**DVD Receiver**

**MX3660D/21H/30/37**

Service
Service
**Service**

# Service Manual

For repair information on the Subwoofer, please refer to Service Manual SW3660/17 (12NC: 3139 785 30380) & SW3660/00 (12NC: 3139 785 30420).

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CLASS 1
LASER PRODUCT


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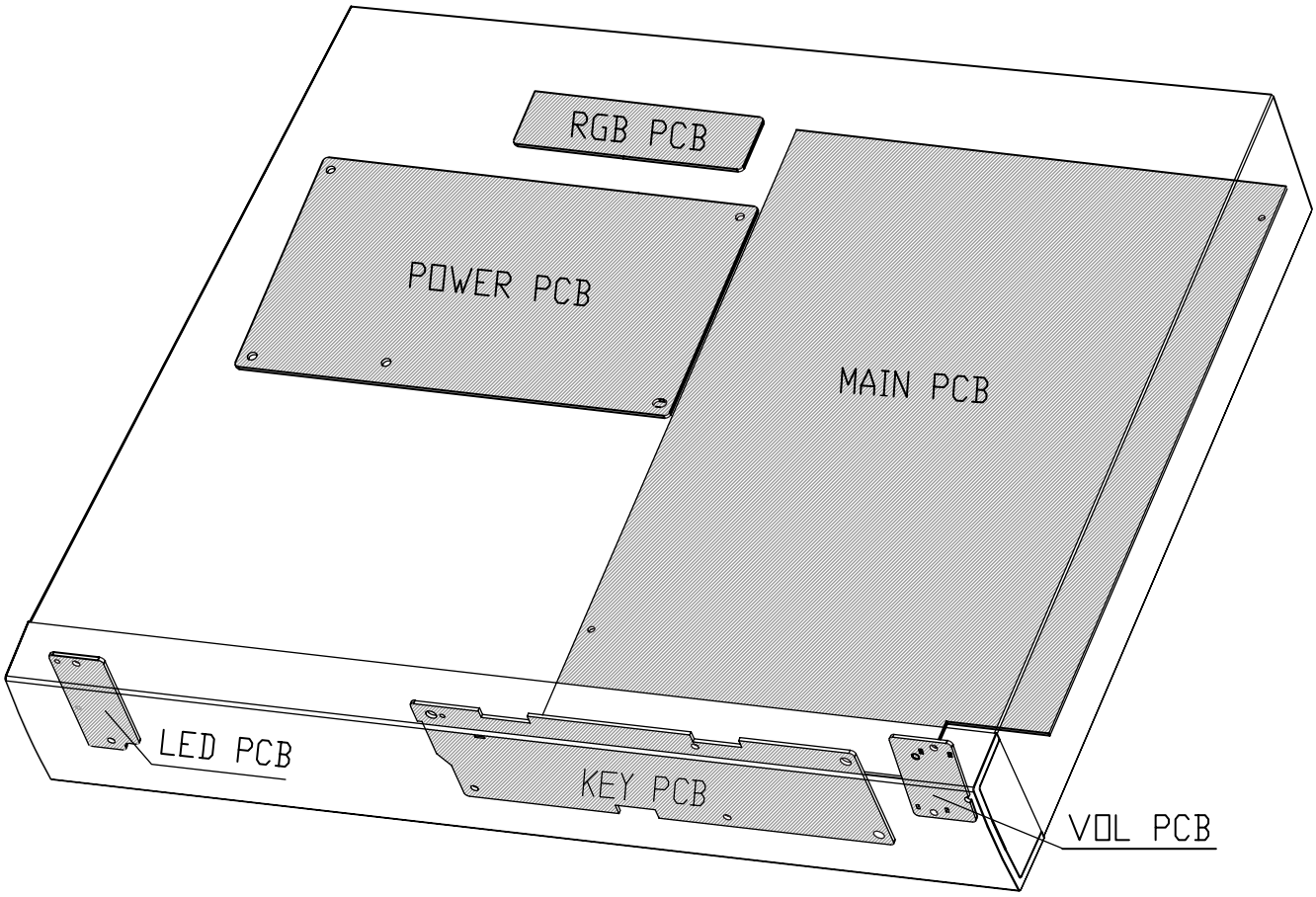
Version 2.0


PHILIPS

## LOCATION OF PC BOARDS




## VERSION VARIATION:

| Type/Versions<br>Features &<br>Board in used | MX3660D<br>/21H | MX3660D<br>/30 | MX3660D<br>/37 |
|---|---|---|---|
| RDS function | | | |
| Progressive scan | | | |
| Scart board | | | |
| RGB board | x | x | x |
| Power PCB(120V) | | | x |
| Power PCB(220V~240V) | x | x | |
| Subwoofer SW3660/00 | x | x | |
| Subwoofer SW3660/17 | | | x |

# SPECIFICATIONS

## AMPLIFIER SECTION

Power Output
- Stereo mode (DIN).....2 x 50 W
.....2 x 40W FTC
- Surround mode (1 kHz).....50 W RMS/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

## DVD SECTION

Laser Type.....Semiconductor
Disc Diameter.....12cm/8cm
Video Decoding.....MPEG-2
Audio DAC.....10 Bits
Signal System.....PAL / NTSC
Video Format.....4:3 / 16.9
Video S / N.....56 dB (minimum)
Composite Video Oput.....1.0V p-p, 75Ω
S-Video Output.....Y-1.0V p-p, 75Ω
.....C-0.286Vp-p, 75Ω
Audio DAC.....Direct Digital Amplification
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

## TUNER SECTION

Tuning Range..... FM 87.5 -108 MHz (100 kHz steps) (/37)
Tuning Range....FM 87.5 -108 MHz (50 kHz steps) (/21H,/30)
.....AM 530 - 1710 kHz (10 kHz steps) (/37)
.....MW 531 - 1602 kHz (9 kHz steps) (/21H,/30)
26 dB Quieting Sensitivity.....FM 20 dB
26 dB Quieting Sensitivity.....AM 5000 uV/m
Image Rejection Ratio.....FM 25 dB
.....AM 28 dB (/37)
.....MW 28 dB (/21H,/30)
IF Rejection Ratio.....FM 60 dB
.....AM 24 dB (/37)
.....MW 24 dB (/21H,30)
Signal-to-Noise Ratio.....FM 55 dB
.....AM 35 dB (/37)
.....MW 35 dB (/21H,/30)
AM Suppression Ratio.....FM 30 dB
Harmonic Distortion.....FM Mono 3%
.....FM Stereo 3%
.....AM 5% (/37)
.....MW 5% (/21H,/30)
Frequency Response.....FM 180 Hz-10kHz/±6 dB
Stereo Separation.....FM 26 dB(1 kHz)
Stereo threshold.....FM 23.5 dB

## MISCELLANEOUS

Power Supply Rating.....120V/60 Hz (/37)
Power Supply Rating.....220-240 / 50-60 Hz (/21H,/30)
Power Consumption..... 160W
Dimensions (w x h x d)..... 435 mm x 81 mm x 360mm
.....17.1x 3.1x 14.2 (inch)
Weight.....5.1 kg
.....11,2 pounds

## IR REMOTE CONTROL

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

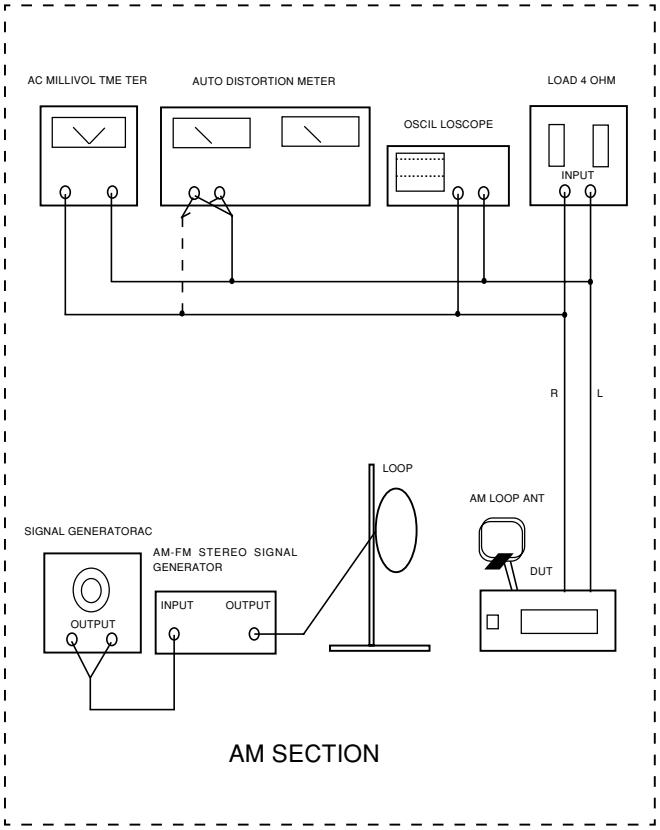
## SPEAKERS

### Front Speakers / Surround speaker

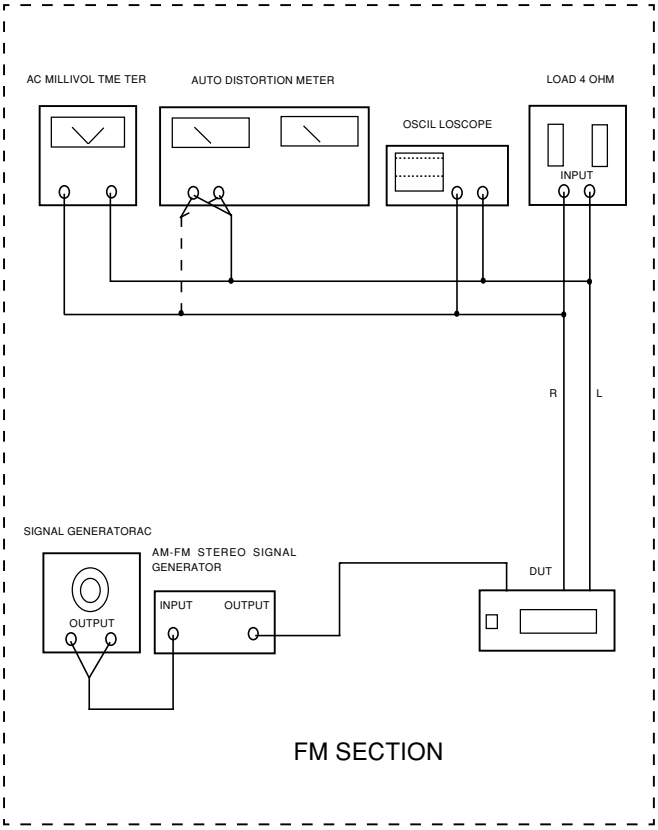
System.....2-way shielded
Impedance.....8Ω
Speaker drivers.....3" full range, 1" piezo
Dimensions (w x h x d)..... 96 mm x 155 mm x 95 mm
.....3.78x 6.10x 3.74(inch)
Weight..... 0.45 Kg/each
.....0.99 pounds / each

### Center Speaker

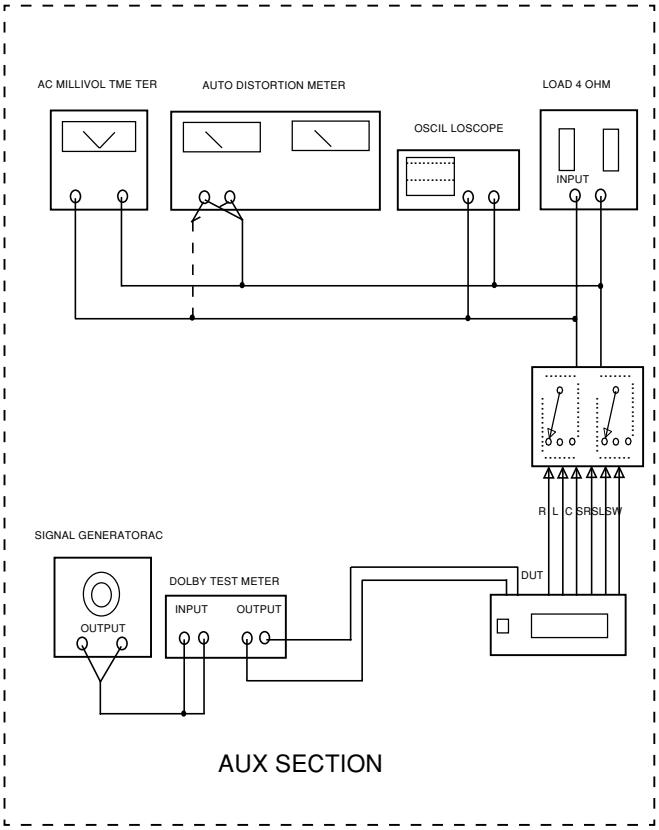
System.....5 multi directional driver
Impedance.....8Ω
Speaker drivers.....4x 2 " woofer,13/4 " tweeter
Dimensions (w x h x d).....435 mm x 72 mm x 63.5 mm
.....17.13x 2.83x 2.5 (inch) (/37)
Weight..... 1.32kg
.....2.90 pounds (/37)



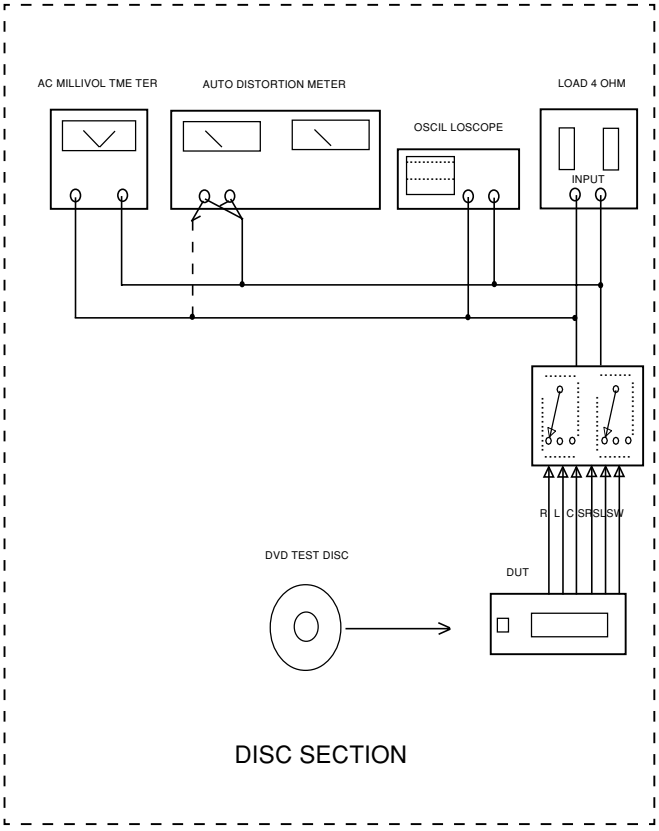

AM SECTION




FM SECTION




AUX SECTION




DISC SECTION

# 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

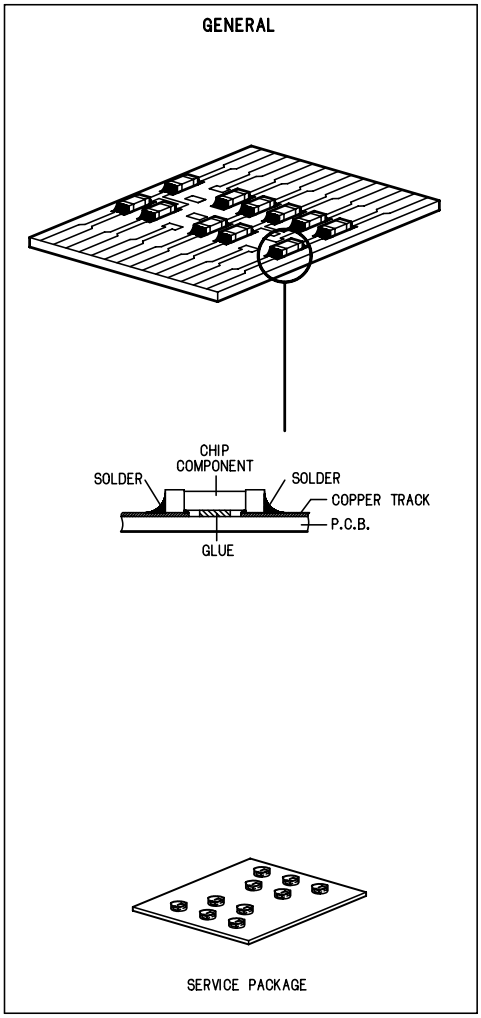
**Compact Disc:**

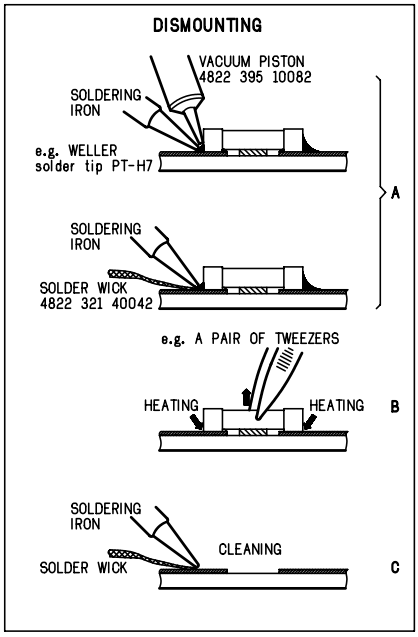
SBC426/426A Test disc 5 + 5A .....4822 397 30096
SBC442 Audio Burn-in test disc 1kHz .....4822 397 30155
SBC429 Audio Signals disc .....4822 397 30184
Dolby Pro-logic Test Disc .....4822 395 10216

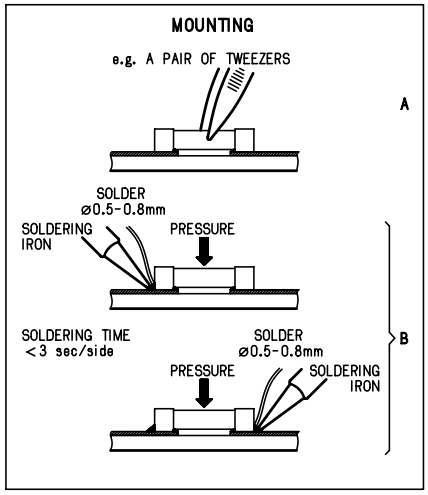
**ESD Equipment:**

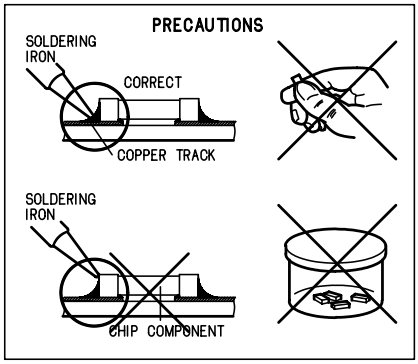
Anti-static table mat - large 1200x650x1.25mm ...4822 466 10953
anti-static table mat - small 600x650x1.25mm .....4822 466 10958
Anti-static wristband .....4822 395 10223
Connectorbox (1MΩ) .....4822 395 11307
Extension cable
(to connect wristband to conn.box) .....4822 320 11305
Connecting cable
(to 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

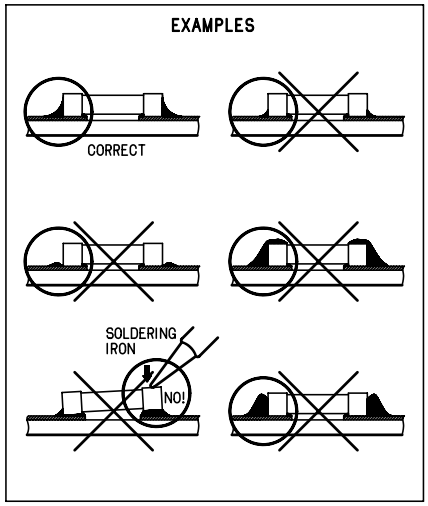
## HANDLING CHIP COMPONENTS



## ESD

**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 kan 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**

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

**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 utiliséés les piéces de rechange identiques à celles spécifiées.

**D**

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Original zustand 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.

"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."

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

**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 Advarse !**

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

# System, Region code, Tuner, etc. setting procedure

## 1) System Reset

a) Press "SYSTEM" button on R/C. TV show "SETUP"
b) Select the menu using the "▼" and "►" button on R/C
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 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/MX3700D/MX3800/MX3550D
- 003 LX3700D/LX3750W
- 005 MRD210
- 006 MX3660D

oem derivative
- 08

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

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

- "oem derivative" = 2 digit

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

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

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

For MX3660D/37 (USA)
<PLAY> <159> <111> <006> <08> PLAY

For MX3660D/21H (APAC)
<PLAY> <159> <331> <006> <08> PLAY

For MX3660D/30 (AUSTRALIA)
<PLAY> <159> <431> <006> <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 reach 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 confidencial and may not be distributed. Only a qualified service person should reprogram the Region Code.**

2-1

## 3) Region code change timer reset

Press below key to reset the timer :
a) In DISC source, stop mode and no disc in tray.
b) Press R/C "Play -159-PLAY" to reset timer to 25

## 4) Tuner area change

a) Press the "OPEN/CLOSE" button to openthe set's door
b) Press "1" "5" "9" button by using R/C.
c) TV Show "TUNER AREA ADJUST"
d) 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.

## 5. Video Out Change

a) Press "SYSTEM" on R/C button
b) Select the menu using the "▼" and "►" button on R/C
c) Go picture setup page select Video out item.

## 6. Password Change

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

## 7. Checking on the Software version

a) Open the CD door.
b) Press "123" and "OK" on the remote control.
c) TV will show the version on screen.

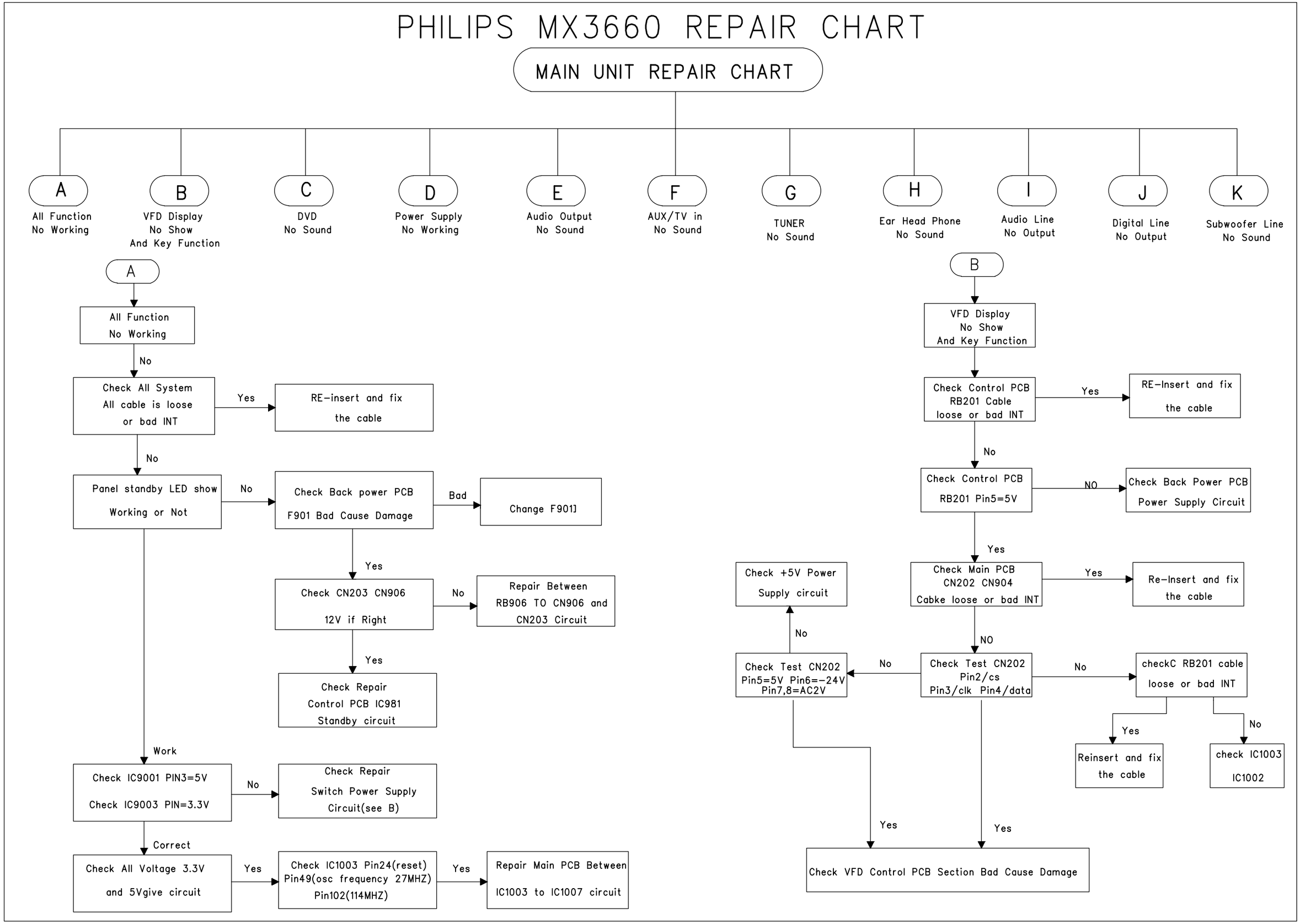
## 8. Upgrading new software

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

✱ The latest upgraded is in version VER0622.

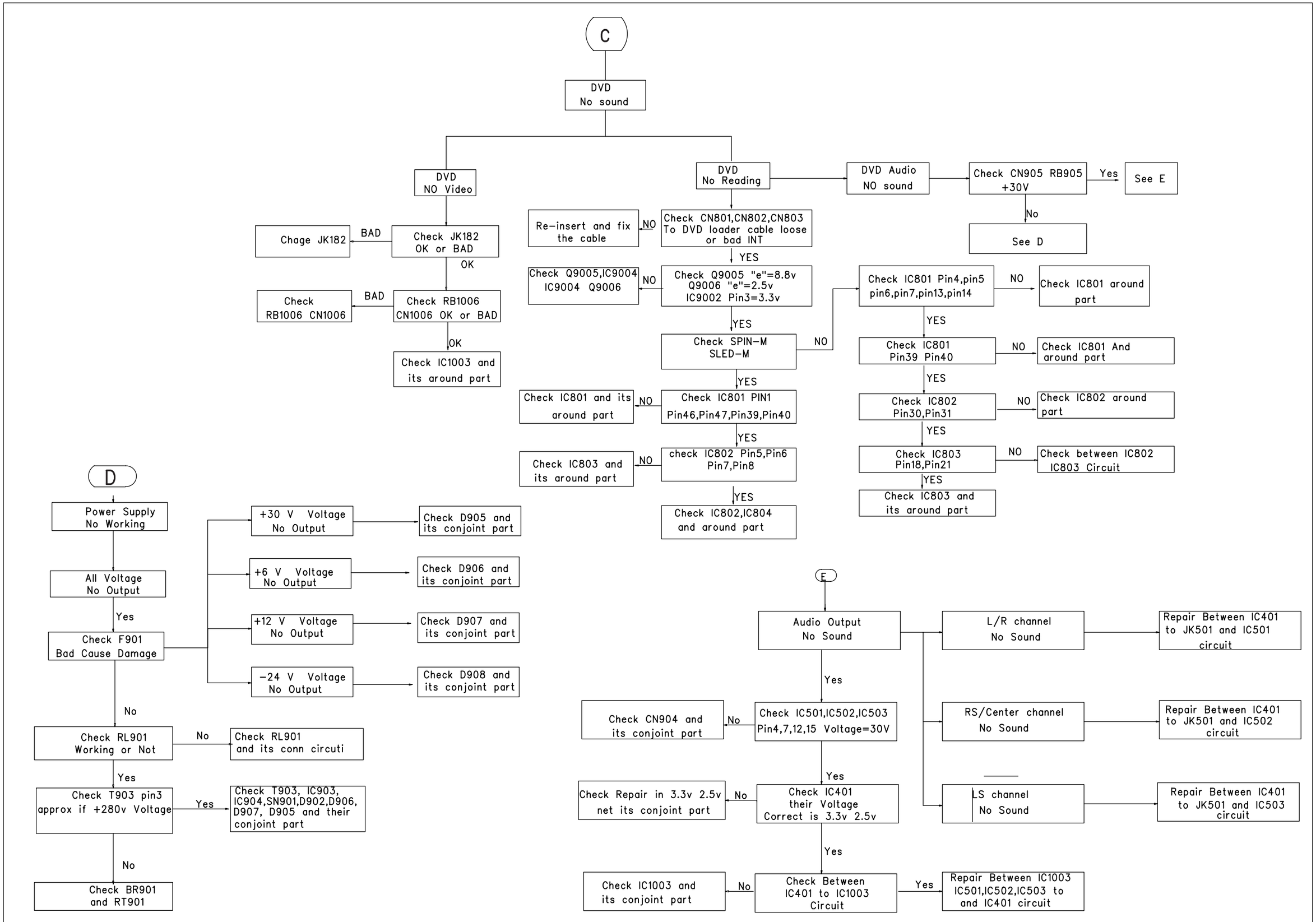
2-2

## REPAIR INSTRUCTION



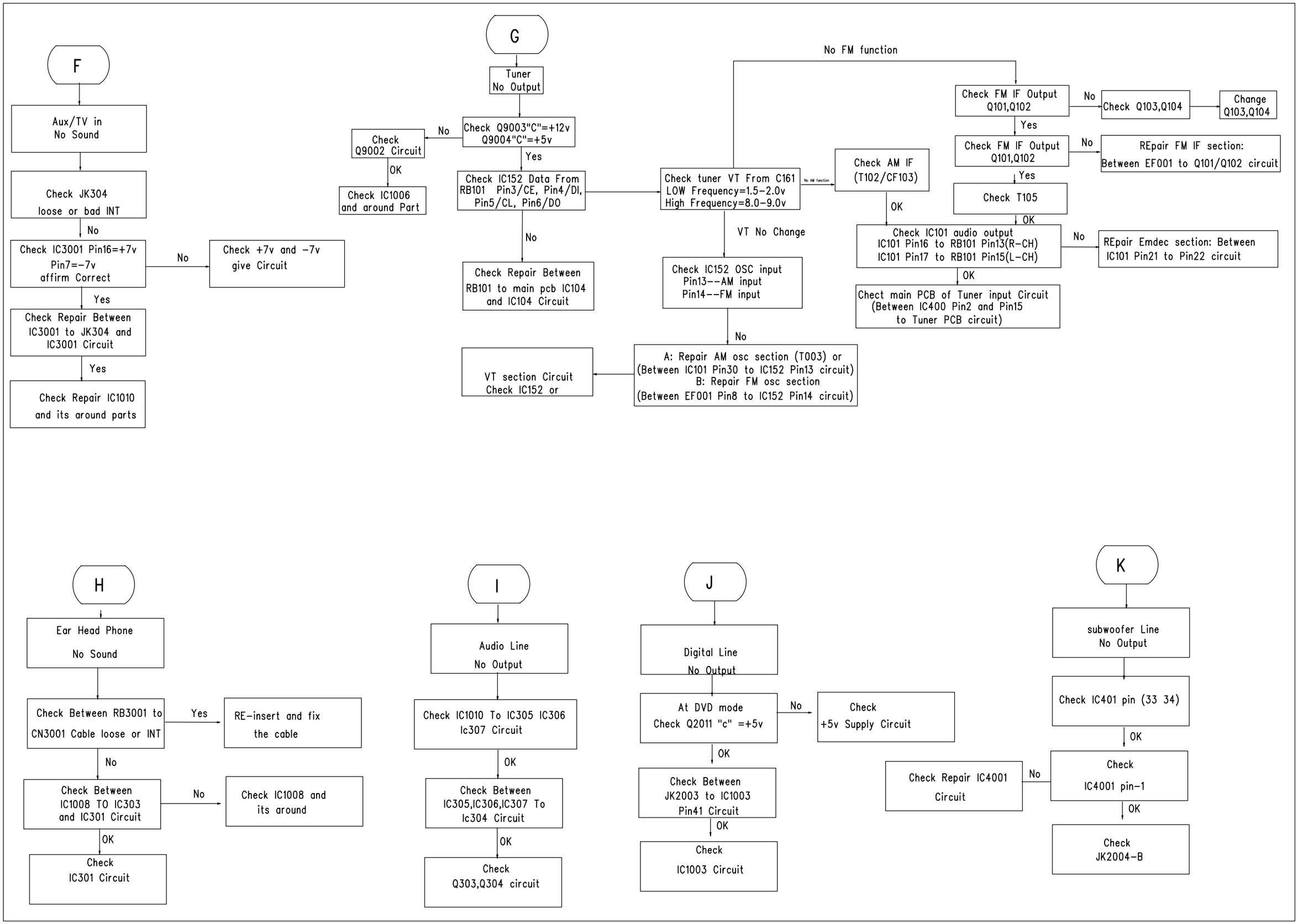
2-3

# REPAIR INSTRUCTION



2-4

# REPAIR INSTRUCTION



# 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.

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 9 screws and remove the Top Cover by lifting the rear portion upwards before sliding it out towards the rear.
   - 5 screws on the back
   - 2 screws each on the left & right side

