

Service  
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**Service**



# Service Manual

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**CLASS 1  
LASER PRODUCT**

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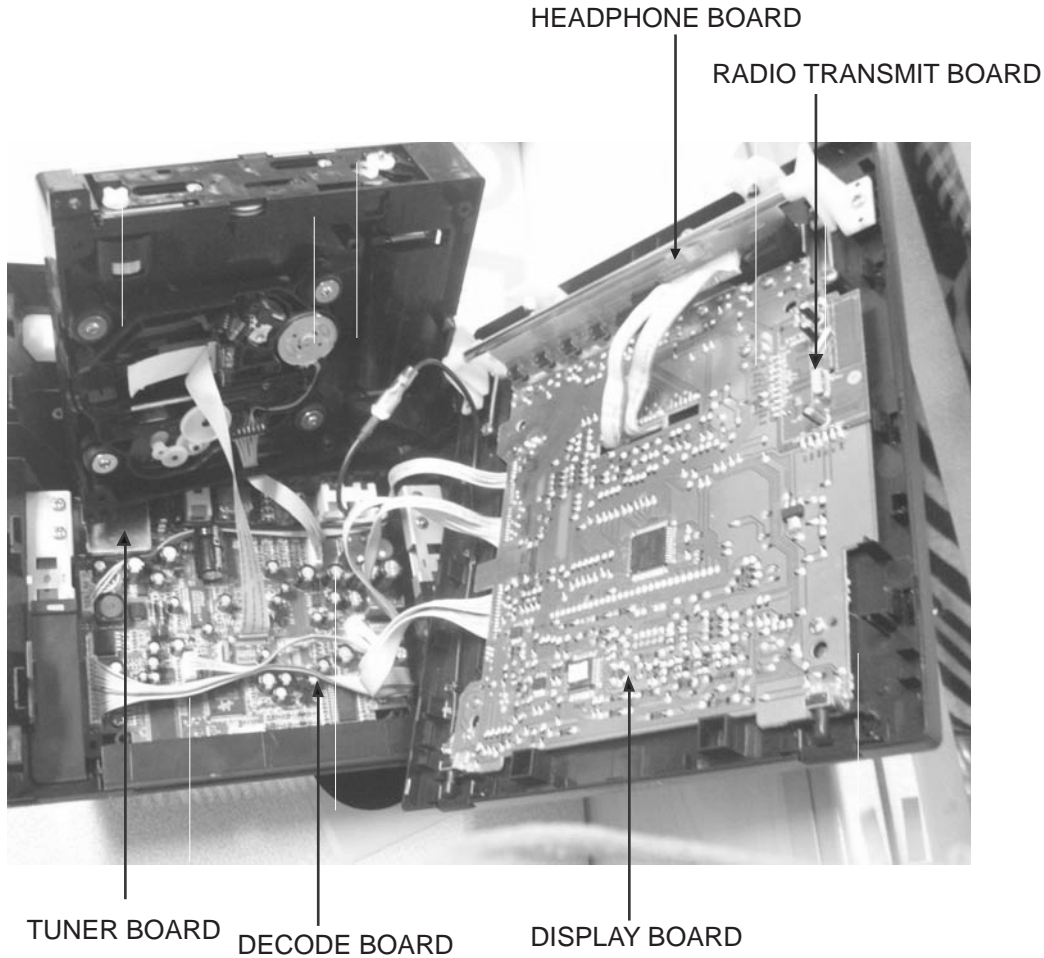
© 3141 785 32424

**Version 1.4**



**PHILIPS**

LOCATION OF PCBS



VERSION VARIATIONS:

Features & Board in used:	Type /Versions:		MCD289						
	Service policy	Feature difference	/05	/12	/55	/58	/61	/98	
DISPLAY BOARD			C	C	M	C	M	M	
TUNER BOARD			M	M	M	M	M	M	
HEADPHONE BOARD			M	M	M	M	M	M	
POWER BOARD			M	M	M	M	M	M	
DECODE BOARD			M	M	M	M	M	M	
RDS			√	√					
VOLTAGE SELECTOR					√			√	
ECO STANDBY - DARK			√	√					

\* TIPS : C -- Component Lever Repair.  
M -- Module Lever Repair  
√ -- Used

## SPEIFICATION

### AMPLIFIER

Rated Output Power .....2 x 15W+1x 50W RMS  
 Signal-to-noise ratio .....  $\geq 65$  dBA  
 Frequency response ..... 100Hz – 15KHz,  $\pm 3$  dB  
 Aux Input.....0.5V RMS 47kohm

### DISC

Laser Type ..... Semiconductor  
 Disc Diameter ..... 12cm/8cm  
 Support Disc .....  
 ....DVD,DivX,CD-DA,CD-R,CD-RW,MP3-CD,WMA-CD  
 Audio DAC ..... 24Bits / 44.1kHz  
 Total Harmonic Distortion ..... <0.1%(1kHz)  
 Frequency Response ..... 4Hz - 20kHz (44.1kHz)  
 S/N Ration ..... >65dBA

### TUNER

FM Tuning Range ..... 87.5 – 108 MHz  
 Tuning grid .....100K/ 50KHz  
**Sensitivity**  
 – Mono, 26dB S/N Ratio ..... 5uV  
 – Stereo, 46dB S/N Ratio ..... 100uV  
 Selectivity ..... >28dB  
 Image Rejection ..... >25dB  
 Total Harmonic Distortion ..... <3%  
 Signal to Noise Ration ..... >65dBA

### SPEAKERS

Speaker Impedance ..... 4ohm  
 Speaker Driver, base ..... 5"  
 Speaker Driver, tweeter ..... 3"  
 Frequency Response ..... 60 - 20 KHz

### GENERAL INFORMATION

Total Output power ..... 80 W RMS  
 AC Power ..... 220-230 V / 50Hz/60Hz(/05/12)  
 ..... 220V / 50Hz(/93/61)  
 ...110V-127V/60Hz... 220-240 V / 50Hz(/98/55/96)  
 ..... 240 V / 50Hz(/79)  
 Operation Power Consumption ..... 35W  
 Standby Power Consumption ..... <4W  
 Eco Standby Power Consumption ..... <1W  
 Headphone Output ..... 2X15mW 32ohm  
 USB Direct ..... Version 1.1

### Dimensions

– Main unit (w x h x d) ..... 480x370x244mm  
 – Speaker box (w x h x d) ..... 472x362x224mm

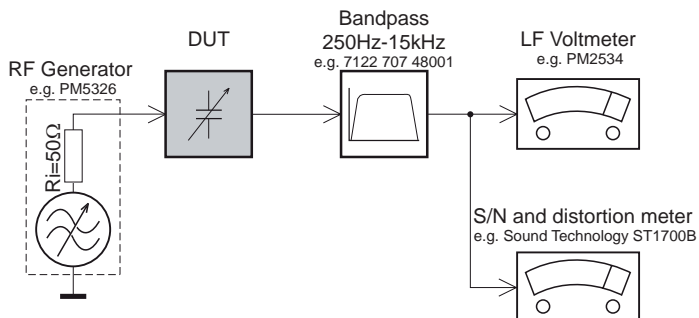
### Weight

– With Packing ..... 10 KG  
 – Main Unit ..... 1.4 KG  
 – Speaker box ..... 0.8KG  
 – Subwoofer box .....3.2KG

Specifications and external appearance are subject to change without notice.

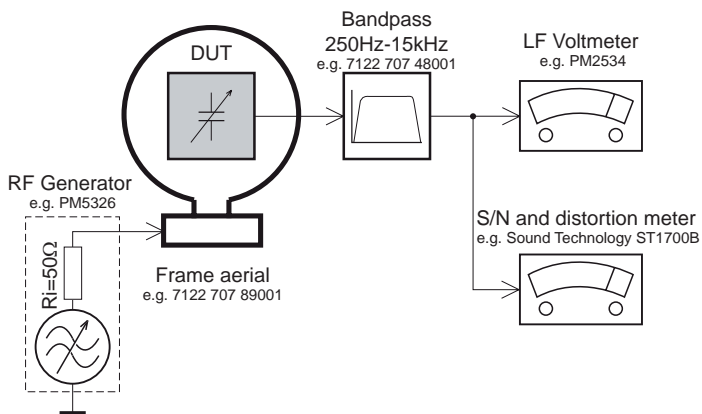
# MEASUREMENT SETUP

## Tuner FM



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

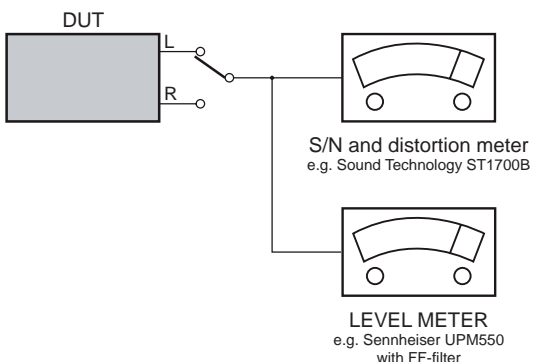
## Tuner AM (MW,LW)



To avoid atmospheric interference all AM-measurements have to be carried out in a Faraday's cage. Use a bandpass filter (or at least a high pass filter with 250Hz) to eliminate hum (50Hz, 100Hz).

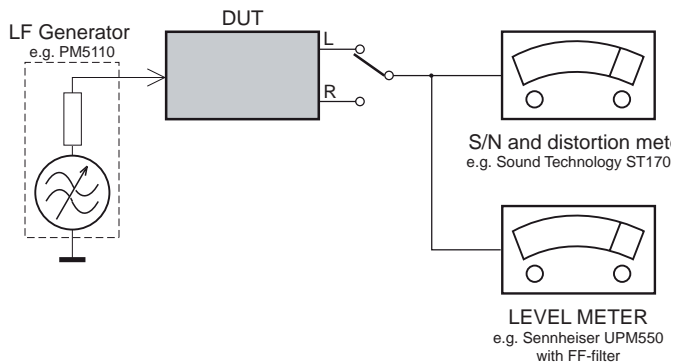
## CD

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



## Recorder

Use Universal Test Cassette Cr02 SBC419 4822 397 30069 or Universal Test Cassette Fe SBC420 4822 397 30071



## SERVICE AIDS

### **GB** WARNING

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


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

### ESD



### **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 .

**CLASS 1  
LASER PRODUCT**

## INFORMATION ABOUT LEAD-FREE SOLDERING

Philips CE is producing lead-free sets from 1.1.2005 onwards.

### IDENTIFICATION:

Regardless of special logo (not always indicated) one must treat all sets from 1 Jan 2005 onwards, according next rules:



- On our website [www.atyourservice.ce.Philips.com](http://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
  - \* Lead free

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

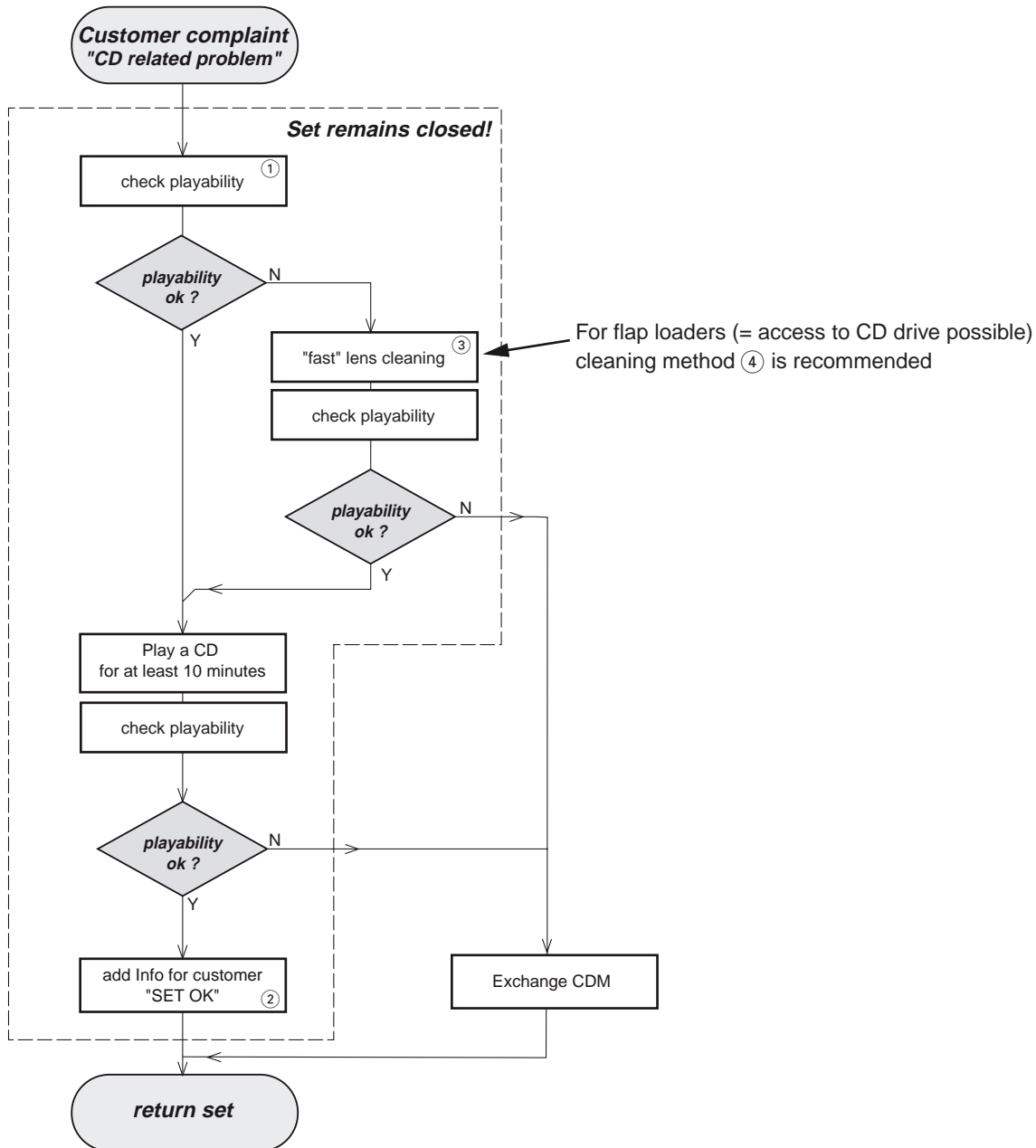
For additional questions please contact your local repair-helpdesk.

## SERVICE INSTRUCTION

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 AC Power lead for external damage.
- Check the strain relief of the AC Power cord for proper function.
- Check the electrical DC resistance between the AC Power Plug and the secondary side (only for sets which have a AC Power isolated power supply):
  1. Unplug the AC Power cord and connect a wire between the two pins of the AC Power plug.
  2. Set the AC Power switch to the "on" position (keep the AC Power cord unplugged!).
  3. Measure the resistance value between the pins of the AC Power plug and the metal shielding of the tuner or the aerial connection on the set. The reading should be larger than 4.5 Mohm (For U.S. it should be between 4.2 Mohm and 12 Mohm).
  4. Switch "off" the set, and remove the wire between the two pins of the AC Power plug.
- Check the cabinet for defects, to avoid touching of any inner parts by the customer.

## INSTRUCTIONS ON CD PLAYABILITY



① - ④ For description - see following pages

## INSTRUCTIONS ON CD PLAYABILITY

①

### PLAYABILITY CHECK

For sets which are compatible with **CD-RW** discs  
 use CD-RW Printed Audio Disc.....7104 099 96611  
 TR 3 (Fingerprint)  
 TR 8 (600µ Black dot) **maximum at 01:00**

- playback of these two tracks without audible disturbance  
 playing time for: Fingerprint  $\geq 10$ seconds  
 Black dot from 00:50 to 01:10
- jump forward/backward (search) within a reasonable time

For all other sets  
 use CD-DA SBC 444A.....4822 397 30245  
 TR 14 (600µ Black dot) **maximum at 01:15**  
 TR 19 (Fingerprint)  
 TR 10 (1000µ wedge)

- playback of all these tracks without audible disturbance  
 playing time for: 1000µ wedge  $\geq 10$ seconds  
 Fingerprint  $\geq 10$ seconds  
 Black dot from 01:05 to 01:25
- jump forward/backward (search) within a reasonable time

②

### CUSTOMER INFORMATION

It is proposed to add an addendum sheet to the set which informs the customer that the set has been checked carefully - but no fault was found.

The problem was obviously caused by a scratched, dirty or copy-protected CD. In case problems remain, the customer is requested to contact the workshop directly.

The lens cleaning (method ③) should be mentioned in the addendum sheet.

The final wording in national language as well as the printing is under responsibility of the Regional Service Organizations.

④

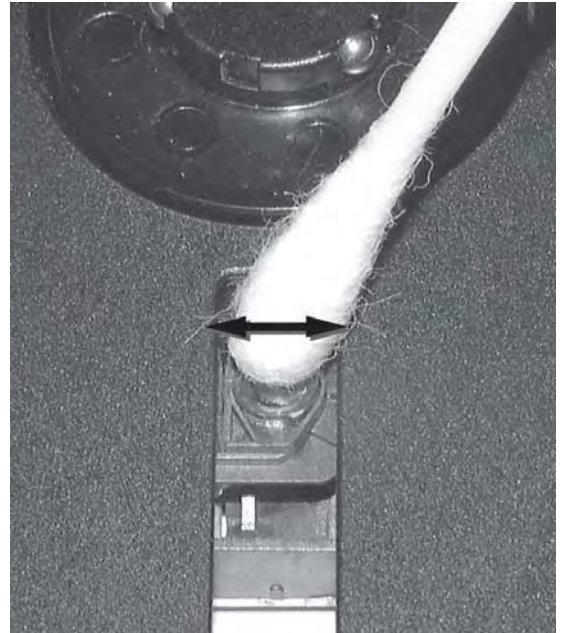
### LIQUID LENS CLEANING

**Before touching the lens it is advised to clean the surface of the lens by blowing clean air over it. This to avoid that little particles make scratches on the lens.**

Because the material of the lens is synthetic and coated with a special anti-reflectivity layer, cleaning must be done with a non-aggressive cleaning fluid. It is advised to use "Cleaning Solvent

The actuator is a very precise mechanical component and may not be damaged in order to guarantee its full function. Clean the lens gently (don't press too hard) with a soft and clean cotton bud moistened with the special lens cleaner.

The direction of cleaning must be in the way as indicated in the picture below.



**SOFTWARE VERSION CHECK & UPGRADE**

Upgrade software

**1. Press SYSTEM key to set to operating setup page, display is as below**

```

--Common Setting Page --
TV Mode
Display Language
Screen Protection

```

**2. Press the key of up, down, left, right to the original setup page**

```

--Original Setting Page--
TV Set standard
Sound
Subtitle
Language Chosen by Disk
Age Controlling
Factory Setting

```

**3. Enter the password "811502", TV can display the model software date and area number**

```

Ver.    MCD289/xxxxx
Date   mmm dd yyyy
Time   hh: mm: ss
Region code  ×

```

**MPEG VERSION CHECK**

1. Downloading the firmware for Philips support website <http://www.philips.com/support>
2. Prepare as uploading CD.
3. Load the CD in the CD Tray.
4. TV Screen shows

```

Aptitude remove

```

```

Upgrade?
Start by pressing PLAY
Upgrading
File copying

```

**CPU VERSION CHECK**

1. keep PLAY/PAUSE and STOP buttons (on the set) while plug in the power cord, TV screen show

```

MCD289 V××

```

Upgrade software

**Upgrade software**

1. Installing the upgrade disk, DVD player can be upgraded automatically, which display as follow:

```

Upgrade file detected
Upgrade?
Press PLAY to start
Upgrading

```

Make the playback setting after the DVD motorized door opening automatically and showing OK to upgrade.

2. Pressing the SYSTEM can be set to the general setting page, which displays as follow:

```

--General setup page--
TV  Display
OSD language
Screen saver

```

3. Pressing the key of left, right, up and down can be set to the original setting page, which display as follow:

```

--Preference page--
TV type
Audio
Subtitle
Disc menu
Parental
Default

```

4. Pressing the key of left, right, up and down to move to the "Playback" and then pressing OK to confirm which means OK to upgrade the "Playback".

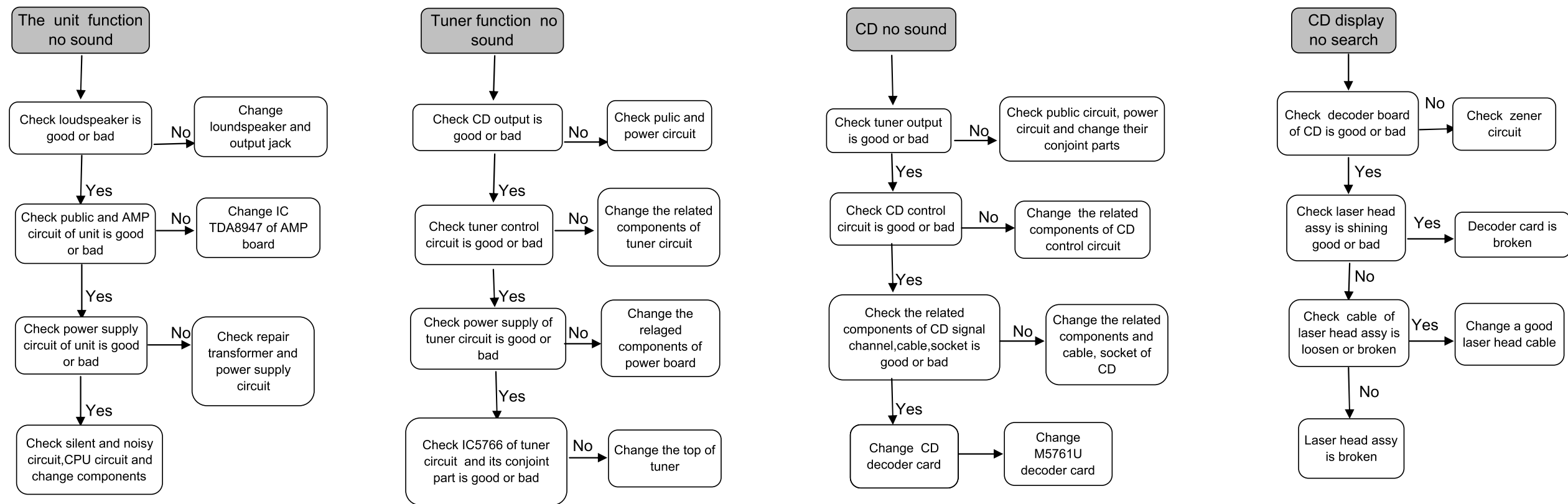
```

--Preference page--
TV type
Audio
Subtitle
Disc menu
Parental
Reset

```



## MALFUCTION CHECK CHART



\*In case automatic wireless connection fails(include the case of after repairing) you can,

1.Enter standby mode

a.for MCD289/12/58 , Press and hold Standby Key from Echo Standby to enter Standby mode , Clock or "\_. ." shown on VFD.

b.for MCD289/98/55/79 , Press Standby key to enter Standby mode.

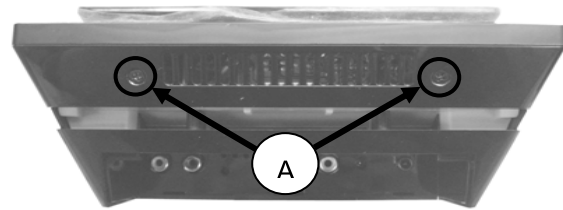
2.press and hold key on the set for 3 seconds until 'PAIRING' appears on the display.

3.press and hold PAIR on the subwoofer until 'PAIR OK' appears on the display.

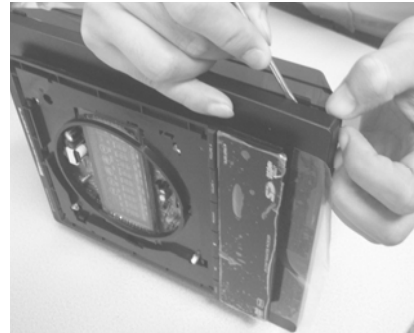
4.switch on the system for automatic setup of wireless connection.

