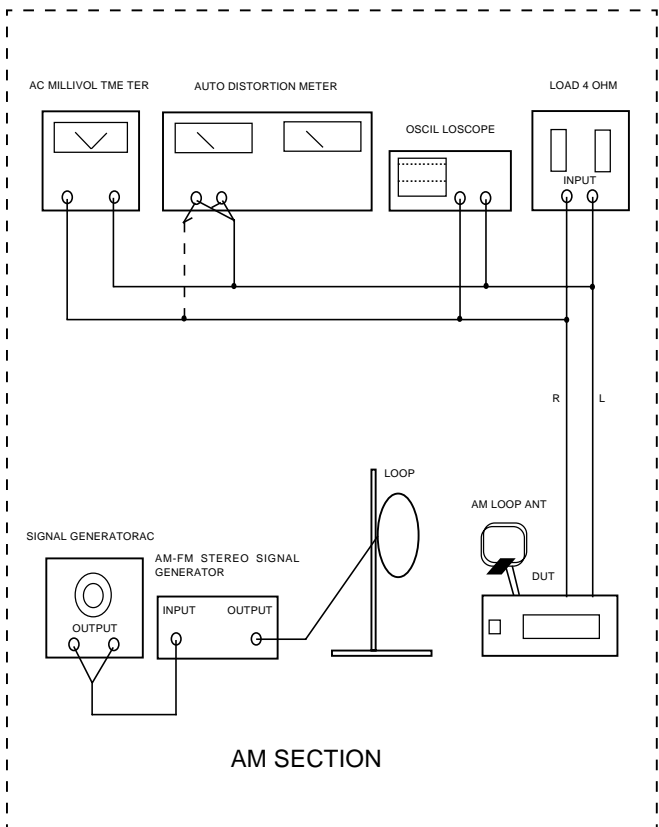
SPEAKERS

Front Speakers / Center speaker

System.....	1-way shielded
Impedance/ ohm.....	4Ω
Speaker drivers.....	3" full range
Dimensions (w x h x d).....	90 mm x 90 mm x 90 mm
Weight.....	0.45 Kg/each
Power output.....	25W/10 % THD

Rear (surround) Speaker

System.....	1-way shielded
Impedance/ ohm.....	4Ω
Speaker drivers.....	3" full range
Dimensions (w x h x d).....	90 mm x 90 mm x 90 mm
Weight.....	0.45 Kg/each
Power output.....	25W/10 % THD



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

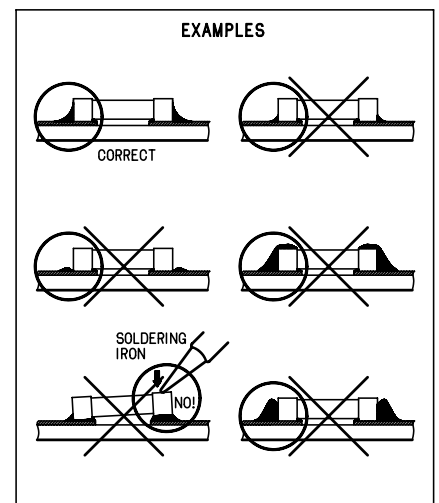
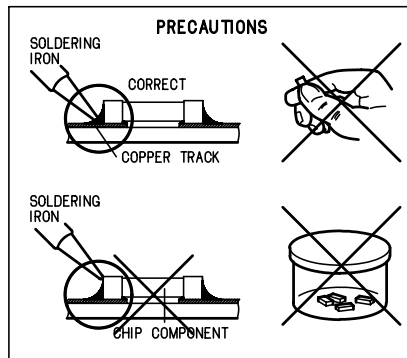
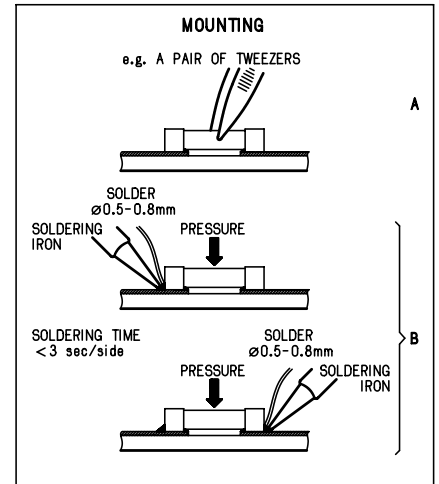
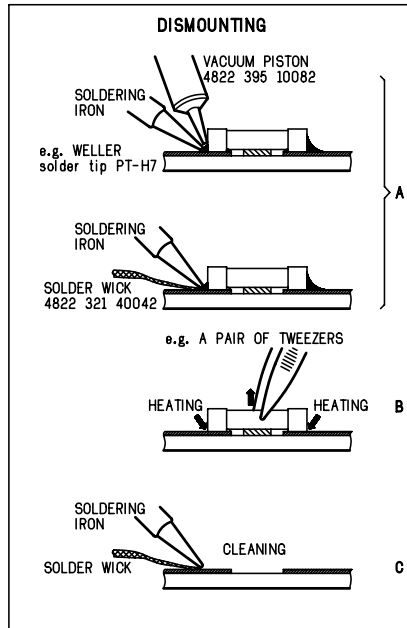
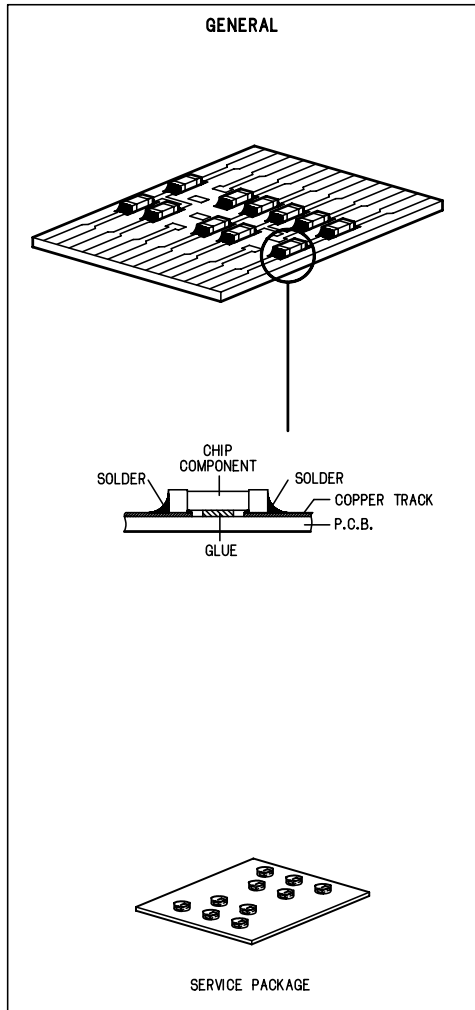
Compact Disc:

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

ESD Equipment:

Anti-static table mat - large 1200x650x1.25mm	4822 466 10953
anti-static table mat - small 600x650x1.25mm	4822 466 10958
Anti-static wristband	4822 395 10223
Connectorbox (1M Ω)	4822 395 11307
Extension cable (to connect wristband to conn.box)	4822 320 11305
Connecting cable (to connect table mat to conn.box)	4822 320 11306
Earth cable (to Connect product to mat or box) --	4822 320 11308
Complete kit ESD3 (combining all above products)	4822 320 10671
Wristband tester	4822 344 13999

HANDLING CHIP COMPONENTS



(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.

ESD**(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 ditzelfde potentiaal.

(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 enfilez 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.

(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.

(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)

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

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

(NL)

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

**(F)**

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

(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.

(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.

(GB) Warning !

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

(S) Varning !

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

(SF) Varoitus !

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

(DK) Advarse !

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

"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."

System, Region code, Tuner, etc. setting procedure

1) System Reset

- Press "SYSTEM" button on R/C. TV show "SETUP"
- Select the menu using the "▼" and "▶" button on R/C
- Go feature setup page to do system reset

2) Region Code Change

After replacement / repair of the MPEG board, the customer setting and the region code may be lost. Changing the Region code will put the player back in the state which it has left the factory.

Region Code

1	USA
2	EU
3	AP
4	Australia, NZ, Latam
5	RUSSIA, INDIA
6	CHINA

TV System

1	NTSC
2	PAL
3	AUTO

Menu/ Audio Subtitle (AS) Language

1	English
2	English
3	English
4	English

AFS

001	LX3000D/LX3500D
002	MX3600D/MX3800

oem derivative

08

- region code = 1 digit
- tv system = 1 digit
- "as/menu lang" = 1 digit
- "AFS" = "architecture Feature Set" = 3 digits

This field is used to define the architecture / features sets for each product.

- "oem derivative" = 2 digit

This field is used to define the OEM set. This will affect the background display.

Hence in total, reprogramming will be done by way of the remote control. It should run as below :-

- Put the player in stop mode. No disc loaded.
- Press the following key on remote control:

For LX3000D/22S (Europe) :

<PLAY> <159> <221> <001> <08> <PLAY>

For LX3000D/21S (Latam) :

<PLAY> <159> <421> <001> <08> <PLAY>

For LX3000S/21L (Latam) :

<PLAY> <159> <421> <001> <08> <PLAY>

For LX3000D/30S (Australia/NZ) :

<PLAY> <159> <421> <001> <08> <PLAY>

For LX3500/37S (USA) :

<PLAY> <159> <111> <001> <08> <PLAY>

For LX3500D/21R (APAC) :

<PLAY> <159> <321> <001> <08> <PLAY>

For LX3500D-21H (APAC) ;

<PLAY> <159> <321> <001> <08> <PLAY>

* After the Region Code is changed it is necessary to reset the system so that the new Region Code will be fully effective. All customer setting will be lost.

* On top of the maximum number of times allowed for changing the region code is changed to 25.

* When the counter reaches 25, you will not be able to further change the code until you reset the timer by the Region Code timer reset procedure

CAUTION !

This information is confidential and may not be distributed. Only a qualified service person should reprogram the Region Code.

3) Region code change timer reset

Press below key to reset the timer :

- In DISC source, stop mode and no disc in tray.
- Press R/C "Play -159-PLAY" to reset timer to 25

4) Tuner area change

- Press the "OPEN/CLOSE" button to open the set's door
- Press "1" "5" "9" button by using R/C.
- TV Show "TUNER AREA ADJUST"
- Select the tuner area you want by using the "▼" and "▶" button on R/C, then press "OK" to confirm. TV show "TUNER AREA CHANGED"

If you didn't press it in five seconds, the system will remain original status.

AREA	BAND	FREQUENCY (Hz)		STEP(Hz)
USA	FM	87.5M	108M	100K
	AM	530K	1700K	10K
APAC	FM	87.5M	108M	50K
	AM	531K	1602K	9K
EUROPE	FM	87.5M	108M	50K
	AM	531K	1602K	9K
LATAM	FM	87.5M	108M	50K
	AM	530K	1710K	10K
AUSTRALIA / NZ	FM	87.5M	108M	50K
	AM	531K	1602K	9K

Note :-

(a) Please refer to the above different tuner area.

(b) For /22S the Pr Pb Y output will be at SCART connector.

5. Video Out Change

- Press "SYSTEM" on R/C button
- Select the menu using the "▼" and "▶" button on R/C
- Go picture setup page select Video out item.
- If /22S version then set to SCART other area then set to PR PB Y

6. Password Change

- Press "SYSTEM" on R/C button
 - Select the menu using the "▼" and "▶" button on R/C
 - Go feature setup page select "PASSWORD". TV show "ENTER CODE". Press 4 times of "STOP" button on R/C.
 - Select "PARENTAL" "8 ADULT" on TV.
 - Enter PASSWORD to "1234"
- * "1234" is a default password supplied.

7. Upgrading new software in MPEG Board

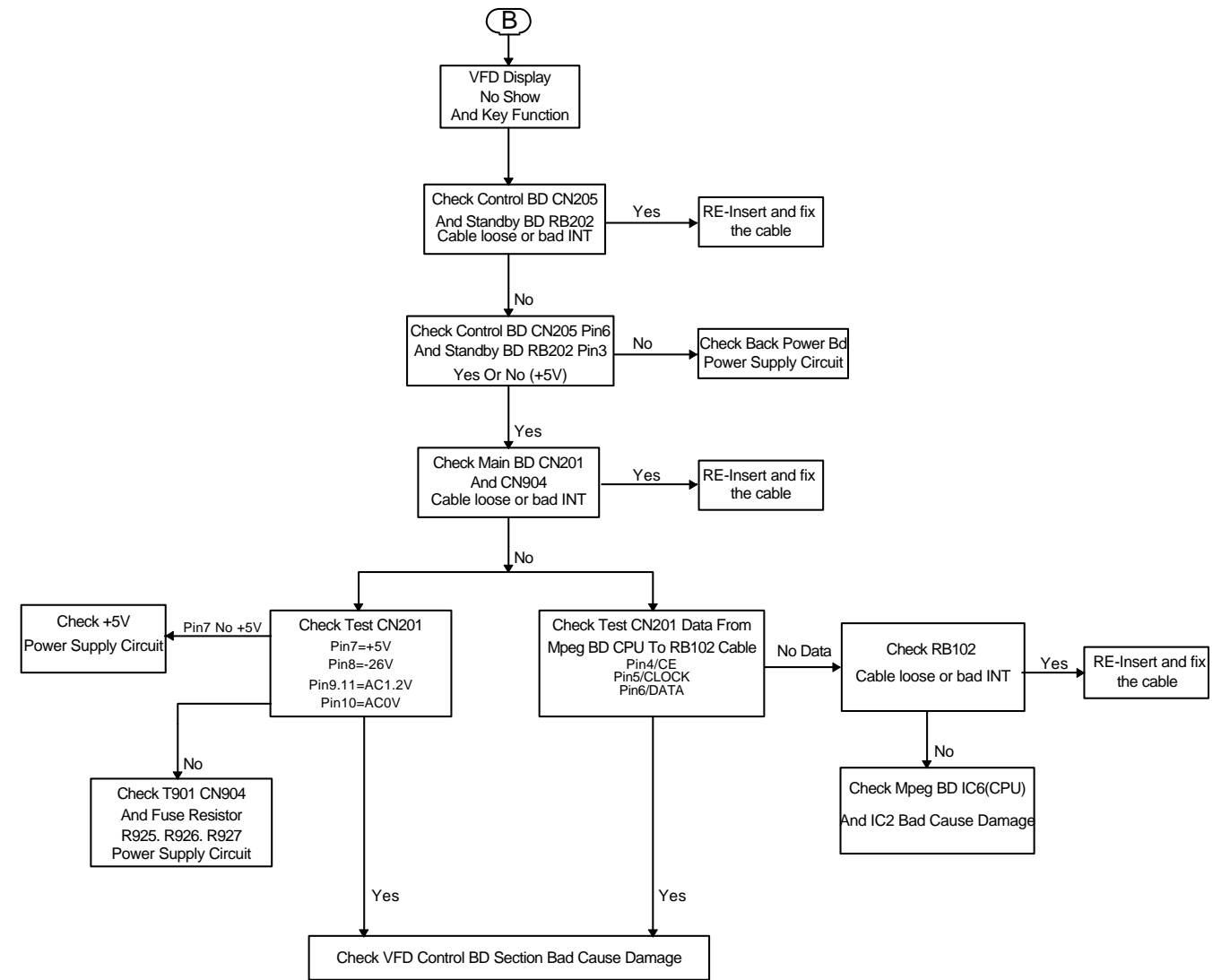
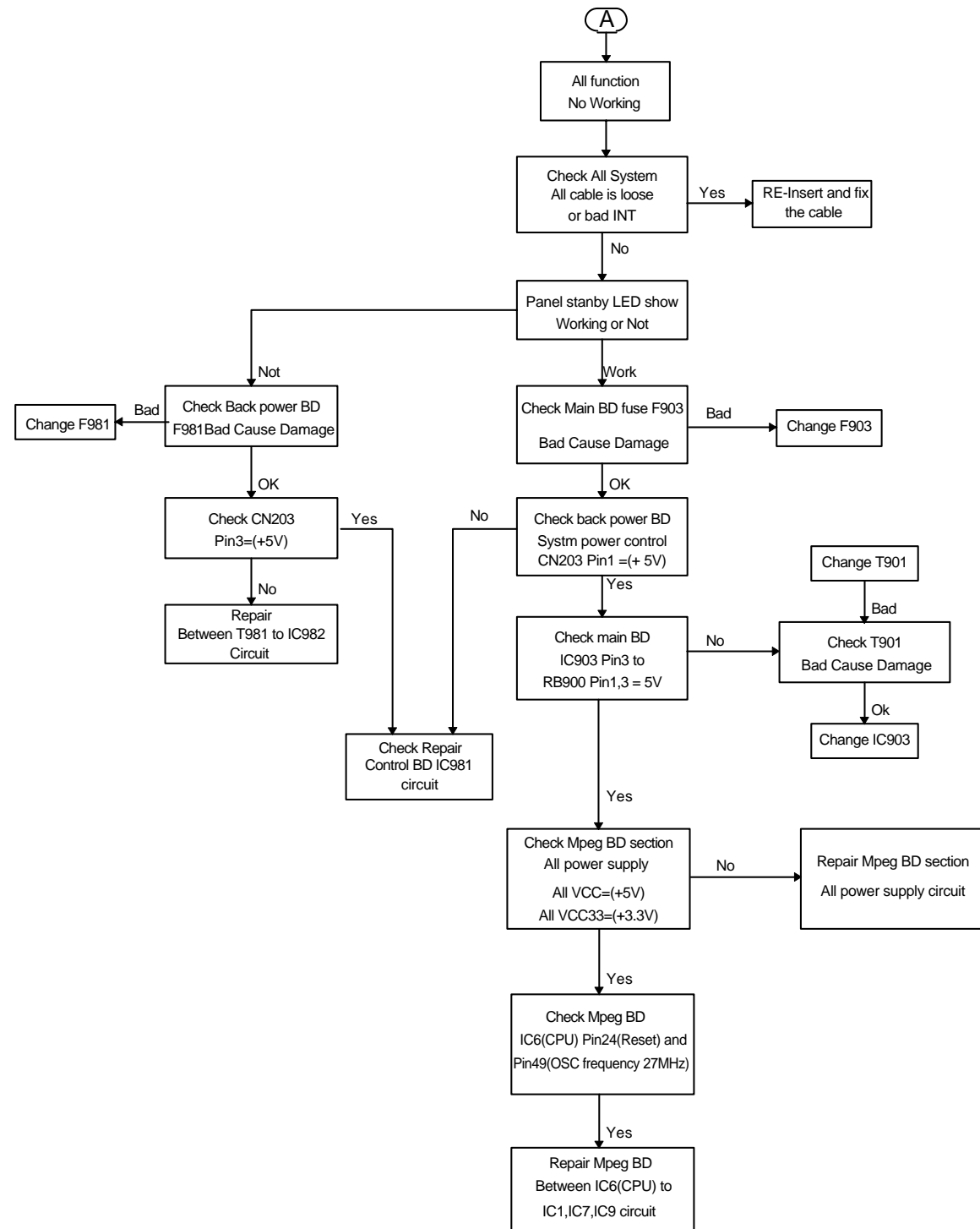
- Open the CD-door, then insert the CD-R program disc.
- Close the CD-door.
- TV will show:-
 - "disc loading"
 - "bank30.rom"
 - "writing" about 6 seconds.
 - "Done"

* The latest upgraded is in version VER0410.

REPAIR INSTRUCTIONS

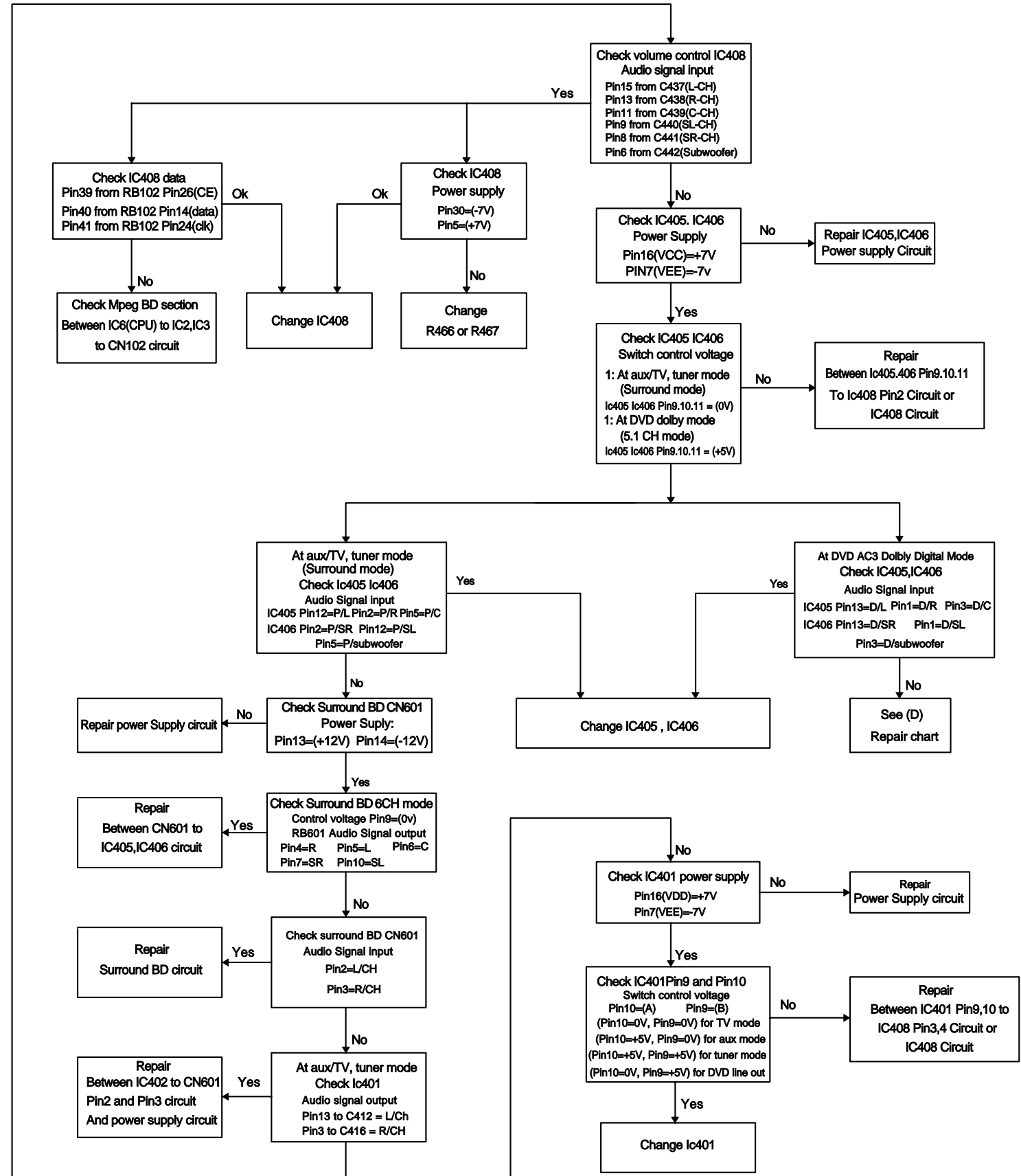
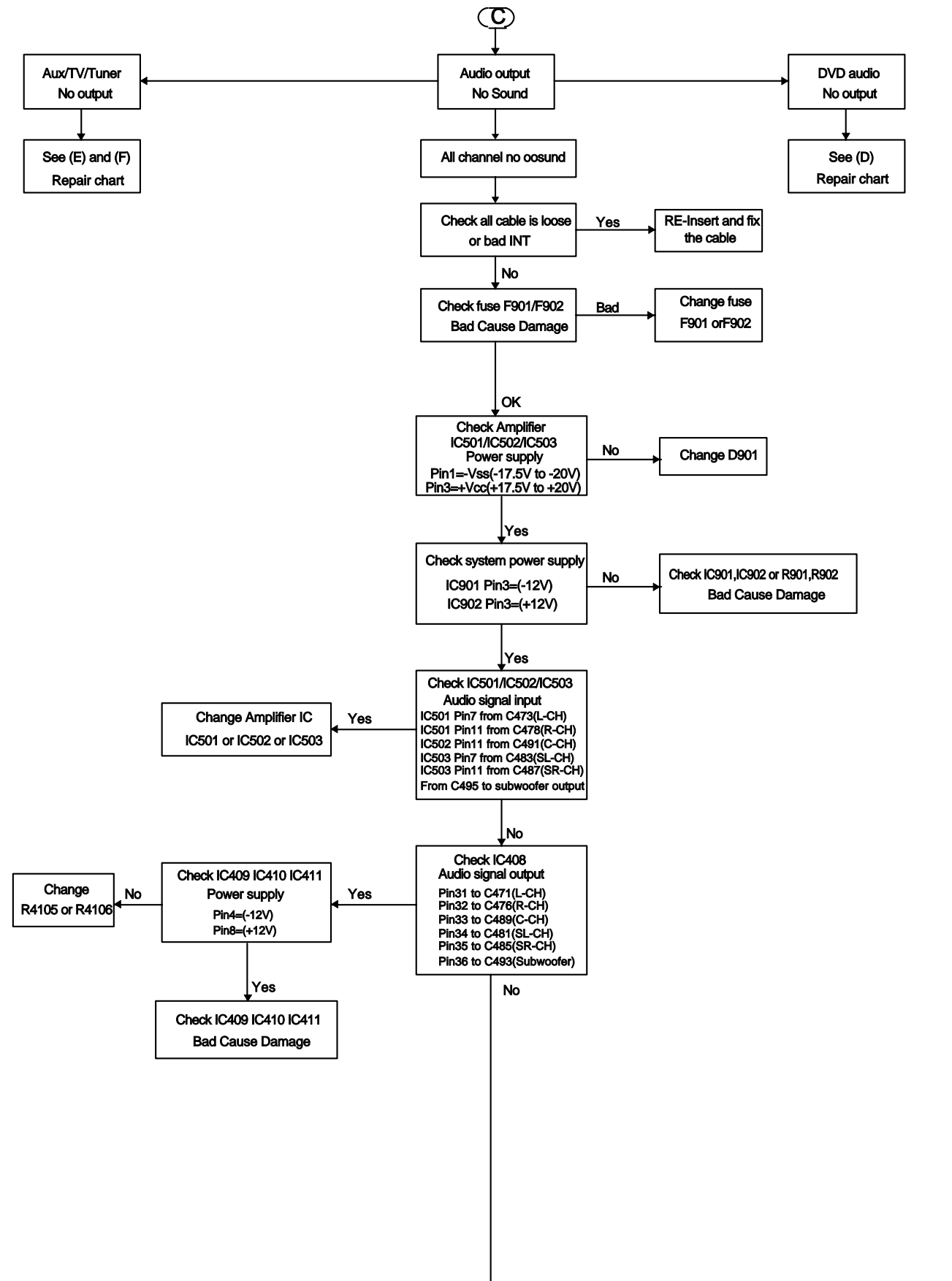
MAIN UNIT REPAIR CHART

- (A)
All Function
No Working
- (B)
VFD Display
No Show
And Key Function
- (C)
Audio Output
No Sound
- (D)
DVD Audio
No Output
- (E)
Aux/TV
No Output
- (F)
Tuner
No Output
- (G)
Ear Head Phone
No Sound
- (H)
Audio Line
No Output
- (I)
Center Line
No Output
- (J)
Subwoofer Line
No Output
- (K)
Digital Line
No Output

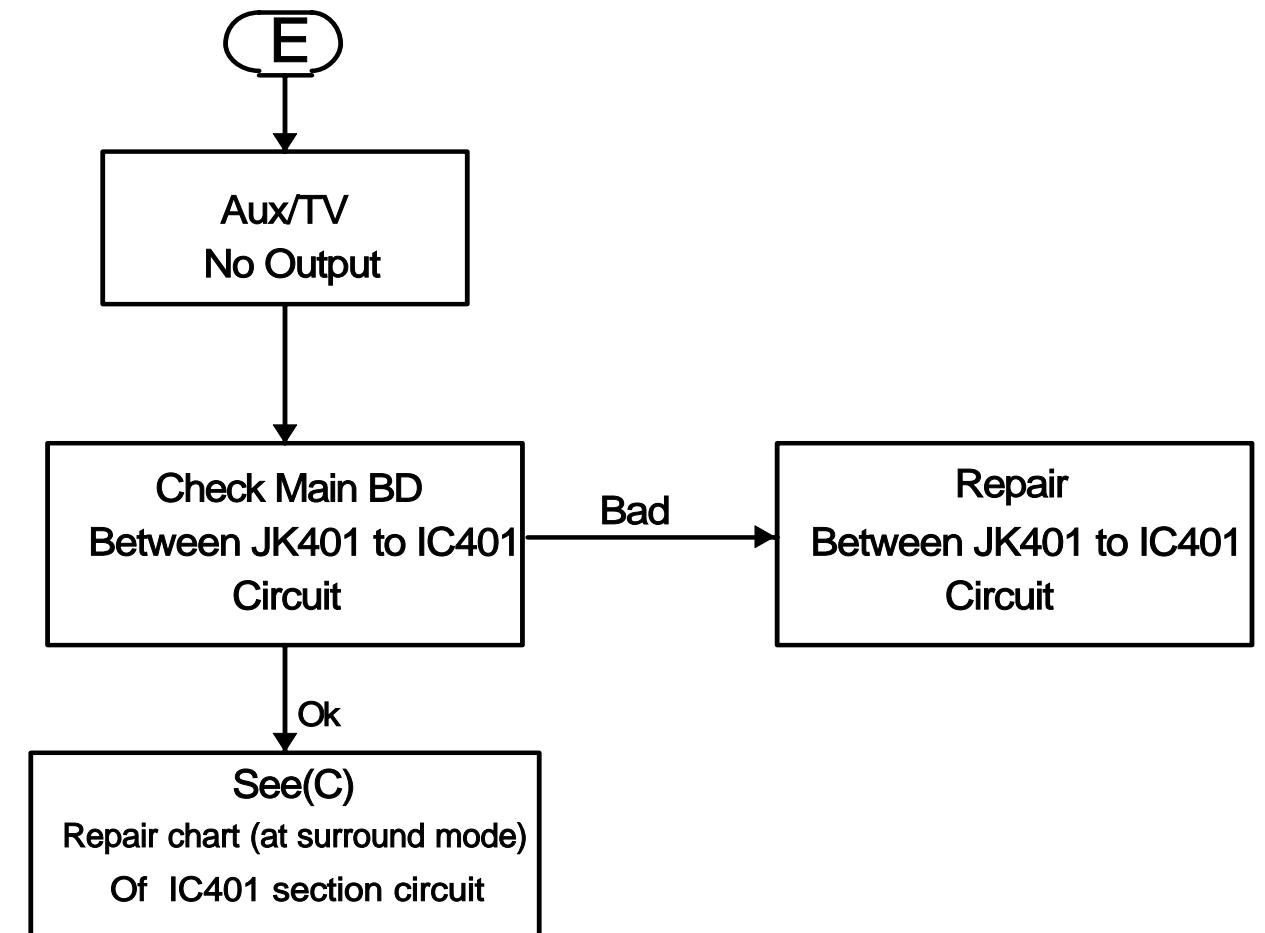
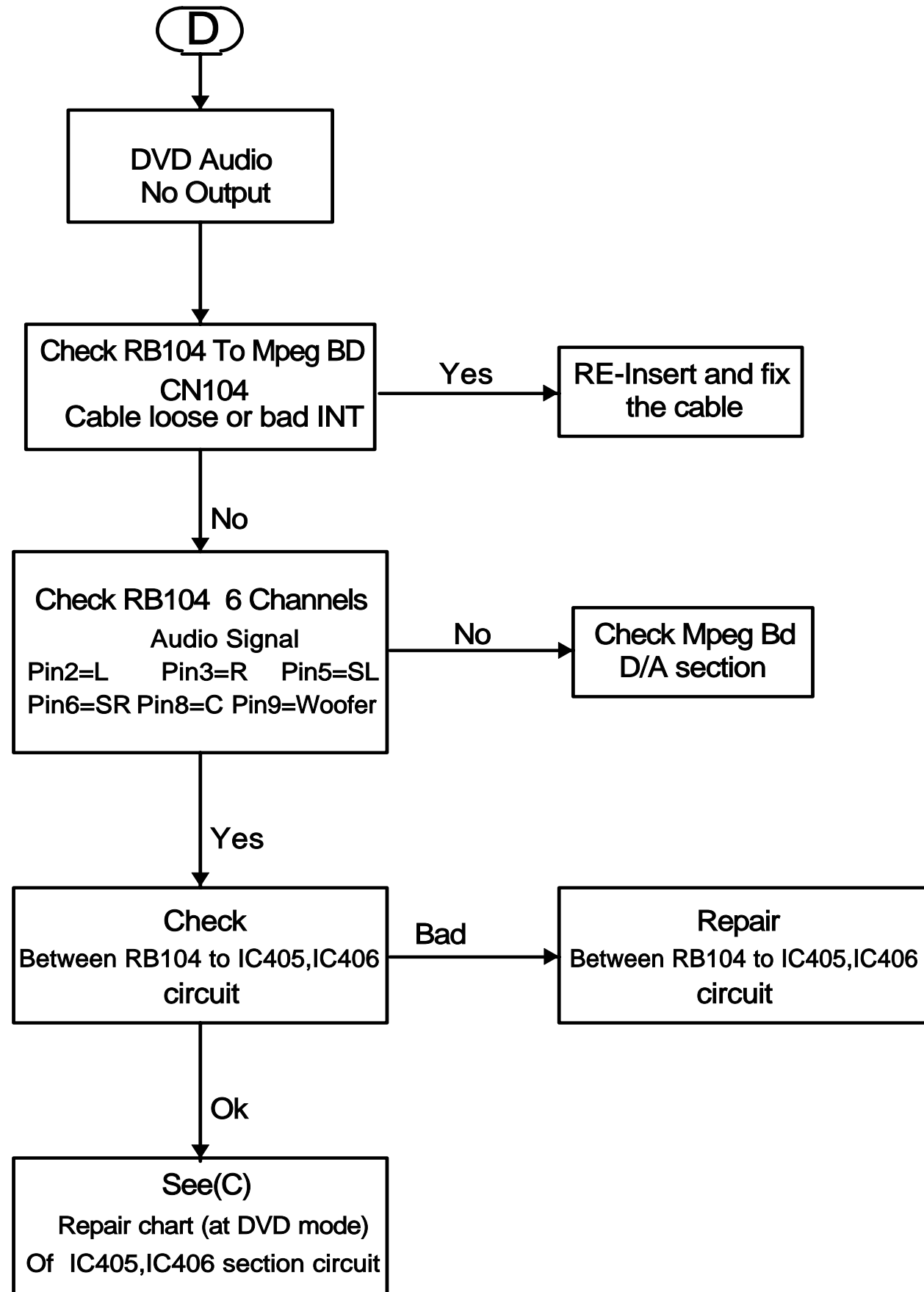


Note: BD=Board
 Main BD = LVM0189C011
 MPEG BD = LFF0205C001
 Surround BD = LVA0192C001
 Tuner BD = LVT0187C001