4) Loosen 7 screws & lift up the top edge of Front Panel assembly to free some catches before sliding it out towards the front.
   - 4 screws on the bottom
   - 1 screw "E" on the inside as indicated in Figure 8.
   - 1 screw each on the left & right side

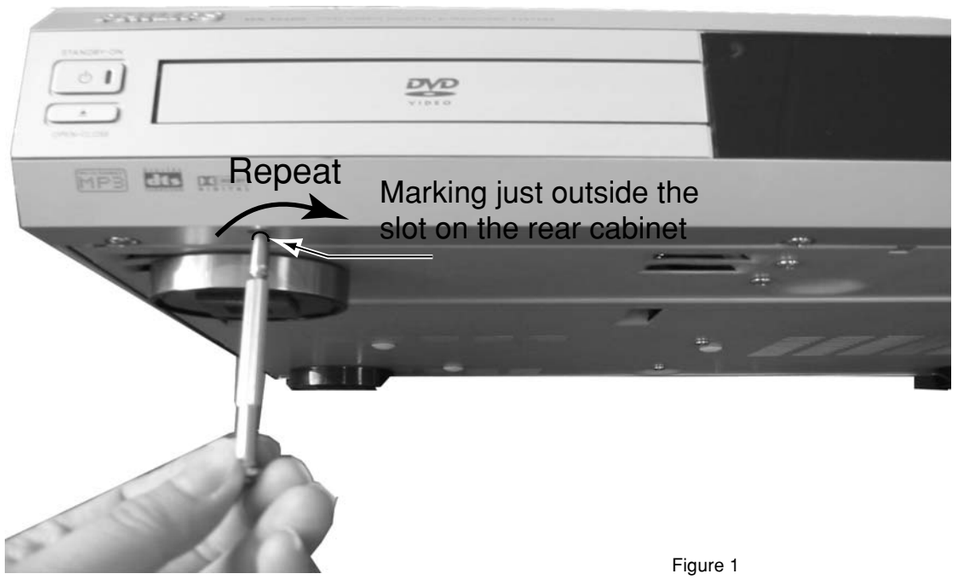



Figure 1

Figure 2

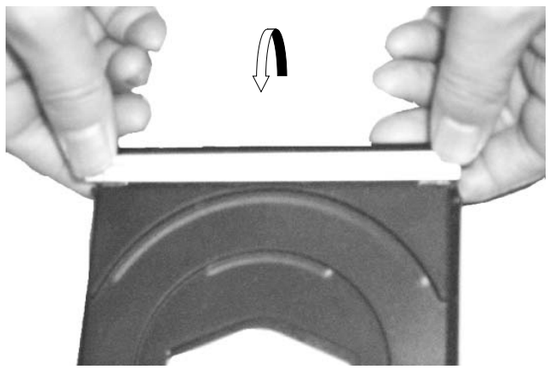


Figure 3



### *Dismantling of the DVD Module*

1) Loosen 4 screws "A" to remove the DVD Module as shown in figure 4.

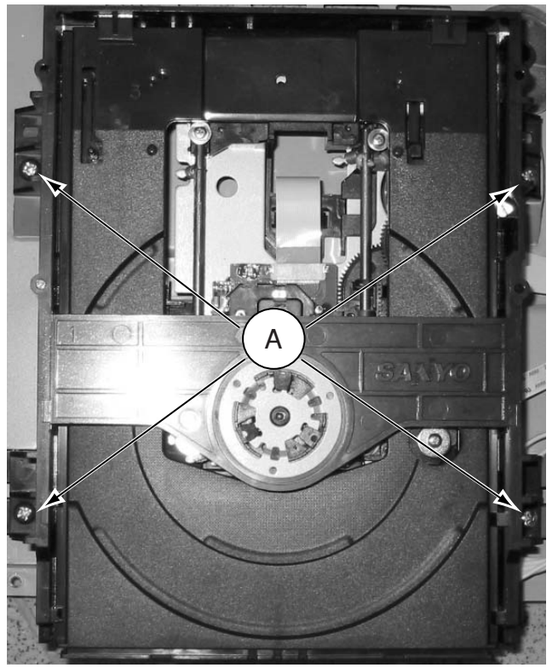



Figure 4

### *Dismantling of the Power Board*

1) Loosen 2 screws "B" on the bottom cover as shown in figure 5.

3) Loosen 4 screws "C" at the top of the Power Board as shown in figure 6

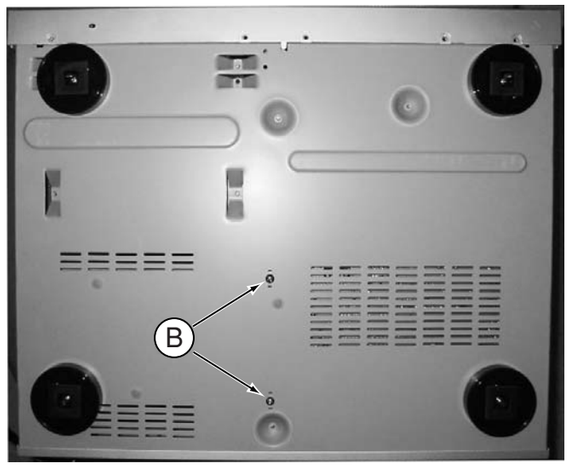



Figure 5

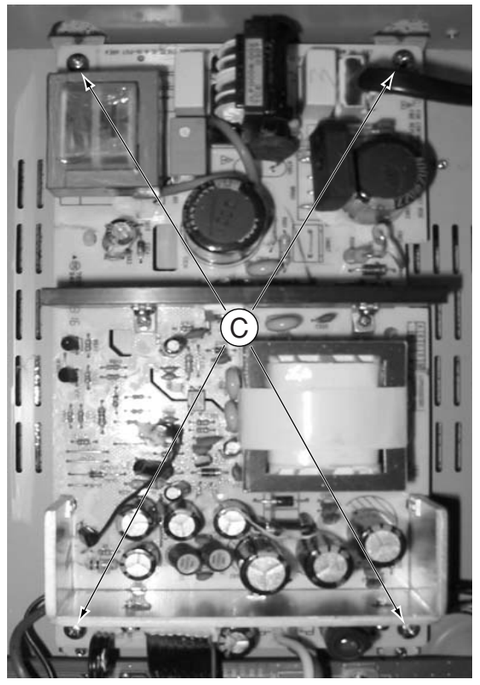



Figure 6

***Dismantling of the Tuner PCB***

1) Loosen 8 screw " D " at the back panel as shown in figure 7.

2) Loosen 6 screw " F " on the top of main board as shown in figure 8.

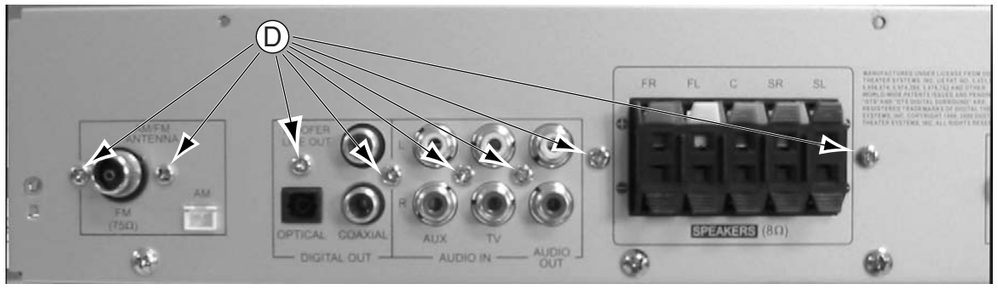



Figure 7

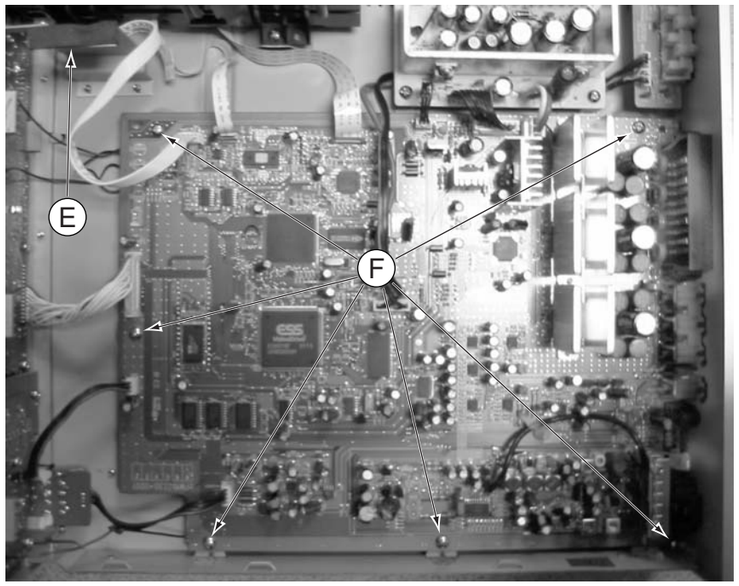



Figure 8

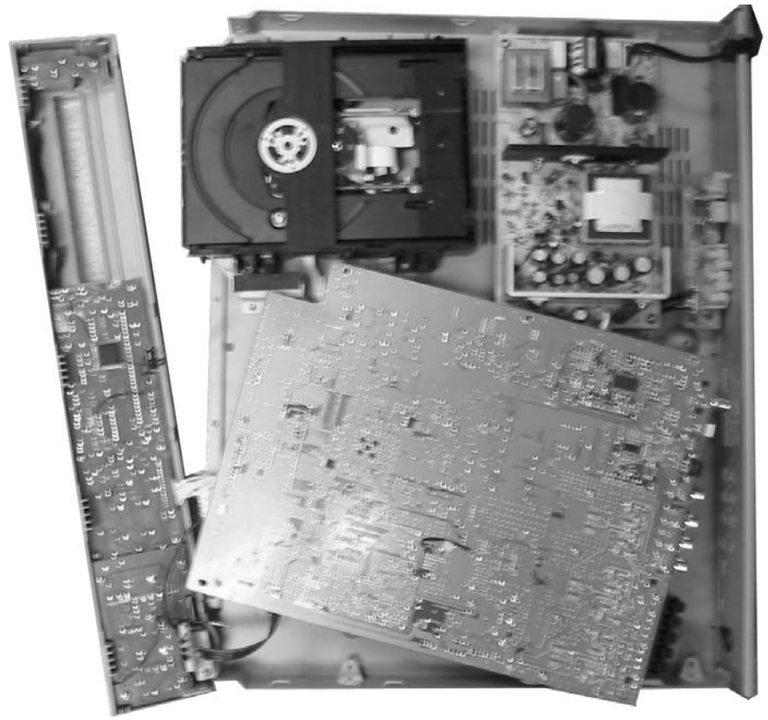
**R.G.B Jack use for MX3660D/21H**
**MX3660D/30**
**MX3660D/37**

Figure 9



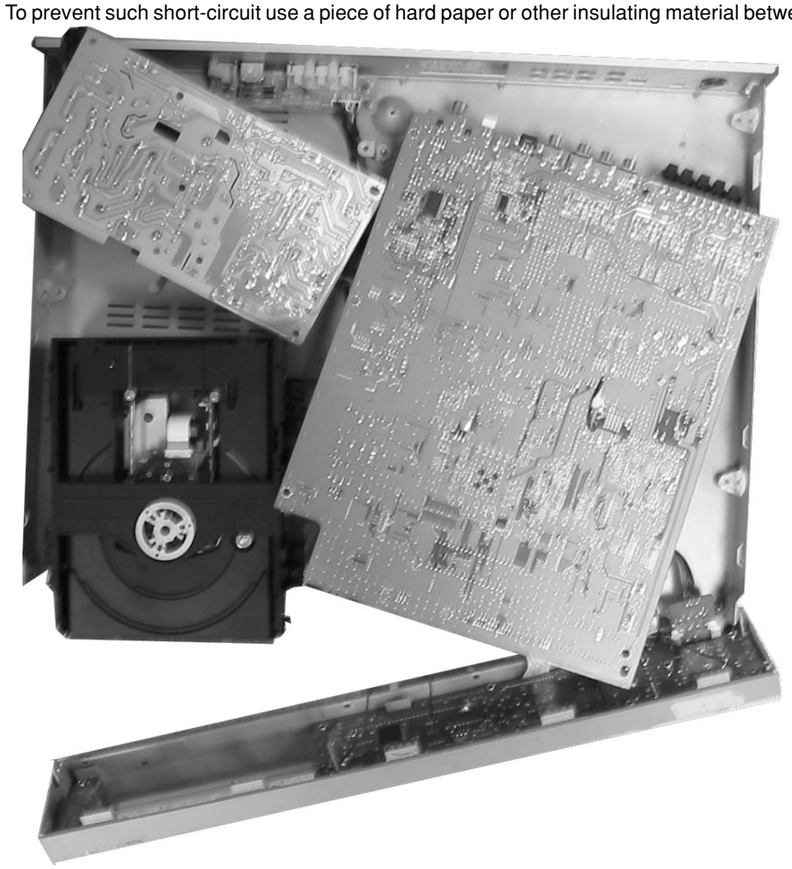
# SERVICE POSITIONS

Service position A



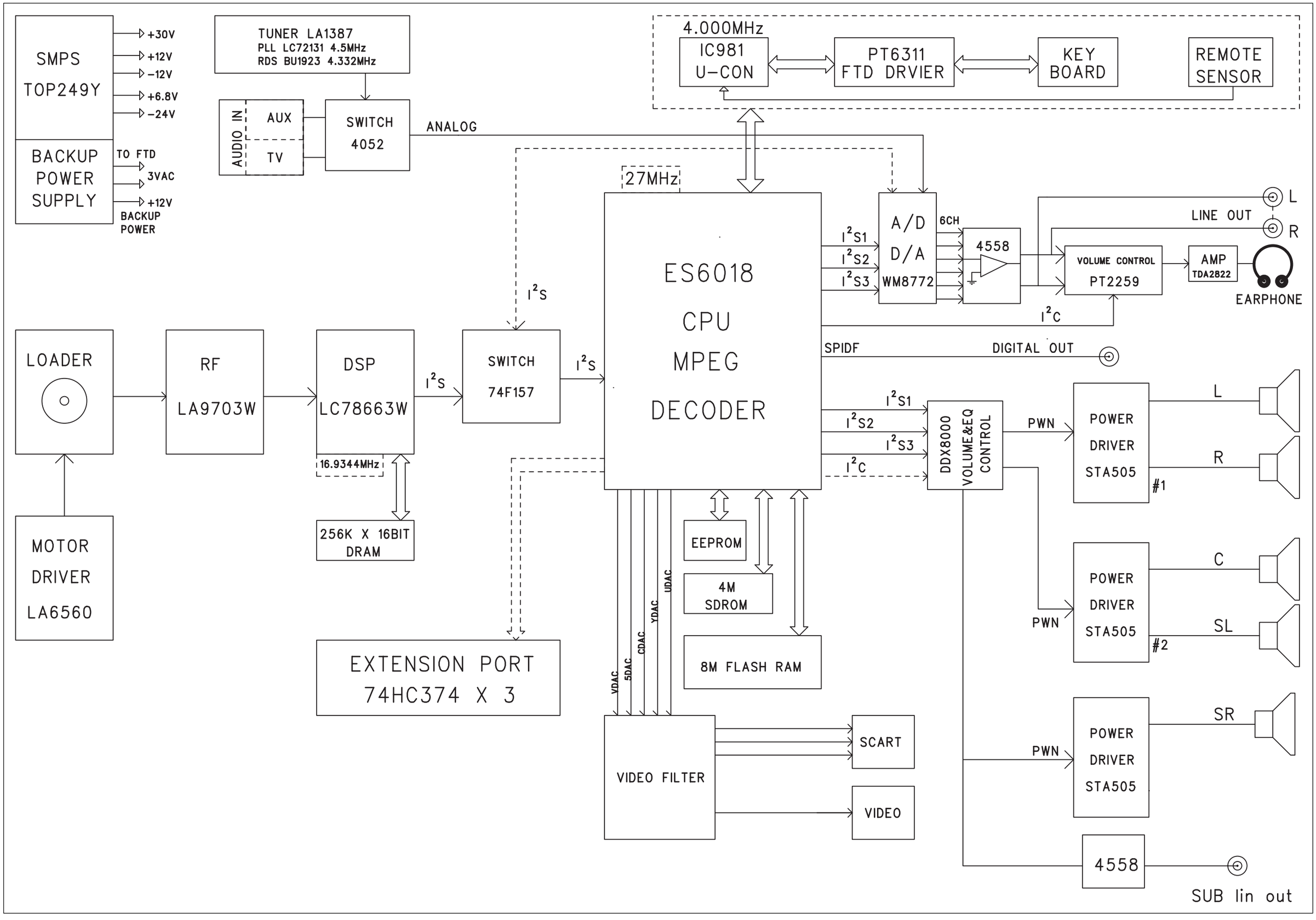
Note: In some service positions the components or copper patterns of one board may risk touching its neighbouring pc boards or metallic parts. To prevent such short-circuit use a piece of hard paper or other insulating material between them.

Service position B



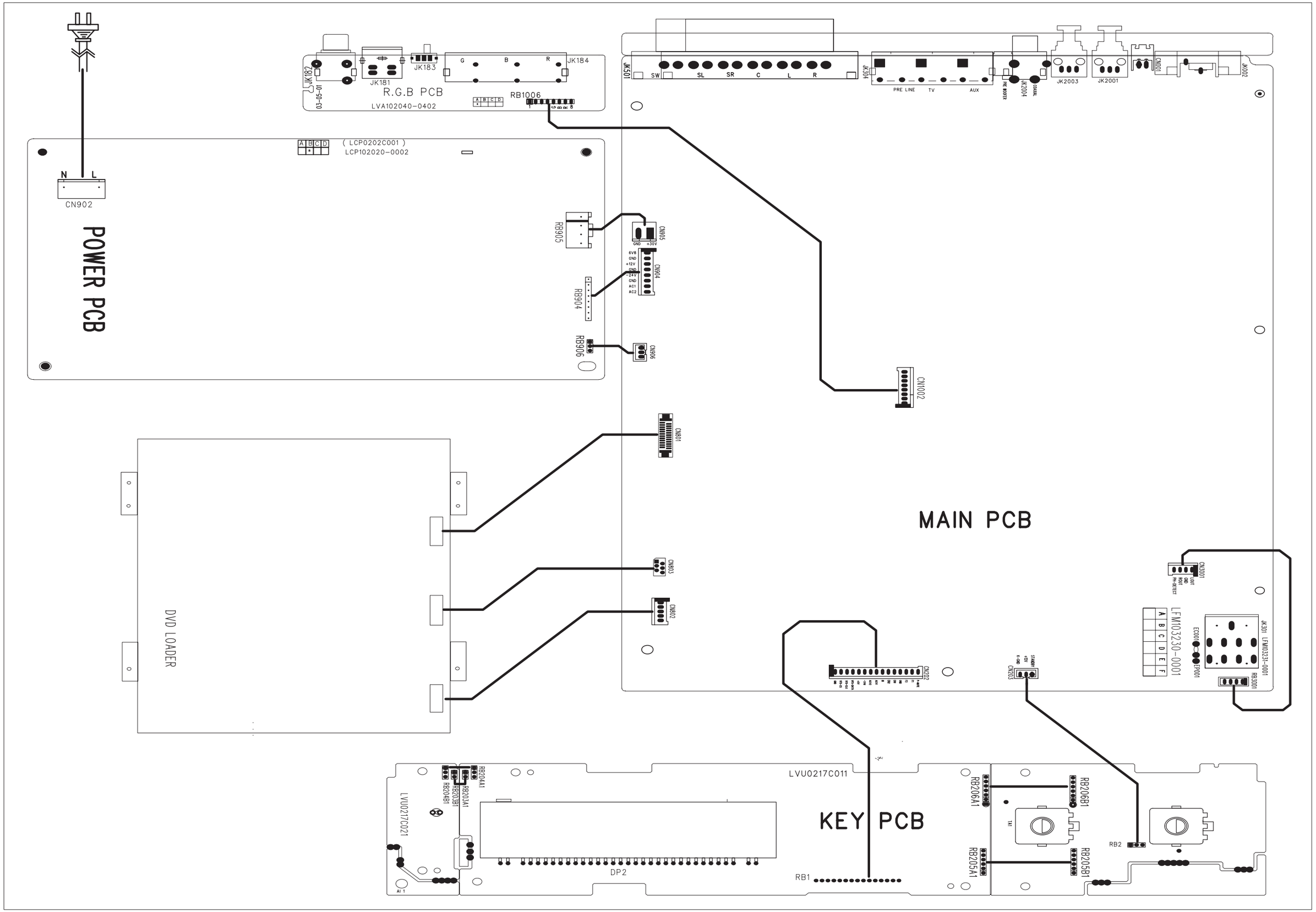
4-1

## BLOCK DIAGRAM



4-2

## WIRING DIAGRAM



# KEY / LED BOARD

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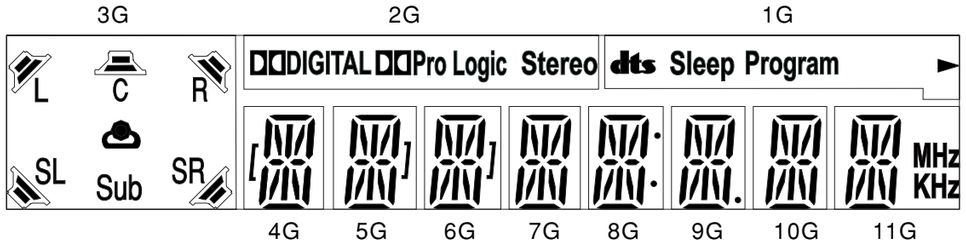
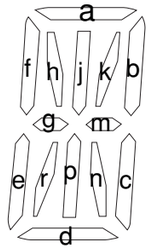
## FTD DISPLAY PIN ASSIGNMENT




(4G-11G)

| | 1G | 2G | 3G | 4G | 5G | 6G | 7G | 8G | 9G | 10G | 11G |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P1 | Program | DIGITAL | R | a | a | a | a | a | a | a | a |
| P2 | Sleep | ProLogic | C | b | b | b | b | b | b | b | b |
| P3 | dts | Stereo | L | h | h | h | h | h | h | h | h |
| P4 | | | | 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 |

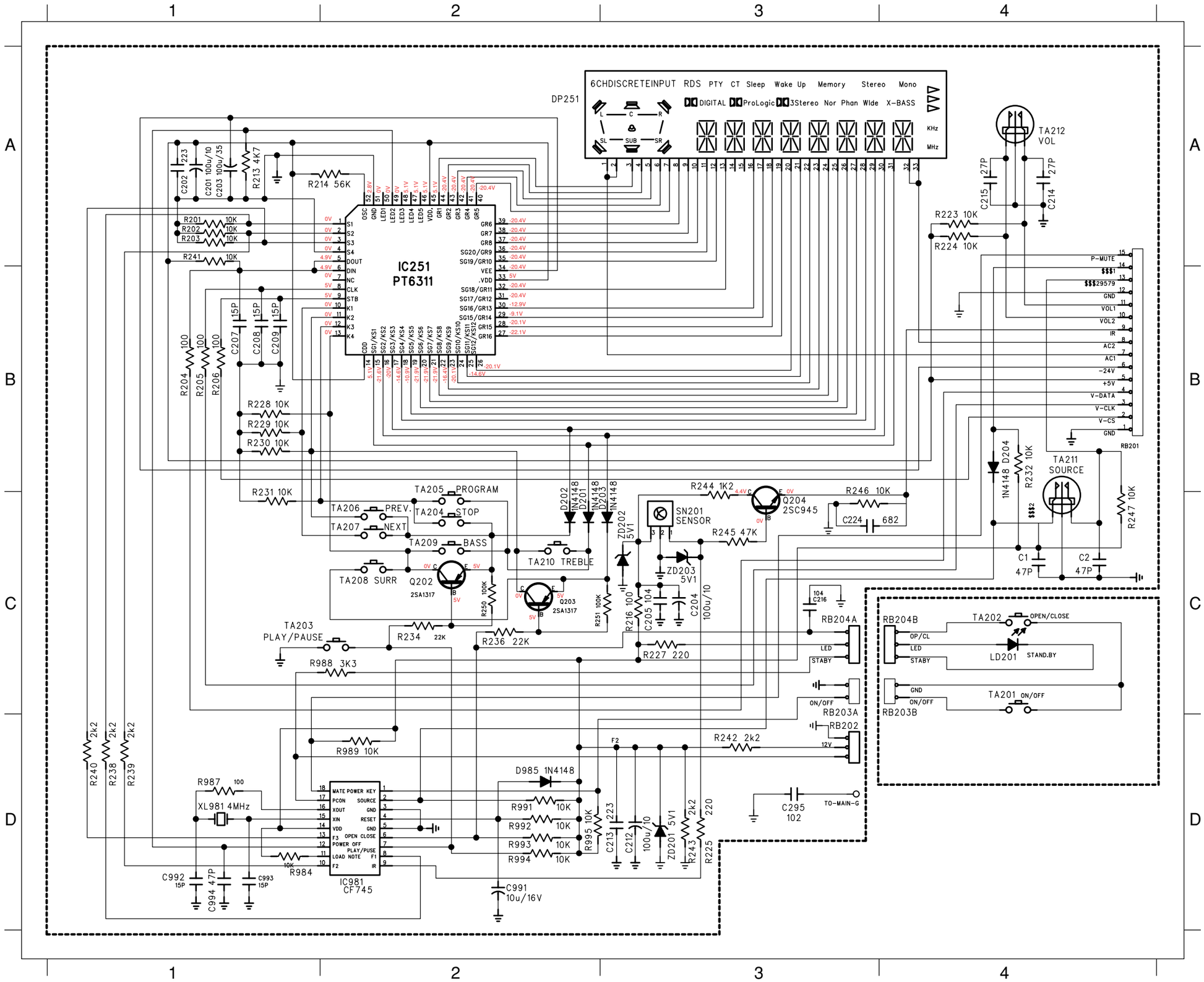
## PIN CONNECTION

| PIN NO. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CONNECTION | F1 | F2 | NP | 1G | 2G | 3G | 4G | 5G | 6G | 7G | 8G | 9G | 10G | 11G | NC | NC | P1 | P2 | P3 | P4 | P5 | P6 | P7 | P8 | P9 | P10 | P11 | P12 | P13 | P14 | P15 | P16 | NP | F2 | F2 |