DISASSEMBLY DIAGRAM

A.Loosen screws 3×8FA(2PCS)



B.Use a flat screw driver to prize the position of lock of rubber foot where the position of right angle



C.Keep on moving the blade (it's about 5mm width) to position of 45mm, and press it, then open the position of lock



D.Keep on moving the blade to position of 60mm again, and press it, then open the position of lock



E.Keep on moving the blade to position of 60mm again, and press it, then open the position of lock.



F.Prize the position of lock on the top angle.



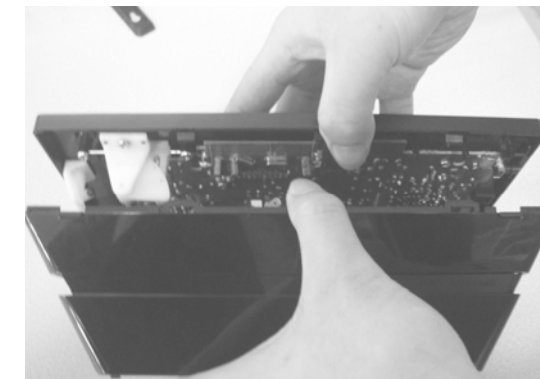
G.Near the position of DVD door, use the thumb press it.



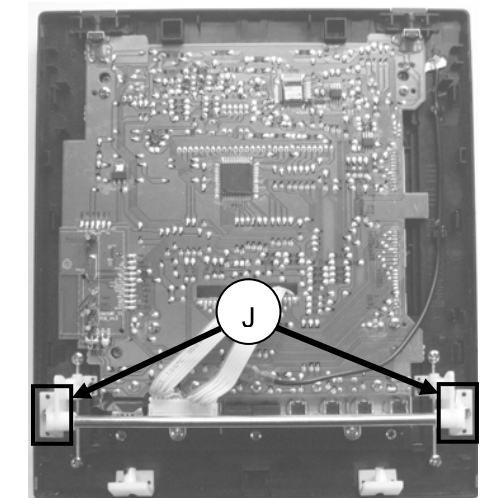
H.Near the position of DVD door, use the thumb press it.



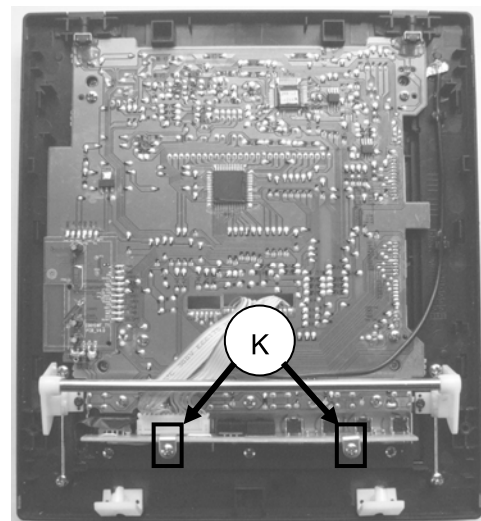
I.Use two hands to open bottom panel.



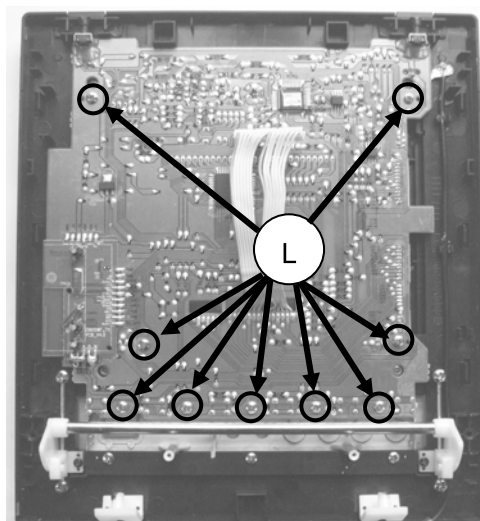
J.Loosen screws 3×8BTH(2PCS) to remove slide plank



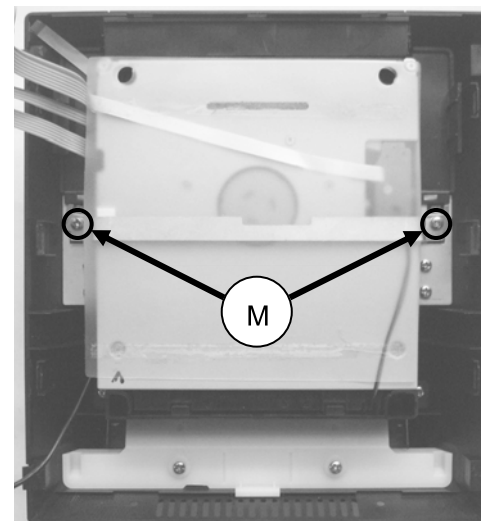
K.Loosen screws 3×8BTH(2PCS) to remove key board



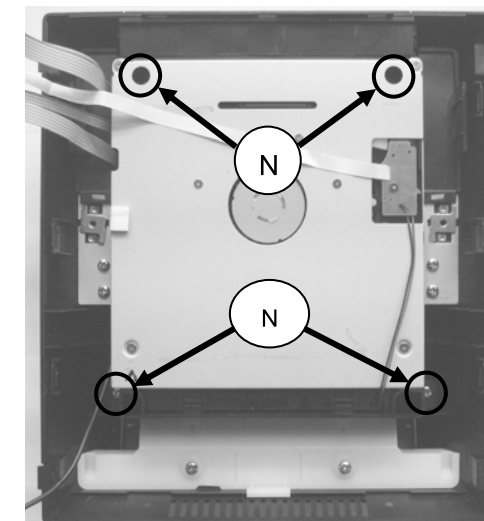
L.Loosen screws 2.6×8PT(9PCS) to remove VFD board



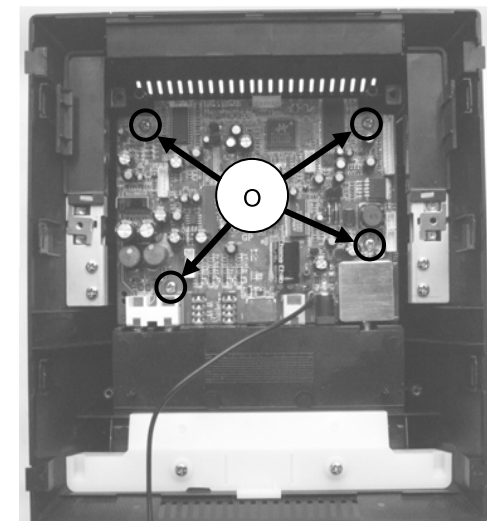
M.Loosen screws 3×6BM(2pcs) to remove plank of speaker



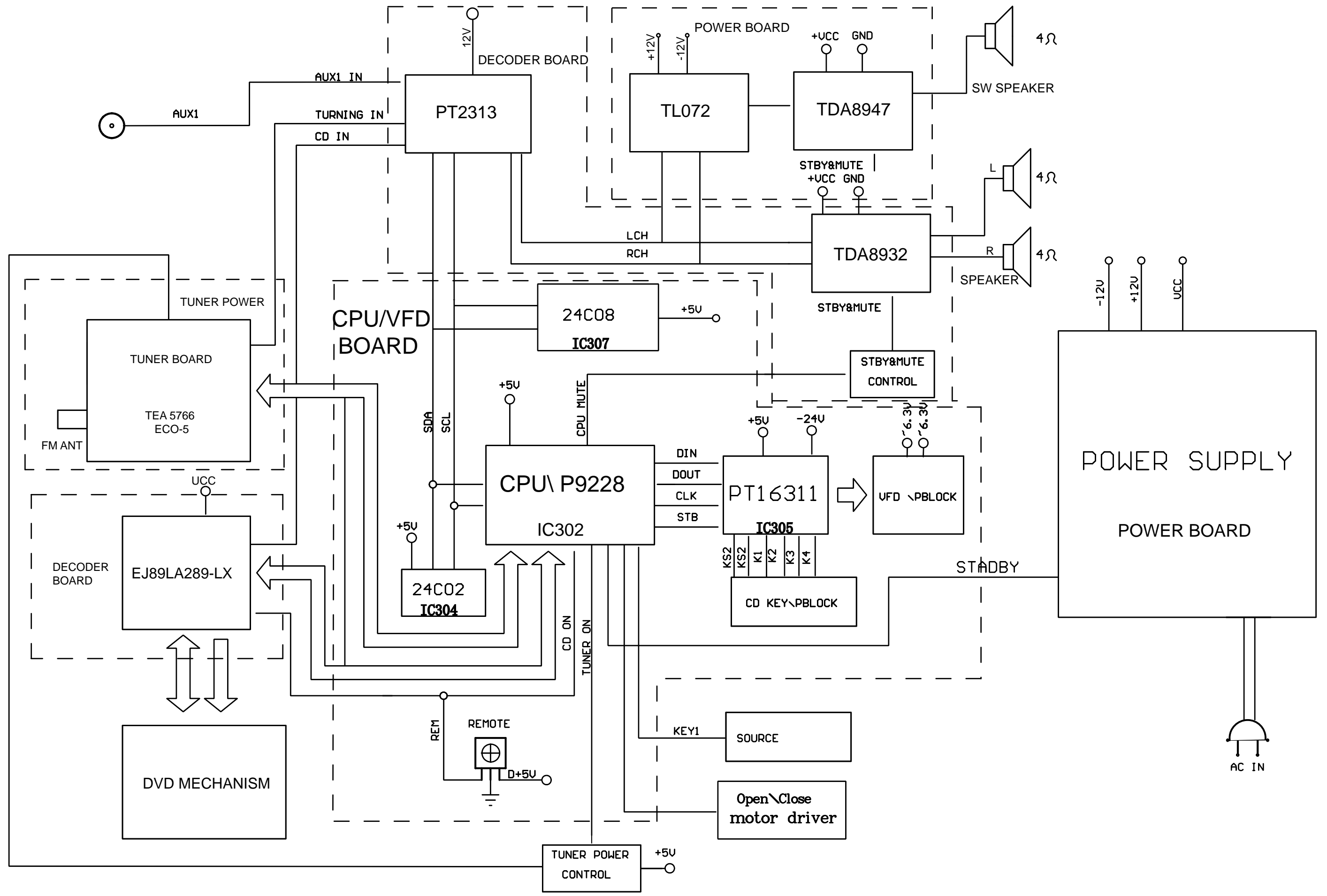
N. Loosen screws 3×18BTH(2PCS)  
N1.Loosen screws 3×10PTH(2PCS) to remove mechanism core



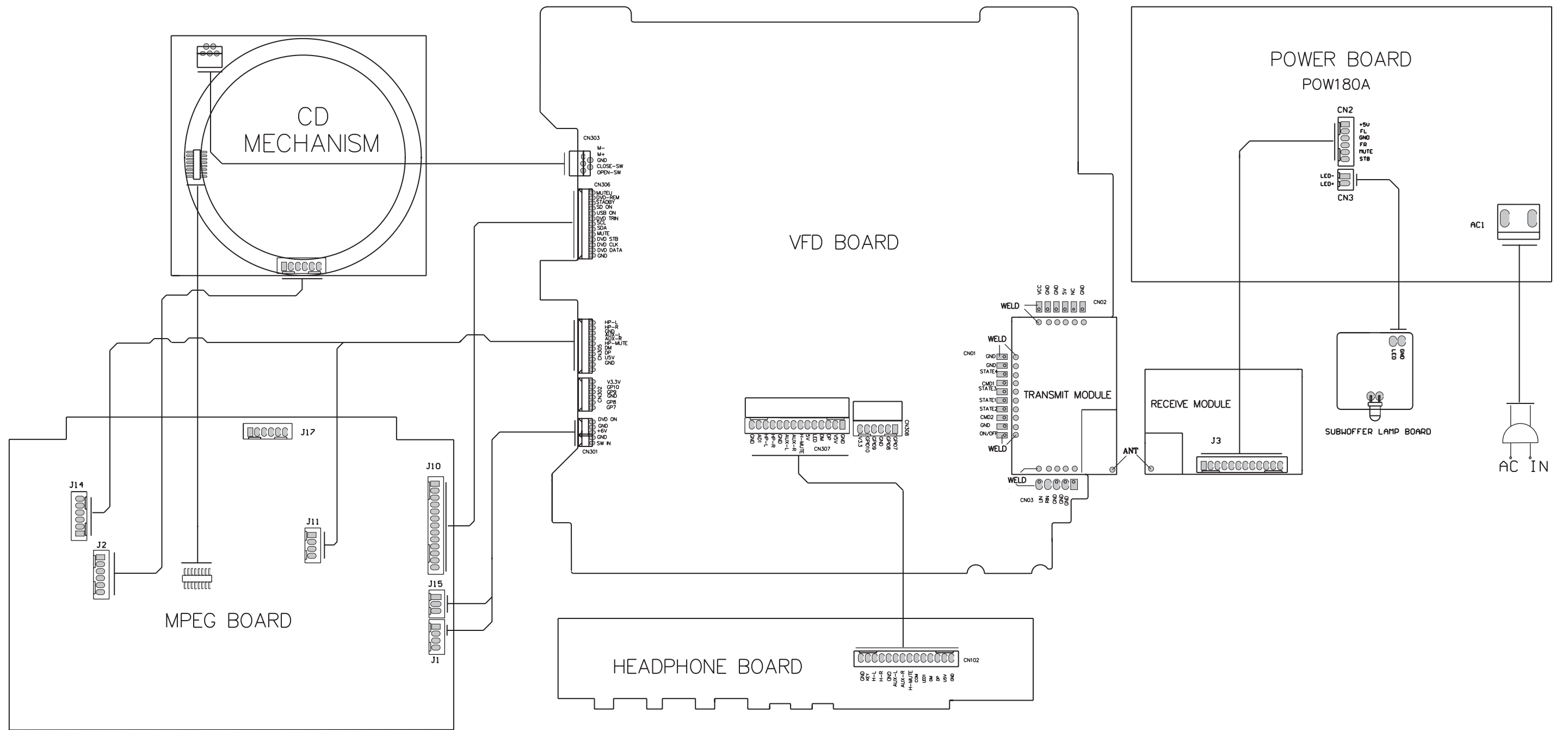
O.Loosen screws 3×6BTH(4PCS) to remove decoder board



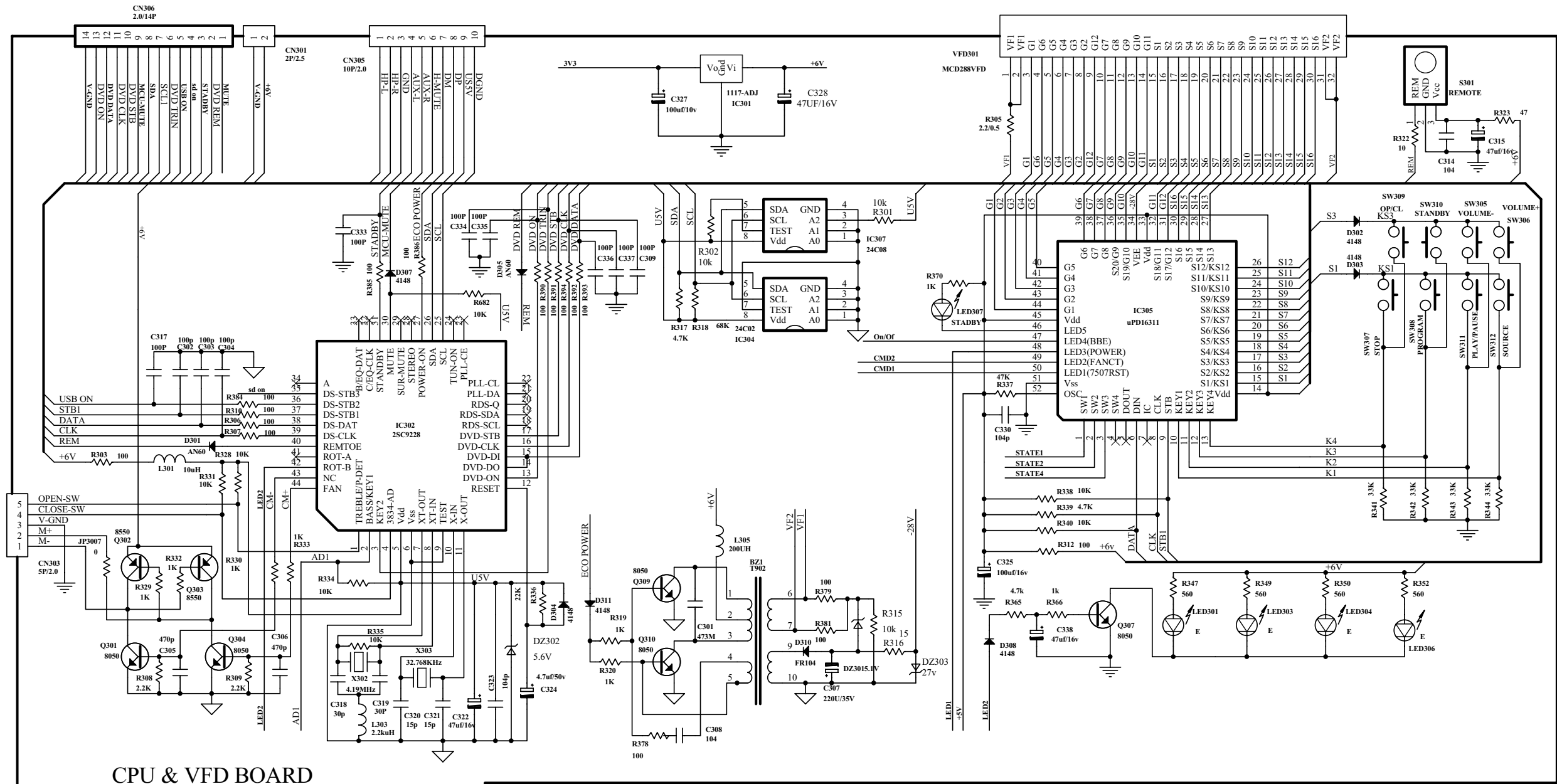
BLOCK DIAGRAM



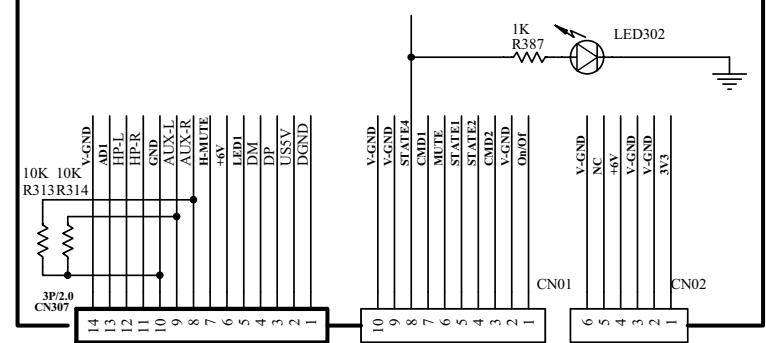
WIRING DIAGRAM



VFD/CPU BOARD - CIRCUIT DIAGRAM

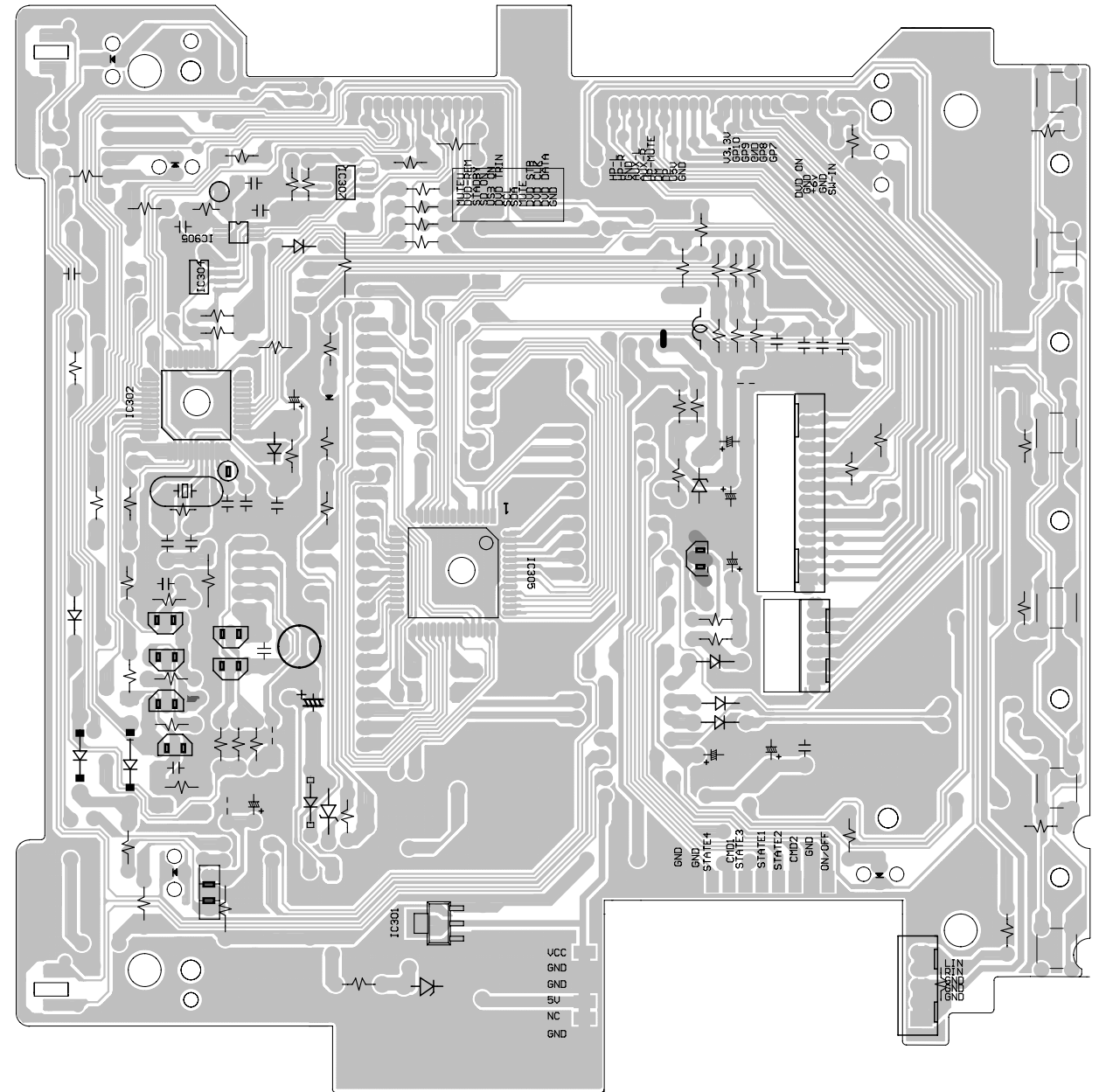
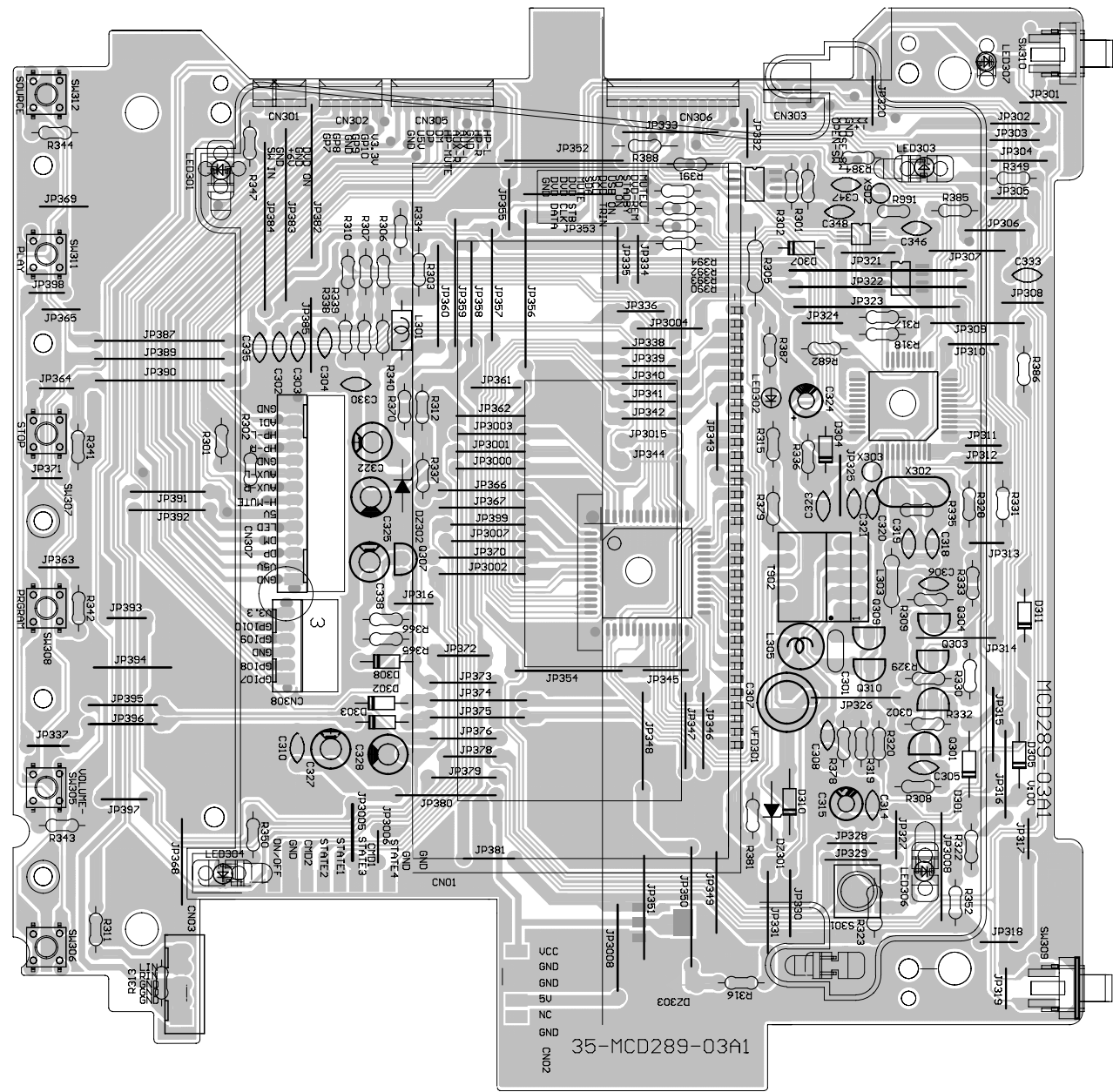