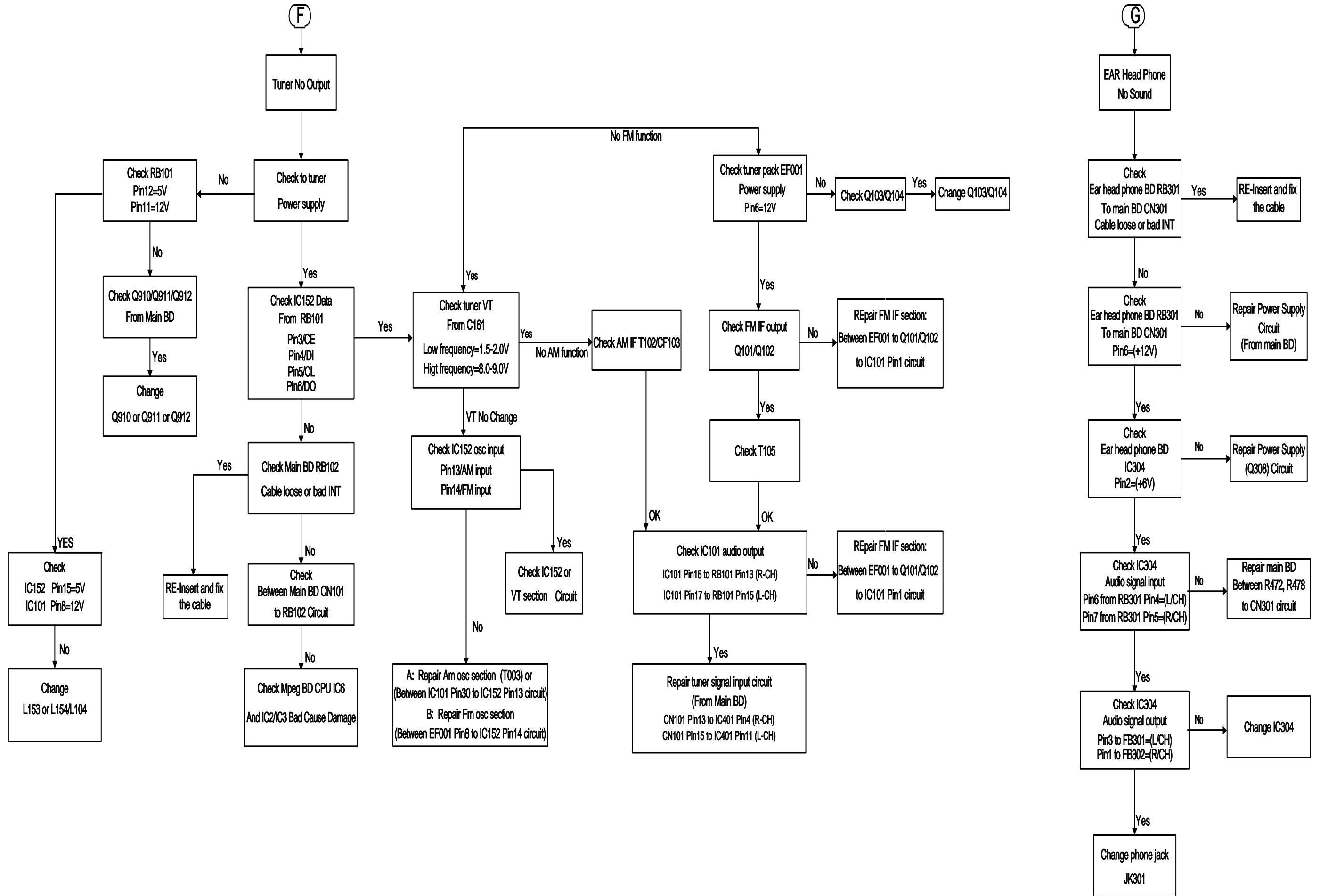
REPAIR INSTRUCTIONS



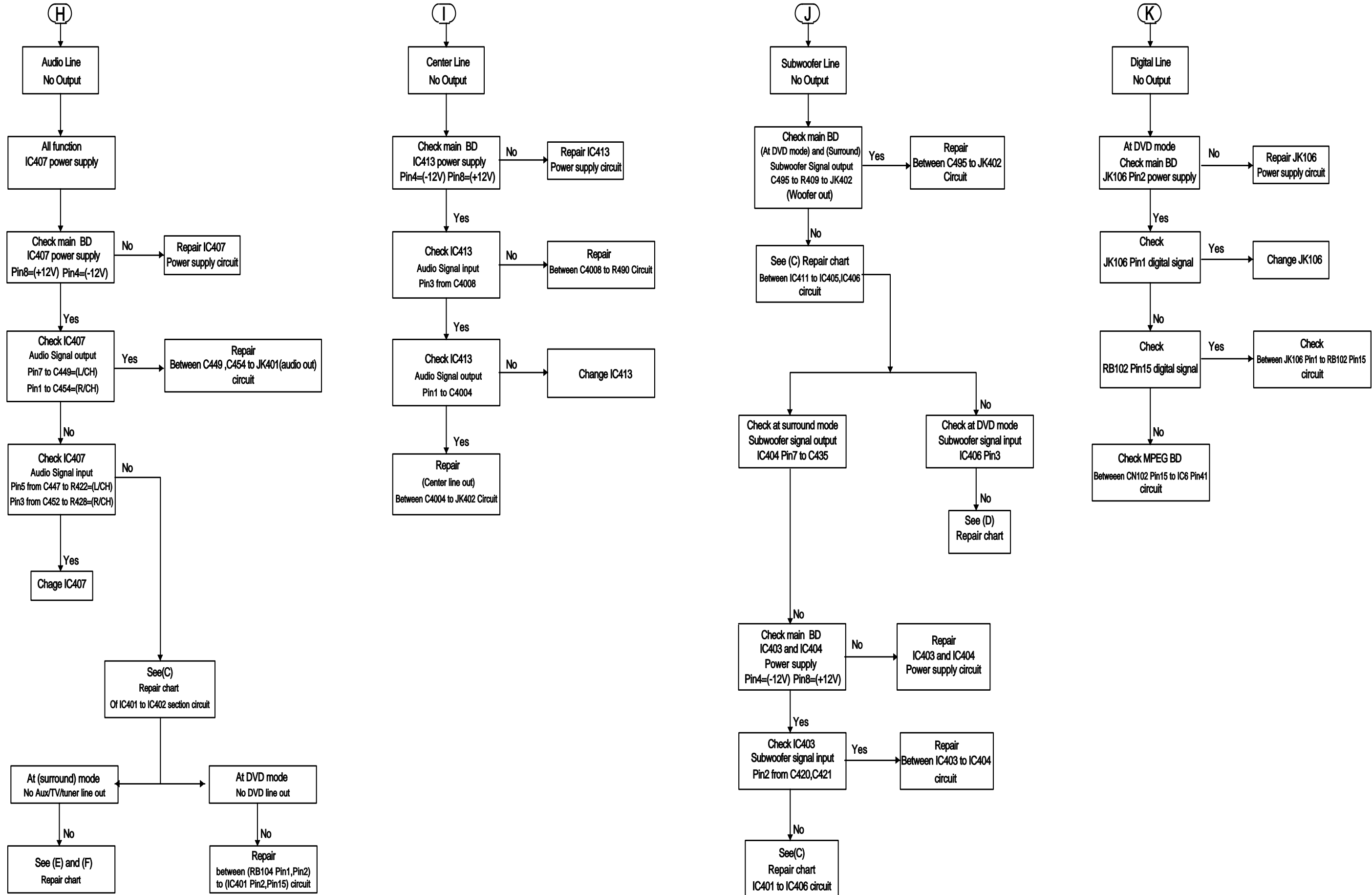
REPAIR INSTRUCTIONS



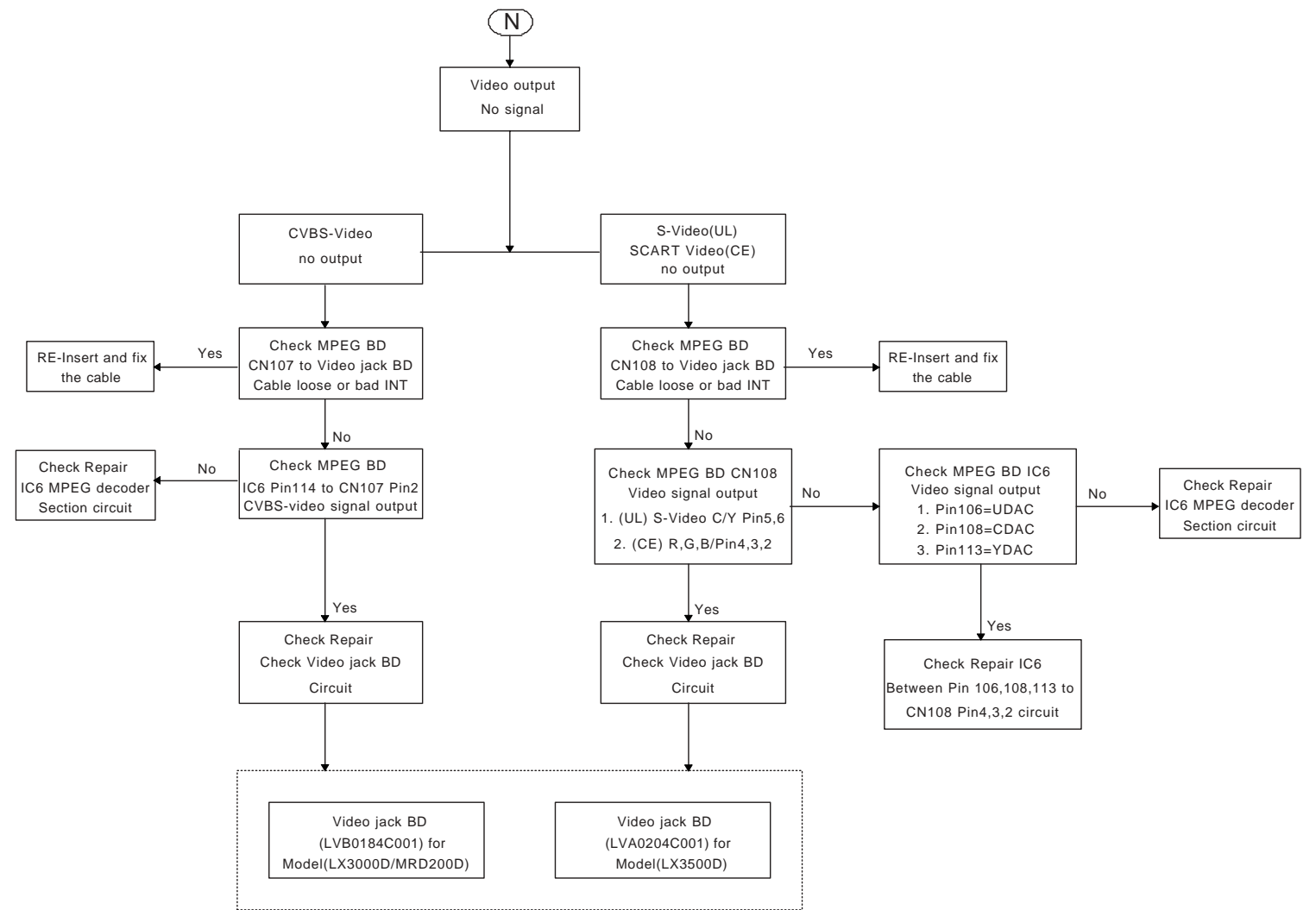
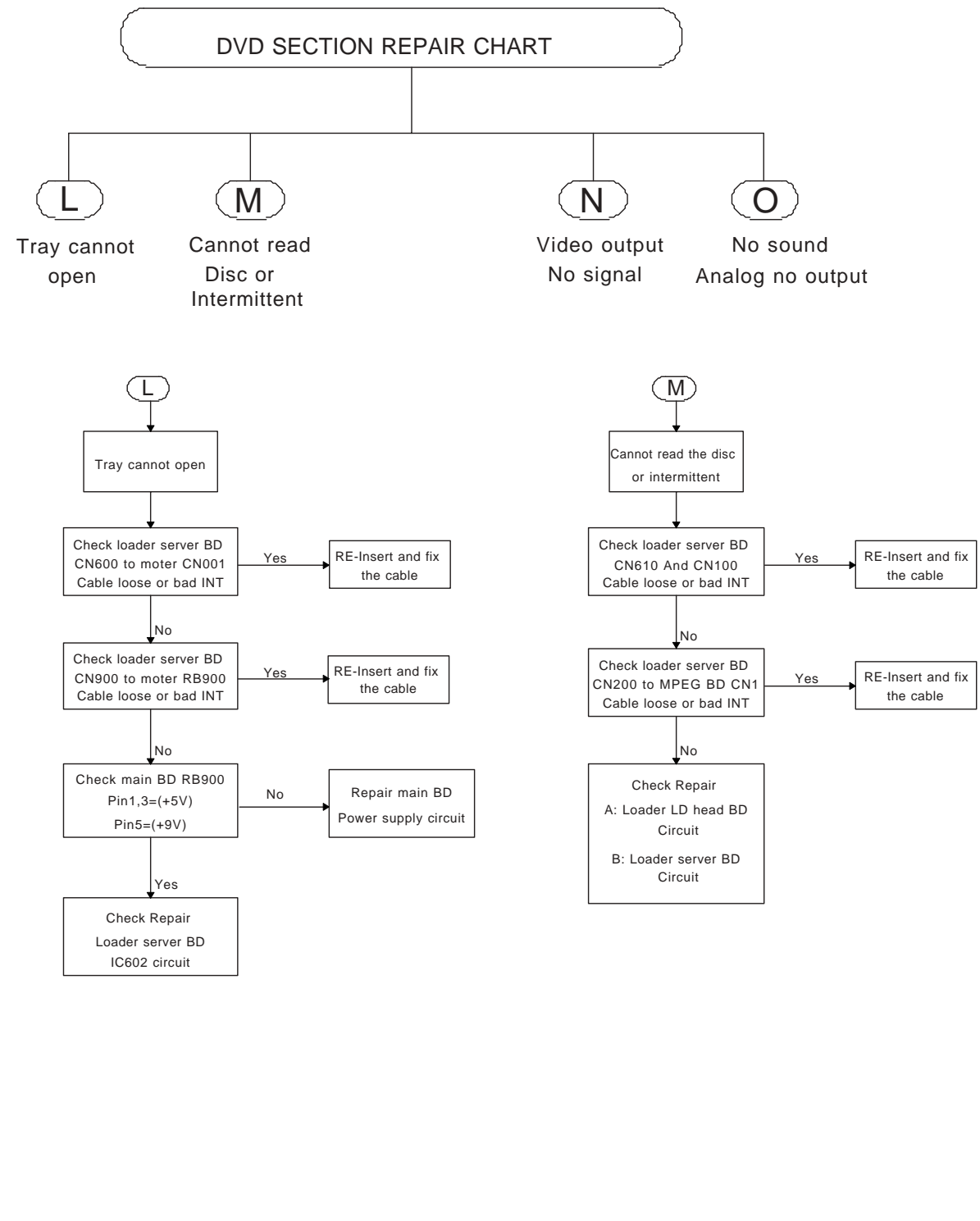
REPAIR INSTRUCTIONS



REPAIR INSTRUCTIONS

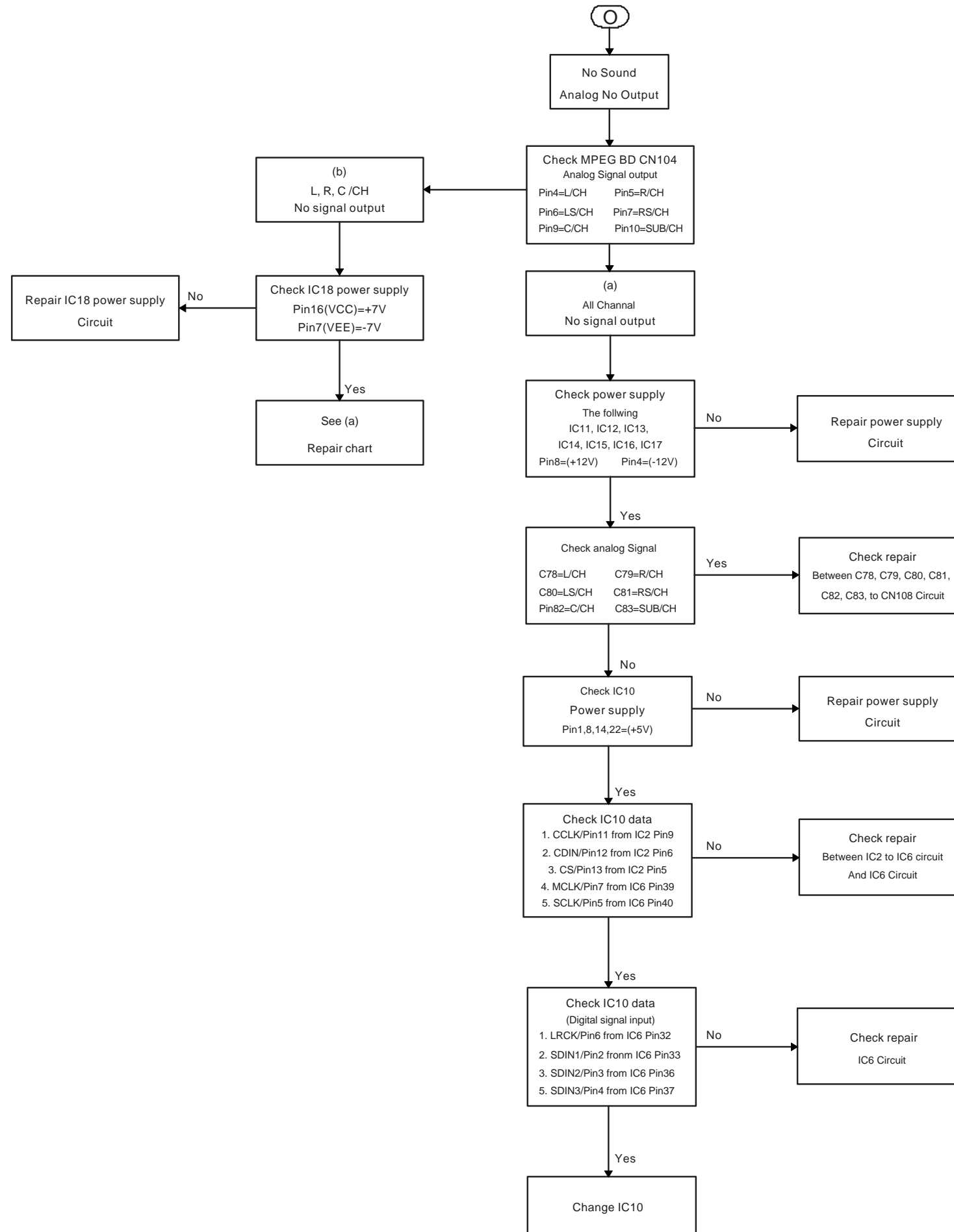


REPAIR INSTRUCTIONS



Note: BD=Board
 MPEG BD = LFF0205C001
 Video jack board(LX3000D/MRD200D)=LVB0184C001
 Video jack board(LX3500D)=LVA0204C001

REPAIR INSTRUCTIONS



DISASSEMBLY INSTRUCTIONS

Dismantling of the KeyBoard Assembly

1) Open the DVD Tray by using the Open/Close Button while the Set is ON and disconnect the mains supply after removing the Tray Cover.

Note: If this is not possible, the DVD Tray has to be open manually.

To manually open the DVD Tray, place the set on its right side. Insert a mini screw driver with diameter 2mm and 50mm length into the slot on the bottom of DVD tray and slide it towards the right as shown in figure 1 until the Tray moves out of the Front Panel.

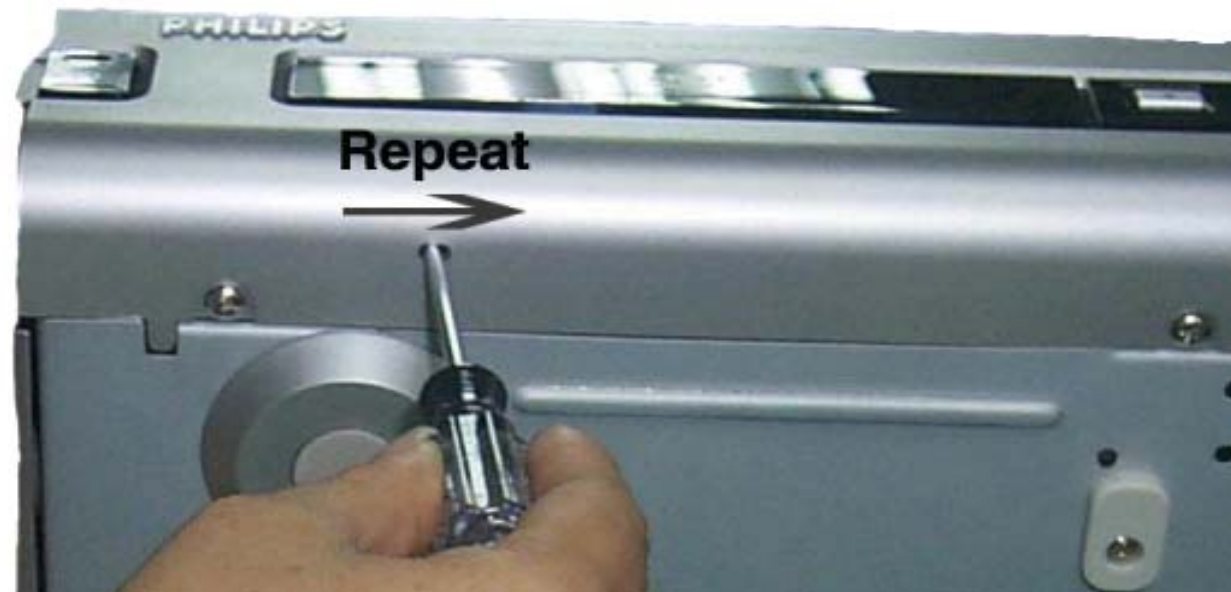


Figure 1

Insert a mini screw driver (as shown in figure 3) into the slot and slide it towards the right

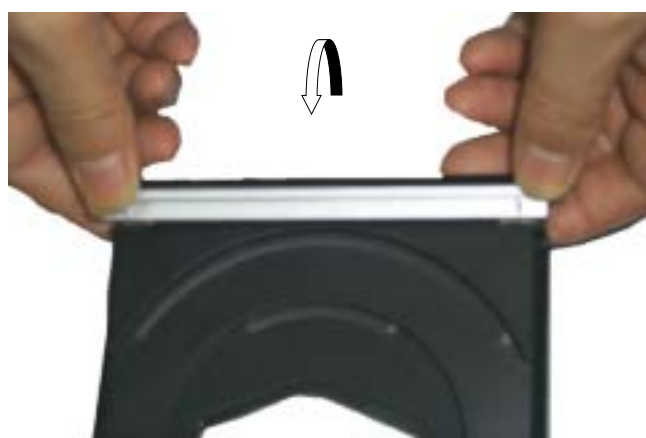


Figure 2



Figure 3

2) Return the set to its upright position and remove the Tray Cover as shown in Figure 2 and close the tray manually by pushing it back in.

3) Loosen 11 screws and remove the Top Cover by lifting the rear portion upwards before sliding it out towards the rear.
- 7 screws on the back
- 2 screws each on the left & right side

4) Loosen 7 screws & lift up the top edge of Front Panel assembly to free some catches (see figure 3) before sliding it out towards the front.
- 5 screws on the bottom
- 1 screw each on the left & right side

Dismantling of the MPEG Board

1) Loosen 4 screws A to remove the metal cover together with MPEG board and remove the connector as shown in figure 4.

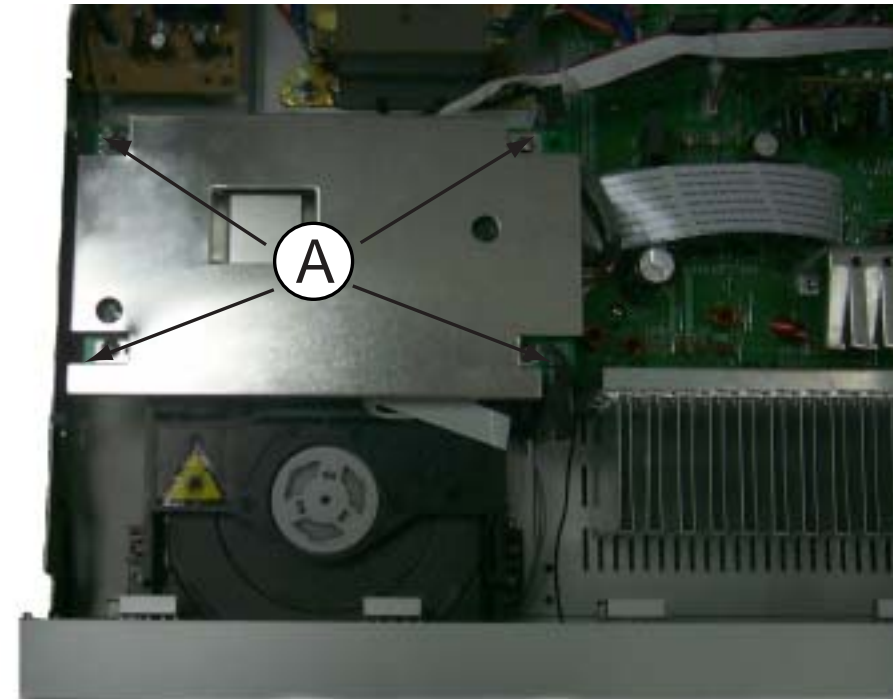


Figure 4

Note: Do not lost the limited between the MPEG board and the servo board

Dismantling of the DVD Module

1) Loosen 4 screws B to remove the DVD module as shown in figure 5 .

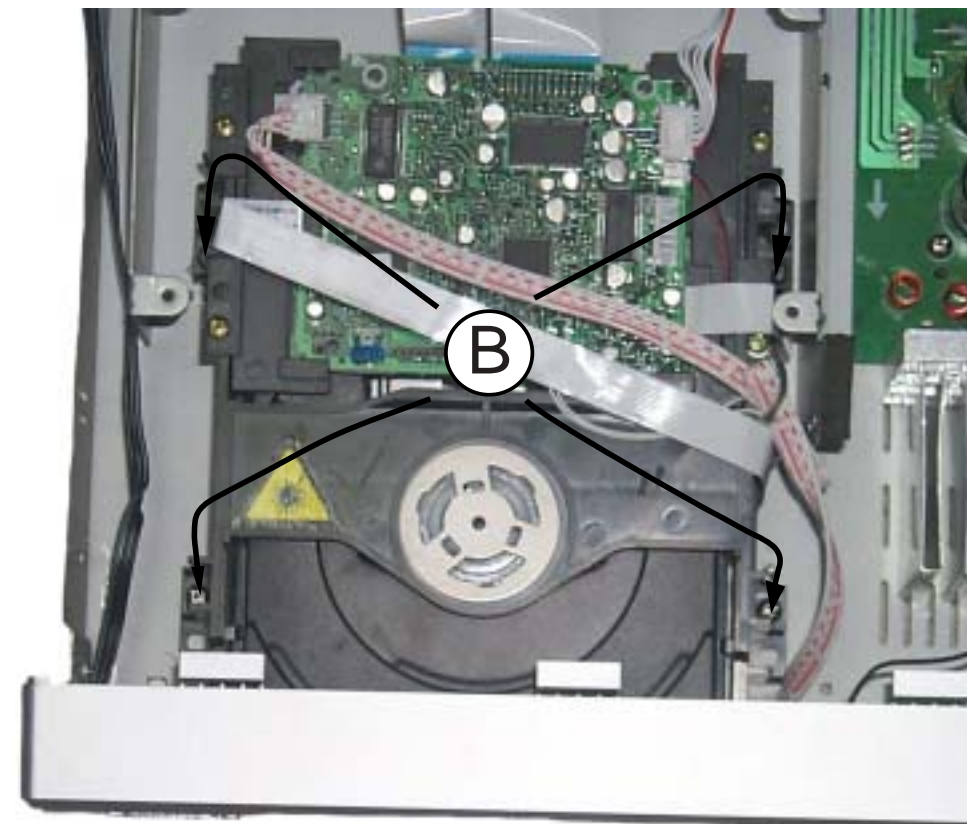
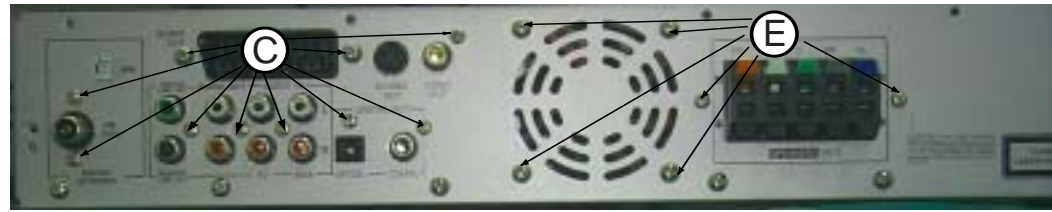


Figure5

Dismantling of the Main Board (include Tuner & Surround Board)

- 1) Loosen 6 screws F on the top of main board as shown in figure 7.
- 2) Loosen 10 screws C at the back panel as shown in figure 8.
- 3) Loosen 3 screws D on the bottom cover as shown in figure 9.
- 4) Remove all connectors on tuner, surround, RGB/Scart & main board.



Scart Jack use for LX3000/22S only

Figure 8



RGB Jack use for LX3000/21S/21L/30S;
LX3500/37S/21R/21H

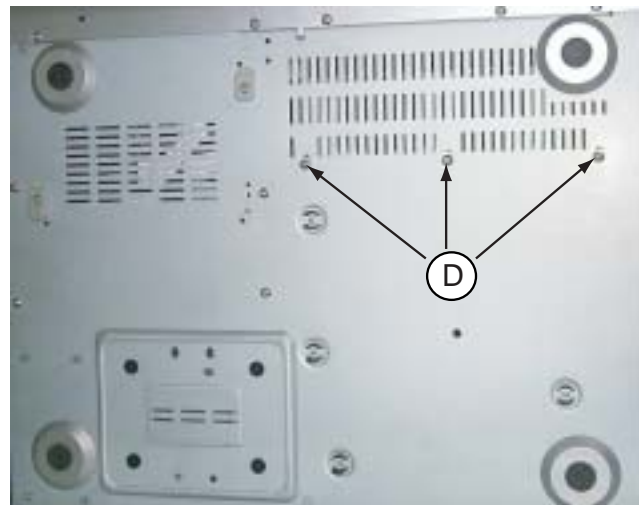


Figure 9

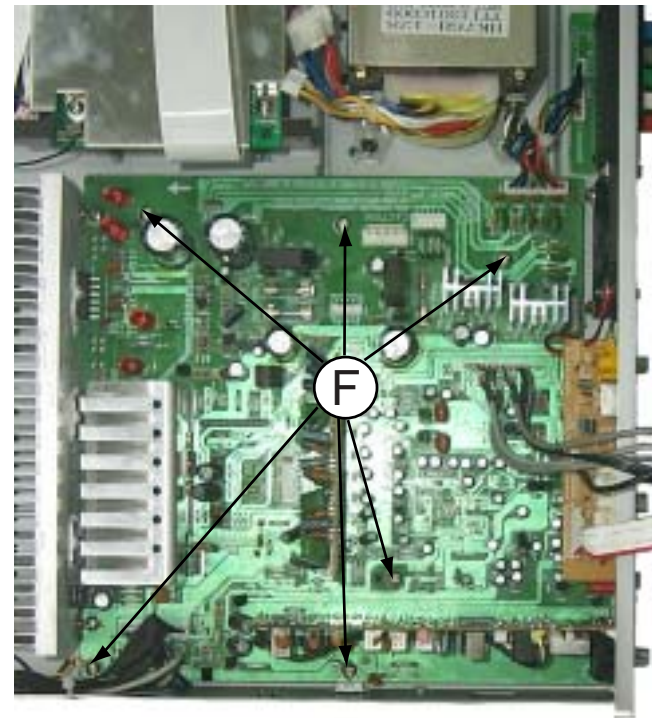


Figure 7

Dismantling of the Speaker Jack Board & Fan

- 1) Loosen 6 screws E at the back panel as shown in figure 8.
- 2) Remove all connectors at speaker jack and Fan.

SERVICE POSITIONS

Service position A



Service position B

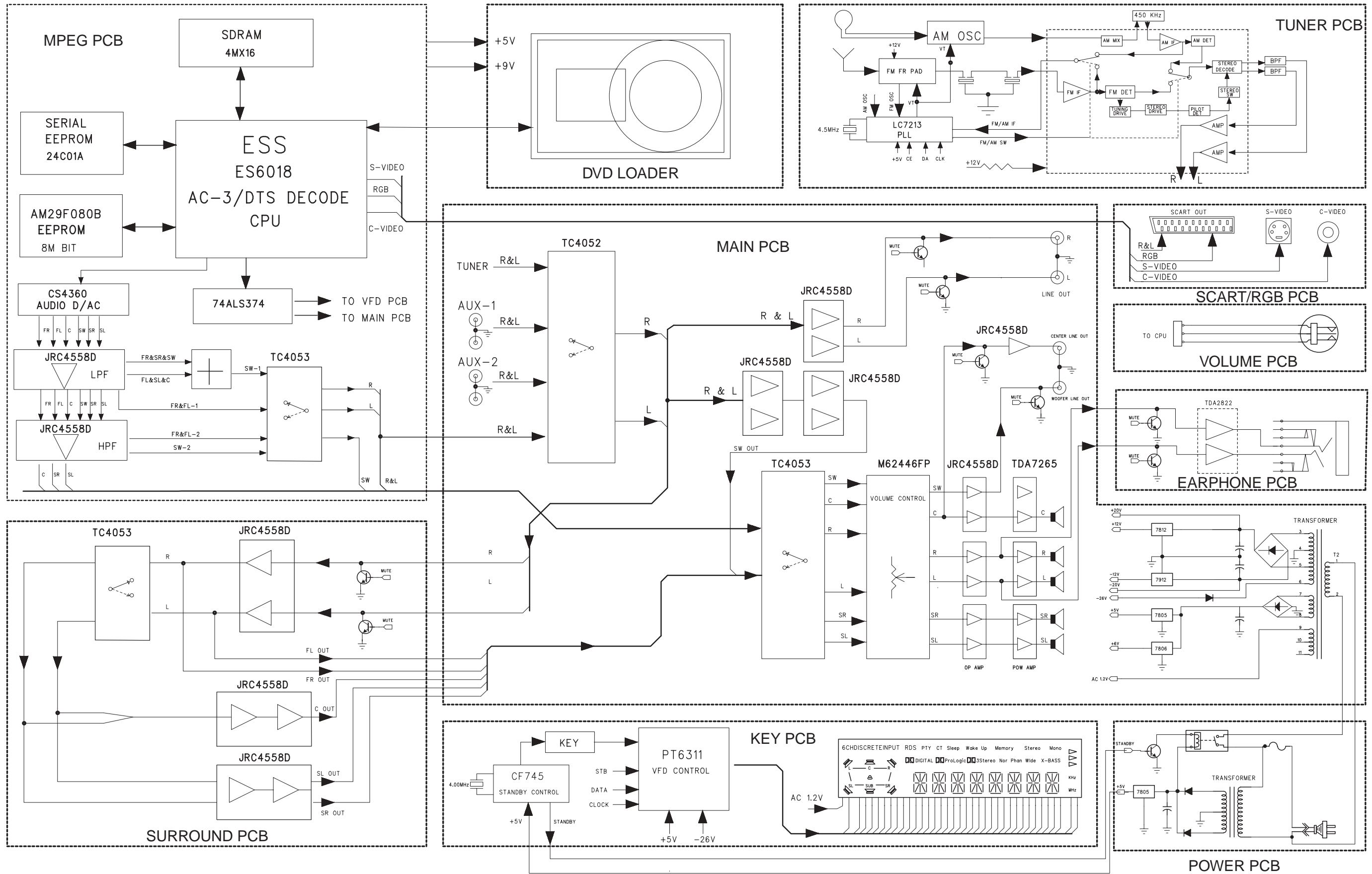


Note: In some service positions the components or copper patterns of one board may risk touching its neighbouring pc boards or metallic parts. To prevent such short-circuit use a piece of hard paper or other insulating material between them.

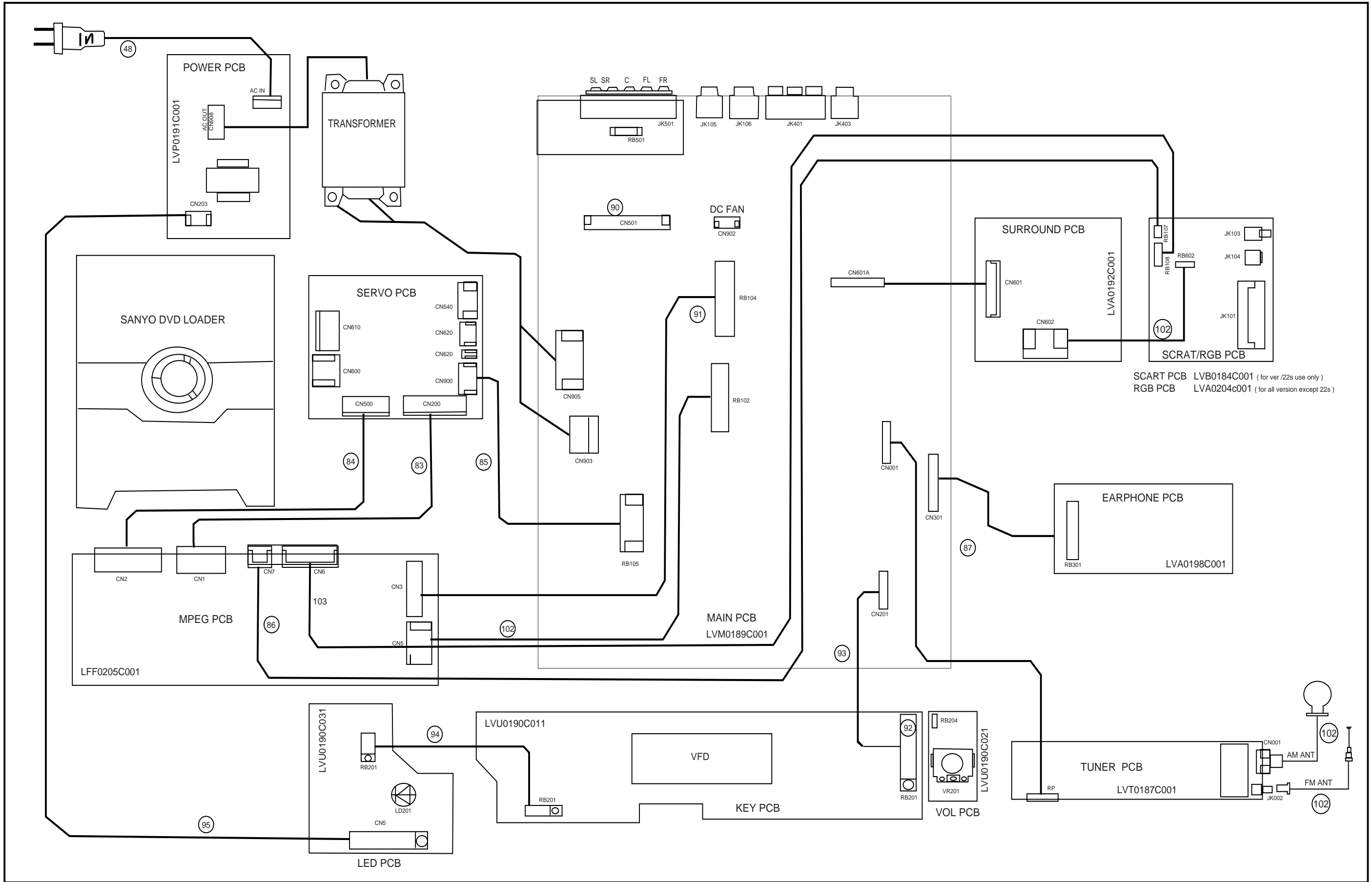
Service position C



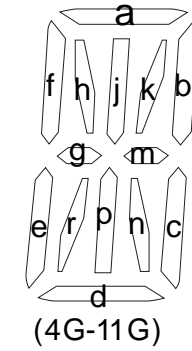
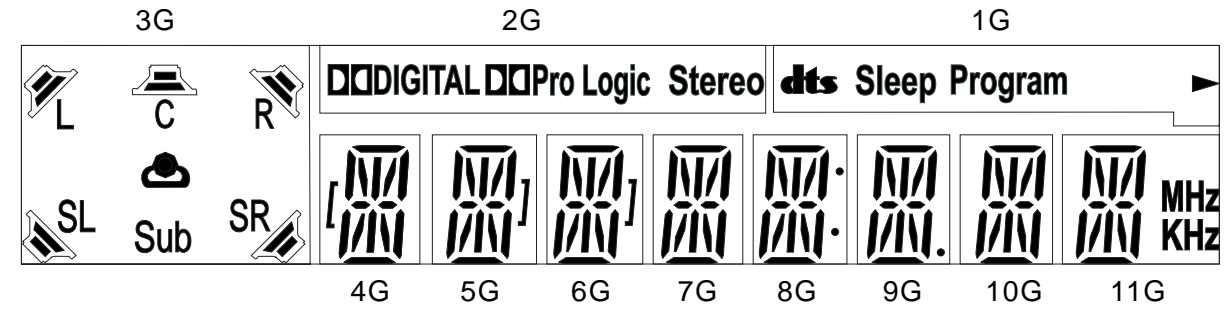
BLOCK DIAGRAM



WIRING DIAGRAM



FTD DISPLAY PIN ASSIGNMENT



KEY / VOLUME / LED / EARPHONE BOARD

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- Electrical Parts List (Key Board) 5-5
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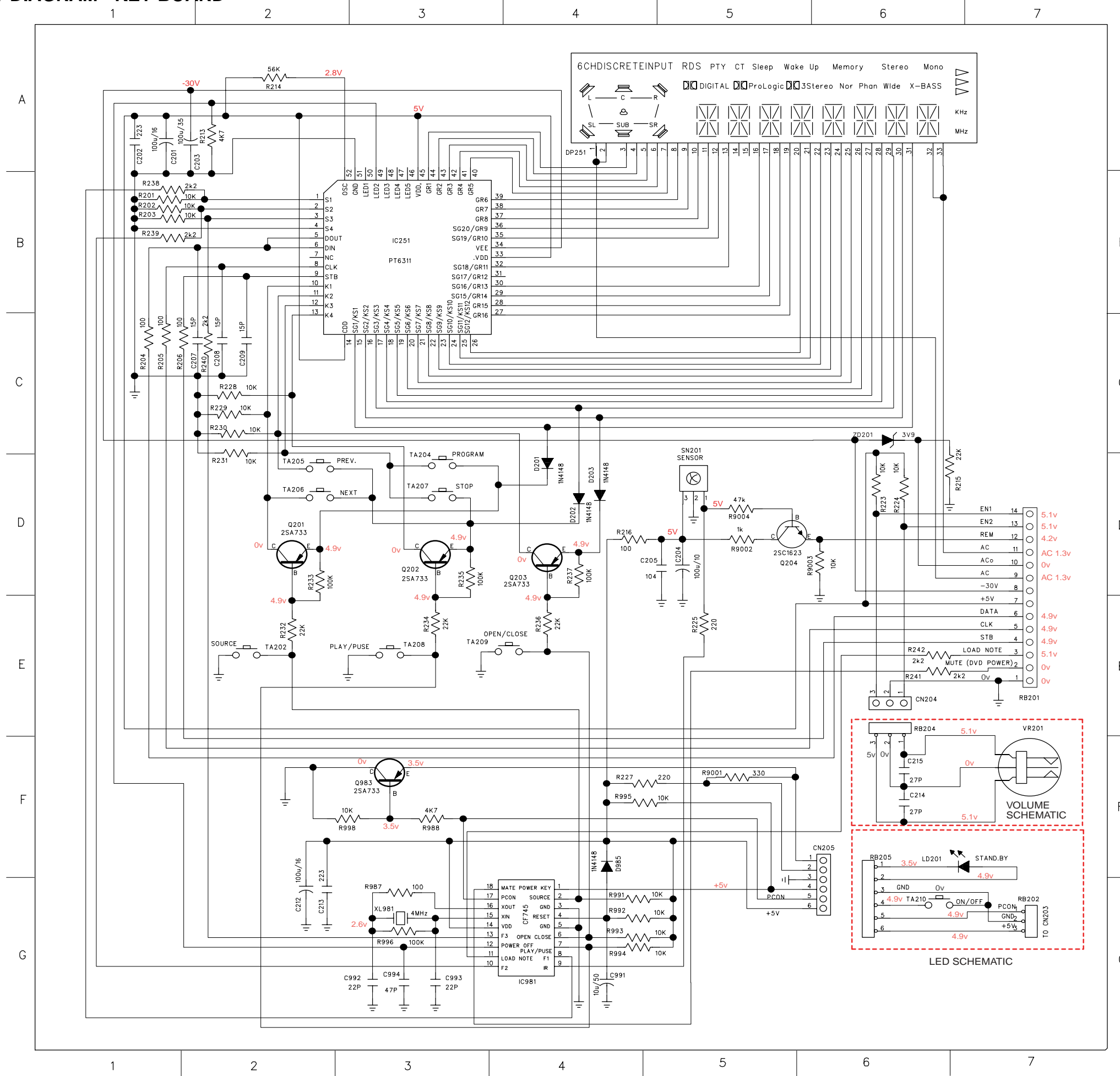
	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G
P1	Program	DIGITAL	L	a	a	a	a	a	a	a	a
P2	Sleep	ProLogic	C	b	b	b	b	b	b	b	b
P3	Stereo		L	h	h	h	h	h	h	h	h
P4			C	j	j	j	j	j	j	j	j
P5			SL	k	k	k	k	k	k	k	k
P6			Sub	f	f	f	f	f	f	f	f
P7			SR	g	g	g	g	g	g	g	g
P8				m	m	m	m	m	m	m	m
P9				e	e	e	e	e	e	e	e
P10				r	r	r	r	r	r	r	r
P11				p	p	p	p	p	p	p	p
P12				n	n	n	n	n	n	n	n
P13				c	c	c	c	c	c	c	c
P14				d	d	d	d	d	d	d	d
P15				[]]		Col	Dp		MHz
P16											KHz

PIN CONNECTION

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16																			
CONNECTION	F	F	N	1	2	3	4	5	6	7	8	9	10	11	N	N	P	P	P	P	P	P	P	P	P	P	P	P	P	P	N	F	F		
	1	2	P	G	G	G	G	G	G	G	G	G	G	G	C	C	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	P	2	2

Note ##
 1. Fn: Filament pin
 2. nG : Grid pin
 3. Pn : Anode pin
 4. NP : No Pin
 5. NC : No Connection pin

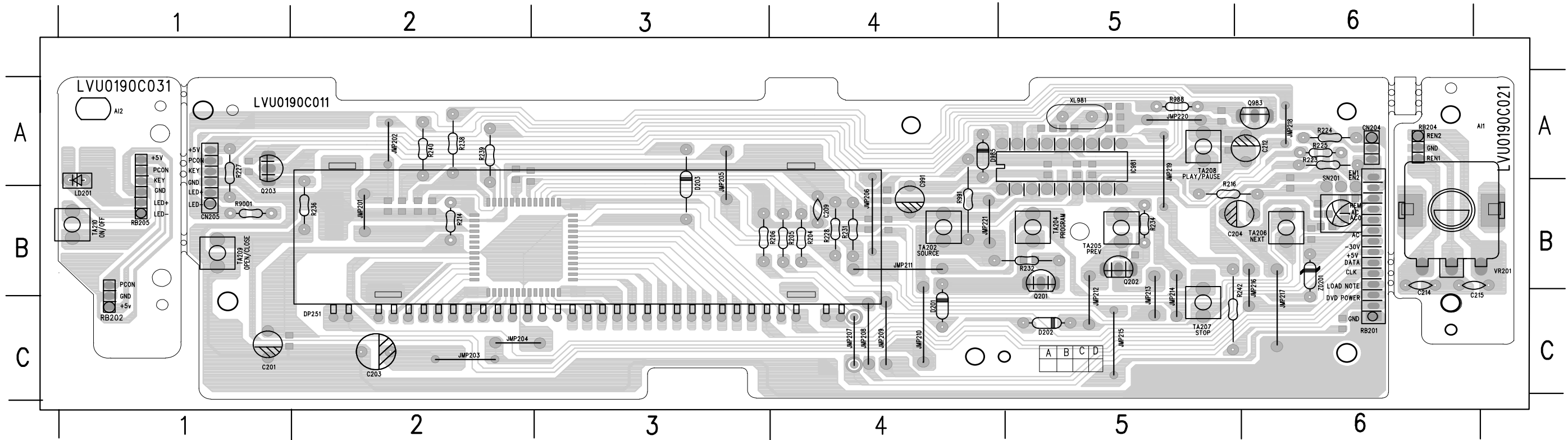
CIRCUIT DIAGRAM - KEY BOARD



C201	A1	R237	D4
C202	A1	R238	B1
C203	A1	R239	B1
C204	D5	R240	C2
C205	D5	R241	E6
C207	C1	R242	E6
C208	C2	R987	G3
C209	C2	R988	F3
C212	G2	R991	G4
C213	G2	R992	G4
C214	F6	R993	G4
C215	F6	R994	G4
C991	G4	R995	F4
C992	G3	R996	G3
C993	G3	R998	F2
C994	G3	R9001	F5
CN203	G7	R9002	D5
CN204	E6	R9003	D6
CN205	F5	R9004	D5
D201	D4	RB201	E7
D202	D4	RB202	G7
D203	D4	RB204	F6
D985	F4	RB205	F6
DP251	A4	SN201	D5
IC251	B3	TA202	E2
IC981	G4	TA204	D3
LD201	F7	TA205	D2
Q201	D2	TA206	D2
Q202	D3	TA207	D3
Q203	D4	TA208	E3
Q204	D5	TA209	E3
Q983	F3	TA210	G6
R201	B1	VR201	F7
R202	B1	XL981	G3
R203	B1	ZD201	C6
R204	C1		
R205	C1		
R206	C1		
R213	A2		
R214	A2		
R215	D6		
R216	D4		
R223	D6		
R224	D6		
R225	E5		
R227	F4		
R228	C2		
R229	C2		
R230	C2		
R231	C2		
R232	E2		
R233	D2		
R234	E3		
R235	D3		
R236	E4		