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

5-2

# CIRCUIT DIAGRAM

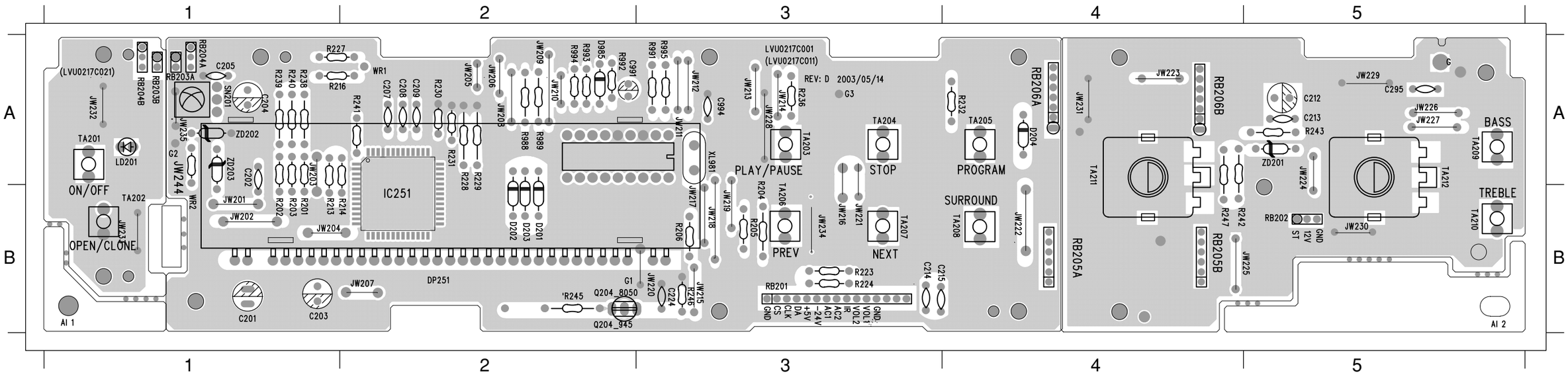



| | | | |
|---|---|---|---|
| C201 | A1 | R242 | D3 |
| C202 | A1 | R244 | B3 |
| C203 | A1 | R225 | D3 |
| C204 | C3 | R245 | C3 |
| C205 | C3 | R246 | C3 |
| C207 | B1 | R250 | C2 |
| C208 | B1 | R251 | C2 |
| C209 | B1 | R984 | D1 |
| C212 | D3 | R987 | D1 |
| C213 | D3 | R988 | C2 |
| C214 | A4 | R989 | D2 |
| C215 | A4 | R991 | D2 |
| C216 | C3 | R992 | D2 |
| C295 | D3 | R993 | D2 |
| C991 | D2 | R994 | D2 |
| C992 | D1 | R995 | D2 |
| C993 | D1 | RB201 | B4 |
| C994 | D1 | RB202 | D3 |
| D201 | C2 | RB203A | C3 |
| D202 | C2 | RB203B | C4 |
| D203 | C3 | RB204A | C3 |
| D204 | B4 | RB204B | C4 |
| D985 | D2 | SN201 | C3 |
| DP251 | A2 | TA201 | C4 |
| IC251 | B2 | TA202 | C4 |
| IC981 | D2 | TA203 | C1 |
| LD201 | C4 | TA204 | C2 |
| Q202 | C2 | TA205 | B2 |
| Q203 | C2 | TA206 | C2 |
| Q204 | C3 | TA207 | C2 |
| R201 | A1 | TA208 | C2 |
| R202 | A1 | TA209 | C2 |
| R203 | A1 | TA210 | C2 |
| R204 | B1 | TA211 | B4 |
| R205 | B1 | TA212 | A4 |
| R206 | B1 | XL981 | D1 |
| R213 | A1 | ZD201 | D3 |
| R214 | A2 | ZD202 | C3 |
| R216 | C3 | ZD203 | C3 |
| R223 | A4 | | |
| R224 | A4 | | |
| R227 | C3 | | |
| R228 | B1 | | |
| R229 | B1 | | |
| R230 | B1 | | |
| R231 | C1 | | |
| R232 | B4 | | |
| R234 | C2 | | |
| R236 | C2 | | |
| R238 | D1 | | |
| R239 | D1 | | |
| R240 | D1 | | |
| R241 | A1 | | |

5-3

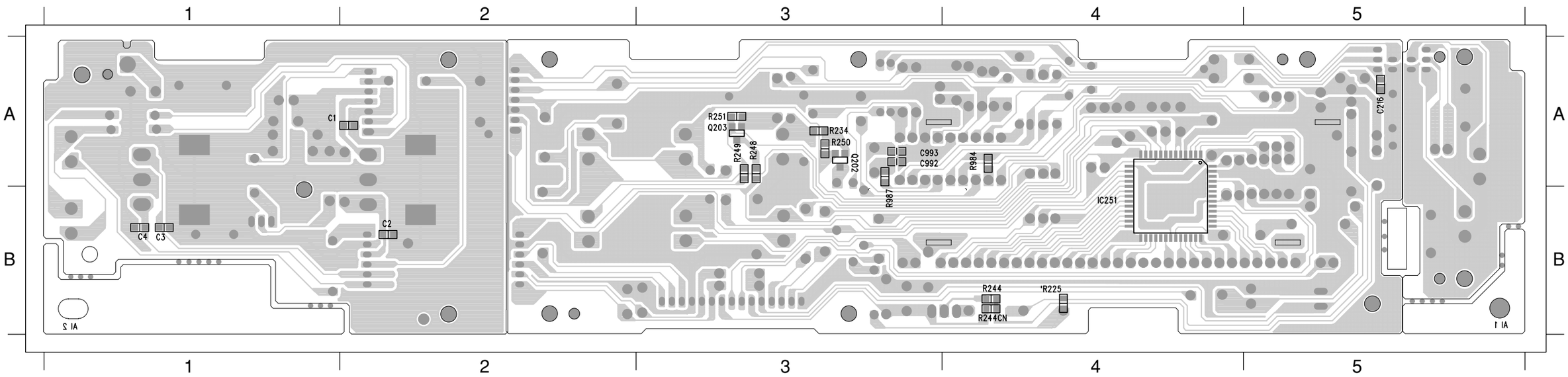
## PCB LAYOUT TOP VIEW

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C201 | B1 | C213 | A5 | D203 | B2 | JW204 | B1 | JW213 | A3 | JW222 | B4 | JW231 | A4 | R203 | B1 | R227 | A1 | R240 | A1 | R993 | A2 | RB205A | B4 | TA205 | A4 | ZD201 | A5 |
| C202 | A1 | C214 | B3 | D204 | A4 | JW205 | A2 | JW214 | A3 | JW223 | A4 | JW232 | A1 | R204 | B3 | R228 | A2 | R241 | A2 | R994 | A2 | RB205B | B4 | TA206 | B3 | ZD202 | A1 |
| C203 | B1 | C215 | B4 | D985 | A2 | JW206 | A2 | JW215 | B3 | JW224 | A5 | JW233 | B1 | R205 | B3 | R229 | A2 | R242 | B4 | R995 | A3 | RB206A | A4 | TA207 | B3 | ZD203 | A1 |
| C204 | A1 | C224 | B3 | DP251 | B2 | JW207 | B2 | JW216 | B3 | JW225 | B5 | JW234 | B3 | R206 | B3 | R230 | A2 | R245 | B2 | RB201 | B3 | RB206B | A4 | TA208 | B4 | | |
| C205 | A1 | C295 | A5 | IC251 | B2 | JW208 | A2 | JW217 | B3 | JW226 | A5 | JW235 | A1 | R213 | B1 | R231 | A2 | R246 | B3 | RB202 | B5 | SN201 | A1 | TA209 | A5 | | |
| C207 | A2 | C991 | A2 | LD201 | A1 | JW209 | A2 | JW218 | B3 | JW227 | A5 | JW244 | A1 | R214 | B2 | R232 | A4 | R988 | A2 | RB204B | A1 | TA201 | A1 | TA210 | B5 | | |
| C208 | A2 | C994 | A3 | JW201 | B1 | JW210 | A2 | JW219 | B3 | JW228 | A3 | Q204 | B3 | R216 | A1 | R236 | A3 | R989 | A2 | RB203B | A1 | TA202 | B1 | TA211 | A4 | | |
| C209 | A2 | D201 | B2 | JW202 | B1 | JW211 | A3 | JW220 | B3 | JW229 | A5 | R201 | B1 | R223 | B3 | R238 | A1 | R991 | A3 | RB203A | A1 | TA203 | A3 | TA212 | A5 | | |
| C212 | A5 | D202 | B2 | JW203 | A1 | JW212 | A3 | JW221 | B3 | JW230 | B5 | R202 | B1 | R224 | B3 | R239 | A1 | R992 | A2 | RB204A | A1 | TA204 | A3 | XL981 | A3 | | |




## PCB LAYOUT BOTTOM VIEW

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C1 | A2 | C216 | A5 | C993 | A3 | Q202 | A3 | R225 | B4 | R244 | B4 | R249 | A3 | R251 | A3 | R987 | B3 | | |
| C2 | B1 | C992 | A3 | IC251 | B4 | Q203 | A3 | R234 | A3 | R248 | A3 | R250 | A3 | R984 | A4 | | | | |



5-4

## *ELECTRICAL PARTS LIST - KEY / LED BOARD*

MISCELLANEOUS

| | | |
|---|---|---|
| DP251 | 9965 000 12538 | VFD DISPLAY |
| LD201 | 9965 000 17400 | LED |
| SN201 | 9965 000 15935 | IRT SENSOR RIM B38F |
| TA201 | 9965 000 20267 | TACT SW SK1QN00048 160GF |
| TA202 | 9965 000 20267 | TACT SW SK1QN00048 160GF |
| TA203 | 9965 000 20267 | TACT SW SK1QN00048 160GF |
| TA204 | 9965 000 20267 | TACT SW SK1QN00048 160GF |
| TA205 | 9965 000 20267 | TACT SW SK1QN00048 160GF |
| TA206 | 9965 000 20267 | TACT SW SK1QN00048 160GF |
| TA207 | 9965 000 20267 | TACT SW SK1QN00048 160GF |
| TA208 | 9965 000 20267 | TACT SW SK1QN00048 160GF |
| TA209 | 9965 000 20267 | TACT SW SK1QN00048 160GF |
| TA210 | 9965 000 20267 | TACT SW SK1QN00048 160GF |
| TA211 | 9965 000 12539 | ROTARY ENCODER EC16B24-204 |
| TA212 | 9965 000 12539 | ROTARY ENCODER EC16B24-204 |
| XL981 | 9965 000 12540 | CRYSTAL 4.00 MHZ |

DIODES

| | | |
|---|---|---|
| D201 | 4822 130 30621 | 1N4148 |
| D202 | 4822 130 30621 | 1N4148 |
| D203 | 4822 130 30621 | 1N4148 |
| D204 | 4822 130 30621 | 1N4148 |
| D985 | 4822 130 30621 | 1N4148 |
| ZD201 | 4822 130 34233 | BZX79-B5V1 |
| ZD202 | 4822 130 34233 | BZX79-B5V1 |
| ZD203 | 4822 130 34233 | BZX79-B5V1 |

TRANSISTORS & INTEGRATED CIRCUITS

| | | |
|---|---|---|
| Q202 | 9965 000 14175 | 2SA733Q,P |
| Q203 | 9965 000 14175 | 2SA733Q,P |
| Q204 | 4822 130 41198 | 2SC945P |
| IC251 | 9965 000 12550 | IC PT6311(PTC) |
| IC981 | 9965 000 17447 | IC S-CPU EM78P156ELP |

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

# POWER BOARD

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Circuit Diagtam.....6-2
PCB Layout.....6-3
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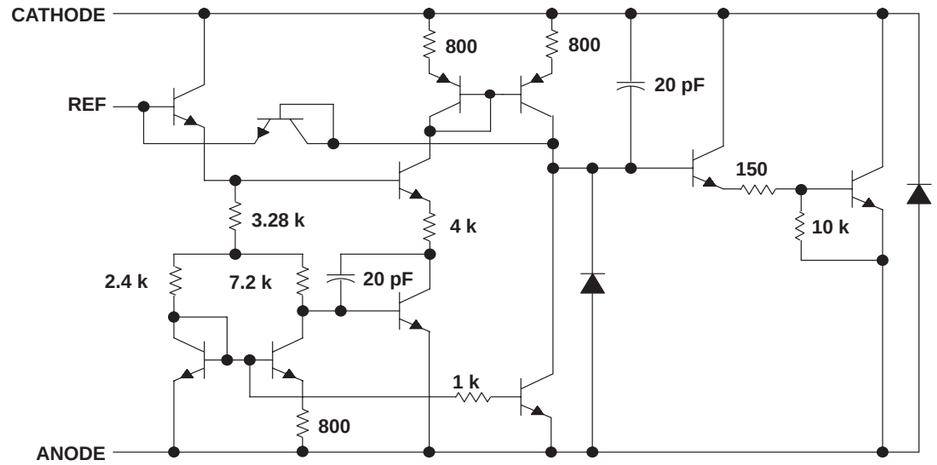
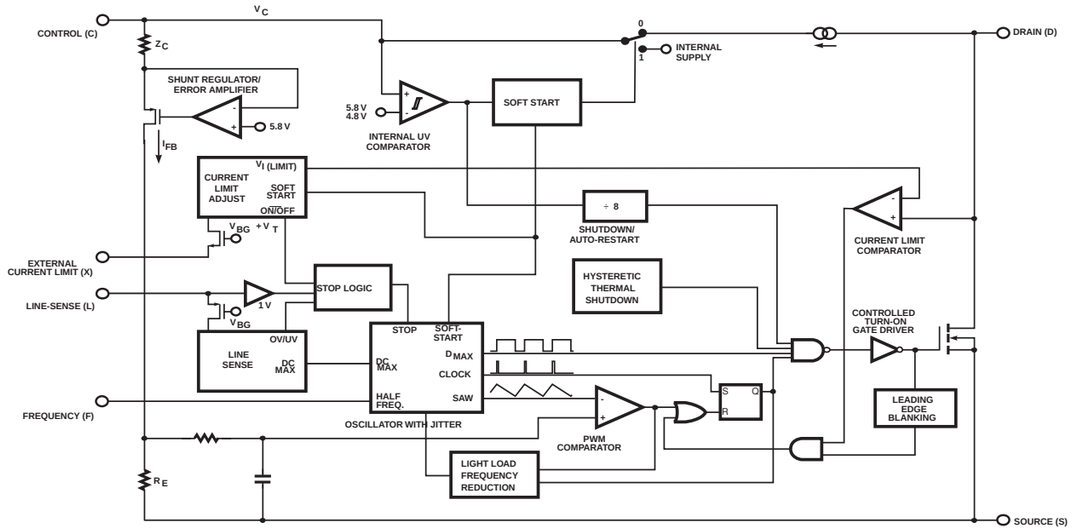
6-1

**TL431 EQUIVALENT SCHEMATIC**




**TOP249 BLOCK DIAGRAM**




**VOLTAGE**

IC903 (TOP249)

| PIN NO | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Voltage | 2.98 | 0 | -0.6 | 0 | 2.6 | 154 |

IC904 (TL431)

| PIN NO | 1 | 2 | 3 |
|---|---|---|---|
| Voltage | 2.48 | 0 | 5.1 |

SN901 (SFH615-3)

| PIN NO | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| Voltage | 27.7 | 26.6 | 2.5 | 16.7 |

Q903 (PN2222A)

| PIN NO | b | c | e |
|---|---|---|---|
| Voltage | 0 | 31.5 | 0 |

Q904 (TIP120)

| PIN NO | b | c | e |
|---|---|---|---|
| Voltage | 6.68 | 31.5 | 7.2 |

Q910 (2N7000)

| PIN NO | b | c | e |
|---|---|---|---|
| Voltage | -14.1 | -4.49 | -14.1 |

Q912 (2N7000)

| PIN NO | b | c | e |
|---|---|---|---|
| Voltage | -14.1 | -4.49 | -14.1 |

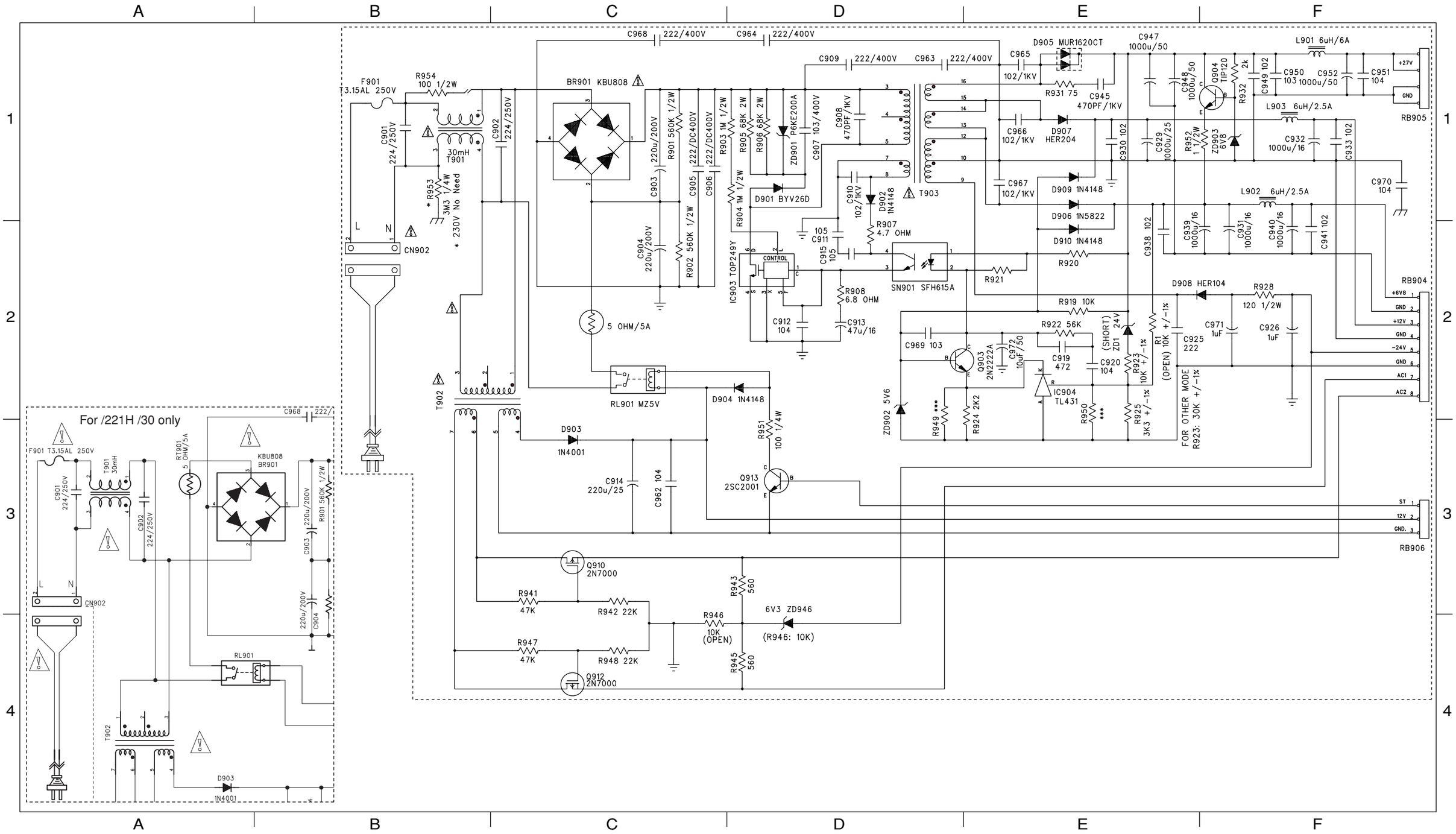
Q913 (2N7000)

| PIN NO | b | c | e |
|---|---|---|---|
| Voltage | 0.7 | 0.06 | 0 |

6-2

# CIRCUIT DIAGRAM

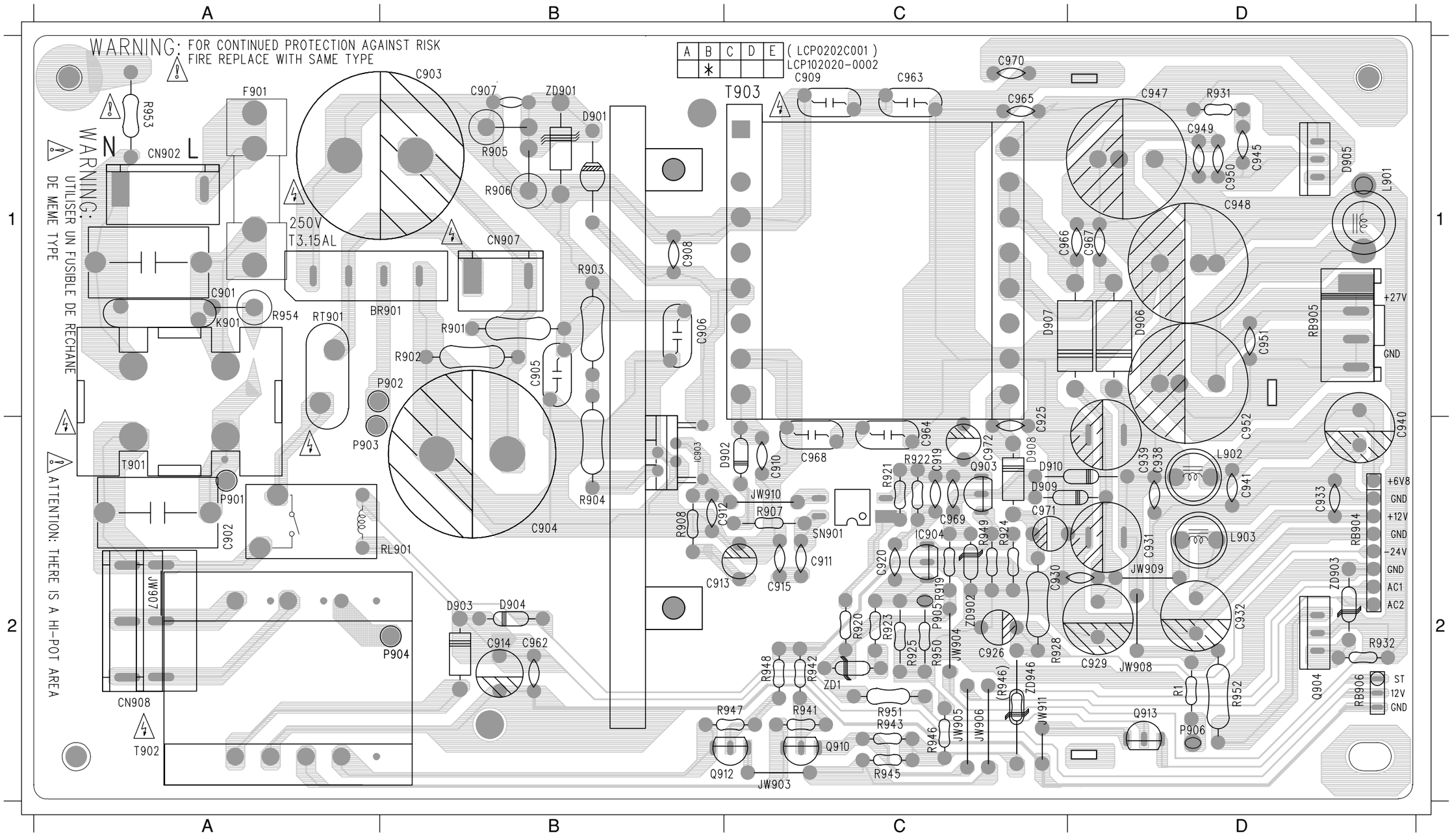
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BR901 | C1 | C908 | D1 | C919 | E2 | C933 | F1 | C949 | F1 | C966 | E1 | D901 | C1 | D909 | E1 | Q903 | E2 | R903 | C1 | R921 | E2 | R941 | C3 | R952 | E1 | SN901 | D2 | ZD946 | D4 |
| C901 | B1 | C909 | D1 | C920 | E2 | C938 | E2 | C950 | F1 | C967 | E1 | D902 | C1 | D910 | E2 | Q904 | F1 | R904 | D1 | R922 | E2 | R942 | C3 | R953 | B1 | T901 | B1 | | |
| C902 | C1 | C910 | C1 | C925 | E2 | C939 | E2 | C951 | F1 | C968 | C1 | D903 | C3 | F901 | B1 | Q910 | C3 | R905 | D1 | R923 | E2 | R943 | D4 | R954 | B1 | T902 | B2 | | |
| C903 | C1 | C911 | D2 | C926 | F2 | C940 | F2 | C952 | F1 | C969 | D2 | D904 | D3 | IC903 | D2 | Q912 | C4 | R906 | D1 | R924 | E2 | R945 | D4 | RB904 | F2 | T903 | D1 | | |
| C904 | C2 | C912 | D2 | C929 | E1 | C941 | F2 | C962 | C3 | C970 | F1 | D905 | E1 | IC904 | E2 | Q913 | D3 | R907 | D2 | R925 | E2 | R946 | C4 | RB905 | F1 | ZD1 | E2 | | |
| C905 | C1 | C913 | D2 | C930 | E1 | C945 | E1 | C963 | D1 | C971 | F2 | D906 | E2 | L901 | F1 | R1 | E2 | R908 | D2 | R928 | F2 | R947 | C4 | RB906 | F3 | ZD901 | D1 | | |
| C906 | C1 | C914 | C3 | C931 | F2 | C947 | E1 | C964 | D1 | C972 | E2 | D907 | E1 | L902 | F1 | R901 | C1 | R919 | E2 | R931 | E1 | R948 | C4 | RL901 | C2 | ZD902 | D3 | | |
| C907 | D1 | C915 | D2 | C932 | F1 | C948 | E1 | C965 | E1 | CN902 | B2 | D908 | E2 | L903 | F1 | R902 | C2 | R920 | E2 | R932 | F1 | R951 | D3 | RT901 | A3 | ZD903 | F1 | | |



6-3

## POWER PCB LAYOUT

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BR901 | A1 | C909 | C1 | C925 | C2 | C940 | D2 | C962 | B2 | C971 | C2 | D906 | D1 | JW904 | C2 | L902 | D2 | Q904 | D2 | R905 | B1 | R924 | C2 | R946 | C2 | RB906 | D2 | ZD902 | C2 |
| C901 | A1 | C910 | C2 | C926 | C2 | C941 | D2 | C963 | C1 | C972 | C2 | D907 | C1 | JW905 | C2 | L903 | D2 | Q910 | C2 | R906 | B1 | R925 | C2 | R947 | C2 | RL901 | B2 | ZD903 | D2 |
| C902 | A2 | C911 | C2 | C929 | D2 | C945 | D1 | C964 | C2 | CN902 | A1 | D908 | C2 | JW906 | C2 | P901 | A2 | Q912 | C2 | R907 | C2 | R928 | C2 | R948 | C2 | RT901 | A1 | ZD946 | C2 |
| C903 | B1 | C912 | B2 | C930 | C2 | C947 | D1 | C965 | C1 | CN907 | B 1 | D909 | C2 | JW907 | A2 | P902 | B1 | Q913 | D2 | R908 | B2 | R931 | D1 | R951 | C2 | SN901 | C2 | | |
| C904 | B2 | C913 | B2 | C931 | D2 | C948 | D1 | C966 | D1 | D901 | B1 | D910 | C2 | JW908 | D2 | P903 | A2 | R1 | D2 | R919 | C2 | R932 | D2 | R952 | D2 | T901 | A2 | | |
| C905 | B1 | C914 | B2 | C932 | D2 | C949 | D1 | C967 | D1 | D902 | C2 | F901 | A1 | JW909 | D2 | P904 | B2 | R901 | B1 | R920 | C2 | R941 | C2 | R953 | A1 | T902 | A2 | | |
| C906 | B1 | C915 | C2 | C933 | D2 | C950 | D1 | C968 | C2 | D903 | B2 | IC903 | B2 | JW910 | C2 | P905 | C2 | R902 | B1 | R921 | C2 | R942 | C2 | R954 | A1 | T903 | C1 | | |
| C907 | B1 | C919 | C2 | C938 | D2 | C951 | D1 | C969 | C2 | D904 | B2 | IC904 | C2 | JW911 | C2 | P906 | D2 | R903 | B1 | R922 | C2 | R943 | C2 | RB904 | D2 | ZD1 | C2 | | |
| C908 | B1 | C920 | C2 | C939 | D2 | C952 | D2 | C970 | C1 | D905 | D1 | JW903 | C2 | L901 | D1 | Q903 | C2 | R904 | B2 | R923 | C2 | R945 | C2 | RB905 | D1 | ZD901 | B1 | | |



6-4

## *ELECTRICAL PARTS LIST - POWER BOARD*

### MISCELLANEOUS

| | | | |
|---|---|---|---|
| BR901 | 9965 000 14176 | ⚠ | BRIDGE KBU808 8A 800V |
| CN902 | 9965 000 15936 | ⚠ | CONNECTOR 4PIN P=3.96MM |
| F901 | 9965 000 17388 | ⚠ | FUSE 3.15A 250V SLOW /21H/30 |
| F901 | 9965 00012637 | ⚠ | FUSE 3.15A 250V SLOW /37 |
| L901 | 9965 000 16693 | | INDUCTOR 6UH 10.5TS 6A |
| L902 | 9965 000 16694 | | INDUCTOR 6UH 13.5TS 2UEW |
| L903 | 9965 000 16694 | | INDUCTOR 6UH 13.5TS 2UEW |
| RL901 | 9965 000 16331 | ⚠ | RELAY GJ-SH-112DM /21H/30 |
| RL901 | 9965 000 15937 | ⚠ | RELAY GJ-SH-112DM /37 |
| RT901 | 9965 000 17394 | ⚠ | NTC 5R 5A |
| SN901 | 9965 000 15769 | ⚠ | PHOTO COUPLER SFH615A-3 |
| T901 | 9965 000 17395 | ⚠ | AC FILTER 1.7A L1:86TS L2:86TS |
| T902 | 9965 000 18050 | ⚠ | PWR TRANSF 230V EI-35 /21H/30 |
| T902 | 9965 000 19196 | ⚠ | PWR TRANSF 120V EI-35 /37 |
| T903 | 9965 000 20580 | ⚠ | PWR TRANSF EI-42 50W /21H/30 |
| T903 | 9965 000 18343 | ⚠ | PWR TRANSF EI-42 LI-YOU /37 |

### CAPACITORS

| | | | |
|---|---|---|---|
| C901 | 9965 000 16687 | ⚠ | 0.22UF 275V X2P 20% |
| C902 | 9965 000 16687 | ⚠ | 0.22UF 275V X2P 20% |
| C903 | 9965 000 20258 | | COND ELECT 220UF 200V 20% 105C |
| C904 | 9965 000 20258 | | COND ELECT 220UF 200V 20% 105C |
| C905 | 9965 000 20259 | ⚠ | COND SAFETY 0.0022UF 250V 20% |
| C906 | 9965 000 20259 | ⚠ | COND SAFETY 0.0022UF 250V 20% |
| C907 | 9965 000 18042 | | COND DISC 0.01UF 1KV 20% |
| C908 | 9965 000 20260 | | COND DISC 470PF 1KV 10% 125'C |
| C909 | 9965 000 20259 | ⚠ | COND SAFETY 0.0022UF 250V 20% |
| C910 | 9965 000 20261 | | COND DISC 0.001UF 1KV 20% |
| C925 | 9965 000 20261 | | COND DISC 0.001UF 1KV 20% |
| C929 | 9965 000 16354 | | COND ELECT 1000UF 25V 20% |
| C931 | 9965 000 20262 | | COND ELECT 1000UF 16V 20% 85'C |
| C932 | 9965 000 20263 | | COND ELECT 1000UF 16V 20% |
| C939 | 9965 000 20263 | | COND ELECT 1000UF 16V 20% |
| C940 | 9965 000 20263 | | COND ELECT 1000UF 16V 20% |
| C945 | 9965 000 20264 | | COND DISC 470PF 1KV 10% |
| C947 | 9965 000 20265 | | COND ELECT 1000UF 50V 20% |
| C948 | 9965 000 20265 | | COND ELECT 1000UF 50V 20% |
| C952 | 9965 000 20265 | | COND ELECT 1000UF 50V 20% |
| C963 | 9965 000 20259 | ⚠ | COND SAFETY 0.0022UF 250V 20% |
| C964 | 9965 000 20259 | ⚠ | COND SAFETY 0.0022UF 250V 20% |
| C965 | 9965 000 20261 | | COND DISC 0.001UF 1KV 20% |
| C966 | 9965 000 20261 | | COND DISC 0.001UF 1KV 20% |
| C967 | 9965 000 20261 | | COND DISC 0.001UF 1KV 20% |
| C968 | 9965 000 20259 | ⚠ | COND SAFETY 0.0022UF 250V 20% |

### RESISTORS

| | | |
|---|---|---|
| R905 | 9965 000 17393 | 68K 2W 5% W/KINK |
| R906 | 9965 000 17393 | 68K 2W 5% W/KINK |
| R928 | 9965 000 16691 | 120R 1/2W |
| R952 | 9965 000 12517 | 1 OHM 1/2W 5% |

### DIODES

| | | |
|---|---|---|
| D901 | 4822 130 11044 | BYV26D |
| D902 | 4822 130 30621 | 1N4148 |
| D903 | 4822 130 31438 | 1N4001G |
| D904 | 4822 130 30621 | 1N4148 |
| D905 | 9965 000 14186 | BRIDGE MUR1620CT 8A 200V |
| D906 | 5322 130 32677 | 1N5822 |
| D907 | 9965 000 14187 | DIODE HER204 2A/300V 50NS |
| D908 | 9965 000 14188 | DIODE HER104 1A/300V 50NS |
| D909 | 4822 130 30621 | 1N4148 |
| D910 | 4822 130 30621 | 1N4148 |
| ZD1 | 9965 000 17373 | DIODE ZENR 23.6-24.7V 0.5W |
| ZD901 | 9965 000 14209 | DIODE P6KE200A |
| ZD902 | 9965 000 15944 | DIODE ZENR 5.6-5.9V 0.5W |
| ZD903 | 4822 130 80272 | MTZJ7.5C |
| ZD946 | 4822 130 34167 | BZX79-B6V2 |

### TRANSISTORS & INTEGRATED CIRCUITS

| | | |
|---|---|---|
| Q903 | 9965 000 17396 | XISTR NPN PN2222A FAIRCHILD |
| Q904 | 9965 000 20581 | XISTR NPN TIP122 TO-220 SGS-TH |
| Q910 | 9965 000 16497 | MOS FET 2N7000TA 60V/0.2A |
| Q912 | 9965 000 16497 | MOS FET 2N7000TA 60V/0.2A |
| Q913 | 4822 130 41651 | XISTR NPN 2SC2001L |
| IC903 | 9965 000 14189 | IC TOP249Y 250W |
| IC904 | 9965 000 17387 | IC TL431 |

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.