CPU & VFD BOARD

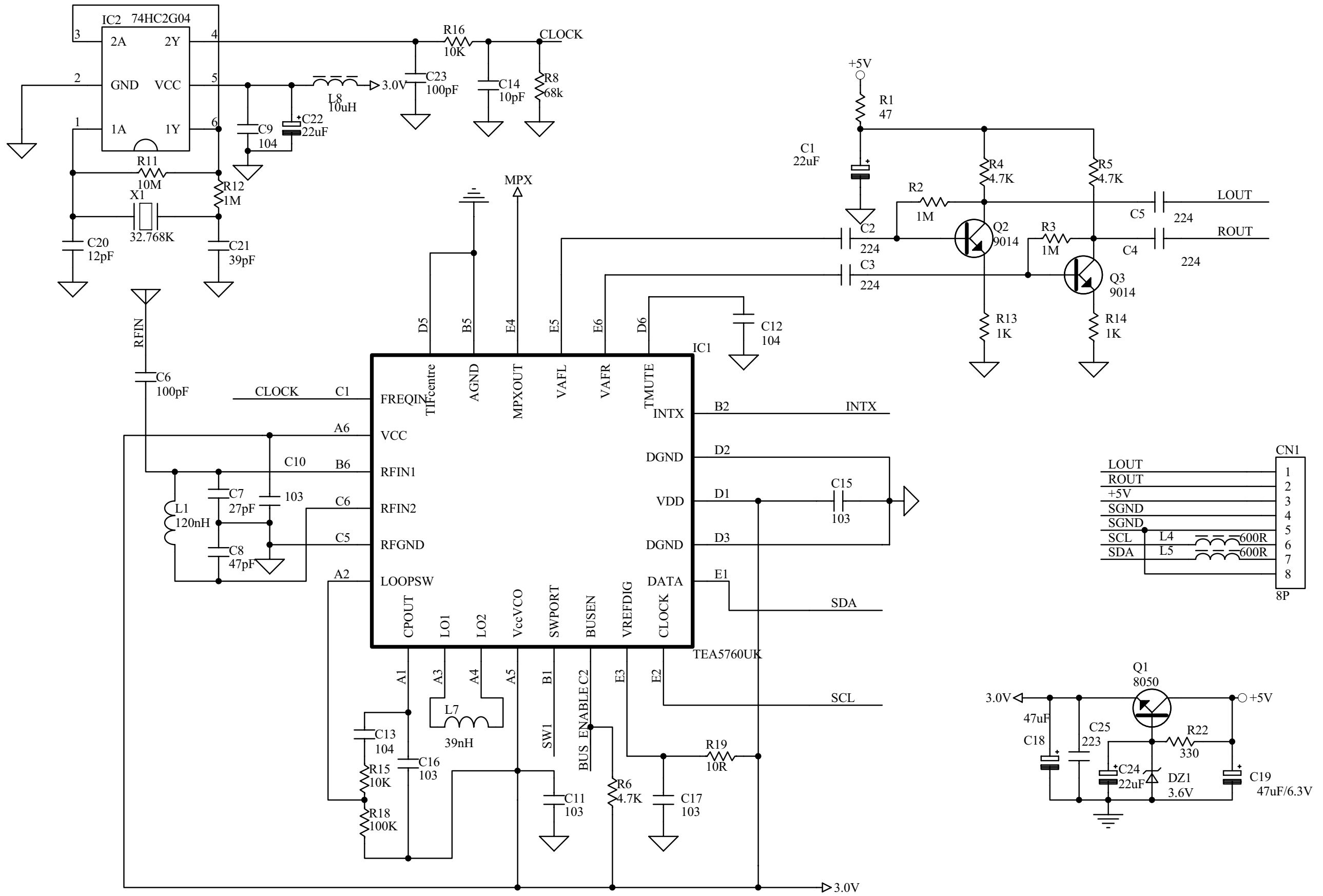


note: tolerance RES±10 %  
 CAP±20 % ,  
 special parts nated beside parts  
 All parts comply with supply environment  
 protect material licf regulate by green envionment management

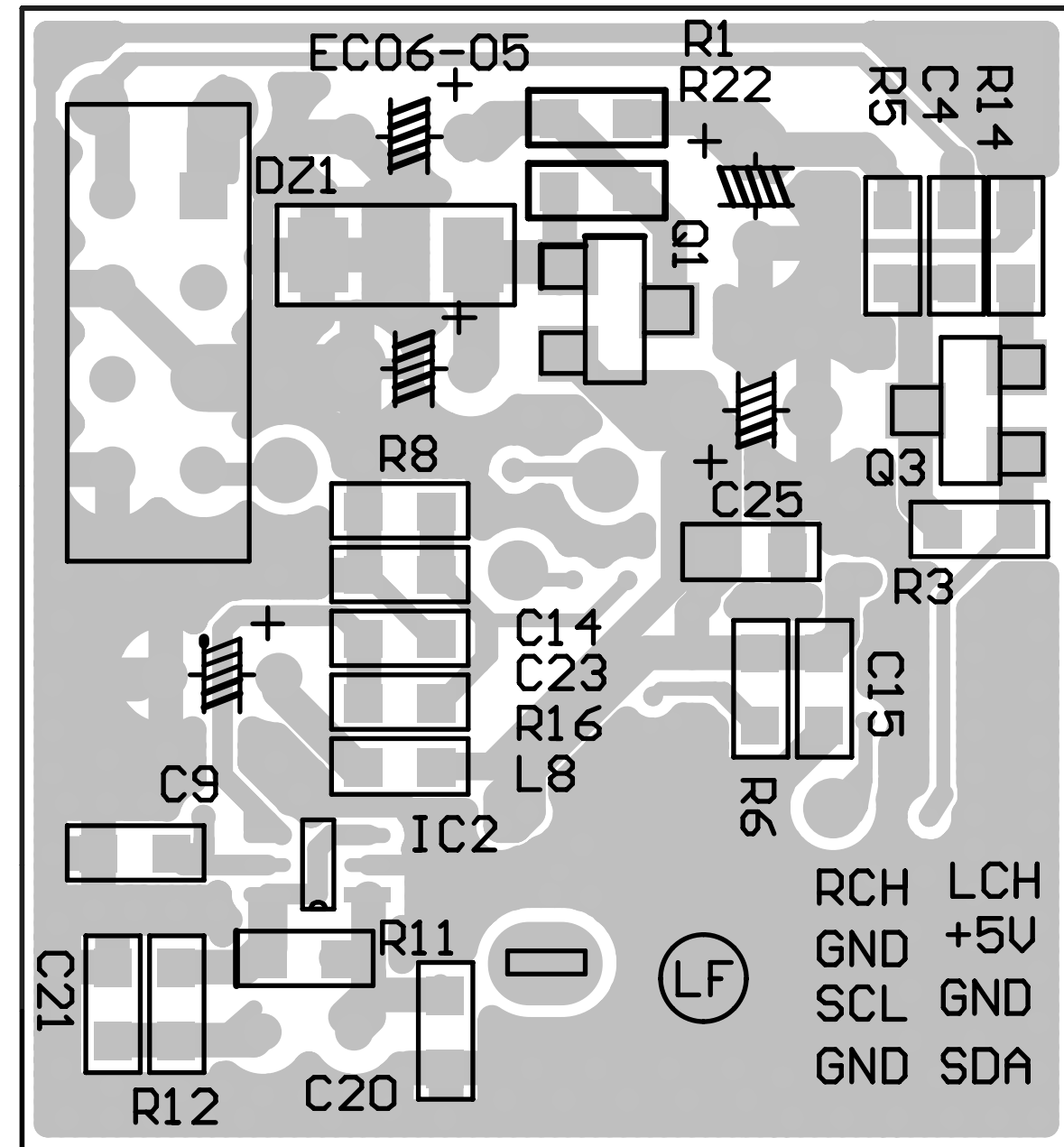
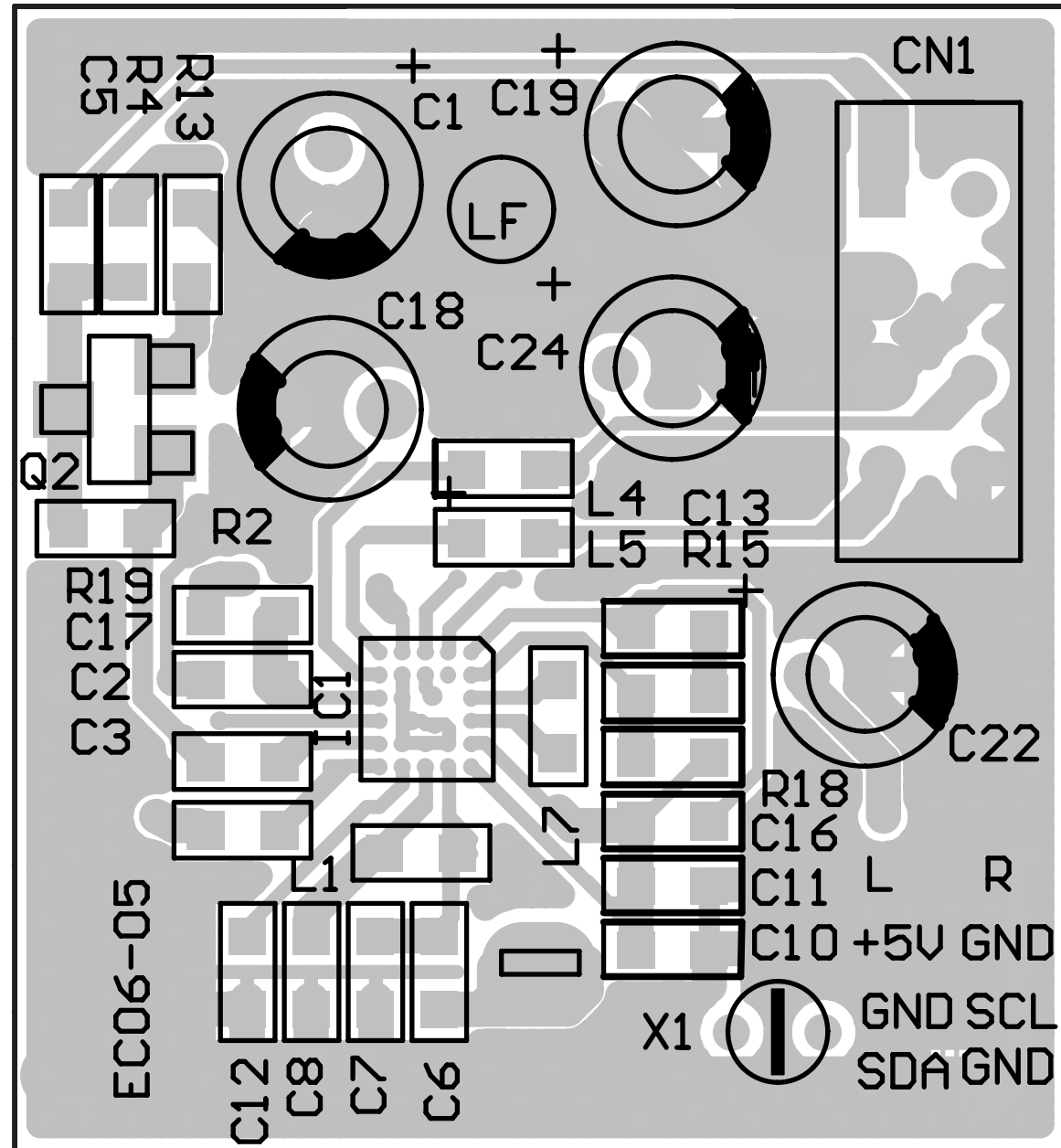
VFD/CPU BOARD - LAYOUT DIAGRAM



TUNER BOARD - CIRCUIT DIAGRAM



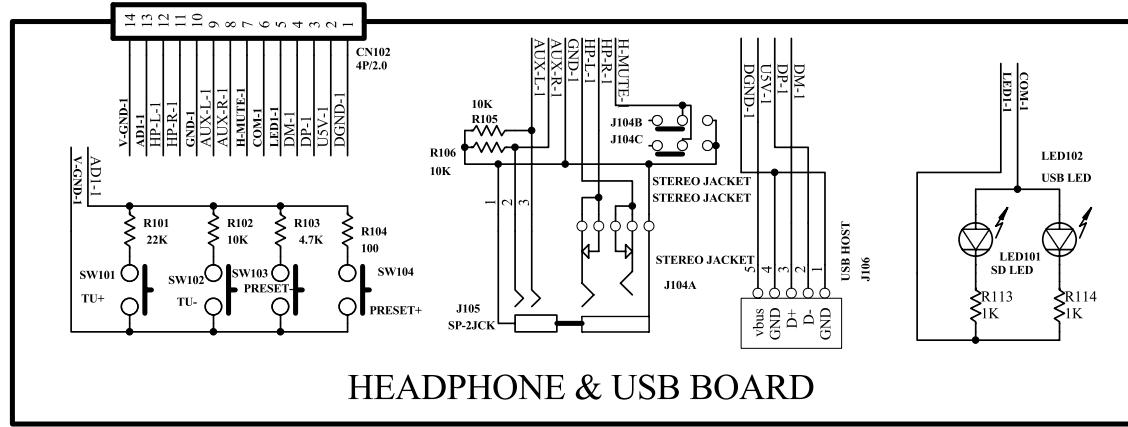
TUNER BOARD - LAYOUT DIAGRAM



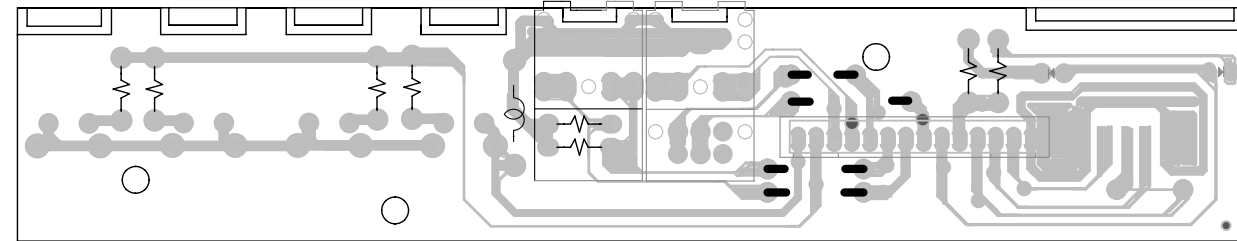
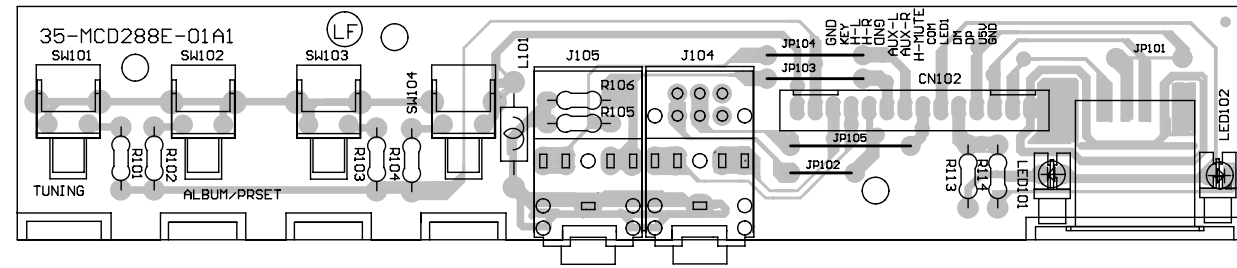


LAMP AND USB/HEADPHONE BOARD

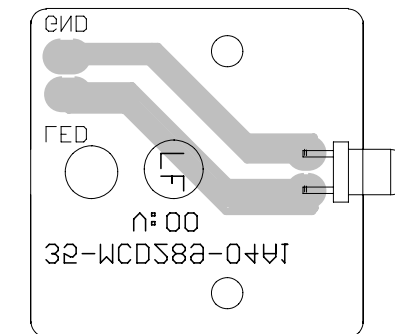
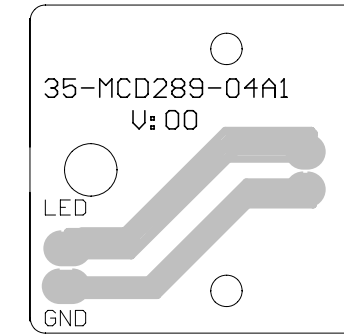
USB/HEADPHONE BOARD



