Wireless Micro Hi-Fi System

MCi900/12/96

Service
Service
Service

Service Manual

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PHILIPS

1. Technical Specifications, Directions for Use

Index of this chapter:

1.1 Technical Specifications
1.2 Directions for Use

Notes:

- Figures can deviate due to the different set executions.
- Specifications are indicative (subject to change).

1.1 Technical Specifications

For on-line product support please use the following website:
http://www.p4c.philips.com/cgi-bin/dcbint/cpproduct_selector.pl

Here is product information available, as well as getting started, user manuals, frequently asked questions and software & drivers.

1.2 Directions for Use

You can download this information from the following websites:
http://www.philips.com/support
http://www.p4c.philips.com

2. Safety Instructions, Warnings, Notes, and Abbreviation List

Index of this chapter:

2.1 Safety Instructions
2.2 Warnings
2.3 Notes
2.4 Abbreviation List

2.1 Safety Instructions

Safety regulations require the following **during** a repair:

- Connect the set to the Mains/AC Power via an isolation transformer (> 800 VA).
- Replace safety components, indicated by the symbol ⚠, only by components identical to the original ones. Any other component substitution (other than original type) may increase risk of fire or electrical shock hazard.

Safety regulations require that **after** a repair, the set must be returned in its original condition. Pay in particular attention to the following points:

- Route the wire trees correctly and fix them with the mounted cable clamps.
- Check the insulation of the Mains/AC Power lead for external damage.
- Check the strain relief of the Mains/AC Power cord for proper function.
- Check the electrical DC resistance between the Mains/AC Power plug and the secondary side (only for sets that have a Mains/AC Power isolated power supply):
  1. Unplug the Mains/AC Power cord and connect a wire between the two pins of the Mains/AC Power plug.
  2. Set the Mains/AC Power switch to the “on” position (keep the Mains/AC Power cord unplugged!).
  3. Measure the resistance value between the pins of the Mains/AC Power plug and the metal shielding of the tuner or the aerial connection on the set. The reading should be between 4.5 MΩ and 12 MΩ.
  4. Switch “off” the set, and remove the wire between the two pins of the Mains/AC Power plug.
- Check the cabinet for defects, to prevent touching of any inner parts by the customer.

2.2 Warnings

- All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically. Make sure that, during repair, you are connected with the same potential as the mass of the set by a wristband with resistance. Keep components and tools also at this same potential.
- Be careful during measurements in the high voltage section.
- Never replace modules or other components while the unit is switched “on”.
- When you align the set, use plastic rather than metal tools. This will prevent any short circuits and the danger of a circuit becoming unstable.

2.3 Notes

2.3.1 General

- Measure the voltages and waveforms with regard to the chassis (= tuner) ground (⏚), or hot ground (⏚), depending on the tested area of circuitry. The voltages and waveforms shown in the diagrams are indicative. Measure them in the Service Default Mode (see chapter 5) with a colour bar signal and stereo sound (L: 3 kHz, R: 1 kHz unless stated otherwise) and picture carrier at 475.25 MHz for PAL, or 61.25 MHz for NTSC (channel 3).
- Where necessary, measure the waveforms and voltages with (⊓) and without (⊼) aerial signal. Measure the voltages in the power supply section both in normal operation (⏻) and in stand-by (⏻). These values are indicated by means of the appropriate symbols.

2.3.2 Schematic Notes

- All resistor values are in ohms, and the value multiplier is often used to indicate the decimal point location (e.g. 2K2 indicates 2.2 kΩ).
- Resistor values with no multiplier may be indicated with either an “E” or an “R” (e.g. 220E or 220R indicates 220 Ω).
- All capacitor values are given in micro-farads ($\mu = \times 10^{-6}$), nano-farads ($n = \times 10^{-9}$), or pico-farads ($p = \times 10^{-12}$).
- Capacitor values may also use the value multiplier as the decimal point indication (e.g. 2p2 indicates 2.2 pF).
- An “asterisk” (*) indicates component usage varies. Refer to the diversity tables for the correct values.
- The correct component values are listed in the Spare Parts List. Therefore, always check this list when there is any doubt.

2.3.3 BGA (Ball Grid Array) ICs

Introduction

For more information on how to handle BGA devices, visit this URL: *www.atyourservice.ce.philips.com* (needs subscription, not available for all regions). After login, select “Magazine”, then go to “Repair downloads”. Here you will find Information on how to deal with BGA-ICs.

BGA Temperature Profiles

For BGA-ICs, you **must** use the correct temperature-profile, which is coupled to the 12NC. For an overview of these profiles, visit the website *www.atyourservice.ce.philips.com* (needs subscription, but is not available for all regions)
You will find this and more technical information within the “Magazine”, chapter “Repair downloads”.
For additional questions please contact your local repair help desk.

2.3.4 Lead-free Soldering

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

- Use only lead-free soldering tin Philips SAC305 with order code 0622 149 00106. If lead-free solder paste is required, please contact the manufacturer of your soldering 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 soldering tin. The solder tool must be able:
  - To reach a solder-tip temperature of at least 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 of 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 increase drastically and flux-fluid will be destroyed. To avoid wear-out of tips, switch “off” unused equipment or reduce heat.
- Mix of lead-free soldering tin/parts with leaded soldering tin/parts is possible but PHILIPS recommends strongly **to avoid** mixed regimes. If this cannot be avoided, carefully clear the solder-joint from old tin and re-solder with new tin.

2.3.5 Alternative BOM identification

It should be noted that on the European Service website, "Alternative BOM" is referred to as "Design variant".

The **third digit** in the serial number (example: KX**2**B0835000001) indicates the number of the alternative B.O.M. (Bill Of Materials) that has been used for producing the specific AV set. In general, it is possible that the same AV model on the market is produced with e.g. two different types of display, coming from two different suppliers. This will then result in sets which have the same CTN (Commercial Type Number; e.g. MCM394/12) but which have a different B.O.M. number.

Also, it is possible that same model on the market is produced with two production centers, however their partslist is the same. In such case, no alternative B.O.M. will be created.

By looking at the third digit of the serial number, one can identify which B.O.M. is used for the set he is working with. If the third digit of the serial number contains the number "1" (example: KX**1**B033500001), then the set has been manufactured according to B.O.M. number 1. If the third digit is a "2" (example: KX**2**B0335000001), then the set has been produced according to B.O.M. no. 2. This is important for ordering the correct spare parts!
For the third digit, the numbers 1...9 and the characters A...Z can be used, so in total: 9 plus 26= 35 different B.O.M.s can be indicated by the third digit of the serial number.

Identification: The bottom line of a type plate gives a 14-digit serial number. Digits 1 and 2 refer to the production centre (e.g. LM is Arts), digit 3 refers to the B.O.M. code, digit 4 refers to the Service version change code, digits 5 and 6 refer to the production year, and digits 7 and 8 refer to production week (in example below it is 2008 week 50). The 6 last digits contain the serial number.

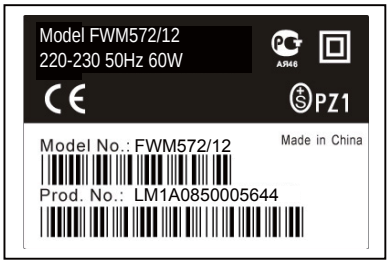


Figure 2-1 Serial number (example)

2.3.6 Module Level Repair (MLR) or Component Level Repair (CLR)

If a board is defective, consult your repair procedure to decide if the board has to be exchanged or if it should be repaired on component level.
If your repair procedure says the board should be exchanged completely, do not solder on the defective board. Otherwise, it cannot be returned to the O.E.M. supplier for back charging!

2.3.7 Practical Service Precautions

- **It makes sense to avoid exposure to electrical shock.** While some sources are expected to have a possible dangerous impact, others of quite high potential are of limited current and are sometimes held in less regard.
- **Always respect voltages**. While some may not be dangerous in themselves, they can cause unexpected reactions that are best avoided. Before reaching into a powered TV set, it is best to test the high voltage insulation. It is easy to do, and is a good service precaution.

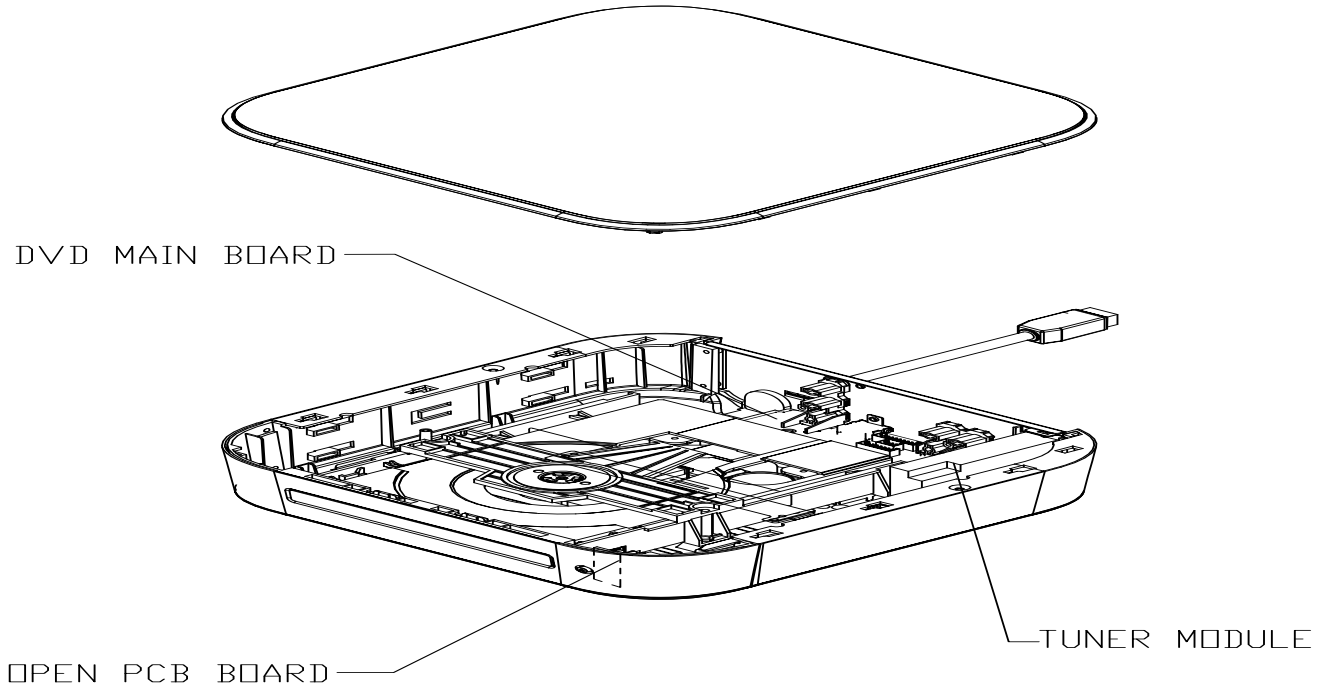
2.4 Abbreviation List

0/6/12	SCART switch control signal on A/V board. 0 = loop through (AUX to TV), 6 = play 16 : 9 format, 12 = play 4 : 3 format
2DNR	Spatial (2D) Noise Reduction
3DNR	Temporal (3D) Noise Reduction
AARA	Automatic Aspect Ratio Adaptation: algorithm that adapts aspect ratio to remove horizontal black bars; keeps the original aspect ratio
ACI	Automatic Channel Installation: algorithm that installs TV channels directly from a cable network by means of a predefined TXT page
ADC	Analogue to Digital Converter
AFC	Automatic Frequency Control: control signal used to tune to the correct frequency
AGC	Automatic Gain Control: algorithm that controls the video input of the feature box
AM	Amplitude Modulation
ANR	Automatic Noise Reduction: one of the algorithms of Auto TV
AP	Asia Pacific
AR	Aspect Ratio: 4 by 3 or 16 by 9
ASF	Auto Screen Fit: algorithm that adapts aspect ratio to remove horizontal black bars without discarding video information
ATSC	Advanced Television Systems Committee, the digital TV standard in the USA
ATV	See Auto TV
Auto TV	A hardware and software control system that measures picture content, and adapts image parameters in a dynamic way
AV	External Audio Video
AVC	Audio Video Controller
AVIP	Audio Video Input Processor
B/G	Monochrome TV system. Sound carrier distance is 5.5 MHz
BLR	Board-Level Repair
BTSC	Broadcast Television Standard Committee. Multiplex FM stereo sound system, originating from the USA and used e.g. in LATAM and AP-NTSC countries
B-TXT	Blue TeleteXT
C	Centre channel (audio)
CEC	Consumer Electronics Control bus: remote control bus on HDMI connections
CL	Constant Level: audio output to connect with an external amplifier
CLR	Component Level Repair
COLUMBUS	COlor LUMinance Baseband Universal Sub-system
ComPair	Computer aided rePair
CP	Connected Planet / Copy Protection
CSM	Customer Service Mode
CTI	Color Transient Improvement: manipulates steepness of chroma transients
CVBS	Composite Video Blanking and Synchronization
DAC	Digital to Analogue Converter
DBE	Dynamic Bass Enhancement: extra low frequency amplification
DDC	See "E-DDC"

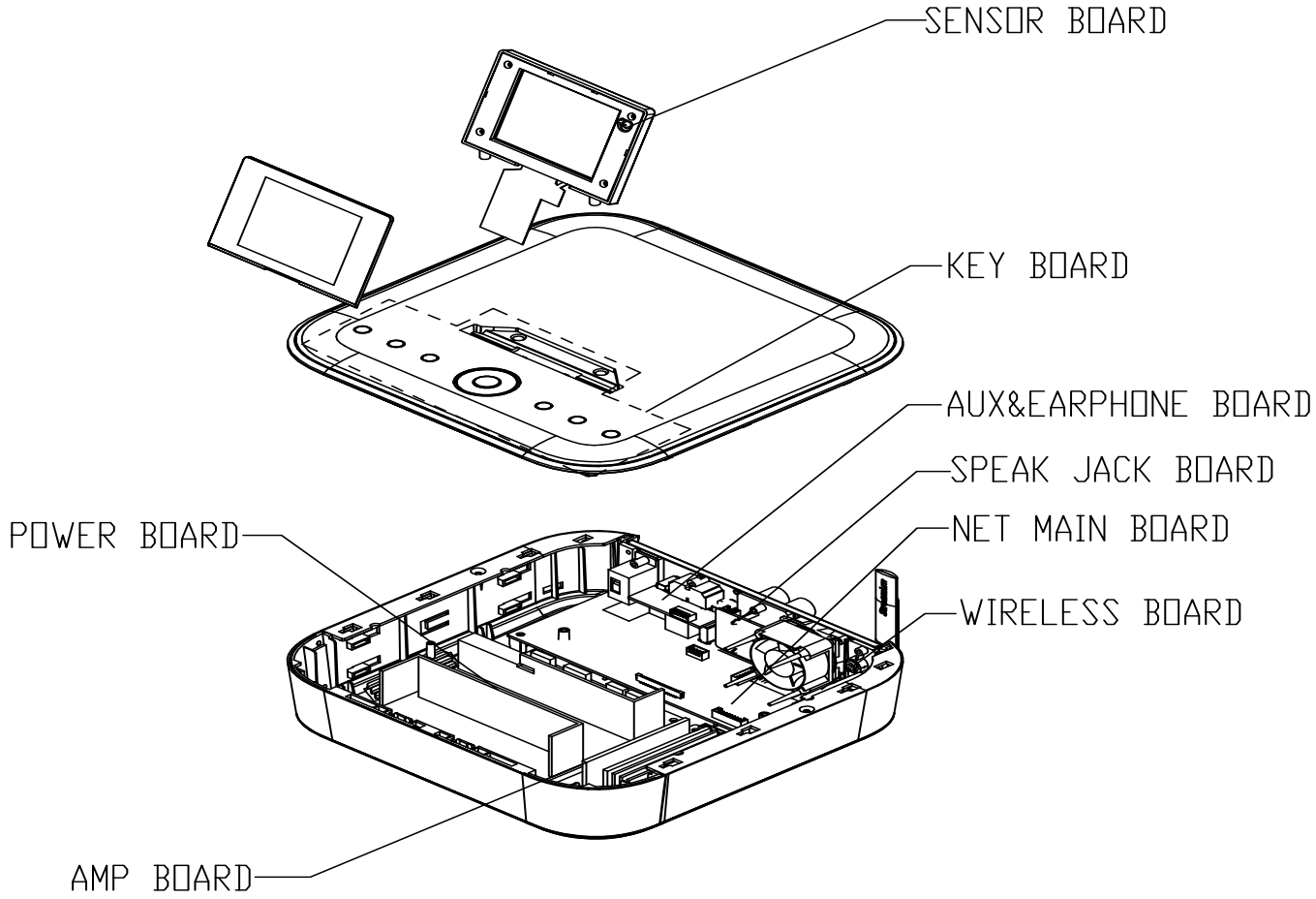
D/K	Monochrome TV system. Sound carrier distance is 6.5 MHz
DFI	Dynamic Frame Insertion
DFU	Directions For Use: owner's manual
DMR	Digital Media Reader: card reader
DMSD	Digital Multi Standard Decoding
DNM	Digital Natural Motion
DNR	Digital Noise Reduction: noise reduction feature of the set
DRAM	Dynamic RAM
DRM	Digital Rights Management
DSP	Digital Signal Processing
DST	Dealer Service Tool: special remote control designed for service technicians
DTCP	Digital Transmission Content Protection; A protocol for protecting digital audio/video content that is traversing a high speed serial bus, such as IEEE-1394
DVB-C	Digital Video Broadcast - Cable
DVB-T	Digital Video Broadcast - Terrestrial
DVD	Digital Versatile Disc
DVI(-d)	Digital Visual Interface (d= digital only)
E-DDC	Enhanced Display Data Channel (VESA standard for communication channel and display). Using E-DDC, the video source can read the EDID information form the display.
EDID	Extended Display Identification Data (VESA standard)
EEPROM	Electrically Erasable and Programmable Read Only Memory
EMI	Electro Magnetic Interference
EPLD	Erasable Programmable Logic Device
EU	Europe
EXT	EXTernal (source), entering the set by SCART or by cinches (jacks)
FBL	Fast BLanking: DC signal accompanying RGB signals
FDS	Full Dual Screen (same as FDW)
FDW	Full Dual Window (same as FDS)
FLASH	FLASH memory
FM	Field Memory or Frequency Modulation
FPGA	Field-Programmable Gate Array
FTV	Flat TeleVision
Gb/s	Giga bits per second
G-TXT	Green TeleteXT
H	H_sync to the module
HD	High Definition
HDD	Hard Disk Drive
HDCP	High-bandwidth Digital Content Protection: A “key” encoded into the HDMI/DVI signal that prevents video data piracy. If a source is HDCP coded and connected via HDMI/DVI without the proper HDCP decoding, the picture is put into a “snow vision” mode or changed to a low resolution. For normal content distribution the source and the display device must be enabled for HDCP “software key” decoding.
HDMI	High Definition Multimedia Interface
HP	HeadPhone
I	Monochrome TV system. Sound carrier distance is 6.0 MHz
I^2C	Inter IC bus
I^2D	Inter IC Data bus
I^2S	Inter IC Sound bus
IF	Intermediate Frequency
Interlaced	Scan mode where two fields are used to form one frame. Each field contains half the number of the total amount of lines. The fields are written in “pairs”, causing line flicker.
IR	Infra Red
IRQ	Interrupt Request
ITU-656	The ITU Radio communication Sector (ITU-R) is a standards body subcommittee of the International Telecommunication Union relating to radio communication. ITU-656 (a.k.a. SDI), is a digitized video format used for broadcast grade video. Uncompressed digital component or digital composite signals can be used. The SDI signal is self-synchronizing, uses 8 bit or 10 bit data words, and has a maximum data rate of 270 Mbit/s, with a minimum bandwidth of 135 MHz.
ITV	Institutional TeleVision; TV sets for hotels, hospitals etc.
JOP	Jaguar Output Processor
LS	Last Status; The settings last chosen by the customer and read and stored in RAM or in the NVM. They are called at start-up of the set to configure it according to the customer's preferences
LATAM	Latin America
LCD	Liquid Crystal Display
LED	Light Emitting Diode
L/L'	Monochrome TV system. Sound carrier distance is 6.5 MHz. L' is Band I, L is all bands except for Band I
LORE	LOcal REgression approximation noise reduction
LPL	LG.Philips LCD (supplier)
LS	Loudspeaker
LVDS	Low Voltage Differential Signalling
Mbps	Mega bits per second
M/N	Monochrome TV system. Sound carrier distance is 4.5 MHz
MIPS	Microprocessor without Interlocked Pipeline-Stages; A RISC-based microprocessor
MOP	Matrix Output Processor
MOSFET	Metal Oxide Silicon Field Effect Transistor, switching device
MPEG	Motion Pictures Experts Group
MPIF	Multi Platform InterFace
MUTE	MUTE Line
NC	Not Connected
NICAM	Near Instantaneous Compounded Audio Multiplexing. This is a digital sound system, mainly used in Europe.
NTC	Negative Temperature Coefficient, non-linear resistor
NTSC	National Television Standard Committee. Color system mainly used in North America and Japan. Color carrier NTSC M/N= 3.579545 MHz, NTSC 4.43= 4.433619 MHz (this is a VCR norm, it is not transmitted off-air)
NVM	Non-Volatile Memory: IC containing TV related data such as alignments
O/C	Open Circuit
OSD	On Screen Display
OTC	On screen display Teletext and Control; also called Artistic (SAA5800)
P50	Project 50: communication protocol between TV and peripherals
PAL	Phase Alternating Line. Color system mainly used in West Europe (color carrier= 4.433619 MHz) and South America (color carrier PAL M=

	3.575612 MHz and PAL N= 3.582056 MHz)
PCB	Printed Circuit Board (same as “PWB”)
PCM	Pulse Code Modulation
PDP	Plasma Display Panel
PFC	Power Factor Corrector (or Pre-conditioner)
PIP	Picture In Picture
PLL	Phase Locked Loop. Used for e.g. FST tuning systems. The customer can give directly the desired frequency
POR	Power On Reset, signal to reset the uP
Progressive Scan	Scan mode where all scan lines are displayed in one frame at the same time, creating a double vertical resolution.
PTC	Positive Temperature Coefficient, non-linear resistor
PWB	Printed Wiring Board (same as “PCB”)
PWM	Pulse Width Modulation
QRC	Quasi Resonant Converter
QTNR	Quality Temporal Noise Reduction
QVCP	Quality Video Composition Processor
RAM	Random Access Memory
RGB	Red, Green, and Blue. The primary color signals for TV. By mixing levels of R, G, and B, all colors (Y/C) are reproduced.
RC	Remote Control
RC5 / RC6	Signal protocol from the remote control receiver
RESET	RESET signal
ROM	Read Only Memory
R-TXT	Red TeleteXT
SAM	Service Alignment Mode
S/C	Short Circuit
SCART	Syndicat des Constructeurs d'Appareils Radiorécepteurs et Téléviseurs
SCL	Serial Clock I^2C
SCL-F	CLock Signal on Fast I^2C bus
SD	Standard Definition
SDA	Serial Data I^2C
SDA-F	DAta Signal on Fast I^2C bus
SDI	Serial Digital Interface, see “ITU-656”
SDRAM	Synchronous DRAM
SECAM	SEequence Couleur Avec Mémoire. Color system mainly used in France and East Europe. Color carriers= 4.406250 MHz and 4.250000 MHz
SIF	Sound Intermediate Frequency
SMPS	Switched Mode Power Supply
SoC	System on Chip
SOG	Sync On Green
SOPS	Self Oscillating Power Supply
S/PDIF	Sony Philips Digital InterFace
SRAM	Static RAM
SRP	Service Reference Protocol
SSB	Small Signal Board
STBY	STand-BY
SVGA	800x600 (4:3)
SVHS	Super Video Home System
SW	Software
SWAN	Spatial temporal Weighted Averaging Noise reduction
SXGA	1280x1024
TFT	Thin Film Transistor
THD	Total Harmonic Distortion
TMDS	Transmission Minimized Differential Signalling
TXT	TeleteXT
TXT-DW	Dual Window with TeleteXT
UI	User Interface
uP	Microprocessor
UXGA	1600x1200 (4:3)
V	V-sync to the module
VCR	Video Cassette Recorder
VESA	Video Electronics Standards Association
VGA	640x480 (4:3)
VL	Variable Level out: processed audio output toward external amplifier
VSB	Vestigial Side Band; modulation method
WYSIWYR	What You See Is What You Record: record selection that follows main picture and sound
WXGA	1280x768 (15:9)
XTAL	Quartz crystal
XGA	1024x768 (4:3)
Y	Luminance signal
Y/C	Luminance (Y) and Chrominance (C) signal
YPbPr	Component video. Luminance and scaled color difference signals (B-Y and R-Y)
YUV	Component video

DVD SET LOCATION OF PCB BOARDS



NET SET LOCATION OF PCB BOARDS



VERSION VARIATION:

Type/Version / Features	MCi900	
	/12	/96
Output Power - 100W	X	X
Voltage (220V~240V)	X	X

SERVICE SCENARIO MATRIX:

Type/Version / Board in used	MCi900	
	/12	/96
DVD Main Board	MLR	CLR
Open PCB Board	MLR	CLR
NET Main Board	MLR	CLR
AMP Board	MLR	CLR
Key Board	MLR	CLR
Sensor Board	MLR	CLR
Speak Jack Board	MLR	CLR
Aux&Earphone Board	MLR	CLR
Power Board	MLR	CLR
Wireless Board	MLR	CLR

Specifications

General

AC Power
Voltage information is printed on the back or the underside of MCi900.
DC Power
12 V / 3.5 A
Dimensions (w x h x d)
346.5 x 99 x 69 mm
Weight (net)
Main unit: ~ 1,48 kg

Power consumption

On
< 40 W
Standby (active)
< 4 W
ECO (passive) standby
< 1 W

Audio output

SPDIF
1x chinch (coax), 0.5 V, 75 •
Headphones
1x 3.5 mm jack 30 - 18,000 Hz 16 - 150 •
Signal to noise ratio (headphones)
typically 85 dBA (IEC)
Distortion (line out / headphones)
< 0.15 %

Audio input

Aux in (line in)
2x cinch
Input sensitivity
500 mV
Input impedance
> 10 k•

Audio amplifier (Digital)

Output power
2 x 8.5 W (RMS) + 2 x 6 .5 W (RMS) (= total power 30 W)
Frequency response
63 Hz - 16,000 Hz (-3 dB)
Signal to noise ratio
typically 72 dBA (IEC)

Loudspeakers

Power handling
Front speakers: 10 W (RMS) / 15 W (MPO) Side speakers: 6 W (RMS) / 9 W (MPO)
Impedance
Front speakers: 8 • Side speakers: 12 •
Sensitivity
Front speakers: 80 dB / 1 m / W Side speakers: 83 dB / 0.5 m / W
Dimensions
Front speakers: 2.56 inches Side speakers: 1.56 inches
Frequency response
Front speakers: 50 Hz - 16 kHz Side speakers: 500 Hz - 16 kHz

Sound features

FullSound®
Yes (on / off)
LivingSound®
Yes (on / off)
Digital sound control (Equalizer presets)
5 presets: Rock, Pop, Jazz, Classical, Flat (off)
Dynamic bass boost (DBB)
Yes (on / off)

Wireless

Wireless standard
802.11g, backwards compatible to 802.11b
Wireless security
WEP (64 or 128 bit), WPA/WPA2 (8-63 characters)
Frequency range
2412 - 2462 MHz (CH1-CH11) (for /79, /37, /55, /97) 2412 - 2472 MHz (CH1-CH13) (for /12, /05)
Antenna
2x internal, diversity mode enabled
Wireless protected setup (WPS)
Yes
Network mode support
Infrastructure

Wired (LAN / Ethernet)

Wired standard
802.3 / 802.3u
Speed
10 / 100 MBit/s
Mode
half / full duplex
Crossover detection (Auto MDIX)
Yes (Auto MDIX)