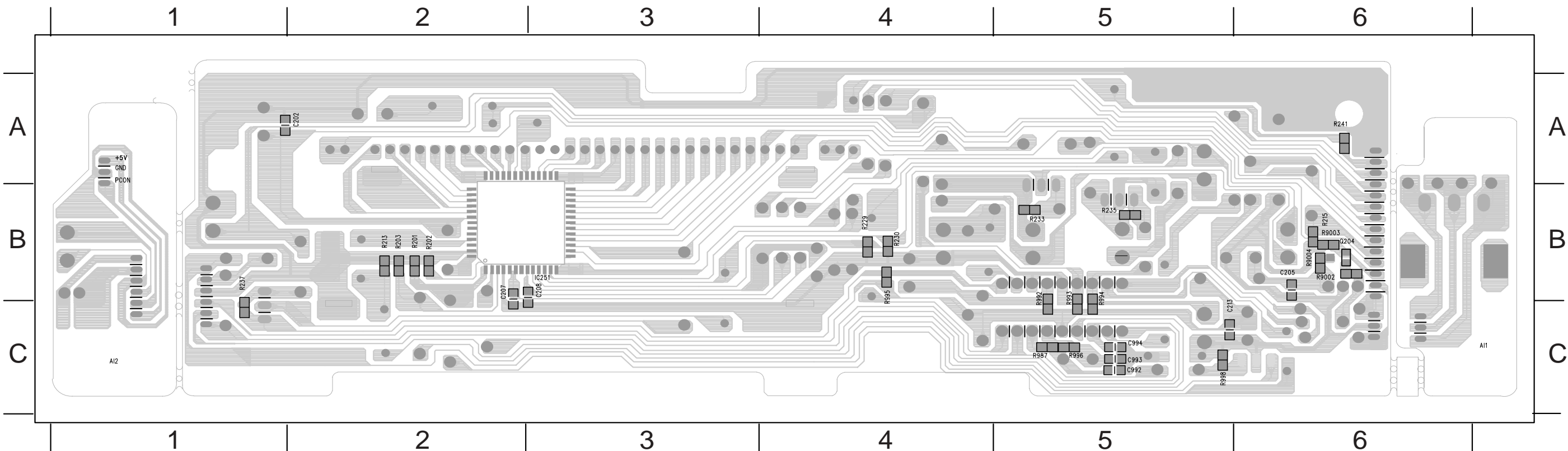
PCB LAYOUT TOP VIEW - KEY BOARD

C201 C1 C214 B5 D202 C5 R205 B4 R223 A6 R228 B4 R236 B2 R241 C6 R9001 B1 Q938 A5 LD201 A1 SN201 B6 TA206 B6 VR201 B5 JWP202 A2 JWP206 B4 JWP210 C4 JWP214 C5 JWP218 A6 TA210 B1
 C204 B6 C215 B6 D203 B3 R206 B4 R224 A6 R231 B4 R238 A2 R242 C5 Q201 C5 CN204 A5 RB201 C6 TA202 B4 TA207 C5 XL981 A5 JWP203 C2 JWP207 C4 JWP211 B4 JWP215 C5 JWP219 A6
 C209 B4 C991 B4 D985 A4 R214 B2 R225 A6 R232 B5 R239 A2 R988 A5 Q202 B5 CN205 B1 RB202 C1 TA204 B5 TA208 A5 ZD201 B6 JWP204 C2 JWP208 C4 JWP212 C5 JWP216 C6 JWP220 A5
 C212 A6 D201 C4 R204 B4 R216 B6 R227 A1 R234 B5 R240 A2 R991 B4 Q203 A1 C981 A5 RB204 A6 TA205 B5 TA209 B1 JWP201 B2 JWP205 B3 JWP209 C4 JWP213 C5 JWP217 C6 JWP221 B4

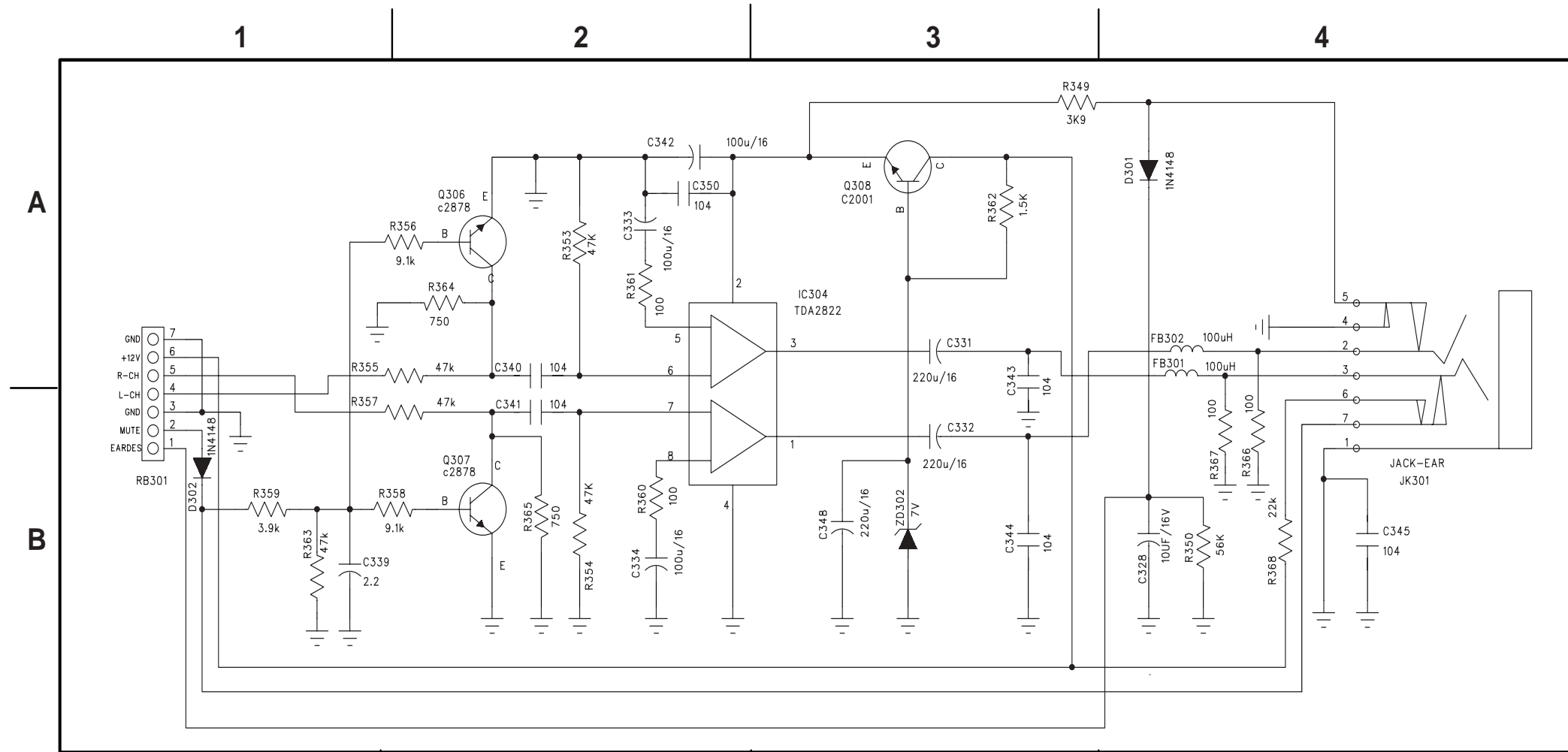


PCB LAYOUT BOTTOM VIEW - KEY BOARD

C205 B6 C207 C2 C213 C5 C993 C5 R201 B2 R203 B2 R215 B6 R230 B4 R235 B5 R241 C6 R992 A6 R994 B5 R996 C5 R9002 B6 R9004 B6 Q204 B6
 C202 A1 C208 C3 C992 C5 C994 C5 R202 B2 R213 B2 R229 B4 R233 B5 R237 C1 R987 A5 R993 C5 R995 B4 R998 C5 R9003 B6 IC251 B3

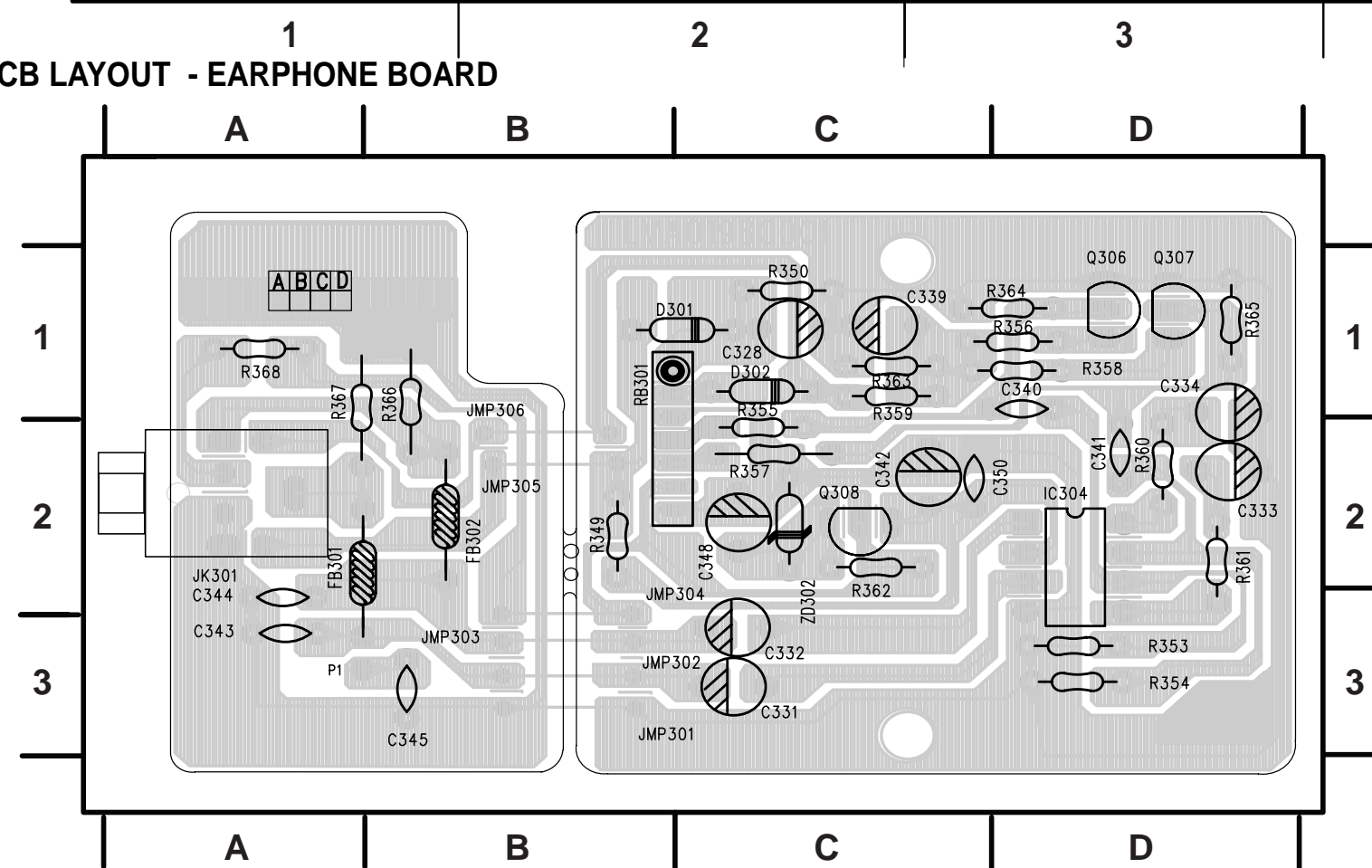


CIRCUIT DIAGRAM - EARPHONE BOARD



C328	B4	RB301	B1
C331	A3	R349	A3
C332	B3	R350	B4
C333	A2	R353	A2
C334	B2	R354	B2
C339	B1	R355	A1
C340	A2	R356	A1
C341	B2	R357	B1
C342	A2	R358	B1
C343	A3	R359	B1
C344	B3	R360	B2
C345	B4	R361	A2
C348	B3	R362	A3
C350	A2	R363	B1
D301	A4	R364	A2
D302	B1	R365	B2
FB301	A4	R366	B4
FB302	A4	R367	B4
IC304	A3	R368	B4
JK301	B4	ZD302	B3
Q306	A2		
Q307	B2		
Q308	A3		

PCB LAYOUT - EARPHONE BOARD



C328	C1	JMP304	B2	R366	B1
C331	C3	JMP305	B2	R367	A1
C332	C3	JMP306	B2	R368	A1
C333	D2	Q306	D1	RB301	B1
C334	D1	Q307	D1	D301	B1
C339	C1	Q308	C2	D302	C1
C340	D1	R349	B2	ZD302	C2
C341	D2	R350	C1		
C342	C2	R353	D3		
C343	A3	R354	D3		
C344	A2	R355	C1		
C345	B3	R356	D1		
C348	C2	R357	C2		
C350	C2	R358	D1		
FB301	A2	R359	C1		
FB302	B2	R360	D2		
IC304	D2	R361	D2		
JK301	A2	R362	C2		
JMP301	B3	R363	C1		
JMP302	B3	R364	D1		
JMP303	B3	R365	D1		

ELECTRICAL PARTS LIST - KEY, VOLUME & LED BOARD**MISCELLANEOUS**

DP251	9965 000 12538	VFD DISPLAY
SN201	9965 000 13071	IRT SENSOR IRM-2038F4 W/GND
TA202	4822 276 13648	TACT SWITCH
TA204	4822 276 13648	TACT SWITCH
TA205	4822 276 13648	TACT SWITCH
TA206	4822 276 13648	TACT SWITCH
TA207	4822 276 13648	TACT SWITCH
TA208	4822 276 13648	TACT SWITCH
TA209	4822 276 13648	TACT SWITCH
TA210	4822 276 13648	TACT SWITCH
VR201	9965 000 12539	ROTARY ENCODER EC16B24-204
XL981	9965 000 12540	CRYSTAL 4,00MHZ

CAPACITORS

C201	9965 000 12541	100UF 16V 20%
C202	9965 000 13179	0,022UF 50V
C203	9965 000 13070	100UF 50V 20%
C204	4822 126 14585	0,1UF 50V 5%
C205	9965 000 12544	0,1UF 50V 5%
C207	4822 126 13486	15PF 2% NP0 63V
C208	4822 126 13486	15PF 2% NP0 63V
C209	9965 000 12545	15PF 50V 5%
C212	9965 000 12541	100UF 16V 20%
C213	9965 000 13179	0,022UF 50V
C214	9965 000 12546	27PF 50V 5%
C215	9965 000 12546	27PF 50V 5%
C991	9965 000 12547	10UF 50V 20%
C992	5322 122 32658	22PF 5% 50V
C993	5322 122 32658	22PF 5% 50V
C994	4822 126 13692	47PF 1% NP0 63V

RESISTORS

R201	9965 000 12484	10K 1/10W 5%
R202	9965 000 12484	10K 1/10W 5%
R203	9965 000 12484	10K 1/10W 5%
R204	4822 050 21001	100R 1% 0,6W
R205	4822 050 21001	100R 1% 0,6W
R206	4822 050 21001	100R 1% 0,6W
R213	4822 051 20472	4K7 5% 0,1W
R214	9965 000 09727	56K 1/6W 5% CF
R215	4822 051 20223	22K 5% 0,1W
R216	4822 050 21001	100R 1% 0,6W
R218	9965 000 12548	220R 1/10W 5%
R223	4822 050 21003	10K 1% 0,6W
R224	4822 050 21003	10K 1% 0,6W
R225	9965 000 12549	220R 1/6W 5% CF
R227	9965 000 12549	220R 1/6W 5% CF
R228	4822 050 21003	10K 1% 0,6W
R229	9965 000 12484	10K 1/10W 5%
R230	9965 000 12484	10K 1/10W 5%
R231	4822 050 21003	10K 1% 0,6W
R232	4822 050 22203	22K 1% 0,6W

R233	4822 117 10837	100K 1% 0,1W
R234	4822 050 22203	22K 1% 0,6W
R235	4822 117 10837	100K 1% 0,1W
R236	4822 050 22203	22K 1% 0,6W
R237	4822 117 10837	100K 1% 0,1W
R238	9965 000 12515	2,2K 1/6W 5% CF
R239	9965 000 12515	2,2K 1/6W 5% CF
R240	9965 000 12515	2,2K 1/6W 5% CF
R241	4822 117 11449	2K2 5% 0,1W 0805
R242	9965 000 12515	2,2K 1/6W 5% CF
R987	4822 117 11373	100R 1% RC12H 0805
R988	9965 000 09725	4,7K 1/6W 5% CF
R991	4822 050 21003	10K 1% 0,6W
R992	9965 000 12484	10K 1/10W 5%
R993	9965 000 12484	10K 1/10W 5%
R994	9965 000 12484	10K 1/10W 5%
R995	9965 000 12484	10K 1/10W 5%
R996	4822 117 10837	100K 1% 0,1W
R998	9965 000 12484	10K 1/10W 5%
R9001	9965 000 12592	330R 1/6W 5%
R9002	4822 051 20102	1K 5% 0,1W
R9003	9965 000 12484	10K 1/10W 5% CF
R9004	9965 000 12482	47K 5% 0,1W

DIODES

D201	4822 130 30621	1N4148
D202	4822 130 30621	1N4148
D203	4822 130 30621	1N4148
D301	4822 130 30621	1N4148
D302	4822 130 30621	1N4148
D985	4822 130 30621	1N4148
LD201	9965 000 12537	LED 3 DIA RED ROUND
ZD201	9965 000 12554	ZENER 3,8-4,0V 0,5W

TRANSISTORS & INTEGRATED CIRCUITS

IC251	9965 000 12550	PT6311(PTC)
IC981	9965 000 12551	CF745
Q201	4822 130 63876	2SA733R
Q202	4822 130 63876	2SA733R
Q203	4822 130 63876	2SA733R
Q204	9965 000 09584	2SC945
Q983	4822 130 63876	2SA733R

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

ELECTRICAL PARTS LIST - EARPHONE BOARD**MISCELLANEOUS**

FB301	9965 000 12470	BEAD FERITE 100R/ AT 100MHZ
FB302	9965 000 12470	BEAD FERITE 100R/ AT 100MHZ
JK31	9965 000 12555	HEADPHONE JACK D3,5

CAPACITORS

C328	4822 124 40248	10UF 20% 63V
C331	9965 000 12558	220UF 16V 20%
C332	9965 000 12558	220UF 16V 20%
C333	9965 000 12559	100UF 16V 20%
C334	9965 000 12559	100UF 16V 20%
C339	4822 124 22652	2,2UF 50V +80-20%
C340	2038 554 00065	100NF +80-20% Y5V 50V
C341	2038 554 00065	100NF +80-20% Y5V 50V
C342	9965 000 12559	100UF 50V +80-20%
C343	2038 554 00065	100NF +80-20% Y5V 50V
C344	2038 554 00065	100NF +80-20% Y5V 50V
C345	2038 554 00065	100NF +80-20% Y5V 50V
C348	9965 000 12558	220UF 16V 20%
C350	2038 554 00065	100NF +80-20% Y5V 50V

RESISTORS

R349	9965 000 09724	3,9K 1/6W 5% CF
R350	9965 000 12560	56K 1/6W 5%
R353	9965 000 12482	47K 1/10W 5%
R354	9965 000 12482	47K 1/10W 5%
R355	4822 050 24703	47K 1/6W 5%
R356	9965 000 12562	9,1K 1/6W 5% CF
R357	4822 050 24703	47K 1/6W 5%
R358	9965 000 12562	9,1K 1/6W 5% CF
R359	9965 000 09724	3,9K 1/6W 5% CF
R360	4822 050 21001	100R 1% 0,6W
R361	4822 050 21001	100R 1% 0,6W
R362	4822 050 21502	1K5 1% 0,6W
R363	4822 050 24703	47K 1% 0,6W
R364	9965 000 09728	750R 5% 1/6W
R365	9965 000 09728	750R 5% 1/6W
R366	4822 050 21001	100R 1% 0,6W
R367	4822 050 21001	100R 1% 0,6W
R368	4822 050 22203	22K 5% 1/6W

DIODES

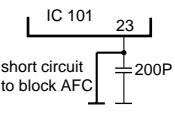
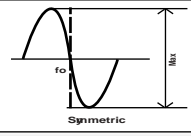
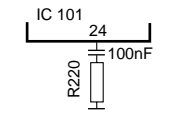
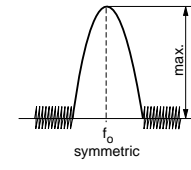
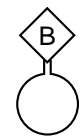
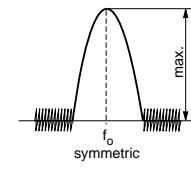
ZD302	4822 130 80272	MTZJ7,5C
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TRANSISTORS & INTEGRATED CIRCUITS

IC304	9965 000 12563	TDA2822
Q306	4822 130 41198	2SC945P
Q307	4822 130 43818	2SC2878
Q308	4822 130 43818	2SC2878

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

TUNER ADJUSTMENT TABLE

Waverange	Input frequency	Input	Tuned to	Adjust	Output	Scope/Voltmeter
<i>VARICAP ALIGNMENT</i>						
FM 87.5 - 108MHz (50kHz grid)			108MHz	5130	1	6.5V ±0.2V
			87.5MHz	check		1.5V ±0.5V
AM 531 - 1602kHz (9kHz grid) (22S / 30S / 21R / 21H)			1602kHz	TC002		7.8V ±0.2V
			531kHz	T003		1.1V ±0.2V
AM 530-1700kHz (10kHz grid) (21L / 21L / 37S)			1700kHz	TC002		8.0V ±0.2V
			530kHz	T003		1.1V ±0.2V
<i>FM - IF</i>						
FM	10.7MHz, 50mV continuous wave	F		T105	2	
<i>FM - RF</i>						
FM	108MHz 87.5MHz	A mod=1kHz Δf=±2.5kHz	108MHz 87.5MHz			MAX
<i>AM IF</i>						
AM	450kHz Connect pin 29 of IC 101 (AM Osc.) with short wire to ground (pin 28)	C Δf = ±5kHz V _{RF} = 3mV		T102	4	
AM AFC MW						
<i>AM RF 3)</i>						
MW	1557kHz	B  Δf = ±30kHz V _{RF} as low as possible	1557kHz	TC001	4	
	576kHz		576kHz	T002		
MW	1650kHz		1650kHz	TC001		
	580kHz		580kHz	T002		

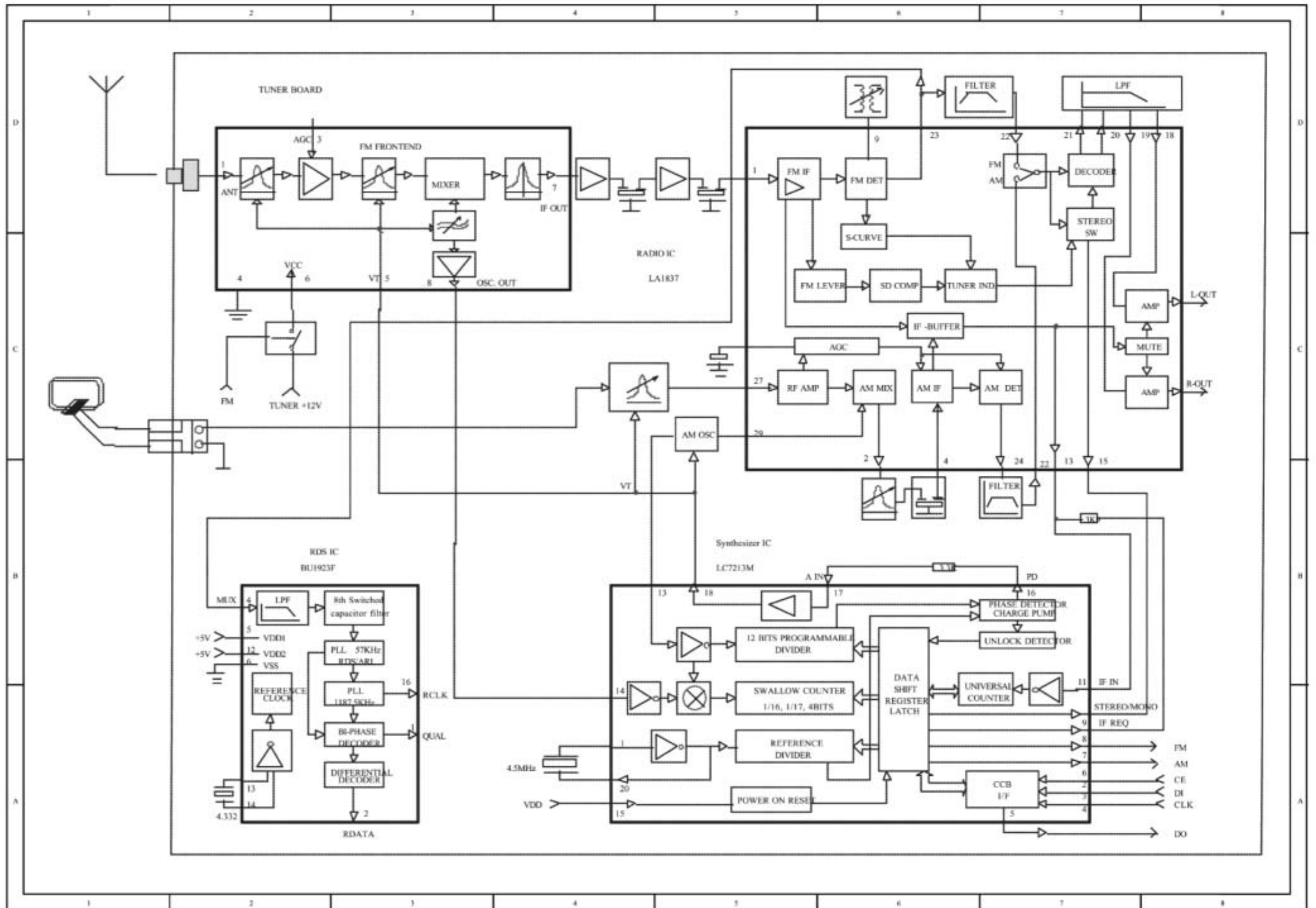
TUNER BOARD

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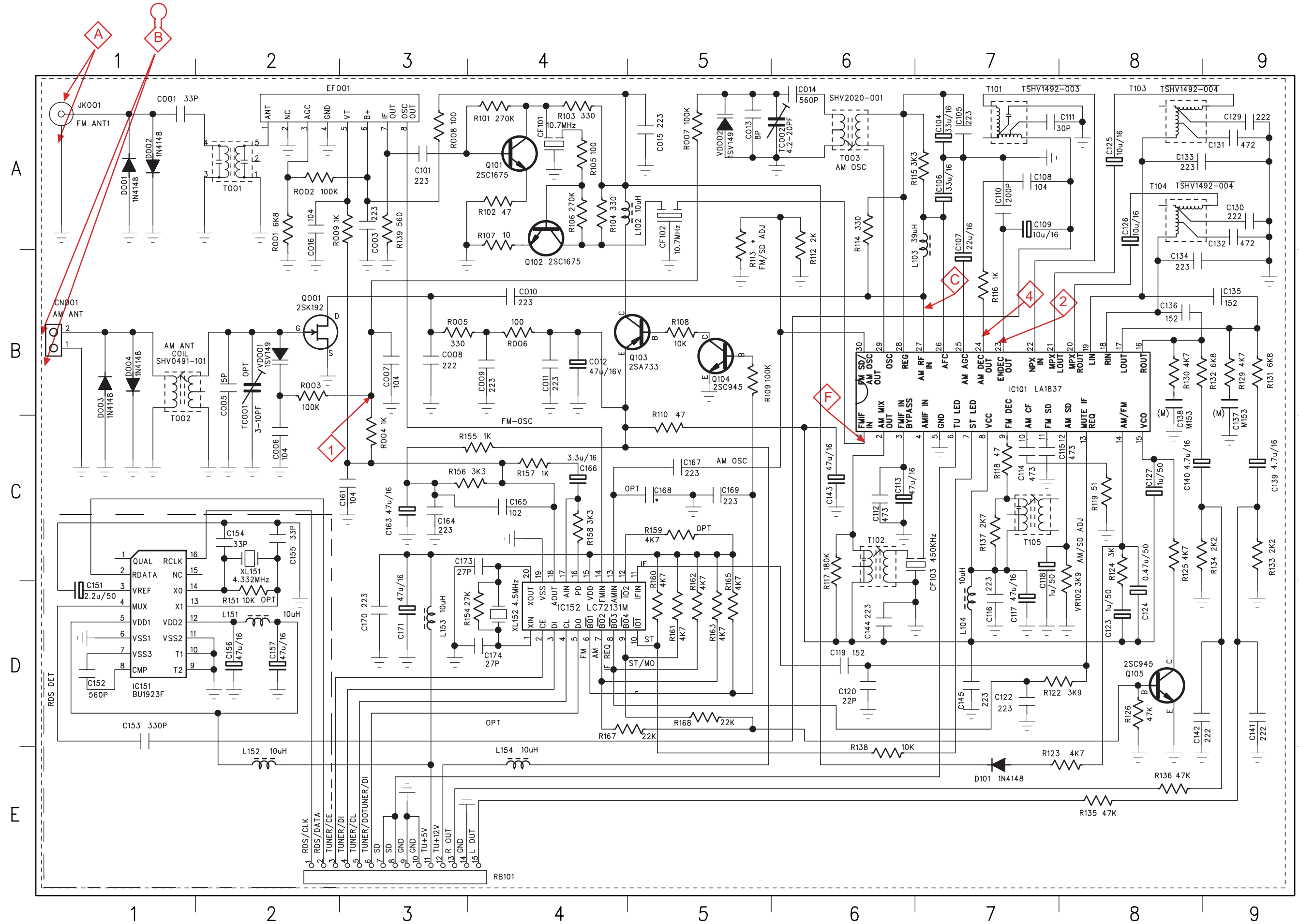
Tuner Adjustment Table 6-1
 Block Diagram 6-2
 Circuit Diagram 6-3
 PCB Layout Top View 6-4
 PCB Layout Bottom View 6-5
 Electrical Parts List 6-6

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!

BLOCK DIAGRAM



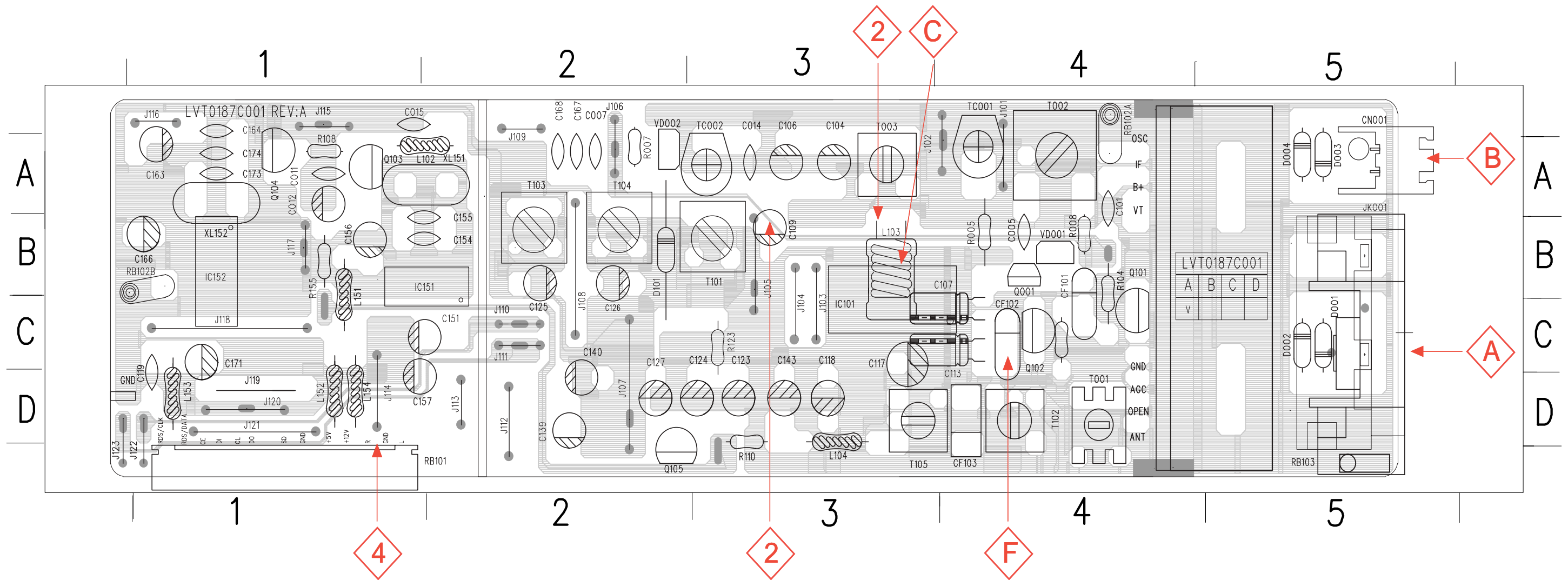
CIRCUIT DIAGRAM



- C001 A1 EF001 A2
- C003 A3 IC101 C7
- C005 A2 IC151 D1
- C006 C2 L151 D2
- C007 C3 L152 E2
- C008 B3 L153 D3
- C009 B4 L154 E4
- C010 B4 Q101 A4
- C011 B4 Q102 B4
- C012 B4 Q103 B5
- C013 A4 Q104 B5
- C014 A6 Q105 D8
- C015 A5 Q001 B2
- C016 A2 R001 B2
- C101 A3 R002 A2
- C104 A7 R003 C3
- C106 A7 R004 C3
- C107 B7 R005 B3
- C108 A8 R006 B4
- C109 A8 R007 A5
- C110 A7 R008 A3
- C111 A7 R009 A3
- C112 C6 R101 A4
- C113 C6 R102 A4
- C114 C7 R103 A4
- C115 C7 R104 A4
- C116 D7 R105 A4
- C117 D7 R106 A4
- C118 C7 R107 B4
- C119 D9 R108 B5
- C120 D6 R109 B5
- C122 D7 R110 C5
- C123 D8 R113 B6
- C124 D8 R114 B6
- C125 A8 R115 A7
- C126 A8 R116 B7
- C127 C8 R117 D6
- C129 A9 R118 C7
- C130 A9 R119 C8
- C131 A9 R122 D7
- C132 A9 R123 E7
- C133 A9 R124 D8
- C134 B8 R125 D8
- C135 B5 R126 E8
- C136 B8 R129 B9
- C132 A9 R130 B8
- C138 C8 R131 B9
- C139 C9 R132 B9
- C140 C9 R133 D9
- C141 D9 R134 C9
- C142 E9 R135 E8
- C143 C6 R136 E8
- C144 D6 R137 C7
- C145 D7 R138 E6
- C151 D1 R151 D2
- C152 D1 R154 D4
- C153 E1 R155 C4
- C154 C2 R156 C3
- C155 C2 R157 C4
- C156 D2 R158 C4
- C157 D2 R159 C5
- C161 C3 R160 D5
- C163 C3 R161 D5
- C164 C3 R162 D5
- C165 C4 R163 D5
- C157 D2 R165 D5
- C161 C3 R167 E4
- C163 C3 R168 E5
- C164 C3 RB101 E3
- C165 C4 T101 A7
- C166 C4 T102 D6
- C167 C5 T103 A9
- C168 C5 T104 A9
- C169 C5 T105 C7
- C170 D3 TC001 B2
- C171 D3 TC002 A6
- C173 D4 T001 A2
- C174 D4 T002 C2
- CF101 A4 T003 A6
- CF102 A5 VD001 B2
- CF103 D7 VD002 A5
- CN001 B1 VR101 B5
- D101 E7 VR102 D8
- D001 A1 XL151 D2
- D002 A1 XL152 D4
- D003 B1
- D004 B1

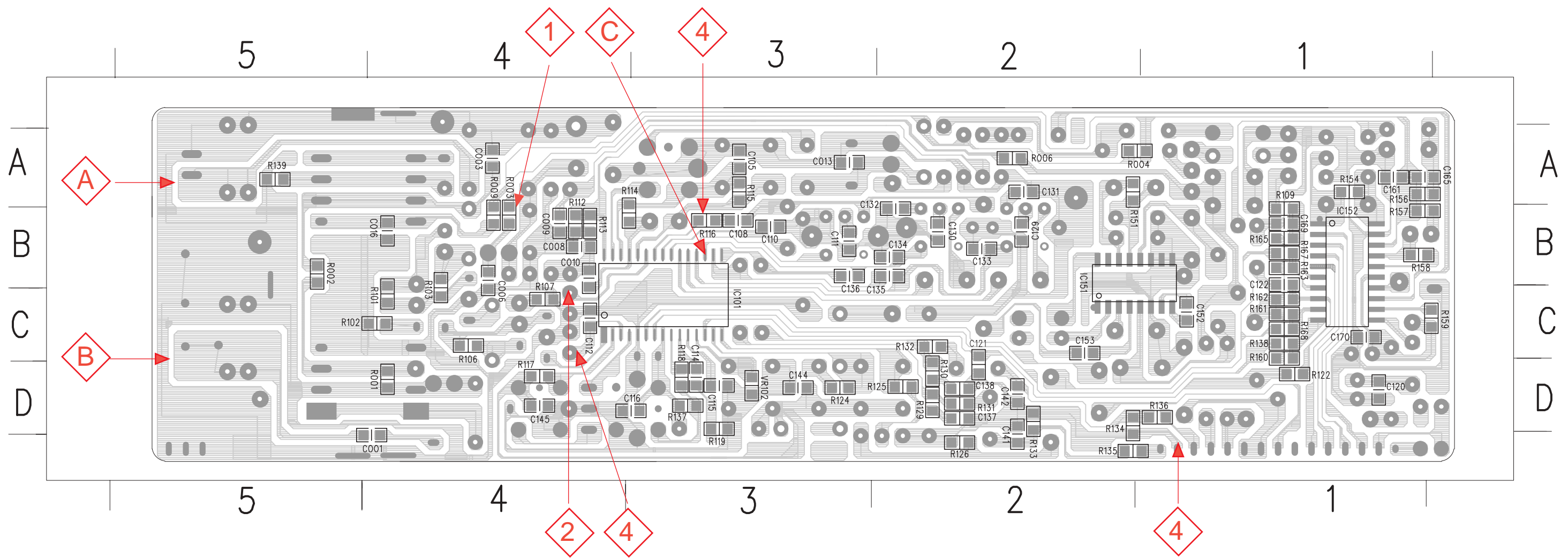
PCB LAYOUT TOP VIEW

C005 A1	C109 B3	C139 D2	C164 A1	CN001 A5	L151 C1	R007 A2	T104 B2	XL152 A1	J110 C2	J120 D1	IC152 B1
C007 A2	C113 C4	C140 C2	C166 B1	D001 C5	L152 D1	R008 B4	T105 D3	J101 A4	J111 D2	J121 D1	R155 B1
C011 B1	C117 C4	C143 D3	C167 A2	D002 C5	L153 D1	R104 B4	TC001 A4	J102 A4	J112 D2	J122 D1	
C012 B1	C118 D3	C151 C1	C168 A2	D003 A5	L154 D1	R105 C4	TC002 A3	J103 C3	J113 D2	J123 D1	
C014 A3	C119 C1	C153 C2	C171 C1	D004 A5	Q001 B4	R108 A1	T001 D4	J104 C3	J114 C1	Q105 D2	
C015 A2	C123 D3	C154 B2	C173 A1	D101 B2	Q101 B4	R110 D3	T002 A4	J105 B3	J115 A1	RB102A A4	
C101 B4	C124 D3	C155 B2	C174 A1	JK001 C5	Q102 C4	R123 C3	T003 A3	J106 A2	J116 A1	RB102B B1	
C104 A3	C125 B2	C156 B1	CF101 C4	L102 A2	Q103 A1	T101 B3	VD001 B4	J107 D2	J117 B1	RB103 D5	
C106 A3	C126 B2	C157 C2	CF102 C4	L103 B3	Q104 A1	T102 D4	VD002 A3	J108 C2	J118 C1	RB101 D1	
C107 C4	C127 D2	C163 A1	CF103 D4	L104 D3	R005 B4	T103 B2	XL151 A2	J109 A2	J119 D1	IC151 B1	



PCB LAYOUT BOTTOM VIEW

R001 D5	R106 C4	R119 D3	R134 D2	R160 C1	C006 B4	C111 B3	C131 A2	C144 D3	IC152 B1
R002 B5	R107 C4	R122 D1	R135 D2	R161 C1	C007 A2	C112 C4	C132 A3	C145 D4	VR102 D3
R003 B4	R109 A1	R124 D3	R136 D1	R162 C1	C008 B4	C114 C3	C133 B2	C152 D1	
R004 A1	R112 B4	R125 D3	R137 D3	R163 B1	C009 B4	C115 D3	C134 B2	C153 C2	
R005 A4	R113 B4	R126 D2	R138 C1	R165 B1	C010 B4	C116 D4	C135 B3	C161 C3	
R006 A2	R114 B4	R129 D2	R151 A2	R167 B1	C013 A3	C120 D1	C136 B3	C165 A1	
R009 B4	R115 A3	R130 D2	R154 A1	R168 C1	C016 B4	C121 D2	C137 D2	C169 B1	
R101 B4	R116 B3	R131 D2	R157 A1	R156 A1	C105 A3	C122 B1	C138 D2	C170 C1	
R102 C4	R117 C4	R132 C2	R158 B1	C001 D5	C108 B3	C129 B2	C141 D2	IC101 C3	
R103 B4	R118 C3	R133 D2	R159 C1	C003 A4	C110 B3	C130 B2	C142 D2	IC151 B2	



ELECTRICAL PARTS LIST - TUNER BOARD

MISCELLANEOUS

CN001	9965 000 12565	CONNECTOR 2PIN, AM ANTENNA
EF001	9965 000 12566	TUNER FRONTEND FTE3-500H
JK001	9965 000 12567	FM ANTENNA SOCKET
XL151	9965 000 12572	CRYSTAL 4,332MHZ /22S
XL152	4822 242 82184	CRYSTAL 4,5MHZ

CAPACITORS

C001	2238 861 18339	33PF 1% 50V 0805
C003	9965 000 12573	0,022UF 50V 20%
C005	9965 000 12574	5PF 50V +/-0,5PF
C006	4822 126 14585	100NF 10% X7R 0805 50V
C007	2038 554 00065	100NF +80-20% Y5V 50V
C008	9965 000 12585	0,022UF 50V 10%
C009	9965 000 12573	0,022UF 50V 20%
C010	9965 000 12573	0,022UF 50V 20%
C011	4822 122 30103	22NF 80% 63V
C012	9965 000 12575	47UF 16V 20%
C013	9965 000 13454	8PF 50V 5%
C014	9965 000 12577	560PF 50V 5%
C015	4822 122 30103	22NF 80% 63V
C016	4822 126 14585	100NF 10% X7R 0805 50V
C101	4822 122 30103	22NF 80% 63V
C104	9965 000 13074	33UF 100V 20%
C105	9965 000 12573	0,022UF 50V 20%
C106	9965 000 13074	33UF 100V 20%
C107	9965 000 13075	22UF 16V 20%
C108	4822 126 14585	0,1UF 50V 10%
C109	9965 000 12580	10UF 16V 20%
C110	9965 000 12581	200PF 50V 5%
C111	9965 000 12582	30PF 50V 5%
C112	9965 000 12524	0,047UF 50V 20%
C113	9965 000 13076	47UF 16V 20%
C114	9965 000 12524	0,047UF 50V 20%
C115	9965 000 12524	0,047UF 50V 20%
C116	9965 000 12573	0,022UF 50V 20%
C117	9965 000 13076	47UF 16V 20%
C118	9965 000 12583	1UF 50V 20%
C119	9965 000 13077	1500PF 50V 10%
C120	5322 122 32658	22PF 5% 50V
C122	9965 000 12573	0,022UF 50V 20%
C123	9965 000 12583	1UF 50V 20%
C124	9965 000 12584	0,47UF 50V 20%
C125	9965 000 12580	10UF 16V 20%
C126	9965 000 12580	10UF 16V 20%
C127	9965 000 12583	1UF 50V 20%
C129	9965 000 12585	0,0022UF 50V 10%
C130	9965 000 12585	0,0022UF 50V 10%
C131	5322 126 10223	4,7NF 10% X7R 63V
C132	5322 126 10223	4,7NF 10% X7R 63V
C133	9965 000 12573	0,022UF 50V 20%
C134	9965 000 12573	0,022UF 50V 20%
C135	4822 126 13344	1,5NF 5% 63V

