Service
Service
Service

Service Manual

TABLE OF CONTENTS

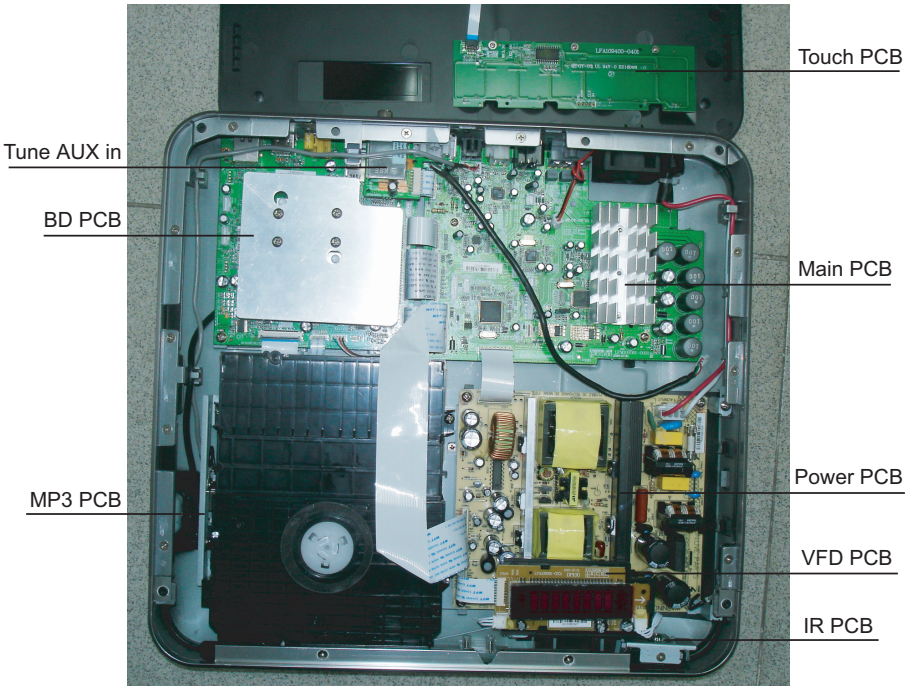
Published by RY_RL1110 Service Audio Printed in The Netherlands Subject to modification

GB 3139 785 35680

Version 1.0

PHILIPS

LOCATION OF PCB BOARDS



VERSION VARIATION:

Type/Versions / Features	HTS7201 /12
Output Power - 440W/350W	X
Voltage (220~240V)	X
Ipod Dock	X
Music iLink	X

SERVICE SCENARIO MATRIX:

Type/Versions / Board in used	HTS7201 /12
MAIN+MP3+IR+TUNE AUX IN PCB Board	C
Power Board	C
VFD Board	Bd
BD Board	Bd
Touch Board	Bd
Ipod Dock Module	Bd

*Bd= Board Level Replacement
*C = Component Level Repair

SPECIFICATIONS

Media formats

- AVCHD, BD, BD-R/ BD-RE, BD-Video, DVD-Video, DVD+R/+RW, DVD-R/-RW, DVD+R/-R DL, CD-R/CD-RW, Audio CD, Video CD/SVCD, Picture files, MP3 media, WMA media, DivX (Ultra)/ DivX Plus HD media, USB storage device

File formats

- Audio: .aac, .mka, .mp3, .wma, .wav, .mp4, .m4a
- Video:
  - .avi, .divx, .mp4, .mkv, .asf, .wmv, .mpg, .mpeg,
  - .rmvb, .rm (Available only in Asia Pacific and China)
- Picture: .jpg, .jpeg, .gif, .png

Audio formats

Your home theater supports the following audio files.

Extension	Container	Audio codec	Bit rate
.mp3	MP3	MP3	32kbps ~ 320kbps
.wma	ASF	WMA	64kbps ~ 160kbps
.aac	AAC	AAC, HE-AAC	192kbps
.wav	WAV	PCM	1.4Mbps
.m4a	MKV	AAC	192kbps
.mka	MKA	PCM	27.648 Mbps
.mka	MKA	AC-3	640kbps
.mka	MKA	DTS core	1.54Mbps
.mka	MKA	MPEG	912kbps
.mka	MKA	MP3	32kbps ~ 320kbps
.mka	MKA	WMA	64kbps ~ 160kbps
.mka	MKA	AAC, HE-AAC	192kbps

Video formats

If you have a high definition TV, your home theater allows you to play your video files with:

- Resolution: 1920 x 1080 pixels at
- Frame rate: 6 ~ 30 frames per second.

.avi files in AVI container

Audio codec	Video codec	Bit rate
PCM, AC-3, DTS core, MP3, WMA	DivX 3.11, DivX 4.x, DivX 5.x, DivX 6.x	10Mbps max
	MPEG 1, MPEG 2	20Mbps (peak 40Mbps)
	MPEG 4 ASP	10Mbps max
	H.264/AVC HP@4.1/4.0; MP@3.2/3.1/3.0	20Mbps (peak 40Mbps)
	WMV9	20Mbps

.divx files in AVI container

Audio codec	Video codec	Bit rate
PCM, AC-3, MP3, WMA	DivX 3.11, DivX 4.x, DivX 5.x, DivX 6.x	10Mbps max
	MPEG 1, MPEG 2	20Mbps (peak 40Mbps)
	MPEG 4 ASP	10Mbps max

.mp4 or .m4v files in MP4 container

Audio codec	Video codec	Bit rate
AC-3, MPEG, MP3, AAC, HE-AAC	MPEG 1, MPEG 2	20Mbps (peak 40Mbps)
	MPEG 4 ASP	10Mbps max
	H.264/AVC HP@4.1/4.0; MP@3.2/3.1/3.0	20Mbps (peak 40Mbps)

.mkv files in MKV container

Audio codec	Video codec	Bit rate
PCM, AC-3, DTS core, MPEG, MP3, WMA, AAC, HE-AAC	MPEG 1, MPEG 2	20Mbps (peak 40Mbps)
	MPEG 4 ASP	10Mbps max
	H.264/AVC HP@4.1/4.0; MP@3.2/3.1/3.0	20Mbps (peak 40Mbps)
	WMV9	20Mbps

.asf and .wmv files in ASF container

Audio codec	Video codec	Bit rate
PCM, AC-3, MP3, WMA	MPEG 4 ASP	10Mbps max
	H.264/AVC HP@4.1/4.0; MP@3.2/3.1/3.0	20Mbps (peak 40Mbps)
	WMV9	20Mbps

.mpg and .mpeg files in PS container

Audio codec	Video codec	Bit rate
PCM, DTS core, MPEG, MP3	MPEG 1, MPEG 2	20Mbps (peak 40Mbps)
	MPEG 1, MPEG 2	20Mbps (peak 40Mbps)

Amplifier

- Total output power: 440W RMS (30%THD)、350W RMS (10%THD)
- Frequency response: 20 Hz-20 kHz / ±3 dB
- Signal-to-noise ratio: > 65 dB (CCIR) / (A-weighted)
- Input sensitivity:
  - AUX1, AUX2: 1100 mV
  - Music iLink: 400 mV

Video

- Signal system: PAL / NTSC
- HDMI output: 480i/576i, 480p/576p, 720p, 1080i, 1080p, 1080p24

Audio

- S/PDIF Digital audio input:
  - Coaxial: IEC 60958-3
  - Optical: TOSLINK
- Sampling frequency:
  - MP3: 32 kHz, 44.1 kHz, 48 kHz
  - WMA: 44.1 kHz, 48 kHz
- Constant bit rate:
  - MP3: 112 kbps - 320 kbps
  - WMA: 48 kbps - 192 kbps

Radio

- Tuning range:
  - Europe/China: FM 87.5-108 MHz (50 kHz)
  - Asia Pacific/Russia/Latin America: FM 87.5-108 MHz (50/100 kHz)
- Signal-to-noise ratio: FM 55 dB
- Frequency response: FM 60 kHz-12.5 kHz / ±3 dB

USB

- Compatibility: Hi-Speed USB (2.0)
- Class support: USB Mass Storage Class (UMS)
- File system: FAT16, FAT32, NTFS
- Maximum memory support: < 160 GB

Main unit

- Power supply:
  - Europe/China: 220-240 V~, 50 Hz
  - Latin America/Asia Pacific: 110-127 V/220-240 V~, 50-60 Hz
  - Russia/India: 220-240 V~, 50 Hz
- Power consumption: 85 W

- Standby power consumption: ≤ 0.5 W
- Dimensions (WxHxD): 360 x 70 x 345 mm
- Weight: 4.36 kg

Subwoofer

- Total output power: 200W RMS (30%THD) 、150W RMS (10%THD)
- Impedance: 3 ohm
- Speaker drivers: 165 mm (6.5") woofer
- Frequency response: 20 Hz-150 Hz
- Dimensions (WxHxD): 196 x 395 x 342 (mm)
- Weight: 5.29kg
- Cable length: 3 m

Speakers

- Total output power: 2 x 120W RMS (30%THD)、2 x 100W RMS (10%THD)
- Speaker impedance: 5 ohm
- Speaker drivers: 2 x 76.2 mm (3") woofer + 1 x 25.4 mm (1") tweeter
- Frequency response: 150 Hz-20 kHz
- Dimensions (WxHxD): 97 x 301 x 120 mm
- Weight: 1.45 kg/each
- Cable length: 3 m

Remote control batteries

- 2 x AAA-LR03-1.5V

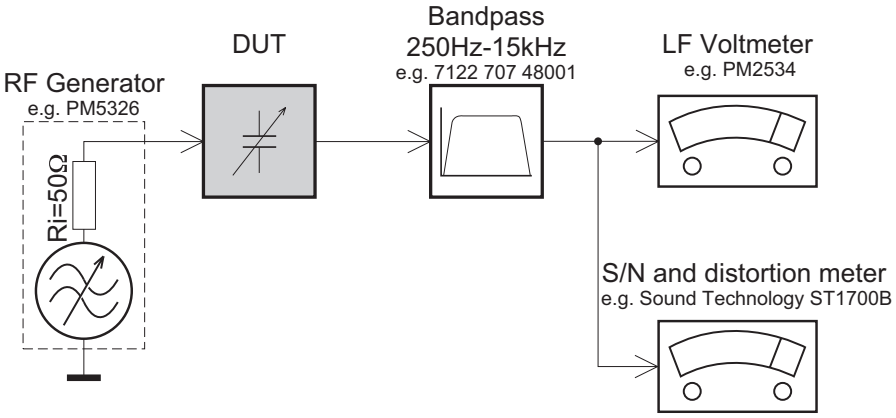
Laser

- Laser Type (Diode): InGaN/AlGaN (BD), AlGaInP (DVD/CD)
- Wave length: 405 +7nm/-7nm (BD), 655 +10nm/-10nm (DVD), 790 +10nm/-20nm (CD)
- Output power (Max. ratings): 20mW (BD), 6mW (DVD), 7mW (CD)

Specifications subject to change without prior notice.

MEASUREMENT SETUP

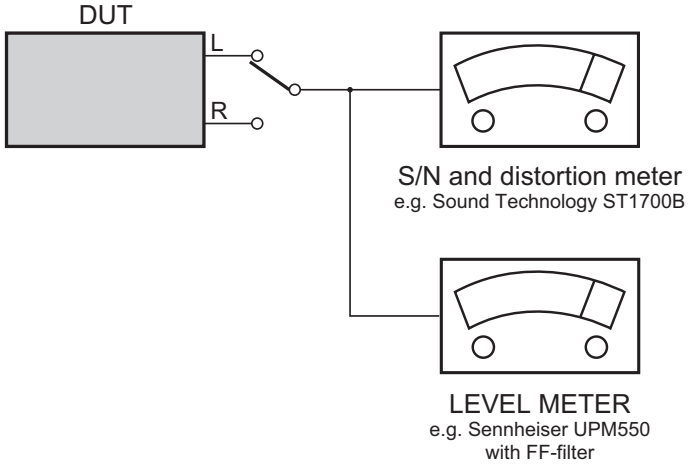
Tuner FM



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

CD

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



SERVICE AIDS

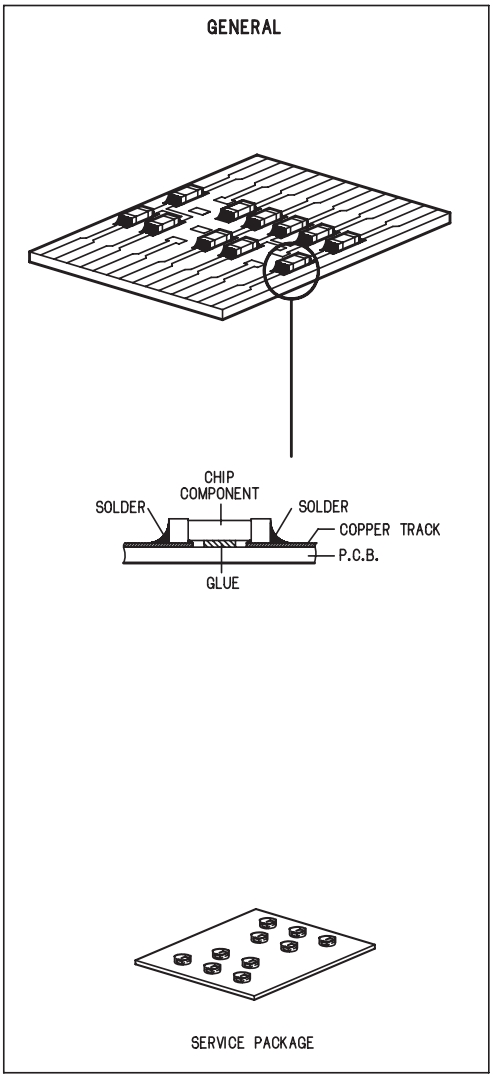
Service Tools:

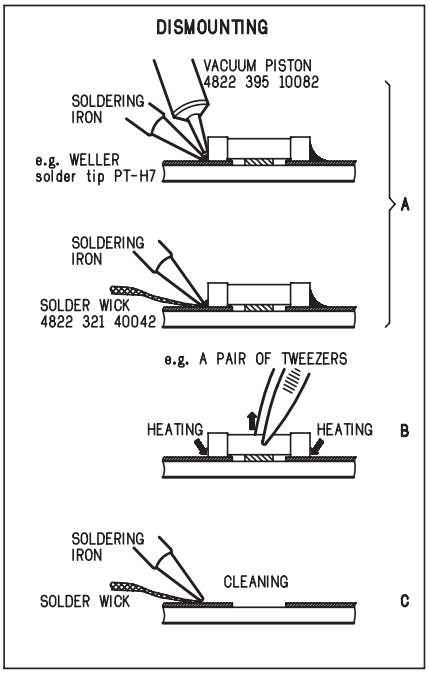
Universal Torx driver holder 4822 395 91019
Torx bit T10 150mm 4822 395 50456
Torx driver set T6-T20 .....4822 395 50145
Torx driver T10 extended 4822 395 50423

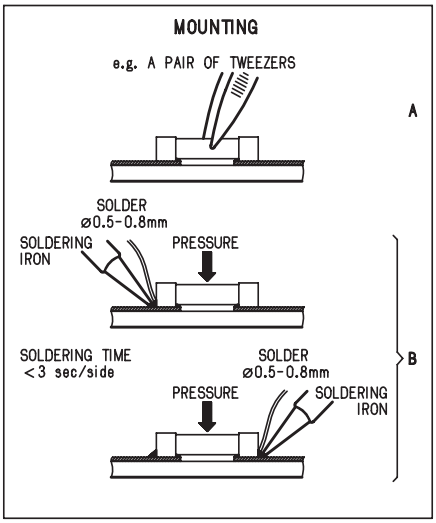
Compact Disc:

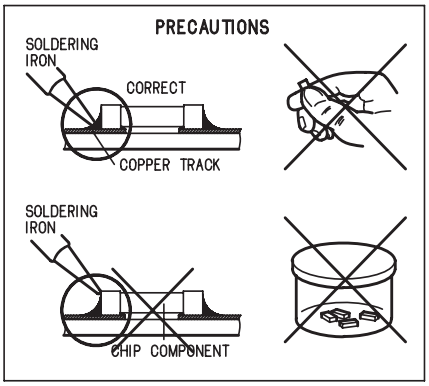
SBC426/426A Test disc 5 + 5A 4822 397 30096
SBC442 Audio Burn-in test disc 1kHz 4822 397 30155
SBC429 Audio Signals disc 4822 397 30184
Dolby Pro-logic Test Disc 4822 395 10216

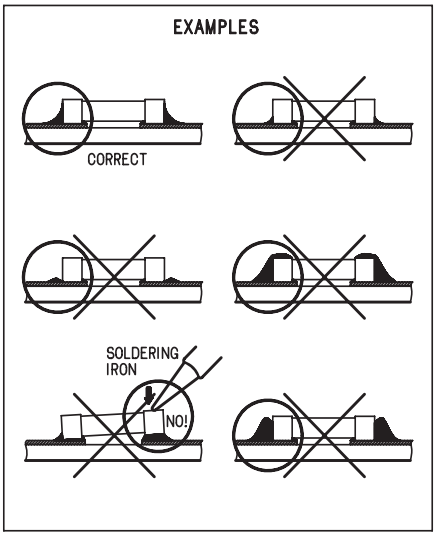
HANDLING CHIP COMPONENTS











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.

(NL) WAARSCHUWING

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

(F) ATTENTION

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD).
Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation.
Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et 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.

(I) AVVERTIMENTO

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

(GB) ESD PROTECTION EQUIPMENT

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

(GB)

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

(NL)

Veiligheidsbepalingen vereisen, dat het apparaat bij reparatie in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.
De Veiligheidsonderdelen zijn aangeduid met het symbol ⚠ .

(F)

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utiliséés les piéces de rechange identiques à celles spécifiées.
Less composants de sécurité sont marqués ⚠ .

(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.
Sicherheitsbauteile sind durch das Symbol ⚠ markiert.

(I)

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

(GB)

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

CLASS 1
LASER PRODUCT
3122 110 03420

(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.

(F)

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

Pb(Lead) Free Solder

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

INDENTIFICATION:
Regardless of special logo (not always indicated) 

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

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

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

- Use only lead-free solder alloy Philips SAC305 with order code 0622 149 00106. If lead-free solder-paste is required, please contact the manufacturer of your solder-equipment. In general use of solder-paste within workshops should be avoided because paste is not easy to store and to handle.
- Use only adequate solder tools applicable for lead-free solder alloy. The solder tool must be able
  - To reach at least a solder-temperature of 400?C,
  - To stabilize the adjusted temperature at the solder-tip
  - To exchange solder-tips for different applications.
- Adjust your solder tool so that a temperature around 360?C – 380?C is reached and stabilized at the solder joint. Heating-time of the solder-joint should not exceed ~ 4 sec. Avoid temperatures above 400?C otherwise wear-out of tips will rise drastically and flux-fluid will be destroyed. To avoid wear-out of tips switch off un-used equipment, or reduce heat.
- Mix of lead-free solder alloy / parts with leaded solder alloy / parts is possible but PHILIPS recommends strongly to avoid mixed solder alloy types (leaded and lead-free).
  If one cannot avoid or does not know whether product is lead-free, clean carefully the solder-joint from old solder alloy and re-solder with new solder alloy (SAC305).
- Use only original spare-parts listed in the Service-Manuals. Not listed standard-material (commodities) has to be purchased at external companies.
- Special information for BGA-ICs:
  - Always use the 12nc-recognizable soldering temperature profile of the specific BGA (for de-soldering always use the lead-free temperature profile, in case of doubt)
  - Lead free BGA-ICs will be delivered in so-called 'dry-packaging' (sealed pack including a silica gel pack) to protect the IC against moisture. After opening, dependent of MSL-level seen on indicator-label in the bag, the BGA-IC possibly still has to be baked dry. (MSL=Moisture Sensitivity Level). This will be communicated via AYS-website.
    Do not re-use BGAs at all.
- For sets produced before 1.1.2005 (except products of 2004), containing leaded solder-alloy and components, all needed spare-parts will be available till the end of the service-period. For repair of such sets nothing changes.
- On our website **www.atyourservice.ce.Philips.com** you find more information to:

  - BGA-de-/soldering (+ baking instructions)
  - Heating-profiles of BGAs and other ICs used in Philips-sets

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

  For additional questions please contact your local repair-helpdesk.

Software upgrade & Procedure to restore product setting

1)Restore factory setting

a) Press “⌂” <Home> button on R/C.
b) Select <Setup>, then press “OK” button on R/C.
c) Select <Advanced>, then press < OK > button on R/C.
d) Select <Restore default settings>,then press <OK> to confirm.

2)Password change

a) Press “⌂” <Home> button on R/C.
b) Select <Setup>, then press “OK” button on R/C.
c) Select <Preference>, then press <OK> button on R/C.
d) Select <Change Password> <Confirm>, then press <OK> button on R/C.
“0000” is default password supplied.

3)Trade mode

a) In open model,press “⌂” <Home> button on R/C.
b) Press “2” “5” “9” on R/C,VFD will display “TRA ON” or “TRA OFF”.

4)Check software version

a) Press “⌂” <Home> button on R/C
b) Select <Setup>, then press <OK> button on R/C.
c) Select <Advanced> <Version Info.>,then press <OK> button on R/C.
d) TV will show message as follow:

Model:HTS7201/12
Versions:
System SW:0.28.01
Subsystem SW:20-00-00-00
Ethernet MAC:00:25:D1:05:88:33
For more information,frequently asked questions and software updates,please visit
philips.com/support

Close

e) Select <Close> on the version display screen and press <OK> button to exit .

5) Upgrading new software

Method 1: Update software from a USB storage device
a) Create a folder named “UPG_ALL” in your USB storage device, and Copy the latest upgrading software into the folder.
b) Connect the USB storage device to the home theater.
c) Press “⌂” <Home> button on R/C, and select <Setup>.
d) Select <Advanced> <Software Update> <USB>.
e) TV will show message as follow:

Now searching for upgrade software!
Please wait...!

Software updates for this player have been found. Do you want to upgrade?

Cancel Start

f) Select <Start>, press <OK> button on R/C.

Software upgrade will take 5 minutes

Do not switch off!

Package version: 000025.0

Software BE Completed
Software FE Completed
Software MCU1:
Software Dock:
Software MCU3:

2 - 1

Software upgrade will take 5 minutes

Do not switch off!

Package version: 000025.0

Software BE Completed
Software FE Completed
Software MCU1: Not started
Software Dock: 2%
Software MCU3: Not started

Software upgrade will take 5 minutes

Do not switch off!

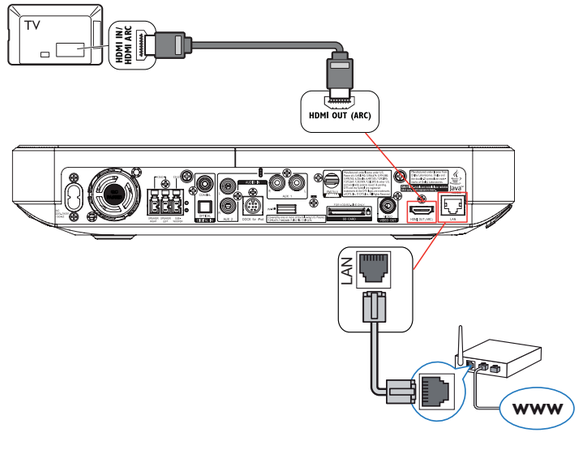
Package version: 000025.0

Software BE Completed
Software FE Completed
Software MCU1: 1%
Software Dock: Failed
Software MCU3:

g)The set will shut down automatically when the software upgrade is completed.

Method 2: Update software from the internet

Note: To check for new updates, compare the current software version of your home theater with the latest software version (if available) on the Philips web site, and for BD-Live application and software update, make sure that the network router has access to the Internet and the firewall is disabled.
a) The “LAN” jack at the back panel of the set must be connect to the network router via network cable and the set connect to TV,
Prepare the connection as shown follow:



b) Press “⌂” <Home> button on R/C, and select <Setup>.
c) Select <Advance Setup> <Software Update> <Network>.
d) TV will show message as follow:

Now searching for upgrade software!
Please wait...!

Software updates for this player have been found. Do you want to upgrade?

Cancel Start

e) Select <Start>, press <OK> button on R/C.

Software upgrade will take 5 minutes

Do not switch off!

Package version: 000025.0

Software BE 80%
Software FE Completed
Software MCU1:
Software Dock:
Software MCU3:

2 - 2

Software upgrade will take 5 minutes

Do not switch off!

Package version: 000025.0

Software BE Completed

Software FE Completed

Software MCU1: Not started

Software Dock: 2%

Software MCU3: Not started

Software upgrade will take 5 minutes

Do not switch off!

Package version: 000025.0

Software BE Completed

Software FE Completed

Software MCU1: 1%

Software Dock: Failed

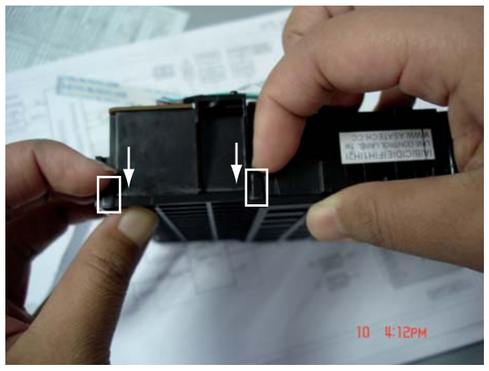
Software MCU3:

f) The set will shut down automatically when the software upgrade is completed.

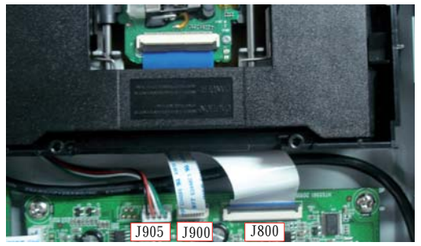
6)How to replace the defective Blu-ray Loader

a) Remove the defective Blu-ray Loader.

b) Remove the shield cover at the top of Blu-ray Loader as shown below.



c) Assembly Blu-ray Loader to “J800”,”J900”,”J905” on the top of BD Board as shown below.



d) Remove soldered joint on the ESD protection points.

Top side view of OPU

Bottom side view of OPU

Note: The 2 ESD protection points on any one side must be soldered if

o the Blu-ray Loader is OK and needs to be disconnected from connector J802, J900 and J906 of the BD Board.

o the defective Blu-ray Loader is needed to be send back to supplier for failure analysis and to support backcharging evidence.

2 - 3

REPAIR INSTRUCTIONS-part one

MAIN UNIT REPAIR CHART

- A — All Functions are not working
- B — All Functions are not sound
- C — AUX1 In is not sound
- D — AUX2 In is not sound
- E — MP3 In is not sound
- F — Tuner Function is not sound
- G — DISC Function is not sound
- H — USB Wire lines are not function
- I — USB is not function
- J — Power Supply is not working

A — All Functions are not working

- Check a ll system all cable is loose or bad IN T — YE S → RE-i nsert and fix the cable
- NO → Panel standby LED whether light — NO → Check power board BK 3V3 out
- YE S → Check MA IN PC B Q106 and their conjoi nt part.

B — All Functions are not sound

- Check MAIN PC B CN 1007 whether at PI N1-7 +31V and at R 5165 +12V. — NO → Check SW power and conjoint part
- YE S → Check MA IN PC B IC 5001 IC5004and thei r conjoi nt part whether OK — NO → Check MAIN PC B IC5001 IC5004 and their conjoint part whether OK
- YE S → Check MAIN PC B IC5006 PI N9.15.36.54 whether at +3.3 V — NO → Check MAIN PC BQ 1007 and their conjoint part whether OK
- YE S → Check MAIN PC B IC501 pin12.24.37/pin16.28.42 3.3V/1.8V whether OK — NO → Check MAIN PC B L 502/L 501 Wh ether OK.