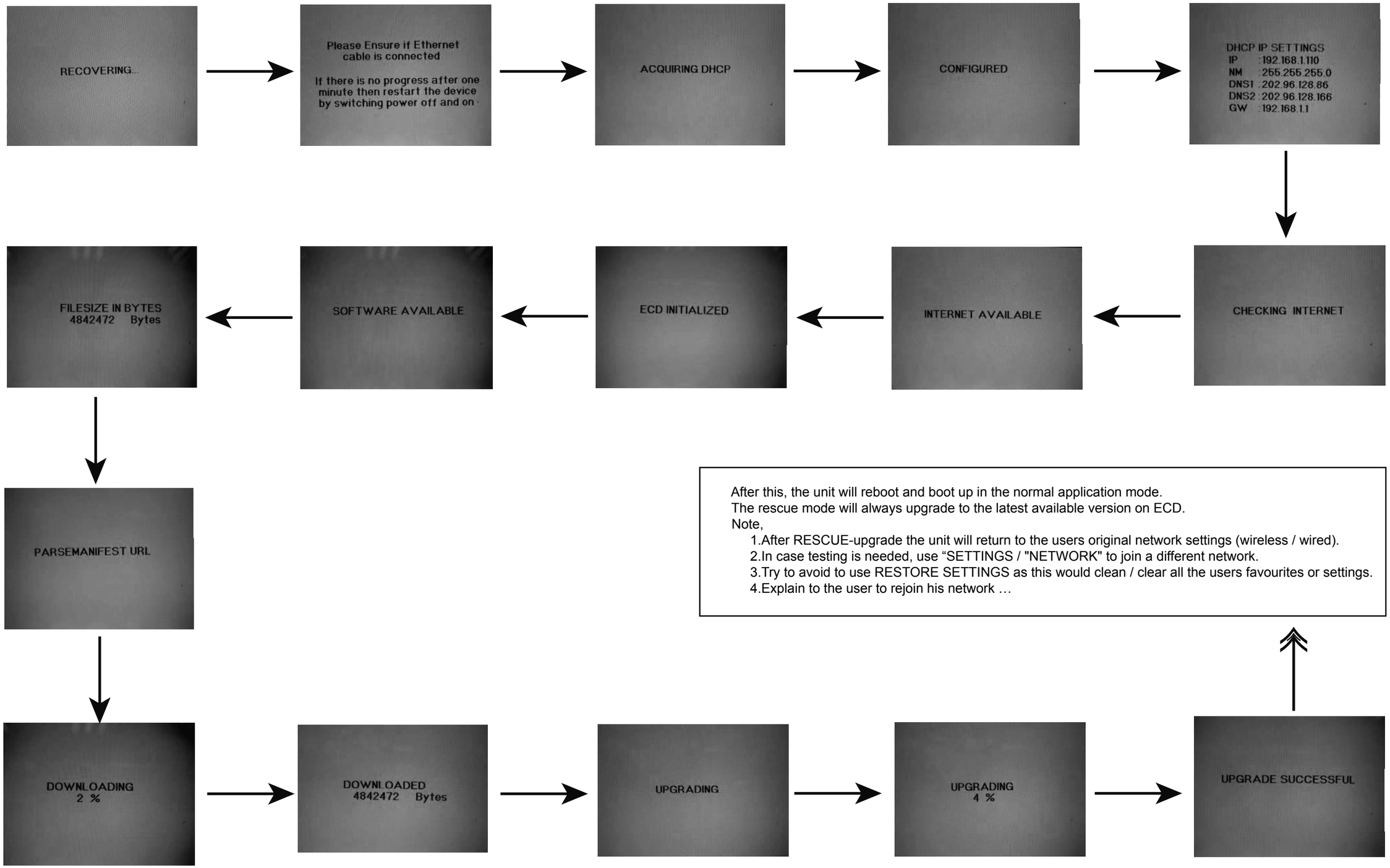
Accessories supplied

Hard disk drive (HDD) with a USB plug
2 SoundSphere speakers (with connection cables)
Remote control with batteries
Composite audio/video cables
FM T-type antenna
AC power cord
Stand for the hard disk drive (HDD)
Software suite (stored in the supplied hard disk drive)
Quick Start Guide

2-5

Rescue Mode

The MCi900/MCD900 will enter the rescue mode in case the user has unplugged the power during programming of the FLASH.
To get the unit back to working, one has to connect the MCi900/MCD900 unit via a LAN-cable (CAT5) to the internet.
To get best results, connect the the LAN-cable directly to the one of the HUB-outputs of an access point (which has a DHCP enabled).
The following screens will be seen during recovery …



After this, the unit will reboot and boot up in the normal application mode.
The rescue mode will always upgrade to the latest available version on ECD.
Note,

1. After RESCUE-upgrade the unit will return to the users original network settings (wireless / wired).
2. In case testing is needed, use “SETTINGS / "NETWORK" to join a different network.
3. Try to avoid to use RESTORE SETTINGS as this would clean / clear all the users favourites or settings.
4. Explain to the user to rejoin his network …

3- 1

System , Region Code , etc. Setting Produre

1)System Reset

a) In stop mode, press "settings " button on R/C, TV will show setup menu.

b) Select the menu using the Vand Bon on R/C.

c) Go Preference Setup page, then "default" → "reset".

2)Region Code Change

a) In open mode, press "9" "9" "9" "9" on R/C, then input desired number to change region code:

1	USA
2	EU
3	AP
4	Australia, NZ, Latam
5	Russia, India
6	China

3)Version Control Change

a) In open/full stop model, press "x" "1" "5" "9" on R/C.

b) press "ok" button to confirm.

c) TV will show message as below:

Model	MCI900 TR
File Name	MCI900 BIN
Version	01.10.01.09
RISC	09.36.01.20
Servo	62.06.00.00
Region Code	2
HDCP	Pass

OK

4)Password Change

a) In open/full stop model, press "settings" button on R/C, TV show setup menu.

b) Select the menu using the V and B on R/C.

c) Go Preference Setup page select "password" to change

"136900" is default password supplied.

5)Check on the Sofeware Version

a) In open mode, press "settings" button on R/C, TV will show setup menu.

b) Select the menu using the Vand Bon on R/C.

c) Go Preference Setup page, then " Version Info".

d) TV will show the version on screen.

6)Upgrading new sofeware

a) Copy "software files" into CD.

b) Insert CD.

c) Press "DISC" button on R/C.

d) LCD will show:

"LOADING"

e) TV will show:

Upgrade file detected
Upgrade?
Press PLAY to start.

f) Press "PLAY", TV will show:

Upgrade file detected.
Do not power off.
Coping files Upgrading.

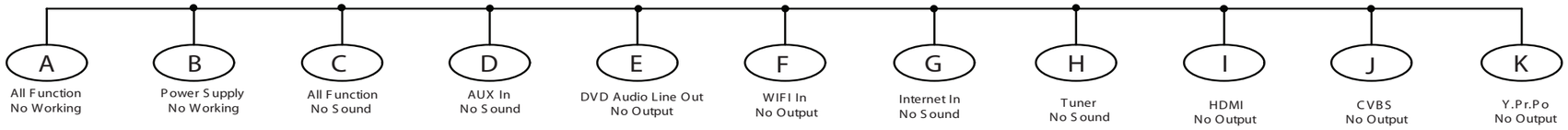
CAUTION !

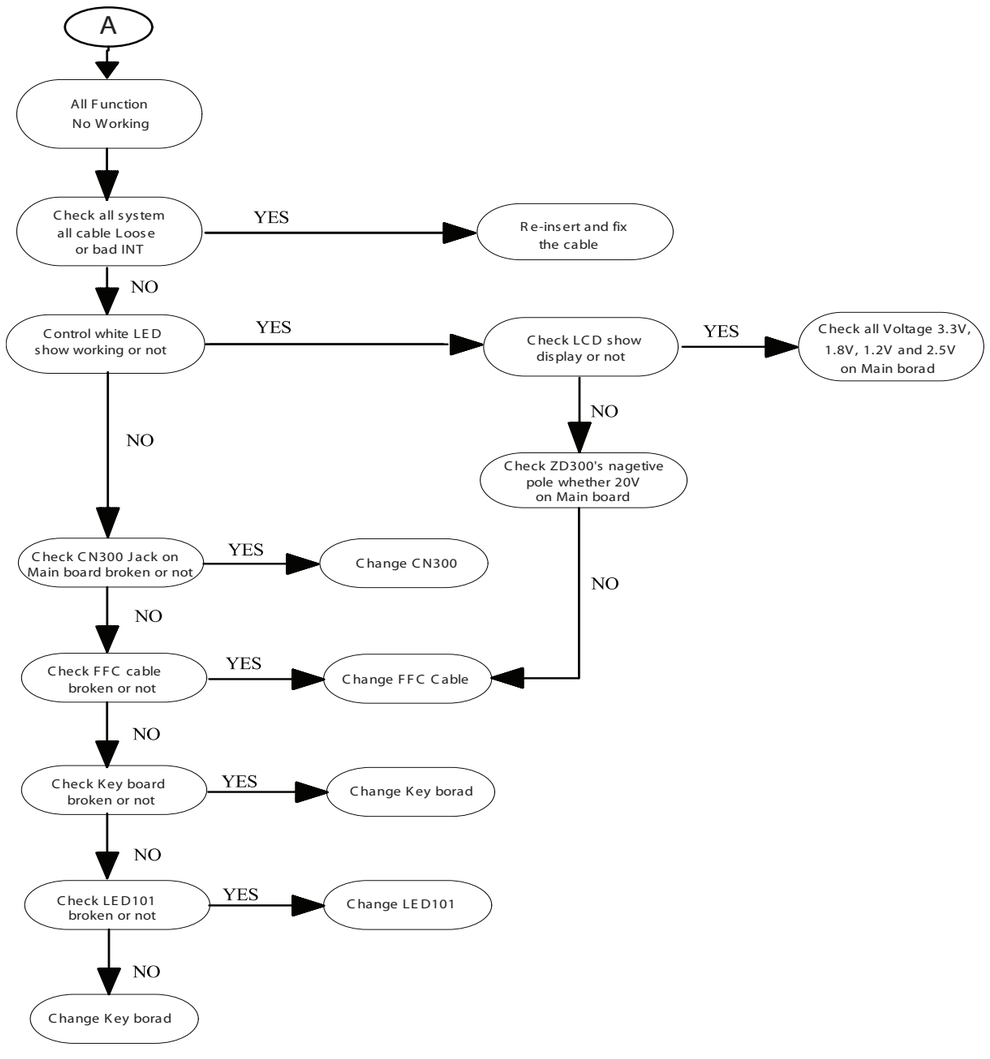
This information is confidencial and may not be distributed. Only a qualified service person should reprogram the Region Code.

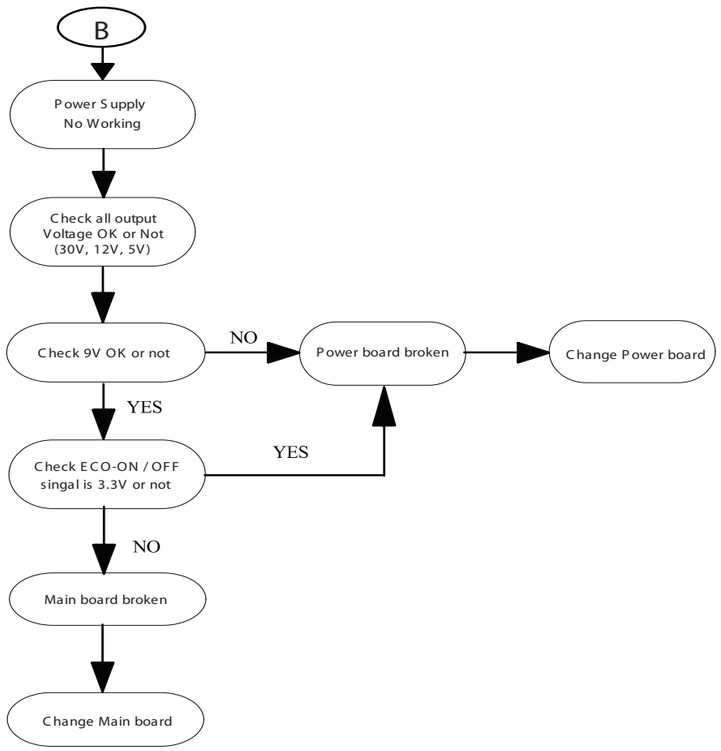
3 - 2

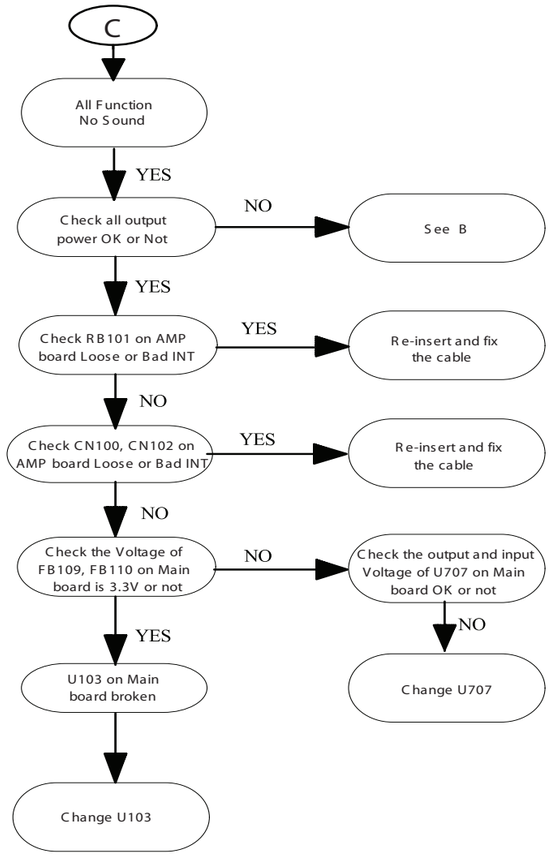
REPAIR INSTRUSTRATOR (part 1)

MAIN UNIT REPAIR CHART 1/3



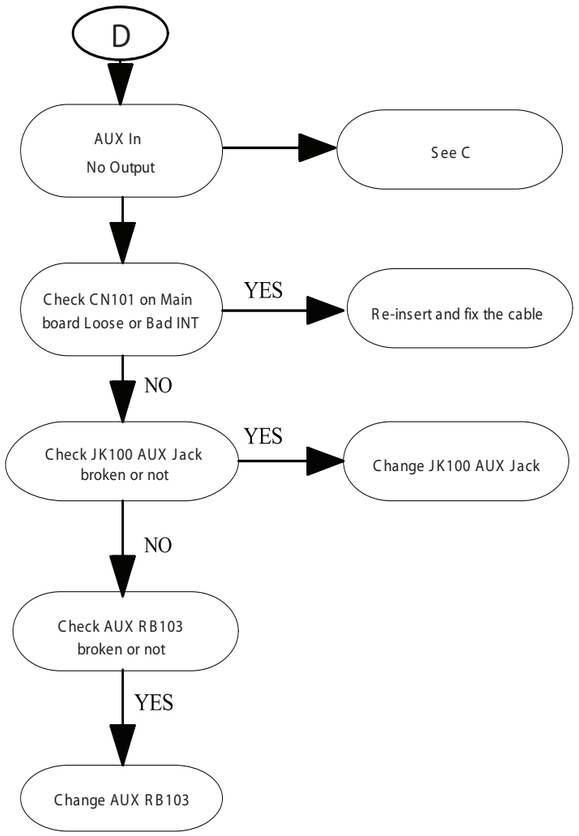


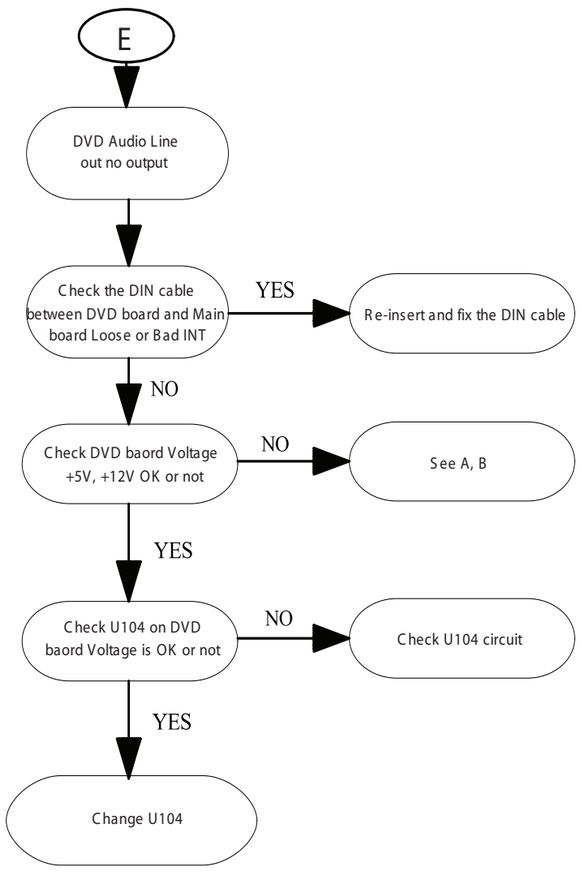


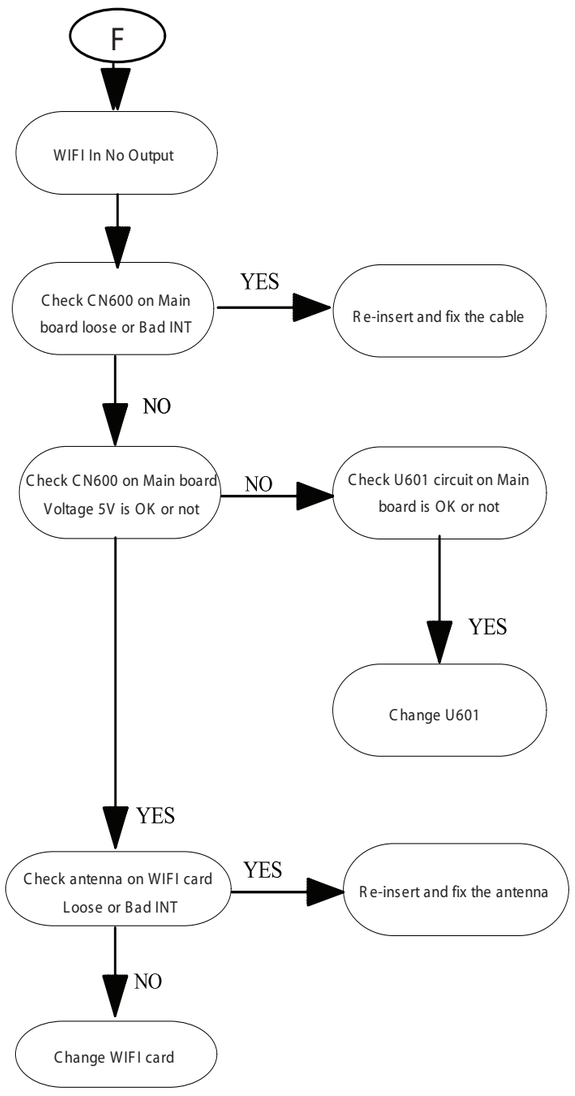


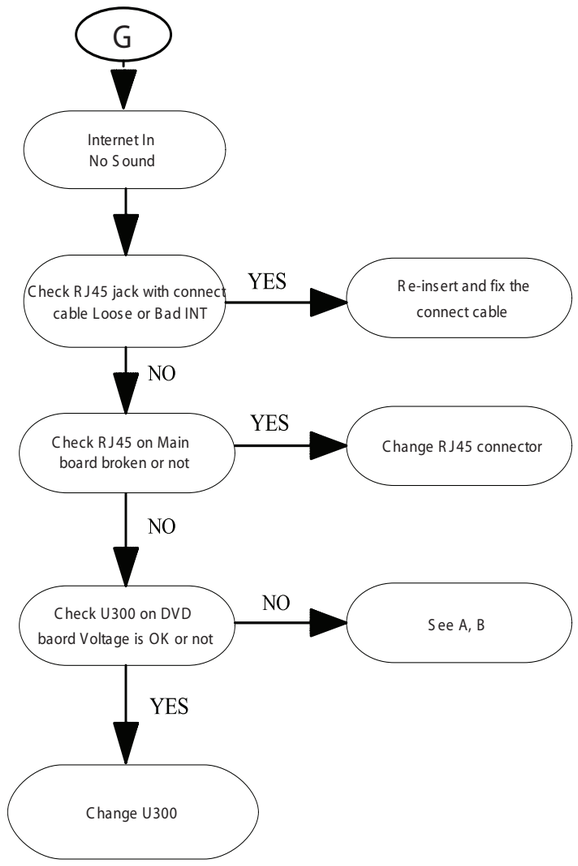
REPAIR INSTRUSTRATOR (part 2)

MAIN UNIT REPAIR CHART 2/3





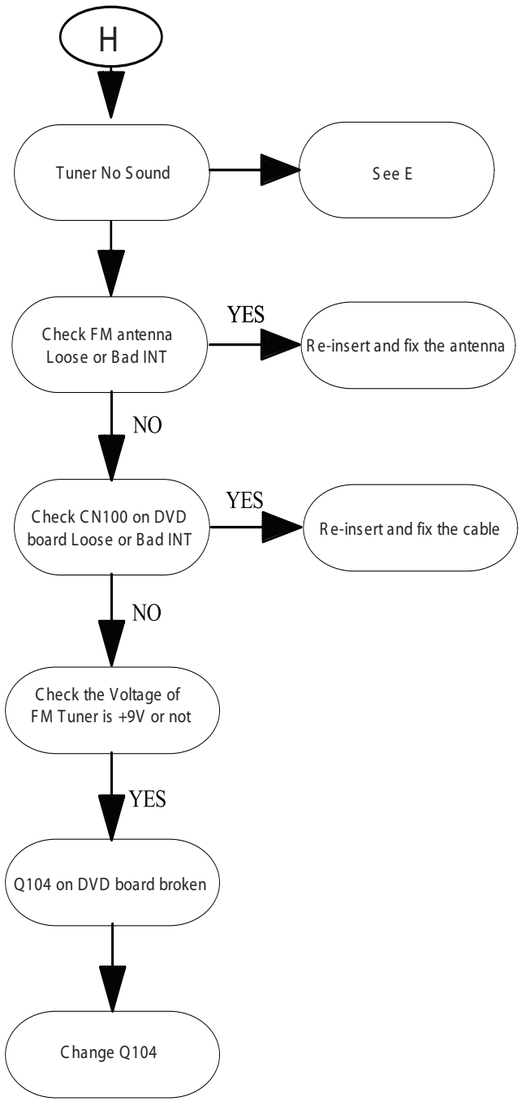


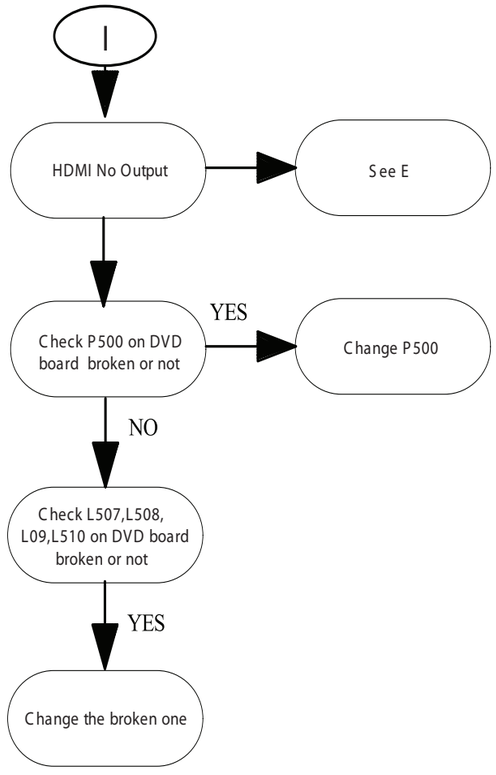


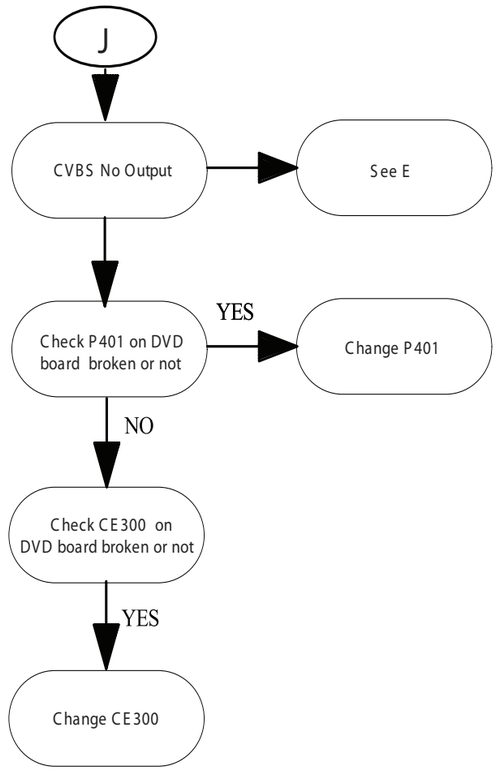
3 - 4

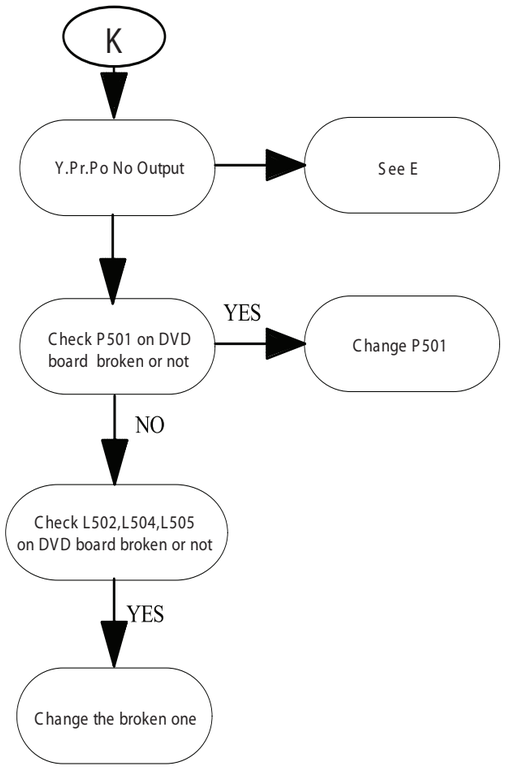
REPAIR INSTRUSTRATOR (part 3)

MAIN UNIT REPAIR CHART 3/3









DISASSEMBLY INSTRUCTIONS

3.1 Dismantling of Main Unit

Before dismanting Main Unit, press Button "B1" to pull Din Cable out as shown in figure 1, and put down the RF antenna as shown in figure 2.

Figure 1

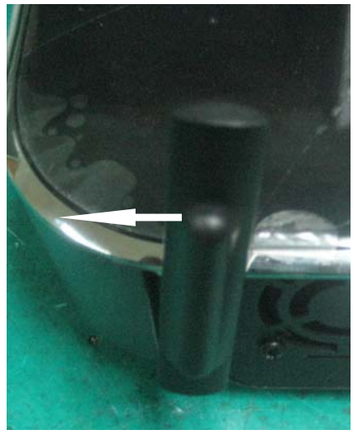


Figure 2

Dismantling of Key Board

1) Loosen 3 screws "A"(S4 x 2, S7 x 1) as shown in figure 3, and push the top cover of Main Unit out as shown in figure 4.
2) Loosen 8 screws "B" (S3 x 8) on the top cover of Main Unit to detach Key Board as shown in figure 5.

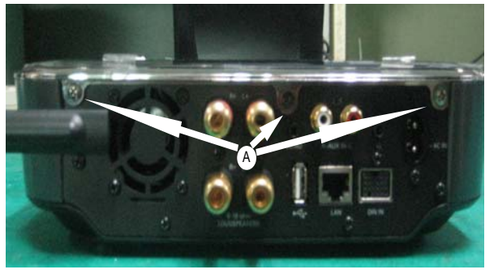


Figure 3

Figure 4

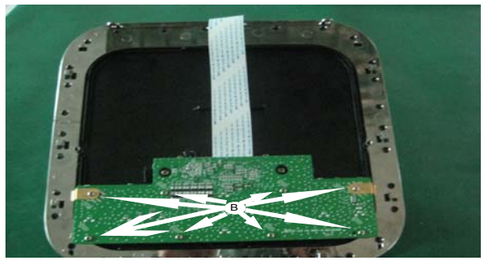


Figure 5

4 - 1

Dismantling of Sensor Board

1) Loosen 4 screw "C "(S1 x 4) on the top cover as shown in figure 6.

Figure 6

Dismantling of SPK and AUX Board

1) Get the RF antenna out as shown in figure 7.
2) Loosen 4 screw " D "(S5 x 1, S6 x 3) to detach the back panel as shown in figure 8.
3) Loosen 2 screw " E " (S6 x 2) to detach SPK Board as shown in figure 9.
4) Loosen 2 screw " F " (S6 x 2) to detach AUX Board as shown in figure 10.

