

Service
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Service Manual

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1.0 TECHNICAL SPECIFICATION

General

Dimensions (W x H x D): 200 x 160 x 43. 5 mm
 Bear Unit Weight: 0. 84Kg
 Power supply:
 Supply voltage AC 100~240V (adapter)
 Supply Power consumption 9V/1A
 Operating Temp & RH 0~ 45degC / 30-90% RH

Audio System
 Output voltage 1kHz: 2V +/-0.2V
 THD 20-20kHz (%): ≤1%
 Dynamic range 1kHz ≥/=-80dB
 Signal/Noise ratio: ≥/=-70dB
 Frequency response (20-20kHz): +/-1dB
 Channel Separation 1kHz ≥=80dB
 Channel Balance 1kHz <1dB

Playback disc type: DVD+/- R/RW/DVD+/- R/CD/CD-R/CD-RW, DVD /S VCD / JPEG4/ DIVX3,4,5,6
 Video Playback Format:
 Audio Playback Format: CD/MP3, WMA,
 Disc Diameter 8cm/12cm

Pixel specification

Max. 0 bright-dot & max. 3 dark-dots

Current consumption

DC Supply	6.3V-15.49V
Standby Power off	<0.75W
Battery	
Voltage	100-240
Capacity	3000mAH
Battery playtime	≥/=-3.5hrs
Charging time	<7h

Headphone out (headphone output load 2x16 ohm)

Maximum output power: ≥1.5mW
 Frequency response: +/-1dB
 SNR (A-wght): ≥70dB
 THD (w/16 ohm loading): 1%
 Left-Right Channel Separation: >45dB
 Left-Right Channel Balance: ≤2.5dB

Supported disc type

Video Playback Formats:



Audio Playback Formats:



1.0 TECHNICAL SPECIFICATION

Factory Service Mode (FSM)

Procedure to change region code of your DVD Portable

1. Power on the DVD player and do not insert DISC inside player
2. Press the remote button in the sequence as 9 -> 6 -> 5 -> 3
The LCD display showed the existing region code.
3. Press ▲ (navigation up) or ▼ (navigation down) repeatedly to select the number from 0 to 6.
4. Then press OK to confirm your region code.
5. Refer below table for your region code setting

Region Code	Region
1	USA
2	EUROPE
3	ASIA PACIFIC
4	AUSTRALIA, NEW ZEALAND, LATAM
5	RUSSIA, INDIA
6	CHINA

Select "0" setting = Region Free (confidential)

Procedure for SW upgrade

1. Download the "PHILIPS.BIN" file from the Philips support site
2. Unzip the file, Drag-n-drop to USB drive
3. Power on PET745 with AC/DC adapter
4. Insert the USB drive to USB port of the main set
5. The set will detect the upgraded SW
6. Press "OK" to confirm and proceed
7. The set will reset once finished upgrade

Warning: Do not unplug the AC adapter during firmware upgrade to prevent flash corrupt of the set!!

Procedure to check SW version of your DVD Portable

1. Power ON the DVD player and no insert DISC
2. Press the remote button in the sequence as 3->3->0->8, then a menu will be show YYYY-MM-DD

2.0 SAFETY INSTRUCTIONS

GB WARNING

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically. When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools also at this potential.

F ATTENTION

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD). Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation. Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfilez le bracelet serti d'une résistance de sécurité. Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

D WARNUNG

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

ESD



NL WAARSCHUWING

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

I AVVERTIMENTO

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

GB

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

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

NL

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



F

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisés les pièces de rechange identiques à celles spécifiées.

GB Warning !

Invisible laser radiation when open. Avoid direct exposure to beam.

D

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

S Varning !

Osynlig laserstrålning när apparaten är öppnad och spärrar är urkopplad. Betrakta ej strålen.

I

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

SF Varoitus !

Avatussa laitteessa ja suojalukituksen ohitettaessa olet alltiina näkymättömälle laserisäteilylle. Älä katso säteeseen!

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

DK Advarsel !

Usynlig laserstrålning ved åbning når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for strålning.

2.1 ESD PROTECTION

- レンズには絶対に触れないでください。
- DO NOT TOUCH THE LENS.
- LINSE NICHT BRÜHREN.
- NE PAS TOUCHER LA LENTILLE.

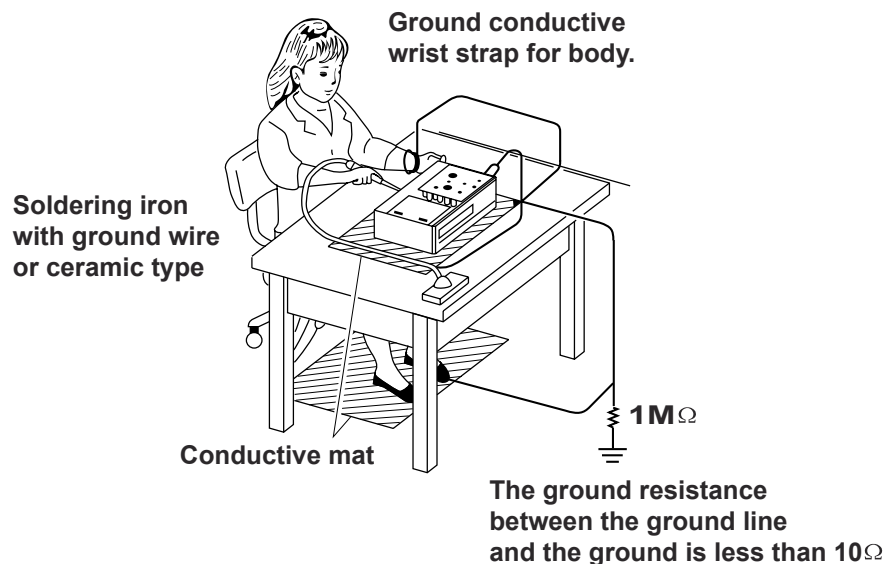
When the power supply is being turned on, you may not remove this laser cautions label. If it removes, radiation of laser may be received.

PREPARATION OF SERVICING

Pickup Head consists of a laser diode that is very susceptible to external static electricity.

Although it operates properly after replacement, if it was subject to electrostatic discharge during replacement, its life might be shortened. When replacing, use a conductive mat, soldering iron with ground wire, etc. to protect the laser diode from damage by static electricity.

And also, the LSI and IC are same as above.



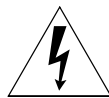
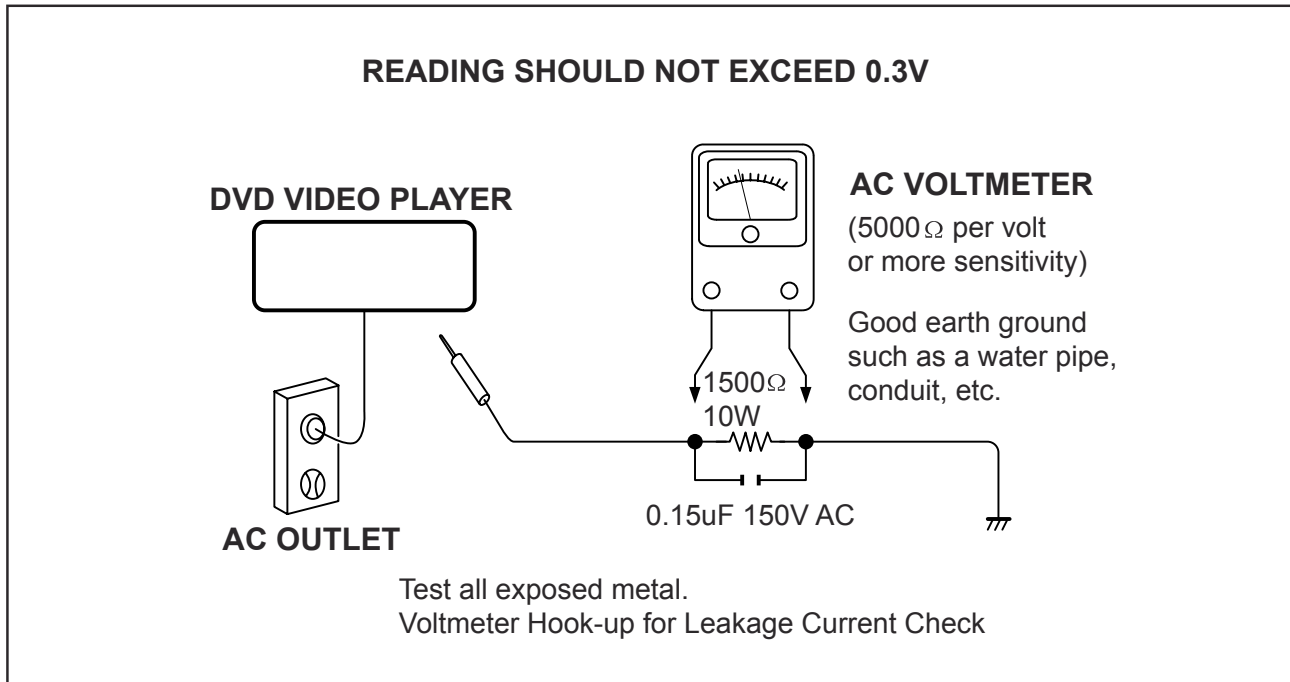
SAFTY NOTICE

SAFTY PRECAUTIONS

LEAKAGE CURRENT CHECK

Plug the AC line cord directly into a 120V AC outlet (do not use an isolation transformer for this check). Use an AC voltmeter, having 5000Ω per volt or more sensitivity. Connect a 1500Ω 10W resistor, paralleled by a $0.15\mu\text{F}$ 150V AC capacitor between a known good earth ground (water pipe, conduit, etc.) and all exposed metal parts of cabinet (antennas, handle bracket, metal cabinet screwheads, metal overlays, control shafts, etc.).

Measure the AC voltage across the 1500Ω resistor. The test must be conducted with the AC switch on and then repeated with the AC switch off. The AC voltage indicated by the meter may not exceed 0.3V. A reading exceeding 0.3V indicates that a dangerous potential exists, the fault must be located and corrected. Repeat the above test with the DVD VIDEO PLAYER power plug reversed. NEVER RETURN A DVD VIDEO PLAYER TO THE CUSTOMER WITHOUT TAKING NECESSARY CORRECTIVE ACTION.



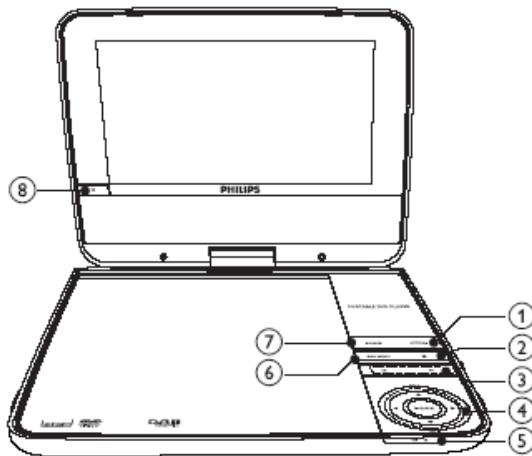
The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



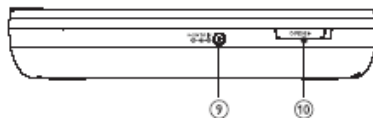
The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

3.0 INSTRUCTION FOR USE

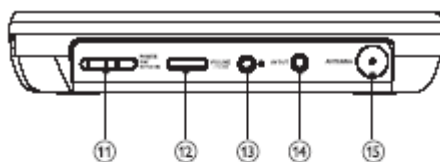
Overview of the main unit



- ① **OPTIONS**
- Accesses options relating to the current activity or selection.
- ② ■
- Stops disc play.
- ③ ⏮ ⏭
- Skips to the previous or next title, chapter, or track.
- ④ ▲ ▼ ◀ ▶
- Navigates through the menus.
 - Switches to the next or previous channel.
 - Searches backward/forward at different speeds.
- ▶|OK
- Confirms an entry or selection.
 - Starts, pauses or resumes disc play.
- ⑤ CHR/⊙
- Charging indicator/Power indicator.
- ⑥ **DISC MENU**
- For DVD, accesses or exits disc menu.
 - For VCD, turns on or off PBC (Playback Control) mode.
 - For VCD version 2.0 or SVCD with PBC turned on, returns to the menu.
- ⑦ **SOURCE**
- Switches between DVD and DTTV.
- ⑧ **IR**
- Remote control sensor



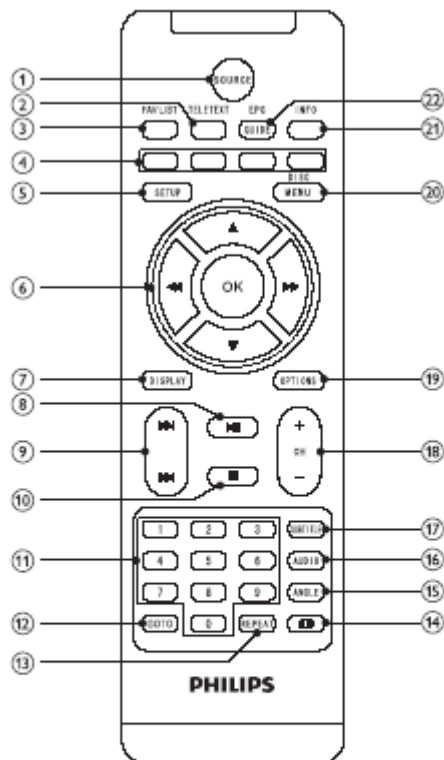
- ⑨ **DC IN**
- Power supply socket
- ⑩ **OPEN▶**
- Opens the disc compartment.



- ⑪ **POWER ON/OFF**
- Turns on/off DVD player.
- ⑫ **VOLUME** ⏮ ⏭
- Increases or decreases volume.
- ⑬ 🎧
- Headphone jack.
- ⑭ **AV OUT**
- Audio/video output jack.
- ⑮ **ANTENNA**
- Antenna jack

3.0 INSTRUCTION FOR USE

Overview of remote control






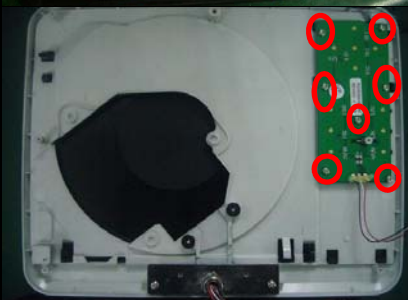


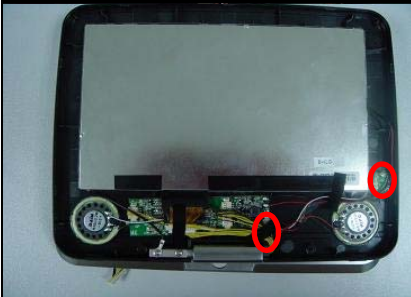


- ① **SOURCE**
- Switches between DVD and DTTV.
- ② **TELETEXT**
- Toggles teletext on or off.
- ③ **FAV LIST**
- Accesses or exits the favorite list.
- ④ **Color keys**
- Selects tasks or options.