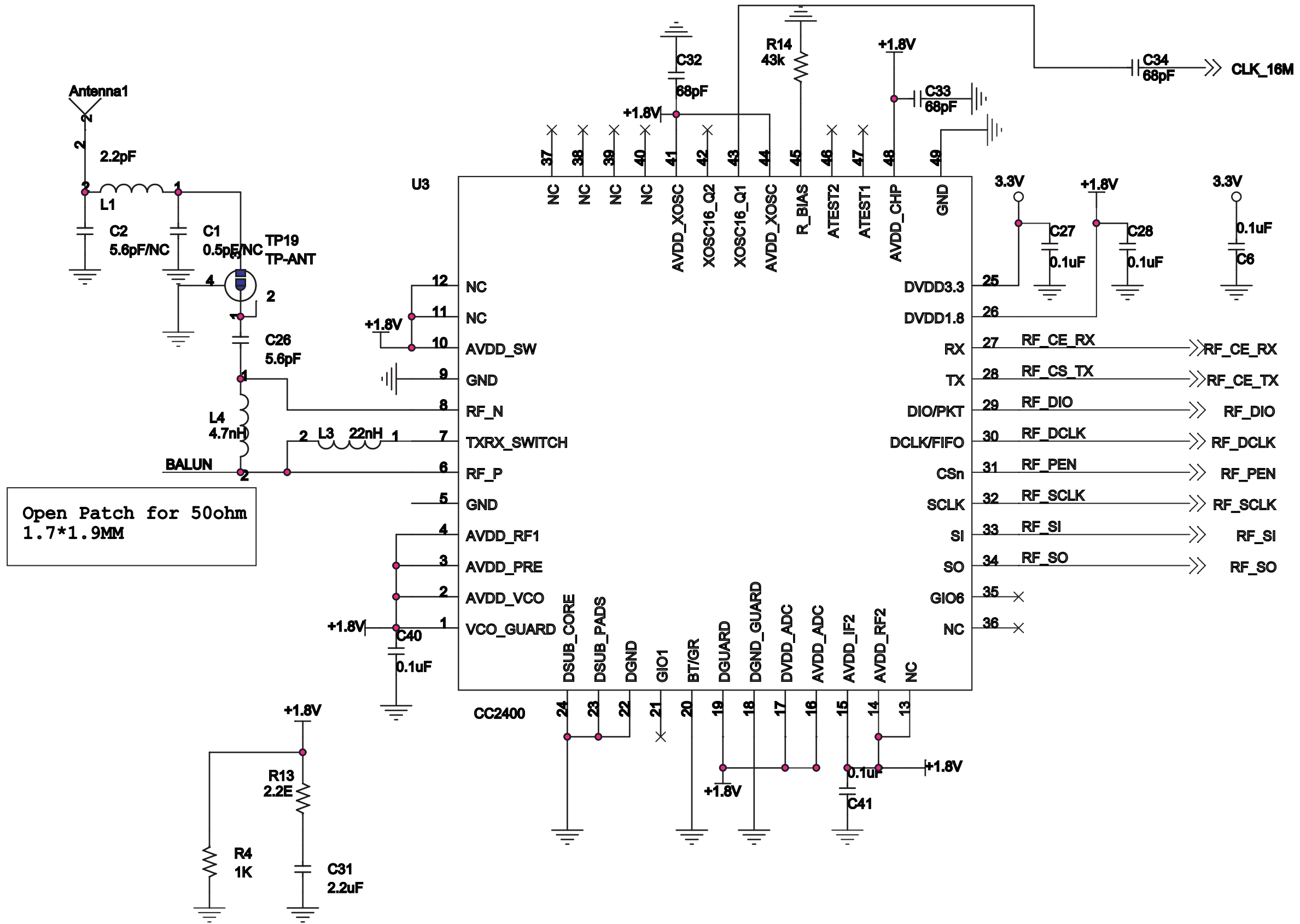
HEADPHONE & USB BOARD



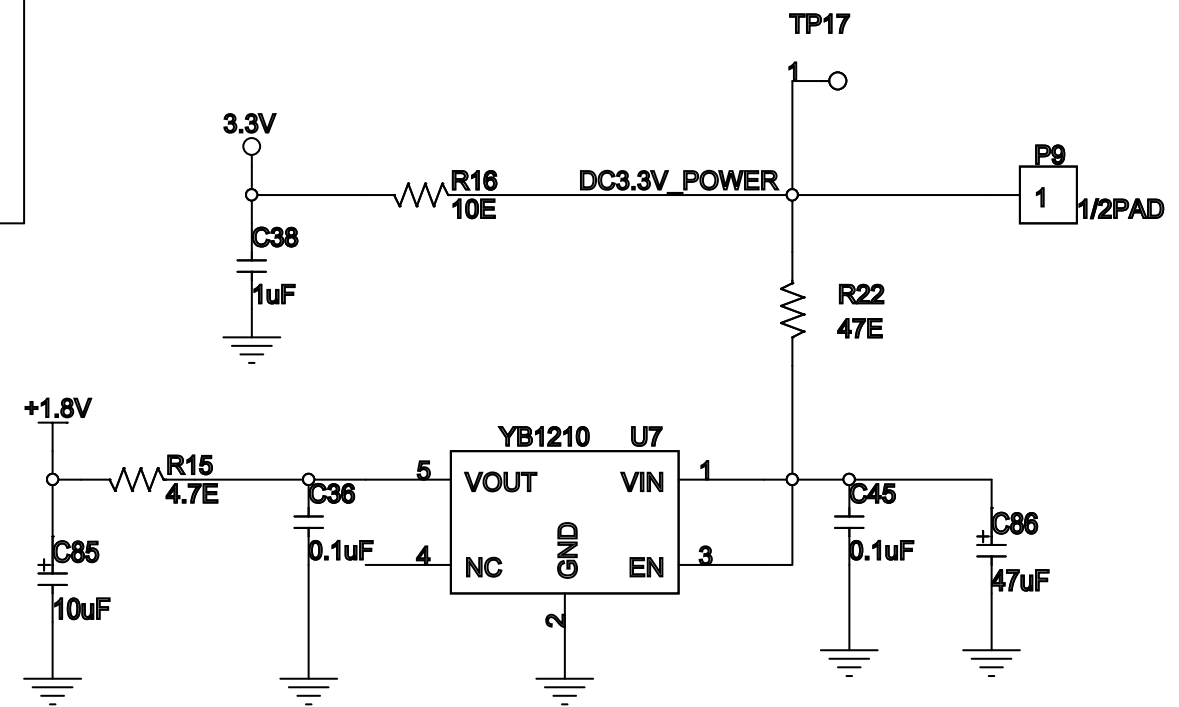
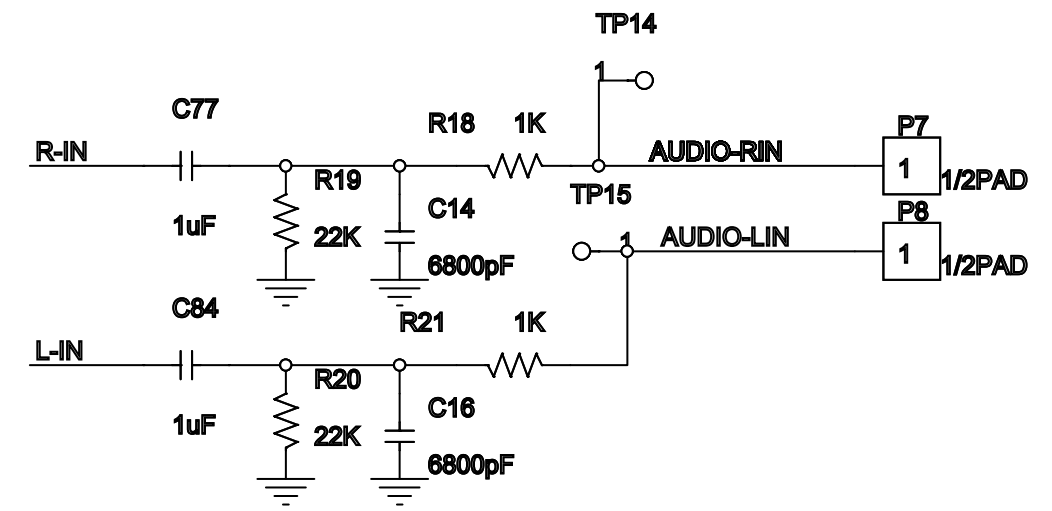
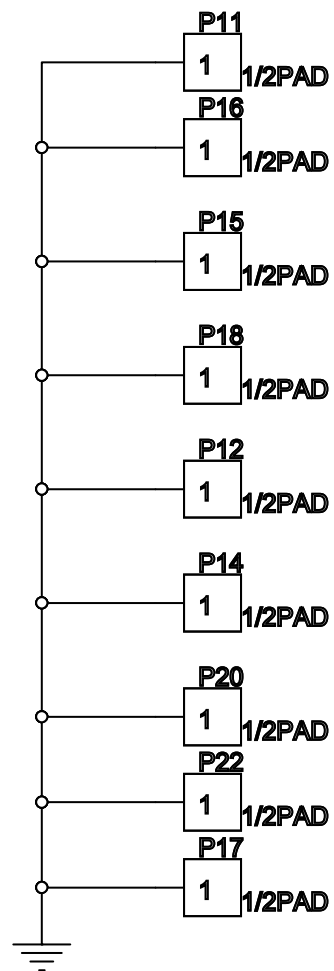
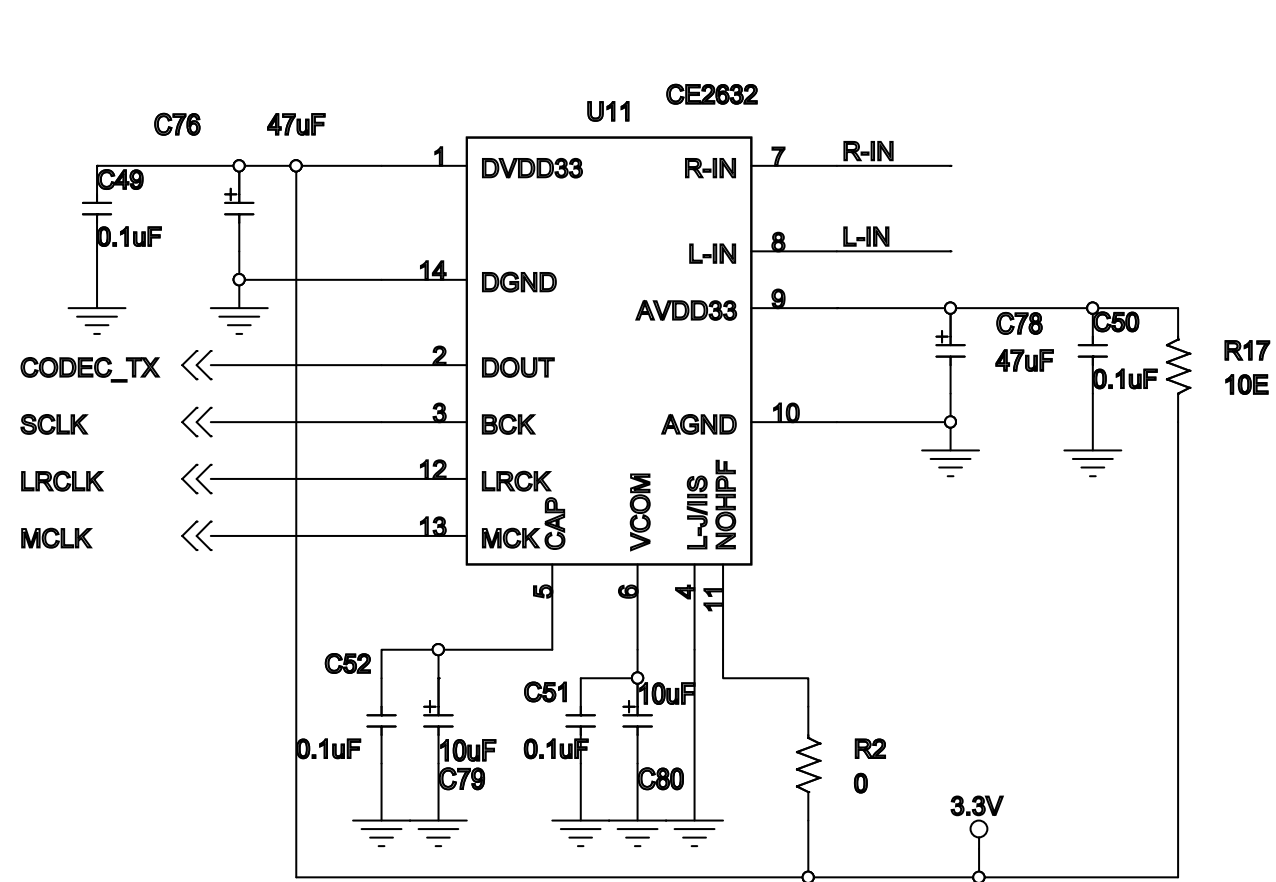
LAMP BOARD



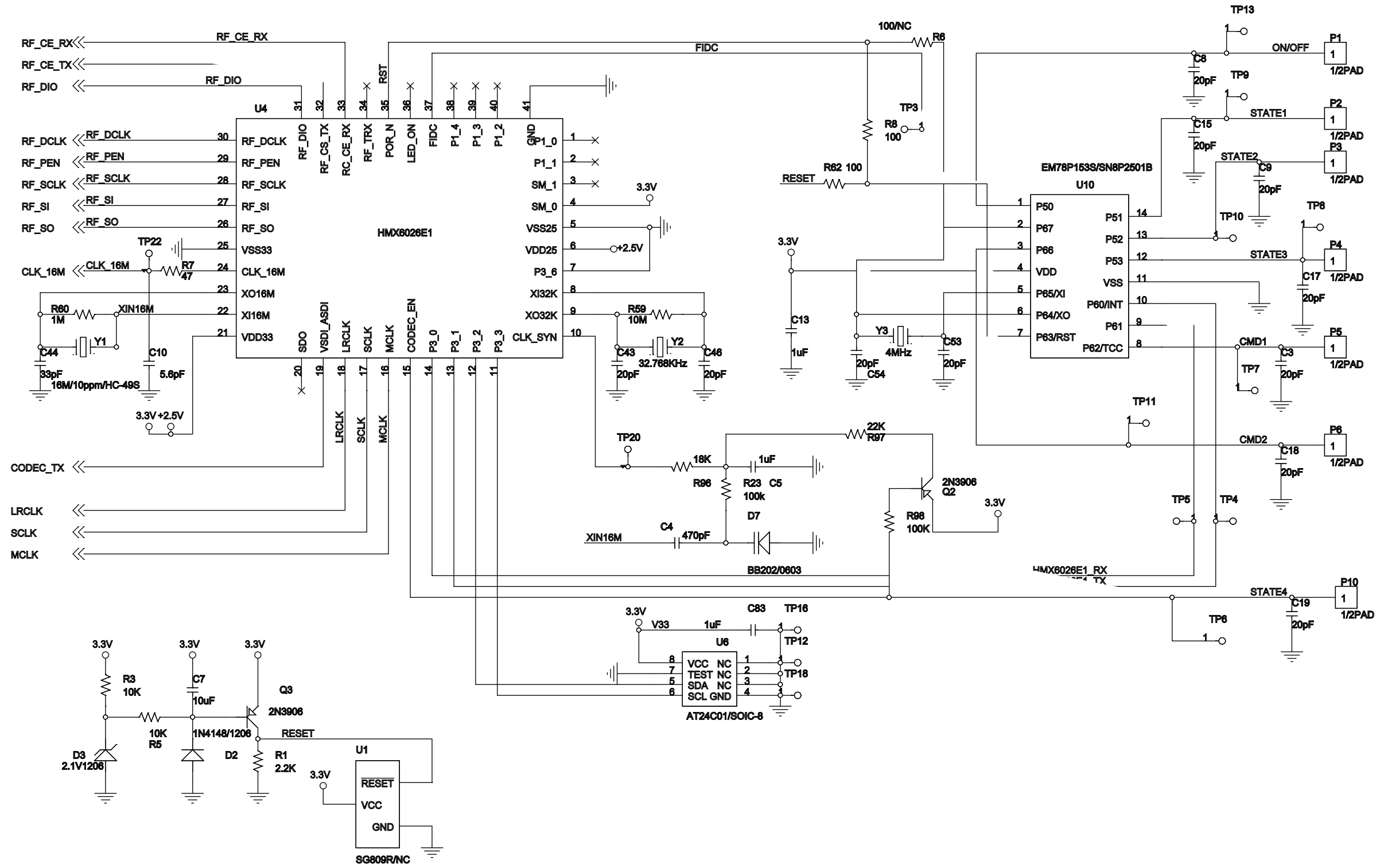
RADIO - TRANSMIT BOARD - CIRCUIT DIAGRAM - PART1



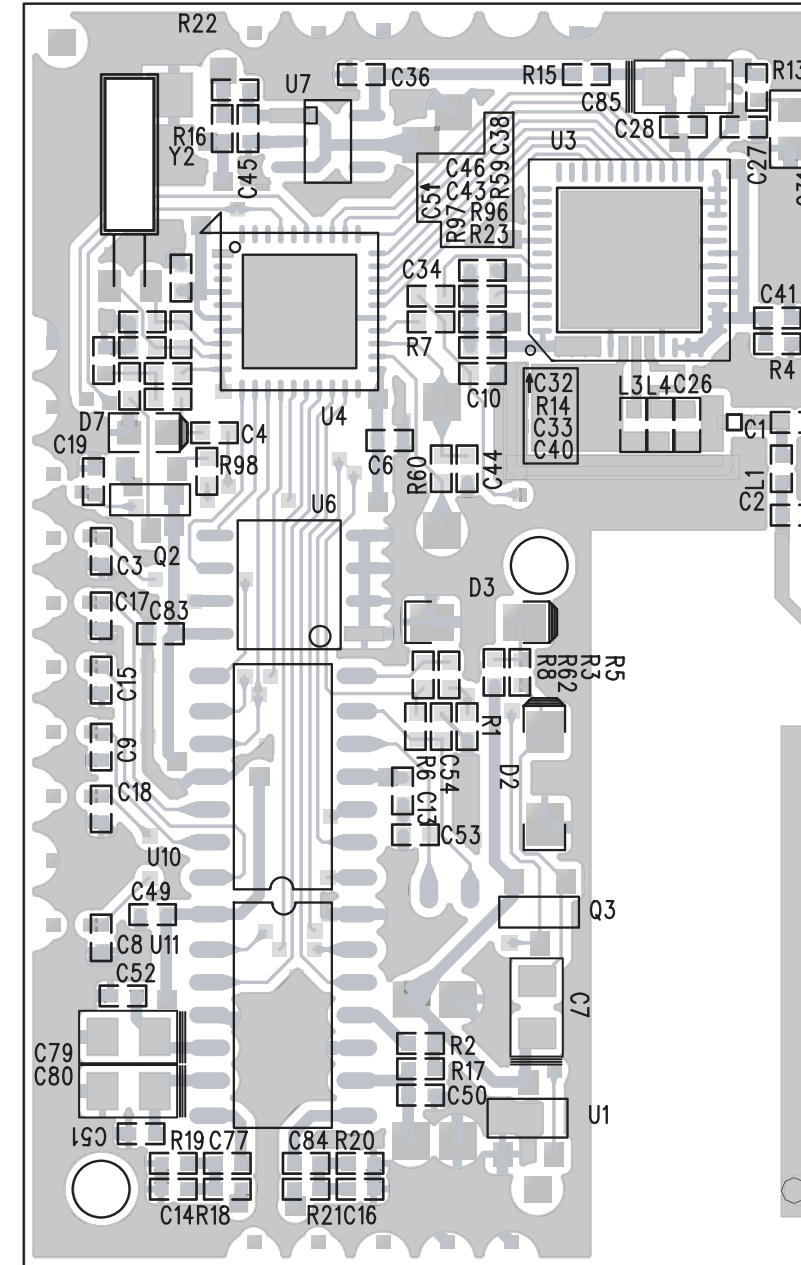
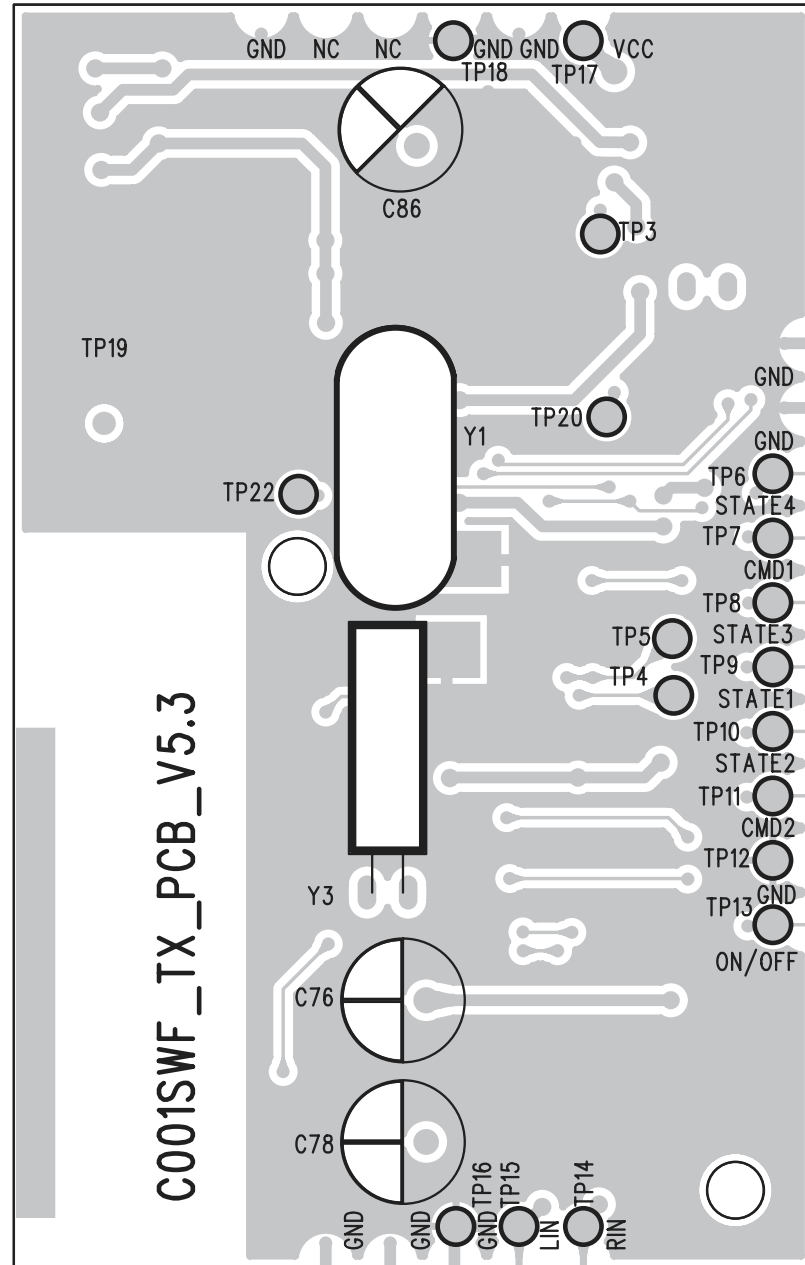
RADIO - TRANSMIT BOARD - CIRCUIT DIAGRAM - PART2



