

Service
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Service Manual

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3141 785 32201

1.0 TECHNICAL SPECIFICATION

General

Dimensions (W x H x D):
Weight:

Power & Battery

Power supply voltage: AC 100V-240V
DC 9V/ 2A
Power consumption: 18W
Operating temp. & RH: 0 to +45 degC / 30 – 90% RH
Battery voltage (Li-ion) 7.4V
Battery capacity 3200mAH
Charging time (power off) 6 hours
Charging time (power on) 8 hours
Playtime (DVB-T TV receiving) 180mins

Audio – Earphone out (w/ 2 x 16ohm loading)

Output voltage 1kHz: 1.5V typical
THD 200, 1k, 1.8k, 20kHz 0.2% typical
Dynamic range: 1kHz >70dB
Signal/Noise ratio: 1kHz >75dB
Frequency response 0.2-20kHz): +/-3dB
Channel Separation 1kHz >55dB
Channel Balance 1kHz <2dB

Audio – Speaker Out (impedance = 4)

Speaker Diameter 41.5 +/- 0.5mm
Output Power 1kHz >= 2W
Channel Separation 1kHz >30dB
Signal/Noise ratio: 1kHz >62dB
Distortion 250 – 10k Hz <2%
Channel Balance 1kHz <3dB
Hum <250uW
Residual Signal < 25uW
THD <2dB

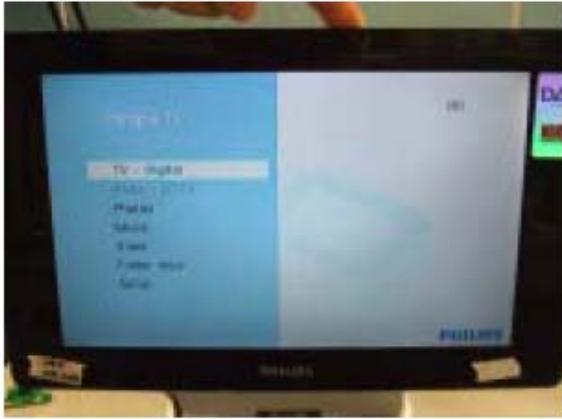
Pixel specification

Zero bright-dot & max. 3 dark-dots

1.0 TECHNICAL SPECIFICATION

Procedure on how to check the software version of the Portable TV

1. Power on the set and make sure there is no media device in it
2. Press MENU key on top of the set, and then press "1 -> 4 -> 0 -> 0" by remote control within 3 seconds (if failed, you need to retry the input process)

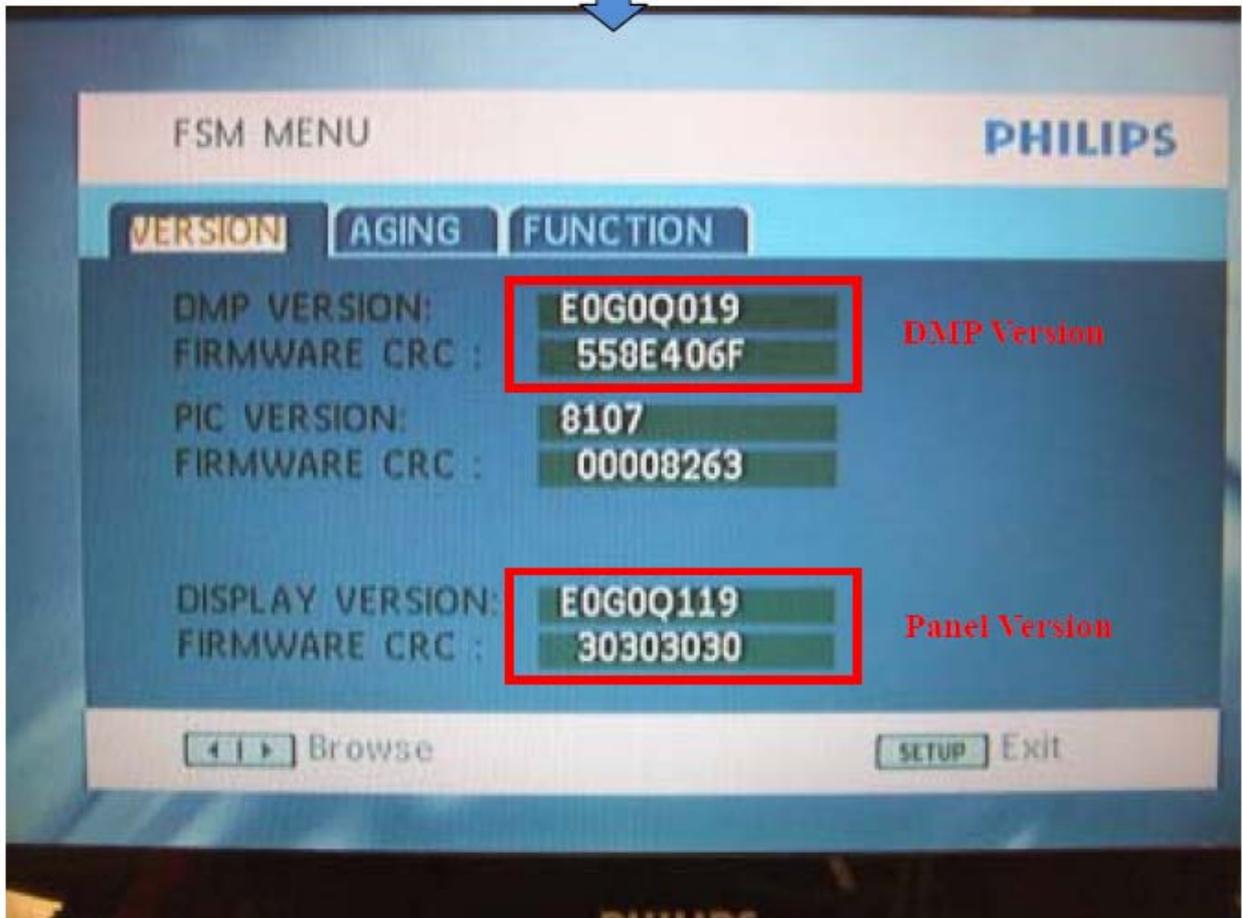


MENU

+



1400



1.0 TECHNICAL SPECIFICATION

Procedure on how to upgrade the software of the Portable TV

For the best performance of your Portable TV. Check www.philips.com/support for latest software upgrades available.

A) MPEG firmware upgrade

1. Unzip the PHILIPS.ROM
2. Drag-n-drop to USB drive
3. Power on the main set with AC/DC adaptor
4. Insert USB drive to the USB port of the main set
5. The set will detect the updated firmware
6. Press "OK" button on remote control to confirm and proceed
7. After upgrade completed, the set will power off, and you can remove the USD drive

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

B) PANEL firmware upgrade

8. Unzip the PHILIPS.ROM (different file from step 1)
9. Drag-n-drop to USB drive
10. Power on the main set with AC/DC adaptor
11. Insert USB drive to the USB port of the main set
12. The set will detect the updated firmware
13. Press "OK" button on remote control to confirm and proceed
14. After upgrade completed, the set will power off, and you can remove the USD drive

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

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. Beträkta 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!

DK Advarse !

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

"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."

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.

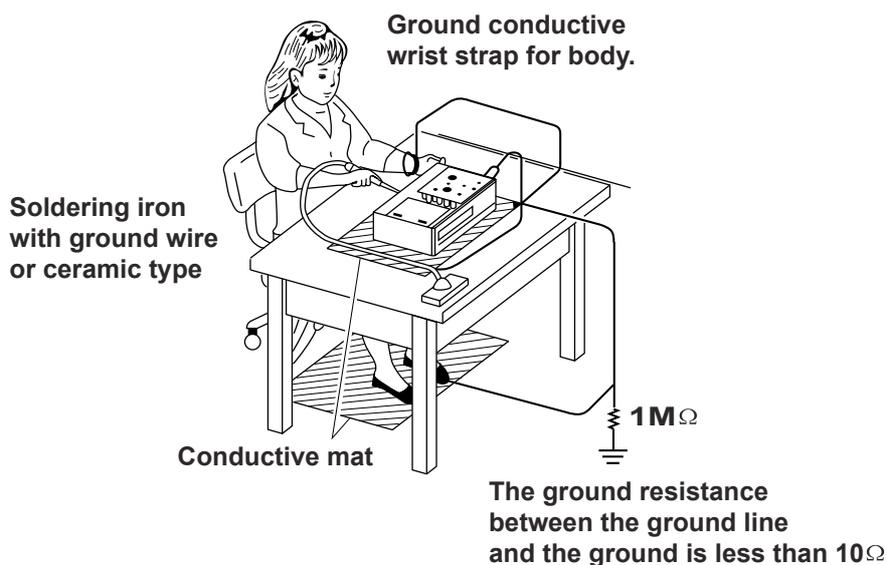
When the power supply is being turned on, you may not remove this laser cautions label. If it removes, radiation of laser may be received.

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.



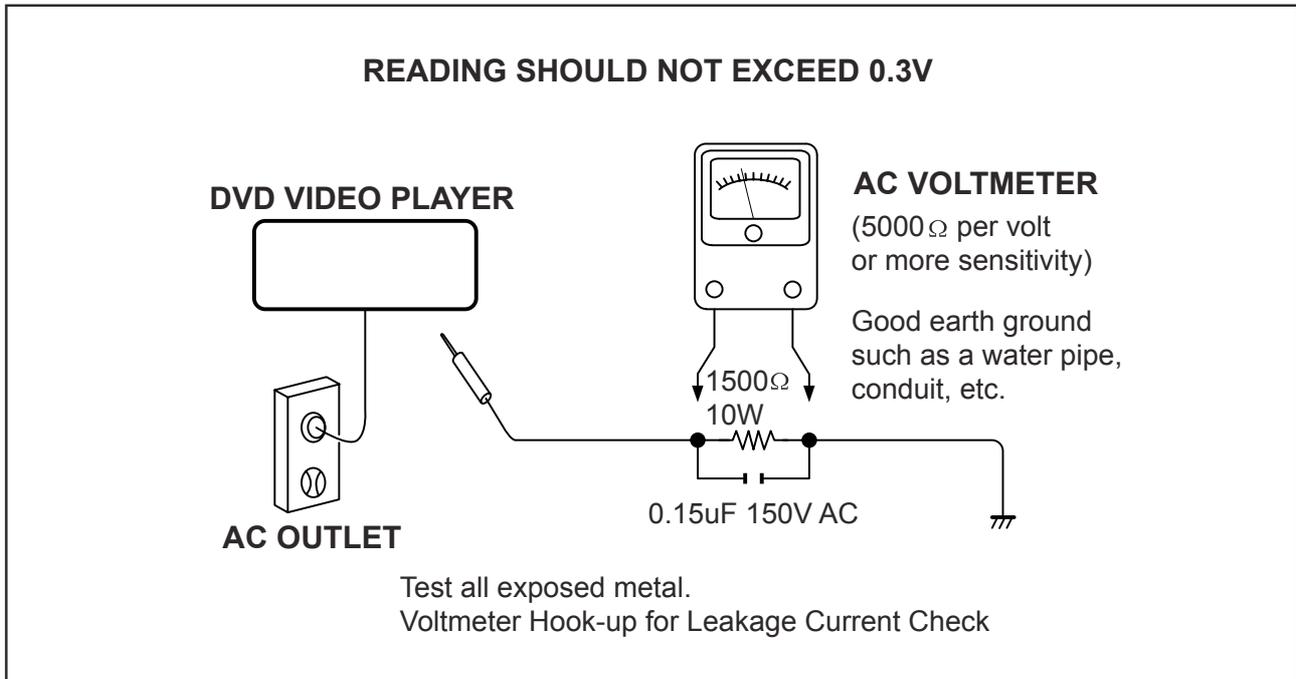
SAFTY NOTICE

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.