- ⑤ **SETUP**
- Accesses or exits the setup menu.
- ⑥ **▲, ▼, ◀▶▶▶**
- Navigates through the menus.
 - ◀▶▶▶ Searches backward/forward at different speeds.
- OK**
- Confirms an entry or selection.
 - Accesses or exits the channel list.
- ⑦ **DISPLAY**
- Adjusts the display value of the system.
- ⑧ **▶▶▶▶**
- Starts or resumes disc play.
- ⑨ **◀◀◀◀**
- Skips to the previous or next title, chapter, or track.
- ⑩ **■**
- Stops disc play.
- ⑪ **0-9**
- Numeric keypad
- ⑫ **GO TO**
- Skip to a chapter/track/title or a play time
- ⑬ **REPEAT**
- Repeats a chapter/track/title.
- ⑭ **ASPECT**
- Adjusts screen aspect ratio.
- ⑮ **ANGLE**
- Selects a different viewing angle of a DVD.
- ⑯ **AUDIO**
- For DVD, selects an audio language.
 - For VCD, selects an audio mode.
- ⑰ **SUBTITLE**
- Selects DVD subtitle language.
- ⑱ **CH +/-**
- Switches to the next or previous channel.
- ⑲ **OPTIONS**
- Accesses options relating to the current activity or selection.
- ⑳ **DISC MENU**
- Accesses or exits the disc menu.
- ㉑ **INFO**
- Displays program information, if available.
- ㉒ **EPG**
- Toggles the Electronic Program Guide (EPG) on or off. Enabled on digital channels only.

4.0 MECHANICAL INSTRUCTION

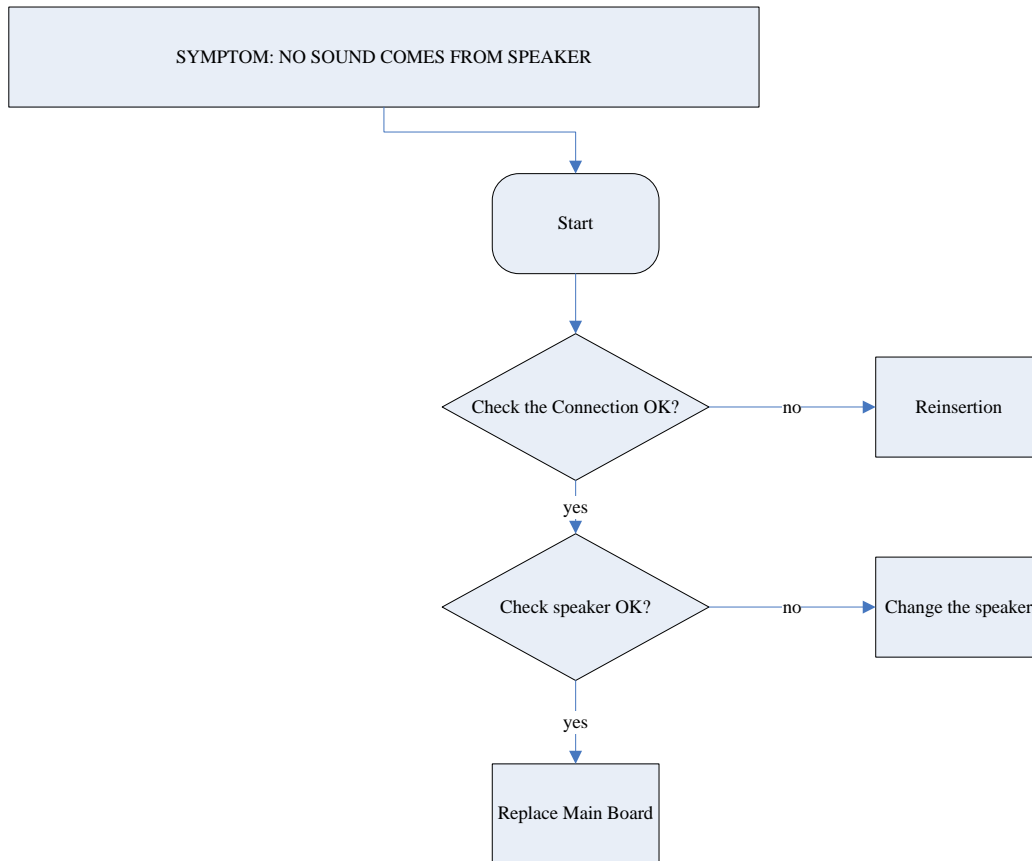
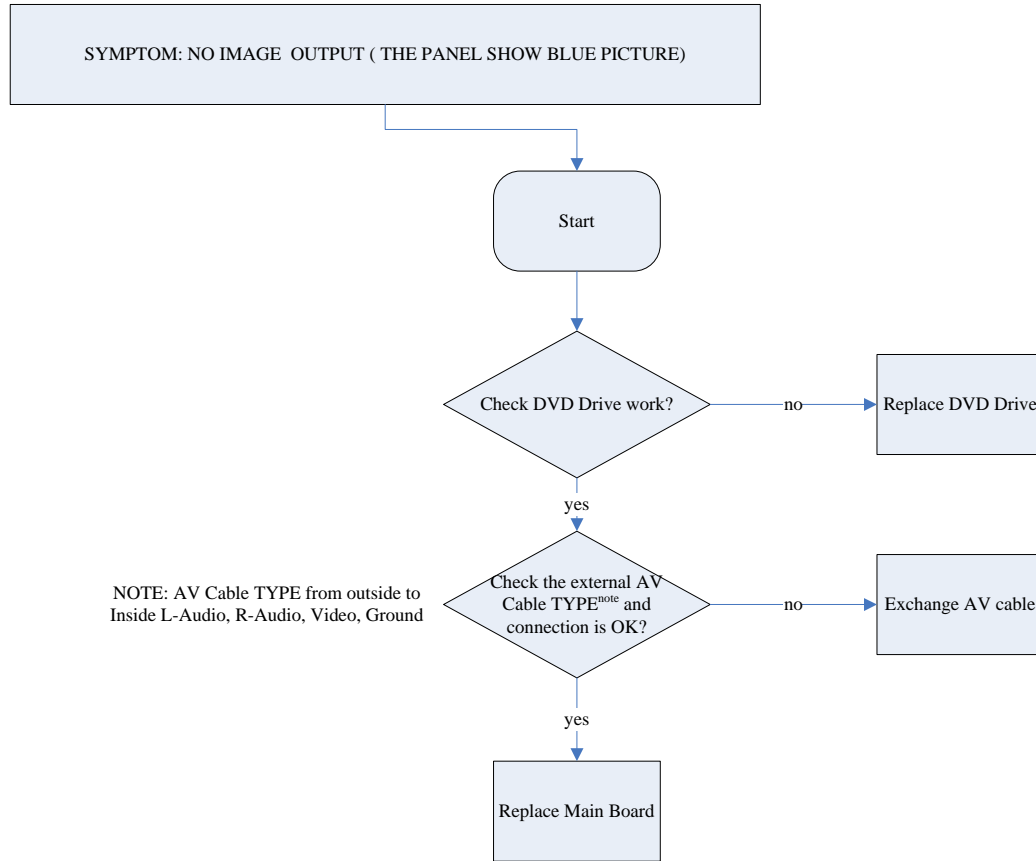
Disassembly Procedure on PET745

	<p>Remove eight screws on back cabinet to separate top cabinet and back cabinet.</p>	<p>screws 8pcs</p>
	<p>Generally open the front cabinet.</p>	
	<p>Disassemble hous and connecter.</p>	
	<p>Disassemble hous and connecter, and take out the DVD LOADER.</p>	
	<p>Disassemble hous and screws, and take out the main board、sw board.</p>	<p>screws 7pcs</p>
	<p>Remove seven screws on KEY board.</p>	<p>screws 7pcs</p>

	<p>Remove one screws fabrics and connector hous on IR board.</p>	<p>screws 1pcs and connector hous 1pcs</p>
	<p>Remove fabrics and hous.</p>	
	<p>Remove the screws on the TFT board.</p>	<p>screws 1pcs</p>