C — AUX1 In is not sound

- Check signal source Wh ether output OK — NO → Check signal source and their conjoint part whether OK.
- YE S → Check MA IN PC B IC 304 Pi n 9/10 whether input ok . — NO → Check MAIN PC B R 365/R 364 and their conjoint part Wh ether OK.

D — AUX2 In is not sound

- Check signal source Wh ether output OK — NO → Check signal source and their conjoint part whether OK.
- YE S → Check MA IN PC B IC 304 Pi n 7/8 whether input ok . — NO → Check MAIN PC B R 308/R 309 and their conjoint part Wh ether OK.

J — Power Supply is not working

- YE S → All Voltage No Output — No → VCC Voltage No Output → Check Q912 Q913 IC 905 And Its Conjoint Part
- No → -27V Voltage Working or Not — No → Check D919 Q907 And Its Conjoint Part
- No → 12V Voltage No Output → Check D923 Q901 And Its Conjoint Part
- No → 5V Voltage No Output → Check D922 Q906 And Its Conjoint Part
- No → BK 3V3 Voltage No Output → Check R978 IC 906 And Its Conjoint Part
- YE S → Check F901 Bad Ca use Damage
- No → Check BK 3V 35V Working or Not — No → Check Repair IC 901 IC 903 Q909 IC 904 IC 906 And Its CONN CIRC UIT

E — MP3 In is not sound

- Ch eck signal source Wh ether output OK — NO → Check signal source and their conjoint part whether OK.
- YE S → Check MA IN PC B IC 304 Pi n 26/27 whether input ok . — NO → Check MAIN PC B R 345/R 346 and their conjoint part Wh ether OK.

F — Tuner Function is not sound

- Check MAIN PC B TU101P in7/8 output whether OK. — NO → Check MAIN PC B TU301 PI N5whether is 5V and their conjoint part whether OK.
- YE S → Check MAIN PC B IC304 Pin23/24 whether IN OK. — NO → Check MA IN PC B IC 304 Pin 23/24 their conjoint part whether OK.

G — DISC Function is not sound

- Ch eck MAIN PC B CN 1006 cable and their conjoint part whether OK.
- YE S → Check MAIN PC B IC501 and their conjoint part whether OK.

H — USB Wire lines are not function

- Check USBW ire Li nes cable and RB301 Wh ether OK — NO → RE-i nsert RB301 and fi x the cable

I — USB is not function

- Check USB cabl e and RB 15 Wh ether OK — NO → RE-i nsert RB15 and fi x the cable

DISASSEMBLY INSTRUCTIONS

Dismantling of the Top Cover

1) Loosen 2 screws “A” at the back panel to remove the top cover as shown in figure 1.

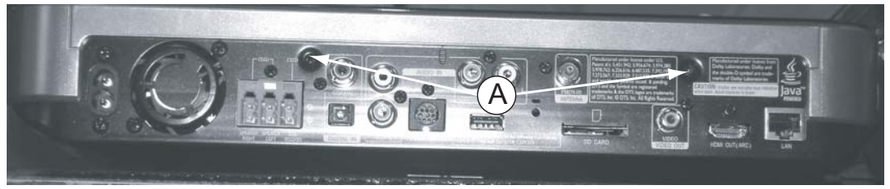


Figure 1

Dismantling of the Tune AUX in Board

1) Loosen 2 screws “B” at the back panel to remove the Tune AUX in Board as shown in figure 2.

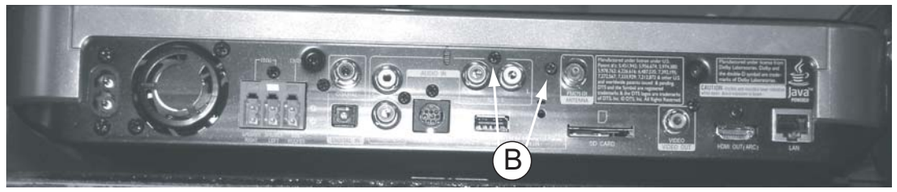


Figure 2

Dismantling of the Main Board

1) Loosen 4 screws “C” at the back panel as shown in figure 3.
2) Loosen 3 screws “D” on the top of Main Board as shown in figure 4.

Figure 3

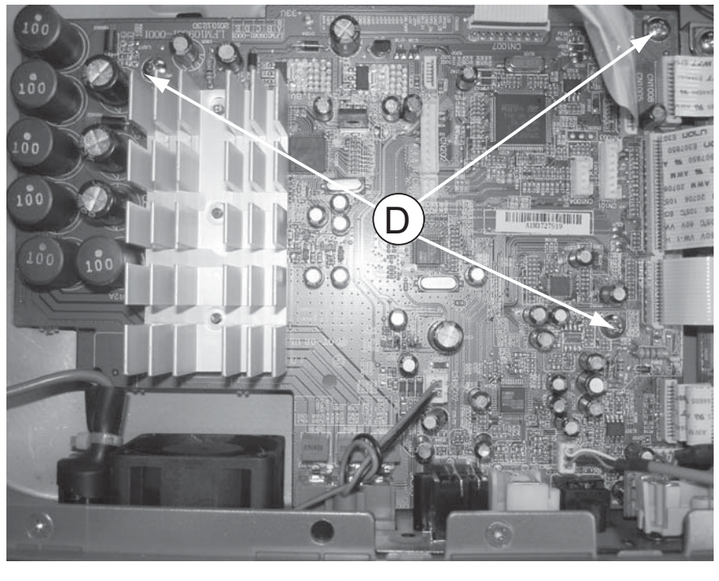


Figure 4

3 - 1

Dismantling of the BD Board

1) Loosen 2 screws “E” at the back panel as shown in figure 5.
2) Loosen 2 screws “F” on the top of BD Board as shown in figure 6.

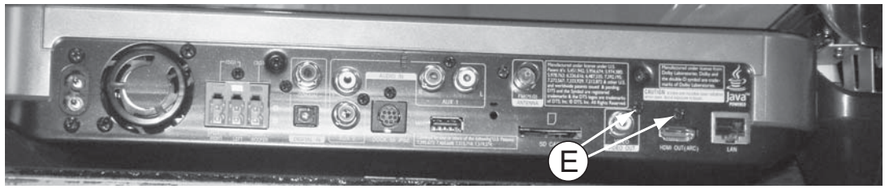


Figure 5

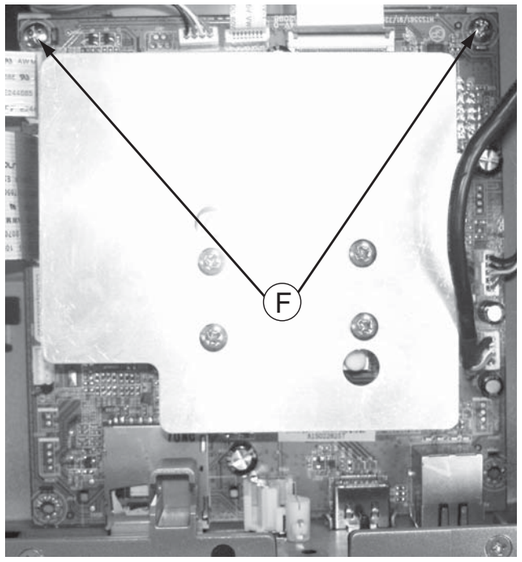


Figure 6

Dismantling of the DVD Module

1) Loosen 4 screws “ G “ at the DVD Module as shown in figure 7, then use hands according marking in figure 8 to remove the DVD Door as shown in figure 8. Tray Cover
2) According marking in figure 9 widdershins circumrotate gear wheel to open the DISC as shown in figure 9.

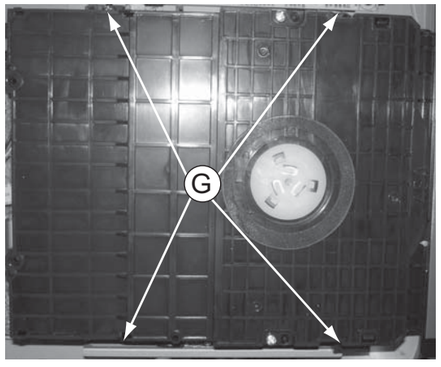


Figure 7

Figure 8

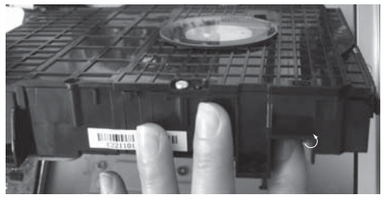


Figure 9

Dismantling of the IR Board

1) Loosen 1 screw “H” as shown in figure 10.
2) Loosen 1 screw “I” on the top of IR Board as shown in figure 11.

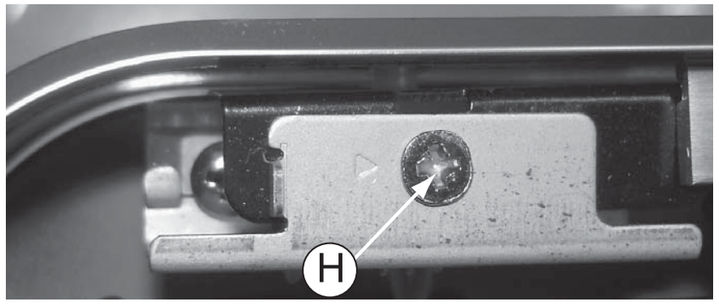


Figure 10

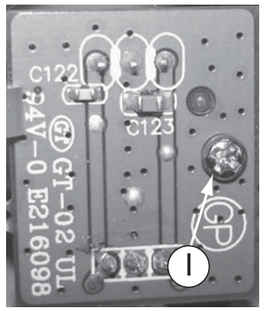


Figure 11

Dismantling of the VFD Board

1) Loosen 4 screws “J” as shown in figure 12.
2) Loosen 2 screws “K” to remove VFD Board as shown in figure 13.

Figure 12

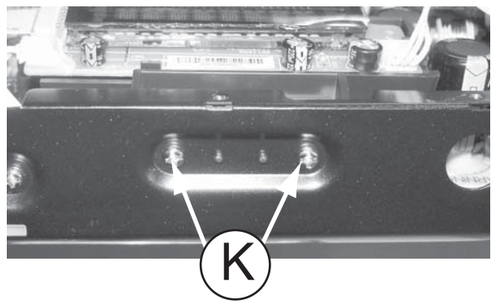


Figure 13

Dismantling of the MP3 Board

1) Loosen 2 screws “L” on the top of MP3 Board as shown in figure 14.

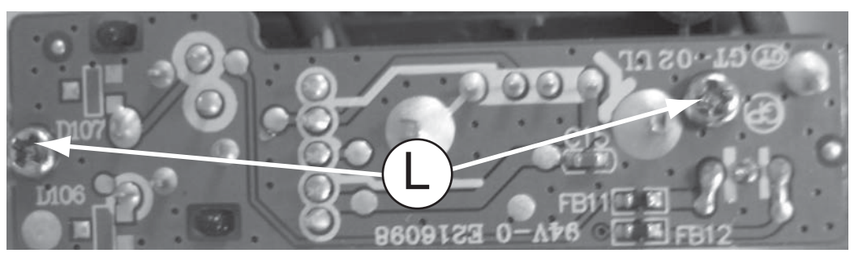


Figure 14

Dismantling of the Power Board

1) Loosen 5 screws “M” on the top of Power Board as shown in figure 15.
2) Using a noise plier to press the rubber space tightly,then,you can take the power board out from the main unit as shown in fi gure 16.

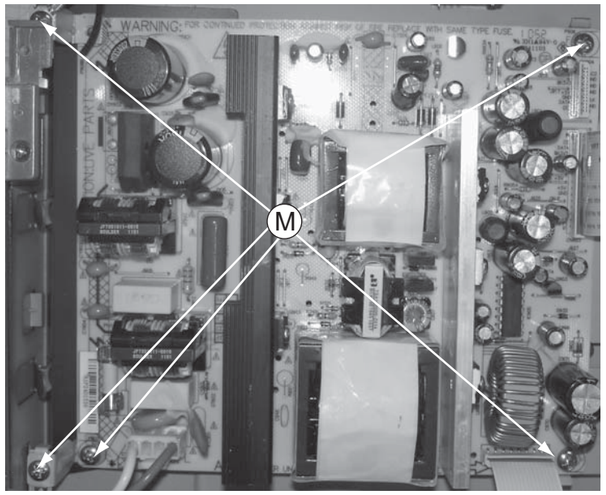


Figure 15

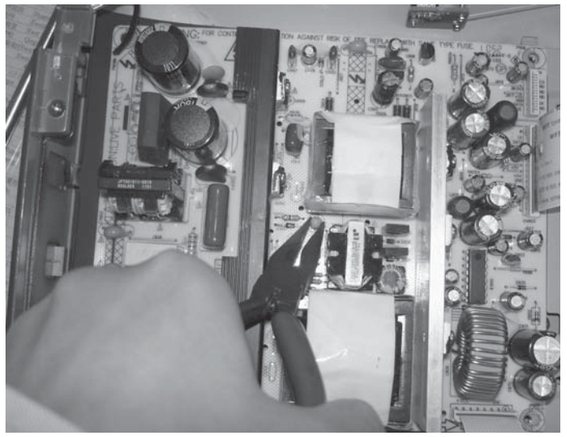


Figure 16

Dismantling of the Touch Board

1) Loosen 3 screws “N” on the top of Touch Board as shown in figure 17.

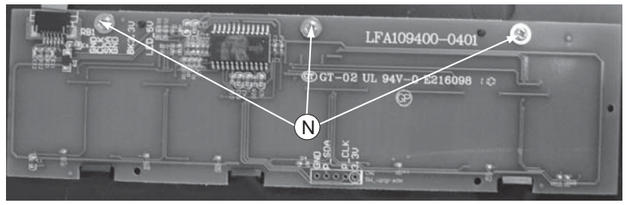
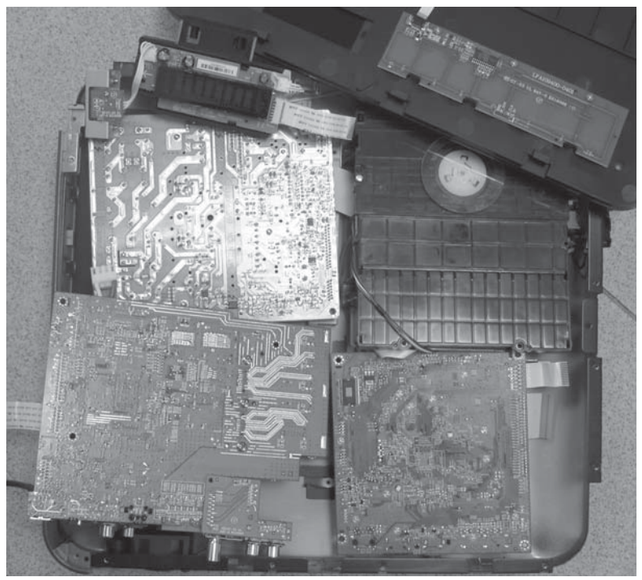


Figure 17

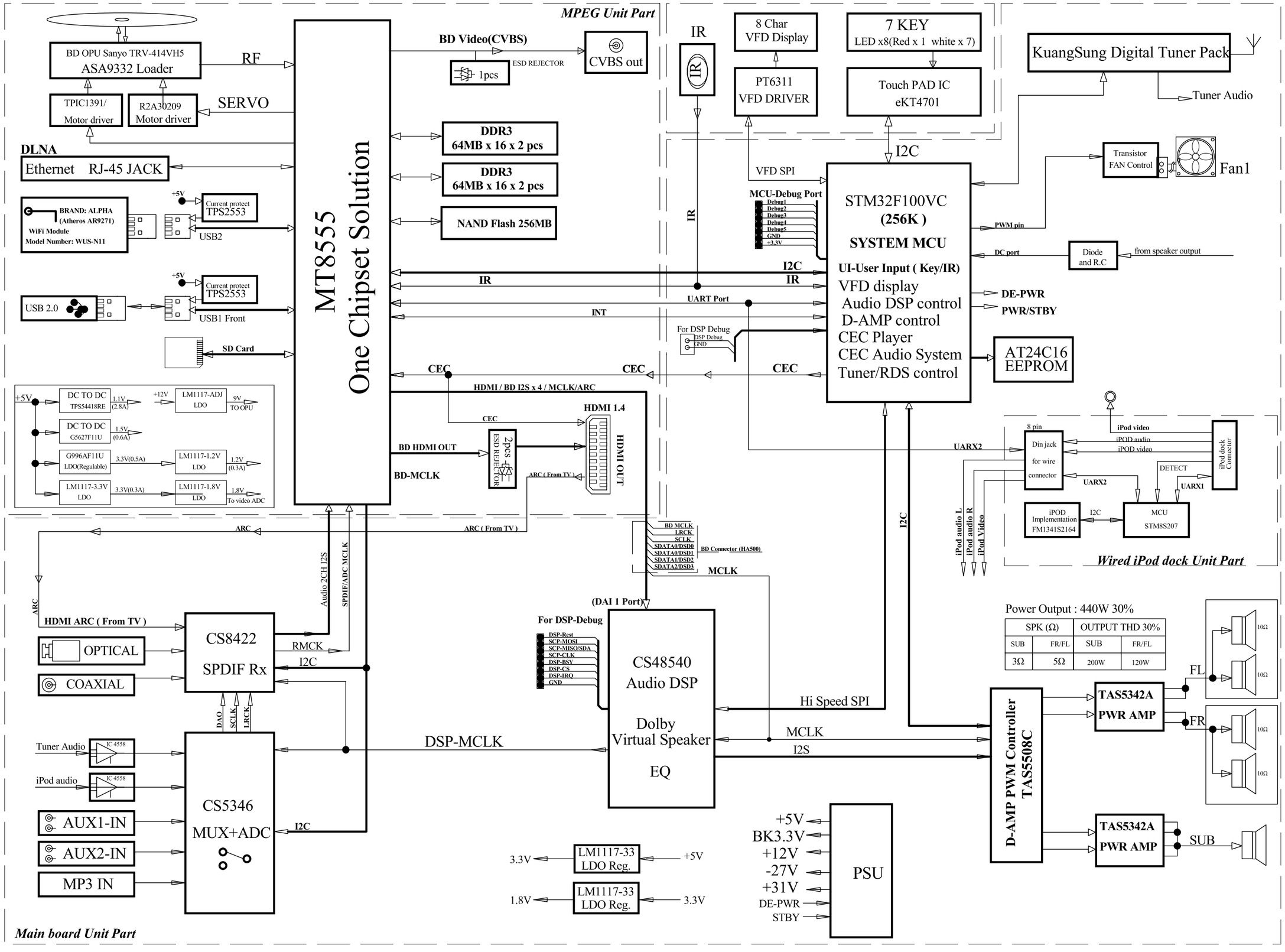
SERVICE POSITIONS



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.