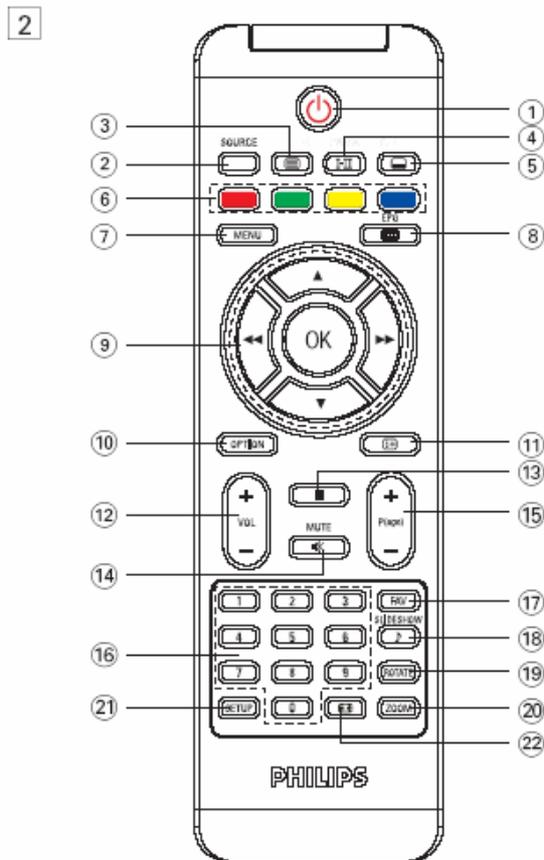
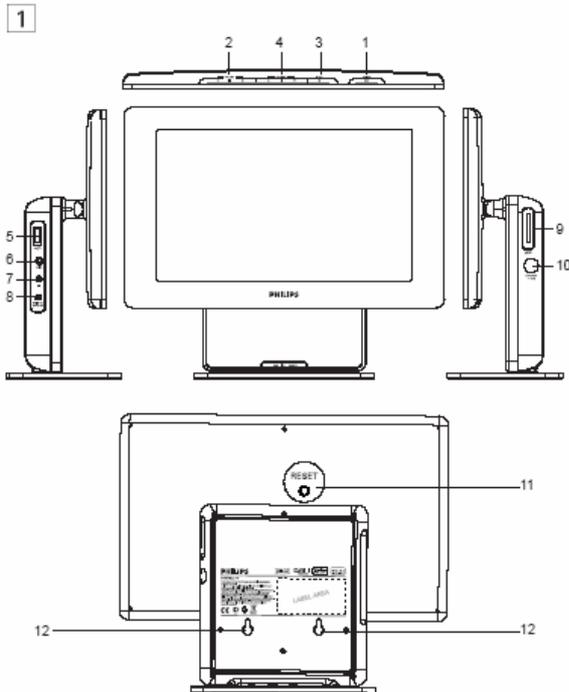


The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



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



2.1 Main unit controls (see figure 1)

- 1 **POWER** : to switch the TV on and off. (Note: For zero power consumption, you need to remove the mains cord from the mains socket.)
- 2 **VOLUME** : to increase or decrease the volume.
- 3 **MENU** : to display or exit menus.
- 4 **CHANNEL** : to select channels.

2.2 Left of the TV (see figure 1)

- 5 : Jack for the external USB mass storage devices.
- 6 **AV IN**: Audio/Video input.
- 7 : Headphone jack.
- 8 **DC IN 9V**: Power supply socket.

2.3 Right of the TV (see figure 1)

- 9 **SD**: SD card slot.
- 10 **75 Ω antenna**: to connect antenna.

2.4 Rear of the TV (see figure 1)

- 11 **RESET**: to reset the TV.
- 12 **Hooking hole**: to mount the TV on the wall.

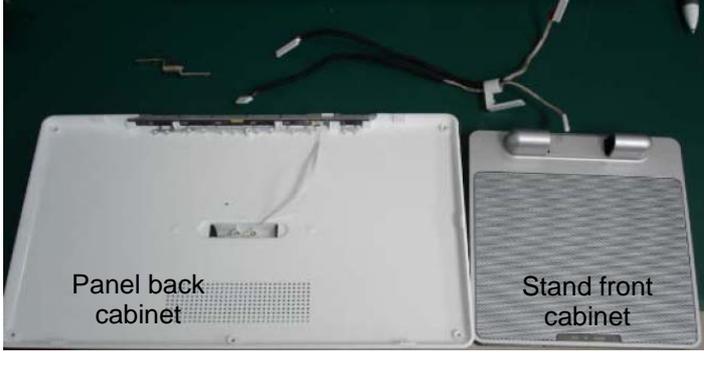
3.6 Remote Control functions (see figure 2)

- 1 : Power On/Off the TV set
- 2 **SOURCE**: Switch between TV > Radio > USB > SD > AV-in
- 3 **TELETEXT** : Activate Teletext
- 4 **AUDIO** : Audio language selection
- 5 **SUBTITLE** : Subtitle languages selection
- 6 **Color keys**: Coloured areas are displayed at the bottom of the screen. The 4 coloured keys are used to access the items or corresponding pages. The coloured areas flash when the item or the page is not yet available.
- 7 **MENU**: Press briefly to return to previous menu page. Press and hold about 2 seconds to return to the top menu page.
- 8 **EPG**: Activate Electronic Program Guide
- 9 **Navigation keys**:
 - OK** Confirm a selection or start/interrupt playback
 - Up/down navigation key
 - Left/right navigation key or previous/next track or fast search backward/forward
- 10 **OPTION**: Access additional functions
- 11 **INFORMATION** : List program information
- 12 **+ Vol -**: Volume control
- 13 : Press once to stop playback of digital files
- 14 **MUTE**: Mute the volume
- 15 **+P(age)-**: Change TV channels or Teletext pages
- 16 **0-9**: Numerical keys
- 17 **FAV**: Activate favorite TV/Radio channel mode
- 18 **SLIDESHOW/MUSIC**: Activate digital photo slide show with music background
- 19 **ROTATE**: Rotate digital photos
- 20 **ZOOM**: Zoom in digital photos
- 21 **SETUP**: Enter setup menu
- 22 **ASPECT RATIO** : to adjust the screen of 16:9 or 4:3

4.0 MECHANICAL INSTRUCTION

A) Separate the main set into four modules		
	1	Remove the screws on panel back cabinet.
	2	Remove the screws on stand back cabinet.
	3	Open the stand back cabinet and pull out all wires connection on main board.
	4	Separate the stand back cabinet with main board and tuner board on it.

4.0 MECHANICAL INSTRUCTION

	5	Open the panel back cabinet and panel front cabinet, pull out the wires connection on LCD board.
	6	Separate the panel front cabinet.
	7	Turn to the backside of the stand front cabinet, remove two PU foams near the hinge, and remove the screws on hinge and bush hinge
 <p>Panel back cabinet</p> <p>Stand front cabinet</p>	8	Separate the wires and hinge, then will get the panel back cabinet

4.0 MECHANICAL INSTRUCTION

B) Separate the parts inside panel front cabinet



9

Remove the screws and separate all parts.

C) Separate the parts inside panel back cabinet



10

Remove the Key board from the panel back cabinet



11

4.0 MECHANICAL INSTRUCTION

D) Separate the parts inside stand front cabinet



12

Remove the screws on the plate metal EMI, and separate them



13

Remove the screws on the speaker bracket ear to separate them from stand front cabinet



14

4.0 MECHANICAL INSTRUCTION

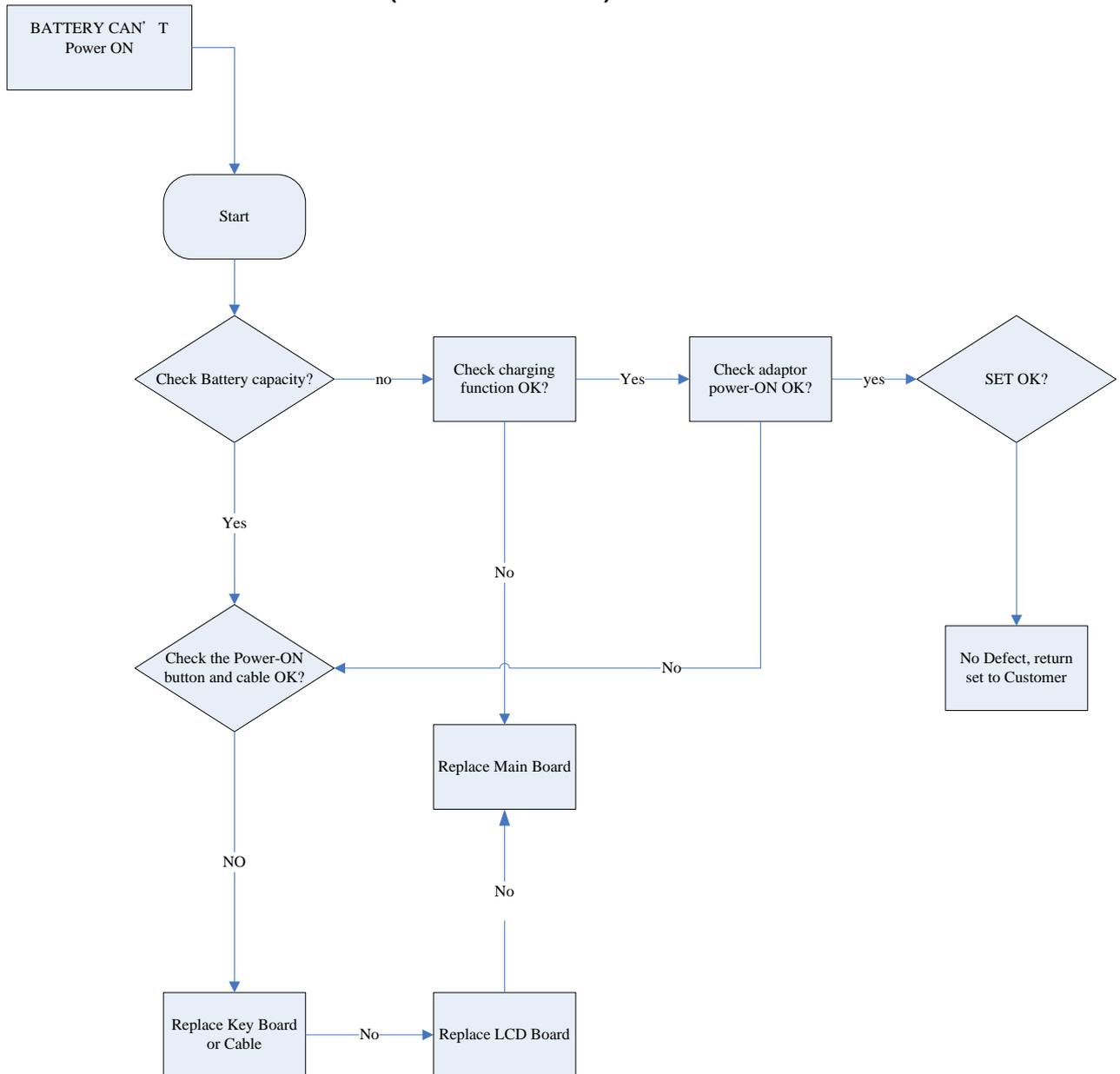
	15	Remove the screws on the IR board to separate it from cabinet
	16	
	17	Carefully remove the battery assy from the cabinet