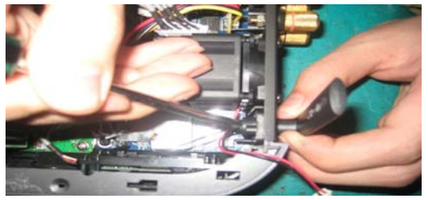


Figure 7

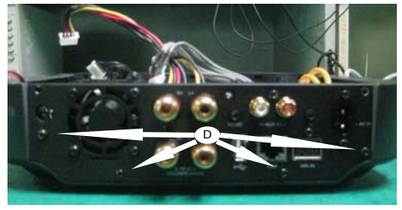


Figure 8

Figure 9

Figure 10

Dismantling of Net Main Board

1) Loosen 2 screws "G" (S1 x 2) to detach Net Main Board shown in figure 11.

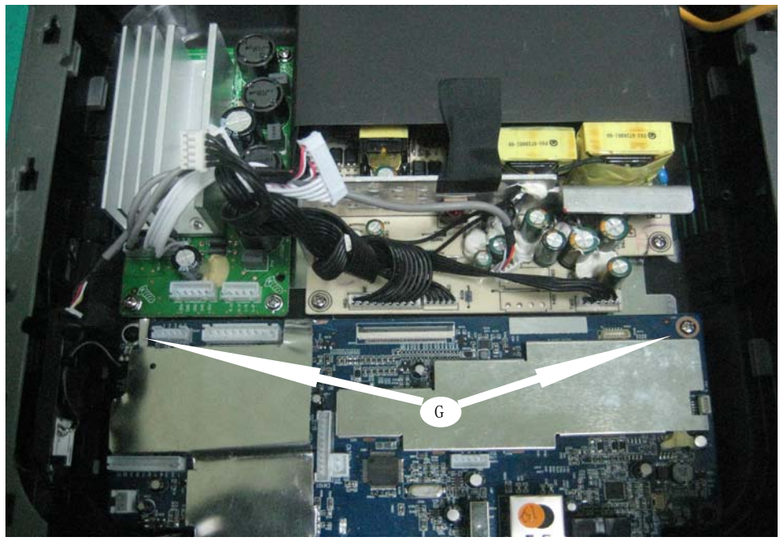


Figure 11

Dismantling of AMP Board

1) Loosen 4 screws "H" (S1 x 4) to detach AMP Board as shown in figure 12

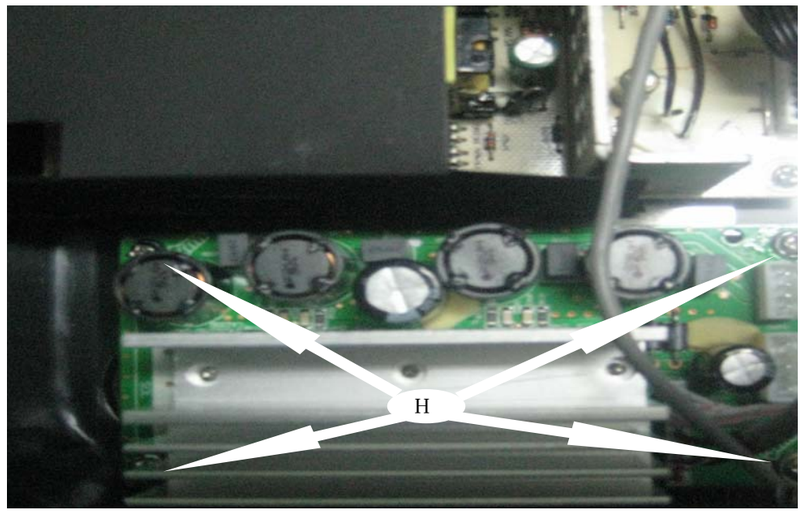


Figure 12

Dismantling of Power Board

1) Loosen 4 screws "I " (S1 x 4) to detach Power Board as shown in figure 13

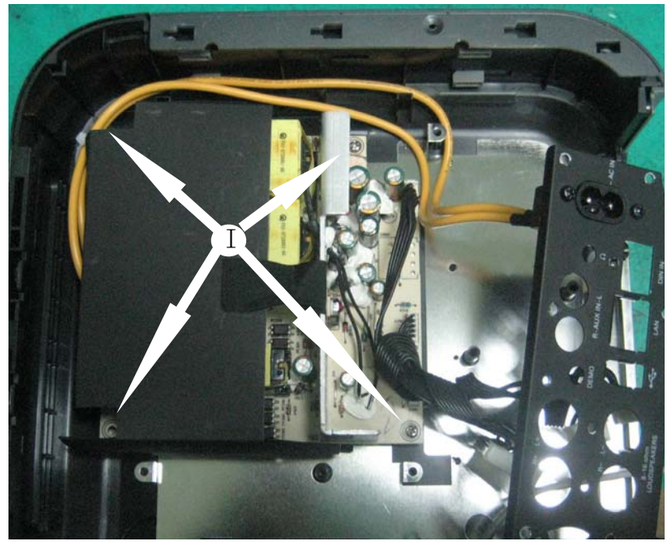


Figure 13

Dismantling of Wireless Board

1) Move the right side panel to detach it as shown in figure 14.
2) Loosen 2 screws "J " (S3 x 2) to detach Wireless Board as shown in figure 15.

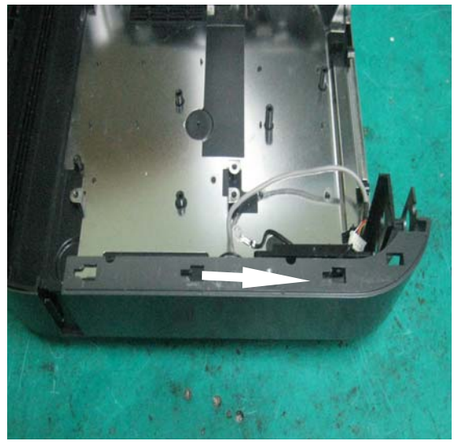


Figure 14

Figure 15

3.2 Dismantling of DVD Unit

Dismantling of DVD Main Board

1) Loosen 3 screws "K"(S4 x 1, S5 x 2) as shown in figure 16, and push the top cover of DVD Unit out as shown in figure 17.
2) Loosen 4 screws "L"(S1 x 2, S2 x 2) to detach DVD loader as shown in figure 18.
3) Loosen 7 screws "M" (S6 x 1, S7 x 5, S8 x 1) to detach the back panel of DVD Unit as shown in figure 19.
4) Loosen 2 screws "N" (S2 x 2) to detach DVD Main Board as shown in figure 20.

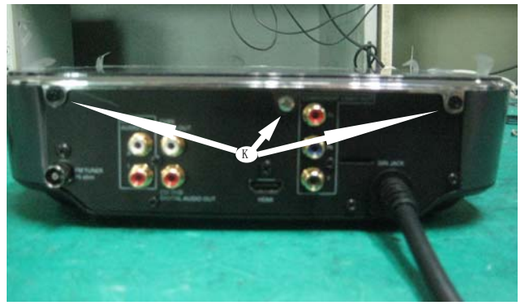


Figure 16

Figure 17

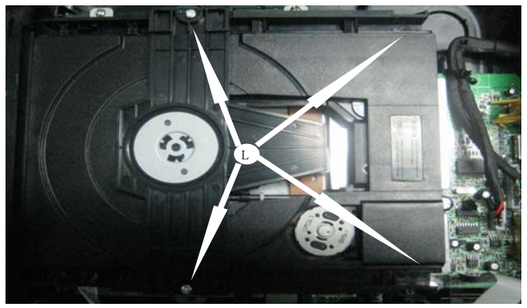


Figure 18

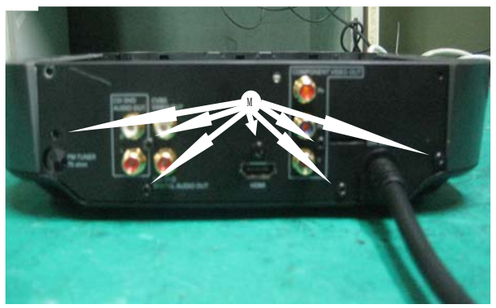


Figure 19

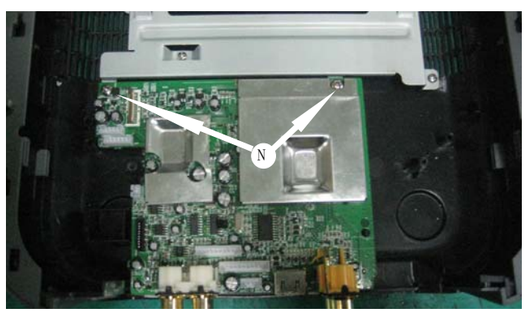


Figure 20

4 - 3

Dismantling of Open Board

1) Push button "B2" in to detach Open Board as shown in figure 21.

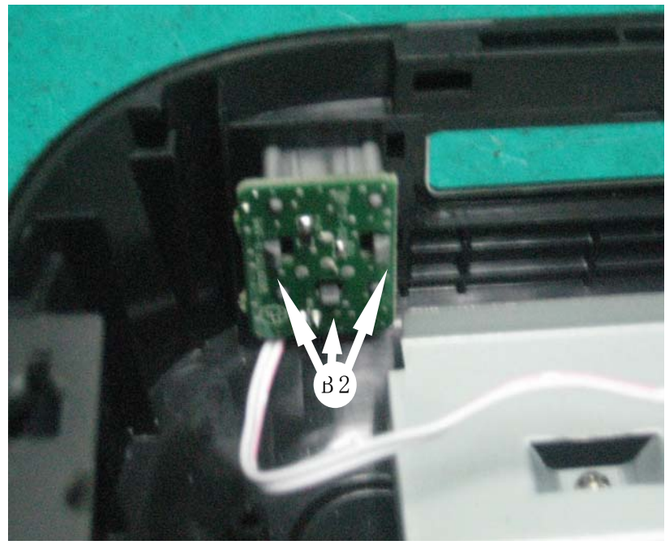
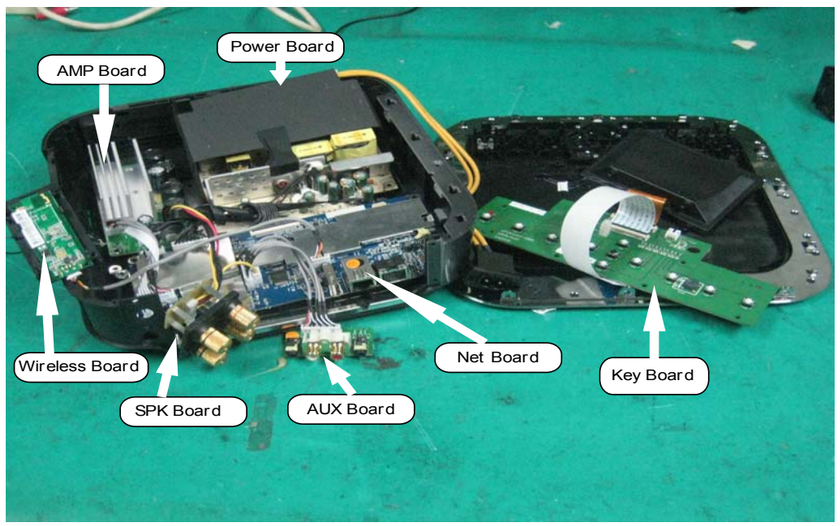


Figure 21

4 - 4

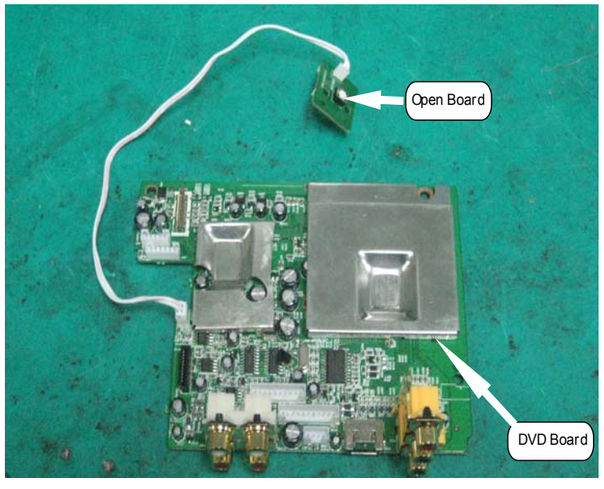
Service Position

Note: Refer to the Wiring Diagram for the correct cable connection between boards.



Service A

Service Position 1
AMP Board, Power Board, Wireles Board, SPK Board, AUX Board, Net Board, Key Board



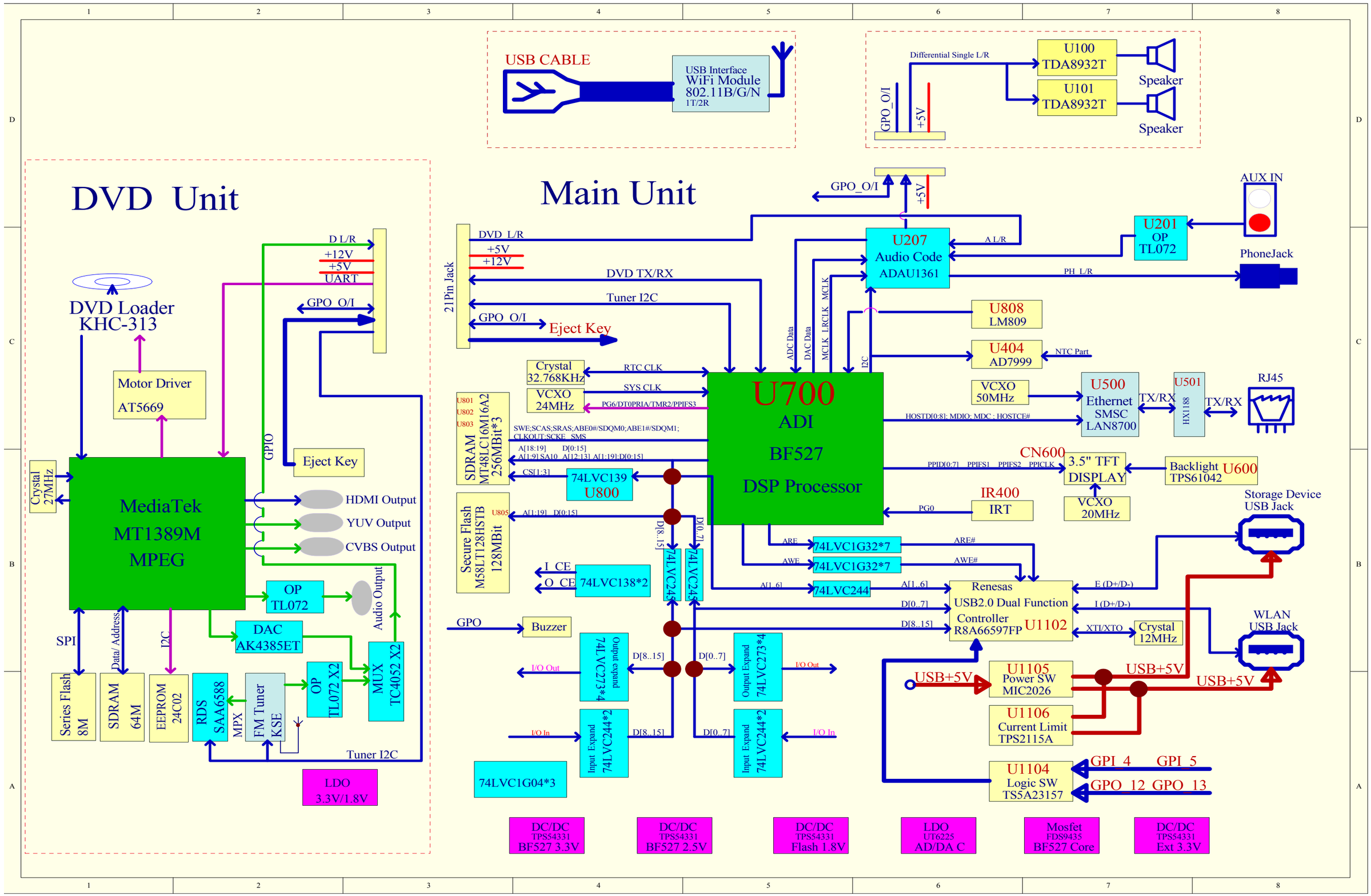
Service B

Service Position 2
DVD Board, Open Board

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.

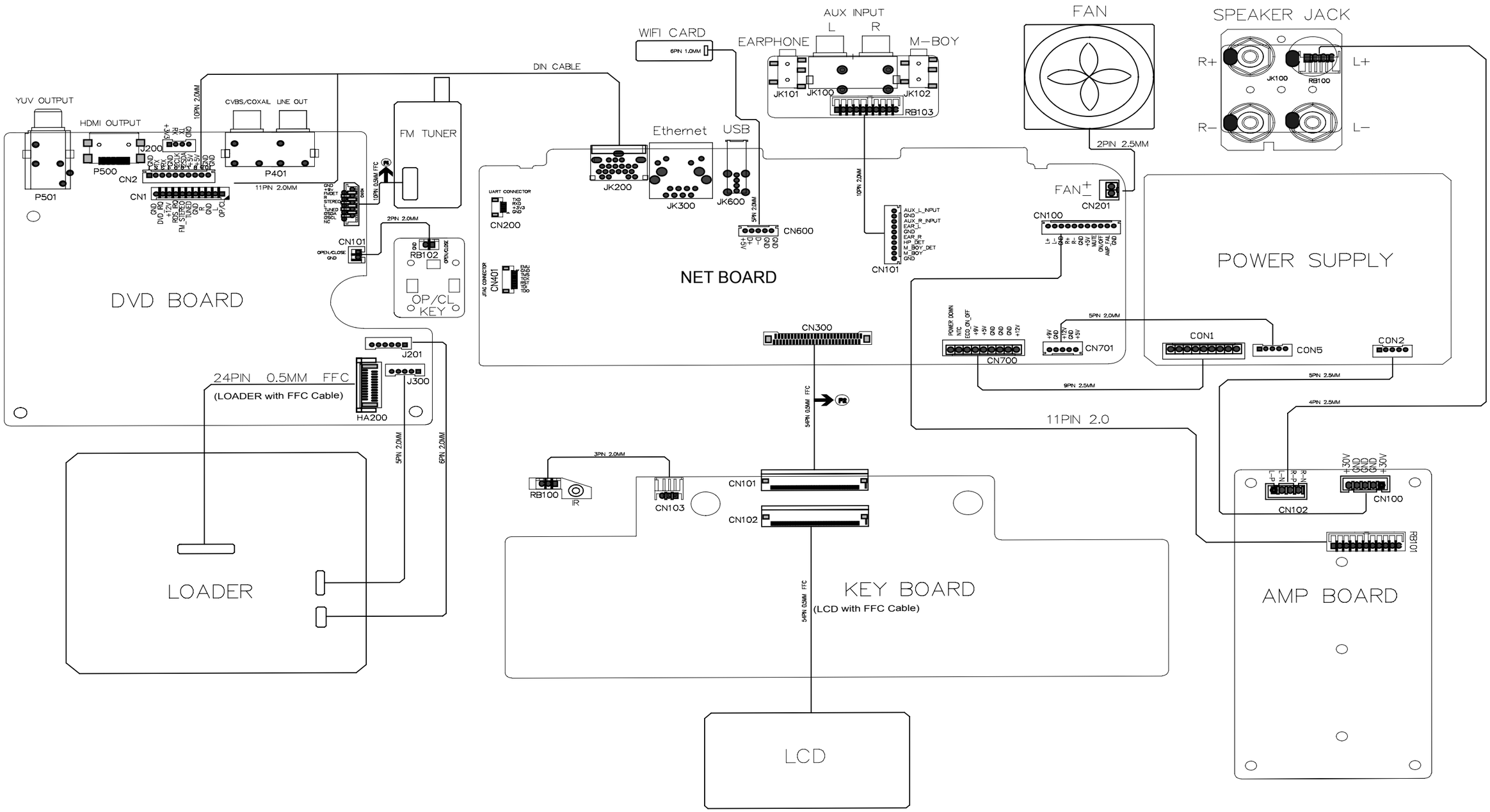
BLOCK DIAGRAM

5 - 1



5-2

SET WIRING DIAGRAM



DVD Main Board

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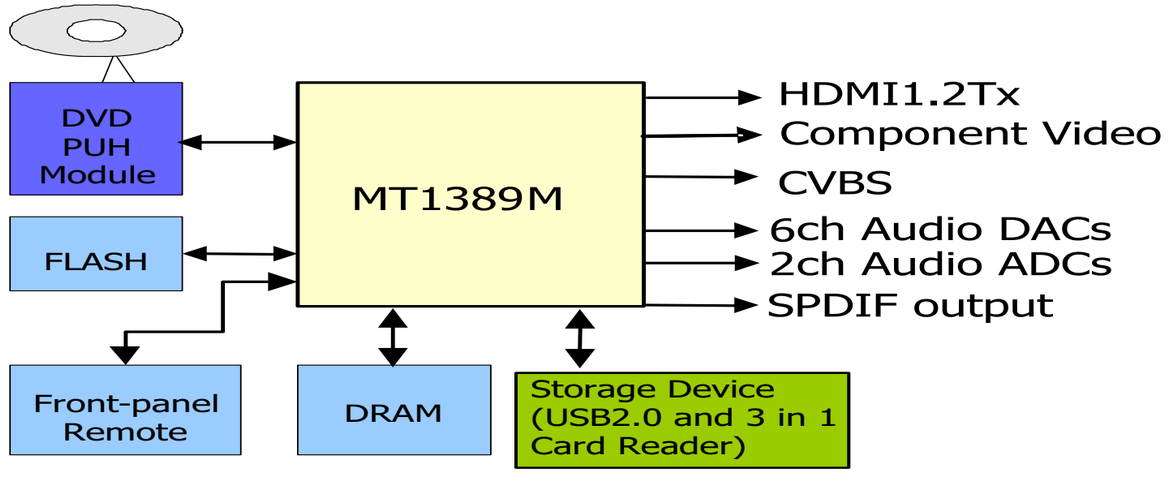
INTERNAL IC DIAGRAM -MT1389M



DVD Player System Diagram

6 - 2

Circuit Diagram

C100	D2	C124	D3	C143	D2	C164	C1	C204	B1	C223	B1	C241	C3	C509	B4	CB213	C1	CB221	A3	CE201	C1	CE500	C1
C101	D2	C126	D2	C146	C3	C165	B4	C205	B2	C224	B1	C242	C4	C301	A2	CB214	C1	CB304	A2	CE202	C2	CE503	A4
C102	D3	C127	D2	C147	C3	C166	C3	C206	C2	C225	B1	C300	B2	C302	A1	CB215	B1	CB305	A2	CE203	C1	CN1	D4
C103	C2	C128	D3	C148	D1	C168	D3	C208	C3	C226	B1	C301	A2	C432	B4	CB216	D4	CB306	A2	CE204	C1	CN100	D1
C104	D2	C129	C3	C149	D1	C169	C3	C209	C3	C228	D4	C302	A1	C433	B4	CB217	A2	CB307	A2	CE205	C2	CN101	D4
C105	D2	C130	D3	C150	D1	C172	C3	C210	C3	C229	D4	C432	B4	C434	B4	CB218	A2	CB308	A2	CE206	B1	CN2	D4
C107	D2	C131	D1	C151	D2	C173	C3	C211	C2	C230	D4	C433	B4	C500	B4	CB219	A3	CB309	A1	CE207	A1	D200	B1
C108	D2	C132	D1	C152	D1	C174	C3	C212	C2	C231	D4	C434	B4	C501	B4	CB220	A3	CB310	A1	CE208	A1	D201	A1
C109	D2	C133	D2	C153	D2	C175	C3	C213	C2	C232	D4	C500	B4	C502	C4	CB221	A3	CB311	C1	CE209	A1	D300	C1
C110	A3	C134	D1	C154	D2	C181	D2	C214	C3	C233	A2	C501	B4	C503	C4	CB222	A3	CB312	A1	CE210	D4	D301	C1
C111	A3	C135	D1	C155	D1	C182	D2	C215	B1	C234	C3	C502	C4	C504	B4	CB223	A3	CB503	C1	CE300	B4	D400	B4
C112	B4	C136	D2	C156	D1	C183	D3	C216	C1	C235	C3	C503	C4	C505	B4	CB224	A3	CB506	A4	CE302	C1	D401	B4
C116	C3	C137	D2	C157	D1	C186	D3	C217	B1	C236	C3	C504	B4	C506	C4	CB225	A3	CE100	C1	CE303	C2	D500	C4
C118	D2	C138	D3	C158	D4	C200	C2	C218	B1	C237	C2	C505	B4	C507	C4	CB300	C1	CE101	B2	CE304	C1	D501	B4
C119	D2	C140	D3	C159	D4	C201	B1	C219	C1	C238	C3	C506	C4	C508	B4	CB301	C2	CE105	C1	CE305	A2	D503	C4
C120	D2	C141	A1	C160	B2	C202	C1	C221	C1	C239	C3	C507	C4	C509	B4	CB302	A2	CE106	C1	CE403	B4	D504	B4
C121	D2	C142	D3	C163	C1	C203	C2	C222	B1	C240	C3	C508	B4	CB212	B2	CB303	A2	CE200	C2	CE404	B3	D505	B3