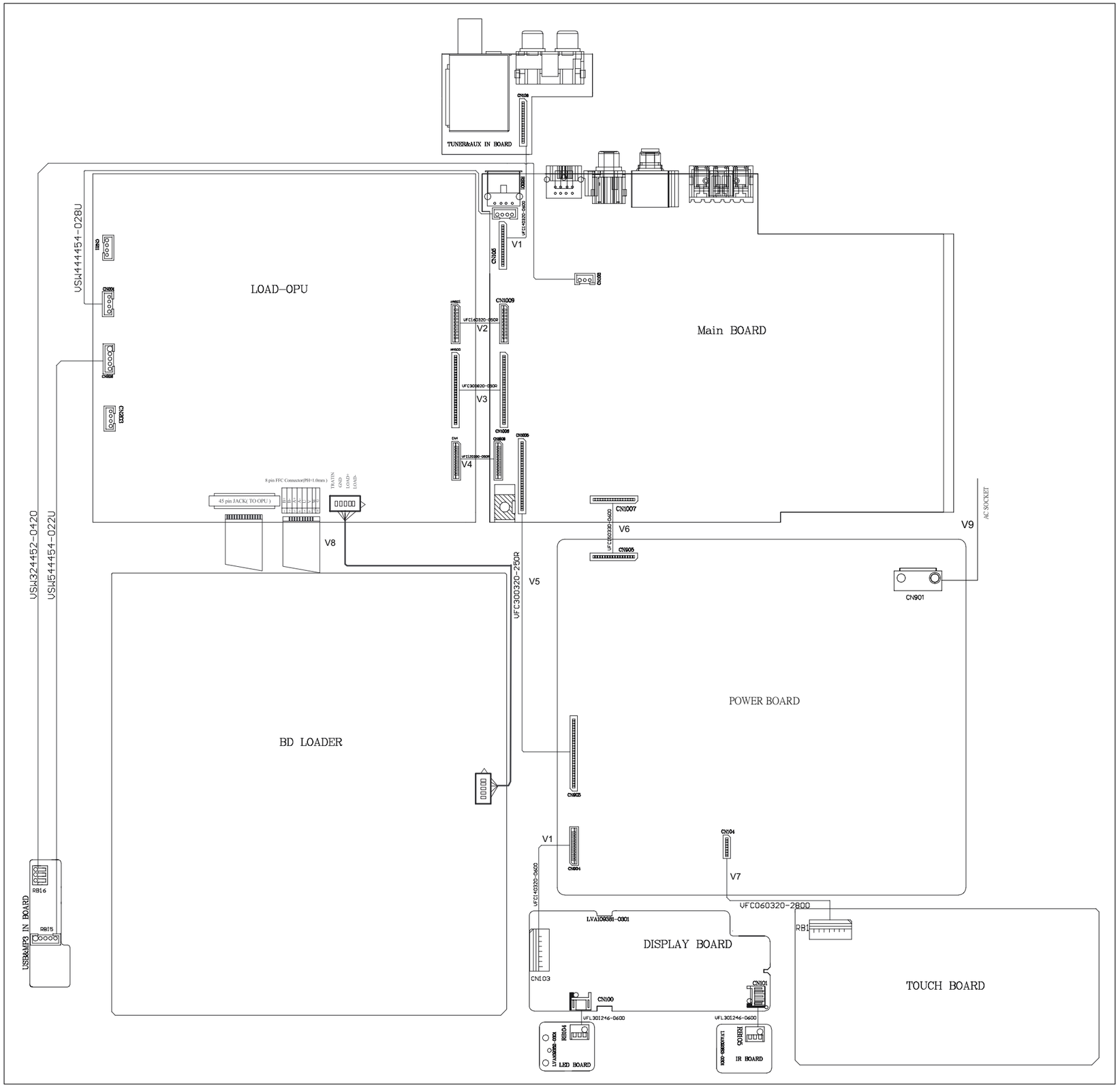
4 - 1

BLOCK DIAGRAM



4 - 2

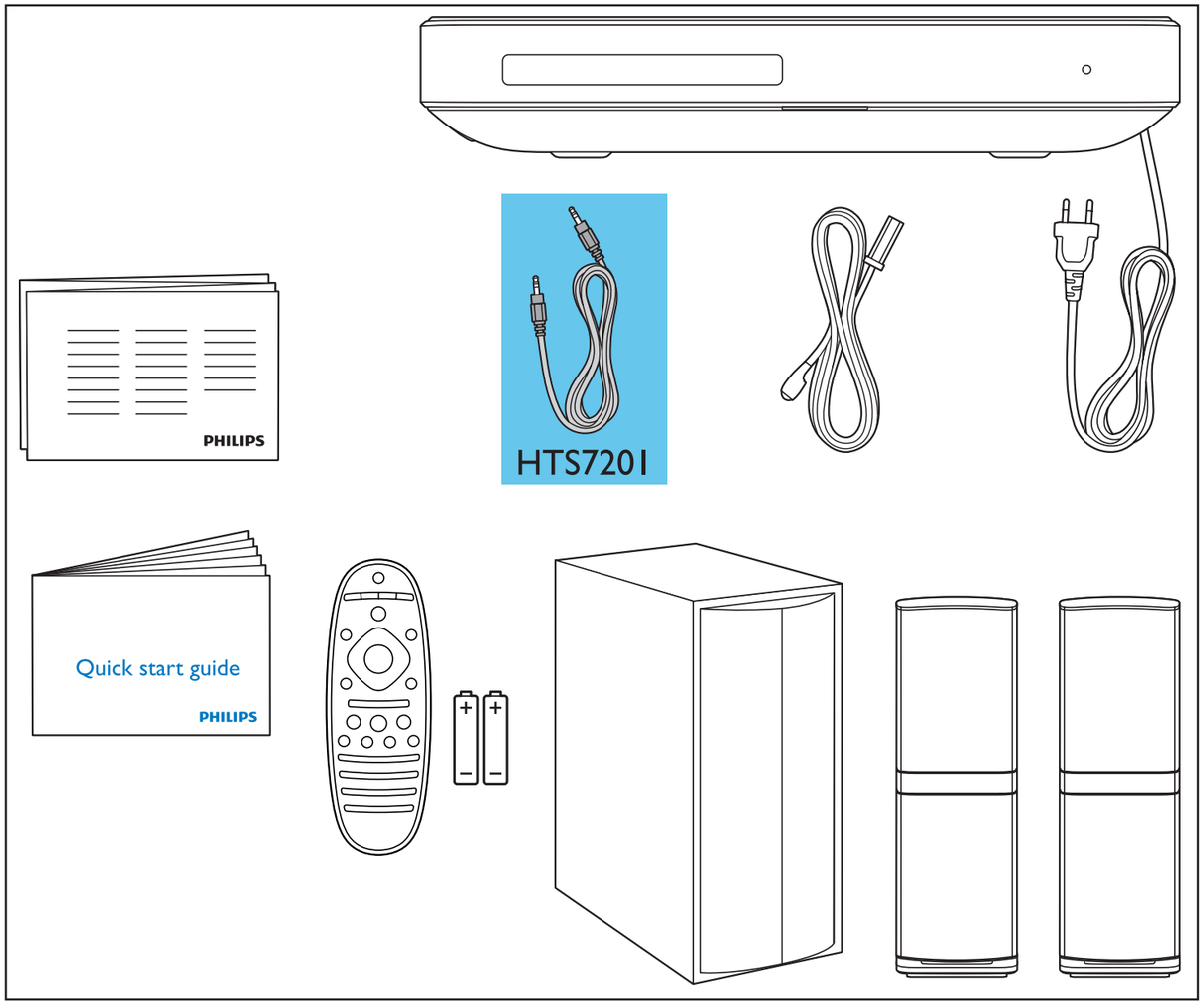
WIRING DIAGRAM



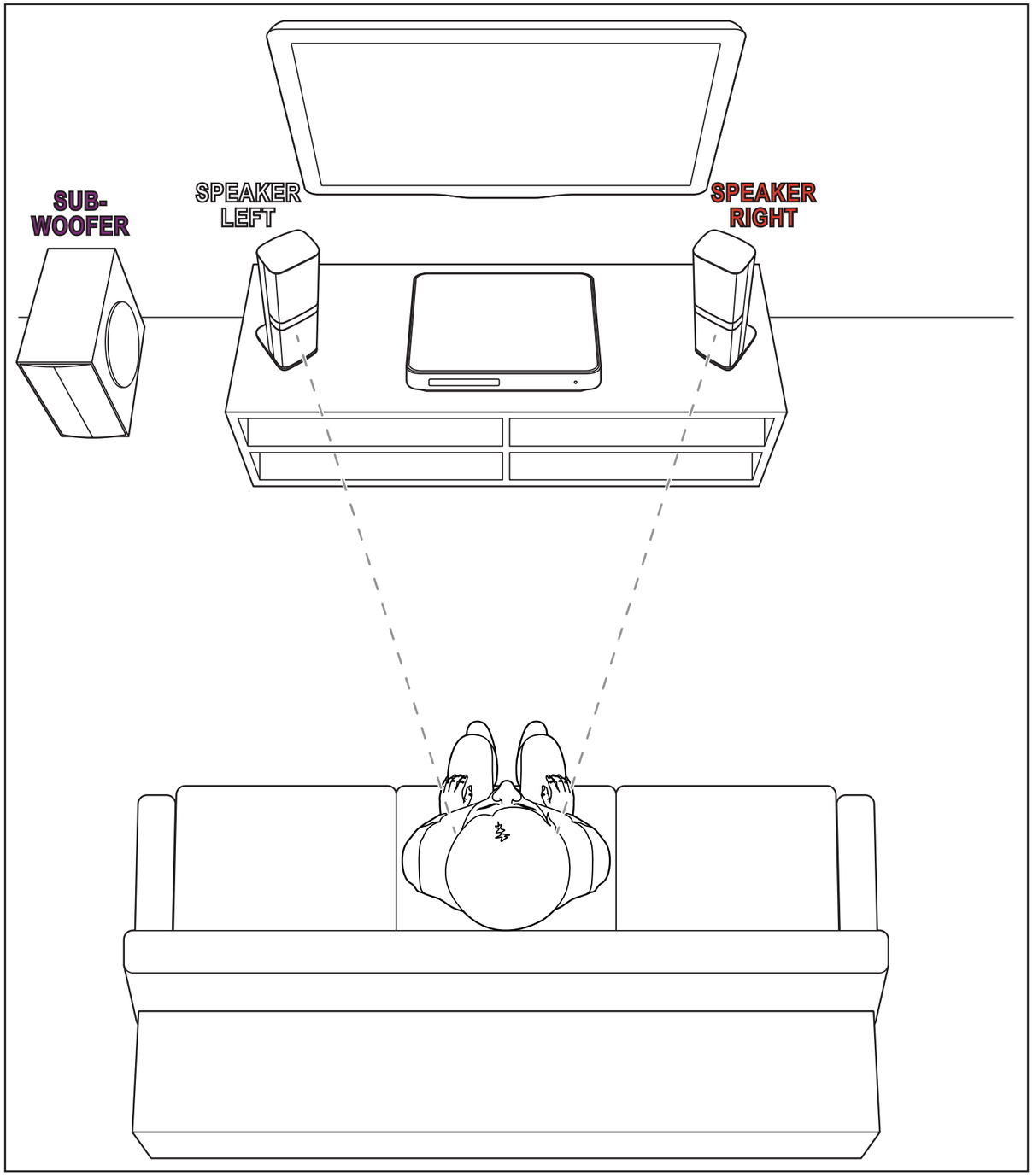
QUICK START GUIDE

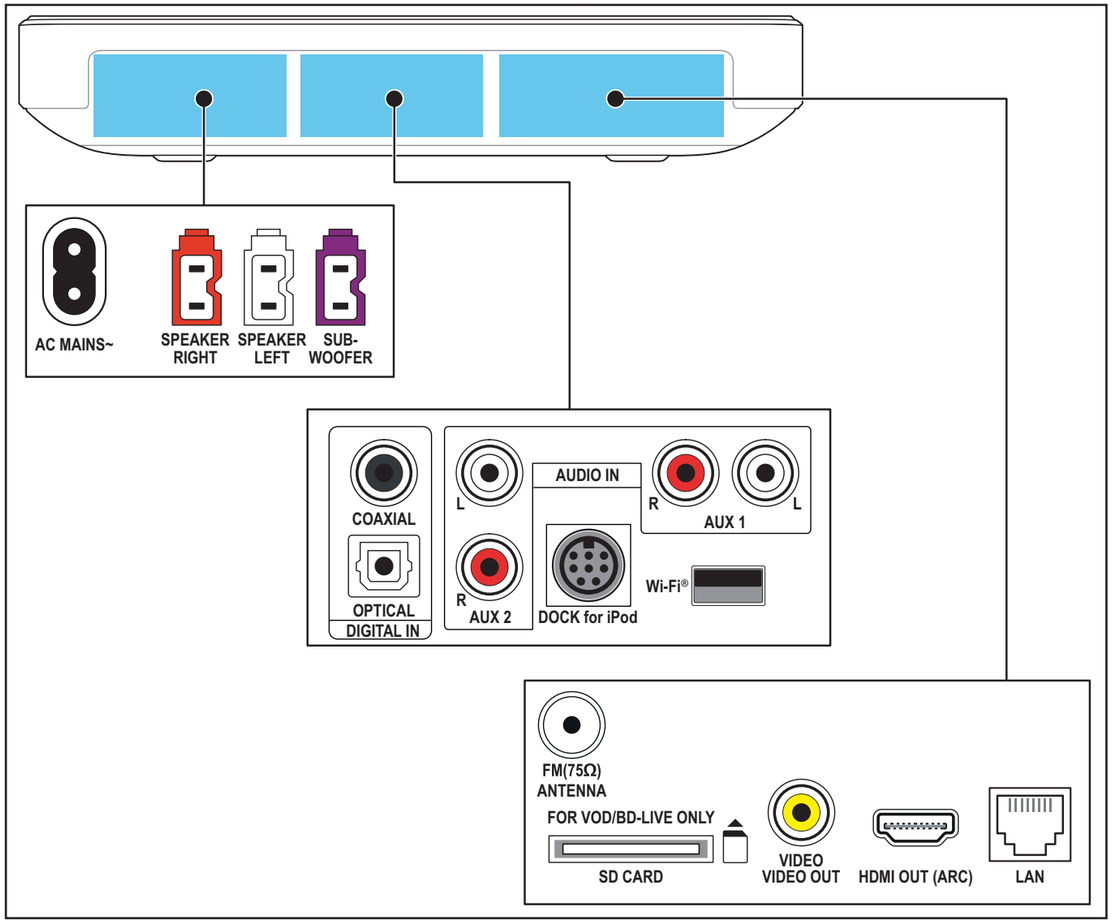
The following excerpt of the QSG/DFU serves as an introduction to the set.

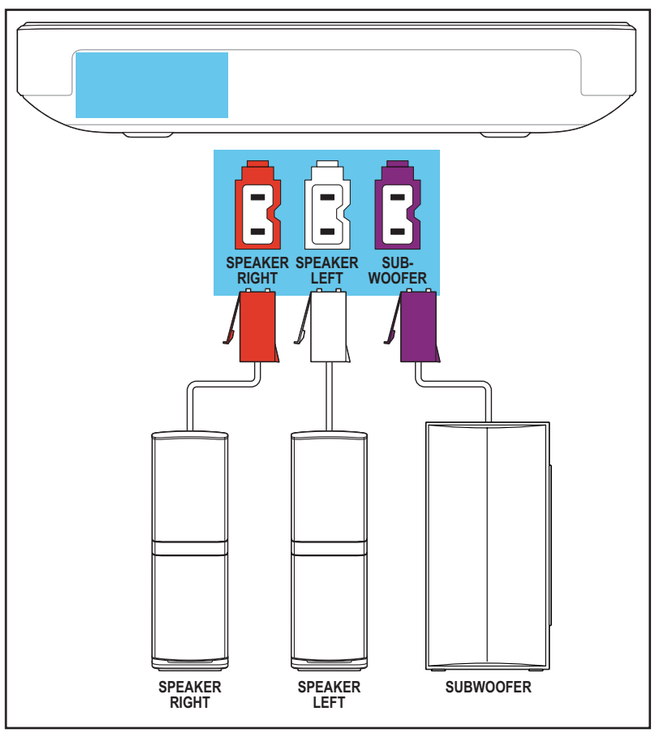
The complete Direction for Use can be download in the different languages from the internet site of Philips Consumer Care Center:www.support.philips.com.

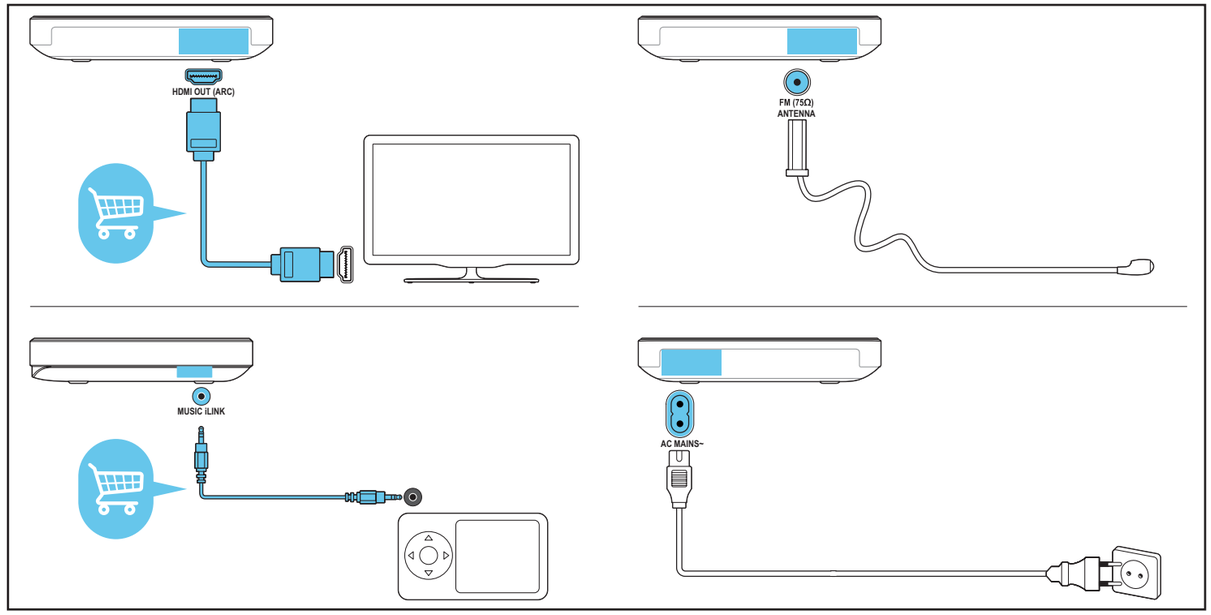


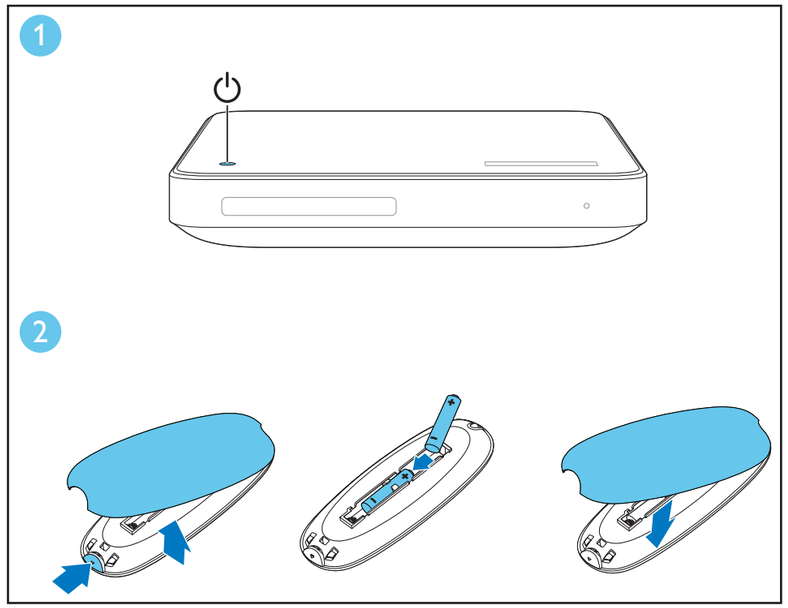
5 - 1

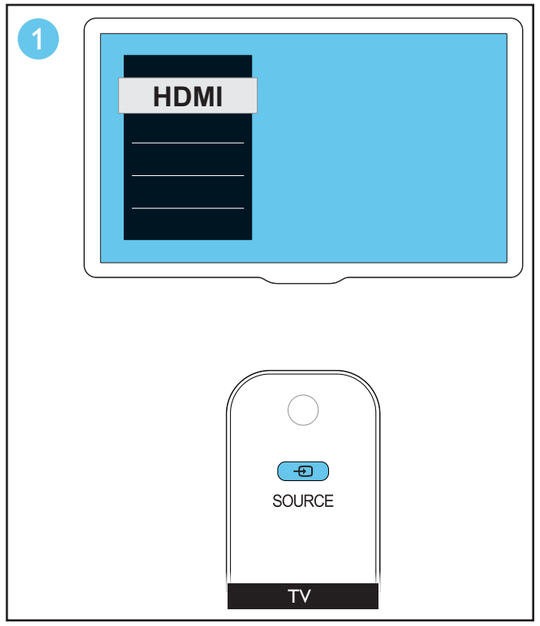



AC MAINS~
SPEAKER RIGHT
SPEAKER LEFT
SUB-WOOFER
COAXIAL
OPTICAL DIGITAL IN
AUDIO IN
L
R
AUX 2
R
L
AUX 1
DOCK for iPod
Wi-Fi®
FM(75Ω) ANTENNA
FOR VOD/BD-LIVE ONLY
SD CARD
VIDEO
VIDEO OUT
HDMI OUT (ARC)
LAN


SPEAKER RIGHT
SPEAKER LEFT
SUB-WOOFER
SPEAKER RIGHT
SPEAKER LEFT
SUBWOOFER

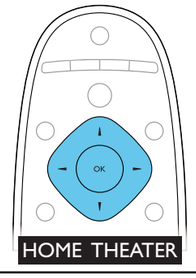

HDMI OUT (ARC)
FM (75Ω) ANTENNA
MUSIC iLINK
AC MAINS~

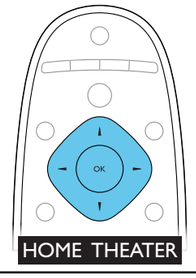

1
2

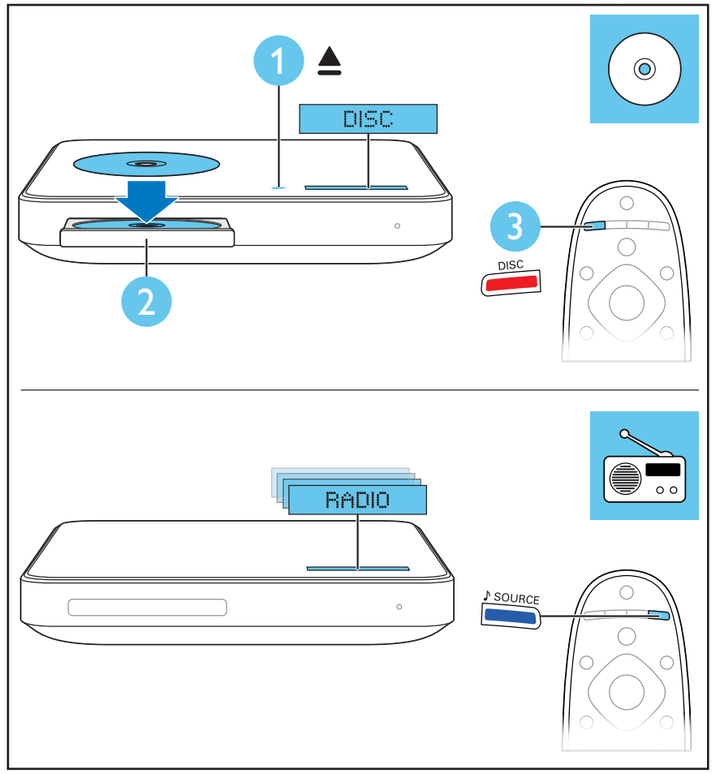

1
HDMI
SOURCE
TV

2
Please select your language and press OK.
Auto (ENG)
English
Français
Deutsch
Italiano
Español
Português
Nederlands
Dansk
Norsk
Svenska
More...

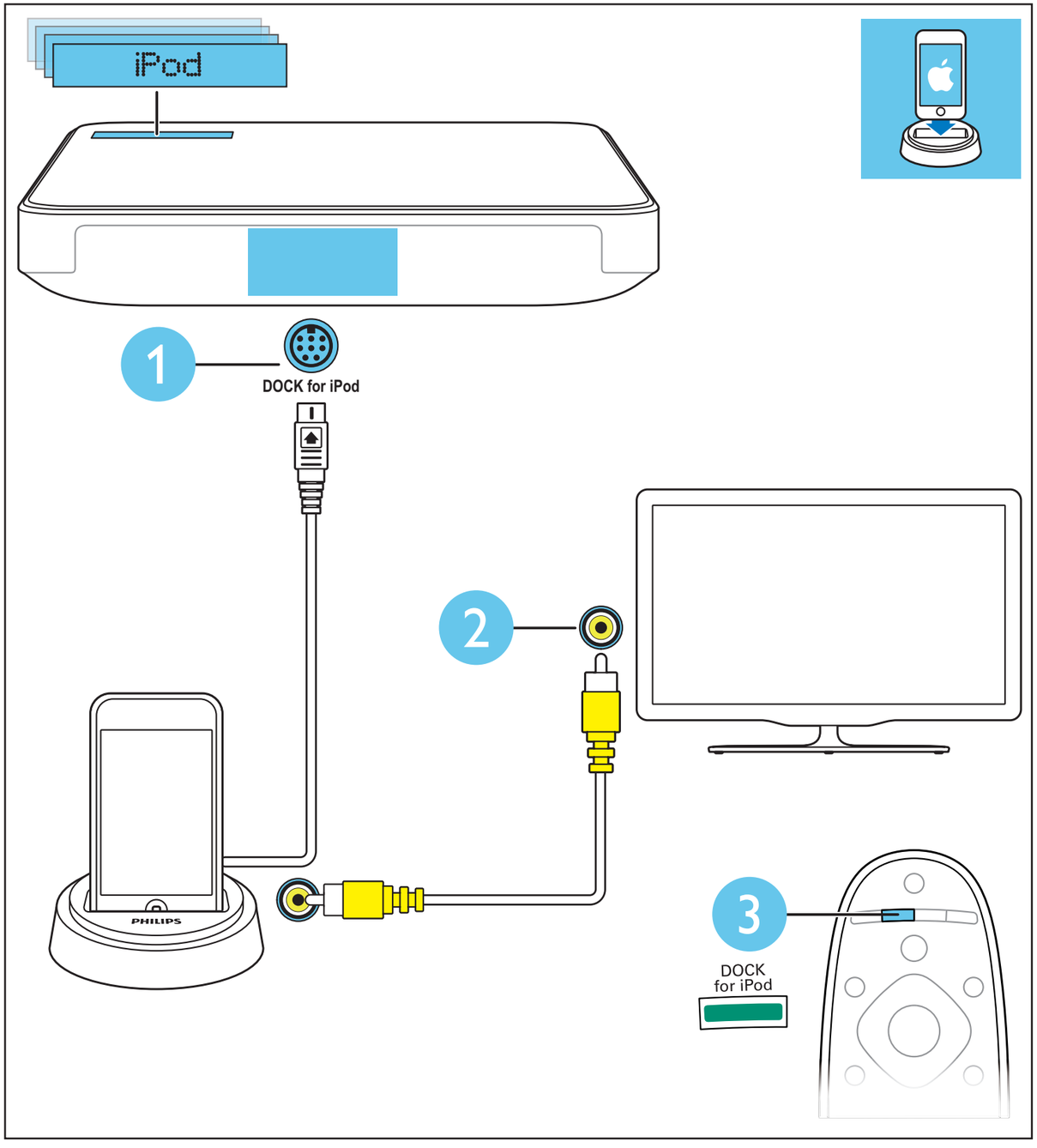
3
Please select your country and press OK.
Back
Austria
Belgium
Bulgaria
Croatia
Czech Republic
Denmark
Estonia
Finland
France
Germany
Greece
More...


