

Service
Service
Service



Service Manual

PROGRESSIVE SCAN

USB
DIRECT

DVD
VIDEO

dts
Digital Surround

DOLBY
DIGITAL
PRO LOGIC II

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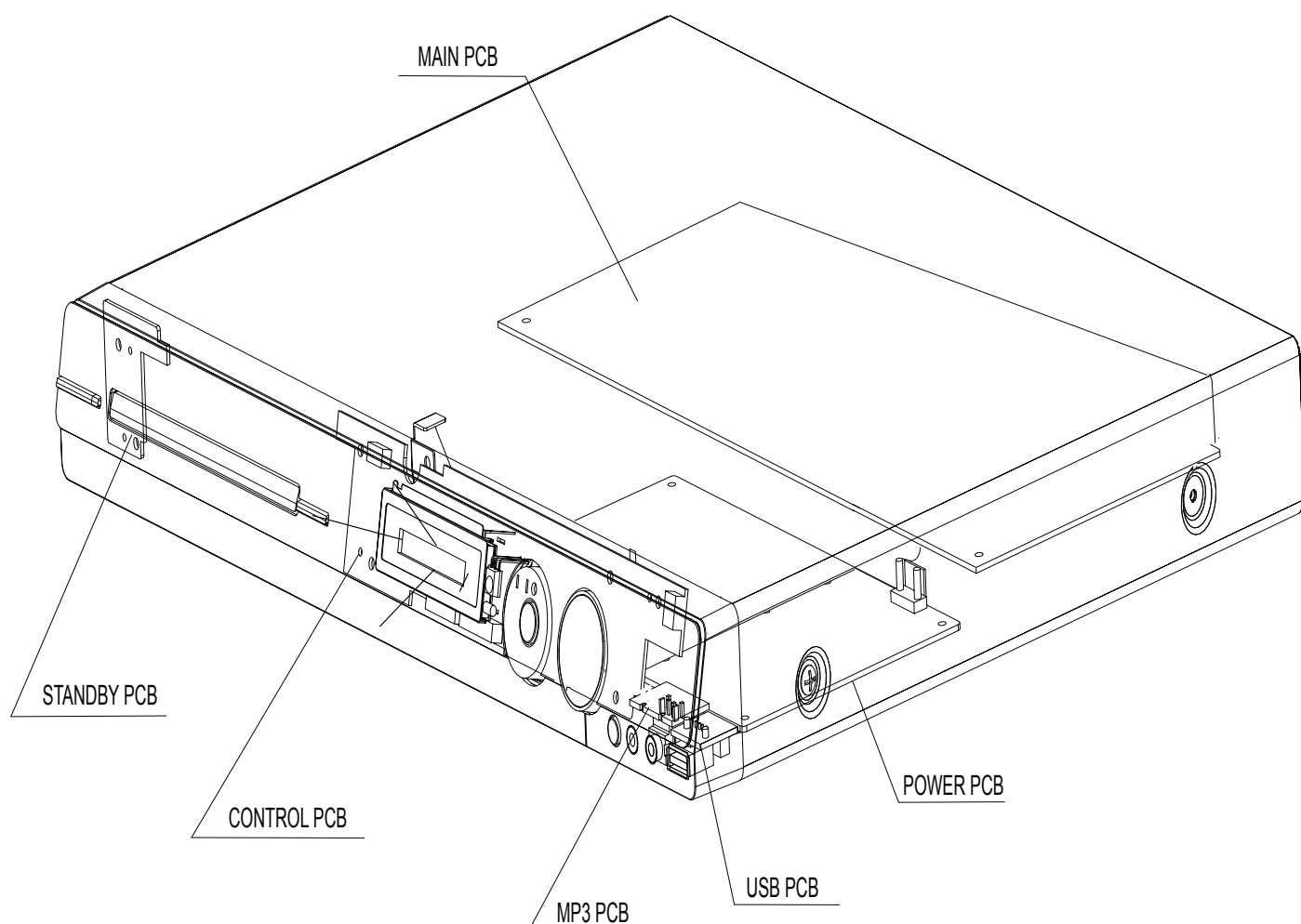
GB 3139 785 32990

Version 1.0



PHILIPS

LOCATION OF PCB BOARDS



VERSION VARIATION:

Type/Versions	HTS3345
Features & Board in used	/78
Main (Output Power-600W)	X
Composite Video Out	X
Power Voltage (120/230V)	X
AC Cord (Fix)	X

SPECIFICATIONS

AMPLIFIER

Total output power.....	600 W RMS
Frequency Response	150 Hz – 18 kHz / ± 3 dB
Signal-to-Noise Ratio.....	> 60 dB (A-weighted)
Input Sensitivity	
- AUX In	500 mV
- TV In.....	250 mV
- MP3 Line-In	500 mV

RADIO

Tuning Range.....	FM 87.5–108 MHz (50kHz)
.....	MW 531–1602 kHz (9kHz)
26 dB Quieting Sensitivity.....	FM 22 dBf, MW 5000 μ V/m
IF Rejection Ratio	FM 60 dB, MW 24 dB
Signal-to-Noise Ratio.....	FM 50 dB, MW 30 dB
AM Suppression Ratio.....	FM 30 dB
Harmonic Distortion	FM Mono 3%
.....	FM Stereo 3%
.....	MW 5%
Frequency Response	FM 180 Hz–10 kHz / ± 6 dB
Stereo Separation.....	FM 26 dB (1 kHz)
Stereo Threshold	FM 23.5 dB

DISC

Laser Type.....	Semiconductor
Disc Diametre.....	12cm / 8cm
Video Decoding	MPEG-1 / MPEG-2 / DivX 3/4/5/6, Ultra
Video DAC.....	12 Bits
Signal System.....	PAL / NTSC
Video Format.....	4:3 / 16:9
Video S/N	56 dB (minimum)
Audio DAC.....	24 Bits / 96 kHz
Composite Video Output	1.0 Vp-p, 75 Ω
S-Video Output.....	Y - 1.0 Vp-p, 75 Ω C - 0.286 Vp-p, 75 Ω
Frequency Response	4 Hz–20 kHz (44.1 kHz)
.....	4 Hz–22 kHz (48 kHz)
.....	4 Hz–44 kHz (96 kHz)
PCM.....	IEC 60958
Dolby Digital	IEC 60958, IEC 61937
DTS	IEC 60958, IEC 61937

MAIN UNIT

Power Supply Rating	220~240 V; 50 Hz
Power Consumption	100 W
Dimensions.....	340.4 x 48.5 x 435 (mm) (w x h x d)
Weight	4.04 kg

FRONT AND REAR SPEAKERS

System.....	Full range
Impedance.....	3 Ω
Speaker drivers	3" full range speaker
Frequency response.....	120 Hz – 20 kHz
Dimensions.....	95.6 x 198.3 x 75 (mm) (w x h x d)
Weight	0.62 kg/each

REAR SPEAKERS

System.....	Full range satellite
Impedance.....	3 Ω
Speaker drivers	3" full range speaker
Frequency response.....	120 Hz – 20 kHz
Dimensions.....	95 x 118.4 x 73.7 (mm) (w x h x d)
Weight	5.99 kg/each

CENTRE SPEAKER

System.....	2-way satellite
Impedance.....	6 Ω
Speaker drivers	2 x 2.5" full range speaker+ 2" tweeter
Frequency response.....	120 Hz – 20 kHz
Dimensions.....	435 x 93.5 x 67 (mm) (w x h x d)
Weight	1.34 kg

SUBWOOFER

Impedance.....	6 Ω
Speaker drivers	203 mm (8") woofer
Frequency response.....	40 Hz – 120 Hz
Dimensions.....	159.5 x 355.5 x 370 (mm) (w x h x d)
Weight	4.75 kg

Specifications subject to change without prior notice.

SERVICE AIDS

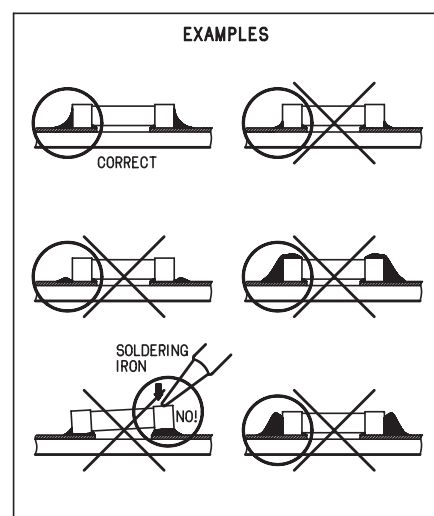
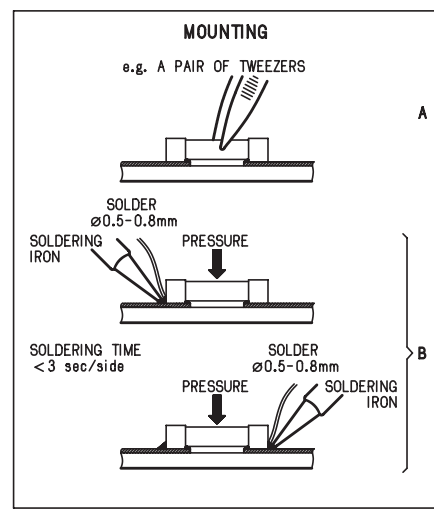
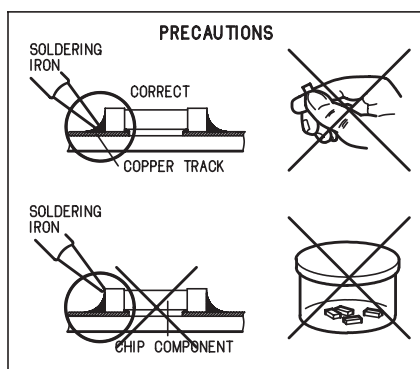
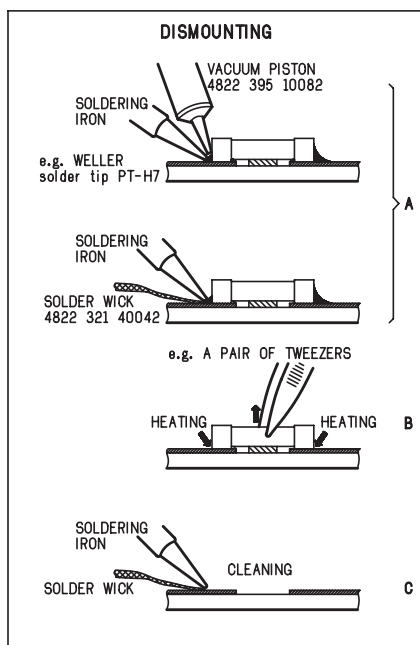
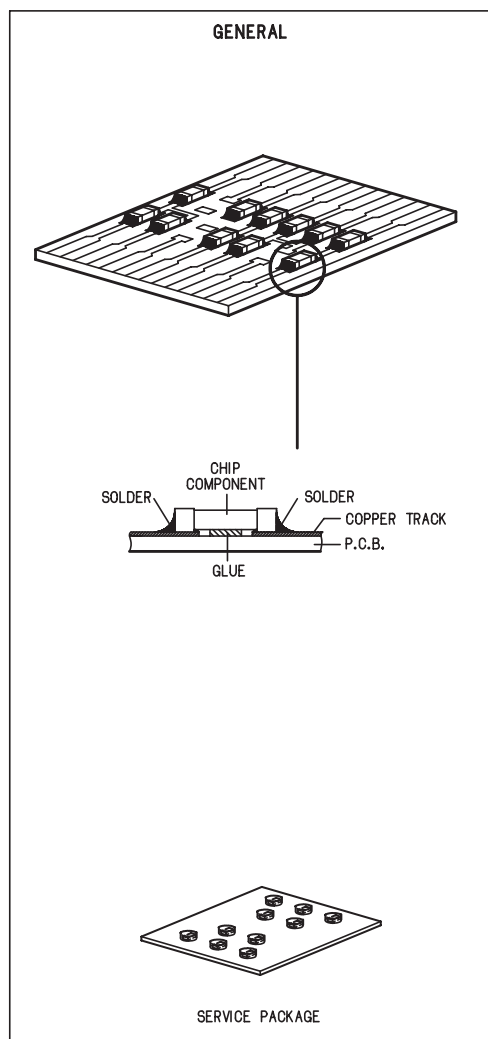
Service Tools:

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

Compact Disc:

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

HANDLING CHIP COMPONENTS



(GB) WARNING

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

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

(F) ATTENTION

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD). Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation.

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

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

(D) WARNUNG

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD). Unsorgfältige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren. Veranlassen Sie, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand verbunden sind mit dem gleichen Potential wie die Masse des Gerätes.

Bauteile und Hilfsmittel auch auf dieses gleiche Potential halten.

(NL) WAARSCHUWING

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD). Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen. Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.

Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

(I) AVVERTIMENTO

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD). La loro longevità potrebbe essere fortemente ridatta in caso di non osservazione della più grande cauzione alla loro manipolazione. Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza.

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

(GB) ESD PROTECTION EQUIPMENT

Complete Kit ESD3 (small tablemat, wristband, connection box, estention cable and earth cable4822 310 10671
Wristband tester4822 344 13999

(GB)

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

Safety components are marked by the symbol Δ .

(NL)

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

De Veiligheidsonderdelen zijn aangeduid met het symbol Δ .

(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.

Less composants de sécurité sont marqués Δ .

(D)

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

Sicherheitsbauteile sind durch das Symbol Δ markiert.

(I)

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

Componenti di sicurezza sono marcati con Δ .

(GB)

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

ESD**(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 suojalukituksen ohitettaessa olet alttiina näkymättömälle laserisäteilylle. Älä katso säteeseen!

(DK) Advarsel !

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

(F)

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

Pb(Lead) Free Solder

When soldering, be sure to use the pb free solder.

IDENTIFICATION:

Regardless of special logo (not always indicated)



one must treat all sets from **1 Jan 2005** onwards, according next rules:

Important note: In fact also products of year 2004 must be treated in this way as long as you avoid mixing solder-alloys (lead-free). So best to always use SAC305 and the higher temperatures belong to this.

Due to lead-free technology some rules have to be respected by the workshop during a repair:

- Use only lead-free solder alloy Philips SAC305 with order code 0622 149 00106. If lead-free solder-paste is required, please contact the manufacturer of your solder-equipment. In general use of solder-paste within workshops should be avoided because paste is not easy to store and to handle.
- Use only adequate solder tools applicable for lead-free solder alloy. The solder tool must be able
 - To reach at least a solder-temperature of 400°C,
 - To stabilize the adjusted temperature at the solder-tip
 - To exchange solder-tips for different applications.
- Adjust your solder tool so that a temperature around 360°C – 380°C is reached and stabilized at the solder joint. Heating-time of the solder-joint should not exceed ~ 4 sec. Avoid temperatures above 400°C otherwise wear-out of tips will rise drastically and flux-fluid will be destroyed. To avoid wear-out of tips switch off unused equipment, or reduce heat.
- Mix of lead-free solder alloy / parts with leaded solder alloy / parts is possible but PHILIPS recommends strongly to avoid mixed solder alloy types (leaded and lead-free).

If one cannot avoid or does not know whether product is lead-free, clean carefully the solder-joint from old solder alloy and re-solder with new solder alloy (SAC305).

- Use only original spare-parts listed in the Service-Manuals. Not listed standard-material (commodities) has to be purchased at external companies.
- Special information for BGA-ICs:
 - Always use the 12nc-recognizable soldering temperature profile of the specific BGA (for de-soldering always use the lead-free temperature profile, in case of doubt)
 - Lead free BGA-ICs will be delivered in so-called 'dry-packaging' (sealed pack including a silica gel pack) to protect the IC against moisture. After opening,

dependent of MSL-level seen on indicator-label in the bag, the BGA-IC possibly still has to be baked dry. (MSL=Moisture Sensitivity Level). This will be communicated via AYS-website.