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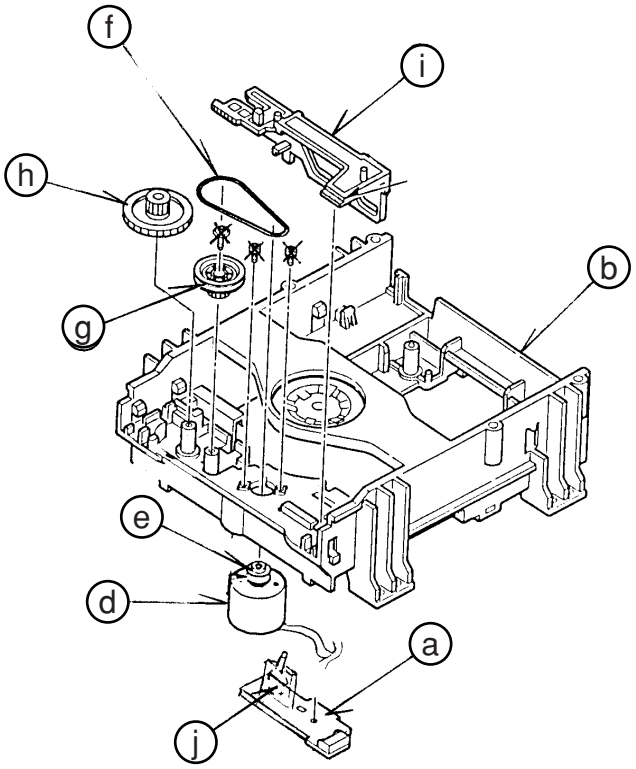
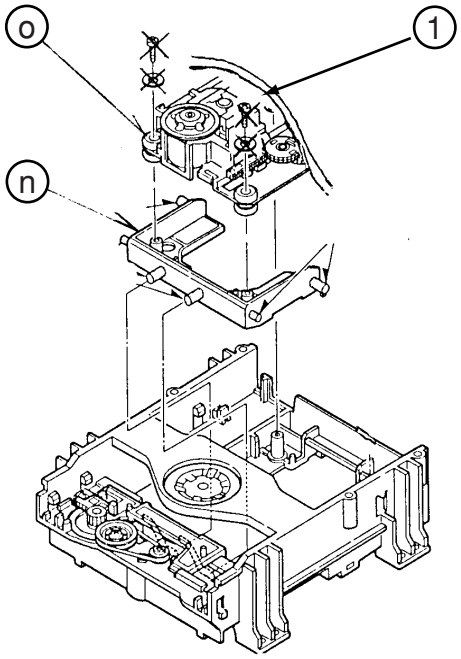
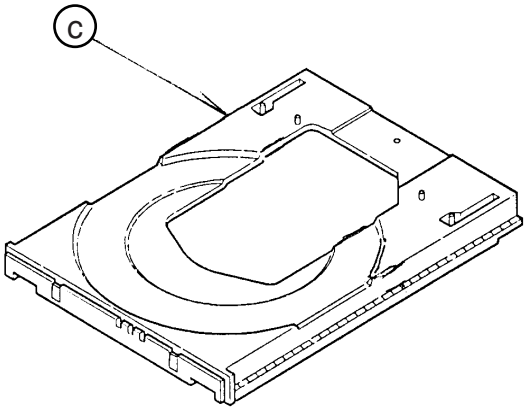
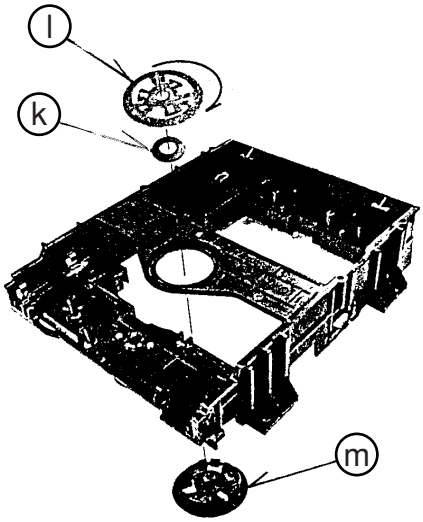
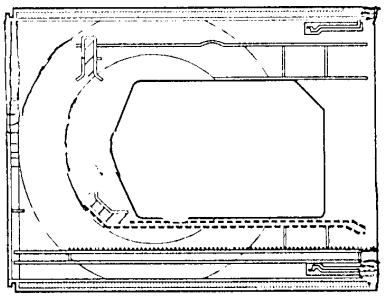
# Explorer View - DVD Loader

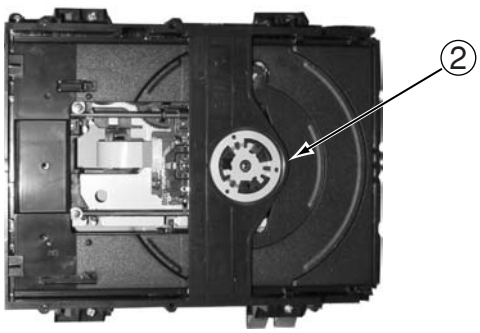





Without DVD Driver

***MECHANICAL PARTS LIST - DVD LOADER***

| | | |
|---|---|---|
| | 9965 000 20233 | DVD LOADER (DVD-KDA898SP) |
| 1 | 9965 000 20250 | TRAVERSE MECHANISM |
| 2 | 9965 000 20251 | LOADING MECHANISM |
| c | 9965 000 20252 | TRAY |
| d | 9965 000 20253 | MOTOR LOADING DC 0.2W |
| e | 9965 000 20254 | PULLEY MOTOR |
| f | 9965 000 20255 | BELT SQUARE |
| j | 9965 000 20256 | SWITCH LEVER |
| o | 9965 000 20257 | SPACER MECHA |

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

# MAIN BOARD

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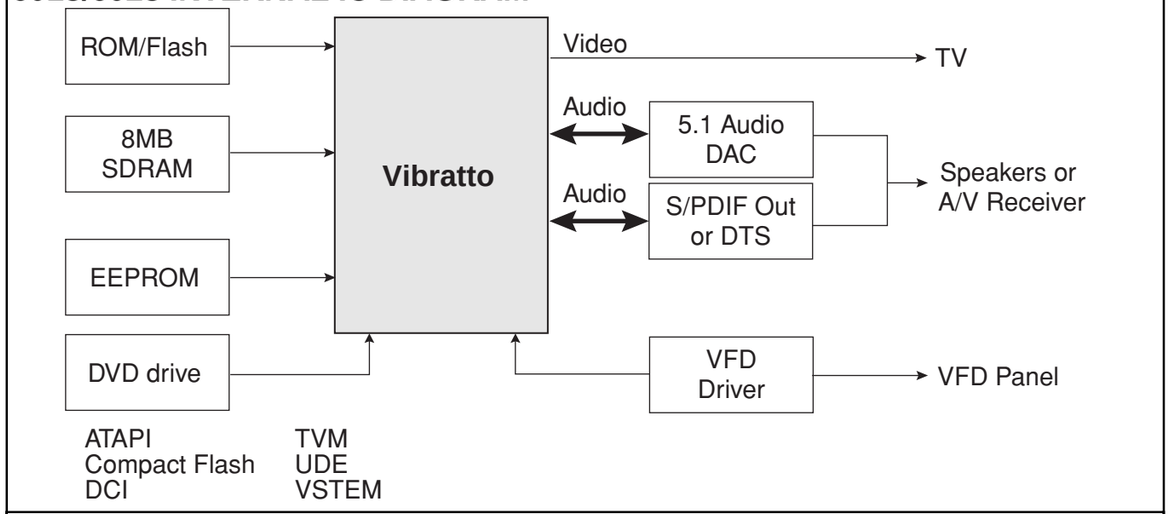
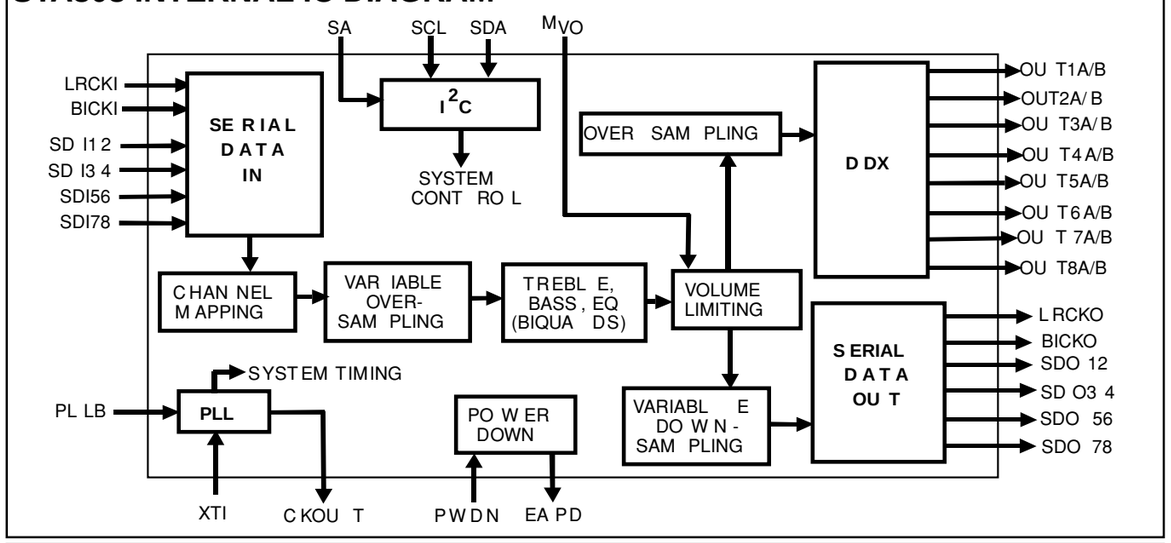
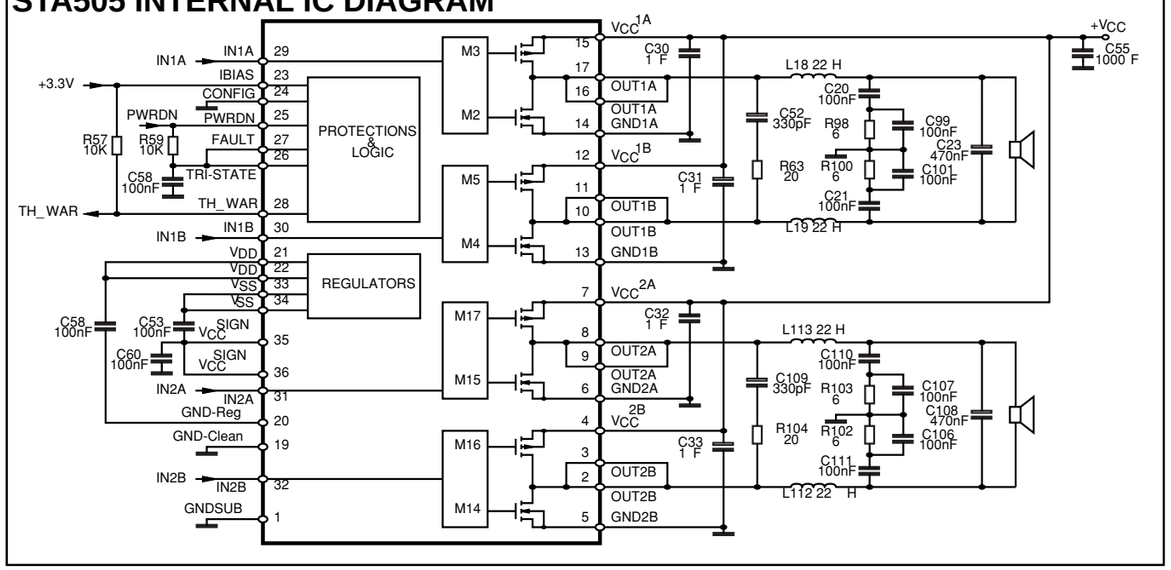
## 6018/6028 INTERNAL IC DIAGRAM




## STA308 INTERNAL IC DIAGRAM




## STA505 INTERNAL IC DIAGRAM



8-2

## VOLTAGES

IC101 (LA1837)

| PIN NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 3.5 | 9.78 | 3.5 | 3.5 | 0 | 4.96 | 4.94 | 9.77 | 9.76 | 1.4 | 0.94 | 0 | 0.05 | 8.67 | 8.68 | 4.27 | 4.27 | 4.26 | 4.26 | 3.19 |
| PIN NO | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | | | | | | | | | | |
| Voltage | 3.19 | 2.8 | 3.24 | 0.33 | 0.02 | 3.59 | 3.59 | 2.58 | 3.58 | 1.7 | | | | | | | | | | |

IC152 (LC72131M)

| PIN NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 2.5 | 0.17 | 0.17 | 4.2 | 4.96 | 4.18 | 0.05 | 0.05 | 0.05 | 4.95 | 0.01 | 4.95 | 0.01 | 2.4 | 4.95 | 1.05 | 1.05 | 3.47 | 0 | 2.45 |

IC301 (PT5228)

| PIN NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 2.8 | 0 | 2.8 | 0 | 2.8 | 2.8 | 2.8 | 6 | | | | | | | | | | | | |

IC303 (PT2259)

| PIN NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 4.2 | 4.2 | 0 | 4.4 | 4.4 | 8.8 | 4.2 | 4.2 | | | | | | | | | | | | |

IC304 (4558)

| PIN NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 0 | 0 | 0 | -9.24 | 0 | 0 | 0 | 6.98 | | | | | | | | | | | | |

IC305 (4558)

| PIN NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 0 | 0 | 0 | -9.24 | 0 | 0 | 0 | 6.97 | | | | | | | | | | | | |

IC306 (4558)

| PIN NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 0 | 0 | 0 | -9.24 | 0 | 0 | 0 | 6.97 | | | | | | | | | | | | |

IC307 (4558)

| PIN NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 0 | 0 | 0 | -9.24 | 0 | 0 | 0 | 6.97 | | | | | | | | | | | | |

IC401 (STA308)

| PIN NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 0 | 0 | 3.3 | 0 | 2.68 | 0 | 0.8 | 0.8 | 0.8 | 1.65 | 1.65 | 3.36 | 0 | 2.68 | 2.2 | 0 | 0 | 4.65 | 4.65 | 1.28 |
| PIN NO | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| Voltage | 1.24 | 2.68 | 0 | 3.3 | 1.67 | 2.68 | 0 | 3.3 | 0 | 0 | 0 | 0 | 0.22 | 0.22 | 0 | 0 | 2.68 | 0.22 | 0.22 | 0.22 |
| PIN NO | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| Voltage | 0.22 | 0.22 | 0.22 | 0 | 0 | 2.68 | 0.22 | 0.22 | 0.22 | 0.22 | 3.3 | 3.3 | 0 | 2.5 | 1.68 | 1.68 | 1.25 | 1.2 | 3.3 | 0 |
| PIN NO | 61 | 62 | 63 | 64 | | | | | | | | | | | | | | | | |
| Voltage | 0 | 1.2 | 0 | 3.3 | | | | | | | | | | | | | | | | |

IC501 (STA505)

| PIN NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 0 | 1.93 | 1.93 | 31.5 | 0 | 0 | 31.4 | -0.8 | -0.8 | 1.8 | 1.8 | 31.5 | 0 | 0 | 31.5 | 0.2 | 0.2 | 0 | 0 | 0.02 |
| PIN NO | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | | | | |
| Voltage | 5 | 5 | 3.35 | 0 | 3.35 | 3.34 | 3.35 | 3.34 | 0.22 | 0.22 | 0.22 | 0.22 | 26.4 | 26.5 | 31.5 | 31.5 | | | | |

IC502 (STA505)

| PIN NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 0 | 1.93 | 1.93 | 31.5 | 0 | 0 | 31.4 | -0.8 | -0.8 | 1.8 | 1.8 | 31.5 | 0 | 0 | 31.5 | 0.2 | 0.2 | 0 | 0 | 0.02 |
| PIN NO | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | | | | |
| Voltage | 5 | 5 | 3.35 | 0 | 3.35 | 3.34 | 3.35 | 3.34 | 0.22 | 0.22 | 0.22 | 0.22 | 26.4 | 26.5 | 31.5 | 31.5 | | | | |

IC503 (STA505)

| PIN NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 0 | 1.93 | 1.93 | 31.5 | 0 | 0 | 31.4 | -0.8 | -0.8 | 1.8 | 1.8 | 31.5 | 0 | 0 | 31.5 | 0.2 | 0.2 | 0 | 0 | 0.02 |
| PIN NO | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | | | | |
| Voltage | 5 | 5 | 3.35 | 0 | 3.35 | 3.34 | 3.35 | 3.34 | 0.22 | 0.22 | 0.22 | 0.22 | 26.4 | 26.5 | 31.5 | 31.5 | | | | |

IC801 (LA9703)

| PIN NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 2.7 | 5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 0 | 2.5 | 2.5 | 0 | 0 | 2.5 | 2.5 | 4.9 | 0.19 | 3.8 | 0.2 | 0 | 0 |
| PIN NO | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| Voltage | 0 | 3.3 | 0 | 0 | 0 | 0 | 0 | 3.3 | 5 | 0 | 3.3 | 1 | 1.34 | 1 | 1.7 | 1.7 | 1.7 | 2.2 | 1.73 | 1.7 |
| PIN NO | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| Voltage | 1.8 | 1.7 | 1.7 | 1.7 | 1.2 | 1.3 | 2.5 | 3.3 | 1.2 | 2.7 | 1.7 | 2.6 | 1.6 | 2.6 | 2.6 | 0 | 0.6 | 2.5 | 2.5 | 1.8 |
| PIN NO | 61 | 62 | 63 | 64 | | | | | | | | | | | | | | | | |
| Voltage | 2.8 | 2.86 | 5 | 2.7 | | | | | | | | | | | | | | | | |

IC802 (LC78663)

| PIN NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 1.7 | 1.4 | 0.33 | 1.8 | 2.4 | 1.3 | 0 | 1.7 | 0 | 1.7 | 0 | 1.67 | 1.69 | 1.67 | 1.64 | 1.7 | 3.4 | 0 | 1.7 | 1.7 |
| PIN NO | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| Voltage | 1.7 | 1.7 | 1.7 | 1.8 | 0.98 | 1.34 | 1.7 | 1.7 | 1.1 | 1.7 | 1.7 | 1.7 | 1.79 | 2.7 | 0 | 1.3 | 3.3 | 3.3 | 3.3 | 3.1 |
| PIN NO | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| Voltage | 3.3 | 1.6 | 1.5 | 3.3 | 3.1 | 0 | 3.3 | 1.79 | 3.4 | 0 | 2 | 1.99 | 1.96 | 1.96 | 1.96 | 1.95 | 1.9 | 0.08 | 0.4 | 1.19 |
| PIN NO | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| Voltage | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.35 | 0 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 0.29 | 1.47 | 1.6 | 1.99 |
| PIN NO | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| Voltage | 0.9 | 1.7 | 1.6 | 0 | 1.68 | 1.1 | 1.7 | 3.4 | 0 | 0 | 0 | 3.3 | 0 | 3.3 | 3.3 | 3.3 | 0 | 0 | 3.3 | 3.3 |
| PIN NO | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 |
| Voltage | 3.3 | 3.3 | 3.3 | 1.7 | 1.65 | 2.7 | 0 | 1.4 | 1.4 | 1.4 | 0 | 0.02 | 1.65 | 1.7 | 1.4 | 1.4 | 0.3 | 0 | 0 | 0 |
| PIN NO | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 | 135 | 136 | 137 | 138 | 139 | 140 |
| Voltage | 2.1 | 0 | 0.3 | 0 | 0 | 2.7 | 0 | 1.2 | 1.1 | 1.2 | 2.7 | 0.02 | 3.4 | 1.7 | 1.7 | 0 | 0 | 0 | 0 | 3.4 |
| PIN NO | 141 | 142 | 143 | 144 | 145 | 146 | 147 | 148 | 149 | 150 | 151 | 152 | 153 | 154 | 155 | 156 | 157 | 158 | 159 | 160 |
| Voltage | 0 | 1.7 | 3.4 | 0 | 0.8 | 0.8 | 0 | 0 | 0 | 0.8 | 0 | 0.8 | 0.8 | 0 | 3.4 | 0.8 | 0.8 | 0.8 | 0.8 | 3.4 |
| PIN NO | 161 | 162 | 163 | 164 | 165 | 166 | 167 | 168 | 169 | 170 | 171 | 172 | 173 | 174 | 175 | 176 | | | | |
| Voltage | 0.8 | 0.7 | 0.7 | 0.8 | 3.4 | 0 | 0 | 0 | 0 | 3.4 | 0 | 3.4 | 1.8 | 0 | 2.7 | 0 | | | | |

IC803 (LA6560)

| PIN NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 3.3 | 3.3 | 8.97 | 0.02 | 0.02 | 4.13 | 4.14 | 3.9 | 4.4 | 4.5 | 3.8 | 4.1 | 4.2 | 8.98 | 1.69 | 0 | 1.7 | 1.7 | 1.7 | 1.9 |
| PIN NO | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | | | | |
| Voltage | 1.7 | 1.7 | 1.58 | 0.7 | 1.7 | 0.9 | 0.2 | 1.7 | 5 | 1.7 | 1.7 | 1.7 | 1.7 | 3.3 | 2.8 | 0 | | | | |

IC804 (16256)

| PIN NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 3.3 | 1.3 | 1.3 | 1.3 | 1.3 | 3.3 | 1.3 | 1.3 | 1.3 | 1.3 | 0 | 0 | 3.3 | 3.3 | 0 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 |
| PIN NO | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| Voltage | 0 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 0.7 | 1.6 | 0.6 | 0.6 | 1.6 | 0 | 1.6 | 1.6 | 1.6 | 1.6 | 0 |

IC807 (LVC32)

| PIN NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 0 | 3.3 | 3.4 | 3.1 | 3.1 | 3.1 | 0 | 3.4 | 1.5 | 3.3 | 3.3 | 0.06 | 3.3 | 3.4 | | | | | | |

IC808 (HC14)

| PIN NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 3.1 | 0.28 | 0.26 | 3.1 | 0 | 3.4 | 0 | 0.05 | 3.3 | 3.3 | 0.06 | 0.06 | 0 | 3.3 | | | | | | |

IC809 (LM358)

| PIN NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 0 | 2.6 | 2.6 | 0 | 1.7 | 1.7 | 1.7 | 8.97 | | | | | | | | | | | | |

IC1001 (MX29F080TC-90CE)

| PIN NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 1.16 | 1.3 | 0 | 1.1 | 2 | 1.3 | 1.6 | 1.6 | 3 | 5 | 0 | 4.9 | 1 | 1.9 | 1.6 | 1.5 | 1.6 | 1.2 | 1.6 | 1.54 |
| PIN NO | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| Voltage | 1.2 | 1.8 | 0.15 | 0.1 | 2 | 1.85 | 1.9 | 1.85 | 0 | 0 | 5 | 1.84 | 1.8 | 1.8 | 1.85 | 0.8 | 3 | 3.3 | 0 | 0 |

8-3

## VOLTAGES

IC1003 (6028)

| PIN NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 3.3 | 1.5 | 1.5 | 1.1 | 1.47 | 1.48 | 1.5 | 0 | 2.8 | 1.9 | 0.9 | 1.7 | 1.7 | 1.3 | 1.8 | 1.1 | 0 | 3.3 | 1.4 | 1.4 |
| PIN NO | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| Voltage | 1.2 | 0.8 | 0 | 5 | 0.6 | 0 | 3.3 | 1.9 | 1.3 | 1.9 | 0.6 | 0.8 | 0.8 | 0 | 2.8 | 0.8 | 0.8 | 0 | 1.03 | 1.6 |
| PIN NO | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| Voltage | 1.6 | 0 | 0 | 2.8 | 0.6 | 0.6 | 0.6 | 0 | 1.7 | 1.12 | 3.3 | 0 | 0.04 | 0.5 | 0.4 | 1.5 | 0.09 | 1.6 | 3.3 | 0 |
| PIN NO | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| Voltage | 1.5 | 1.3 | 0.7 | 0.03 | 0.13 | 0.12 | 0 | 3.3 | 3.1 | 3.3 | 3.1 | 3 | 0.2 | 0.01 | 3.3 | 0 | 1.02 | 0.9 | 1.3 | 1.1 |
| PIN NO | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| Voltage | 0.12 | 0.94 | 2.8 | 0 | 1.02 | 1.1 | 1.1 | 1.1 | 1.1 | 0.9 | 0 | 3.3 | 0.8 | 1.3 | 1.3 | 0.2 | 3.1 | 0 | 3.3 | 2.8 |
| PIN NO | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 |
| Voltage | 0.05 | 1.4 | 0 | 3.3 | 2.1 | 0.7 | 1.3 | 1.2 | 1.9 | 1.19 | 3.3 | 0 | 0.7 | 0.3 | 0.01 | 1.03 | 5 | 5 | 4.8 | 0 |
| PIN NO | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 | 135 | 136 | 137 | 138 | 139 | 140 |
| Voltage | 2.8 | 0 | 3.3 | 0 | 3.3 | 3.3 | 3.3 | 3.3 | 0 | 3.3 | 3.3 | 3.3 | 0.02 | 3.3 | 3.3 | 3.4 | 0.01 | 0 | 2.8 | 0.98 |
| PIN NO | 141 | 142 | 143 | 144 | 145 | 146 | 147 | 148 | 149 | 150 | 151 | 152 | 153 | 154 | 155 | 156 | 157 | 158 | 159 | 160 |
| Voltage | 3.3 | 0 | 0.01 | 3.3 | 5 | 3.3 | 0 | 0 | 3.3 | 3.3 | 0 | 3.3 | 3.3 | 3.3 | 3.3 | 0 | 3.3 | 0 | 3.3 | 4.7 |
| PIN NO | 161 | 162 | 163 | 164 | 165 | 166 | 167 | 168 | 169 | 170 | 171 | 172 | 173 | 174 | 175 | 176 | 177 | 178 | 179 | 180 |
| Voltage | 5 | 4.9 | 0 | 3.3 | 4.9 | 4.9 | 4.9 | 4.9 | 3.4 | 3.2 | 0 | 2.8 | 3.3 | 3.3 | 3.3 | 3.1 | 0 | 1.7 | 1.6 | 1.6 |
| PIN NO | 181 | 182 | 183 | 184 | 185 | 186 | 187 | 188 | 189 | 190 | 191 | 192 | 193 | 194 | 195 | 196 | 197 | 198 | 199 | 200 |
| Voltage | 1.6 | 1.6 | 3.34 | 0 | 1.6 | 1.6 | 1.6 | 1.6 | 1.7 | 1.7 | 1.6 | 0 | 3.3 | 1.7 | 1.6 | 1.6 | 1.6 | 3.3 | 3.3 | 0 |
| PIN NO | 201 | 202 | 203 | 204 | 205 | 206 | 207 | 208 | | | | | | | | | | | | |
| Voltage | 3.3 | 0.5 | 0.5 | 0.1 | 1.8 | 1.8 | 1.2 | 0 | | | | | | | | | | | | |