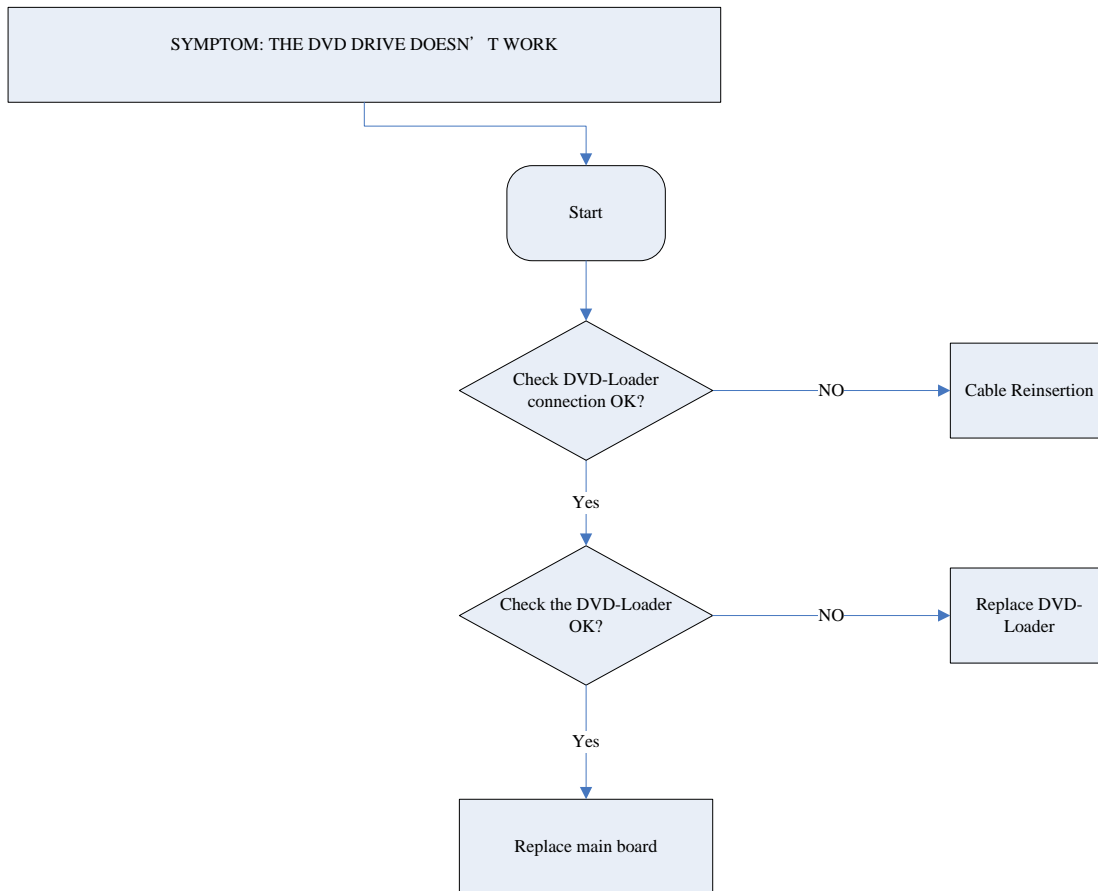
5.0 TROUBLESHOOTING

SYMPTOM: NO IMAGE / NO SOUND



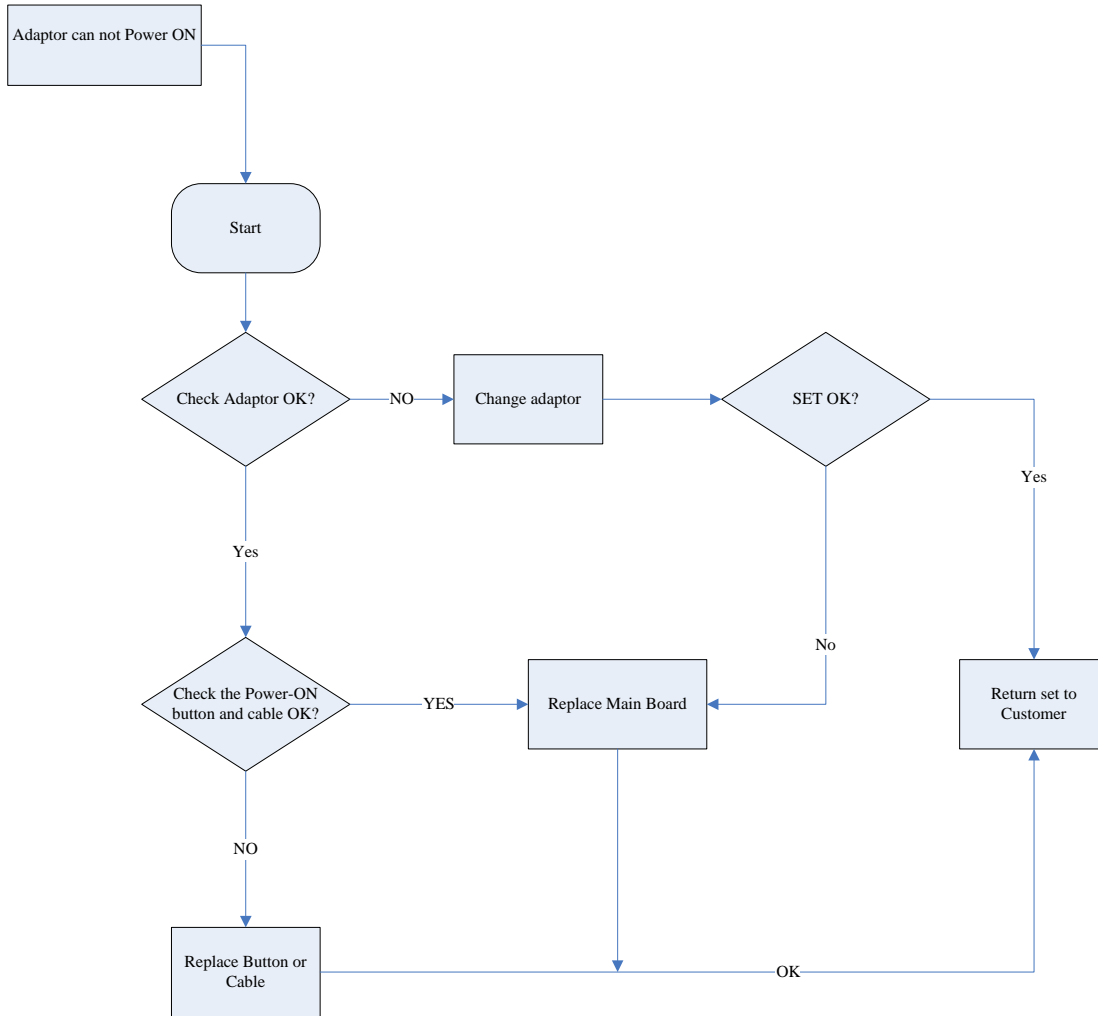
5.0 TROUBLESHOOTING

SYMPTOM: THE DVD DRIVE DOES NOT WORK



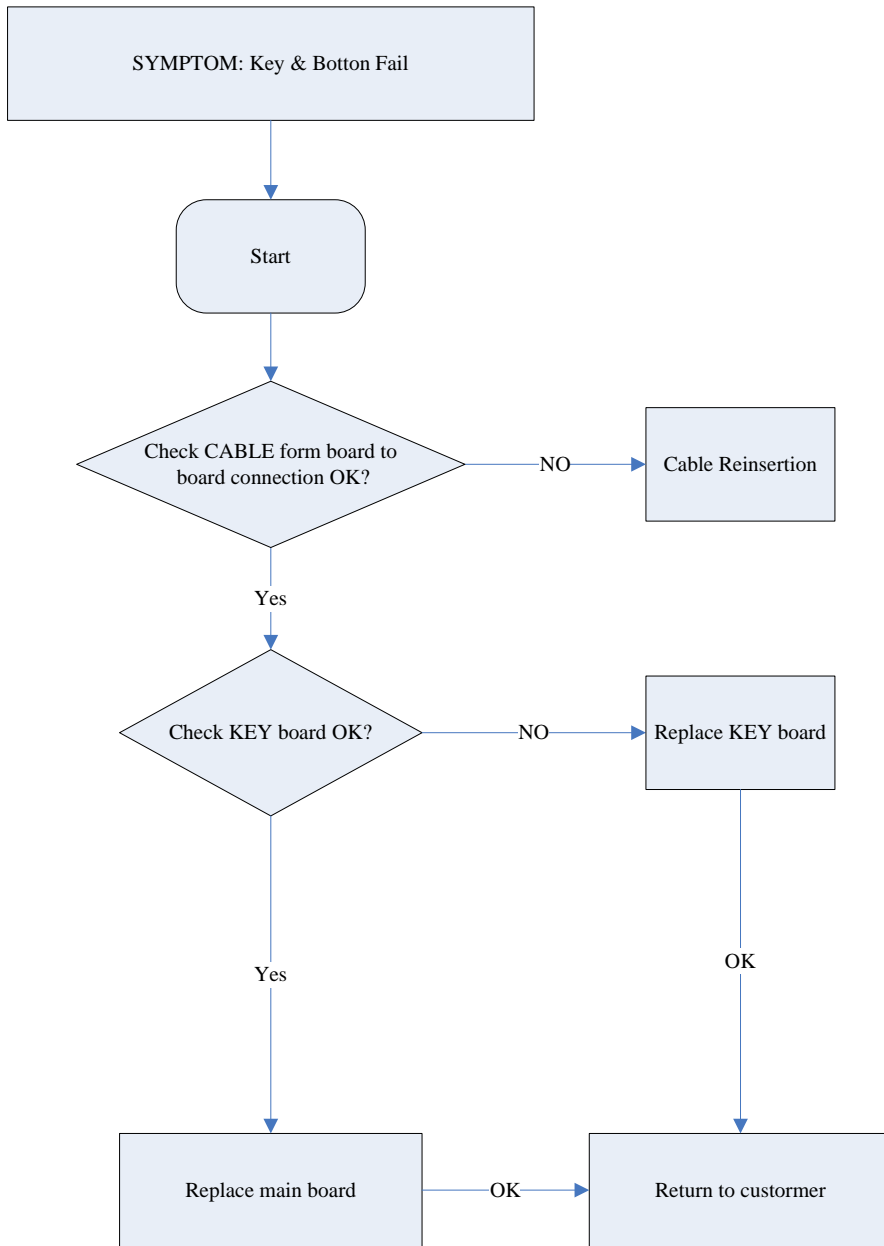
5.0 TROUBLESHOOTING

SYMPTOM: ADAPTOR CANNOT POWER ON

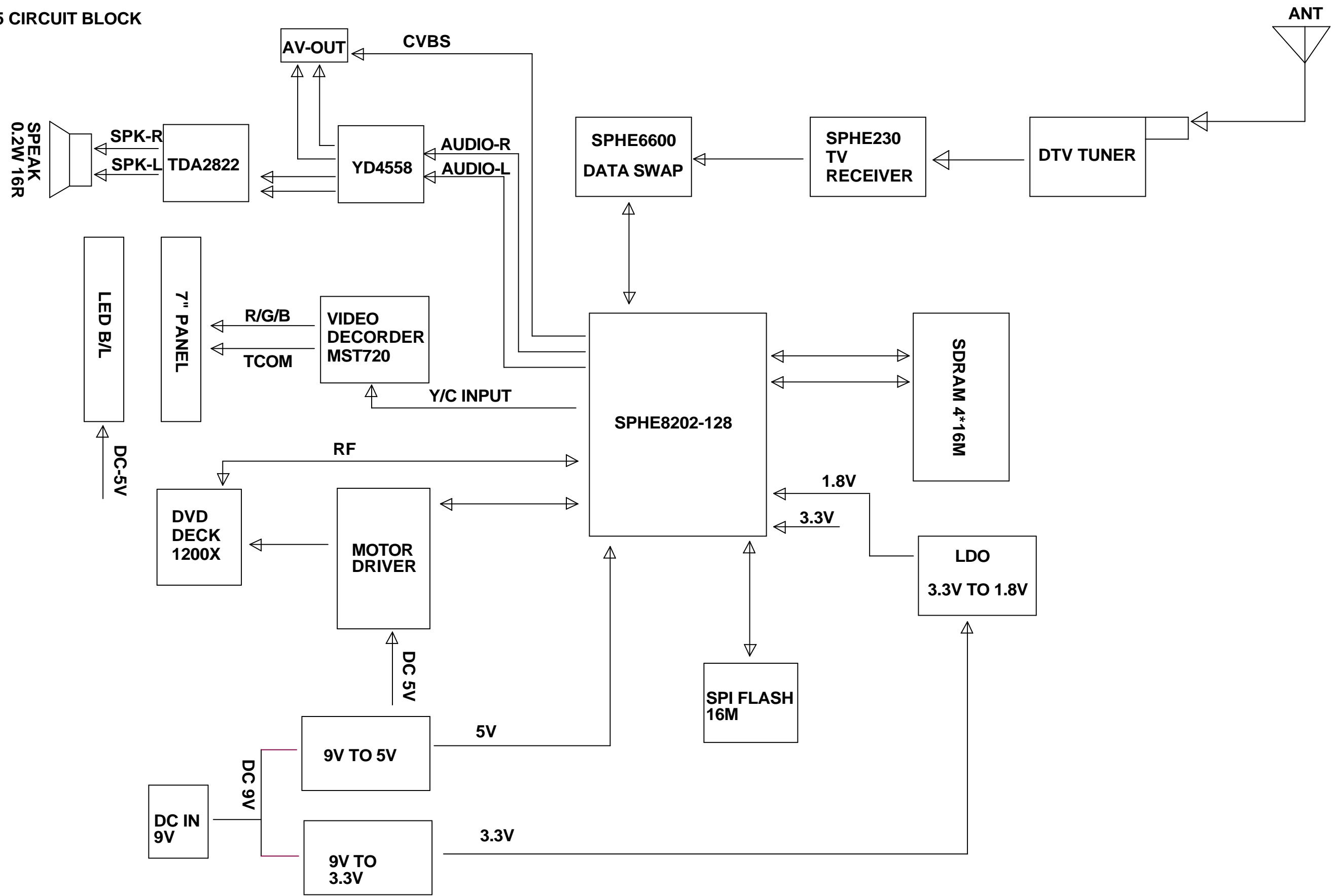


5.0 TROUBLESHOOTING

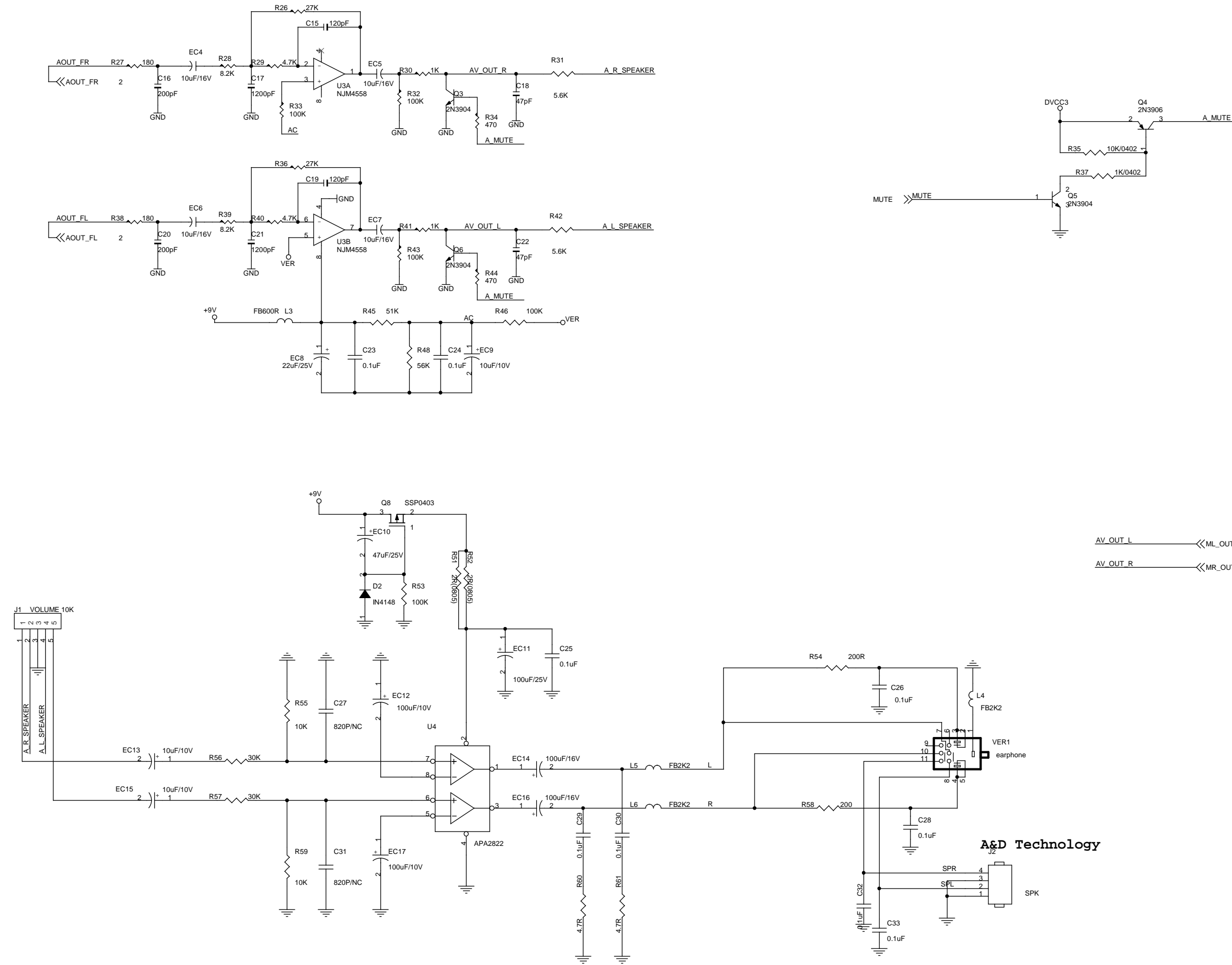
SYMPTOM: KEY & BOTTON FAILURE



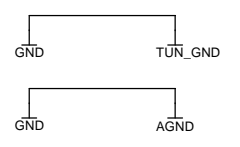
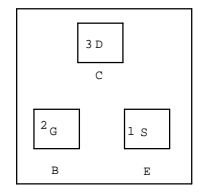
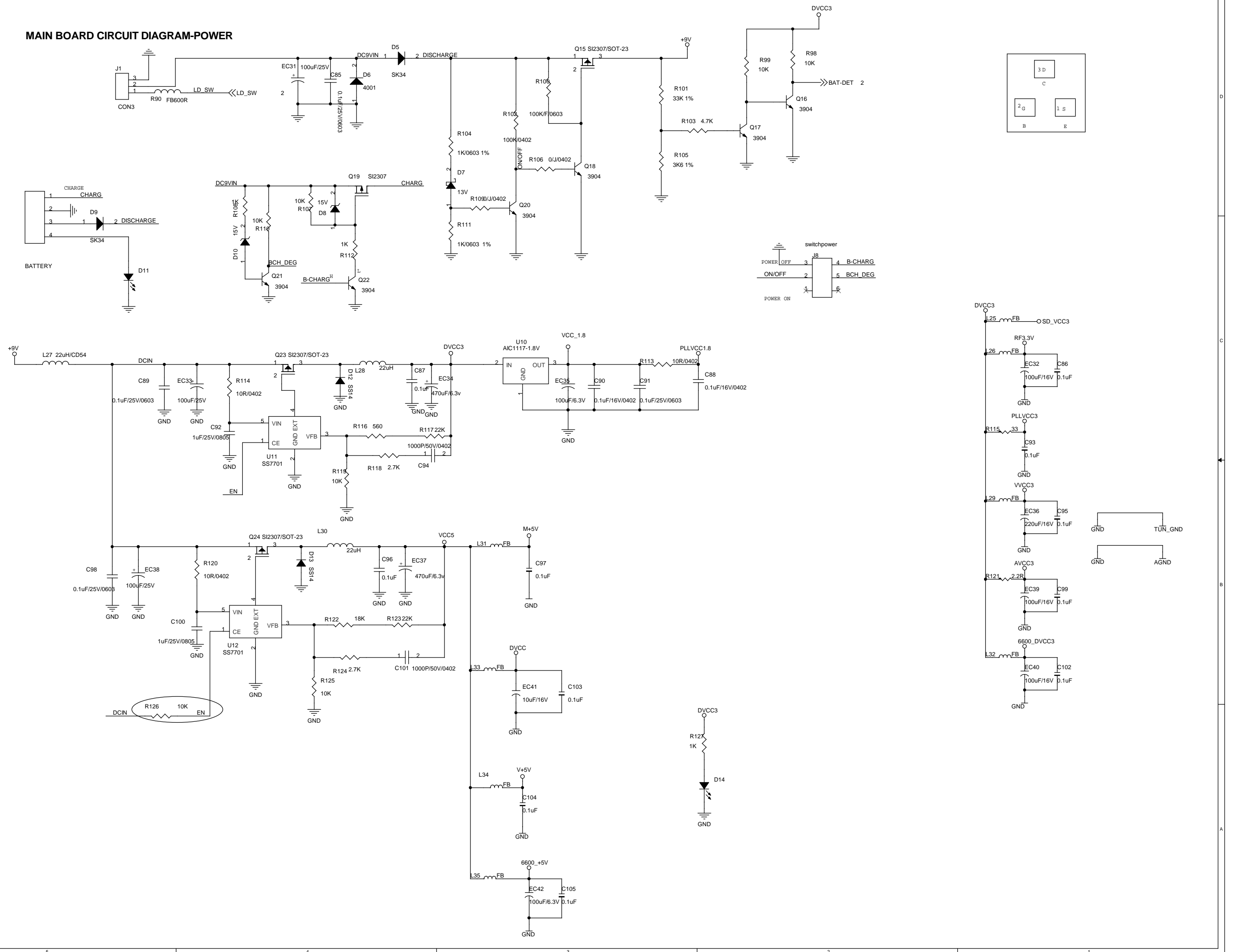
PET745 CIRCUIT BLOCK