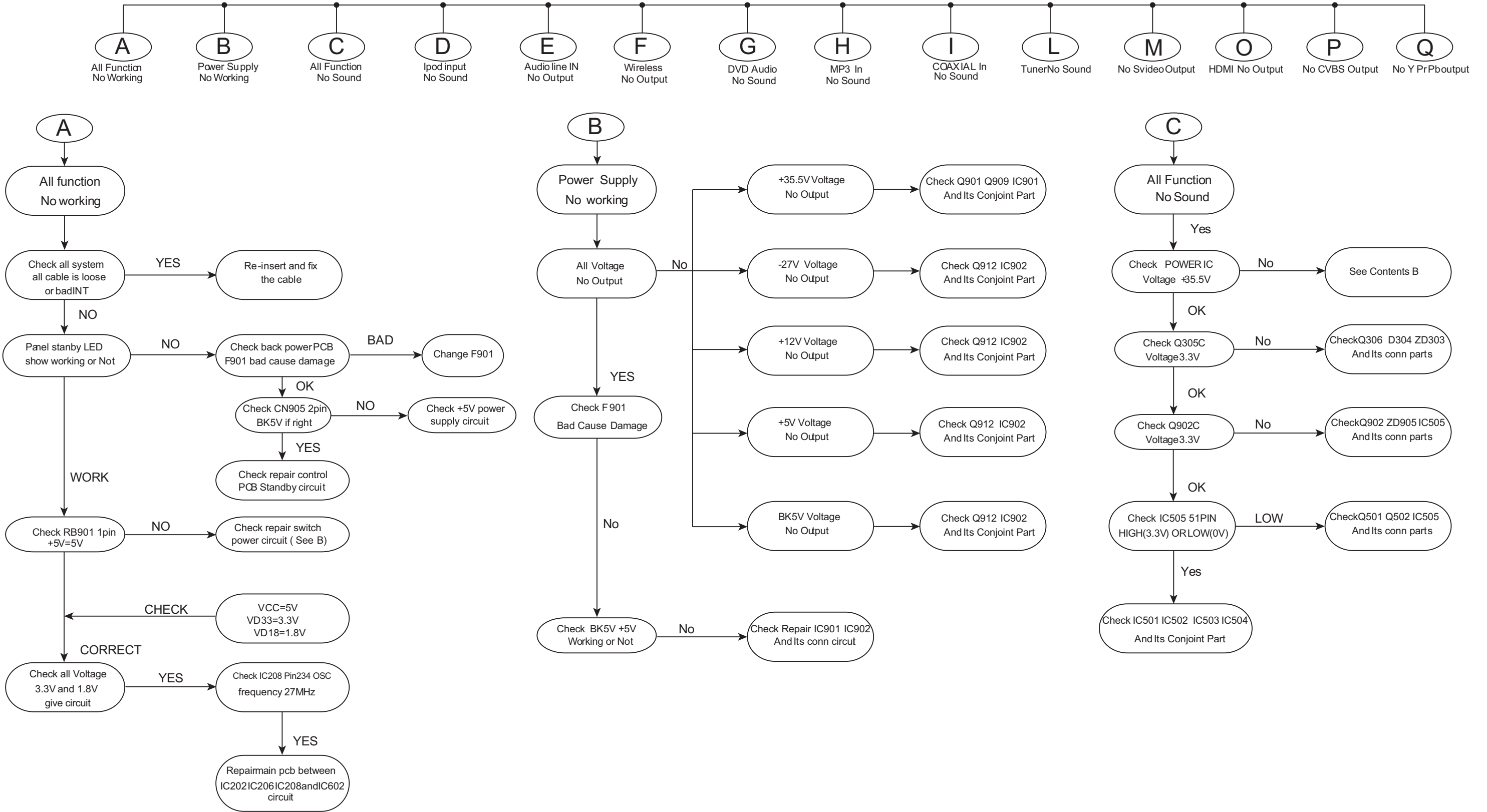
Do not re-use BGAs at all.

- For sets produced before 1.1.2005 (except products of 2004), containing leaded solder-alloy and components, all needed spare-parts will be available till the end of the service-period. For repair of such sets nothing changes.
- On our website www.atyourservice.ce.Philips.com you find more information to:
 - BGA-de-/soldering (+ baking instructions)
 - Heating-profiles of BGAs and other ICs used in Philips-sets

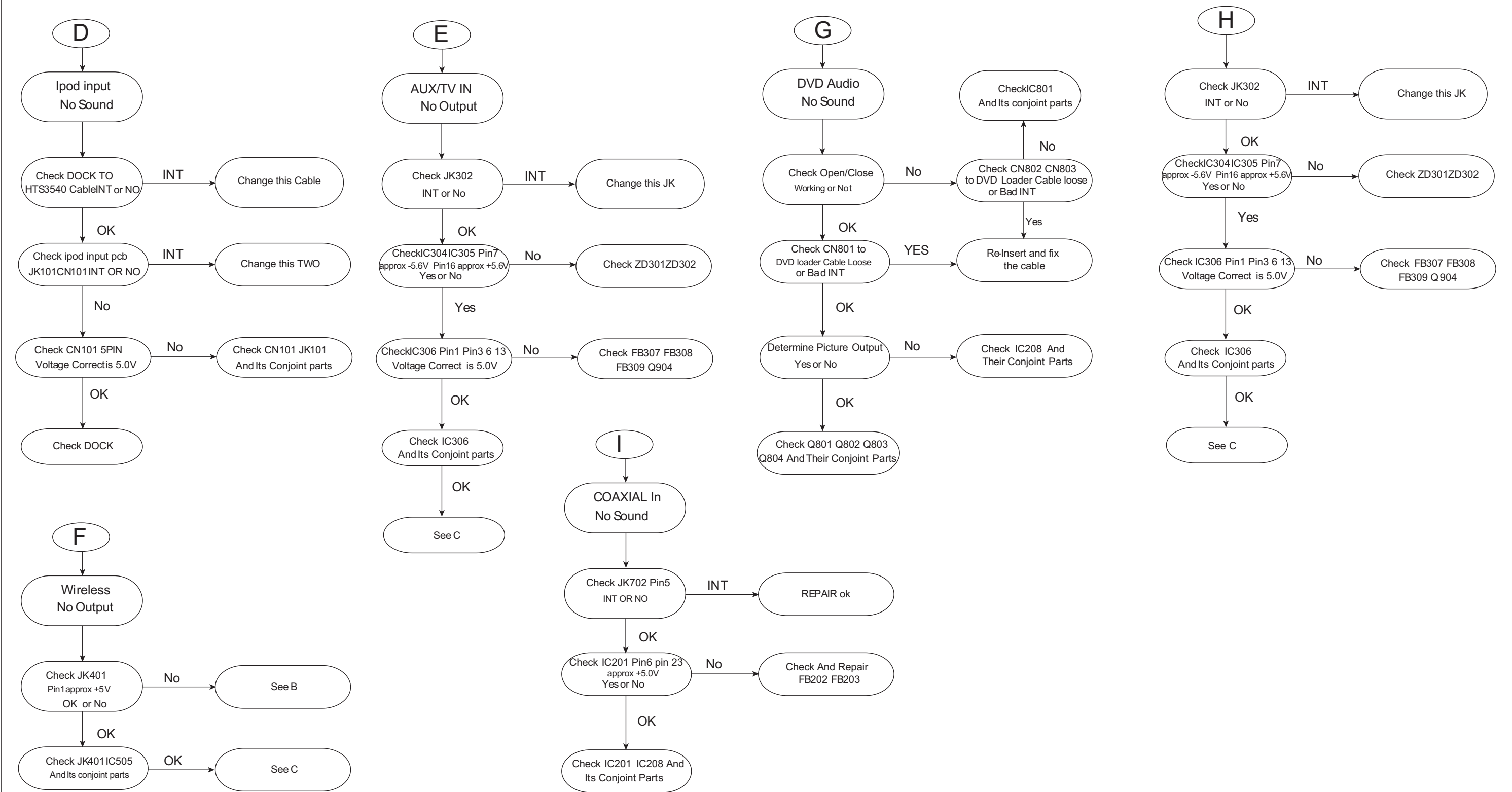
You will find this and more technical information within the "magazine", chapter "workshop news".

For additional questions please contact your local repair-helpdesk.

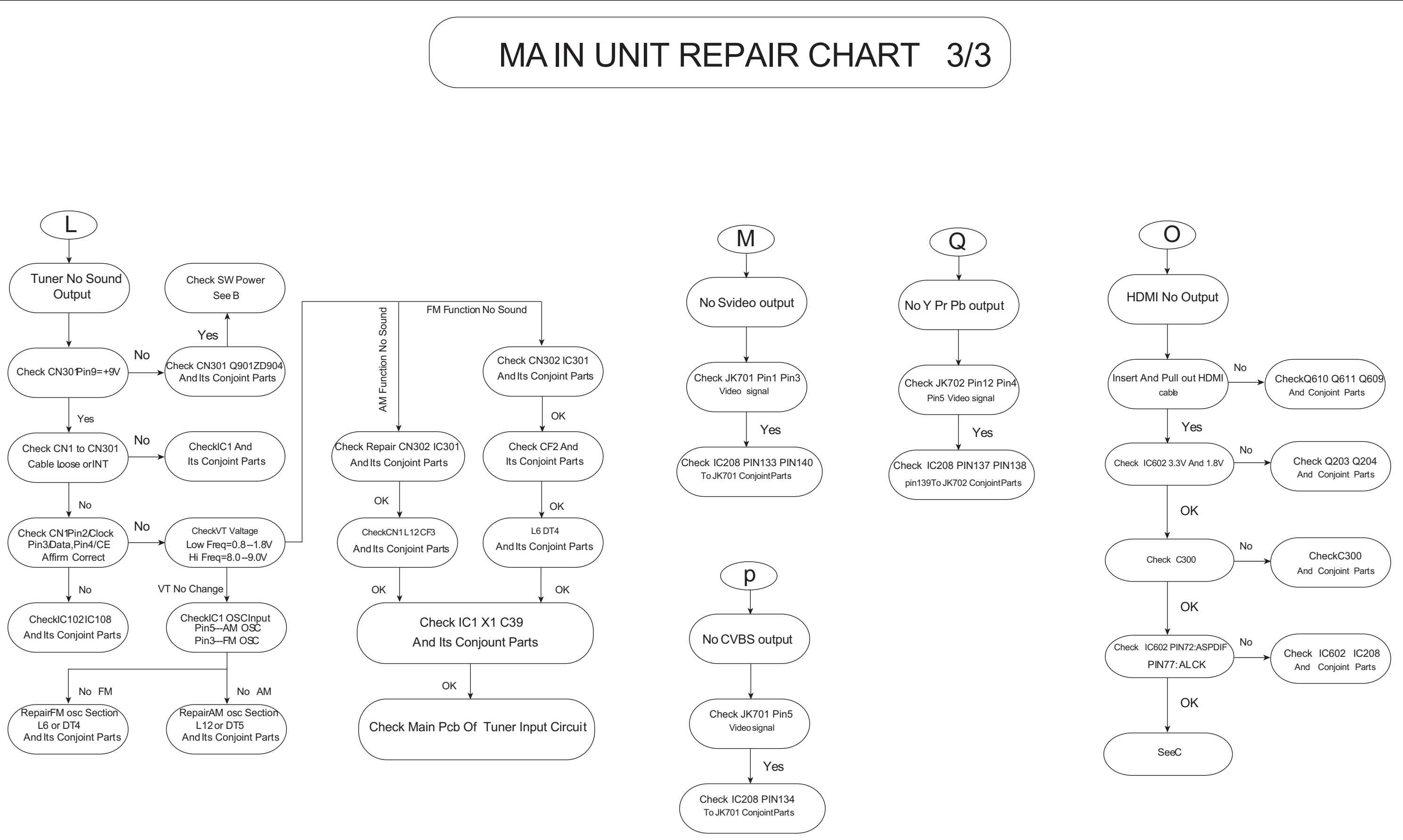
MAIN UNIT REPAIR CHART 1/ 3



MAIN UNIT REPAIR CHART 2/3



MAIN UNIT REPAIR CHART 3/3



DISASSEMBLY INSTRUCTIONS

Dismantling of the Front Panel 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.

Take a mini screw driver about 2mm diameter and make a marking 24mm from the tip as shown in figure 2 . Place the set on its side, insert the mini screw driver till the marking and slide it towards the right as shown in figure 1 until the Tray moves out of the Front Panel.

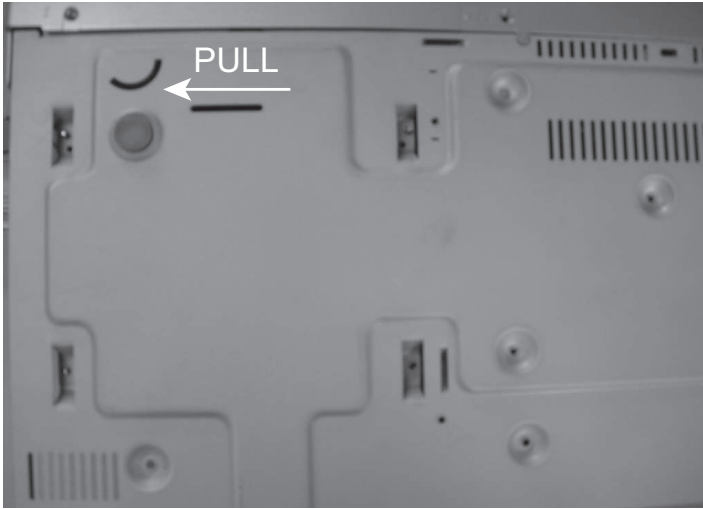


Figure 1



Figure 2

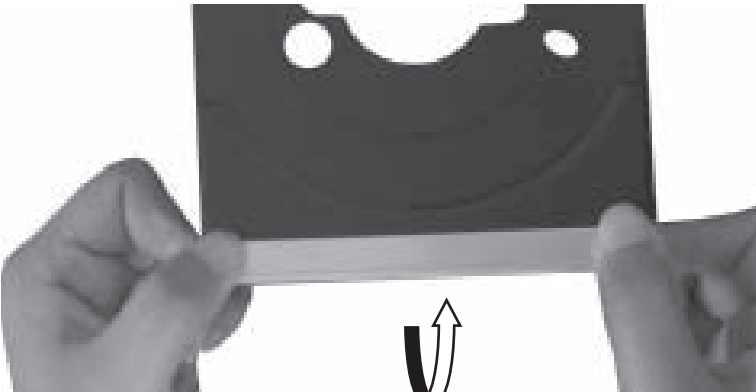


Figure 3

3 - 1

- 2) Return the set to its upright position and remove the Tray Cover as shown in Figure 3 and close the tray manually by pushing it back in.
- 3) Loosen 5 screws and remove the Top Cover by lifting the rear portion upwards before sliding it out towards the rear.
- 3 screws on the back
 - 1 screws each on the left & right side
- 4) Loosen 5 screws & lift up the top edge of Front Panel assembly to free some catches before sliding it out towards the front.
- 3 screws on the bottom
 - 1 screw each on the left & right side

Dismantling of the Main PCB

- 2) Loosen 3 screws “ A “ on the top of main board as shown in figure 4.
- 1) Loosen 6 screws “B” at the back panel as shown in figure 5.