D506	B3	FB103	D4	L107	C1	L216	C1	Q100	D2	Q301	C2	R107	D4	R130	C2	R148	C2	R224	B3	R528	A4	RN107	A2
D507	A3	FB104	D4	L108	C1	L300	A2	Q101	D2	Q302	C1	R108	C2	R131	C3	R151	D1	R225	B2	R530	B4	TP1	B2
D508	A3	FB105	D4	L109	C1	L301	C1	Q102	D3	Q303	C1	R109	D2	R132	C3	R152	D2	R226	A1	R531	B4	TP2	B2
D509	A4	FB106	D1	L200	B1	L303	C1	Q103	D1	Q400	B4	R110	D2	R133	D2	R153	D1	R227	A1	R532	B4	TP200	B1
D510	A4	FB107	D1	L201	C1	L501	C1	Q104	D1	Q409	B4	R111	D2	R134	D3	R154	D1	R228	A1	R533	B4	TP201	B1
D511	A3	FB108	D1	L202	C1	L502	C4	Q105	B2	Q410	B4	R112	B1	R135	D2	R155	D2	R229	A1	R536	D4	TP203	B2
D512	A3	FB109	D1	L203	C1	L503	B4	Q106	B2	Q413	B4	R113	A1	R136	D2	R156	D1	R230	A1	R537	D4	TP3	B2
D513	A3	FB110	D2	L204	C1	L504	C4	Q148	D2	Q414	B4	R118	D3	R137	D2	R157	D1	R231	B1	R538	D3	TP300	A1
D514	A3	FB111	D1	L205	C1	L505	C4	Q200	A1	Q505	A4	R119	D2	R139	D2	R158	D2	R232	B1	R539	B3	TP301	A1
D515	A4	FB112	B4	L206	C1	L507	B4	Q201	B1	Q506	A4	R120	D2	R140	D2	R159	D1	R234	B1	RN100	B2	TP302	A1
D516	A3	FB113	B2	L208	C2	L508	B4	Q202	B1	Q507	A3	R121	D3	R141	D2	R160	D1	R235	B1	RN101	A2	TP303	A2
D517	A3	FB115	C3	L209	C1	L509	B4	Q203	B1	R100	D2	R122	D3	R142	D2	R161	D1	R300	A1	RN102	A2	TP304	A1
D518	A3	HA200	B1	L210	C1	L510	A4	Q204	B1	R102	D3	R123	D3	R143	D2	R162	D2	R301	A2	RN103	B3	TP305	A2
D519	A3	J200	D4	L211	B2	L511	A4	Q205	A1	R103	A3	R125	D2	R144	D2	R163	D2	R302	A2	RN104	A3	TP306	A1
FB100	D4	J201	A1	L212	C1	P401	B4	Q206	A1	R104	D2	R126	D2	R145	D2	R164	B2	R303	A2	RN105	A3	TP307	A2
FB101	D4	J300	A1	L214	B1	P500	A4	Q207	B1	R105	D2	R128	D3	R146	D2	R165	B2	R304	A2	RN106	A3	TP308	A1
FB102	D4	L100	C1	L215	B1	P501	C4	Q300	C2	R106	D4	R129	C2	R147	D2	R166	B2	R305	A2	RN107	A2	TP309	A2
																R167	B2	R306	C2	TP1	B2	TP310	A1
																R168	B2	R307	C2	TP2	B2	TP4	B2
																R169	B4	R308	C2	TP200	B1	TP400	C3
																R170	C3	R309	B2	TP201	B1	TP401	C3
																R171	C3	R310	B2	TP203	B2	TP500	A4
																R172	C3	R311	C2	TP3	B2	U101A	C3
																R173	C3	R312	B2	TP300	A1	U101B	D3
																R174	C2	R313	C1	TP301	A1	U102	D3
																R175	C2	R314	C1	TP302	A1	U103	D1
																R176	C2	R315	A1	TP303	A2	U104	C3
																R177	C2	R316	C1	TP304	A1	U105	D3
																R178	C4	R317	C1	TP305	A2	U108B	D2
																R179	C3	R318	A1	TP306	A1	U109A	D2
																R180	C3	R319	B2	TP307	A2	U109B	D2
																R181	D2	R320	C2	TP308	A1	U115	D3
																R182	D2	R321	C2	TP309	A2	U200	C2
																R183	D3	R322	A1	TP310	A1	U300	A1
																R184	D2	R442	B4	TP4	B2	U302	B3
																R185	D3	R443	B4	TP400	C3	U303	B2
																R186	D3	R445	B4	TP401	C3	XL100	D2
																R200	B1	R446	B4	TP500	A4	Y200	B2
																R201	B1	R449	B4	U101A	C3	ZD100	D2
																R202	C2	R452	B3	U101B	D3	ZD101	D1
																R204	B1	R453	B4	U102	D3		
																R205	B1	R454	B3	U103	D1		
																R206	B1	R455	B4	U104	C3		
																R208	A1	R456	B4	U105	D3		
																R209	C2	R457	B4	U108B	D2		
																R210	C2	R500	B3	U109A	D2		
																R211	C2	R505	B3	U109B	D2		
																R212	C2	R510	C3	U115	D3		
																R213	C2	R516	C3	U200	C2		
																R214	C2	R517	A4	U300	A1		
																R215	C3	R519	A4	U302	B3		
																R216	B1	R520	A4	U303	B2		
																R217	B1	R521	A3	XL100	D2		
																R218	B1	R522	A4	Y200	B2		
																R220	B1	R525	A4	ZD100	D2		
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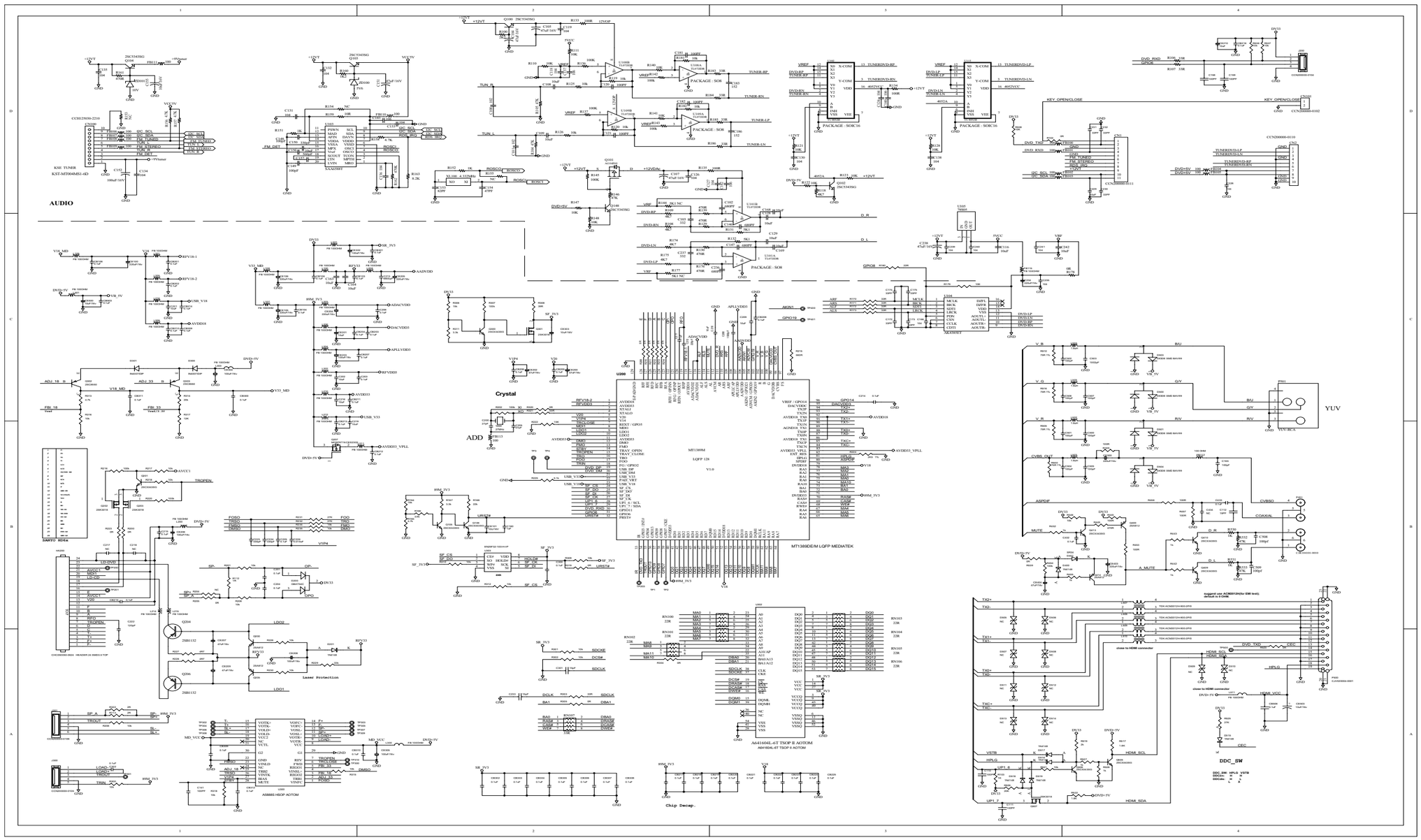
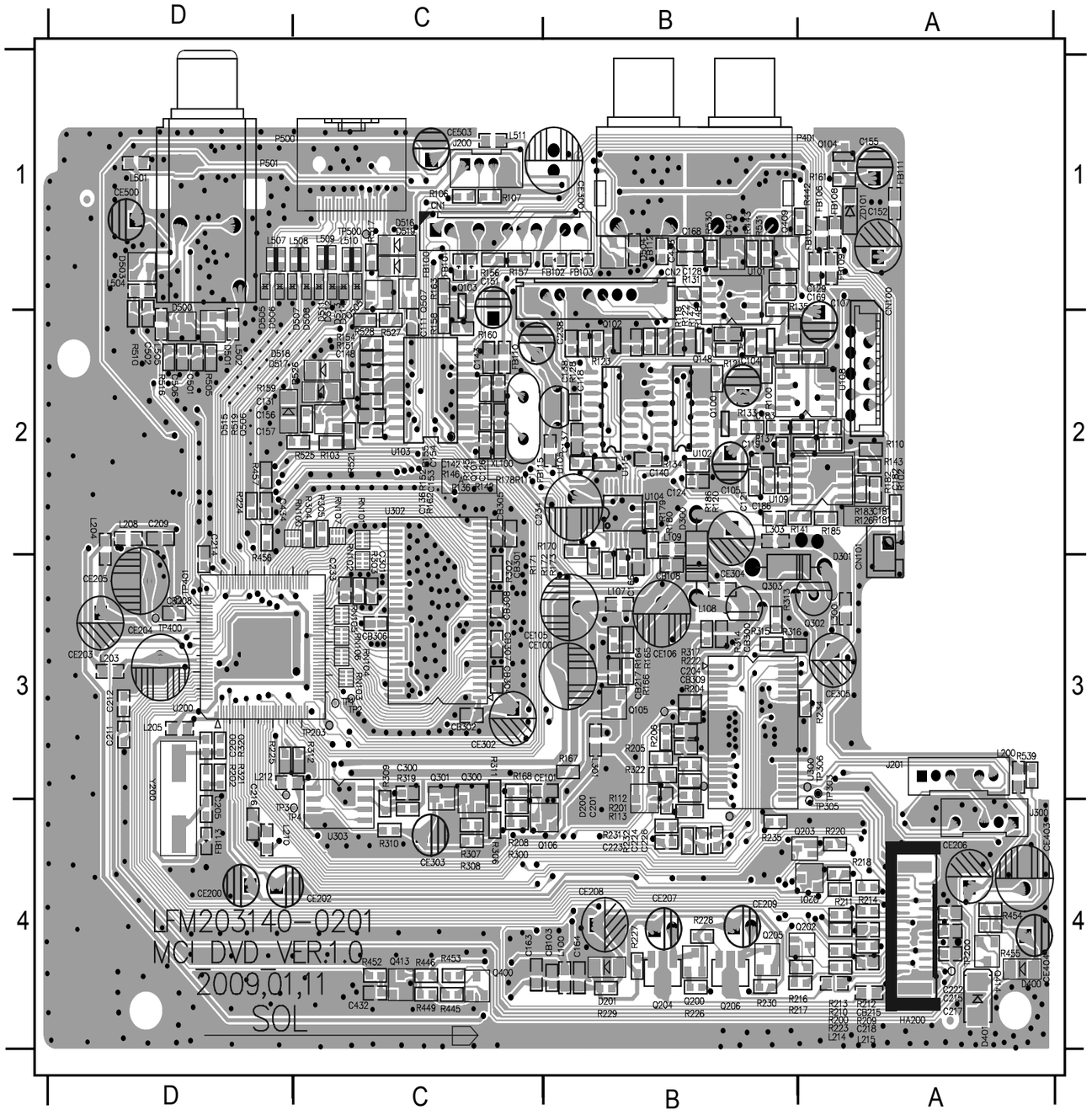
																R223	B1	R527	A4				



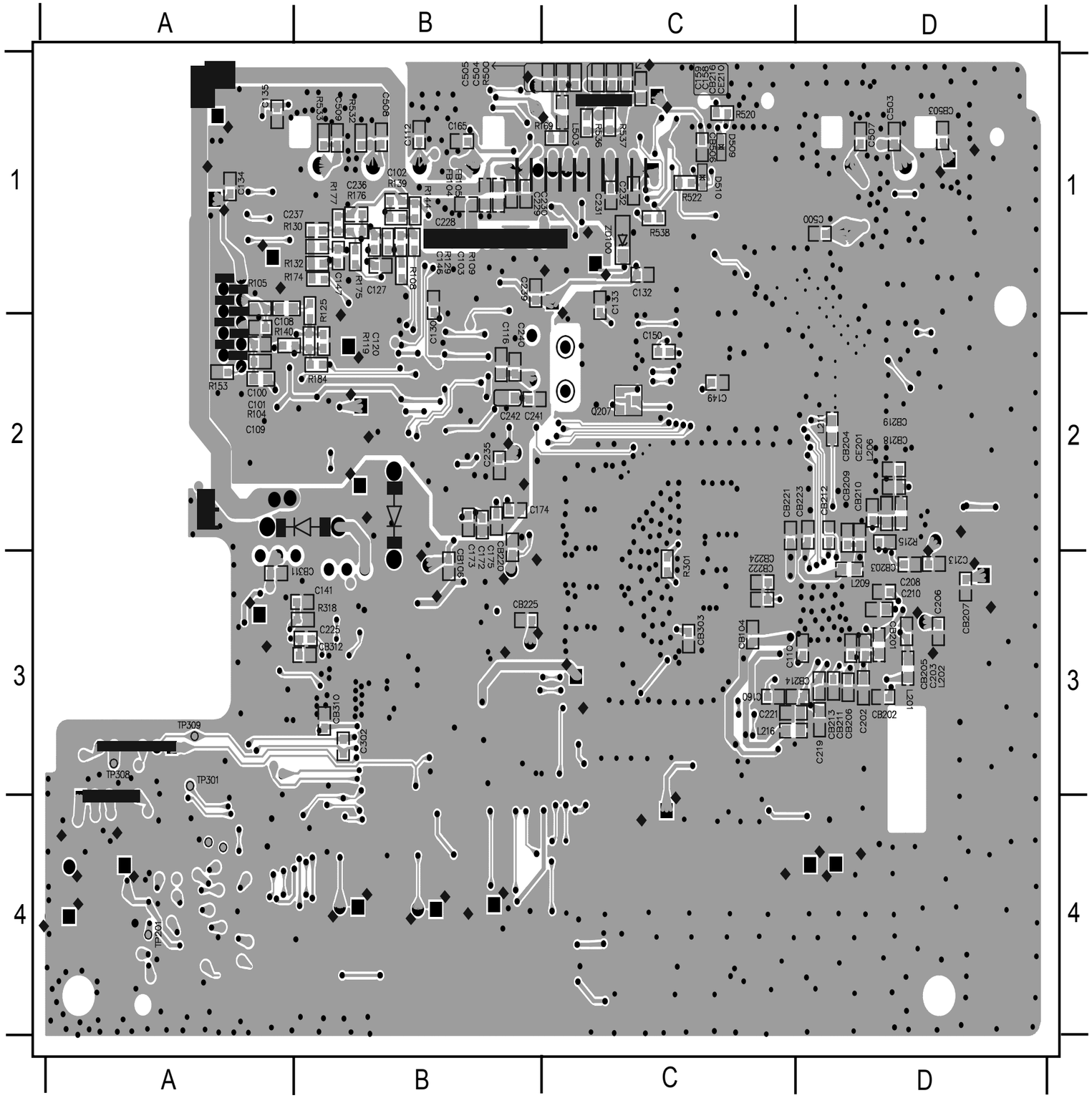
PCB Layout Top View



6 - 3

C104	B2	C506	D2	D517	D2	Q205	B4	R171	C3	R322	B3
C105	B2	CB103	B4	D518	D2	Q206	B4	R172	C3	R401	A1
C107	A1	CB108	B3	D519	C1	Q300	C3	R173	B3	R442	A1
C111	C2	CB208	D3	FB100	C1	Q301	C3	R178	C2	R443	B1
C118	B2	CB215	A4	FB101	C1	Q302	A3	R179	B2	R445	C4
C119	B2	CB217	B3	FB102	B1	Q303	B3	R180	B2	R446	C4
C121	B2	CB300	B3	FB103	B1	Q400	C4	R181	A2	R449	C4
C124	B2	CB301	C3	FB106	A1	Q409	B1	R182	A2	R452	C4
C126	C2	CB302	C3	FB107	A1	Q410	B1	R183	A2	R453	C4
C128	B1	CB304	C3	FB108	A1	Q413	C4	R185	A2	R454	A4
C129	A1	CB305	C2	FB109	A1	Q414	A4	R186	B2	R455	A4
C131	D2	CB306	C3	FB110	C2	Q505	C1	R200	A4	R456	D3
C136	C2	CB307	C3	FB111	A1	Q506	D2	R201	B4	R457	D2
C137	B2	CB308	C3	FB112	B1	Q507	C1	R202	D3	R505	D2
C138	B2	CB309	B3	FB113	D4	R100	B2	R204	B3	R510	D2
C140	B2	CE100	C3	FB115	C2	R102	A2	R205	B3	R516	D2
C142	C2	CE101	C3	HA200	A4	R103	C2	R206	B3	R517	C1
C143	C2	CE105	C3	J200	C1	R106	C1	R208	C4	R519	D2
C148	C2	CE106	B3	J201	A3	R107	C1	R209	A4	R521	C2
C151	C1	CE200	D4	J300	A4	R110	A2	R210	A4	R525	C2
C152	A1	CE202	C4	L100	B4	R111	C2	R211	A4	R526	C2
C153	C2	CE203	D3	L107	B3	R112	B4	R212	A4	R527	C2
C154	C2	CE204	D3	L108	B3	R113	B4	R213	A4	R528	C2
C155	A1	CE205	D3	L109	B2	R118	B2	R214	A4	R530	B1
C156	D2	CE206	A4	L200	A3	R120	B2	R216	B4	R531	B1
C157	D2	CE207	B4	L203	D3	R121	B2	R217	B4	R539	A3
C163	C4	CE208	B4	L204	D2	R122	B2	R218	A4	RN100	C2
C164	B4	CE209	B4	L205	D3	R123	B2	R220	A4	RN101	C2
C166	B3	CE300	B1	L208	D2	R126	A2	R222	B3	RN102	C3
C168	B1	CE302	C3	L210	D4	R128	B2	R223	A4	RN103	C3
C169	A1	CE303	C4	L212	D3	R131	B1	R224	D2	RN104	C3
C181	A2	CE304	B3	L214	A4	R133	B2	R225	D3	RN105	C3
C182	A2	CE305	A3	L215	A4	R134	B2	R226	B4	RN106	C3
C183	B2	CE403	A4	L300	A3	R135	B1	R227	B4	RN107	C2
C186	B2	CE404	A4	L301	B3	R136	C2	R228	B4	TP1	C3
C200	D3	CE500	D1	L303	B2	R137	B2	R229	B4	TP2	C3
C201	B4	CE503	C1	L501	D1	R141	B2	R230	B4	TP200	A4
C204	B3	CN1	C1	L502	D2	R142	C2	R231	B4	TP203	C3
C205	D4	CN100	A1	L504	D1	R143	A2	R232	B4	TP3	D4
C209	D2	CN101	A3	L505	D2	R145	C2	R234	A3	TP303	A3
C211	D3	CN2	B1	L507	D1	R146	C2	R235	B4	TP305	A4
C212	D3	D200	B4	L508	C1	R147	B2	R300	C4	TP306	A3
C214	D2	D201	B4	L509	C1	R148	B2	R302	C3	TP4	D4
C215	A4	D300	B2	L510	C1	R151	C2	R303	C3	TP400	D3
C216	D3	D301	A3	L511	C1	R152	C2	R304	C2	TP401	D3
C217	A4	D400	A4	P401	A1	R154	C2	R305	C2	TP500	C1
C218	A4	D401	A4	P500	D1	R155	C2	R306	C4	U101	B1
C222	A4	D500	D1	P501	D1	R156	C1	R307	C4	U102	B2
C223	B4	D501	D2	Q100	B2	R157	C1	R308	C4	U103	C2
C224	B4	D503	D1	Q101	C2	R158	C2	R309	C3	U104	B2
C226	B4	D504	B1	Q102	B2	R159	D2	R310	C4	U105	B2
C233	C3	D505	D2	Q103	C1	R160	C2	R311	C3	U108	A2
C234	C2	D506	D2	Q104	A1	R161	A1	R312	C3	U109	B2
C238	B2	D507	C2	Q105	B3	R162	C2	R313	B3	U115	B2
C300	C3	D508	C2	Q106	B4	R163	C1	R314	B3	U200	D3
C301	C3	D511	C2	Q148	B2	R164	B3	R315	B3	U300	A3
C432	C4	D512	C2	Q200	B4	R165	B3	R316	B3	U302	C2
C433	B1	D513	C2	Q201	A4	R166	B3	R317	B3	U303	C4
C434	D2	D514	C2	Q202	A4	R167	B3	R319	C3	XL100	C2
C501	D2	D515	D2	Q203	A4	R168	C3	R320	D3	Y200	D3
C502	D2	D516	C1	Q204	B4	R170	B2	R321	D3	ZD101	A1

PCB Layout Bottom View



C100	A2
C101	A2
C102	B1
C103	B1
C108	A2
C109	A2
C110	C3
C112	B1
C116	B2
C120	B2
C127	B1
C130	B2
C132	C1
C133	C1
C134	A1
C135	A1
C141	B3
C146	B1
C147	B1
C149	C2
C150	C2
C158	C1
C159	C1
C160	C3
C165	B1
C172	B3
C173	B3
C174	B2
C175	B3
C202	D3
C203	D3
C206	D3
C208	D3
C210	D3
C213	D3
C219	D3
C221	C3
C225	B3
C228	B1
C229	B1
C230	C1
C231	C1
C232	C1
C235	B2
C236	B1
C237	A1

C239	B1
C240	B2
C241	B2
C242	B2
C302	B3
C500	D1
C503	D1
C504	B1
C505	B1
C507	D1
C508	B1
C509	B1
CB104	C3
CB106	B3
CB201	D3
CB202	D3
CB203	D3
CB204	D2
CB205	D3
CB206	D3
CB207	D3
CB209	D2
CB210	D2
CB211	D3
CB212	D2
CB213	D3
CB214	D3
CB216	C1
CB218	D2
CB219	D2
CB220	B3
CB221	C2
CB222	C3
CB223	D2
CB224	C3
CB225	B3
CB303	C3
CB310	B3
CB311	B3
CB312	B3
CB503	D1
CB506	C1
CE201	D2
CE210	C1
D509	C1
D510	C1

FB104	B1
FB105	B1
L201	D3
L202	D3
L206	D2
L209	D3
L211	D2
L216	C3
L503	C1
Q207	C2
R104	A2
R105	A1
R108	B1
R109	B1
R119	B2
R125	B2
R129	B1
R130	A1
R132	A1
R139	B1
R140	A2
R144	B1
R153	A2
R169	C1
R174	A1
R175	B1
R176	B1
R177	B1
R184	B2
R215	D2
R301	C3
R318	B3
R500	B1
R520	C1
R522	C1
R532	B1
R533	B1
R536	C1
R537	C1
R538	C1
TP201	A4
TP301	A3
TP308	A3
TP309	A3
ZD100	C1

NET Main Board

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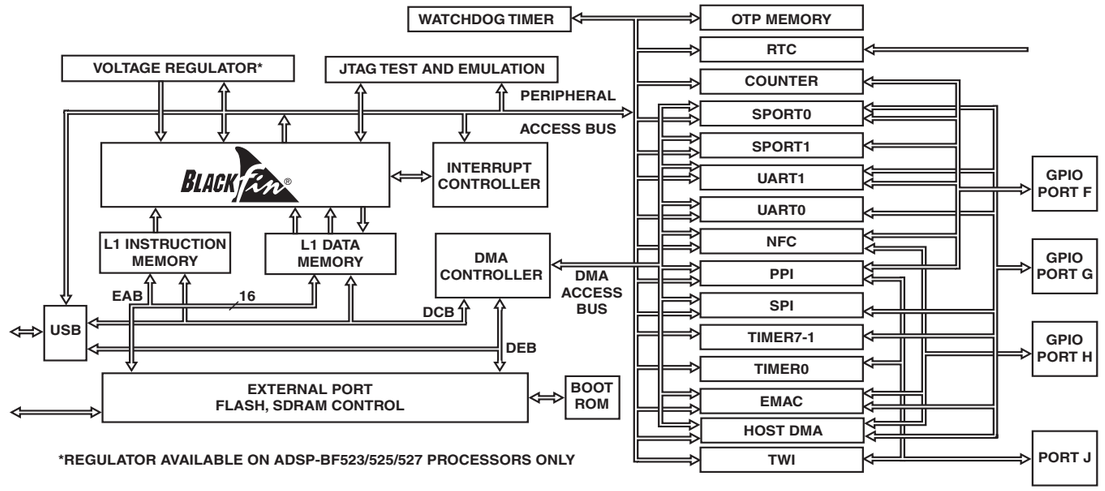
INTERNAL IC DIAGRAM -BF527



