

**15" 19"20"22" LCD COLOR TV
Service Manual****Model No.:****TL15H310B****TL15H511B****TL20S312B****TL20S311B****TL22H615B****TL22H614B****TL19H615B**



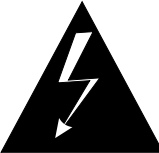

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Safety Notice

Warning

Be sure to read this manual before servicing .To assure safety from fire ,electric shock ,injury ,harmful radiation and materials, various measures are provided in this liquid crystal television/monitor. Be sure to read the cautionary items described in the manual to maintain safety before servicing.

 <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>CAUTION</p> <p>RISK OF ELECTRIC SHOCK DO NOT OPEN</p> </div> 	<p>TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT REMOVE COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</p>
 <p>This symbol indicates "dangerous voltage" inside the product that presents a risk of electric shock or personal injury.</p>	 <p>This symbol indicates important instructions accompanying the product.</p>

Service Warning

- The LCD Panel Module is made of glass. When handling broken LCD Panel Module ,take special care not to be injured.
- Replacement work should only start after the LCD Panel Module and the AC/DC Power Supply has become sufficiently cool.
- Take special care of the LCD display panel and do not damage its surface.
- Do not touch the LCD Panel Module with your bare hands and protect its surface from stains.
- It is recommended to use clean soft gloves during servicing in order to protect the LCD display panel and the

Specifications

LCD Panel		
Size	15" Diagonal	19" Diagonal
Display size	304.1(H) X 228.1(V) mm	408.24(H) X 255.15(V) mm
Pixel Pitch	0.297(H) X 0.297 (V) mm	0.2835(H) X 0.2835 (V) mm
View Angle	140°/110°(H/V)	160 °/160°(H/V)
Frequency		
Horizontal	30~75KHz	30~80KHz
Vertical	56~75Hz	56~75Hz
Display color	0.262M colors	16.77M colors
Display Resolution		
Optimum Mode	1024 X 768 @ 60Hz	1024 X 768 @ 60Hz
Maximum Mode	1024 X 768@ 75Hz	1280 X 1024 @ 75Hz
Input Source		
Sync.	H/V separate, TTL, P. or N.	H/V separate, TTL, P. or N.
Video Signal	1Vp-p @ 75 ohm	1Vp-p @ 75 ohm
RGB Signal	0.7 Vp-p @ 75 ohm	0.7 Vp-p @ 75 ohm
TV		
Color System	PAL/SECAM	PAL/SECAM
Sound System	BG, DK, I	BG, DK, I
Video		
Color System	PAL/SECAM/NTSC	PAL/SECAM/NTSC
Video Format	CVBS, S-VHS, RGB	CVBS, S-VHS, RGB
Power Supply		
Input	AC 100~240V, 50/60Hz	AC 100~240V, 50/60Hz
Power Consumption		
Working	45W	60W
Standby	≤ 3W	≤ 3W
Environmental Considerations		
Operating Temperature	10℃ ~ 40 ℃(50°F ~ 104°F)	10℃ ~ 40 ℃(50°F ~ 104°F)
Operating Humidity	10% ~ 80%	10% ~ 80%
Audio Characteristics		
Audio Input	RCA Jack (L, R), 0.5Vrms (-9dB)	RCA Jack (L, R), 0.5Vrms (-9dB)
Audio Input (PC)	∅ 3.5 Stereo Jack, 0.5Vrms (-9dB)	∅ 3.5 Stereo Jack, 0.5Vrms (-9dB)
Frequency	RF: 100Hz~12KHz (at ± 3dB)	RF: 100Hz~12KHz (at ± 3dB)
Response	A/V: 100Hz~13KHz (at ± 3dB)	A/V: 100Hz~13KHz (at ± 3dB)

Note:

- Design and specifications are subject to change without notice.
- Weight and dimensions shown are approximate values only.

Specifications

LCD Panel		
Size	20" Diagonal	22" Diagonal
Display size	408(H) X 306(V) mm	473.76(H) X 296.1(V) mm
Pixel Pitch	0.51(H) X 0.51 (V) mm	0.282(H) X 0.282 (V) mm
View Angle	130°/110°(H/V)	150 °/140°(H/V)
Frequency		
Horizontal	30~75KHz	30~80KHz
Vertical	56~75Hz	56~75Hz
Display color	16.7M colors	16.7M colors
Display Resolution		
Optimum Mode	800 X 600 @ 60Hz	1024 X 768 @ 60Hz
Maximum Mode	800 X 600@ 75Hz	1280 X 1024 @ 75Hz
Input Source		
Sync.	H/V separate, TTL, P. or N.	H/V separate, TTL, P. or N.
Video Signal	1Vp-p @ 75 ohm	1Vp-p @ 75 ohm
RGB Signal	0.7 Vp-p @ 75 ohm	0.7 Vp-p @ 75 ohm
TV		
Color System	PAL/SECAM	PAL/SECAM
Sound System	BG, DK, I	BG, DK, I
Video		
Color System	PAL/SECAM/NTSC	PAL/SECAM/NTSC
Video Format	CVBS, S-VHS, RGB	CVBS, S-VHS, RGB
Power Supply		
Input	AC 100~240V, 50/60Hz	AC 100~240V, 50/60Hz
Power Consumption		
Working	60W	70W
Standby	≤ 3W	≤ 3W
Environmental Considerations		
Operating Temperature	10℃ ~ 40 ℃(50°F ~ 104°F)	10℃ ~ 40 ℃(50°F ~ 104°F)
Operating Humidity	10% ~ 80%	10% ~ 80%
Audio Characteristics		
Audio Input	RCA Jack (L, R), 0.5Vrms (-9dB)	RCA Jack (L, R), 0.5Vrms (-9dB)
Audio Input (PC)	∅ 3.5 Stereo Jack, 0.5Vrms (-9dB)	∅ 3.5 Stereo Jack, 0.5Vrms (-9dB)
Frequency	RF: 100Hz~12KHz (at ± 3dB)	RF: 100Hz~12KHz (at ± 3dB)
Response	A/V: 100Hz~13KHz (at ± 3dB)	A/V: 100Hz~13KHz (at ± 3dB)

Note:

- Design and specifications are subject to change without notice.
- Weight and dimensions shown are approximate values only.

Supported Operating Modes

PC input mode				
Mode	Resolution	Horizontal Frequency(KHz)	Vertical Frequency(Hz)	Remark
VGA	640X480	37.5	75	15"&19"&20"&22"
VGA	640X480	37.9	72	
VGA	640X480	31.5	60	
SVGA	800X600	46.9	75	
SVGA	800X600	47.2	72	
SVGA	800X600	37.9	60	
XGA	1024X768	60.0	75	15"&19"&22"
XGA	1024X768	56.5	70	
XGA	1024X768	48.4	60	
SXGA	1280X1024	80.0	75	19"&22"
SXGA	1280X1024	63.5	60	

Notes:

- Modes, which are not listed in the above table, may not be supported. For an optimal picture it is recommended to choose a mode listed in the table.
- There are 10 types of incoming display modes compatible with Windows as shown in the table above.
- Sometimes, the image may be disrupted due to the frequency standard from the VGA card. However, this is not an error. You may improve this situation by activating the automatic adjustment or by manually changing the phase and the clock settings in the menu.
- To extend the service life of the product, we recommend that you use your computer's power management function.

Location and Function of Controls

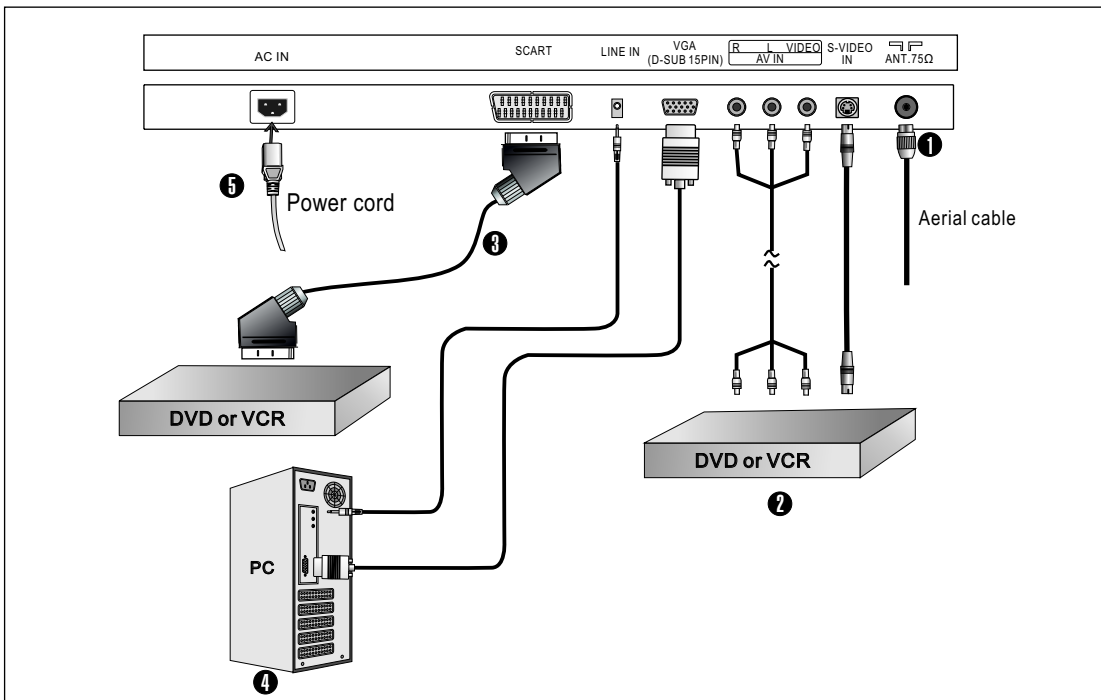
This TFT-LCD TV/monitor allows you to easily adjust the characteristics of the image being displayed. While you use these buttons to adjust the controls, the OSD (on-screen-display) will show you their numeric values as they change.

Button Name	Description
STANDBY/⏻	Switch on the LCD TV/monitor when at standby mode and vice versa.
CH▲	When you watch the TV program, push this button to increase channel number. In the main-menu, push this button to select the upward menu item.
CH▼	When you watch the TV program, push this button to decrease channel number. In the main-menu, push this button to select the downward menu item.
VOL+	Increase/adjust the values of the selected menu item, or increase the level of audio volume.
VOL-	Decrease/adjust the values of the selected menu item, or decrease the level of audio volume.
MENU	Enter or exit from the menu.
INPUT	Select TV, AV, SCART, PC-RGB or S-VIDEO mode.
POWER INDICATOR	Illuminates red in standby mode. Illuminates green when the LCD TV is switched on.
REMOTE SENSOR	Infrared sensor for the remote controller.
AC CORD	Plug the AC cord into a wall outlet after you connected all equipment.

Note:

If no signal inputs for 15 minutes, the unit will switch to standby mode automatically.

CONTROL BUTTONS AND TERMINALS



Whenever you connect external device to your LCD TV, ensure that all elements are switched off.

① Connecting the Aerial cable

Connect a 75Ω aerial cable to the RF input socket on the rear of the LCD TV firmly. To view television channel correctly, a signal must be received by the set.

② Connecting to composite or S-VIDEO terminal

Connect a composite video cable or S-Video cable to an appropriate external AV device such as VCR or DVD.

Connect a RCA audio cable to “L”, “R” terminals on the rear of the LCD TV and the other end to corresponding audio out on the device.

③ Connecting to a SCART connector

Connect a SCART cable to SCART connector on the rear of LCD TV and AV device.

④ Connecting computer

Connect a VGA cable to the VGA input (D-SUB 15PIN) on the rear of the LCD TV and VGA output of your computer.

Connect the “LINE IN” terminal to the computer by a stereo audio cable.

⑤ Connecting the power cord (for TL15H310B and TL20S312B only)

Connect the power cord to the AC input socket on the rear of the LCD TV, then plug the other end of the power cord into a correctly wall outlet.

Precautions when connecting to other equipment

1. When using external equipment with this LCD TV/monitor, please read the instruction manual of the external device.
2. Always ensure that the input and output terminals are correctly connected.

Disassembly the Framework(1)

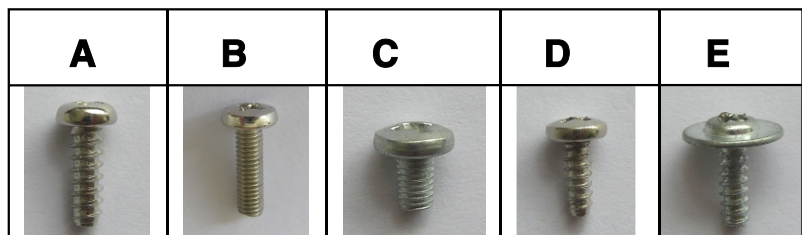
Please follow the following steps to disassemble the unit :

Warning:

All material parts and screws must be installed on its corresponding position correctly ,otherwise it may cause damage.
All the connection cable must be disconnected otherwise it may cause damage.

Warning :

Disassemble the unit only should be handled by qualified service personnel !
Assembly and disassembly must be noted to protect cabinet to avoid scratch and damage.



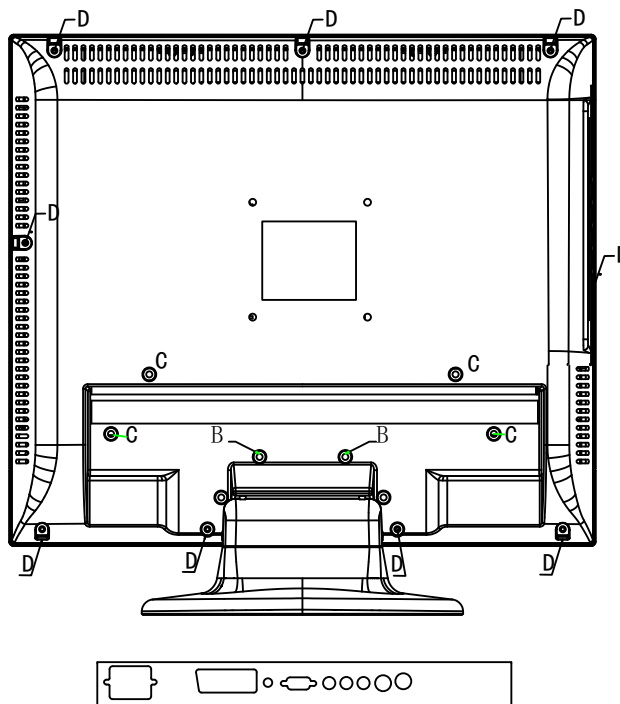
1、 TL15H310B

Disassemble the Cabinet Front and LCD Panel:

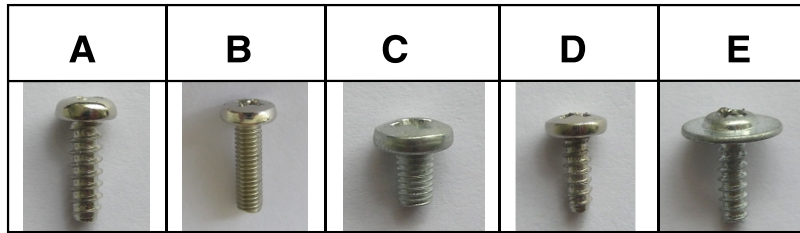
- 1.1、 Unfasten the 2 screws B (BM4×10) , take out the stand from the TV.
- 1.2、 Unfasten the 9 screws D (BST3×10) ,4 screws C (BM3X6) ,take out the rear cabinet .

Warning :

When remove the stand bracket, please be careful of the LCD panel should not be contacted any edge and firm or corrosive object, they may case scratch and damage.



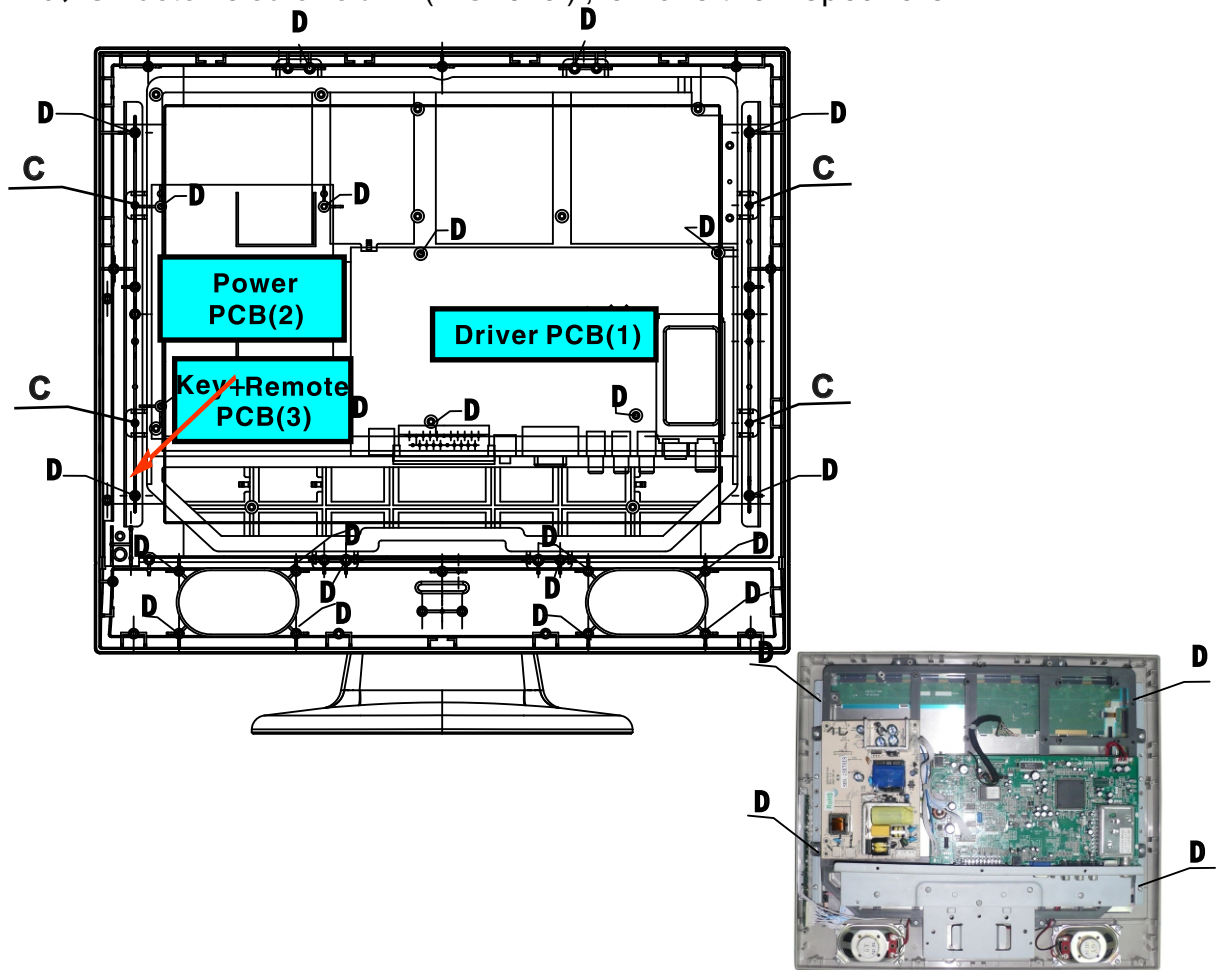
Disassembly the Framework(1)



2、 TL15H310B

Disassemble PCB assembly and Front cabinet:

- 2.1、 Uninstall the Connection cable with Drive PCB1、 Power PCB2、 Key PCB3、 Remote PCB;
- 2.2、 Unfasten 4 Screws of D (BST3×10), and take out the Drive PCB1 ;
- 2.3、 Unfasten 4 screws of D (BST3×10) and take out the Power PCB2;
- 2.4、 Unfasten 4 screws of D (BST3×10) and 4 screws of C (BM3X6) take out the PCB Bracket
- 2.5、 Unfasten 4 screws of D (BST3×10), of the fixed slat ,remove the LCD PANEL
- 2.6、 Unfasten 8 screws of D (BST3×8), remove the 2 speakers.