OK
HOME THEATER


OK
HOME THEATER


1
DISC
2
3
DISC
RADIO
SOURCE

I-LINK
MP3
USB
USB
1
1
2
SOURCE
2
3
OK


iPod
1
DOCK for iPod
2
PHILIPS
3
DOCK
for iPod

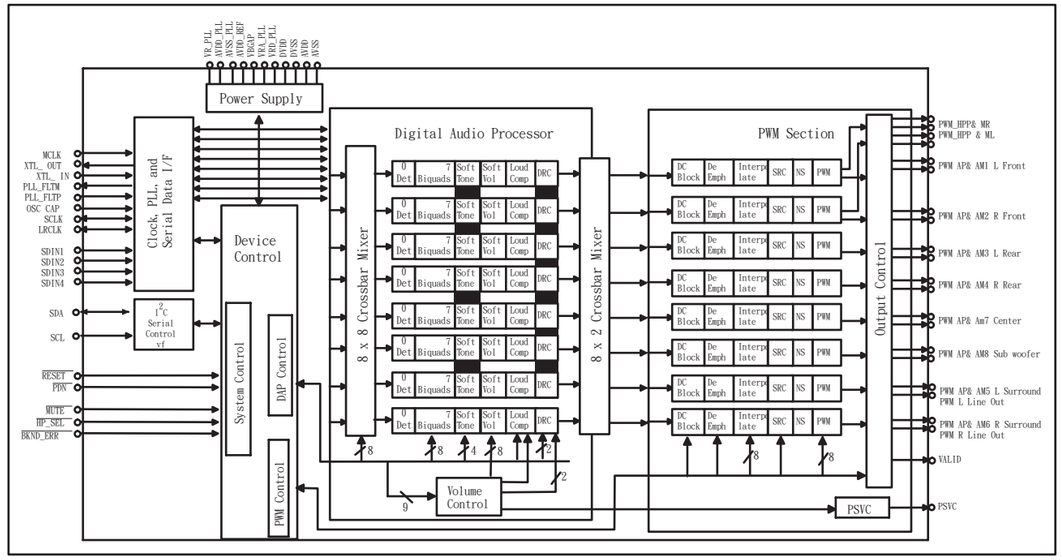
5 - 4


NetTV
1
2
OK
HOME THEATER

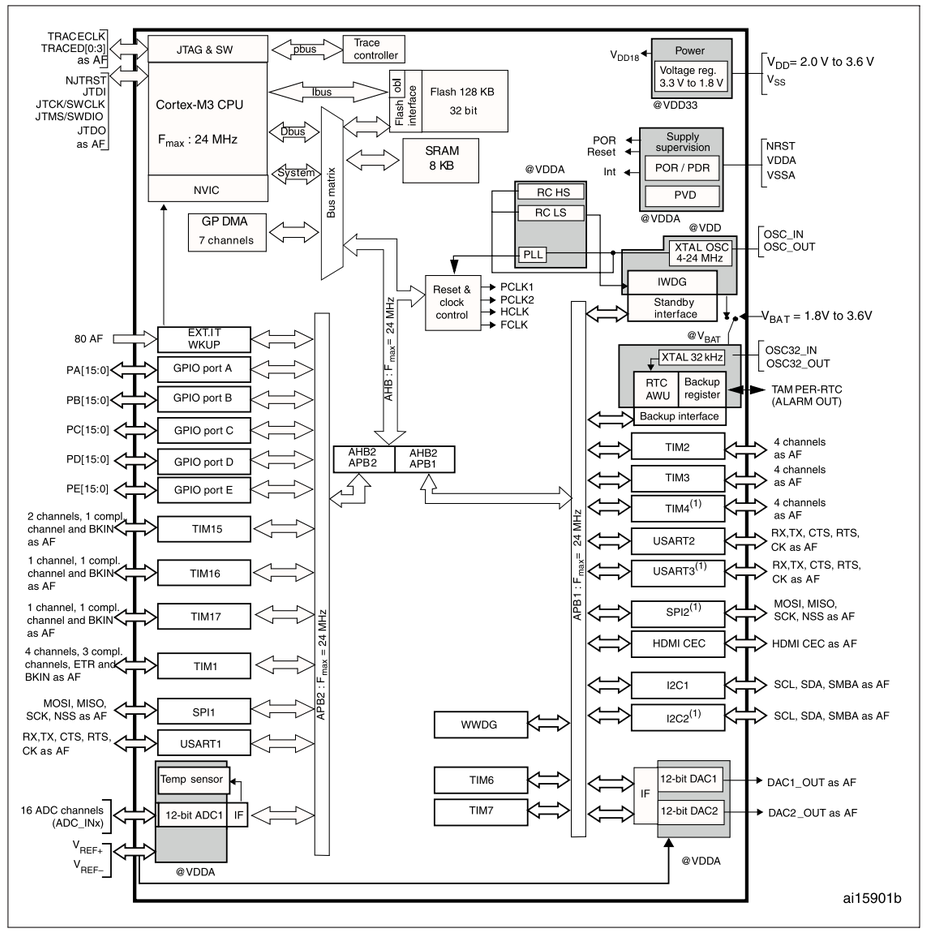
MAIN+MP3+IR+TUNE AUX IN BOARD

TABLE OF CONTENTS

INTERNAL IC DIAGRAM - TAS5508CPAG



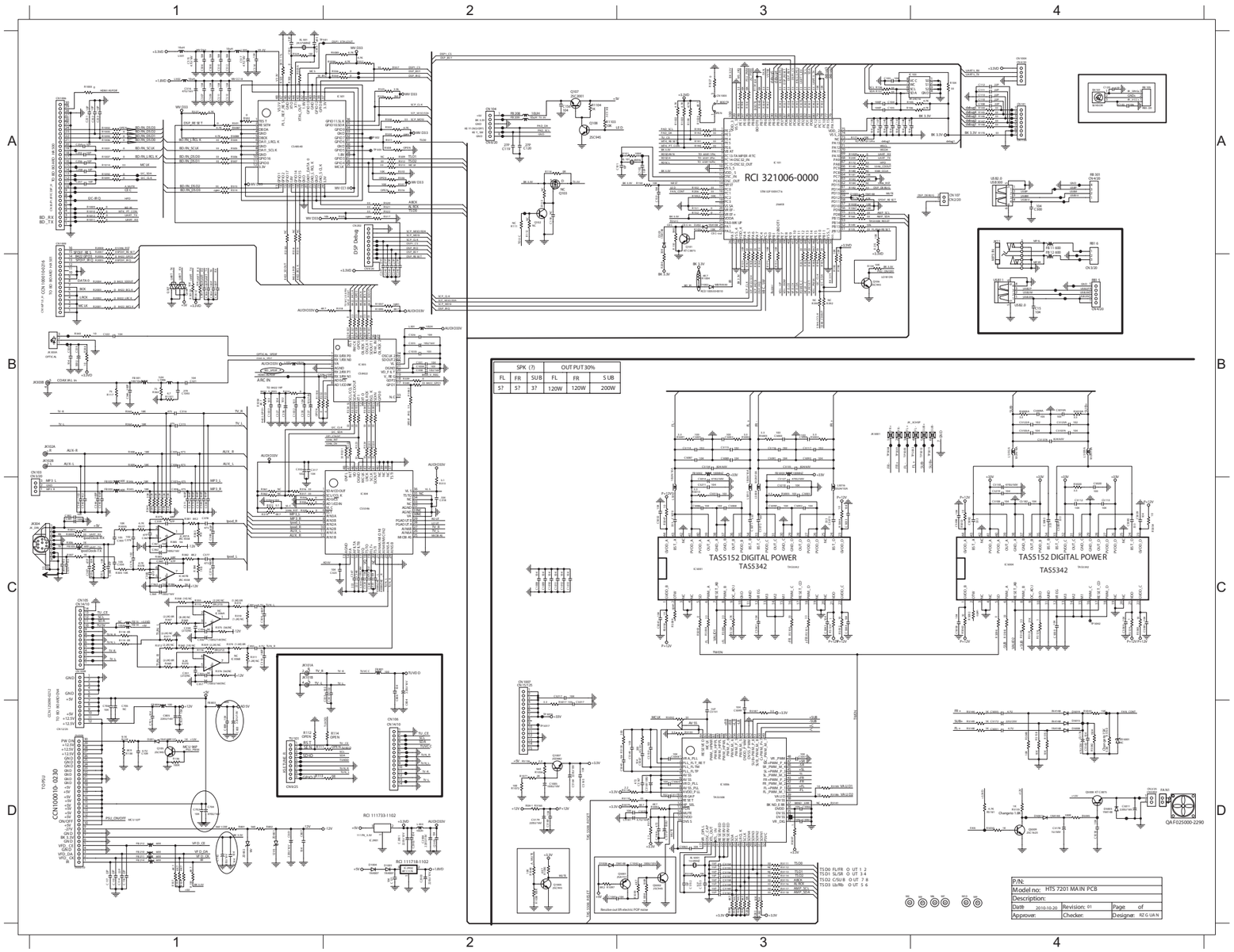
INTERNAL IC DIAGRAM - STM32F100VCT6



6 - 2

CIRCUIT DIAGRAM

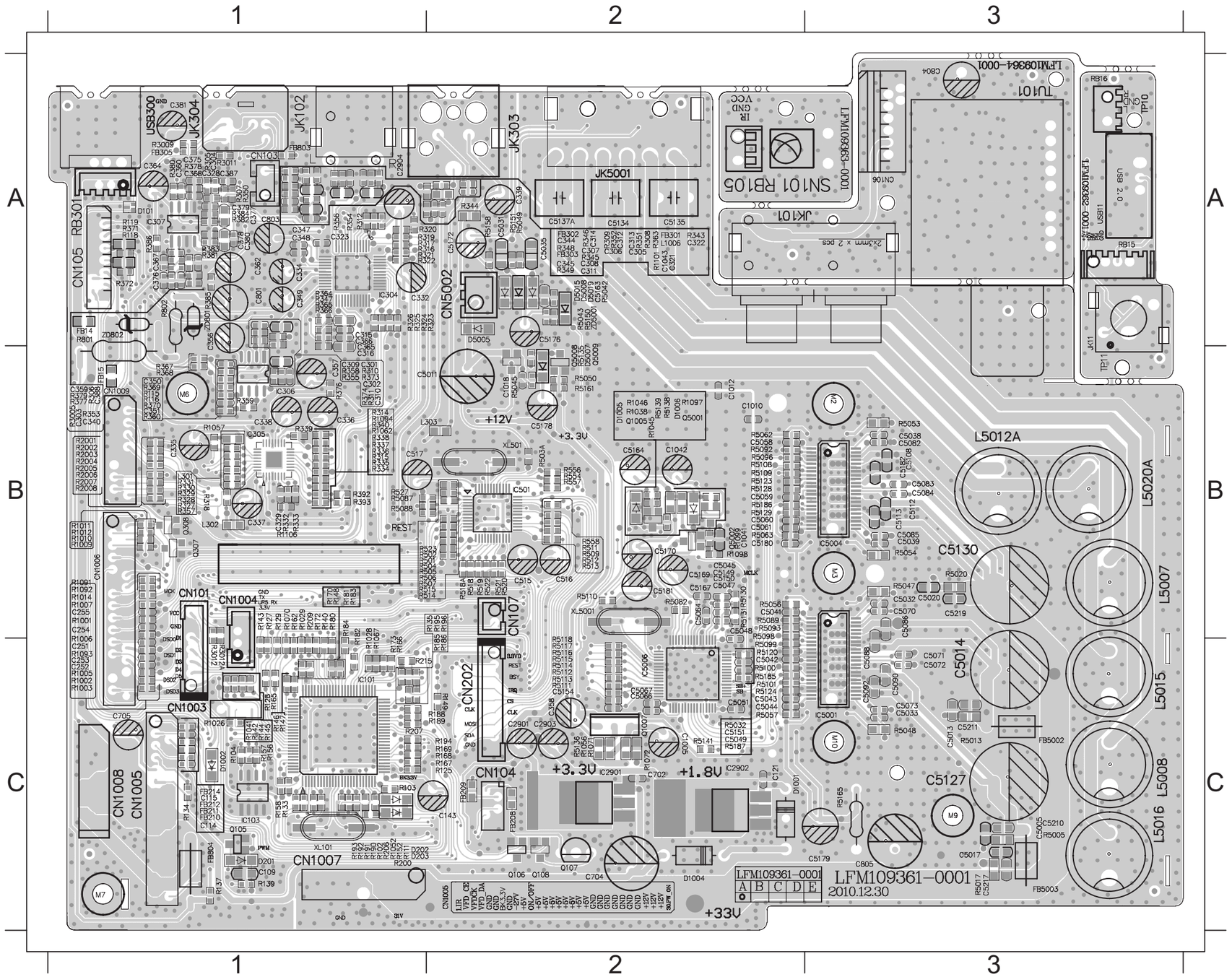
C1005 D2 C110 A4 C243 B2 C307 C1 C330 B1 C360 C1 C5001 B3 C5044 C3 C5084 C4 C5122AB4 C5161 D3 C702 D1 CN107 A4 FB212 D1 JK102 B1 Q107 A2 R1026 A3 R108 D1 R129 A3 R157 A3 R187 B3 R209 A3 R321 B2 R346 C1 R382 C1 R5045 D4 R5096 C4 R5130 D3 R523 A1 XL101 A3
C1008 C2 C111 A4 C244 B2 C308 C1 C331 B2 C361 C1 C5002 B3 C5045 D3 C5085 C4 C5123AB4 C5163 D4 C703 D1 CN202 A2 FB214 D1 JK11 A4 Q108 A2 R1027 A3 R109 D1 R130 D1 R158 A3 R188 B3 R215 A3 R322 B2 R347 C1 R383 C1 R5047 C3 R5097 D3 R5131 D3 R524 A1 XL5001D3
C1009 C2 C112 A4 C245 B2 C309 C1 C332 B1 C362 C1 C5003 B3 C5047 D3 C5086 C3 C5127 C3 C5164 D2 C704 D1 CN5002D4 FB301 B1 JK303 B1 Q307 B1 R1028 A3 R1091 A1 R133 A3 R160 A3 R189 B3 R282 D3 R323 B2 R348 C1 R384 C1 R5048 C3 R5098 C3 R5133 D3 R525 A2 XL501 A1
C101 A3 C113 A4 C251 A1 C310 C1 C333 C2 C363 B1 C5004 B3 C5048 D3 C5087 B3 C513 A1 C5165 D2 C705 D1 D1001 D2 FB302 C1 JK304 C1 Q308 B1 R1029 A3 R1092 A1 R134 B3 R161 A3 R190 A3 R283 D3 R324 B2 R349 C1 R385 C1 R5049 D4 R5099 C3 R5135 D4 R526 A2 ZD801 D1
C1010 C2 C114 D1 C252 A1 C311 C1 C334 C2 C364 C1 C5005 C3 C5049 D3 C5088 C3 C5130 C4 C5167 D3 C706 D1 D1002 B3 FB303 C1 JK5001B3 Q5001 D3 R103 A3 R1093 A1 R135 A3 R162 A3 R191 A3 R284 D3 R325 B2 R350 C1 R386 C1 R505 A1 R510 A2 R5136 D2 R527 A1 ZD802 D1
C1011 C2 C115 D1 C253 A1 C312 C1 C335 B2 C365 C1 C5009AB4 C5051 D3 C5089 B3 C5134 B3 C5168 D3 C801 D1 D1004 D2 FB305 C1 L1006 B1 Q5002 D3 R1038 D2 R1094 B1 R136 D1 R163 A3 R192 A3 R3005 C1 R326 B2 R351 C1 R5001 B3 R5050 D4 R5100 C3 R5138 D3 R535 A2
C1012 C2 C116 D1 C254 A1 C313 C1 C336 B1 C366 C1 C5010AB4 C5058 C4 C509 A1 C5135 B3 C5169 D3 C803 D1 D1005 A3 FB5002B3 L301 B2 Q5008 D4 R104 A4 R1095 B2 R137 D1 R164 A3 R193 A3 R3009 C1 R327 B2 R352 C1 R5002 B3 R5053 C4 R5101 C3 R5139 D2 R537 A2
C1013 C2 C117 D1 C255 A1 C314 C1 C337 B1 C367 C1 C5011 D4 C5059 C4 C5090 C3 C5137AB4 C517 A1 C804 C2 D1006 D2 FB5003B3 L302 B1 Q5009 D4 R1040 A3 R1097 D2 R138 D1 R165 A3 R194 B3 R3012 B1 R328 B2 R353 C1 R5003 B3 R5054 C4 R5108 C4 R5140 D3 R552 A2
C102 A3 C119 A2 C256 A1 C315 B1 C338 B2 C368 C1 C5013 C3 C506 A1 C5091 B3 C514 A1 C5170 D3 C805 D1 D201 D1 FB801 C2 L303 D2 R1001 A1 R1041 A3 R1098 D3 R139 D1 R166 A3 R195 B3 R3012AB1 R329 B2 R354 C1 R5004 B3 R5056 C3 R5109 C4 R5144 D4 R553 A2
C103 A3 C120 A2 C257 A1 C316 B1 C339 B1 C375 C1 C5014 C3 C5060 C4 C5092 C3 C5149 D3 C5171 D3 C806 C2 D202 A3 FB803 D1 L5007 C3 R1003 A1 R1045 D2 R1099 D3 R142 A3 R167 B3 R196 B3 R305 C1 R330 B2 R356 C1 R5005 C3 R5057 C3 R5110 D3 R5148 D4 R554 A2
C1032 B1 C121 D2 C258 A1 C317 B1 C340 C1 C376 C1 C5017 C2 C5061 C4 C5093 B3 C515 A1 C5172 D4 C807 D1 D203 A3 FB804 D1 L5008 C3 R1004 B3 R1046 D2 R110 A3 R143 A3 R168 B3 R198 A3 R306 C1 R331 B2 R357 B2 R5009AB4 R506 A1 R5111 D3 R5149 D4 R556 A2
C1033 B1 C143 D1 C2901 D2 C318 C2 C341 C2 C377 C1 C502 A1 C5064 D3 C510 A1 C5150 D3 C5176 D4 C808 D1 D5005 D4 IC101 A3 L501 A1 R1005 A1 R105 A3 R1101 B1 R144 A4 R169 B3 R199 A3 R307 C1 R332 B1 R364 B1 R501 A1 R5062 C4 R5114 D3 R515 A1 R557 A2
C1034 B2 C144 D1 C2902 D2 C319 C1 C342 C1 C378 C1 C5020 C4 C5065 D3 C5105AB4 C5151 D3 C5178 D4 CN1004A4 D5007 D4 IC103 A3 L5012AB4 R1006 A1 R1052 A3 R1103 A2 R145 A4 R170 A4 R200 B3 R308 B1 R333 B2 R365 B1 R5010AB4 R5063 C4 R5115 D3 R5150 D4 R558 A2
C1035 B2 C145 A3 C2903 D2 C320 B1 C343 C1 C379 C1 C503 A1 C5066 D3 C5107AB4 C5152 D3 C5179 D2 CN1005D1 D5008 D4 IC2901 D2 L5015 C3 R1007 A1 R1056 D2 R1104 A2 R146 A4 R171 A3 R2001 B1 R309 B1 R334 B2 R366 C1 R5013 C3 R507 A1 R5116 D3 R5151 D4 R801 D1
C104 A3 C146 A3 C2904 D2 C321 B1 C344 C1 C380 C1 C5031 D4 C5067 D3 C5108 C4 C5153 D3 C5180 D2 CN1006A1 D5015 D4 IC2902 D2 L5016 C3 R1009 A1 R106 A3 R114 A2 R147 A4 R172 A3 R2002 B1 R312 C1 R335 B2 R367 C1 R5017 D2 R5079 D3 R5117 D3 R5158 D4 R802 D1
C1041 D2 C147 A3 C2905 D2 C322 B1 C345 C1 C381 C1 C5032 C3 C507 A1 C511 A1 C5154 D3 C5181 D3 CN1007C2 D5019 D4 IC304 C2 L502 A1 R101 A3 R1062 B2 R115 C1 R148 A4 R173 A3 R2003 B1 R313 C2 R336 B2 R368 C1 R502 A1 R5082 D3 R5118 D3 R5161 D4 RB105 A4
C1042 D3 C148 A3 C300 A4 C323 C2 C346 B1 C382 C1 C5033 C3 C5070 C3 C5112 C4 C5155 D3 C5182 C4 CN1008C1 FB11 A4 IC305 B2 L5020AB4 R1010 A1 R1065 D3 R116 C1 R149 A3 R174 A3 R2004 B1 R314 B1 R337 B2 R373 C1 R5020 C4 R5083 D3 R512 A2 R5165 D2 RB15 B4
C1043 B1 C149 A3 C301 C1 C324 C2 C347 C2 C383 B1 C5035 D4 C5071 C3 C5113 C4 C5156 D3 C5210 C3 CN1009A1 FB12 A4 IC307 C1 L503 A1 R1011 A1 R1066 D3 R117 B1 R150 A3 R175 B3 R2005 B1 R315 B2 R338 B2 R374 C1 R503 A1 R5084 D3 R5120 C3 R5185 D3 RB16 A4
C105 A3 C15 B4 C302 C1 C325 C2 C348 C2 C384 B1 C5038 C4 C5072 C3 C5114 B3 C5157 D3 C5211 C3 CN101 A4 FB14 C1 IC5001 C3 Q1005 D2 R1012 A1 R1067 A3 R118 C1 R151 A3 R181 A3 R2006 B1 R316 C1 R339 B2 R377 C1 R5032 D3 R5085 A2 R5123 C4 R5186 D3 RB301 A4
C106 A3 C150 A3 C303 C1 C326 B2 C349 C2 C385 B1 C5039 C4 C5073 C3 C5115 B3 C5158 D3 C5217 C2 CN103 B1 FB208 A2 IC5004 C4 Q1007 D2 R1014 A1 R107 D1 R119 C1 R152 A3 R182 A3 R2007 A1 R317 C1 R340 B2 R378 C1 R503A A1 R5086 A2 R5124 C3 R5187 D3 SN101 A4
C107 A3 C156 A2 C304 C1 C327 B1 C356 C1 C386 B1 C5041 C3 C508 A1 C5116 B3 C5159 D3 C5219 C4 CN104 A2 FB209 A2 IC5006 D3 Q101 A3 R102 A3 R1070 A3 R125 B3 R153 B3 R183 A3 R2008 A1 R318 B2 R343 B1 R379 C1 R504 A1 R5087 A1 R5128 C4 R520 A2 TU101 D1
C108 A4 C241 B2 C305 B1 C328 C1 C357 C1 C387 C1 C5042 C3 C5082 C4 C5117 B3 C516 A1 C5223 D3 CN105 C1 FB210 D1 IC501 A2 Q105 D1 R1022 A3 R1071 D2 R127 A3 R154 A3 R185 B3 R206 A3 R319 C1 R344 B1 R380 C1 R5042 D4 R5088 A1 R5129 C4 R521 A2 USB11 B4
C109 D1 C242 B2 C306 B1 C329 B2 C359 C1 C388 C1 C5043 C3 C5083 C4 C512 A1 C5160 D3 C701 D1 CN106 D2 FB211 D1 JK101 C1 Q106 B3 R1023 A3 R1072 D2 R128 A3 R156 A3 R186 B3 R207 B3 R320 C1 R345 C1 R381 C1 R5043 D4 R5093 C3 R513 A2 R522 A2 USB300A4



6 - 3

PCB LAYOUT - TOP VIEW

C1005 C2 C255 B1 C312 A2 C338 B1 C366 A1 C5014 C3 C5048 B2 C5083 B3 C5149 B2 C5179 C3 CN1004 B1 D1002 C1 FB210 C1 IC2902 C2 L301 B1 Q307 B1 R1014 B1 R1070 B1 R125 C2 R148 B1 R181 B1 R2001 B1 R3012A C1 R322 A1 R337 B1 R354 A1 R382 A1 R5042 A2 R507 B2 R5115 C2 R5138 B2 R527 B1 XL101 C1
C1010 B2 C2901 C2 C313 A2 C339 A2 C367 A1 C5017 C3 C5049 C2 C5084 B3 C515 B2 C5180 B2 CN1005 C2 D1004 C2 FB211 C1 IC304 A1 L302 B1 Q308 B1 R102 C1 R1071 C2 R127 B1 R149 C2 R182 B1 R2002 B1 R305 A1 R323 A2 R338 B1 R356 A1 R383 A1 R5043 A2 R5082 B2 R5116 C2 R5139 B2 R554 B2 XL5001B2
C1012 B2 C2903 C2 C314 A2 C340 B1 C368 A1 C5020 B3 C5051 C2 C5085 B3 C5150 B2 C5181 B2 CN1006 B1 D1005 B2 FB212 C1 IC305 B1 L303 B2 Q5001 B2 R1026 C1 R1072 C2 R128 C1 R152 C1 R183 B1 R2003 B1 R306 B1 R324 A2 R339 B1 R357 B1 R384 A1 R5045 B2 R5087 B1 R5117 C2 R515 B2 R556 B2 XL501 B2
C1041 B2 C2904 A1 C315 A1 C344 A2 C375 A1 C5031 A2 C5058 B2 C5086 B3 C5151 C2 C5182 B3 CN1007 C1 D1006 B2 FB214 C1 IC307 A1 L5007 B3 Q5002 B2 R1028 B1 R1091 B1 R129 B1 R156 C1 R185 C2 R2004 B1 R307 A1 R325 A1 R340 B1 R364 A1 R385 A1 R5047 B3 R5088 B1 R5118 C2 R5150 A2 R557 B2 ZD801 A1
C1042 b2 C301 B1 C316 B1 C345 A2 C376 A1 C5032 B3 C5059 B2 C5088 C3 C5154 C2 C5210 C3 CN1008 C1 D201 C1 FB301 A2 IC5001 C3 L5008 C3 Q5008 A2 R1029 B1 R1092 B1 R133 C1 R157 C1 R186 C2 R2005 B1 R308 A2 R326 A1 R343 A2 R365 A1 R386 A1 R5048 C3 R5093 B2 R512 B2 R5151 A2 R558 B2 ZD802 A1
C1043 A2 C302 B1 C321 A2 C347 A1 C377 A1 C5033 C3 C5060 B2 C5090 C3 C516 B2 C5211 C3 CN1009 B1 D202 C1 FB302 A2 IC5004 B3 L5012AB3 Q5009 A2 R103 C1 R1093 C1 R134 C1 R158 C1 R188 C2 R2006 B1 R309 A2 R327 B1 R344 A2 R366 A1 R5001 A2 R5049 A2 R5096 B2 R5120 C2 R5158 A2 R801 A1
C109 C1 C303 B1 C322 A2 C348 A1 C378 A1 C5035 A2 C5061 B2 C5092 C3 C5163 A2 C5217 C3 CN101 B1 D203 C1 FB303 A2 IC5006 C2 L5015 C3 R1001 B1 R1038 B2 R1094 B1 R135 B2 R162 B1 R189 C2 R2007 B1 R312 A1 R328 B1 R345 A2 R367 B1 R5005 C3 R505 B2 R5098 B2 R5123 B2 R5161 B2 R802 A1
C114 C1 C304 A1 C323 A1 C349 A1 C379 A1 C5038 B3 C5064 B2 C5108 B3 C5164 B2 C5219 B3 CN103 A1 D5005 A2 FB305 A1 IC501 B2 L5016 C3 R1003 C1 R104 C1 R1097 B2 R137 C1 R165 C1 R190 C1 R2008 B1 R314 B1 R329 B1 R346 A2 R368 B1 R501 B2 R5050 B2 R5099 C2 R5124 C2 R5165 C3 RB105 A2
C115 C1 C305 A2 C328 A1 C356 A1 C380 A1 C5039 B3 C5066 C2 C5112 B3 C5167 B2 C702 C2 CN104 C2 D5007 A2 FB5002 C3 JK101 A2 L5020AB3 R1005 C1 R1041 C1 R1098 B2 R139 C1 R166 B1 R191 C1 R206 C1 R315 B1 R330 B1 R347 A1 R373 B1 R5013 C3 R5053 B3 R5100 C2 R5128 B2 R5185 C2 RB15 A3
C121 C2 C306 A2 C329 B1 C357 B1 C381 A1 C5041 B2 C5067 C2 C5113 B3 C5169 B2 C704 C2 CN105 A1 D5008 A2 FB5003 C3 JK102 A1 Q1005 B2 R1006 B1 R1045 B2 R1099 B2 R142 C1 R167 C2 R192 C1 R207 C1 R316 A1 R331 B1 R348 A2 R374 B1 R5017 C3 R5054 B3 R5101 C2 R5129 B2 R5186 B2 RB16 A3
C143 C2 C307 A2 C332 A1 C359 B1 C387 A1 C5042 C2 C5070 B3 C5127 C3 C517 B1 C705 C1 CN106 A3 D5015 A2 FB803 A1 JK11 A3 Q1007 C2 R1007 B1 R1046 B2 R1101 A2 R143 B1 R168 C2 R193 C1 R209 B1 R317 A1 R332 B1 R349 A2 R377 B1 R502 B2 R5056 B2 R5108 B2 R513 B2 R5187 C2 RB301 A1
C251 C1 C308 A2 C334 A1 C360 A1 C388 B1 C5043 C2 C5071 C3 C5130 B3 C5170 B2 C801 A1 CN107 B2 D5019 A2 FB804 C1 JK303 A2 Q105 C1 R1009 B1 R1052 C1 R115 B1 R144 C1 R169 C2 R194 C2 R215 C1 R318 B1 R333 B1 R350 A1 R378 A1 R5020 B3 R5057 C2 R5109 B2 R5130 B2 R520 B2 SN101 A2
C252 C1 C309 B1 C335 B1 C362 A1 C5005 C3 C5044 C2 C5072 C3 C5134 A2 C5172 A2 C803 A1 CN202 C2 FB14 A1 IC101 C1 JK304 A1 Q106 C2 R1010 B1 R1056 C2 R116 B1 R145 C1 R170 B1 R195 B2 R3005 B1 R319 A1 R334 B1 R351 A2 R379 B1 R5032 C2 R506 B2 R5110 B2 R5131 B2 R521 B2 TU101 A3
C253 C1 C310 B1 C336 B1 C364 A1 C5011 B2 C5045 B2 C5073 C3 C5135 A2 C5176 A2 C804 A3 CN5002 A2 FB208 C2 IC103 C1 JK5001 A2 Q107 C2 R1011 B1 R1062 B1 R118 A1 R146 C1 R172 B1 R196 B2 R3009 A1 R320 A1 R335 B1 R352 A2 R380 A1 R503A B2 R5062 B2 R5111 C2 R5135 A2 R522 B2 USB11 A3
C254 B1 C311 A2 C337 B1 C365 A1 C5013 C3 C5047 B2 C5082 B3 C5137AA2 C5178 B2 C805 C3 D1001 C2 FB209 C2 IC2901 C2 L1006 A2 Q108 C2 R1012 B1 R1067 B1 R119 A1 R147 C1 R173 B1 R200 C1 R3012 C1 R321 A1 R336 B1 R353 B1 R381 A1 R504 B2 R5063 B2 R5114 C2 R5136 C2 R523 B2 USB300 A1



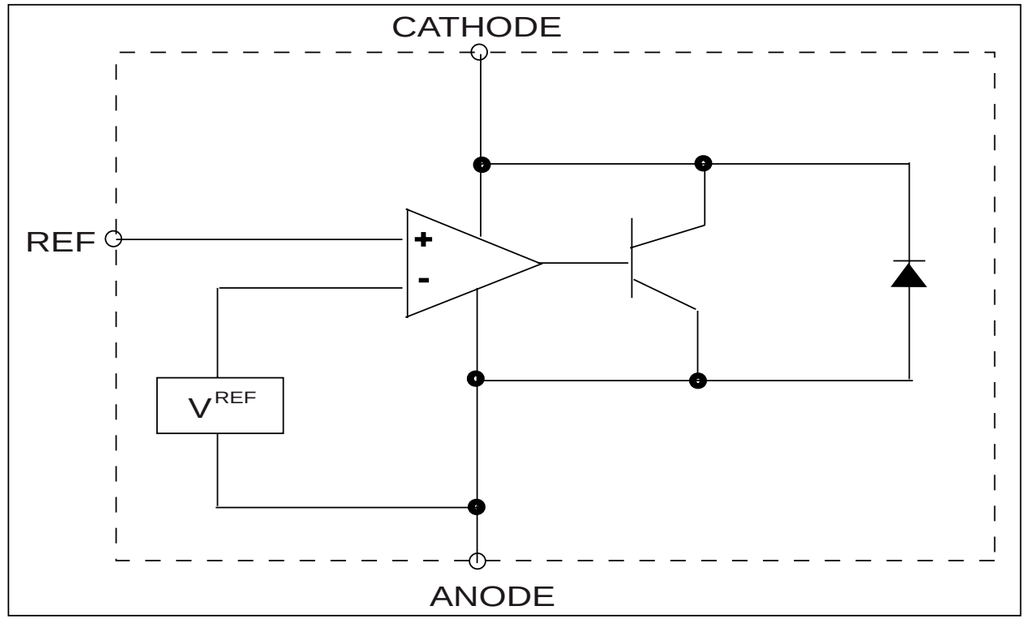
PCB LAYOUT - BOTTOM VIEW

C1008	B2	C1033	B1	C110	C1	C122	A2	C15	A3	C256	B1	C319	A1	C333	A2	C383	B1	C5009A	A2	C5087	B3	C511	B2	C513	B2	C5159	C2	C703	C3	L501	B2	R1027	C1	R109	C2	R130	C1	R161	C1	R199	C1	R5009A	A2	R5097	C2	R525	B2
C1009	A2	C1034	B1	C111	C1	C123	A2	C150	C1	C257	B1	C320	A2	C341	A3	C384	A1	C5010A	A2	C5089	C3	C5114	A2	C514	B2	C5160	C2	C706	C1	L502	B2	R1040	C1	R1095	B1	R136	C1	R163	C1	R282	C2	R5010A	A2	R510	B2	R526	B2
C101	C1	C1035	B1	C112	B1	C144	C1	C156	C2	C258	B1	C324	A1	C342	A1	C385	A1	C502	B2	C509	B2	C5115	A2	C5152	B2	C5161	C2	C806	A3	L503	B2	R105	C1	R110	C1	R138	C1	R164	C1	R283	C2	R503	B2	R5133	B2	R535	B2
C1011	B2	C104	C1	C113	C1	C145	C1	C241	C2	C2902	C2	C325	A1	C343	A1	C386	C1	C503	B2	C5091	C3	C5116	A2	C5153	B2	C5165	B2	C807	A1	Q101	C1	R106	C1	R1103	C2	R150	C1	R171	C1	R284	C2	R5079	B2	R5140	B2	R537	B2
C1013	B2	C105	C1	C116	C1	C146	C1	C242	C2	C2905	A1	C326	B1	C346	A2	C5001	A2	C506	B2	C5093	C3	C5117	A2	C5155	C2	C5168	B2	C808	A1	R1004	C1	R1065	C2	R1104	C2	R151	C1	R174	B2	R313	A1	R5083	C2	R5144	A2	R552	B2
C102	C1	C106	C1	C117	C1	C147	C1	C243	C2	C300	A1	C327	B1	C361	A1	C5002	A2	C5065	B2	C510	B2	C512	B2	C5156	C2	C5171	B2	FB11	A3	R101	C1	R1066	C2	R114	C2	R153	C1	R175	C1	R5002	A2	R5084	C2	R5148	A2	R553	B2
C103	C1	C107	C1	C119	C2	C148	C1	C244	C2	C317	A1	C330	B1	C363	A1	C5003	A2	C507	B2	C5105A	B3	C5122A	A2	C5157	C2	C5223	B2	FB12	A3	R1022	C1	R107	C2	R117	A2	R154	C1	R187	C1	R5003	A2	R5085	B2	R5149	A2		
C1032	B1	C108	C1	C120	C2	C149	C1	C245	C2	C318	A1	C331	B1	C382	A1	C5004	A2	C508	B2	C5107A	B3	C5123A	A2	C5158	C2	C701	C1	FB801	A3	R1023	C1	R108	C2	R122	A3	R160	C1	R198	C1	R5004	A2	R5086	B2	R524	B2		