C136	4822 126 13344	1,5NF 5% 63V
C137	4822 126 13188	15NF 5% X7R 63V
C138	4822 126 13188	15NF 5% X7R 63V
C139	9965 000 12586	4,7UF 16V 20%
C140	9965 000 12586	4,7UF 16V 20%
C141	9965 000 12585	0,0022UF 10% 50V
C142	9965 000 12585	0,0022UF 10% 50V
C143	9965 000 12575	47UF 16V 20%
C144	9965 000 12573	0,022UF 50V 20%
C145	9965 000 12573	0,022UF 50V 20%
C151	9965 000 12586	4,7UF 16V 20% /22S
C152	5322 116 80853	560PF 5%NP0 63V /22S
C153	9965 000 13078	330PF 50V 5% /22S
C154	5322 122 32072	33PF 2%NP0 100V /22S
C155	5322 122 32072	33PF 2%NP0 100V /22S
C156	9965 000 12575	47UF 16V 20% /22S
C157	9965 000 12575	47UF 16V 20% /22S
C161	4822 126 14585	100NF 10% X7R 0805 50V
C163	9965 000 12575	47UF 16V 20%
C164	4822 122 30103	22NF 80% 63V
C165	9965 000 12588	1000PF 50V 5%
C166	9965 000 13079	3,3UF 16V 20%
C167	4822 122 30103	22NF 80% 63V
C169	9965 000 12573	0,022UF 50V 20%
C170	9965 000 12573	0,022UF 50V 20%
C171	9965 000 13076	47UF 16V 20%
C173	9965 000 13080	22PF 50V 5%
C174	9965 000 13080	22PF 50V 5%
TC001	4822 125 50692	TRIMMER 3-10PF
TC002	4822 125 50693	TRIMMER 4,2-20PF

RESISTORS

R001	9965 000 12591	6,8K 1/10W 5%
R002	4822 117 10837	100K 1% 0,1W
R003	4822 117 10837	100K 1% 0,1W
R004	4822 051 20102	1K 5% 0,1W
R005	9965 000 12592	330R 5% 1/6W
R006	4822 117 11373	100R 1% RC12H 0805
R007	4822 050 21004	100K 1% 0,6W
R008	4822 050 21001	100R 1% 0,6W
R009	4822 051 20102	1K 5% 0,1W
R101	4822 051 20274	270K 1% 0,1W
R102	4822 051 20479	47R 5% 0,1W
R103	4822 117 13577	330R 1% RC12H 0805 1,25W
R104	9965 000 12592	330R 1/6W 5% CF
R105	4822 050 21001	100R 1% 0,6W
R106	4822 051 20274	270K 1% 0,1W
R107	4822 051 20109	10R 5% 0,1W
R108	4822 050 21003	10K 1% 0,6W
R109	4822 117 10837	100K 1% 0,1W
R110	9965 000 12593	47R 1/6W 5% CF
R112	4822 051 20202	2K 5% 0,1W

ELECTRICAL PARTS LIST - TUNER BOARD

R114	4822 117 13577	330R 1% RC12H 0805 1,25W
R115	4822 051 20332	3K3 5% 0,1W
R116	4822 051 20102	1K 5% 0,1W
R117	2120 108 92641	180K 1% 0,1W
R118	4822 051 20479	47R 5% 0,1W
R119	4822 051 20519	51R 5% 0,1W
R122	4822 051 20392	3K90 5% 0,1W
R123	9965 000 09725	4,7K 1/6W 5% CF
R124	4822 051 20302	3K 5% 0,1W
R125	4822 051 20102	1K 5% 0,1W
R126	9965 000 12482	47K 1/10W 5%
R129	4822 051 20472	4K7 5% 0,1W
R130	4822 051 20472	4K7 5% 0,1W
R131	9965 000 12591	6,8K 1/10W 5%
R132	9965 000 12591	6,8K 1/10W 5%
R133	4822 117 11449	2K2 5% 0,1W 0805
R134	4822 117 11449	2K2 5% 0,1W 0805
R135	9965 000 12482	47K 1/10W 5%
R136	9965 000 12482	47K 1/10W 5%
R137	4822 117 12955	2K7 5% 1/10W
R138	9965 000 12484	10K 1/10W 5%
R151	9965 000 12484	10K 1/10W 5% /22S
R154	9965 000 12484	10K 1/10W 5%
R155	9965 000 12519	1K 1/6W 5% CF
R156	4822 051 20332	3K3 5% 0,1W
R157	4822 051 20102	1K 5% 0,1W
R158	4822 051 20332	3K3 5% 0,1W
R159	4822 051 20472	4K7 5% 0,1W
R160	4822 051 20472	4K7 5% 0,1W
R161	4822 051 20472	4K7 5% 0,1W
R162	4822 051 20472	4K7 5% 0,1W
R163	4822 051 20472	4K7 5% 0,1W
R165	4822 051 20472	4K7 5% 0,1W
R167	4822 051 20223	22K 5% 0,1W
R168	4822 051 20223	22K 5% 0,1W
VR101	4822 051 20472	4K7 5% 0,1W
VR102	4822 051 20392	3K9 5% 0,1W

COILS & FILTERS

CF101	4822 242 82101	CER FILTER SFE10,7MA
CF102	9965 000 12564	CER FILTER 10,7MHZ SFE-10,7MS
CF103	9965 000 13181	CER FILTER 450KHZ SFU450B
L102	9965 000 12568	CHOKE 10UH
L103	9965 000 12569	CHOKE 39 MH
L104	9965 000 12568	CHOKE 10UH
L151	9965 000 12568	CHOKE 10UH /22S
L152	9965 000 12568	CHOKE 10UH /22S
L153	9965 000 12568	CHOKE 10UH
L154	9965 000 12568	CHOKE 10UH
T001	9965 000 12597	OSC FM S-8N
T002	9965 000 12598	ANT OSC AM 4-6:10T 1-3:86T
T003	9965 000 13081	OSC AM 108UH

T101	9965 000 12599	FILTER 78KHZ
T102	9965 000 12570	IFT AM 455KHZ Q=130
T103	9965 000 12600	FILTER 16KHZ
T104	9965 000 12600	FILTER 16KHZ
T105	9965 000 12571	FM IFT 10,7MHZ Q=MIN, 60

DIODES

D001	4822 130 30621	1N4148
D002	4822 130 30621	1N4148
D003	4822 130 30621	1N4148
D004	4822 130 30621	1N4148
D101	4822 130 30621	1N4148
VD001	4822 130 81673	1SV149
VD002	4822 130 81673	1SV149

TRANSISTORS & INTEGRATED CIRCUITS

IC101	9965 000 12594	LA1837 SANYO
IC151	9965 000 12596	BU1923F /22S
IC152	9965 000 12595	LC72131M
Q001	4822 130 63173	2SK192AY
Q101	4822 130 41595	2SC1675L
Q102	4822 130 41595	2SC1675L
Q103	4822 130 63876	2SA733R
Q104	4822 130 41198	2SC945P
Q204	4822 130 41198	2SC945P

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

DVD LOADER

It is not recommended for component repair on this Module but to replace the major assembly when it becomes defective. Therefore limited service parts list are published in this chapter.

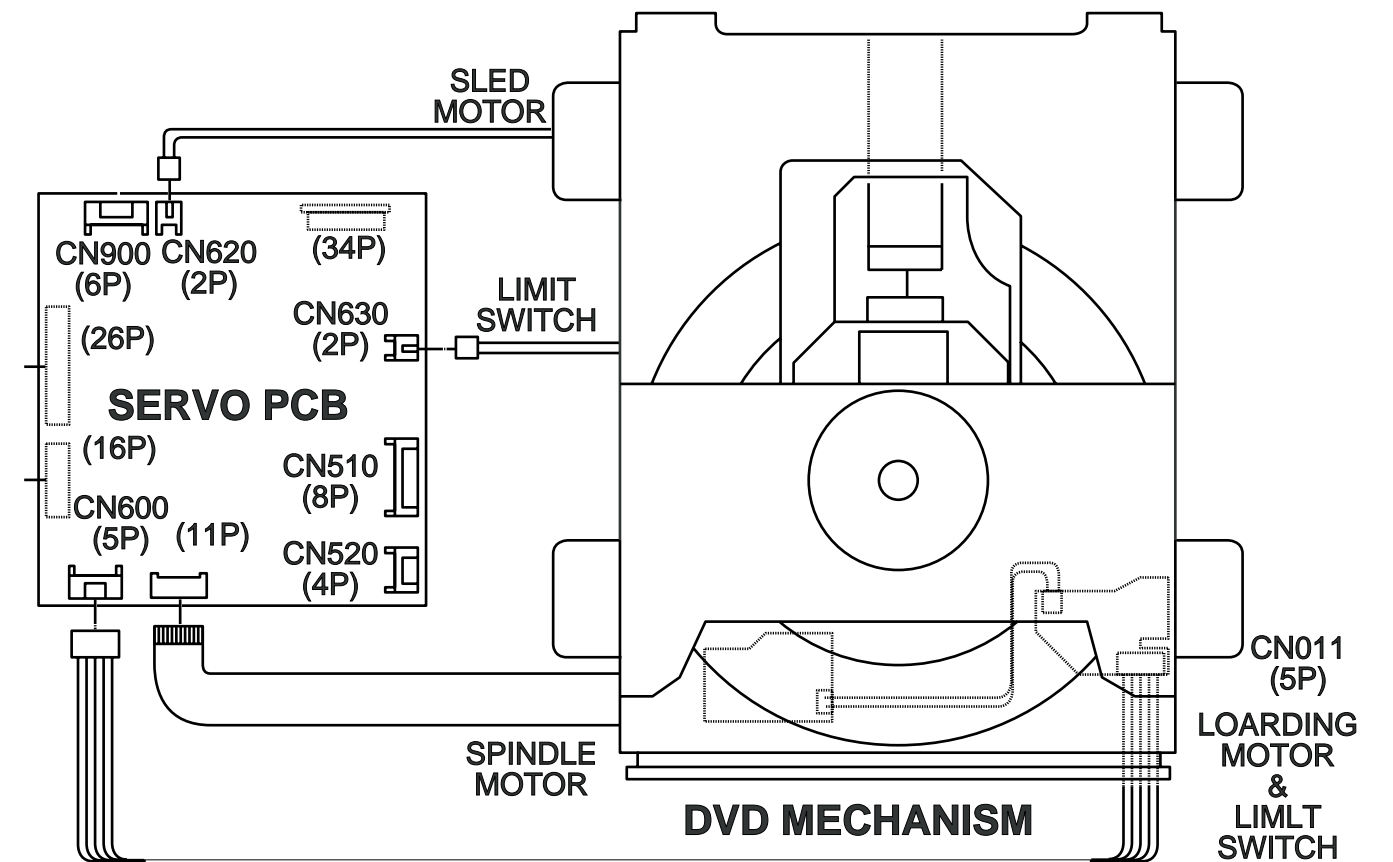
The Circuit & Layout diagrams are published for reference only. The repair assistance on DVD section is given on Chapter 2.



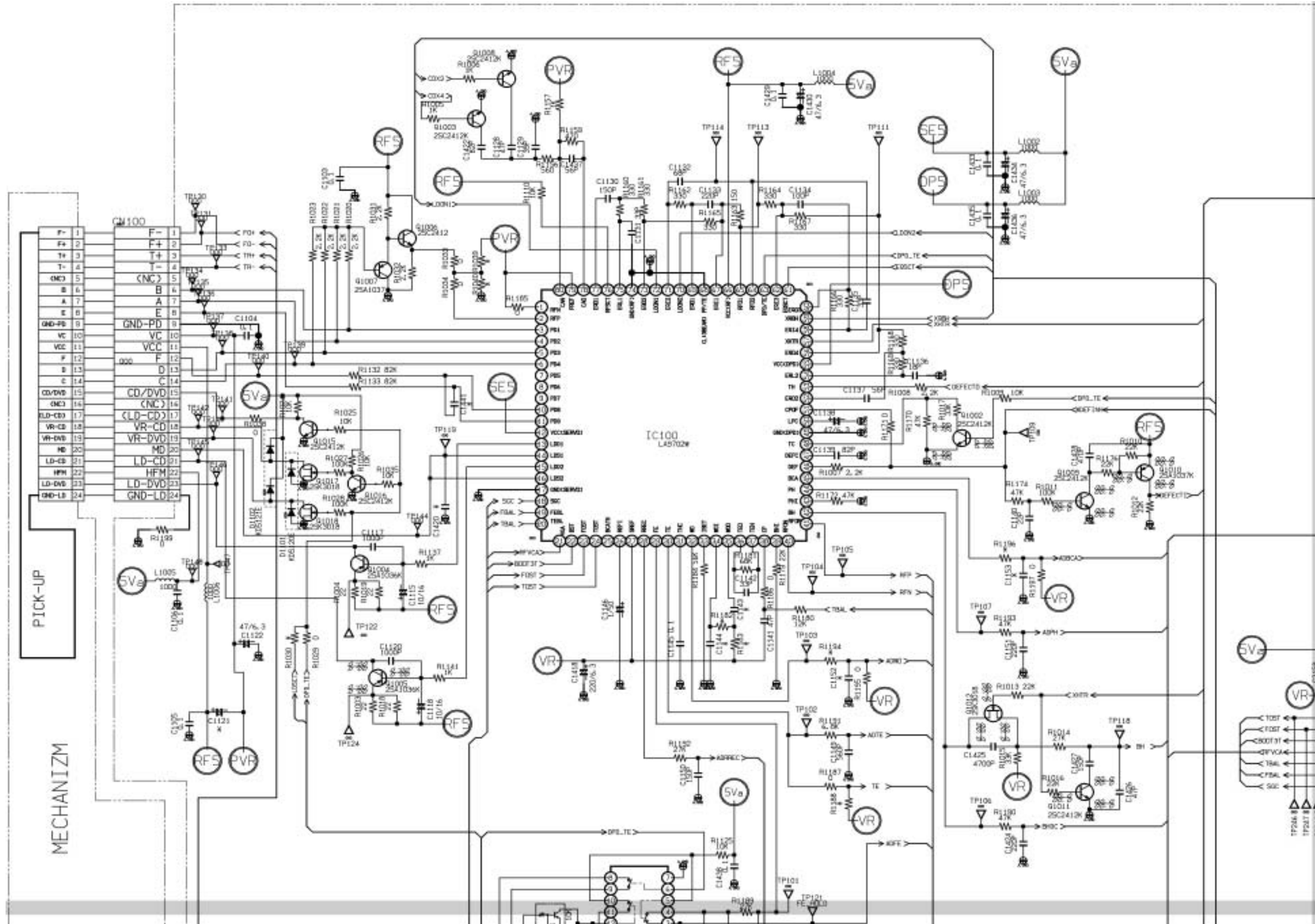
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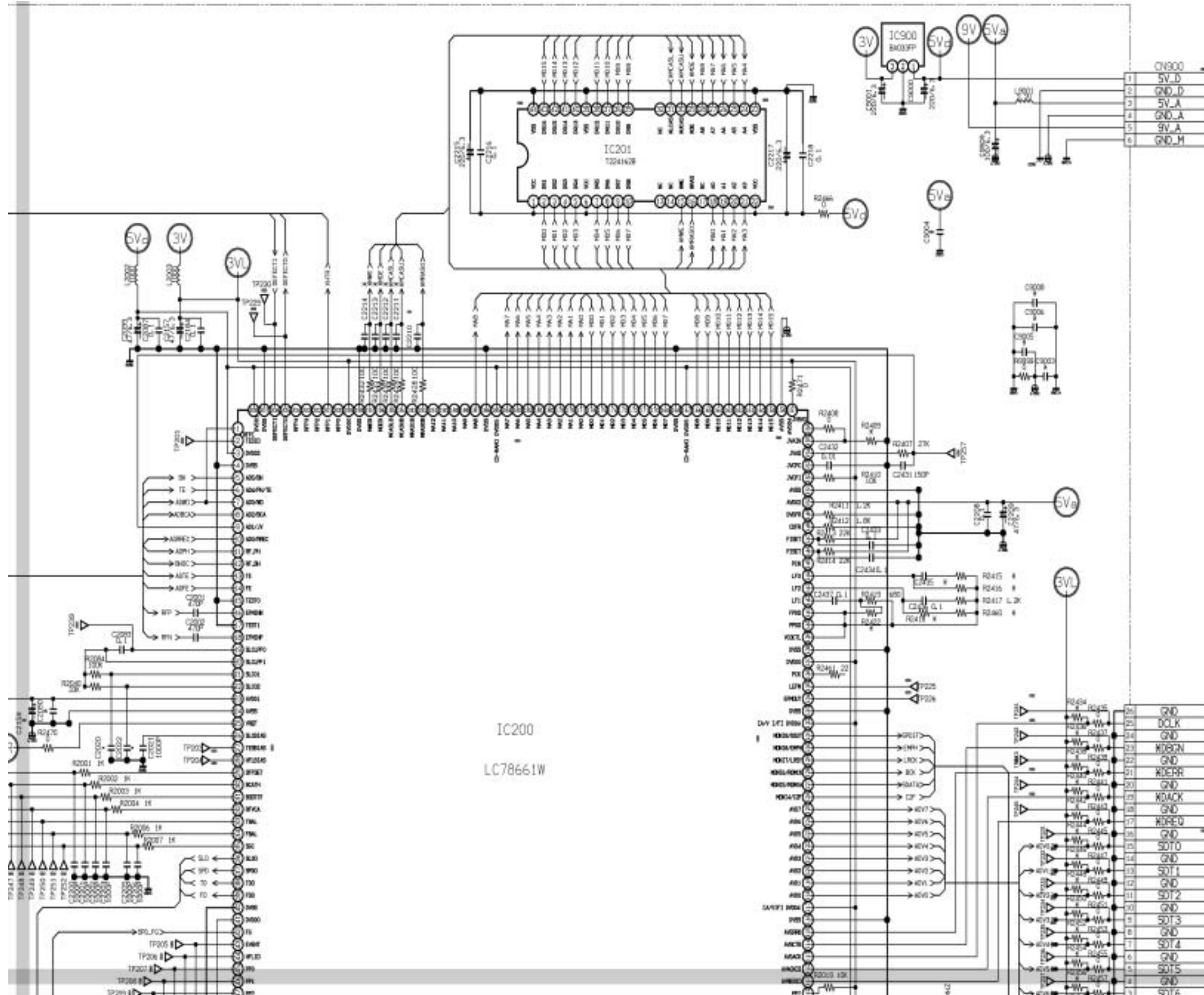
WIRING CONNECTION



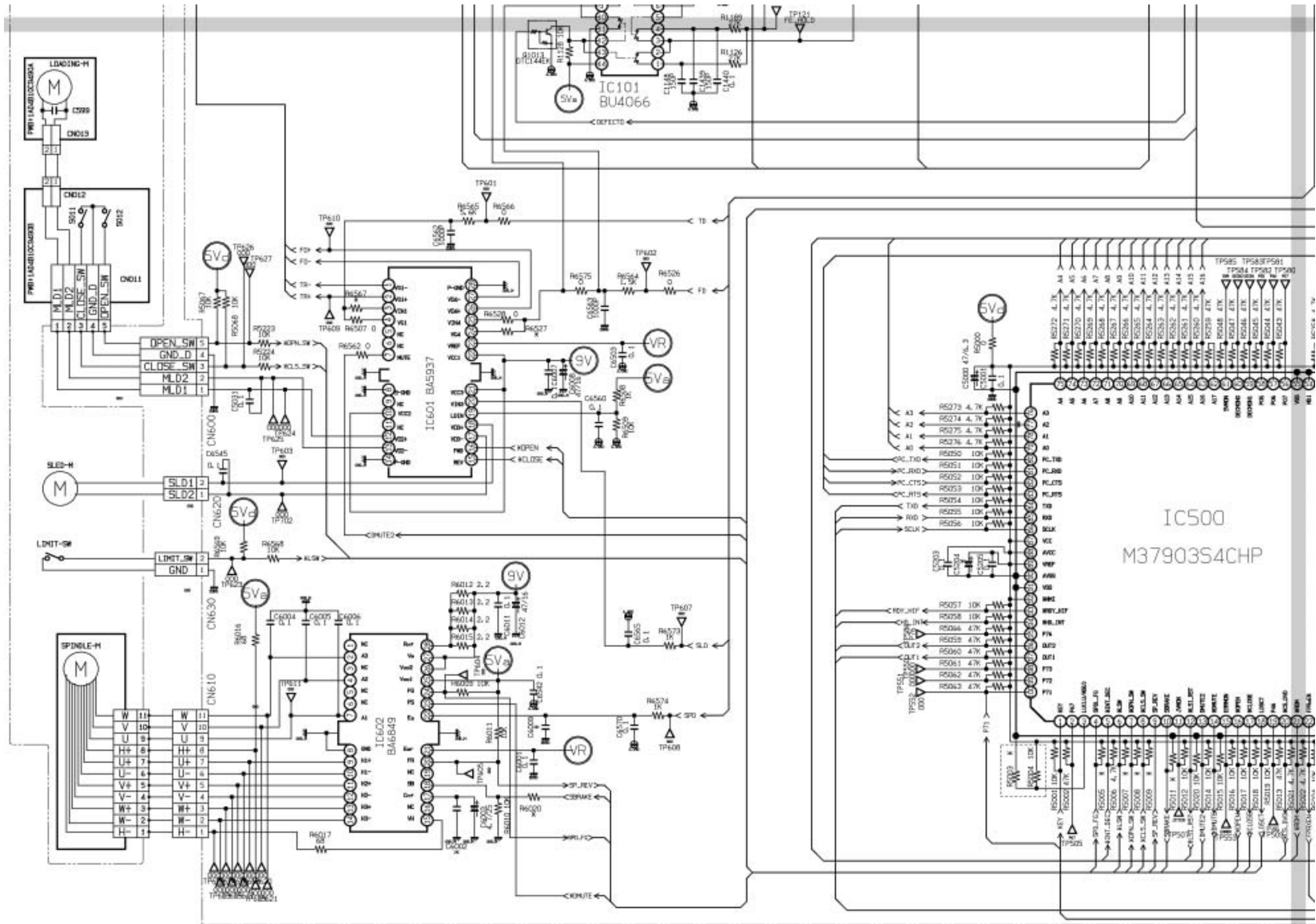
SCHEMATIC DIAGRAM (TOP LEFT) - SERVO BOARD



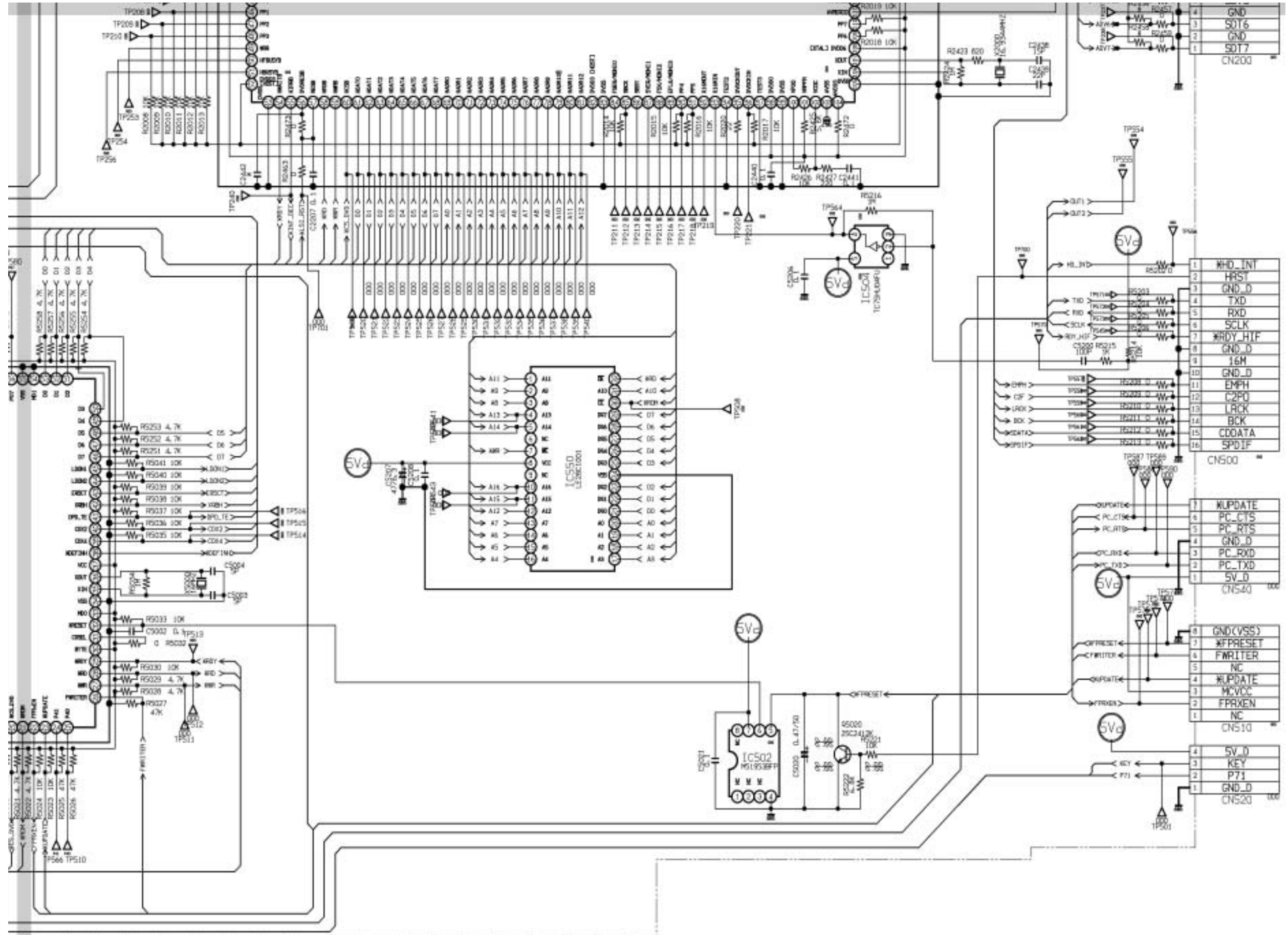
SCHEMATIC DIAGRAM (TOP RIGHT) - SERVO BOARD



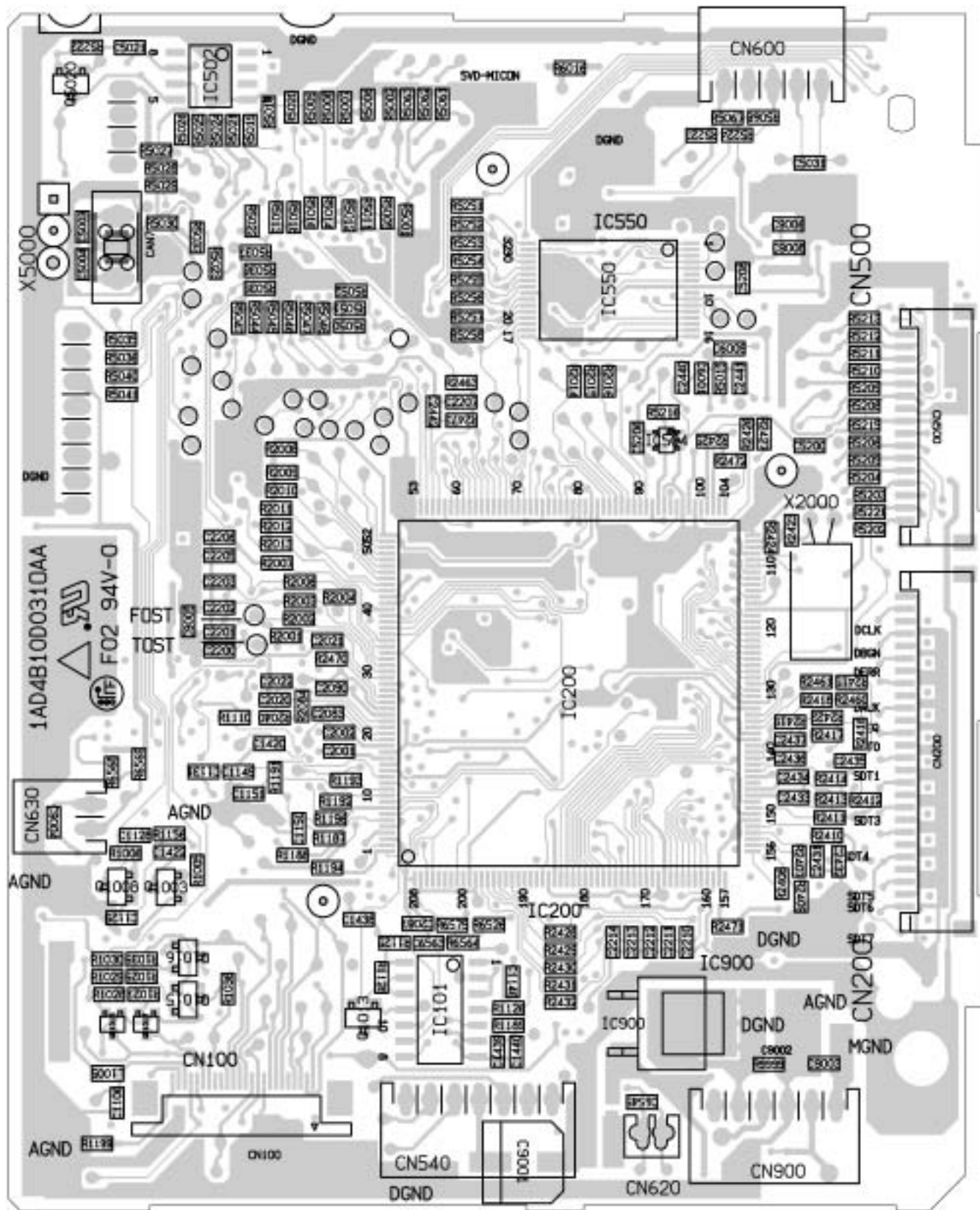
SCHEMATIC DIAGRAM (BOTTOM LEFT) - SERVO BOARD



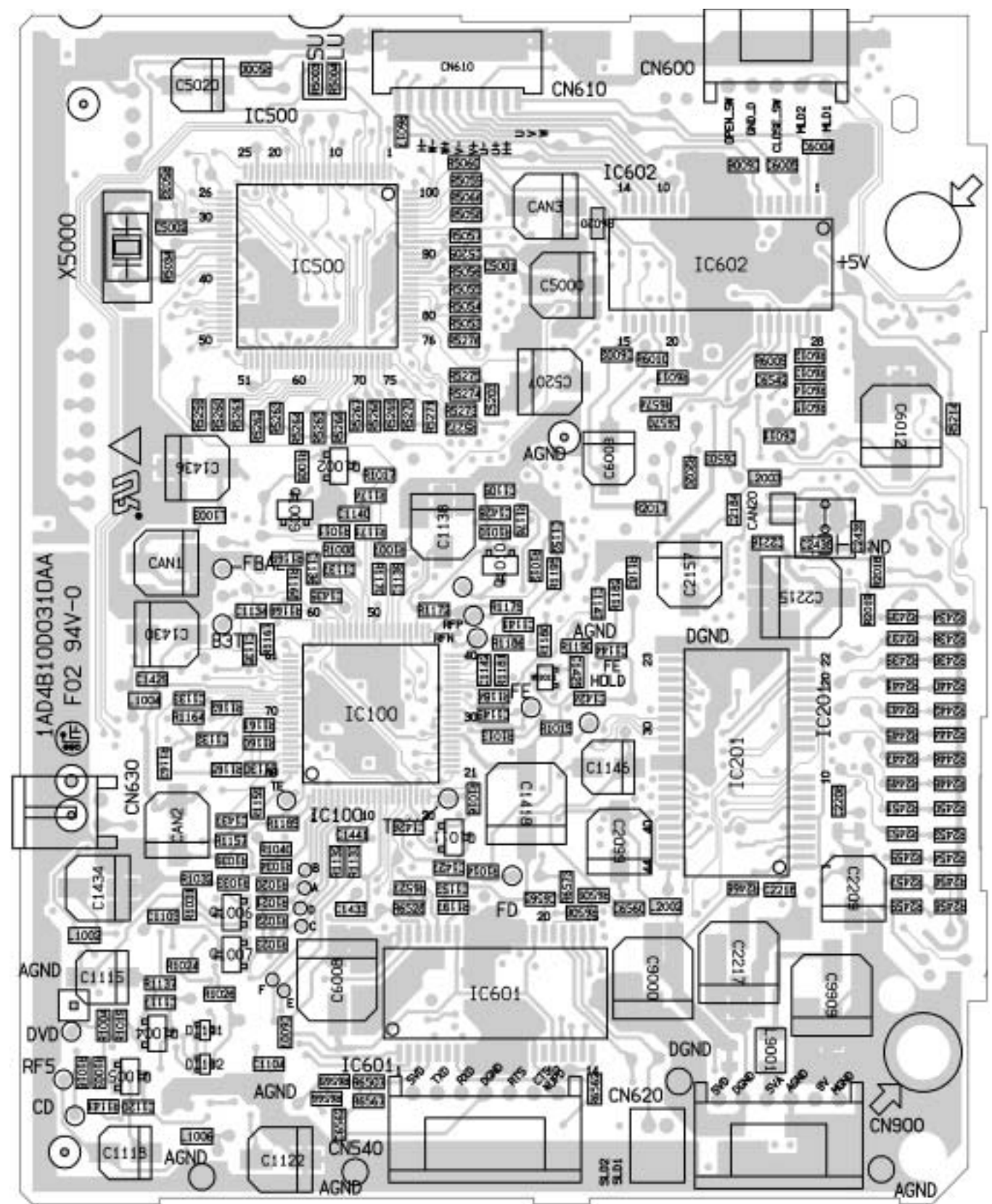
SCHEMATIC DIAGRAM (BOTTOM RIGHT) - SERVO BOARD



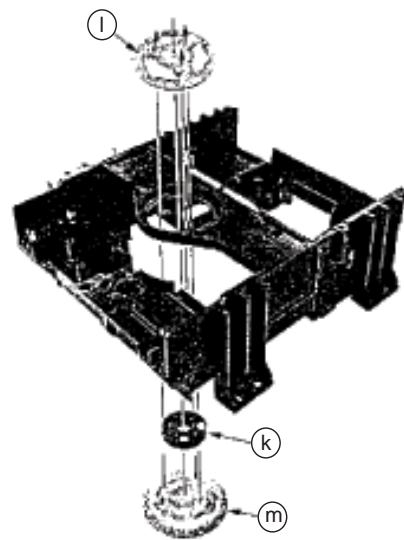
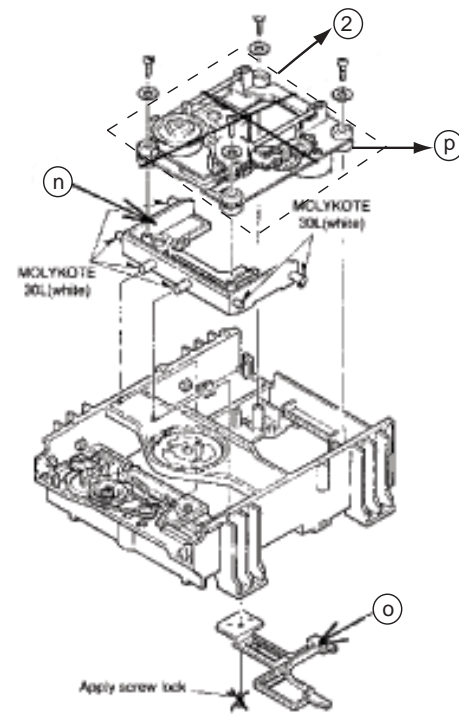
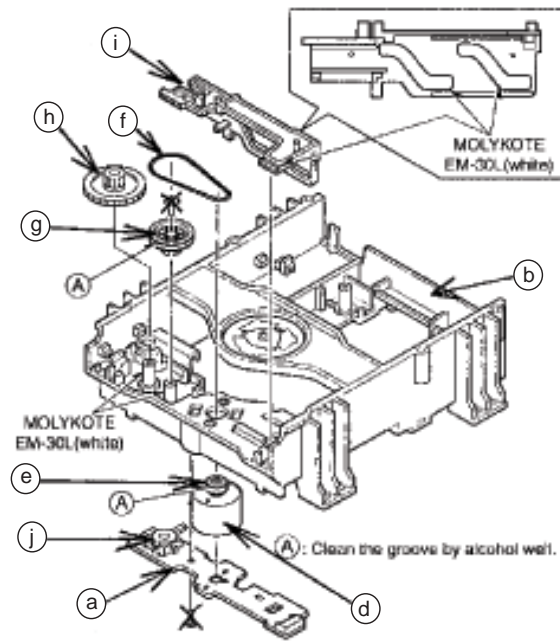
CIRCUIT DIAGRAM (DVD SIDE A)



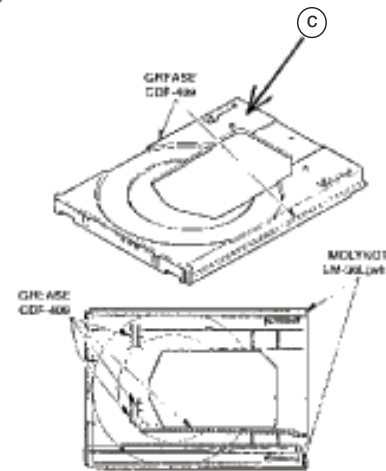
CIRCUIT DIAGRAM (DVD SIDE B)



Explorer View - DVD Loader



Tray parts.