3 - 1

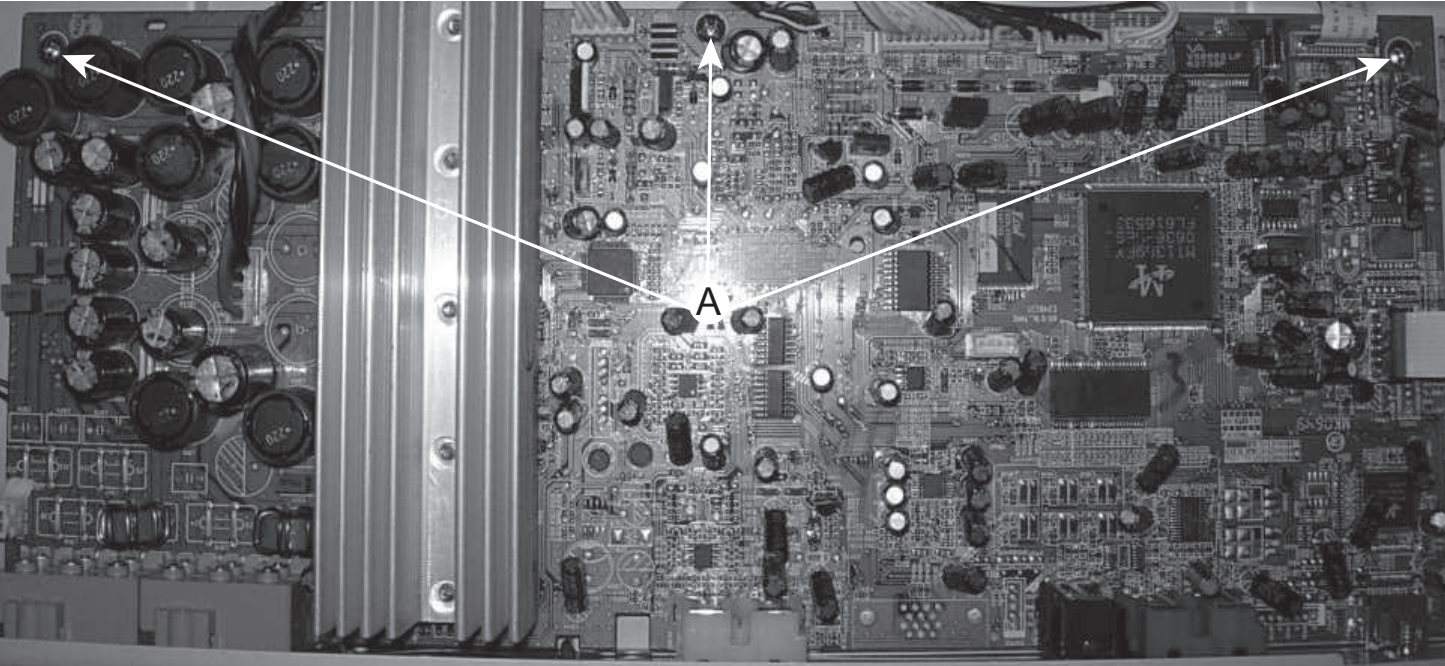


Figure 4

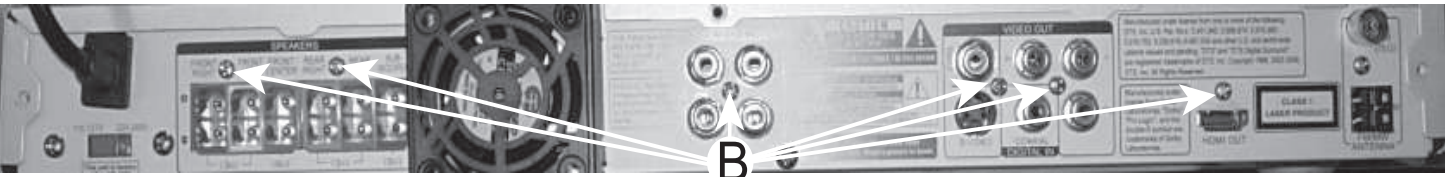


Figure 5

Dismantling of the Control Board

3 - 2

- 1) Loosen 10 screws “C” on the top of control board as shown in figure 6

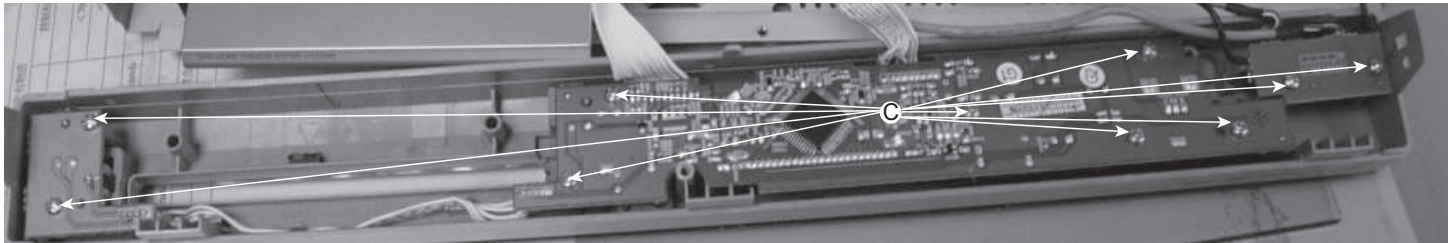


Figure 6

Dismantling of the Power Board

- 1) Loosen 5 screws “D” on the top of the Power Board as shown in figure 7

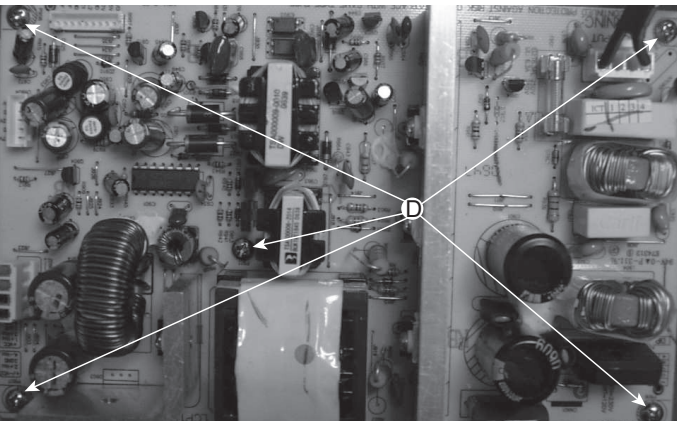


Figure 7

Dismantling of the DVD Module

- 1) Loosen 4 screws “E” to remove the DVD Module as shown in figure 8.

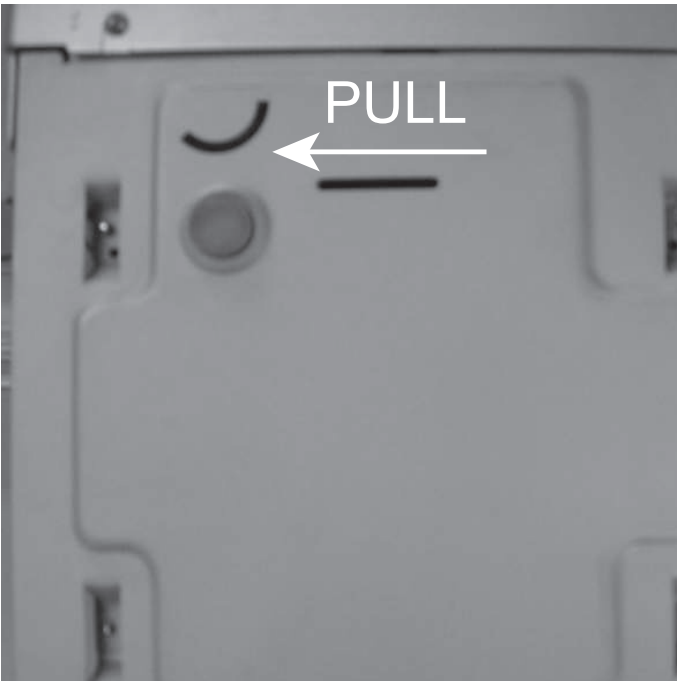
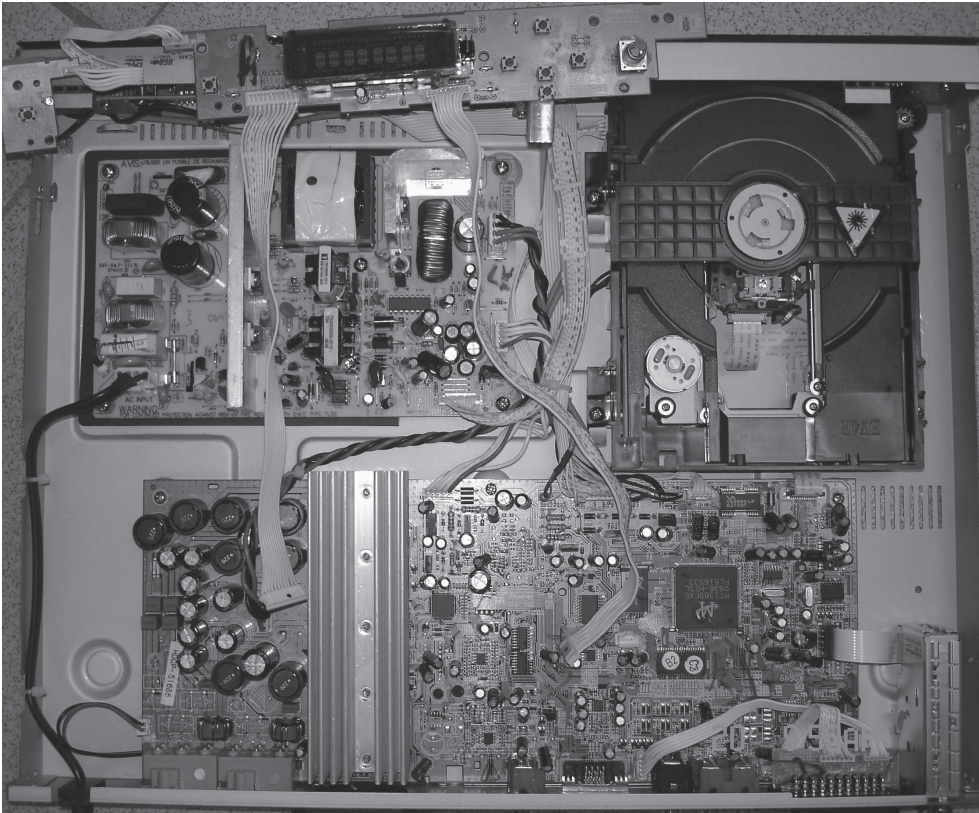


Figure 8

SERVICE POSITIONS

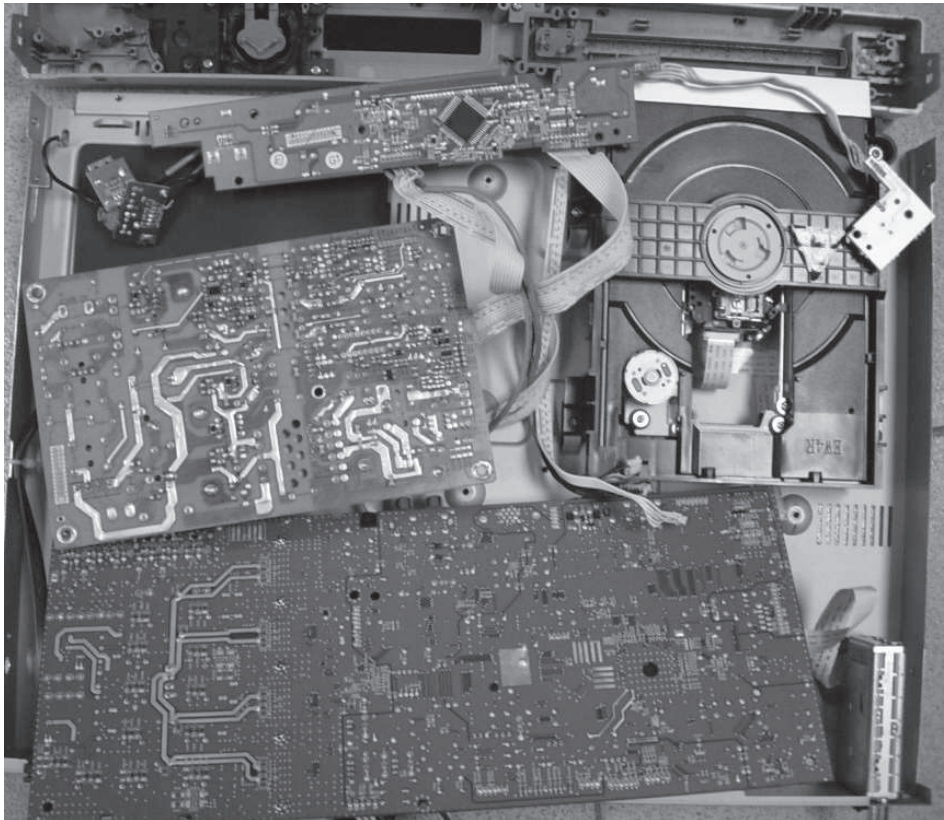
3 - 2

Service position A



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.