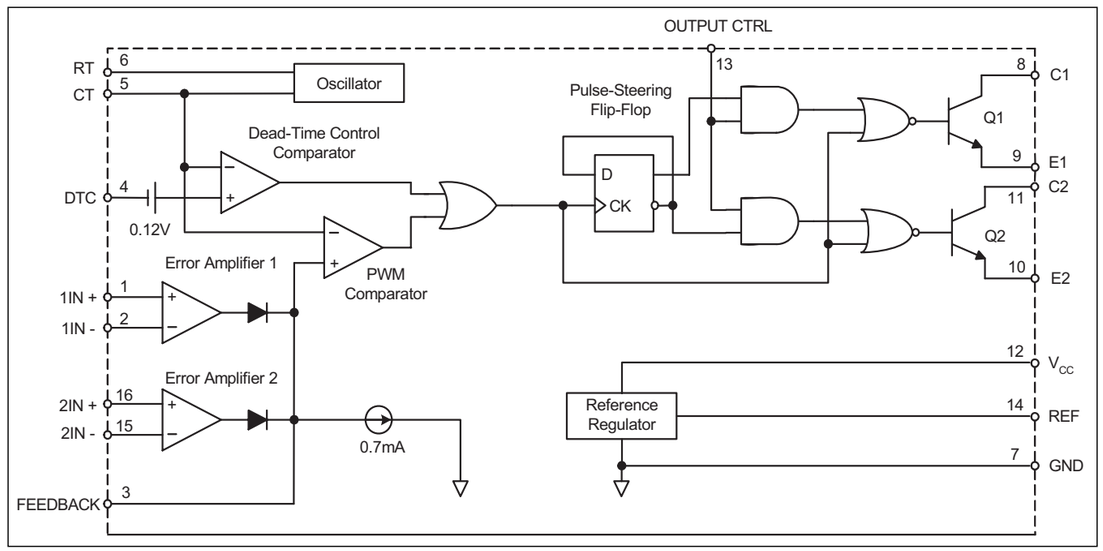
POWER BOARD

TABLE OF CONTENTS

INTERNAL IC DIAGRAM - AZ431



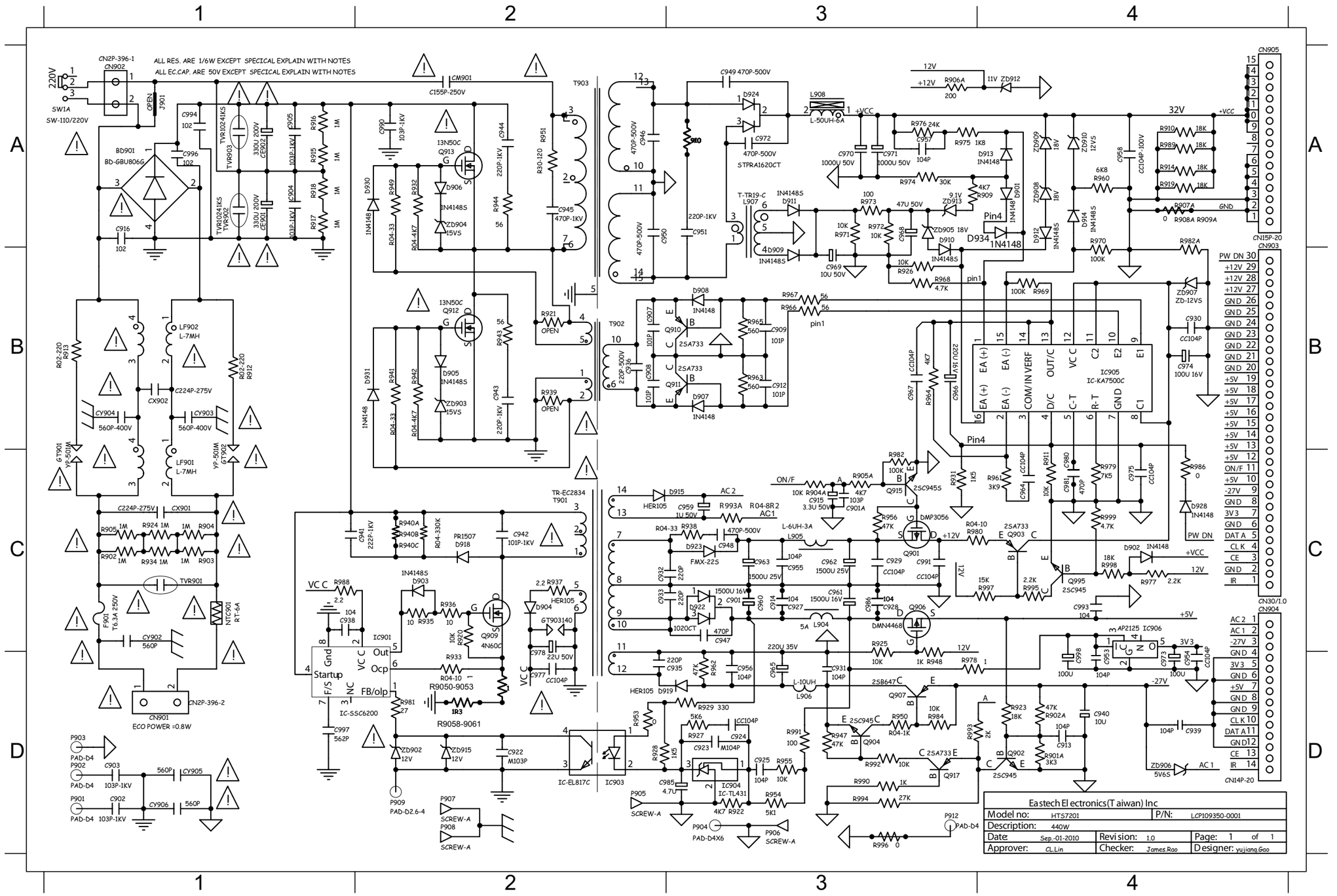
INTERNAL IC DIAGRAM - AZ7500BP



7 - 2

CIRCUIT DIAGRAM

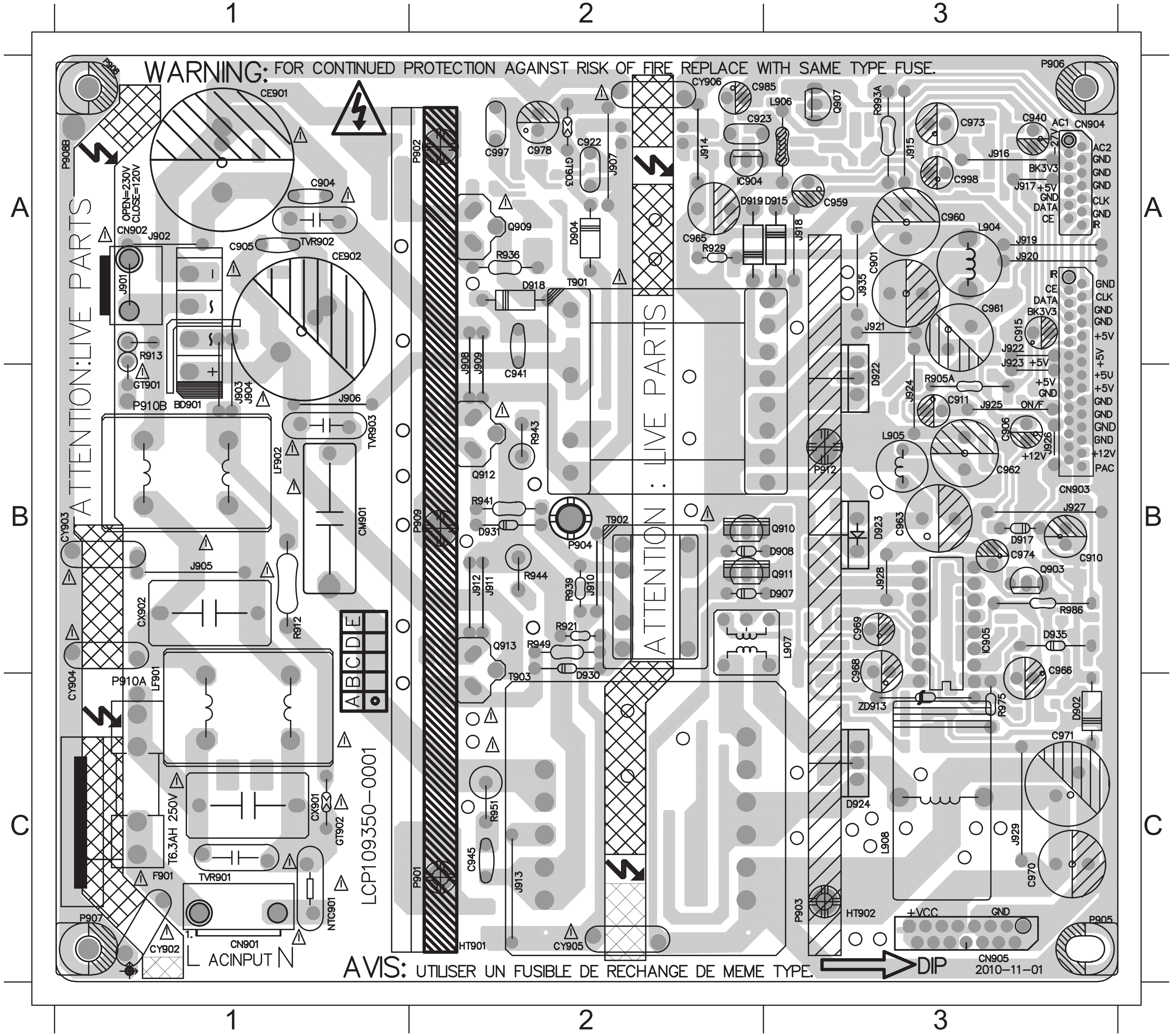
BD901 A1 C923 D3 C940 D4 C956 D3 C967 B3 C980 C3 CE902 A1 CY906 D1 D912 A4 D931 B2 L905 C3 Q906 C3 R902 C1 R9059 D2 R912 B1 R924 C1 R937 C2 R950 D3 R966 B3 R977 C3 R990 D3 T902 B2 ZD908 A4
C901 C3 C924 D3 C941 C2 C957 A3 C968 A3 C981 C3 CM901 A2 D902 C3 D913 A4 D934 A3 L906 D3 Q907 D3 R902A D4 R905A C3 R914 A4 R925 C3 R938 C3 R953 D2 R967 B3 R978 D3 R991 D3 T903 A2 ZD909 A4
C901A C3 C925 D3 C946 A2 C958 A4 C969 B3 C985 D3 CN901 D1 D903 C2 D914 A4 F901 C1 L907 A3 Q909 C2 R903 C1 R9060 D2 R915 A1 R926 B3 R939 B2 R954 D3 R968 B3 R979 C3 R992 D3 TVR901 C1 ZD910 A4
C902 D1 C927 C3 C947 C3 C959 C3 C970 A3 C986 C3 CN903 B4 D904 C2 D915 C3 GT902 B1 L908 A3 Q910 B3 R904 C1 R9061 D2 R916 A1 R927 D3 R940A C2 R955 D3 R969 B4 R980 C3 R993 D3 TVR902 A1 ZD912 A4
C903 D1 C928 C3 C948 C3 C960 C3 C971 A3 C990 A2 CN904 C3 D905 B2 D918 C2 GT903 C2 LF901 C1 Q911 B3 R904A C3 R906A A3 R917 A1 R928 D2 R940B C2 R956 C3 R970 A4 R981 D2 R993A C3 TVR903 A1 ZD913 A3
C904 A1 C929 C3 C949 A3 C961 C3 C972 A3 C991 C3 CN905 A4 D906 A2 D919 D3 IC901 C2 LF902 B1 Q912 B2 R905 C1 R907A A4 R918 A1 R929 D3 R940C C2 R960 A4 R971 A3 R982 C3 R995 C3 ZD902 D2
C905 A1 C930 B4 C950 A2 C962 C3 C973 C3 C993 C3 CX901 C1 D907 B3 D922 C3 IC903 D2 NTC901 C1 Q913 A2 R9050 D2 R908A A4 R919 A4 R932 A2 R941 B2 R961 C3 R972 A3 R982A A4 R996 D3 ZD903 B2
C913 D4 C931 D3 C951 A3 C963 C3 C974 B4 C994 A1 CX902 B1 D908 B3 D923 C3 IC904 D3 Q901 C3 Q915 C3 R9051 D2 R909 A3 R920 C2 R933 D2 R942 B2 R962 D3 R973 A3 R984 D3 R997 C3 ZD904 A2
C914 C3 C936 B2 C953 C3 C964 C3 C975 C3 C997 D1 CY903 B1 D909 B3 D924 A3 IC905 B4 Q902 D4 Q917 D3 R9052 D2 R909A A4 R921 B2 R934 C1 R947 D3 R963 B3 R974 A3 R986 C3 R998 C3 ZD905 A3
C915 C3 C938 C1 C954 C3 C965 D3 C977 D2 C998 C3 CY904 B1 D910 A3 D928 C3 IC906 C3 Q903 C3 Q995 C3 R9053 D2 R910 A4 R922 D3 R935 C2 R948 D3 R964 B3 R975 A3 R988 C1 R999 C3 ZD906 D4
C922 D2 C939 D4 C955 C3 C966 B3 C978 C2 CE901 A1 CY905 D1 D911 A3 D930 A2 L904 C3 Q904 D3 R901A D4 R9058 D2 R911 C3 R923 D4 R936 C2 R949 A2 R965 B3 R976 A3 R989 A4 T901 C2 ZD907 B4



PCB LAYOUT - TOP VIEW

BD901	B1	C911	B3	C959	A3	C966	B3	C978	A2	CM901	B1	CX902	B1	D903	A2	D918	A2	D931	B2	IC905	B3	J908	A2	J914	A2	J920	A3	J926	B3	L905	B3	NTC901	C1	Q911	B3	R929	A2	R986	B3	TVR902	A1
C901	A3	C915	A3	C960	A3	C968	B3	C985	A2	CN901	C1	CY903	B1	D904	A2	D919	A2	D935	B3	J903	B1	J909	A2	J915	A3	J921	A3	J927	B3	L906	A3	P908B	A1	Q912	B2	R936	A2	R993A	A3	TVR903	B1
C904	A1	C922	A2	C961	A3	C969	B3	C997	A2	CN903	B3	CY904	C1	D907	B3	D922	B3	F901	C1	J904	B1	J910	B2	J916	A3	J922	A3	J928	B3	L907	B3	Q903	B3	Q913	B2	R939	B2	T901	A2	ZD913	C3
C905	A1	C923	A2	C962	B3	C970	C3	C998	A3	CN904	A3	CY905	C2	D908	B3	D923	B3	GT902	C1	J905	B1	J911	B2	J917	A3	J923	A3	J929	C3	L908	C3	Q907	A3	R905A	B3	R941	B2	T902	B2		
C906	B3	C940	A3	C963	B3	C973	A3	CE901	A1	CN905	C3	CY906	A2	D915	A3	D924	C3	GT903	A2	J906	B1	J912	B2	J918	A3	J924	B3	J935	A3	LF901	B1	Q909	A2	R912	B1	R949	B2	T903	C2		
C910	B3	C941	B2	C965	A2	C974	B3	CE902	A1	CX901	C1	D902	C3	D917	B3	D930	C2	IC904	A2	J907	A2	J913	C2	J919	A3	J925	B3	L904	A3	LF902	B1	Q910	B3	R921	B2	R975	C3	TVR901	C1		

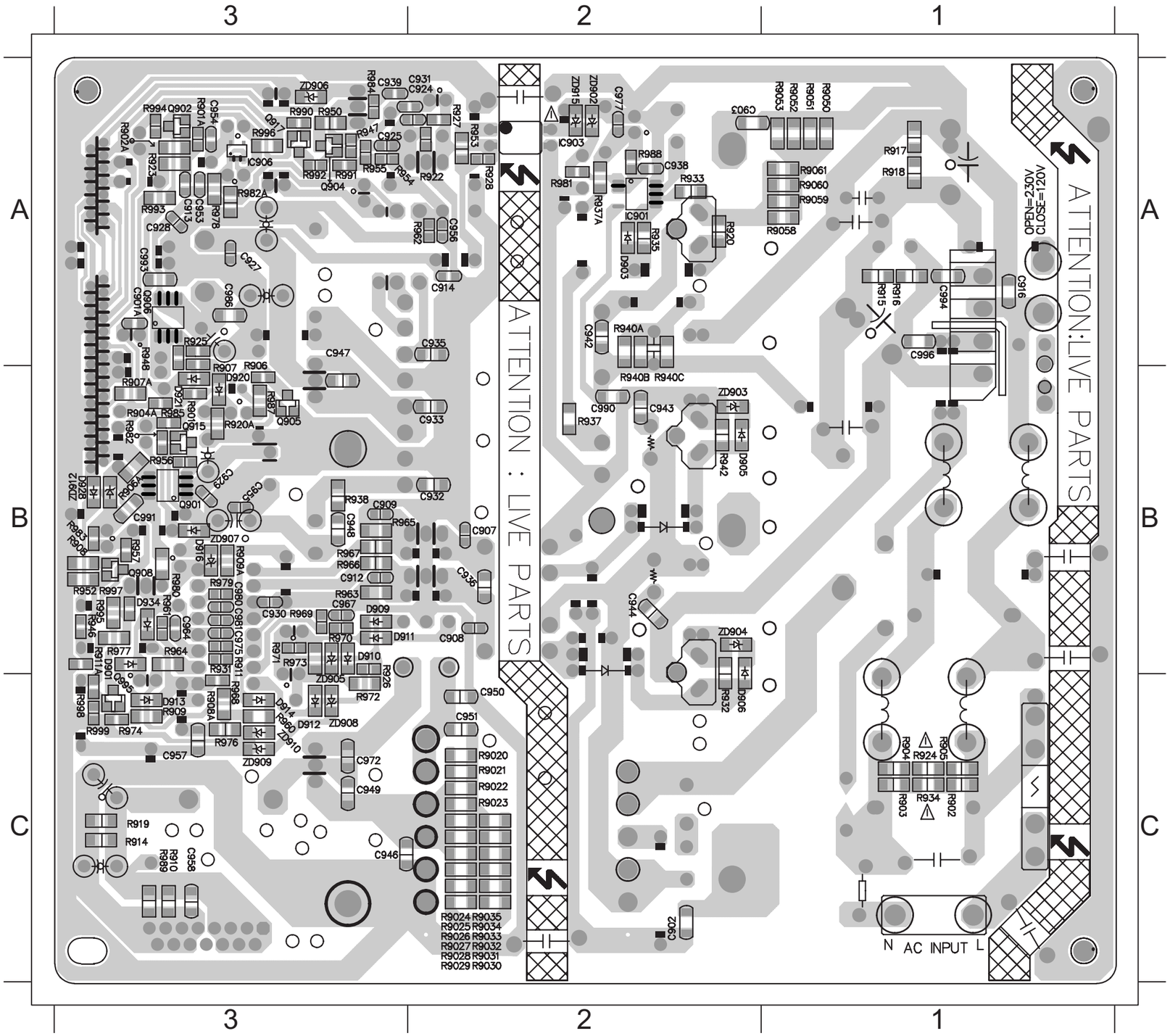
7 - 3



7 - 4

PCB LAYOUT - BOTTOM VIEW

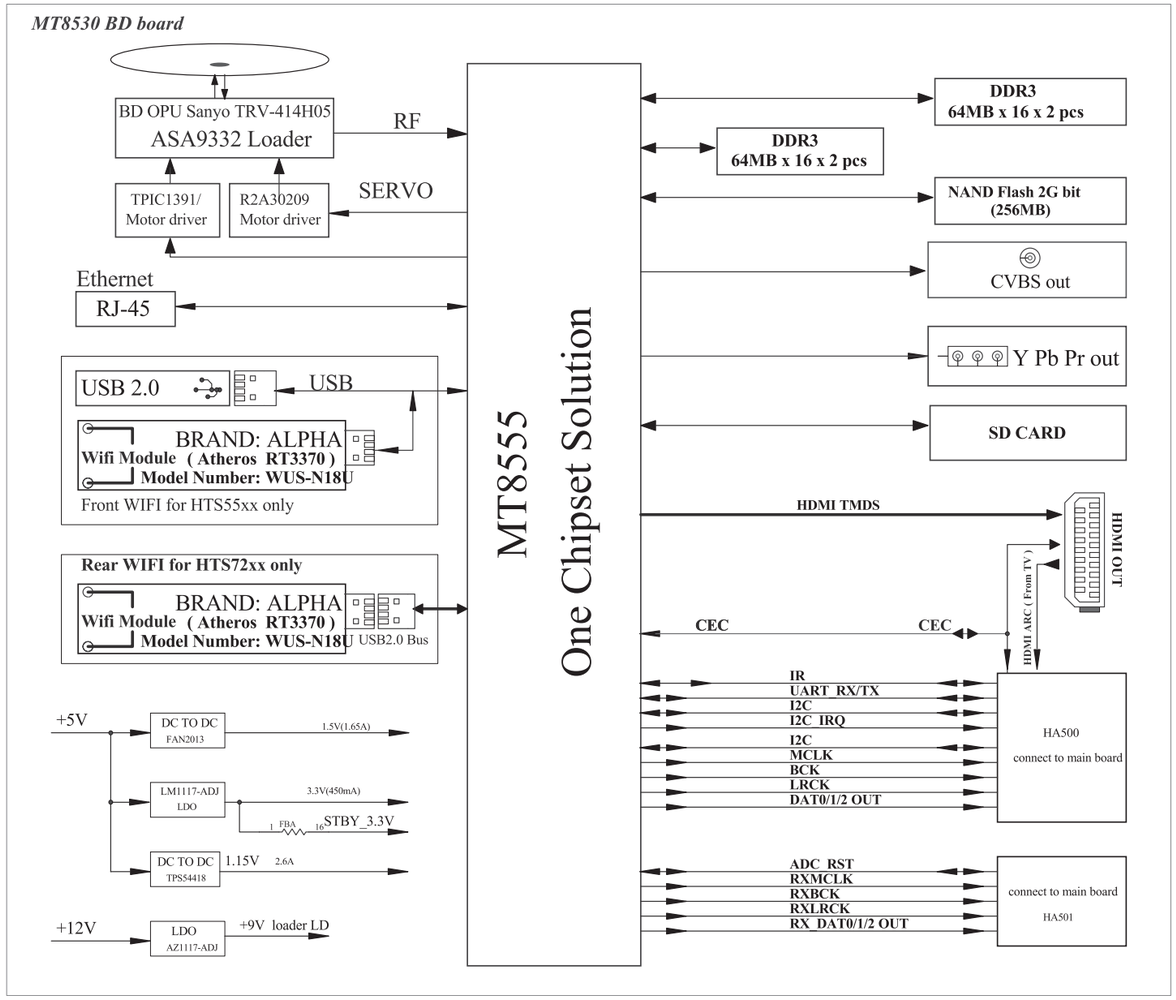
C901A	A3	C928	A3	C947	A3	C956	A2	C977	A2	D905	B2	D916	B3	Q901	B3	Q995	C3	R9024	C2	R9030	C2	R905	C1	R9060	A1	R910	C3	R919	C3	R928	A2	R940B	B2	R953	A2	R963	B3	R971	B3	R980	B3	R988	A2	R997	B3	ZD907	B3
C902	C2	C929	B3	C948	B3	C957	C3	C980	B3	D906	C2	D920	B3	Q902	A3	R901	B3	R9025	C2	R9031	C2	R9050	A1	R9061	A1	R911	B3	R920	A2	R932	C2	R940C	B2	R954	A3	R964	B3	R972	C3	R981	A2	R989	C3	R998	C3	ZD908	C3
C903	A2	C930	B3	C949	C3	C958	C3	C981	B3	D909	B3	D921	B3	Q904	A3	R901A	A3	R9026	C2	R9032	C2	R9051	A1	R906A	B3	R911A	B3	R922	A2	R933	A2	R942	B2	R955	A3	R965	B3	R973	B3	R982	B3	R990	A3	R999	C3	ZD909	C3
C913	A3	C931	A2	C950	C2	C964	B3	C986	A3	D910	B3	D928	B3	Q905	B3	R902	C1	R9027	C2	R9033	C2	R9052	A1	R907	A3	R914	C3	R923	A3	R934	C1	R946	B3	R956	A2	R966	B3	R974	C3	R982A	A3	R991	A3	ZD902	A2	ZD910	C3
C914	A2	C936	B2	C951	C2	C967	B3	C990	B2	D911	B3	D934	B3	Q906	A3	R9020	C2	R9028	C2	R9034	C2	R9053	A1	R907A	B3	R915	A1	R924	C1	R935	A2	R947	A3	R957	B3	R967	B3	R976	C3	R983	B3	R992	A3	ZD903	B2	ZD912	B3
C924	A2	C938	A2	C953	A3	C971	B3	C991	B3	D912	C3	IC901	A2	Q908	B3	R9021	C2	R9029	C2	R9035	C2	R9058	A1	R908A	C3	R916	A1	R925	A3	R937	B2	R948	A3	R960	C3	R968	C3	R977	B3	R984	A3	R993	A3	ZD904	B2		
C925	A3	C939	A3	C954	A3	C972	C3	C993	A3	D913	C3	IC903	A2	Q915	B3	R9022	C2	R902A	A3	R904	C1	R9059	A1	R909	C3	R917	A1	R926	C3	R938	B3	R950	A3	R961	B3	R969	B3	R978	A3	R985	B3	R995	B3	ZD905	C3		
C927	A3	C946	C3	C955	B3	C975	B3	C994	A1	D914	C3	IC906	A3	Q917	A3	R9023	C2	R903	C1	R904A	B3	R906	A3	R909A	B3	R918	A1	R927	A2	R940A	A2	R952	B3	R962	A2	R970	B3	R979	B3	R987	B3	R996	A3	ZD906	A3		



BD BOARD

TABLE OF CONTENTS

BLOCK DIAGRAM



8 - 2

Voltages for per connection pin

1. HA500--->>from BD board connect to main board

PIN NO	PIN Assign	Remarks
1	GND	
2	IPOD_TXD	
3	IPOD_RXD	
4	IPOD_DET_SW	
5	IR	
6	GND	
7	I2C_IRQ	
8	GND	
9	CEC	
10	AMUTE	
11	GND	
12	SCL	
13	SDA	
14	GND	
15	MCLK	
16	GND	
17	LRCK	
18	GND	
19	BCK	
20	GND	
21	DATA0	
22	DATA1	
23	DATA2	
24	GND	
25	HDMI_ARC	
26	GND	
27	IPOD_DET	N/A

5. CN502--->>from BD board connect to main board

PIN NO	PIN Assign	Remarks
1	IPOD_CVBS IN	
2	GND	

2. CN202--->>from BD board connect to USB connect PCB

PIN NO	PIN Assign	Remarks
1	USB+5V	4.75V-5.25V
2	USB+5V	
3	USBM	High speed difference
4	USBP	
5	GND	

3. CN203--->>from BD board connect to internal WIFI connect PCB

PIN NO	PIN Assign	Remarks
1	USB+5V	4.75V-5.25V
2	USBM	High speed difference
2	USBP	
4	GND	