E) Separate the parts inside stand back cabinet

	18	Remove the screws on main PCBA and tuner PCBA to separate them from stand back cabinet
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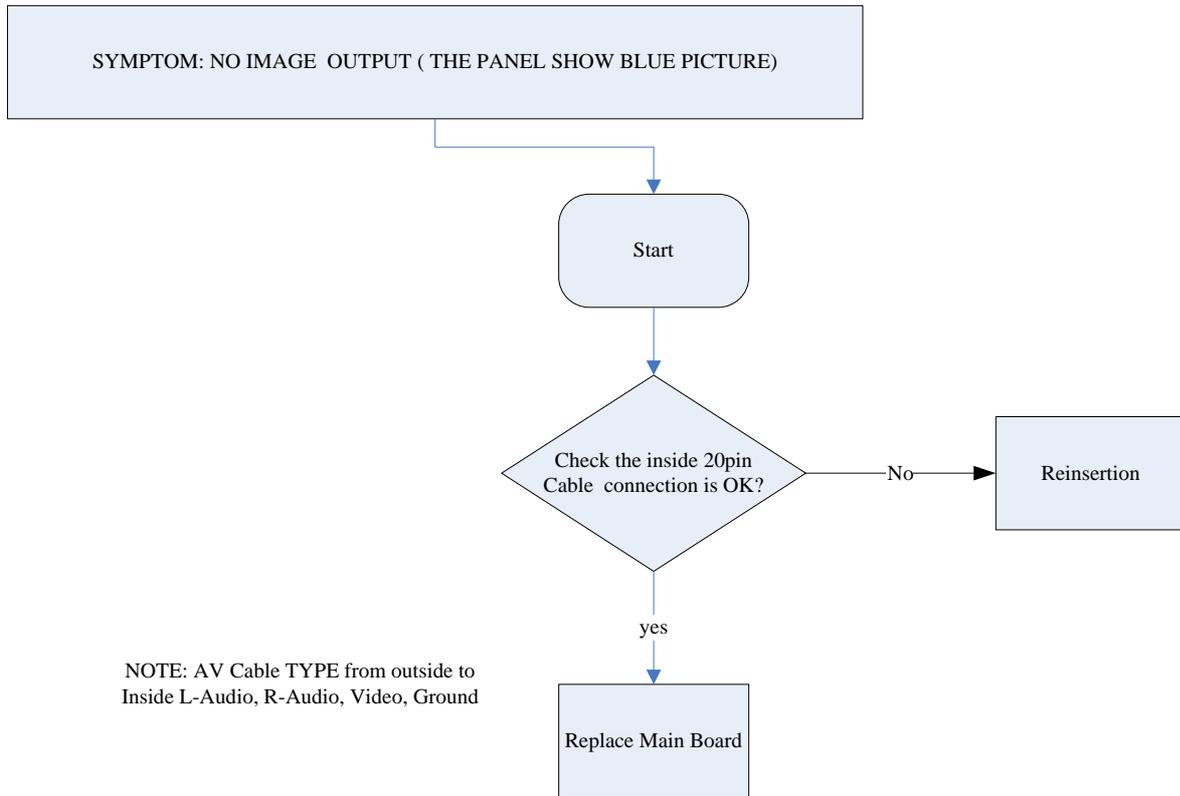
5.0 TROUBLESHOOTING

SYMPTOM: BATTERY NO POWER (CAN'T POWER ON)