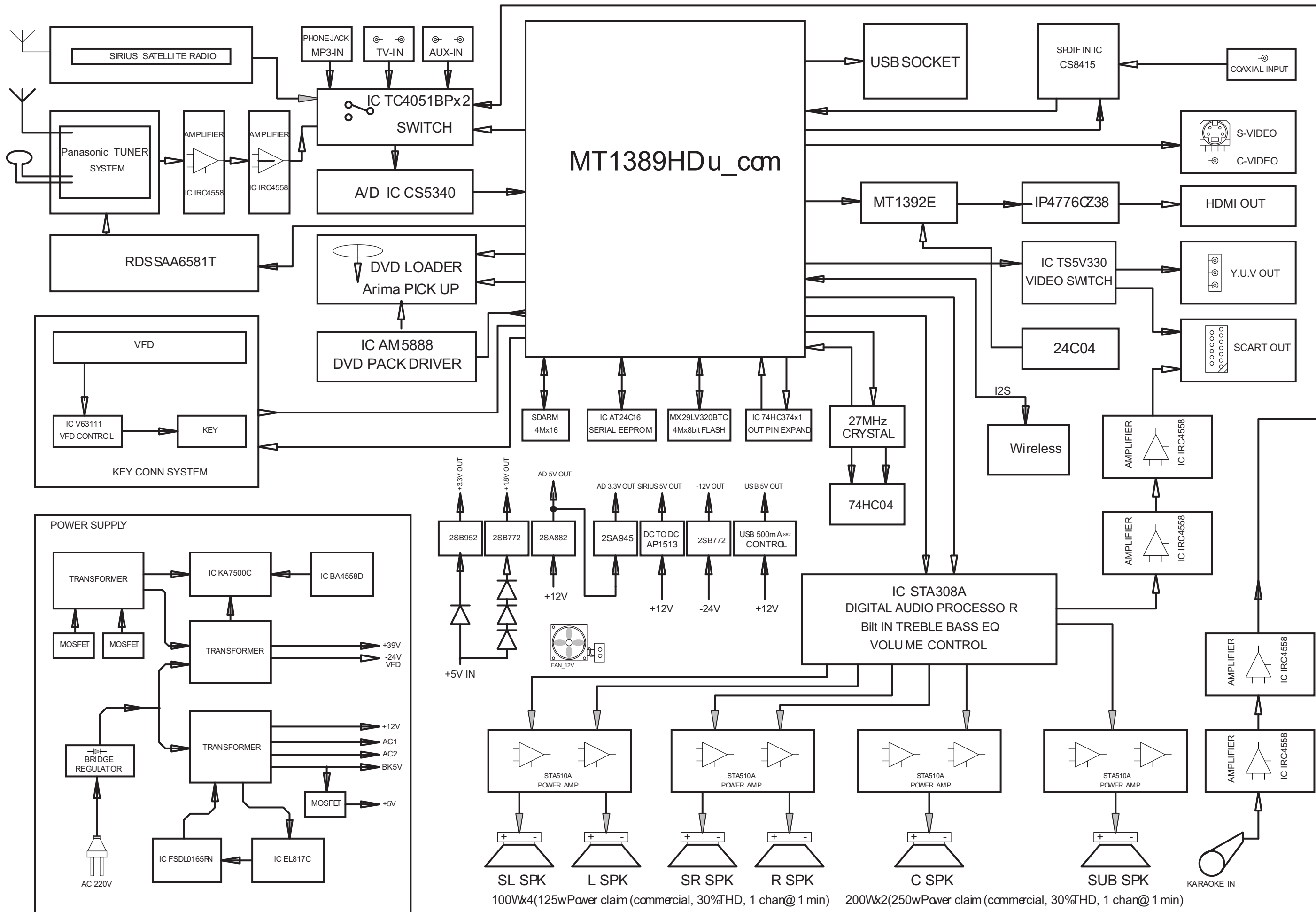
Service position B



BLOCK DIAGRAM

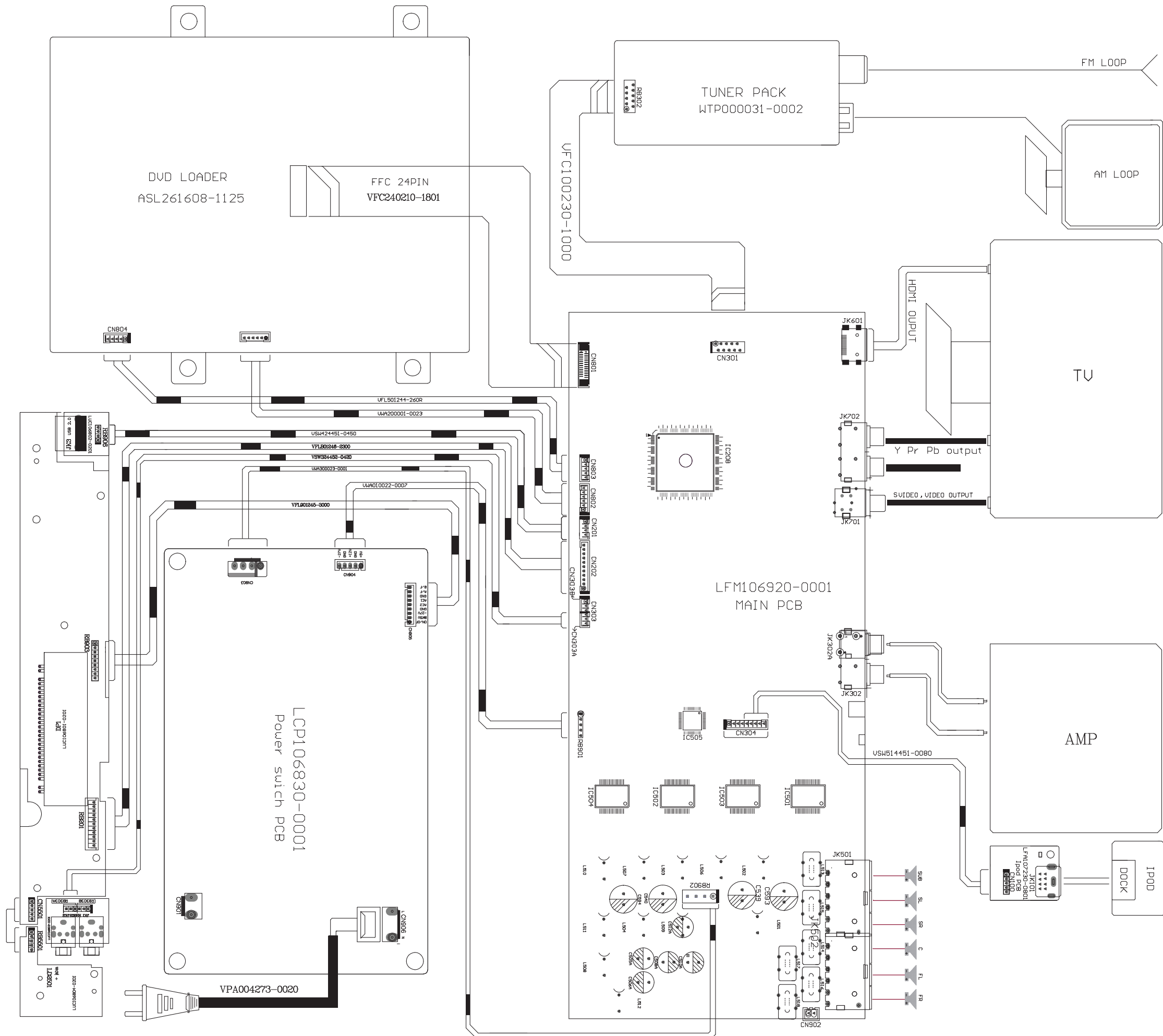
4 - 1

4 - 1



WIRING DIAGRAM

4 - 2



4 - 2

CONTROL BOARD

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FTD Display Pin Assignment.....

5-1

Voltage

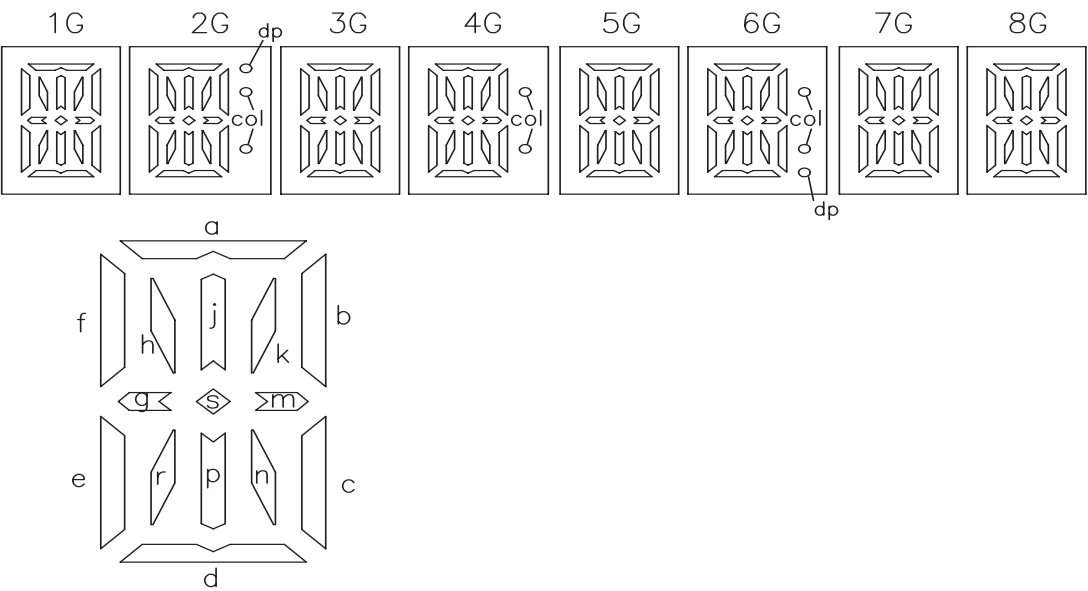
5-2

Circuit Diagram.....

5-3

PCB Layout Top & Bottom View.....

5-4



	1G	2G	3G	4G	5G	6G	7G	8G
P1	a	a	a	a	a	a	a	a
P2	j, p	j, p	j, p	j, p	j, p	j, p	j, p	j, p
P3	h	h	h	h	h	h	h	h
P4	k	k	k	k	k	k	k	k
P5	b	b	b	b	b	b	b	b
P6	f	f	f	f	f	f	f	f
P7	m	m	m	m	m	m	m	m
P8	g	g	g	g	g	g	g	g
P9	c	c	c	c	c	c	c	c
P10	e	e	e	e	e	e	e	e
P11	r	r	r	r	r	r	r	r
P12	n	n	n	n	n	n	n	n
P13	d	d	d	d	d	d	d	d
P14	—	dp	—	col	—	col	—	—
P15	s	s	s	s	s	s	s	s
P16	—	col	—	—	—	dp	—	—

PIN CONNECTION

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CONNECTION	F	F	NP	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12
PIN NO.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
CONNECTION	P13	P14	P15	P16	1G	2G	3G	4G	5G	6G	7G	8G	NP	F	F

Note : F: Filament P: Anode G: Grid NP: No pin

VOLTAGE

IC251																				
Pin NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Voltage	4.70	-23.00	-26.00	-23.00	-23.00	-21.00	-21.00	-23.00	-23.00	-21.00	-21.00	-23.00	-23.00	-23.00	-26.00	-21.00	-26.00	-26.00	-23.00	4.70
Pin NO	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Voltage	-26.00	-23.00	-23.00	-22.00	-22.00	-24.00	-24.00	-24.00	-24.00	-24.00	-24.00	4.70	4.70	0.00	0.00	0.00	4.70	0.00	2.30	2.30
Pin NO	41	42	43	44	45	46	47	48	49	50	51	52								
Voltage	4.70	0.00	4.00	3.20	0.00	0.00	3.20	3.20	0.00	0.00	0.00	0.00								

Q2501			
Pin NO	b	c	e
Voltage	4.10	0.00	3.60

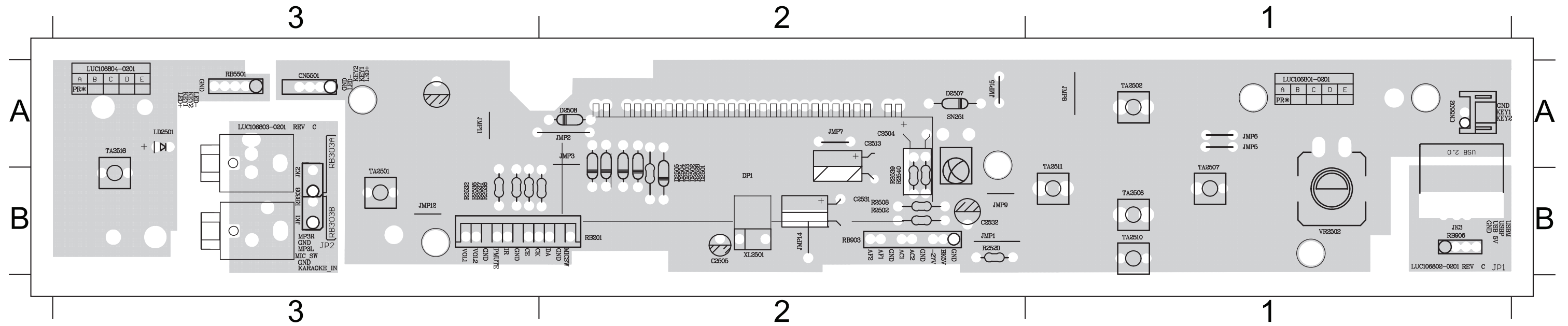
Q2502			
Pin NO	b	c	e
Voltage	4.30	4.10	3.70

5 - 3



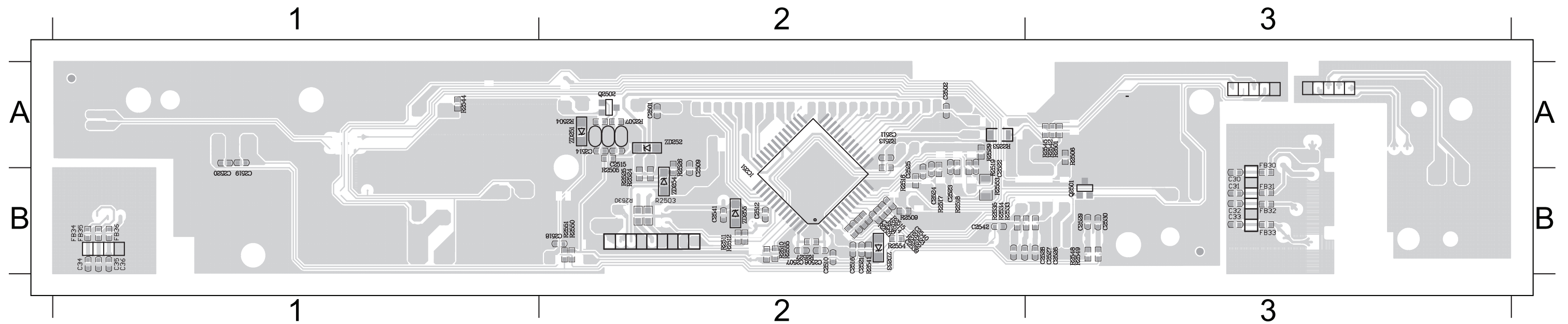
PCB LAYOUT - TOP VIEW

C2504	A2	C2531	B2	D2504	B2	DP1	B2	JMP1	B2	JMP14	B2	JMP3	A2	JMP7	A2	JP1	B1	R2502	B2	R2528	B2	R2540	B2	RB5501	A3	SN251	A2	TA2506	B1	TA2511	B1	XL2501	B2
C2505	B2	D2501	B2	D2507	A2	JK2	B3	JMP11	A3	JMP15	A2	JMP5	A1	JMP8	A1	JP2	B3	R2508	B2	R2532	B3	RB201	B2	RB903	B2	TA2501	A3	TA2507	B1	TA2516	A3		
C2513	A2	D2503	B2	D2508	A2	JK3	B1	JMP12	B3	JMP2	A2	JMP6	A1	JMP9	B2	LD2501	A3	R2520	B2	R2539	B2	RB303A	B3	RB906	B1	TA2502	A1	TA2510	B1	VR2502	B1		