Warning : When Disassemble the Drive PCB and Power PCB , please be careful of avoiding the connector pins to be flexed.

Disassembly the Framework(2)

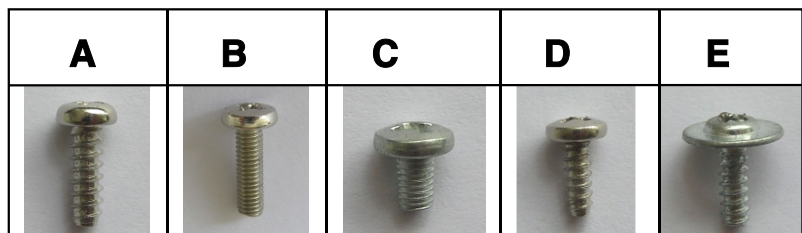
Please follow the following steps to disassemble the unit :

Warning:

All material parts and screws must be installed on its corresponding position correctly ,otherwise it may cause damage.
All the connection cable must be disconnected otherwise it may cause damage.

Warning :

Disassemble the unit only should be handled by qualified service personnel !
Assembly and disassembly must be noted to protect cabinet to avoid scratch and damage.



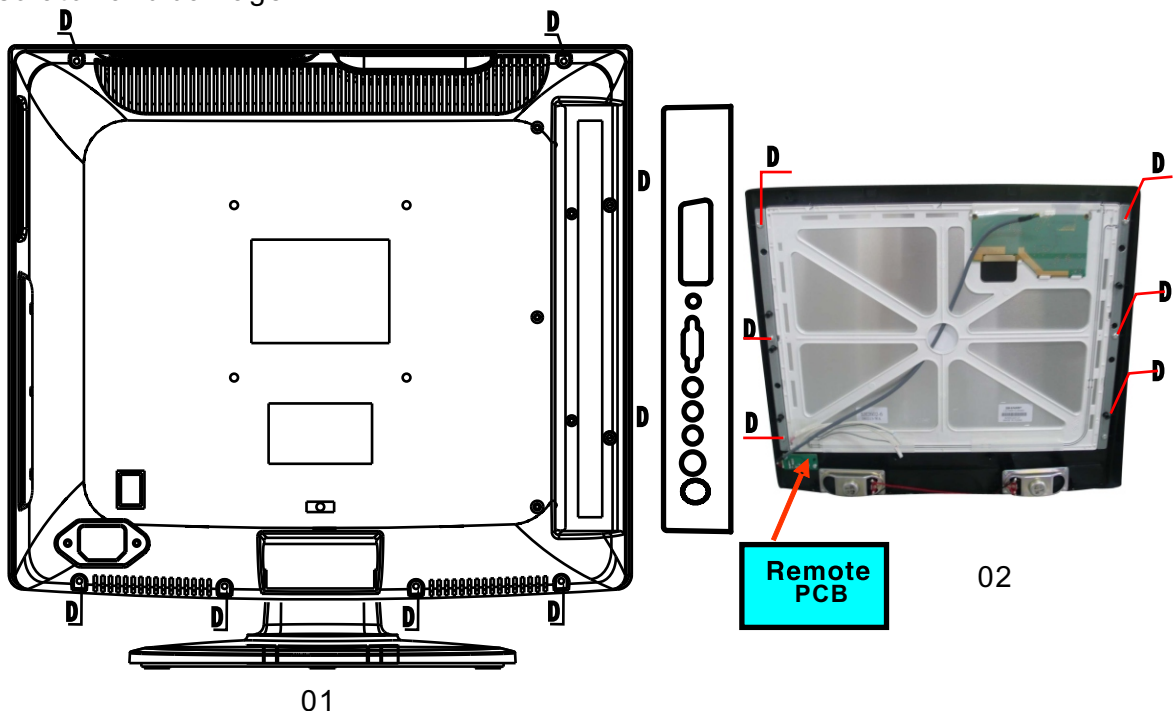
1、 TL15H511B

Disassemble the Cabinet Front and LCD Panel:

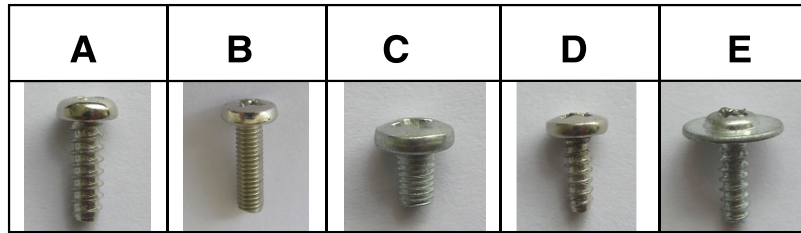
- 1.1、 Unfasten the 8 screws D (BST3×10) ,uninstalling the Cabinet Front(Picture01)
- 1.2、 Unfasten the 6 screws D (BST3×10)of the fixed slat and Panel (Picture02),
Remove the LCD Panel.

Warning :

When remove the stand bracket, please be careful of the LCD panel should not be contacted any edge and firm or corrosive object, they may case scratch and damage.



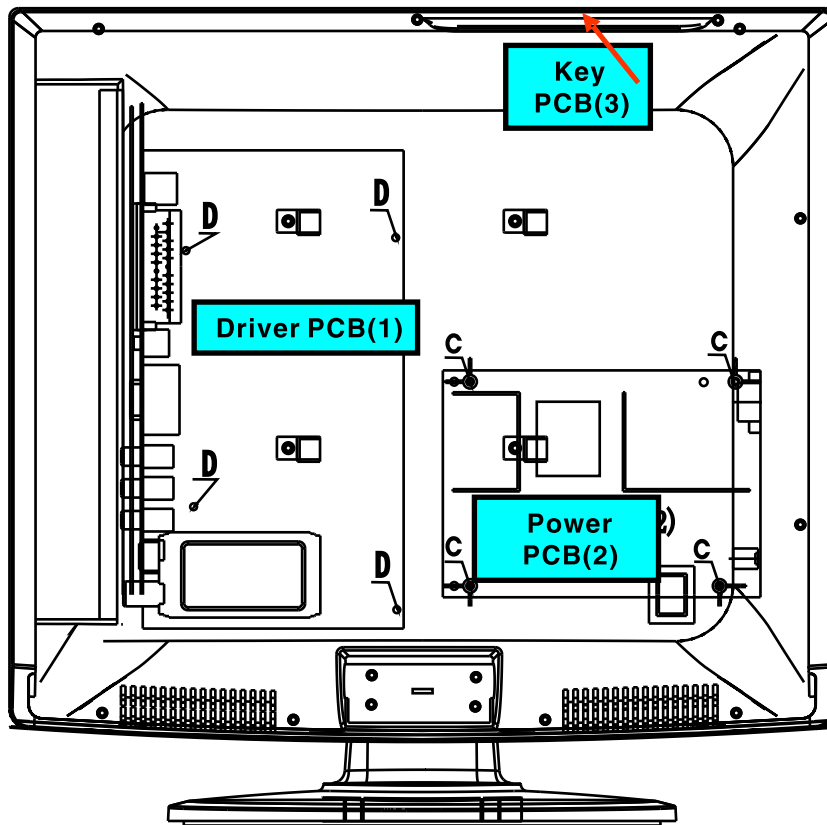
Disassembly the Framework(2)



2、 TL15H511B

Disassemble PCB assembly and rear cabinet:

- 2.1、 Uninstall the Connection cable with Drive PCB1、 Power PCB2、 Key PCB3、 Remote PCB4;
- 2.2、 Unfasten 4 Screws of D (BST3×10), and take out the Drive PCB1 ;
- 2.3、 Unfasten 4 screws of C (BM3×6) and take out the Power PCB2;



Warning : When Disassemble the Drive PCB and Power PCB , please be careful of avoiding the connector pins to be flexed.

Disassembly the Framework(3)

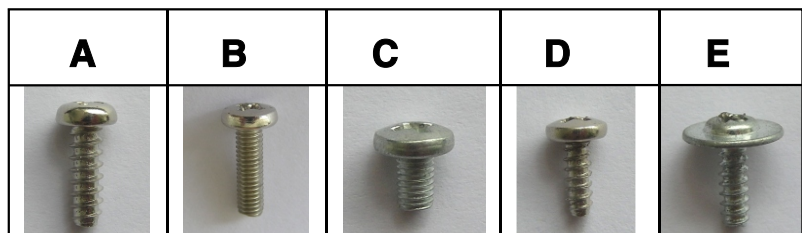
Please follow the following steps to disassemble the unit :

Warning:

All material parts and screws must be installed on its corresponding position correctly ,otherwise it may cause damage.
All the connection cable must be disconnected otherwise it may cause damage.

Warning :

Disassemble the unit only should be handled by qualified service personnel !
Assembly and disassembly must be noted to protect cabinet to avoid scratch and damage.



1、 TL20S312B

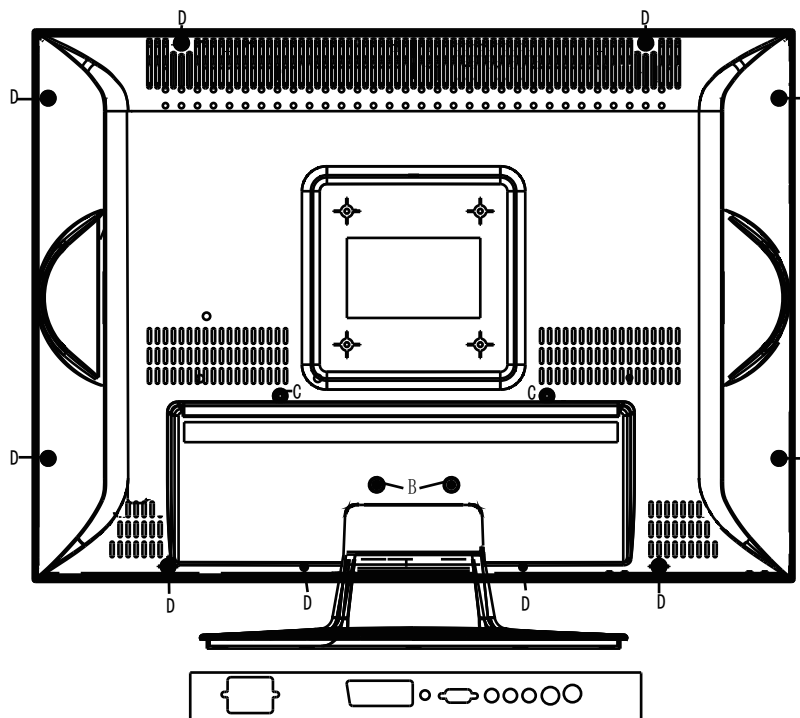
Disassemble the Cabinet Front and LCD Panel:

1.1、 Unfasten the 2 screws B (BM4×10) , take out the stand from the TV.

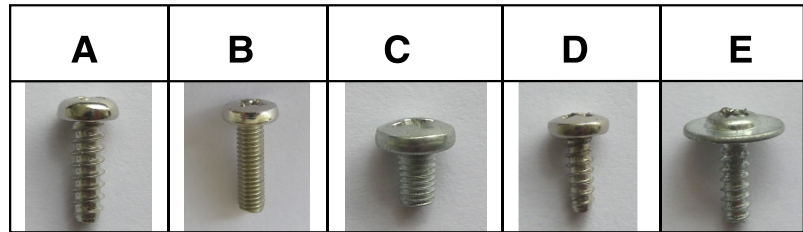
1.2、 Unfasten the 10 screws D (BST3×10) ,uninstalling the Cabinet Front

Warning :

When remove the stand bracket, please be careful of the LCD panel should not be contacted any edge and firm or corrosive object, they may case scratch and damage.



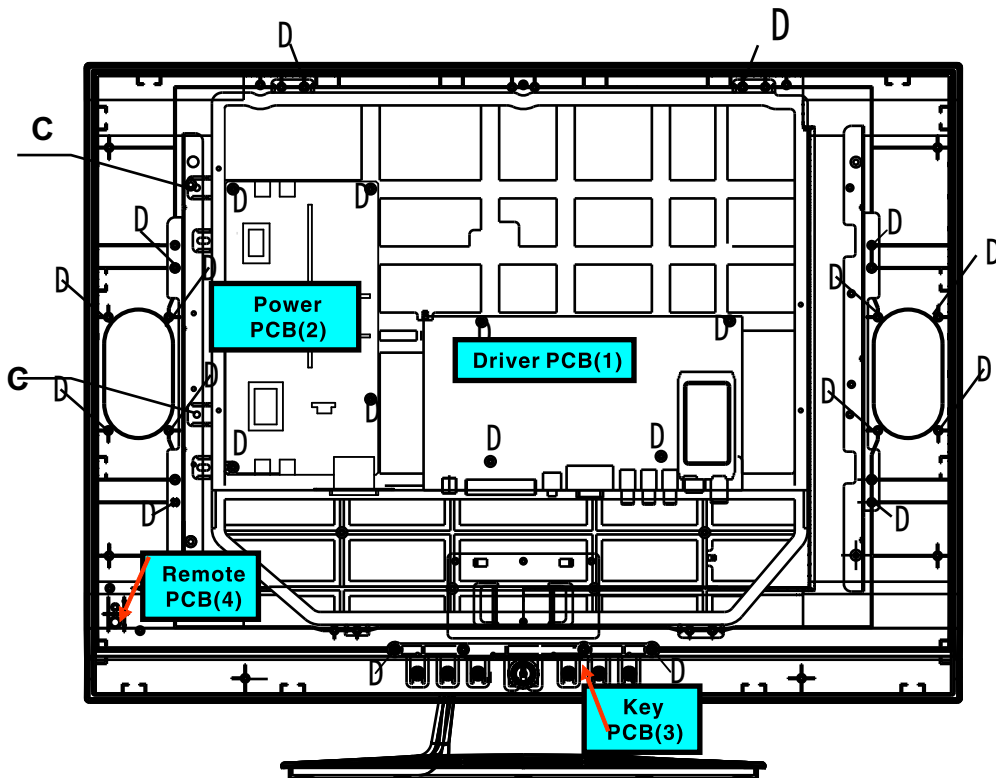
Disassembly the Framework(3)



2. TL20S312B

Disassemble PCB assembly and front cabinet:

- 2.1. Uninstall the Connection cable with Drive PCB1、 Power PCB2、 Key PCB3、 Remote PCB4;
- 2.2. Unfasten 4 Screws of D (BST3×10), and take out the Drive PCB1 ;
- 2.3. Unfasten 4 screws of D (BST3×10) and take out the Power PCB2;
- 2.4. Unfasten 4 screws of D (BST3×10) and 2 screws of C (BM3X6) take out the PCB Bracket.
- 2.5. Unfasten 4 screws of D (BST3×10), of the fixed slat ,remove the LCD PANEL
- 2.6. Unfasten 8 screws of D (BST3×10), remove the 2 speakers.



Warning : When Disassemble the Drive PCB and Power PCB , please be careful of avoiding the connector pins to be flexed.

Disassembly the Framework(4)

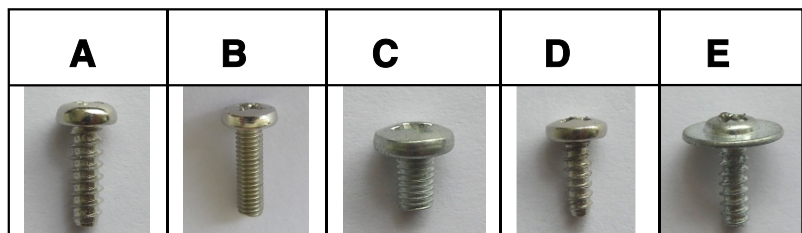
Please follow the following steps to disassemble the unit :

Warning:

All material parts and screws must be installed on its corresponding position correctly ,otherwise it may cause damage.
All the connection cable must be disconnected otherwise it may cause damage.

Warning :

Disassemble the unit only should be handled by qualified service personnel !
Assembly and disassembly must be noted to protect cabinet to avoid scratch and damage.