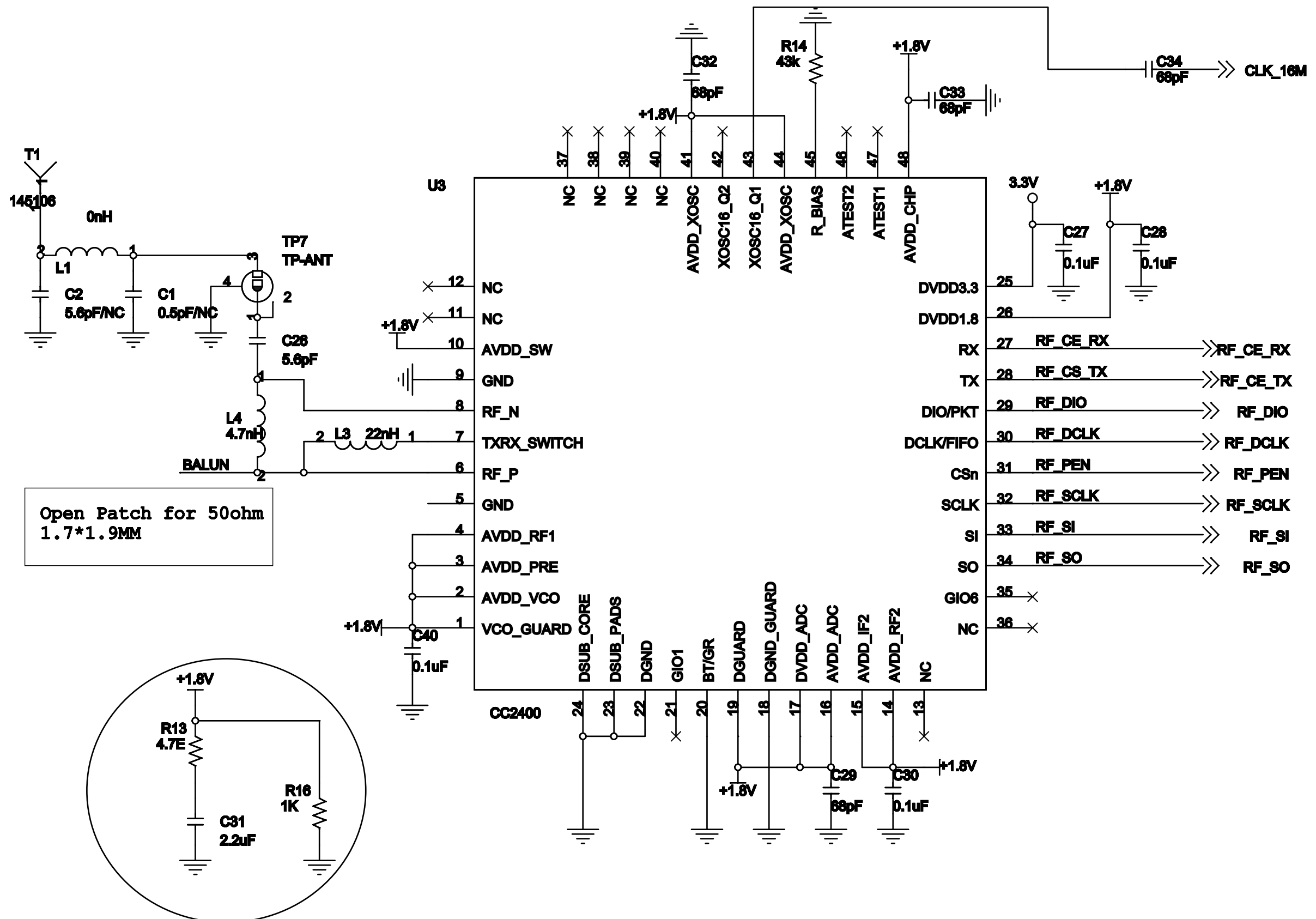
RADIO - TRANSMIT BOARD - CIRCUIT DIAGRAM - PART3



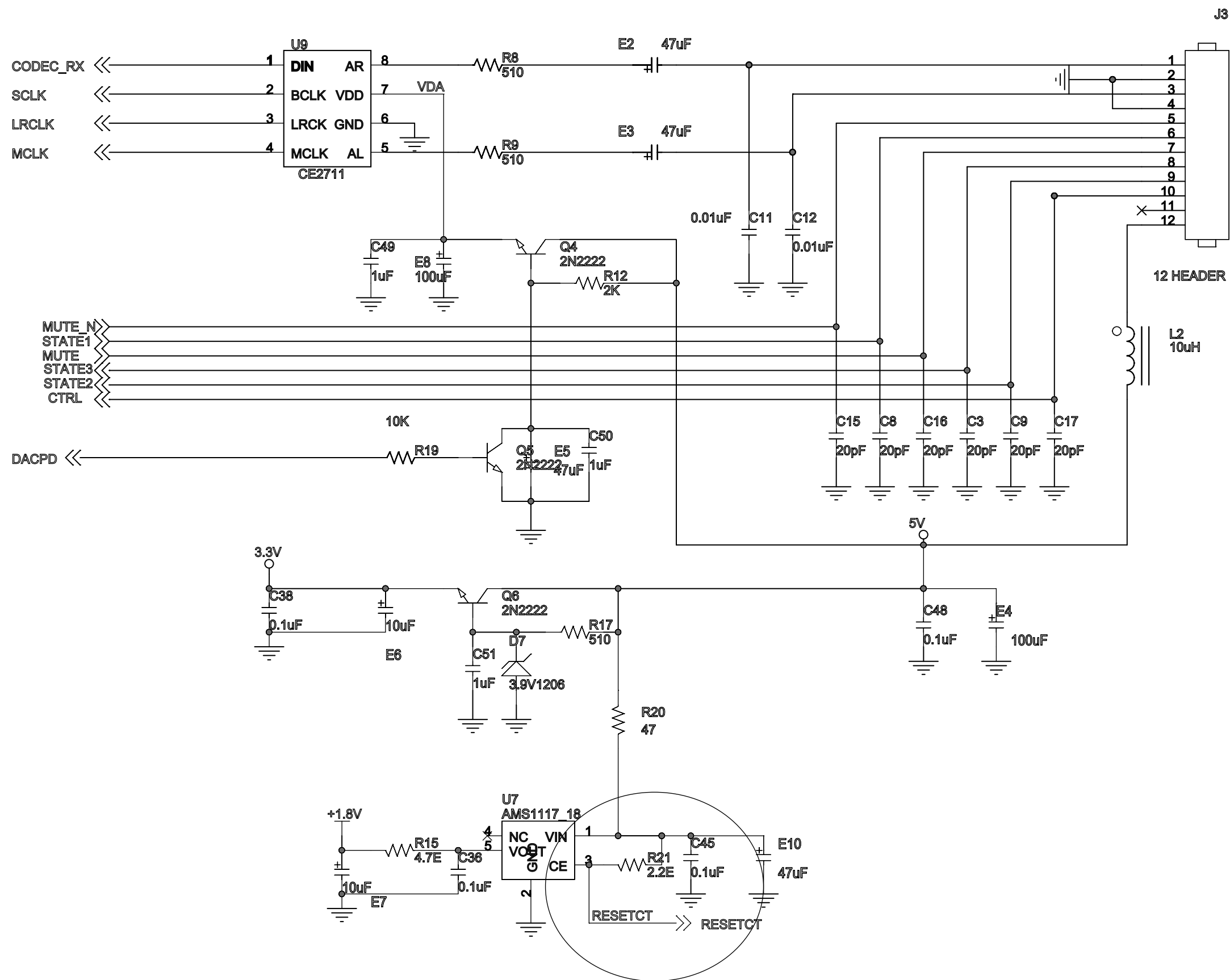
RADIO - TRANSMIT BOARD - LAYOUT DIAGRAM



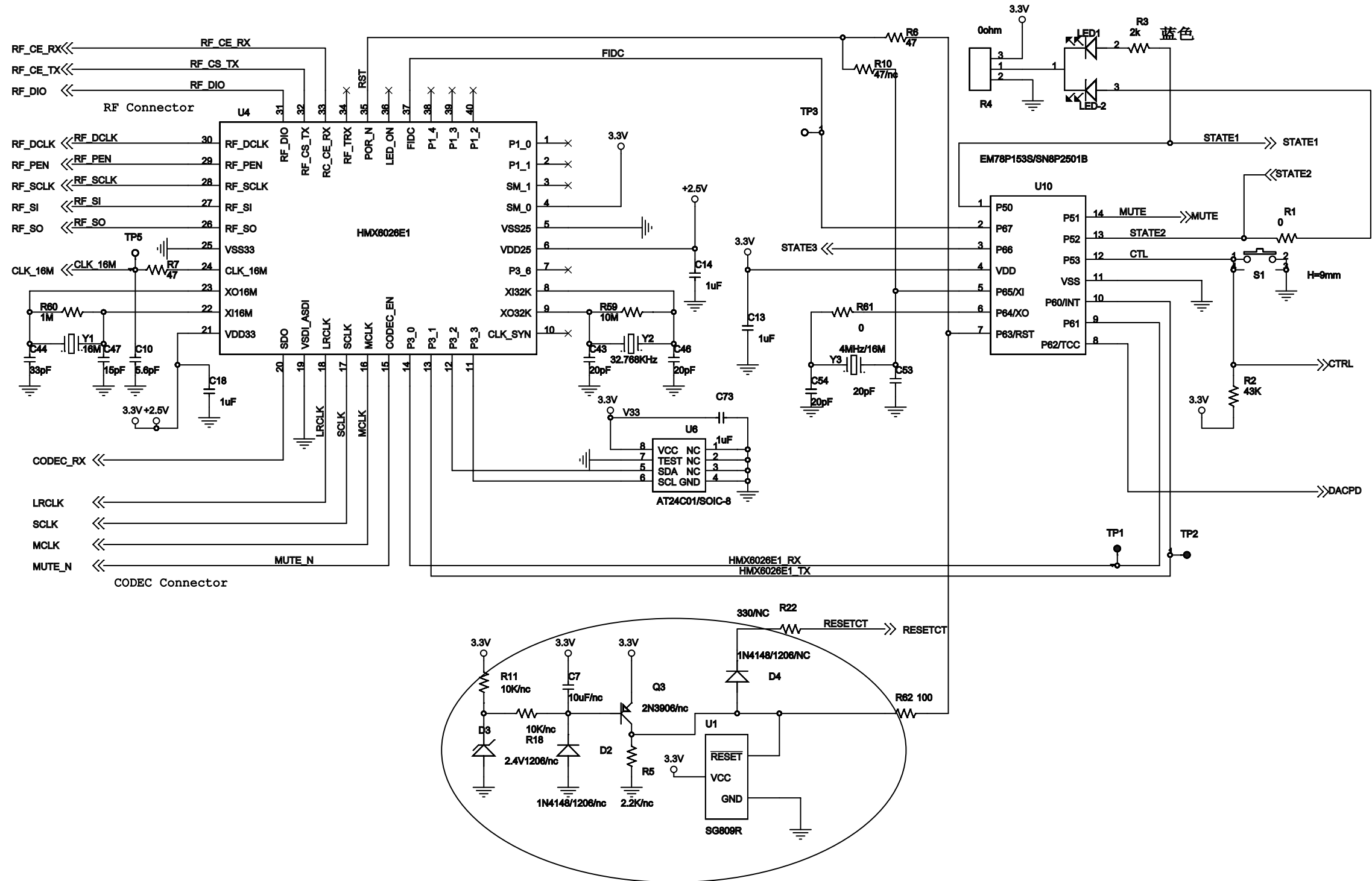
RADIO - RECEIVE BOARD - CIRCUIT DIAGRAM - PART1



RADIO - RECEIVE BOARD - CIRCUIT DIAGRAM - PART2

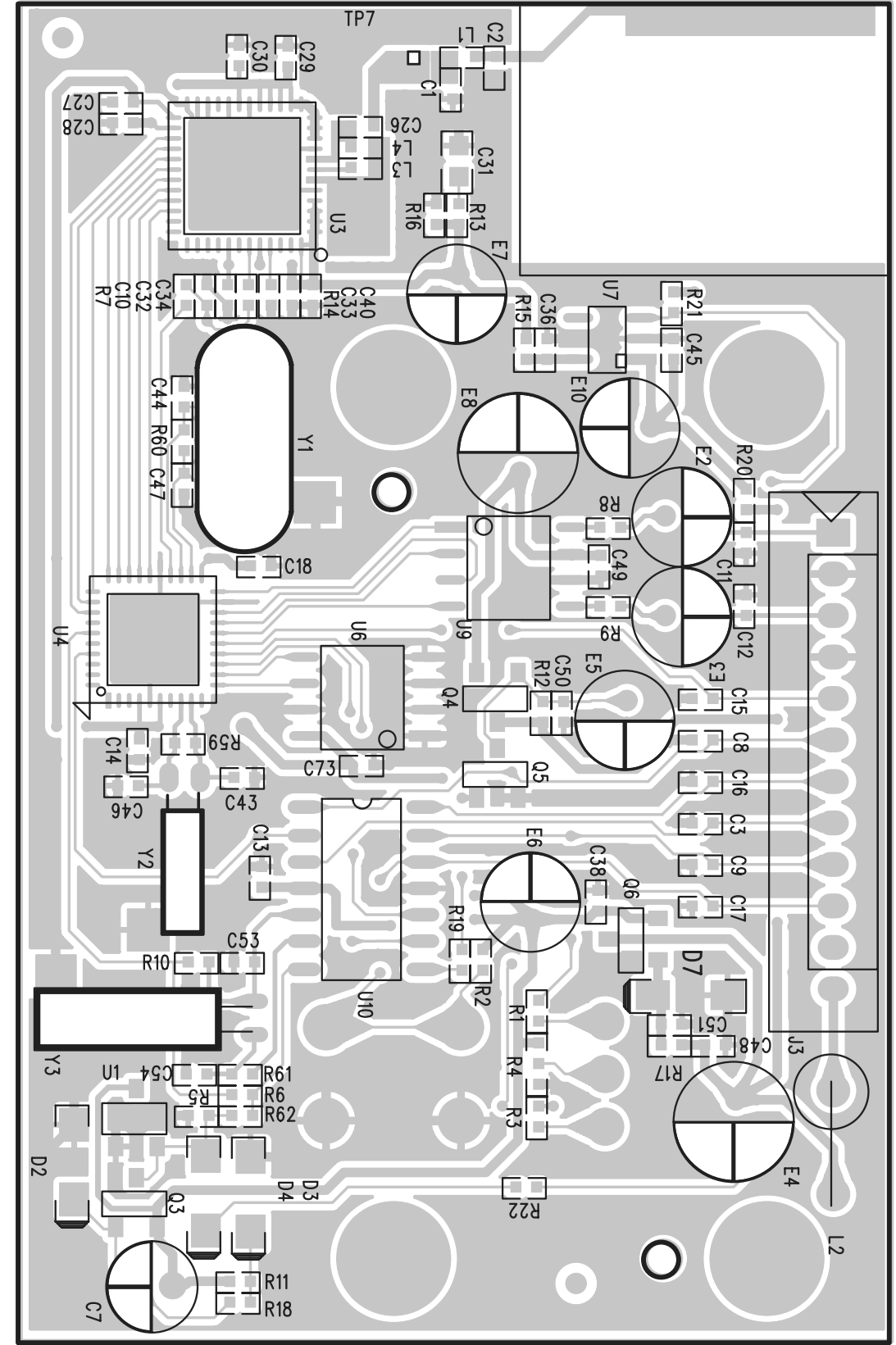
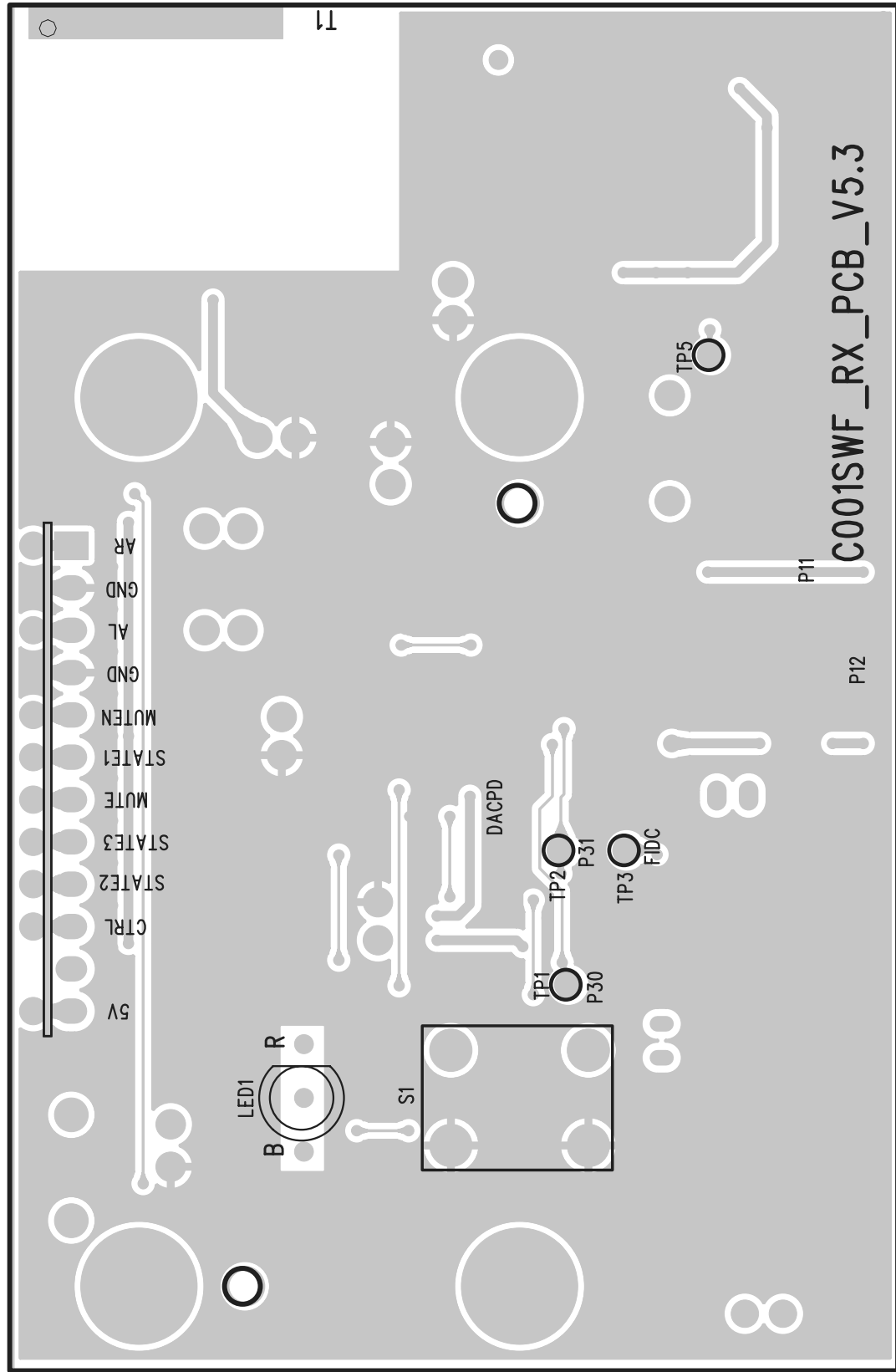