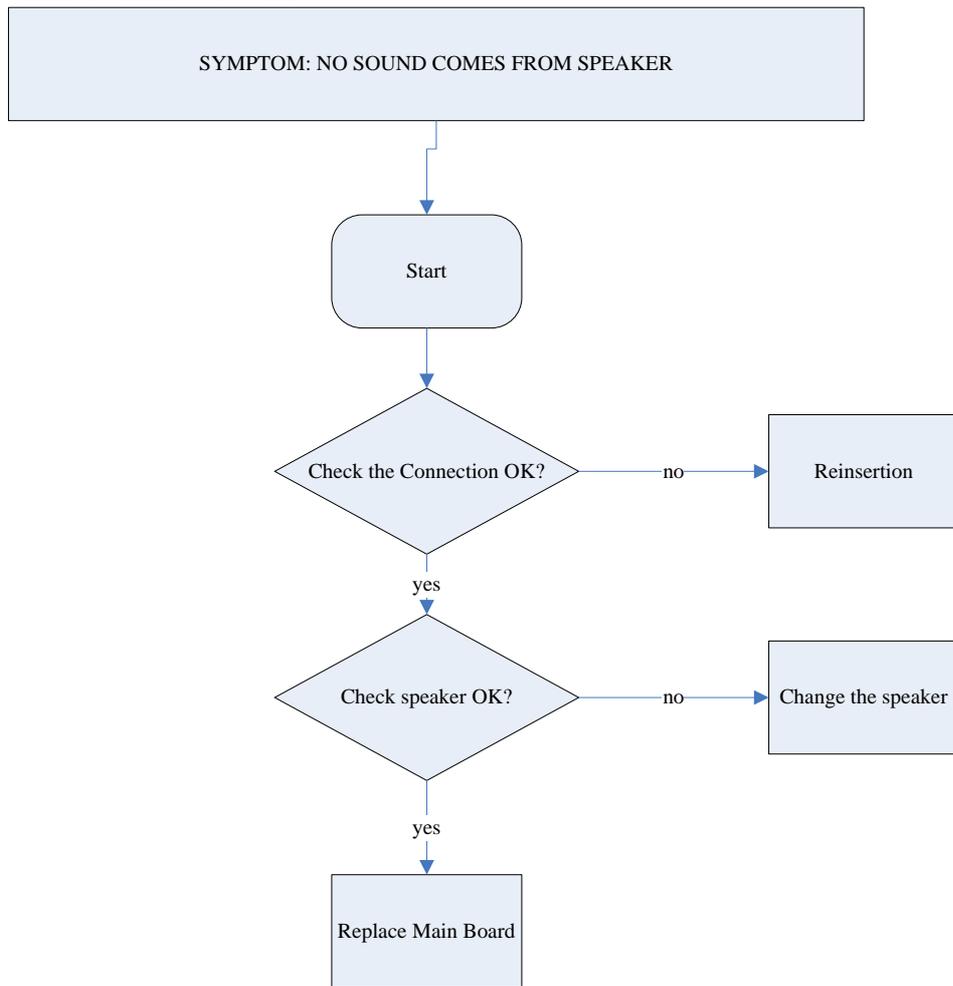
5.0 TROUBLESHOOTING

SYMPTOM: INTERNAL AV-IN NO IMAGE



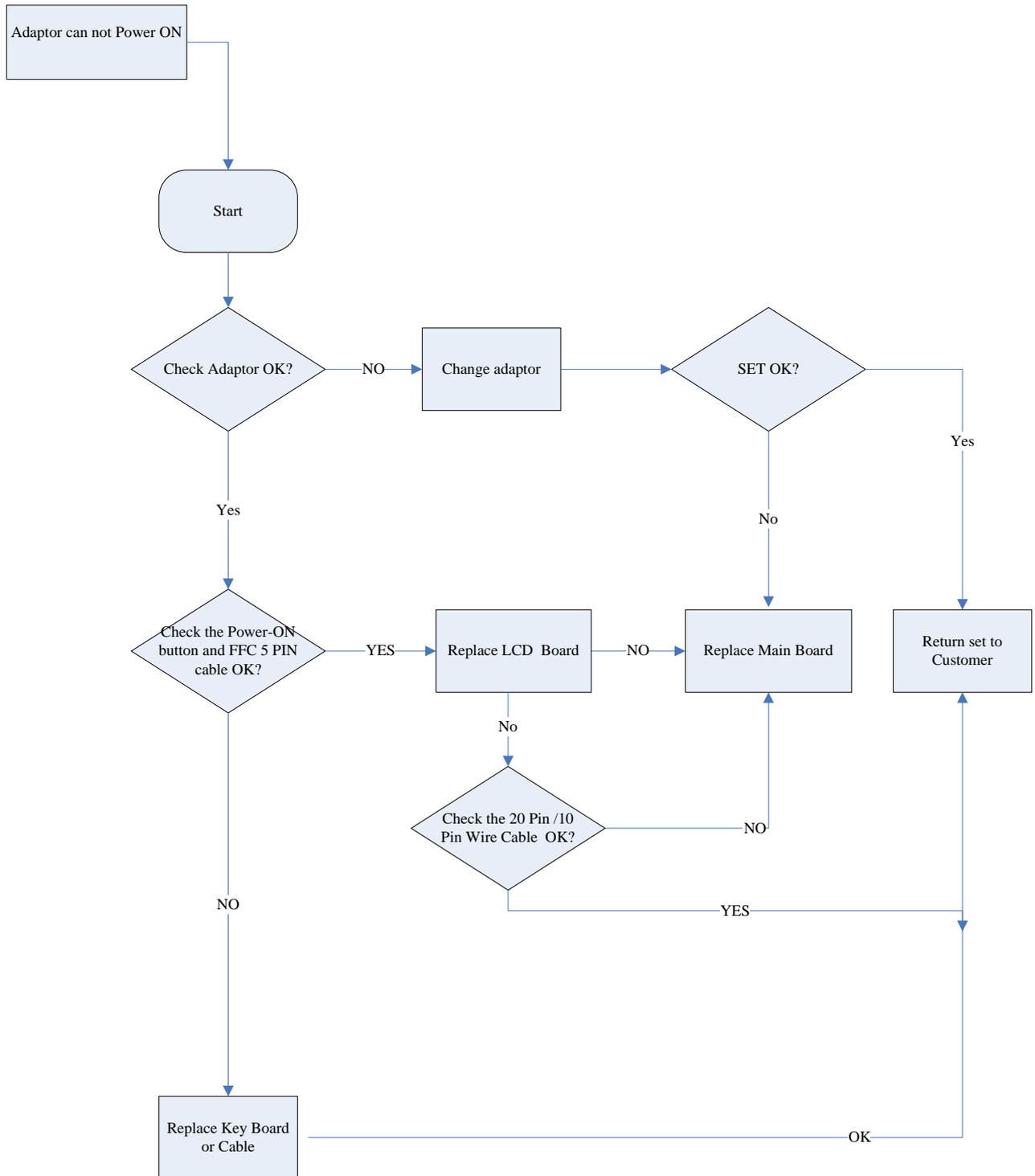
5.0 TROUBLESHOOTING

SYMPTOM: NO SOUND



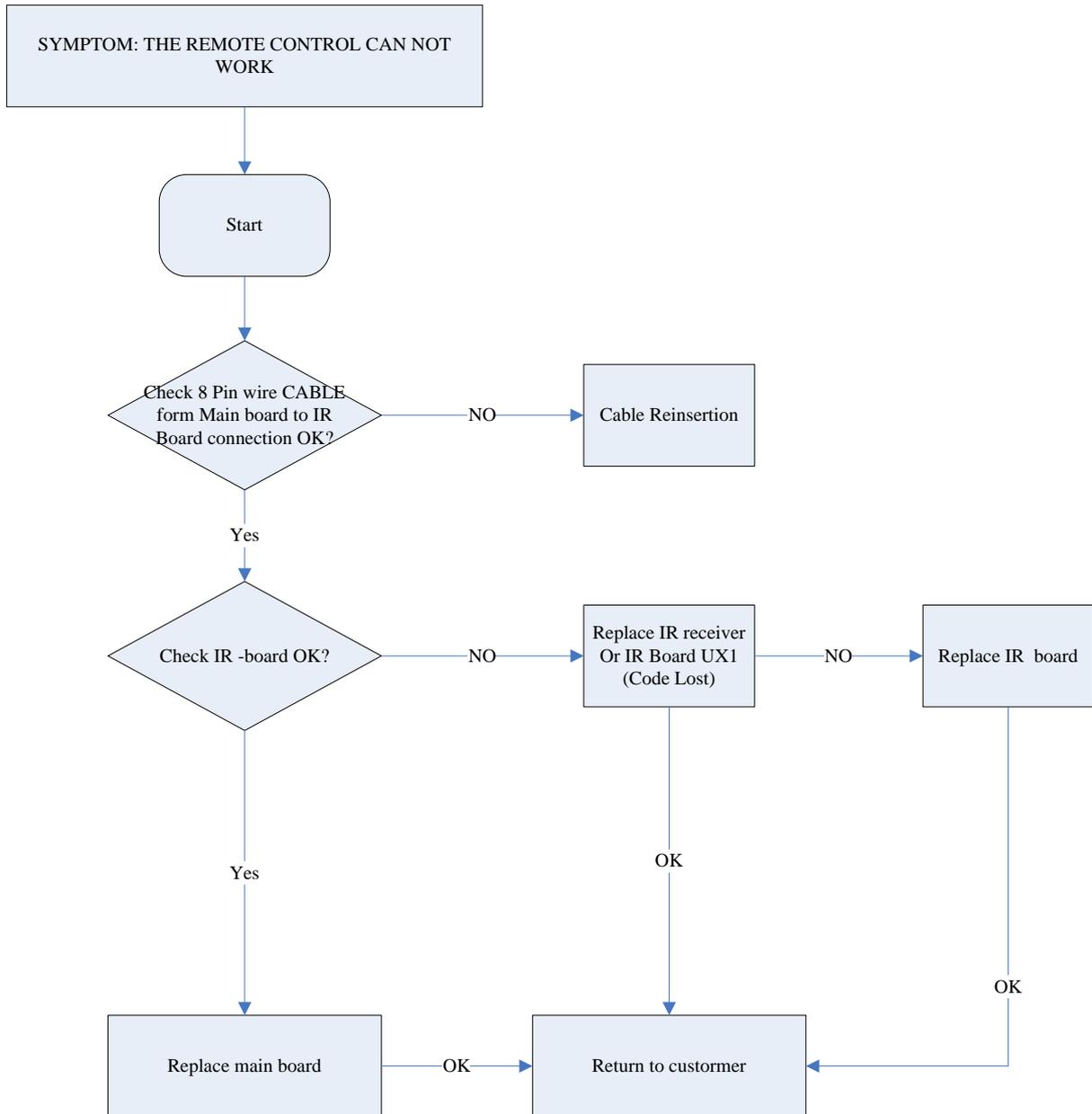
5.0 TROUBLESHOOTING

SYMPTOM: ADAPTOR CANNOT POWER ON



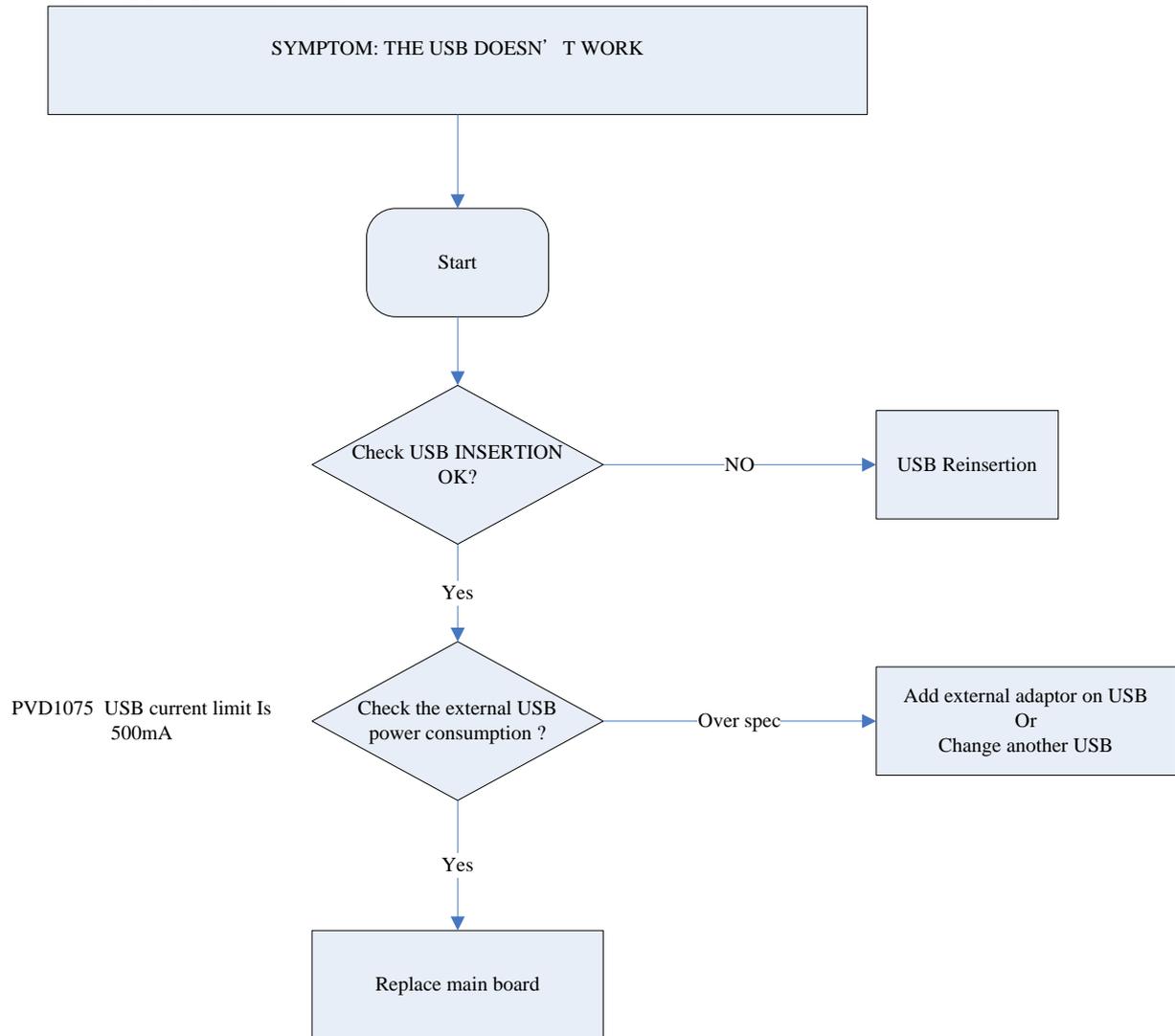
5.0 TROUBLESHOOTING

SYMPTOM: REMOTE CONTROL CANNOT WORK



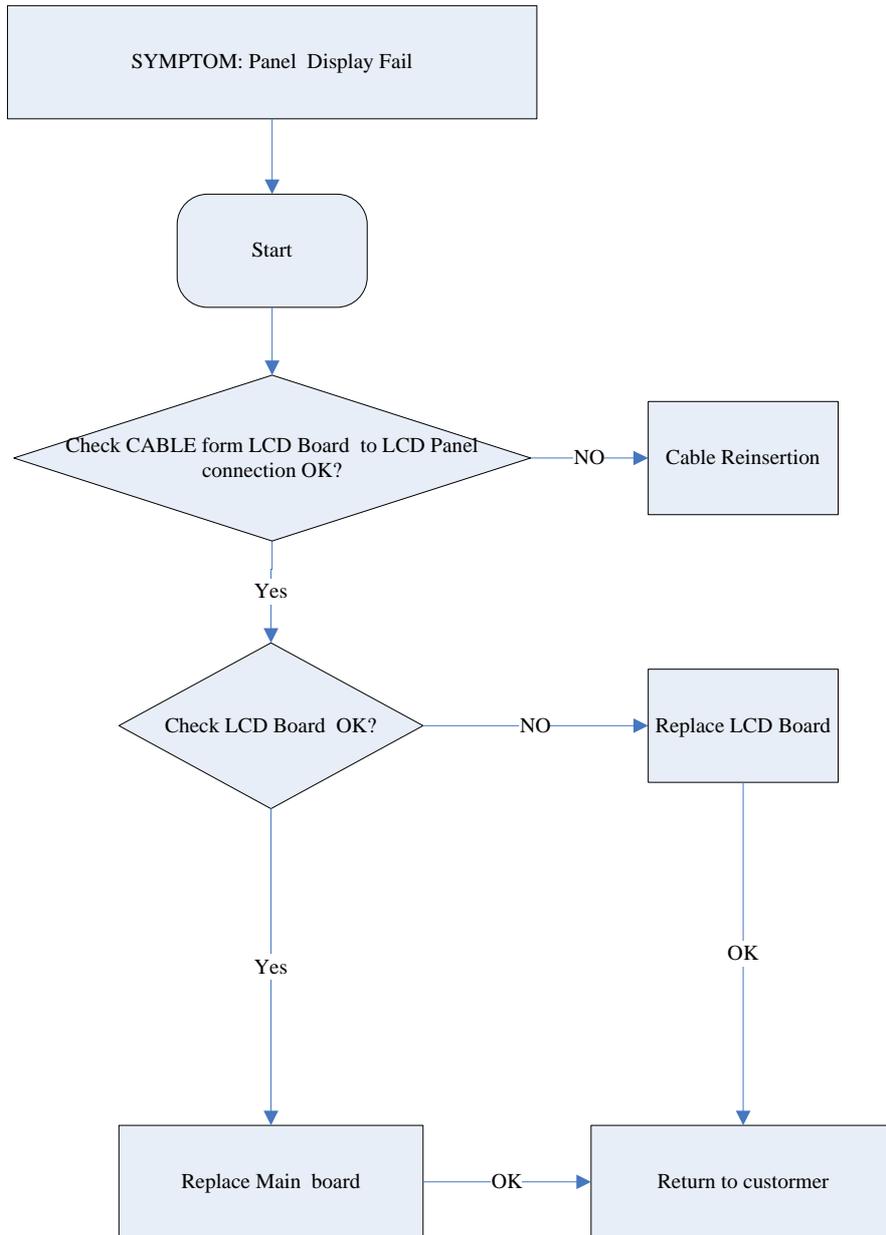
5.0 TROUBLESHOOTING

SYMPTOM: USB CANNOT WORK



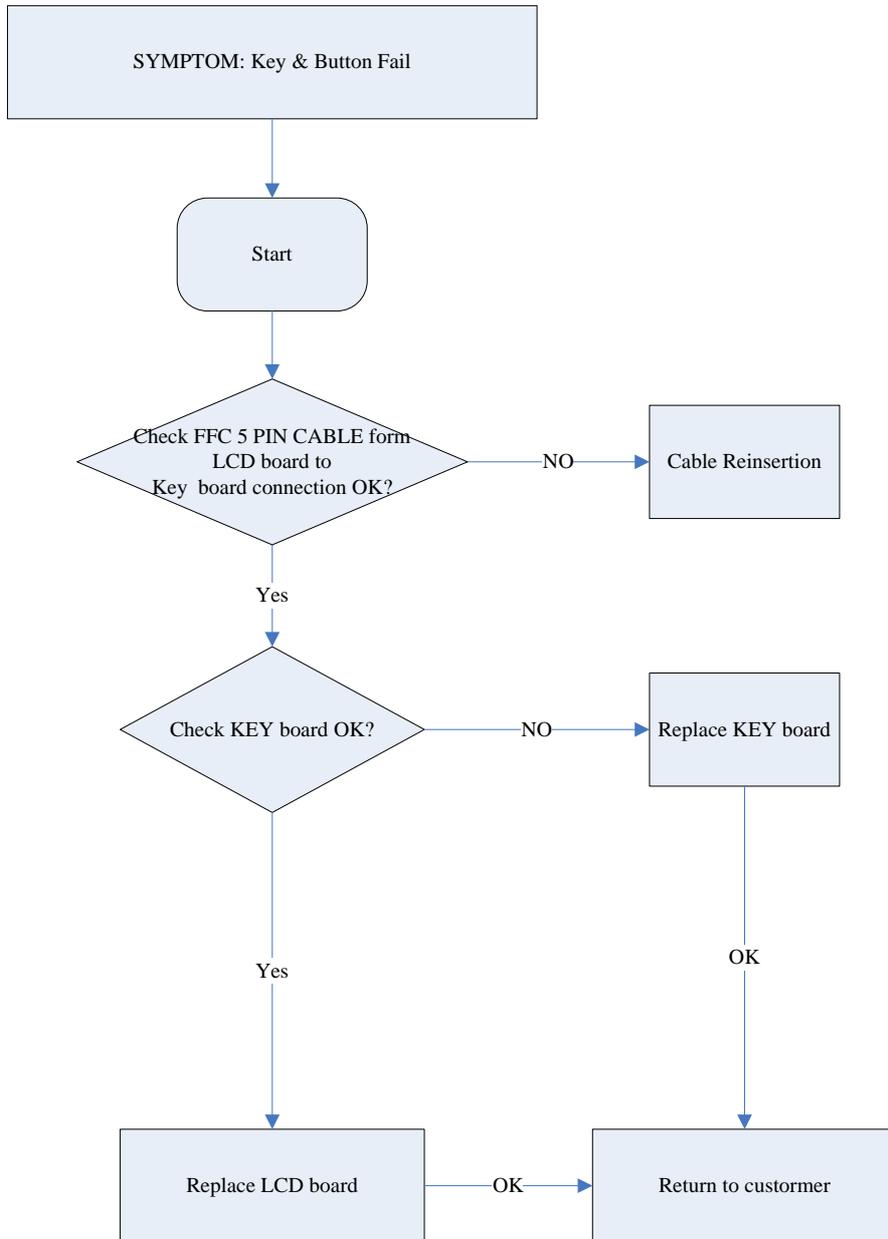
5.0 TROUBLESHOOTING

SYMPTOM: PANEL DISPLAY FAILURE



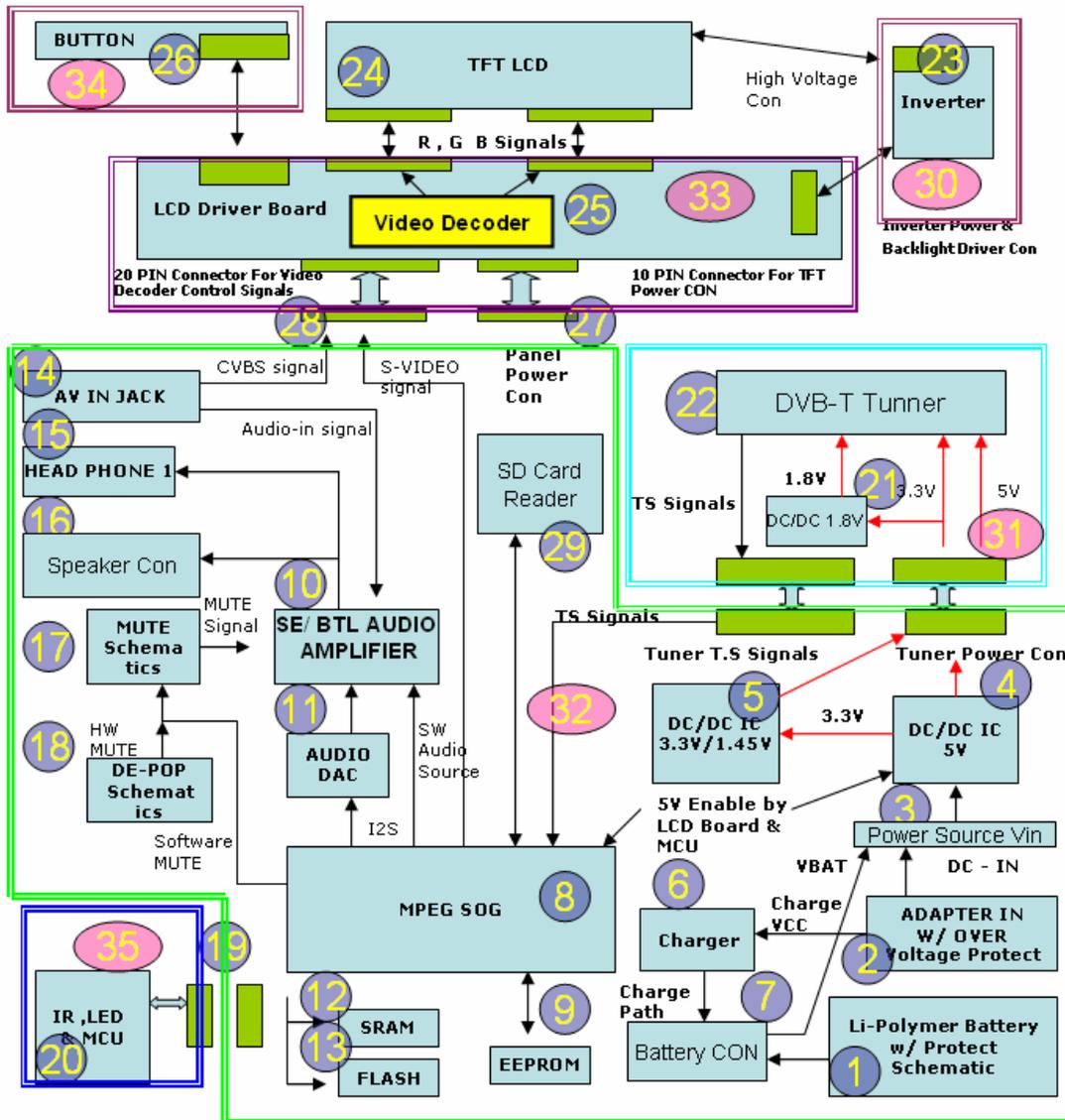
5.0 TROUBLESHOOTING

SYMPTOM: KEY & BUTTON FAILURE



6.0 OVERALL BLOCK DIAGRAM

PVD1075/12



6.0 OVERALL BLOCK DIAGRAM

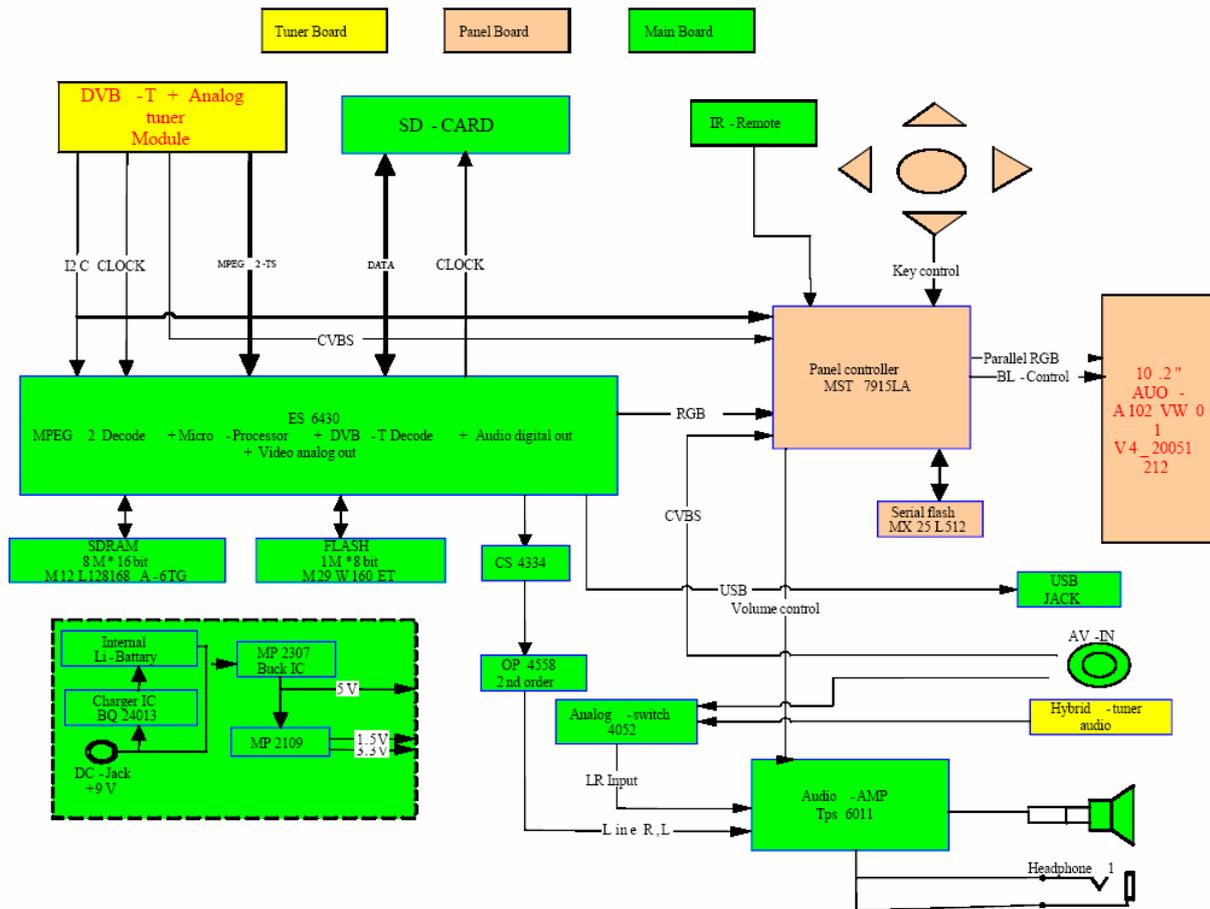
1. Li-Polymer Battery W/ Protect Schematics
 - i. Rechargeable Li Polymer battery adopted
 - ii. Protect Schematics: Over Voltage, Over Current, Under Voltage
2. Adapter In W/ Over Voltage Protect
 - i. 9V/2A Adapter
 - ii. Over voltage protect schematics will cut-off DC power supply if higher than 15 V DC adapter plug in.