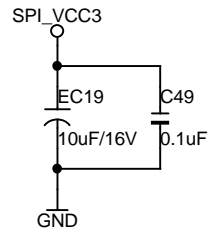
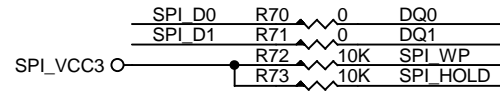
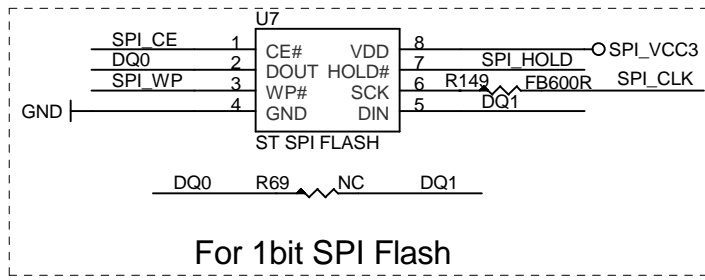
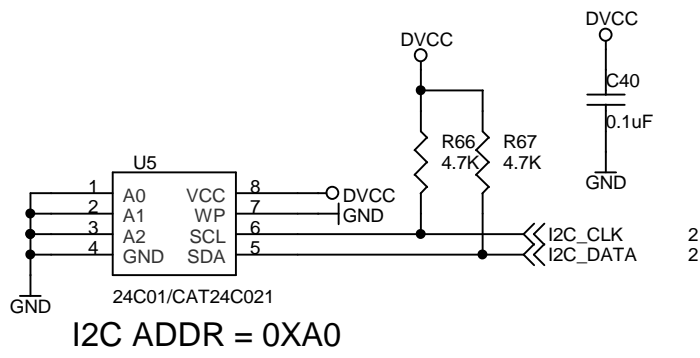
MAIN BOARD CIRCUIT DIAGRAM-AUDIO



MAIN BOARD CIRCUIT DIAGRAM-POWER

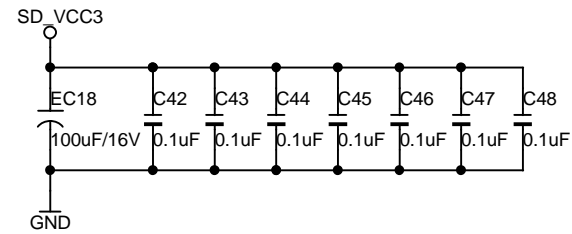
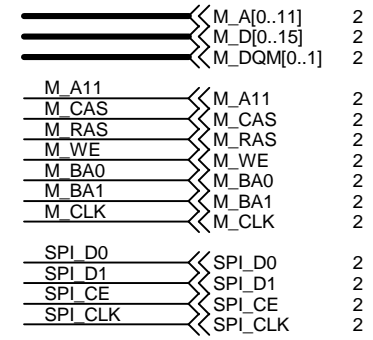
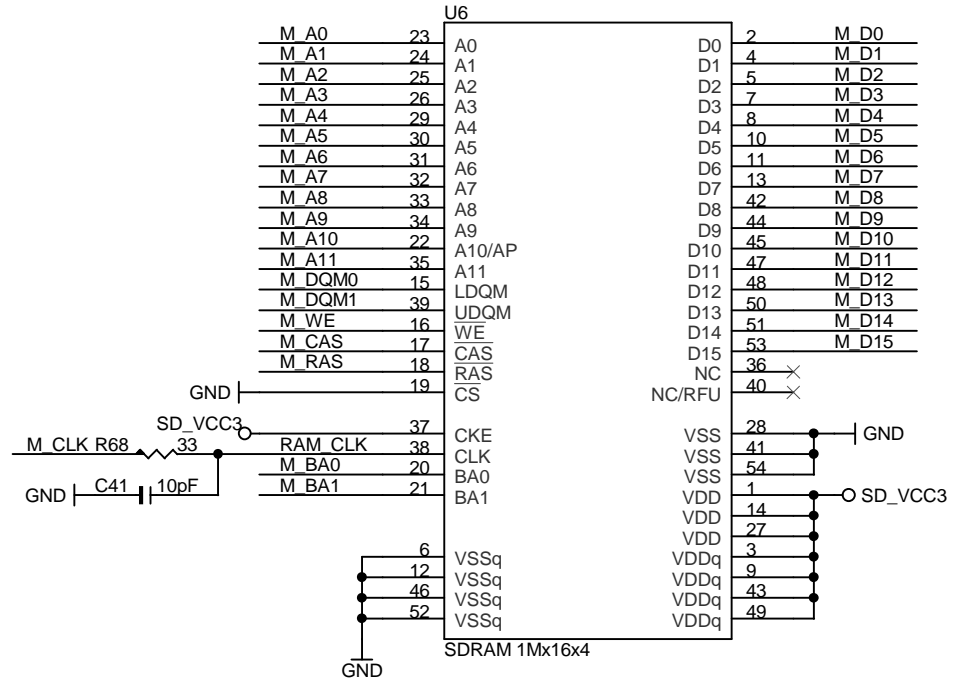


MAIN BOARD CIRCUIT DIAGRAM-SDRAM

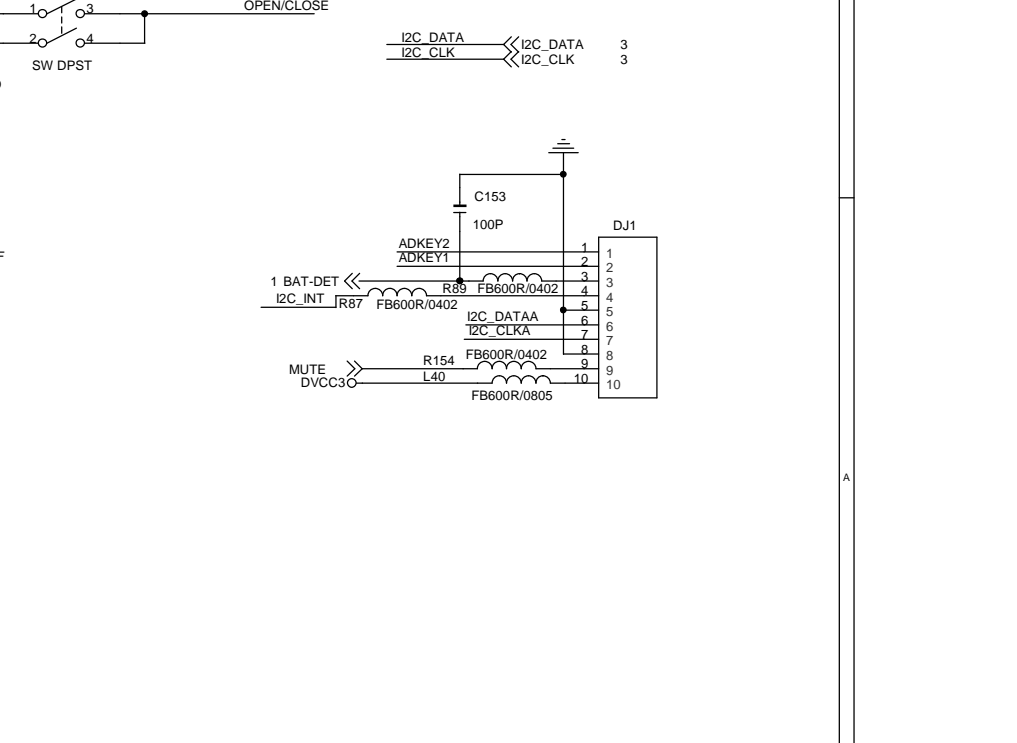
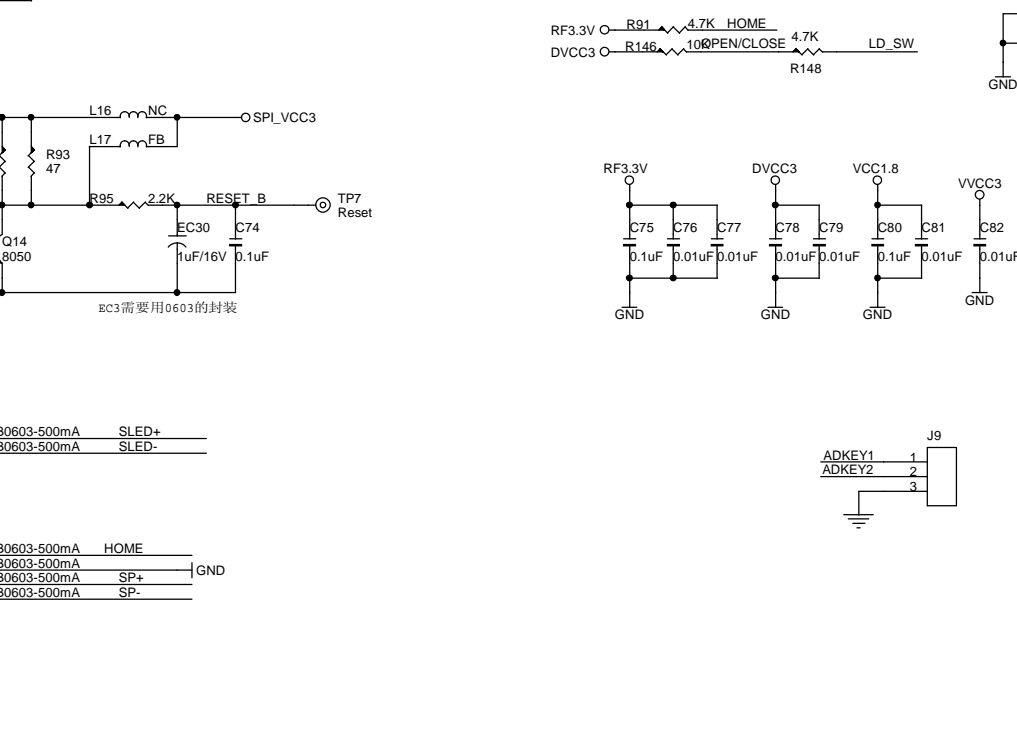
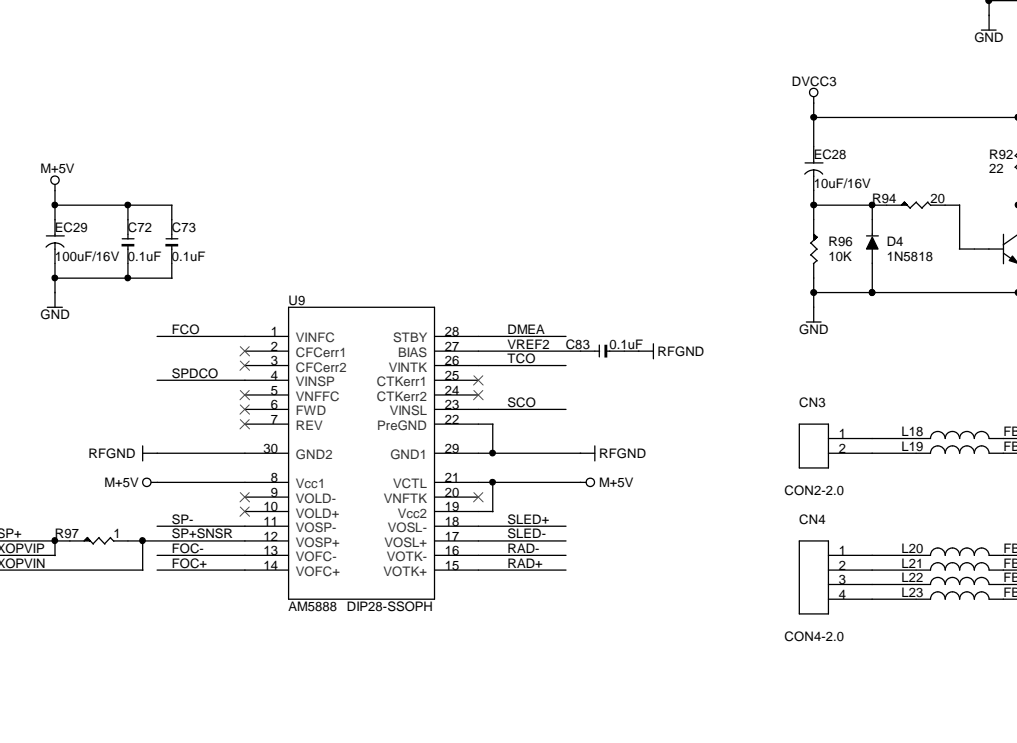
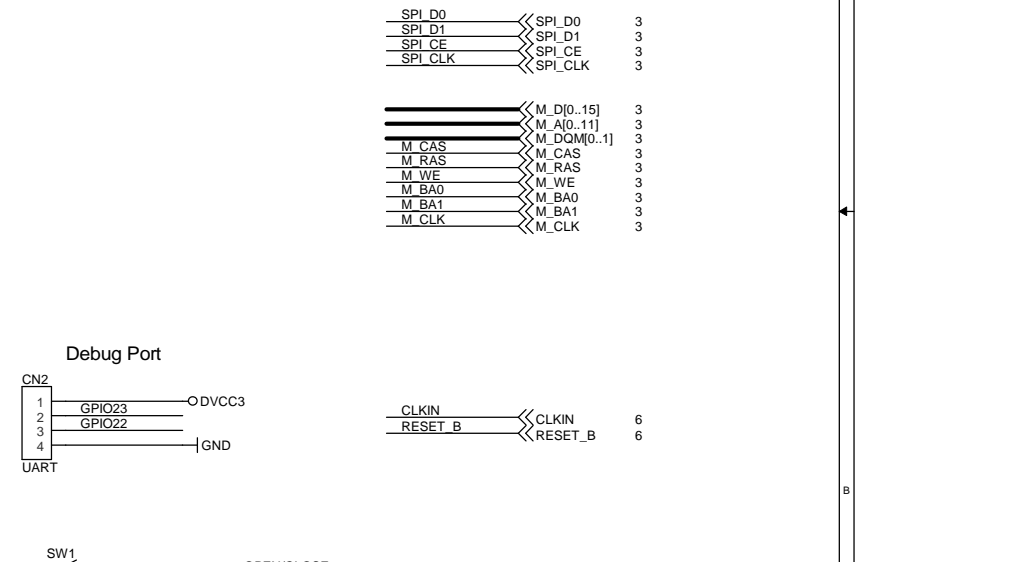
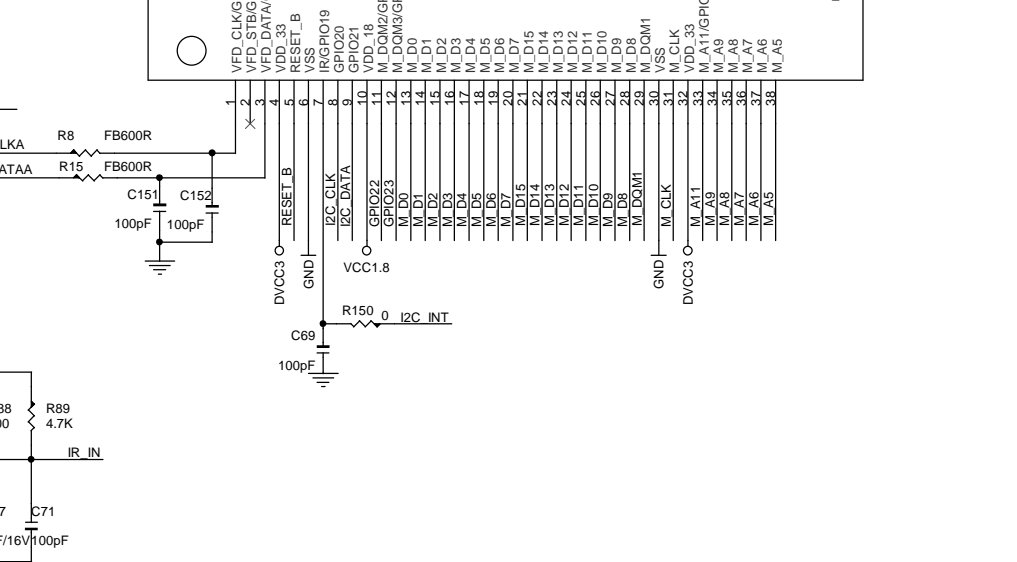
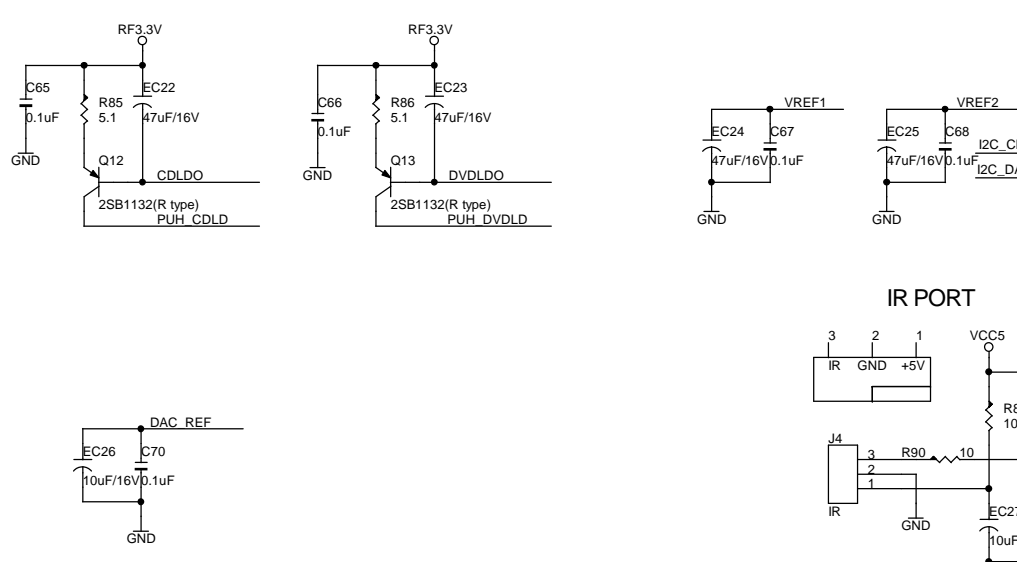
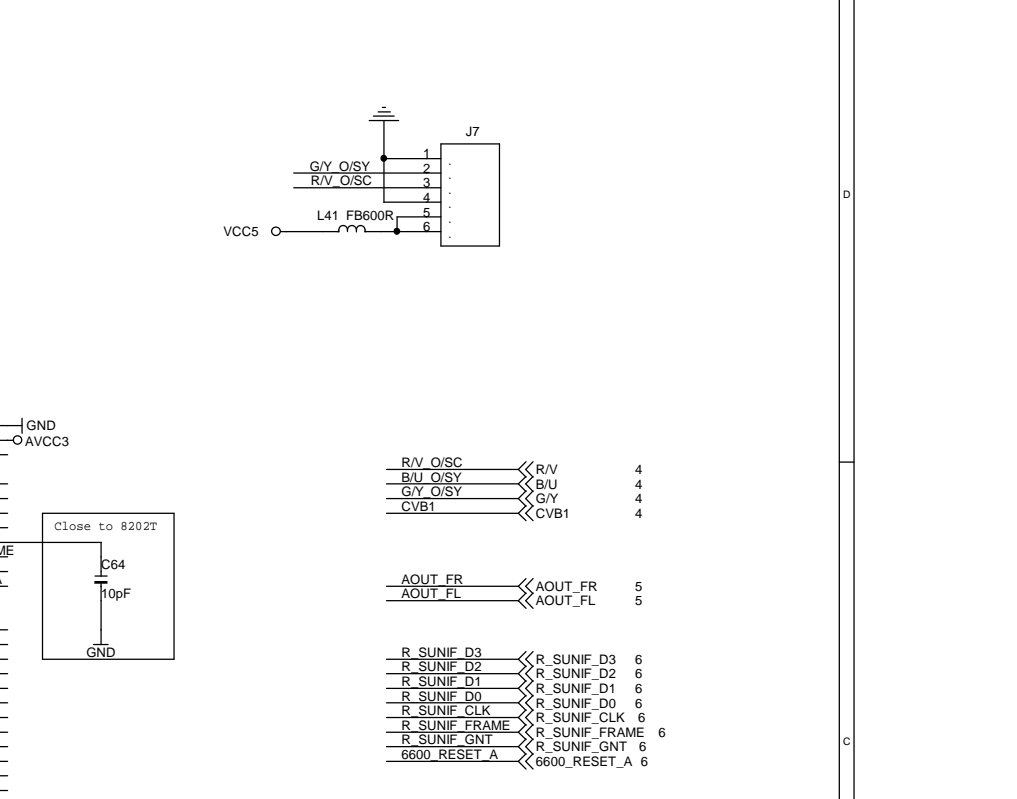
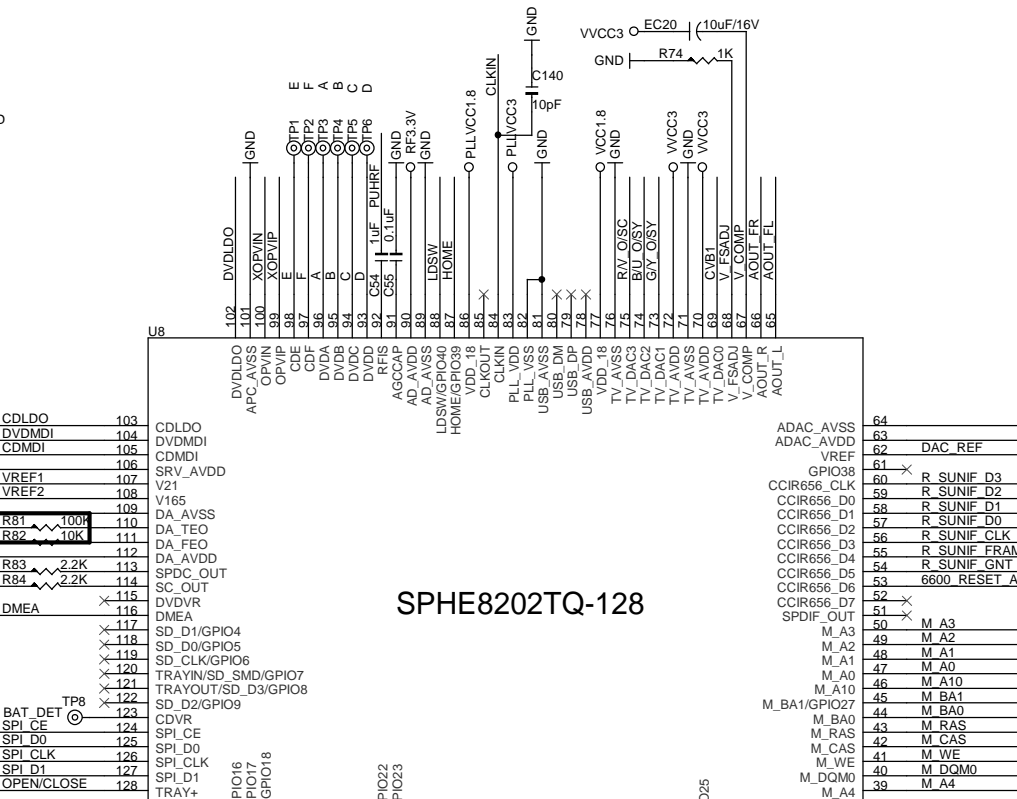
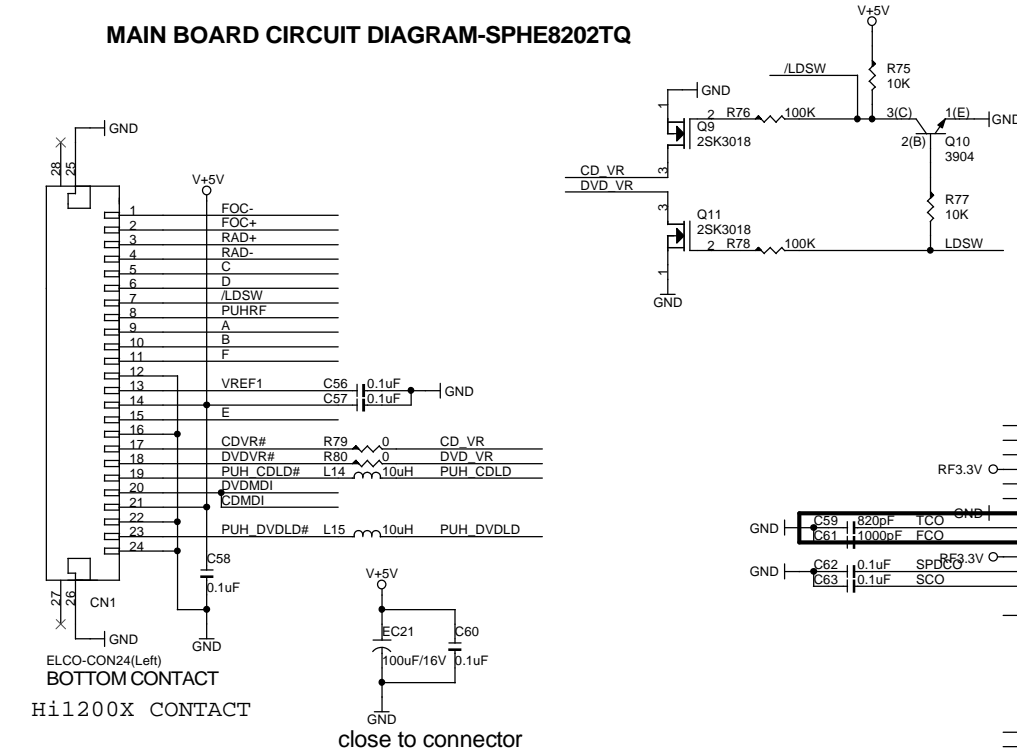