CIRCUIT DIAGRAM NET MAIN BOARD

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1
1-Audio

4
4-BUFFER

7
7-POWER

2
2-IO&DIN

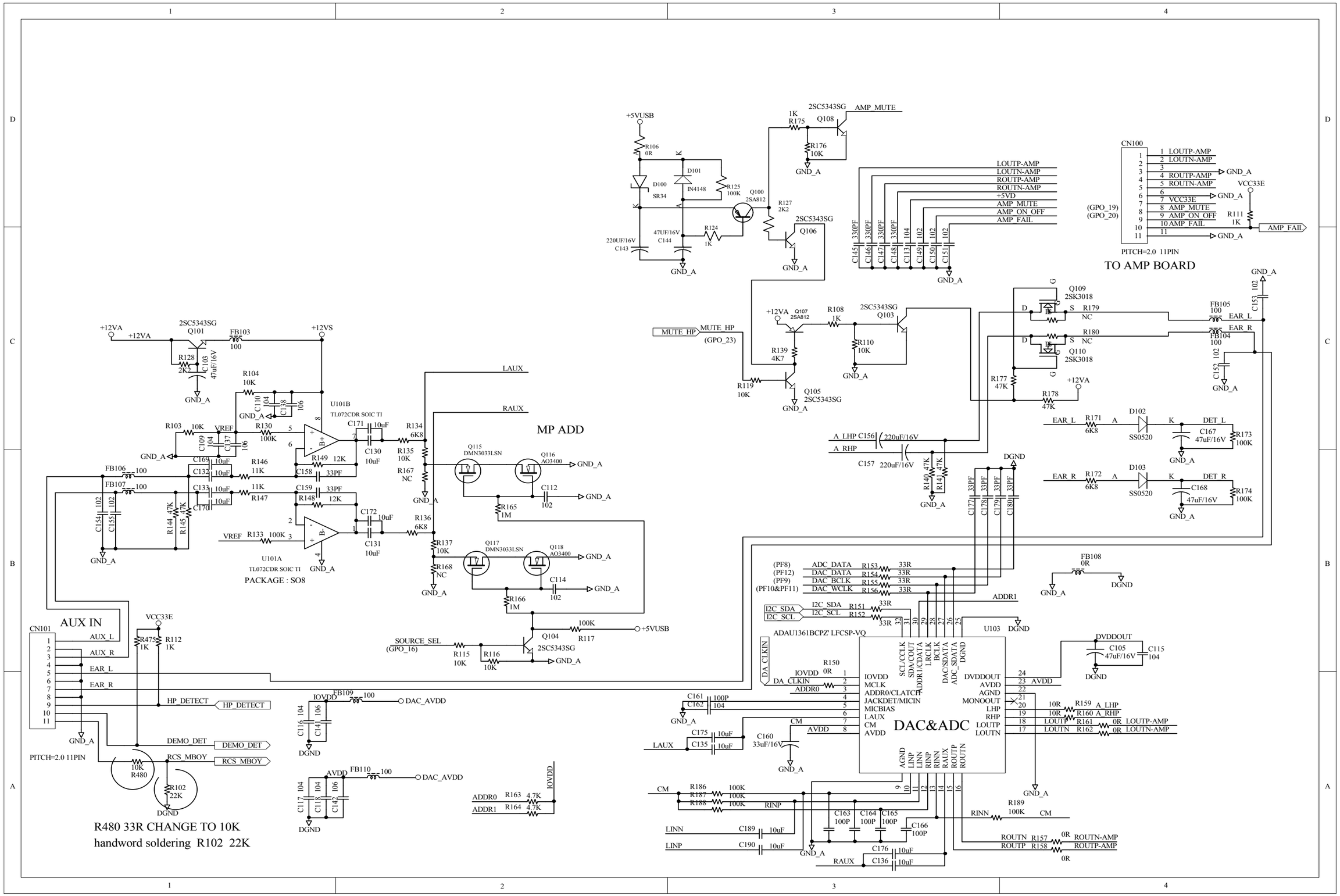
5
5-MEMORY

3
3-LAN&LCD

6
6-USB

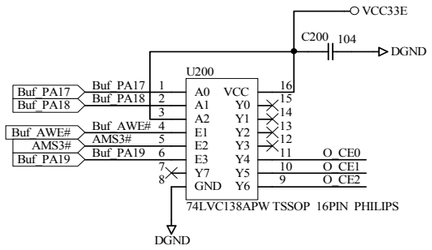
7 - 3

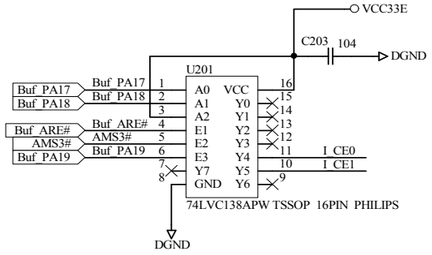
CIRCUIT DIAGRAM—— AUDIO PART

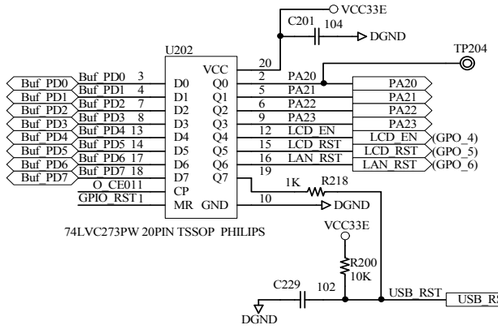


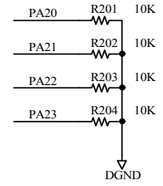
7 - 4

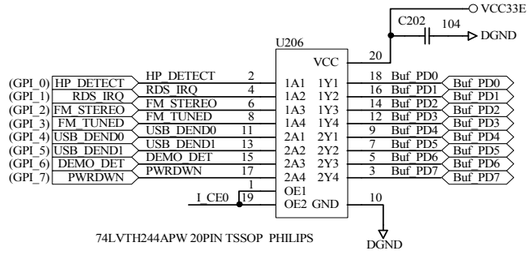
CIRCUIT DIAGRAM—— IO & DIN PART

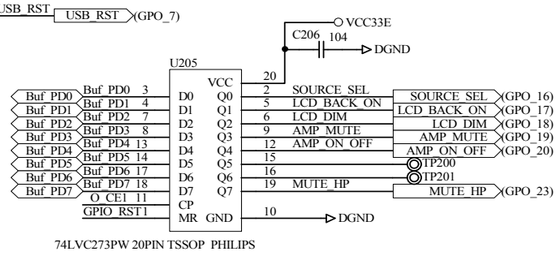


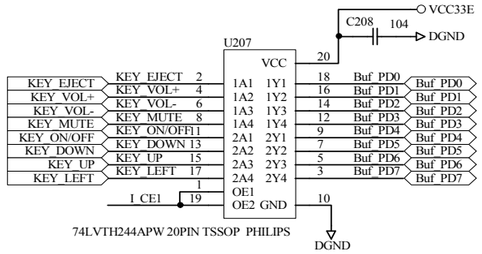


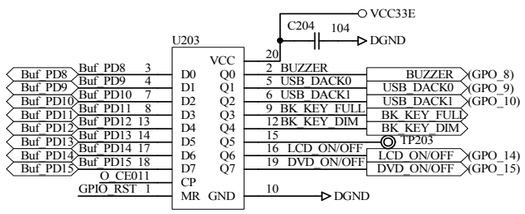


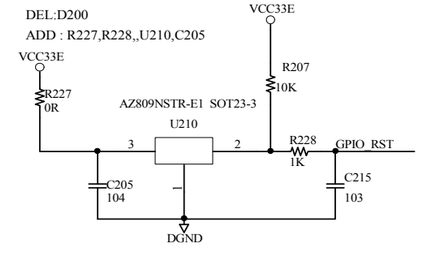


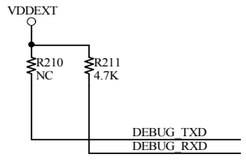


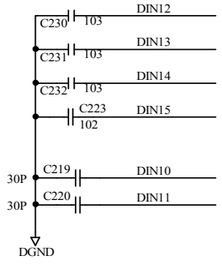


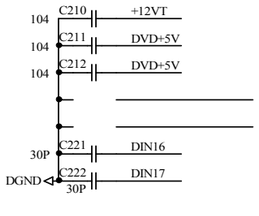


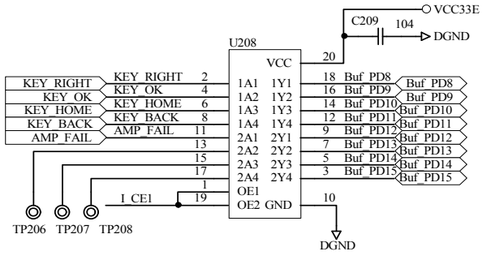


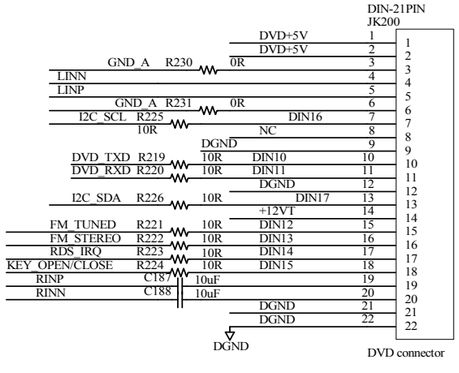


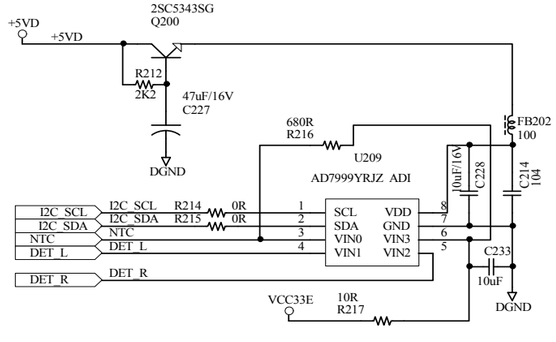


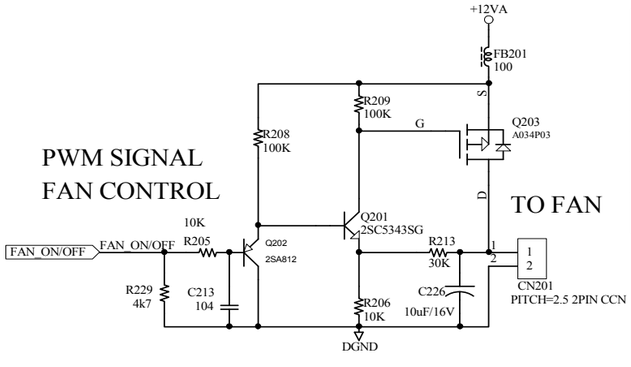












I/O Change list 091203	
Originally	Now
DVD_TXD	LINN
DVD_RXD	LINP
I2C_SCL	RINP
I2C_SDA	RINN
DVD_IRQ	I2C_SCL
DGND	I2C_SDA
DVD_L/TUNER_L	DVD_TXD
DVD_R/TUNER_R	DVD_RXD

CIRCUIT DIAGRAM—— LAN & LCD PART

7 - 5

U300
LAN8700 36PIN QFN SMSC

U302
TPS61042DRB 8PIN QFN TI

U303
74LVC1G04GW SC-88A

CN300
FCC-54PIN-0.5

RJ-012NL

XL300
50MHz 4PIN

XL301
20MHz 4PIN

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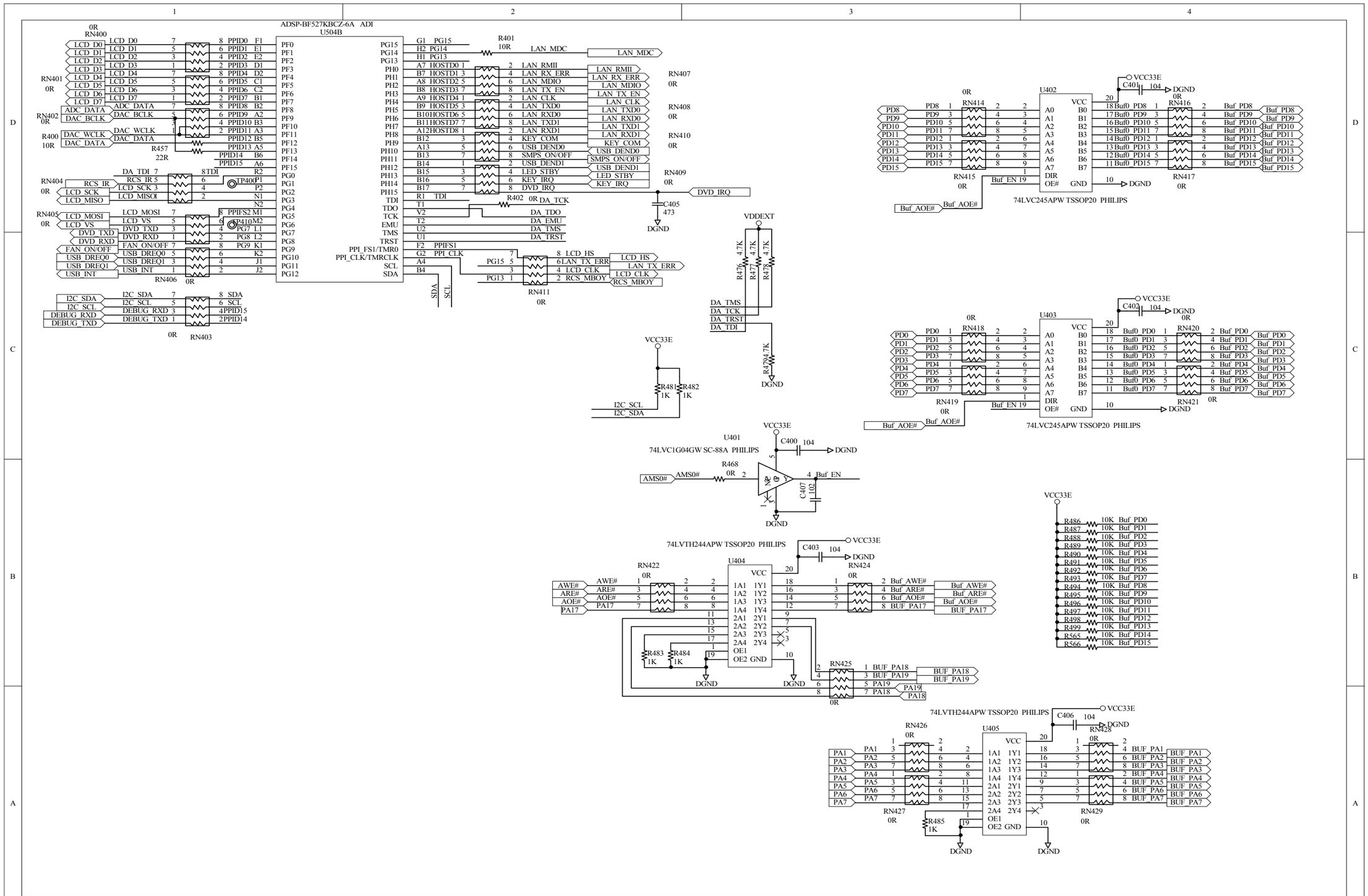
CIRCUIT DIAGRAM—— BUFFER PART



CIRCUIT DIAGRAM—— MEMORY PART

7 - 7

U504A

ADSP-BF527KBCZ-6A ADI

U505

FLASH 16MB

M58LT128HST TBGA64 NUMONYX

MT48LC64M8A2TG-75 TSOP MICRON (OPTION)

IS42S86400B-7TL TSOPII ISSI

U506 SDRAM 64MB

MT48LC64M8A2TG-75 TSOP MICRON (OPTION)

IS42S86400B-7TL TSOPII ISSI

U507 SDRAM 64MB

MASTER RESET

AZ809NSTR-E1 SOT23-3

U509

U508

74LVC1G04GW SC-88A

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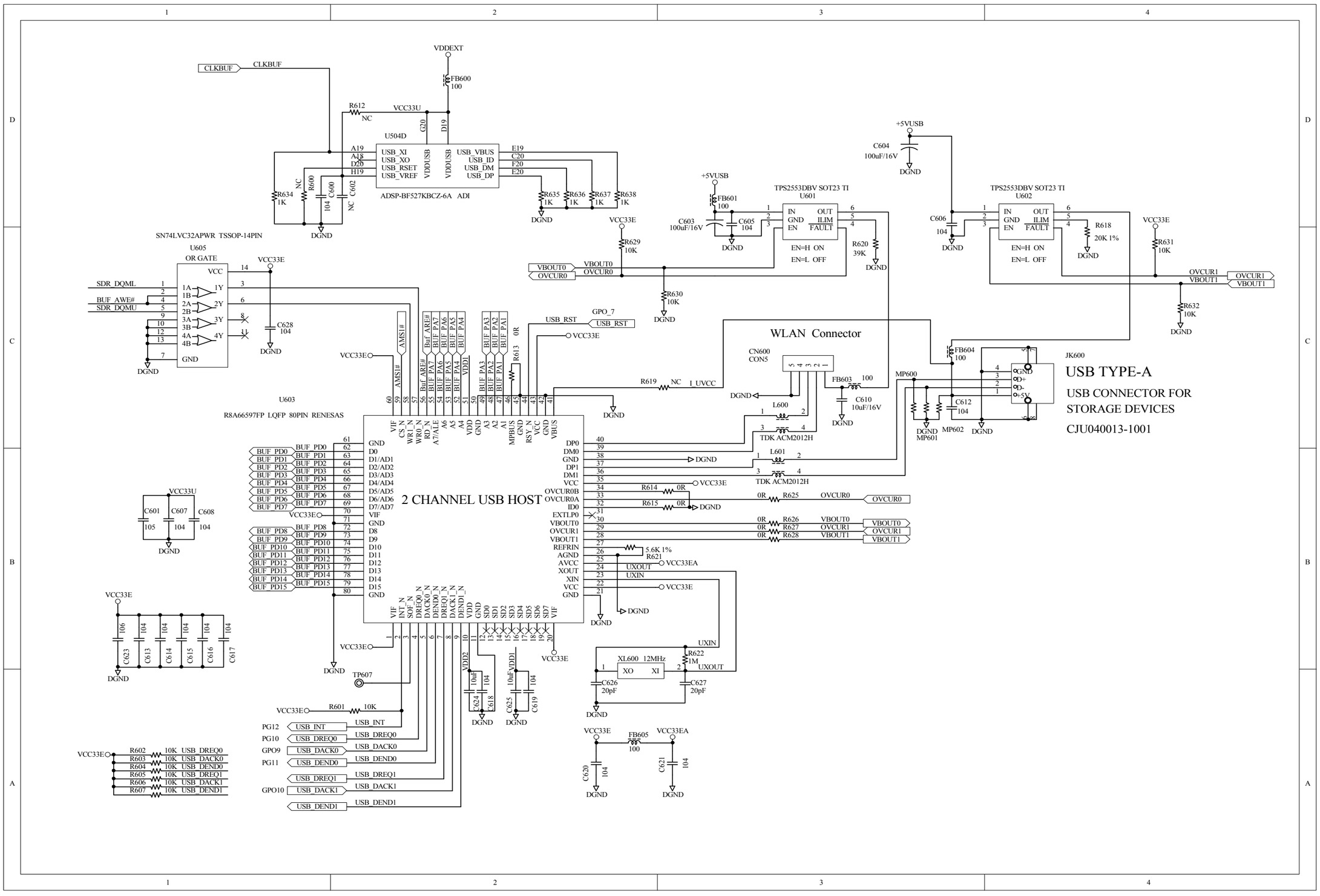
CIRCUIT DIAGRAM—— USB PART



CIRCUIT DIAGRAM—— POWER PART

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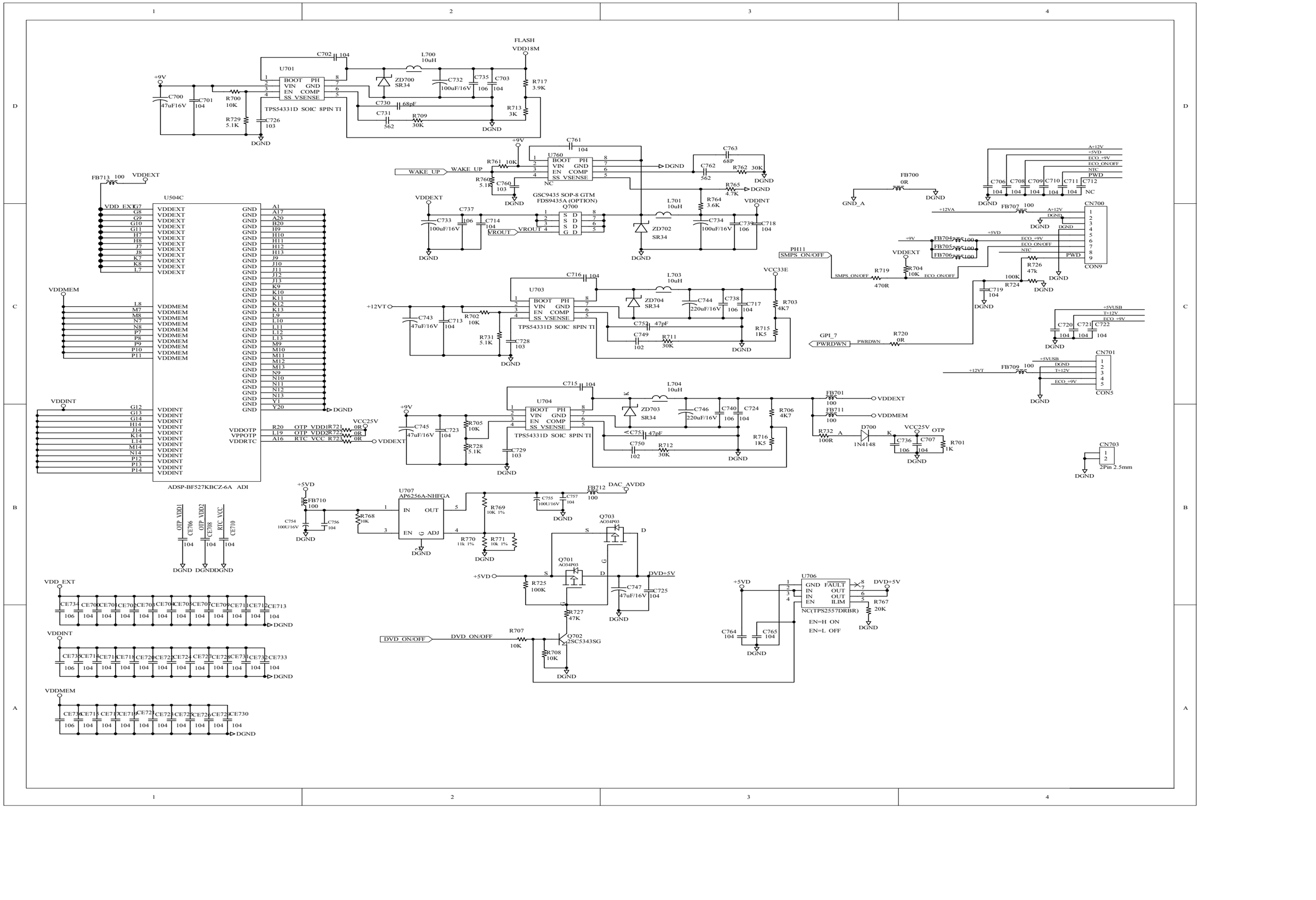

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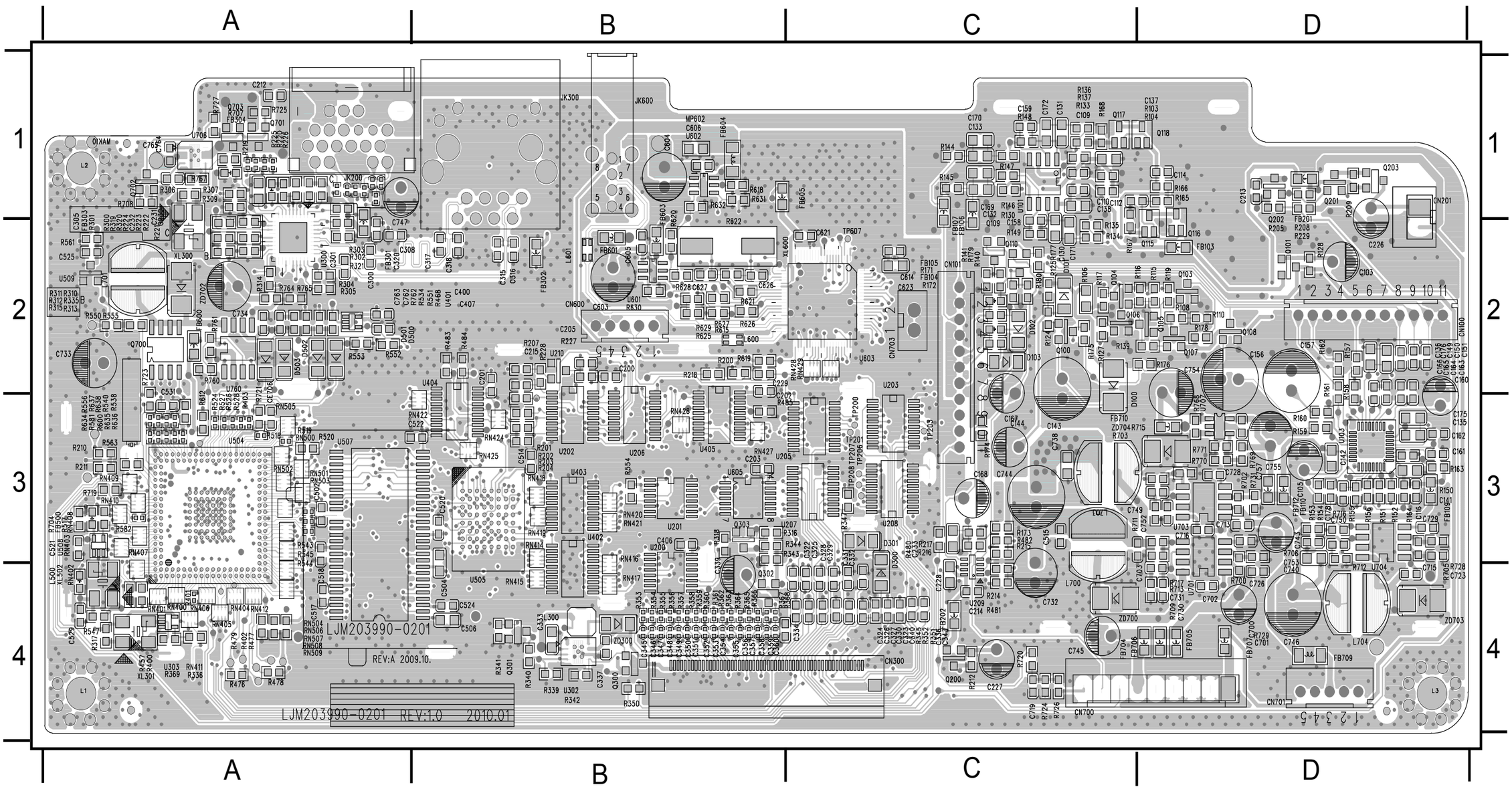
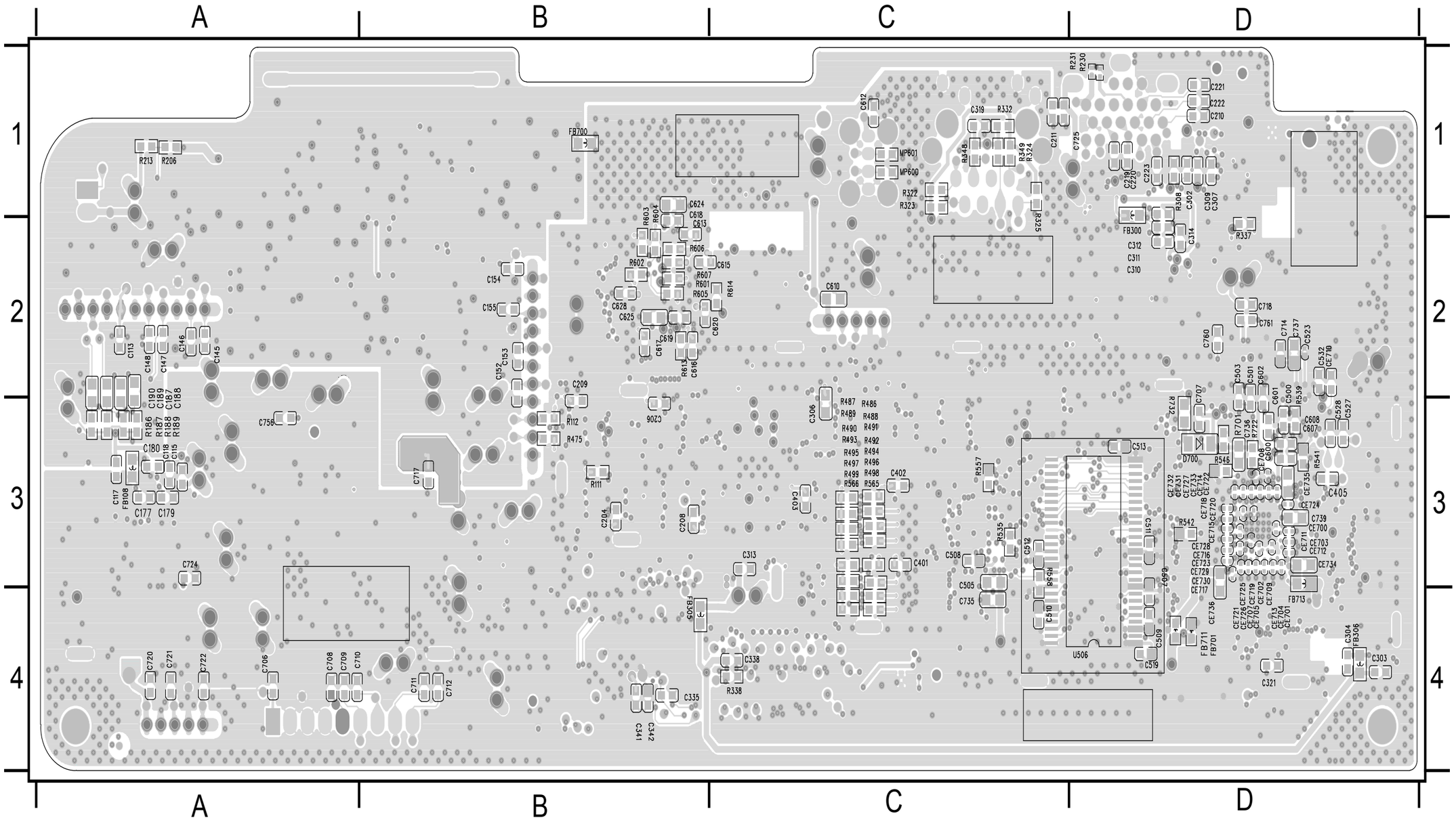
PCB LAYOUT - TOP VIEW



7 - 11

PCB LAYOUT - BOTTOM VIEW



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Key Board

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CIRCUIT DIAGRAM

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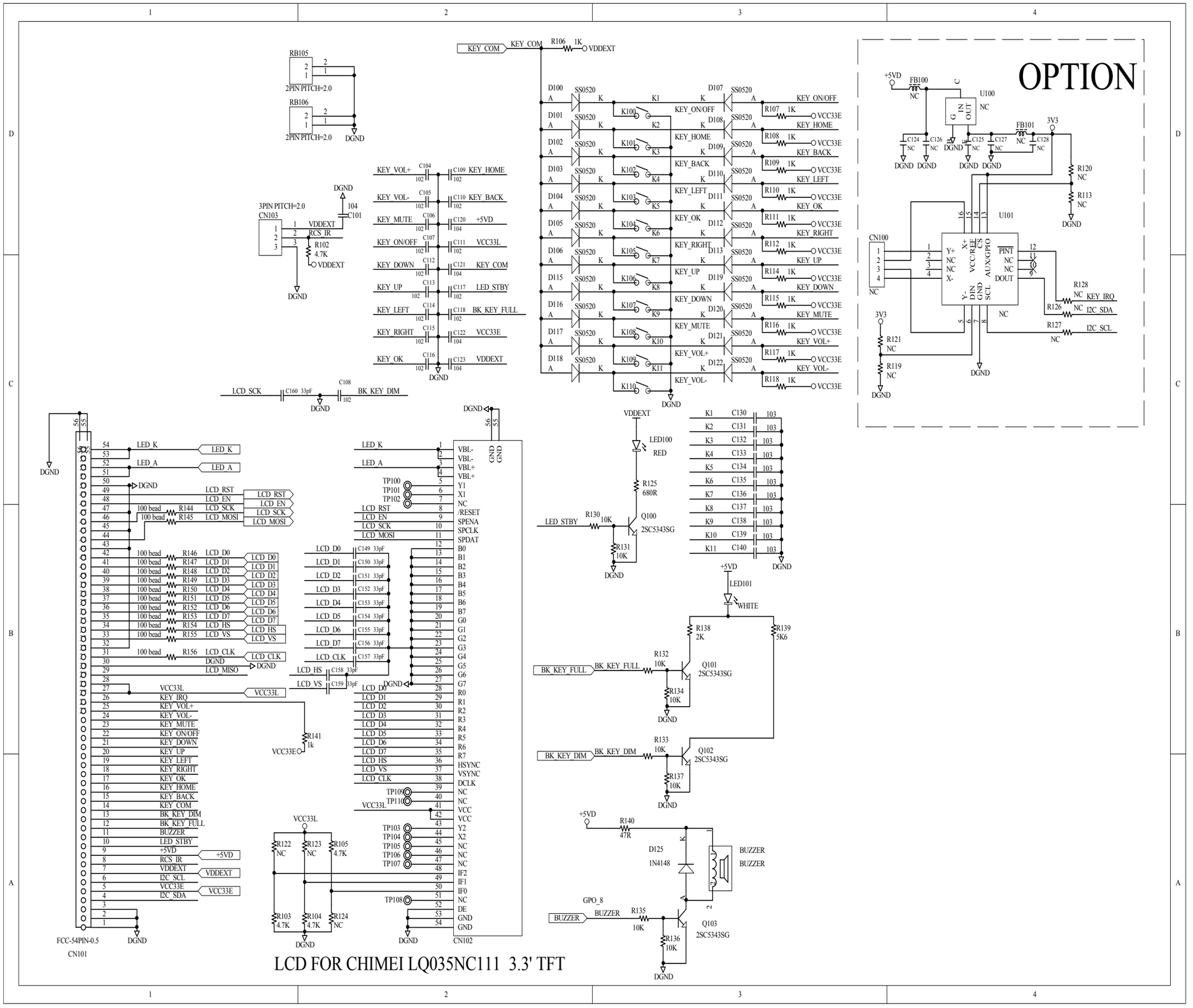