RADIO - RECEIVE BOARD - CIRCUIT DIAGRAM - PART3

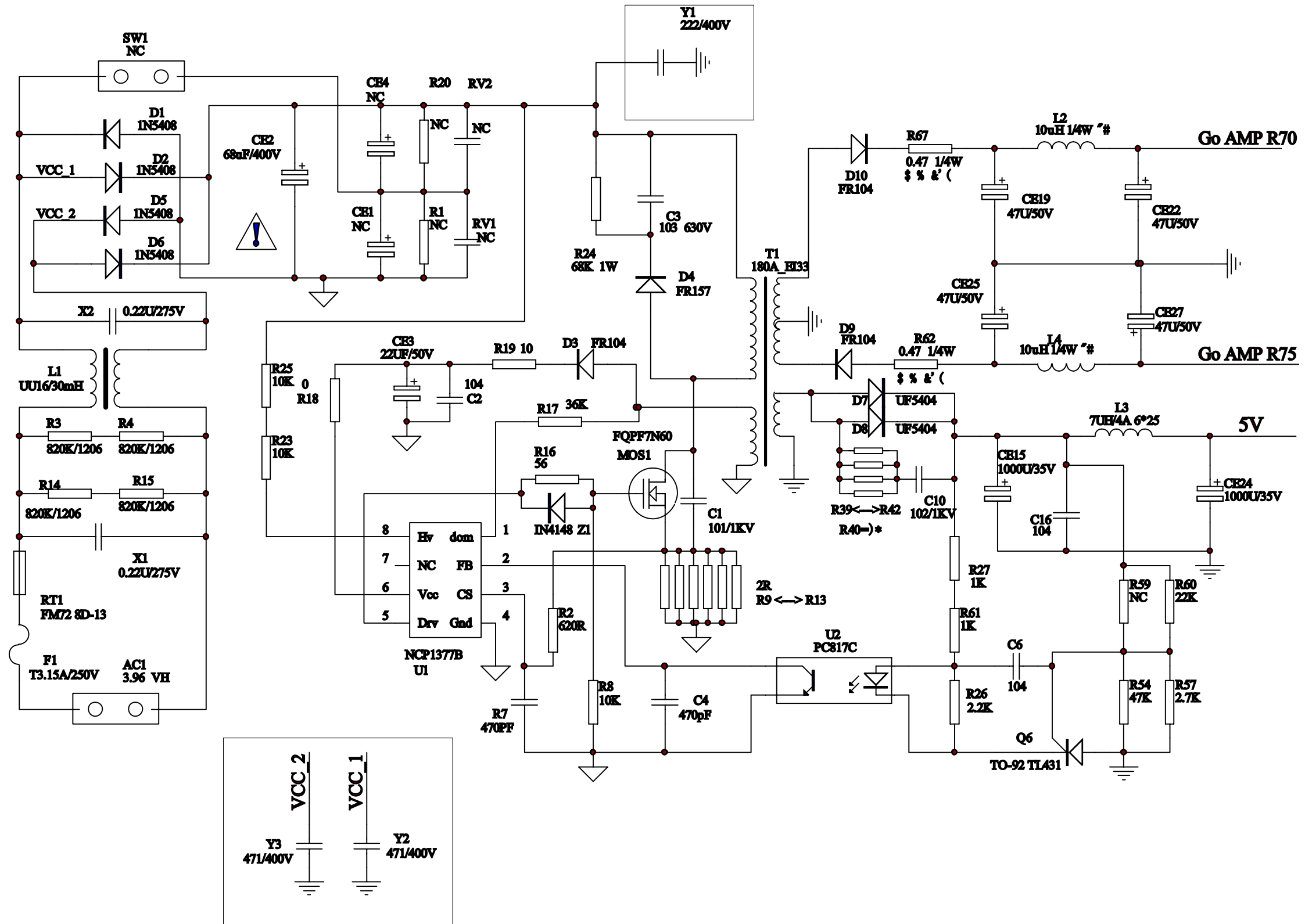




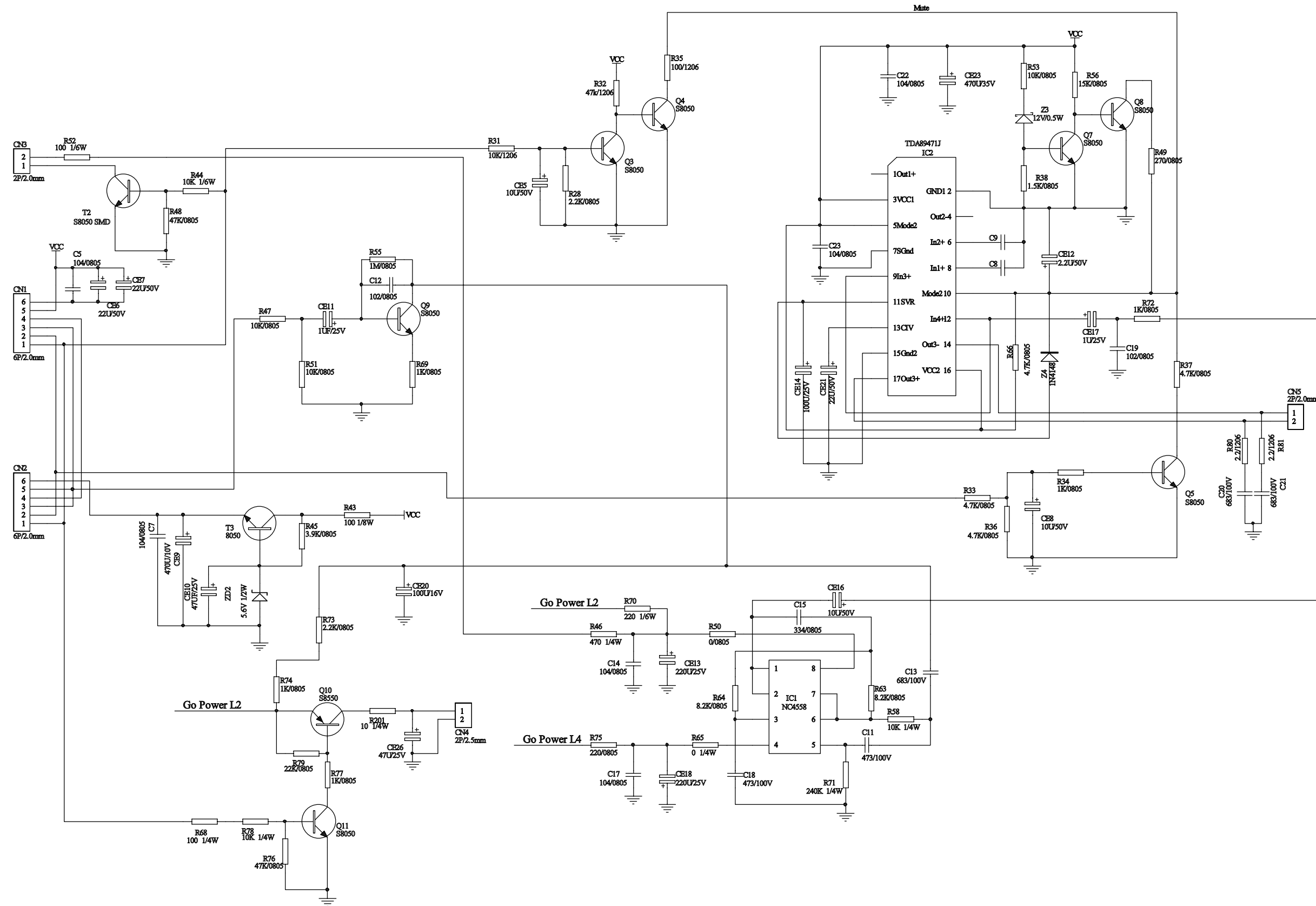
RADIO - RECEIVE BOARD - LAYOUT DIAGRAM



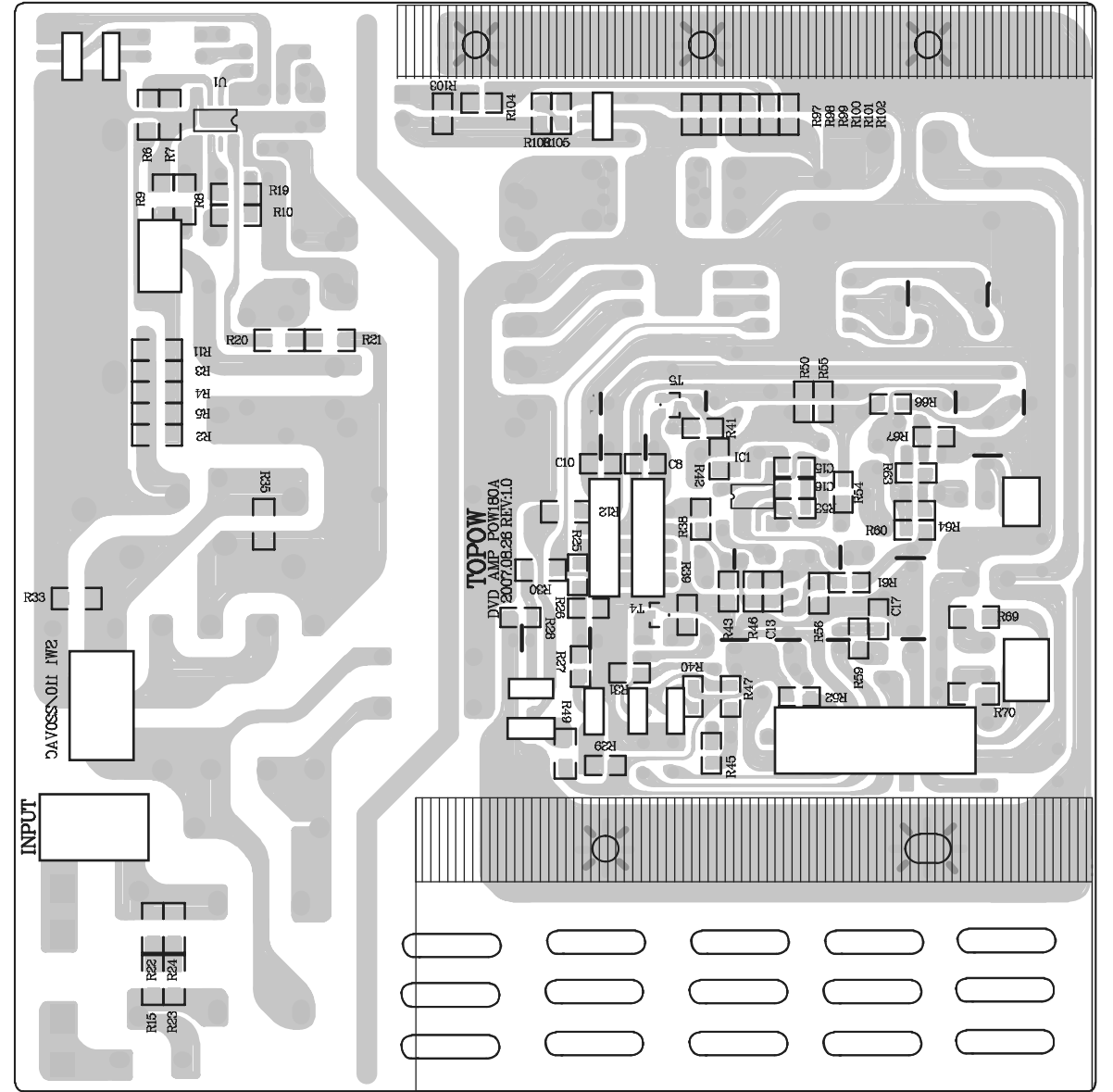
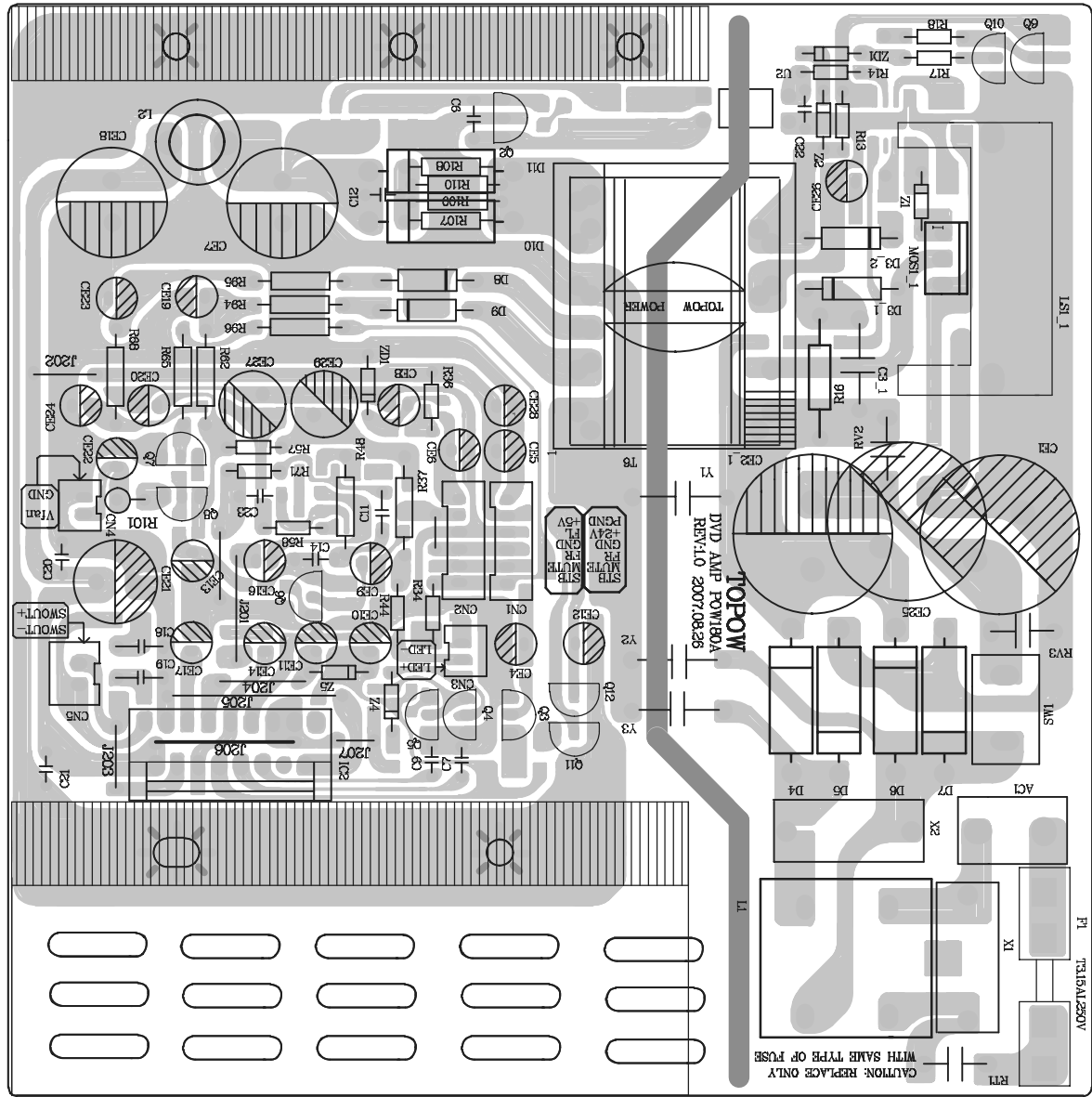
POWER BOARD - CIRCUIT DIAGRAM - PART1



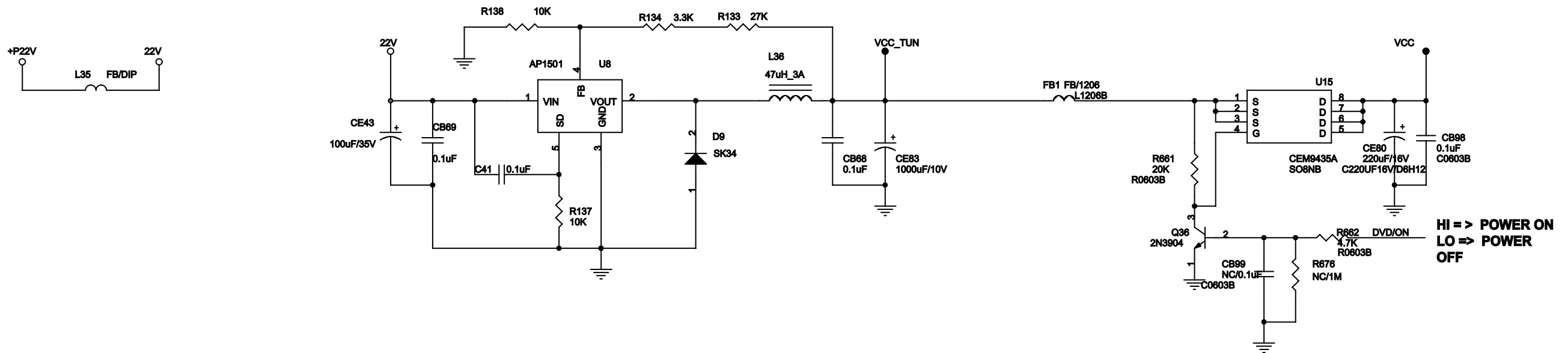
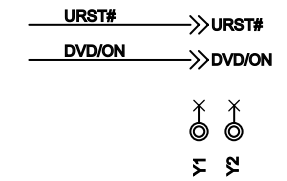
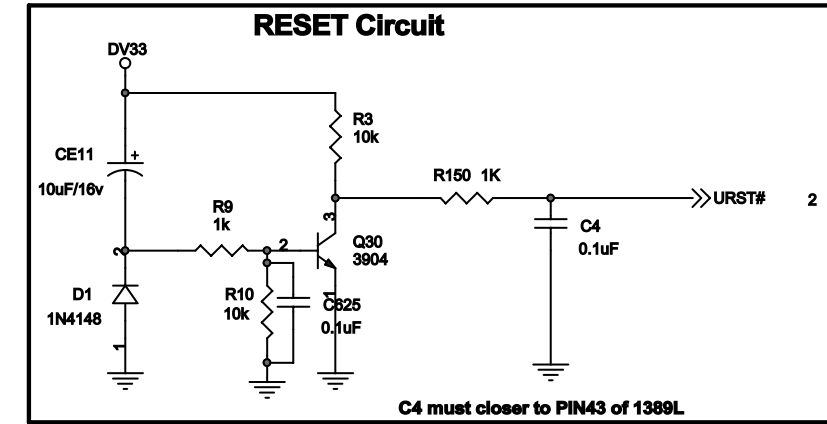
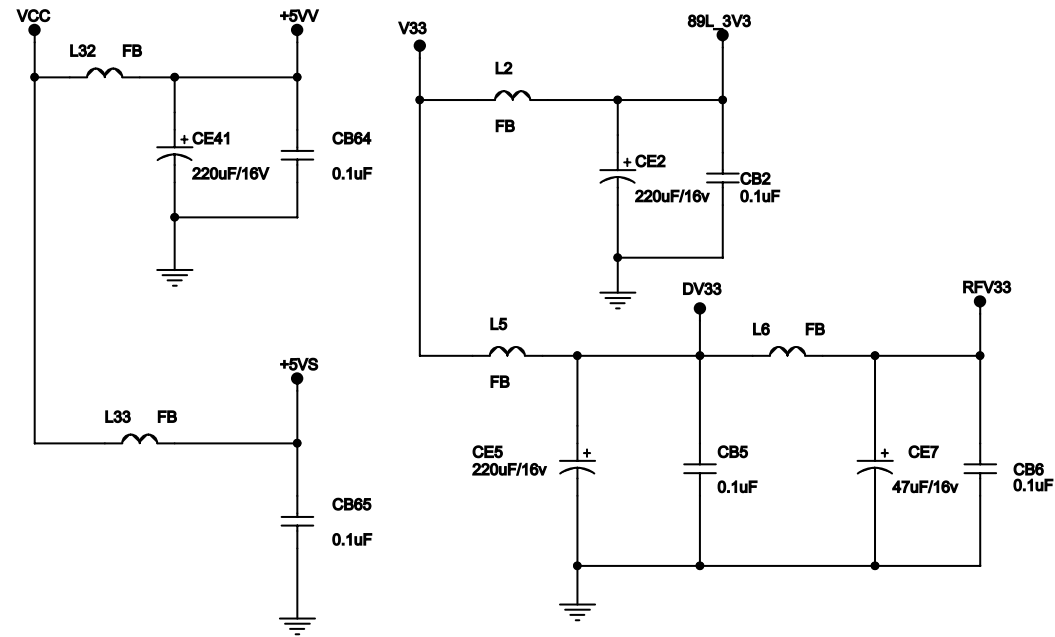
POWER BOARD - CIRCUIT DIAGRAM - PART2



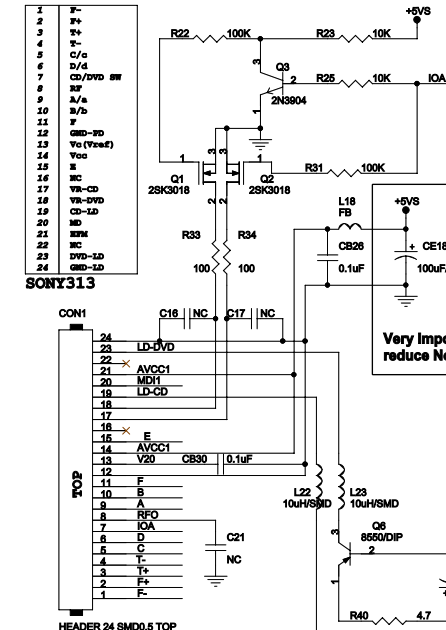
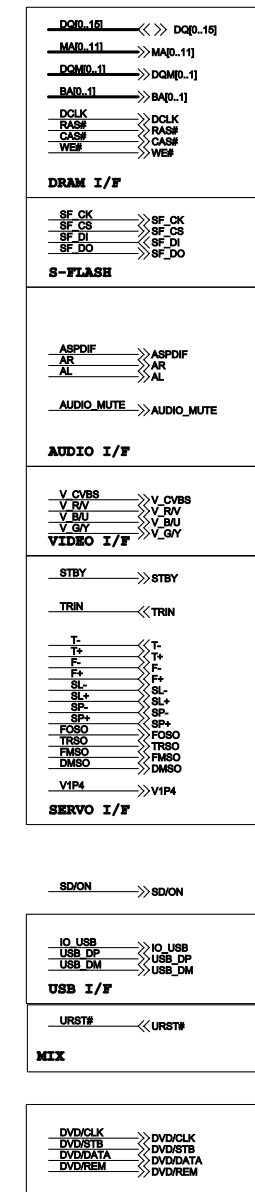
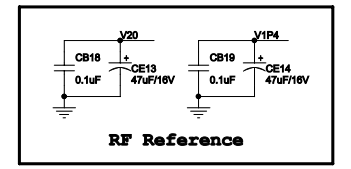
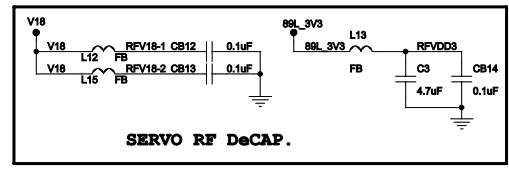
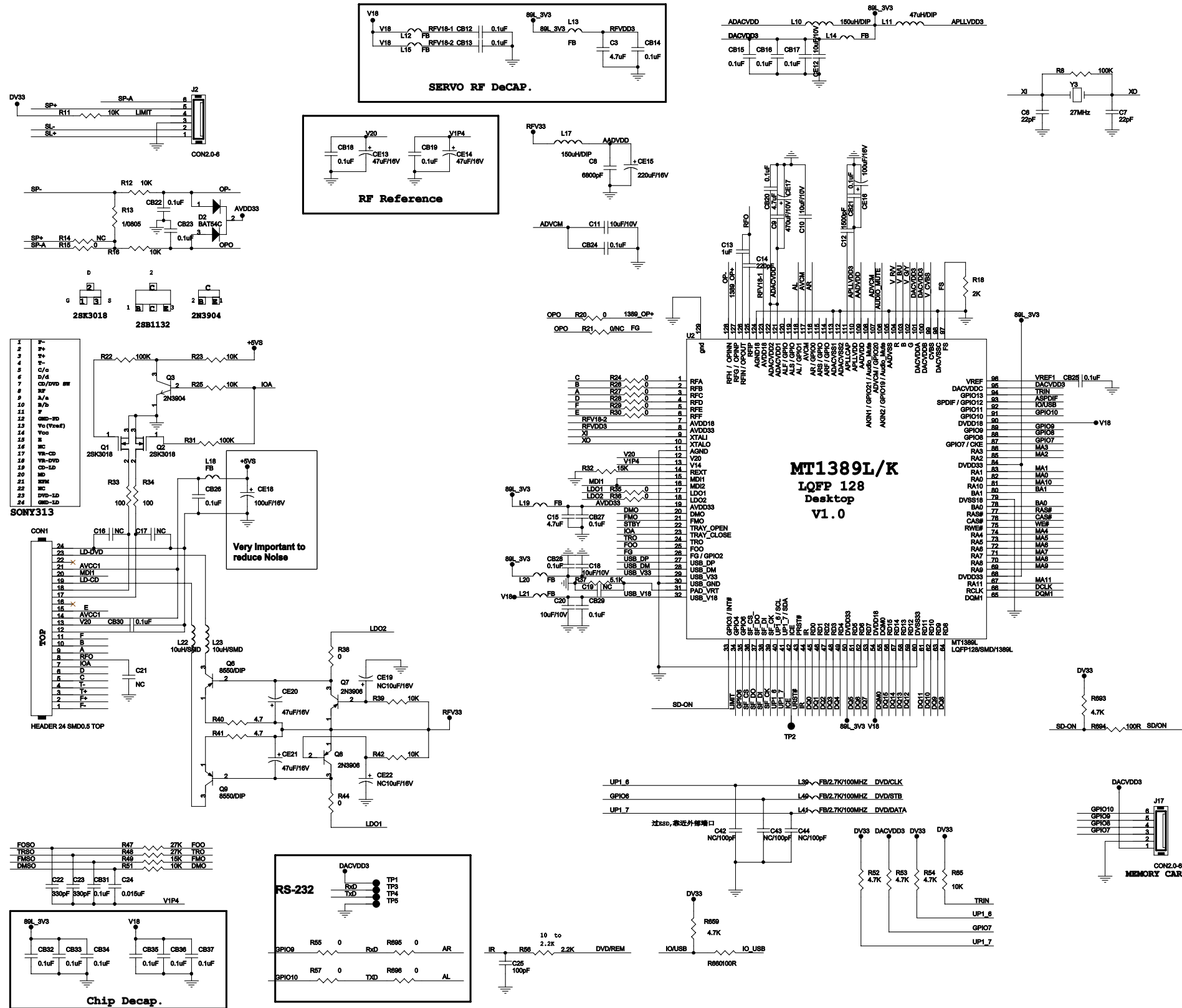
POWER BOARD - LAYOUT DIAGRAM



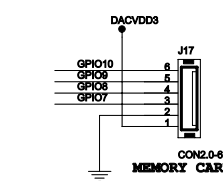
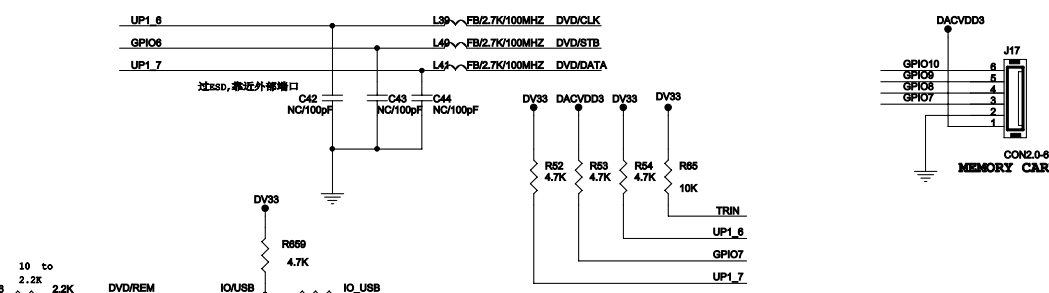
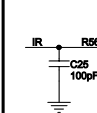
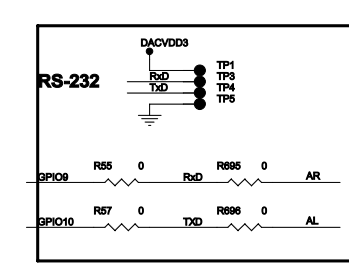
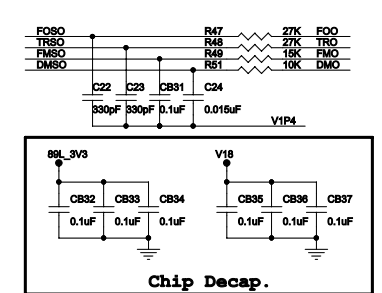
DECODE BOARD - CIRCUIT DIAGRAM - PART1



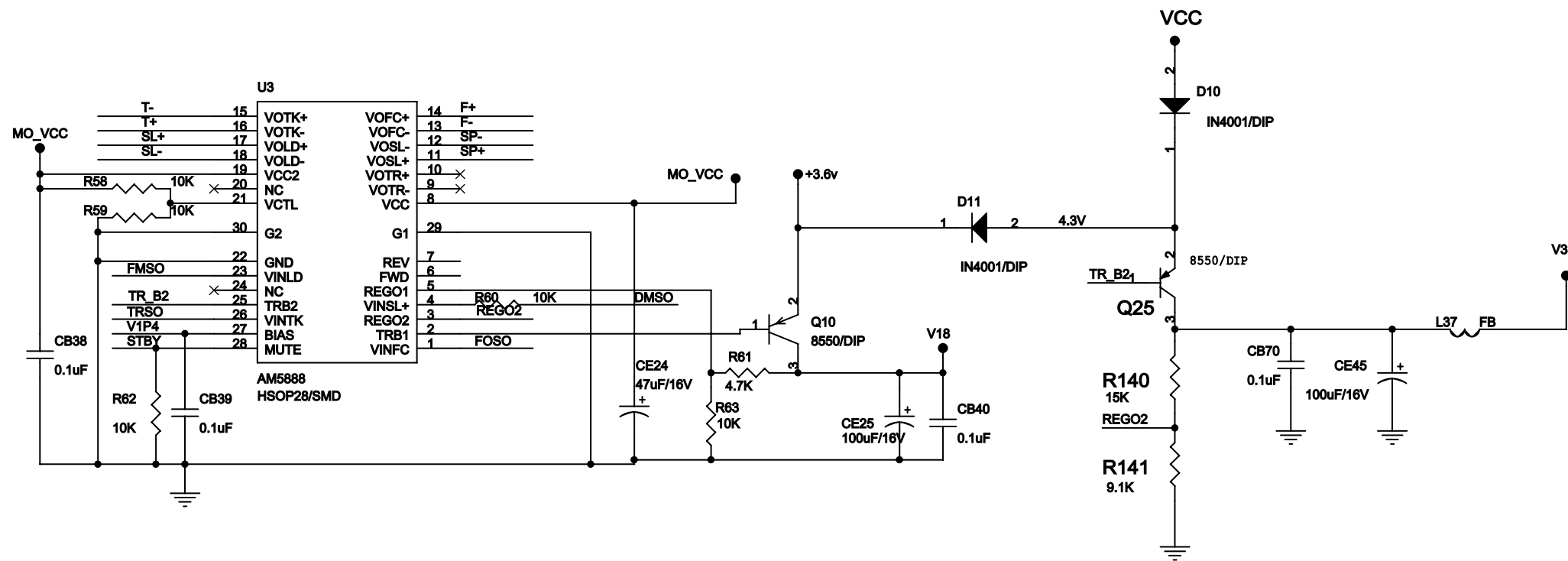
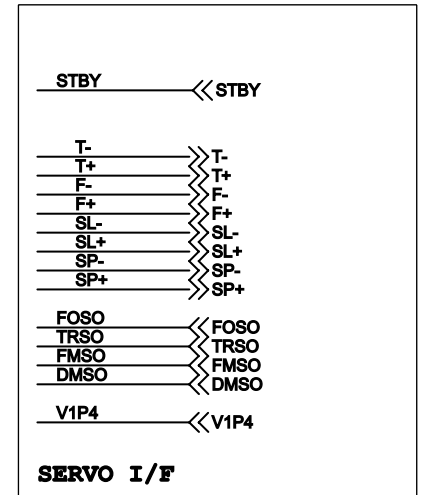
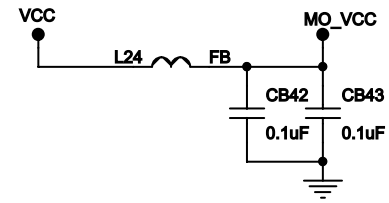
DECODE BOARD - CIRCUIT DIAGRAM - PART2