SPI Mode Setting

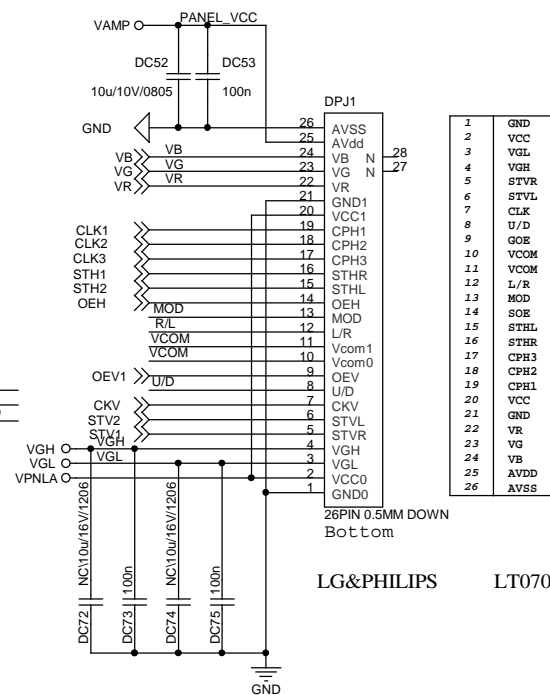
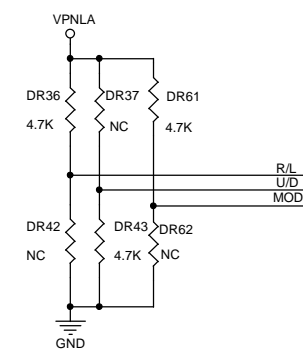
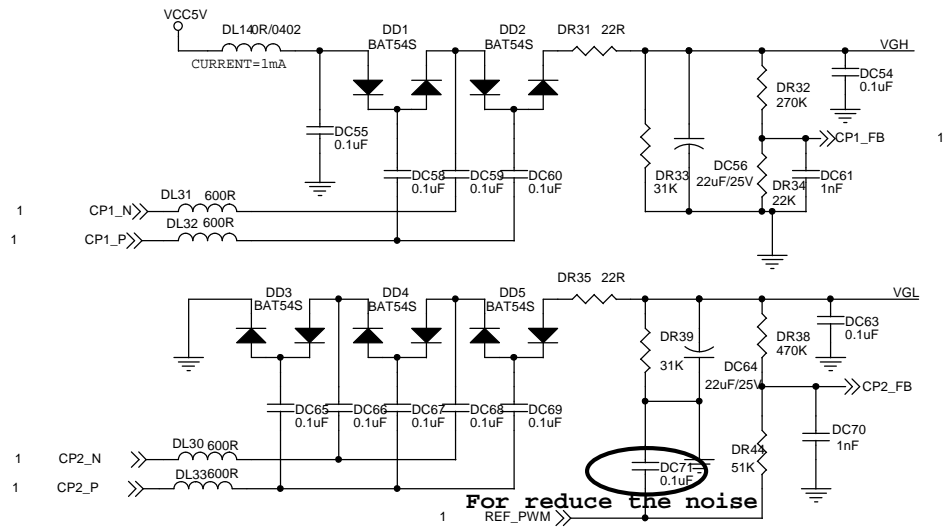
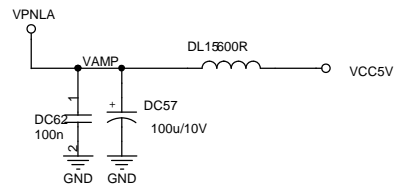
	2bit	1bit
R119	NC	0
R121	0	NC