C101	D2	D102	D2	R116	C3
C104	D2	D103	D2	R117	C3
C105	D2	D104	D2	R118	C3
C106	D2	D105	D2	R119	C4
C107	D2	D106	D2	R120	D4
C108	C2	D107	D3	R121	C4
C109	D2	D108	D3	R122	A1
C110	D2	D109	D3	R123	A2
C111	D2	D110	D3	R124	A2
C112	C2	D111	D3	R125	C3
C113	C2	D112	D3	R126	C4
C114	C2	D113	D3	R127	C4
C115	C2	D115	C2	R128	C4
C116	C2	D116	C2	R130	B3
C117	C2	D117	C2	R131	B3
C118	C2	D118	C2	R132	B3
C120	D2	D119	C3	R133	B3
C121	C2	D120	C3	R134	B3
C122	C2	D121	C3	R135	A3
C123	C2	D122	C3	R136	A3
C124	D4	D125	A3	R137	A3
C125	D4	FB100	D4	R138	B3
C126	D4	FB101	D4	R139	B3
C127	D4	K100	D3	R140	A3
C128	D4	K101	D3	R141	B2
C130	C3	K102	D3	R144	B1
C131	C3	K103	D3	R145	B1
C132	C3	K104	D3	R146	B1
C133	C3	K105	D3	R147	B1
C134	C3	K106	C3	R148	B1
C135	C3	K107	C3	R149	B1
C136	C3	K108	C3	R150	B1
C137	B3	K109	C3	R151	B1
C138	B3	K110	C3	R152	B1
C139	B3	LED100	C3	R153	B1
C140	B3	LED101	B3	R154	B1
C149	B2	Q100	B3	R155	B1
C150	B2	Q101	B3	R156	B1
C151	B2	Q102	B3	RB105	D1
C152	B2	Q103	A3	RB106	D1
C153	B2	R102	D2	TP100	C2
C154	B2	R103	A1	TP101	C2
C155	B2	R104	A2	TP102	C2
C156	B2	R105	A2	TP103	A2
C157	B2	R106	D2	TP104	A2
C158	B2	R107	D3	TP105	A2
C159	B2	R108	D3	TP106	A2
C160	C1	R109	D3	TP107	A2
CN100	D3	R110	D3	TP108	A2
CN101	A1	R111	D3	TP109	A2
CN102	A2	R112	D3	TP110	A2
CN103	D1	R113	D4	U100	D4
D100	D2	R114	C3	U101	D4
D101	D2	R115	C3		

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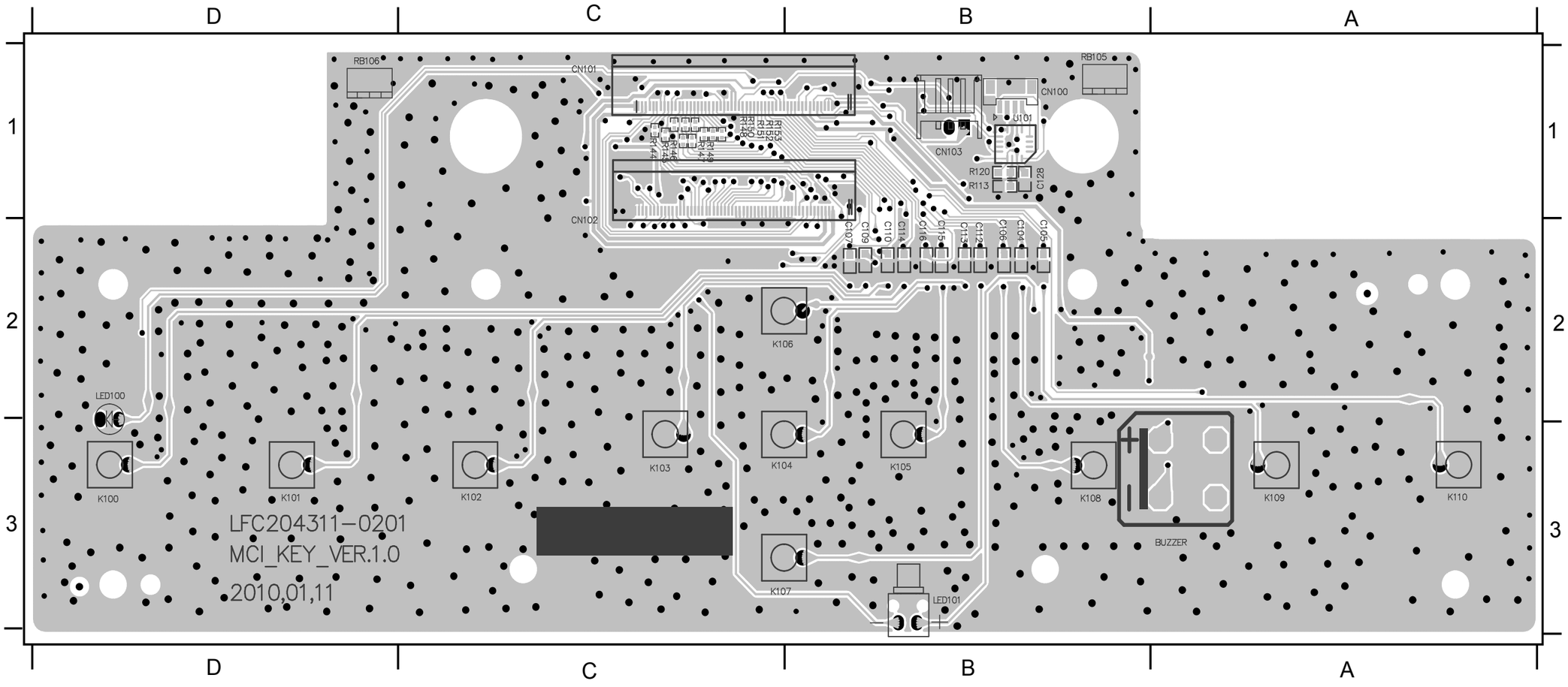
PCB LAYOUT - TOP VIEW



C104	B2
C105	B2
C106	B2
C107	B2
C109	B2
C110	B2
C112	B2
C113	B2
C114	B2
C115	B2
C116	B2
C128	B1
CN100	B1
CN101	C1
CN102	C2
CN103	B1
K100	D3
K101	D3
K102	C3
K103	C3
K104	B3
K105	B3
K106	B2
K107	B3
K108	B3
K109	A3
K110	A3
LED100	D2
LED101	B3
R113	B1
R120	B1
R144	C1
R145	C1
R146	C1
R147	C1
R148	C1
R149	C1
R150	C1
R151	C1
R152	C1
R153	C1
RB105	B1
RB106	D1
U101	B1

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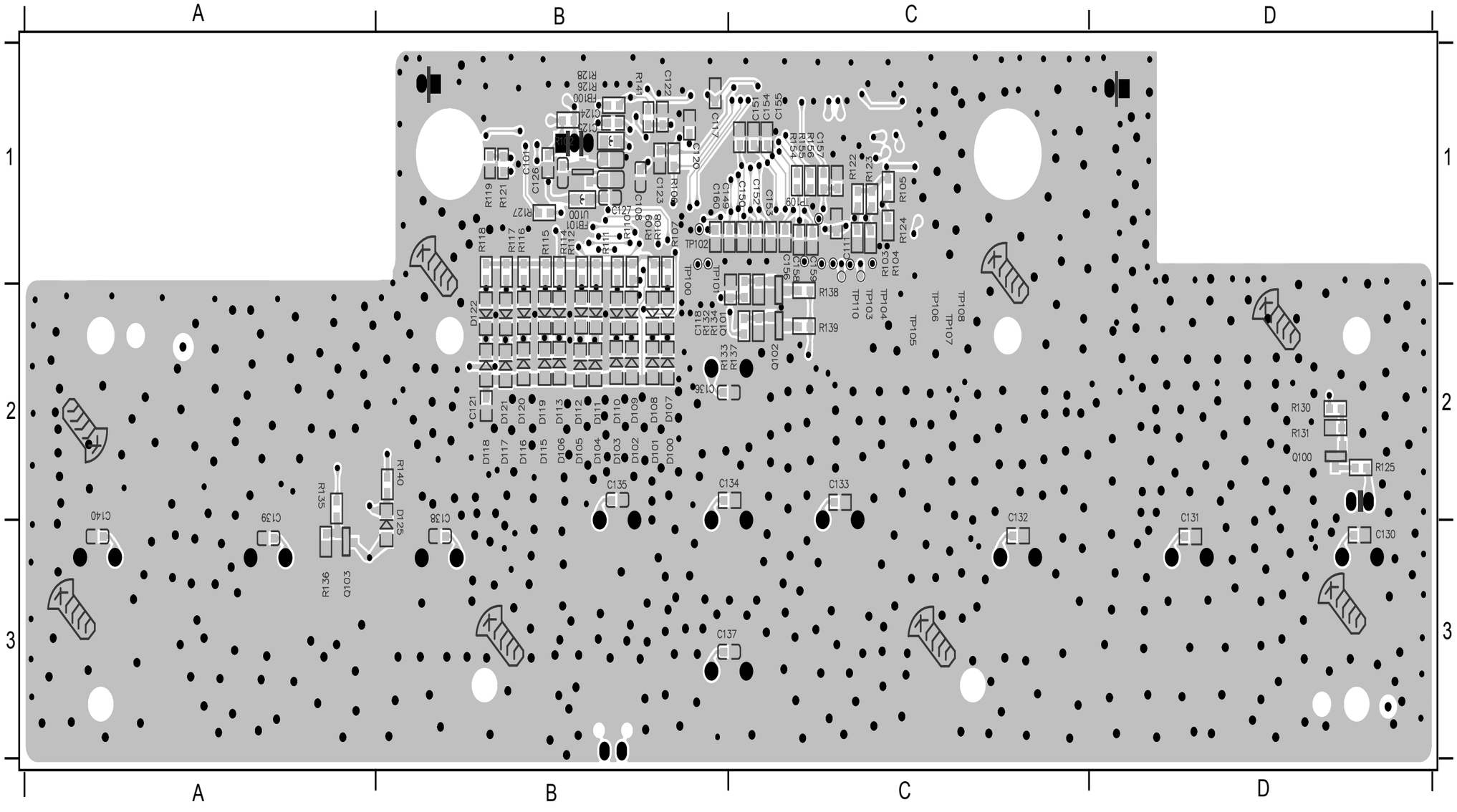
PCB LAYOUT - BOTTOM VIEW



C101	B1
C108	B1
C111	C1
C117	B1
C118	B2
C120	B1
C121	B2
C122	B1
C123	B1
C124	B1
C125	B1
C126	B1
C127	B1
C130	D3
C131	D2
C132	C2
C133	C2
C134	C2
C135	B2
C136	B2
C137	C3
C138	B2
C139	A2
C140	A2
C149	C1
C150	C1
C151	C1
C152	C1
C153	C1
C154	C1
C155	C1
C156	C1
C157	C1
C158	C1
C159	C1
C160	B1
D100	B2
D101	B2
D102	B2
D103	B2
D104	B2
D105	B2
D106	B2
D107	B2
D108	B2
D109	B2
D110	B2
D111	B2
D112	B2
D113	B2
D115	B2
D116	B2
D117	B2
D118	B2
D119	B2
D120	B2
D121	B2
D122	B2
D125	B3

FB100	B1
FB101	B1
Q100	D2
Q101	C2
Q102	C2
Q103	A3
R102	B1
R103	C1
R104	C1
R105	C1
R106	B1
R107	B1
R108	B1
R109	B1
R110	B1
R111	B1
R112	B1
R114	B1
R115	B1
R116	B1
R117	B1
R118	B1
R119	B1
R121	B1
R122	C1
R123	C1
R124	C1
R125	D2
R126	B1
R127	B1
R128	B1
R130	D2
R131	D2
R132	B2
R133	C2
R134	B2
R135	A2
R136	A3
R137	C2
R138	C2
R139	C2
R140	B2
R141	B1
R154	C1
R155	C1
R156	C1
TP100	B1
TP101	B1
TP102	B1
TP103	C2
TP104	C2
TP105	C2
TP106	C2
TP107	C2
TP108	C2
TP109	C1
TP110	C2
U100	B1

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AMP Board

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CIRCUIT DIAGRAM

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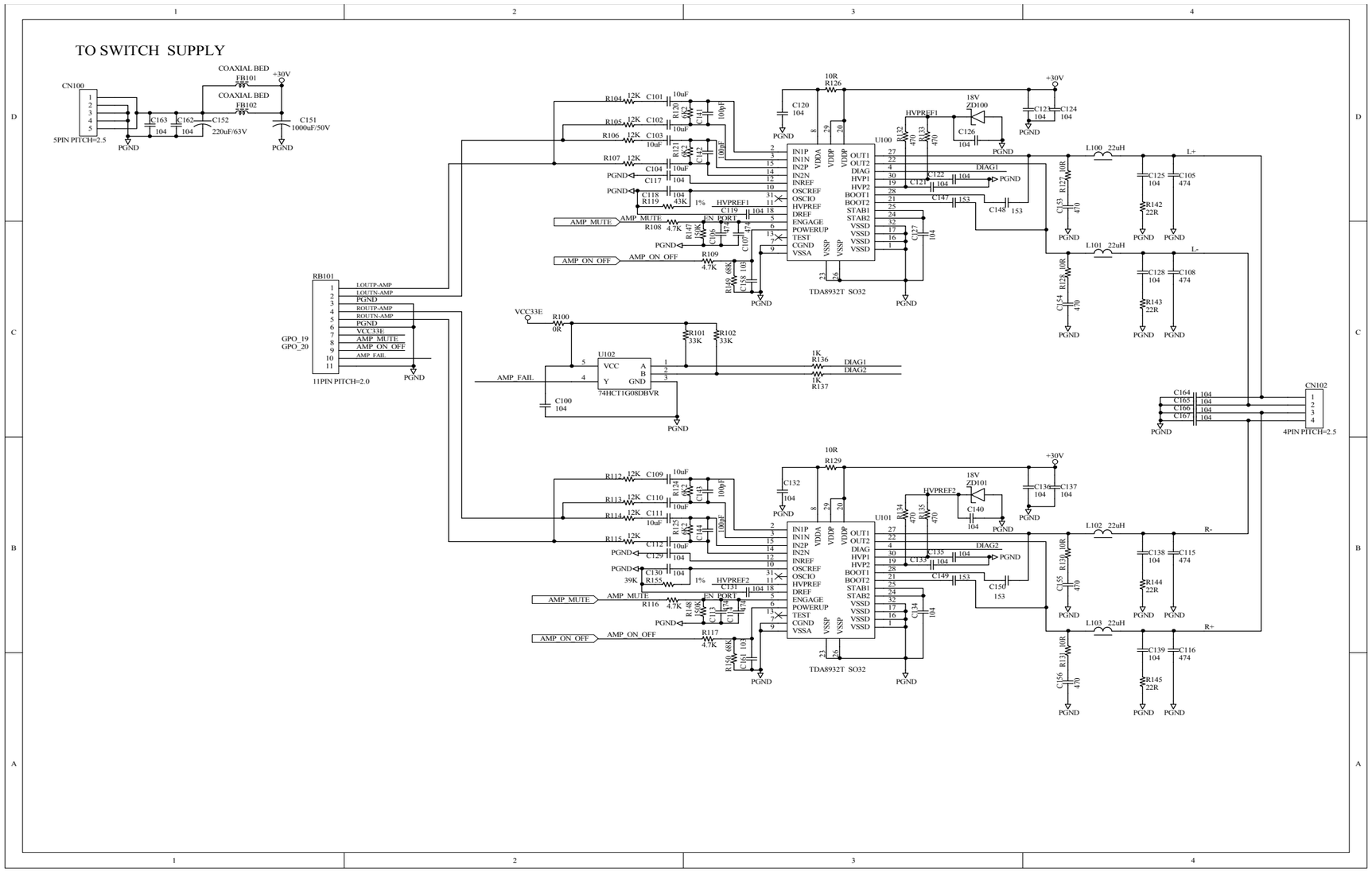

C140	B3	R112	B2
C141	D3	R113	B2
C142	D3	R114	B2
C143	B3	R115	B2
C144	B3	R116	B2
C147	D3	R117	B3
C148	D3	R119	D2
C149	B3	R120	D2
C150	B3	R121	D2
C151	D1	R124	B2
C152	D1	R125	B2
C153	D4	R126	D3
C154	C4	R127	D4
C155	B4	R128	C4
C156	A4	R129	B3
C158	C3	R130	B4
C161	A3	R131	A4
C162	D1	R132	D3
C163	D1	R133	D3
C164	C4	R134	B3
C165	C4	R135	B3
C166	C4	R136	C3
C167	C4	R137	C3
CN100	D1	R142	D4
CN102	C4	R143	C4
FB101	D1	R144	B4
FB102	D1	R145	A4
L100	D4	R147	C3
L101	C4	R148	B3
L102	B4	R149	C3
L103	B4	R150	A3
R100	C2	R155	B2
R101	C3	RB101	C1
R102	C3	U100	D3
R104	D2	U101	B3
R105	D2	U102	C2
R106	D2	ZD100	D3
R107	D2	ZD101	B3
R108	C2		
R109	C3		

PCB LAYOUT - TOP VIEW

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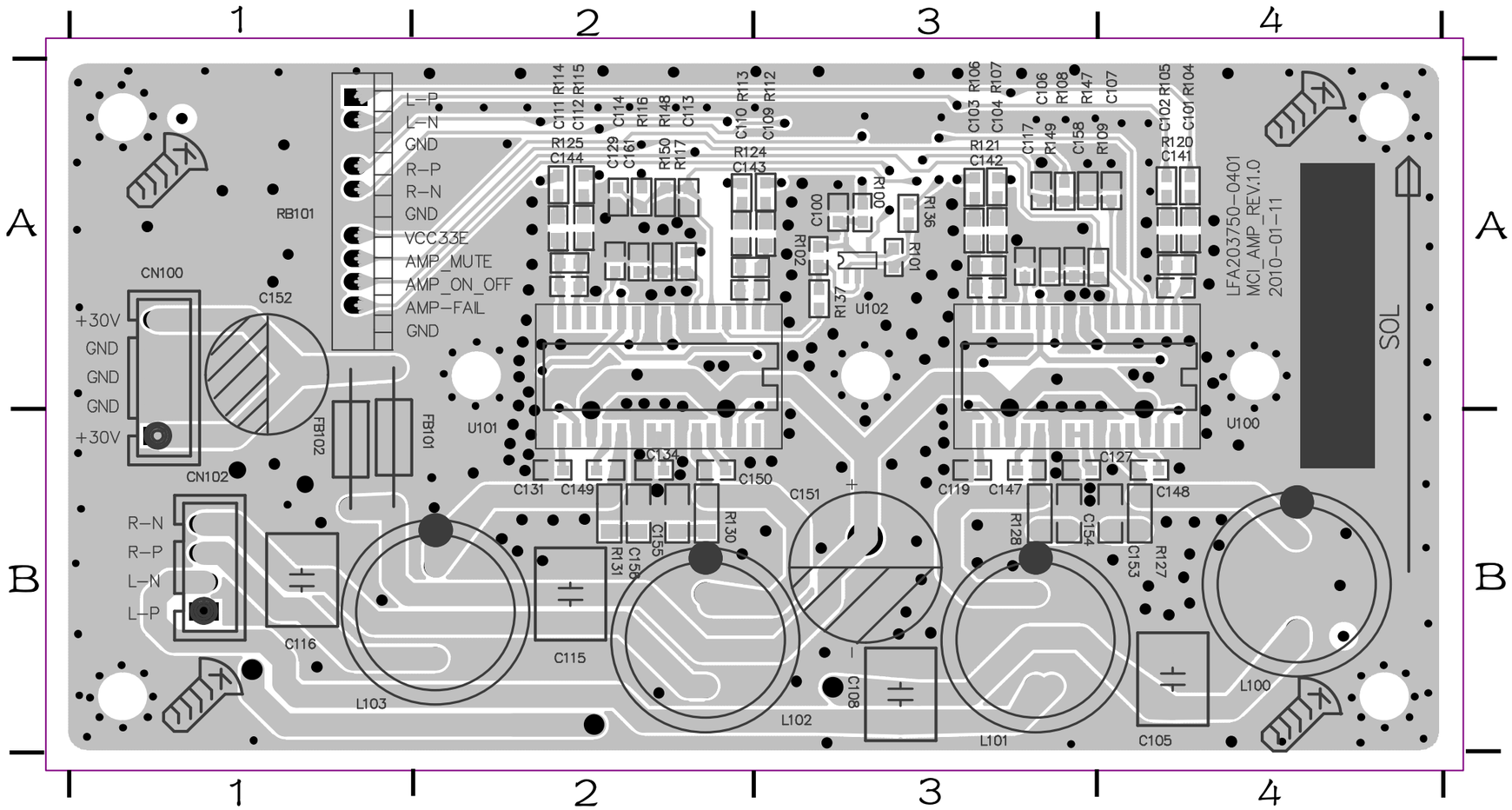

C100	A3
C101	A4
C102	A4
C103	A3
C104	A3
C105	B4
C106	A3
C107	A4
C108	B3
C109	A3
C110	A2
C111	A2
C112	A2
C113	A2
C114	A2
C115	B2
C116	B1
C117	A3
C119	B3
C127	B4
C129	A2
C131	B2
C134	B2
C141	A4
C142	A3
C143	A2
C144	A2
C147	B3
C148	B4
C149	B2
C150	B2
C151	B3
C152	A1
C153	B4
C154	B3
C155	B2
C156	B2
C158	A3
C161	A2
CN100	A1

CN102	B1
FB101	B2
FB102	B1
L100	B4
L101	B3
L102	B3
L103	B1
R100	A3
R101	A3
R102	A3
R104	A4
R105	A4
R106	A3
R107	A3
R108	A3
R109	A4
R112	A3
R113	A2
R114	A2
R115	A2
R116	A2
R117	A2
R120	A4
R121	A3
R124	A2
R125	A2
R127	B4
R128	B3
R130	B2
R131	B2
R136	A3
R137	A3
R147	A3
R148	A2
R149	A3
R150	A2
RB101	A1
U100	B4
U101	B2
U102	A3

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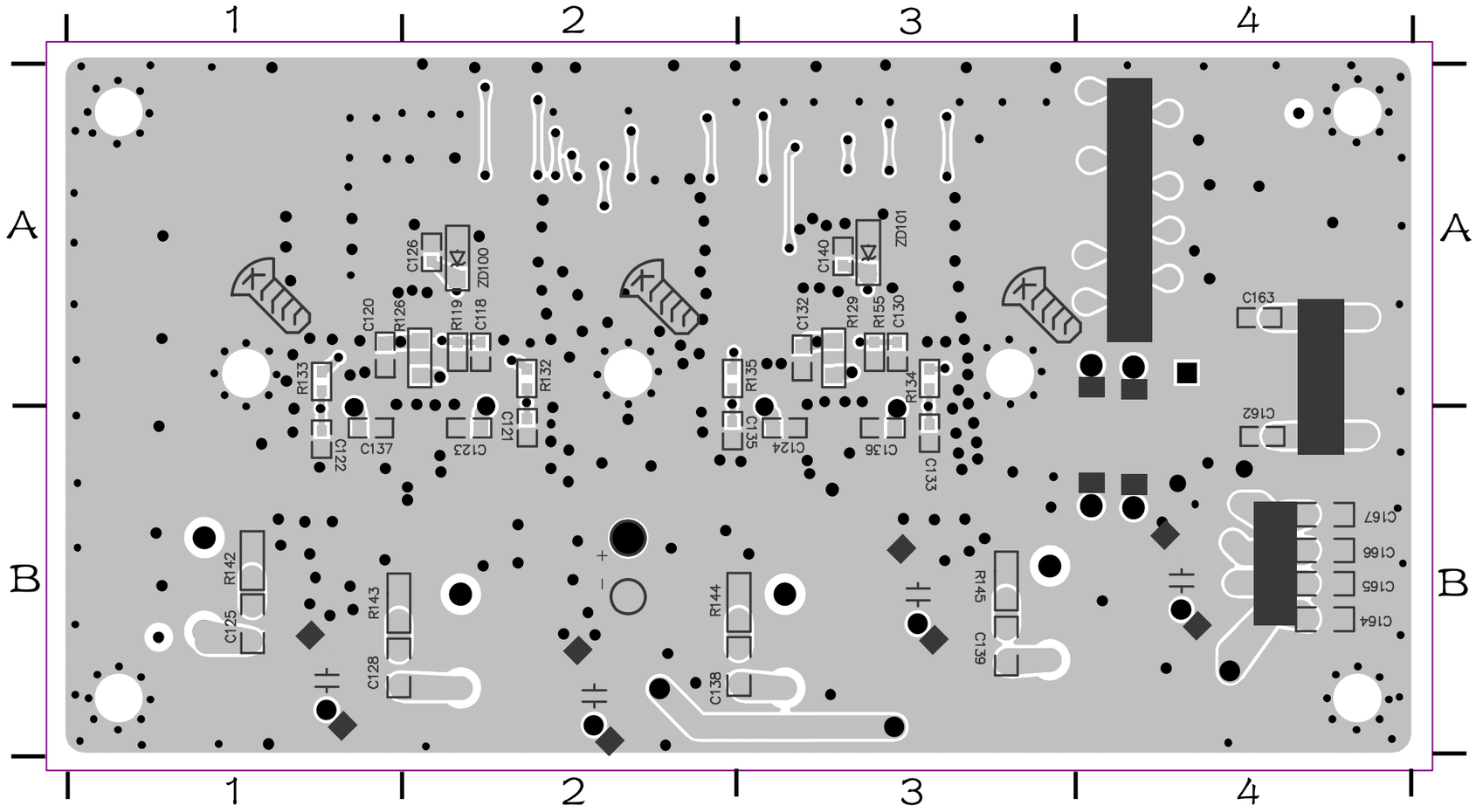
PCB LAYOUT - BOTTOM VIEW



C118	A3
C120	A4
C121	B3
C122	B4
C123	B3
C124	B2
C125	B4
C126	A3
C128	B4
C130	A2
C132	A2
C133	B2
C135	B2
C136	B2
C137	B4
C138	B3
C139	B2
C140	A2
C162	B1
C163	A1
C164	B1
C165	B1
C166	B1
C167	B1
R119	A3
R126	A4
R129	A2
R132	A3
R133	A4
R134	A2
R135	A2
R142	B4
R143	B4
R144	B3
R145	B2
R155	A2
ZD100	A3
ZD101	A2