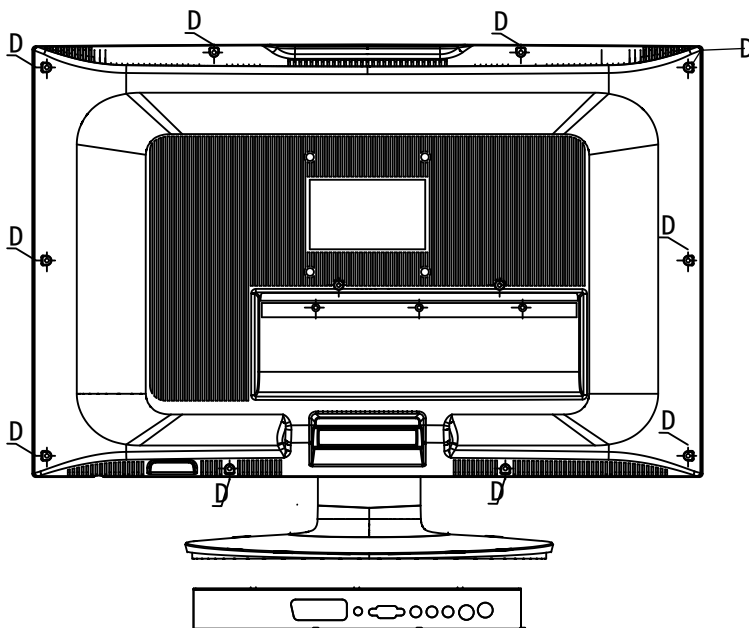
1、 TL20S311B

Disassemble the Cabinet Front and LCD Panel:

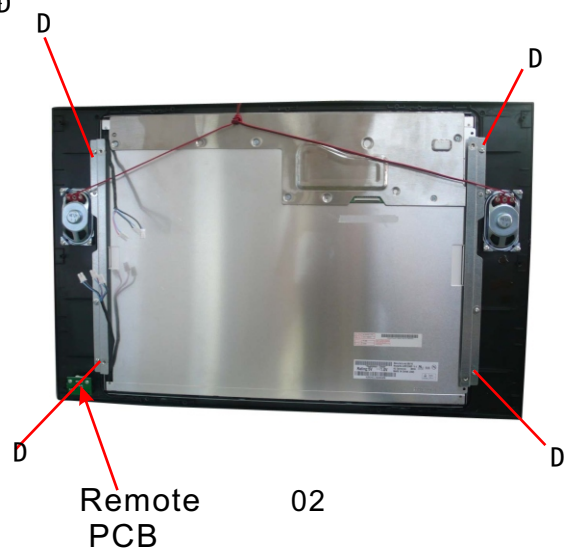
- 1.1、 Unfasten the 10 screws D (BST3×10) ,uninstalling the Cabinet Front(Picture01)
- 1.2、 Unfasten the 4 screws D (BST3×10)of the fixed slat and Panel (Picture02),
Remove the LCD Panel .

Warning :

When remove the stand bracket, please be careful of the LCD panel should not be contacted any edge and firm or corrosive object, they may case scratch and damage.

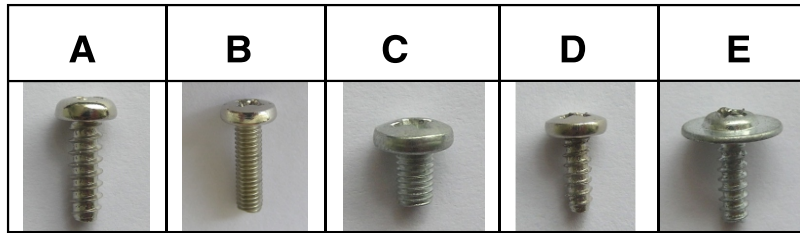


01



Remote PCB 02

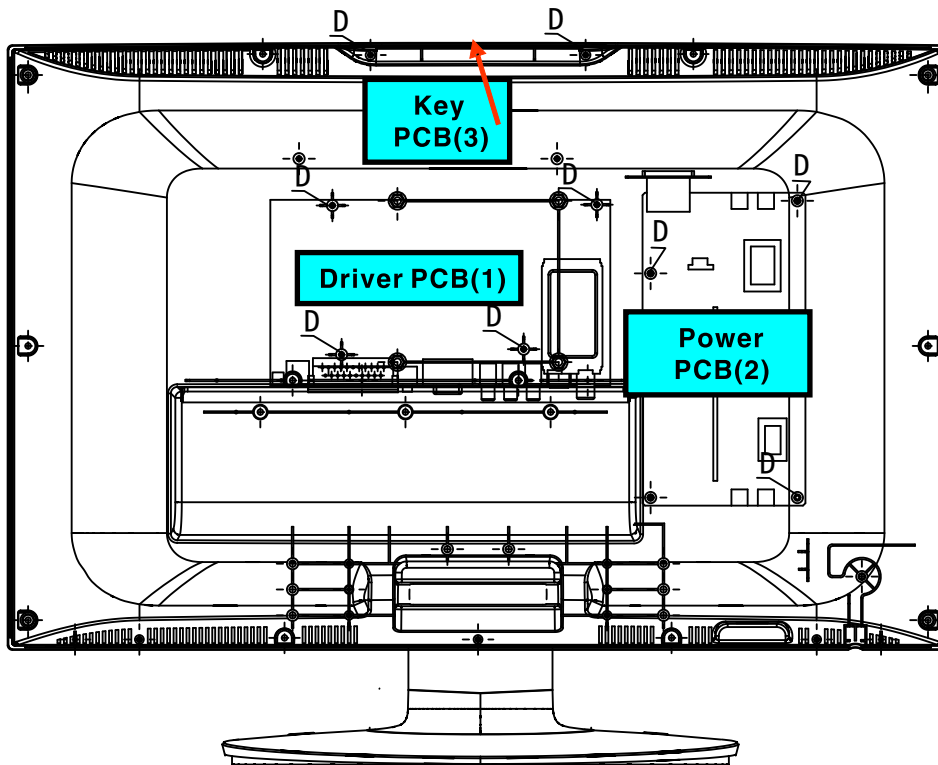
Disassembly the Framework(4)



2、 TL20S311B

Disassemble PCB assembly and rear cabinet:

- 2.1、 Uninstall the Connection cable with Drive PCB1、 Power PCB2、 Key PCB3、 Remote PCB4;
- 2.2、 Unfasten 4 Screws of D (BST3×10), and take out the Drive PCB1 ;
- 2.3、 Unfasten 4 screws of D (BST3×10) and take out the Power PCB2;



Warning : When Disassemble the Drive PCB and Power PCB , please be careful of avoiding the connector pins to be flexed.

Disassembly the Framework(5)

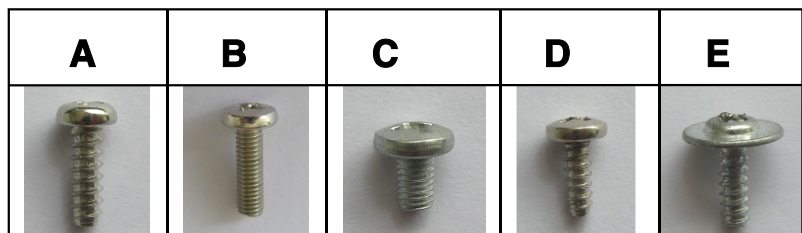
Please follow the following steps to disassemble the unit :

Warning:

All material parts and screws must be installed on its corresponding position correctly ,otherwise it may cause damage.
All the connection cable must be disconnected otherwise it may cause damage.

Warning :

Disassemble the unit only should be handled by qualified service personnel !
Assembly and disassembly must be noted to protect cabinet to avoid scratch and damage.



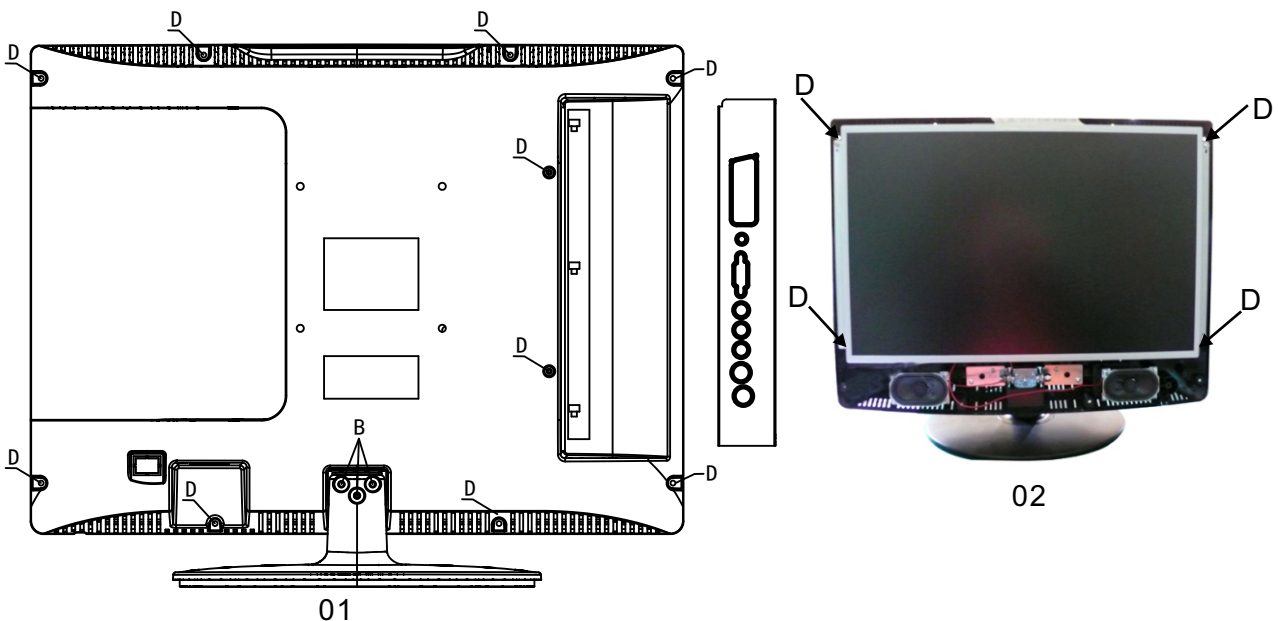
1、 TL22H615B

Disassemble the Cabinet Front and LCD Panel:

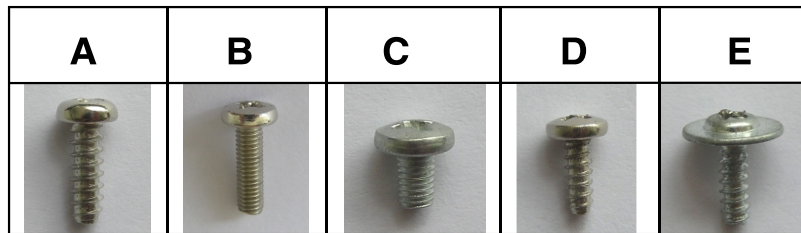
- 1.1、 Unfasten the 8 screws D (BST3×10) ,uninstalling the Cabinet Front(Picture01)
- 1.2、 Unfasten the 4 screws D (BST3×10)of the fixed slat and Panel (Picture02),
Remove the LCD Panel .
- 1.3、 Unfasten the 3 screws B (BM4×10) , take out the stand from the TV.

Warning :

When remove the stand bracket, please be careful of the LCD panel should not be contacted any edge and firm or corrosive object, they may case scratch and damage.



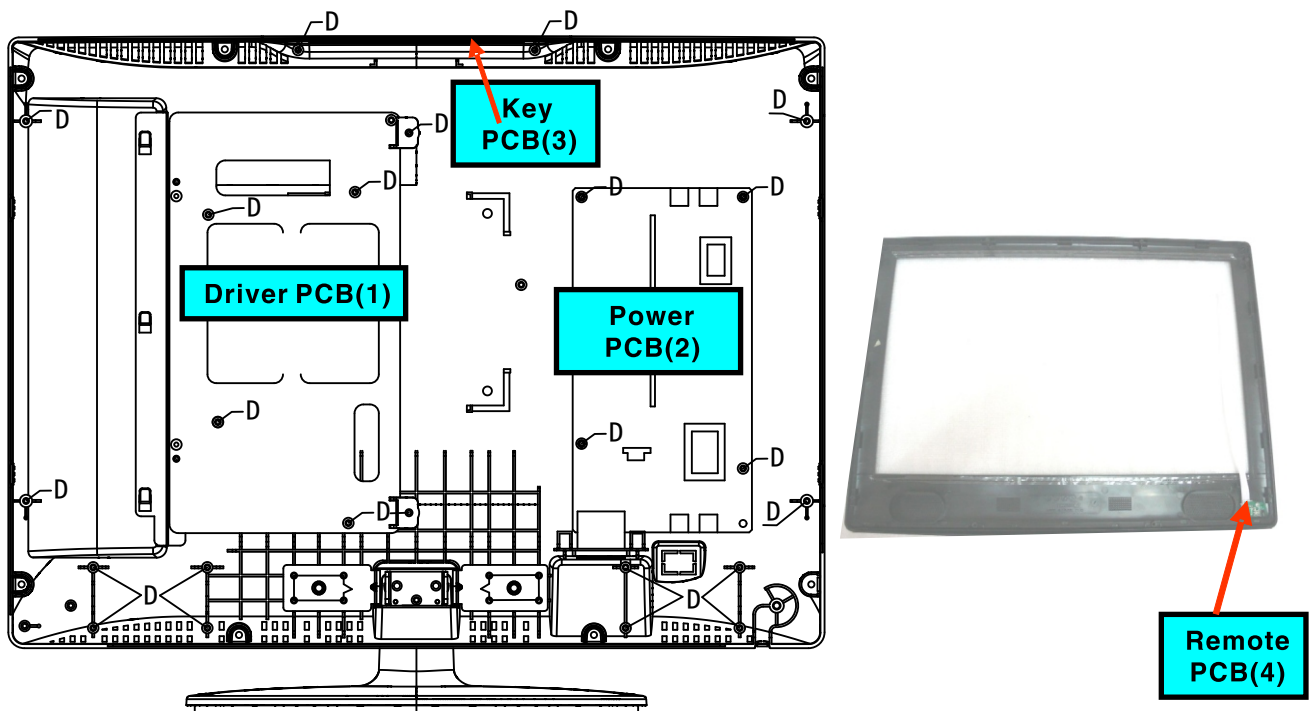
Disassembly the Framework(5)



2、TL22H615B

Disassemble PCB assembly and rear cabinet:

- 2.1、 Uninstall the Connection cable with Drive PCB1、 Power PCB2、 Key PCB3、 Remote PCB4;
- 2.2、 Unfasten 4 Screws of D (BST3×10), and take out the Drive PCB1 ;
- 2.3、 Unfasten 4 screws of D (BST3×10) and take out the Power PCB2;
- 2.4、 Unfasten 8 screws of D (BST3×10) , remove the 2 speakers.



Warning : When Disassemble the Drive PCB and Power PCB , please be careful of avoiding the connector pins to be flexed.

Disassembly the Framework(6)

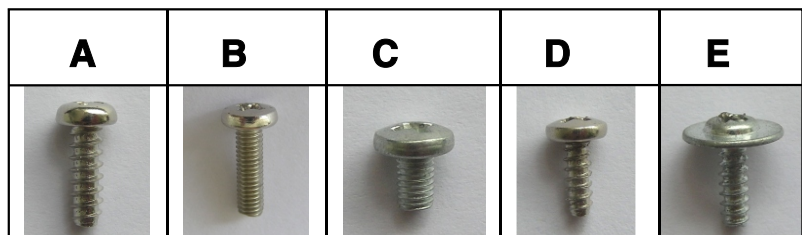
Please follow the following steps to disassemble the unit :

Warning:

All material parts and screws must be installed on its corresponding position correctly ,otherwise it may cause damage.
All the connection cable must be disconnected otherwise it may cause damage.

Warning :

Disassemble the unit only should be handled by qualified service personnel !
Assembly and disassembly must be noted to protect cabinet to avoid scratch and damage.



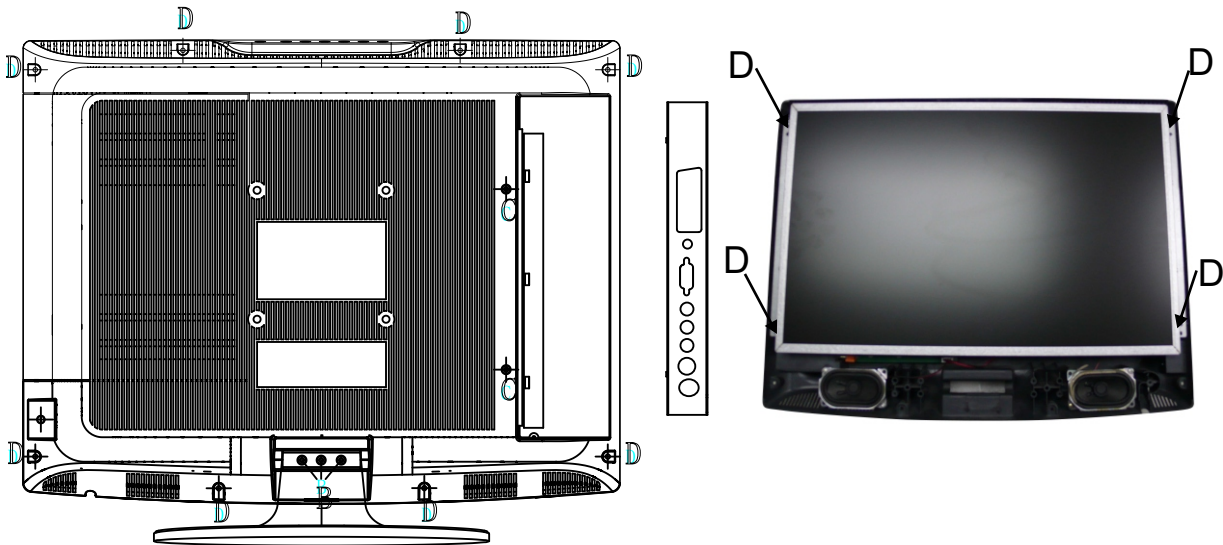
1、 TL22H614B

Disassemble the Cabinet Front and LCD Panel:

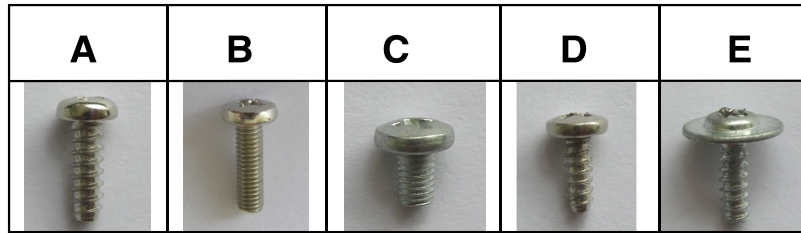
- 1.1、 Unfasten the 8 screws D (BST3×10) ,uninstalling the Cabinet Front(Picture01)
- 1.2、 Unfasten the 4 screws D (BST3×10)of the fixed slat and Panel (Picture02),
Remove the LCD Panel.
- 1.3、 Unfasten the 3 screws B (BM4×10) , take out the stand from the TV.