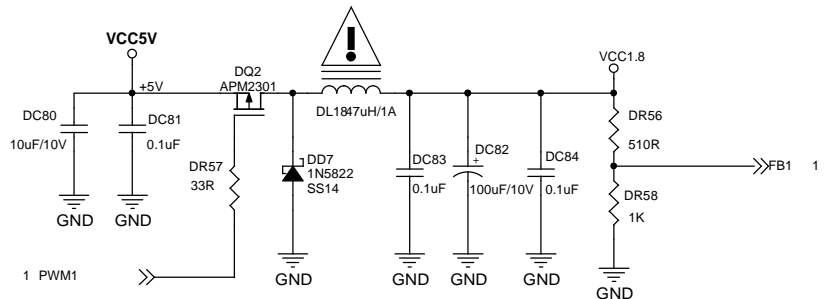
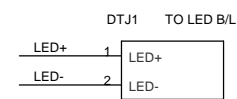
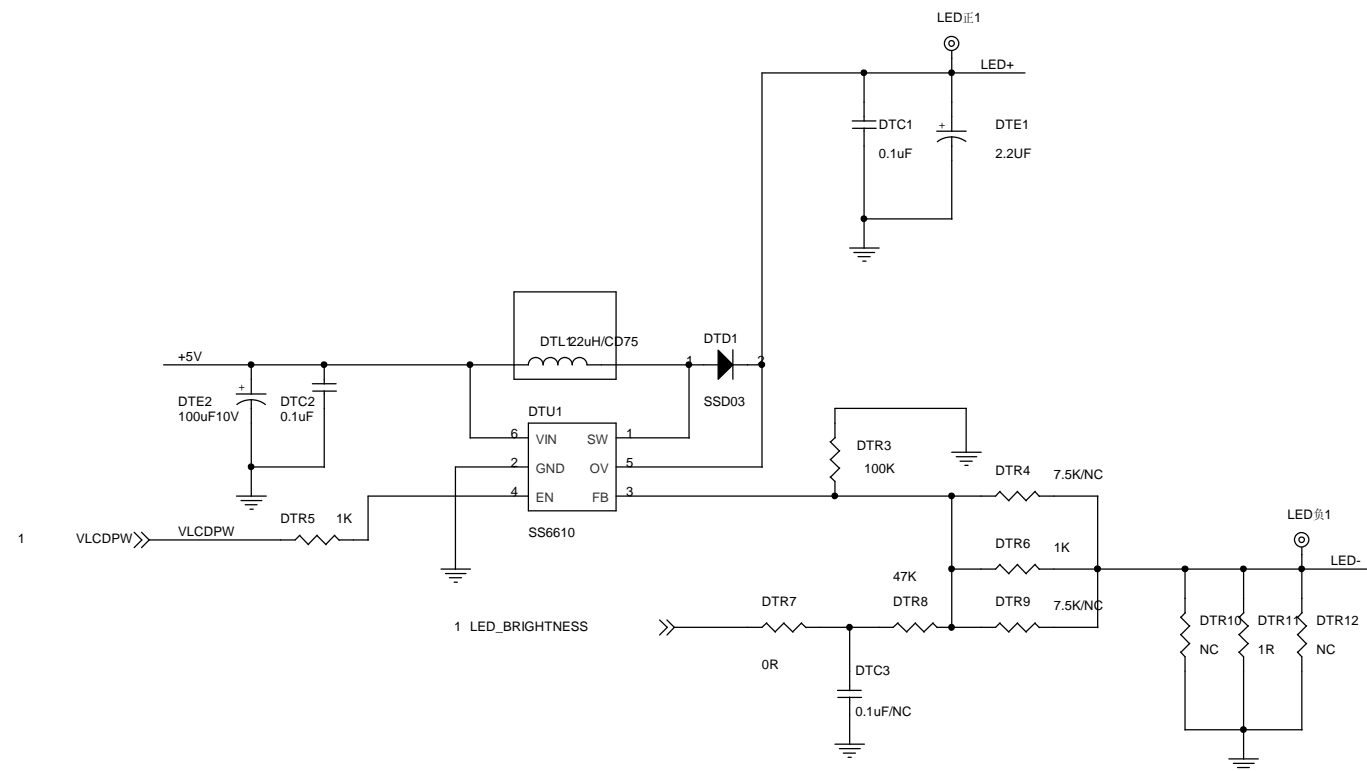
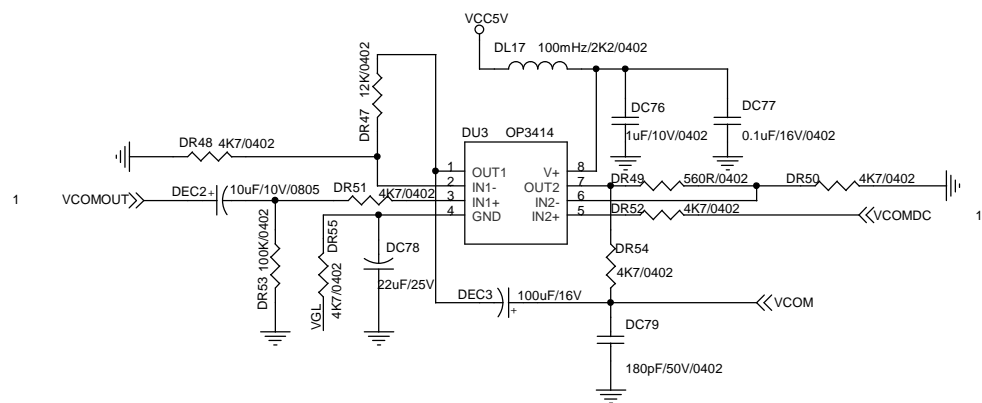
MAIN BOARD CIRCUIT DIAGRAM-SPHE8202TQ



MAIN BOARD CIRCUIT DIAGRAM-DISPLAY PORT

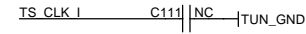


LG&PHILIPS LT070W02



MAIN BOARD CIRCUIT DIAGRAM-TV TUNER

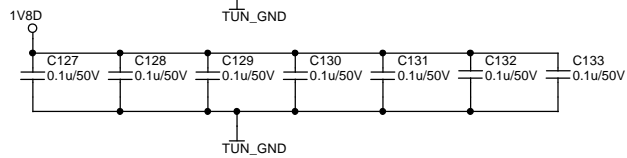
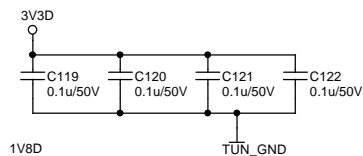
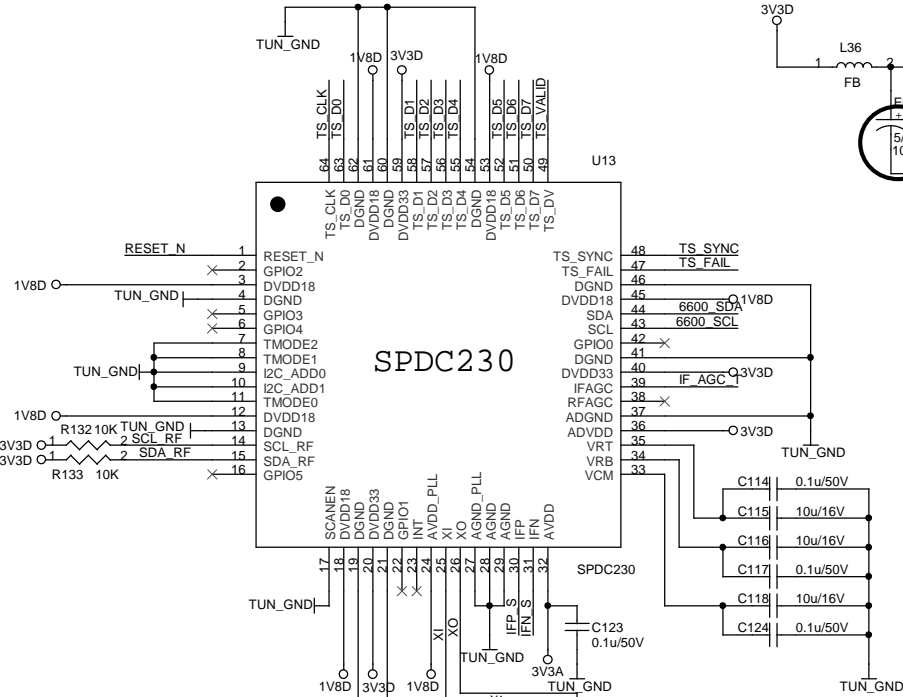
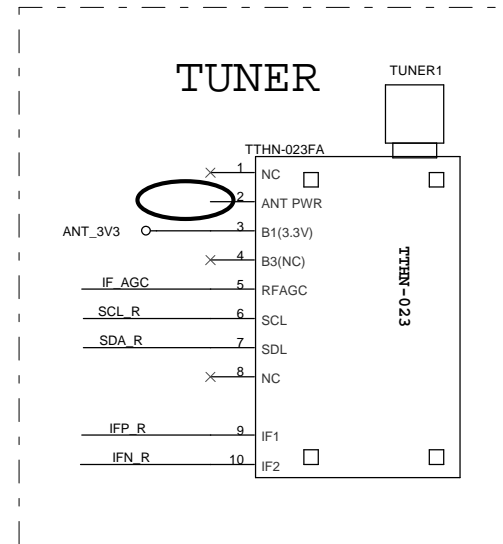
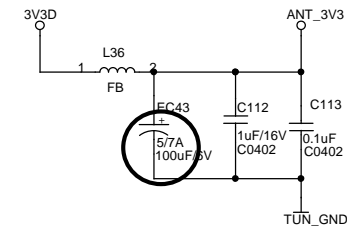
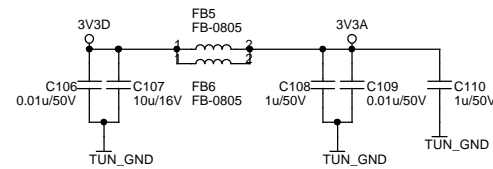
TS_ERR	R128	0	TS_FAIL
TS_SYNC_I	R129	0	TS_SYNC
TS_VAL_I	R130	0	TS_VALID
TS_CLK_I	R131	0	TS_CLK



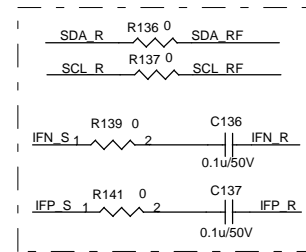
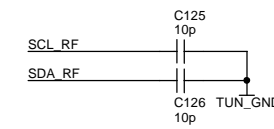
TS_D10	2	1	TS_D0
TS_D11	4	3	TS_D1
TS_D12	6	5	TS_D2
TS_D13	8	7	TS_D3

TS_D14	2	1	TS_D4
TS_D15	4	3	TS_D5
TS_D16	6	5	TS_D6
TS_D17	8	7	TS_D7

0(8P4R)



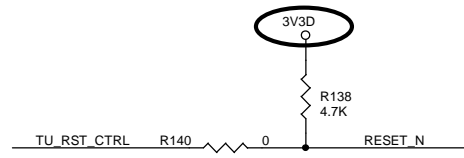
C27, C28 value is dependent on the load capacitor of crystal



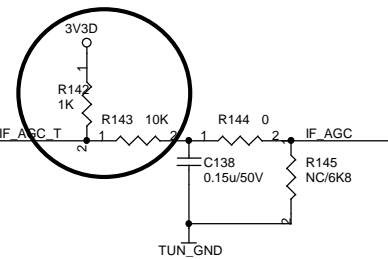
TS_D10	TS_D10	6
TS_D11	TS_D11	6
TS_D12	TS_D12	6
TS_D13	TS_D13	6
TS_D14	TS_D14	6
TS_D15	TS_D15	6
TS_D16	TS_D16	6
TS_D17	TS_D17	6

TU_RST_CTRL	TU_RST_CTRL	6
TS_ERR	TS_ERR	6
TS_SYNC_I	TS_SYNC_I	6
TS_VAL_I	TS_VAL_I	6
TS_CLK_I	TS_CLK_I	6

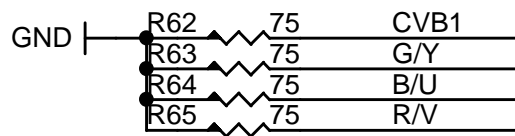
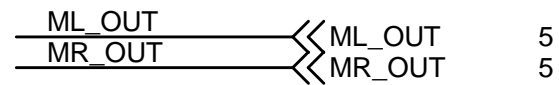
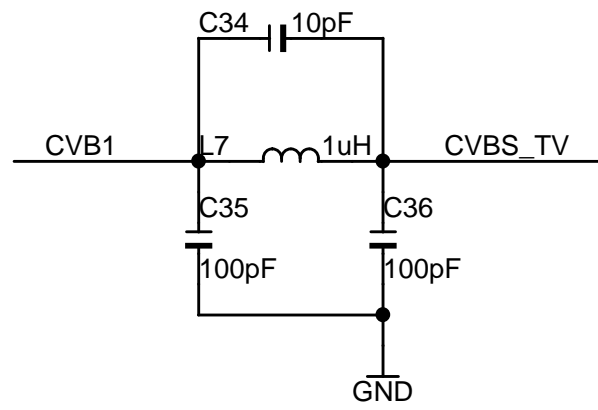
6600_SCL	6600_SCL	6
6600_SDA	6600_SDA	6