MECHANICAL / ELECTRICAL PARTS LIST - DVD MODULE

9965 000 12822	COMPLETE DVD LOADER MODULE (with DVD Drive mechanism)
9965 000 13084	LOADER MECHANISM (without DVD Drive mechanism)
9965 000 13082	SERVO PC BOARD ASSEMBLY
2 9965 000 13083	DVD DRIVE MECHANISM
c 9965 000 13085	TRAY
f 9965 000 13086	BELT
j 9965 000 13087	SWITCH LEVER
p 9965 000 13088	SPACER MECHA (SUSPENSION)
d+e 9965 000 13089	MOTOR W/PULLEY ASSEMBLY

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

6018/6028 INTERNAL IC DIAGRAM

MAIN BOARD

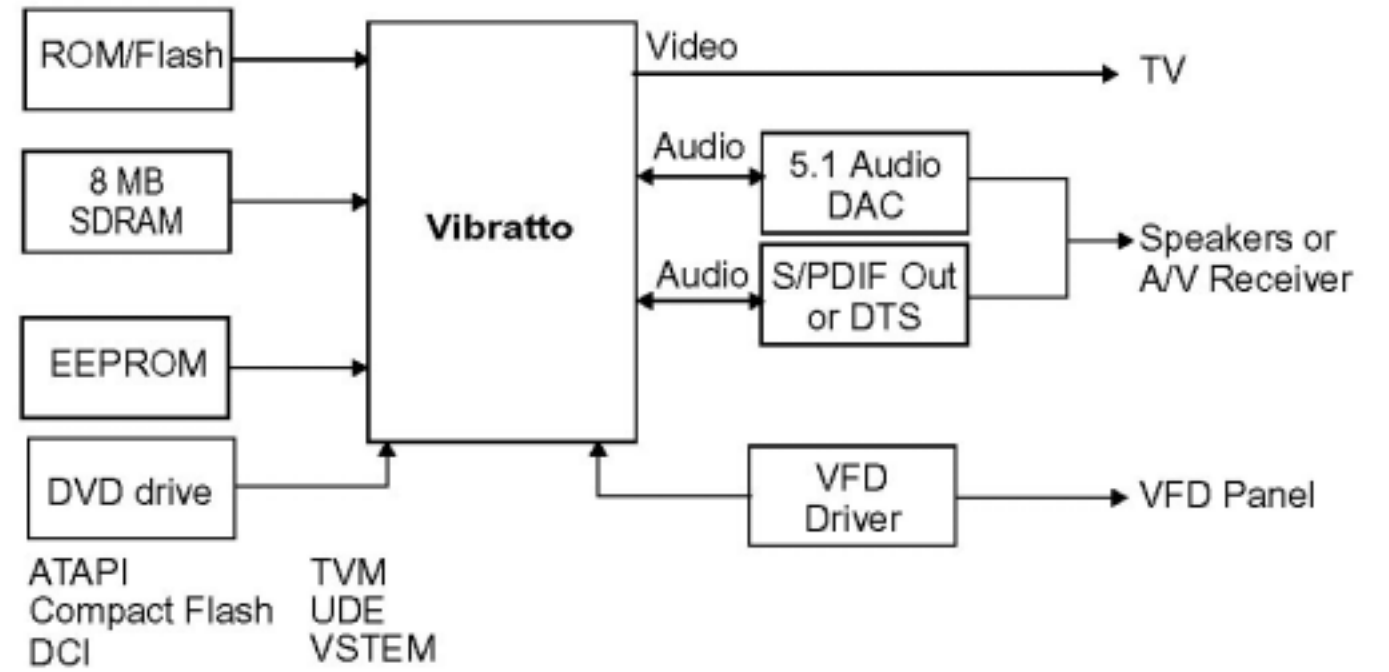


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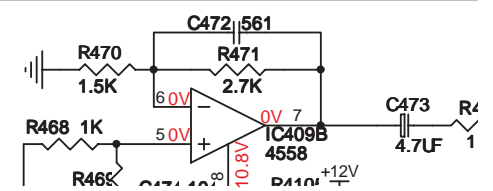
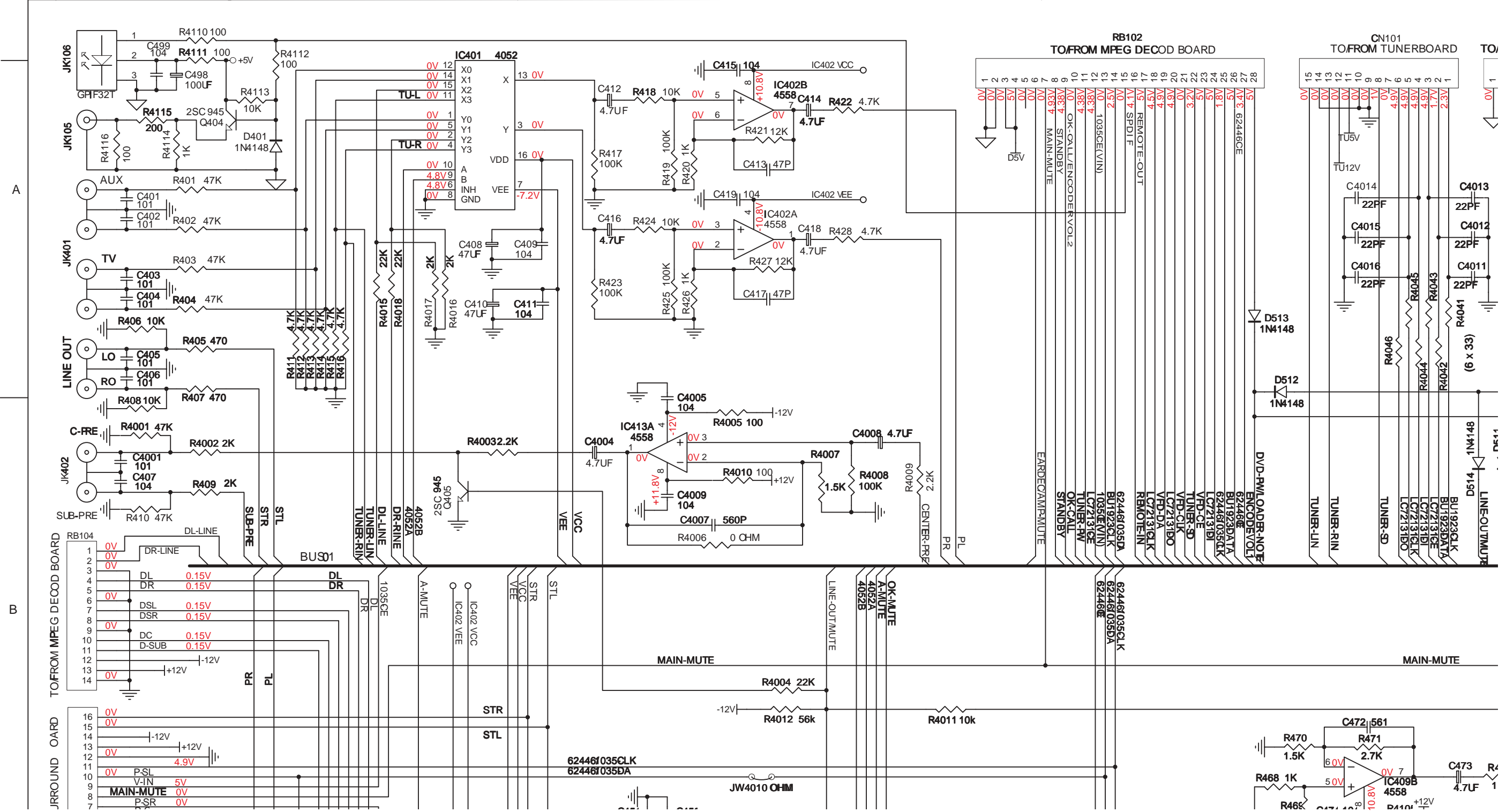
CIRCUIT DIAGRAM (Top Left)

C401 A1	C416 A2	C431 D1	C446 D1	C461 D2	C476 C3	C491 D3	C508 D4	C524 C4	C922 B5	C941 A4	C4015 A3	R407 A1	R421 A2	R436 D1	R453 C2	R468 C3	R483 C3	R498 D3	R514 D4	R530 C4	R913 A5	R4005 B2
C402 A1	C471 A2	C432 D1	C447 C2	C462 D2	C477 C3	C492 D3	C509 D4	C525 C4	C923 A5	C942 A4	C4016 A3	R408 B1	R422 A2	R437 D1	R454 C2	R469 C3	R484 C3	R499 D3	R515 D4	R531 C5	R914 A5	R4006 B2
C403 A1	C418 A2	C433 D1	C448 C2	C463 D2	C478 C3	C493 D3	C510 D4	C901 C4	C924 B5	C943 A5	C4021 C2	R409 B1	R423 A2	R438 C2	R455 C2	R470 C3	R485 C3	R501 C4	R516 D4	R532 C5	R915 A5	R4007 B2
C404 A1	C419 A2	C434 D1	C449 C2	C464 D3	C479 C3	C494 D3	C511 D4	C902 C4	C925 B5	C940 B1	C4022 C2	R410 B1	R424 A2	R439 C2	R456 C2	R471 B3	R486 C3	R502 C4	R517 C4	R533 C5	R916 A4	R4008 B2
C405 A1	C420 C1	C435 D1	C450 B2	C465 D3	C480 C3	C495 D3	C512 C4	C903 C4	C926 B5	C940 B2	C4023 C2	R411 A1	R425 A2	R440 C2	R457 D2	R472 C3	R487 C3	R503 C4	R518 C4	R534 C5	R917 A4	R4009 B2
C406 A1	C421 C1	C436 D1	C451 B2	C466 D3	C481 C3	C496 D3	C513 C4	C904 C4	C927 B5	C940 B2	C4024 C2	R412 A1	R426 A2	R441 C2	R458 D2	R473 B3	R488 C3	R504 C4	R519 C5	R535 C5	R918 A4	R4010 B2
C407 B1	C422 C1	C437 C2	C452 C2	C467 D2	C482 C3	C498 A1	C514 C4	C905 C5	C928 B4	C940 B2	C4030 C2	R413 A1	R427 A2	R442 C2	R459 D2	R474 C3	R489 C3	R505 C4	R520 C5	R536 C5	R919 A4	R4011 B2
C408 A1	C423 C1	C438 C2	C453 C2	C468 D2	C483 C3	C499 A1	C515 C5	C906 C5	C929 B4	C940 B2	C4031 C2	R414 A1	R428 A2	R443 C2	R459 D2	R475 C3	R490 C3	R506 C4	R521 C5	R537 C5	R920 D5	R4012 B2
C409 A2	C424 C1	C439 C2	C454 C2	C469 D3	C484 C3	C501 C4	C516 C5	C907 C5	C930 B4	C940 B2	C4032 C3	R415 A1	R429 C1	R444 C2	R461 C2	R476 C3	R491 C3	R507 C4	R522 C5	R538 C5	R921 A1	R4013 B2
C410 A1	C425 C1	C440 D2	C455 C2	C470 D3	C485 C3	C502 C4	C517 C5	C910 C5	C931 A4	C940 B2	R401 A1	R416 A1	R430 C1	R445 C2	R462 C2	R477 C3	R492 C3	R508 C4	R523 C5	R539 C5	R922 A1	R4014 B2
C411 A2	C426 C1	C441 D2	C456 C2	C471 C3	C486 C3	C503 C4	C518 C5	C911 C5	C932 A4	C940 B2	R402 A1	R417 A2	R431 C1	R446 C2	R463 C2	R478 C3	R493 D3	R509 C4	R524 C5	R540 C5	R923 A1	R4015 B2
C412 A2	C427 D1	C442 D2	C457 C2	C472 B3	C487 C3	C504 C4	C519 C5	C912 C5	C933 A4	C940 B2	R403 A1	R419 A2	R432 C1	R447 C2	R464 C2	R479 C3	R494 D3	R510 C4	R525 C5	R541 C5	R924 A1	R4016 B2
C413 A2	C428 D1	C443 D2	C458 C3	C473 B3	C488 C3	C505 C4	C520 C5	C913 C5	C934 A4	C940 B2	R404 A1	R418 A2	R433 C1	R448 C2	R465 C3	R480 C3	R495 D3	R511 D4	R526 C5	R542 C5	R925 A1	R4017 A1
C414 A2	C429 D1	C444 D2	C459 D2	C474 B3	C489 D3	C506 C4	C521 C5	C914 C5	C937 B4	C940 B2	R405 A1	R419 A2	R434 C1	R449 C2	R466 D2	R481 C3	R496 D3	R512 D4	R527 C5	R543 C5	R926 A1	R4018 A1
C415 A2	C430 D1	C445 D2	C460 D2	C475 B3	C490 D3	C507 C4	C523 C5	C915 C5	C938 A4	C940 B2	R406 A1	R420 A2	R435 D1	R450 C2	R467 D2	R482 C3	R497 D3	R513 D4	R528 C4	R544 C5	R927 A1	R4019 A1

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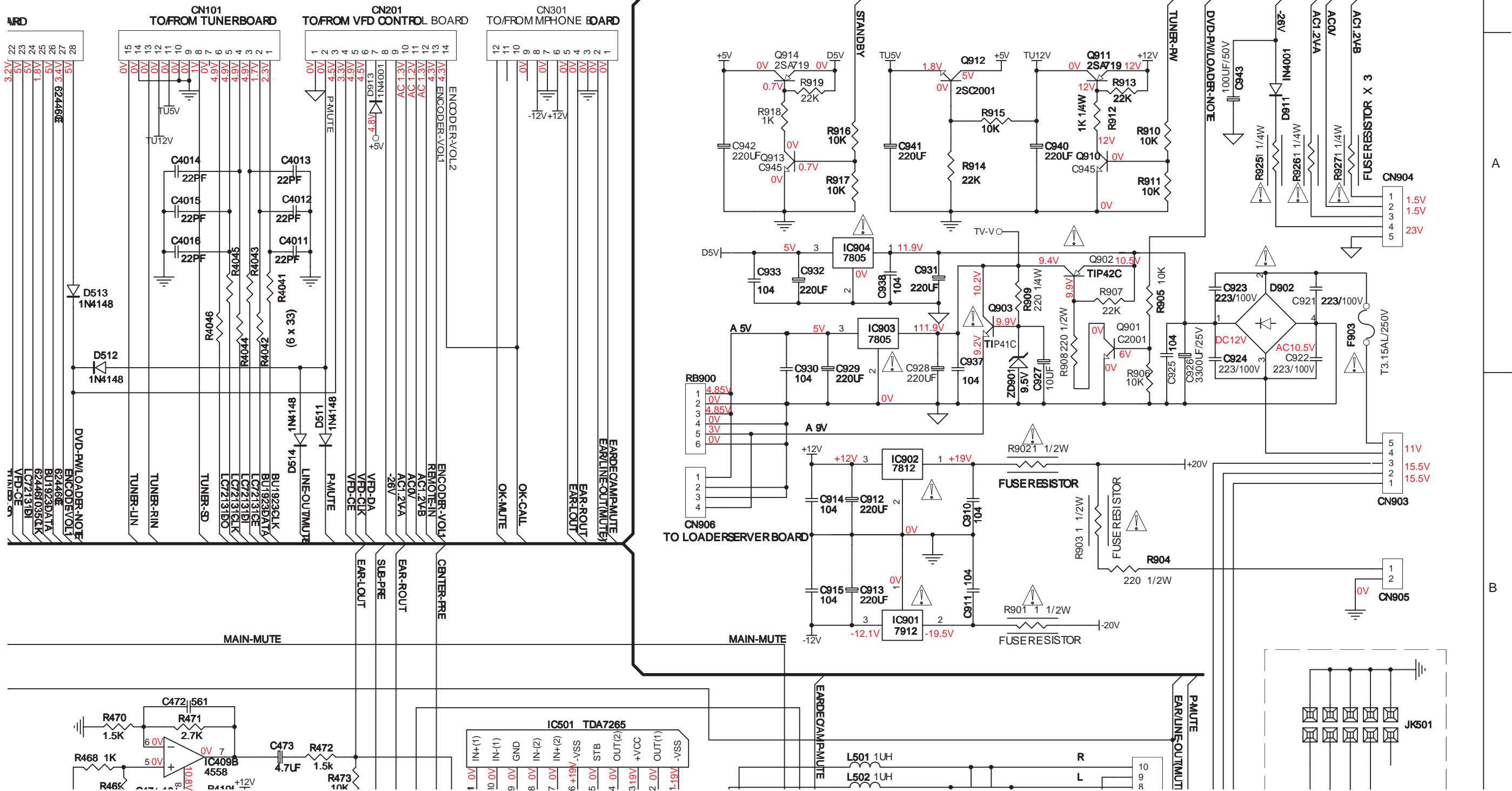
CIRCUIT DIAGRAM (Top Right)

R407	A1	R421	A2	R436	D1	R453	C2	R468	C3	R483	C3	R498	D3	R514	D4	R530	C4	R913	A5	R4005	B2	R4024	C2	R4103	D3	RB601	B1	Q910	A5	D401	A1	D911	A5	IC501	B4	CN903	B5	ESD-C1	D5
R408	B1	R422	A2	R437	D1	R454	C2	R469	C3	R484	C3	R499	D3	R515	D4	R531	C5	R914	A5	R4006	B2	R4025	C2	R4104	D4	RB900	B4	Q911	A5	D501	C4	D912	D4	IC502	C4	CN904	A4	ESD-C2	D5
R409	B1	R423	A2	R438	D1	R455	C2	R470	C3	R485	C3	R501	C4	R516	C5	R532	C5	R915	A5	R4007	B2	R4026	C2	R4105	B3	Q401	C2	Q912	A5	D502	C4	IC401	A1	IC503	D4	CN905	B5	ESD-C3	D5
R410	B1	R424	A2	R439	C2	R456	D2	R471	C3	R486	C3	R502	C4	R517	C4	R533	C5	R916	A4	R4008	B2	R4030	C3	R4106	B3	Q402	C2	Q913	A4	D503	C5	IC402	A2	IC901	B4	CN906	B4	ESD-C4	D5
R411	A1	R425	A2	R440	C2	R457	D2	R472	C3	R487	C3	R503	C4	R518	C4	R534	C5	R917	A4	R4009	B2	R4031	C3	R4107	D4	Q403	D3	Q914	A4	D504	C4	IC403	C1	IC902	B4	JK105	A1	ESD-C5	D5
R412	A1	R426	A2	R441	C2	R458	D2	R473	C3	R488	C3	R504	C4	R519	A4	R535	C5	R918	A4	R4010	B2	R4032	C3	R4110	A1	Q404	A1	L501	B4	D507	D4	IC404	D1	IC903	B4	JK106	A1	ESD-C6	D5
R413	A1	R427	A2	R442	C2	R459	D2	R474	C3	R489	C3	R505	C4	R520	C5	R536	C5	R919	A4	R4011	B2	R4033	C3	R4111	A1	Q405	B1	L502	B4	D508	C4	IC405	C1	IC904	A4	JK401	A1	ESD-C7	D5
R414	A1	R428	A2	R443	C2	R460	D2	R475	C3	R490	C3	R506	C4	R521	C5	R537	C5	R920	D5	R4012	B2	R4034	A3	R4112	A1	Q501	C5	L503	C4	D509	C4	IC406	D1	IC411	D3	JK402	B1	ESD-C8	D5
R415	A1	R429	C1	R444	C2	R461	C2	R476	C3	R491	C3	R507	C4	R522	C5	R538	C5	R925	A1	R4015	A1	R4043	A3	R4113	A1	Q502	C5	L505	C4	D510	C5	IC407	C2	F901	D5	JK501	C5	ESD-C9	D5
R416	A1	R430	C1	R445	C2	R462	C2	R477	C3	R492	D3	R508	C4	R523	C5	R539	C5	R926	A1	R4016	A1	R4044	A3	R4114	A1	Q503	C4	L506	C4	D511	B5	IC408	D2	F902	D5	JW401	C2	ESD-C10	D5
R417	A2	R431	C1	R446	C2	R463	C2	R478	C3	R493	D3	R509	C4	R524	C5	R540	C5	R927	A1	R4017	A1	R4045	A3	R4115	A1	Q504	C4	ZD401	D2	D512	B5	IC409	C3	F903	A5	JW402	C1	ESD-C11	D5
R419	A2	R432	C1	R447	C2	R464	C2	R479	C3	R494	D3	R510	C4	R525	C5	R541	C5	R909	A5	R4018	A1	R4046	A3	R4116	A1	Q505	C5	ZD402	D2	D514	B5	IC410	C3	CN101	A3	JW403	D1	ESD-C12	D5
R418	A2	R433	C1	R448	C2	R465	C3	R480	C3	R495	D3	R511	A5	R526	C5	R542	C5	R910	A5	R4021	B2	R4100	D3	RB102	A2	Q901	A5	ZD403	D2	D901	D5	IC411	D3	CN201	A3	D514	B3	ESD-C13	D5
R419	A2	R434	C1	R449	C2	R466	D2	R481	C3	R496	D3	R512	D4	R527	C5	R543	C5	R911	A5	R4022	C2	R4101	D3	RB104	B1	Q902	A5	ZD404	D2	D902	A5	IC412	C2	CN301	A4	FSD-C1	D5	ESD-C14	D5
R420	A2	R435	D1	R450	C2	R467	D2	R482	C3	R497	D3	R513	D4	R528	C5	R544	C5	R912	A5	R4023	B2	R4102	D3	RB501	C5	Q903	A5	ZD901	A5	D910	D5	IC413	B2	CN501	C5	FSD-C2	D5	ESD-C15	D5

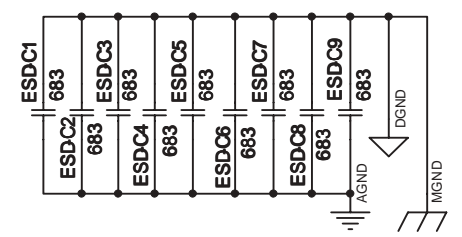
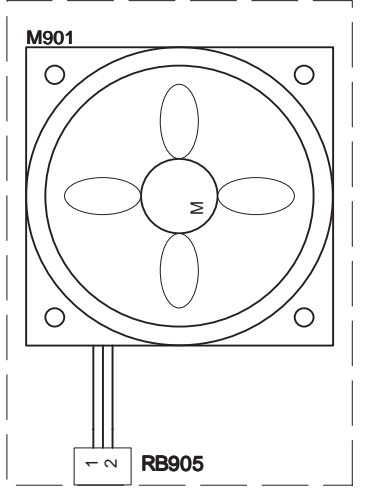
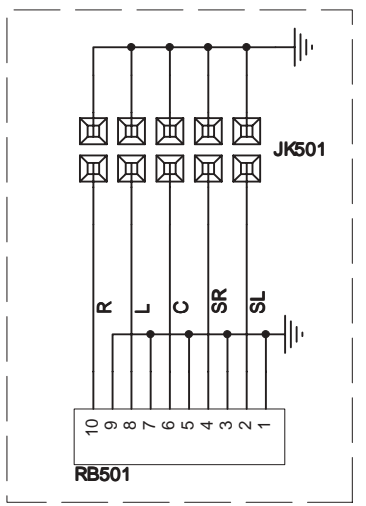
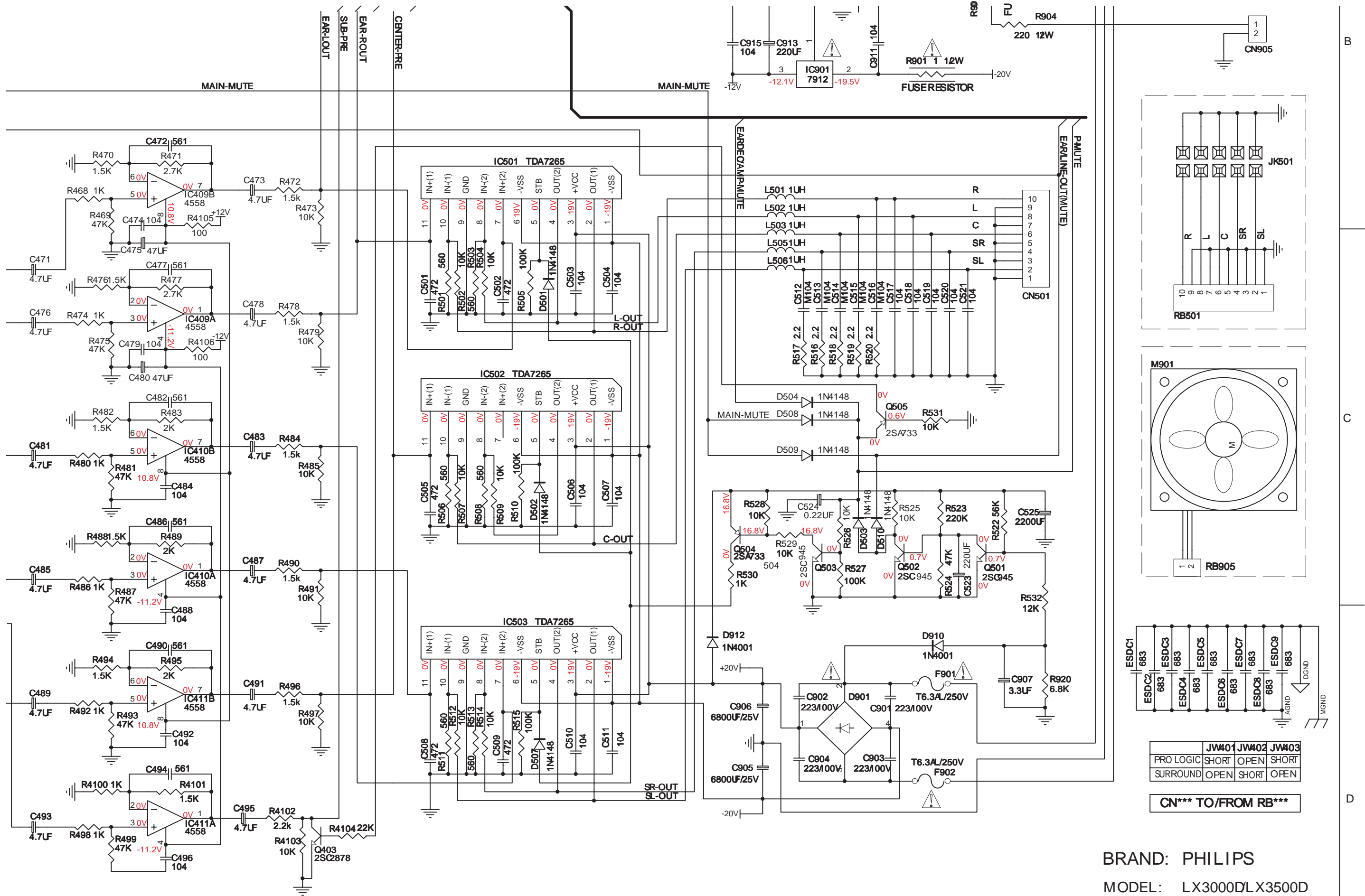
3

4

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CIRCUIT DIAGRAM (Bottom Right)

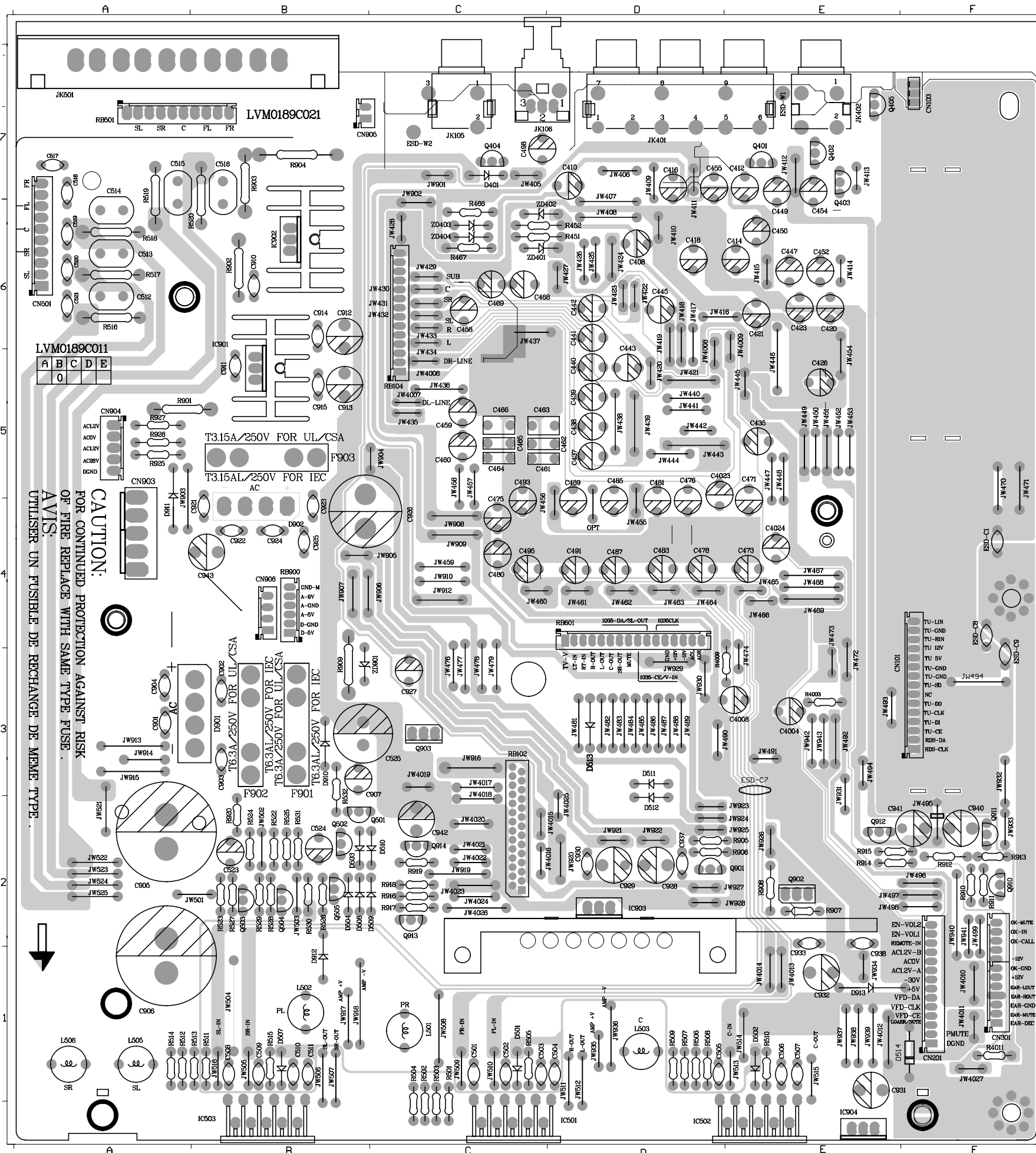


	JW401	JW402	JW403
PRO LOGIC	SHORT	OPEN	SHORT
SURROUND	OPEN	SHORT	OPEN

CN*** TO/FROM RB***

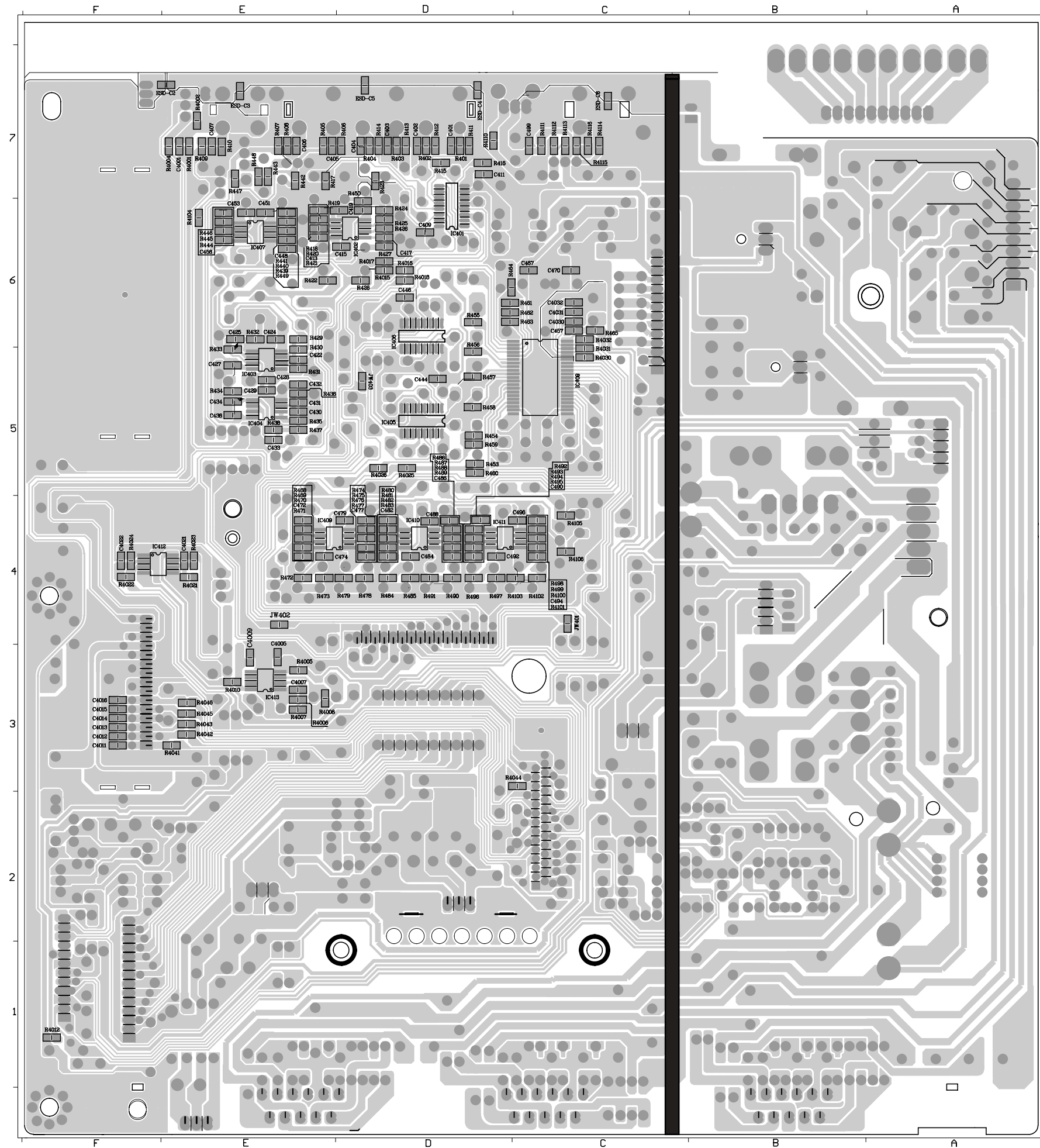
BRAND: PHILIPS
MODEL: LX3000DLX3500

PCB LAYOUT (COMPONENT VIEW)



C408 D6	C902 B3	R905 D2	CN103 F3	JW456 D4	JW912 C4
C410 D7	C903 B3	R906 D2	CN201 F1	JW457 C4	JW913 A3
C412 E7	C904 A3	R907 E2	CN301 F1	JW458 C4	JW914 A3
C414 E6	C905 A2	R908 E2	CN501 A6	JW459 C4	JW915 A3
C416 D7	C906 A1	R909 B3	CN903 A4	JW460 D4	JW916 C3
C418 D6	C907 B3	R910 F2	CN904 A5	JW461 D4	JW917 B1
C420 E6	C910 B6	R911 F2	CN905 B7	JW462 D4	JW918 B1
C421 E6	C911 B5	R912 F2	CN906 B4	JW463 D4	JW919 C2
C423 E6	C912 B6	R913 F2	F901 B3	JW464 D4	JW920 D2
C426 E5	C913 B5	R914 E2	F902 B3	JW465 E4	JW921 D2
C435 E5	C914 B6	R915 E2	F903 B5	JW466 E4	JW922 D2
C437 D5	C915 B5	R916 C2	IC501 C1	JW467 E4	JW923 D2
C438 D5	C921 B5	R917 C2	IC502 E1	JW468 E4	JW924 D2
C439 D5	C922 B4	R918 C2	IC503 B1	JW469 E4	JW925 D2
C440 D5	C923 B4	R919 C2	IC901 B5	JW470 F5	JW926 E2
C441 D6	C924 B4	R920 B3	IC902 B6	JW471 F5	JW927 D2
C442 D6	C925 B4	R925 A5	IC903 D2	JW472 E3	JW928 E2
C443 D5	C926 C4	R926 A5	IC904 E1	JW473 E3	JW929 D3
C445 D6	C927 C3	R927 A5	JK105 C7	JW474 E3	JW930 D3
C447 E6	C928 D2	R4003 E3	JK106 C7	JW476 C3	JW931 E2
C449 E7	C929 D2	R4009 E3	JK401 D7	JW477 C3	JW932 F3
C450 E6	C930 D2	R4011 F1	JK402 E7	JW478 C3	JW933 F2
C452 E6	C931 E1	RB102 C2	JK501 A7	JW479 C3	JW934 E1
C455 D7	C932 E1	RB104 C6	JW405 C7	JW480 D3	JW935 D1
C458 C6	C933 E1	RB501 A7	JW406 D7	JW481 D3	JW936 D1
C459 C5	C938 E2	R601 D4	JW407 D7	JW482 D3	JW937 E1
C460 C5	C937 D2	RB900 B4	JW408 D6	JW483 D3	JW938 E1
C461 C5	C940 F2	ZD401 C6	JW409 D7	JW484 D3	JW939 E1
C462 C5	C941 F2	ZD402 C6	JW410 D7	JW485 D3	JW940 F1
C463 C5	C942 C2	ZD403 C6	JW411 D7	JW486 D3	JW941 F1
C464 C5	C943 B4	ZD404 C6	JW412 E7	JW487 D3	JW942 E3
C462 C5	C4004 E3	ZD901 B3	JW413 E7	JW488 D3	JW943 E3
C466 C5	C4008 E3	Q401 E7	JW414 E6	JW489 D3	JW4006 C5
C468 C6	C4023 D5	Q402 E7	JW415 E6	JW490 D3	JW4007 C5
C469 C6	C4024 E4	Q403 E7	JW416 E6	JW491 E3	JW4008 D5
C471 E5	R451 D6	Q404 C7	JW417 D5	JW492 E3	JW4009 D6
C473 E4	R452 C6	Q405 E7	JW418 D5	JW493 E3	JW4010 F1
C475 C4	R466 C7	Q501 B2	JW419 D5	JW494 F3	JW4011 F1
C476 D5	R467 C6	Q502 B2	JW420 D5	JW495 F2	JW4012 E1
C478 D4	R501 C1	Q503 B2	JW421 D5	JW496 F2	JW4013 E1
C480 C4	R502 C1	Q504 B2	JW422 D6	JW497 F2	JW4014 E1
C481 D4	R503 C1	Q505 B2	JW423 D6	JW498 F2	JW4015 C2
C483 D4	R504 C1	Q901 D2	JW424 D6	JW499 F2	JW4016 C2
C485 D5	R505 C1	Q902 E2	JW425 D6	JW501 A2	JW4017 C3
C489 D4	R507 D1	Q910 D2	JW426 D6	JW502 B2	JW4018 C3
C491 D4	R508 D1	Q911 F2	JW428 C6	JW503 B2	JW4019 C3
C493 C5	R509 D1	Q912 E2	JW429 C6	JW504 B1	JW4020 C3
C495 C4	R510 E1	Q913 C2	JW430 C6	JW505 B1	JW4021 C2
C498 C7	R511 B1	Q914 C2	JW431 C6	JW507 B1	JW4022 C2
C501 C1	R512 A1	L501 B1	JW432 C6	JW508 C1	JW4023 C2
C502 C1	R513 A1	L502 B1	JW433 C6	JW509 C1	JW4024 C2
C503 C1	R514 A1	L503 C1	JW434 C6	JW510 C1	JW4025 D3
C504 D1	R515 B1	L505 A1	JW435 C5	JW511 D1	JW4026 C2
C505 D1	R516 A6	L506 A1	JW436 C5	JW512 D1	JW4027 F1
C506 E1	R517 A6	D401 C7	JW437 C6	JW513 E1	ESD-C1 F4
C507 E1	R518 A6	D501 C1	JW438 D5	JW514 E1	ESD-C7 E3
C508 B1	R519 A7	D502 E1	JW439 D5	JW515 E1	ESD-C8 F4
C509 B1	R520 B7	D503 B2	JW440 D5	JW516 B1	ESD-C9 F5
C510 B1	R522 B2	D504 B2	JW441 D5	JW517 B1	
C511 B1	R523 B2	D507 B1	JW442 D5	JW521 A2	
C512 A6	R524 B2	D508 B2	JW443 D5	JW522 A2	
C513 A6	R525 B2	D509 C2	JW444 D5	JW523 A2	
C514 A6	R526 B2	D510 C2	JW445 E5	JW524 A2	
C515 A7	R527 B2	D511 D3	JW446 E5	JW525 A2	
C516 B7	R528 B2	D512 D2	JW447 E5	JW901 C7	
C517 A7	R466 C6	D513 D3	JW448 E5	JW902 C7	
C518 A7	R529 B2	D514 F1	JW449 E5	JW903 B5	
C519 A6	R530 B2	D901 A3	JW450 E5	JW904 C5	
C520 A6	R531 B2	D902 B5	JW451 E5	JW905 B4	
C521 A6	R532 B3	D910 B3	JW452 E5	JW906 B4	
C523 B2	R901 A5	D911 A5	JW452 E5	JW907 B4	
C524 B2	R902 B6	D912 B1	JW453 E5	JW908 C4	
C525 B3	R903 B7	D913 E1	JW454 E5	JW909 C4	
C901 A3	R904 B7	CN101 F3	JW455 D4	JW910 C4	

PCB LAYOUT(COPPERSIDE VIEW)



C401	D7	R411	D7	R492	D4
C402	D7	R412	D7	R493	D4
C403	D7	R413	D7	R495	D4
C404	D7	R414	D7	R496	D4
C405	E7	R415	D7	R497	D4
C406	E7	R416	D7	R498	C4
C407	E7	R417	E7	R499	C4
C409	D6	R418	E6	R4001	E7
C415	D6	R419	D6	R4002	E7
C417	D6	R420	E6	R4004	E7
C419	D6	R421	E6	R4005	E3
C422	E5	R422	E6	R4006	E3
C424	E6	R423	D7	R4007	E3
C425	E6	R424	D6	R4008	E3
C425	E6	R425	D6	R4010	E3
C427	E5	R426	D6	R4012	F1
C428	E5	R427	D6	R4015	F1
C429	E5	R428	D6	R4016	D6
C430	E5	R429	E6	R4017	D6
C431	E5	R430	E6	R4018	D6
C432	E5	R431	E5	R4021	E4
C433	E5	R432	E6	R4022	F4
C434	E5	R433	E6	R4023	E4
C436	E5	R434	E5	R4024	F4
C444	D5	R435	D5	R4025	D5
C446	D6	R436	E5	R4026	D5
C448	E6	R437	E5	R4030	C5
C451	E6	R438	E5	R4031	C5
C453	E6	R439	E6	R4032	C6
C454	E6	R440	E6	R4041	E3
C456	E6	R441	E6	R4042	E3
C457	C6	R442	E7	R4043	E3
C467	C6	R443	E7	R4044	E3
C470	C6	R444	E6	R4045	E3
C472	E4	R445	E6	R4046	F3
C474	E4	R446	E6	R4100	C4
C477	D4	R447	E7	R4101	C4
C479	D4	R448	E7	R4102	C4
C482	D4	R449	E6	R4103	C4
C484	D4	R450	D6	R4104	E6
C486	D4	R453	D5	R4105	C4
C488	D4	R454	D5	R4106	C4
C490	D4	R455	D6	R4110	D7
C492	D4	R456	D6	R4111	C7
C494	C4	R457	D5	R4112	C7
C496	C4	R458	D5	R4113	C7
C499	C7	R459	D5	R4114	C7
C4001	E7	R460	D5	R4115	C7
C4005	E3	R461	C6	R4116	C7
C4007	E3	R462	C6	IC401	D7
C4009	E3	R463	C6	IC402	D6
C4011	F3	R464	C6	IC403	E6
C4012	F3	R465	C6	IC404	E5
C4013	F3	R468	E4	IC405	D5
C4014	F3	R469	E4	IC406	D6
C4015	F3	R470	E4	IC407	E6
C4016	F3	R471	E4	IC408	D5
C4021	E4	R472	E4	IC409	E4
C4022	F4	R473	D4	IC410	D4
C4030	C6	R474	D4	IC411	D4
C4031	C6	R475	D4	IC412	E4
C4032	C6	R476	D4	IC413	E3
ESD-C2	E7	R477	D4	JW401	D4
ESD-C3	E7	R478	D4	JW402	E4
ESD-C4	D7	R479	D4	JW403	D6
ESD-C5	D7	R480	D4		
ESD-C6	C7	R481	D4		
R401	D7	R482	D4		
R402	D7	R483	D4		
R403	D7	R484	D4		
R404	D7	R485	D4		
R405	E7	R486	D4		
R406	D7	R487	D4		
R407	E7	R488	D4		
R408	E7	R489	D4		
R409	E7	R490	D4		
R410	E7	R491	D4		

ELECTRICAL PARTS LIST - MAIN BOARD

MISCELLANEOUS

F901	9965 000 12501	△	FUSE 6,3A 250V SLOW
F902	9965 000 12501	△	FUSE 6,3A 250V SLOW
F903	9965 000 12500	△	FUSE 3,15A 250V SLOW
JK105	9965 000 12507		CINCH SOCKET 1P BLACK
JK106	9965 000 12506		SOCKET OPTICAL OUT
JK401	9965 000 12505		CINCH SOCKET 6P WHITE/RED
JK402	9965 000 12504		CINCH SOCKET 2P WHITE/RED
JK501	9965 000 12502	△	LOUDSPEAKER SOCKET 10P
RB102	9965 000 12503		SOCKET FFC 28PIN VERT,

CAPACITORS

C401	4822 126 13221		100PF 2% NP0 63V
C402	4822 126 13221		100PF 2% NP0 63V
C403	4822 126 13221		100PF 2% NP0 63V
C404	4822 126 13221		100PF 2% NP0 63V
C405	4822 126 13221		100PF 2% NP0 63V
C406	4822 126 13221		100PF 2% NP0 63V
C407	4822 126 14585		100NF 10% X7R 0805 50V
C408	4822 124 40433		47UF 20% 25V
C409	4822 126 14585		100NF 10% X7R 0805 50V
C410	4822 124 40433		47UF 20% 25V
C411	4822 126 14585		100NF 10% X7R 0805 50V
C412	9965 000 12522		4,7UF 50V 20%
C413	4822 126 13692		47PF 1% NP0 63V
C414	9965 000 12522		4,7UF 50V 20%
C415	4822 126 14585		100NF 10% X7R 0805 50V
C416	9965 000 12522		4,7UF 50V 20%
C417	4822 126 13692		47PF 1% NP0 63V
C418	9965 000 12522		4,7UF 50V 20%
C419	4822 126 14585		100NF 10% X7R 0805 50V
C420	9965 000 12522		4,7UF 50V 20%
C421	9965 000 12522		4,7UF 50V 20%
C422	4822 126 13692		47PF 1% NP0 63V
C423	9965 000 12522		4,7UF 50V 20%
C424	4822 126 14585		100NF 10% X7R 0805 50V
C425	4822 126 13692		47PF 1% NP0 63V
C426	9965 000 12522		4,7UF 50V 20%
C427	4822 126 14585		100NF 10% X7R 0805 50V
C428	9965 000 12523		0,22UF 50V 20%
C429	9965 000 12523		0,22UF 50V 20%
C430	9965 000 12523		0,22UF 50V 20%
C431	9965 000 12523		0,22UF 50V 20%
C432	4822 126 14585		100NF 10% X7R 0805 50V
C433	4822 126 14585		100NF 10% X7R 0805 50V
C434	9965 000 12524		0,047UF 50V 20%
C435	9965 000 12522		4,7UF 50V 20%
C436	4822 126 14585		100NF 10% X7R 0805 50V
C437	9965 000 12522		4,7UF 50V 20%
C438	9965 000 12522		4,7UF 50V 20%
C439	9965 000 12522		4,7UF 50V 20%
C440	9965 000 12522		4,7UF 50V 20%
C441	9965 000 12522		4,7UF 50V 20%