Warning :

When remove the stand bracket, please be careful of the LCD panel should not be contacted any edge and firm or corrosive object, they may case scratch and damage.



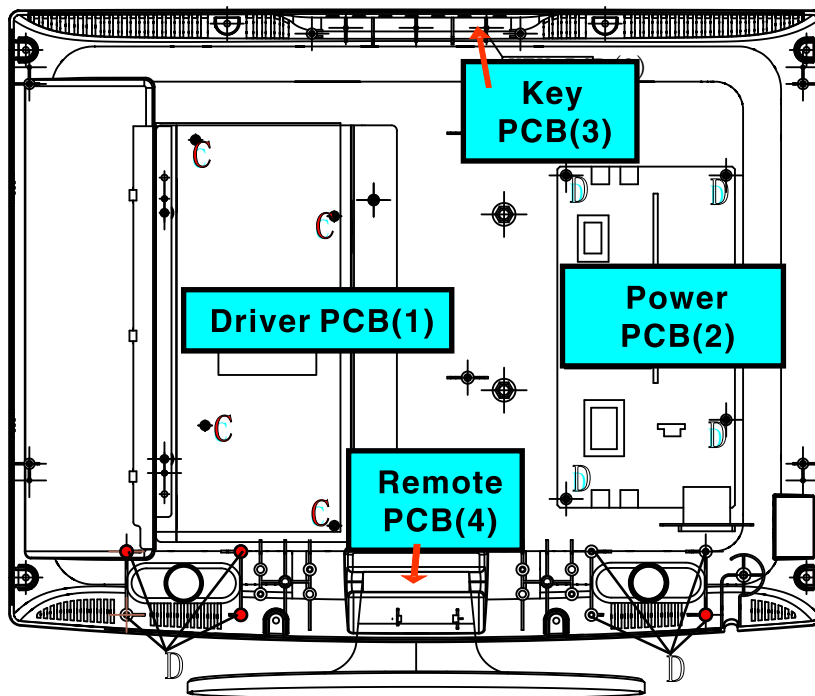
Disassembly the Framework(6)



2、 TL22H614B

Disassemble PCB assembly and rear cabinet:

- 2.1、 Uninstall the Connection cable with Drive PCB1、 Power PCB2、 Key PCB3、 Remote PCB4;
- 2.2、 Unfasten 4 Screws of C (BM3×6), and take out the Drive PCB1 ;
- 2.3、 Unfasten 4 screws of D (BST3×10) and take out the Power PCB2;
- 2.4、 Unfasten 8 screws of D (BST3×8) , remove the 2 speakers.



Warning : When Disassemble the Drive PCB and Power PCB , please be careful of avoiding the connector pins to be flexed.

Disassembly the Framework(7)

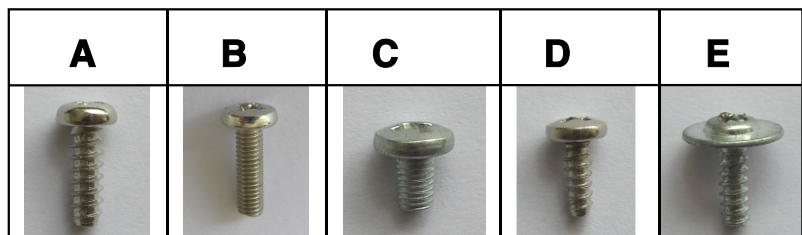
Please follow the following steps to disassemble the unit :

Warning:

All material parts and screws must be installed on its corresponding position correctly ,otherwise it may cause damage.
All the connection cable must be disconnected otherwise it may cause damage.

Warning :

Disassemble the unit only should be handled by qualified service personnel !
Assembly and disassembly must be noted to protect cabinet to avoid scratch and damage.



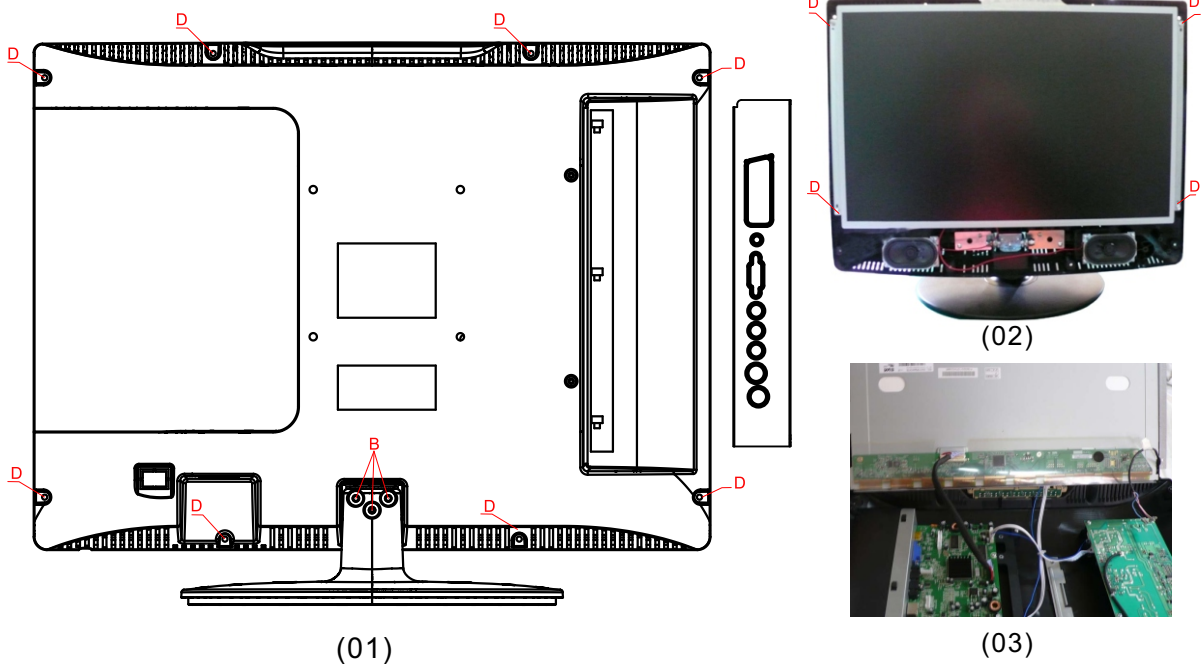
1、TL19H615B

Disassemble the Cabinet Front and LCD Panel:

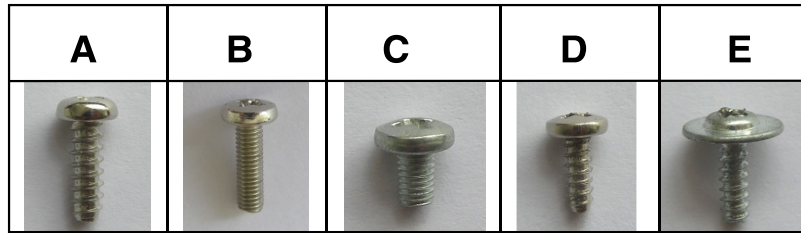
- 1.1、Unfasten the 8 screws D (BST3×10) ,uninstalling the Cabinet Front(Picture01)
- 1.2、Unfasten the 4 screws D (BST3×10)of the fixed slat and Panel (Picture02),
Remove the LCD Panel,uninstalling the Connection cable with PCB(Picture03)
- 1.3、Unfasten the 3 screws B (BM4×10) , take out the stand from the TV.

Warning :

When remove the stand bracket, please be careful of the LCD panel should not be contacted any edge and firm or corrosive object, they may case scratch and damage.



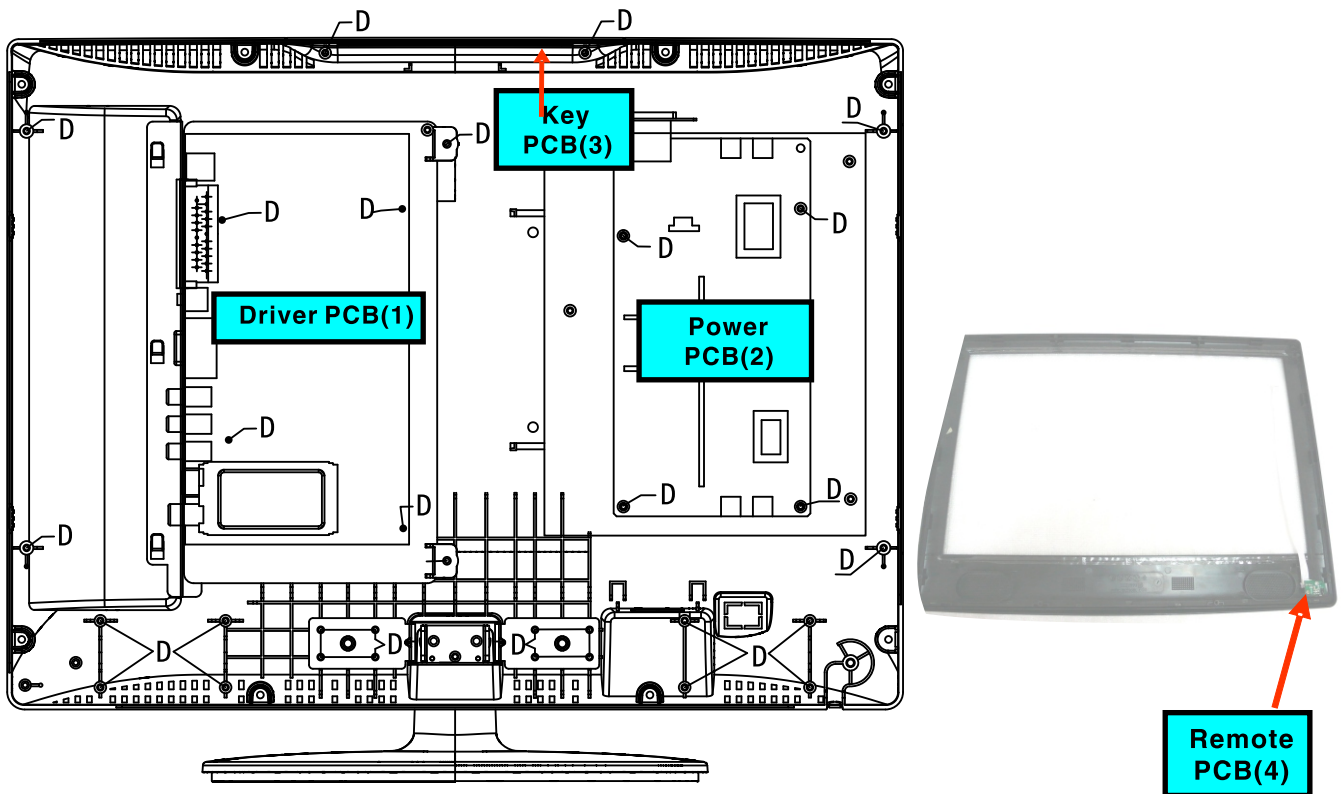
Disassembly the Framework(7)



2、 TL19H615B

Disassemble PCB assembly and rear cabinet:

- 2.1、 Uninstall the Connection cable with Drive PCB1、 Power PCB2、 Key PCB3、 Remote PCB4;
- 2.2、 Unfasten 4 Screws of D (BST3×10), and take out the Drive PCB1 ;
- 2.3、 Unfasten 4 screws of D (BST3×10) and take out the Power PCB2;
- 2.4、 Unfasten 8 screws of D (BST3×10) , remove the 2 speakers.

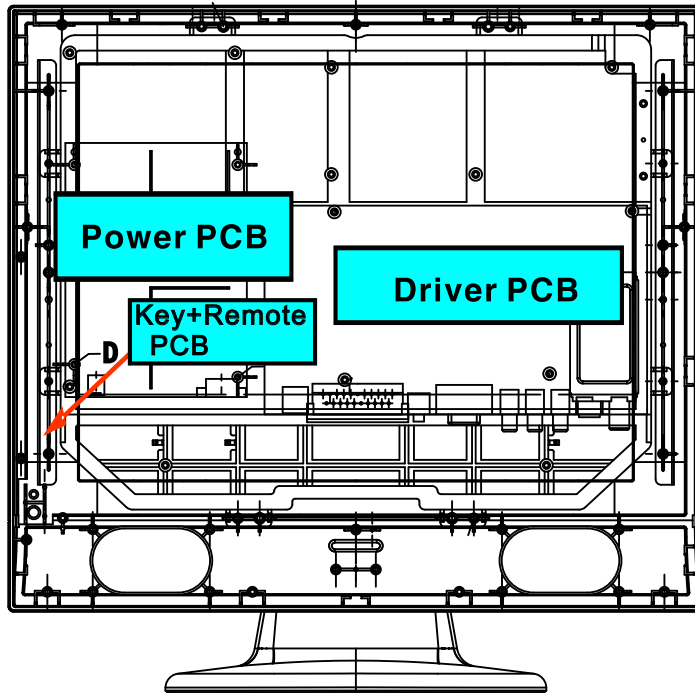


Warning : When Disassemble the Drive PCB and Power PCB , please be careful of avoiding the connector pins to be flexed.

Illustration of actual object(1)

TL15H310B

Inner frame drawing:



TL15H310B

Inner view:

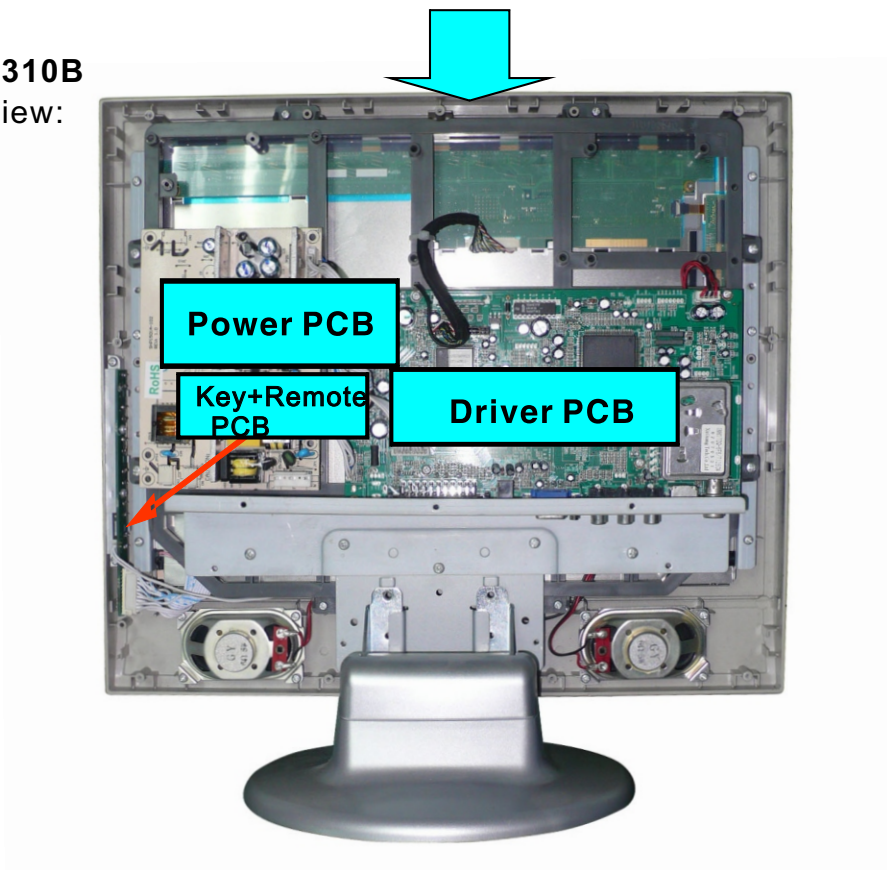
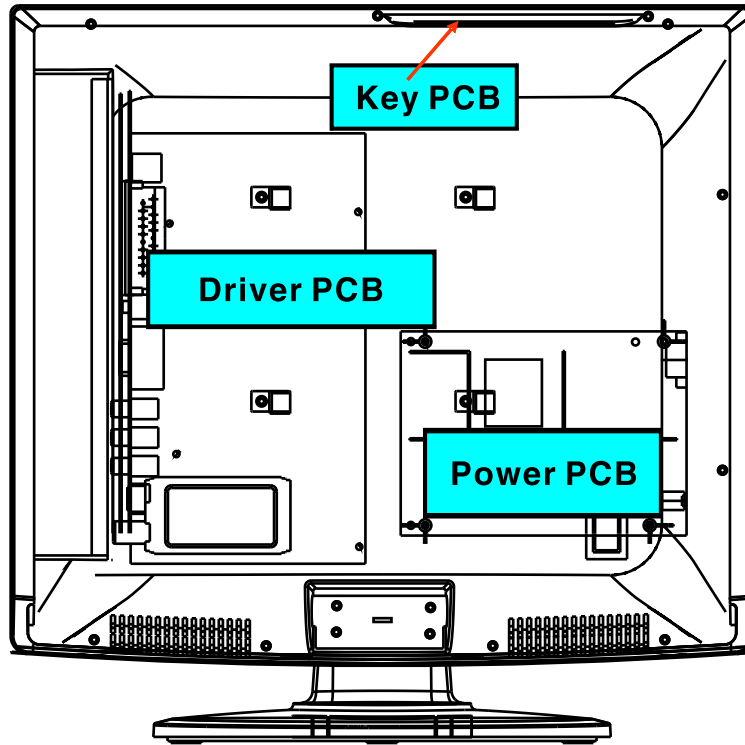


Illustration of actual object(2)**TL15H511B**

Inner frame drawing:

**TL15H511B**

Inner view:

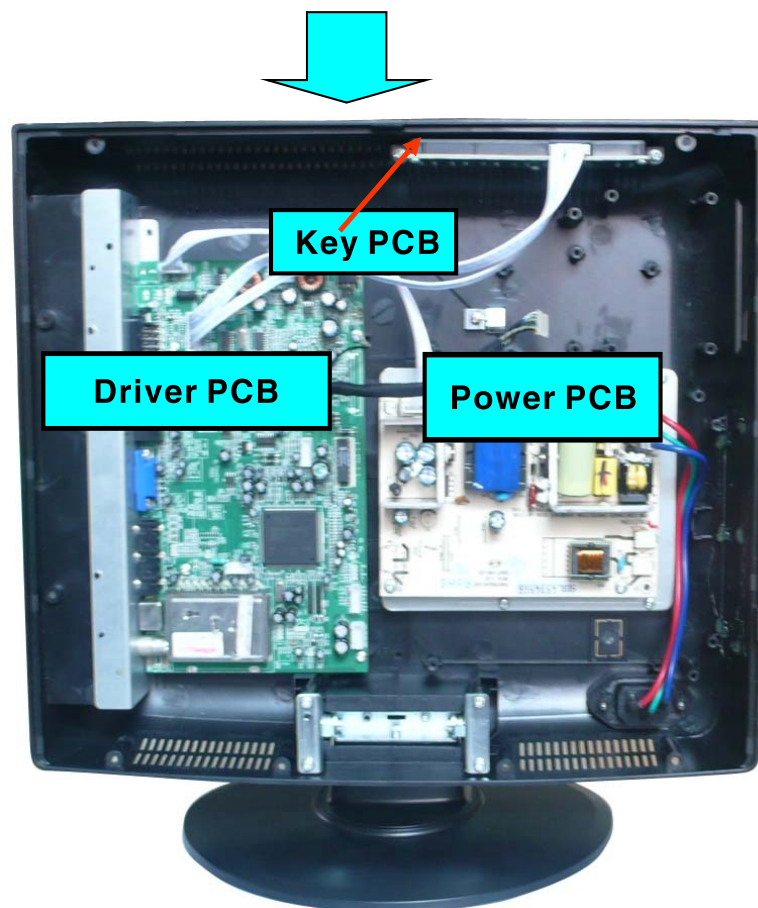
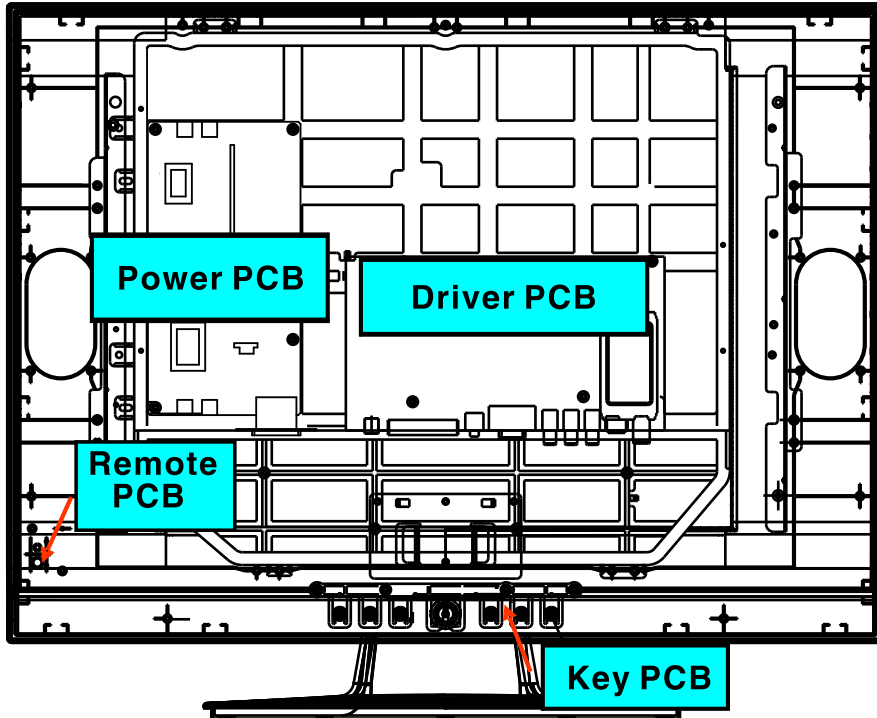


Illustration of actual object(3)

TL20S312B

Inner frame drawing:



TL20S312B

Inner view:

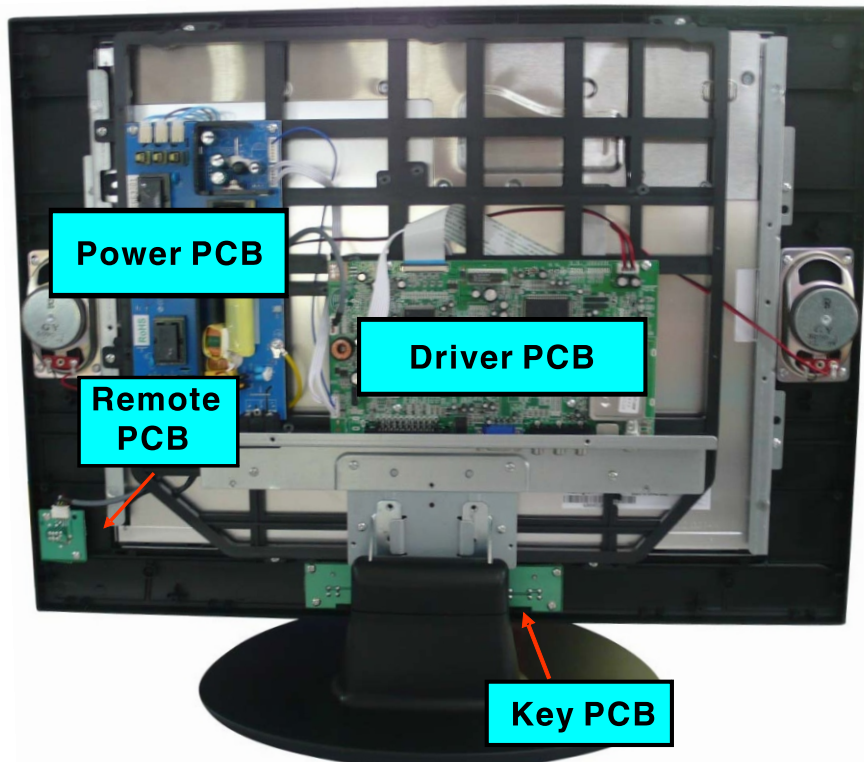
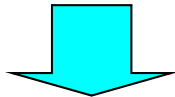
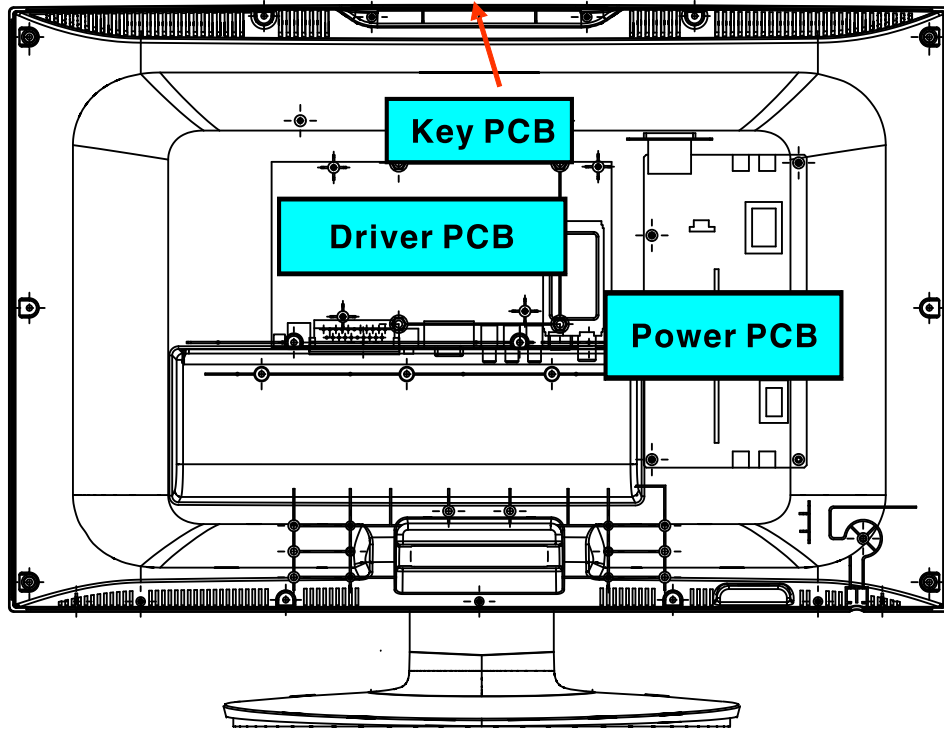


Illustration of actual object(4)**TL20S311B**

Inner frame drawing:

**TL20S311B**

Inner view:

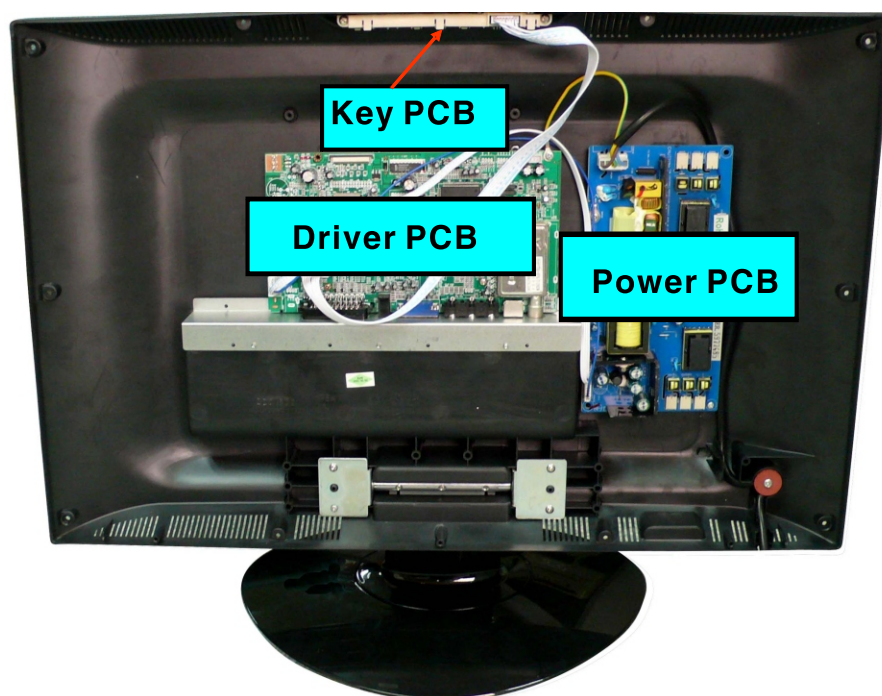
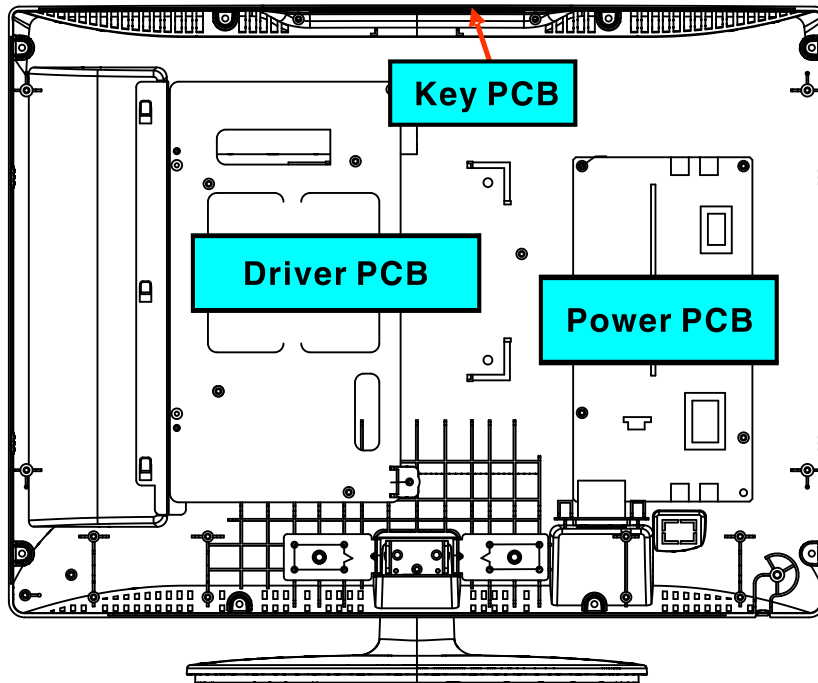


Illustration of actual object(5)**TL22H615B**

Inner frame drawing:

**TL22H615B**

Inner view:

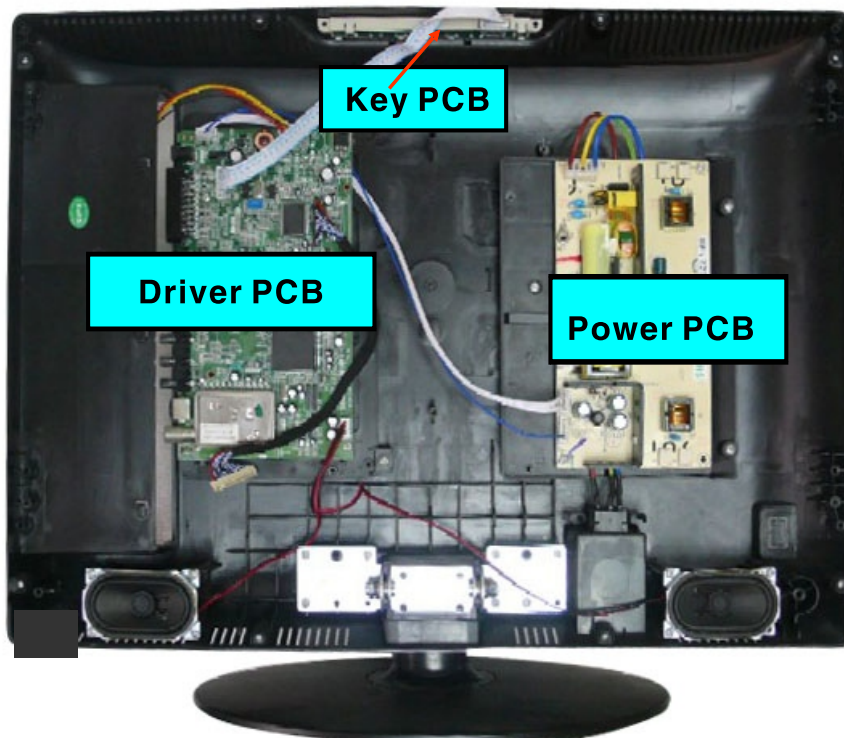
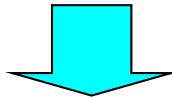
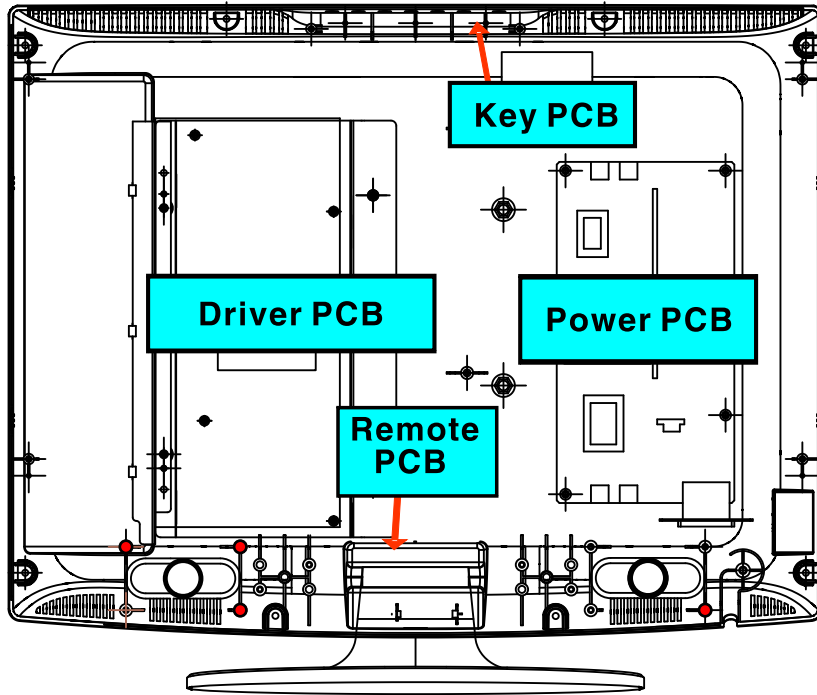


Illustration of actual object(6)

TL22H614B

Inner frame drawing:



TL22H614B

Inner view:

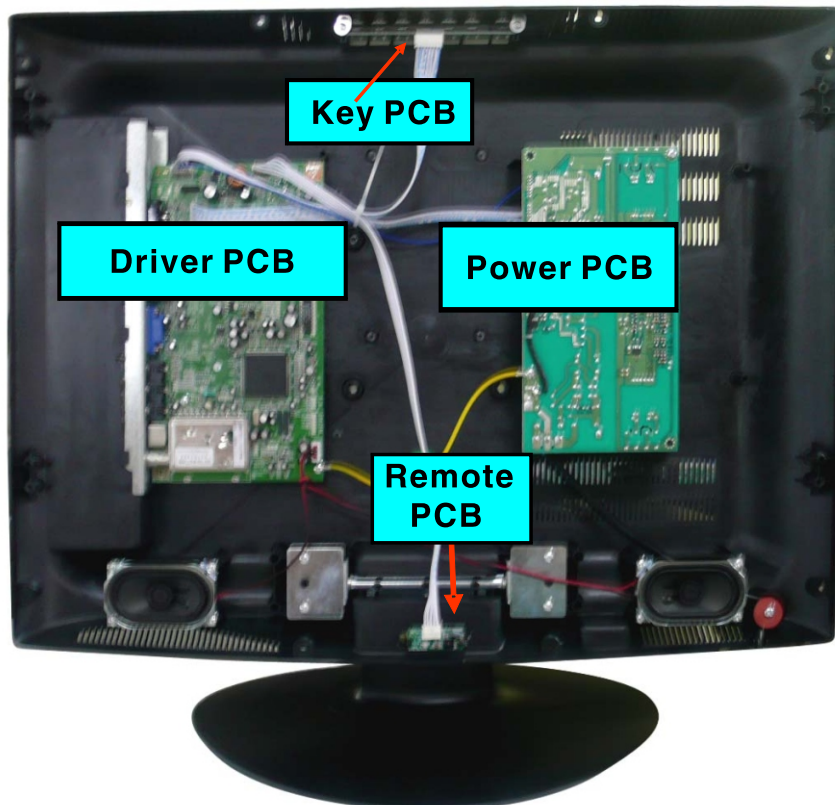
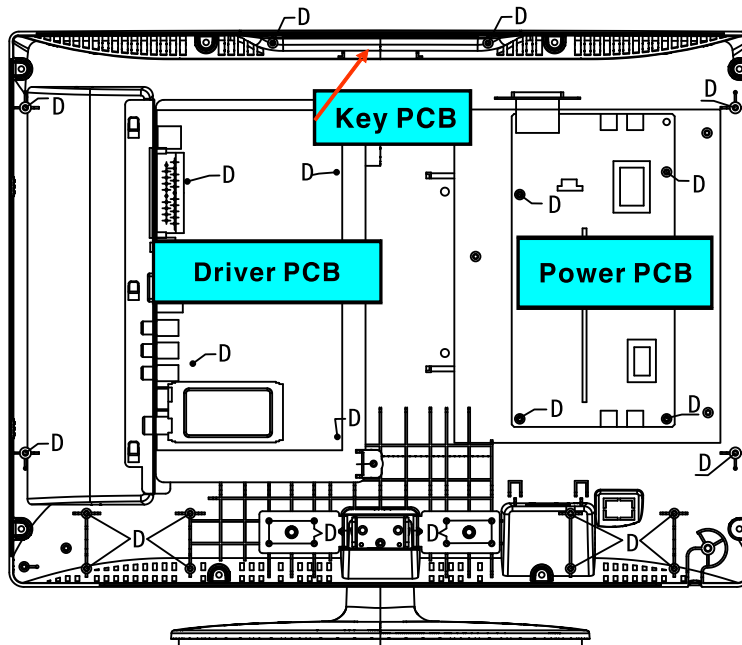


Illustration of actual object(7)**TL19H615B**

Inner frame drawing:

**TL19H615B**

Inner view:

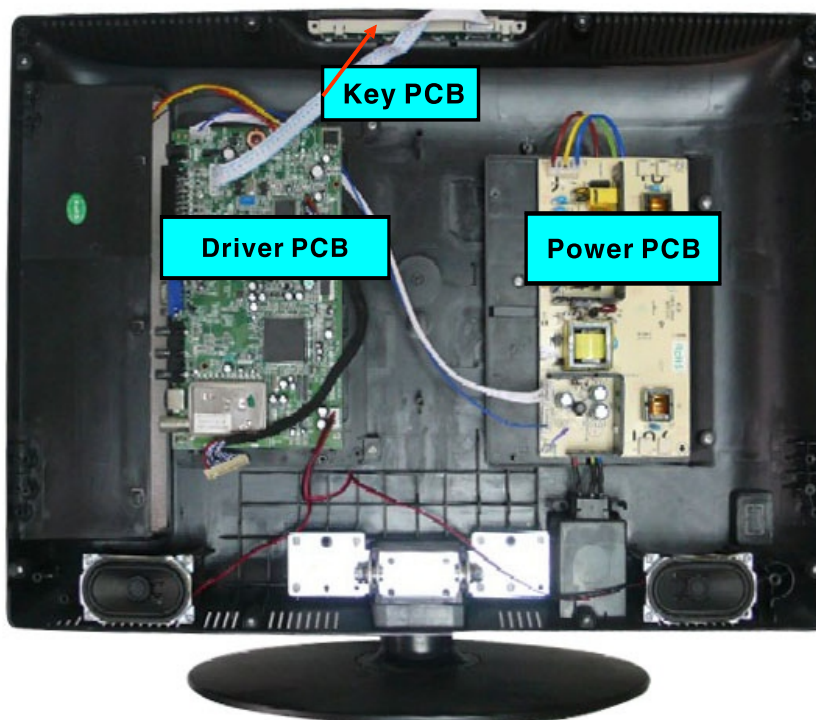
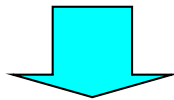


Illustration of actual object(8)

PCB Name : Driver PCB (obverse)

Driver PCB Model No.:TD604

Function : TV SCART LINE IN VGA IN R L VIDEO S-VIDEO RF

Signal decode processed:

- 1、TV SCART LINE IN VGA IN R L VIDEO S-VIDEO RF
 → IC U5(decode CPU)
 → Display
- 2、AUDIO→ IC U21(decode CPU)→ U3→ SPEAKER

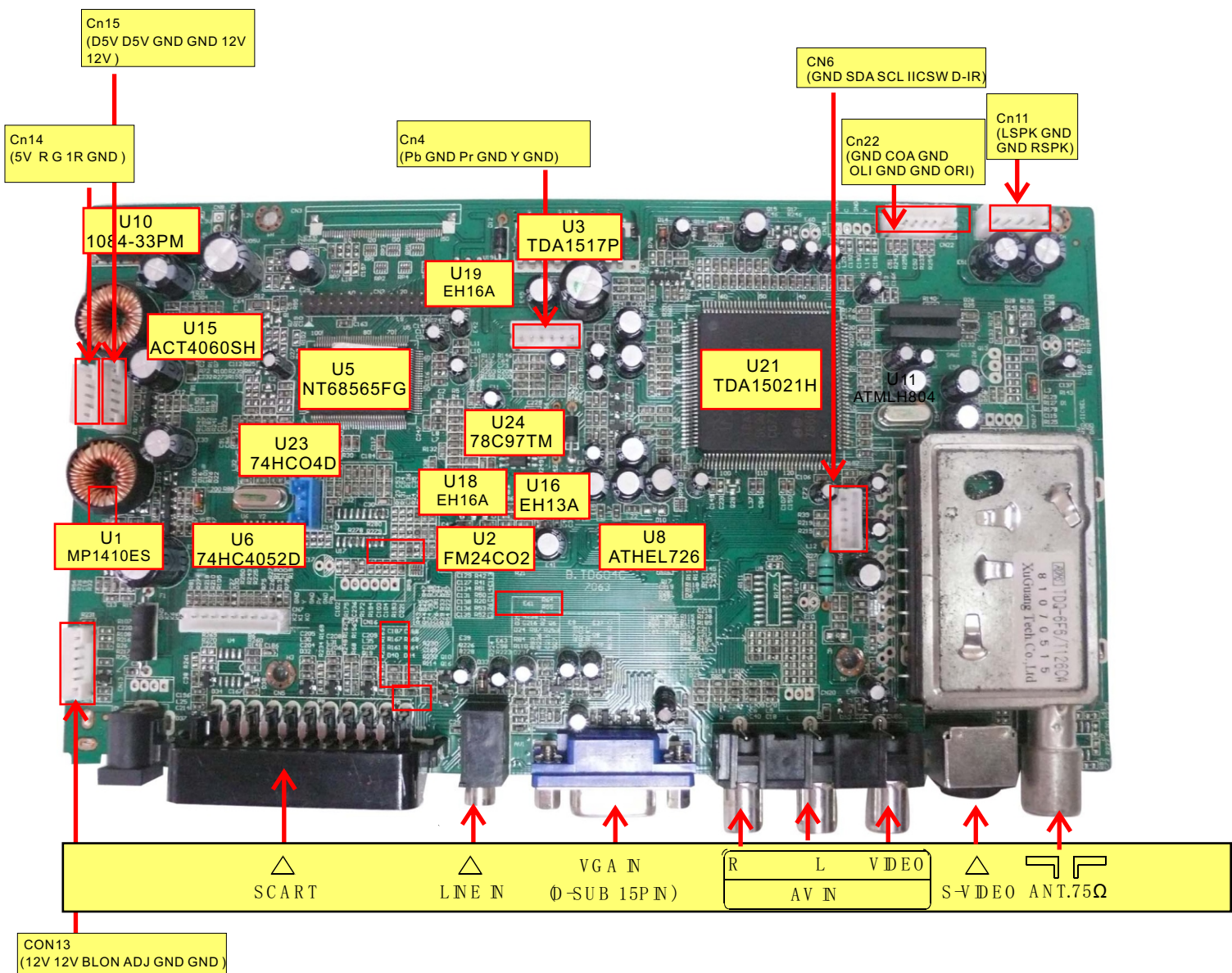


Illustration of actual object(9)

PCB Name: Power PCB 15"(obverse)
POWER PCB Model No. : SHP1501A-102
FUNCTION : Supply direct voltage and current. Adopt controlling IC
to supply voltage 12V separately.

Ac power be commutated →T1 12V voltage insulating transformer→12V

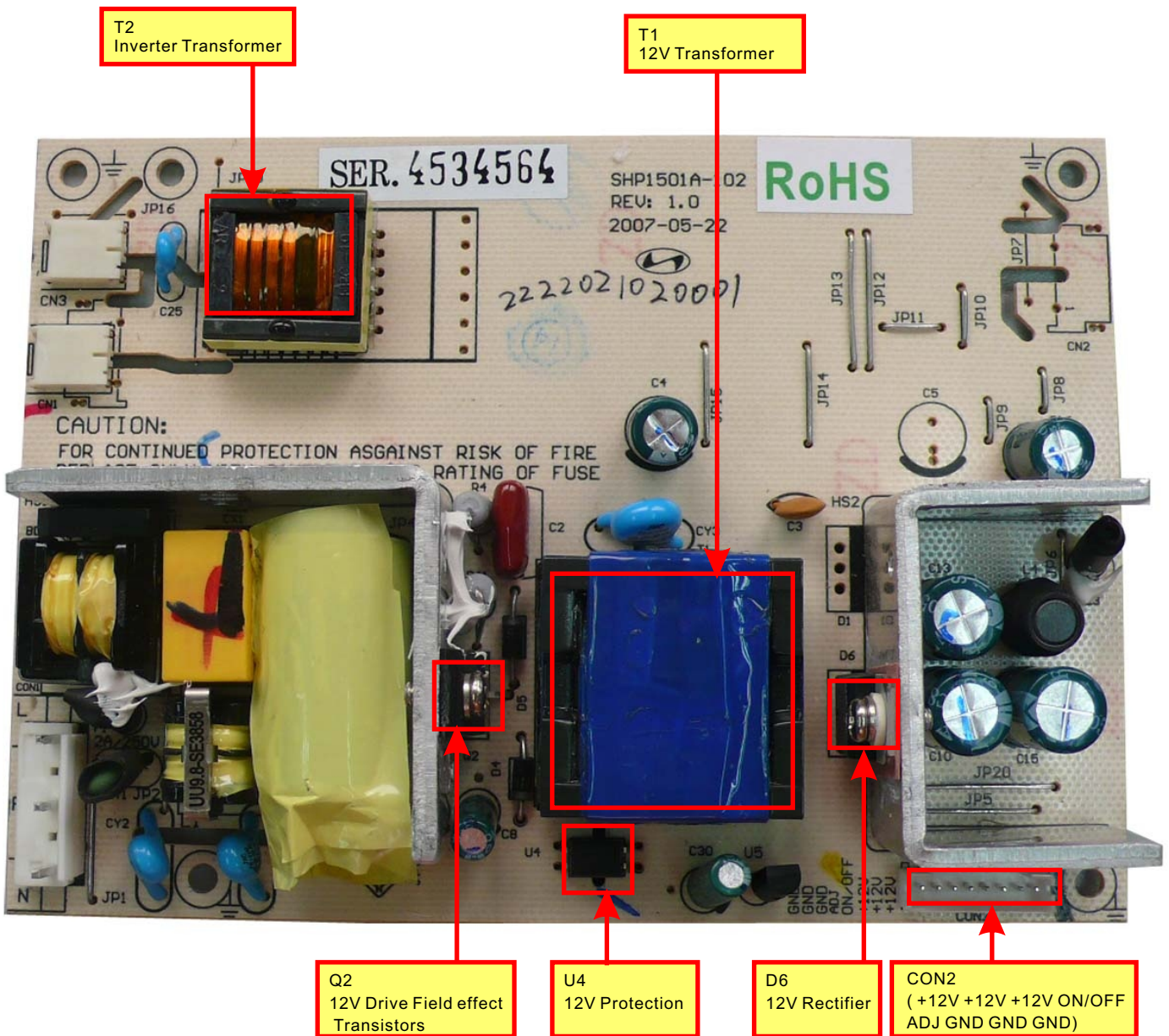


Illustration of actual object(10)

PCB Name: Power PCB 15" (Rear)
POWER PCB Model No. : SHP1501A-102

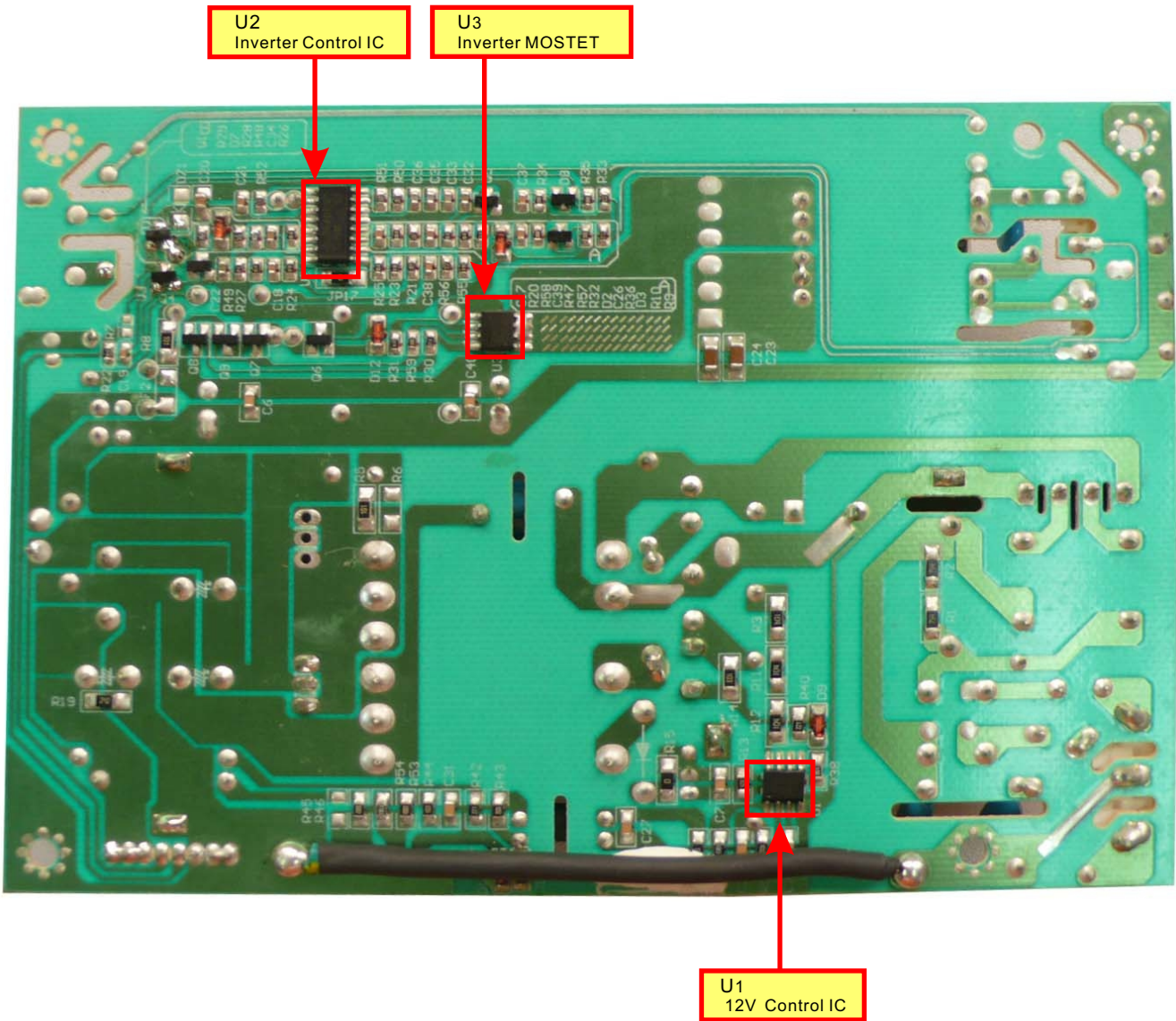


Illustration of actual object(11)

PCB Name: Power PCB 19" /22"(obverse)
POWER PCB Model No. : SH17LP601A

FUNCTION : Supply direct voltage and current. Adopt controlling IC
to supply voltage 12V separately.