PCB LAYOUT - BOTTOM VIEW

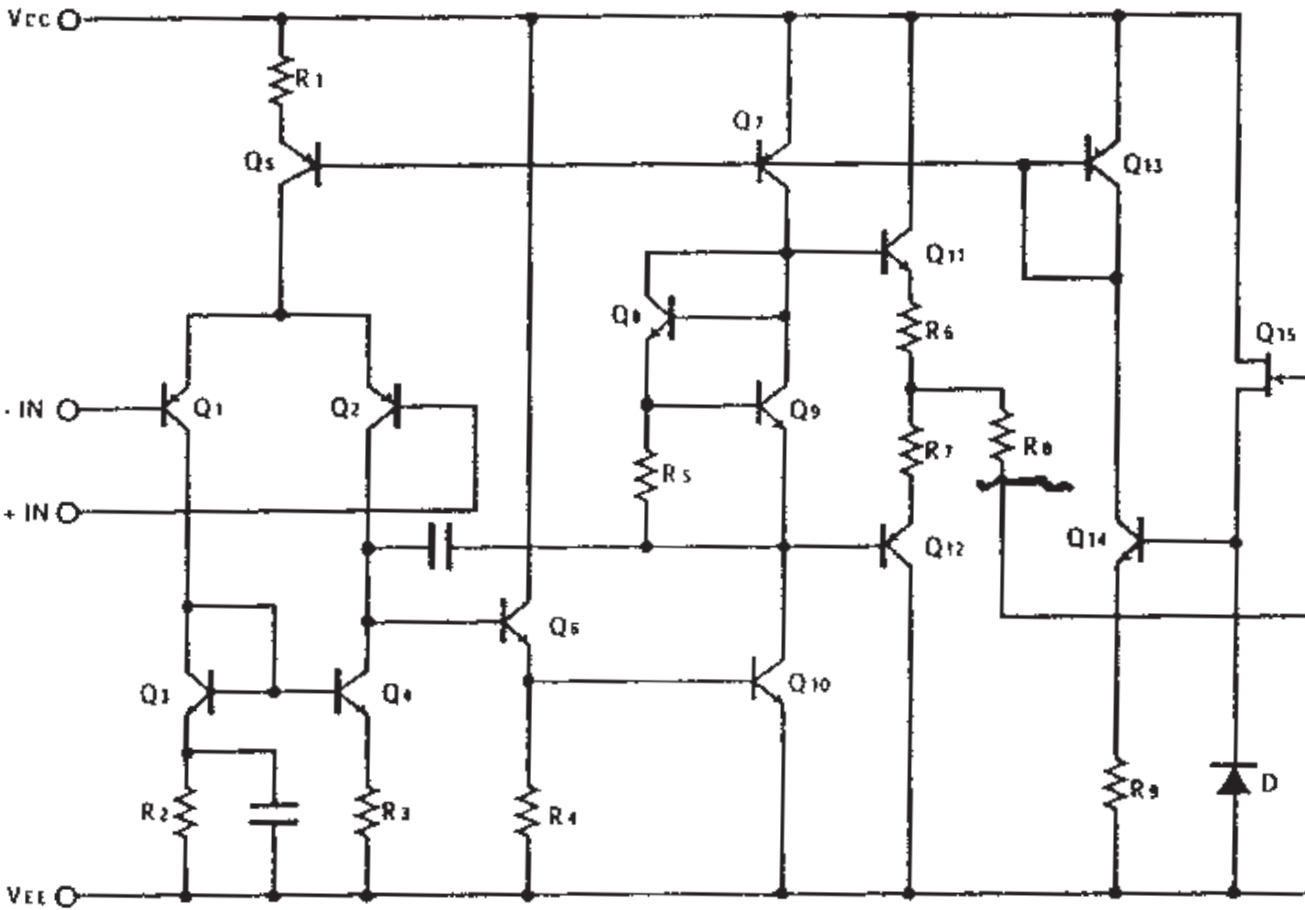
C2501 A2	C2509 B2	C2514 A2	C2519 B1	C2523 B2	C2527 B3	C2538 B2	C2542 B2	FB35 B1	Q2502 A2	R2504 A2	R2509 B2	R2515 B2	R2519 B2	R2524 B2	R2530 B2	R2541 B2	R2548 B3	ZD251 A2	ZD255 B2
C2502 A2	C2510 B2	C2515 A2	C2520 B1	C2524 B2	C2528 B3	C2539 B2	FB30 B3	FB36 B1	R2253 A2	R2505 B2	R2510 B2	R2516 B2	R2521 B2	R2525 B2	R2533 B2	R2542 A3	R2549 B3	ZD252 A2	
C2506 B2	C2511 A2	C2516 B2	C2521 B2	C2525 A2	C2529 B3	C2540 B2	FB31 B3	IC251 B2	R2501 A3	R2506 A3	R2513 A2	R2517 B2	R2522 B2	R2526 B2	R2534 B2	R2544 A1	R2553 B2	ZD253 B2	
C2507 B2	C2512 B2	C2518 B2	C2522 B2	C2526 B3	C2530 B3	C2541 B2	FB34 B1	Q2501 B3	R2503 B2	R2507 A2	R2514 B2	R2518 B2	R2523 B2	R2529 A2	R2535 B2	R2545 A3	R2554 B2	ZD254 B2	



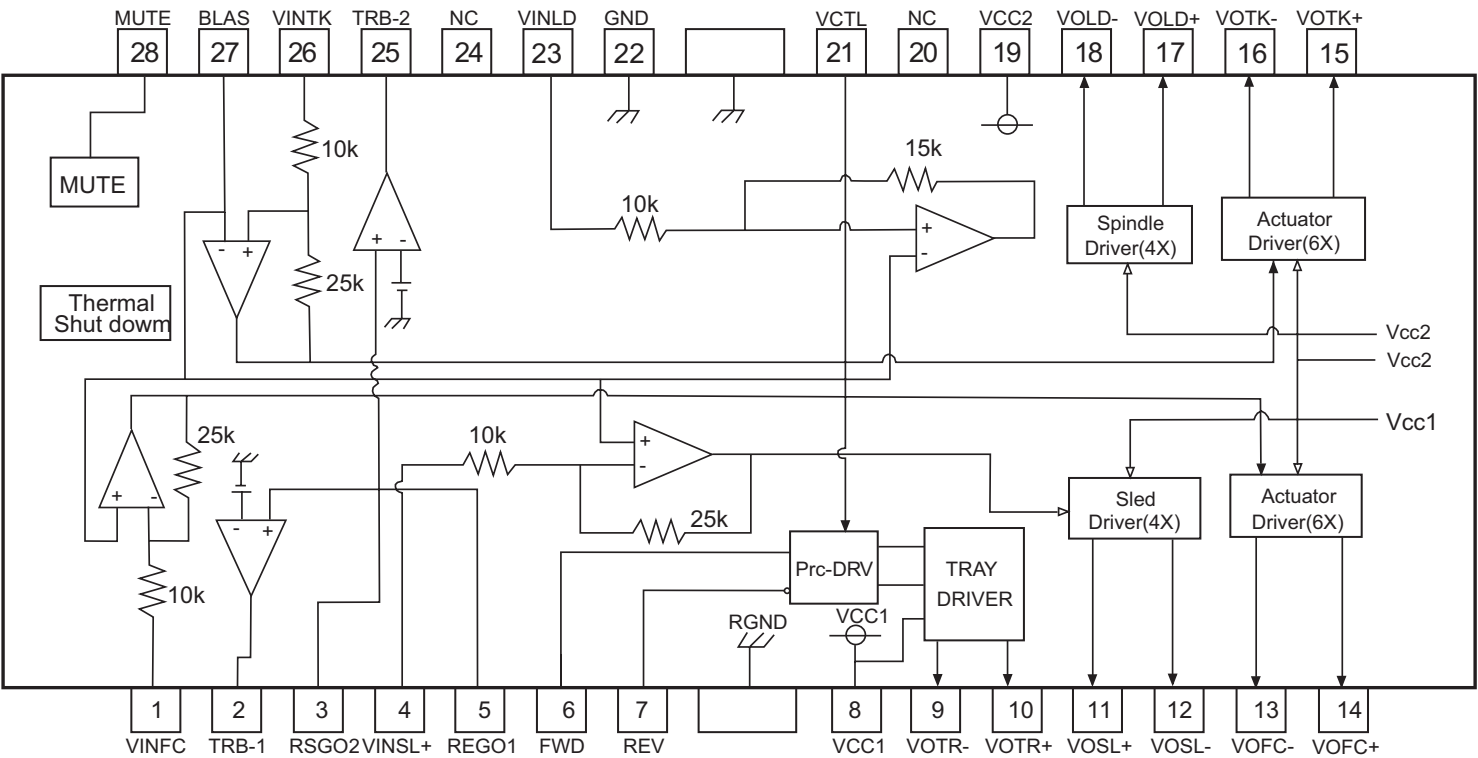
MAIN BOARD

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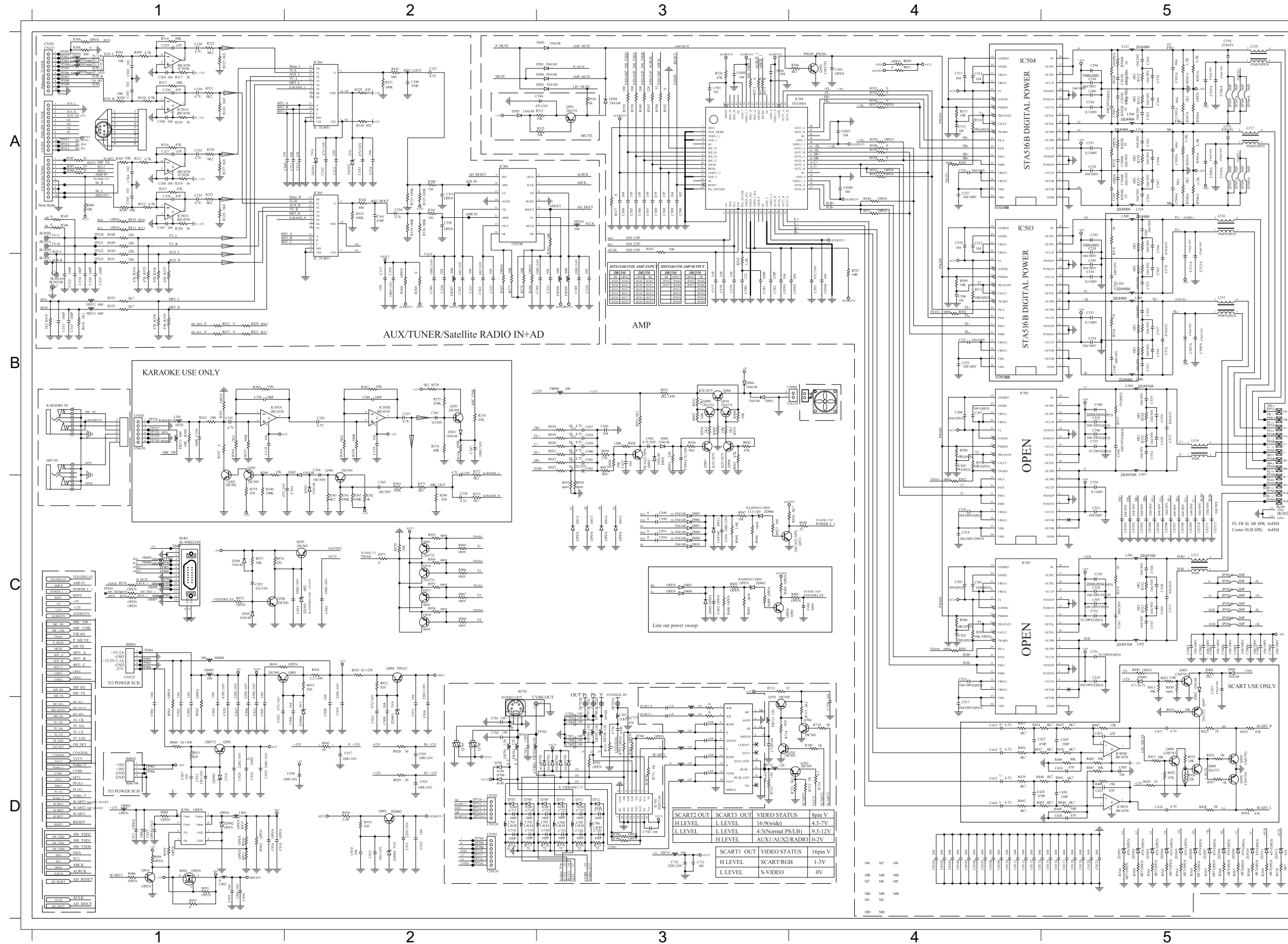
INTERNAL IC DIAGRAM - V5888S HOSP



Circuit Diagram (Amplifier)

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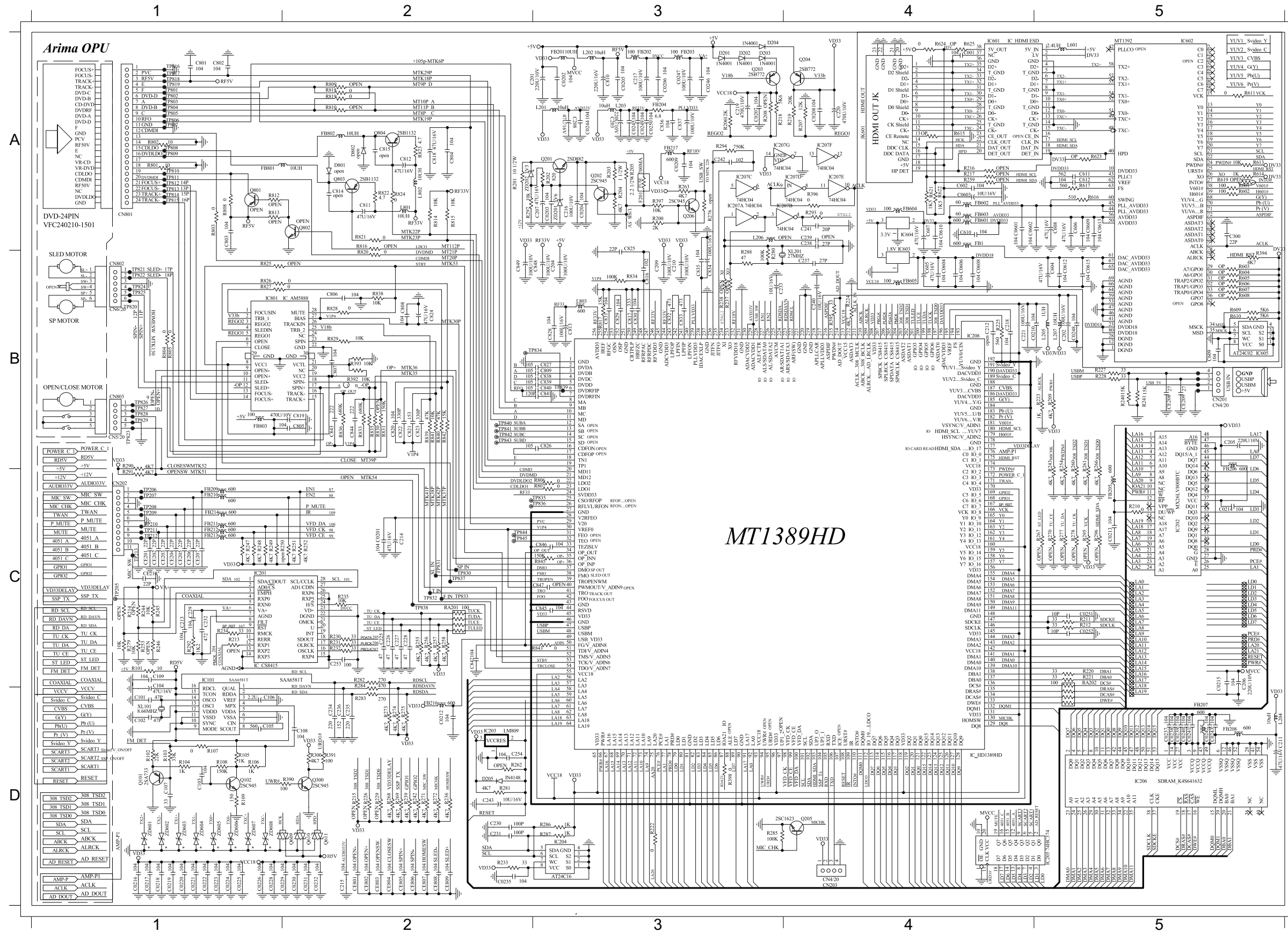