3. Power Source Vin
 - i. VIN Power Source
 1. Battery Source 6.7~ 8.4 V
 2. DC- IN 9V
4. DC/DC 5V IC
 - i. Use PWM controller to produce 5V power.
5. DC/DC IC 3.3/1.45V
 - i. Use DC/DC step down IC to produce 3.3V/1.45V
 - ii. 3.3V Provide MPEG SOC , Tuner & VIDEO Decoder
 - iii. 1.45V Provide MPEG SOC
6. Charger
 - i. Li Battery charger IC, CC/CV Two cell (8.4V) charging IC
7. Battery Con
 - i. Connector 3 PIN Connector Battery 3200m A 7.4 V
8. MPEG SOC
 - i. The Digital Media Processor
9. EEPROM
 - i. EEPROM FOR SAVE MENU SETTING DATA
10. SE/BTL Audio Amplifier
 - i. SE(headphone amplifier), BTL(speaker amplifier)
 - ii. Audio Input Function
11. AUDIO DAC
 - i. To transfer I2S digital audio to Analog stereo audio.
12. SDRAM
 - i. High SPEED DATA
13. FLASH
 - i. Save System Firmware Code
14. AV-IN Jack
 - i. VIDEO WILL SHOW ON LCD Panel when the AV Cable Plug in
15. Headphone Jack
 - i. Stereo headphone Jack
16. Speaker CON
 - i. Connector 2W 4Ohm Speaker *2
17. MUTE schematics
 - i. MPEG SOC issue mute while no sound produced