Ac power be commutated →T101 12V voltage insulating transformer→12V

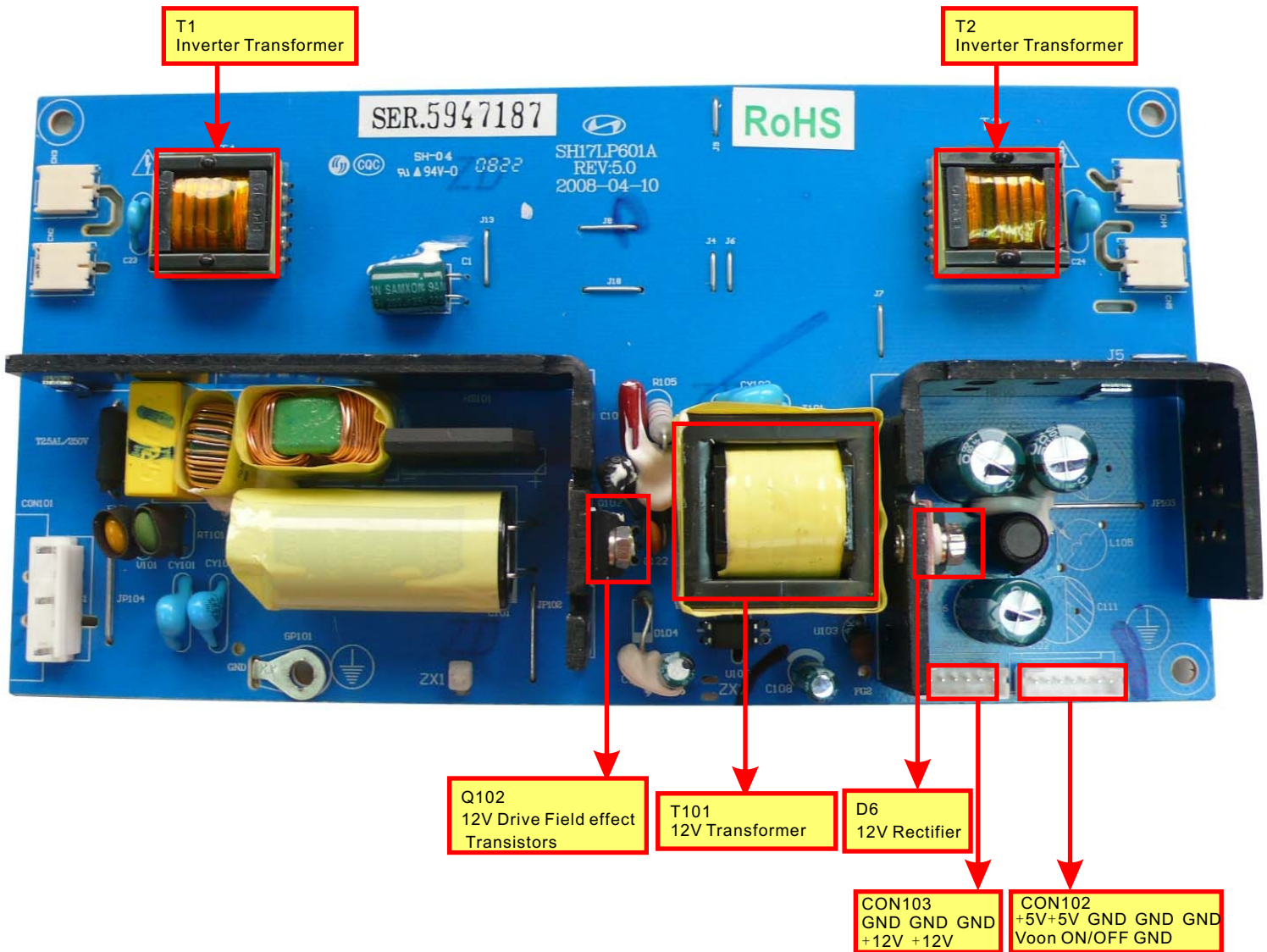


Illustration of actual object(12)

PCB Name: Power PCB 19"/ 22" (Rear)
POWER PCB Model No. : SH17LP601A

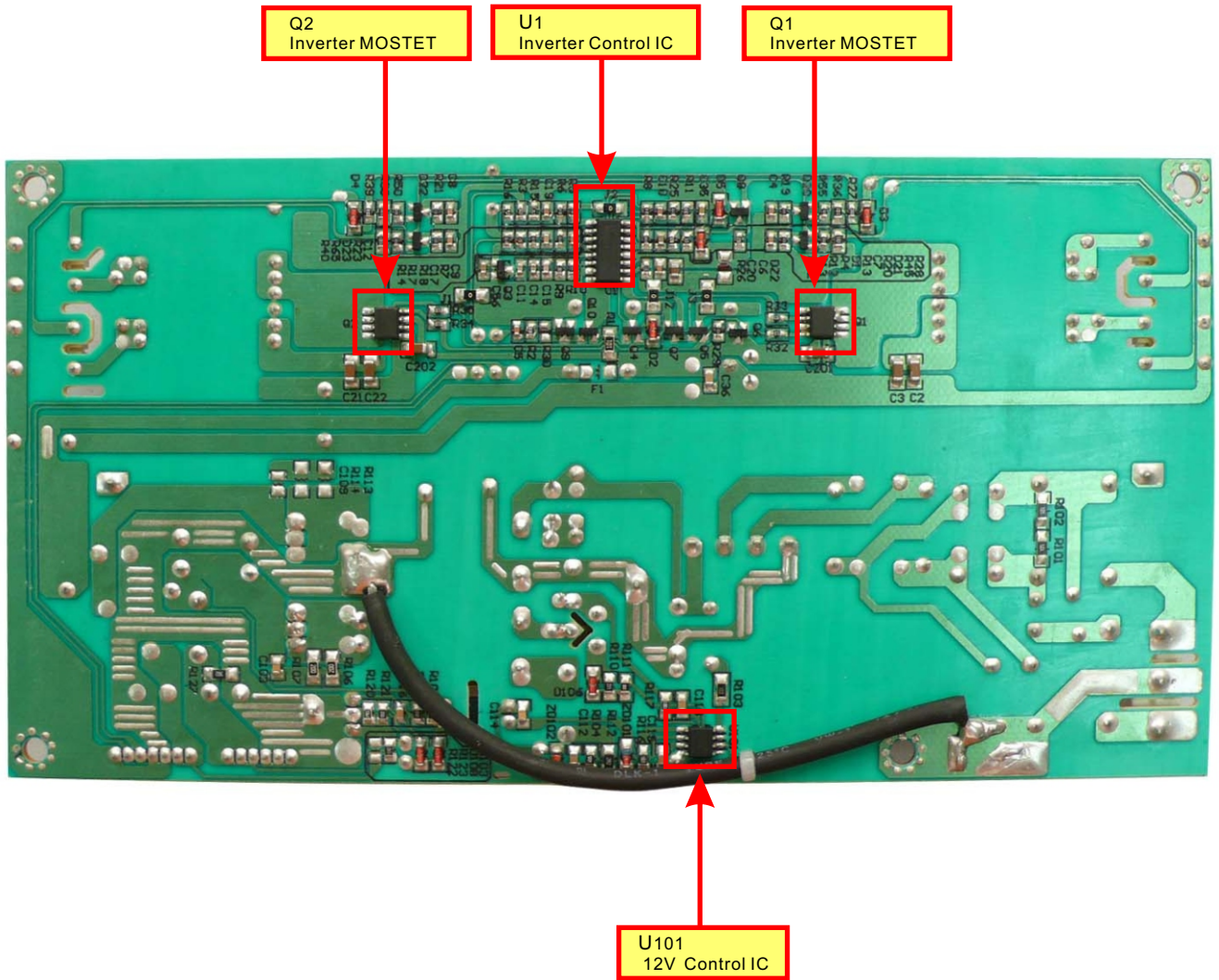


Illustration of actual object(13)

PCB Name: Power PCB 20" (obverse)
 POWER PCB Model No.: SH20LP721A

FUNCTION : Supply direct voltage and current. Adopt controlling IC to supply voltage 12V separately.

Ac power be commutated →T101 12V voltage insulating transformer→12V

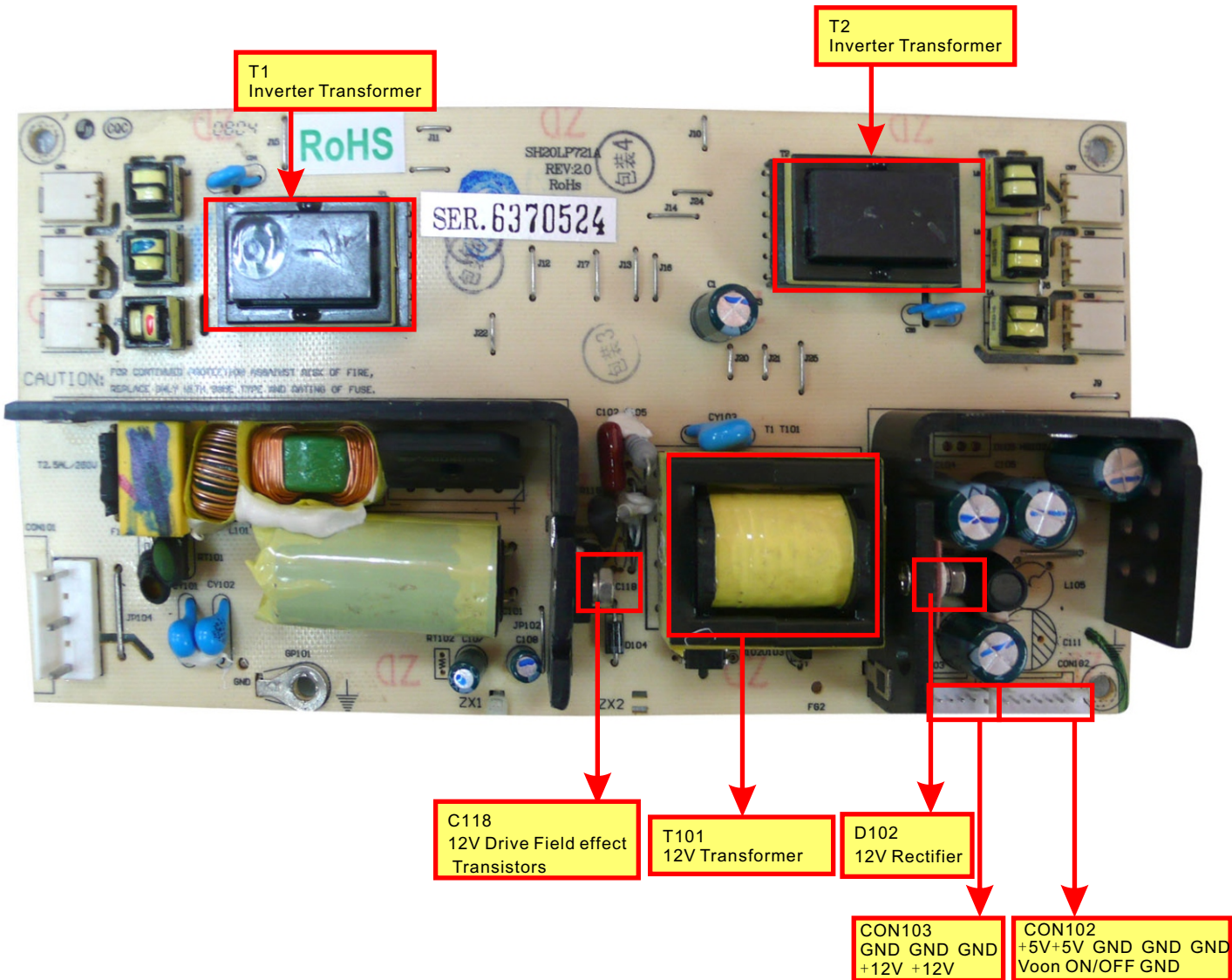
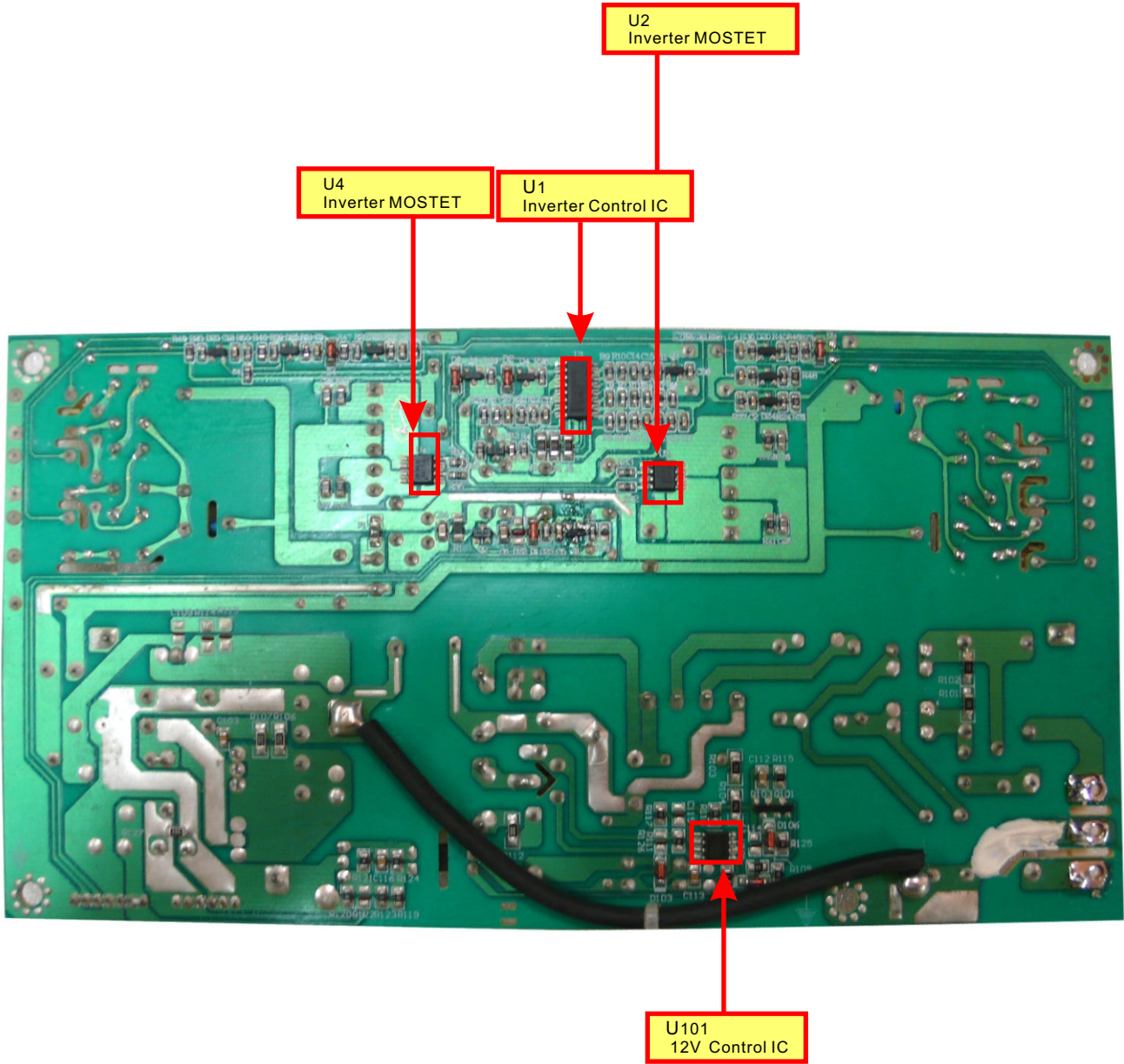


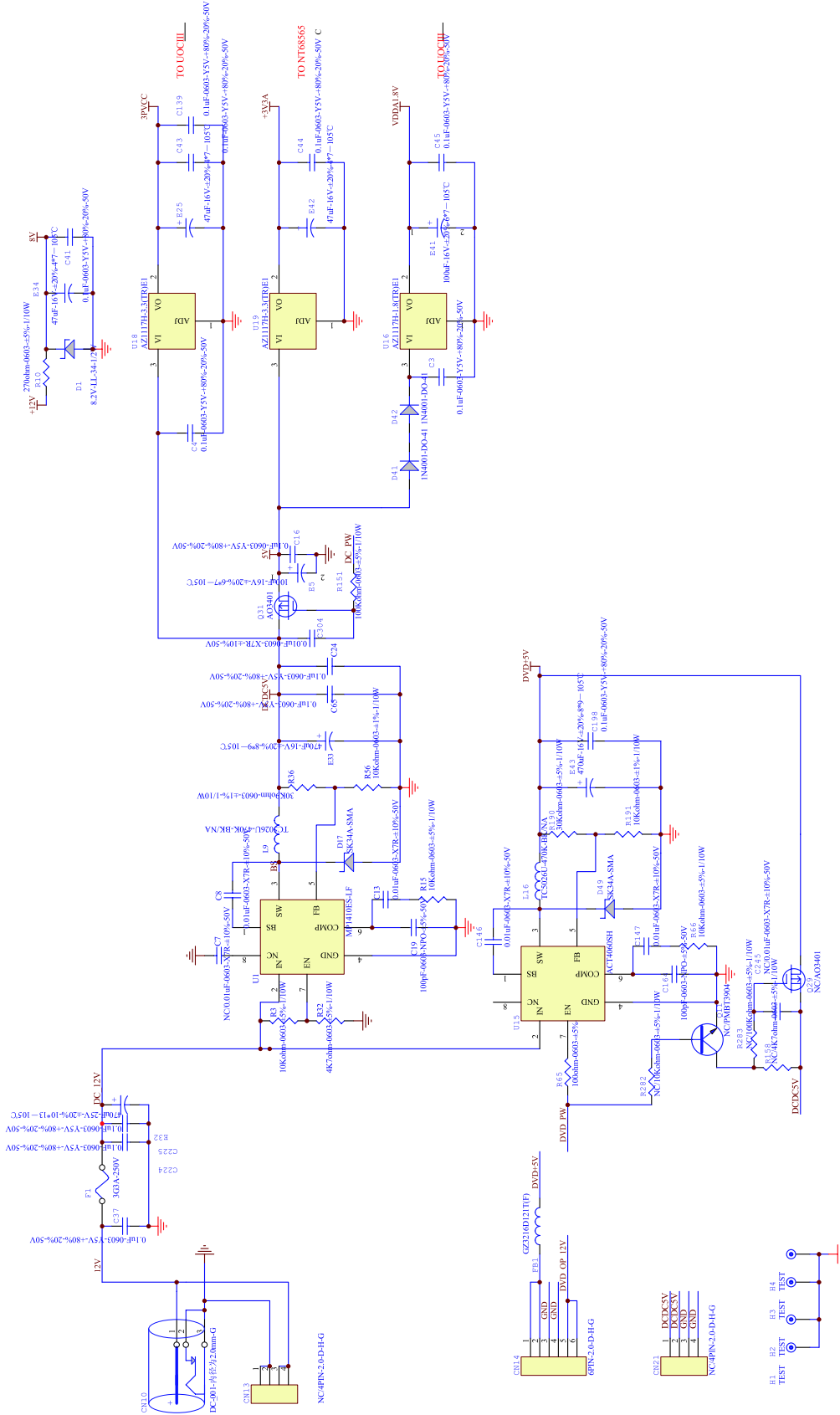
Illustration of actual object(14)