C0101	D4	C528	A5	C951	C3	Q706	D2	R534	A3
C0102	D4	C529	A5	C952	C2	Q901	C2	R535	A3
C0103	D4	C530	A5	C953	C2	Q902	D2	R536	A3
C0104	D4	C533	B5	CE501	C5	Q903	D1	R537	A3
C0105	D4	C536	B5	CE502	C5	Q904	C2	R538	A3
C0106	D4	C537	A5	CE503	C5	Q905	B3	R539	A3
C0107	D4	C538	A5	CE504	C5	Q906	B3	R540	A3
C0109	D4	C539	C5	CE505	C5	Q907	B3	R541	A3
C0110	D4	C542	B5	CE506	C5	Q908	B3	R542	A3
C0111	D4	C543	B5	CE507	C5	Q909	B3	R543	A3
C0112	D4	C547	C5	CE508	C5	Q910	B3	R545	B3
C0113	D4	C548	C5	CE509	C5	Q913	C3	R546	A4
C0114	D4	C549	C5	CE510	C5	R051	A4	R547	B4
C0115	D5	C550	C5	CE511	C5	R301	A1	R549	A4
C0116	D5	C554	B5	CE512	C5	R302	A1	R551	A4
C0117	D5	C555	B5	CN301	A1	R305	A3	R553	A4
C0118	D5	C558	B5	CN303A	B1	R309	A1	R555	A4
C0119	D5	C559	B5	CN801	A1	R310	A1	R557	A4
C0120	D5	C561	A5	CN902	B4	R313	A1	R559	A4
C0121	D5	C562	A5	D304	C1	R314	A1	R701	D3
C0501	B3	C563	A5	D305	C2	R317	A1	R706	D3
C0502	B4	C564	A5	D403	C2	R318	A1	R716	D2
C0504	B4	C567	A5	D404	C2	R321	A1	R717	D2
C0505	A3	C568	A5	D405	C3	R322	A1	R718	D3
C0506	A3	C569	A5	D502	A3	R325	A1	R719	D3
C0507	A4	C570	A5	D503	A3	R326	A1	R720	D3
C0508	A4	C571	C5	D504	A3	R329	A2	R721	D3
C301	A1	C573	B5	D505	A2	R330	A2	R737	D3
C302	A1	C577	B3	D506	A3	R331	A2	R904	D1
C305	A1	C578	B3	D701	D2	R332	A2	R907	B3
C306	A1	C579	B3	D702	D3	R333	A2	R908	B3
C309	A1	C580	B3	D703	D3	R334	A2	R909	B3
C311	A2	C581	B3	D704	D3	R335	A2	R911	D1
C313	A2	C582	B3	D705	D3	R336	A2	R912	C2
C315	A2	C583	B4	D706	D2	R342	A2	R913	C2
C316	A2	C584	A3	D707	D2	R344	A2	R914	D2
C317	B2	C585	A3	D708	D2	R345	A1	R918	B3
C320	B2	C586	A3	D709	D3	R346	A1	R919	B3
C321	B2	C587	A3	D710	D3	R348	A1	R920	B3
C322	B2	C588	A3	D711	D3	R349	A1	R921	B3
C323	B3	C589	A3	D712	D3	R350	A1	R922	B3
C324	B3	C590	A3	D901	B3	R351	B1	R923	B3
C325	A1	C591	A3	D902	B3	R352	B1	R924	C2
C326	A1	C594	A5	D903	B4	R353	B1	R925	C2
C329	A1	C595	B5	D904	B3	R354	B1	R926	C3
C330	A1	C704	D3	D905	C3	R355	B1	R927	C3
C331	A2	C705	D3	D906	C3	R356	B1	R928	D2
C334	A2	C706	D3	D907	C3	R357	B1	R929	D2
C340	A2	C707	D3	D908	C3	R358	B1	R930	D2
C341	A2	C708	D3	D909	C3	R359	B1	R931	B3
C342	A2	C709	D3	D910	C3	R360	A2	R932	B3
C343	A2	C716	D2	D911	C3	R361	A2	R933	B3
C345	B2	C717	D2	D912	C2	R369	B2	R934	B3
C346	B2	C718	D2	D913	C2	R377	B2	R935	B3
C348	B2	C719	D2	D914	C2	R378	B2	R936	B3
C349	B3	C720	D3	D915	C2	R388	A1	R937	B3
C352	B1	C721	D2	FB301	A1	R402	C2	R938	B3
C353	B1	C722	D2	FB302	A1	R403	C3	R939	B3
C354	B1	C723	D3	FB303	A1	R405	C3	R940	B3
C355	B1	C724	D3	FB304	A1	R406	C2	R941	B3
C356	B1	C725	D3	FB307	B2	R407	D5	R942	B3
C357	B1	C726	D2	FB308	B3	R408	D5	R943	B3
C362	B2	C727	D2	FB309	B3	R409	C3	R944	C3
C363	B2	C731	D3	FB310	A3	R418	B1	R945	D2
C402	C3	C732	D3	FB312	B1	R419	B1	R947	C3
C405	D5	C736	D3	FB313	B1	R425	D5	R948	C3
C413	D4	C737	D3	FB701	D2	R428	D5	R953	B2
C414	D4	C901	D1	FB702	D2	R433	D4	R954	B2
C415	D4	C902	D1	FB703	D2	R434	D4	R969	C2
C416	D4	C903	D1	FB704	D3	R435	D4	R970	C4
C417	D5	C904	D1	FB705	D3	R436	D4	R971	C3
C418	D5	C905	D1	FB706	D3	R437	D4	R973	C2
C423	D5	C906	D2	FB715	D3	R438	D4	R974	C2
C424	D5	C907	D1	FB904	C1	R439	D4	RB901	C1
C425	D5	C908	D2	FB905	C1	R440	D4	RB902	D1
C426	D5	C909	D2	FB906	B3	R441	D5	ZD301	A2
C427	D4	C910	D2	IC301	A1	R442	D4	ZD302	A2
C428	D4	C911	D2	IC304	A2	R443	D4	ZD303	C2
C429	D5	C916	C3	IC305	A2	R445	D5	ZD901	D1
C430	D4	C917	D2	IC306	A2	R446	D5	ZD903	D2
C500	A5	C918	D2	IC403	D5	R447	D5	ZD904	D2
C501A	A5	C919	D2	IC503	A4	R448	D5	ZD905	D2
C501B	A5	C920	D1	IC504	A4	R453	D5	ZD906	C3
C502A	A5	C921	D1	IC505	A4	R454	D5		
C502B	A5	C922	D1	JK501	C5	R501A	A5		
C503A	A5	C923	D2	JK701	C2	R502A	A5		
C503B	A5	C924	D1	JK702	D3	R503B	A5		
C504A	A5	C925	D2	L501	C5	R504	A3		
C504B	A5	C926	B3	L502	C5	R504A	A5		
C505A	A5	C927	B3	L504	B5	R504B	A5		
C506	B4	C928	D1	L507	B5	R505A	A5		
C506A	A5	C929	D1	L508	B5	R506A	A5		
C507A	B5	C930	D2	L510	A5	R507A	A5		
C508	A3	C931	D2	L511	A5	R508A	A5		
C508A	A5	C932	D1	L512	A5	R508B	A5		
C509	A3	C933	D2	L513	C5	R509	B4		
C509A	B5	C935	D2	L514	B5	R511	B4		
C510	A4	C936	D2	L701	D2	R512	A3		
C510A	A5	C937	B3	L702	D2	R513	A4		
C511	A4	C938	B3	L703	D3	R514	A4		
C511A	A5	C939	B3	L704	D3	R516	B5		
C512	B5	C940	B3	L705	D3	R518	A5		
C512A	B5	C941	B3	L706	D3	R521	C5		
C513	A4	C942	B3	L707	D3	R522	C5		
C514	A4	C943	B3	Q305	C2	R525	B5		
C522	B4	C944	B3	Q306	C2	R526	B5		
C523	B4	C945	C2	Q401	C3	R529	A5		
C524	B5	C947	D1	Q501	A3	R530	A5		
C526	A4	C949	C3	Q502	A4	R531	A5		
C527	A4	C950	C3	Q705	D2	R532	A5		

Circuit Diagram (Servo)

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MT1389HD

C0201	C2	C253	C2	FB203	A3	R253	C1
C0202	A3	C254	D2	FB204	A3	R255	C2
C0203	A3	C300	A5	FB205	C5	R256	C2
C0204	A3	C601	A4	FB206	C5	R257	C2
C0205	A3	C602	A4	FB207	D5	R258	C2
C0206	A3	C604	B5	FB208	D5	R259	A4
C0207	A3	C605	B4	FB209	C1	R260	C5
C0208	A4	C606	A4	FB210	C1	R261	C5
C0209	A3	C607	A4	FB211	C1	R266	C5
C0210	B4	C608	A5	FB212	C1	R268	D2
C0212	D2	C609	B5	FB213	C1	R269	D2
C0213	C5	C610	A4	FB214	C1	R271	D2
C0214	C5	C611	A5	FB216	D2	R272	D2
C0215	C5	C612	A5	FB217	A3	R273	D2
C0216	D1	C801	A1	FB601	A4	R279	C1
C0217	D1	C802	A1	FB602	A4	R280	B3
C0218	D1	C803	A1	FB603	A4	R281	D2
C0219	D1	C804	A2	FB604	A4	R286	D3
C0220	D1	C805	B2	FB605	B4	R287	D3
C0221	D1	C806	B2	FB801	A1	R288	B3
C0222	D1	C807	B2	FB802	A2	R290	C1
C0223	D1	C808	B2	FB803	B1	R291	C1
C0224	D1	C809	B3	IC201	C1	R292	C1
C0225	D1	C810	A3	IC202	C5	R293	A4
C0226	D1	C811	A2	IC203	D2	R294	A3
C0228	D1	C812	A2	IC204	D3	R297	A4
C0229	D1	C813	B3	IC205	D5	R300	D2
C0230	D2	C816	B3	IC206	D5	R390	D1
C0231	D2	C817	B3	IC207	A3	R391	D2
C0232	D2	C818	A2	IC208	B4	R392	B2
C0235	D2	C819	B2	IC602	A5	R393	B2
C0237	D5	C820	B2	IC801	B1	R394	A5
C0238	D5	C821	B2	JK601	A4	R395	B4
C0239	D5	C822	B2	L201	A3	R397	A3
C0240	D5	C823	B2	L202	A3	R398	D3
C0241	D5	C824	B2	L203	A3	R399	D1
C0242	D5	C825	C3	L204	D5	R601	A5
C0243	D5	C826	B3	L205	B5	R602	A5
C0244	A3	C827	B3	L207	B5	R609	B5
C0245	A3	C828	B3	L601	A5	R610	B5
C0246	A3	C829	B3	L801	A2	R611	A5
C0247	A3	C830	B3	L802	A2	R613	A5
C0248	B5	C831	B3	L803	B3	R614	A5
C0249	A3	C832	B3	Q201	A3	R616	A5
C0250	A3	C833	B3	Q202	A3	R617	A5
C0251	C5	C834	B3	Q203	A3	R621	A4
C0252	C5	C835	B3	Q204	A4	R622	A4
C0601	A4	C836	A3	Q300	D2	R624	A4
C0602	A4	C837	A3	Q600	D2	R801	A1
C0603	A4	C838	B3	Q610	D2	R802	A1
C0604	B4	C839	B3	Q611	D2	R803	A1
C0606	B4	C840	B3	Q803	A2	R804	B1
C0608	B4	C841	B3	Q804	A2	R805	B1
C0609	A5	C842	C2	R201	A2	R806	C3
C0610	A4	C843	B2	R202	A3	R807	C3
C0612	B5	C844	B2	R203	A3	R808	A1
C0613	A5	C845	C3	R204	A3	R814	A2
C0615	B5	C846	C3	R205	A3	R815	A2
C201	A3	C848	B3	R206	A3	R817	B3
C202	B5	C849	B2	R207	A4	R818	A2
C203	A3	C951	B2	R209	B5	R819	A2
C204	B3	C954	B2	R210	C5	R820	B2
C205	C5	CE201	C1	R211	C5	R821	A2
C206	C5	CE202	C1	R212	C5	R822	A2
C207	A2	CE203	C1	R216	A4	R823	A2
C208	A3	CE204	C1	R217	A4	R824	A2
C209	B3	CE205	C1	R218	A3	R826	B1
C210	B3	CE206	C1	R219	A4	R827	B1
C211	D5	CE207	C1	R220	C5	R828	B2
C213	C1	CE208	B5	R221	C5	R829	B2
C214	C2	CE209	B5	R222	D3	R830	B2
C215	D2	CE210	C1	R223	B5	R831	B2
C216	A3	CE801	D2	R224	B4	R833	B2
C217	A3	CE802	D2	R225	B4	R834	C3
C218	B4	CE803	D2	R227	B5	R836	B2
C219	A3	CE804	D2	R228	B5	R838	B2
C220	A4	CE805	D2	R230	C2	R839	B2
C221	B4	CE806	D2	R231	C2	R840	B2
C225	C2	CE808	D2	R232	C2	R841	B2
C226	C2	CE809	D2	R233	D2	R842	B2
C227	C2	CN201	B5	R234	C1	R843	C3
C228	C2	CN202	C1	R235	C2	R845	C3
C229	C1	CN203	D4	R239	D2	RA201	C2
C230	D2	CN802	B1	R240	B5	RA202	C5
C231	D2	CN803	B1	R241	B5	XL201	B4
C232	C1	D201	A3	R242	D2	ZD201	A3
C233	B3	D202	A3	R243	C5	ZD202	A3
C237	B4	D203	A3	R245	C1		
C238	A4	D204	A3	R247	C1		
C240	B4	D205	D2	R248	C1		
C241	A4	FB1	A4	R249	C1		
C242	A3	FB201	A3	R251	C2		
C243	D2	FB202	A3	R252	C2		