Speaker Jack Board

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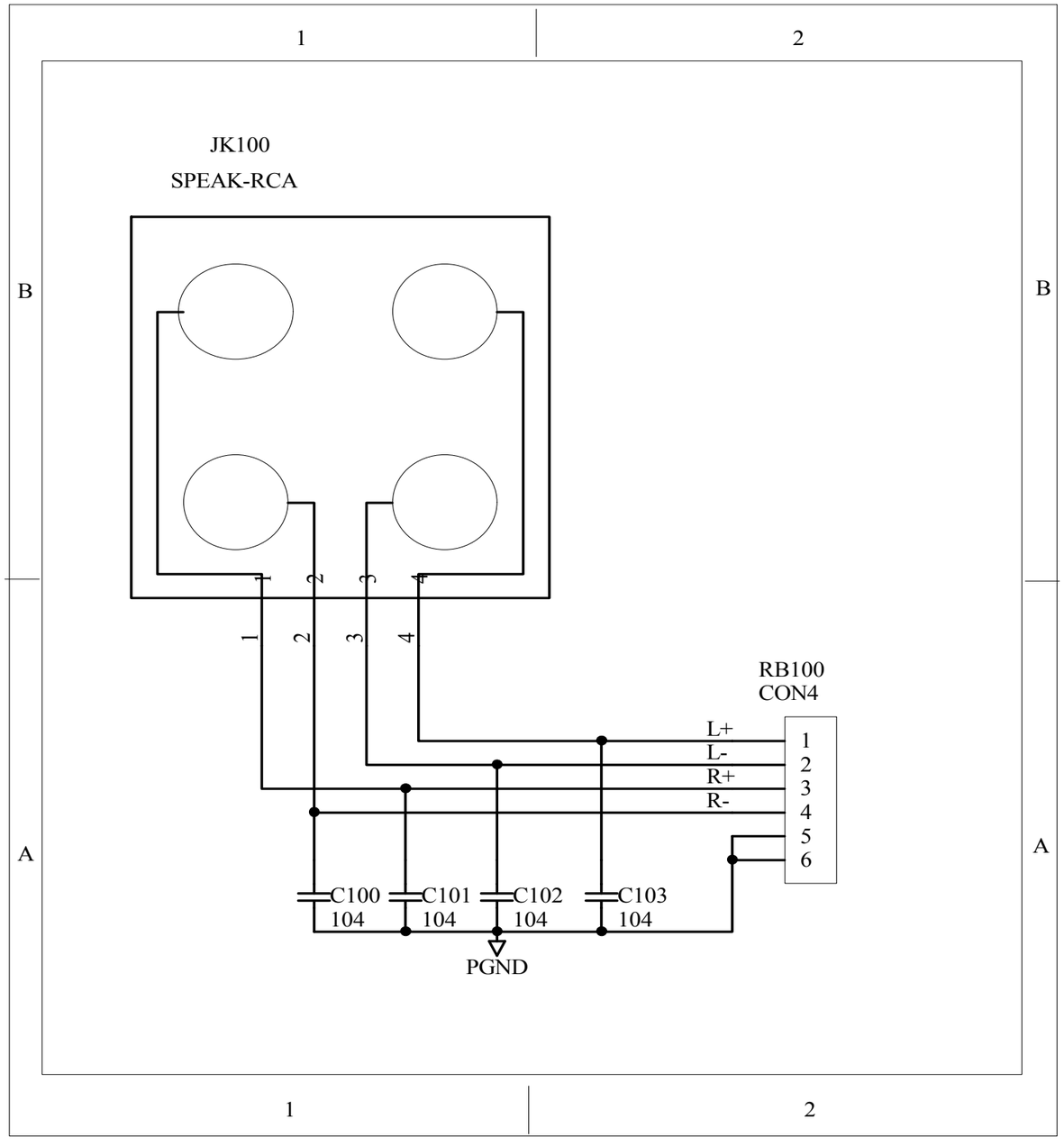
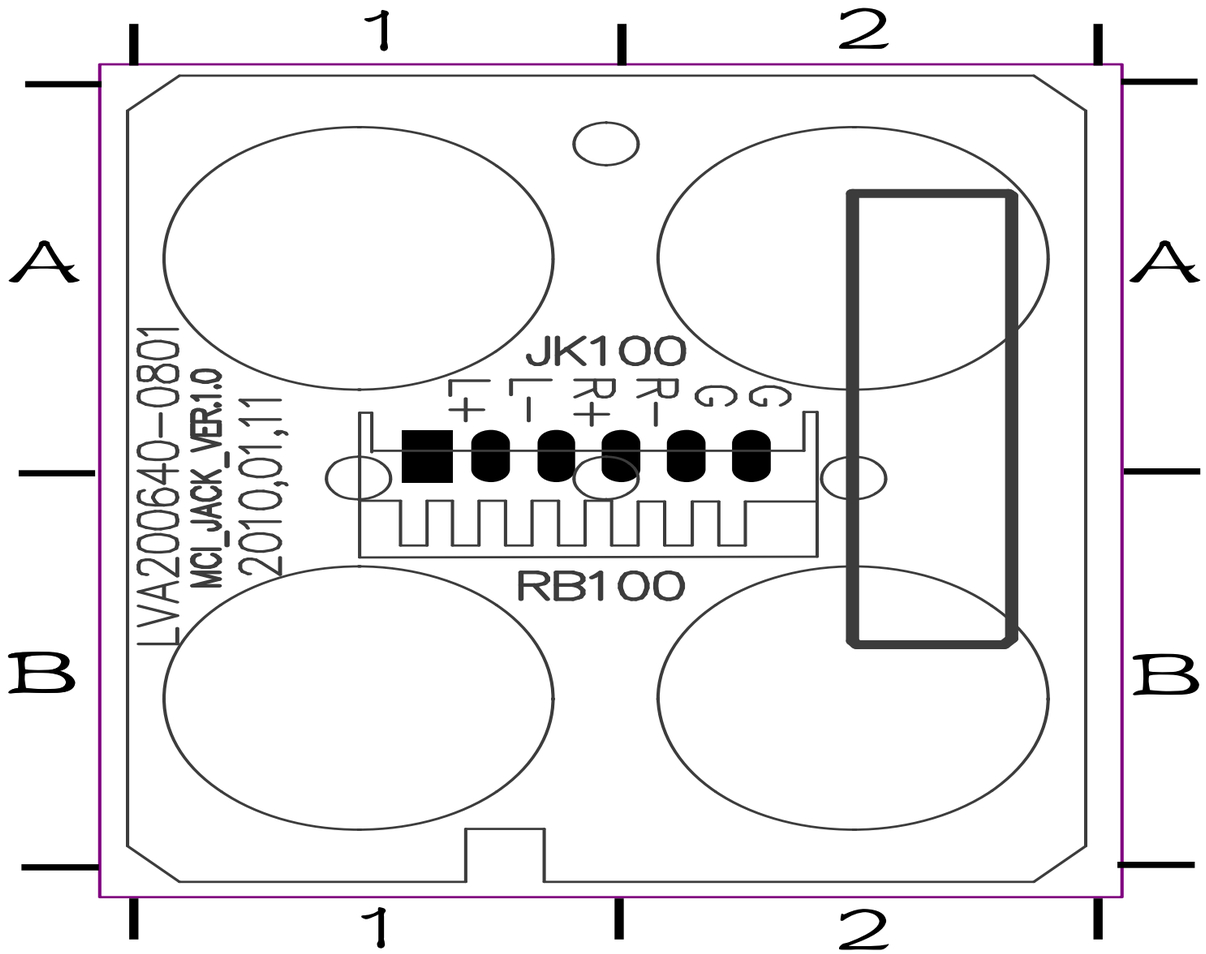
CIRCUIT DIAGRAM



C100	A1
C101	A1
C102	A2
C103	A2
JK100	B1
RB100	A2

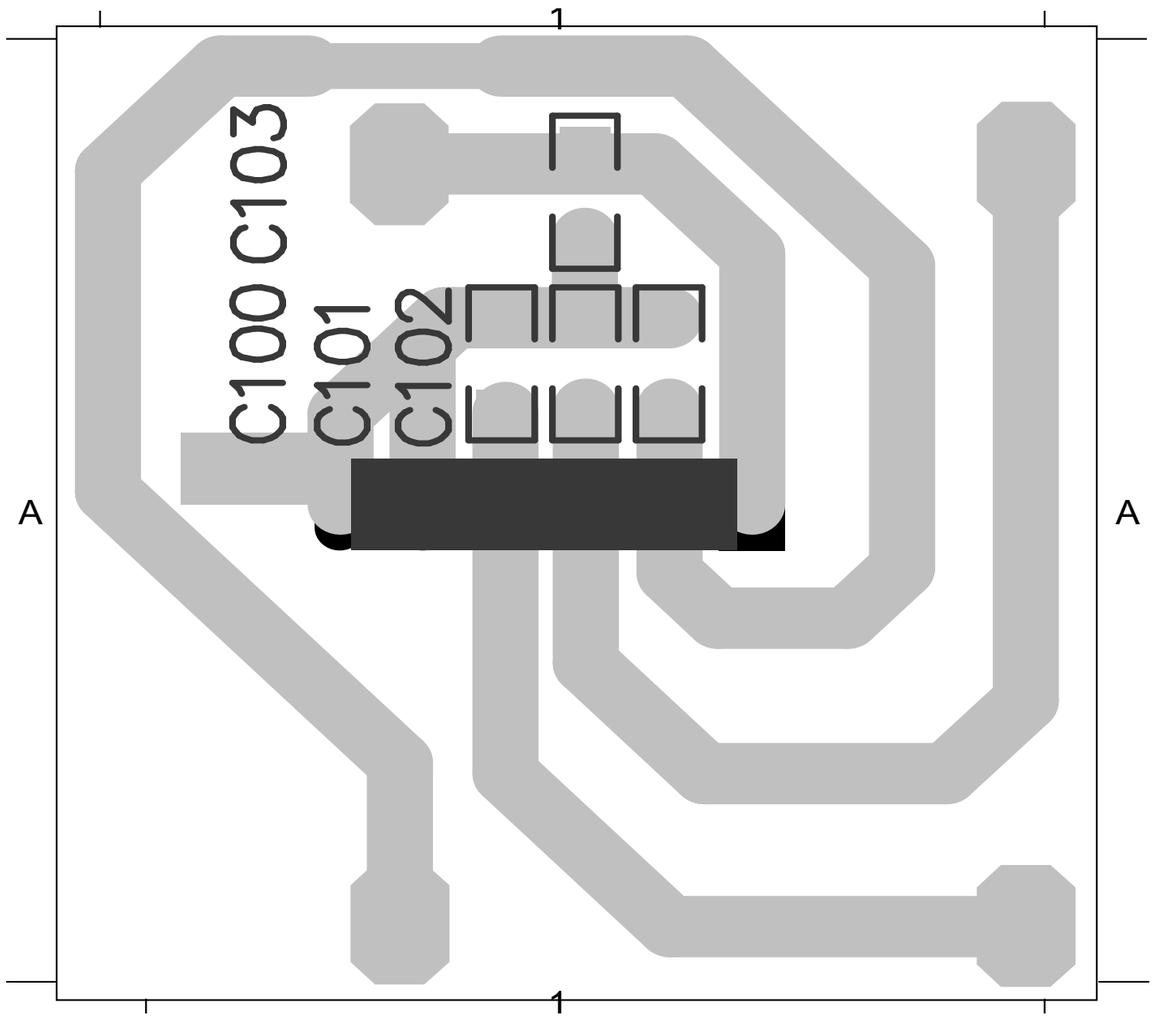
PCB LAYOUT - TOP VIEW



JK100_A1
RB100_B1

10 - 4

PCB LAYOUT - BOTTOM VIEW



C100	A1
C101	A1
C102	A1
C103	A1

11 - 1

Aux & Earphone Board

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CIRCUIT DIAGRAM

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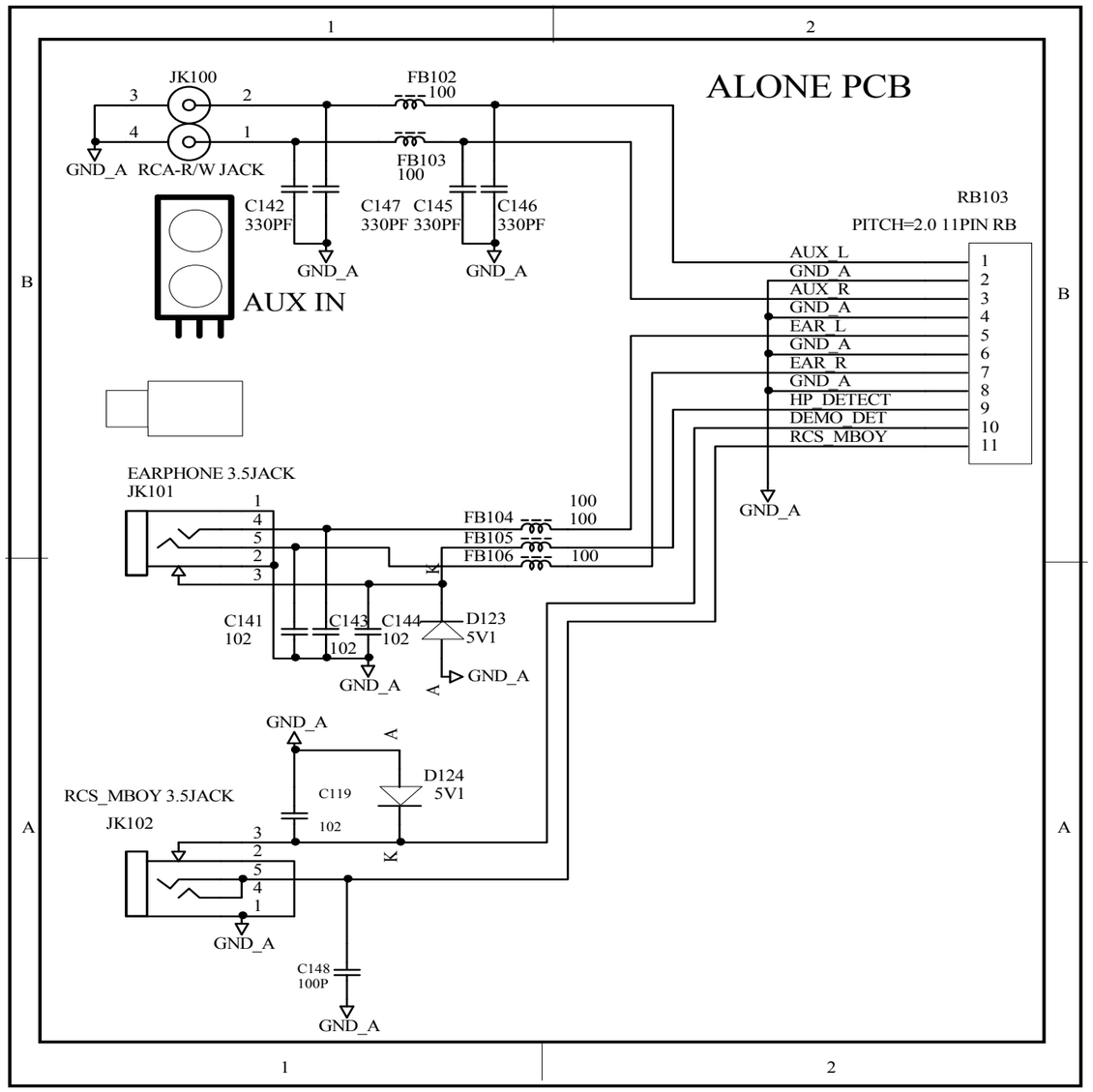
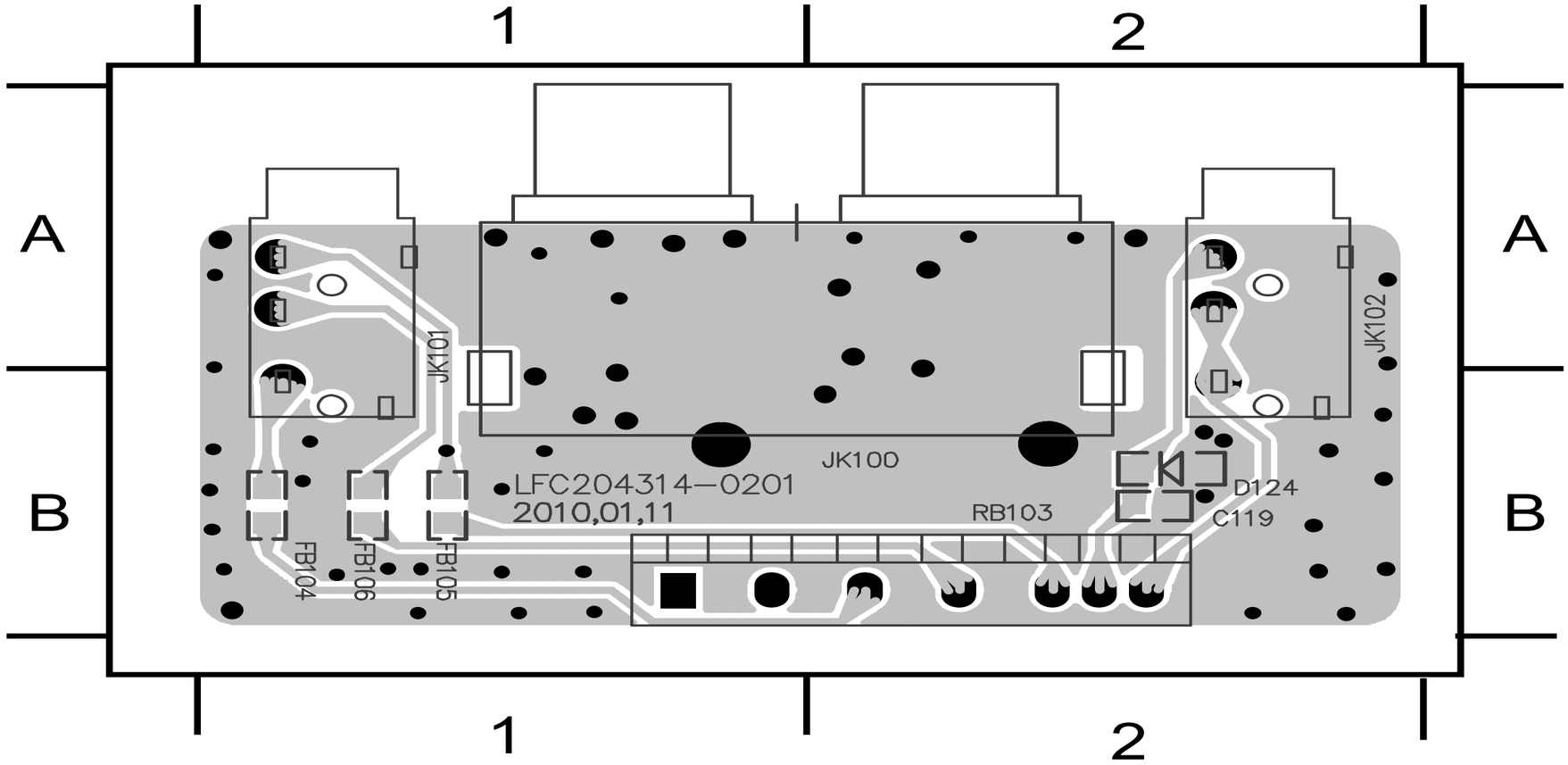


C119	A2
C141	B1
C142	A1
C143	B1
C144	B1
C145	A1
C146	B1
C147	B1
C148	A1
D123	B1
D124	A2
FB102	B1
FB103	A1
FB104	B2
FB105	B2
FB106	B2
JK100	A2
JK101	B1
JK102	A1
RB103	A2

11 - 3

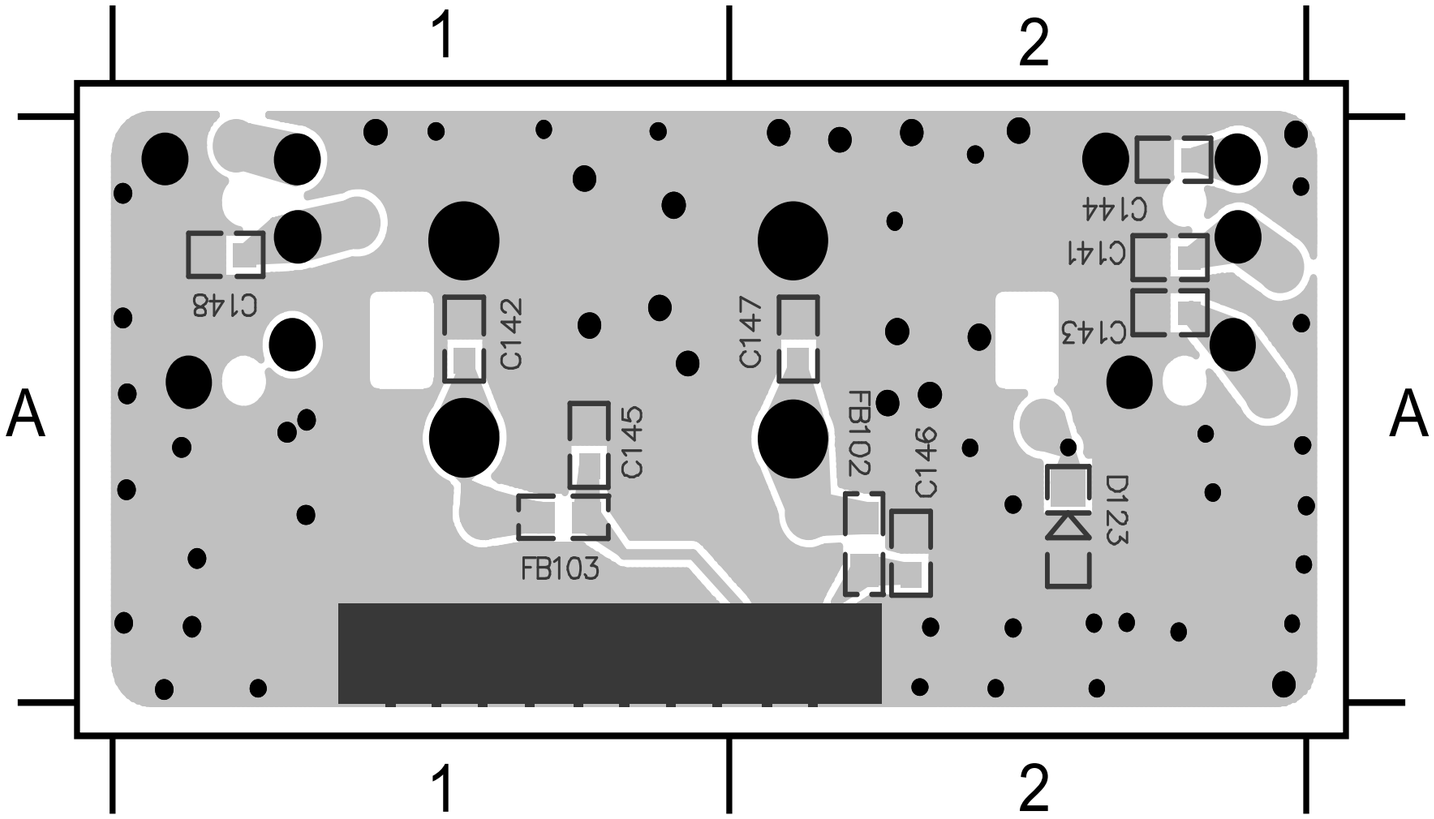
PCB LAYOUT - TOP VIEW



C119 B2
D124 B2
FB104 B1
FB105 B1
FB106 B1
JK100 B2
JK101 A1
JK102 A2
RB103 B2

11 - 4

PCB LAYOUT - BOTTOM VIEW



C141	A2
C142	A1
C143	A2
C144	A2
C145	A1
C146	A2
C147	A2
C148	A1
D123	A2
FB102	A2
FB103	A1

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Sensor Board

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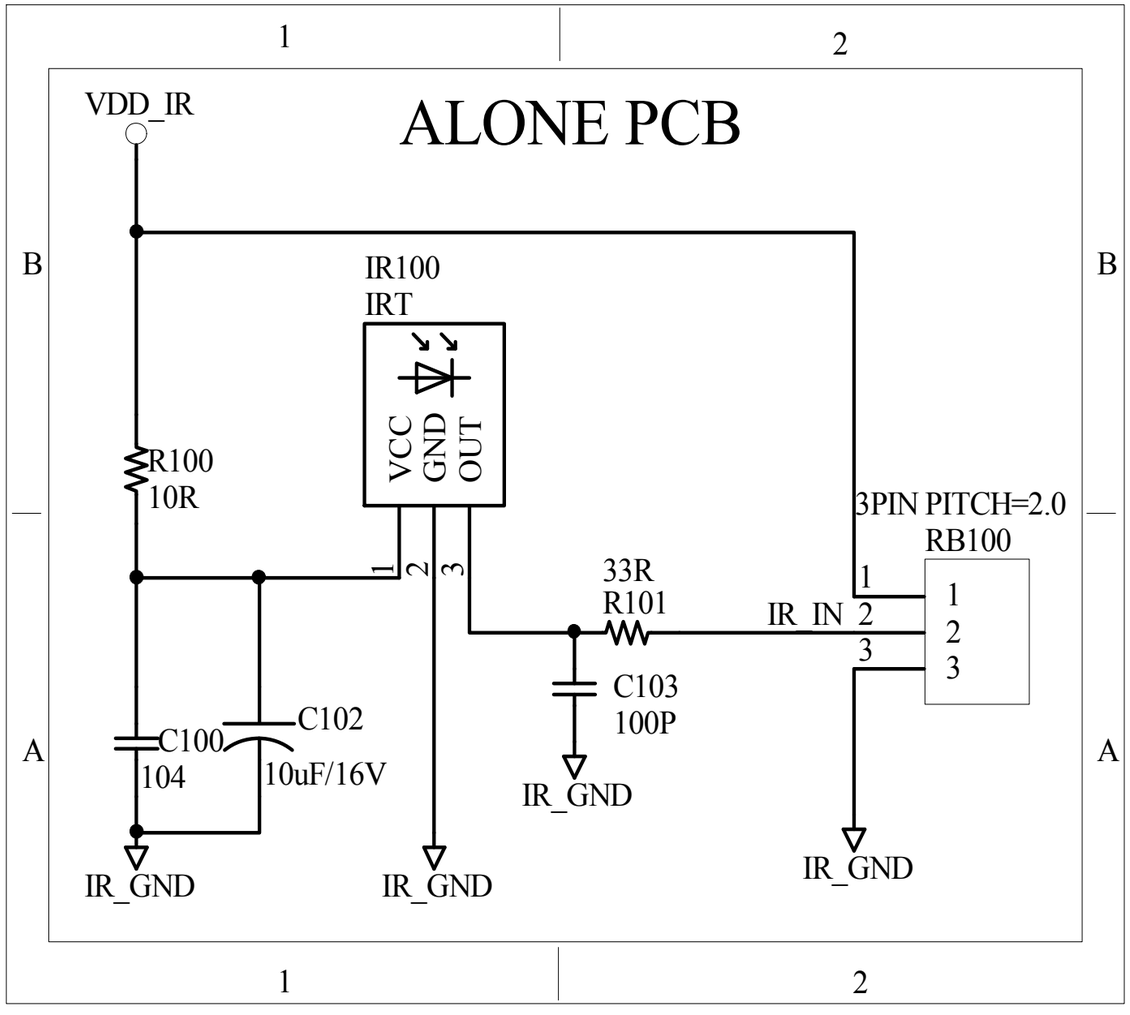
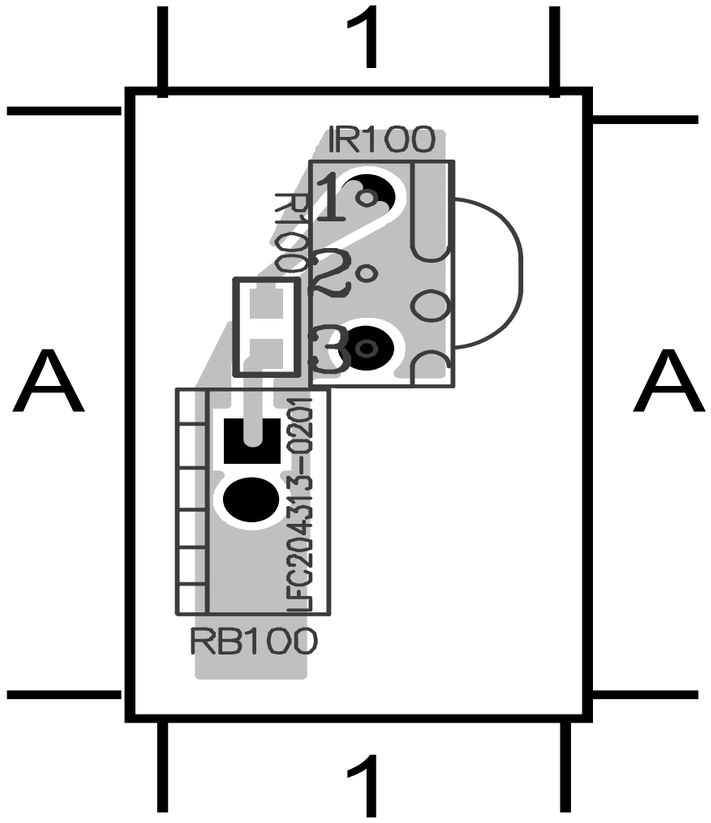
CIRCUIT DIAGRAM