4. CN4--->>from BD board connect to main board

PIN NO	PIN Assign	Remarks
1	GND	
2	GND	
3	GND	
4	GND	
5	GND	
6	5V	4.75V-5.35V
7	5V	
8	5V	
9	5V	
10	5V	
11	12V	10.8V-13.2V
12	12V	

6. J800--->>from BD board connect to BD loader(SERVO use)

PIN NO	PIN Assign	Remarks
1	FOC2+	2.66V 2.4V 2.68v
2	FOC2-	2.49V 2.8V 2.52v
3	TR-	2.58V 2.59V 2.55v
4	FOC1+	2.66V 2.59V 2.7v
5	TR+	2.59V 2.62V 2.58v
6	FOC1-	2.48V 2.66V 2.52v
7	A-	0.49V 0.26V 0.48v
8	B-	0.49V 0.35V 0.4v
9	A+	0.72V 0.26V 0.42v
10	B+	0.72V 0.35V 0.4v
11	GND	GND
12	SIG_PO	n/a
13	GND	GND
14	B	2.22V 2.05V 2.36V
15	A	2.22V 2.05V 2.44V
16	D	2.26V 2.05V 2.45V
17	C	2.23V 2.06V 2.31V
18	G	2.09V 1.9V 2.37V
19	H	2.09V 1.9V 2.30V
20	F	2.09V 1.88V 2.43V
21	E	2.09V 1.9V 2.24V
22	LDO_SDIO	2.35V 2.15V 0V
23	RFO+	3.11V 2.82V 2.72V
24	RFO-	2.11V 1.92V 2.54V
25	LDO_CLK	3.25V 3.04V 0V
26	LDO_SEN	3.25V 3.02V 3.3V
27	HAVC	2.09V 1.8V 2.1V
28	VCC_PDIC	4.95V
29	GND	GND
30	GAIN_SW	3.25V 0V 1.65V
31	GND	GND
32	BD_LD	0V 0V 4.54V
33	CD_LD	1.74V 0V 0V
34	DVD_LD	0V 1.96V 0V
35	GND	GND
36	AUX1	1.55V 1.23V 1.48V
37	VCC_HFM	4.92V
38	MDI_DVD	0.15V 0V 0.15V
39	MDI_BD	0V 0V 0.08V
40	DVD_VR	0.15V 0V 0.15V
41	CD_VR	0V 0V 0V
42	DVD_HFM	0V 0V 0V
43	CD_HFM	0V 0V 0V
44	GND	GND
45	GND	GND
CD DVD BD		CD DVD BD

7. J900 --->>from BD board connect to BD loader(SERVO use)

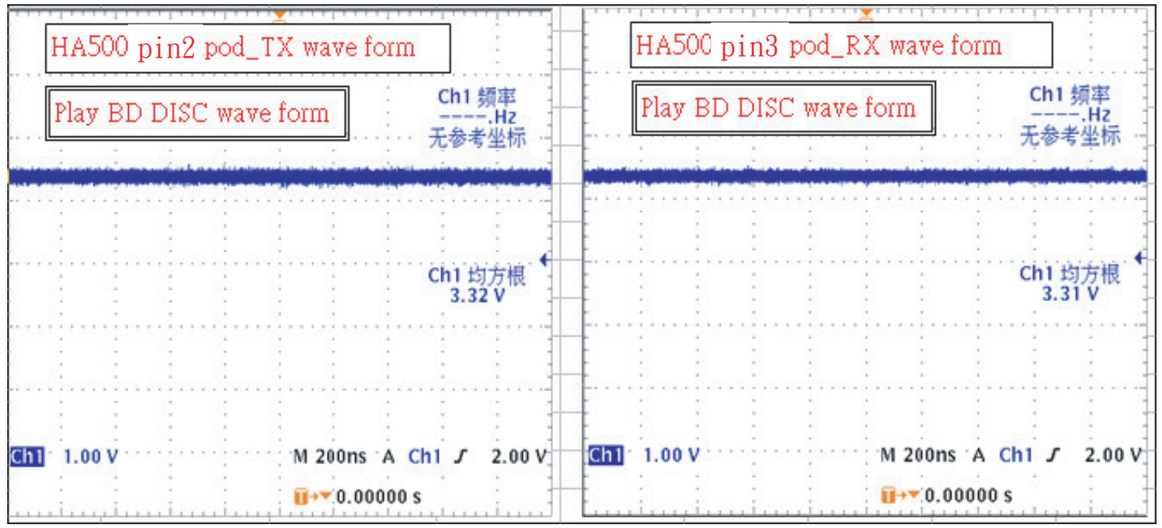
PIN NO	PIN Assign	Remarks
1	A+	0-11.6V
2	A-	0-11.6V
3	B-	0-1.6V
4	B+	0-1.6V
5	U	4.52V
6	V	4.52V
7	W	4.52V
8	COMMON	4.52V

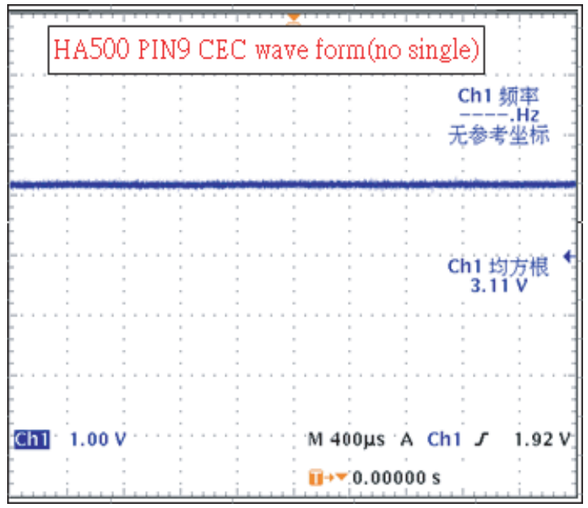
8. J905 --->>from BD board connect to BD loader(SERVO use)

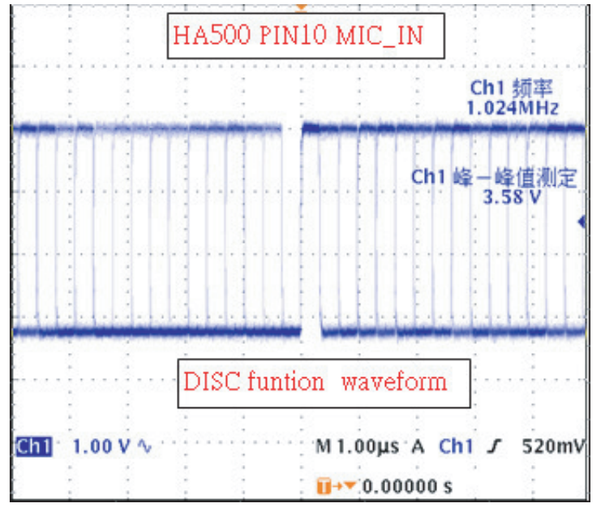
PIN NO	PIN Assign	Remarks
1	LOAD-	0.65V
2	LOAD+	0.65V
3	GND	GND
4	TYAY_IN	0V-->>open/close 3.3V
5	TYAY_OUT	N/A