IC1004 (4MX16Y3VTM)

| PIN NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 3.3 | 1.12 | 3.33 | 1.04 | 1.31 | 0 | 1.2 | 1.2 | 3.33 | 1.02 | 1.04 | 0 | 1.14 | 3.33 | 0.05 | 3.12 | 3.14 | 3.05 | 2.86 | 0.17 |
| PIN NO | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| Voltage | 0 | 0.13 | 0.04 | 0.47 | 0.38 | 1.52 | 3.33 | 0 | 1.48 | 1.6 | 1.49 | 1.33 | 0.66 | 0.04 | 0.13 | 1.27 | 3.32 | 1.33 | 0.05 | 0.01 |
| PIN NO | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | | | | | | |
| Voltage | 0 | 1.02 | 3.33 | 1.07 | 1.06 | 0 | 0.87 | 0.84 | 3.33 | 1.29 | 1.27 | 0 | 1.42 | 0 | | | | | | |

IC1005 (24C02)

| PIN NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Voltage | 0 | 0 | 0 | 0 | 4.66 | 4.66 | 0 | 4.96 |

IC1006 (74F374D)

| PIN NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 0 | 4.2 | 1.75 | 1.8 | 4.1 | 4.1 | 1.8 | 1.8 | 3.7 | 0 | 3.3 | 4.1 | 1.9 | 1.9 | 3.6 | 4.3 | 1.9 | 2 | 4.2 | 5 |

IC1007 (74F374D)

| PIN NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 0 | 4.2 | 1.9 | 1.9 | 0.2 | 4.2 | 1.8 | 1.9 | 4.1 | 0 | 3.3 | 0.17 | 1.8 | 1.8 | 0.2 | 4.2 | 1.8 | 0 | 4.2 | 5 |

IC1008 (74F374D)

| PIN NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 0 | 0.2 | 1.9 | 2 | 4.2 | 0 | 1.9 | 1.9 | 4.2 | 0 | 3.3 | 4.4 | 1.9 | 1.9 | 3.8 | 3.8 | 1.9 | 1.9 | 0.16 | 5 |

IC1009 (F157A)

| PIN NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 0.17 | 1.7 | 1.7 | 1.9 | 1.1 | 1.6 | 1.3 | 0 | 1.93 | 1.65 | 1.67 | 3.89 | 0.84 | 1.85 | 0 | 5 | | | | |

IC1010 (WM8772)

| PIN NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 0 | 1.27 | 1.64 | 1.65 | 3.31 | 0 | 0.83 | 0.8 | 0.84 | 1.71 | 3.79 | 3.78 | 0.16 | 0.01 | 1.64 | 0 | 3.29 | 1.64 | 1.64 | 1.63 |
| PIN NO | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | | | | | | | | | | | | |
| Voltage | 1.64 | 1.64 | 1.64 | 1.64 | 1.64 | 1.65 | 0 | 3.29 | | | | | | | | | | | | |

IC1012 (B1117N)

| PIN NO | 1 | 2 | 3 | 4 | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 1.58 | 2.82 | 5 | 2.82 | | | | | | | | | | | | | | | | |

IC1014 (TC74HC04AFN)

| PIN NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 3.3 | 0 | 0 | 5 | 2.5 | 1.9 | 0 | 1.5 | 1.9 | 5 | 0 | 5 | 0 | 5 | | | | | | |

IC3001 (TC4052BFN)

| PIN NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 0 | 0 | 0 | 0 | 0 | 0 | -7.16 | 0 | 4.6 | 4.59 | 0 | 0 | 0 | 0 | 0 | 7.19 | | | | |

IC3002 (4558)

| PIN NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 0 | 0 | 0 | -10.52 | 0 | 0 | 0 | 11.1 | | | | | | | | | | | | |

IC4001 (4558)

| PIN NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 0 | 0 | 0 | -9.25 | 0.04 | 0.05 | 0 | 6.98 | | | | | | | | | | | | |

IC9001 (BA05T)

| PIN NO | 1 | 2 | 3 | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 6.8 | 0 | 5 | | | | | | | | | | | | | | | | | |

IC9002 (RT9164-33CLR)

| PIN NO | 1 | 2 | 3 | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 5.7 | 0 | 3.3 | | | | | | | | | | | | | | | | | |

IC9003 (BA05T)

| PIN NO | 1 | 2 | 3 | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Voltage | 6.8 | 0 | 5 | | | | | | | | | | | | | | | | | |

Q001 (2SK192A-Y/GR)

| PIN NO | b | c | e | |
|---|---|---|---|---|
| Voltage | 0 | 0 | 10.13 | |

Q101 (2SC1675L)

| PIN NO | b | c | e | |
|---|---|---|---|---|
| Voltage | 0.75 | 10 | 0.03 | |

Q102 (2SC1675L)

| PIN NO | b | c | e | |
|---|---|---|---|---|
| Voltage | 0.75 | 10.05 | 0.03 | |

Q103 (2SA733Q)

| PIN NO | b | c | e | |
|---|---|---|---|---|
| Voltage | 10.5 | 11 | 11.27 | |

Q104 (2SC945P)

| PIN NO | b | c | e | |
|---|---|---|---|---|
| Voltage | 0.63 | 0.01 | 0 | |

Q105 (2SC945P)

| PIN NO | b | c | e | |
|---|---|---|---|---|
| Voltage | 0.04 | 8.67 | 0 | |

Q301 (2SC945P)

| PIN NO | b | c | e | |
|---|---|---|---|---|
| Voltage | 6.5 | 11.4 | 5.87 | |

Q302 (2SC2878-A)

| PIN NO | b | c | e | |
|---|---|---|---|---|
| Voltage | -1.6 | 5.8 | 0 | |

Q303 (2SC2878-A)

| PIN NO | b | c | e | |
|---|---|---|---|---|
| Voltage | -1.4 | 0 | 0 | |

Q304 (2SC2878-A)

| PIN NO | b | c | e | |
|---|---|---|---|---|
| Voltage | -1.45 | 0 | 0 | |

Q305 (2SA733Q)

| PIN NO | b | c | e | |
|---|---|---|---|---|
| Voltage | 0 | -1.4 | 0.14 | |

Q401 (2SC2001L)

| PIN NO | b | c | e | |
|---|---|---|---|---|
| Voltage | 3.35 | 3.35 | 2.68 | |

Q801 (CM5051-0)

| PIN NO | b | c | e | |
|---|---|---|---|---|
| Voltage | 3.8 | 1.8 | 4.4 | |

Q802 (CM5051-0)

| PIN NO | b | c | e | |
|---|---|---|---|---|
| Voltage | 0.05 | 0 | 5.03 | |

Q803 (CM5783GR)

| PIN NO | b | c | e | |
|---|---|---|---|---|
| Voltage | 0 | 4.7 | 0 | |

Q804 (CM5783GR)

| PIN NO | b | c | e | |
|---|---|---|---|---|
| Voltage | 0 | 0.66 | 0 | |

Q805 (CM5783GR)

| PIN NO | b | c | e | |
|---|---|---|---|---|
| Voltage | 0 | 0 | 0.19 | |

Q806 (CM5783GR)

| PIN NO | b | c | e | |
|---|---|---|---|---|
| Voltage | 0.66 | 0 | 0.01 | |

Q808 (DDTC114)

| PIN NO | b | c | e | |
|---|---|---|---|---|
| Voltage | 0.02 | 0 | 0 | |

Q1002 (2SC945P)

| PIN NO | b | c | e | |
|---|---|---|---|---|
| Voltage | 0 | 3.33 | 0 | |

Q1003 (2SC945P)

| PIN NO | b | c | e | |
|---|---|---|---|---|
| Voltage | 0.17 | 5 | 0 | |

Q1004 (2SC945P)

| PIN NO | b | c | e | |
|---|---|---|---|---|
| Voltage | 0.17 | 9.25 | 0 | |

Q2011 (2SC945P)

| PIN NO | b | c | e | |
|---|---|---|---|---|
| Voltage | 1.68 | 5.01 | 1.32 | |

Q9006 (2SC2001L)

| PIN NO | b | c | e | |
|---|---|---|---|---|
| Voltage | 3.35 | 3.35 | 2.7 | |

Q4001 (2SA733Q)

| PIN NO | b | c | e | |
|---|---|---|---|---|
| Voltage | 0 | -1.6 | 0.2 | |

Q4002 (2SC2878-A)

| PIN NO | b | c | e | |
|---|---|---|---|---|
| Voltage | -1.7 | 0 | 0 | |

Q9002 (2SC945P)

| PIN NO | b | c | e | |
|---|---|---|---|---|
| Voltage | 0.72 | 0.15 | 0 | |

Q9003 (2SA733Q)

| PIN NO | b | c | e | |
|---|---|---|---|---|
| Voltage | 10.55 | 11.3 | 11.43 | |

Q9004 (2SC2001L)

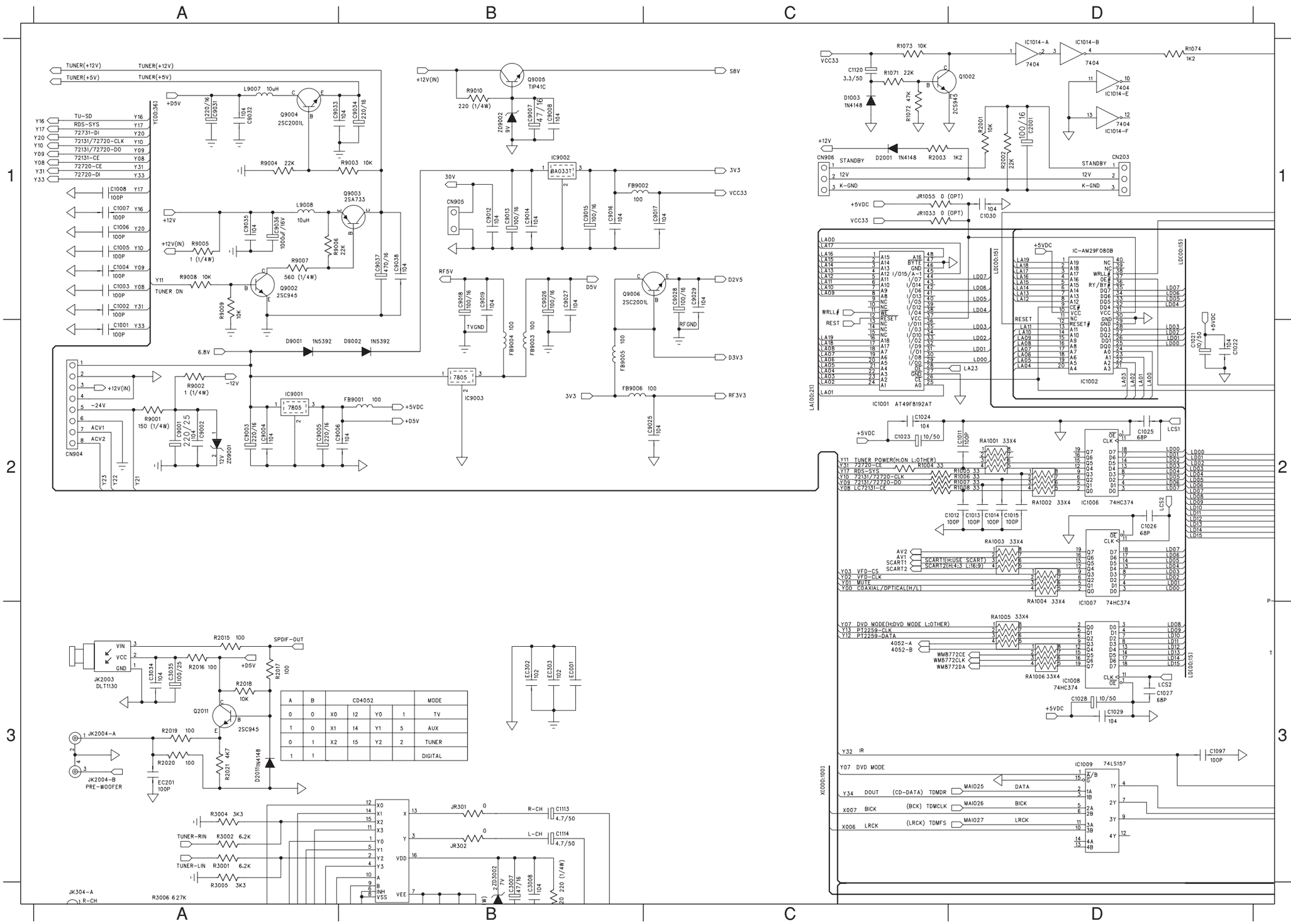
| PIN NO | b | c | e | |
|---|---|---|---|---|
| Voltage | 5.6 | 5 | 4.96 | |

Q9005 (TIP41C)

| PIN NO | b | c | e | |
|---|---|---|---|---|
| Voltage | 9.6 | 11.5 | 8.98 | |

8-4

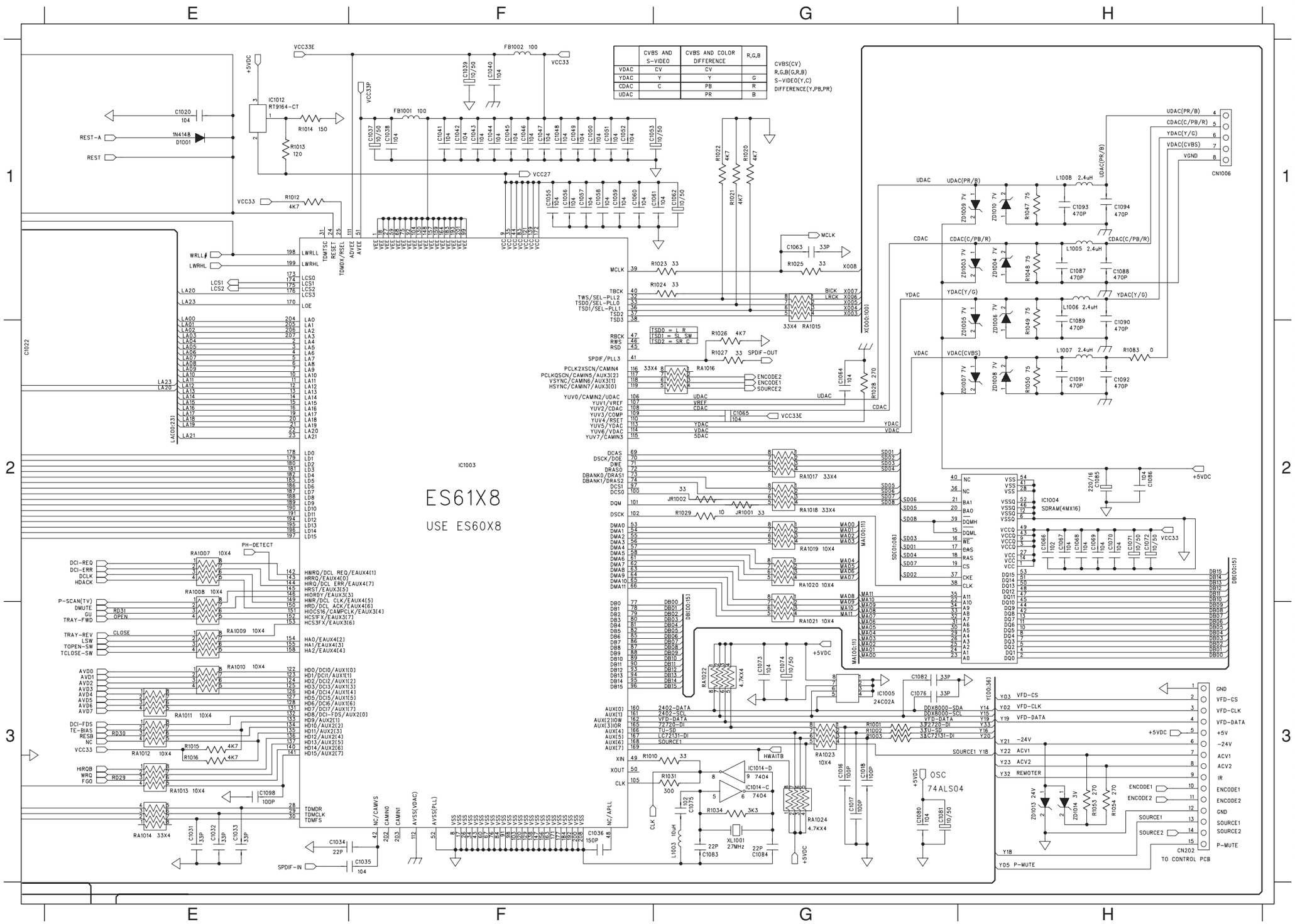
# CIRCUIT DIAGRAM (TOP LEFT)




| | | | |
|---|---|---|---|
| C1001 | A2 | FB9005 | B2 |
| C1002 | A1 | FB9006 | B2 |
| C1003 | A1 | IC1001 | C2 |
| C1004 | A1 | IC1006 | D2 |
| C1005 | A1 | IC1007 | D2 |
| C1006 | A1 | IC1008 | D3 |
| C1007 | A1 | IC1009 | D3 |
| C1008 | A1 | IC1014-A | D1 |
| C1011 | D2 | IC1014-B | D1 |
| C1012 | D2 | IC1014-E | D1 |
| C1013 | D2 | IC1014-F | D1 |
| C1014 | D2 | IC9001 | A2 |
| C1015 | D2 | IC9002 | B1 |
| C1021 | D2 | IC9003 | B2 |
| C1022 | D2 | JK2003 | A3 |
| C1023 | C2 | JK2004-A | A3 |
| C1024 | C2 | JK2004-B | A3 |
| C1025 | D2 | JR301 | B3 |
| C1026 | D2 | JR302 | B3 |
| C1027 | D3 | JR1033 | C1 |
| C1028 | D3 | JR1055 | C1 |
| C1029 | D3 | L9007 | A1 |
| C1030 | D1 | L9008 | A1 |
| C1097 | D3 | Q1002 | D1 |
| C1113 | B3 | Q2011 | A3 |
| C1114 | B3 | Q9002 | A1 |
| C1120 | C1 | Q9003 | B1 |
| C2001 | D1 | Q9004 | A1 |
| C3034 | A3 | Q9005 | B1 |
| C3035 | A3 | Q9006 | B1 |
| C9001 | A2 | ZD9001 | A2 |
| C9002 | A2 | ZD9002 | B1 |
| C9003 | A2 | R1004 | C2 |
| C9004 | A2 | R1005 | D2 |
| C9005 | A2 | R1006 | D2 |
| C9006 | A2 | R1007 | D2 |
| C9007 | B1 | R1008 | D2 |
| C9008 | B1 | R1071 | C1 |
| C9012 | B1 | R1072 | C1 |
| C9013 | B1 | R1073 | C1 |
| C9014 | B1 | R1074 | D1 |
| C9015 | B1 | R2001 | D1 |
| C9016 | B1 | R2002 | D1 |
| C9017 | C1 | R2003 | C1 |
| C9018 | B1 | R2015 | A3 |
| C9019 | B1 | R2016 | A3 |
| C9025 | C2 | R2017 | A3 |
| C9026 | B1 | R2018 | A3 |
| C9027 | B1 | R2019 | A3 |
| C9028 | C1 | R2020 | A3 |
| C9029 | C1 | R2021 | A3 |
| C9031 | A1 | R3001 | A3 |
| C9032 | A1 | R3002 | A3 |
| C9033 | A1 | R3004 | A3 |
| C9034 | B1 | R3005 | A3 |
| C9035 | A1 | R9001 | A2 |
| C9036 | A1 | R9002 | A2 |
| C9037 | B1 | R9003 | B1 |
| C9038 | B1 | R9004 | A1 |
| CN203 | D1 | R9005 | A1 |
| CN904 | A2 | R9006 | A1 |
| CN905 | B1 | R9007 | A1 |
| CN906 | C1 | R9008 | A1 |
| D1003 | C1 | R9009 | A1 |
| D2001 | C1 | R9010 | B1 |
| D2011 | A3 | RA1001 | D2 |
| D9001 | A2 | RA1002 | D2 |
| EC001 | B3 | RA1003 | D2 |
| EC201 | A3 | RA1004 | D2 |
| EC302 | B3 | RA1005 | D3 |
| EC303 | B3 | RA1006 | D3 |
| FB9001 | B2 | | |
| FB9002 | B1 | | |
| FB9003 | B2 | | |
| FB9004 | B2 | | |

8-5

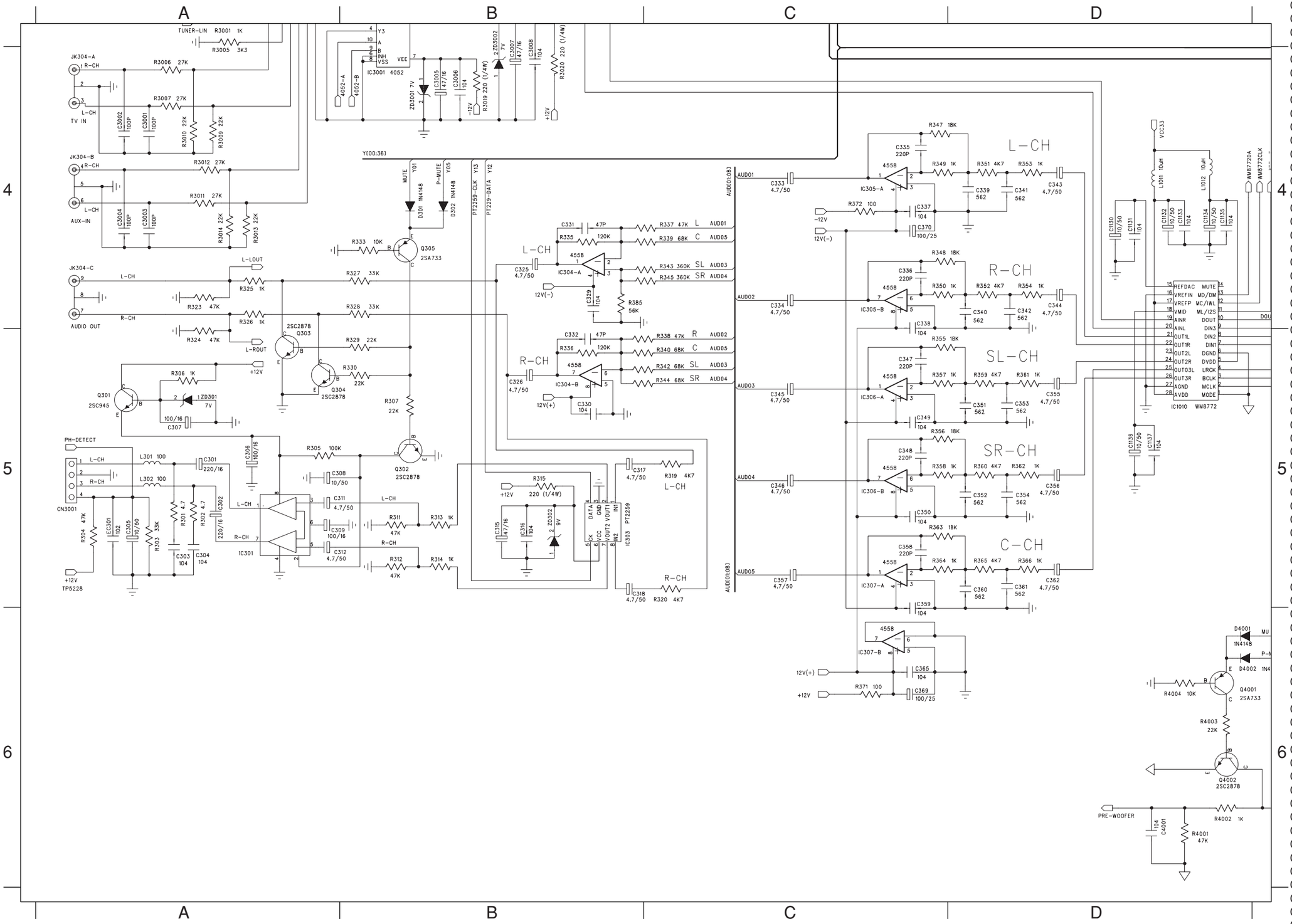
# CIRCUIT DIAGRAM (TOP RIGHT)




| | | | |
|---|---|---|---|
| C1016 | G3 | IC1014-D | G3 |
| C1017 | G3 | L1003 | G3 |
| C1018 | G3 | L1005 | H1 |
| C1020 | E1 | L1006 | H1 |
| C1031 | E3 | L1007 | H2 |
| C1032 | E3 | L1008 | H1 |
| C1033 | E3 | ZD1003 | H1 |
| C1034 | E3 | ZD1004 | H1 |
| C1035 | F3 | ZD1005 | H2 |
| C1036 | F3 | ZD1006 | H2 |
| C1037 | F1 | ZD1007 | H2 |
| C1038 | F1 | ZD1008 | H2 |
| C1039 | F1 | ZD1009 | H1 |
| C1040 | F1 | ZD1010 | H1 |
| C1041 | F1 | ZD1013 | H3 |
| C1042 | F1 | ZD1014 | H3 |
| C1043 | F1 | R1001 | G3 |
| C1044 | F1 | R1002 | G3 |
| C1045 | F1 | R1003 | G3 |
| C1046 | F1 | R1010 | G3 |
| C1047 | F1 | R1012 | E1 |
| C1048 | F1 | R1013 | E1 |
| C1049 | F1 | R1014 | E1 |
| C1050 | F1 | R1015 | E3 |
| C1051 | F1 | R1016 | E3 |
| C1052 | F1 | R1020 | G1 |
| C1053 | F1 | R1021 | G1 |
| C1055 | F1 | R1022 | G1 |
| C1056 | F1 | R1023 | G1 |
| C1057 | F1 | R1024 | G1 |
| C1058 | F1 | R1025 | G1 |
| C1059 | F1 | R1026 | G2 |
| C1060 | F1 | R1027 | G2 |
| C1061 | G1 | R1028 | G2 |
| C1062 | G1 | R1029 | G2 |
| C1063 | G1 | R1031 | G3 |
| C1064 | G2 | R1034 | G3 |
| C1065 | G2 | R1047 | H1 |
| C1066 | H2 | R1048 | H1 |
| C1067 | H2 | R1049 | H2 |
| C1068 | H2 | R1050 | H2 |
| C1069 | H2 | R1053 | H2 |
| C1070 | H2 | R1054 | H2 |
| C1071 | H2 | R1083 | H2 |
| C1072 | H2 | JR1001 | G2 |
| C1073 | G3 | JR1002 | G2 |
| C1074 | G3 | RA1007 | E2 |
| C1075 | G3 | RA1008 | E3 |
| C1076 | G3 | RA1009 | E3 |
| C1080 | G3 | RA1010 | E3 |
| C1081 | G3 | RA1011 | E3 |
| C1082 | G3 | RA1012 | E3 |
| C1083 | G3 | RA1013 | E3 |
| C1084 | G3 | RA1014 | E3 |
| C1085 | H2 | RA1015 | G2 |
| C1086 | H2 | RA1016 | G2 |
| C1087 | H1 | RA1017 | G2 |
| C1088 | H1 | RA1018 | G2 |
| C1089 | H2 | XL1001 | G3 |
| C1090 | H2 | RA1019 | G2 |
| C1091 | H2 | RA1020 | G2 |
| C1092 | H2 | RA1021 | G3 |
| C1093 | H1 | RA1022 | G3 |
| C1094 | H1 | RA1023 | G3 |
| C1098 | E3 | RA1024 | G3 |
| CN202 | H3 | | |
| CN1006 | H1 | | |
| D1001 | E1 | | |
| FB1001 | F1 | | |
| FB1002 | F1 | | |
| IC1003 | F2 | | |
| IC1004 | H2 | | |
| IC1005 | G3 | | |
| IC1012 | E1 | | |
| IC1014-C | G3 | | |