C100	A1
C102	A1
C103	A2
IR100	B1
R100	B1
R101	A2
RB100	A2

PCB LAYOUT - TOP VIEW

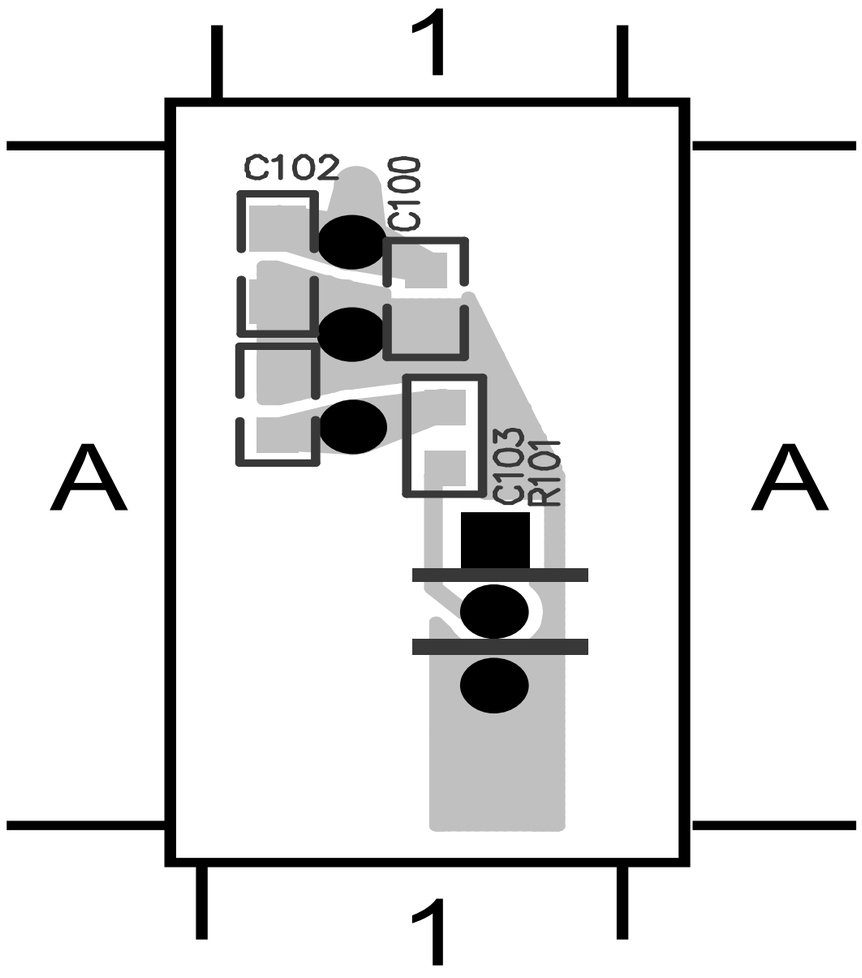
12 - 3



IR100 A1
R100 A1
RB100 A1

12 - 4

PCB LAYOUT - BOTTOM VIEW



C102 A1
C100 A1
C103 A1
R101 A1

13 - 1

Open- Close Key Board

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CIRCUIT DIAGRAM

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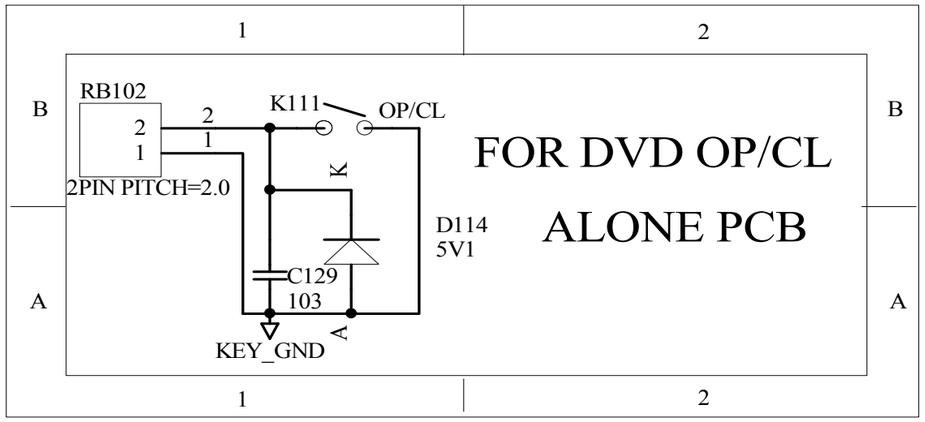
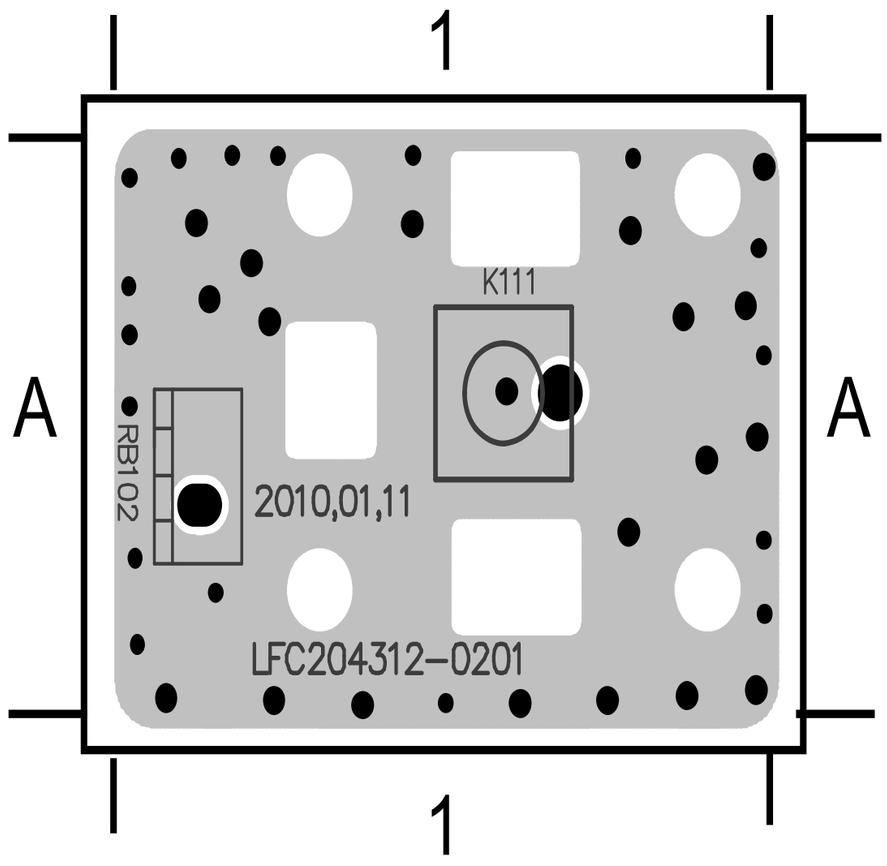


C129 A1
D114 A1
K111 B1
RB102 B1

PCB LAYOUT - TOP VIEW

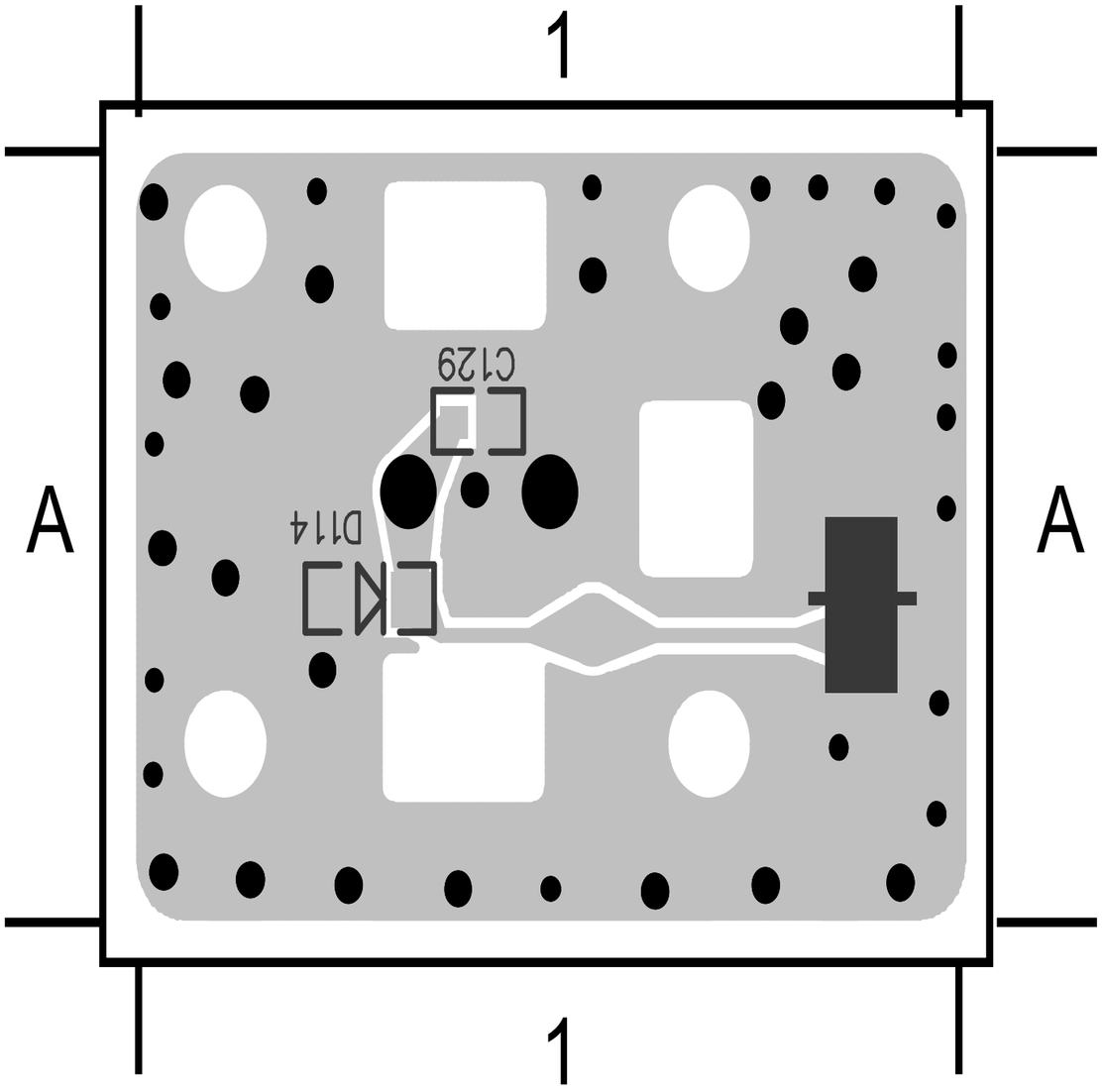
13 - 3



K111 A1
RB102 A1

13 - 4

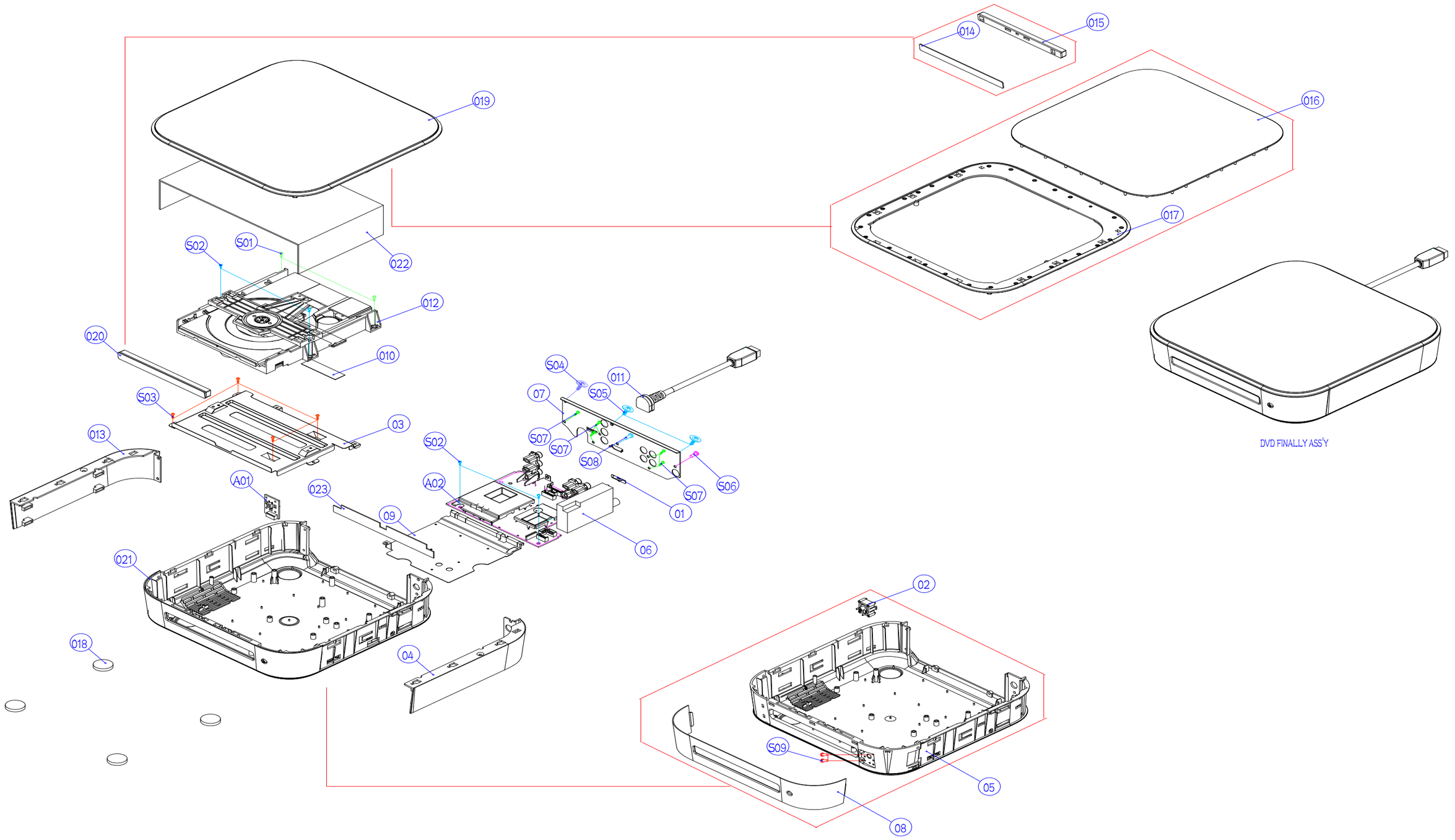
PCB LAYOUT - BOTTOM VIEW



C129 A1
D114 A1

14- 1

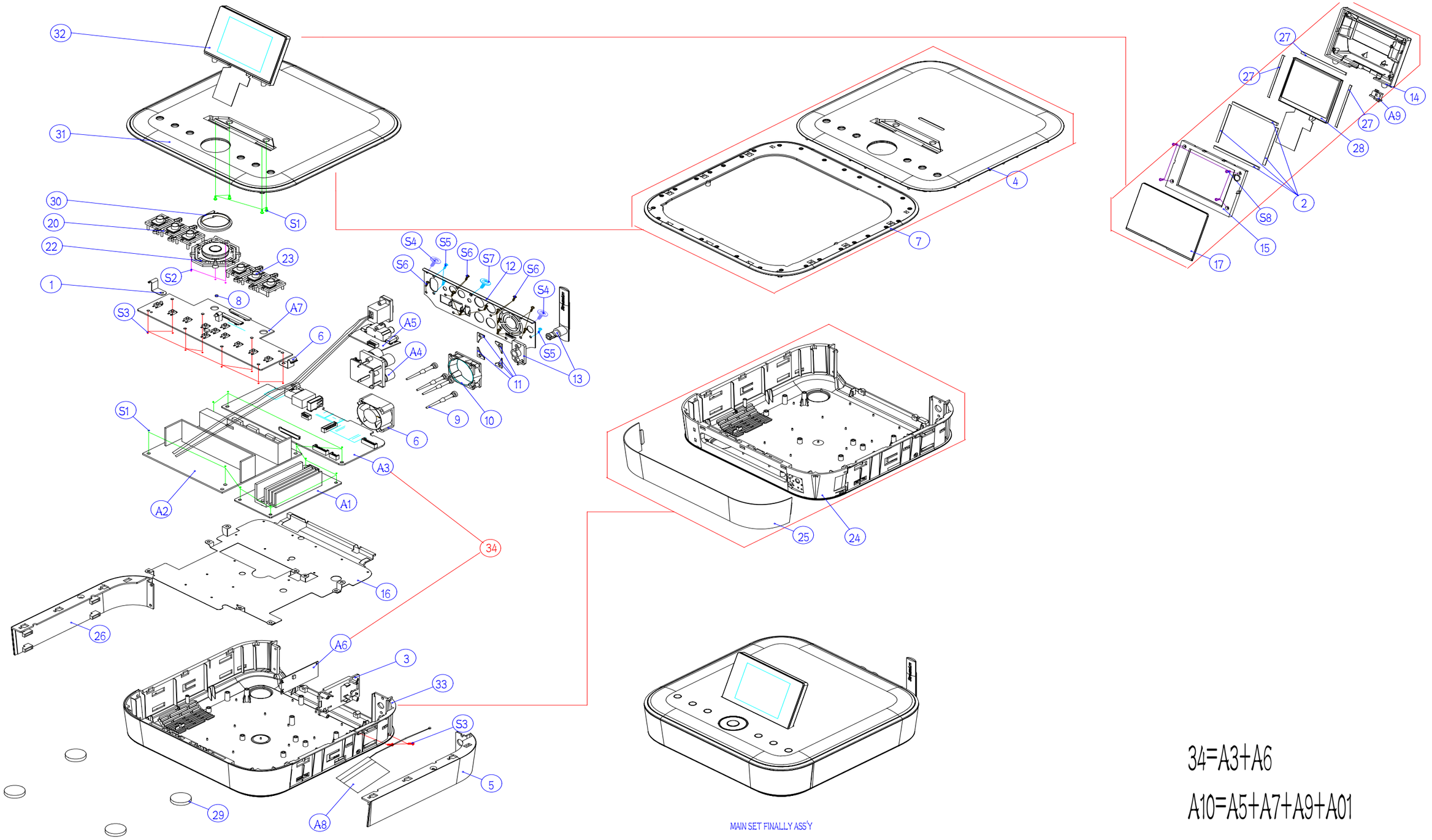
DVD Exploded View



DVD FINALLY ASS'Y

14 - 2

NET Exploded View



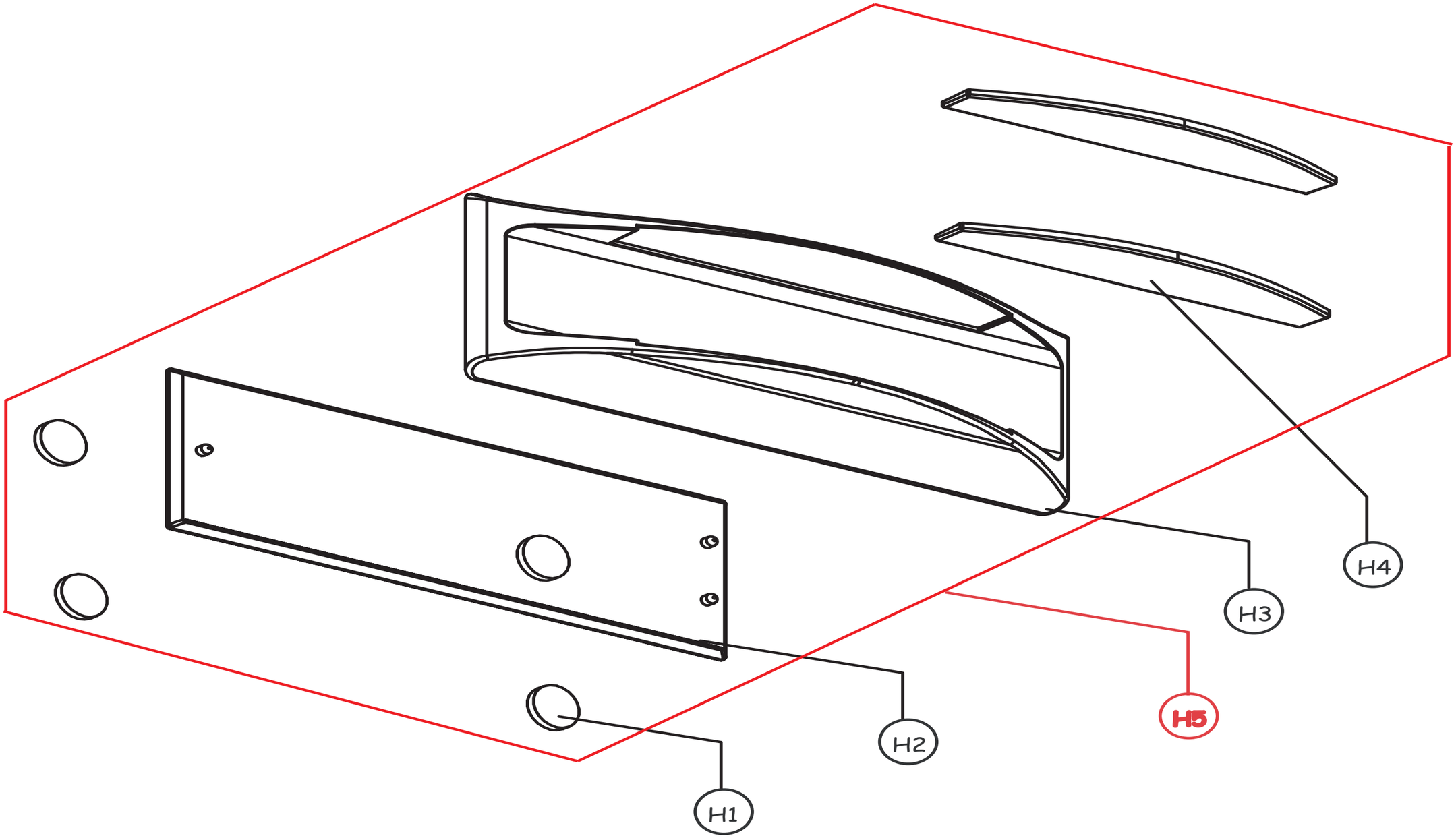
34=A3+A6

A10=A5+A7+A9+A01

If U504 or U505 is broken, please replace 34 (ABN100170-0001 WIFI CARD+NET PCB ASS'Y).

14- 3

HDD Stand Exploded View



H5=H1+H2+H3+H4

MECH. & ELEC. PART LIST

Loc.	Part No.	Description
NET		
3	996510032109	WIRELESS PCB BRCKET
5	996510032142	SIDE PANEL RIGHT
6	996510012461	FAN DC
9	996510032102	RUBBER FOR FAN
10	996510032115	FAN BRACKET
12	996510032121	AMP BACK PLATE
13	996510032124	RF ANTENNAL 2.4GHZ 170MM
20	996510032103	POWER BUTTON ASSEMBLY
22	996510032105	DIRECTION BUTTON ASSY
23	996510032112	EJECT BUTTON ASSY
26	996510032141	SIDE PANEL LEFT
29	996510032111	RUBBER FOOT T1.5MM
30	996510032134	LENS LIGHTGUIDE
31	996510032106	TOP COVER ASSY
33	996510032135	BOTTOM ASSY FOR NET
32	996510032136	DISPLAY ASSY FOR NET
~~34~~	~~996510032118~~	~~WIFI CARD+NET MAIN BOARD~~
A1	996510032113	AMP PCB ASSY
A2	996510032129	POWER SUPPLY 80W
A3	996510042711	MAIN PCB ASS'Y FOR NET
A4	996510032116	SPEAK JACK PCB ASSY
A5	996510032104	AUX&EARPHONE PCB ASSY
A6	996510042104	USB 2.0 WIFI MODULE LR802UKN
A7	996510032107	KEY PCB ASSY
A8	996510032127	WIFI ANTENNAL 2.4GHZ 2DBI 85MM
DVD		
04	996510032142	SIDE PANEL RIGHT
06	996510018486	TUNER PACK KST-MT004FS1-6D
07	996510032125	DVD BACK PLATE
011	996510037266	DIN CABLE 21P 350mm 2725#30
012	996510031719	DVD LOADER
013	996510032141	SIDE PANEL LEFT
018	996510032111	RUBBER FOOT T1.5MM
019	996510032137	TOP COVER ASSY FOR DVD
020	996510032101	DVD DOOR ASSY FOR DVD
021	996510032123	BOTTOM ASSY FOR DVD
A01	996510032126	OP/CL PCB ASSY
A02	996510032132	MAIN PCB ASSY FOR DVD
OTHERS		
F1	996510032119	10P FFC 110MM P1.25MM
F2	996510032108	54P FFC 170MM P0.5MM
H1	996510032117	RUBBER FOOT BLACK
H5	996510032131	HDD STAND ASSY
LB	996510012492	LOADER BASE
Power	996510002650	POWER CORD
RC	996510032133	49KEYS REMOTE CONTROL
SDM	996510028357	S (PHILIPS) DVD MECHANISM
SPK	996510032128	MAIN SPK 50WX2 8R L+R
USB Cbl	996510032122	USB CABLE 350MM
VIDEO	996510032114	RCA CABLE 1500MM OD2.6X7.8
HDD	314302714261	HDD 2.5' 160GB ST91603110CS
HDDENCL	314302625691	HDD ENCLOSURE USB 2.0 2.5' SDE3277

SCREW PART LIST

Loc.	Part No.	Description
NET		
S1	_____	SCREW T3.0x1.06PxL8mm NICKEL
S2	_____	SCREW T2x0.63PxL5mm NICKEL
S3	_____	SCREW T2.6x0.91PxL8mm NICKEL
S4	_____	SCREW T3.0x1.06PxL12mm BLACK OXIDE
S5	_____	SCREW T3.0x1.06PxL12mm BLACK OXIDE
S6	_____	SCREW T3.0x1.06PxL8mm BLACK OXIDE
S7	_____	SCREW T3.0x1.06PxL12mm BLACK OXIDE
S8	_____	SCREW T2.0x0.63PxL6MM NICKEL
DVD		
S01	_____	SCREW T3.0x1.06PxL12mm NICKEL
S02	_____	SCREW M3.0x0.5PxL6mm NICKEL
S03	_____	SCREW T3.0x1.06PxL6mm NICKEL
S04	_____	SCREW T3.0x1.06PxL12mm BLACK OXIDE
S05	_____	SCREW M3.0x0.5PxL12mm BLACK
S06	_____	SCREW M3.0x0.5PxL10mm BLACK OXIDE
S07	_____	SCREW T3.0x1.06PxL8mm BLACK OXIDE
S08	_____	SCREW M3x0.5PxL6mm BLACK OXIDE
S09	_____	SCREW T2x0.63PxL5mm NICKEL

*NOTE:
1) AUX&EARPHONE PCB ASSY (A5), KEY PCB ASSY (A7), and OP/CL PCB ASSY (A01) must be ordered together.
2) If IC on Pos. U504 or Pos. U505 is defective, please exchange whole MAIN PCB ASS' Y FOR NET because they are BGA ICs.
3) The parts list is only for version /12. If need MCi900/96 parts list, please log in CCR/FYP.
4) WIFI CARD+NET PCB ASS'Y is split into MAIN PCB ASS' Y FOR NET (Pos. A3) and WIFI MODULE (Pos. A6) in order to reduce the cost

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REVISION LIST

1.0 Manual 3141 785 34860

Initial Service Manual released.

1.1 Manual 3141 785 34861

In this version, on Page 14-4
Mechanical & Accessories Parts List is updated.

Add: 11 996510037266 DIN CABLE 21P 350mm 2725#30

1.2 Manual 3141 785 34862

In this version, Page 2-5 Rescue Mode added.

1.3 Manual 3141 785 34863

In this version, version /96 added.

1.2 Manual 3141 785 34864

In this version, on Page 14-4 WIFI CARD+NET PCB ASS'Y is split into MAIN PCB ASS'Y FOR NET (Pos. A3) and WIFI MODULE (Pos. A6) in order to reduce the cost.

and,

Add:

HDD	314302714261	HDD 2.5' 160GB ST91603110CS
HDDENCL	314302625691	HDD ENCLOSURE USB 2.0 2.5' SDE3277