C442	9965 000 12522		4,7UF 50V 20%
C443	4822 124 40433		47UF 20% 25V
C444	4822 126 14585		100NF 10% X7R 0805 50V
C445	4822 124 40433		47UF 20% 25V
C446	4822 126 14585		100NF 10% X7R 0805 50V
C447	9965 000 12522		4,7UF 50V 20%
C448	4822 126 13692		47PF 1% NP0 63V
C449	9965 000 12522		4,7UF 50V 20%
C450	4822 124 40433		47UF 20% 25V
C451	4822 126 14585		100NF 10% X7R 0805 50V
C452	9965 000 12522		4,7UF 50V 20%
C453	4822 126 13692		47PF 1% NP0 63V
C454	9965 000 12522		4,7UF 50V 20%
C455	4822 124 40433		47UF 20% 25V
C456	4822 126 14585		100NF 10% X7R 0805 50V
C457	4822 126 14585		100NF 10% X7R 0805 50V
C458	4822 124 40433		47UF 20% 25V
C459	9965 000 12522		4,7UF 50V 20%
C460	9965 000 12522		4,7UF 50V 20%
C461	9965 000 13068		0,0015UF 100V 5%
C462	9965 000 12526		0,015UF 100V 5%
C463	9965 000 12527		0,47UF 100V 5%
C464	9965 000 13068		0,0015UF 100V 5%
C465	9965 000 12526		0,015UF 100V 5%
C466	9965 000 12527		0,47UF 100V 5%
C467	4822 126 14585		100NF 10% X7R 0805 50V
C468	4822 124 40433		47UF 20% 25V
C469	4822 124 40433		47UF 20% 25V
C470	4822 126 14585		100NF 10% X7R 0805 50V
C471	9965 000 12522		4,7UF 50V 20%
C472	5322 116 80853		560PF 5%NP0 63V
C473	9965 000 12522		4,7UF 50V 20%
C474	4822 126 14585		100NF 10% X7R 0805 50V
C475	4822 124 40433		47UF 20% 25V
C476	9965 000 12522		4,7UF 50V 20%
C477	5322 116 80853		560PF 5%NP0 63V
C478	9965 000 12522		4,7UF 50V 20%
C479	4822 126 14585		100NF 10% X7R 0805 50V
C480	4822 124 40433		47UF 20% 25V
C481	9965 000 12522		4,7UF 50V 20%
C482	5322 116 80853		560PF 5%NP0 63V
C483	9965 000 12522		4,7UF 50V 20%
C484	4822 126 14585		100NF 10% X7R 0805 50V
C485	9965 000 12522		4,7UF 50V 20%
C486	5322 116 80853		560PF 5%NP0 63V
C487	9965 000 12522		4,7UF 50V 20%
C488	4822 126 14585		100NF 10% X7R 0805 50V
C489	9965 000 12522		4,7UF 50V 20%
C490	5322 116 80853		560PF 5%NP0 63V
C491	9965 000 12522		4,7UF 50V 20%
C492	4822 126 14585		100NF 10% X7R 0805 50V
C493	9965 000 12522		4,7UF 50V 20%

ELECTRICAL PARTS LIST - MAIN BOARD

C494	5322 116 80853		560PF 5%NP0 63V
C495	9965 000 12522		4,7UF 50V 20%
C496	4822 126 14585		100NF 10% X7R 0805 50V
C498	4822 124 40207		100UF 20% 25V
C499	4822 126 14585		100NF 10% X7R 0805 50V
C501	9965 000 12528		4700PF 50V 10%
C502	9965 000 12528		4700PF 50V 10%
C503	9965 000 12529		0,1UF 50V +80-20%
C504	9965 000 12529		0,1UF 50V +80-20%
C505	9965 000 12528		4700PF 50V 10%
C506	9965 000 12529		0,1UF 50V +80-20%
C507	9965 000 12529		0,1UF 50V +80-20%
C508	9965 000 12528		4700PF 50V 10%
C509	9965 000 12528		4700PF 50V 10%
C510	9965 000 12529		0,1UF 50V +80-20%
C511	9965 000 12529		0,1UF 50V +80-20%
C512	5322 121 42578		100NF 5% 250V
C513	5322 121 42578		100NF 5% 250V
C514	5322 121 42578		100NF 5% 250V
C515	5322 121 42578		100NF 5% 250V
C516	5322 121 42578		100NF 5% 250V
C517	9965 000 12529		0,1UF 50V +80-20%
C518	9965 000 12529		0,1UF 50V +80-20%
C519	9965 000 12529		0,1UF 50V +80-20%
C520	9965 000 12529		0,1UF 50V +80-20%
C521	9965 000 12529		0,1UF 50V +80-20%
C523	9965 000 12558		220UF 20% 16V
C524	9965 000 13453		0,22UF 50V 20%
C525	9965 000 13069		2200UF 25V 20%
C901	9965 000 08286		0,022UF 5% 100V MYLAR
C902	9965 000 08286		0,022UF 5% 100V MYLAR
C903	9965 000 08286		0,022UF 5% 100V MYLAR
C904	9965 000 08286		0,022UF 5% 100V MYLAR
C905	9965 000 12531	△	6800UF 25V 20%
C906	9965 000 12531	△	6800UF 25V 20%
C907	9965 000 12532		3,3UF 50V 20%
C910	9965 000 12529		0,1UF 50V +80-20%
C911	9965 000 12529		0,1UF 50V +80-20%
C912	9965 000 12533		220UF 25V 20%
C913	9965 000 12533		220UF 25V 20%
C914	9965 000 12529		0,1UF 50V +80-20%
C915	9965 000 12529		0,1UF 50V +80-20%
C921	9965 000 08286		0,022UF 5% 100V MYLAR
C922	9965 000 08286		0,022UF 5% 100V MYLAR
C923	9965 000 08286		0,022UF 5% 100V MYLAR
C924	9965 000 08286		0,022UF 5% 100V MYLAR
C925	9965 000 12529		0,1UF 50V +80-20%
C926	9965 000 12534	△	3300UF 25V 20%
C927	4822 124 40248		10UF 20% 63V
C928	9965 000 12533		220UF 25V 20%
C929	9965 000 12533		220UF 25V 20%
C930	9965 000 12529		0,1UF 50V +80-20%

C931	9965 000 12533	△	220UF 25V 20%
C932	9965 000 12533		220UF 25V 20%
C933	9965 000 12529		0,1UF 50V +80-20%
C937	9965 000 12529		0,1UF 50V +80-20%
C938	9965 000 12529		0,1UF 50V +80-20%
C940	9965 000 12533		220UF 25V 20%
C941	9965 000 12533		220UF 25V 20%
C942	9965 000 12533		220UF 25V 20%
C943	9965 000 12536		100UF 50V 20%
C4001	4822 126 13221		100PF 2% NP0 63V
C4004	9965 000 12522		4,7UF 50V 20%
C4005	4822 126 14585		100NF 10% X7R 0805 50V
C4007	5322 116 80853		560PF 5%NP0 63V
C4008	9965 000 12522		4,7UF 50V 20%
C4009	4822 126 14585		100NF 10% X7R 0805 50V
C4011	5322 122 32658		22PF 5% 50V
C4012	5322 122 32658		22PF 5% 50V
C4013	5322 122 32658		22PF 5% 50V
C4014	5322 122 32658		22PF 5% 50V
C4015	5322 122 32658		22PF 5% 50V
C4016	5322 122 32658		22PF 5% 50V
C4030	5322 122 32658		22PF 5% 50V
C4031	5322 122 32658		22PF 5% 50V
C4032	5322 122 32658		22PF 5% 50V

RESISTORS

R401	9965 000 12482		47K 1/10W 5%
R402	9965 000 12482		47K 1/10W 5%
R403	9965 000 12482		47K 1/10W 5%
R404	9965 000 12482		47K 1/10W 5%
R405	4822 051 20471		470R 5% 0,1W
R406	4822 051 20332		3K3 5% 0,1W
R407	4822 051 20471		470R 5% 0,1W
R408	4822 051 20332		3K3 5% 0,1W
R409	4822 051 20202		2K 5% 0,1W
R410	9965 000 12482		47K 1/10W 5%
R411	4822 051 20472		4K7 5% 1/10W
R412	4822 051 20472		4K7 5% 1/10W
R413	4822 051 20472		4K7 5% 1/10W
R414	4822 051 20472		4K7 5% 1/10W
R415	4822 051 20472		4K7 5% 1/10W
R416	4822 051 20472		4K7 5% 1/10W
R417	4822 117 10837		100K 1% 0,1W
R418	9965 000 12484		10K 5% 1/10W
R419	4822 117 10837		100K 1% 0,1W
R420	4822 051 20102		1K 5% 0,1W
R421	9965 000 12483		12K 5% 1/10W
R422	4822 051 20472		4K7 5% 0,1W
R423	4822 117 10837		100K 1% 0,1W
R424	9965 000 12484		10K 5% 1/10W
R425	4822 117 10837		100K 1% 0,1W
R426	4822 051 20102		1K 5% 0,1W

ELECTRICAL PARTS LIST - MAIN BOARD

Transistors & Integrated circuits

IC408	9965 000 12514	M62446FP
IC409	9965 000 12491	JRC4558D JRC
IC410	9965 000 12491	JRC4558D JRC
IC411	9965 000 12491	JRC4558D JRC
IC413	9965 000 12491	JRC4558D JRC
IC501	9965 000 12511	△ TDA7265 SGS THOMSON
IC502	9965 000 12511	△ TDA7265 SGS THOMSON
IC503	9965 000 12511	△ TDA7265 SGS THOMSON
IC901	5322 209 81856	△ LM7912CT
IC902	4822 209 70084	△ NJM7812A
IC903	5322 209 81331	△ MC7805ACT
IC904	9965 000 12512	△ BA05T ROHM
Q401	4822 130 43818	2SC2878
Q402	4822 130 43818	2SC2878
Q403	4822 130 43818	2SC2878
Q404	4822 130 41198	2SC945P
Q405	4822 130 43818	2SC2878
Q501	4822 130 41198	2SC945P
Q502	4822 130 41198	2SC945P
Q503	4822 130 41198	2SC945P
Q504	9965 000 12513	2SC719
Q505	4822 130 63876	2SA733R
Q901	4822 130 41651	2SC2001L
Q902	5322 130 44523	△ TIP42C
Q903	5322 130 44506	△ TIP41C
Q910	4822 130 41198	2SC945P
Q911	9965 000 12513	2SC719
Q912	4822 130 41651	2SC2001L
Q913	4822 130 41198	2SC945P
Q914	9965 000 12513	2SC719

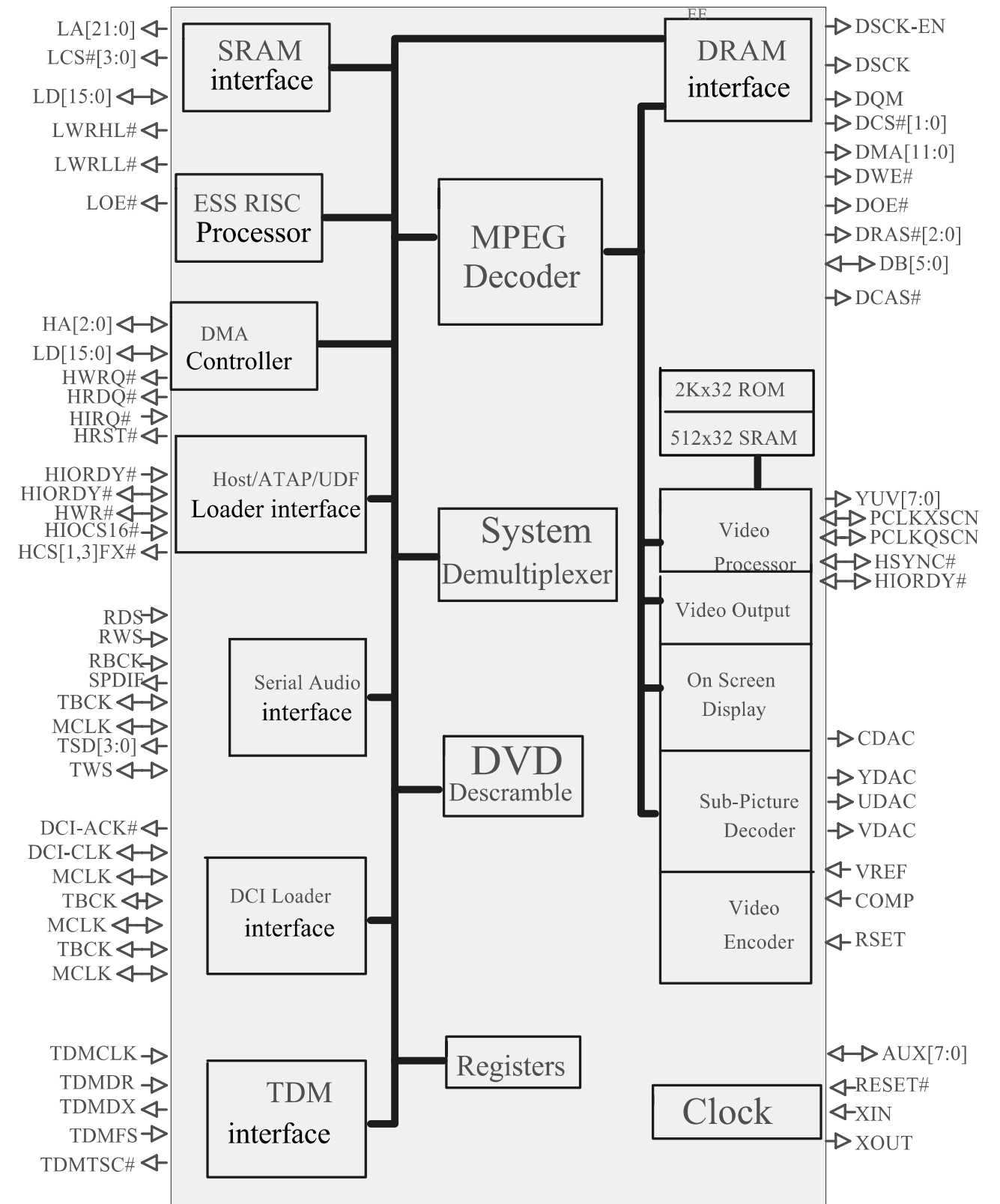
Note: Only the parts mentioned in this list are normal service spare parts.

ESS 6018 / 6028 INTERNAL DIAGRAM

MPEG BOARD

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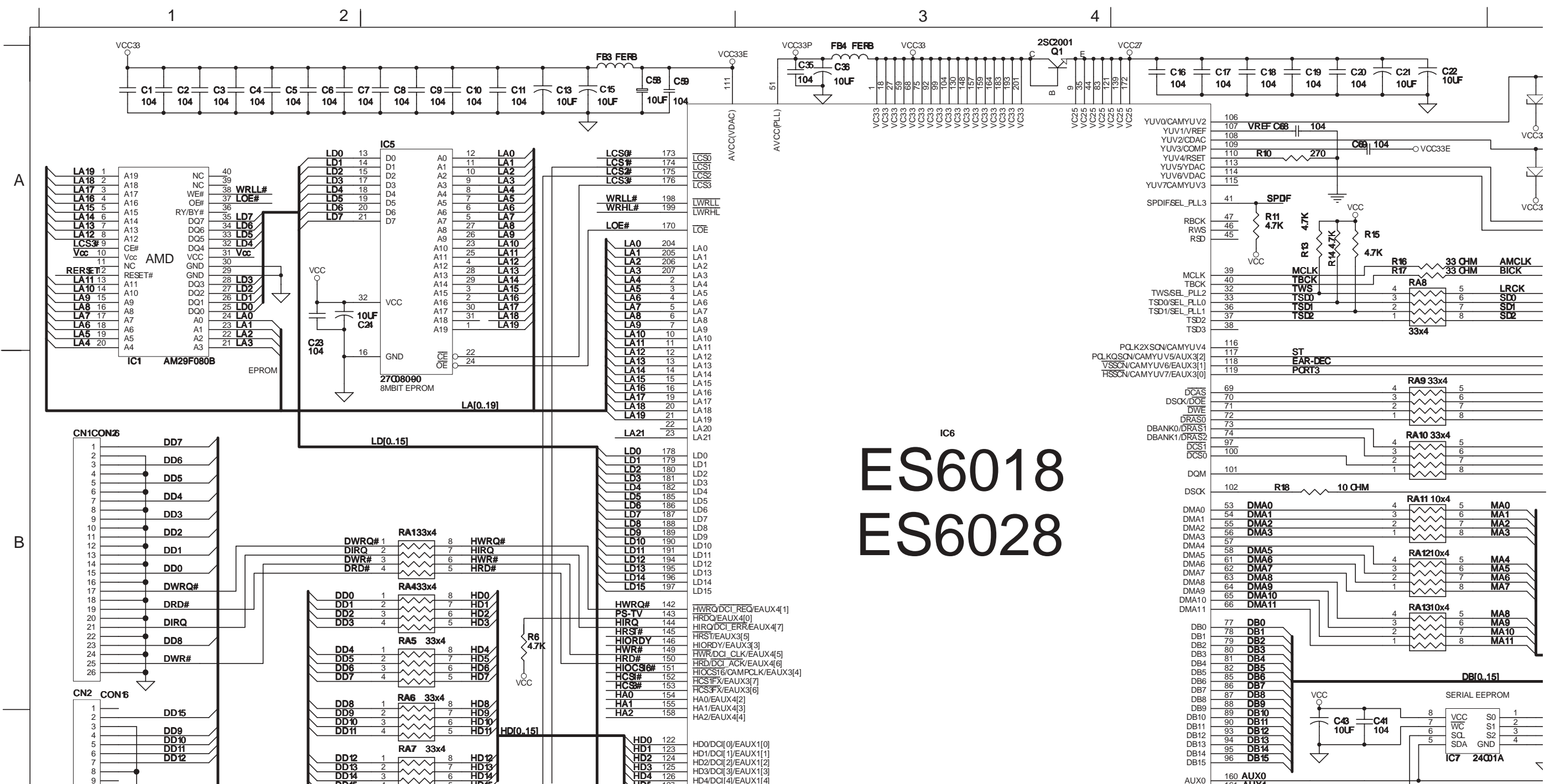
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Vibratto
ESS6018/28

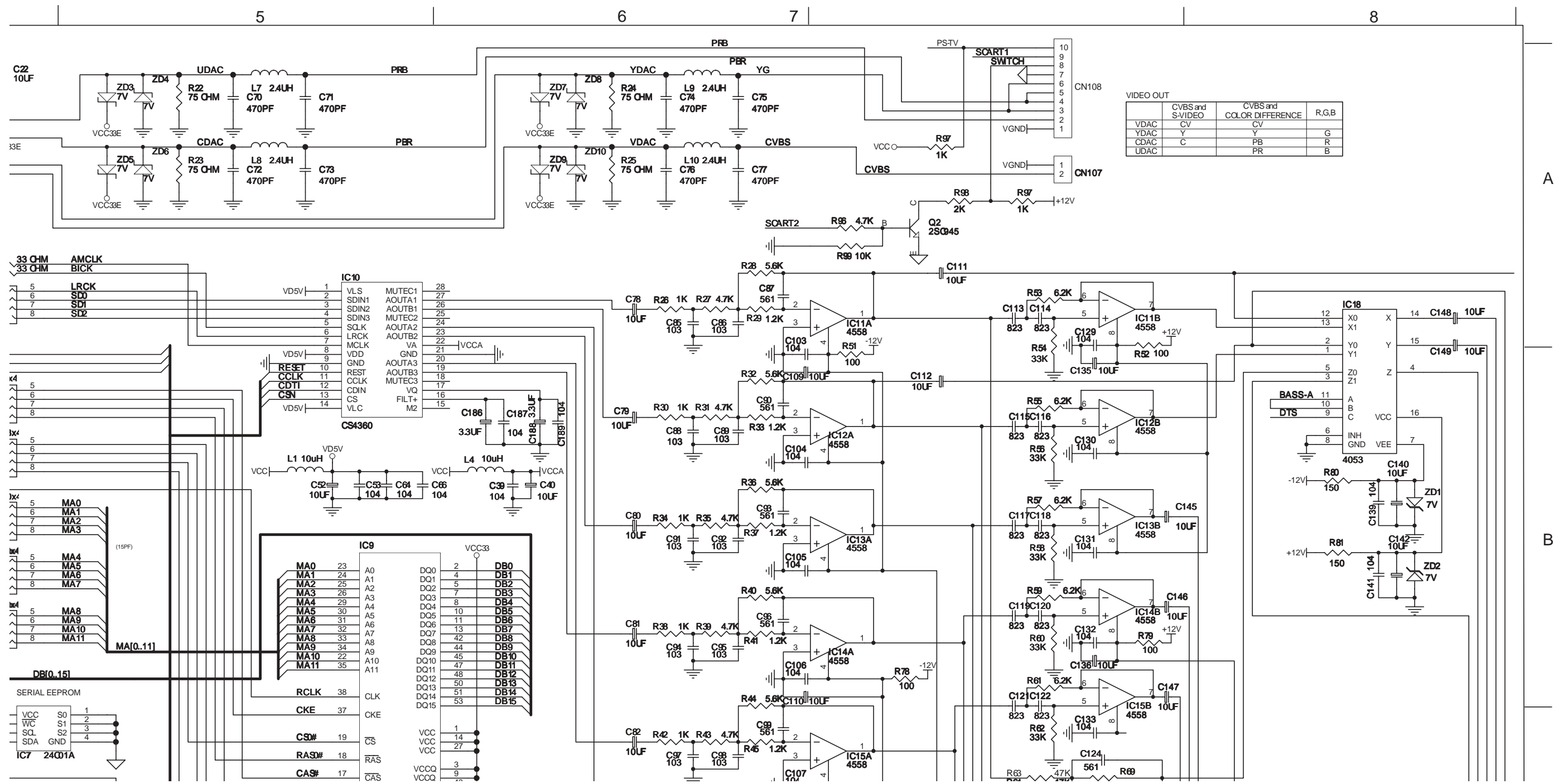
CIRCUIT DIAGRAM (Top Left)

RA0 C2	RA19 D2	R22 A5	R38 B6	R55 B7	R72 C8	R93 D6	C10 A2	C27 C5	C48 D4	C68 A4	C84 C6	C101 C6	R118 B7	C135 B7	C154 D5	C170 C8	C186 B6	IC6 B3	L10 A6	CN5 D5
RA1 B2	RA20 D2	R23 A5	R39 B6	R56 B7	R73 C8	R94 D4	C11 A2	C28 C5	C49 D3	C69 A4	C85 A6	C102 C6	R119 B7	C137 D8	C155 D5	C171 D5	C187 B6	IC7 C4	D1 C2	CN6 A7
RA2 B2	RA21 D2	R24 A6	R40 B6	R57 B7	R74 C8	R95 D4	C12 A2	C29 C5	C50 D4	C70 A5	C87 A6	C103 B6	C120 B7	C138 C8	C156 D5	C172 D5	C188 B6	IC9 D5	ZD1 B8	CN7 A7
RA5 B2	RA22 C2	R25 A6	R41 B6	R58 B7	R77 C8	R96 A7	C13 A2	C30 C5	C51 D4	C71 A5	C88 B6	C104 B6	C121 C7	C139 B8	C157 D4	C173 D5	C189 B6	IC10 A5	ZD2 B8	
RA7 C2	R8 C2	R26 A6	R42 C6	R59 B7	R78 B8	R97 A7	C15 A2	C31 C5	C52 B5	C72 A5	C89 B6	C105 B6	C122 C7	C140 B8	C158 D3	C174 D5	C190 D1	IC18 A8	ZD3 A5	
RA8 A4	R9 C2	R27 A6	R43 C6	R60 B7	R82 D6	R98 A7	C16 A4	C32 C5	C53 B5	C73 A5	C90 B6	C106 B6	C124 C7	C141 B8	C159 D3	C175 D5	C191 D1	FB1 D4	ZD4 A5	
RA9 B4	R10 A4	R28 A6	R44 C6	R61 B7	R83 D6	R99 A7	C17 A4	C35 A3	C54 D4	C74 A6	C91 B6	C107 C6	C125 C8	C142 B8	C160 D3	C176 D5	C192 D1	FB2 D5	ZD5 A5	
RA10 B4	R11 A4	R29 A6	R45 C6	R62 C7	R84 D6	C1 A1	C18 A4	C36 A3	C55 D4	C75 A6	C92 B6	C108 C6	C126 C8	C145 B7	C161 D3	C177 D4	C193 D1	FB3 A2	ZD6 A5	
RA11 B4	R13 A4	R30 B6	R46 C6	R63 C7	R85 D6	C2 A1	C19 A4	C39 B6	C56 D5	C76 A6	C93 B6	C109 B6	C127 C8	C146 B7	C162 D3	C178 D3	C194 D1	FB4 A3	ZD7 A6	
RA12 B2	R14 A4	R31 B6	R47 C6	R64 C7	R86 D6	C3 A1	C20 A4	C40 B6	C57 D5	C77 A6	C94 B6	R110 B6	C128 C8	C147 B7	C163 D3	C179 D3	C195 D1	L1 B5	ZD8 A6	
RA13 B4	R15 A4	R32 B6	R48 C6	R65 C7	R87 D6	C4 A1	C21 A4	C41 C4	C58 A2	C78 A6	C95 B6	R112 B7	C129 C8	C148 A8	C164 D3	C180 D3	C197 C4	L4 B6	ZD9 A6	
RA14 C4	R16 A4	R33 B6	R49 C6	R66 C7	R88 D6	C5 A1	C22 A4	C43 C4	C59 A2	C79 B6	C96 B6	R113 A7	C130 B7	C149 A8	C165 D3	C181 D3	IC1 A1	L5 C4	Q1 A3	
RA15 C5	R17 A4	R34 B6	R51 B7	R68 C7	R89 D6	C6 A1	C23 A1	C44 D5	C61 C2	C80 B6	C97 C6	R114 A7	C131 B7	C150 C8	C166 D3	C182 D4	IC2 C1	L6 C4	Q2 A7	
RA16 D2	R18 B4	R35 B6	R52 A7	R69 C7	R90 D6	C7 A1	C24 A1	C45 D5	C62 C3	C81 B6	C98 C6	R115 B7	C132 B7	C151 D5	C167 D3	C183 C4	IC3 C1	L7 A5	CN1 B1	
RA17 D2	R19 C4	R36 B6	R53 A7	R70 C8	R91 D6	C8 A2	C25 C5	C46 D5	C64 B5	C82 C6	C99 C6	R116 B7	C133 C7	C152 D5	C168 D3	C184 C4	IC4 D1	L8 A5	CN2 C1	
RA18 D2	R20 C4	R37 B6	R54 A7	R71 C8	R92 D6	C9 A2	C26 C5	C47 D5	C66 B5	C83 C6	C100 C6	R117 B7	C134 C7	C153 D5	C169 A8	C185 C4	IC5 A2	L9 A6	CN3 D3	



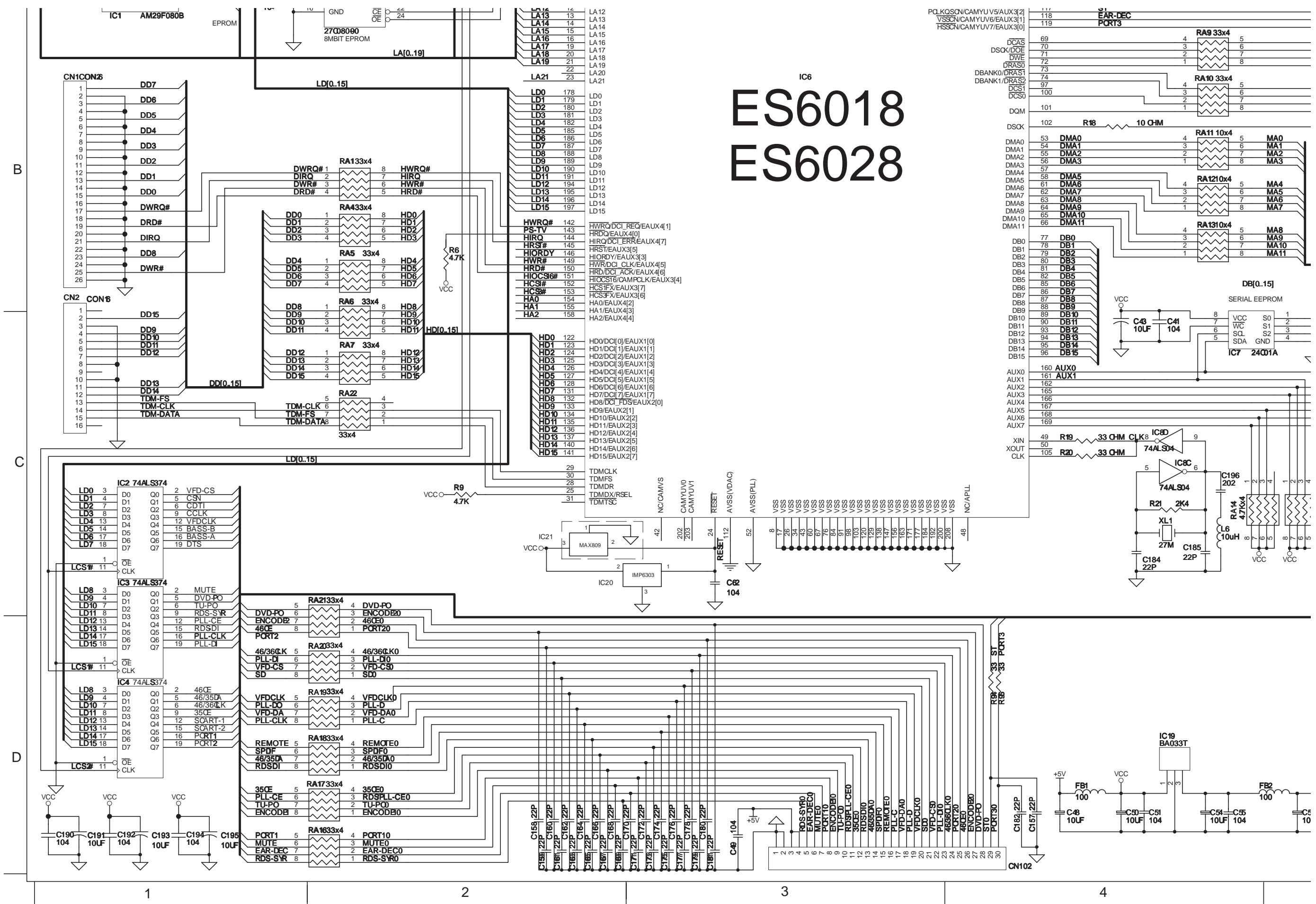
ES6018
ES6028

CIRCUIT DIAGRAM (Top Right)

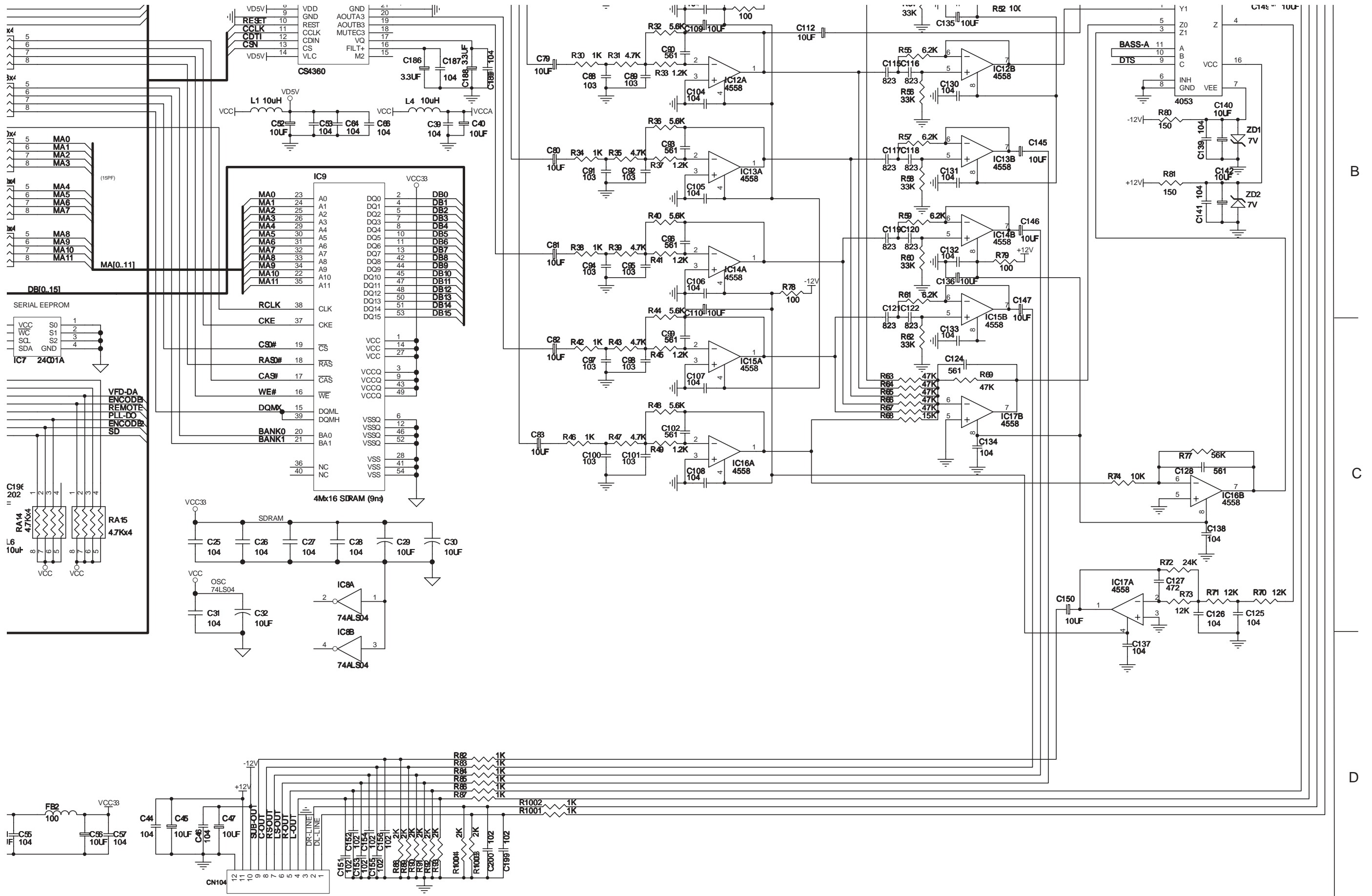


CIRCUIT DIAGRAM (Bottom Left)

ES6018
ES6028



CIRCUIT DIAGRAM (Bottom Right)



B

C

D

5

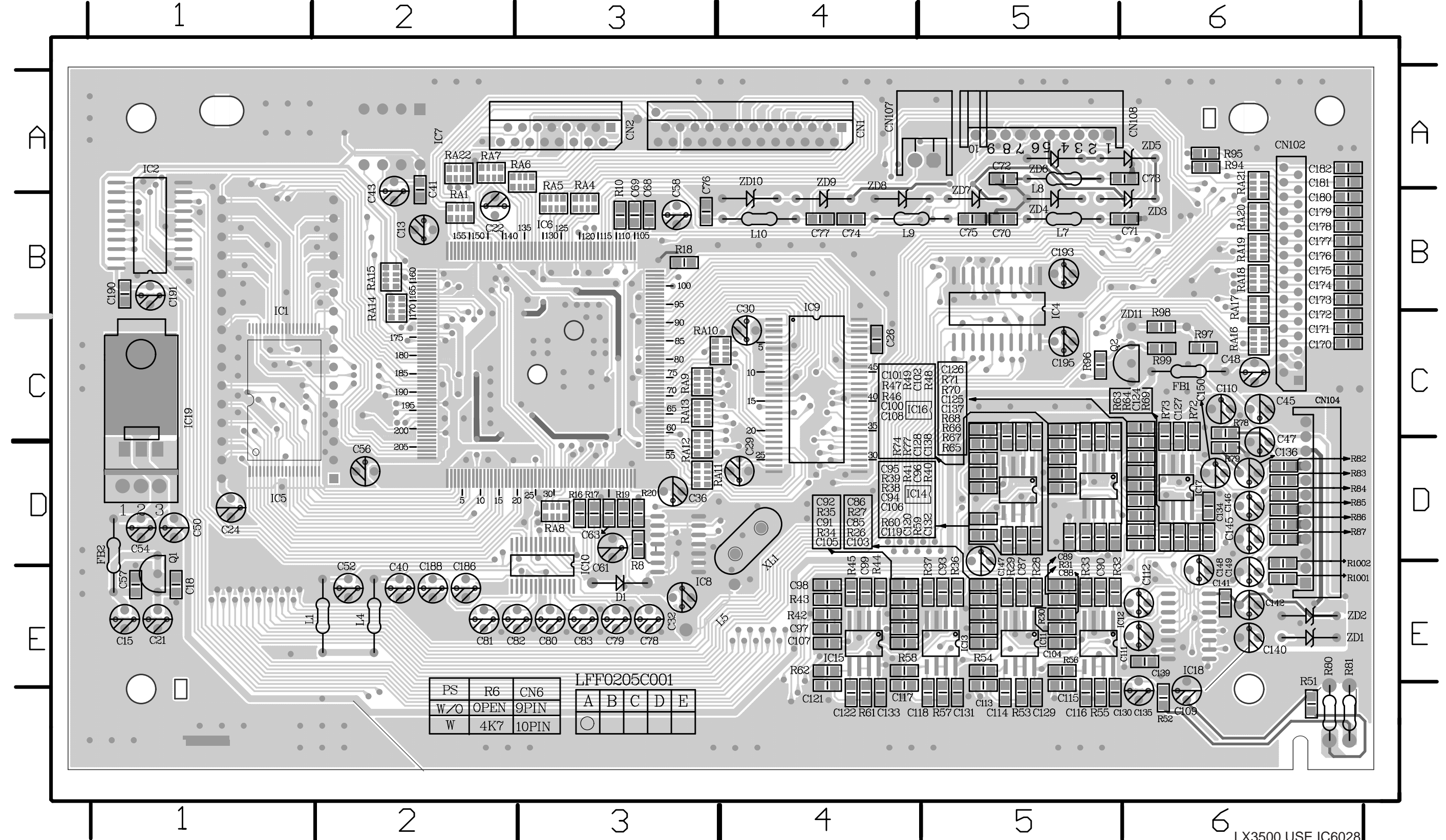
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PCB LAYOUT (COMPONENT SMT VIEW)

RA1	A2	RA13	C3	R8	D3	R29	E5	R39	D5	R49	D5	R60	D5	R70	D6	R82	D6	R99	C6	C29	D3	C50	D1	C72	A5	C83	D3	C94	D5	C104	E5	C114	E5	C127	C6	C138	D5	C150	D6	C179	B6	C195	C5	ZD3	D6	FB2	D1	IC4	C5	IC13	E5
RA4	B3	RA14	B2	R10	B3	R30	E5	R40	D5	R51	W6	R61	E4	R71	D6	R83	D6	R1001	E6	C30	B4	C52	E2	C74	B4	C85	E5	C95	D5	C105	E4	C115	E5	C128	D5	C139	E6	C170	C6	C180	B6	CN1	A4	ZD4	B5	XL1	E3	IC6	B3	IC14	D5
RA5	B3	RA15	B2	R16	D3	R31	E5	R41	D5	R52	E6	R62	E4	R72	C6	R84	D6	R1002	D6	C32	E3	C54	D1	C75	B5	C86	E5	C96	D5	C106	D5	C116	E5	C129	E5	C140	E6	C171	C6	C181	A6	CN2	B3	ZD5	E6	L1	E2	IC7	A2	IC15	E4
RA6	A3	RA16	C6	R17	D3	R32	E5	R42	E4	R53	E5	R63	D6	R73	C6	R86	D6	C13	B2	C36	D3	C56	D2	C76	B3	C87	E5	C97	E4	C107	E4	C118	E5	C130	E5	C149	E6	C172	B6	C182	A6	CN102	A6	ZD6	A5	L4	E2	IC6	B3	IC16	D5
RA7	A2	RA17	C6	R18	B3	R33	E5	R43	E4	R54	E5	R64	D6	R74	D5	R87	D6	C15	E1	C40	E2	C57	E1	C77	B4	C88	E5	C98	E4	C108	D5	C119	D5	C131	E5	C142	E6	C173	B6	C186	E2	CN104	C6	ZD7	B5	L5	D4	IC7	A2	IC17	D6
RA8	D3	RA18	B6	R19	D3	R34	E4	R44	E4	R55	E5	R65	D6	R77	D5	R94	A6	C18	E1	C41	A2	C58	B3	C78	E3	C89	E5	C99	E4	C109	E6	C120	D5	C132	D5	C145	D6	C174	B6	C188	E2	CN107	A4	ZD8	A4	L7	B5	IC8	D3	IC18	E6
RA9	C3	RA19	B6	R20	D3	R35	E4	R45	E5	R56	E5	R66	D6	R78	C6	R95	A6	C21	E1	C43	A2	C68	B3	C79	E3	C90	E5	C100	D5	C110	C6	C121	E4	C133	E4	C146	D6	C175	B6	C190	B1	CN108	A6	ZD9	A4	L8	A5	IC9	C4	IC19	C1
RA10	C4	RA20	B6	R26	E5	R36	E5	R46	D5	R57	E5	R67	D6	R79	D6	R96	C5	C22	A2	C45	C6	C69	B3	C80	E3	C91	E4	C101	D5	C111	E6	C122	E4	C135	E6	C147	E5	C176	B6	C191	B1	D1	E3	ZD10	A4	L9	B4	IC10	D3	Q1	D1
RA11	D3	RA21	A6	R27	E5	R37	E5	R47	D5	R58	E4	R68	D6	R80	E6	R97	C6	C24	D1	C47	D6	C70	B5	C81	D3	C92	E4	C102	D5	C112	E6	C124	D6	C136	D6	C148	E6	C177	B6	C193	B5	ZD1	E6	ZD11	C6	L10	B4	IC11	E5	Q2	D6
RA12	C3	RA22	A2	R28	E5	R38	D5	R48	D5	R59	D5	R69	D6	R81	E6	R98	C6	C26	C4	C48	C6	C71	B6	C82	E2	C93	E5	C103	E5	C113	E5	C126	D6	C137	D6	C149	E6	C178	B6	C194	D6	ZD2	E6	FB1	C6	IC2	A1	IC12	E5		