8-6

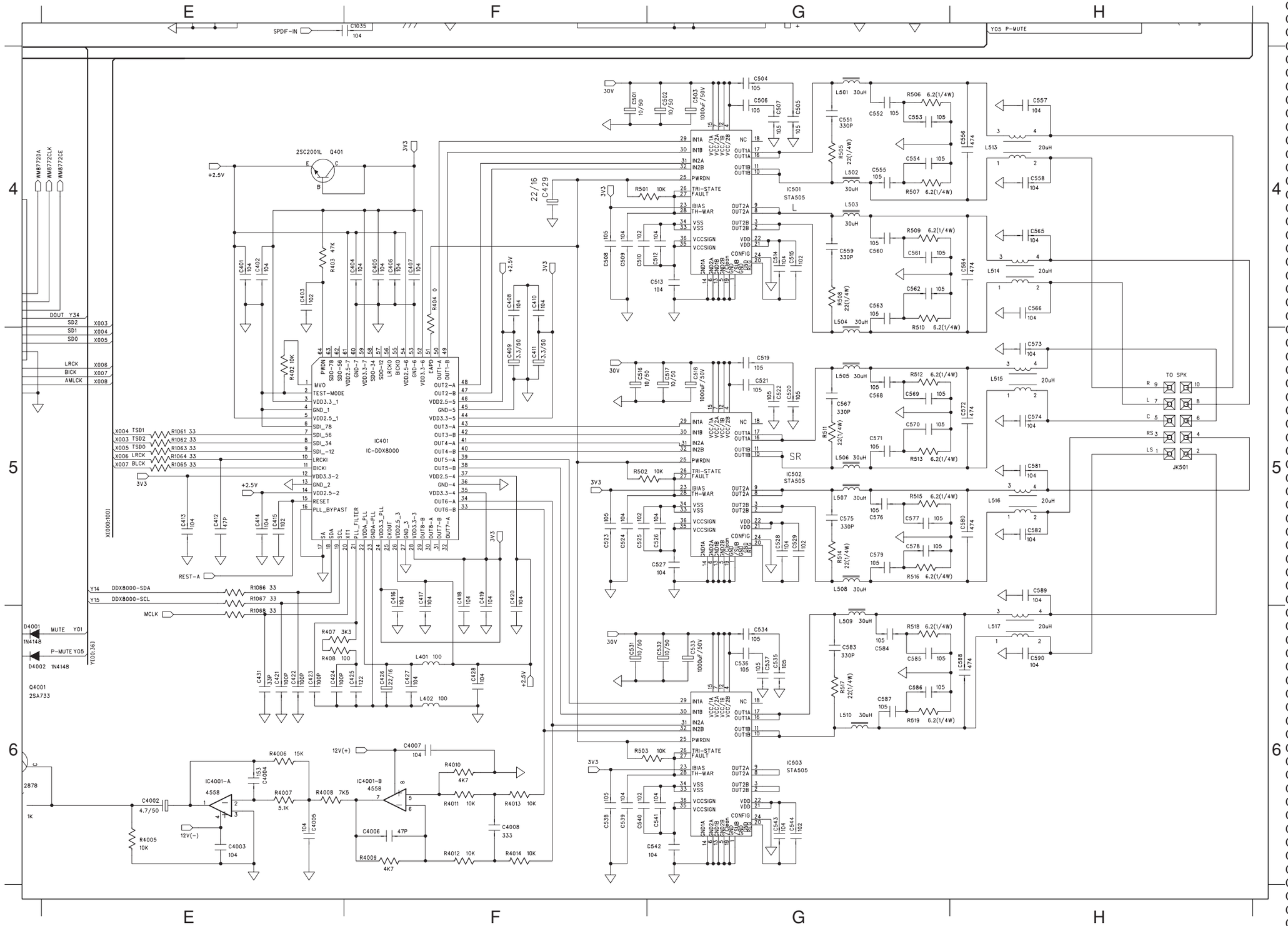
# CIRCUIT DIAGRAM (BOTTOM LEFT)




| | | | | | |
|---|---|---|---|---|---|
| C301 | A5 | D302 | B4 | R355 | C5 |
| C302 | A5 | D4001 | D6 | R356 | C5 |
| C303 | A5 | D4002 | D6 | R357 | C5 |
| C304 | A5 | EC301 | A5 | R358 | C5 |
| C305 | A5 | IC301 | A5 | R359 | D5 |
| C306 | A5 | IC303 | B5 | R360 | D5 |
| C307 | A5 | IC304-A | B4 | R361 | D5 |
| C308 | A5 | IC304-B | B5 | R362 | D5 |
| C309 | A5 | IC305-A | C4 | R363 | C5 |
| C311 | A5 | IC305-B | C4 | R364 | C5 |
| C312 | A5 | IC306-A | C5 | R365 | D5 |
| C315 | B5 | IC306-B | C5 | R366 | D5 |
| C316 | B5 | IC307-A | C5 | R371 | C6 |
| C317 | B5 | IC307-B | C6 | R372 | C4 |
| C318 | B5 | IC1010 | D5 | R385 | B4 |
| C323 | A4 | IC3001 | B4 | R3006 | A4 |
| C324 | A5 | JK304-A | A4 | R3007 | A4 |
| C325 | B4 | JK304-B | A4 | R3009 | A4 |
| C326 | B5 | JK304-C | A4 | R3010 | A4 |
| C329 | B4 | L301 | A5 | R3011 | A4 |
| C330 | B5 | L302 | A5 | R3012 | A4 |
| C331 | B4 | L1011 | D4 | R3013 | A4 |
| C332 | B5 | L1012 | D4 | R3014 | A4 |
| C333 | C4 | Q301 | A5 | R3019 | B4 |
| C334 | C4 | Q302 | B5 | R3020 | B4 |
| C335 | C4 | Q303 | A5 | R4001 | D6 |
| C336 | C4 | Q304 | A5 | R4002 | D6 |
| C337 | C4 | Q305 | B4 | R4003 | D6 |
| C338 | C4 | Q4001 | D6 | R4004 | D6 |
| C339 | D4 | Q4002 | D6 | | |
| C340 | D4 | ZD301 | A5 | | |
| C341 | D4 | ZD302 | B5 | | |
| C342 | D4 | ZD3001 | B4 | | |
| C343 | D4 | ZD3002 | B4 | | |
| C344 | D4 | R301 | A5 | | |
| C345 | C5 | R302 | A5 | | |
| C346 | C5 | R303 | A5 | | |
| C347 | C5 | R304 | A5 | | |
| C348 | C5 | R305 | A5 | | |
| C349 | C5 | R306 | A5 | | |
| C350 | C5 | R307 | B5 | | |
| C351 | D5 | R311 | B5 | | |
| C352 | D5 | R312 | B5 | | |
| C353 | D5 | R313 | B5 | | |
| C354 | D5 | R314 | B5 | | |
| C355 | D6 | R315 | B5 | | |
| C356 | D5 | R319 | C5 | | |
| C357 | C5 | R320 | C5 | | |
| C358 | C5 | R323 | A4 | | |
| C359 | C5 | R324 | A5 | | |
| C360 | D5 | R325 | A4 | | |
| C361 | D5 | R326 | A4 | | |
| C362 | D5 | R327 | B4 | | |
| C365 | C6 | R328 | B4 | | |
| C369 | C6 | R329 | B5 | | |
| C370 | C4 | R330 | B5 | | |
| C1130 | D4 | R333 | B4 | | |
| C1131 | D4 | R335 | B4 | | |
| C1132 | D4 | R336 | B5 | | |
| C1133 | D4 | R337 | C4 | | |
| C1134 | D4 | R338 | C5 | | |
| C1135 | D4 | R339 | C4 | | |
| C1136 | D5 | R340 | C5 | | |
| C1137 | D5 | R342 | C5 | | |
| C3001 | A4 | R343 | C4 | | |
| C3002 | A4 | R344 | C5 | | |
| C3003 | A4 | R345 | C4 | | |
| C3004 | A4 | R347 | C4 | | |
| C3005 | B4 | R348 | C4 | | |
| C3006 | B4 | R349 | C4 | | |
| C3007 | B4 | R350 | C4 | | |
| C3008 | B4 | R351 | D4 | | |
| C4001 | D6 | R352 | D4 | | |
| CN3001 | A5 | R353 | D4 | | |
| D301 | B4 | R354 | D4 | | |

8-7

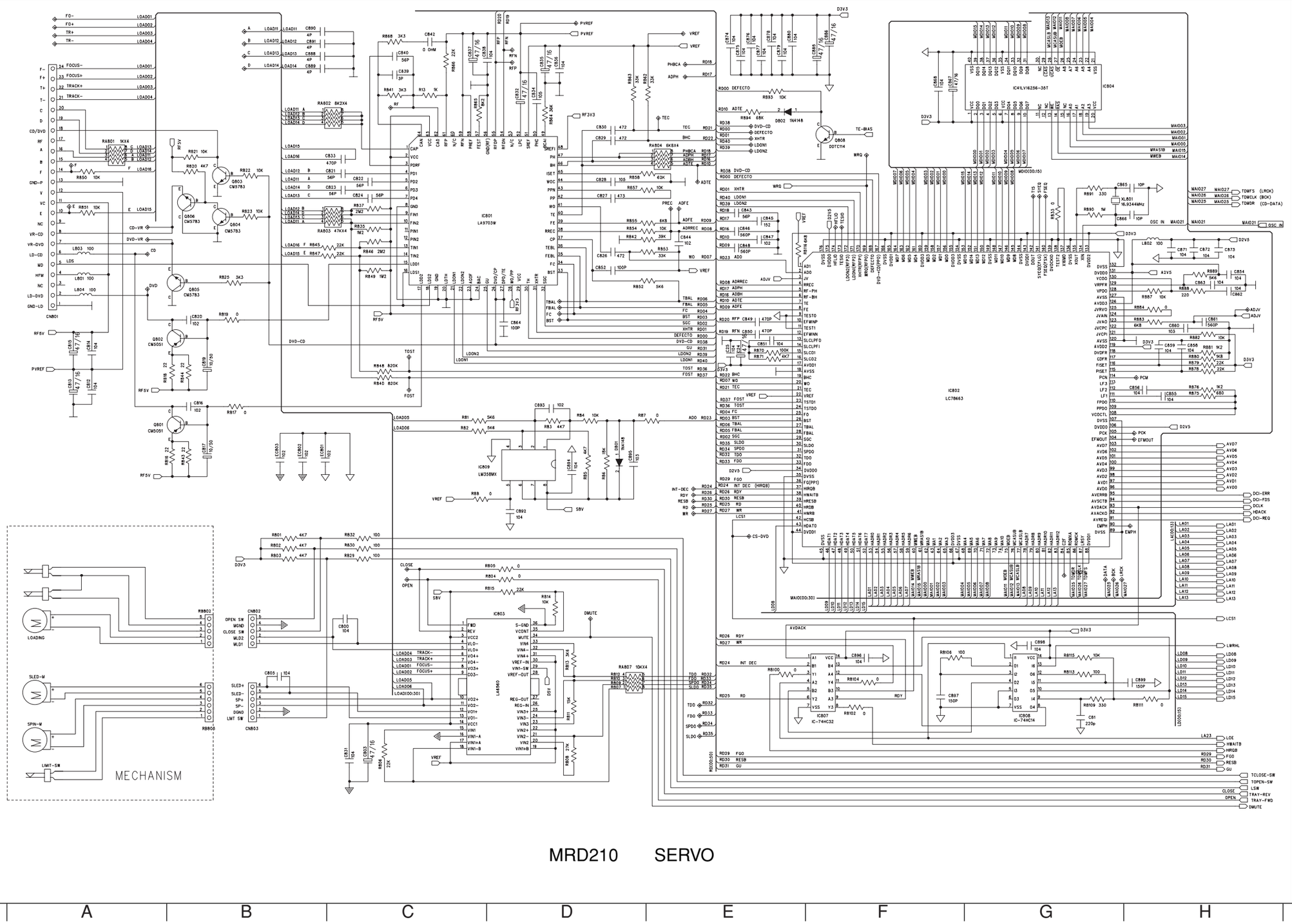
# CIRCUIT DIAGRAM (BOTTOM RIGHT)




| | | | | | |
|---|---|---|---|---|---|
| C401 | E4 | C554 | G4 | R502 | F5 |
| C402 | E4 | C555 | G4 | R503 | F6 |
| C403 | E4 | C556 | H4 | R505 | G4 |
| C404 | F4 | C557 | H4 | R506 | G4 |
| C405 | F4 | C558 | H4 | R507 | G4 |
| C406 | F4 | C559 | G4 | R508 | G4 |
| C407 | F4 | C560 | G4 | R509 | G4 |
| C408 | F4 | C561 | G4 | R510 | G4 |
| C409 | F5 | C562 | G4 | R511 | G5 |
| C410 | F4 | C563 | G4 | R512 | G5 |
| C411 | F5 | C564 | H4 | R513 | G5 |
| C412 | E5 | C565 | H4 | R514 | G5 |
| C413 | E5 | C566 | H4 | R515 | G5 |
| C414 | E5 | C567 | G5 | R516 | G5 |
| C415 | E5 | C568 | G5 | R517 | G6 |
| C416 | F5 | C569 | G5 | R518 | G6 |
| C417 | F5 | C570 | G5 | R519 | G6 |
| C418 | F5 | C571 | G5 | R1061 | E5 |
| C419 | F5 | C572 | H5 | R1062 | E5 |
| C420 | F5 | C573 | H5 | R1063 | E5 |
| C421 | E6 | C574 | H5 | R1064 | E5 |
| C422 | E6 | C575 | G5 | R1065 | E5 |
| C423 | E6 | C576 | G5 | R1066 | E5 |
| C424 | E6 | C577 | G5 | R1067 | E5 |
| C425 | F6 | C578 | G5 | R1068 | E6 |
| C426 | F6 | C579 | G5 | R4005 | E6 |
| C427 | F6 | C580 | H5 | R4006 | E6 |
| C428 | F6 | C581 | H5 | R4007 | E6 |
| C429 | F4 | C582 | H5 | R4008 | E6 |
| C431 | E6 | C583 | G6 | R4009 | F6 |
| C501 | F4 | C584 | G6 | R4010 | F6 |
| C502 | G4 | C585 | G6 | R4011 | F6 |
| C503 | G4 | C586 | G6 | R4012 | F6 |
| C504 | G4 | C587 | G6 | R4013 | F6 |
| C505 | G4 | C588 | H6 | R4014 | F6 |
| C506 | G4 | C589 | H5 | | |
| C507 | G4 | C590 | H6 | | |
| C508 | F4 | C4002 | E6 | | |
| C509 | F4 | C4003 | E6 | | |
| C510 | F4 | C4004 | E6 | | |
| C512 | G4 | C4005 | E6 | | |
| C513 | G4 | C4006 | F6 | | |
| C514 | G4 | C4007 | F6 | | |
| C515 | G4 | C4008 | F6 | | |
| C516 | F5 | IC401 | F5 | | |
| C517 | G5 | IC501 | G4 | | |
| C518 | G5 | IC502 | G5 | | |
| C519 | G5 | IC503 | G6 | | |
| C520 | G5 | IC4001-A | E6 | | |
| C521 | G5 | IC4001-B | F6 | | |
| C522 | G5 | JK501 | H5 | | |
| C523 | F5 | L401 | F6 | | |
| C524 | F5 | L402 | F6 | | |
| C525 | F5 | L501 | G4 | | |
| C526 | G5 | L502 | G4 | | |
| C527 | G5 | L503 | G4 | | |
| C528 | G5 | L504 | G4 | | |
| C529 | G5 | L505 | G5 | | |
| C531 | F6 | L506 | G5 | | |
| C532 | G6 | L507 | G5 | | |
| C533 | G6 | L508 | G5 | | |
| C534 | G6 | L509 | G6 | | |
| C535 | G6 | L510 | G6 | | |
| C536 | G6 | L513 | H4 | | |
| C537 | G6 | L514 | H4 | | |
| C538 | F6 | L515 | H5 | | |
| C539 | F6 | L516 | H5 | | |
| C540 | F6 | L517 | H6 | | |
| C541 | G6 | Q401 | E4 | | |
| C542 | G6 | R402 | E5 | | |
| C543 | G6 | R403 | E4 | | |
| C544 | G6 | R404 | F4 | | |
| C551 | G4 | R407 | E6 | | |
| C552 | G4 | R408 | E6 | | |
| C553 | G4 | R501 | F4 | | |

8-8

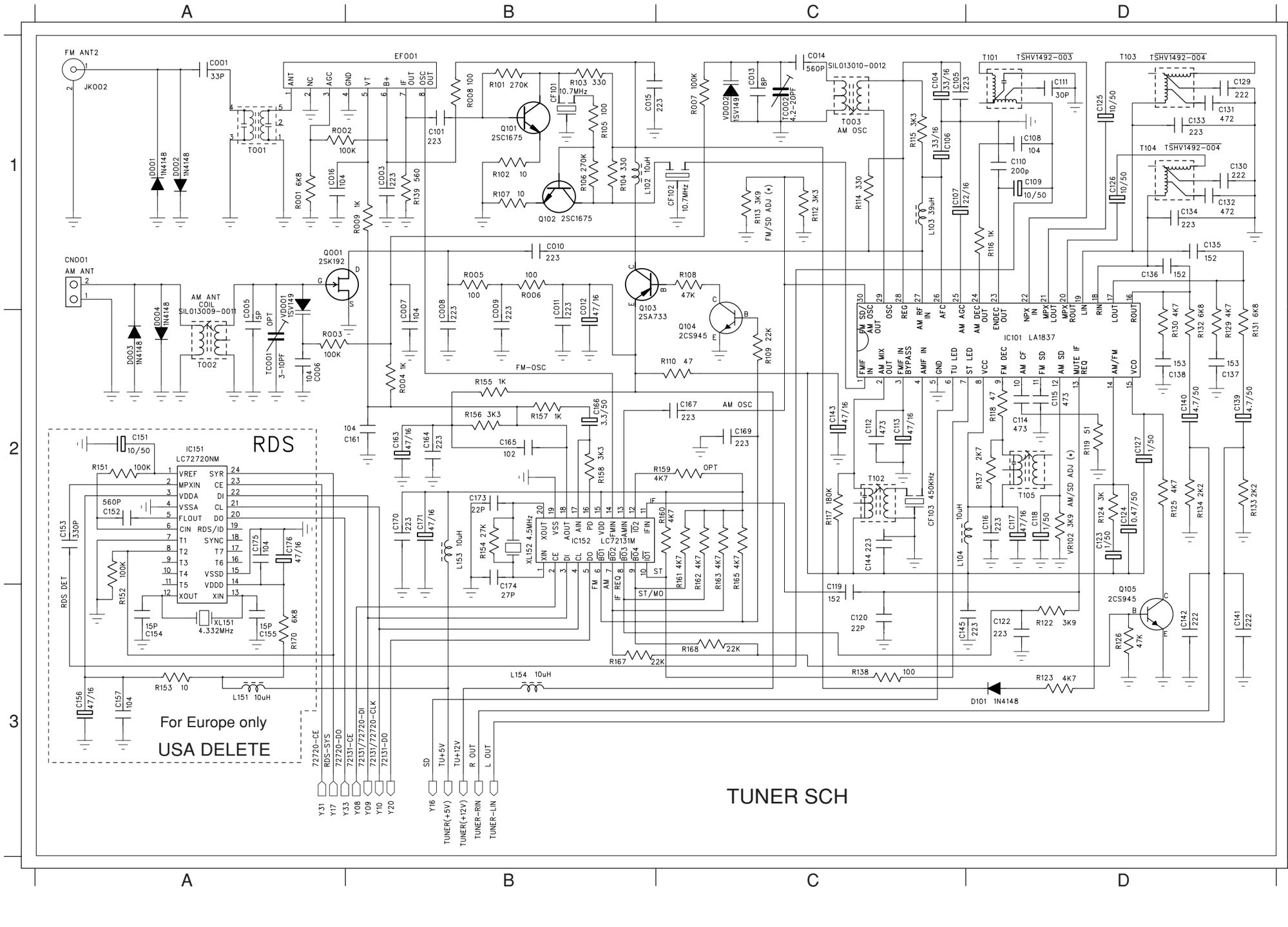
# CIRCUIT DIAGRAM (SERVICE)




| | | | | | |
|---|---|---|---|---|---|
| C24 | E3 | C892 | D4 | R845 | B2 |
| C25 | E3 | C893 | D3 | R846 | C2 |
| C81 | G5 | C894 | D4 | R847 | B2 |
| C800 | C5 | C895 | D4 | R848 | C3 |
| C803 | C6 | C896 | F5 | R849 | C2 |
| C805 | B5 | C897 | F5 | R850 | A2 |
| C812 | A3 | C898 | G5 | R851 | A2 |
| C813 | A3 | C899 | H5 | R852 | D2 |
| C814 | A3 | CN801 | A3 | R853 | E2 |
| C815 | A3 | CN802 | B5 | R854 | D2 |
| C816 | B3 | CN803 | B5 | R855 | D2 |
| C817 | B3 | D801 | D3 | R857 | D2 |
| C819 | B3 | D802 | E1 | R858 | D2 |
| C820 | B3 | EC801 | B4 | R862 | D1 |
| C821 | C2 | EC802 | B4 | R863 | D1 |
| C822 | C2 | EC803 | B4 | R864 | D1 |
| C823 | C2 | IC801 | C2 | R865 | C1 |
| C824 | C2 | IC802 | F3 | R866 | C1 |
| C826 | D2 | IC803 | D5 | R868 | C1 |
| C827 | D2 | IC804 | G1 | R870 | E3 |
| C828 | D2 | IC807 | F5 | R871 | E3 |
| C829 | D1 | IC808 | G5 | R875 | H3 |
| C830 | D1 | IC809 | C4 | R876 | H3 |
| C831 | C6 | L801 | A2 | R878 | H3 |
| C832 | D1 | L802 | H2 | R879 | H3 |
| C833 | C2 | L803 | A2 | R880 | H3 |
| C834 | D1 | L804 | A2 | R881 | H3 |
| C835 | D1 | Q801 | A3 | R882 | H3 |
| C836 | D1 | Q802 | A3 | R883 | H3 |
| C837 | C1 | Q803 | B2 | R884 | H3 |
| C838 | C1 | Q804 | B2 | R887 | H2 |
| C839 | C1 | Q805 | B2 | R888 | H2 |
| C840 | C1 | Q806 | B2 | R889 | H2 |
| C842 | C1 | Q808 | F1 | R890 | G2 |
| C843 | E2 | R13 | C1 | R891 | G2 |
| C844 | E2 | R81 | C3 | R893 | E1 |
| C845 | E2 | R82 | C3 | R894 | E1 |
| C846 | E2 | R83 | D3 | R8100 | E5 |
| C847 | E2 | R84 | D3 | R8102 | F5 |
| C848 | E2 | R85 | D4 | R8104 | F5 |
| C849 | E3 | R86 | D4 | R8106 | F5 |
| C850 | E3 | R87 | D3 | R8109 | G5 |
| C851 | E3 | R88 | C4 | R8111 | H5 |
| C852 | D2 | R801 | B4 | R8113 | G5 |
| C854 | H2 | R802 | B4 | R8115 | G5 |
| C855 | H3 | R803 | B4 | R8116 | E2 |
| C856 | H3 | R804 | D4 | RA801 | A1 |
| C858 | H3 | R805 | D4 | RA802 | C1 |
| C859 | H3 | R806 | C6 | RA803 | C2 |
| C860 | H3 | R808 | D6 | RA804 | E1 |
| C861 | H3 | R811 | D5 | RA807 | D5 |
| C862 | H2 | R813 | D5 | XL801 | G2 |
| C863 | H2 | R814 | D5 | | |
| C864 | D3 | R815 | D4 | | |
| C865 | G2 | R816 | B4 | | |
| C866 | G2 | R817 | B3 | | |
| C867 | F1 | R818 | A3 | | |
| C868 | F1 | R819 | B3 | | |
| C871 | H2 | R820 | B2 | | |
| C872 | H2 | R821 | B2 | | |
| C873 | H2 | R822 | B2 | | |
| C874 | E1 | R823 | B2 | | |
| C875 | E1 | R825 | B2 | | |
| C876 | E1 | R829 | C4 | | |
| C877 | E1 | R830 | C4 | | |
| C878 | E1 | R832 | C4 | | |
| C879 | E1 | R833 | G2 | | |
| C880 | E1 | R835 | C2 | | |
| C885 | F1 | R837 | C2 | | |
| C886 | F1 | R840 | C3 | | |
| C888 | B1 | R841 | C1 | | |
| C889 | B1 | R842 | D2 | | |
| C890 | B1 | R843 | B4 | | |
| C891 | B1 | R844 | B3 | | |

8-9

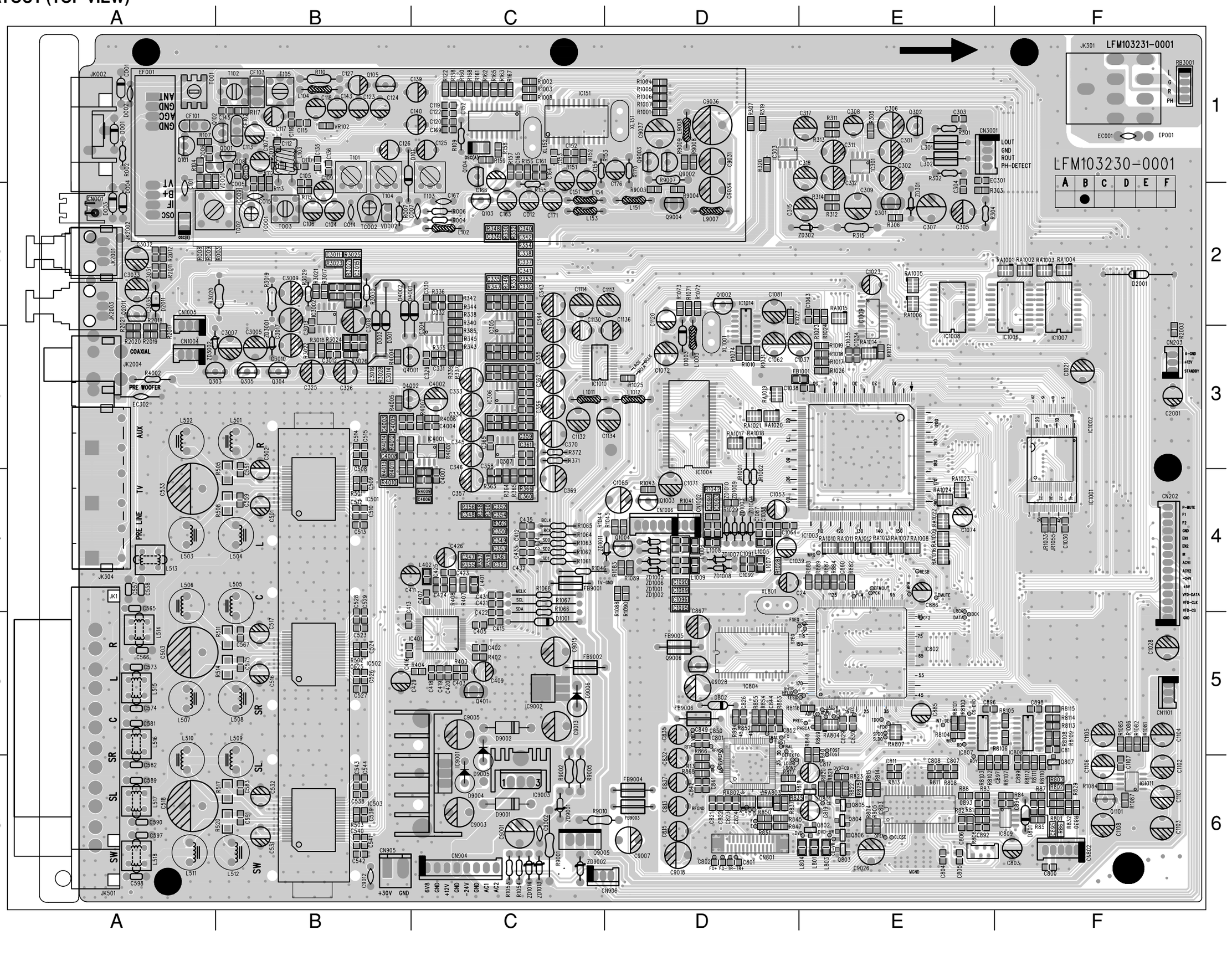
# CIRCUIT DIAGRAM (TUNER)




| | | | | | |
|---|---|---|---|---|---|
| C001 | A1 | D001 | A1 | R133 | D2 |
| C003 | B1 | D002 | A1 | R134 | D2 |
| C005 | A2 | D003 | A2 | R137 | D2 |
| C006 | A2 | D004 | A2 | R138 | C3 |
| C007 | B2 | D101 | D3 | R139 | B1 |
| C008 | B2 | EF001 | B1 | R154 | B2 |
| C009 | B2 | IC101 | D2 | R155 | B2 |
| C010 | B1 | IC152 | B2 | R156 | B2 |
| C011 | B2 | JK002 | A1 | R157 | B2 |
| C012 | B2 | L102 | B1 | R158 | B2 |
| C013 | C1 | L103 | C1 | R159 | C2 |
| C014 | C1 | L104 | C2 | R160 | C2 |
| C015 | B1 | L153 | B2 | R161 | C2 |
| C016 | A1 | L154 | B3 | R162 | C2 |
| C101 | B1 | Q001 | A1 | R163 | C2 |
| C104 | C1 | Q101 | B1 | R165 | C2 |
| C105 | C1 | Q102 | B1 | R167 | B3 |
| C106 | C1 | Q103 | B1 | R168 | C3 |
| C107 | C1 | Q104 | C2 | | |
| C108 | D1 | Q105 | D3 | | |
| C109 | D1 | T001 | A1 | | |
| C110 | D1 | T002 | A2 | | |
| C111 | D1 | T003 | C1 | | |
| C112 | C2 | T101 | D1 | | |
| C113 | C2 | T102 | C2 | | |
| C114 | D2 | T103 | D1 | | |
| C115 | D2 | T104 | D1 | | |
| C116 | D2 | T105 | D2 | | |
| C117 | D2 | TC001 | A2 | | |
| C118 | D2 | TC002 | C1 | | |
| C119 | C3 | VD001 | A2 | | |
| C120 | C3 | VD002 | C1 | | |
| C122 | D3 | VR102 | D2 | | |
| C123 | D2 | XL152 | B2 | | |
| C124 | D2 | R001 | A1 | | |
| C125 | D1 | R002 | A1 | | |
| C126 | D1 | R003 | A2 | | |
| C127 | D2 | R004 | B2 | | |
| C129 | D1 | R005 | B1 | | |
| C130 | D1 | R006 | B1 | | |
| C131 | D1 | R007 | C1 | | |
| C132 | D1 | R008 | B1 | | |
| C133 | D1 | R009 | B1 | | |
| C134 | D1 | R101 | B1 | | |
| C135 | D1 | R102 | B1 | | |
| C136 | D1 | R103 | B1 | | |
| C137 | D2 | R104 | B1 | | |
| C138 | D2 | R105 | B1 | | |
| C139 | D2 | R106 | B1 | | |
| C140 | D2 | R107 | B1 | | |
| C141 | D3 | R108 | C1 | | |
| C142 | D3 | R109 | C2 | | |
| C143 | C2 | R110 | C2 | | |
| C144 | C2 | R112 | C1 | | |
| C145 | C3 | R113 | C1 | | |
| C161 | B2 | R114 | C1 | | |
| C163 | B2 | R115 | C1 | | |
| C164 | B2 | R116 | D1 | | |
| C165 | B2 | R117 | C2 | | |
| C166 | B2 | R118 | D2 | | |
| C167 | C2 | R119 | D2 | | |
| C169 | C2 | R122 | D3 | | |
| C170 | B2 | R123 | D3 | | |
| C171 | B2 | R124 | D2 | | |
| C173 | B2 | R125 | D2 | | |
| C174 | B3 | R126 | D3 | | |
| CF101 | B1 | R129 | D2 | | |
| CF102 | C1 | R130 | D2 | | |
| CF103 | C2 | R131 | D2 | | |
| CN001 | A1 | R132 | D2 | | |