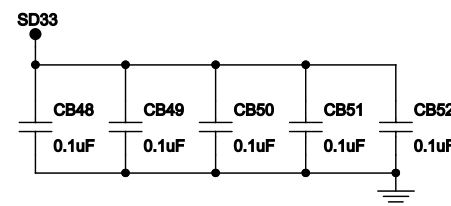
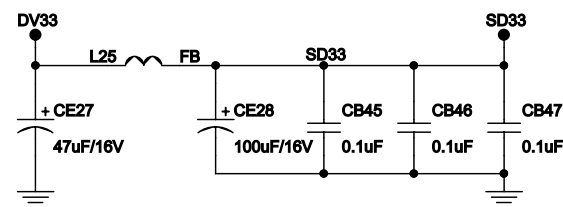
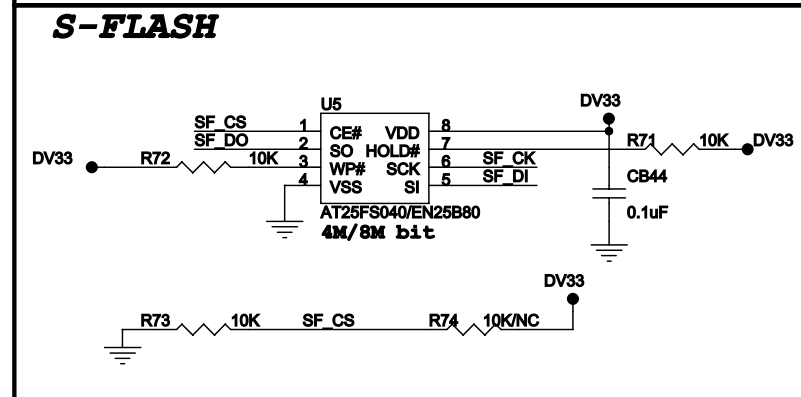
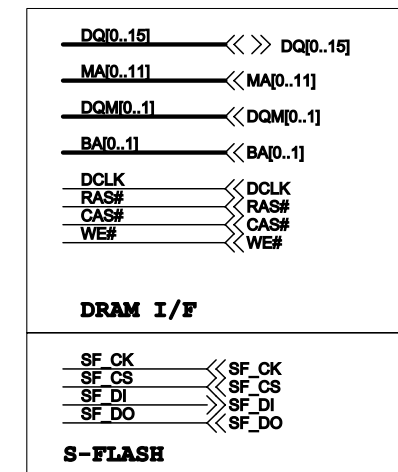
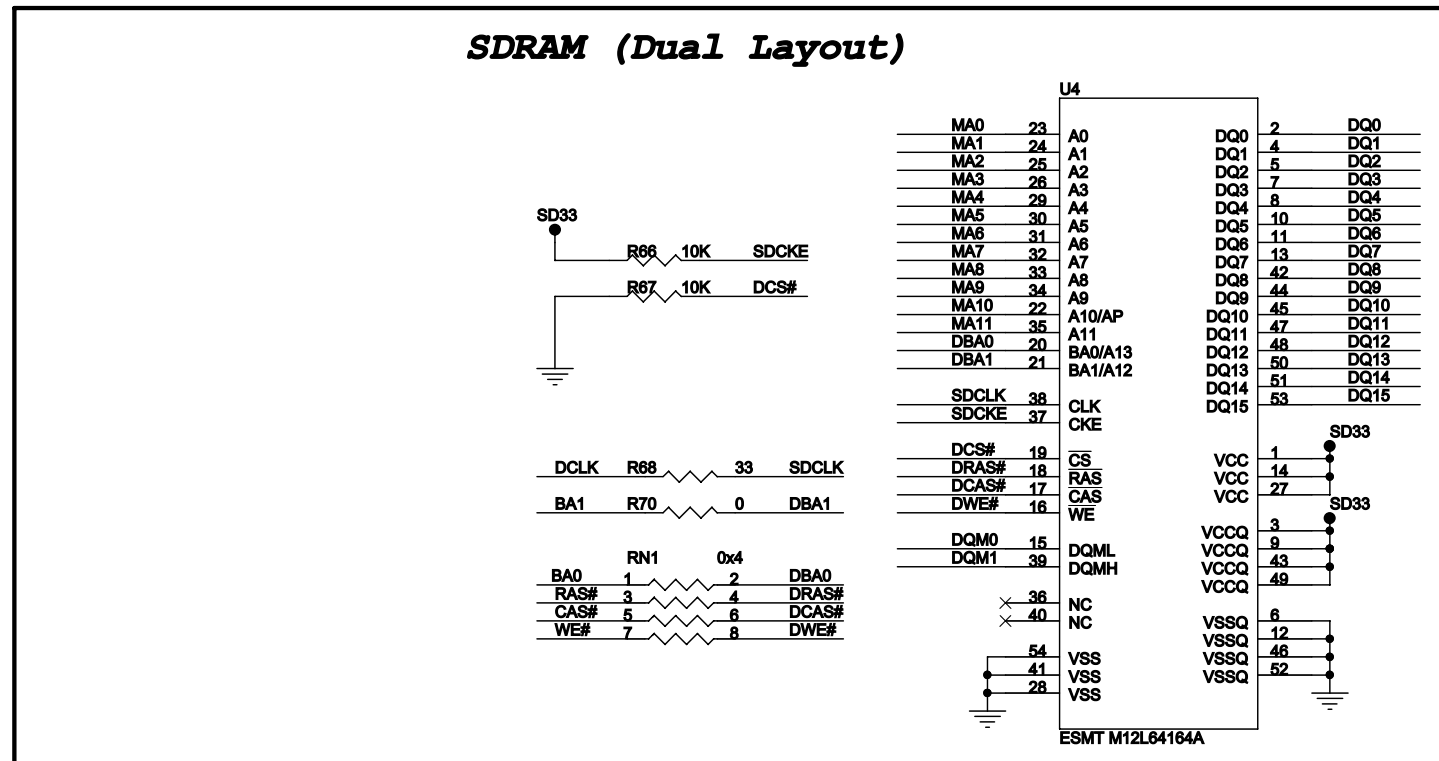
Very Important to reduce Noises



DECODE BOARD - CIRCUIT DIAGRAM - PART3

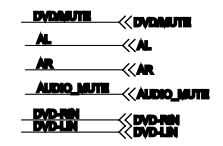
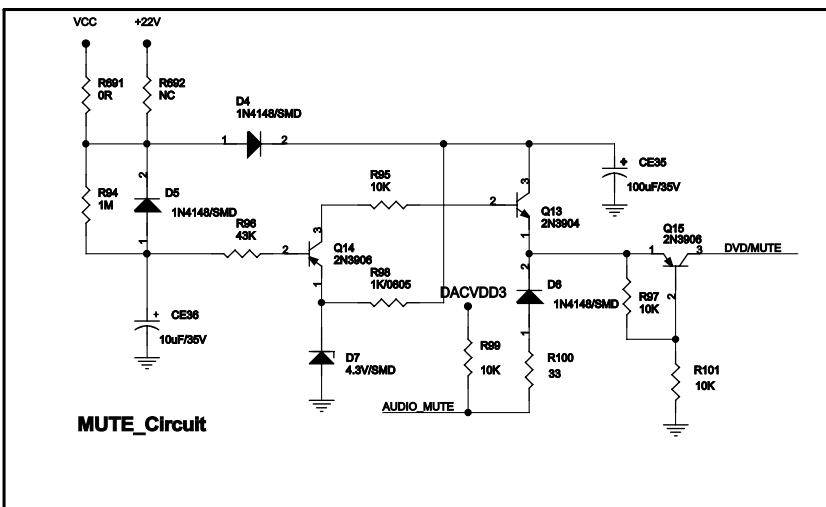
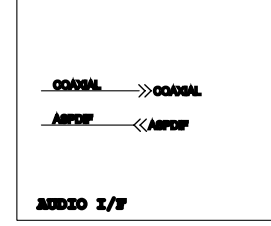
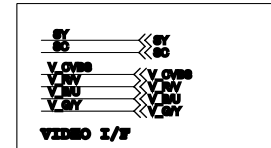
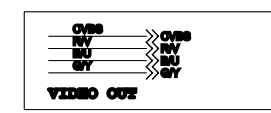
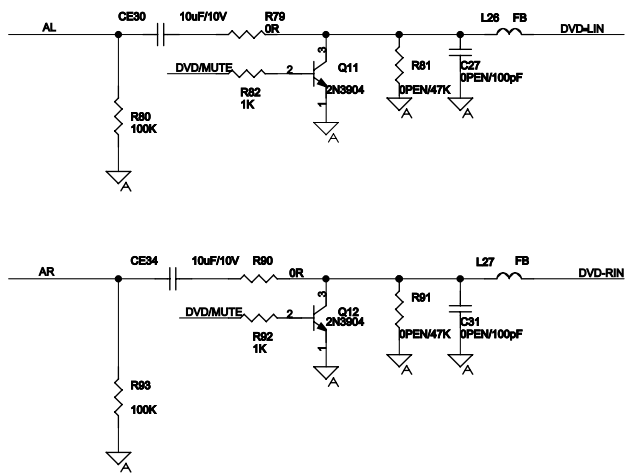
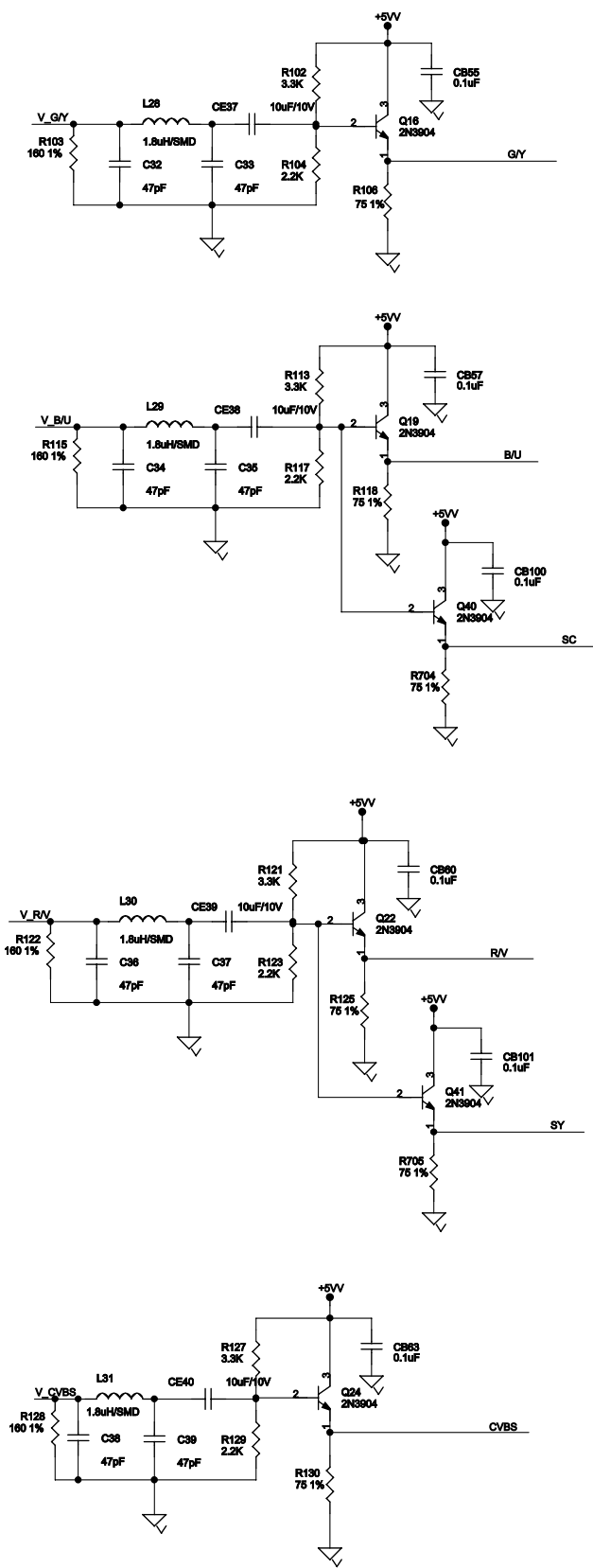


DECODE BOARD - CIRCUIT DIAGRAM - PART4

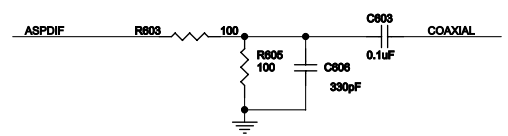
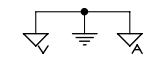




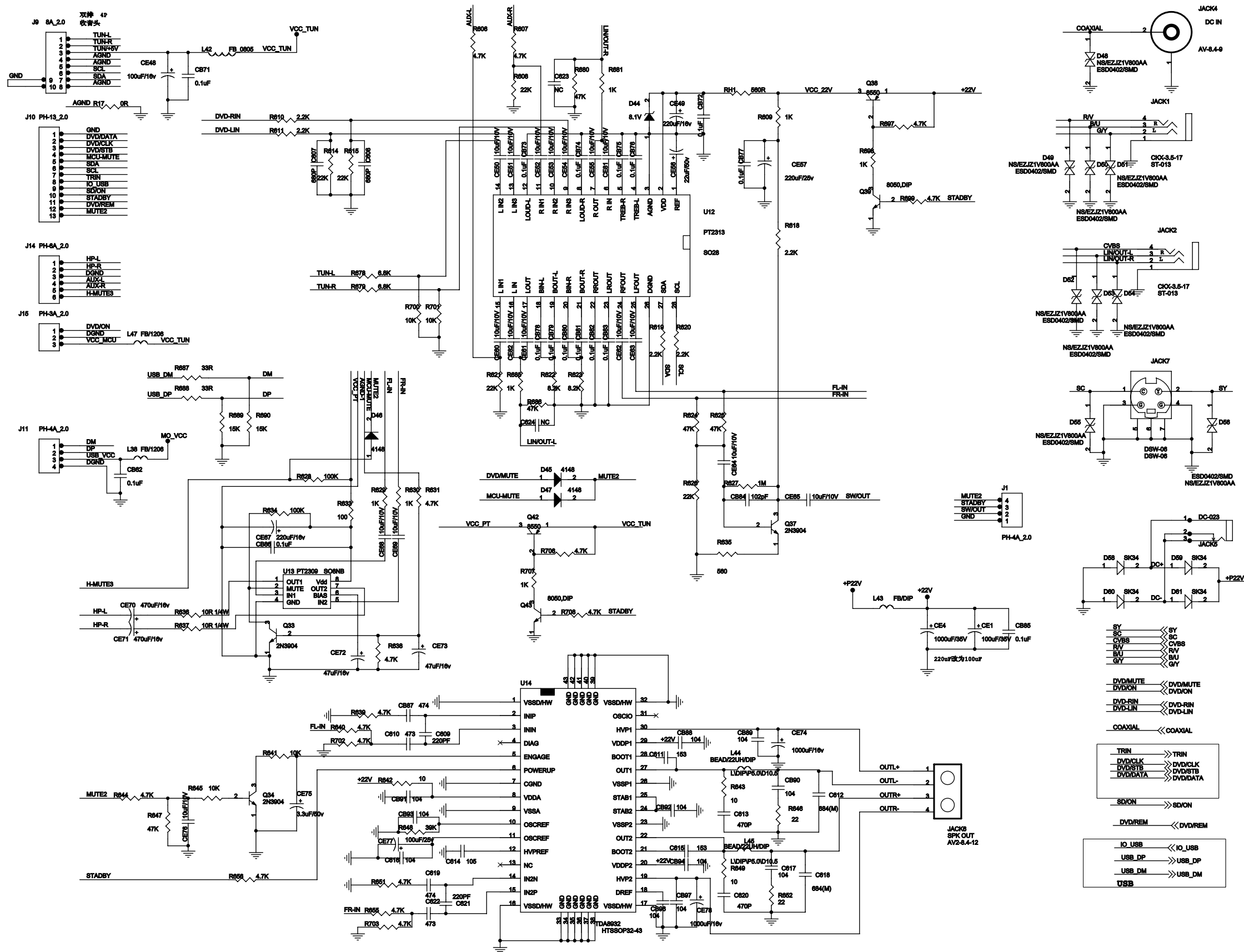
DECODE BOARD - CIRCUIT DIAGRAM - PART5



AUDIO I/F

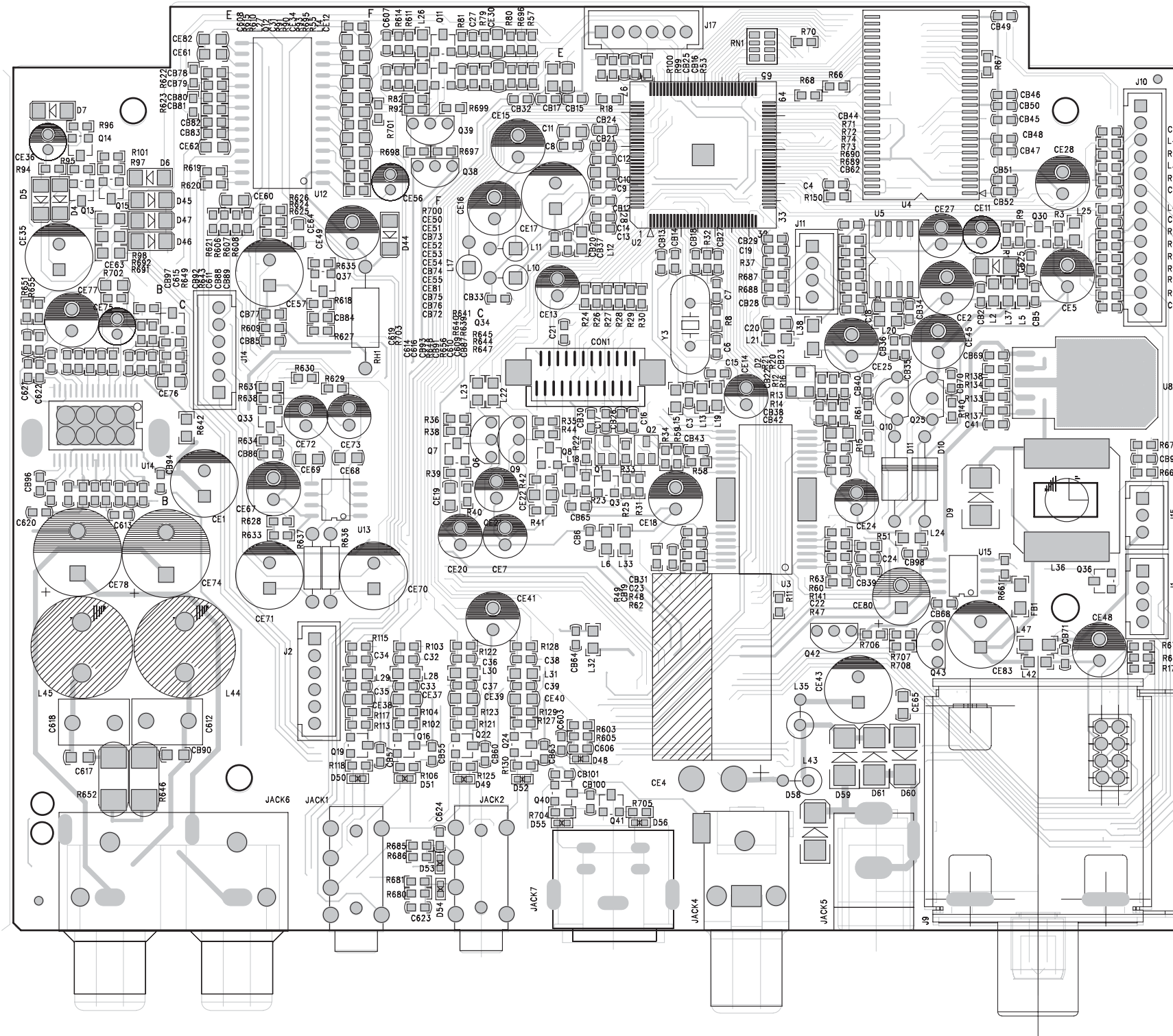


DECODE BOARD - CIRCUIT DIAGRAM - PART6

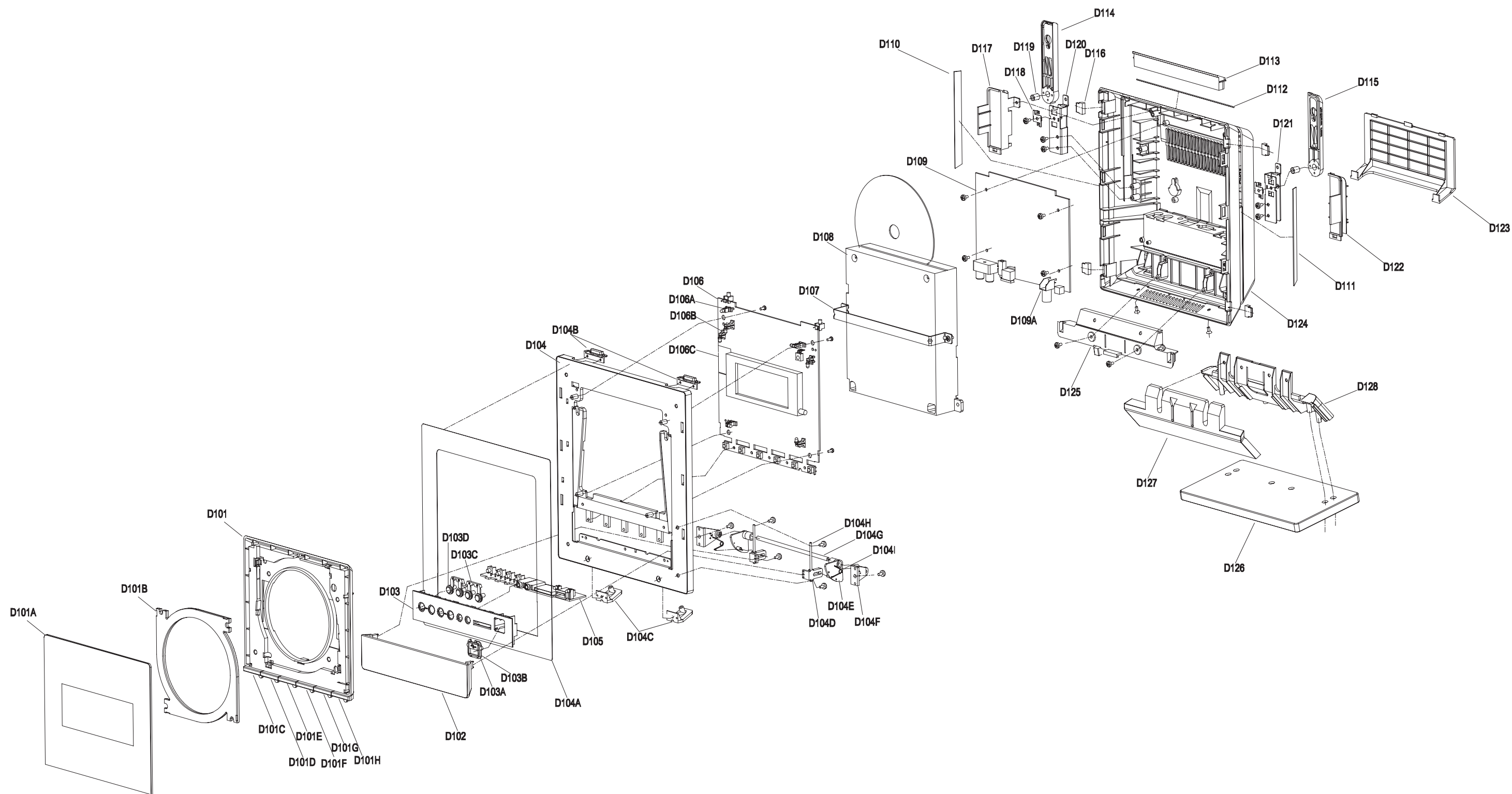


- SY <-> SY
- SC <-> SC
- CVBS <-> CVBS
- RV <-> RV
- BU <-> BU
- GY <-> GY
- DVDMUTE <-> DVDMUTE
- DVDION <-> DVDION
- DVD-RIN <-> DVD-RIN
- DVD-LIN <-> DVD-LIN
- COAXIAL <-> COAXIAL
- TRIN <-> TRIN
- DVDCLK <-> DVDCLK
- DVDSTB <-> DVDSTB
- DVDATA <-> DVDATA
- SDION <-> SDION
- DVDREM <-> DVDREM
- IO\_USB <-> IO\_USB
- USB\_DP <-> USB\_DP
- USB\_DM <-> USB\_DM
- USB <-> USB

DECODE BOARD - LAYOUT DIAGRAM - TOP VIEW



EXPLODE VIEW



**ACCESSORIES PARTS LIST**

996510010915	REMOTE CONTROL ASSY(/12/58)
996510011325	REMOTE CONTROL ASSY(/55/61/79)
996510011316	REMOTE CONTROL ASSY(/98)
996510013865	SWITCHING POWER ADAPTER
996500038997	AC LINE CORD 1.80M KS(/61)
994000004988	AC LINE CORD 1.8M(/12/58/98)
996510012340	POWER CORD 1.95M SAA (/79)
996510019410	POWER CORD 1.8m UC/INMETRO(/55)
996510010916	SPEAKER BOX ASSY(L)(/12/58)
996510010917	SPEAKER BOX ASSY(R)(/12/58)
996510013866	SPEAKER BOX ASSY(L)(/79)
996510011327	SPEAKER BOX ASSY(R)(/79)
996510011317	SPEAKER BOX ASSY(L)(/98)
996510011318	SPEAKER BOX ASSY(R)(/98)
996510011326	SPEAKER BOX ASSY(L)(/55/61)
996510011327	SPEAKER BOX ASSY(R)(/55/61)
996510019989	POWER BOARD ASSY(/12/58/61)
996510010919	WOOFER SPEAKER BOX CASING(/12)
996510011053	WOOFER SPEAKER BOX CASING(/58)
996510019992	POWER PCB ASSY(/55/98/79)
996510011320	WOOFER SPEAKER BOX CASING(/98)
996510011328	WOOFER LAMP BOARD ASSY(/55)
996510011329	WOOFER SPEAKER BOX CASING(/55)
996510000522	PW CTR SW ASS'Y 110/22V MCD7X(/55)
996510011359	WOOFER SPEAKER BOX CASING(/61)
996510013867	WOOFER SPEAKER BOX ASSY(/79)
996510013864	RCA CABLE 3P+D.3.5PLUG 1.5M
996510019990	RADIO RECEIVE BOARD C001SWF_RX(for all version)
996510018744	FM ANT CONNECTOR 1.5m BLACK(/12/55/58/98)
994000004892	FM ANT L=1.5M(/79)