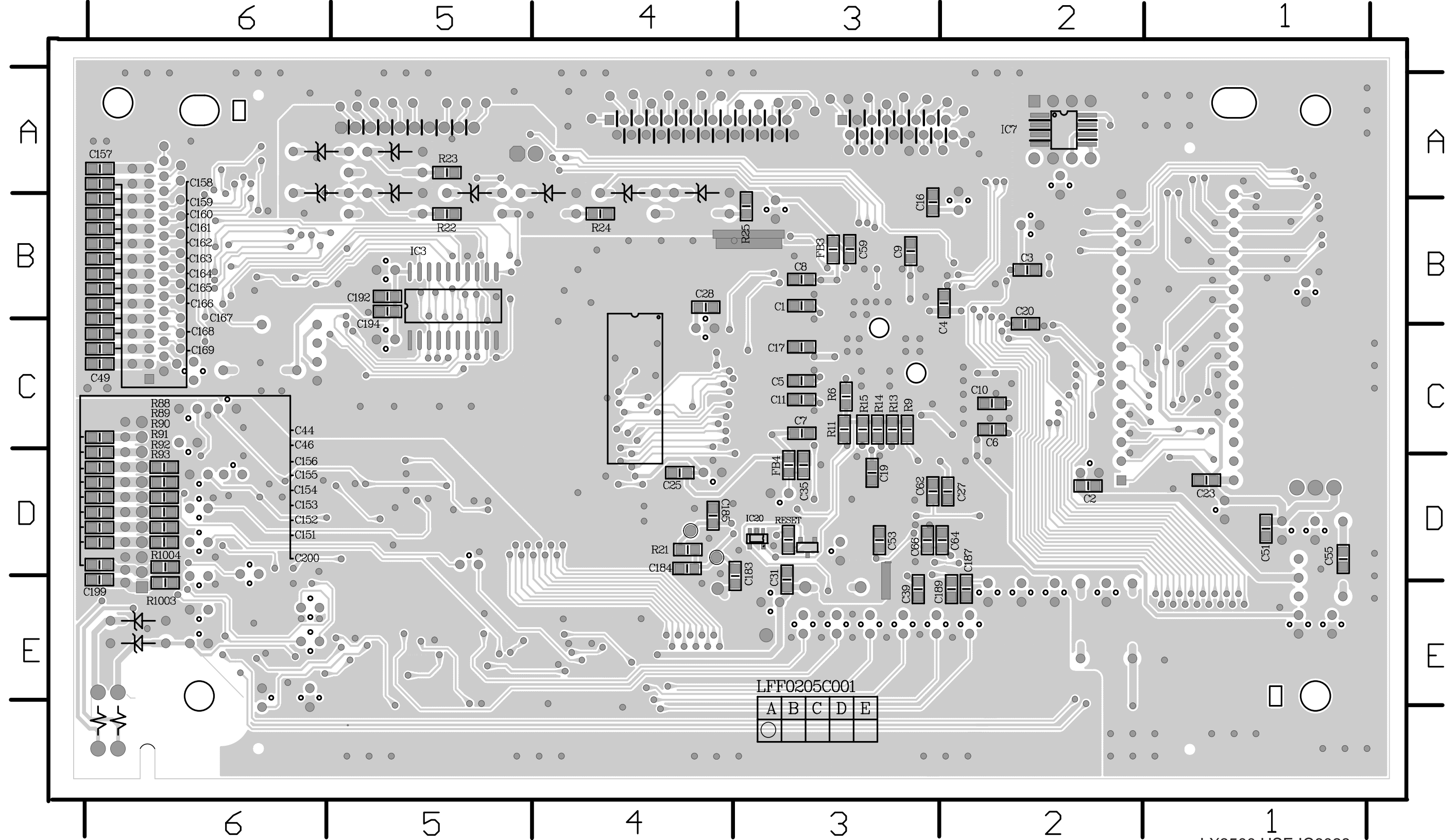
PS	R6	CN6
W/O	OPEN	9PIN
W	4K7	10PIN

LFF0205C001				
A	B	C	D	E
○				

LX3500 USE IC6028
LX3000 USE IC6018

PCB LAYOUT (COMPERSIDE VIEW)

R6 C3	R25 A3	C4 B2	C19 D3	C44 C6	C151 D6	C161 B6	C184 D4	FB4 D3
R9 C3	R88 D6	C5 B3	C20 B2	C46 C6	C152 D6	C162 B6	C185 D4	IC3 B5
R11 C3	R89 D6	C6 C2	C23 C1	C49 C6	C153 D6	C163 B6	C187 D2	IC7 A2
R13 C3	R90 D6	C7 B3	C25 D4	C51 D1	C154 D6	C164 B6	C189 D2	IC20 D3
R14 C3	R91 D6	C8 C3	C26 C4	C53 D3	C155 D6	C165 B6	C194 B5	
R15 C3	R92 D6	C9 B3	C27 D2	C55 D1	C156 D6	C166 B6	C196 D4	
R21 D4	R93 D6	C10 C2	C28 B4	C59 B3	C157 A6	C167 B6	C197 D3	
R22 B5	C1 B3	C11 C3	C31 C3	C62 D2	C158 A6	C168 C6	C199 E6	
R23 A5	C2 D2	C16 B3	C35 D3	C64 D2	C159 A6	C169 C6	C200 E6	
R24 B4	C3 B2	C17 C3	C39 D3	C66 D2	C160 B6	C183 D4	FB3 B3	



LX3500 USE IC6028
LX3000 USE IC6018

ELECTRICAL PARTS LIST - MPEG BOARD

MISCELLANEOUS

CN1	9965 000 12467	SOCKET FFC 26PIN HORT,
CN2	9965 000 12468	SOCKET FFC 16PIN HORT,
CN3	9965 000 12469	SOCKET FFC 28PIN HORT,
XL1	9965 000 13072	CRYSTAL 27MHZ

CAPACITORS

C1	4822 126 14585	100NF 10% X7R 0805 50V
C2	4822 126 14585	100NF 10% X7R 0805 50V
C3	4822 126 14585	100NF 10% X7R 0805 50V
C4	4822 126 14585	100NF 10% X7R 0805 50V
C5	4822 126 14585	100NF 10% X7R 0805 50V
C6	4822 126 14585	100NF 10% X7R 0805 50V
C7	4822 126 14585	100NF 10% X7R 0805 50V
C8	4822 126 14585	100NF 10% X7R 0805 50V
C9	4822 126 14585	100NF 10% X7R 0805 50V
C10	4822 126 14585	100NF 10% X7R 0805 50V
C11	4822 126 14585	100NF 10% X7R 0805 50V
C13	9965 000 12474	10UF 16V 20%
C15	9965 000 12474	10UF 16V 20%
C16	4822 126 14585	100NF 10% X7R 0805 50V
C17	4822 126 14585	100NF 10% X7R 0805 50V
C18	4822 126 14585	100NF 10% X7R 0805 50V
C19	4822 126 14585	100NF 10% X7R 0805 50V
C20	4822 126 14585	100NF 10% X7R 0805 50V
C21	9965 000 12474	10UF 16V 20%
C22	9965 000 12474	10UF 16V 20%
C23	4822 126 14585	100NF 10% X7R 0805 50V
C24	9965 000 12474	10UF 16V 20%
C25	4822 126 14585	100NF 10% X7R 0805 50V
C26	4822 126 14585	100NF 10% X7R 0805 50V
C27	4822 126 14585	100NF 10% X7R 0805 50V
C28	4822 126 14585	100NF 10% X7R 0805 50V
C29	9965 000 12474	10UF 16V 20%
C30	9965 000 12474	10UF 16V 20%
C31	4822 126 14585	100NF 10% X7R 0805 50V
C32	9965 000 12474	10UF 16V 20%
C35	4822 126 14585	100NF 10% X7R 0805 50V
C36	9965 000 12474	10UF 16V 20%
C39	4822 126 14585	100NF 10% X7R 0805 50V
C40	9965 000 12474	10UF 16V 20%
C41	4822 126 14585	100NF 10% X7R 0805 50V
C43	9965 000 12474	10UF 16V 20%
C44	4822 126 14585	100NF 10% X7R 0805 50V
C45	9965 000 12474	10UF 16V 20%
C46	4822 126 14585	100NF 10% X7R 0805 50V
C47	9965 000 12474	10UF 16V 20%
C48	9965 000 12474	10UF 16V 20%
C49	4822 126 14585	100NF 10% X7R 0805 50V
C50	9965 000 12474	10UF 16V 20%
C51	4822 126 14585	100NF 10% X7R 0805 50V
C52	9965 000 12474	10UF 16V 20%
C53	4822 126 14585	100NF 10% X7R 0805 50V

C54	9965 000 12474	10UF 16V 20%
C55	4822 126 14585	100NF 10% X7R 0805 50V
C56	9965 000 12474	10UF 16V 20%
C57	4822 126 14585	100NF 10% X7R 0805 50V
C58	9965 000 12474	10UF 16V 20%
C59	4822 126 14585	100NF 10% X7R 0805 50V
C61	9965 000 12474	10UF 16V 20%
C62	4822 126 14585	100NF 10% X7R 0805 50V
C64	4822 126 14585	100NF 10% X7R 0805 50V
C66	4822 126 14585	100NF 10% X7R 0805 50V
C68	4822 126 14585	100NF 10% X7R 0805 50V
C69	4822 126 14585	100NF 10% X7R 0805 50V
C70	9965 000 12475	470PF 50V 5%
C71	9965 000 12475	470PF 50V 5%
C72	9965 000 12475	470PF 50V 5%
C73	9965 000 12475	470PF 50V 5%
C74	9965 000 12475	470PF 50V 5%
C75	9965 000 12475	470PF 50V 5%
C76	9965 000 12475	470PF 50V 5%
C77	9965 000 12475	470PF 50V 5%
C78	9965 000 12474	10UF 16V 20%
C79	9965 000 12474	10UF 16V 20%
C80	9965 000 12474	10UF 16V 20%
C81	9965 000 12474	10UF 16V 20%
C82	9965 000 12474	10UF 16V 20%
C83	9965 000 12474	10UF 16V 20%
C85	9965 000 12476	0,01UF 50V 20%
C86	9965 000 12476	0,01UF 50V 20%
C87	5322 116 80853	560PF 5%NP0 63V
C88	9965 000 12476	0,01UF 50V 20%
C89	9965 000 12476	0,01UF 50V 20%
C90	5322 116 80853	560PF 5%NP0 63V
C91	9965 000 12476	0,01UF 50V 20%
C92	9965 000 12476	0,01UF 50V 20%
C93	5322 116 80853	560PF 5%NP0 63V
C94	9965 000 12476	0,01UF 50V 20%
C95	9965 000 12476	0,01UF 50V 20%
C96	5322 116 80853	560PF 5%NP0 63V
C97	9965 000 12476	0,01UF 50V 20%
C98	9965 000 12476	0,01UF 50V 20%
C99	5322 116 80853	560PF 5%NP0 63V
C100	9965 000 12476	0,01UF 50V 20%
C101	9965 000 12476	0,01UF 50V 20%
C102	5322 116 80853	560PF 5%NP0 63V
C103	4822 126 14585	100NF 10% X7R 0805 50V
C104	4822 126 14585	100NF 10% X7R 0805 50V
C105	4822 126 14585	100NF 10% X7R 0805 50V
C106	4822 126 14585	100NF 10% X7R 0805 50V
C107	4822 126 14585	100NF 10% X7R 0805 50V
C108	4822 126 14585	100NF 10% X7R 0805 50V
C109	9965 000 12474	10UF 16V 20%
C110	9965 000 12474	10UF 16V 20%

ELECTRICAL PARTS LIST - MPEG BOARD

C111	9965 000 12474	10UF 16V 20%
C112	9965 000 12474	10UF 16V 20%
C113	9965 000 12477	0,082UF 50V 10%
C114	9965 000 12477	0,082UF 50V 10%
C115	9965 000 12477	0,082UF 50V 10%
C116	9965 000 12477	0,082UF 50V 10%
C117	9965 000 12477	0,082UF 50V 10%
C118	9965 000 12477	0,082UF 50V 10%
C119	9965 000 12477	0,082UF 50V 10%
C120	9965 000 12477	0,082UF 50V 10%
C121	9965 000 12477	0,082UF 50V 10%
C122	9965 000 12477	0,082UF 50V 10%
C124	5322 116 80853	560PF 5%NP0 63V
C125	4822 126 14585	100NF 10% X7R 0805 50V
C126	4822 126 14585	100NF 10% X7R 0805 50V
C127	9965 000 12478	4700PF 50V 20%
C128	5322 116 80853	560PF 5%NP0 63V
C129	4822 126 14585	100NF 10% X7R 0805 50V
C130	4822 126 14585	100NF 10% X7R 0805 50V
C131	4822 126 14585	100NF 10% X7R 0805 50V
C132	4822 126 14585	100NF 10% X7R 0805 50V
C133	4822 126 14585	100NF 10% X7R 0805 50V
C134	4822 126 14585	100NF 10% X7R 0805 50V
C135	9965 000 12474	10UF 16V 20%
C136	9965 000 12474	10UF 16V 20%
C137	4822 126 14585	100NF 10% X7R 0805 50V
C138	4822 126 14585	100NF 10% X7R 0805 50V
C139	4822 126 14585	100NF 10% X7R 0805 50V
C140	9965 000 12474	10UF 16V 20%
C141	4822 126 14585	100NF 10% X7R 0805 50V
C142	9965 000 12474	10UF 16V 20%
C145	9965 000 12474	10UF 16V 20%
C146	9965 000 12474	10UF 16V 20%
C147	9965 000 12474	10UF 16V 20%
C148	9965 000 12474	10UF 16V 20%
C149	9965 000 12474	10UF 16V 20%
C150	9965 000 12474	10UF 16V 20%
C151	9965 000 12479	1000PF 50V 20%
C152	9965 000 12479	1000PF 50V 20%
C153	9965 000 12479	1000PF 50V 20%
C154	9965 000 12479	1000PF 50V 20%
C155	9965 000 12479	1000PF 50V 20%
C156	9965 000 12479	1000PF 50V 20%
C157	5322 122 32658	22PF 5% 50V
C158	5322 122 32658	22PF 5% 50V
C159	5322 122 32658	22PF 5% 50V
C160	5322 122 32658	22PF 5% 50V
C161	5322 122 32658	22PF 5% 50V
C162	5322 122 32658	22PF 5% 50V
C163	5322 122 32658	22PF 5% 50V
C164	5322 122 32658	22PF 5% 50V
C165	5322 122 32658	22PF 5% 50V

C166	5322 122 32658	22PF 5% 50V
C167	5322 122 32658	22PF 5% 50V
C168	5322 122 32658	22PF 5% 50V
C169	5322 122 32658	22PF 5% 50V
C170	5322 122 32658	22PF 5% 50V
C171	5322 122 32658	22PF 5% 50V
C172	5322 122 32658	22PF 5% 50V
C173	5322 122 32658	22PF 5% 50V
C174	5322 122 32658	22PF 5% 50V
C175	5322 122 32658	22PF 5% 50V
C176	5322 122 32658	22PF 5% 50V
C177	5322 122 32658	22PF 5% 50V
C178	5322 122 32658	22PF 5% 50V
C179	5322 122 32658	22PF 5% 50V
C180	5322 122 32658	22PF 5% 50V
C181	5322 122 32658	22PF 5% 50V
C182	5322 122 32658	22PF 5% 50V
C183	5322 122 32658	22PF 5% 50V
C183	9965 000 12480	0,002UF 50V 5%
C184	5322 122 32658	22PF 5% 50V
C185	5322 122 32658	22PF 5% 50V
C186	9965 000 12481	3,3UF 50V 20%
C187	4822 126 14585	100NF 10% X7R 0805 50V
C188	9965 000 12481	3,3UF 50V 20%
C189	4822 126 14585	100NF 10% X7R 0805 50V
C190	4822 126 14585	100NF 10% X7R 0805 50V
C191	9965 000 12474	10UF 16V 20%
C192	4822 126 14585	100NF 10% X7R 0805 50V
C193	9965 000 12474	10UF 16V 20%
C194	4822 126 14585	100NF 10% X7R 0805 50V
C195	9965 000 12474	10UF 16V 20%
C197	4822 126 13618	330PF 1%NPO 63V
C199	9965 000 12479	1000PF 50V 20%
C200	9965 000 12479	1000PF 50V 20%

RESISTORS

R6	4822 051 20472	4K7 5% 0,1W
R8	4822 051 20223	22K 5% 0,1W
R9	4822 051 20472	4K7 5% 0,1W
R10	4822 117 11504	270R 1% 0,1W
R11	4822 051 20472	4K7 5% 0,1W
R13	4822 051 20472	4K7 5% 0,1W
R14	4822 051 20472	4K7 5% 0,1W
R15	4822 051 20472	4K7 5% 0,1W
R16	2322 734 63309	33R 1% RC12H 0805
R17	2322 734 63309	33R 1% RC12H 0805
R18	4822 051 20109	10R 5% 0,1W
R19	2322 734 63309	33R 1% RC12H 0805
R20	2322 734 63309	33R 1% RC12H 0805
R21	4822 051 20242	2K4 5% 0,1W
R22	4822 117 11927	75R 1% 0,1W
R23	4822 117 11927	75R 1% 0,1W

ELECTRICAL PARTS LIST - MPEG BOARD**RESISTORS**

R24	4822 117 11927	75R 1% 0,1W
R25	4822 117 11927	75R 1% 0,1W
R26	4822 051 20102	1K 5% 0,1W
R27	4822 051 20472	4K7 5% 0,1W
R28	4822 051 20562	5K6 5% 0,1W 0805
R29	4822 051 20122	1K2 5% 0,1W
R30	4822 051 20102	1K 5% 0,1W
R31	4822 051 20472	4K7 5% 0,1W
R32	4822 051 20562	5K6 5% 0,1W 0805
R33	4822 051 20122	1K2 5% 0,1W
R34	4822 051 20102	1K 5% 0,1W
R35	4822 051 20472	4K7 5% 0,1W
R36	4822 051 20562	5K6 5% 0,1W 0805
R37	4822 051 20122	1K2 5% 0,1W
R38	4822 051 20102	1K 5% 0,1W
R39	4822 051 20472	4K7 5% 0,1W
R40	4822 051 20562	5K6 5% 0,1W 0805
R41	4822 051 20122	1K2 5% 0,1W
R42	4822 051 20102	1K 5% 0,1W
R43	4822 051 20472	4K7 5% 0,1W
R44	4822 051 20562	5K6 5% 0,1W 0805
R45	4822 051 20122	1K2 5% 0,1W
R46	4822 051 20102	1K 5% 0,1W
R47	4822 051 20472	4K7 5% 0,1W
R48	4822 051 20562	5K6 5% 0,1W 0805
R49	4822 051 20122	1K2 5% 0,1W
R51	4822 117 11373	100R 1% RC12H 0805
R52	4822 117 11373	100R 1% RC12H 0805
R53	4822 051 20622	6K2 5% 0,1W
R54	4822 051 20333	33K 5% 0,1W
R55	4822 051 20622	6K2 5% 0,1W
R56	4822 051 20333	33K 5% 0,1W
R57	4822 051 20622	6K2 5% 0,1W
R58	4822 051 20333	33K 5% 0,1W
R59	4822 051 20622	6K2 5% 0,1W
R60	4822 051 20333	33K 5% 0,1W
R61	4822 051 20622	6K2 5% 0,1W
R62	4822 051 20333	33K 5% 0,1W
R63	9965 000 12482	47K 1/10W 5%
R64	9965 000 12482	47K 1/10W 5%
R65	9965 000 12482	47K 1/10W 5%
R66	9965 000 12482	47K 1/10W 5%
R67	9965 000 12482	47K 1/10W 5%
R68	4822 116 83933	15K 1% 0,1W
R69	9965 000 12482	47K 1/10W 5%
R70	9965 000 12483	12K 1/10W 5%
R71	9965 000 12483	12K 1/10W 5%
R72	4822 051 20243	24K 5% 0,1W
R73	9965 000 12483	12K 1/10W 5%
R74	9965 000 12484	10K 1/10W 5%
R77	4822 117 11148	56K 1% 0,1W
R78	4822 117 11373	100R 1% RC12H 0805

R79	4822 117 11373	100R 1% RC12H 0805
R80	9965 000 12485	150R 1/6W 5% CF
R81	9965 000 12485	150R 1/6W 5% CF
R82	4822 051 20102	1K 5% 0,1W
R83	4822 051 20102	1K 5% 0,1W
R84	4822 051 20102	1K 5% 0,1W
R85	4822 051 20102	1K 5% 0,1W
R86	4822 051 20102	1K 5% 0,1W
R87	4822 051 20102	1K 5% 0,1W
R88	4822 051 20202	2K 5% 1/10W
R89	4822 051 20202	2K 5% 1/10W
R90	4822 051 20202	2K 5% 1/10W
R91	4822 051 20202	2K 5% 1/10W
R92	4822 051 20202	2K 5% 1/10W
R93	4822 051 20202	2K 5% 1/10W
R94	2322 734 63309	33R 1% RC12H 0805
R95	2322 734 63309	33R 1% RC12H 0805
R96	4822 051 20472	4K7 5% 0,1W
R97	4822 051 20102	1K 5% 0,1W
R98	4822 051 20202	2K 5% 0,1W
R99	9965 000 12484	10K 1/10W 5%
R1001	4822 051 20202	2K 5% 1/10W
R1002	4822 051 20202	2K 5% 1/10W
R1003	4822 051 20202	2K 5% 1/10W
R1004	4822 051 20202	2K 5% 1/10W
RA1	9965 000 12486	RES ARRAY 4X33R 1/10W 5%
RA4	9965 000 12486	RES ARRAY 4X33R 1/10W 5%
RA5	9965 000 12486	RES ARRAY 4X33R 1/10W 5%
RA6	9965 000 12486	RES ARRAY 4X33R 1/10W 5%
RA7	9965 000 12486	RES ARRAY 4X33R 1/10W 5%
RA8	9965 000 12486	RES ARRAY 4X33R 1/10W 5%
RA9	9965 000 12486	RES ARRAY 4X33R 1/10W 5%
RA10	9965 000 12486	RES ARRAY 4X33R 1/10W 5%
RA11	9965 000 12487	RES ARRAY 4X10R 1/10W 5%
RA12	9965 000 12487	RES ARRAY 4X10R 1/10W 5%
RA13	9965 000 12487	RES ARRAY 4X10R 1/10W 5%
RA14	9965 000 12488	RES ARRAY 4X4,7K 1/10W 5%
RA15	9965 000 12488	RES ARRAY 4X4,7K 1/10W 5%
RA16	9965 000 12486	RES ARRAY 4X33R 1/10W 5%
RA17	9965 000 12486	RES ARRAY 4X33R 1/10W 5%
RA18	9965 000 12486	RES ARRAY 4X33R 1/10W 5%
RA19	9965 000 12486	RES ARRAY 4X33R 1/10W 5%
RA20	9965 000 12486	RES ARRAY 4X33R 1/10W 5%
RA21	9965 000 12486	RES ARRAY 4X33R 1/10W 5%
RA22	9965 000 12486	RES ARRAY 4X33R 1/10W 5%

COILS & FILTERS

FB1	9965 000 12470	BEAD FERITE 100R/ AT 100MHZ
FB2	9965 000 12470	BEAD FERITE 100R/ AT 100MHZ
FB3	9965 000 12471	BEAD FERITE 600R AT 100MHZ
FB4	9965 000 12471	BEAD FERITE 600R AT 100MHZ
L1	4822 157 10568	CHOKO COIL 10UH

ELECTRICAL PARTS LIST - MPEG BOARD**COILS & FILTERS**

L4	4822 157 10568	CHOKO COIL 10UH
L5	4822 157 10568	CHOKO COIL 10UH
L7	9965 000 12472	CHOKO 2,4UH
L8	9965 000 12472	CHOKO 2,4UH
L9	9965 000 12472	CHOKO 2,4UH
L10	9965 000 12472	CHOKO 2,4UH

DIODES

D1	4822 130 30621	1N4148
ZD1	4822 130 80272	MTZJ7,5C
ZD2	4822 130 80272	MTZJ7,5C
ZD3	4822 130 80272	MTZJ7,5C
ZD4	4822 130 80272	MTZJ7,5C
ZD5	4822 130 80272	MTZJ7,5C
ZD6	4822 130 80272	MTZJ7,5C
ZD7	4822 130 80272	MTZJ7,5C
ZD8	4822 130 80272	MTZJ7,5C
ZD9	4822 130 80272	MTZJ7,5C
ZD10	4822 130 80272	MTZJ7,5C

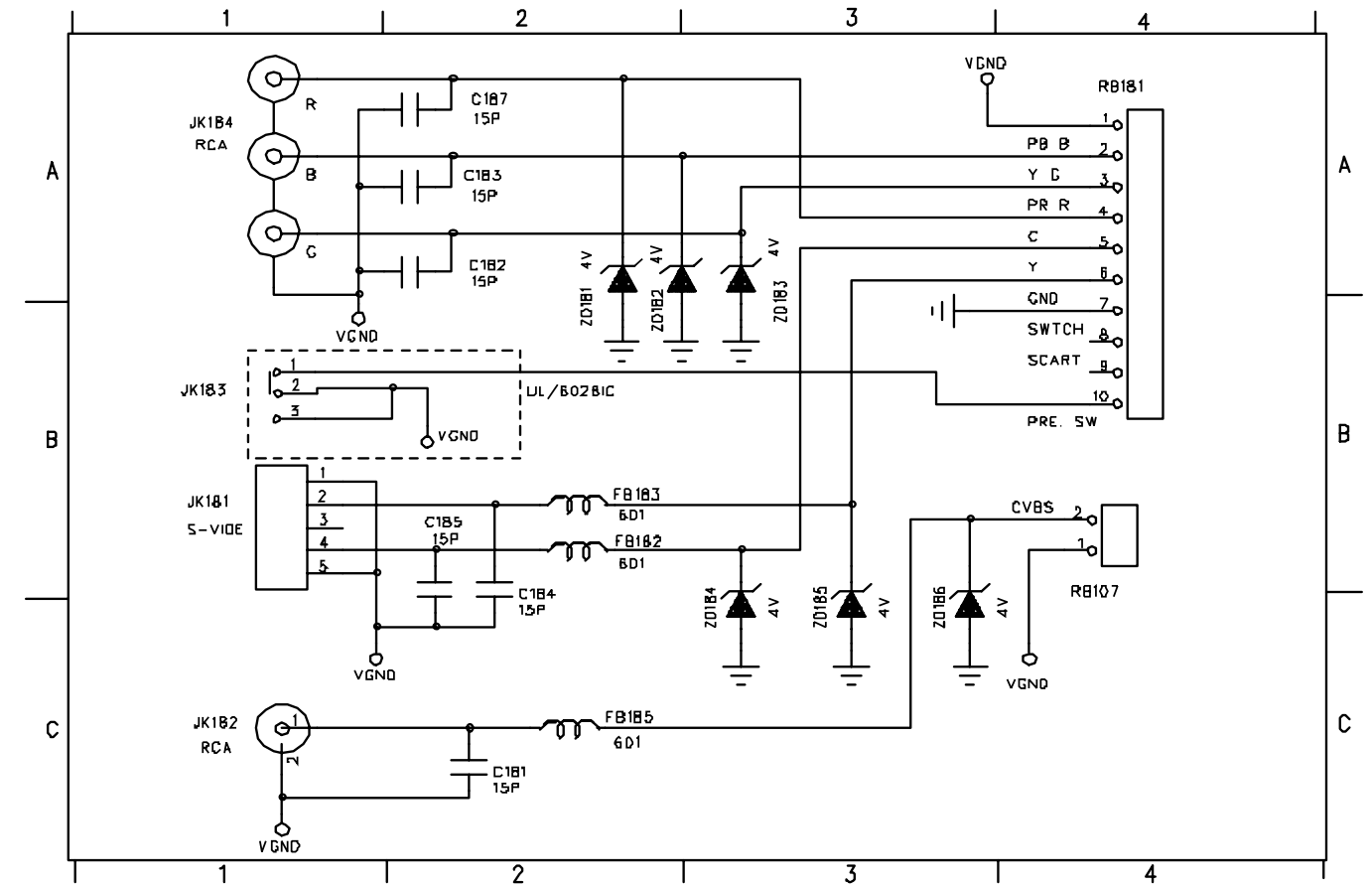
TRANSISTORS & INTEGRATED CIRCUITS

IC1	9965 000 12489	EEPROM AM29F080B-90CE
IC2	9965 000 12494	74HC374
IC3	9965 000 12494	74HC374
IC4	9965 000 12494	74HC374
IC6	9965 000 12495	ES6018 MICRO CPU LX3000D
IC6	9965 000 12496	ES6028 MICRO CPU LX3500D
IC7	9965 000 12497	EEPROM AT24C02
IC8	9965 000 12498	74HCU04D PHILIPS
IC9	9965 000 12499	SYNCHRO, DRAM 4MX16 Y3V TW
IC10	9965 000 12490	CS4360
IC11	9965 000 12491	JRC4558D JRC
IC12	9965 000 12491	JRC4558D JRC
IC13	9965 000 12491	JRC4558D JRC
IC14	9965 000 12491	JRC4558D JRC
IC15	9965 000 12491	JRC4558D JRC
IC16	9965 000 12491	JRC4558D JRC
IC17	9965 000 12491	JRC4558D JRC
IC18	9965 000 12492	TC4053BFN CHIP
IC19	9965 000 12493	BA033T REGULATOR 3,3V 1A
Q1	4822 130 41651	2SC2001L
Q2	4822 130 41651	2SC2001L

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

CIRCUIT DIAGRAM - RGB BOARD

C181 C2 C183 A2 C185 B2 FB182 B2 FB185 C2 JK182 C1 JK184 A1 RB181 A4 ZD182 A2 ZD184 B3 ZD186 C3
 C182 A2 C184 B2 C187 A2 FB183 B2 JK181 B1 JK183 B1 RB107 B4 ZD181 A2 ZD183 A3 ZD185 B3



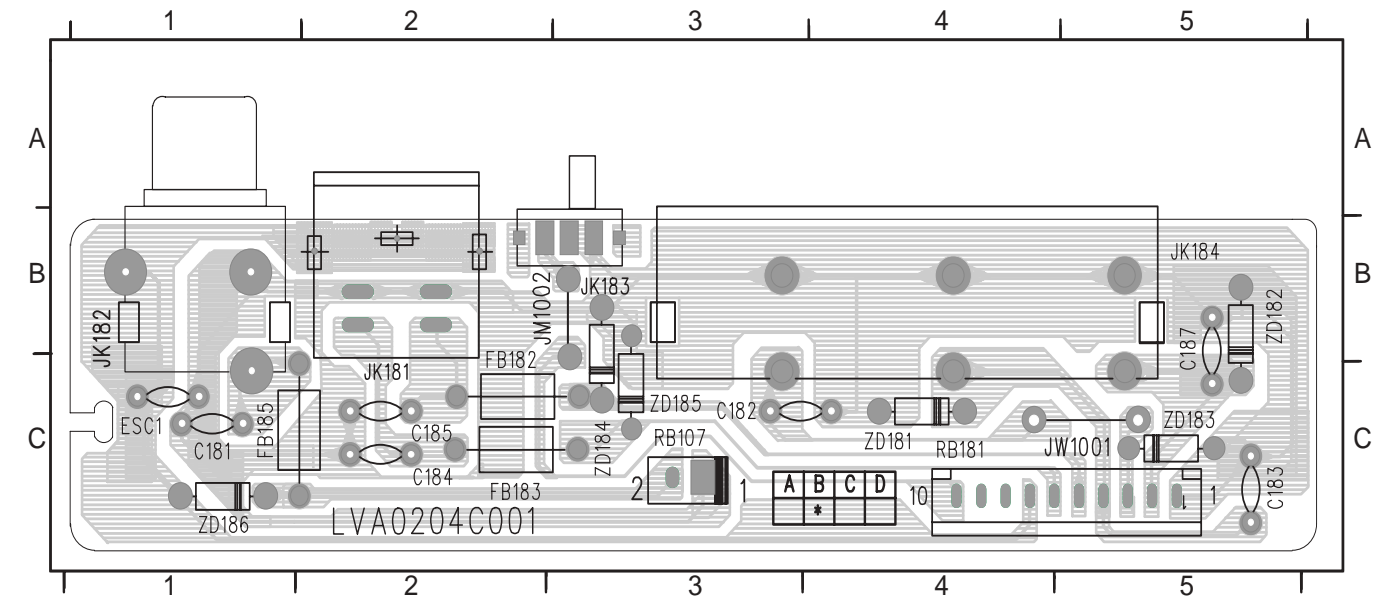
SCART & RGB BOARD

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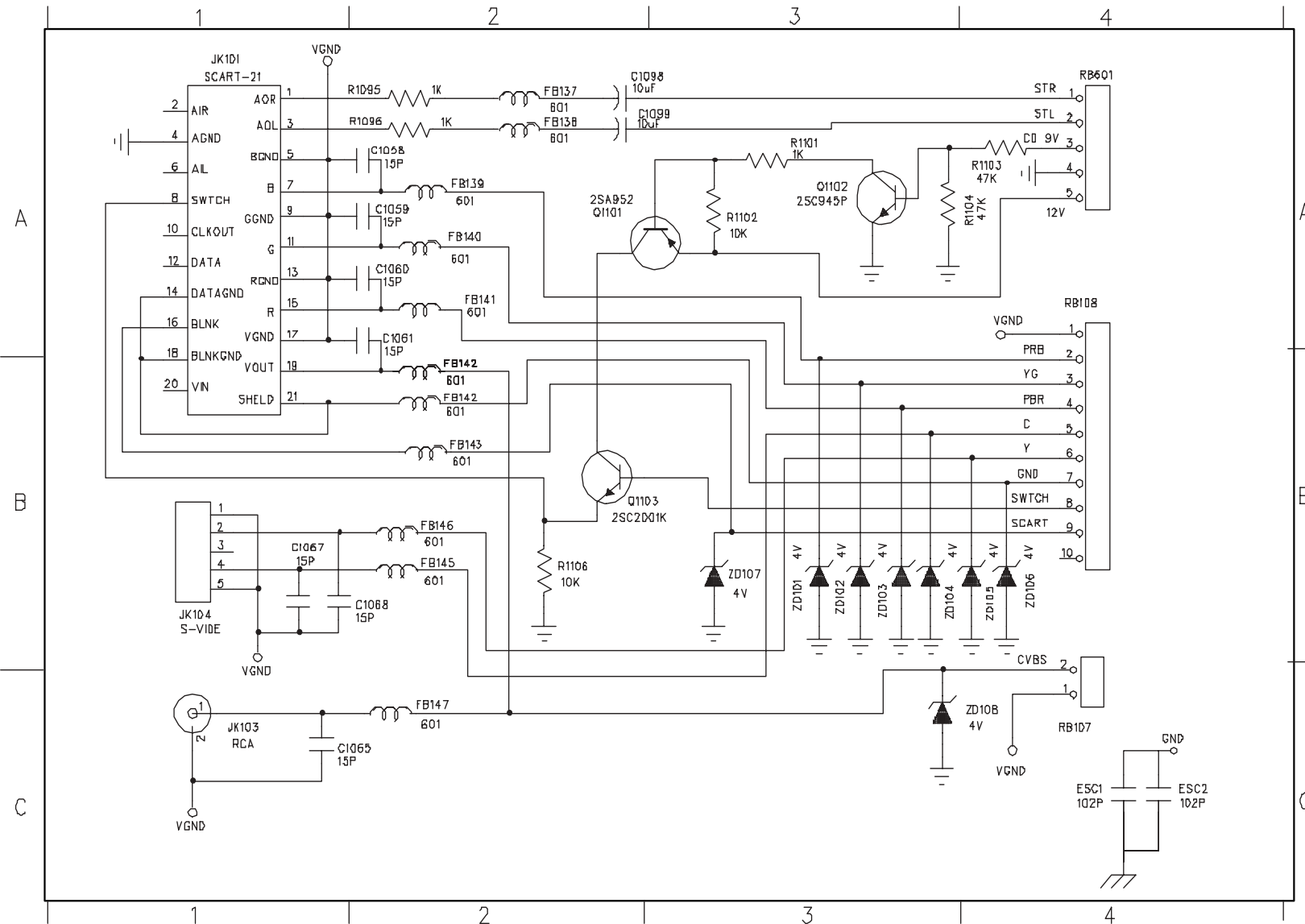
Circuit Diagram (RGB)..... 10-1
 PCB Layout(RGB) 10-1
 Circuit Diagram (Scart) 10-2
 PCB Layout(Scart) 10-2
 Electrical Parts List(RGB & Scart) 10-3

PCB LAYOUT - RGB BOARD

C181 C1 C183 C5 C185 C2 ESC1 C1 FB183 C2 JW1001 C5 RB107 C3 ZD181 C4 ZD183 C5 ZD185 B3 JK181 B3 JK183 B3
 C182 C3 C184 C2 C187 C5 FB182 C2 FB185 C1 JW1002 B3 RB181 C4 ZD182 B5 ZD184 B3 ZD186 C1 JK182 B1 JK184 B5

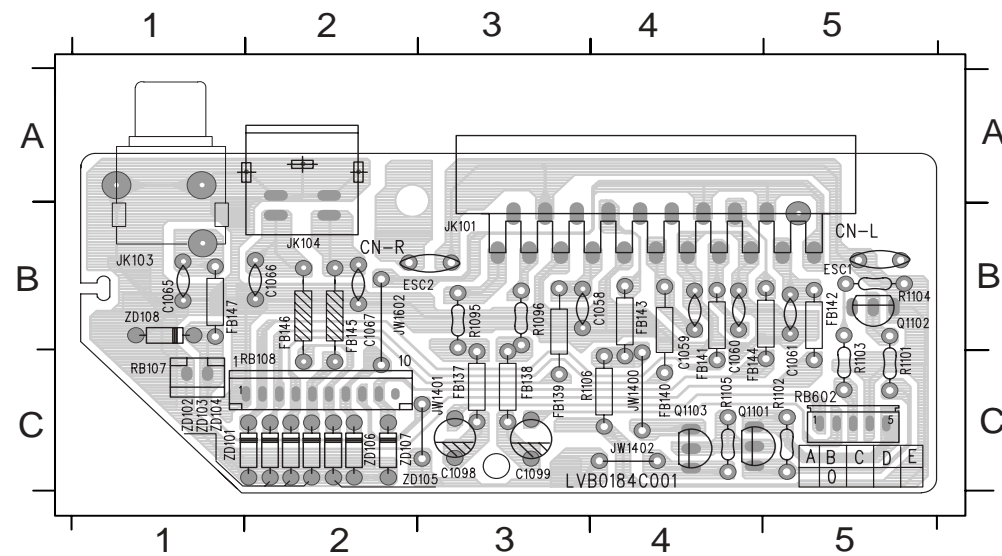


CIRCUIT DIAGRAM - SCART BOARD



- C1058 A2
- C1059 A2
- C1060 A2
- C1061 A2
- C1065 C1
- C1066 B1
- C1098 A2
- C1099 A2
- ESC1 C4
- ESC2 C4
- FB137 A2
- FB138 A2
- FB139 A2
- FB140 A2
- FB141 A2
- FB142 B2
- FB143 B2
- FB144 B2
- FB145 B2
- FB146 B2
- FB147 C2
- JK101 A1
- JK103 C1
- JK104 B1
- Q1101 A2
- Q1102 A3
- Q1103 B2
- R1095 A2
- R1096 A2
- R1101 A3
- R1102 A3
- R1103 A4
- R1104 A3
- R1106 B2
- RB107 C4
- RB108 B4
- RB601 A4
- ZD101 B3
- ZD102 B3
- ZD103 B3
- ZD104 B3
- ZD105 B4
- ZD106 B4
- ZD107 B3
- ZD108 C3

PCB LAYOUT - SCART BOARD



- C1058 B4
- C1059 B4
- C1060 B4
- C1061 B5
- C1065 B1
- C1066 B2
- C1067 B2
- C1096 C3
- C1099 C3
- ESC1 B5
- ESC2 B3
- FB137 C3
- FB138 C3
- FB139 B3
- FB140 B4
- FB141 B4
- FB142 B5
- FB143 B4
- FB144 B4
- FB145 B2
- FB146 B2
- FB147 B1
- JK101 A3
- JK103 B1
- JK104 B2
- JW1400 C4
- JW1401 C3
- JW1602 B2
- Q1101 C5
- Q1102 B5
- Q1103 C4
- R1095 B3
- R1096 B3
- R1101 C5
- R1102 C5
- R1103 C5
- R1104 B5
- R1106 C4
- RB107 C1
- RB108 C2
- RB602 C5
- ZD101 C2
- ZD102 C2
- ZD103 C2
- ZD104 C2
- ZD105 C2
- ZD106 C2
- ZD107 C2
- ZD108 B1

ELECTRICAL PARTS LIST - RGB BOARD (NOT FOR /22 VERSION)MISCELLANEOUS

JK181	9965 000 12607	DIN JACK, S-VIDEO OUT
JK182	9965 000 12608	RCA JACK YELLOW, VIDEO OUT
JK183	9965 000 12610	SLIDE SWITCH 1P2T LX3500D
JK184	9965 000 12609	RCA JACK R/G/B

CAPACITORS

C181	9965 000 12590	15PF 50V 5%
C182	9965 000 12590	15PF 50V 5%
C183	9965 000 12590	15PF 50V 5%
C184	9965 000 12590	15PF 50V 5%
C185	9965 000 12590	15PF 50V 5%
C187	9965 000 12590	15PF 50V 5%
ESC1	9965 000 13094	0,068UF 50V 10%

DIODES

ZD181	4822 130 10209	ZENER 4,1-4,3V 0,5W
ZD182	4822 130 10209	ZENER 4,1-4,3V 0,5W
ZD183	4822 130 10209	ZENER 4,1-4,3V 0,5W
ZD184	4822 130 10209	ZENER 4,1-4,3V 0,5W
ZD185	4822 130 10209	ZENER 4,1-4,3V 0,5W
ZD186	4822 130 10209	ZENER 4,1-4,3V 0,5W

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

ELECTRICAL PARTS LIST - SCART BOARD (FOR /22S VERSION ONLY)MISCELLANEOUS

JK101	9965 000 12611	SCART SOCKET
JK103	9965 000 12608	RCA JACK YELLOW, VIDEO OUT
JK104	9965 000 12607	DIN JACK, S-VIDEO OUT

CAPACITORS

C1058	9965 000 12590	15PF 50V 5%
C1059	9965 000 12590	15PF 50V 5%
C1060	9965 000 12590	15PF 50V 5%
C1061	9965 000 12590	15PF 50V 5%
C1062	9965 000 12590	15PF 50V 5%
C1063	9965 000 12590	15PF 50V 5%
C1064	9965 000 12590	15PF 50V 5%
C1065	9965 000 12590	15PF 50V 5%
C1066	9965 000 12590	15PF 50V 5%
C1067	9965 000 12590	15PF 50V 5%
C1098	4822 124 40248	10UF 20% 63V
C1099	4822 124 40248	10UF 20% 63V
ESC1	5322 122 32331	1NF 10% 100V
ESC2	5322 122 32331	1NF 10% 100V

RESISTORS

R1095	9965 000 12519	1K 1/6W 5% CF
R1096	9965 000 12519	1K 1/6W 5% CF
R1100	4822 050 22203	22K 1% 0,6W
R1101	9965 000 12519	1K 1/6W 5% CF
R1102	4822 050 21003	10K 1/6W 5%
R1103	4822 050 24703	47K 1/6W 5%
R1104	4822 050 24703	47K 1/6W 5%
R1106	4822 050 21003	10K 1/6W 5%

COILS & FILTERS

FB137	9965 000 12470	FE BEAD D3,5X6MM 100R
FB138	9965 000 12470	FE BEAD D3,5X6MM 100R
FB139	9965 000 12470	FE BEAD D3,5X6MM 100R
FB140	9965 000 12470	FE BEAD D3,5X6MM 100R
FB141	9965 000 12470	FE BEAD D3,5X6MM 100R
FB142	9965 000 12470	FE BEAD D3,5X6MM 100R
FB143	9965 000 12470	FE BEAD D3,5X6MM 100R
FB144	9965 000 12470	FE BEAD D3,5X6MM 100R
FB145	9965 000 12470	FE BEAD D3,5X6MM 100R
FB146	9965 000 12470	FE BEAD D3,5X6MM 100R
FB147	9965 000 12470	FE BEAD D3,5X6MM 100R