8-10

## PCB LAYOUT (TOP VIEW)



8-10A

## PCB LAYOUT (TOP VIEW) - MAPPING

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C24 | D4 | C302 | E1 | C362 | C3 | C538 | B6 | C892 | E6 | C4003 | B3 | D4001 | B2 | JK301 | F1 | Q103 | C2 | R115 | B2 | R355 | C4 | R832 | F6 |
| C81 | F5 | C303 | E1 | C365 | C3 | C539 | B6 | C893 | E6 | C4004 | C3 | D4002 | B2 | JK304 | A4 | Q104 | C1 | R117 | B1 | R356 | C4 | R835 | D6 |
| C001 | A1 | C304 | E2 | C369 | C4 | C540 | B6 | C894 | F6 | C4005 | B3 | D9001 | C6 | JK501 | A6 | Q105 | B1 | R122 | C1 | R358 | C4 | R837 | D6 |
| C005 | B2 | C305 | E2 | C370 | C3 | C541 | B6 | C895 | F6 | C4006 | C4 | D9002 | C5 | JK2003 | A2 | Q301 | E2 | R138 | C1 | R357 | C4 | R840 | E5 |
| C006 | A1 | C306 | E1 | C402 | C5 | C542 | B6 | C896 | E5 | C4007 | C4 | D9006 | C5 | JK2004 | A3 | Q302 | E1 | R155 | C2 | R359 | C4 | R845 | D6 |
| C007 | B2 | C307 | E2 | C403 | C5 | C543 | B6 | C897 | F6 | C4008 | B3 | EC001 | F1 | JR1001 | D4 | Q303 | A3 | R156 | C1 | R360 | C4 | R847 | D6 |
| C008 | B1 | C308 | E1 | C405 | C5 | C544 | B6 | C898 | F5 | C9001 | C6 | EC301 | E1 | JR1002 | D4 | Q304 | B3 | R157 | C1 | R361 | C4 | R848 | E5 |
| C009 | B2 | C309 | E2 | C407 | C4 | C551 | B3 | C899 | F6 | C9002 | C6 | EC302 | A3 | JR1033 | F4 | Q305 | B3 | R158 | C1 | R362 | C4 | R850 | D6 |
| C010 | B1 | C311 | E1 | C409 | C5 | C557 | A4 | C1021 | F3 | C9003 | C6 | EF001 | A1 | JR1055 | F4 | Q401 | C5 | R159 | C1 | R363 | C4 | R851 | D6 |
| C012 | C2 | C312 | E2 | C411 | B4 | C558 | A4 | C1023 | E2 | C9005 | C5 | FB1001 | D3 | L102 | C2 | Q801 | E6 | R160 | C1 | R364 | C4 | R852 | D5 |
| C014 | B2 | C315 | D2 | C412 | C4 | C559 | B4 | C1028 | F5 | C9007 | D6 | FB9001 | C4 | L103 | B1 | Q802 | E6 | R161 | C1 | R365 | C4 | R853 | D5 |
| C015 | B2 | C317 | E1 | C413 | B5 | C565 | A4 | C1030 | F4 | C9012 | B6 | FB9002 | C5 | L104 | B1 | Q803 | E6 | R162 | C1 | R366 | C4 | R854 | D5 |
| C101 | A2 | C318 | E1 | C415 | C5 | C566 | A5 | C1034 | E3 | C9013 | C5 | FB9003 | D6 | L153 | C2 | Q804 | E6 | R163 | C1 | R371 | C3 | R855 | D5 |
| C104 | B2 | C325 | B3 | C416 | B5 | C567 | B5 | C1035 | E3 | C9015 | C5 | FB9004 | D6 | L154 | C2 | Q805 | E6 | R165 | C1 | R372 | C3 | R866 | D5 |
| C105 | B1 | C326 | B3 | C418 | C5 | C573 | A5 | C1037 | D3 | C9018 | D6 | FB9005 | D5 | L301 | E1 | Q806 | E6 | R167 | C1 | R385 | C3 | R868 | D6 |
| C106 | B2 | C329 | C3 | C419 | C5 | C574 | A5 | C1038 | D3 | C9026 | E6 | FB9006 | D5 | L302 | E1 | Q1002 | D2 | R168 | C1 | R402 | C5 | R882 | E4 |
| C107 | B1 | C330 | C2 | C420 | C5 | C575 | B5 | C1039 | D4 | C9028 | D5 | IC152 | C1 | L401 | C4 | Q1101 | F6 | R301 | E1 | R403 | C5 | R884 | E4 |
| C109 | B1 | C331 | C3 | C421 | C4 | C581 | A5 | C1053 | D4 | C9031 | D1 | IC301 | E1 | L402 | C4 | Q2011 | A2 | R302 | E1 | R404 | C5 | R887 | E4 |
| C110 | B1 | C332 | C2 | C422 | C4 | C582 | A6 | C1062 | D3 | C9034 | D2 | IC303 | D1 | L501 | B3 | Q4001 | B3 | R303 | E2 | R407 | C4 | R888 | E4 |
| C112 | B1 | C333 | C3 | C423 | C4 | C583 | B6 | C1063 | E2 | C9036 | D1 | IC304 | C3 | L502 | A3 | Q4002 | B3 | R304 | E2 | R408 | C4 | R889 | E4 |
| C113 | B1 | C334 | C3 | C424 | C4 | C589 | A6 | C1064 | D4 | C9037 | D1 | IC305 | C3 | L503 | A4 | Q9002 | D1 | R305 | E1 | R501 | B4 | R894 | D5 |
| C115 | B1 | C335 | C2 | C425 | C4 | C590 | A6 | C1071 | D4 | CF101 | A1 | IC306 | C3 | L504 | B4 | Q9003 | D1 | R306 | E2 | R502 | B5 | R1001 | D1 |
| C116 | B1 | C336 | C2 | C426 | C4 | C800 | F6 | C1072 | D3 | CF102 | B1 | IC307 | C3 | L505 | B4 | Q9004 | D2 | R307 | D1 | R503 | B6 | R1002 | C1 |
| C117 | B1 | C337 | C2 | C429 | B5 | C803 | F6 | C1074 | E4 | CF103 | B1 | IC401 | C5 | L506 | A4 | Q9005 | C6 | R312 | E2 | R505 | B3 | R1003 | C1 |
| C118 | B1 | C338 | C2 | C431 | C4 | C805 | E6 | C1081 | D2 | CN001 | A2 | IC501 | B4 | L507 | A5 | Q9006 | D5 | R314 | E2 | R508 | B4 | R1004 | D1 |
| C119 | C1 | C339 | C2 | C501 | B4 | C813 | D6 | C1085 | D4 | CN202 | F4 | IC502 | B5 | L508 | B5 | R13 | D6 | R315 | E2 | R511 | B5 | R1005 | D1 |
| C120 | C1 | C340 | C2 | C502 | B3 | C815 | D6 | C1087 | D4 | CN203 | F3 | IC503 | B6 | L509 | B5 | R81 | E6 | R311 | E1 | R514 | B5 | R1006 | D1 |
| C122 | C1 | C341 | C2 | C503 | A5 | C817 | E6 | C1088 | D4 | CN801 | D6 | IC801 | D5 | L510 | A5 | R82 | E6 | R313 | E1 | R517 | B6 | R1007 | D1 |
| C123 | B1 | C342 | C2 | C508 | B3 | C819 | E6 | C1089 | D4 | CN802 | F6 | IC802 | E5 | L513 | A4 | R83 | E6 | R319 | D1 | R801 | F6 | R1008 | C1 |
| C124 | B1 | C343 | C2 | C509 | B4 | C821 | D6 | C1090 | D4 | CN803 | E6 | IC803 | E6 | L514 | A5 | R84 | F6 | R320 | D1 | R802 | F6 | R1010 | D3 |
| C125 | C1 | C344 | C2 | C510 | B4 | C822 | D6 | C1091 | D4 | CN904 | C6 | IC804 | D5 | L515 | A5 | R85 | F6 | R335 | C3 | R803 | F6 | R1012 | E3 |
| C126 | B1 | C345 | C3 | C512 | B4 | C823 | D6 | C1092 | D4 | CN905 | B6 | IC807 | E5 | L516 | A5 | R86 | F6 | R336 | C2 | R804 | E6 | R1023 | E3 |
| C127 | B1 | C346 | C3 | C513 | B4 | C824 | D6 | C1093 | D4 | CN906 | D6 | IC808 | F5 | L517 | A6 | R87 | F6 | R337 | C3 | R805 | E6 | R1024 | E3 |
| C135 | B1 | C347 | C4 | C514 | B3 | C826 | D5 | C1094 | D4 | CN1006 | D4 | IC809 | F6 | L801 | E6 | R88 | E6 | R338 | C2 | R806 | E6 | R1025 | D3 |
| C136 | B1 | C348 | C4 | C515 | B3 | C829 | E5 | C1113 | C2 | CN3001 | E1 | IC1001 | F4 | L803 | E6 | R002 | A1 | R339 | C3 | R808 | E6 | R1026 | E3 |
| C139 | C1 | C349 | C4 | C516 | B5 | C830 | E5 | C1114 | C2 | D001 | A1 | IC1003 | E4 | L804 | E6 | R003 | A2 | R340 | C2 | R811 | E6 | R1027 | D2 |
| C140 | C1 | C350 | C4 | C517 | B5 | C832 | D5 | C1120 | D2 | D002 | A1 | IC1004 | D4 | L1003 | D3 | R004 | C2 | R342 | C2 | R813 | E6 | R1028 | D4 |
| C143 | B1 | C351 | C4 | C518 | A6 | C835 | D5 | C1130 | C2 | D003 | A2 | IC1006 | F3 | L1005 | D4 | R005 | B1 | R343 | C3 | R814 | E6 | R1029 | D4 |
| C145 | B1 | C352 | C4 | C523 | B5 | C837 | D6 | C1132 | C3 | D004 | A2 | IC1007 | F3 | L1006 | D4 | R006 | C2 | R344 | C2 | R815 | E6 | R1031 | D3 |
| C161 | C1 | C353 | C4 | C524 | B5 | C842 | D6 | C1134 | D3 | D101 | B1 | IC1008 | E3 | L1007 | D4 | R007 | B2 | R345 | C3 | R817 | D6 | R1053 | C6 |
| C163 | C2 | C354 | C4 | C525 | B5 | C844 | D5 | C1136 | D2 | D301 | B3 | IC1009 | E2 | L1008 | D4 | R008 | A2 | R347 | C2 | R819 | D6 | R1054 | C6 |
| C164 | C1 | C355 | C3 | C526 | B5 | C849 | D5 | C2001 | F3 | D302 | B3 | IC1010 | C3 | L1011 | C3 | R009 | A2 | R348 | C2 | R820 | E6 | R1061 | C4 |
| C165 | C1 | C356 | C3 | C527 | B5 | C850 | D5 | C3005 | B3 | D801 | F6 | IC1014 | D2 | L1012 | D3 | R104 | A1 | R349 | C2 | R821 | E6 | R1062 | C4 |
| C166 | C2 | C357 | C4 | C528 | B4 | C852 | D5 | C3007 | B3 | D802 | D5 | IC4001 | C3 | L9007 | D2 | R107 | A1 | R350 | C2 | R822 | E6 | R1063 | C4 |
| C167 | C2 | C358 | C3 | C529 | B4 | C860 | E4 | C3009 | B2 | D1001 | C5 | IC9001 | C6 | L9008 | D1 | R109 | C1 | R351 | C2 | R823 | E6 | R1064 | C4 |
| C169 | C1 | C359 | C3 | C531 | B6 | C867 | D5 | C3010 | B3 | D1003 | D3 | IC9002 | C5 | Q001 | B1 | R110 | B1 | R352 | C2 | R825 | E6 | R1065 | C4 |
| C171 | C2 | C360 | C4 | C532 | B6 | C885 | E5 | C3035 | A2 | D2001 | F2 | IC9003 | C6 | Q101 | A1 | R112 | B1 | R353 | C2 | R829 | F6 | R1066 | C4 |
| C301 | E1 | C361 | C3 | C533 | A4 | C886 | E4 | C4002 | C3 | D2011 | A2 | JK002 | A1 | Q102 | A1 | R113 | B2 | R554 | C2 | R830 | F6 | R1067 | C4 |

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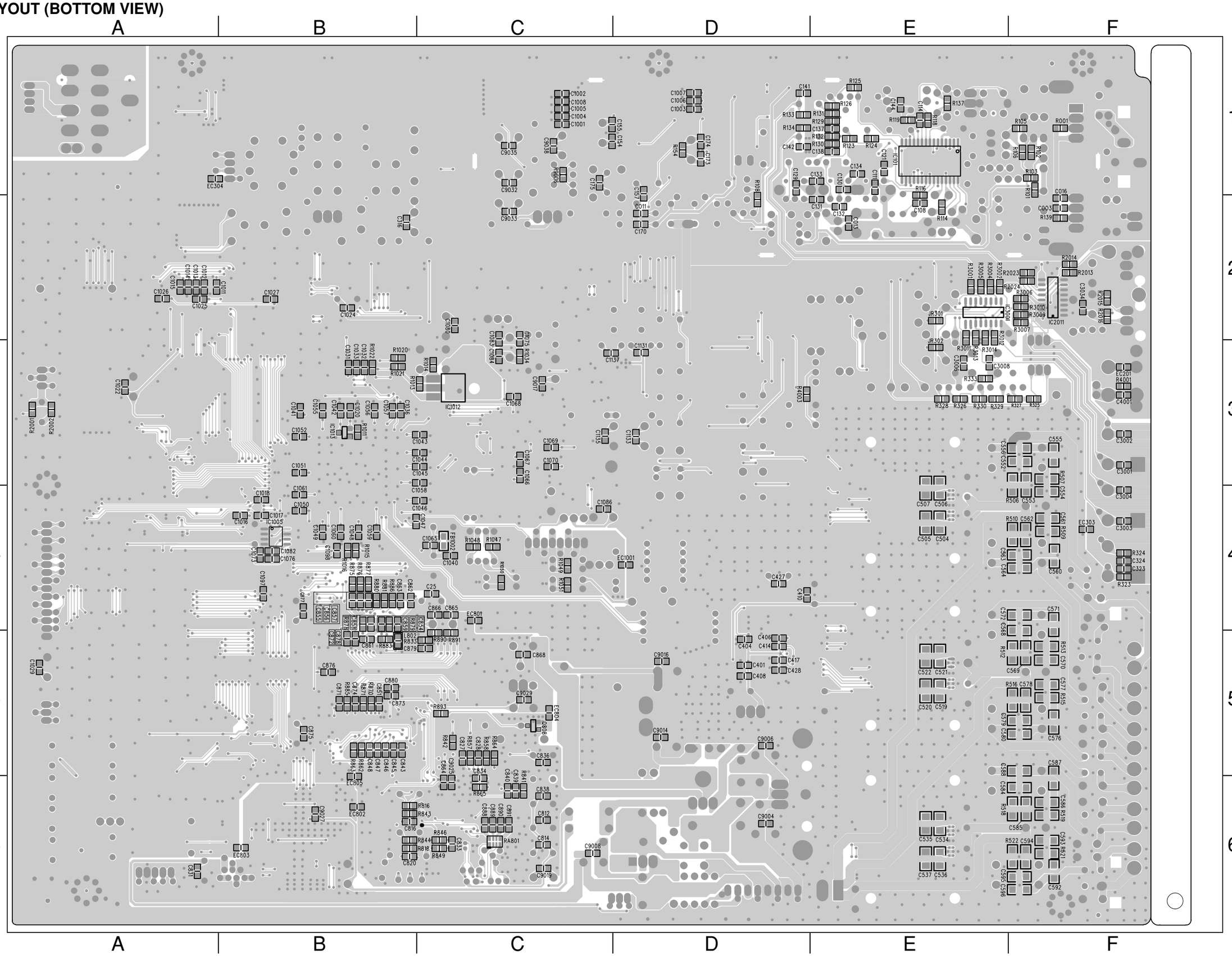
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| R1068 | C4 | R9009 | D1 | ZD302 | E2 | | | | | | | | | | | | | | | | | | |
| R1071 | D2 | R9010 | C6 | ZD1003 | D4 | | | | | | | | | | | | | | | | | | |
| R1072 | D2 | RA802 | D6 | ZD1004 | D4 | | | | | | | | | | | | | | | | | | |
| R1073 | D2 | RA803 | D6 | ZD1005 | D4 | | | | | | | | | | | | | | | | | | |
| R1074 | D3 | RA804 | E5 | ZD1006 | D4 | | | | | | | | | | | | | | | | | | |
| R1083 | D4 | RA807 | E5 | ZD1007 | D4 | | | | | | | | | | | | | | | | | | |
| R2003 | F3 | RA1001 | F2 | ZD1008 | D4 | | | | | | | | | | | | | | | | | | |
| R2017 | A3 | RA1002 | F2 | ZD1009 | D4 | | | | | | | | | | | | | | | | | | |
| R2018 | A2 | RA1003 | F2 | ZD1010 | D4 | | | | | | | | | | | | | | | | | | |
| R2019 | A3 | RA1004 | F2 | ZD1013 | C6 | | | | | | | | | | | | | | | | | | |
| R2020 | A3 | RA1005 | E2 | ZD1014 | C6 | | | | | | | | | | | | | | | | | | |
| R2021 | A3 | RA1006 | E2 | ZD3001 | B3 | | | | | | | | | | | | | | | | | | |
| R3017 | B2 | RA1007 | E4 | ZD3002 | A3 | | | | | | | | | | | | | | | | | | |
| R3018 | B3 | RA1008 | E4 | ZD9001 | C6 | | | | | | | | | | | | | | | | | | |
| R3019 | B2 | RA1009 | E4 | ZD9002 | C6 | | | | | | | | | | | | | | | | | | |
| R3020 | A2 | RA1010 | E4 | | | | | | | | | | | | | | | | | | | | |
| R3023 | B2 | RA1011 | E4 | | | | | | | | | | | | | | | | | | | | |
| R3024 | B3 | RA1012 | E4 | | | | | | | | | | | | | | | | | | | | |
| R3025 | B2 | RA1013 | E4 | | | | | | | | | | | | | | | | | | | | |
| R3026 | B3 | RA1014 | E3 | | | | | | | | | | | | | | | | | | | | |
| R4002 | B2 | RA1015 | E2 | | | | | | | | | | | | | | | | | | | | |
| R4004 | B3 | RA1016 | E4 | | | | | | | | | | | | | | | | | | | | |
| R4005 | B3 | RA1017 | D3 | | | | | | | | | | | | | | | | | | | | |
| R4006 | C3 | RA1018 | D3 | | | | | | | | | | | | | | | | | | | | |
| R4007 | C3 | RA1019 | D3 | | | | | | | | | | | | | | | | | | | | |
| R4008 | C3 | RA1020 | D3 | | | | | | | | | | | | | | | | | | | | |
| R4009 | C4 | RA1021 | D3 | | | | | | | | | | | | | | | | | | | | |
| R4010 | B3 | RA1022 | E4 | | | | | | | | | | | | | | | | | | | | |
| R4011 | B3 | RA1023 | E4 | | | | | | | | | | | | | | | | | | | | |
| R4012 | B3 | RA1024 | E4 | | | | | | | | | | | | | | | | | | | | |
| R4013 | B3 | RB3001 | F1 | | | | | | | | | | | | | | | | | | | | |
| R4014 | B3 | T001 | A1 | | | | | | | | | | | | | | | | | | | | |
| R8100 | E5 | T002 | B2 | | | | | | | | | | | | | | | | | | | | |
| R8102 | E6 | T003 | B2 | | | | | | | | | | | | | | | | | | | | |
| R8104 | E5 | T101 | B1 | | | | | | | | | | | | | | | | | | | | |
| R8106 | F5 | T102 | B1 | | | | | | | | | | | | | | | | | | | | |
| R8109 | F5 | T103 | C2 | | | | | | | | | | | | | | | | | | | | |
| R8111 | F6 | T104 | B2 | | | | | | | | | | | | | | | | | | | | |
| R8113 | F5 | T105 | B1 | | | | | | | | | | | | | | | | | | | | |
| R8115 | F5 | TC001 | B2 | | | | | | | | | | | | | | | | | | | | |
| R8116 | D5 | TC002 | B2 | | | | | | | | | | | | | | | | | | | | |
| R9001 | C6 | VD001 | B1 | | | | | | | | | | | | | | | | | | | | |
| R9002 | C6 | VR102 | B1 | | | | | | | | | | | | | | | | | | | | |
| R9003 | D2 | VD002 | B2 | | | | | | | | | | | | | | | | | | | | |
| R9004 | D2 | XL152 | C1 | | | | | | | | | | | | | | | | | | | | |
| R9005 | C6 | XL801 | D4 | | | | | | | | | | | | | | | | | | | | |
| R9007 | D1 | XL1001 | D3 | | | | | | | | | | | | | | | | | | | | |
| R9008 | D1 | ZD301 | E2 | | | | | | | | | | | | | | | | | | | | |

8-11

**PCB LAYOUT (BOTTOM VIEW)**



8-11A

## PCB LAYOUT (BOTTOM VIEW) - MAPPING

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C25 | C4 | C535 | E6 | C846 | B5 | C1016 | B4 | C1080 | C2 | JR301 | E2 | R515 | F5 | R2001 | A3 |
| C003 | F2 | C536 | E6 | C847 | B5 | C1017 | B4 | C1082 | B4 | JR302 | E3 | R516 | F5 | R2002 | A3 |
| C011 | D2 | C537 | E6 | C848 | B5 | C1018 | B4 | C1083 | C2 | L802 | B5 | R518 | E6 | R2015 | F2 |
| C013 | E2 | C552 | E3 | C851 | B5 | C1020 | B3 | C1084 | C3 | Q808 | C5 | R519 | F6 | R2016 | F2 |
| C016 | F1 | C553 | F4 | C854 | C4 | C1022 | A3 | C1086 | C4 | R001 | F1 | R816 | C6 | R3001 | E2 |
| C108 | E2 | C554 | F4 | C855 | B4 | C1024 | B2 | C1097 | B4 | R101 | F1 | R818 | C6 | R3002 | E2 |
| C111 | E1 | C555 | F3 | C856 | B4 | C1025 | A2 | C1098 | B4 | R102 | F1 | R833 | B5 | R3004 | E2 |
| C114 | E1 | C556 | E3 | C858 | B4 | C1026 | A2 | C1131 | D3 | R103 | F1 | R841 | C6 | R3005 | E2 |
| C129 | D1 | C560 | F4 | C859 | B4 | C1027 | B2 | C1133 | D3 | R105 | F1 | R842 | C5 | R3006 | F2 |
| C130 | E1 | C561 | F4 | C861 | B4 | C1029 | A5 | C1135 | C3 | R106 | F1 | R843 | C6 | R3007 | F2 |
| C131 | E2 | C562 | F4 | C862 | B4 | C1031 | B3 | C1137 | C3 | R108 | D1 | R844 | C6 | R3009 | F2 |
| C132 | E2 | C563 | E4 | C863 | B4 | C1032 | B3 | C3001 | F3 | R114 | E2 | R846 | C6 | R3010 | F2 |
| C134 | E1 | C564 | E4 | C864 | C5 | C1033 | B3 | C3002 | F3 | R116 | E1 | R849 | C6 | R3011 | E3 |
| C133 | E1 | C568 | E4 | C865 | C4 | C1036 | B3 | C3003 | F4 | R118 | E1 | R857 | C5 | R3012 | E2 |
| C137 | E1 | C569 | F5 | C866 | C4 | C1040 | C4 | C3004 | F4 | R119 | E1 | R858 | C5 | R3013 | E3 |
| C138 | E1 | C570 | F5 | C868 | C5 | C1041 | B3 | C3006 | E3 | R123 | E1 | R862 | B5 | R3014 | E3 |
| C141 | D1 | C571 | F4 | C871 | B5 | C1042 | B3 | C3008 | E3 | R124 | E1 | R863 | B5 | R4001 | F3 |
| C142 | D1 | C572 | E4 | C872 | B5 | C1043 | C3 | C3034 | F2 | R125 | E1 | R864 | C5 | R4003 | D3 |
| C144 | E1 | C576 | F5 | C873 | B5 | C1044 | C3 | C4001 | F3 | R126 | E1 | R865 | C6 | R9006 | C1 |
| C170 | D2 | C577 | F5 | C874 | B5 | C1045 | C3 | C9004 | D6 | R129 | E1 | R870 | B5 | RA801 | C6 |
| C173 | D1 | C578 | F5 | C875 | B5 | C1046 | C4 | C9006 | D5 | R130 | E1 | R871 | B5 | | |
| C174 | D1 | C579 | E5 | C876 | B5 | C1047 | C4 | C9008 | C6 | R131 | E1 | R875 | B4 | | |
| C316 | B2 | C580 | E5 | C877 | B4 | C1048 | B4 | C9014 | D5 | R132 | E1 | R876 | B4 | | |
| C323 | F4 | C584 | E6 | C878 | B5 | C1049 | B4 | C9016 | D5 | R133 | D1 | R878 | B4 | | |
| C324 | F4 | C585 | F6 | C879 | B5 | C1050 | B4 | C9017 | C3 | R134 | D1 | R879 | B4 | | |
| C401 | D5 | C586 | F6 | C880 | B5 | C1051 | B3 | C9019 | C6 | R137 | E1 | R880 | B4 | | |
| C404 | D5 | C587 | F5 | C888 | C6 | C1052 | B3 | C9025 | C5 | R139 | F2 | R881 | B4 | | |
| C406 | D5 | C588 | E5 | C889 | C6 | C1055 | B3 | C9027 | B6 | R154 | D1 | R883 | B5 | | |
| C408 | D5 | C812 | C6 | C890 | C6 | C1056 | B3 | C9029 | C5 | R323 | F4 | R890 | C5 | | |
| C410 | D4 | C814 | C6 | C891 | C6 | C1057 | B3 | C9032 | C1 | R324 | F4 | R891 | C5 | | |
| C414 | D5 | C816 | B6 | C1001 | C1 | C1058 | C4 | C9033 | C2 | R325 | F3 | R893 | C5 | | |
| C417 | D5 | C820 | B6 | C1002 | C1 | C1059 | B4 | C9035 | C1 | R326 | E3 | R1013 | C3 | | |
| C427 | D4 | C827 | C5 | C1003 | D1 | C1060 | B4 | C9038 | C1 | R327 | F3 | R1014 | C3 | | |
| C428 | D5 | C828 | C5 | C1004 | C1 | C1061 | B4 | EC201 | F3 | R328 | E3 | R1015 | B4 | | |
| C504 | E4 | C831 | A6 | C1005 | C1 | C1065 | C4 | EC303 | F4 | R329 | E3 | R1016 | B4 | | |
| C505 | E4 | C833 | C6 | C1006 | D1 | C1066 | C3 | EC802 | B6 | R330 | E3 | R1020 | B3 | | |
| C506 | E4 | C834 | C5 | C1007 | D1 | C1067 | C3 | EC803 | B6 | R333 | E3 | R1021 | B3 | | |
| C507 | E4 | C836 | C5 | C1008 | C1 | C1068 | C3 | EC801 | E4 | R506 | F4 | R1022 | B3 | | |
| C519 | E5 | C838 | C4 | C1011 | A2 | C1069 | C3 | FB1002 | C4 | R507 | F3 | R1034 | C3 | | |
| C520 | E5 | C839 | C6 | C1012 | A2 | C1070 | C3 | IC101 | E1 | R509 | F4 | R1047 | C4 | | |
| C521 | E5 | C840 | C6 | C1013 | A2 | C1073 | B4 | IC1005 | B4 | R510 | F4 | R1048 | C4 | | |
| C522 | E5 | C843 | B5 | C1014 | A2 | C1075 | C2 | IC1012 | C3 | R512 | E5 | R1049 | C4 | | |
| C534 | E6 | C845 | B5 | C1015 | A2 | C1076 | B4 | IC3001 | E2 | R513 | F5 | R1050 | C4 | | |