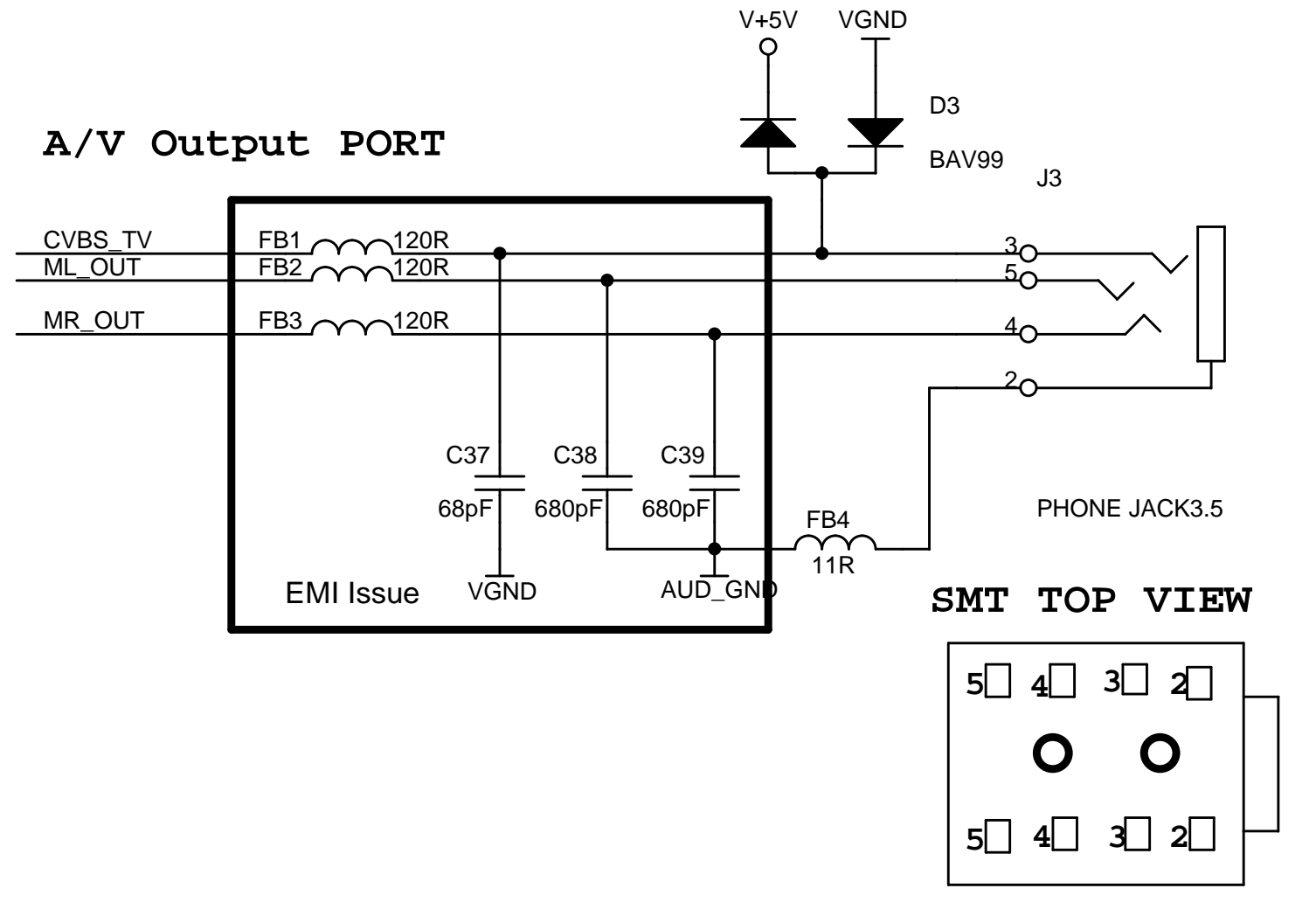
AGC Circuit



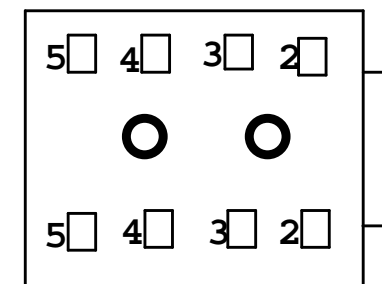
MAIN BOARD CIRCUIT DIAGRAM-VIDEO PORT



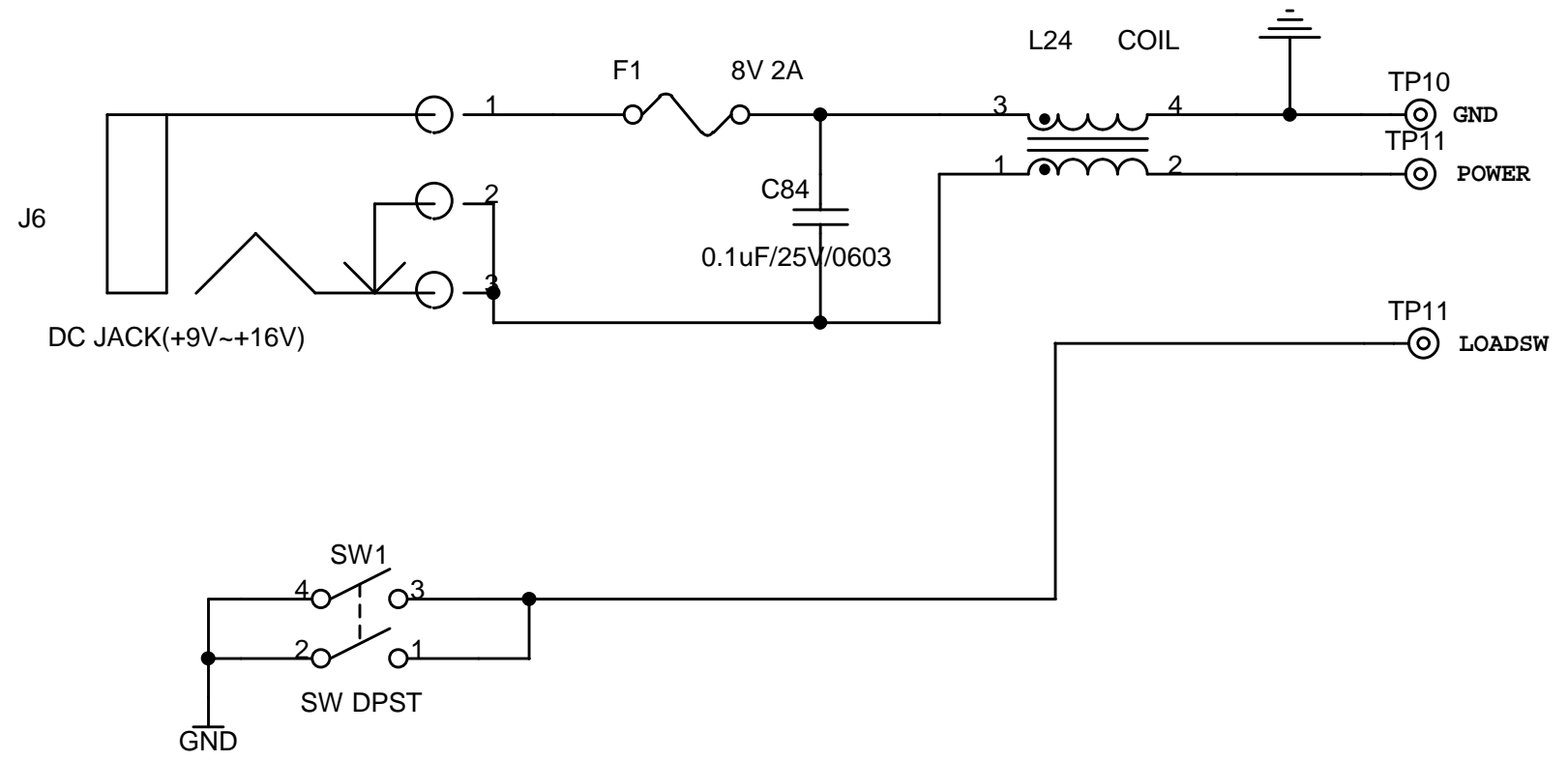
A/V Output PORT



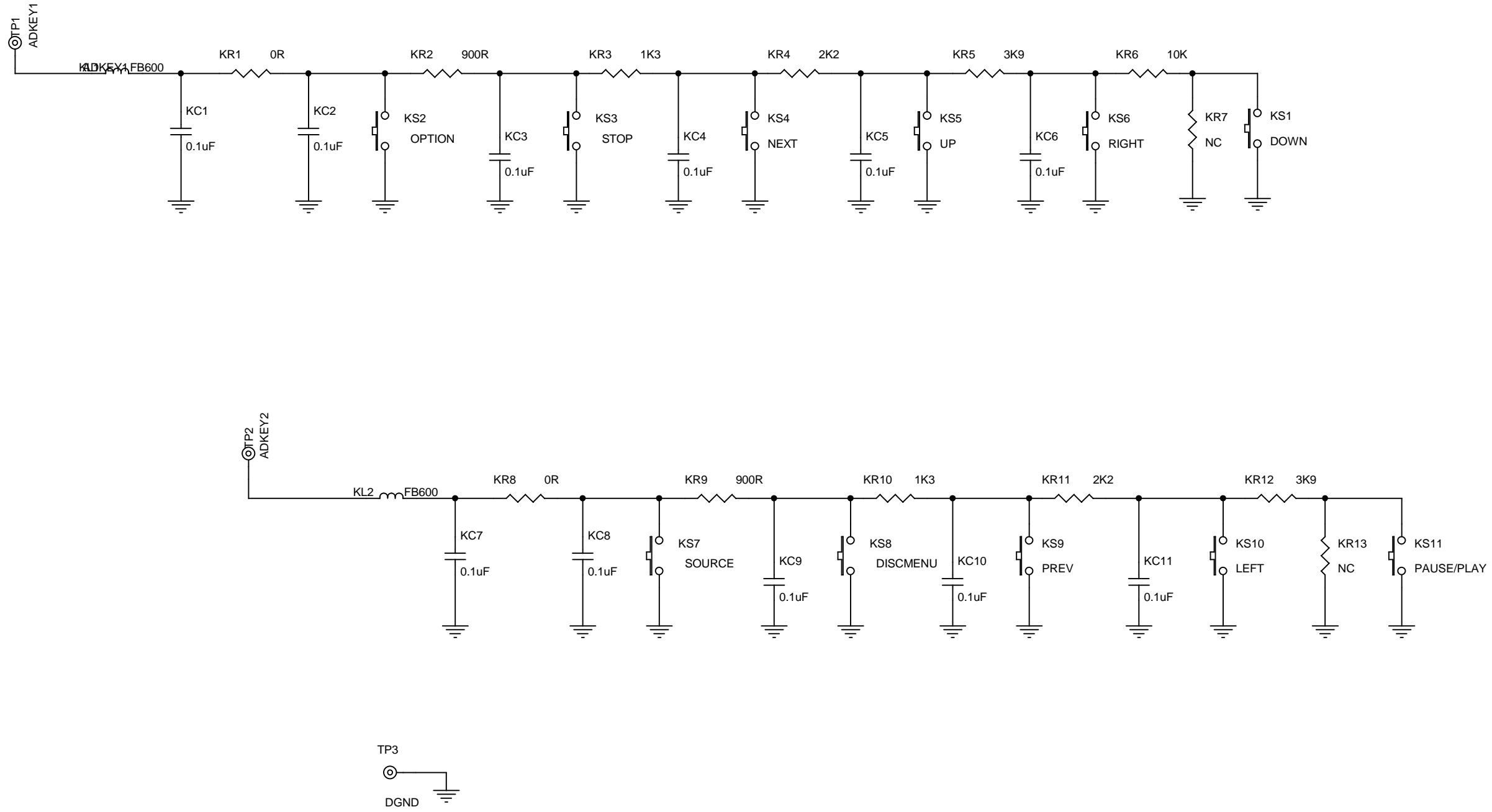
SMT TOP VIEW



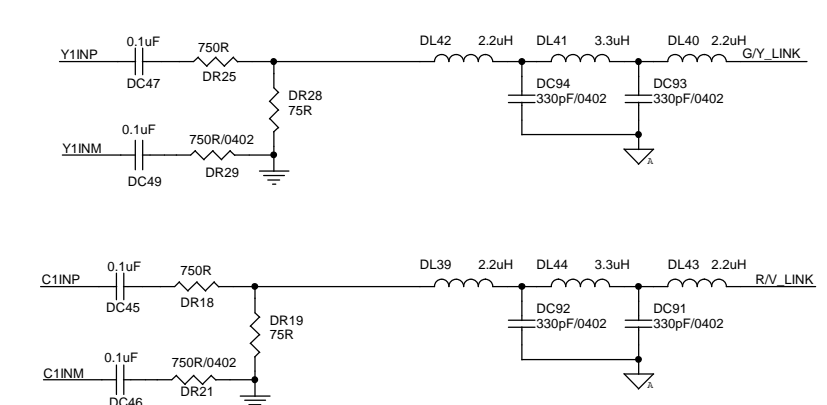
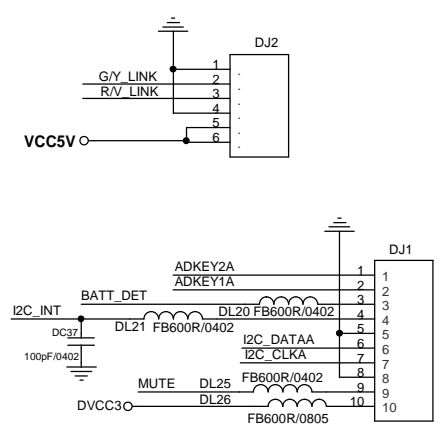
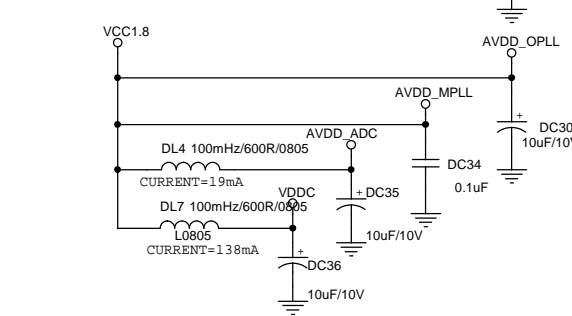
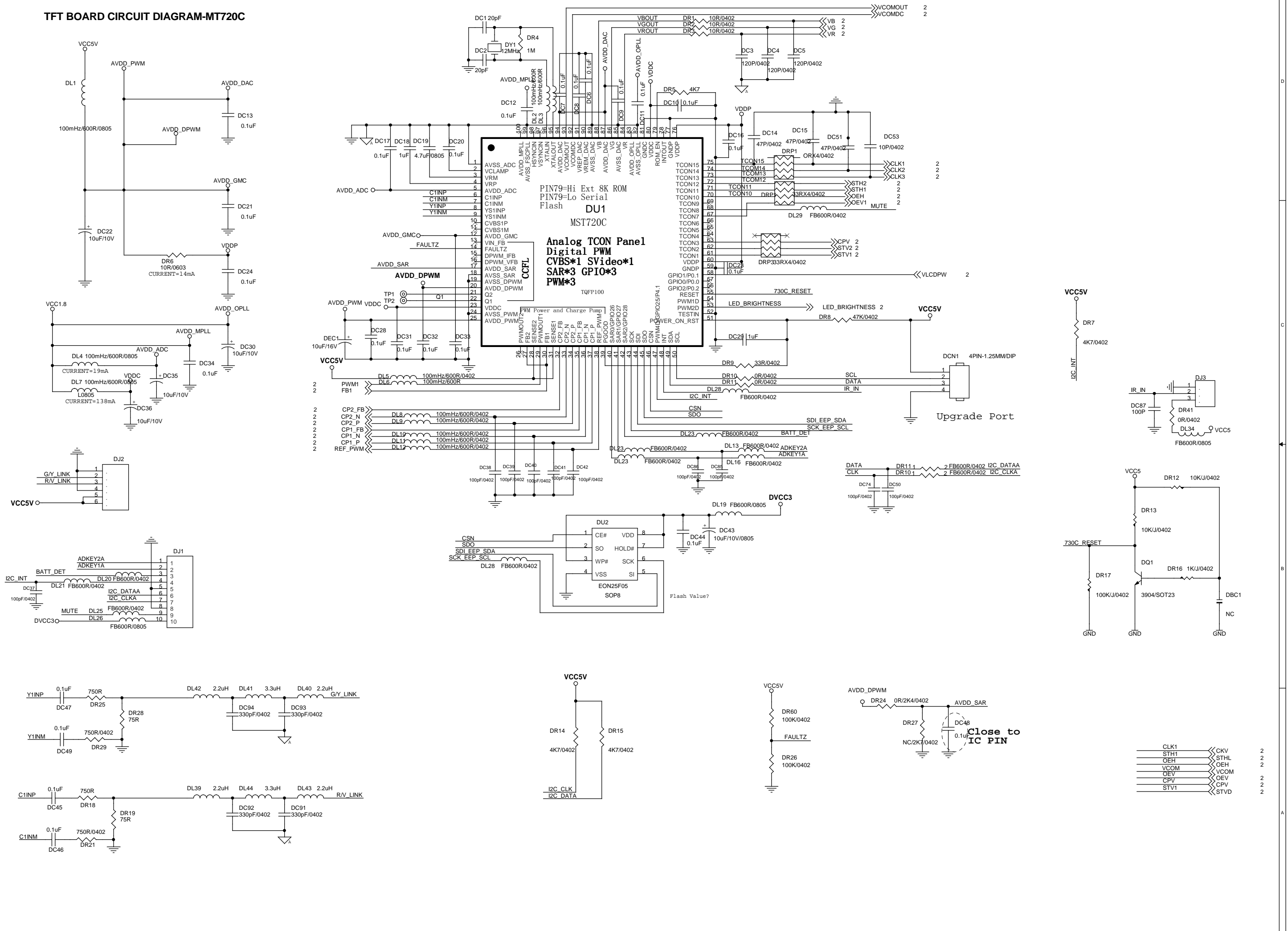
DC BOARD CIRCUIT DIAGRAM-DCJACK