**MECHANICAL&MISCELLANEOUS PARTS**

D101	996510010932	MAIN DISPLAY FRAME ASSY
D103	996510010934	FUNCTION BUTTON ASSY
D104	996510010931	PANEL CONFIGURATION ASSY'(/12)
D104	996510011050	PANEL CONFIGURATION ASSY'(/55/61/58/79/98)
D105	996510010928	HEADPHONE BOARD ASSY
D106	996520035443	MCD289 MAINFRAME DISPLAY BOARD(/79/98)
D108	996510000988	DVD MODULE (DISC ASS'Y MCD288)
D109	996510010930	DECODER ASSY(/12)
D109	996510011049	DECODER ASS'Y(/58)
D109	996510011315	DECODER ASSY(/98)
D109	996510013861	DECODER ASSY(/79)
D109	996510011357	DECODER ASS'Y(/61)
D109	996510011324	DECODER ASSY(/55)
D109A	996510010897	TUNER BOARD ASSY(/12/58)
D109A	996510008524	TUNER BOARD PCB ASSY ECO6-05(/55/61/79/98)
D126	996510010933	MAIN BRACKET FOOT ASSY
CABLE	996510008531	FLAT FLEX CABLE 24PX130X0.5XA
D102	996510010940	PUSH-DOOR PC

**MECHNICAL&MISCELLANEOUS PARTS**

D110	996510010913	MAINFRAME TOP DECORATION(L)
D111	996510010914	MAINFRAME TOP DECORATION(R )
D112	996510010943	MAINFRAME TOP DECORATION
D113	996510010937	CONNECT PART
D114	996510010938	SPEAKER ARM(L)
D115	996510010939	SPEAKER ARM(R)
D118	996510010882	SPRING PRESS-PIECE
D120	996510010941	SPEAKER BOX BRACKET COVER(L)
D121	996510010942	SPEAKER BOX BRACKET COVER
D123	996510010936	TERMINAL COVER
D124	996510010935	BACK CAB. ABS

**ELECTRICAL PARTS - DISPLAY/VFD/CPU BOARD(/12/55/58)**

D106C	996510010925	RADIO TRANSMIT BOARD ASSY(for all version)
D301	996510000495	DIODE IN60 L26(/12)
D305	996510000495	DIODE IN60 L26(/12)
D310	996510002976	DIODE FR104(/12/58/61)
DZ301	996510005833	ZENER DIODE 5.1V 1/2W-52
DZ303	996510010895	ZENER DIODE
IC301	996510010926	IC AMC1117-3.3
IC302	996510010929	MCU PARTS ASSY(/12)
IC302	996510017188	MCU PARTS ASS'Y(/55)
IC302	996510011067	MCU PARTS ASSY(/58)
IC304	996510000009	IC AT24C02-PC27(2.7V)(/12)
IC304	996510013859	IC AT24C02 (1.8V)(/55/58/61)
IC305	996510000500	IC PT6311/SC16311/CD16311
IC307	996510010896	IC AT24C08-PC27(2.7V)
LED301	994000004947	LED DIODE D3 3B4SCB01 (BLUE)
LED303	994000004947	LED DIODE D3 3B4SCB01 (BLUE)
LED304	994000004947	LED DIODE D3 3B4SCB01 (BLUE)
LED306	994000004947	LED DIODE D3 3B4SCB01 (BLUE)
LED307	994000004948	LED LAMP(BLUE) /12
Q309	996510015813	TRANSISTOR D965-R -5(/55)
Q310	996510015813	TRANSISTOR D965-R -5(/55)
S301	994000004961	IR SENSOR BLACK(/12)
S301	996510015840	IR SENSOR 1MA81P36D1TD001(/55/58/61)
SW305	996510002973	LIGHT TOUCH SWITCH 6X6X4.3
SW306	996510002973	LIGHT TOUCH SWITCH 6X6X4.3
SW307	996510002973	LIGHT TOUCH SWITCH 6X6X4.3
SW308	996510002973	LIGHT TOUCH SWITCH 6X6X4.3
SW309	994000004964	LIGHT TOUCH SW. TP-1105CS
SW310	994000004964	LIGHT TOUCH SW. TP-1105CS
SW311	996510002973	LIGHT TOUCH SWITCH 6X6X4.3
SW312	996510002973	LIGHT TOUCH SWITCH 6X6X4.3
T902	996510002975	TRANSFORMER EE13 5V
VFD301	996510010927	VFD DISPLAY
X302	994000004945	CER. FILTER FREQUENCY 4.19MHZ
X303	996510000012	CRYSTAL OSC FREQ.32.768KHz

**Note:** Only these parts mentioned in the list are normal service parts.

## FACTORY PARTLIST

LOCATION	DESCRIPTION
D106	ELECTRICAL PARTS LIST-DISPLAY BOARD
D106C	RADIO TRANSMIT BOARD ASS'Y C001SWF_TX
T902	△TRANSFORMER EE13 5V
R322	CARBON FILM RESISTOR 10 1/8W J-52
R378	CARBON FILM RESISTOR 10 1/8W J-52
R347	CARBON FILM RESISTOR 10 1/8W J-52
R349	CARBON FILM RESISTOR 10 1/8W J-52
R350	CARBON FILM RESISTOR 10 1/8W J-52
R352	CARBON FILM RESISTOR 10 1/8W J-52
R303	CARBON FILM RESISTOR 10 1/8W J-52
R306	CARBON FILM RESISTOR 100 1/8W J-52
R307	CARBON FILM RESISTOR 100 1/8W J-52
R310	CARBON FILM RESISTOR 100 1/8W J-52
R312	CARBON FILM RESISTOR 100 1/8W J-52
R379	CARBON FILM RESISTOR 100 1/8W J-52
R381	CARBON FILM RESISTOR 100 1/8W J-52
R384	CARBON FILM RESISTOR 100 1/8W J-52
R385	CARBON FILM RESISTOR 100 1/8W J-52
R386	CARBON FILM RESISTOR 100 1/8W J-52
R390	CARBON FILM RESISTOR 100 1/8W J-52
R392	CARBON FILM RESISTOR 100 1/8W J-52
R393	CARBON FILM RESISTOR 100 1/8W J-52
R394	CARBON FILM RESISTOR 100 1/8W J-52
R338	CARBON FILM RESISTOR 10K 1/8W J-52
R340	CARBON FILM RESISTOR 10K 1/8W J-52
R328	CARBON FILM RESISTOR 10K 1/8W J-52
R331	CARBON FILM RESISTOR 10K 1/8W J-52
R334	CARBON FILM RESISTOR 10K 1/8W J-52
R335	CARBON FILM RESISTOR 10K 1/8W J-52
R682	CARBON FILM RESISTOR 10K 1/8W J-52
R315	CARBON FILM RESISTOR 10K 1/8W J-52
R311	CARBON FILM RESISTOR 10K 1/8W J-52
R301	CARBON FILM RESISTOR 10K 1/8W J-52
R302	CARBON FILM RESISTOR 10K 1/8W J-52
R371	CARBON FILM RESISTOR 10K 1/8W J-52
R372	CARBON FILM RESISTOR 10K 1/8W J-52
R305	CARBON FILM RESISTOR 2.2 1/2W J-52
R316	CARBON FILM RESISTOR 15 1/8W J-52
R308	CARBON FILM RESISTOR 2.2K 1/8W J-52
R309	CARBON FILM RESISTOR 2.2K 1/8W J-52
R391	CARBON FILM RESISTOR 2.2K 1/8W J-52
R324	CARBON FILM RESISTOR 2.2K 1/8W J-52
R325	CARBON FILM RESISTOR 2.2K 1/8W J-52
R326	CARBON FILM RESISTOR 2.2K 1/8W J-52
R341	CARBON FILM RESISTOR 33K 1/8W J-52
R342	CARBON FILM RESISTOR 33K 1/8W J-52
R343	CARBON FILM RESISTOR 33K 1/8W J-52
R344	CARBON FILM RESISTOR 33K 1/8W J-52
R323	CARBON FILM RESISTOR 47 1/8W J-52
R317	CARBON FILM RESISTOR 4.7K 1/8W J-52
R339	CARBON FILM RESISTOR 4.7K 1/8W J-52

## FACTORY PARTLIST

R365	CARBON FILM RESISTOR 4.7K 1/8W J-52
R337	CARBON FILM RESISTOR 47K 1/8W J-52
R370	CARBON FILM RESISTOR 1K 1/8W J-52
R319	CARBON FILM RESISTOR 1K 1/8W J-52
R320	CARBON FILM RESISTOR 1K 1/8W J-52
R366	CARBON FILM RESISTOR 1K 1/8W J-52
R336	CARBON FILM RESISTOR 22K 1/8W J-52
R332	CARBON FILM RESISTOR 390 1/8W J-52
R333	CARBON FILM RESISTOR 390 1/8W J-52
R329	CARBON FILM RESISTOR 390 1/8W J-52
R330	CARBON FILM RESISTOR 390 1/8W J-52
R318	CARBON FILM RESISTOR 68K 1/8W J-52
R388	CARBON FILM RESISTOR 6.2K 1/8W J-52
R304	CARBON FILM RESISTOR 6.2K 1/8W J-52
R321	CARBON FILM RESISTOR 6.2K 1/8W J-52
R327	CARBON FILM RESISTOR 6.2K 1/8W J-52
C302	CERAMIC CAP. 100p 50V K-5 H<7
C303	CERAMIC CAP. 100p 50V K-5 H<7
C304	CERAMIC CAP. 100p 50V K-5 H<7
C335	CERAMIC CAP. 100p 50V K-5 H<7
C308	CERAMIC CAP. 104P 50V K-5
C314	CERAMIC CAP. 104P 50V K-5
C330	CERAMIC CAP. 104P 50V K-5
C348	CERAMIC CAP. 104P 50V K-5
C310	CERAMIC CAP. 104P 50V K-5
C320	CERAMIC CAP. 15p 50V $\pm 1p-5$
C321	CERAMIC CAP. 15p 50V $\pm 1p-5$
C318	CERAMIC CAP. 30p 50V $\pm 1p-5$
C319	CERAMIC CAP. 30p 50V $\pm 1p-5$
C305	CERAMIC CAP. 470p 50V K-5
C306	CERAMIC CAP. 470p 50V K-5
C325	ELECTROLYTIC CAP.100u 16V L 6.3X7
C327	ELECTROLYTIC CAP.100u 16V L 6.3X7
C324	ELECTROLYTIC CAP.10u 25V L-5 4X5
C322	ELECTROLYTIC CAP.47u 16V L-5 5X7
C338	ELECTROLYTIC CAP.47u 16V L-5 5X7
C328	ELECTROLYTIC CAP.47u 16V L-5 5X7
C323	ELECTROLYTIC CAP.47u 16V L-5 5X7
C315	ELECTROLYTIC CAP.47u 16V L-5 5X5
C307	ELECTROLYTIC CAP.220u 35V L 8X11.5/12
C301	NONINDUCTIVE CAP.104J 100V K
L301	AXIAL FIXED INDUCTOR 10u 52
L305	FIXED INDUCTOR 200U 6X5
D301	DIODE IN60
D305	DIODE IN60
D302	DIODE 4148-52
D303	DIODE 4148-52
D304	DIODE 4148-52
D307	DIODE 4148-52
D308	DIODE 4148-52
D311	DIODE 4148-52
D310	DIODE FR104



## FACTORY PARTLIST

DZ301	ZENER DIODE 5.1V 1/2W-52
DZ303	ZENER DIODE 27V 1W -52
LED301	LED $\Phi$ 3 3B4SCB01 (BLUE)
LED303	LED $\Phi$ 3 3B4SCB01 (BLUE)
LED304	LED $\Phi$ 3 3B4SCB01 (BLUE)
LED306	LED $\Phi$ 3 3B4SCB01 (BLUE)
LED307	LED 3R4CB71D-2B-208 (BLUE)
Q301	TRANSISTOR 8050C-5
Q304	TRANSISTOR 8050C-5
Q307	TRANSISTOR 8050C-5
Q302	TRANSISTOR 8550C-5
Q303	TRANSISTOR 8550C-5
Q309	TRANSISTOR SS8050-5 1.5A
Q310	TRANSISTOR SS8050-5 1.5A
IC301	IC AMC1117-3.3 (SOT-223)
IC304	IC AT24C02 (2.7~5.5V) SOP PACKING
IC307	IC AT24C08-PC27(2.7V) SOP PACKING
IC305	IC PT6311/SC16311/CD16311
S301	IR SENSOR SMALL BLACK
X302	CERAMIC CRYSTAL OSCILLATOR 4.19MHz
X303	CRYSTAL OSCILLATOR 32.768KHz $\Phi$ 3XH8 $\pm$ 10PPM
SW305	LIGHT TOUCH SWITCH 6X6X4.3 170G
SW306	LIGHT TOUCH SWITCH 6X6X4.3 170G
SW307	LIGHT TOUCH SWITCH 6X6X4.3 170G
SW308	LIGHT TOUCH SWITCH 6X6X4.3 170G
SW311	LIGHT TOUCH SWITCH 6X6X4.3 170G
SW312	LIGHT TOUCH SWITCH 6X6X4.3 170G
SW309	LIGHT TOUCH SWITCH TP-1105CS H=8.0
SW310	LIGHT TOUCH SWITCH TP-1105CS H=8.0
CN306	PINS CONNECTOR 1.5/13P
CN305	PINS CONNECTOR 1.5/10P
CN303	PINS CONNECTOR 1.0/5P BLACK
CN301	PINS CONNECTOR 1.5/5P
VFD301	VFD DISPLAY HL-D1007WA GB
L303	FERRITE BEAD JRHW0349 BLUE
JP301-3007	35-MCD289-03A2 166X161 MAIN DISPLAY PCB
LED301	BARE WIRE $\Phi$ 0.6X40mm (375m=1kg)
LED303	MCD288 LED BRACKET1 ABS BLACK
LED304	MCD288 LED BRACKET1 ABS BLACK
LED306	MCD288 LED BRACKET1 ABS BLACK
LED307	MCD288 LED BRACKET 3 ABS BLACK
D109A	ELECTRICAL PARTS LIST-TUNER BOARD
R18	CHIP RESISTOR 100K 1/16W J(0603)
R15	CHIP RESISTOR 10K 1/16W J(0603)
R16	CHIP RESISTOR 10K 1/16W J(0603)
R8	CHIP RESISTOR 10K 1/16W J(0603)
R19	CHIP RESISTOR 10 1/16W J(0603)
R2	CHIP RESISTOR 1M 1/16W J(0603)
R3	CHIP RESISTOR 1M 1/16W J(0603)
R12	CHIP RESISTOR 1M 1/16W J(0603)

## FACTORY PARTLIST

R4	CHIP RESISTOR 4.7K 1/16W J(0603)
R5	CHIP RESISTOR 4.7K 1/16W J(0603)
R6	CHIP RESISTOR 4.7K 1/16W J(0603)
R1	CHIP RESISTOR 47 1/16W J(0603)
R11	CHIP RESISTOR 10M 1/16W J (0603)
R13	CHIP RESISTOR 820 1/16W J(0603)
R14	CHIP RESISTOR 820 1/16W J(0603)
C14	CHIP CAP.10P 50V J (0603) NPO
R22	CHIP RESISTOR 330 1/16W J(0603)
C20	CHIP CAP.12P 50V J(0603)NPO
C25	CHIP CAP.223P 50V M (0603) Y5V
C21	CHIP CAP.39P 50V J (0603) NPO
C8	CHIP CAP.47P 50V J(0603)NPO
C1	TANTALUM CAP. 22uF/6.3V (A) (3216)
C18	TANTALUM CAP. 22uF/6.3V (A) (3216)
C19	TANTALUM CAP. 22uF/6.3V (A) (3216)
C22	TANTALUM CAP. 22uF/6.3V (A) (3216)
C24	TANTALUM CAP. 22uF/6.3V (A) (3216)
C2	CHIP CAP.224P 50V M (0603) Y5V
C3	CHIP CAP.224P 50V M (0603) Y5V
C4	CHIP CAP.224P 50V M (0603) Y5V
C5	CHIP CAP.224P 50V M (0603) Y5V
C7	CHIP CAP.27P 50V J(0603) NPO
C6	CHIP CAP.100P 50V K (0603) X7R
C23	CHIP CAP.100P 50V K (0603) X7R
C10	CHIP CAP.103P 50V K (0603) X7R
C11	CHIP CAP.103P 50V K (0603) X7R
C15	CHIP CAP.103P 50V K (0603) X7R
C16	CHIP CAP.103P 50V K (0603) X7R
C17	CHIP CAP.103P 50V K (0603) X7R
C13	CHIP CAP.104P 50V M (0603) Y5V
C12	CHIP CAP.104P 50V M (0603) Y5V
C9	CHIP CAP.104P 50V M (0603) Y5V
L1	CHIP INDUCTOR 120n (0603)
L7	CHIP INDUCTOR 39n J (0603)
L8	CHIP INDUCTOR 10U (0603)
DZ1	CHIP ZENER DIODE 3.6V 1/2W (LL-34)
Q2	CHIP TRANSISTOR 9014 (SOT-23)
Q3	CHIP TRANSISTOR 9014 (SOT-23)
Q1	CHIP TRANSISTOR 8050(SOT-23)
IC2	IC 74HC2G04
IC1	IC TEA5766UK
X1	CRYSTAL OSCILLATOR 32.768KHZ $\phi$ 2X6
L4	FERRITE BEAD 601 K (0603)
L5	FERRITE BEAD 601 K (0603)
	35-ECO6-05A1 TUNER PCB
CN1	PINS CONNECTOR 2.0X2X4P H8
D109A	METAL BOX F-8 28X26X13 NICKEL-PLATE
D105	ELECTRICAL PARTS LIST-HEADPHONE BOARD
R104	CARBON FILM RESISTOR 100 1/8W J-52
R102	CARBON FILM RESISTOR 10K 1/8W J-52

## FACTORY PARTLIST

R113	CARBON FILM RESISTOR 1K 1/8W J-52
R114	CARBON FILM RESISTOR 1K 1/8W J-52
R101	CARBON FILM RESISTOR 22K 1/8W J-52
R103	CARBON FILM RESISTOR 4.7K 1/8W J-52
C101	CERAMIC CAP. 560p 50V K-5
C102	CERAMIC CAP. 560p 50V K-5
C103	CERAMIC CAP. 560p 50V K-5
C104	CERAMIC CAP. 560p 50V K-5
L101	AXIAL FIXED INDUCTOR 10u 52
L102	AXIAL FIXED INDUCTOR 10u 52
LED101	LED 3R4CB71D-2B-208 (BLUE)
LED102	LED 3R4CB71D-2B-208 (BLUE)
SW101	LIGHT TOUCH SWITCH KFC-05
SW102	LIGHT TOUCH SWITCH KFC-05
SW103	LIGHT TOUCH SWITCH KFC-05
SW104	LIGHT TOUCH SWITCH KFC-05
J105	HEADPHONE JACK $\Phi$ 3.5 TE-03501S-05 SILV.
J104	HEADPHONE JACK $\Phi$ 3.5 TE-03501S-11
J106	USB A-TYPE 4P FEMALE 90°DIP TYPE BLACK
CN101	PINS CONNECTOR 2.0/7P
CN102	PINS CONNECTOR 2.0/7P
	35-MCD288E-01A2(V1.2) HEADPHONE PCB
D109	ELECTRICAL PARTS LIST-DECODER BOARD
D108	MECHANICAL PARTS LIST-MECHANISM(KHM-313AAA)
D104	MECHANICAL PARTS LIST-MAINFRAME PANEL
D104G	MCD288 TRANSMISSION SHAFT
D104H	MCD288 SMOOTH POLE
D104I	MCD288 SLIDE DOOR SPRING(L)
D104J	MCD288 SLIDE DOOR SPRING(R)
D104A	MCD288 MAIN F-CAB. DECORATION SHEET
	SHEET COPPER 30X4X0.05
D104D	MCD288 PUSH-DOOR BRACKET ABS
D104F	MCD288 DOOR BRACKET ABS
D104E	MCD288 ROCKER ABS
D104	MCD288 MAIN FCAB. ABS
D104C	MCD288 CONNECT BRACKET ABS
D104B	MCD288 STANDBY-OPEN-KNOB ABS BLACK
D101	MECHANICAL PARTS LIST-MAINFRAME DISPLAY BRACKET
D101	MCD288 DISPLAY LENS NICKEL-PLA. PMMA
D101B	MCD288 ROUND LIGHT-GUIDE PMMA
D101A	MCD288 FRONT LENS BRACKET ABS
D101C	MCD288 FUNCTION-BUTTON(SOURCE)
D101D	MCD288 FUNCTION-BUTTON(PLAY)
D101E	MCD288 FUNCTION-BUTTON(STOP)
D101F	MCD288 FUNCTION-KNOB(PROGRAM)

## FACTORY PARTLIST

D101G	MCD288 FUNCTION-BUTTON(VOLUME-)
D101H	MCD288 FUNCTION-BUTTON(VOLUME+)
	MCD288 REFLECT LIGHT PAPER
	MCD288 FILTER PATER
D126	MECHANICLAL PARTS LIST-MAINFRAME BRACKET FOOT
D127	MCD288 FOOT FRONT-COVER HIPS BLACK
D128	MCD288 FOOT BACK-COVER HIPS BLACK
D126	MCD288 BRACKET F-CAB. ABS BLACK
D103	MECHANICAL PARTS LIST-FUNCTION BUTTON
D103	MCD288 ADDITIONAL KEY PANEL ABS
D103C	MCD288 ADDITIONAL KEY BRACKET ABS
D103D	MCD288 ADDITIONAL KEY ABS SILVER
D103B	MCD288 USB LIGHT-GUIDE PMMA
D103A	MCD288 USB MARK BOARD
	MECHANICAL PARTS LIST-MAIN CASING PARTS
D118	MCD288 SPRING PRESS-PIECE
D102	MCD288 SPEAKER SHORE PRESS-PIECE(L)
D121	MCD288 SPEAKER SHORE PRESS-PIECE(R)
D107	MCD288 SPEAKER SHORE STICK BRACKET
	NE-950 DOOR SW. BOARD PRESS-PIECE
	MCD289 SPEAKER SHORE STICK BRACKET(L)
	MCD289 SPEAKER SHORE STICK BRACKET(R)
D119	MCD288 SPEAKER BRASS STUD
D124	MCD289 BACK CAB. ABS BLACK
D123	MCD288 TERMINAL COVER HIPS
D113	MCD288 CONNECT PART HIPS BLACK
D114	MCD288 SPEAKER ARM(L) ABS+GP BLACK
D115	MCD288 SPEAKER ARM(R) ABS+GP BLACK
D125	MCD288 PRESS PIECE HIPS
D102	MCD289 PUSH-DOOR PC
D116	MCD288 SPEAKER BOX PLASTIC BLACK
D117	MCD288 SPEAKER BOX BRACKET COVER(L)ABS
D122	MCD288 SPEAKER BOX BRACKET COVER(R)ABS
D112	MCD288 MAIN FRAME TOP DECORATION
D110	MCD288 MAIN FRAME TOP DECORATION(L)
D111	MCD288 MAIN FRAME TOP DECORATION(R)
3	SPEAKER BOX PARTS
4	WOOFER SPEAKER BOX PARTS
4A	ELECTRICAL PATS LIST-POWER BOARD(IN WOOKER)
	IC TDA8947J
	POWER BOARD ASS'Y DVD AMP POW180A
1	ACCESSORY PARTS
5	PACKING PARTS
2	REMOTE CONTROL PARST

**VERSION LIST**

Version 1.0 -- initial upload

Version 1.1 -- change product picture and remove the speaker accessory from service bom

Version 1.2 -- add partlist of version /79

Version 1.4 -- update partlist