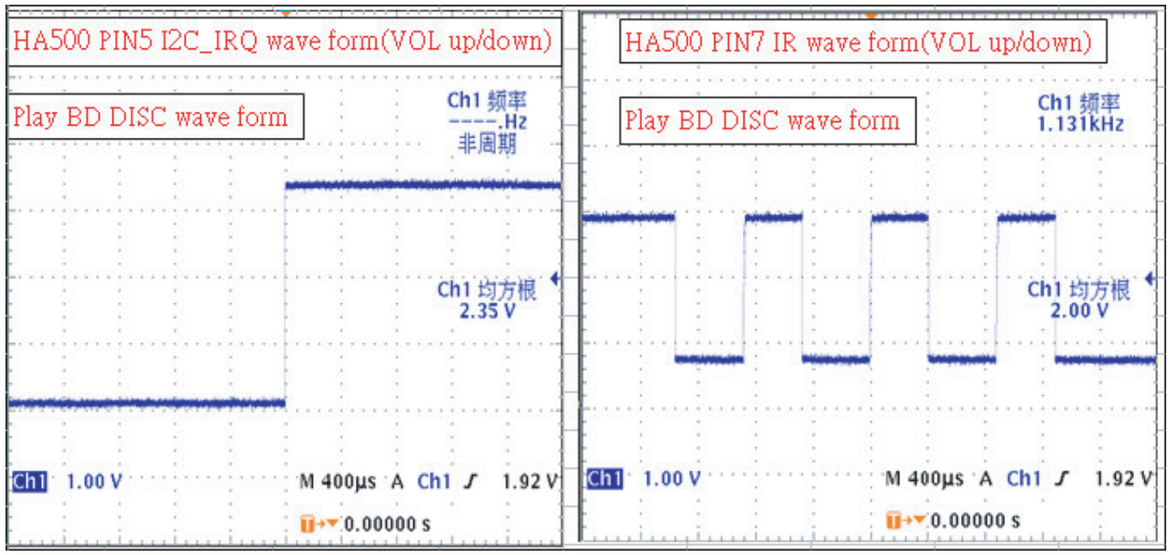
8 - 3

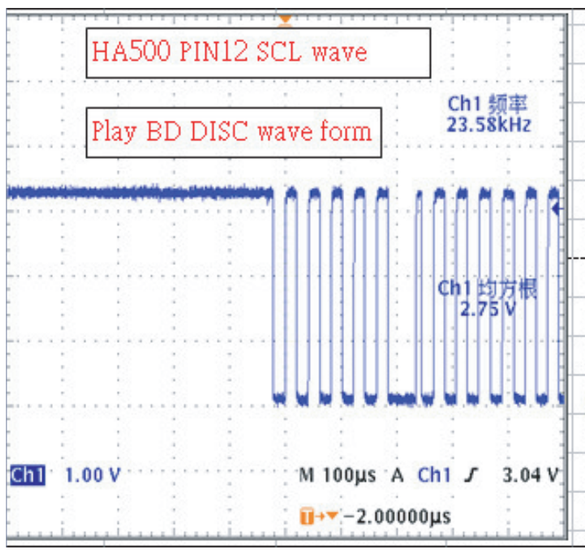
Waveforms for measure point

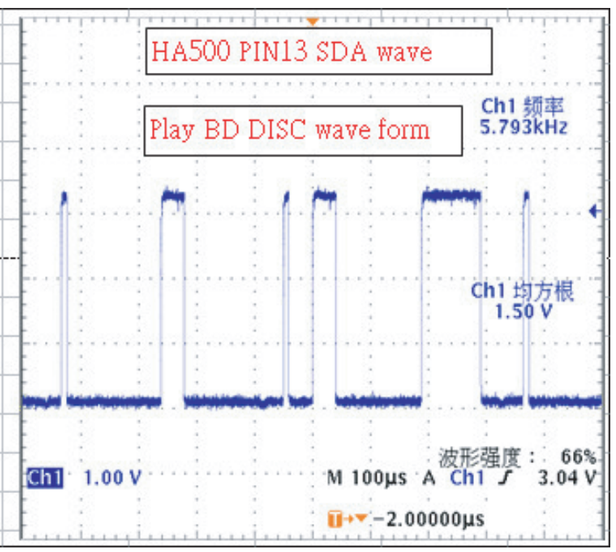


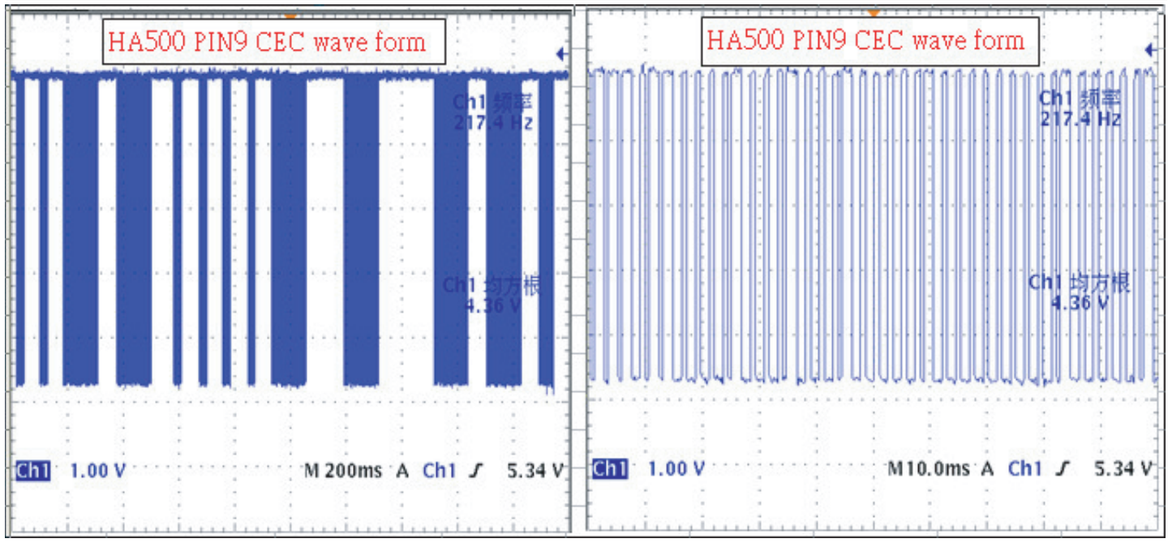


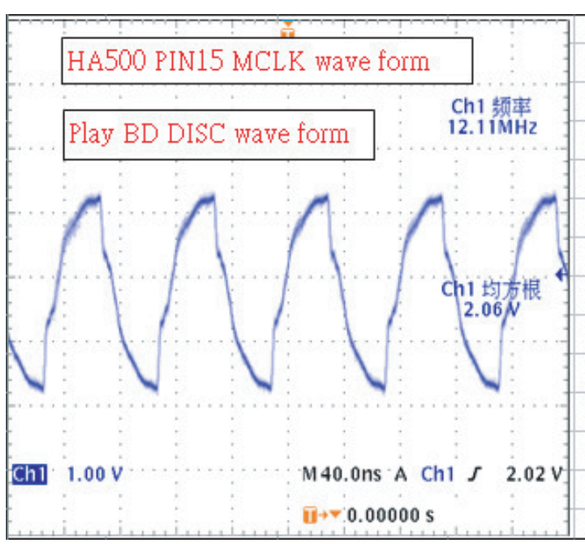


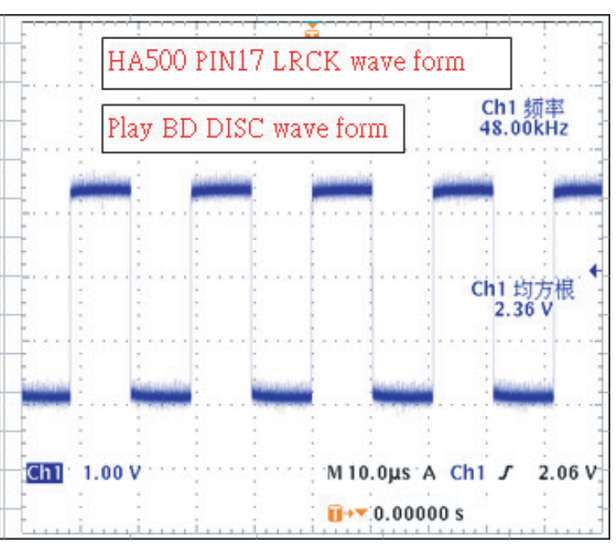






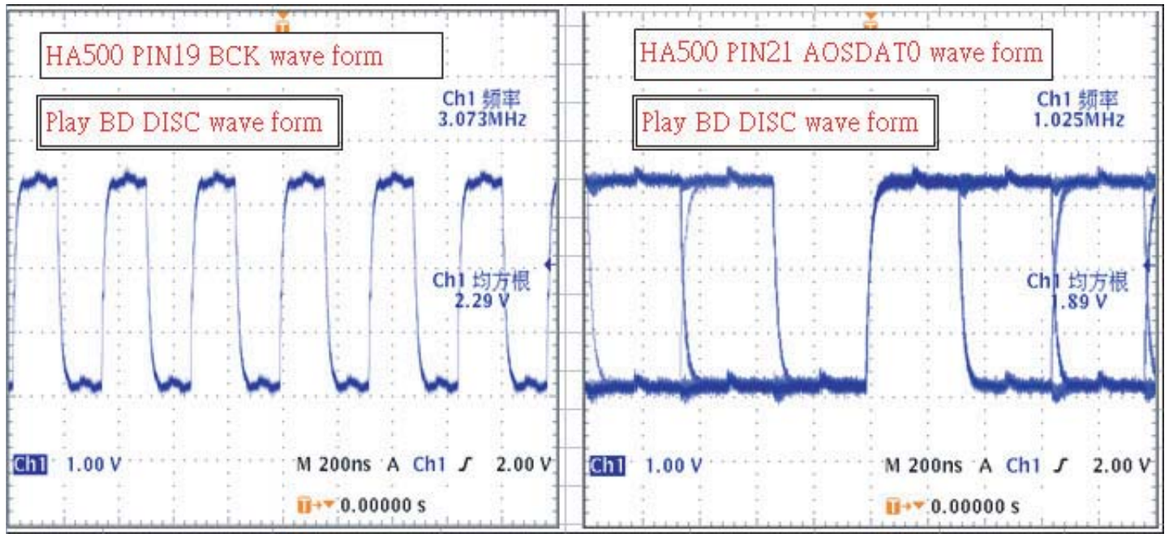


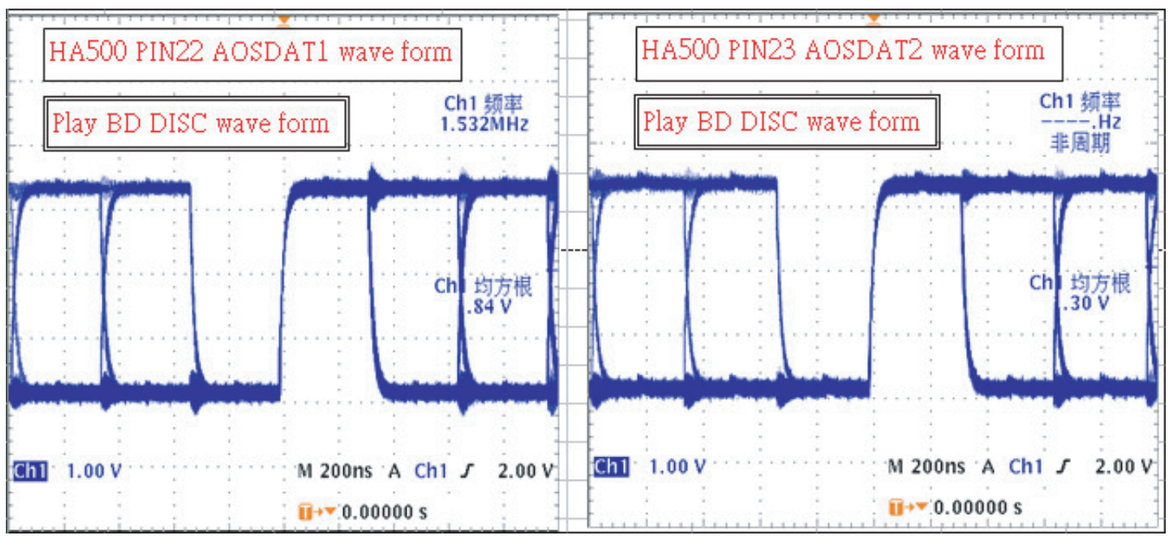


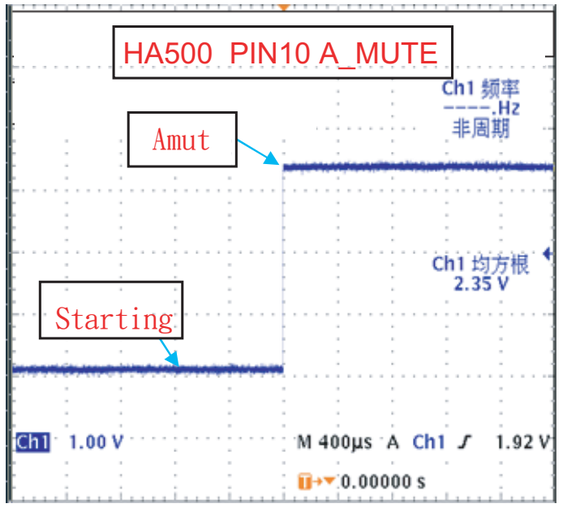


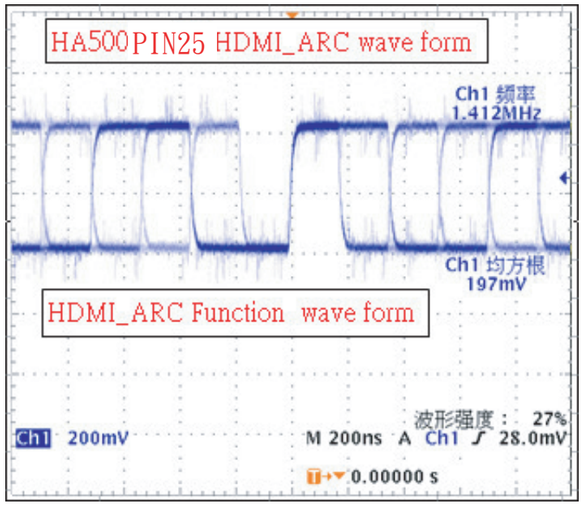
8 - 4

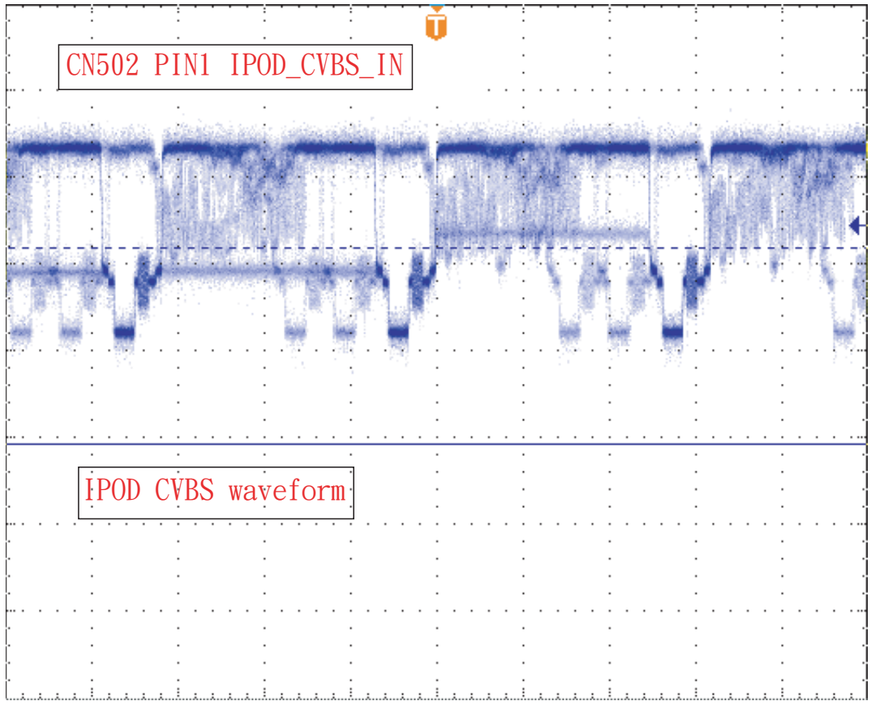
Waveforms for measure point

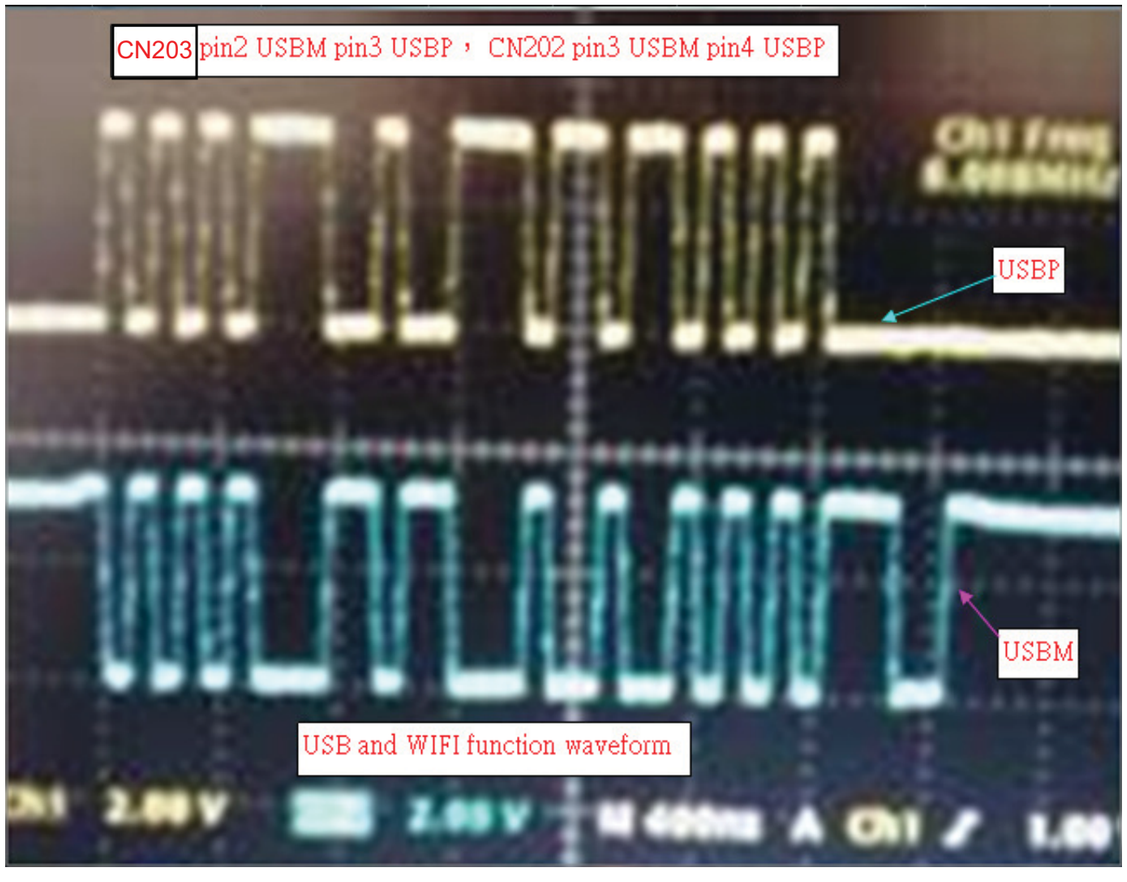












9 - 1

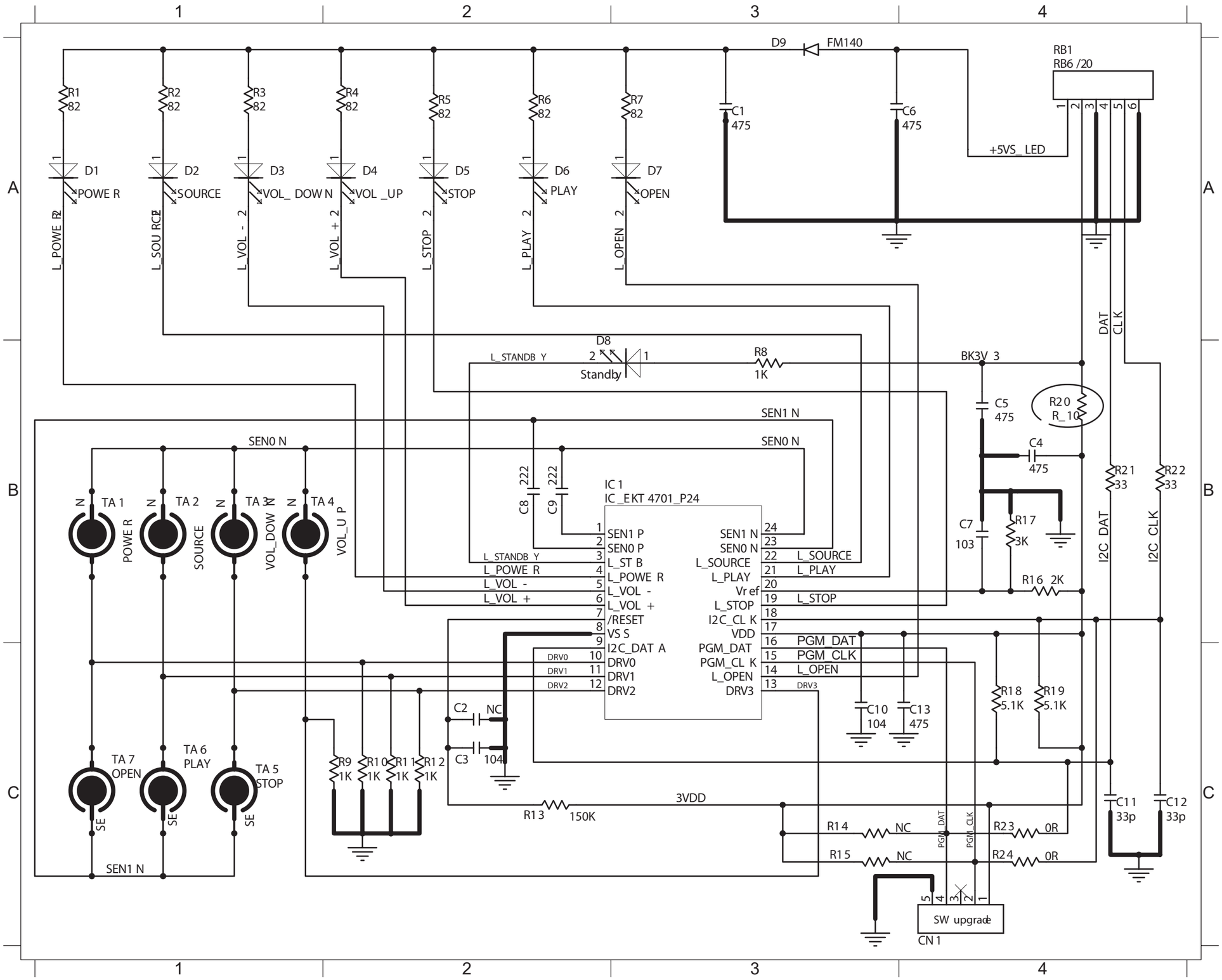
TOUCH BOARD

TABLE OF CONTENTS

9 - 2

CIRCUIT DIAGRAM

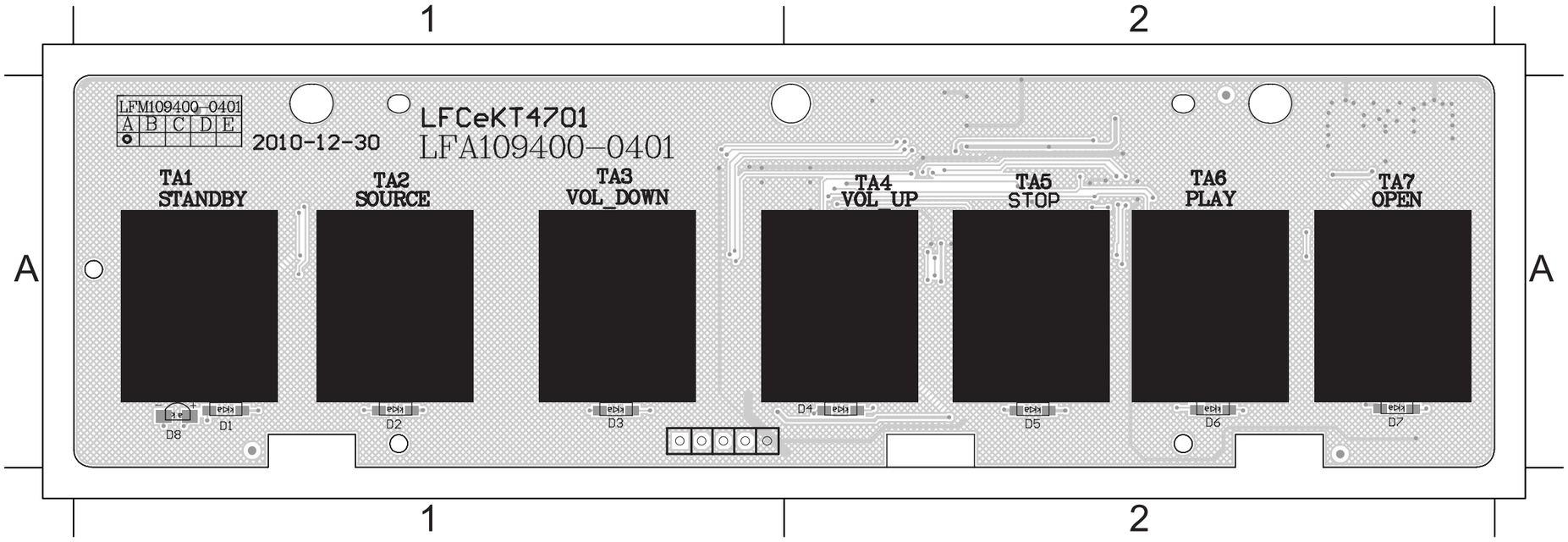
C1 A3 C11 C4 C13 C4 C4 B4 C6 A4 C8 B2 D1 A1 D3 A1 D5 A2 D7 A3 D9 A3 R1 A1 R11 C2 R13 C2 R17 B4 R19 C4 R20 B4 R22 B4 R24 C4 R4 A2 R6 A2 R8 B3 RB1 A4
C10 C3 C12 C4 C3 C2 C5 B4 C7 B4 C9 B2 D2 A1 D4 A2 D6 A2 D8 A2 IC1 B3 R10 C2 R12 C2 R16 B4 R18 C4 R2 A1 R21 B4 R23 C4 R3 A1 R5 A2 R7 A3 R9 C2



9 - 3

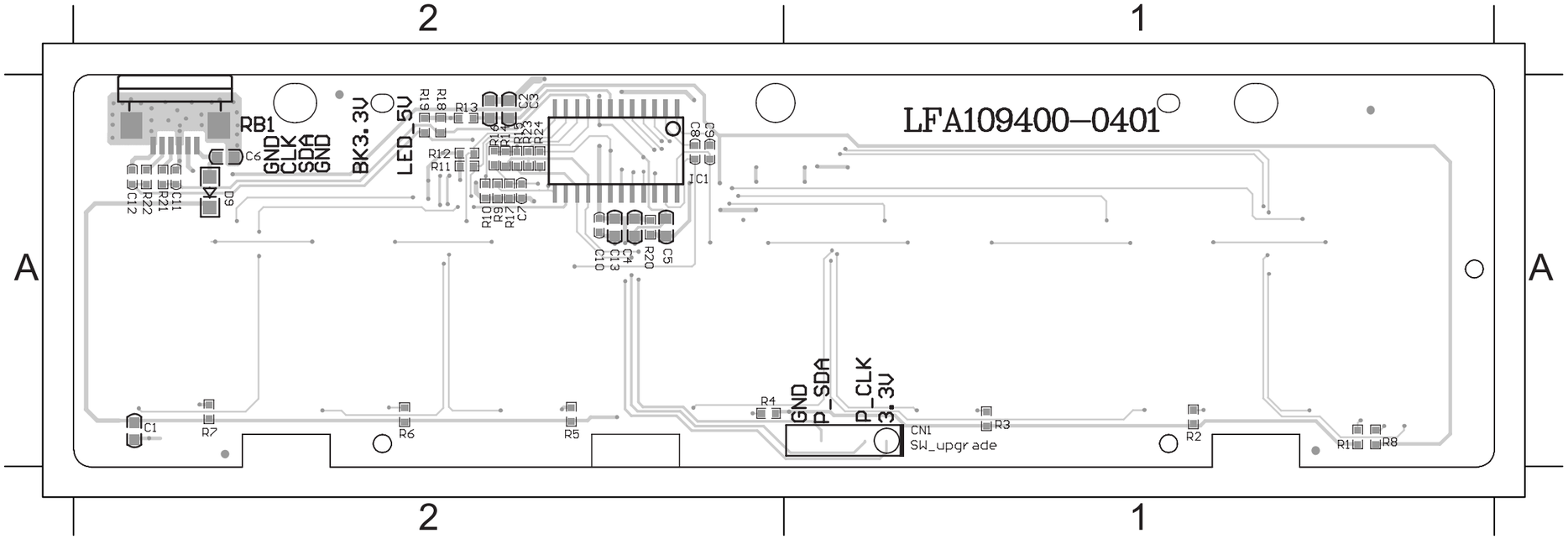
PCB LAYOUT - TOP VIEW

D1 A1 D2 A1 D3 A1 D4 A2 D5 A2 D6 A2 D7 A2 D8 A1



PCB LAYOUT - BOTTOM VIEW

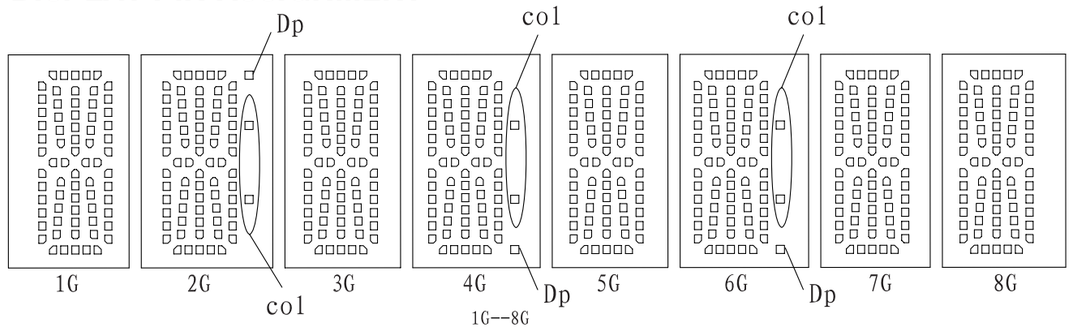
C10 A2 C12 A2 C3 A2 C5 A2 C7 A2 C9 A2 IC1 A2 R10 A2 R12 A2 R16 A2 R18 A2 R2 A1 R21 A2 R23 A2 R3 A1 R5 A2 R7 A2 R9 A2



VFD BOARD

TABLE OF CONTENTS

FTD DISPLAY PIN ASSIGNMENT



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

PIN CONNECTION

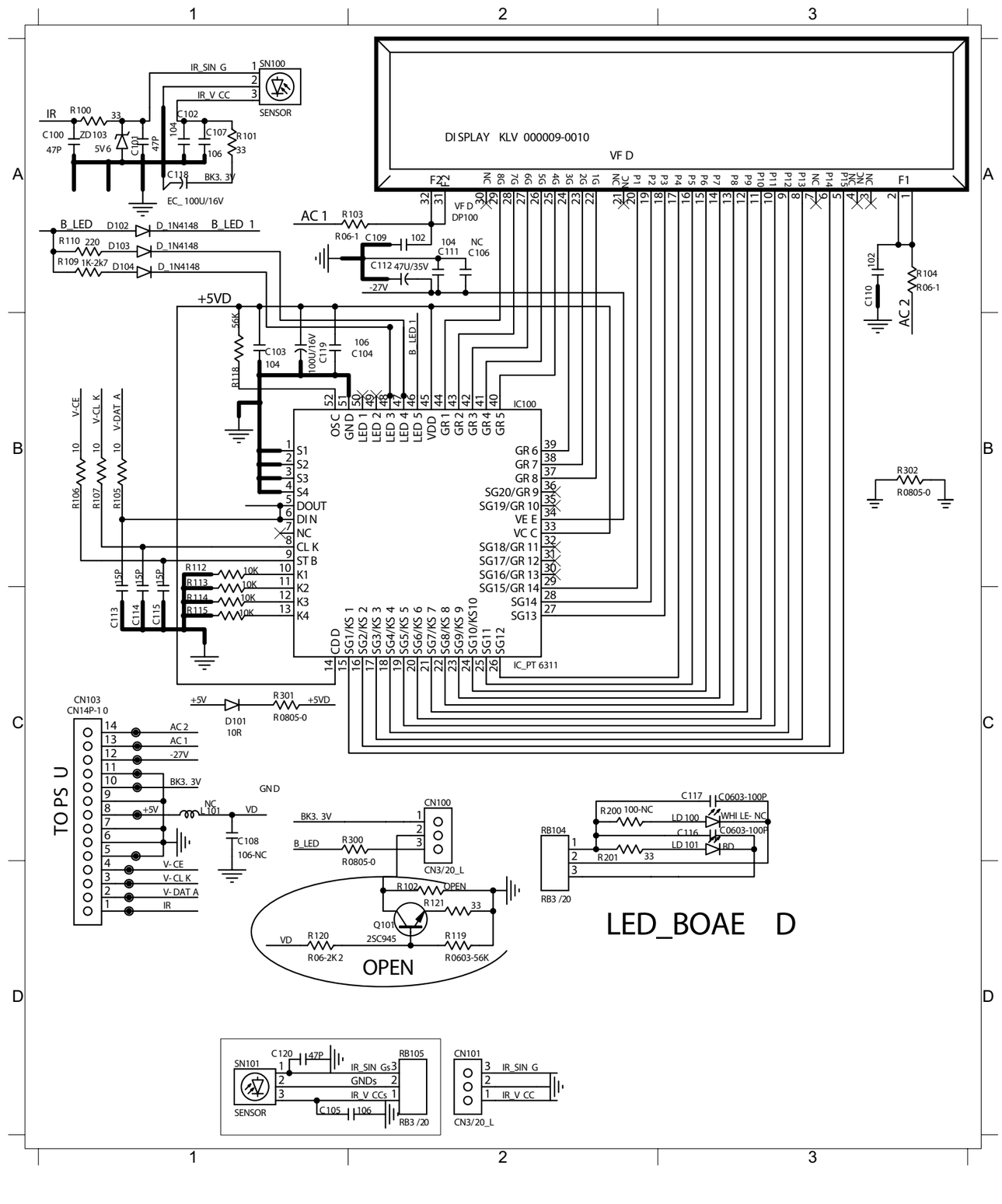
(Pin NO.)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
(Connection)	F1	F1	NP	NC	P15	P14	NC	P13	P12	P11	P10	P9	P8	P7	P6	P5
(Pin NO.)	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
(Connection)	P4	P3	P2	P1	NC	1G	2G	3G	4G	5G	6G	7G	8G	NP	F2	F2

(Notes) : Fn : (Filament Pin) nG : (Grid Pin)
Pn : (Anode Pin) NP : (No Pin)
NC : (No connection Pin)

10 - 2

CIRCUIT DIAGRAM

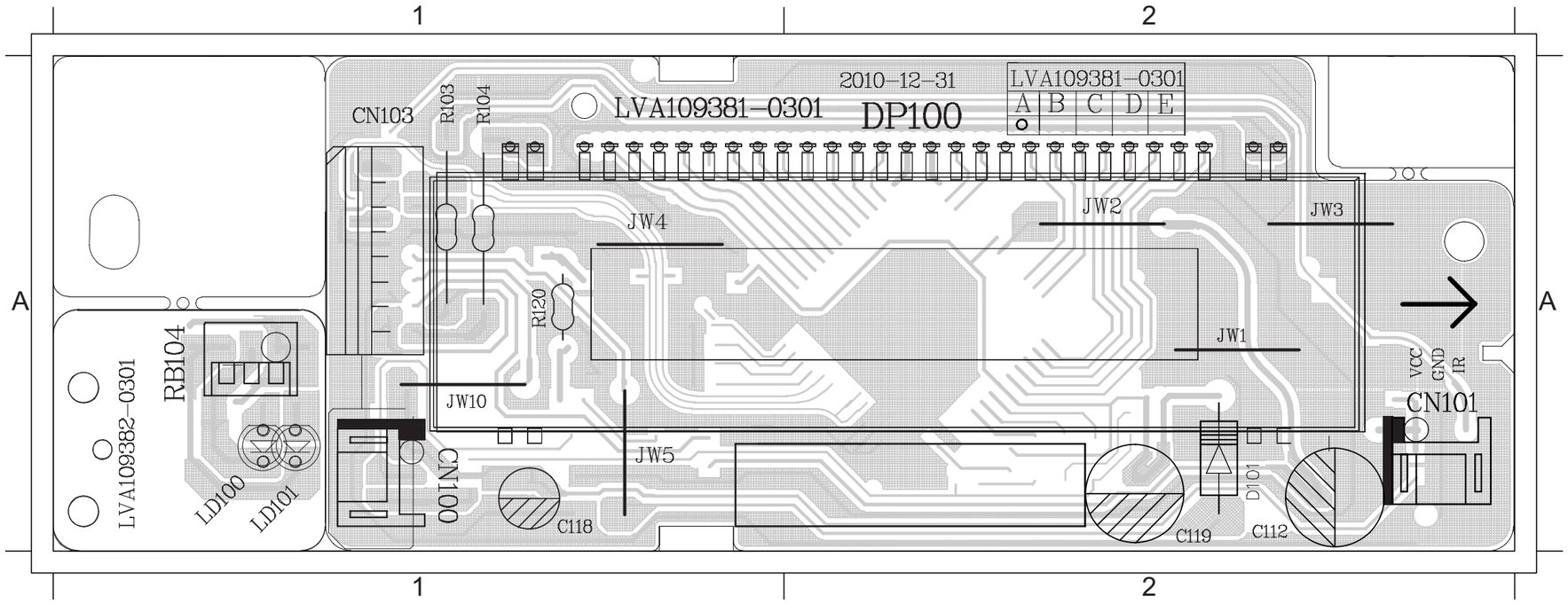
C100 A1 C103 B1 C107 A1 C110 A3 C112 A2 C114 C1 C118 A1 CN100C2 CN103C1 D102 A1 D104 A1 IC100 B2 R100 A1 R103 A1 R105 B1 R107 B1 R110 A1 R113 B1 R115 C1 R201 C2 R301 C1 RB104C2
C102 A1 C104 B2 C109 A2 C111 A2 C113 C1 C115 C1 C119 B1 CN101D2 D101 C1 D103 A1 DP100A2 LD101C3 R101 A1 R104 A3 R106 B1 R109 A1 R112 B1 R114 C1 R118 B1 R300 C1 R302 B3 ZD103A1



10 - 3

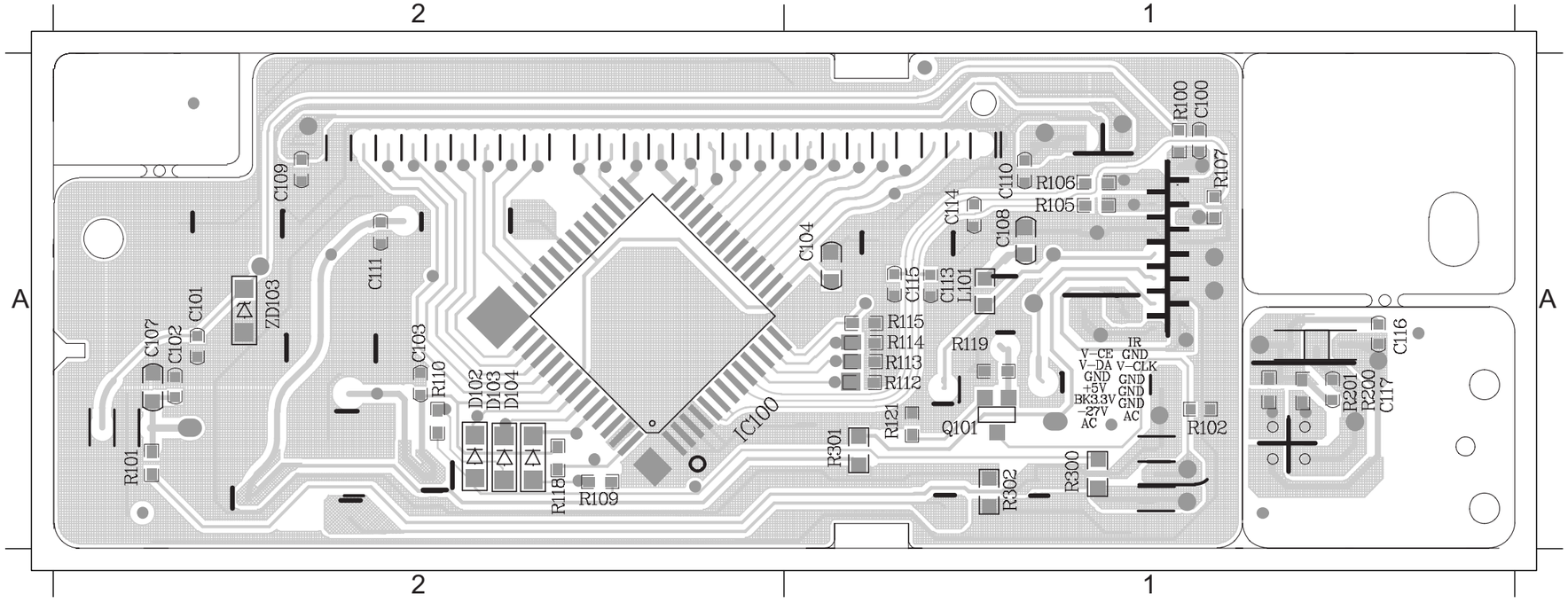
PCB LAYOUT - TOP VIEW

C118 A1 C112 A2 C119 A2 CN100A1 CN101A2 CN103A1 D101 A2 DP100A2 JW1 A2 JW10 A1 JW2 A2 JW3 A2 JW4 A1 JW5 A1 LD101 A1 R103 A1 R104 A1 RB104A1



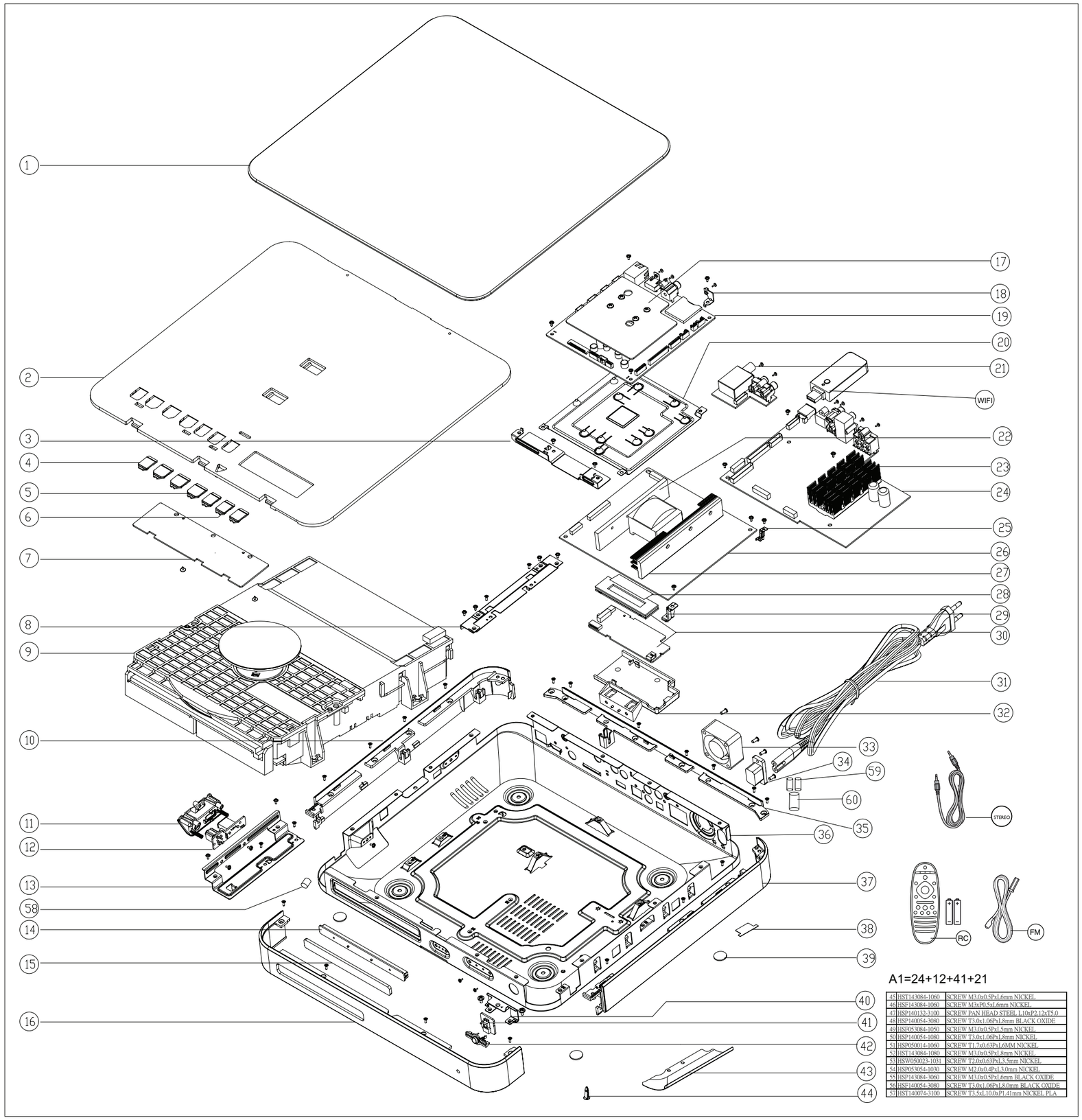
PCB LAYOUT - BOTTOM VIEW

C100 A1 C103 A2 C107 A2 C110 A1 C113 A1 C115 A1 D103 A2 IC100 A2 R101 A2 R106 A1 R109 A2 R112 A1 R114 A1 R118 A2 R300 A1 R302 A1
C102 A2 C104 A1 C109 A2 C111 A2 C114 A1 D102 A2 D104 A2 R100 A1 R105 A1 R107 A1 R110 A2 R113 A1 R115 A1 R201 A1 R301 A1 ZD103 A2



11 - 1

Mechanical Exploded View



A1=24+12+41+21

45	HST143084-1060	SCREW M3.0x0.5PxL6mm NICKEL
46	HSP143084-1060	SCREW M3xP0.5xL6mm NICKEL
47	HSP140132-3100	SCREW PAN HEAD STEEL L10xP2.12xT5.0
48	HSP140054-3080	SCREW T3.0x1.06PxL8mm BLACK OXIDE
49	HSP053084-1050	SCREW M3.0x0.5PxL5mm NICKEL
50	HSP140054-1080	SCREW T3.0x1.06PxL8mm NICKEL
51	HSP050014-1060	SCREW T1.7x0.63PxL6MM NICKEL
52	HST143084-1080	SCREW M3.0x0.5PxL8mm NICKEL
53	HSW050023-1031	SCREW T2.0x0.63PxL3.5mm NICKEL
54	HSP053054-1030	SCREW M2.0x0.4PxL3.0mm NICKEL
55	HSP143084-3060	SCREW M3.0x0.5PxL6mm BLACK OXIDE
56	HSP140054-3080	SCREW T3.0x1.06PxL8.0mm BLACK OXIDE
57	HST140074-3100	SCREW T3.5xL10.0xP1.41mm NICKEL PLA