6.0 OVERALL BLOCK DIAGRAM

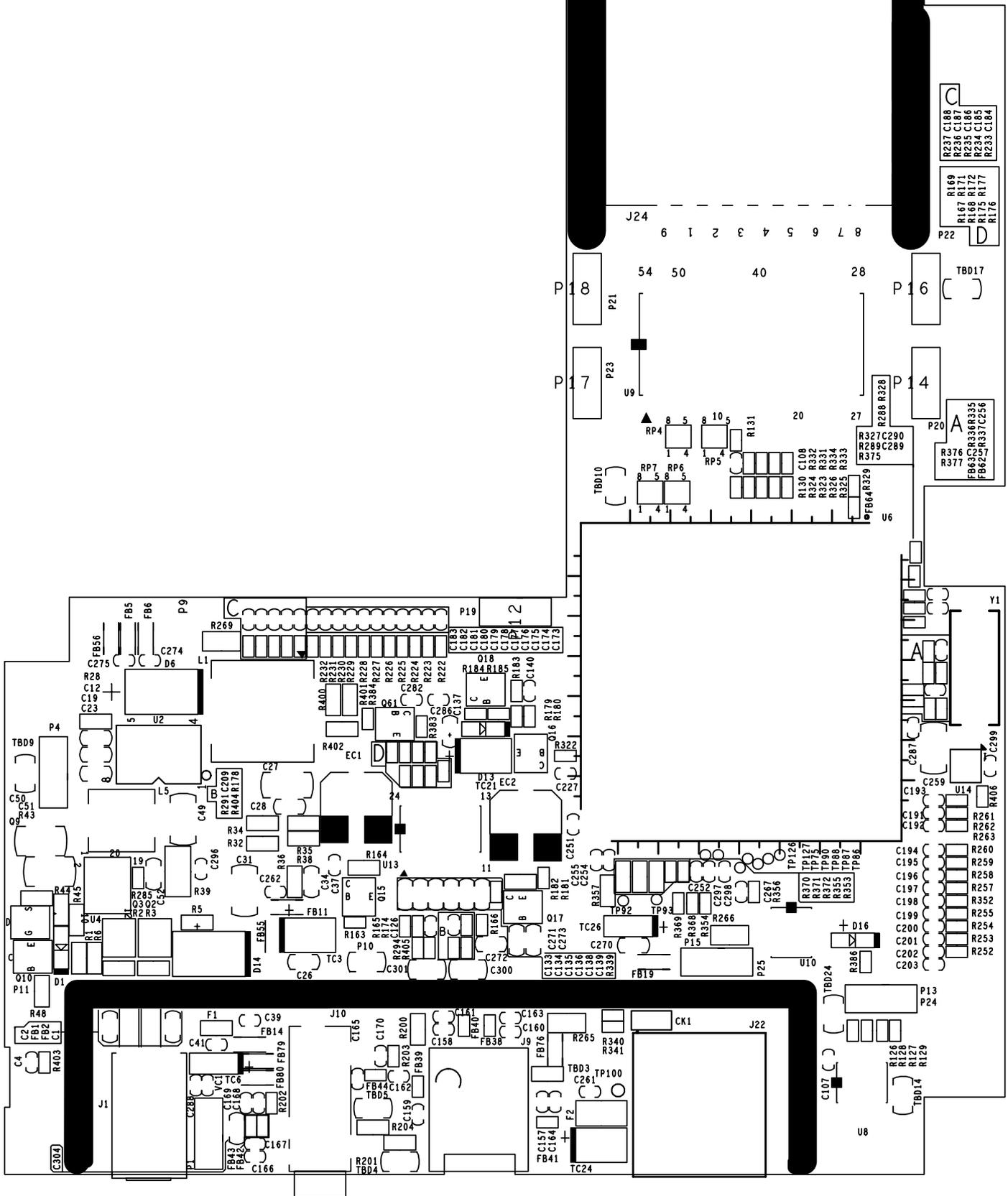
18. DE-POP Schematics
 - i. Power ON/OFF pop noise cancellation schematics.
19. IR CON
 - i. Pin Define as below
5V, IR-FLASH(By SOC) , EX-IR , Charge (LED) , EN-DC/DC 5V , VBAT , GND
20. IR Board Circuit
 - i. 36K IR , MCU (PIC12F675) , TWO LED (RED , GREEN)
21. DC-DC 1.8V
 - i. Use PWM controller to produce 1.8V power. Provide DVB-T Power
22. DVB-T Tuner
 - i. Use 5V, 3V3V ,1.8V . TS Signals
23. INVERTER
 - i. Driver High Voltage Backlight to TFP LCD
24. TFT LCD
 - i. 800*RGB*600 digital interface TFTLCD
25. VIDEO DECODER
 - i. Decoder Video Signal to R G B Signals and Send to TFT LCD
26. Button
 - i. ADC Key Button
27. Panel Power Con
 - i. Power Source VIN-SYS , 5V , 3.3V
28. Panel Signals Con
 - i. VIDEO Signals (CVBS, S-VIDOE) , Volume , 5V D-D EN , IR , I2C, Battery Detect , MPEG SOC Reset , LED FLASH
29. SD Card Reader
 - i. Control by MPEG SOC (GPIO) Data Bus 0~7
30. INVERTER Board
31. Tuner Board
32. Main Board
33. LCD Board
34. BUTTON Board
35. IR Board

6.0 OVERALL BLOCK DIAGRAM

PVD1079/12



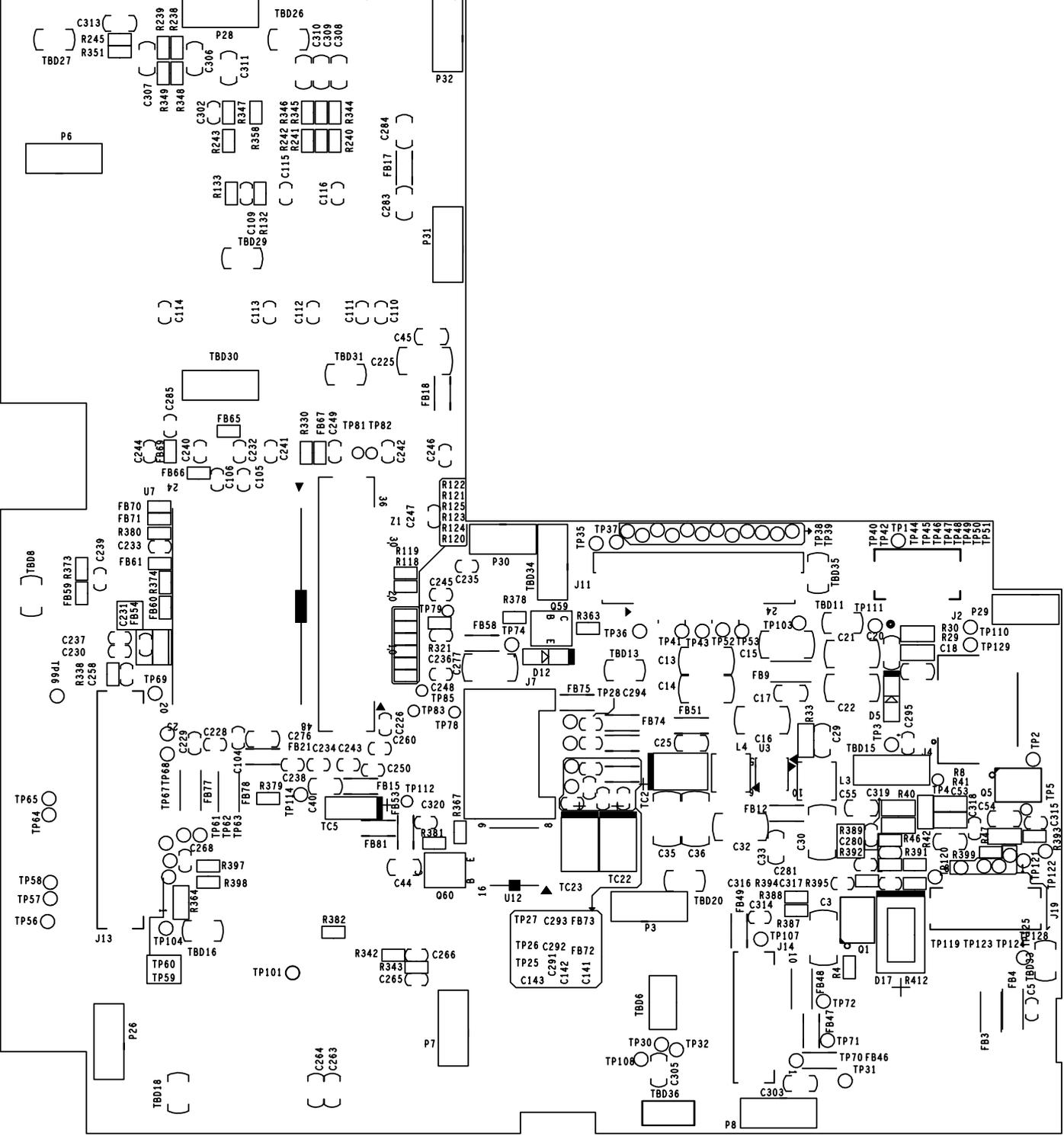
7.0 COMPONENT LAYOUT - MAIN BOARD

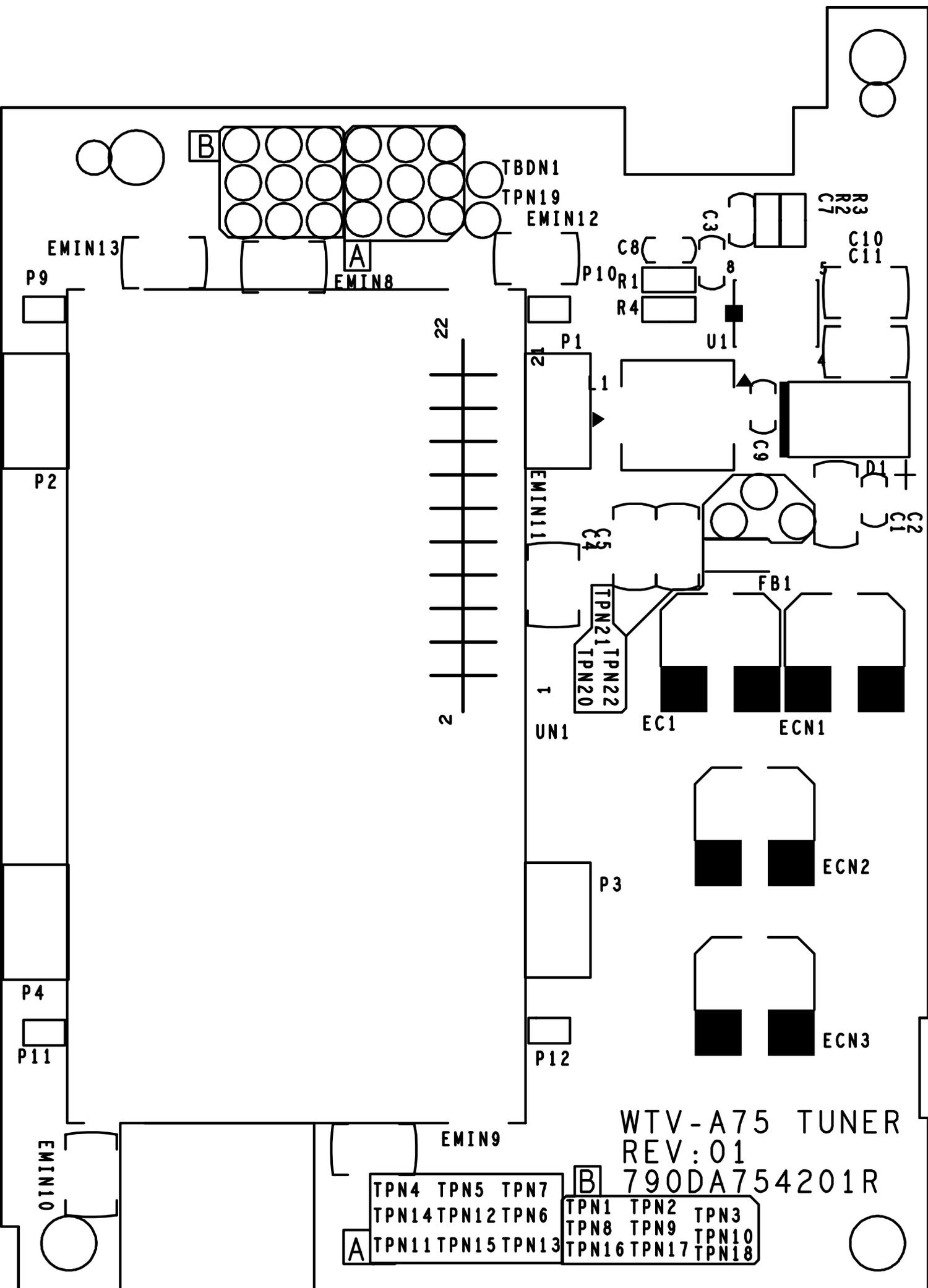


MAIN BOARD - BOTTOM SIDE

790DA754101R PCB

MAIN BOARD, 4L, 127X99(MM)
T: 1.0MM, A75, REV: B0 (ROHS)