PCB Layout Top View

C0114 D2 C207 C3 C326 A3 C425 B3 C513 C1 C606 A5 C805 D5 C842 D5 C933 D3 D502 B2 FB207 B4 FB705 A4 J10 A1 L203 D5 Q204 D4 R207 D4 R247 C4 R302 A3 R352 D3 R425 B3 R509 B2 R610 A5 R822 D5 R925 D3 RA202 B4
C0115 A3 C208 C5 C329 A3 C426 B3 C514 D2 C607 A5 C808 D4 C843 D5 C935 D3 D503 B3 FB208 B4 FB706 A5 J11 A1 L204 B4 Q300 C4 R209 C4 R248 C4 R305 B4 R353 D3 R428 B3 R511 B2 R611 B5 R823 D5 R926 A3 RB901 B3
C0116 D2 C209 B4 C330 A3 C427 B3 C522 B2 C608 A5 C809 D5 C844 D5 C936 D3 D505 B2 FB209 D4 FB715 A4 J12 A2 L205 B5 Q305 A3 R210 C4 R249 C4 R309 A3 R354 A3 R433 B3 R512 B2 R613 B5 R824 D5 R927 A3 RB902 C1
C0203 C3 C210 B4 C331 A4 C428 B3 C523 B2 C609 A5 C810 D5 C846 C4 C942 A2 D506 B3 FB210 D4 FB801 D5 J3 A1 L207 B5 Q306 B3 R211 B4 R251 C4 R310 A3 R355 A3 R434 B3 R513 D2 R614 B5 R826 D5 R928 B3 XL201 C5
C0204 D4 C211 B4 C334 A4 C429 B3 C524 B2 C610 B5 C811 C5 C848 C5 C943 B2 D701 B4 FB211 D4 FB802 D5 J4 A1 L501 B1 Q401 A3 R212 B4 R252 C4 R313 A3 R356 A3 R435 B3 R514 D2 R616 A5 R827 D5 R929 B3 ZD201 D4
C0205 D5 C214 D4 C340 A4 C430 B3 C526 D2 C704 A4 C812 D5 C849 C5 C944 A3 D702 B4 FB212 D4 FB803 D5 J503A A1 L502 B2 Q501 B2 R216 A5 R253 B5 R314 A3 R357 A3 R436 B3 R516 B2 R624 A5 R828 D5 R930 D3 ZD301 B3
C0207 D4 C216 C4 C341 A4 C501A C1 C527 D2 C705 A4 C813 D5 C905 B5 C945 B3 D703 B4 FB213 D4 FB904 D3 J7 A1 L504 D1 Q502 C3 R217 A5 R255 B5 R317 A3 R358 D3 R437 B3 R518 B2 R701 A4 R829 D5 R931 A2 ZD302 C3
C0208 D4 C217 A4 C342 C3 C501B D2 C528 B2 C706 A5 C816 D5 C906 B5 C947 B5 D704 B4 FB214 D4 FB905 D3 J8 A1 L507 D2 Q611 A5 R218 D4 R256 C5 R318 A3 R359 D3 R438 B3 R535 B2 R706 B4 R830 D5 R932 A2 ZD303 B3
C0212 D4 C218 B5 C343 C3 C502A C1 C529 D2 C707 A4 C817 D5 C909 D3 C952 A3 D705 B4 FB216 D4 FB906 B3 J9 A1 L508 D1 Q803 C5 R219 D4 R257 C5 R321 A3 R360 B4 R439 B3 R536 B3 R716 B4 R831 D5 R933 B2 ZD901 D3
C0213 C4 C219 D4 C345 B4 C502B D2 C530 D2 C708 A5 C818 D5 C910 D3 C953 B3 D706 B4 FB201 B5 IC201 A5 JK302A A3 L510 D2 Q804 C5 R221 B4 R258 C5 R322 A3 R361 B4 R440 B3 R537 C3 R717 B4 R833 D5 R934 A2 ZD903 D3
C0215 C4 C220 D4 C346 A4 C503A C1 C539 B1 C709 A5 C819 D5 C911 D3 CN202 D4 D707 B4 FB302 C5 IC202 C4 JK501 A2 L511 D1 Q901 B5 R222 C4 R259 A5 R325 A3 R369 B4 R441 B3 R538 C3 R718 B4 R834 D5 R935 A2 ZD904 B5
C0218 C4 C221 B5 C348 A4 C503B D2 C542 B2 C716 B4 C824 D4 C916 A3 CN203 B4 D708 B4 FB303 C5 IC203 B4 JK502 A2 L512 D1 Q902 C3 R223 B5 R260 B4 R326 A3 R377 B4 R442 B3 R539 C3 R719 B4 R836 D5 R936 A2 ZD905 C3
C0221 D4 C230 B4 C349 B4 C504A C1 C543 B2 C717 B4 C825 D5 C917 B3 CN301 B5 D709 B4 FB304 C5 IC204 B4 JK601 A5 L513 A2 Q903 D3 R224 C5 R261 B4 R329 B3 R378 B4 R443 B3 R540 C3 R720 B4 R838 D4 R937 A2 ZD906 A3
C0223 C4 C231 B4 C352 A3 C504B D2 C567 D2 C718 B4 C826 D5 C918 B3 CN303A B3 D710 B4 FB307 B4 IC205 C4 JK701 A4 L514 A2 Q904 D2 R225 B5 R266 B4 R330 C3 R388 B5 R444 B3 R541 C3 R721 B4 R839 D5 R938 A2
C0231 C4 C233 C5 C354 A3 C505A D1 C571 A2 C719 B4 C827 D5 C919 B3 CN801 D5 D711 B4 FB308 A4 IC206 B4 JK702 A4 L601 A5 Q905 A2 R227 D4 R268 B3 R331 A3 R390 C4 R445 B3 R542 C3 R737 A5 R840 D5 R939 A2
C0235 B4 C240 C5 C356 A3 C506 B2 C573 B1 C720 B4 C828 C5 C920 D3 CN802 D4 D712 B4 FB309 A4 IC206 B4 JP501 A1 L701 B4 Q906 A2 R228 D4 R269 B4 R332 A4 R391 C4 R446 B3 R543 C3 R803 D5 R841 D5 R940 A2
C0247 A5 C241 C5 C357 A3 C506A D1 C578 C3 C721 B4 C829 D5 C921 B5 CN803 D5 D901 A2 FB310 B4 IC207 C5 JP501A B2 L702 B4 Q907 A2 R230 A5 R271 C4 R333 B4 R394 B5 R447 B3 R545 C3 R804 D4 R842 D5 R941 A2
C0250 D5 C242 D5 C362 B4 C507A B1 C579 C3 C722 B4 C830 D5 C922 B5 CN902 A2 D901 A2 FB312 D3 IC208 B5 JP502 B2 L703 B4 Q908 A2 R231 A5 R272 C3 R334 B4 R395 B5 R448 B3 R546 C3 R805 D4 R843 D5 R942 A2
C0606 A5 C243 B4 C363 A4 C508 C1 C580 C3 C723 B4 C831 D5 C923 D2 D201 A4 D902 A2 FB313 D3 IC301 A3 JP502A B2 L704 B4 Q909 A2 R232 A5 R279 B5 R335 B4 R397 D4 R453 A4 R547 C3 R806 D5 R845 D5 R943 A2
C0608 B5 C253 A5 C402 A3 C508A D1 C581 C3 C724 B4 C832 D5 C924 D3 D202 D4 D903 A2 FB601 B5 IC304 B3 JP503 B2 L705 B4 Q910 A2 R233 B4 R281 B4 R336 B4 R398 C4 R454 A4 R549 B2 R807 C5 R904 D3 R944 A3
C0610 A5 C254 B4 C413 B3 C509 B1 C582 C3 C725 B4 C833 D5 C925 C3 D203 D4 D904 A2 FB602 A5 IC305 B3 JP504 B2 L706 B4 Q913 A3 R234 A5 R286 B4 R343 A3 R402 A3 R455 A4 R551 B2 R808 D5 R907 A2 R945 B3
C0615 A5 C301 A3 C414 B3 C509A C1 C583 C3 C726 B4 C834 D5 C926 A2 D204 D4 FB1 A5 FB603 A5 IC306 A4 JP504A B2 L707 A4 R051 B3 R235 B5 R287 B4 R344 A3 R403 A3 R456 A4 R553 B2 R814 D5 R908 A2 R947 A3
C201 C4 C302 A3 C415 B3 C510 C1 C584 B2 C727 B4 C836 D5 C927 A2 D205 B4 FB201 C3 FB604 B5 IC403 B3 JP506 C1 L801 D5 R201 D3 R239 B4 R290 D4 R345 A3 R404 D3 R503B D1 R555 B2 R815 D5 R909 A2 R948 A3
C202 B5 C309 C3 C416 B3 C510A C1 C590 C3 C731 A4 C837 D5 C928 D3 D304 A3 FB202 A4 FB605 B5 IC503 D2 JP506A C1 L802 D5 R202 C3 R240 D4 R291 D4 R346 A3 R405 A3 R504 C3 R557 D2 R817 D5 R911 D3 R970 B4
C203 D5 C311 C3 C417 B3 C511 C1 C594 D1 C732 B4 C838 D5 C929 B3 D305 A3 FB203 A4 FB701 B4 IC504 B2 JP508 C1 L803 C5 R203 D3 R241 D4 R293 C5 R348 A3 R406 A3 R504B D2 R559 D2 R818 D5 R912 D2 R971 B4
C204 D5 C313 B3 C418 B3 C511A C1 C602 A5 C736 A5 C839 D5 C930 A4 D403 A3 FB204 C5 FB702 B4 IC505 C3 JP508A C1 Q201 D3 R204 C3 R242 B4 R294 D5 R349 A3 R407 B3 R505A D1 R601 A5 R819 D5 R913 B5 R973 A3
C205 D4 C317 A4 C423 B3 C512 D2 C604 A5 C737 A4 C840 D5 C931 C2 D404 A3 FB205 C4 FB703 B4 IC602 A5 L201 C5 Q202 D3 R205 D3 R243 C3 R300 C4 R350 A3 R408 B3 R506A D1 R602 A5 R820 D5 R914 C3 R974 B3
C206 C4 C325 A3 C424 B3 C512A C1 C605 B5 C804 D5 C841 D5 C932 D3 D405 A3 FB206 B4 FB704 A4 IC801 D5 L202 D5 Q203 D4 R206 D4 R245 B5 R301 A3 R351 A3 R409 A3 R508B D2 R609 A5 R821 D5 R924 B5 RA201 C5

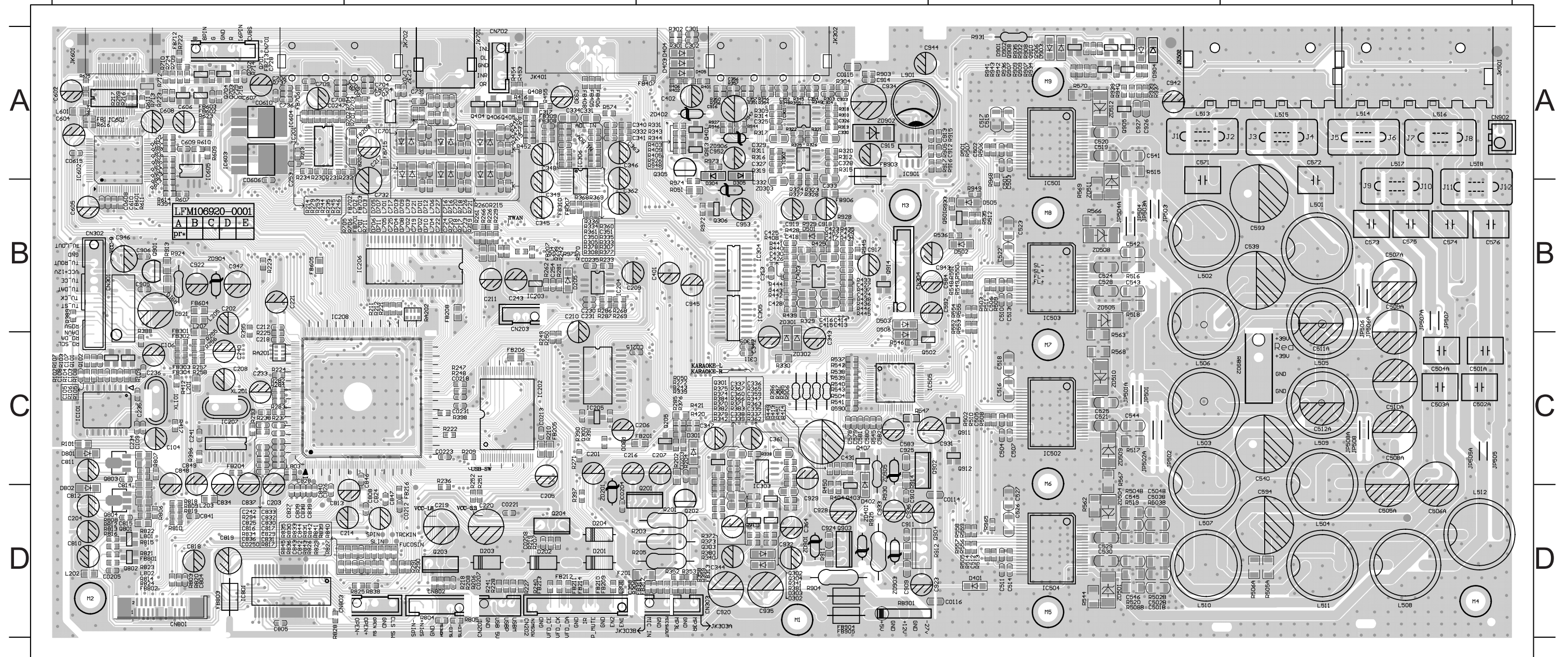
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VOLTAGE

IC201																				
Pin NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Voltage	3.30	0.00	0.00	2.50	2.50	5.10	0.00	0.00	3.30	2.50	5.10	1.80	0.00	0.00	0.00	5.00	5.00	0.00	5.00	0.00
Pin NO	21	22	23	24	25	26	27	28												
Voltage	5.00	0.00	5.00	0.00	0.00	0.00	5.00	3.30												

IC202																				
Pin NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Voltage	0.35	1.60	2.00	1.90	2.50	1.70	0.70	1.70	0.00	0.00	3.30	3.30	0.00	3.30	0.40	0.00	1.50	1.40	1.50	1.90
Pin NO	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Voltage	2.10	1.90	1.80	1.95	2.00	0.00	0.00	0.00	0.85	1.65	1.20	1.20	1.20	1.20	0.85	1.70	3.30	1.50	1.65	2.20
Pin NO	41	42	43	44	45	46	47	48												
Voltage	1.40	1.60	1.70	1.70	2.00	0.00	0.00	1.00												

IC203																				
Pin NO	1	2	3																	
Voltage	3.30	3.30	0.00																	

IC204																				
Pin NO	1	2	3	4	5	6	7	8												
Voltage	0.00	0.00	0.00	0.00	3.30	3.30	0.00	3.30												

IC205																				
Pin NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Voltage	0.00	3.30	1.50	1.60	0.00	3.30	1.25	1.00	0.00	0.00	0.00	0.00	1.60	1.50	3.30	0.00	1.40	1.50	0.00	3.30

IC206																				
Pin NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Voltage	3.20	1.00	3.20	1.10	1.30	0.00	1.30	1.20	3.20	1.30	1.20	0.00	1.30	3.20	2.60	3.20	3.00	3.00	3.00	1.40
Pin NO	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Voltage	1.20	0.00	0.00	1.40	1.60	1.80	3.20	0.00	1.60	1.80	1.20	0.50	0.00	0.00	0.00	0.00	3.20	1.80	2.30	0.00
Pin NO	41	42	43	44	45	46	47	48	49	50	51	52	53	54						
Voltage	0.00	1.00	3.20	1.40	0.70	0.00	0.70	1.30	3.20	1.30	1.40	0.00	0.80	0.00						

IC207																				
Pin NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
Voltage	1.40	1.50	1.50	0.50	0.00	3.30	0.00	1.50	1.50	1.50	1.50	0.00	0.00	3.30						

IC208																				
Pin NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Voltage	0.00	0.10	0.10	0.10	0.10	1.60	1.60	2.10	1.90	1.90	1.80	0.00	0.00	0.90	0.90	1.00	1.00	1.90	1.50	0.00
Pin NO	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Voltage	0.80	3.20	3.20	3.20	2.70	3.10	0.00	2.70	2.00	1.30	1.30	1.50	1.50	2.40	2.40	2.20	1.30	1.30	0.00	1.30
Pin NO	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Voltage	1.30	1.30	0.00	1.60	3.30	0.00	0.00	0.00	3.30	2.20	3.20	0.00	0.00	3.20	1.90	1.90	1.80	1.90	2.10	1.80
Pin NO	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Voltage	1.50	1.40	1.60	0.00	3.30	3.30	0.30	1.50	2.00	1.90	2.50	1.70	0.70	1.60	0.00	0.00	2.00	0.00	1.50	1.50
Pin NO	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
Voltage	0.00	1.30	1.20	1.60	1.80	1.70	0.00	1.10	1.80	0.00	1.30	1.90	1.80	0.60	3.20	3.30	0.00	3.10	3.10	3.10
Pin NO	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
Voltage	3.20	3.20	5.00	3.10	2.20	3.30	0.00	3.30	3.80	2.20	2.70	0.00	2.10	0.70	0.50	1.10	1.50	3.30	1.50	1.50
Pin NO	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
Voltage	1.60	1.00	1.90	1.70	1.60	0.80	0.80	1.80	0.70	1.60	3.30	2.70	3.20	3.00	3.10	2.90	1.50	1.30	0.10	0.20
Pin NO	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
Voltage	1.40	1.80	1.40	1.40	3.00	1.50	3.30	0.00	0.00	0.00	0.00	1.60	2.00	1.90	1.40	3.30	0.50	0.10	0.20	1.80
Pin NO	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
Voltage	1.60	0.20	0.20	0.20	1.30	0.50	3.30	2.90	2.90	3.30	2.60	2.90	2.60	1.80	3.30	0.00	1.70	0.00	3.10	3.40
Pin NO	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
Voltage	3.10	0.00	0.00	0.00	0.00	3.30	0.00	0.00	3.30	3.30	0.00	0.00	2.00	1.20	1.20	3.30	0.00	3.20	3.20	3.10
Pin NO	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220
Voltage	3.10	0.00	0.00	2.50	0.00	5.00	5.00	3.30	1.50	1.60	1.50	0.00	1.80	1.90	2.00	0.00	3.30	1.30	0.00	0.10
Pin NO	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240
Voltage	0.00	0.00	0.00	0.00	1.60	0.00	3.20	3.80	3.30	3.50	0.00	1.80	0.00	0.40	0.90	0.90	0.00	0.00	3.20	3.00
Pin NO	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256				
Voltage	0.50	1.60	1.30	3.20	0.00	3.20	0.50	1.30	3.20	1.40	0.00	1.60	1.60	1.10	0.80	3.20				

IC301																				
Pin NO	1	2	3	4	5	6	7	8												
Voltage	0.00	0.00	0.00	-13.00	0.00	0.00	0.00	12.00												

IC302																				
Pin NO	1	2	3	4	5	6	7	8												
Voltage	0.00	0.00	0.00	-13.00	0.00	0.00	0.00	12.00												

IC304																				
Pin NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Voltage	0.00	0.00	0.00	0.00	0.00	0.00	5.70	0.00	0.00	3.30	0.00	0.00	0.00	0.00	0.00	5.70				

IC305																				
Pin NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Voltage	0.00	0.00	0.00	0.00	0.00	0.00	5.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.70				

IC306																				
Pin NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Voltage	5.30	1.50	5.30	1.90	0.00	5.30	1.65	1.55	3.30	2.60	2.60	2.60	5.30	0.00	5.20	5.30				

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POWER BOARD

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Voltage

Circuit Diagram.....