DIODES

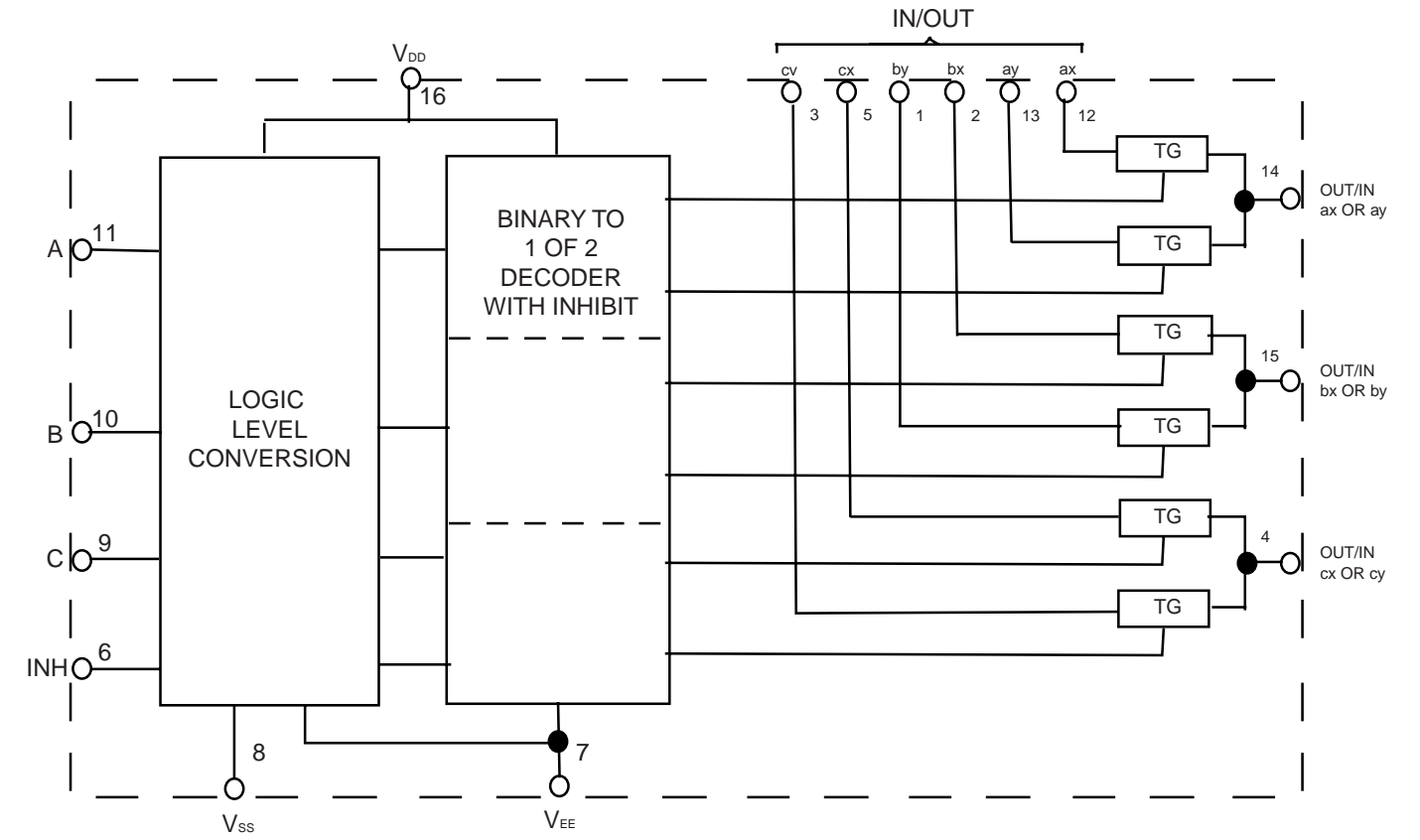
D1100	4822 130 34167	BZX79-B6V2
ZD101	4822 130 10209	ZENER 4,1-4,3V 0,5W
ZD102	4822 130 10209	ZENER 4,1-4,3V 0,5W
ZD103	4822 130 10209	ZENER 4,1-4,3V 0,5W
ZD104	4822 130 10209	ZENER 4,1-4,3V 0,5W
ZD105	4822 130 10209	ZENER 4,1-4,3V 0,5W
ZD106	4822 130 10209	ZENER 4,1-4,3V 0,5W
ZD107	4822 130 10209	ZENER 4,1-4,3V 0,5W
ZD108	4822 130 10209	ZENER 4,1-4,3V 0,5W

TRANSISTORS

Q1100	4822 130 41198	2SC945P
Q1101	4822 130 10211	2SA952
Q1102	4822 130 41198	2SC945P
Q1103	4822 130 41651	2SC2001L

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

INTERNAL TC4053 BLOCK DIAGRAM

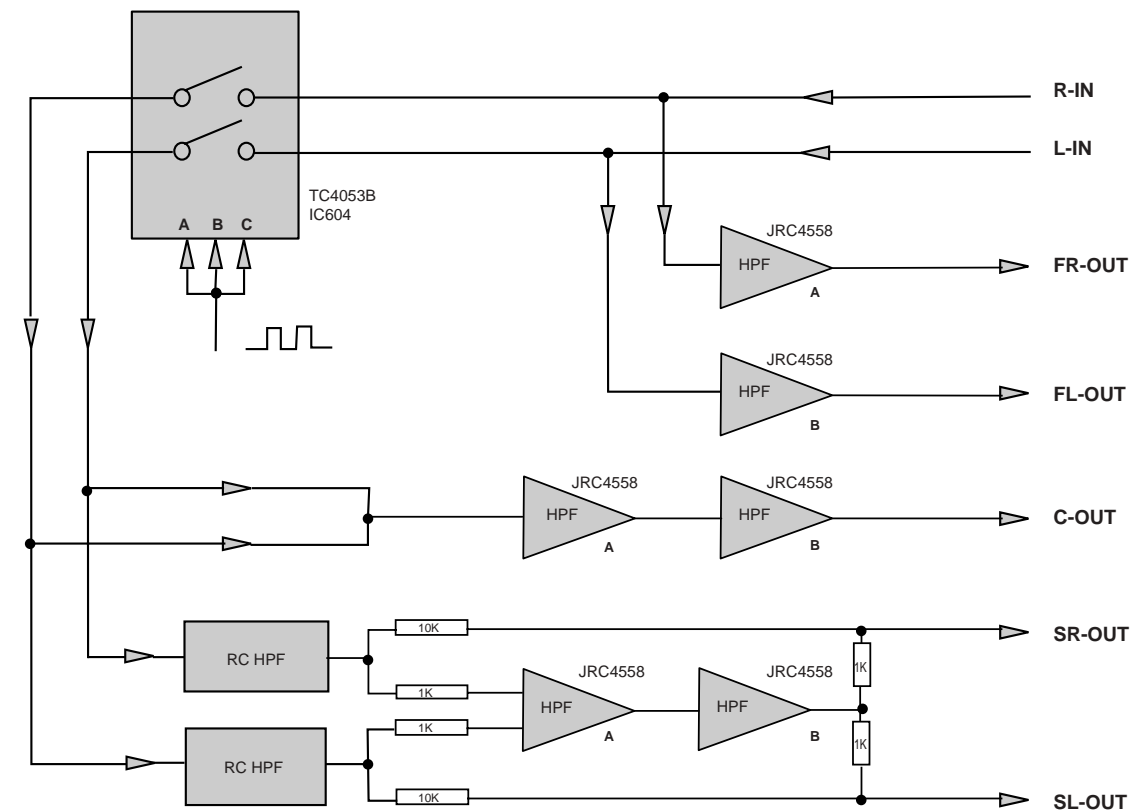


SURROUND BOARD

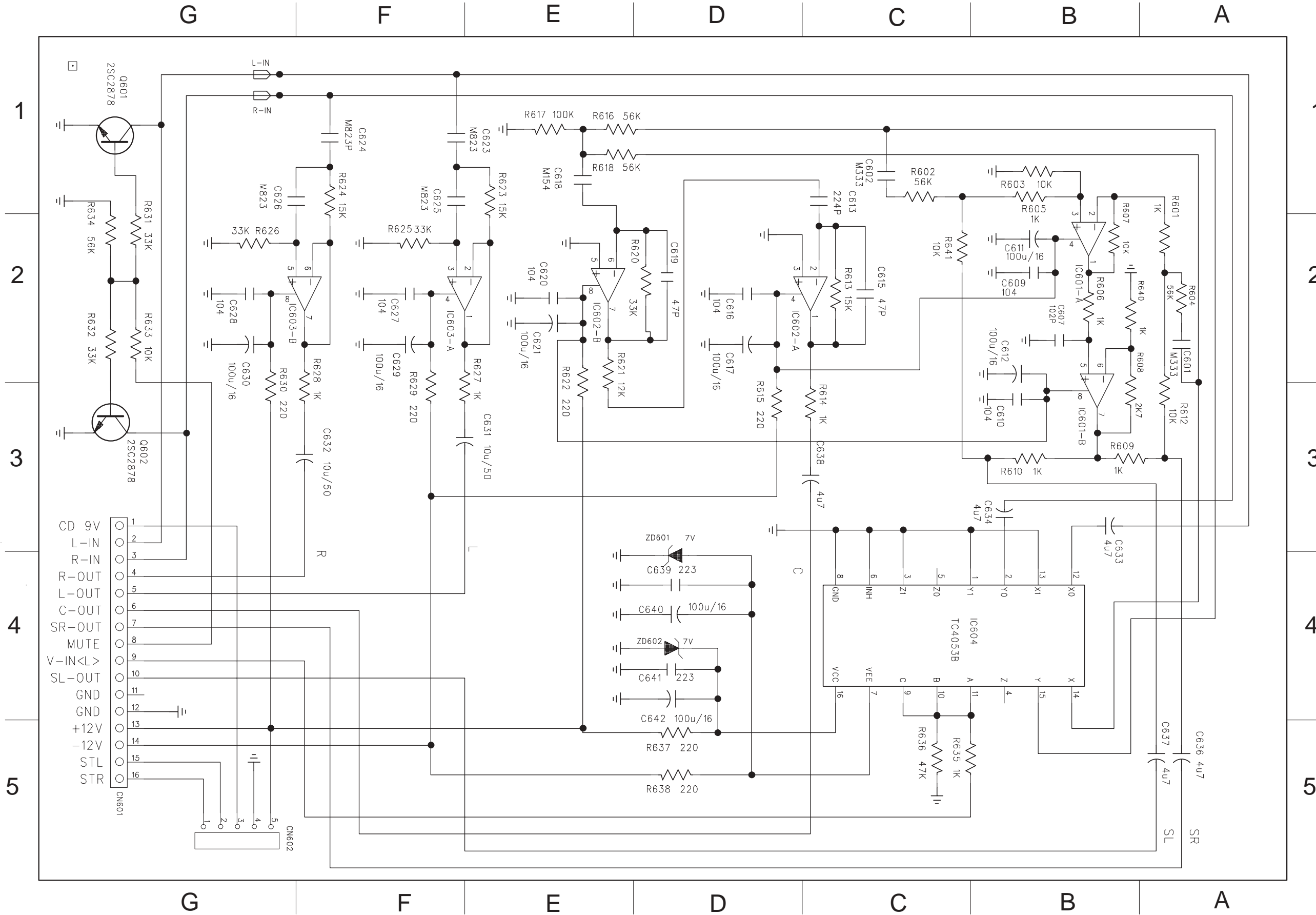
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SURROUND DIAGRAM



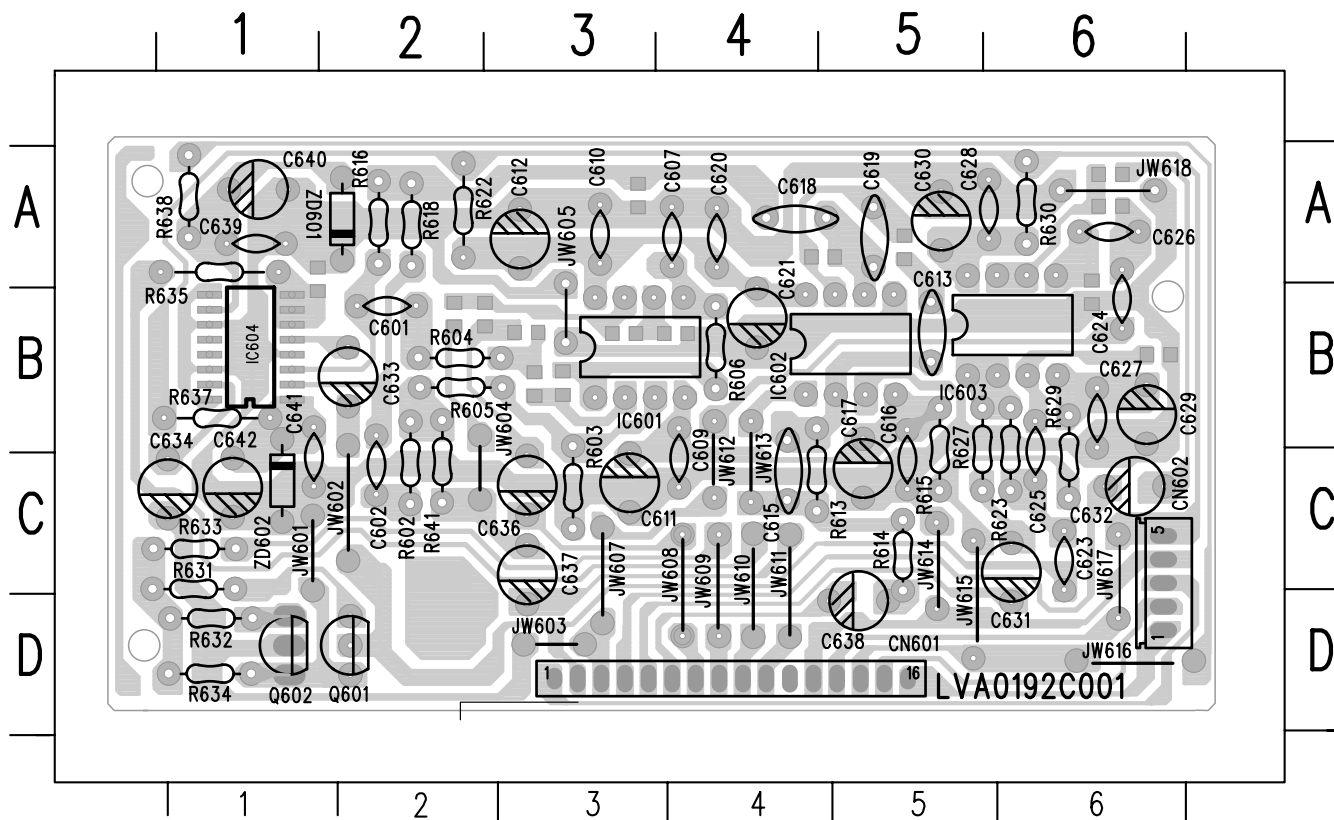
CIRCUIT DIAGRAM - SURROUND BOARD



- C601 A2
- C602 C1
- C607 B2
- C609 B2
- C610 B3
- C611 B2
- C612 B2
- C613 C1
- C615 C2
- C616 D2
- C617 D2
- C618 E1
- C619 D2
- C620 E2
- C621 E2
- C623 E1
- C624 F1
- C625 F1
- C626 G1
- C627 F2
- C628 G2
- C629 F2
- C630 G2
- C631 E3
- C632 F3
- C633 B3
- C634 B3
- C636 A5
- C637 A5
- C638 C3
- C639 D4
- C640 D4
- C641 D4
- C642 D4
- CN601 G5
- CN602 G5
- IC601 B2
- IC602 C2
- IC603 F2
- IC604 B4
- Q601 G1
- Q602 G3
- R601 A2
- R602 C1
- R603 B1
- R604 A2
- R605 B1
- R606 B2
- R607 B1
- R608 A2
- R609 A3
- R610 B3
- R612 A3
- R613 C2
- R614 C3
- R615 D3
- R616 E1
- R617 E1
- R618 E1
- R620 D2
- R621 D2
- R622 E2
- R623 E1
- R624 F1
- R625 F2
- R626 G2
- R627 E2
- R628 F2
- R629 F2
- R630 G2
- R631 G2
- R632 G2
- R633 G2
- R634 G2
- R635 B5
- R636 C5
- R637 D5
- R638 D5
- R640 A2
- R641 C2
- ZD601 D3
- ZD602 D4
- R627 E2
- R628 F2
- R629 F2
- R630 G2
- R631 G2
- R632 G2
- R633 G2
- R634 G2
- R635 B5
- R636 C5
- R637 D5
- R638 D5
- R640 A2
- R641 C2
- ZD601 D3
- ZD602 D4

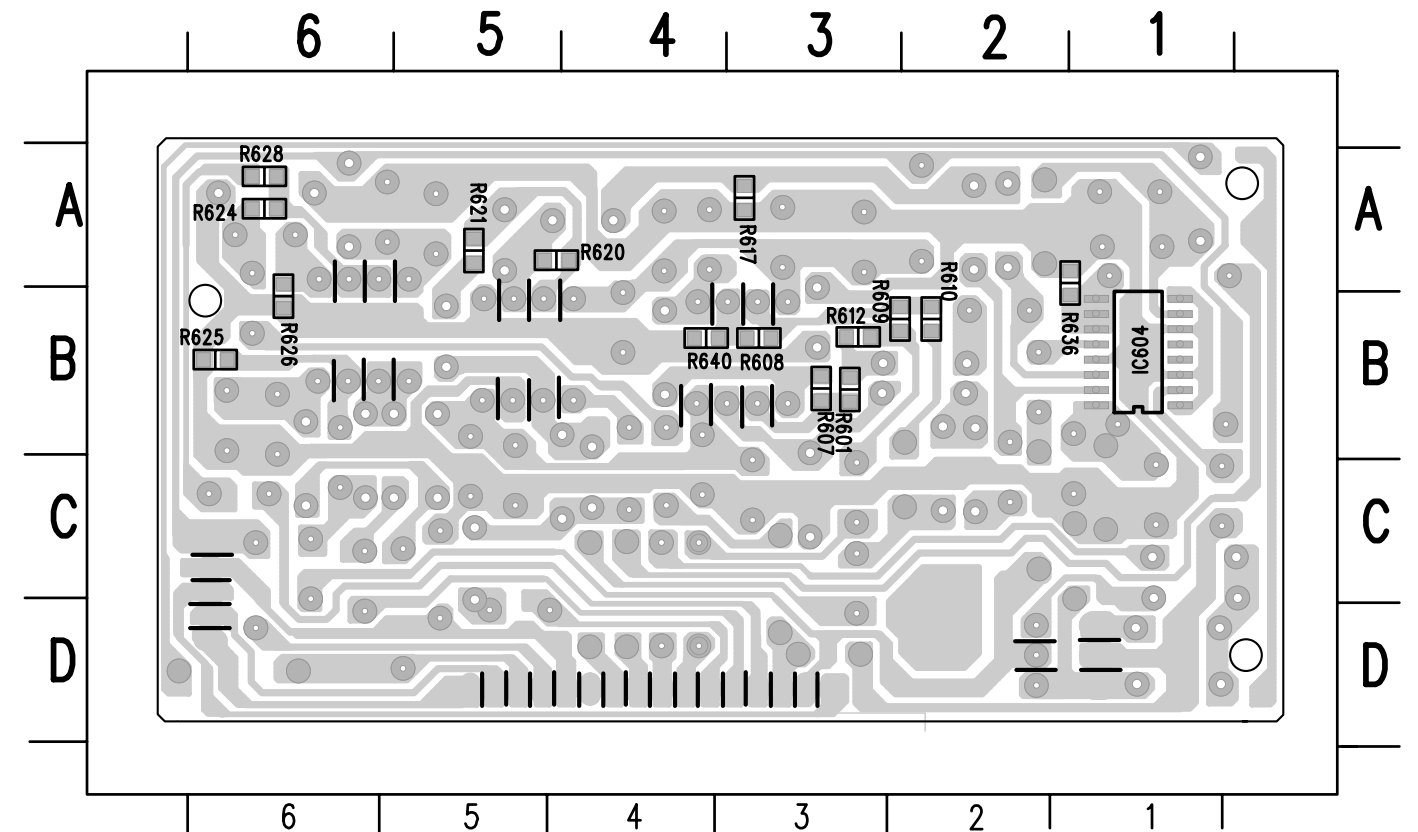
PCB LAYOUT (COMPONENT VIEW) - SURROUND BOARD

C601 B2 C612 A3 C619 A5 C626 A6 C632 C6 C639 A1 IC601 C3 JW602 C2 JW609 D4 JW615 C5 R602 C2 R614 C5 R627 C5 R635 A1
 C602 C2 C613 B5 C620 A4 C627 B6 C633 B2 C640 A1 IC602 B4 JW603 D3 JW610 D4 JW616 D6 R603 C3 R615 C5 R630 A6 R637 B1
 C607 A4 C615 C4 C621 B4 C628 A5 C634 C1 C641 C1 IC602 B4 JW604 C2 JW611 D4 JW617 C6 R604 B2 R616 A2 R631 C1 R638 A1
 C609 B4 C616 C5 C623 C6 C629 B6 C636 C3 C642 C1 IC603 B5 JW605 B3 JW612 C4 JW618 A6 R605 B2 R618 A2 R632 D1 R641 C2
 C610 A3 C617 C5 C624 B6 C630 A5 C637 C3 CN601 D5 IC604 B1 JW607 C3 JW613 C4 Q601 D2 R606 B4 R622 A2 R633 C1 ZD601 A2
 C611 C3 C618 A4 C625 C6 C631 C6 C638 D5 CN602 C6 JW601 C1 JW608 D4 JW614 C5 Q602 D1 R613 C5 R623 C6 R634 D1 ZD602 C1



PCB LAYOUT (COPPERSIDE VIEW) - SURROUND BOARD

IC604 B1 R607 B3 R609 B3 R612 B3 R620 A5 R624 A6 R626 B6 R636 A1
 R601 B3 R608 B3 R610 B2 R617 A3 R621 A5 R625 B6 R628 A6 R640 B4



ELECTRICAL PARTS LIST - SURROUND BOARD**CAPACITORS**

C601	5322 121 42489	33NF 5% 250V
C602	5322 121 42489	33NF 5% 250V
C607	9965 000 12612	0,001UF 50V +80-20%
C609	2038 554 00065	100NF +80-20% Y5V 50V
C610	2038 554 00065	100NF +80-20% Y5V 50V
C611	9965 000 12559	100UF 16V 20%
C612	9965 000 12559	100UF 16V 20%
C613	9965 000 12613	0,22UF 50V +80-20%
C615	9965 000 12614	47PF 50V 5%
C616	2038 554 00065	100NF +80-20% Y5V 50V
C617	9965 000 12559	100UF 16V 20%
C618	9965 000 12615	0,15UF 100V 5%
C619	9965 000 12614	47PF 50V 5%
C620	2038 554 00065	100NF +80-20% Y5V 50V
C621	9965 000 12559	100UF 16V 20%
C623	9965 000 12616	0,082UF 100V 5%
C624	9965 000 12616	0,082UF 100V 5%
C625	9965 000 12616	0,082UF 100V 5%
C626	9965 000 12616	0,082UF 100V 5%
C627	2038 554 00065	100NF +80-20% Y5V 50V
C628	2038 554 00065	100NF +80-20% Y5V 50V
C629	9965 000 12559	100UF 16V 20%
C630	9965 000 12559	100UF 16V 20%
C631	4822 124 40248	10UF 20% 63V
C632	4822 124 40248	10UF 20% 63V
C633	9965 000 12522	4,7UF 50V 20%
C634	9965 000 12522	4,7UF 50V 20%
C636	9965 000 12522	4,7UF 50V 20%
C637	9965 000 12522	4,7UF 50V 20%
C638	9965 000 12522	4,7UF 50V 20%
C639	4822 122 30103	22NF 80% 63V
C640	9965 000 12559	100UF 16V 20%
C641	4822 122 30103	22NF 80% 63V
C642	9965 000 12559	100UF 16V 20%

RESISTORS

R601	4822 051 20102	1K 1/10W 5%
R602	9965 000 09727	56K 1/6W 5% CF
R603	4822 050 21003	10K 1% 0,6W
R604	9965 000 09727	56K 1/6W 5% CF
R605	9965 000 12519	1K 1/6W 5% CF
R606	9965 000 12519	1K 1/6W 5% CF
R607	9965 000 12484	10K 5% 1/10W
R608	4822 117 12955	2K7 5% 1/10W
R609	4822 051 20102	1K 1/10W 5%
R610	4822 051 20102	1K 1/10W 5%
R612	9965 000 12484	10K 5% 1/10W
R613	4822 050 21503	15K 1% 0,6W
R615	9965 000 12549	220R 1/6W 5% CF
R616	9965 000 09727	56K 1/6W 5% CF
R617	4822 117 10837	100K 5% 1/10W
R618	9965 000 09727	56K 1/6W 5% CF

R620	4822 051 20333	33K 5% 1/10W
R621	9965 000 12884	12K 1/10W 5%
R622	9965 000 12549	220R 1/6W 5% CF
R623	4822 050 21503	15K 1% 0,6W
R624	4822 116 83933	15K 5% 1/10W
R625	4822 051 20333	33K 5% 1/10W
R626	4822 051 20333	33K 5% 1/10W
R627	9965 000 12519	1K 1/6W 5% CF
R628	4822 051 20102	1K 1/10W 5%
R629	9965 000 12549	220R 1/6W 5% CF
R630	9965 000 12549	220R 1/6W 5% CF
R631	4822 050 23303	33K 1% 0,6W
R632	4822 050 23303	33K 1% 0,6W
R633	4822 050 21003	10K 1% 0,6W
R634	9965 000 09727	56K 1/6W 5% CF
R635	9965 000 12519	1K 1/6W 5% CF
R636	9965 000 13180	47K 5% 1/10W
R637	9965 000 12549	220R 1/6W 5% CF
R638	9965 000 12549	220R 1/6W 5% CF
R640	4822 051 20102	1K 1/10W 5%
R641	4822 050 21003	10K 1% 0,6W

DIODES

ZD601	4822 130 80272	MTZJ7,5C
ZD602	4822 130 80272	MTZJ7,5C

TRANSISTORS & INTEGRATED CIRCUITS

IC601	4822 209 83631	NJM4558DD
IC602	4822 209 83631	NJM4558DD
IC603	4822 209 83631	NJM4558DD
IC604	9965 000 12492	TC4053BFN CHIP
Q601	4822 130 41198	2SC945P
Q602	4822 130 41198	2SC945P

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

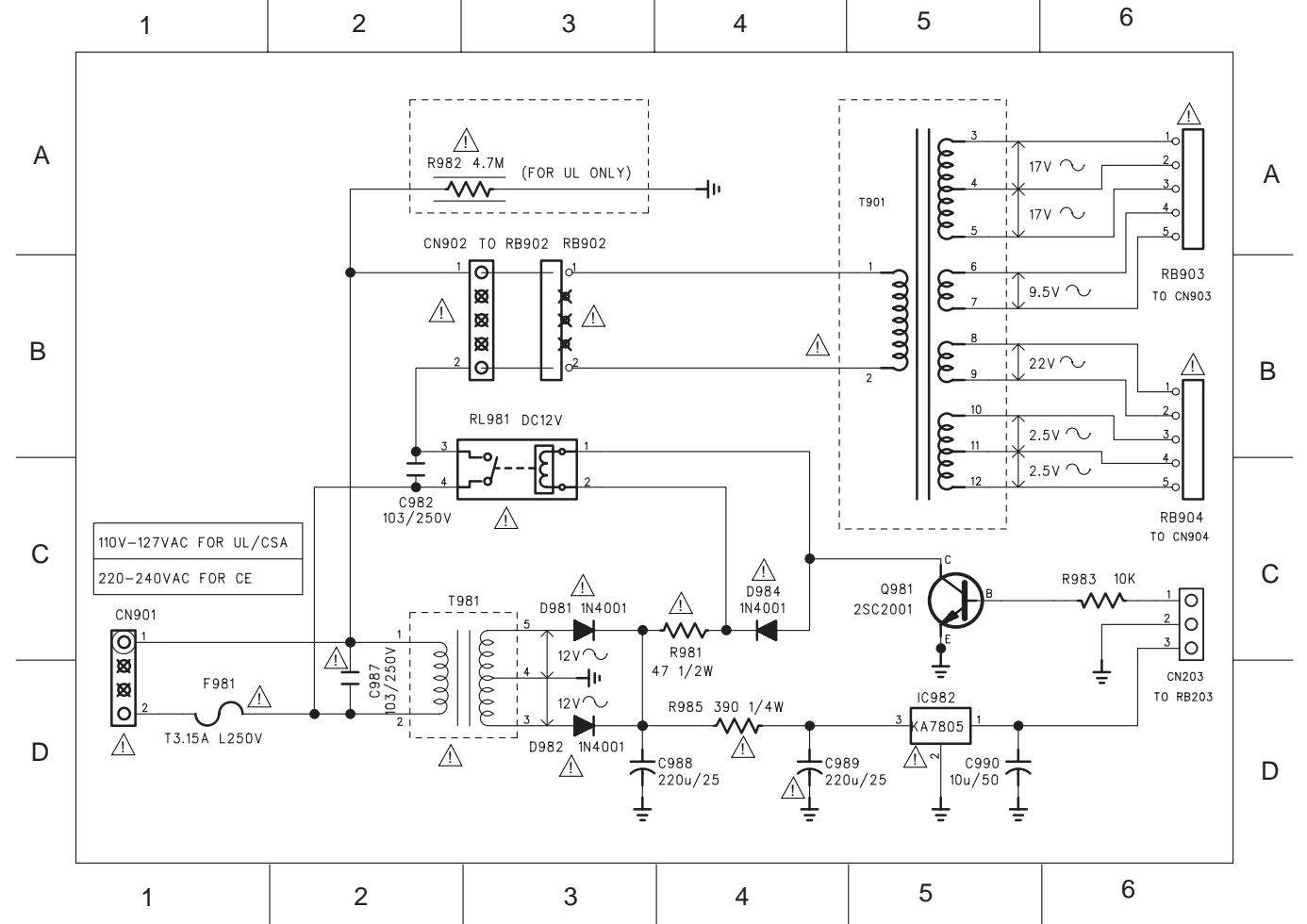
CIRCUIT DIAGRAM-POWER BOARD

POWER BOARD

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C982 C2 C988 D3 C990 D5 CN901 D1 D981 C3 D984 C4 Q981 C5 R982 A3 R985 D4 RB904 B6 T901 B5 IC982 D5
 C987 D2 C989 D4 CN203 C6 CN902 B3 D982 D3 F981 C3 R983 C6 RB903 A6 RL981 C3 T902 D3



PCB LAYOUT - POWER BOARD

ELECTRICAL PARTS LIST - POWER BOARD

MISCELLANEOUS

CN901	9965 000 12636	△	CONNECTOR 4 PIN P=3,96MM
CN902	9965 000 12601	△	CONNECTOR 5PIN P=3,96MM
F981	9965 000 12500	△	FUSE 3,15A 250V SLOW
RL981	9965 000 09708	△	RELAY GJ-SH-112DM 320R

CAPACITORS

C982	9965 000 12604	△	0,01UF 20%
C987	9965 000 12604	△	0,01UF 20%
C988	9965 000 12605	△	220UF 35V 20%
C989	9965 000 12605	△	220UF 35V 20%
C990	4822 124 40248		10UF 20% 63V

RESISTORS

R981	4822 116 52195		47R 5% 0,5W
R982	9965 000 12606	△	4,7M 1/2W 10% /21L/21R/37S
R983	4822 050 21003		10K 1% 0,6W
R985	4822 050 13901		390R 1/4W 5%

COILS & FILTERS

T902	9965 000 12602	△	TRANSFORMER 120V 60HZ (For /21L/21R/37S)
T902	9965 000 12603	△	TRANSFORMER 230V 50HZ (For /21H/21S/22S/30S)

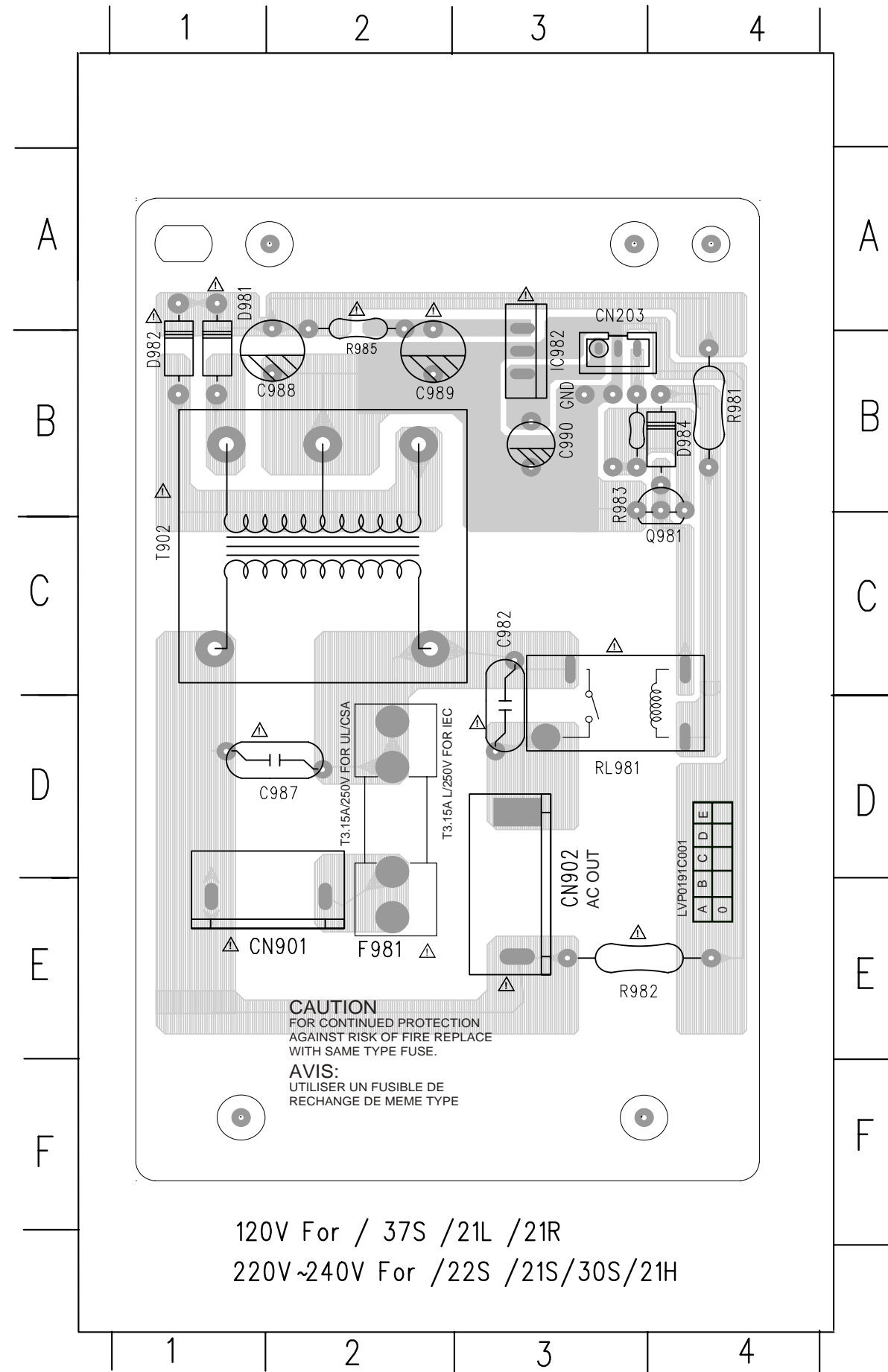
DIODES

D981	4822 130 31438		1N4001G
D982	4822 130 31438		1N4001G
D983	4822 130 31438		1N4001G
D984	4822 130 31438		1N4001G

TRANSISTORS & INTEGRATED CIRCUITS

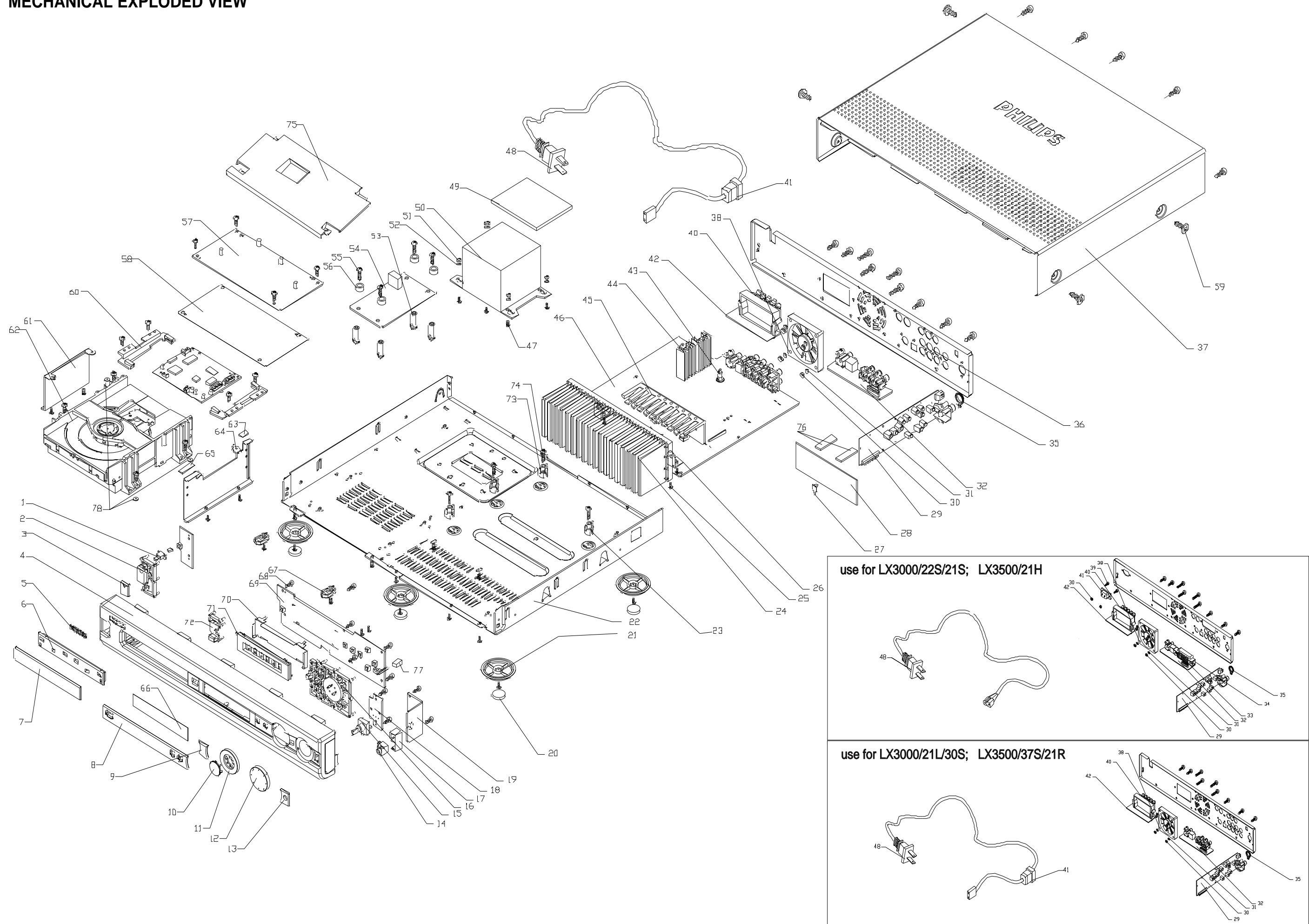
IC982	5322 209 81331		MC7805ACT
Q981	4822 130 41651		2SC2001L

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



- C982 D3
- C987 D2
- C988 B2
- C989 B2
- C990 B3
- CN203 B3
- CN901 E1
- CN902 E3
- D981 B1
- D982 B1
- D983 B3
- D984 B4
- F981 D2
- IC982 B3
- Q981 C4
- R981 B4
- R982 E3
- R983 B3
- R985 A2
- RL981 C3
- T902 B2

MECHANICAL EXPLODED VIEW



MECHANICAL & ACCESSORIES PARTS LIST - MAIN UNIT

2	9965 000 12421	POWER BASE
3	9965 000 12422	POWER LENS LX3000D
3	9965 000 12788	POWER LENS LX3500D
4	9965 000 13051	FRONT CABINET LX3000D
4	9965 000 13095	FRONT CABINET LX3500D
5	9965 000 12424	PHILIPS LOGO
6	9965 000 12425	DVD DOOR
7	9965 000 12426	DVD DOOR LENS LX3000D
7	9965 000 12811	DVD DOOR LENS LX3500D
8	9965 000 12427	MAIN LENS LX3000D
8	9965 000 12812	MAIN LENS LX3500D
9	9965 000 12428	IR LENS LX3000D
9	9965 000 12813	IR LENS LX3500D
10	9965 000 12429	PLAY COVER
11	9965 000 12430	PLAY RING LX3000D
11	9965 000 12814	PLAY RING LX3500D
12	9965 000 12431	VOLUME KNOB
13	9965 000 12432	PHONE LENS LX3000D
13	9965 000 12815	PHONE LENS LX3500D
16	9965 000 12433	PLAY BASE
20	9965 000 12436	FOOT
21	9965 000 12816	FOOT BRACKET
23	9965 000 12437	PCB BRACKET
35	9965 000 12441	HOLDER
38	9965 000 12442	FAN
41	9965 000 12817	BUSHING /21L/21R/30S/37S
41	9965 000 12443	AC SOCKET /21H/21S/22S
43	9965 000 12445	SPACER
48	9965 000 12819	MAINS CORD /21L/21R
48	9965 000 12818	MAINS CORD /37S
48	9965 000 12820	MAINS CORD /21H/21S/22S
48	9965 000 12821	MAINS CORD /30S
50	9965 000 13096	TRANSFORMER 120V /21L/21R/37S
50	9965 000 13052	TRANSFORMER 230V /21H/21S/22S/30S
53	9965 000 12449	PCB SUPPORT BOTTOM
62	9965 000 12822	DVD LOADER MODULE
72	9965 000 12454	EJECT KEY
73	9965 000 12455	PCB BRACKET
83	9965 000 13054	FLAT WIRE 26PIN 6CM
84	9965 000 13055	FLAT WIRE 16PIN 6CM
91	9965 000 13056	FLAT WIRE 28PIN 15CM
111	9965 000 13057	RCA CABLE 1P 5M
112	9965 000 13058	RCA CABLE 2P 1.2M
113	9965 000 13059	SCART CABLE 1M /22S
114	9965 000 13092	RGB CABLE 3P 1.5M EXCEPT /22S

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

SCREW LIST - MAIN UNIT

25	D3 x 8
39	M3 x 8
47	M4 x 12
55	D3 x 22
59	M3 x 6
68	D3 x 8
74	M3 x 16