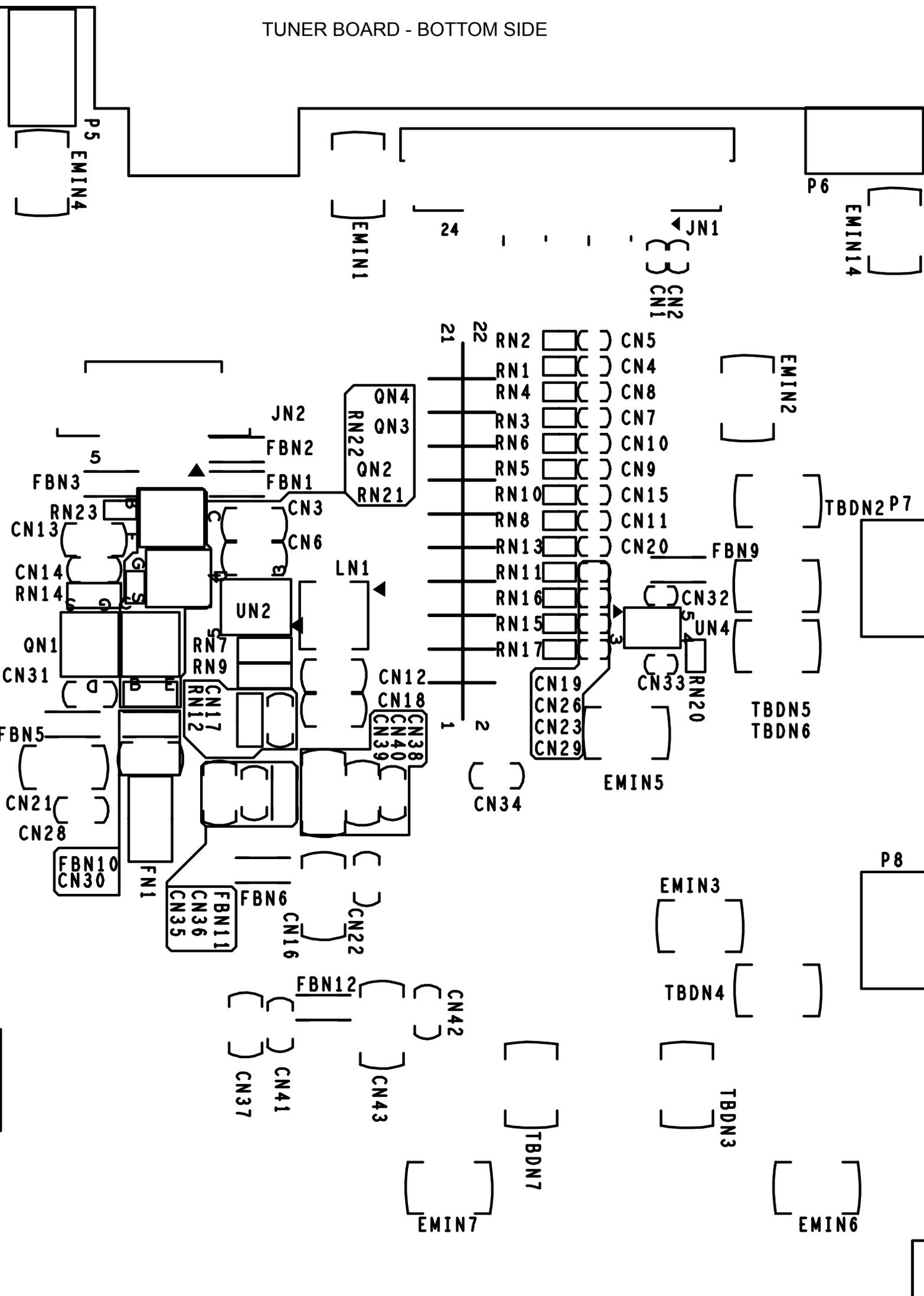




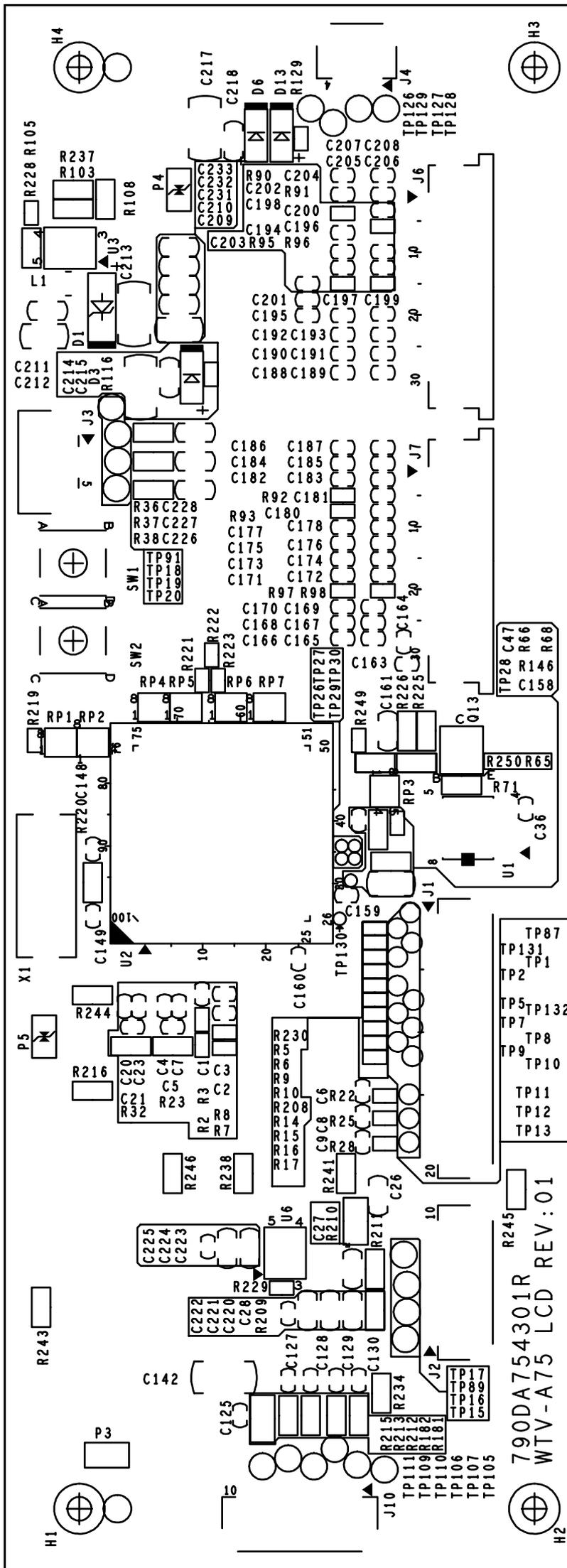
WTV-A75 TUNER
 REV:01
 790DA754201R

A	TPN4	TPN5	TPN7	B	TPN1	TPN2	TPN3
	TPN14	TPN12	TPN6		TPN8	TPN9	TPN10
	TPN11	TPN15	TPN13		TPN16	TPN17	TPN18

TUNER BOARD - BOTTOM SIDE

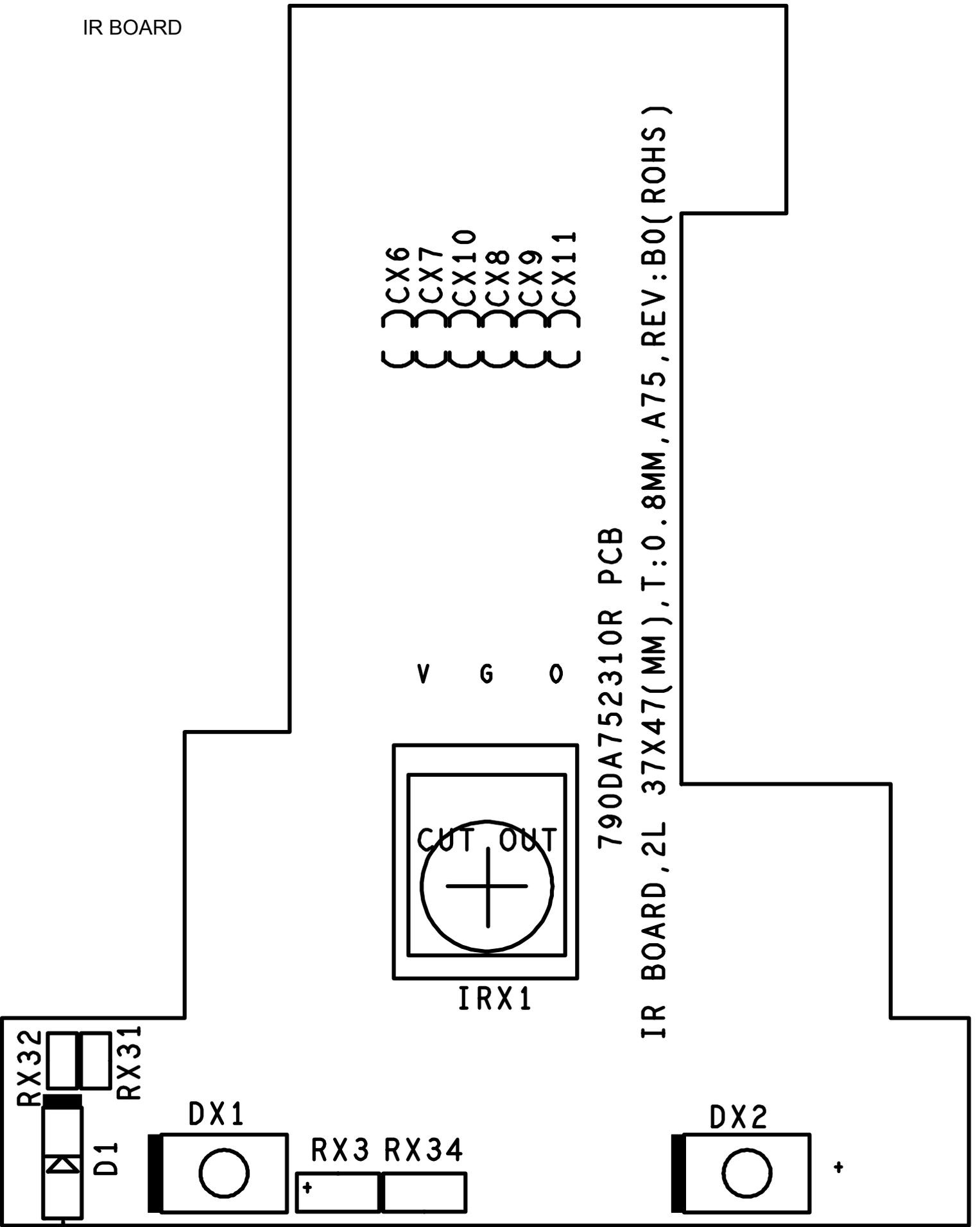


LCD BOARD



790DA754301R
WTV-A75 LCD REV:01
R245

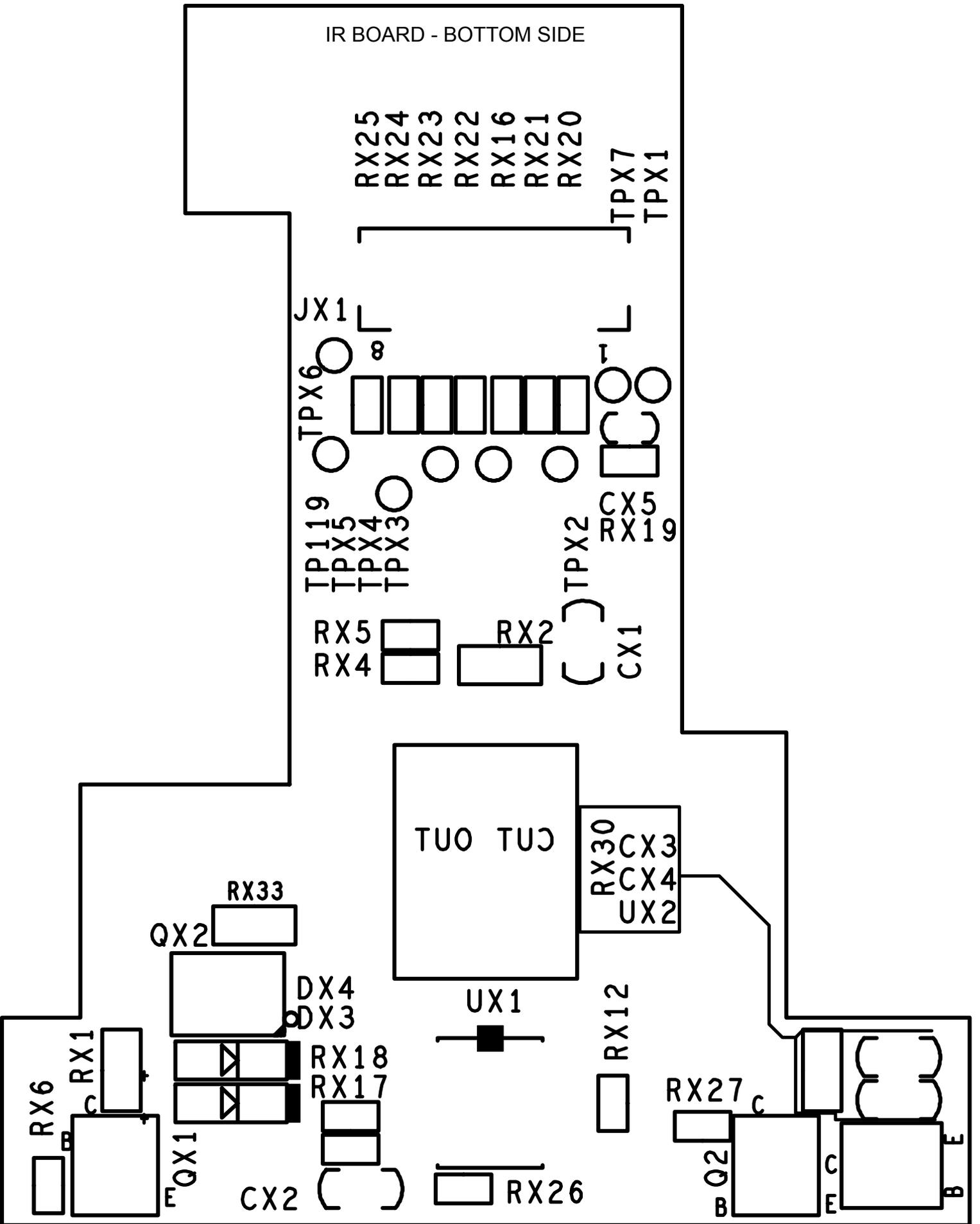
IR BOARD



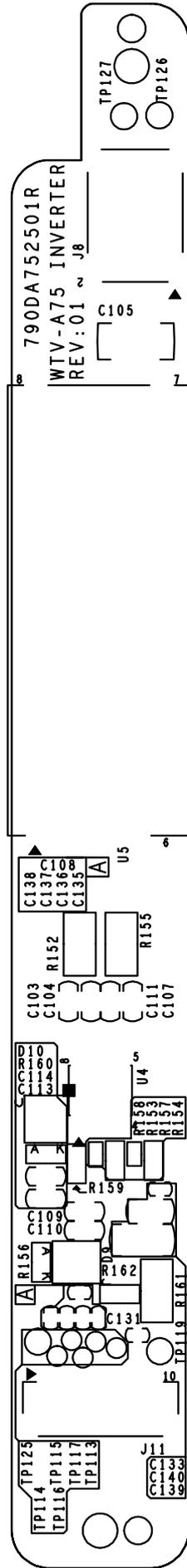
790DA752310R PCB

IR BOARD, 2L 37X47(MM), T: 0.8MM, A75, REV: B0(ROHS)

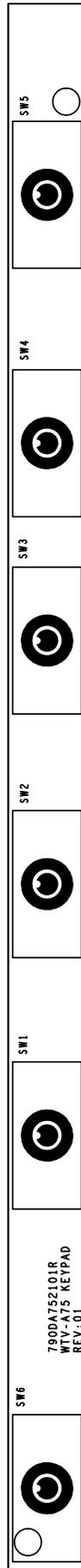
IR BOARD - BOTTOM SIDE



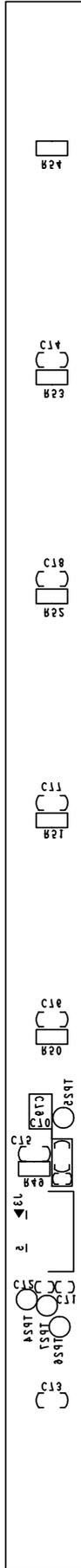
INVERTER BOARD



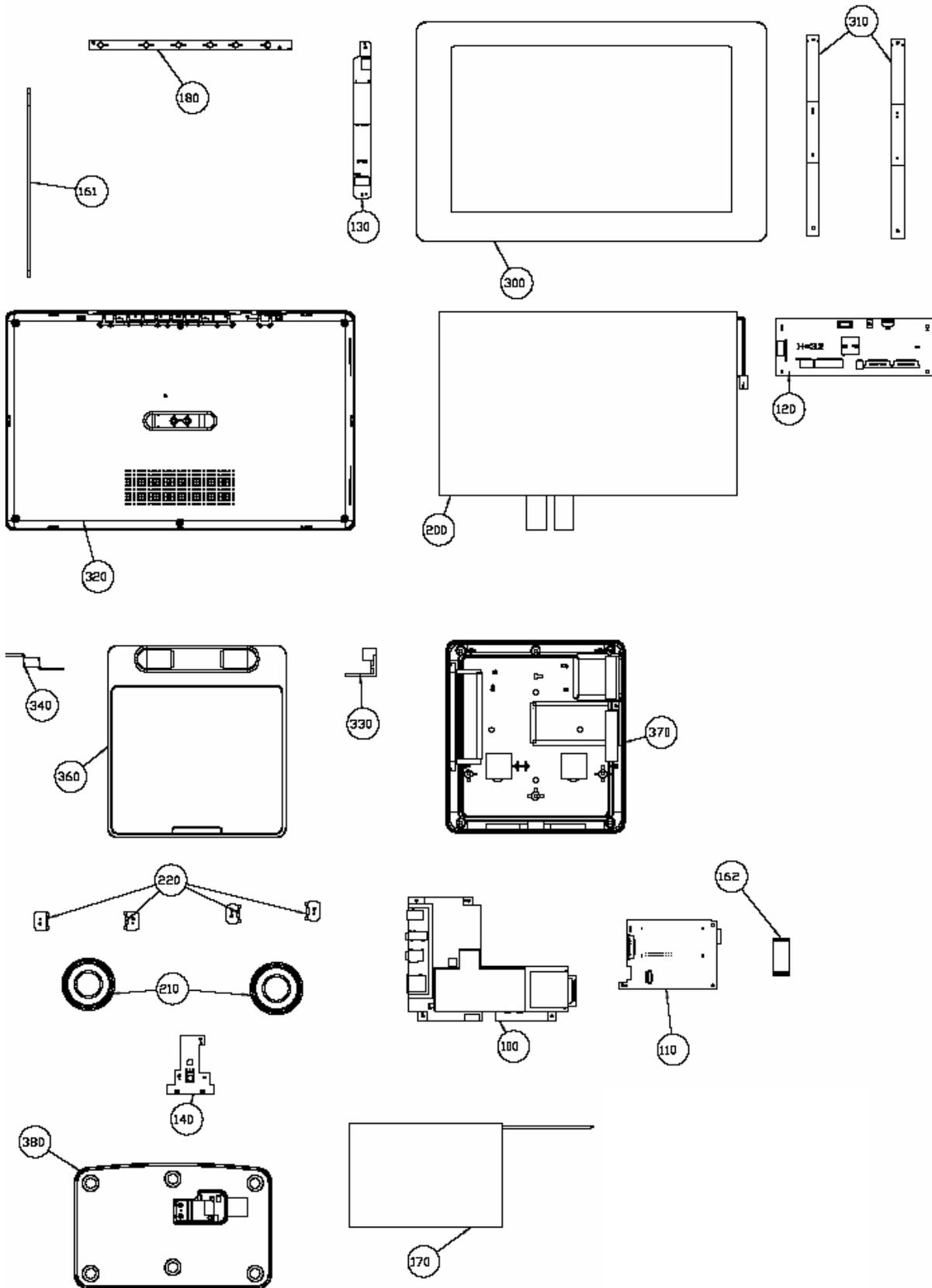
KEY BOARD



KEY BOARD - BOTTOM SIDE



8.0 EXPLODED VIEW DIAGRAM & SERVICE PART LIST



8.0 EXPLODED VIEW DIAGRAM & SERVICE PART LIST

PVD1075/12 Part list

Electrical Part list:

Pos No.	12NC	Description	Remark
100	996510009019	PCB ASSY MAIN BOARD	
110	996510009020	PCB ASSY TUNER BOARD	
120	996510009001	PCB ASSY LCD BOARD	
130	996510009000	PCB ASSY INVERTER BOARD	
140	996510009015	PCB ASSY IR BOARD	
151	996510008995	WIRE, P=1.25, 5P/30MM 28AWG RED	
152	996510008996	WIRE, P=1.0, 10P/100MM 28AWG BLACK	
153	996510008997	WIRE, P=1.0, 8P/115MM 28AWG RED	
154	996510008998	WIRE, P=1.0, 10P/240MM 28AWG RED	
155	996510008999	WIRE, P=1.0, 20P/230MM 30AWG RED	
161	996510009006	FFC BUTTON BOARD – PANEL BOARD	
162	996510009017	FFC, 24PIN P=0.5 L=30	
170	996510009013	BATTERY ASSY	
180	996510009008	PCB ASSY KEY PAD BOARD	

Mechanical Part list:

Pos No.	12NC	Description	Remark
200	996510008992	TFT LCD 10.2" A102VW01 V7, UO	
210	996510009012	SPEAKER	
220	996510009010	SPEAKER BRACKET EAR PVD1075	
300	996510008993	PANEL FRONT CABINET PVD1075	
310	996510008994	PANEL BRACKET PVD1075	
320	996510009007	PANEL BACK CABINET ASSY PVD1075	
330	996510009009	SUBSTITUTE HINGE	
340	996510009011	HINGE	
360	996510009016	STAND FRONT CABINET ASSY	