PCB Layout Top View

PCB Layout Bottom View

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VOLTAGE

IC901																			
Pin NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16			
Voltage	4.80	4.80	2.40	0.00	1.70	3.40	0.00	12.00	2.30	2.30	12.00	12.00	4.90	4.90	2.40	0.00			

IC902																			
Pin NO	1	2	3	4	5	6	7	8											
Voltage	2.70	0.00	0.50	2.10	0.00	1.00	11.00	4.90											

IC903																			
Pin NO	1	2	3	4															
Voltage	4.90	4.20	0.00	1.00															

IC904																			
Pin NO	1	2	3	4															
Voltage	4.60	3.50	0.00	2.60															

IC905																			
Pin NO	1	2	3																
Voltage	3.50	0.00	2.40																

Q901			
Pin NO	b	c	e
Voltage	148.00	318.00	148.00

Q907			
Pin NO	b	c	e
Voltage	0.60	0.00	0.00

Q911			
Pin NO	b	c	e
Voltage	1.50	0.00	1.80

Q915			
Pin NO	b	c	e
Voltage	42.00	4.90	42.00

Q904			
Pin NO	b	c	e
Voltage	0.00	3.40	0.00

Q908			
Pin NO	b	c	e
Voltage	0.00	4.30	0.00

Q912			
Pin NO	b	c	e
Voltage	0.00	550.00	0.00

Q916			
Pin NO	b	c	e
Voltage	1.50	0.00	0.00

Q905			
Pin NO	b	c	e
Voltage	11.50	13.50	11.00

Q909			
Pin NO	b	c	e
Voltage	0.00	147.90	0.00

Q913			
Pin NO	b	c	e
Voltage	72.00	0.00	2.50

Q917			
Pin NO	b	c	e
Voltage	0.60	0.00	0.00

Q906			
Pin NO	b	c	e
Voltage	0.00	41.90	0.00

Q910			
Pin NO	b	c	e
Voltage	1.50	0.00	1.80

Q914			
Pin NO	b	c	e
Voltage	0.00	0.60	0.00

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ALL RES. ARE 1/6W EXCEPT SPECIAL EXPLAIN WITH NOTES
ALL EC.CAP. ARE 50V EXCEPT SPECIAL EXPLAIN WITH NOTES

CN903=OPEN=230V
CN903=CLOSE=120V

R04-1F IS 1/4W 1 OHMRES FUSE
R04-4K7 IS 1/4W 4.7K
10KM IS 1/6W 10KOHM 1%
R30-120 IS 3W 120OHM 5%

ECO POWER <1W

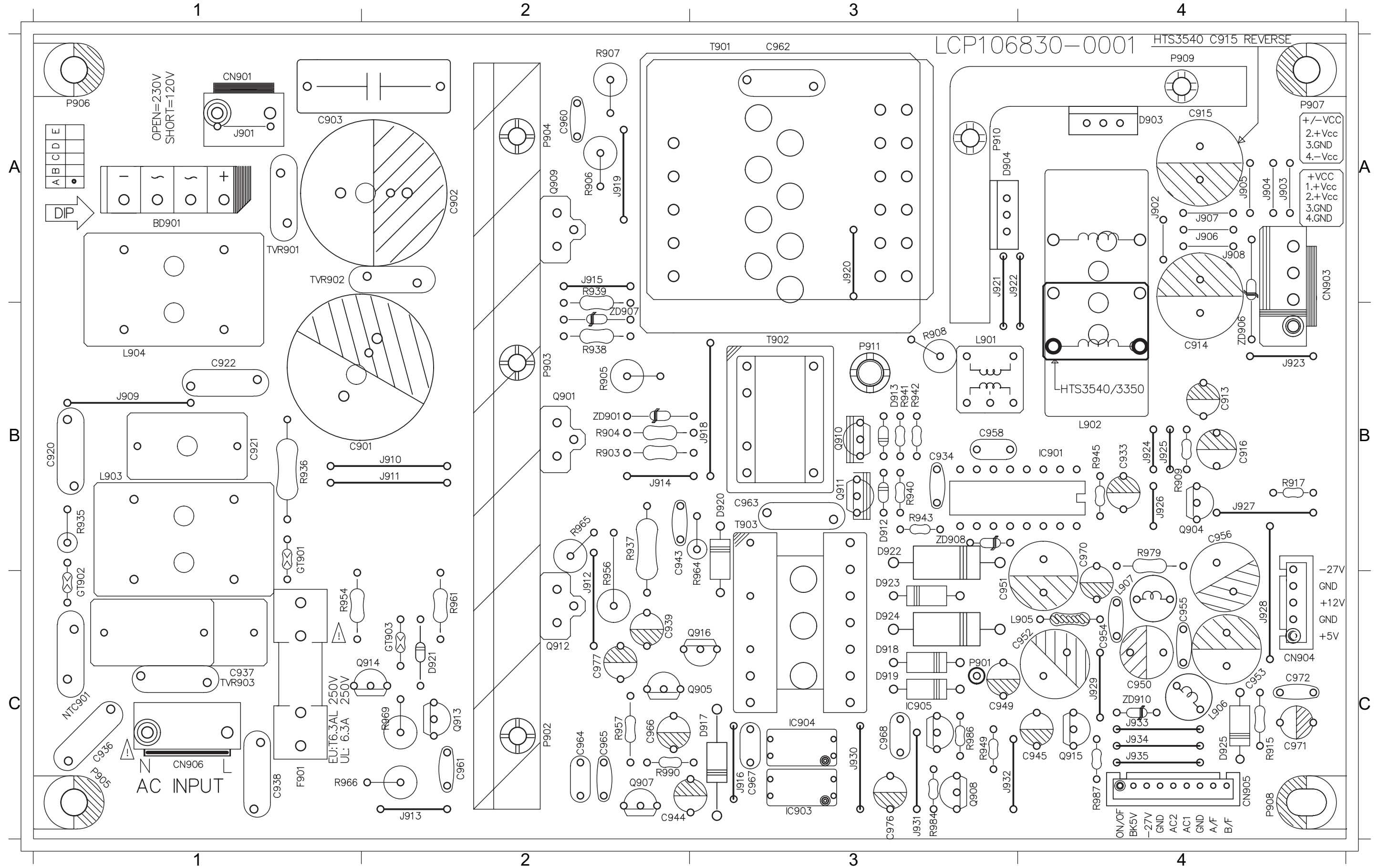
SCREW-A P905
SCREW-A P906
SCREW-A P907
SCREW-A P908

PCB LAYOUT - TOP VIEW

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D901	A1	C916	B4	C937	C1	C949	C3	C955	C4	C963	B3	C971	C4	CN904	C4	D917	C3	D923	C3	IC901	B4	J909	B1	J915	A2	J923	B4	J929	C4	J935	C4	L906	C4	Q907	C2	Q913	C2	R905	B2	R935	B1	R941	B3	R957	C2	R979	B4	T902	B3	ZD907	B2
C901	A1	C920	B1	C938	C1	C950	C4	C956	B4	C964	C2	C972	C4	CN905	C4	D918	C3	D924	C3	IC903	C3	J910	B2	J916	C3	J924	B4	J930	C3	L901	B3	L907	C4	Q908	C3	Q914	C1	R906	A2	R936	B1	R942	B3	R961	C2	R984	C3	T903	B3	ZD908	B3
C902	B1	C921	B1	C939	C2	C951	C3	C958	B3	C965	C2	C976	C3	CN906	C1	D919	C3	D925	C4	IC904	C3	J911	B2	J918	B3	J925	B4	J931	C3	L902	B4	NTC901	C1	Q909	A2	Q915	C4	R908	B3	R937	B2	R943	B3	R964	C2	R986	C3	TVR901	A1	ZD910	C4
C903	A1	C922	B1	C943	B2	C952	C4	C960	A2	C966	C2	C977	C2	D904	A3	D920	B3	F901	C1	IC905	C3	J912	C2	J920	A3	J926	B4	J932	C3	L903	B1	Q901	B2	Q910	B3	Q916	C3	R909	B4	R938	B2	R945	B4	R965	B2	R987	C4	TVR902	A1		
C913	B4	C933	B4	C944	C2	C953	C4	C961	C2	C967	C3	CN901	A1	D912	B3	D921	C2	GT901	B1	J903	A4	J913	C2	J921	A3	J927	B4	J933	C4	L904	B1	Q904	B4	Q911	B3	R903	B2	R915	C4	R939	B2	R949	C3	R966	C1	R990	C2	TVR903	C1		
C914	B4	C934	B3	C945	C4	C954	C4	C962	A3	C970	B4	CN903	A4	D913	B3	D922	C3	GT902	C1	J904	A4	J914	B2	J922	A3	J928	C4	J934	C4	L905	C4	Q905	C2	Q912	C2	R904	B2	R917	B4	R940	B3	R954	C1	R969	C2	T901	A3	ZD901	B2		



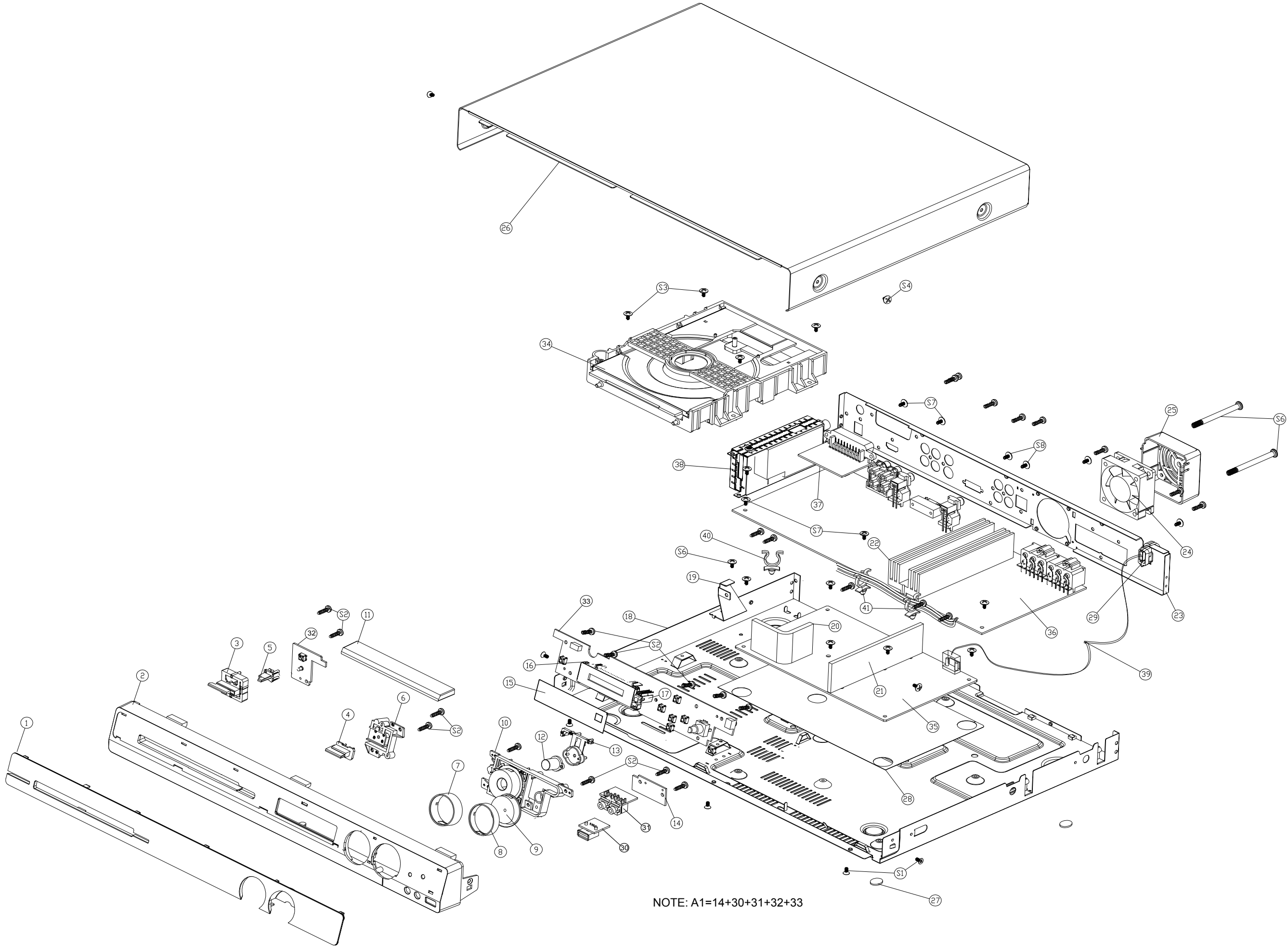


A

Mechanical Exploded View

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MECHANICAL PART LIST

Loc	Part No	Description
1	996510001254	DISPLAY LENS
2	996510007178	FRONT CABINET
3	996510001256	STANDY BUTTON
4	996510001257	OPEN/CLOSE BUTTON
5	996510001258	STANDY LED LENS
6	996510003834	OPEN /CLOSE BUTTON HOLDER
7	996510001663	FUNCTION BUTTON RING
8	996510001664	VOLUME KNOB RING
9	996510001261	VOLUME KNOB RING
10	996510001262	FUNCTION BUTTON
11	996510007177	DVD DOOR
12	996510003835	SOURCE BUTTON
13	996510003836	SOURCE BUTTON HOLDER
15	996510003837	VFD FILTER
18	996510007181	BOTTOM CAB
23	996510007179	BACK PANEL
24	996500042571	FAN DC 12V 0.1A 4000RPM
25	996510001615	FAN COVER
26	996510007180	TOP COVER.
27	994000005305	RUBBER FOOT D14XT3.0MM
28	996510003875	PVC SHEET
30	310630879031	USB PCB ASSY
32	310630879051	VFD+STB PCB ASSY
33	310630879041	FONES PCB ASSY
34	996510007697	DVD LOADER WITH PACKING CASE F
35	996510007176	POWER PCB
36	996510007175	MAIN PCB
38	996510001690	TUNER PACK
0350	310630764881	MAIN CORD
SPK	310630878691	SPEAKER BOX
FM	996500023583	FM ANTENNA 1000MM 1007#24 TC
AM	996510001621	LOOP ANT
RC	310630879071	RC ASSY YKF171-005 - HTS
CN301	996510000673	FFC CABLE 10P 100MM P1.25MM
CN801	996510001665	FFC CABLE 24P 180MM
Video	996500013058	RCA CABLE 2P 1.2M
Stereo	996510001598	STEREO CABLE
HDMI	996510001693	HDMI CABLE