8-12

## ELECTRICAL PARTS LIST - MAIN BOARD

ELECTRICAL PARTS LIST - MAIN BOARD

### MISCELLANEOUS

| | | |
|---|---|---|
| CF101 | 9965 000 17368 | CER FILTER 10.7 MHZ |
| CF102 | 9965 000 15868 | CER FILTER 10.7 MHZ |
| CF103 | 9965 000 15869 | CER FILTER 450 KHZ |
| CN001 | 9965 000 15855 | CONNECTOR S2B-XH-A 2 PIN |
| CN801 | 9965 000 20271 | CHIP CONNECTOR 24P P=0.5MM |
| CN803 | 9965 000 20272 | CONNECTOR 6P P=1.0MMX2 |
| CN905 | 9965 000 16341 | CONNECTOR 2 PIN |
| EF001 | 9965 000 14228 | KST-F404VA2FM |
| FB1001 | 9965 000 17369 | CHIP BEAD 100 OHM AT 100MHZ |
| FB1002 | 9965 000 17369 | CHIP BEAD 100 OHM AT 100MHZ |
| FB9001 | 9965 000 12470 | BEAD FERITE 100 OHM/ AT 100MHZ |
| FB9002 | 9965 000 12470 | BEAD FERITE 100 OHM/ AT 100MHZ |
| FB9003 | 9965 000 12470 | BEAD FERITE 100 OHM/ AT 100MHZ |
| FB9004 | 9965 000 12470 | BEAD FERITE 100 OHM/ AT 100MHZ |
| FB9005 | 9965 000 12470 | BEAD FERITE 100 OHM/ AT 100MHZ |
| FB9006 | 9965 000 12470 | BEAD FERITE 100 OHM/ AT 100MHZ |
| JK002 | 9965 000 17361 | RF JACK FEMALE TYPE ID1.44MM |
| JK301 | 9965 000 19621 | HEADPHONE JACK |
| JK304 | 9965 000 17364 | RCA JACK 6P |
| JK501 | 9965 000 12502 | SPEAKER JACK 10P |
| JK2003 | 9965 000 20273 | TDSK JACK DLT1111 (OPTICAL) |
| JK2004 | 9965 000 17365 | RCA JACK 2P |
| L102 | 9965 000 15871 | INDUCTOR 10 UH 10% |
| L103 | 9965 000 15872 | COIL 39 MH 10% |
| L104 | 9965 000 15871 | INDUCTOR 10 UH 10% |
| L153 | 9965 000 15871 | INDUCTOR 10 UH 10% |
| L154 | 9965 000 15871 | INDUCTOR 10 UH 10% |
| L301 | 9965 000 12470 | BEAD FERITE 100 OHM/ AT 100MHZ |
| L302 | 9965 000 12470 | BEAD FERITE 100 OHM/ AT 100MHZ |
| L401 | 9965 000 17369 | CHIP BEAD 100 OHM AT 100MHZ |
| L402 | 9965 000 17369 | CHIP BEAD 100 OHM AT 100MHZ |
| L501 | 9965 000 16695 | IND 30UH 15% 1KHZ 0.25V 2A |
| L502 | 9965 000 16695 | IND 30UH 15% 1KHZ 0.25V 2A |
| L503 | 9965 000 16695 | IND 30UH 15% 1KHZ 0.25V 2A |
| L504 | 9965 000 16695 | IND 30UH 15% 1KHZ 0.25V 2A |
| L505 | 9965 000 16695 | IND 30UH 15% 1KHZ 0.25V 2A |
| L506 | 9965 000 16695 | IND 30UH 15% 1KHZ 0.25V 2A |
| L507 | 9965 000 16695 | IND 30UH 15% 1KHZ 0.25V 2A |
| L508 | 9965 000 16695 | IND 30UH 15% 1KHZ 0.25V 2A |
| L509 | 9965 000 16695 | IND 30UH 15% 1KHZ 0.25V 2A |
| L510 | 9965 000 16695 | IND 30UH 15% 1KHZ 0.25V 2A |
| L513 | 9965 000 16692 | 20UH D0.5MM 4PIN |
| L514 | 9965 000 16692 | 20UH D0.5MM 4PIN |
| L515 | 9965 000 16692 | 20UH D0.5MM 4PIN |
| L516 | 9965 000 16692 | 20UH D0.5MM 4PIN |
| L517 | 9965 000 16692 | 20UH D0.5MM 4PIN |
| L801 | 9965 000 17369 | CHIP BEAD 100 OHM AT 100MHZ |
| L802 | 9965 000 17369 | CHIP BEAD 100 OHM AT 100MHZ |
| L803 | 9965 000 17369 | CHIP BEAD 100 OHM AT 100MHZ |
| L804 | 9965 000 17369 | CHIP BEAD 100 OHM AT 100MHZ |
| L1003 | 9965 000 15871 | INDUCTOR 10 UH 10% |
| L1005 | 9965 000 18025 | CHIP INDUCTOR 2.4 UH 5% |
| L1006 | 9965 000 18025 | CHIP INDUCTOR 2.4 UH 5% |
| L1007 | 9965 000 18025 | CHIP INDUCTOR 2.4 UH 5% |
| L1008 | 9965 000 18025 | CHIP INDUCTOR 2.4 UH 5% |
| L1011 | 9965 000 15871 | INDUCTOR 10 UH 10% |
| L1012 | 9965 000 15871 | INDUCTOR 10 UH 10% |
| L9007 | 9965 000 15871 | INDUCTOR 10 UH 10% |
| L9008 | 9965 000 15871 | INDUCTOR 10 UH 10% |
| T001 | 9965 000 15880 | OSC FM SUMIDA S-8N |
| T002 | 9965 000 15874 | ANT OSC AM 4-6:10T 1-3:86T |
| T003 | 9965 000 17370 | OSC COIL 108UH (796 KHZ) COIL |
| T101 | 9965 000 15877 | BIAS COIL 78 KHZ |
| T102 | 9965 000 15875 | AM IFT 455KHZ Q=130 |
| T103 | 9965 000 15878 | BIAS COIL 16 KHZ |
| T104 | 9965 000 15878 | BIAS COIL 16 KHZ |
| T105 | 9965 000 15879 | FM IFT 10.7MHZ Q=60 MIN |
| TC001 | 9965 000 15865 | COND TRIM 3 - 10 PF NP0 |
| TC002 | 9965 000 15866 | COND TRIM 4.2 - 20 PF N450 |
| VD001 | 4822 130 81673 | 1SV149 |
| VD002 | 4822 130 81673 | 1SV149 |
| VR102 | 4822 051 20392 | 3K9 5% 0,1W |
| XL152 | 9965 000 19415 | CRYSTAL 4.5000MHZ |
| XL801 | 9965 000 19396 | CRYSTAL 16.9344MHZ |
| XL1001 | 9965 000 17371 | CRYSTAL 27.0000MHZ |

### CAPACITORS

| | | |
|---|---|---|
| C503 | 9965 000 20274 | COND ELECT 1000UF 50V 20% 85'C |
| C518 | 9965 000 20274 | COND ELECT 1000UF 50V 20% 85'C |
| C533 | 9965 000 20274 | COND ELECT 1000UF 50V 20% 85'C |
| C9012 | 9965 000 20275 | COND DISC 0.1UF 100V |
| C9036 | 9965 000 20276 | COND ELECT 1000UF 10V 20% |

### RESISTORS

| | | |
|---|---|---|
| RA801 | 9965 000 20277 | CHIP ARRAY 1K OHMX4 1/10W 5% |
| RA802 | 9965 000 20278 | CHIP ARRAY 8.2K OHMX4 1/10W 5% |
| RA803 | 9965 000 20279 | CHIP ARRAY 47K OHM 1/16W 5% |
| RA804 | 9965 000 20280 | CHIP ARRAY 6.8K OHMX4 1/10W 5% |
| RA807 | 9965 000 20281 | CHIP ARRAY 10K OHM 1/16W 5% |
| RA1001 | 9965 000 12486 | RES ARRAY 4*33 OHM 1/10W 5% |
| RA1002 | 9965 000 12486 | RES ARRAY 4*33 OHM 1/10W 5% |
| RA1003 | 9965 000 12486 | RES ARRAY 4*33 OHM 1/10W 5% |
| RA1004 | 9965 000 12486 | RES ARRAY 4*33 OHM 1/10W 5% |
| RA1005 | 9965 000 12486 | RES ARRAY 4*33 OHM 1/10W 5% |
| RA1006 | 9965 000 12486 | RES ARRAY 4*33 OHM 1/10W 5% |
| RA1007 | 9965 000 12487 | RES ARRAY 4*10 OHM 1/10W 5% |
| RA1008 | 9965 000 12487 | RES ARRAY 4*10 OHM 1/10W 5% |
| RA1009 | 9965 000 12487 | RES ARRAY 4*10 OHM 1/10W 5% |
| RA1010 | 9965 000 12487 | RES ARRAY 4*10 OHM 1/10W 5% |
| RA1011 | 9965 000 12487 | RES ARRAY 4*10 OHM 1/10W 5% |
| RA1012 | 9965 000 12487 | RES ARRAY 4*10 OHM 1/10W 5% |
| RA1013 | 9965 000 12487 | RES ARRAY 4*10 OHM 1/10W 5% |
| RA1014 | 9965 000 12486 | RES ARRAY 4*33 OHM 1/10W 5% |
| RA1015 | 9965 000 12486 | RES ARRAY 4*33 OHM 1/10W 5% |
| RA1016 | 9965 000 12486 | RES ARRAY 4*33 OHM 1/10W 5% |
| RA1017 | 9965 000 12486 | RES ARRAY 4*33 OHM 1/10W 5% |
| RA1018 | 9965 000 12486 | RES ARRAY 4*33 OHM 1/10W 5% |
| RA1019 | 9965 000 12487 | RES ARRAY 4*10 OHM 1/10W 5% |
| RA1020 | 9965 000 12487 | RES ARRAY 4*10 OHM 1/10W 5% |
| RA1021 | 9965 000 12487 | RES ARRAY 4*10 OHM 1/10W 5% |
| RA1022 | 9965 000 20282 | CHIP ARRAY 4.7K OHM 1/16W 5% |
| RA1023 | 9965 000 12487 | RES ARRAY 4*10 OHM 1/10W 5% |
| RA1024 | 9965 000 20282 | CHIP ARRAY 4.7K OHM 1/16W 5% |

### 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 |
| D301 | 4822 130 30621 | 1N4148 |
| D302 | 4822 130 30621 | 1N4148 |
| D801 | 4822 130 30621 | 1N4148 |
| D802 | 4822 130 30621 | 1N4148 |
| D1001 | 4822 130 30621 | 1N4148 |
| D1003 | 4822 130 30621 | 1N4148 |
| D2001 | 4822 130 30621 | 1N4148 |
| D2011 | 4822 130 30621 | 1N4148 |
| D4001 | 4822 130 30621 | 1N4148 |
| D4002 | 4822 130 30621 | 1N4148 |
| D4003 | 4822 130 30621 | 1N4148 |
| D9001 | 9965 000 19970 | DIODE 1N5392 1.5A 100V |
| D9002 | 9965 000 19970 | DIODE 1N5392 1.5A 100V |
| ZD301 | 9965 000 20283 | DIODE ZENR 6.4-6.7V 0.5W |
| ZD302 | 9965 000 14658 | ZENER 8.5-8.9V 0.5W |
| ZD1003 | 4822 130 80272 | MTZJ7.5C |
| ZD1004 | 4822 130 80272 | MTZJ7.5C |
| ZD1005 | 4822 130 80272 | MTZJ7.5C |
| ZD1006 | 4822 130 80272 | MTZJ7.5C |
| ZD1007 | 4822 130 80272 | MTZJ7.5C |
| ZD1008 | 4822 130 80272 | MTZJ7.5C |
| ZD1009 | 4822 130 80272 | MTZJ7.5C |
| ZD1010 | 4822 130 80272 | MTZJ7.5C |
| ZD1013 | 9965 000 17373 | DIODE ZENR 23.6-24.7V 0.5W |
| ZD1014 | 9965 000 17374 | DIODE ZENR 2.9-3.1V 0.5W |
| ZD3001 | 4822 130 80272 | MTZJ7.5C |
| ZD3002 | 4822 130 80272 | MTZJ7.5C |
| ZD9001 | 9965 000 20284 | DIODE ZENR 10.4-10.8V 0.5W |
| ZD9002 | 9965 000 12635 | DIODE ZENER 9.1-9.5V 0.5W |

### TRANSISTORS & INTEGRATED CIRCUITS

| | | |
|---|---|---|
| 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 |
| Q105 | 4822 130 41198 | 2SC945P |
| Q301 | 4822 130 41198 | 2SC945P |
| Q302 | 4822 130 43818 | 2SC2878-A |
| Q303 | 4822 130 43818 | 2SC2878-A |
| Q304 | 4822 130 43818 | 2SC2878-A |
| Q305 | 4822 130 63876 | 2SA733R |
| Q401 | 4822 130 41651 | 2SC2001L |
| Q801 | 9965 000 20285 | XISTR PNP CM5051-O SOT23 |
| Q802 | 9965 000 20285 | XISTR PNP CM5051-O SOT23 |
| Q803 | 9965 000 20286 | XISTR NPN CM5783GR SOT23 |
| Q804 | 9965 000 20286 | XISTR NPN CM5783GR SOT23 |
| Q805 | 9965 000 20286 | XISTR NPN CM5783GR SOT23 |
| Q806 | 9965 000 20286 | XISTR NPN CM5783GR SOT23 |
| Q808 | 9965 000 20287 | XISTR NPN DDTC114ECA SOT23 |
| Q1002 | 4822 130 41198 | 2SC945P |
| Q2011 | 4822 130 41198 | 2SC945P |
| Q4001 | 4822 130 63876 | 2SA733R |
| Q4002 | 4822 130 43818 | 2SC2878-A |
| Q9002 | 4822 130 41198 | 2SC945P |
| Q9003 | 4822 130 63876 | 2SA733R |
| Q9004 | 4822 130 41651 | 2SC2001L |
| Q9005 | 5322 130 44506 | TIP41C |
| Q9006 | 4822 130 41651 | 2SC2001L |
| IC101 | 9965 000 01369 | LA1837 FM/AM IF/MPX IC |
| IC152 | 4822 209 15778 | IC LC72131M |
| IC301 | 9965 000 15893 | IC PT5228 SOP8 |
| IC303 | 9965 000 17385 | IC PT2259 |
| IC304 | 9965 000 15886 | IC RC4558D |
| IC305 | 9965 000 15886 | IC RC4558D |
| IC306 | 9965 000 15886 | IC RC4558D |
| IC307 | 9965 000 15886 | IC RC4558D |
| IC401 | 9965 000 17383 | IC STA308 |
| IC501 | 9965 000 14154 | IC STA505 50W X2 |
| IC502 | 9965 000 14154 | IC STA505 50W X2 |
| IC503 | 9965 000 14154 | IC STA505 50W X2 |
| IC801 | 9965 000 19387 | IC 64P LA9703W SQFP |
| IC802 | 9965 000 19388 | IC 176P LC78663NRW |
| IC803 | 9965 000 20288 | IC 36 PIN LA6560 SOP SANYO |
| IC804 | 9965 000 19389 | IC 40P IC41LV16256-35T |
| IC807 | 9965 000 20289 | IC 14PIN SN74LVC32ANS SOP TI |
| IC808 | 9965 000 19391 | IC 14P SN74HC14NS |
| IC809 | 9965 000 20290 | IC 8 PIN LM358MX NS |
| IC1001 | 9965 000 20291 | IC 48PIN MBM29LV800BA-70PFTN |
| IC1003 | 9965 000 12495 | IC ES6018F S242 UTRCD01T8 |
| IC1004 | 9965 000 12499 | IC SYNCHRO. DRAM 4MX16 Y3V TW |
| IC1005 | 9965 000 15884 | IC AT24C02N-10SI-2.7 |
| IC1006 | 9965 000 20293 | IC 20 PIN 74F374D |
| IC1007 | 9965 000 20293 | IC 20 PIN 74F374D |
| IC1008 | 9965 000 20293 | IC 20 PIN 74F374D |
| IC1009 | 9965 000 20294 | IC 16PIN SN74F157A NS SOP TI |
| IC1010 | 9965 000 20295 | IC 28 PIN WM8772 TSOP WOLFSON |
| IC1012 | 9965 000 19385 | IC 4P B1117N-2.85 SOT-223 |

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## *ELECTRICAL PARTS LIST - MAIN BOARD*

TRANSISTORS & INTEGRATED CIRCUITS

| | | |
|---|---|---|
| IC1014 | 9965 000 15883 | IC TC74HC04AFN |
| IC3001 | 9965 000 12510 | IC TC4052BFN CHIP |
| IC4001 | 9965 000 15886 | IC RC4558D |
| IC9001 | 9965 000 12512 | IC BA05T ROHM |
| IC9002 | 9965 000 15887 | IC RT9164-33CLR |
| IC9003 | 9965 000 12512 | IC BA05T ROHM |

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

# RGB BOARD

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RGB Board Layout ..... 9-2
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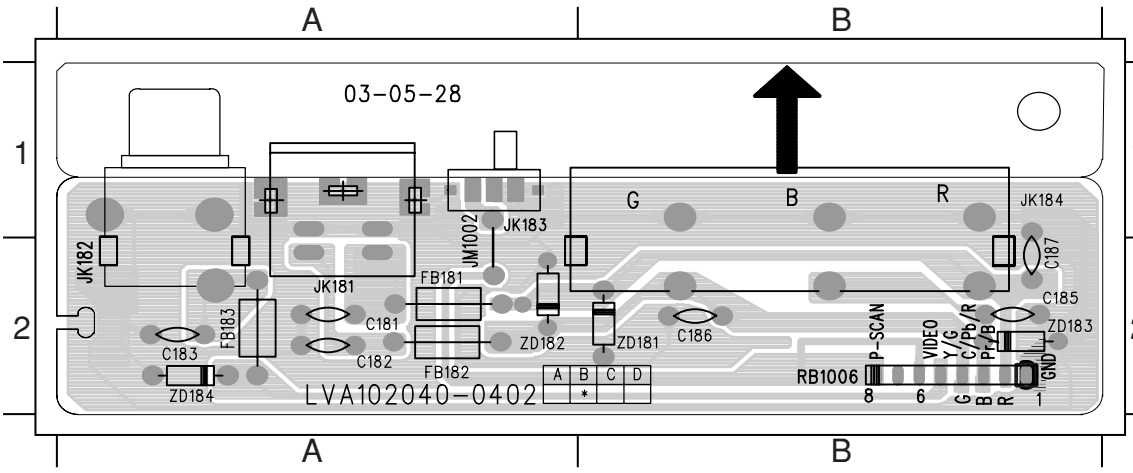
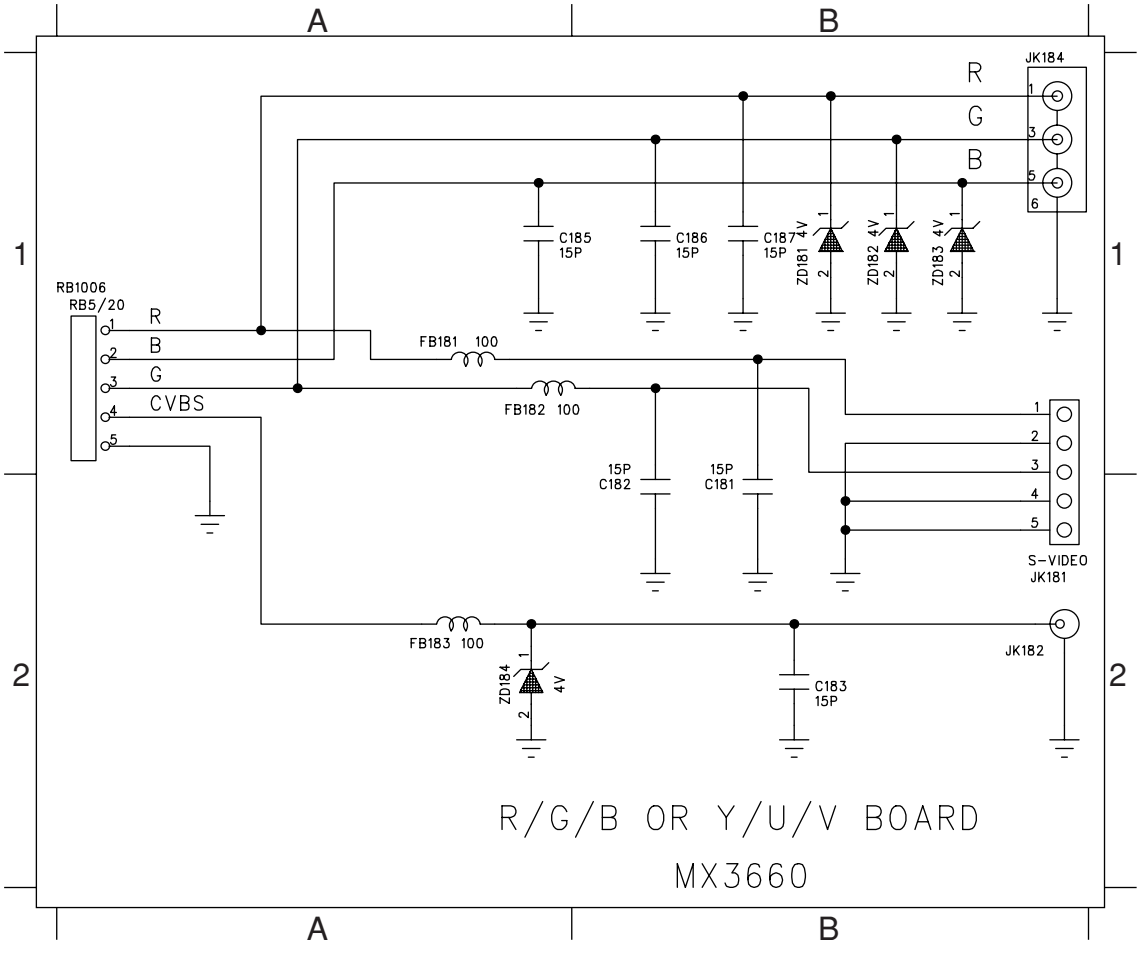
## CIRCUIT DIAGRAM - RGB BOARD




| | |
|---|---|
| C181 | A2 |
| C182 | A2 |
| C183 | A2 |
| C185 | B2 |
| C186 | B2 |
| C187 | B2 |
| FB181 | A2 |
| FB182 | A2 |
| FB183 | A2 |
| JK181 | A2 |
| JK182 | A2 |
| JK183 | A1 |
| JK184 | B1 |
| JM1002 | A1 |
| RB1006 | B2 |
| ZD181 | B2 |
| ZD182 | A2 |
| ZD183 | B2 |
| ZD184 | A2 |

## PCB LAYOUT - RGB BOARD




| | |
|---|---|
| C181 | B2 |
| C182 | B2 |
| C183 | B2 |
| C185 | A1 |
| C186 | B1 |
| C187 | B1 |
| FB181 | A1 |
| FB182 | A1 |
| FB183 | A2 |
| JK181 | B2 |
| JK182 | B2 |
| JK183 | A1 |
| JK184 | B1 |
| RB1006 | A1 |
| ZD181 | B1 |
| ZD182 | B1 |
| ZD183 | B1 |
| ZD184 | A2 |

## *ELECTRICAL PARTS LIST - RGB BOARD*

MISCELLANEOUS

| | | |
|---|---|---|
| FB181 | 9965 000 12470 | BEAD FERITE 100 OHM/ AT 100MHZ |
| FB182 | 9965 000 12470 | BEAD FERITE 100 OHM/ AT 100MHZ |
| FB183 | 9965 000 12470 | BEAD FERITE 100 OHM/ AT 100MHZ |
| JK181 | 9965 000 12607 | DIN JACK (S-VIDEO OUT) |
| JK182 | 9965 000 18044 | RCA JACK 1P |
| JK184 | 9965 000 12609 | RCA JACK 3P |

DIODES

| | | |
|---|---|---|
| ZD181 | 4822 130 31554 | BZX79-B4V3 |
| ZD182 | 4822 130 31554 | BZX79-B4V3 |
| ZD183 | 4822 130 31554 | BZX79-B4V3 |
| ZD184 | 4822 130 31554 | BZX79-B4V3 |

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

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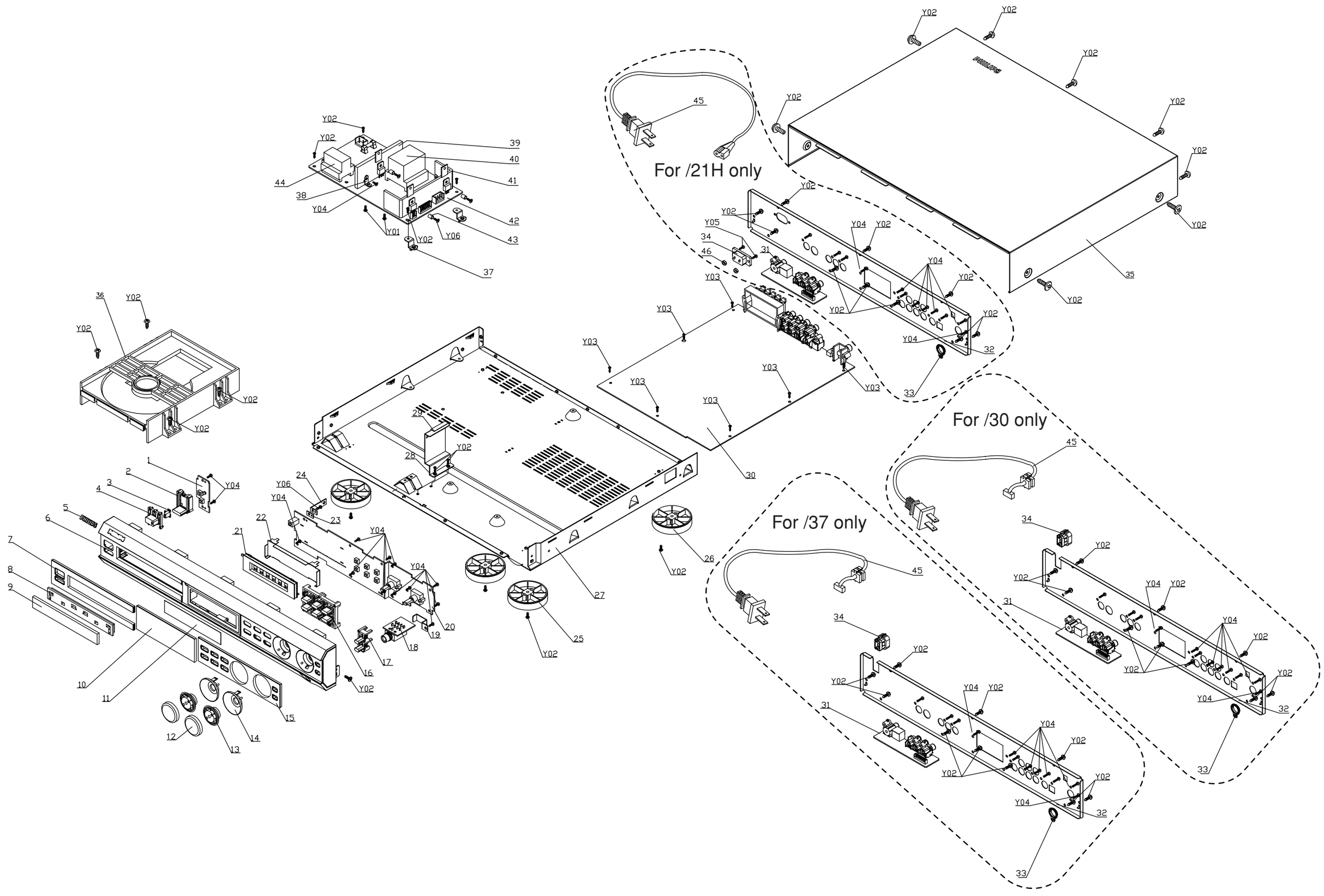
## EXPLODED DRAWING



10-2

## MECHANICAL & ACCESSORIES PARTS LIST - MAIN UNIT

| | | | |
|---|---|---|---|
| 2 | 9965 000 19680 | OPEN / CLOSE KNOB | |
| 3 | 9965 000 14097 | LED LENS | |
| 4 | 9965 000 19683 | POWER KNOB | |
| 5 | 9965 000 12424 | PHILIPS LOGO | |
| 6 | 9965 000 20571 | FRONT CABINET | /21H/30 |
| 6 | 9965 000 20673 | FRONT CABINET | /37 |
| 7 | 9965 000 20572 | POWER LENS | |
| 8 | 9965 000 20573 | DVD DOOR | |
| 9 | 9965 000 20574 | DOOR LENS | |
| 10 | 9965 000 19675 | VFD LENS | |
| 12 | 9965 000 19676 | VOLUME CAP | |
| 13 | 9965 000 14105 | VOLUME SHAFT | |
| 14 | 9965 000 14221 | VOLUME RING | |
| 15 | 9965 000 20575 | FUNCTION LENS | |
| 16 | 9965 000 19678 | FUNCTION KNOB | |
| 17 | 9965 000 19679 | BASS / TREBLE KNOB | |
| 25 | 9965 000 14110 | FOOT | |
| 26 | 9965 000 14111 | FOOT | |
| 33 | 9965 000 12441 | FM HOLDER | |
| 34 | 9965 000 20576 ⚠ | AC SOCKET | /21H |
| 34 | 9965 000 12817 | BUSHING | /30/37 |
| 36 | 9965 000 20233 | DVD LOADER (DVD-KDA898SP) | |
| 43 | 9965 000 12445 | SPACER | |
| 45 | 9965 000 15983 ⚠ | MAINS CORD | /21H |
| 45 | 9965 000 15976 ⚠ | MAINS CORD | /30 |
| 45 | 9965 000 12818 ⚠ | MAINS CORD | /37 |
| | 9965 000 20236 | FFC CABLE 6 PIN 120MM P=1.0MM | |
| | 9965 000 20237 | FFC CABLE 24PIN 240MM P=0.5MM | |
| | 9965 000 14637 | RCA CABLE 5000MM | |
| | 9965 000 20577 | RCA CABLE 1500MM OD2.6MM BLK | |
| | 9965 000 14636 | RCA CABLE 1200MM | |
| | 9965 000 13060 | REMOTE CONTROL | |
| | 9965 000 20578 | INSTRUCTION FOR USE | /21H/30 |
| | 9965 000 20674 | INSTRUCTION FOR USE | /37 |
| | 9965 000 19688 | SATELLITE SPEAKER PACKAGE | |
| | 9965 000 14633 | AM LOOP ANTENNA | |
| | 9965 000 14632 | FM ANTENNA | |

## LOUDSPEAKER BOX BREAKDOWN

| | |
|---|---|
| 9965 000 19690 | FRONT-L SPEAKER BOX |
| 9965 000 19691 | FRONT-R SPEAKER BOX |
| 9965 000 19692 | REAR-L SPEAKER BOX |
| 9965 000 19693 | REAR-R SPEAKER BOX |
| 9965 000 19694 | CENTER SPEAKER BOX |
| 9965 000 17047 | KEYHOLE BRACKET PACK SET |

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

## SCREW LISTS - MAIN UNIT

| | |
|---|---|
| Y01 | M3 x 6 |
| Y02 | M3 x 6 |
| Y03 | M3 x 16 |
| Y04 | D3 x 8 |
| Y05 | M3 x 8 |
| Y06 | D3 x 10 |