370	996510009018	STAND BACK CABINET ASSY	
380	996510009021	STAND BASE ASSY	

Accessories Part list:

Pos No.	12NC	Description	Remark
ACA	996510001049	AC ADAPTOR EUROPE	
ANT	996510009003	ANTENNA	
CABLE	996510009005	RCA CABLE	
RC	996510009002	REMOTE CONTROL	

8.0 EXPLODED VIEW DIAGRAM & SERVICE PART LIST

PVD1079/12 Part list

Electrical Part list:

Pos No.	12NC	Description	Remark
100	996510012748	PCB ASSY MAIN BOARD	
110	996510012749	PCB ASSY TUNER BOARD	
120	996510012740	PCB ASSY LCD BOARD	
130	996510012454	PCB ASSY INVERTER BOARD	
140	996510012745	PCB ASSY IR BOARD	
151	996510008995	WIRE, P=1.25, 5P/30MM 28AWG RED	
152	996510008996	WIRE, P=1.0, 10P/100MM 28AWG BLACK	
153	996510012343	WIRE, P=1.0, 8P/115MM 28AWG RED	
154	996510012344	WIRE, P=1.0, 20P/230MM 30AWG RED	
155	996510012345	WIRE, P=1.0, 15P/250MM 30AWG RED	
161	996510009006	FFC BUTTON BOARD – PANEL BOARD	
162	996510009017	FFC, 24PIN P=0.5 L=30	
170	996510009013	BATTERY ASSY	
180	996510012744	PCB ASSY KEY PAD BOARD	

Mechanical Part list:

Pos No.	12NC	Description	Remark
200	996510008992	TFT LCD 10.2" A102VW01 V7, UO	
210	996510009012	SPEAKER	
220	996510009010	SPEAKER BRACKET EAR PVD1075	
300	996510008993	PANEL FRONT CABINET PVD1075	
310	996510008994	PANEL BRACKET PVD1075	
320	996510012743	PANEL BACK CABINET ASSY PVD1079	
330	996510009009	SUBSTITUTE HINGE	
340	996510009011	HINGE	
360	996510012746	STAND FRONT CABINET ASSY	
370	996510012747	STAND BACK CABINET ASSY	
380	996510012750	STAND BASE ASSY	

Accessories Part list:

Pos No.	12NC	Description	Remark
ACA	996510001049	AC ADAPTOR EUROPE	
ANT	996510012741	ANTENNA	
CABLE	996510012742	RCA CABLE	
RC	996510009002	REMOTE CONTROL	

9.0 REVISION LIST

Version 1.0 (3141 785 32200)

- Initial release PVD1075/12

Version 1.1 (3141 785 32201)

- Updated section 1 – technical specification
- Updated section 8 – replace AC adaptor from 996510009004 to 996510001049
- Update service manual to add PVD1079/12