KEY BOARD CIRCUIT DIAGRAM-PANEL KEY



TFT BOARD CIRCUIT DIAGRAM-MT720C

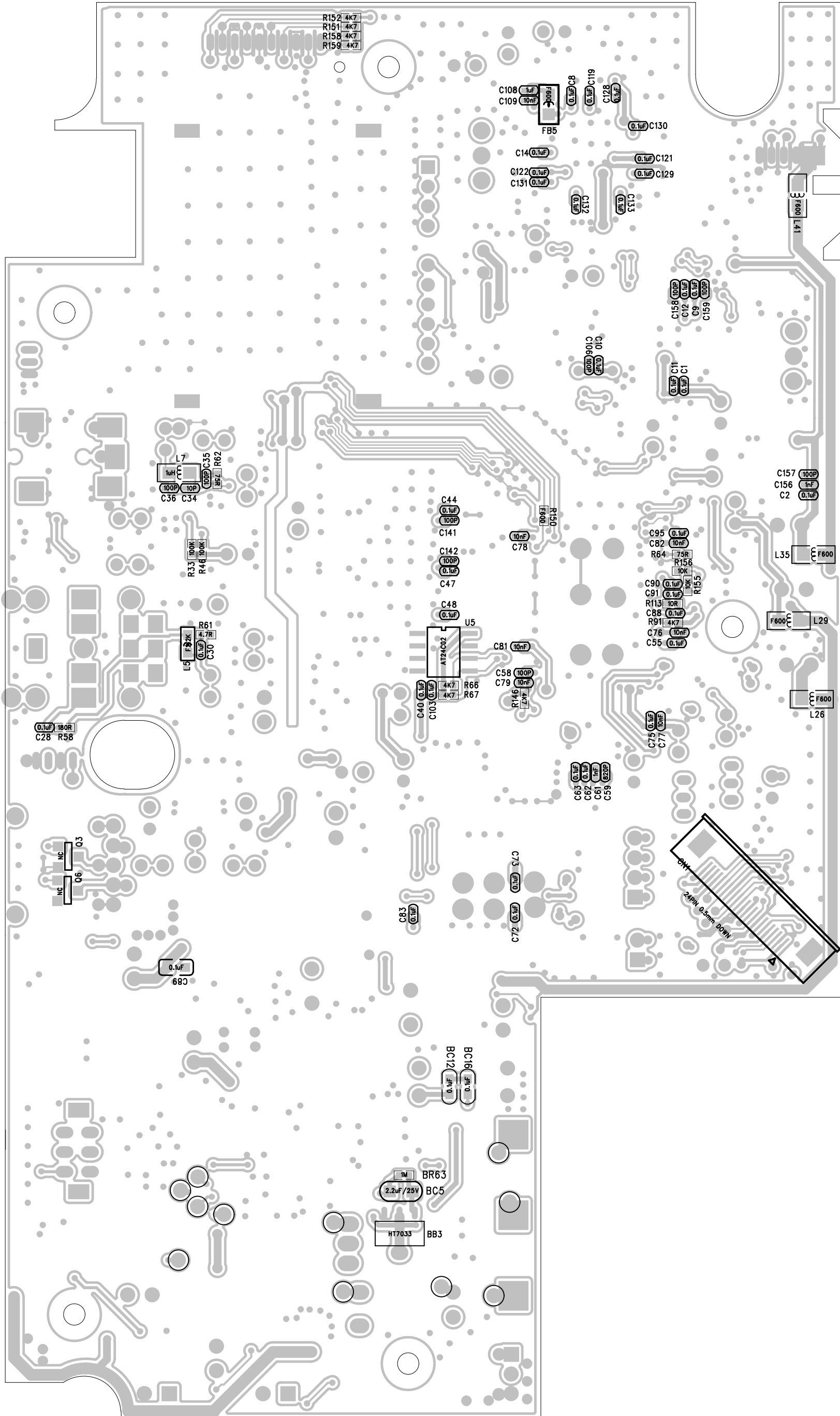


Upgrade Port

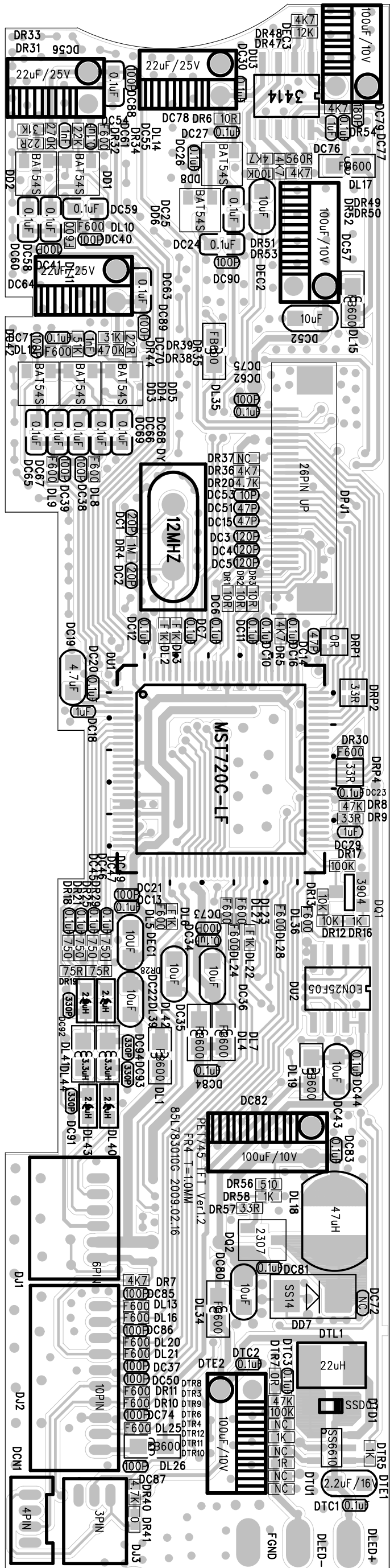
Close to IC PIN

CLK1	CKV	2
STH1	STHL	2
OEH	OEH	2
VCOM	VCOM	2
OEV	VCOM	2
CPV	CPV	2
STV1	STVD	2

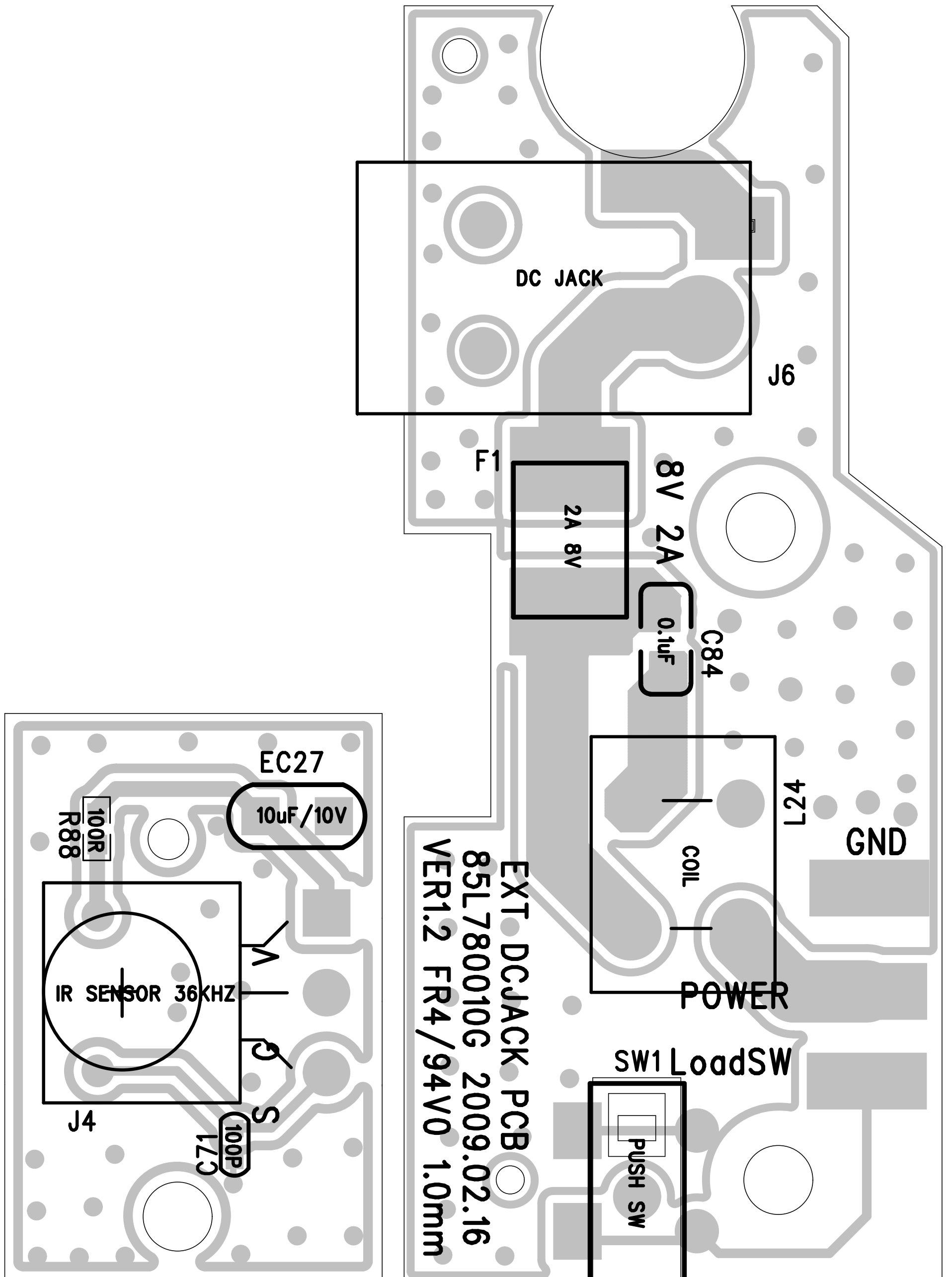
MAIN BOARD BOTTOM



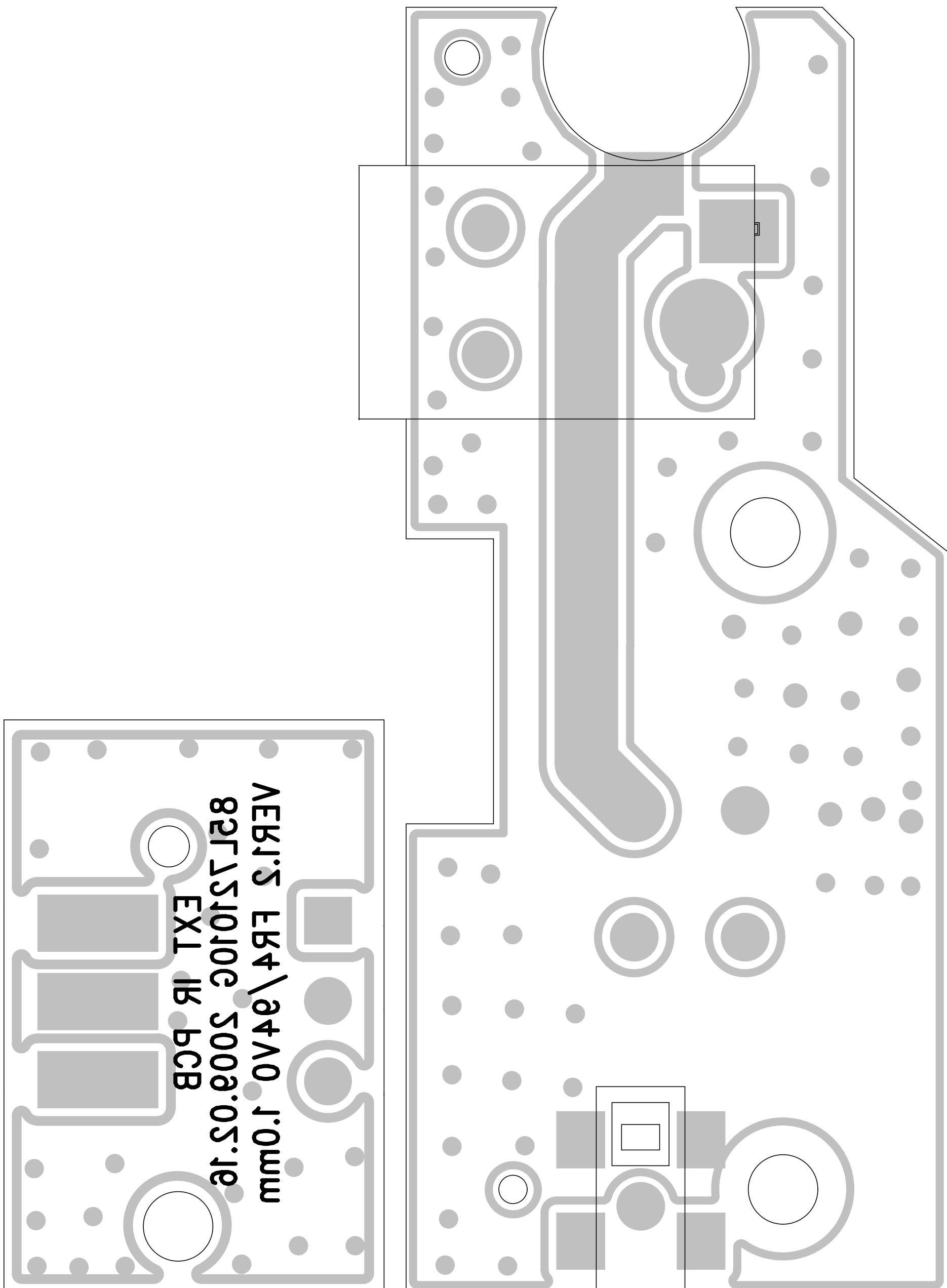
TFT BOARD TOP



DC&IR BOARD TOP



DC&IR BOARD BOTTOM



8.0 SERVICE PARTLIST

Electrical Part List:

CTN	Service 12NC	Service Description	Photo	Pos. No.
PET745/12	996510021984	IR PCBA ASS'Y LG E2/E4 PET745		100
PET745/12	996510021983	KEY PCBA ASS'Y PET745		110
PET745/12	996510021985	DC PCBA ASS'Y LG E2/E4 PET745		120
PET745/12	996510022111	TFT PCBA ASS'Y LG E2/E4 PET745		130
PET745/12	996510022498	MAIN PCBA PET745		140
PET745/12	996510026553	BATTERY&BATT PCBA PET745		150
PET745/12	996510022116	7" PANEL ASS'Y FOR PET745		200
PET745/12	996510007686	DVD DECK DM520 HOP1200X		210

8.0 SERVICE PARTLIST

Mechanical Part List:

CTN	Service 12NC	Service Description	Photo	Pos. No.
PET745/12	996510022105	MONITOR TOP FRAME PET742		300
PET745/12	996510026554	DVD DOOR PC PET745		320
PET745/12	996510022094	DVD MIDDLE FRAME PET742		330
PET745/12	996510021987	DVD BOTTOM HOUSING PET745		340
PET745/12	996510022099	MENU KEY1 (OPTION)		350
PET745/12	996510022101	MENU KEY2 (STOP)		360
PET745/12	996510026552	MENU KEY3 (BD/FD)		370
PET745/12	996510022108	KEY OK ABS PET742		380
PET745/12	996510022095	OPEN KEY ABS PET742		381
PET745/12	996510022268	DISPLAY FRAME & SPK PET742		382

8.0 SERVICE PARTLIST

PET745/12	996510022039	FFC 24P/0.5mm 150mm		400
PET745/12	996510022097	HINGE PET742 & HOUSING		410

8.0 SERVICE PARTLIST

Accessories Part List:

CTN	Service 12NC	Service Description	Photo	Pos. No.
PET745/12	996510022078	SW ADAPTOR 9V/1A EU		ADAPT
PET745/12	996510020969	ROD ANT DVB-T-2 CABLE		ATTENUATOR
PET745/12	996510004975	AV CABLE		AVCABLE
PET745/12	996510021031	CAR ADAPTER		CARAPT
PET745/12	996510026555	REMOTE CONTROL 35KEY		RC

9.0 REVISION LIST

Version 1.0

- Initial release PET745/12

Version 1.1

- Update some parts that are not used in mass production
 - 996510022497 -> 996510026653 Battery
 - 996510021982 -> 996510026554 DVD door
 - 996510021986 -> 996510026552 Key3
 - 996510002353 -> 996510022078 AC adaptor
 - 996510020616 -> 996510026555 remote control