REVISION LIST

Version 1.0
*Initial release

Level	Item No.	Alternative	12NC	Description	Safety	PCM Code	HTS7201 /12
Main Unit Parts							
01	2		996510042563	TOP COVER HIPS 94V0		BPC100093-2001	√
01	4		996510027463	LENS-KEY-STANDBY PMMA		BPN120356-0001	√
01	5		996510027465	LENS KEY BIG PMMA		BPN110356-0001	√
01	6		996510027447	LENS KEY PMMA		BPN100356-0001	√
01	7		996510042552	TOUCH PCB ASSY		ABE109400-0001	√
01	9		996510042004	LOADER ASS'Y ASA:L9332C+DUSTPROOF	$	ABN110017-0001	√
01	10		996510042559	MIDDLE HOUSING LEFT ABS		BPO110049-0001	√
01	15		996510042553	DVD DOOR AL T=3MM		GAL100336-0004	√
01	19		996510042716	BD PCB ASSY NO IPOD HTS7201/12		ABE109070-0035	√
01	26		996510042574	POWER PCB ASSY	$	ABE109350-0001	√
01	30		996510042562	VFD PCB ASSY		ABE109380-0001	√
01	31		996510037822	PWR CORD 2P 1500 VDE	$	VPE003202-0010	√
01	32		996510027454	VFD COVER HIPS 94V0		BPV100065-1001	√
01	33		996510012461	FAN DC	$	FAN121213-0001	√
01	34		996510021367	AC SOCKET 2P 2.5A 250V	$	CJP011003-0030	√
01	35		996510042557	MIDDLE HOUSING BACK ABS		BPO120049-0001	√
01	37		996510042561	MIDDLE HOUSING RIGHT ABS		BPO100049-0001	√
01	38		996510042566	PVC SHEET SMALL T=0.4MM	$	BFP111037-0001	√
01	39		996510027366	RUBBER FOOT		BRF100089-0002	√
01	43		996510042581	PVC SHEET POWER PCB 94V0 T=0.5MM	$	BFP111036-0001	√
01	58		996510042568	EMI SPONGE AL L10XW10XH10MM		IVE170001-0004	√
01	59		996510026033	SHRINK TUBE DIA=5mm L20mm	$	DTB005000-0202	√
01	60		996510035648	SHRINK TUBE D20XL25MM BLK	$	DTB020000-0250	√
01	A1		996510042715	MAIN+MP3+IR+TUNE AUX IN PCB ASSY		ABE109360-0003	√
01	V1		996510042575	FFC CABLE 14P 60MM UL20798 P=1.0MM		VFC140320-0600	√
01	V2		996510041987	FFC CABLE 16P 50MM UL20798 P=1.0MM		VFC160320-050R	√
01	V3		996510037216	FFC CABLE 30P 50MM		VFC300820-050R	√
01	V4		996510041978	FFC CABLE 12P 50MM UL20798 P=1.25MM		VFC120330-050R	√
01	V5		996510042579	FFC CABLE 30P 250MM UL20798 P=1.0MM		VFC300320-250R	√
01	V6		996510042576	FFC CABLE 15P 60MM UL20798 P=1.25MM		VFC150330-0600	√
01	V7		996510042572	FFC CABLE 6P 280MM UL20798 P=1.0MM		VFC060320-2800	√
01	V8		996510032838	FFC CABLE 8P 170MM P=1.0MM		VFC080320-1700	√
01	V9		996510036995	C/W 2P 220MM 1617#22		VWA310018-0001	√
Accessories Parts							
01	FM		996510008251	FM ANT WIRE		VTA400003-0060	√
01	RC		996510041984	REMOTE CONTROL 37KEYS		WIR137005-9502	√
Speakers Assembly Parts							
002	FLSPK		996510042584	SPEAKER BOX-FRONT-L		ANM507201-CK01	√
002	FRSPK		996510042583	SPEAKER BOX-FRONT-R		ANM507201-CK02	√
002	SPKS		--	SPEAKER BOX-SUBWOOFER		ANW507201-CK01	√
002	SRF		--	RUBBER FOOT L80xW5.0xT3.0mm		DUF003121-0002	√
MAIN+MP3+IR+TUNE AUX IN PCB ASSY							
002	C5087		996510012861	CHIP CAP 0.1uF 100V 10%		PZL4564A0-1040	√
002	C5089		996510012861	CHIP CAP 0.1uF 100V 10%		PZL4564A0-1040	√
002	C5091		996510012861	CHIP CAP 0.1uF 100V 10%		PZL4564A0-1040	√
002	C5093		996510012861	CHIP CAP 0.1uF 100V 10%		PZL4564A0-1040	√
002	C5105A		996510012861	CHIP CAP 0.1uF 100V 10%		PZL4564A0-1040	√
002	C5107A		996510012861	CHIP CAP 0.1uF 100V 10%		PZL4564A0-1040	√
002	CN1007		996510041994	CONNECTOR 15 PIN P:1.25X2.5MM		CCH125030-0215	√
002	CN1008		996510041998	CONNECT 2X6P P=1.25MM 180' NICKEL		CCN125090-0212	√
002	CN104		996510041959	FFC HOUSING 2X3P P=1.0MM 180' NICKEL		CCH100250-0206	√
002	CN5002		996500015862	CONNECTOR B2B-XH-A 2 PIN		CCN250000-0102	√
002	D1001		996510010358	DIODE 1N4007		RAD114007-1010	√
002	D1002		996510032834	DIODE MBR0530T1 SOD-123ONSEMI		RCD100530-0010	√
002	D1004		996510010358	DIODE 1N4007		RAD114007-1010	√
002	D1005		996510010354	DIODE 1N4148W 100V SOD-123 CJ		RCD114148-0012	√
002	D1006		996510010354	DIODE 1N4148W 100V SOD-123 CJ		RCD114148-0012	√
002	D201		996510010354	DIODE 1N4148W 100V SOD-123 CJ		RCD114148-0012	√
002	D202		996510010354	DIODE 1N4148W 100V SOD-123 CJ		RCD114148-0012	√
002	D203		996510010354	DIODE 1N4148W 100V SOD-123 CJ		RCD114148-0012	√

Level	Item No.	Alternative	12NC	Description	Safety	PCM Code	HTS7201 /12
002	D5005		996510010354	DIODE 1N4148W 100V SOD-123 CJ		RCD114148-0012	√
002	D5007		996510010354	DIODE 1N4148W 100V SOD-123 CJ		RCD114148-0012	√
002	D5008		996510010354	DIODE 1N4148W 100V SOD-123 CJ		RCD114148-0012	√
002	D5015		996510010354	DIODE 1N4148W 100V SOD-123 CJ		RCD114148-0012	√
002	D5019		996510010354	DIODE 1N4148W 100V SOD-123 CJ		RCD114148-0012	√
002	FB5002		996500012470	BEAD FERITE 100 OHM/ AT 100MHZ		SFB001001-0030	√
002	FB5003		996500012470	BEAD FERITE 100 OHM/ AT 100MHZ		SFB001001-0030	√
002	FB804		996500012470	BEAD FERITE 100 OHM/ AT 100MHZ		SFB001001-0030	√
002	IC101		996510042717	IC 100P STM32F100VCT6 LQFP ST		AIC321006-C466	√
002	IC103		996510027409	IC 8P FM24C16B-SO-T SOP		RCI024016-0002	√
002	IC2901	Yes	996510027042	IC 3P LD1117AL-33-AA3 3.3V		RCI111733-0005	√
002	IC2901	Yes	996510040099	GS IC 3P AZ1117H-3.3TRG1		RCI111733-0002	√
002	IC2902	Yes	996500027090	IC 3P AP1117E18LA 1.8V SOT2		RCI111718-1102	√
002	IC2902	Yes	996510027889	IC 3P LD1117AL-18-AA3		RCI111718-0005	√
002	IC304		996510027434	IC 48P CS5346-CQZR		RCI005346-0001	√
002	IC305		996510027429	IC 32P CS8422-CNZR		RCI008422-0001	√
002	IC307		996510034346	IC 8P JRC4558 SOP ART		RCI004558-0004	√
002	IC5001		996510021229	IC 44P TAS5342ADDV		RCI005342-0002	√
002	IC5004		996510021229	IC 44P TAS5342ADDV		RCI005342-0002	√
002	IC5006		996510041977	IC 64P TAS5508CPAG TQFP TI		RCI005508-0002	√
002	IC501		996510012505	IC 48P CS48540-CQZ LQFP CIRRUS		RCI048540-0001	√
002	JK101		996510039644	RCA JACK 2P RED-WHITE W/GND		CJR002302-0030	√
002	JK102		996510004632	RCA JACK 2P WHT-RED STAND		CJR002601-0010	√
002	JK11		996510004129	KARAOKE JACK D3.6MM 7P		CJM035016-1010	√
002	JK303		996510042567	RCA COAXIAL+OPTICAL ASSY		ASW100010-0008	√
003	JK303A		996510027367	FIBER OPTICAL RECEIVER		CJT200001-0015	√
003	JK303B		996510042564	RCA JACK 1P BLACK W/O OPTICAL W/GND		CJR001601-0010	√
002	JK304		994000005447	DIN JACK 8P		CJD008202-1010	√
002	JK5001		996510042571	SPK JACK 3P 25.4X18.1X12.5 RED-WHT-PUR		CJS003202-0010	√
002	L5007		996510042555	CHOKE COIL 10UH 10A 15% D13.5XH24XP7.5		SIL006025-1000	√
002	L5008		996510042555	CHOKE COIL 10UH 10A 15% D13.5XH24XP7.5		SIL006025-1000	√
002	L5012A		996510042555	CHOKE COIL 10UH 10A 15% D13.5XH24XP7.5		SIL006025-1000	√
002	L5015		996510042555	CHOKE COIL 10UH 10A 15% D13.5XH24XP7.5		SIL006025-1000	√
002	L5016		996510042555	CHOKE COIL 10UH 10A 15% D13.5XH24XP7.5		SIL006025-1000	√
002	L5020A		996510042555	CHOKE COIL 10UH 10A 15% D13.5XH24XP7.5		SIL006025-1000	√
002	Q1005	Yes	994000000915	XISTR NPN 2SC1623		RCN201623-1001	√
002	Q1005	Yes	996510027037	XISTR NPN 2SC5343SG		RCN205343-0001	√
002	Q1007		996500028742	XISTR NPN 2SD882P PB<1000PPM		RHN200882-1001	√
002	Q101		996510000578	XISTR NPN KTC3875-Y		RCN003875-1101	√
002	Q105	Yes	994000000915	XISTR NPN 2SC1623		RCN201623-1001	√
002	Q105	Yes	996510027037	XISTR NPN 2SC5343SG		RCN205343-0001	√
002	Q106	Yes	996510027037	XISTR NPN 2SC5343SG		RCN205343-0001	√
002	Q106	Yes	994000000915	XISTR NPN 2SC1623		RCN201623-1001	√
002	Q107		996510004299	XISTR NPN 2SC2001L NEC		RAN202001-1001	√
002	Q108	Yes	994000000915	XISTR NPN 2SC1623		RCN201623-1001	√
002	Q108	Yes	996510027037	XISTR NPN 2SC5343SG		RCN205343-0001	√
002	Q307		996510012482	DIODE CHIP BAS70-04 SOT-23 CJ		RCD170004-0020	√
002	Q308		996510012482	DIODE CHIP BAS70-04 SOT-23 CJ		RCD170004-0020	√
002	Q5001		994000000921	XISTR PNP 2SA812 HFE:200-400		RCP200733-1001	√
002	Q5002	Yes	994000000915	XISTR NPN 2SC1623		RCN201623-1001	√
002	Q5002	Yes	996510027037	XISTR NPN 2SC5343SG		RCN205343-0001	√
002	Q5008		996510000578	XISTR NPN KTC3875-Y		RCN003875-1101	√
002	Q5009	Yes	996510027037	XISTR NPN 2SC5343SG		RCN205343-0001	√
002	Q5009	Yes	994000000915	XISTR NPN 2SC1623		RCN201623-1001	√
002	SN101		994000005472	IRT RECEIVER IRM-2638AF4		RHO263804-2102	√
002	TU101		996510042565	TUNER KWANG SUNG:KST-MW104FH1-S78E		WTP000004-0002	√
002	USB11		996510013742	USB JACK 4P		CJU040010-0004	√
002	USB300		996510016889	USB JACK 4P TYPE A FLAT 90 DIP		CJU040008-0002	√
002	XL101		996510032836	CRYSTAL 8MHZ 30PPM 18PF HCM49		JCQ013001-8050	√
002	XL5001		996510000565	CRYST 13.5 MHZ 20PPM 20PF		JCQ012000-1361	√
002	XL501		996510028537	CRYSTAL 24.576MHz		JCQ011002-2462	√
002	ZD801		996500026940	DIODE ZENR 11.9-12.4V 0.5W		RAZ005012-1010	√
002	ZD802		996500027137	DIODE ZENR 17.5-18.3V 0.5W PB<		RAZ005018-1020	√

POWER PCB ASSY

Level	Item No.	Alternative	12NC	Description	Safety	PCM Code	HTS7201/12
002	BD901		996510040569	BRIDGE KBU8K 8A 800V	$	RHD208080-0040	√
002	C902		996510032497	CAP 1000PF 1000V 10%		PZL4564Q4-1030	√
002	C903		996510032497	CAP 1000PF 1000V 10%		PZL4564Q4-1030	√
002	C904		996500018042	COND DISC 0.01UF 1KV 20%		PRD2355Q0-1030	√
002	C905		996500018042	COND DISC 0.01UF 1KV 20%		PRD2355Q0-1030	√
002	C922		996500032755	COND MYLAR 0.01 UF 100V 5%		PRM0373A0-1030	√
002	C923		996510004633	COND MYLAR 0.1 uF 100V 5%		PRM0373A0-1040	√
002	C936		996510028531	CHIP CAP 220pF 500V		PZL4564M0-2210	√
002	C941		996510030865	COND METAL 0.0022UF 630V 10%		PVN0994P0-2220	√
002	C946		996510012513	CHIP CAP 470pF 500V 10%		PZL4564M0-4710	√
002	C947		996510012513	CHIP CAP 470pF 500V 10%		PZL4564M0-4710	√
002	C948		996510012513	CHIP CAP 470pF 500V 10%		PZL4564M0-4710	√
002	C949		996510012513	CHIP CAP 470pF 500V 10%		PZL4564M0-4710	√
002	C950		996510012513	CHIP CAP 470pF 500V 10%		PZL4564M0-4710	√
002	C951		996510028531	CHIP CAP 220pF 500V		PZL4564M0-2210	√
002	C955		996510031435	CHIP CAP 0.1UF 100V		PYL4564A0-1040	√
002	C956		996510031435	CHIP CAP 0.1UF 100V		PYL4564A0-1040	√
002	C957		996510012861	CHIP CAP 0.1uF 100V 10%		PZL4564A0-1040	√
002	C958		996510012861	CHIP CAP 0.1uF 100V 10%		PZL4564A0-1040	√
002	C972		996510012513	CHIP CAP 470pF 500V 10%		PZL4564M0-4710	√
002	C990		996510032497	CAP 1000PF 1000V 10%		PZL4564Q4-1030	√
002	C994		996510008284	CHIP CAP 1000pF 1000V 10%		PZL4564Q0-1020	√
002	C997		996510022033	COND MYLAR 0.0056uF 100V 5%		PRM0373A0-5620	√
002	CE901		996500027123	CAP.E 330UF 200V 20% 105C D18	$	PVE4995E2-3310	√
002	CE902		996500027123	CAP.E 330UF 200V 20% 105C D18	$	PVE4995E2-3310	√
002	CM901		996500027124	COND METAL 1.5UF 250V DC /-10	$	PVN7264F0-1552	√
002	CN901		996500015936	CONNECTOR 4PIN P=3.96MM	$	CCN396021-0104	√
002	CN905		996510041994	CONNECTOR 15 PIN P:1.25X2.5MM		CCH125030-0215	√
002	CX901		996510029694	COND SAFETY 0.22uF 275V	$	PVX2024G0-2240	√
002	CX902		996510029694	COND SAFETY 0.22uF 275V	$	PVX2024G0-2240	√
002	CY903		994000005344	CAP. SAFET. 560PF 400V 10%	$	PVY1704K0-5610	√
002	CY904		994000005344	CAP. SAFET. 560PF 400V 10%	$	PVY1704K0-5610	√
002	CY905		994000005344	CAP. SAFET. 560PF 400V 10%	$	PVY1704K0-5610	√
002	CY906		994000005344	CAP. SAFET. 560PF 400V 10%	$	PVY1704K0-5610	√
002	D902		996500026949	DIODE SW 1N4148 PB<1000PPM		RAD114148-1010	√
002	D903		996510010354	DIODE 1N4148W 100V SOD-123 CJ		RCD114148-0012	√
002	D904		996510012516	DIODEHER105 DO-411A400V50nSFMS		RAD100105-0010	√
002	D905		996510010354	DIODE 1N4148W 100V SOD-123 CJ		RCD114148-0012	√
002	D906		996510010354	DIODE 1N4148W 100V SOD-123 CJ		RCD114148-0012	√
002	D907		996500026949	DIODE SW 1N4148 PB<1000PPM		RAD114148-1010	√
002	D908		996500026949	DIODE SW 1N4148 PB<1000PPM		RAD114148-1010	√
002	D909		996510010354	DIODE 1N4148W 100V SOD-123 CJ		RCD114148-0012	√
002	D910		996510010354	DIODE 1N4148W 100V SOD-123 CJ		RCD114148-0012	√
002	D911		996510010354	DIODE 1N4148W 100V SOD-123 CJ		RCD114148-0012	√
002	D912		996510010354	DIODE 1N4148W 100V SOD-123 CJ		RCD114148-0012	√
002	D913		996510010354	DIODE 1N4148W 100V SOD-123 CJ		RCD114148-0012	√
002	D914		996510010354	DIODE 1N4148W 100V SOD-123 CJ		RCD114148-0012	√
002	D915		996510012516	DIODEHER105 DO-411A400V50nSFMS		RAD100105-0010	√
002	D916		996510010354	DIODE 1N4148W 100V SOD-123 CJ		RCD114148-0012	√
002	D917		996500026949	DIODE SW 1N4148 PB<1000PPM		RAD114148-1010	√
002	D918		994000000938	DIODE PR1507 1.5A 1000V		RAD101507-1010	√
002	D919		996510012516	DIODEHER105 DO-411A400V50nSFMS		RAD100105-0010	√
002	D920		996510010354	DIODE 1N4148W 100V SOD-123 CJ		RCD114148-0012	√
002	D921		996510010354	DIODE 1N4148W 100V SOD-123 CJ		RCD114148-0012	√
002	D922	Yes	996510031715	DIODE FMEN-210A TO-220F		RHD100210-0010	√
002	D922	Yes	996510042053	DIODE FMEN-210A(SP) TO-220F SANKEN		RHD100210-0020	√
002	D923	Yes	996510032852	GS(S) DIODE FMX-G22S TO-220F		RHD100220-0010	√
002	D923	Yes	996510042051	DIODE FMX-G22S(SP) TO-220F 10A SANKEN		RHD100220-0030	√
002	D924		996510031711	SS DIODE FMX-22SL TO-220F 200V		RHD100220-0020	√
002	D928		996510010354	DIODE 1N4148W 100V SOD-123 CJ		RCD114148-0012	√
002	D930		996500026949	DIODE SW 1N4148 PB<1000PPM		RAD114148-1010	√
002	D931		996500026949	DIODE SW 1N4148 PB<1000PPM		RAD114148-1010	√
002	D934		996510010354	DIODE 1N4148W 100V SOD-123 CJ		RCD114148-0012	√
002	D935		996500026949	DIODE SW 1N4148 PB<1000PPM		RAD114148-1010	√
002	F901		996500038663	FUSE CERAMIC 6.3A 250V	$	KHA020630-0080	√

Level	Item No.	Alternative	12NC	Description	Safety	PCM Code	HTS7201 /12
002	GT902		996500029309	ABSORBER BL YP-501M 500V 500A L	$	RAU000501-1001	√
002	GT903		996500029310	ABSORBER BL YP-141N 140V 500A L	$	RAU000141-1001	√
002	IC901		996510032491	IC 8P SSC620S SOP TAPE REEL		RCI006200-0004	√
002	IC903		996510031429	CHIP OPTICAL SENSOR4P SOP		RCO000817-3001	√
002	IC904	Yes	996500029312	IC 3 PIN TL431 TO-92 CHANG JIAN		RHI004310-1101	√
002	IC904	Yes	994000000952	IC 3P TL431		RHI004310-1001	√
002	IC905		996510008293	IC 16P AZ7500BP-E1		RHI007500-0003	√
002	IC906		996510032504	IC 5P AP2125K-33TRG1 3.3V		RCI212533-0001	√
002	L904		996500027104	INDUCTOR 6UH /-15% D=1.0MM PB		SIL166001-0010	√
002	L905		996500016694	6UH 13.5TS 2UEW		SIL106002-6090	√
002	L906		996500015871	INDUCTOR 10 UH 10%		SAN001600-1000	√
002	L907		996500027102	TOROID COIL S1=1TS D0.65MMX2 P		SIL162002-0020	√
002	L908		996510012474	COMMON COIL75uH10%1KHz/0.25VD1		SIL117005-7500	√
002	LF901	Yes	996510013776	LINE FILTER ET-24	$	JFT001011-0010	√
002	LF901	Yes	996510021225	LINE FILTER ET-24 7mH 2VEW	$	JFT001011-0030	√
002	LF902	Yes	996510013776	LINE FILTER ET-24	$	JFT001011-0010	√
002	LF902	Yes	996510021225	LINE FILTER ET-24 7mH 2VEW	$	JFT001011-0030	√
002	NTC901		996510008294	NTC THERMISTOR	$	RNT006001-5090	√
002	Q901		996510040995	MOSFET DMP3035LSS-13 SO-8 DIODES		RCM003035-2001	√
002	Q902		994000000915	XISTR NPN 2SC1623		RCN201623-1001	√
002	Q903		996510010367	XISTR PNP 2SA733Q P TO-92		RAP200733-0003	√
002	Q904		994000000915	XISTR NPN 2SC1623		RCN201623-1001	√
002	Q905		994000000915	XISTR NPN 2SC1623		RCN201623-1001	√
002	Q906		996510040994	MOSFET DMN4468LSS-13 SOP-8L DIODES		RCM004468-1001	√
002	Q907		996510010356	XISTR PNP 2SB647 TO-92MOD		RAP200647-0001	√
002	Q908		994000000915	XISTR NPN 2SC1623		RCN201623-1001	√
002	Q909		996510027384	MOSFET SMK0460F		RHM000460-1001	√
002	Q910	Yes	996510041956	XISTR PNP B772 TO-126 CJ		RHP000772-0001	√
002	Q910	Yes	996500026946	XISTR PNP 2SB772P/Q NEC PB<1000		RHP200772-1001	√
002	Q911	Yes	996500026946	XISTR PNP 2SB772P/Q NEC PB<1000		RHP200772-1001	√
002	Q911	Yes	996510041956	XISTR PNP B772 TO-126 CJ		RHP000772-0001	√
002	Q912		996510027379	MOSFET SMK1350F	$	RHM001350-1001	√
002	Q913		996510027379	MOSFET SMK1350F	$	RHM001350-1001	√
002	Q915		994000000915	XISTR NPN 2SC1623		RCN201623-1001	√
002	Q917		994000000921	XISTR PNP 2SA812 HFE:200-400		RCP200733-1001	√
002	Q995		994000000915	XISTR NPN 2SC1623		RCN201623-1001	√
002	R921		996500029310	ABSORBER BL YP-141N 140V 500A L		RAU000141-1001	√
002	R939		996500029310	ABSORBER BL YP-141N 140V 500A L		RAU000141-1001	√
002	T901	Yes	996510042554	SW TRANS ER28 6+8P 60W 100KHZ	$	TSA000012-0148	√
002	T901	Yes	996510042558	SW TRANS ER28 6+8P 60W 100KHZ	$	TSA000012-0144	√
002	T902	Yes	994000001057	SW. MODEL TRANSFORMER	$	TSA100006-Z014	√
002	T902	Yes	996510021088	TRASFO EEL19 5+5P 100KHz 20W	$	TSA100006-0018	√
002	T903	Yes	996510027392	SW TRANS EC-39 8+8P 300W	$	TSB100006-0018	√
002	T903	Yes	996510021575	SW. TRASFO FERRITE	$	TSB100006-0014	√
002	TVR901		996510011373	METAL OXIDE VARISTOR 50A560V	$	RPT050001-0040	√
002	TVR902		996510021072	SURGE ABSORBER :VCR-10D241KSP	$	RHU010241-1002	√
002	TVR903		996510021072	SURGE ABSORBER :VCR-10D241KSP	$	RHU010241-1002	√
002	ZD902	Yes	996510031129	ZENER 11.4-12.7V 0.5W SOD-123	$	RCZ005012-0030	√
002	ZD902	Yes	996510019996	ZENER 11.4-12.6V 0.5W	$	RCZ005012-0040	√
002	ZD903		996510031127	ZENER 15V 0.5W SOD-123 (H5)		RCZ005015-0010	√
002	ZD904		996510031127	ZENER 15V 0.5W SOD-123 (H5)		RCZ005015-0010	√
002	ZD905		996510031433	CHIP ZENER 18V 5% 0.5W (J3)		RCZ005018-0010	√
002	ZD906		996500019397	CHIP ZENER 5.6V 5% 0.5W		RCZ005006-0011	√
002	ZD907	Yes	996510031129	ZENER 11.4-12.7V 0.5W SOD-123		RCZ005012-0030	√
002	ZD907	Yes	996510019996	ZENER 11.4-12.6V 0.5W		RCZ005012-0040	√
002	ZD908		996510031433	CHIP ZENER 18V 5% 0.5W (J3)		RCZ005018-0010	√
002	ZD909		996510031433	CHIP ZENER 18V 5% 0.5W (J3)		RCZ005018-0010	√
002	ZD910	Yes	996510019996	ZENER 11.4-12.6V 0.5W		RCZ005012-0040	√
002	ZD910	Yes	996510031129	ZENER 11.4-12.7V 0.5W SOD-123		RCZ005012-0030	√
002	ZD912		996510031732	ZENER 11V 5% 0.5W		RCZ005011-0020	√
002	ZD913		996500028741	DIODE ZENR 9.1-9.5V 0.5W PB<1000		RAZ005009-1020	√
002	ZD915	Yes	996510031129	PS CHIP ZENER 11.4-12.7V 0.5W SOD-123		RCZ005012-0030	√
002	ZD915	Yes	996510019996	CHIP ZENER 11.4-12.6V 0.5W SOD-123		RCZ005012-0040	√

VFD PCB ASSY

Level	Item No.	Alternative	12NC	Description	Safety	PCM Code	HTS7201 /12
002	DP100		996510027421	VFD 32P AOTOM		KLV000044-0050	√
002	IC100	Yes	996500029614	IC 52P PT6311(PTC)		RCI006311-1001	√
002	IC100	Yes	996500041280	IC 52P ET16311 VFD DRIVER		RCI016311-0001	√
002	ZD103		996500019397	CHIP ZENER 5.6V 5% 0.5W		RCZ005006-0011	√

TOUCH PCB ASSY

002	C3		996510031435	CHIP CAP 0.1UF 100V		PYL4564A0-1040	√
002	D9		996510004631	CHIP DIODE FM140-M SOD123		RCD100140-0020	√
002	IC1		996510042556	IC 24P EKTF4701NSO24J SOP ELAN RD LINE		RCI470124-0010	√
002	RB1		996510042577	CHIP HOUSE 6P P=1.0MM 180' NI BTM		CHC100240-0106	√

Note : Only the parts with Philips 12NCs are normal Service spare parts.
'V' means existing spare parts; "--" means non existing spare parts.

Revsion List:

V1.0 9-Mar-11 Initial Released HTS7201/12

V1.1 25-Apr-11 Updated material of power pcb & MAIN+MP3+IR+TUNE AUX IN pcb