PCB Name: Power PCB 20 “(Rear)
POWER PCB Model NO.:SH20LP721A

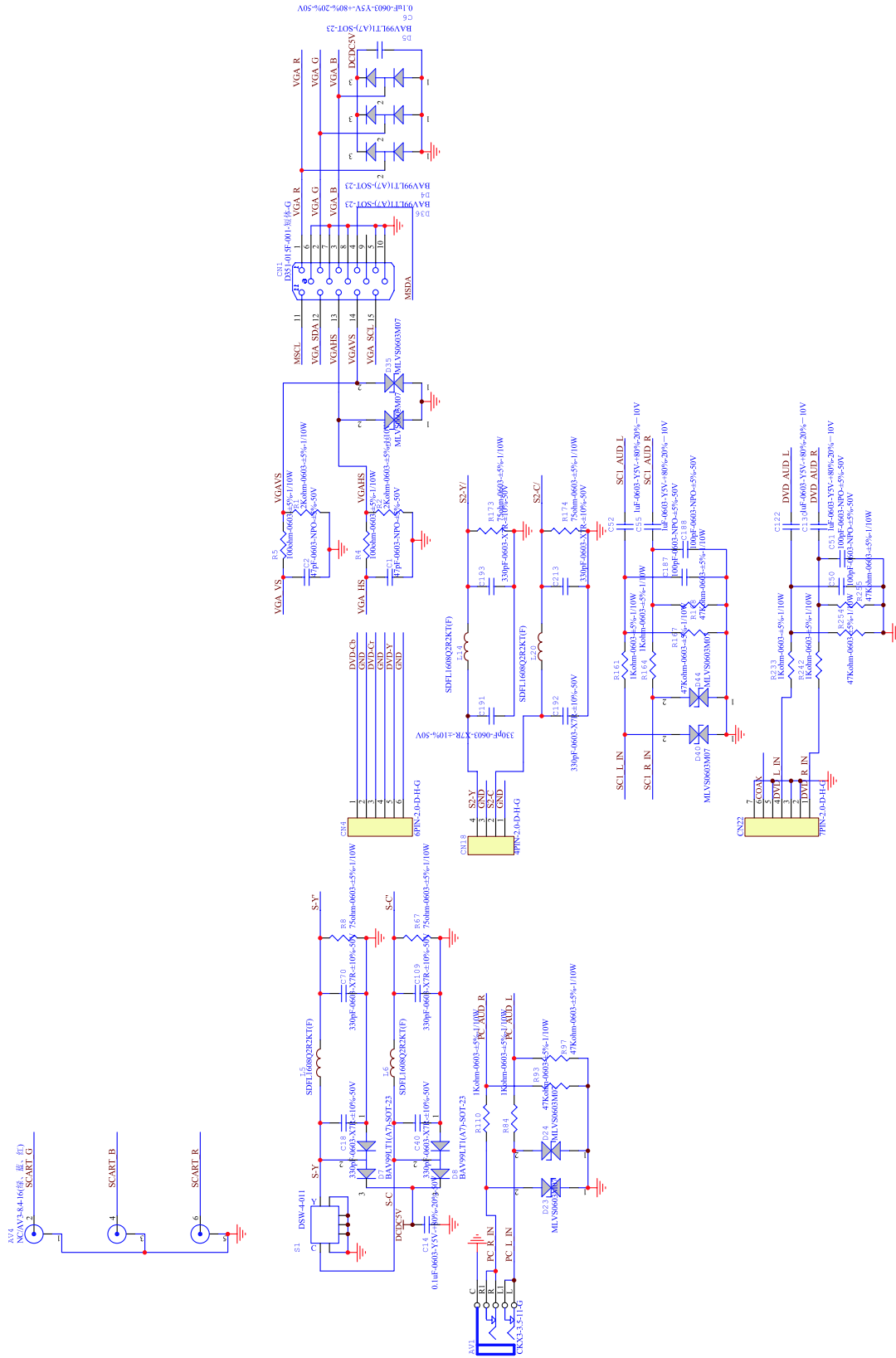


Driver PCB Principle Diagram

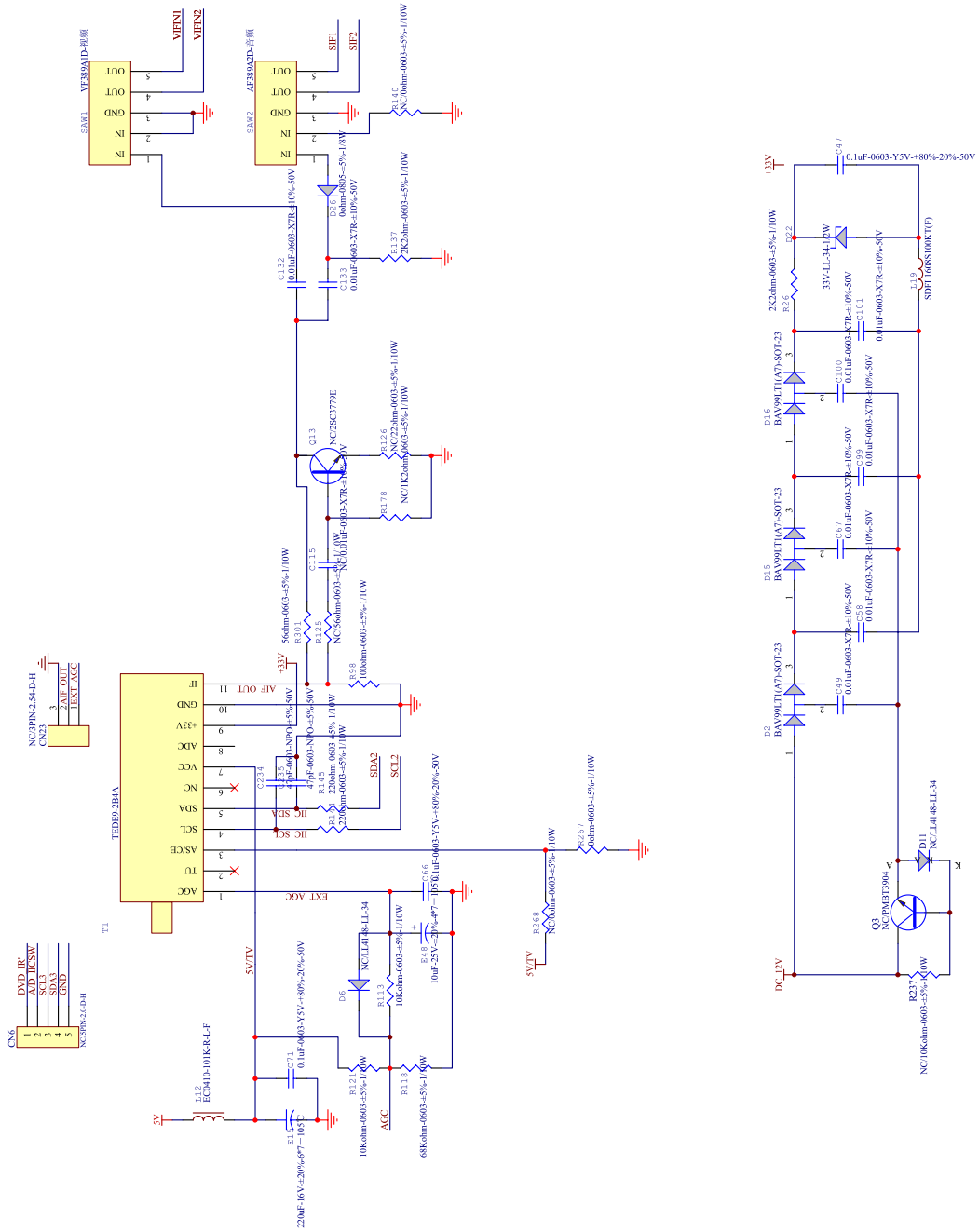
01_SYS POWER



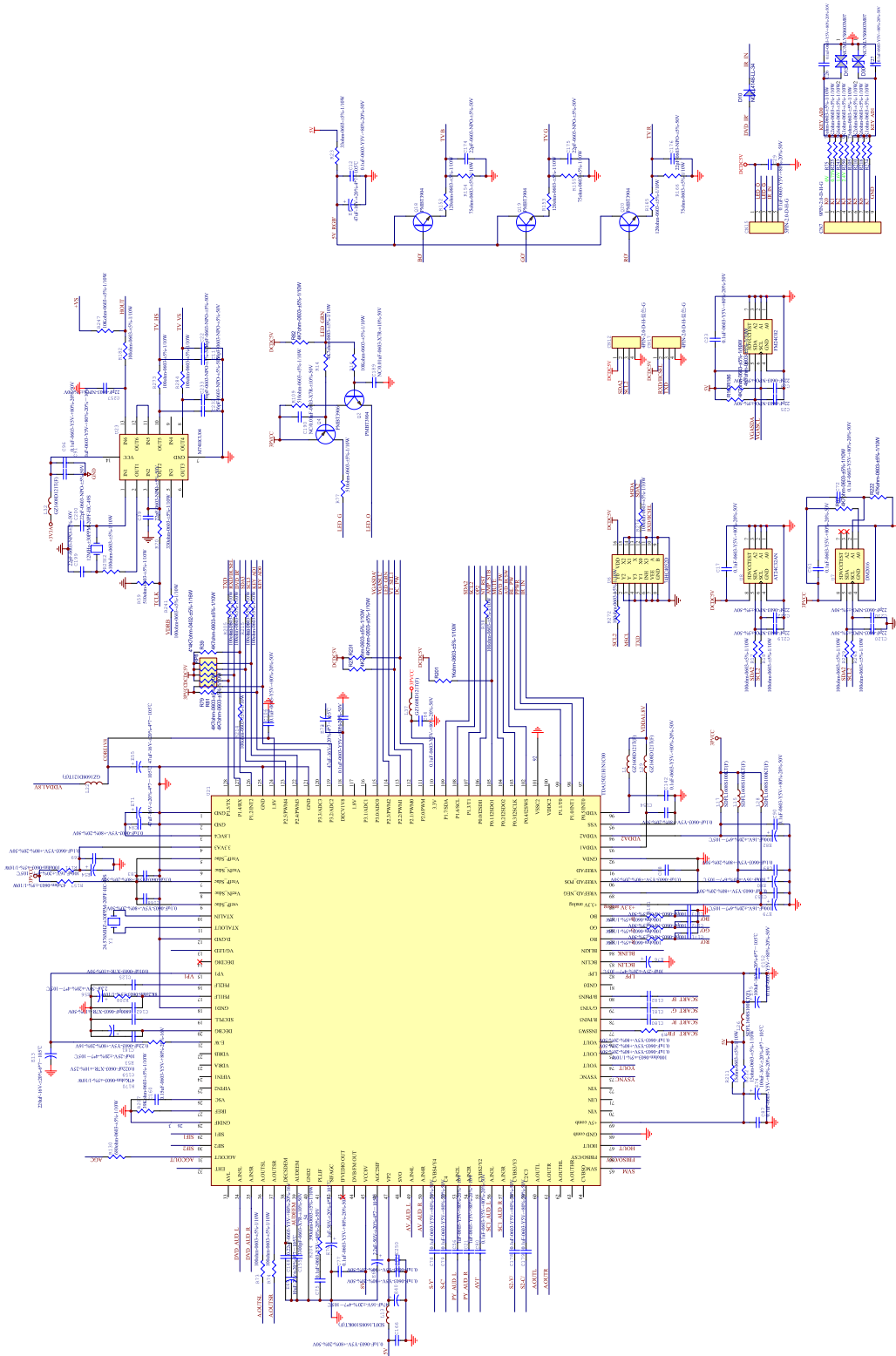
02_INPUT



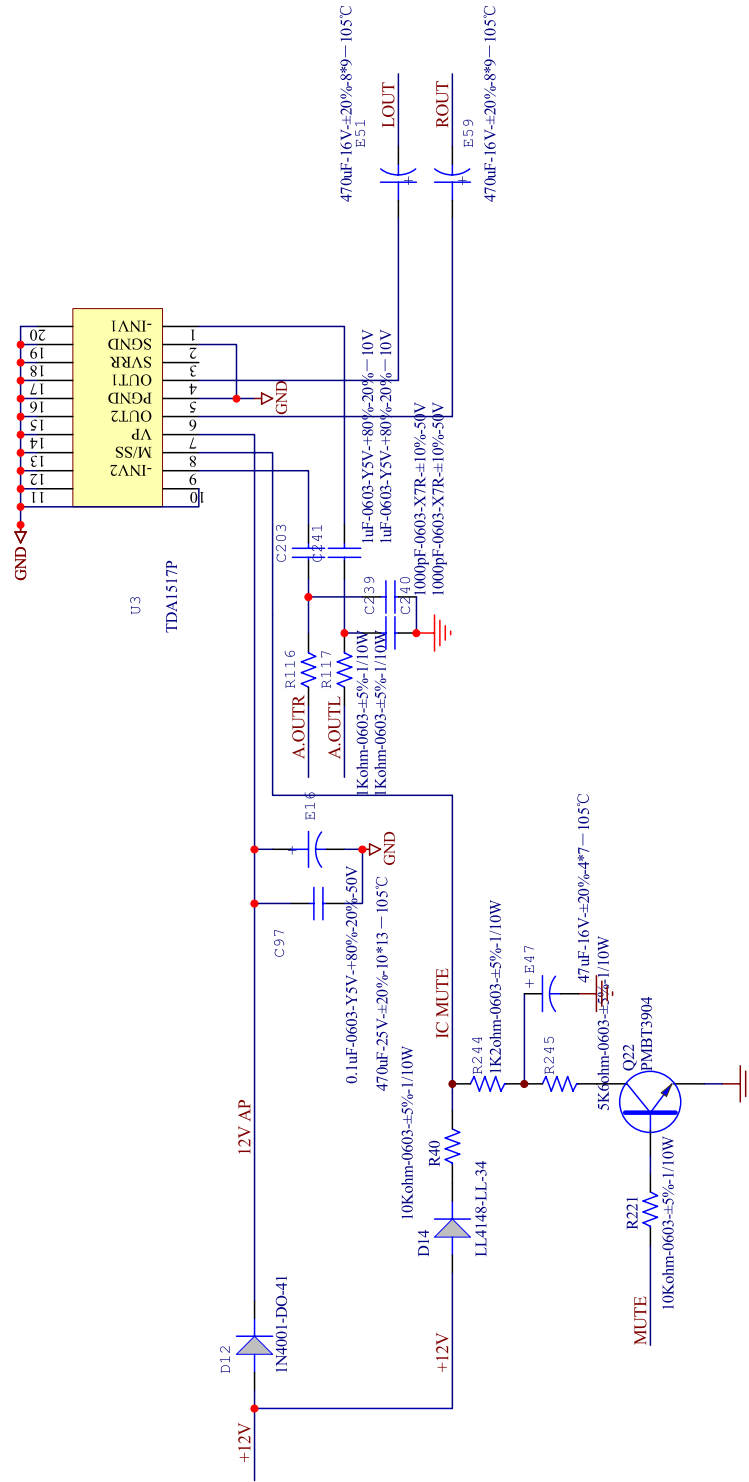
04_TUNER



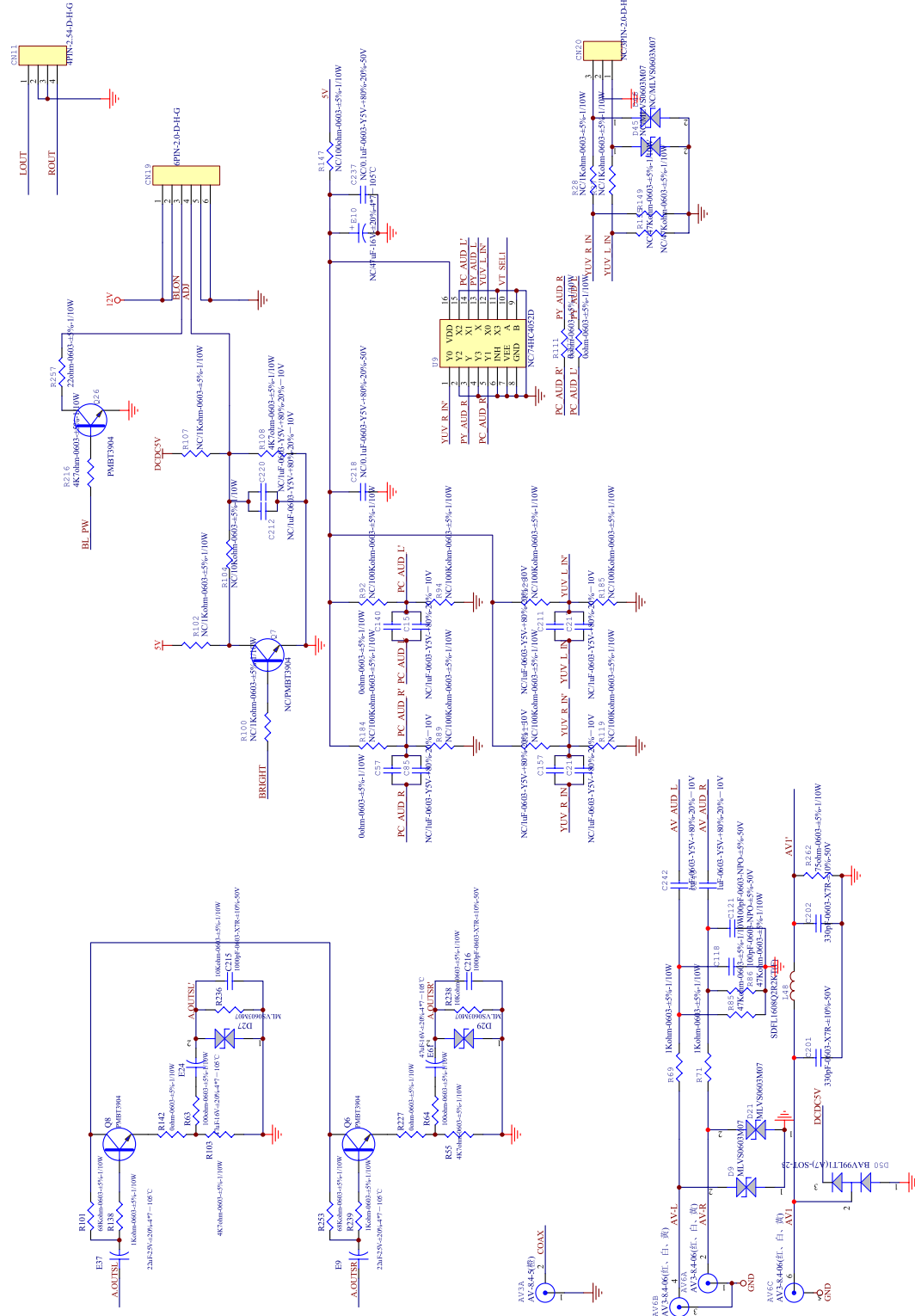
05_UOC3



06_AUDIO

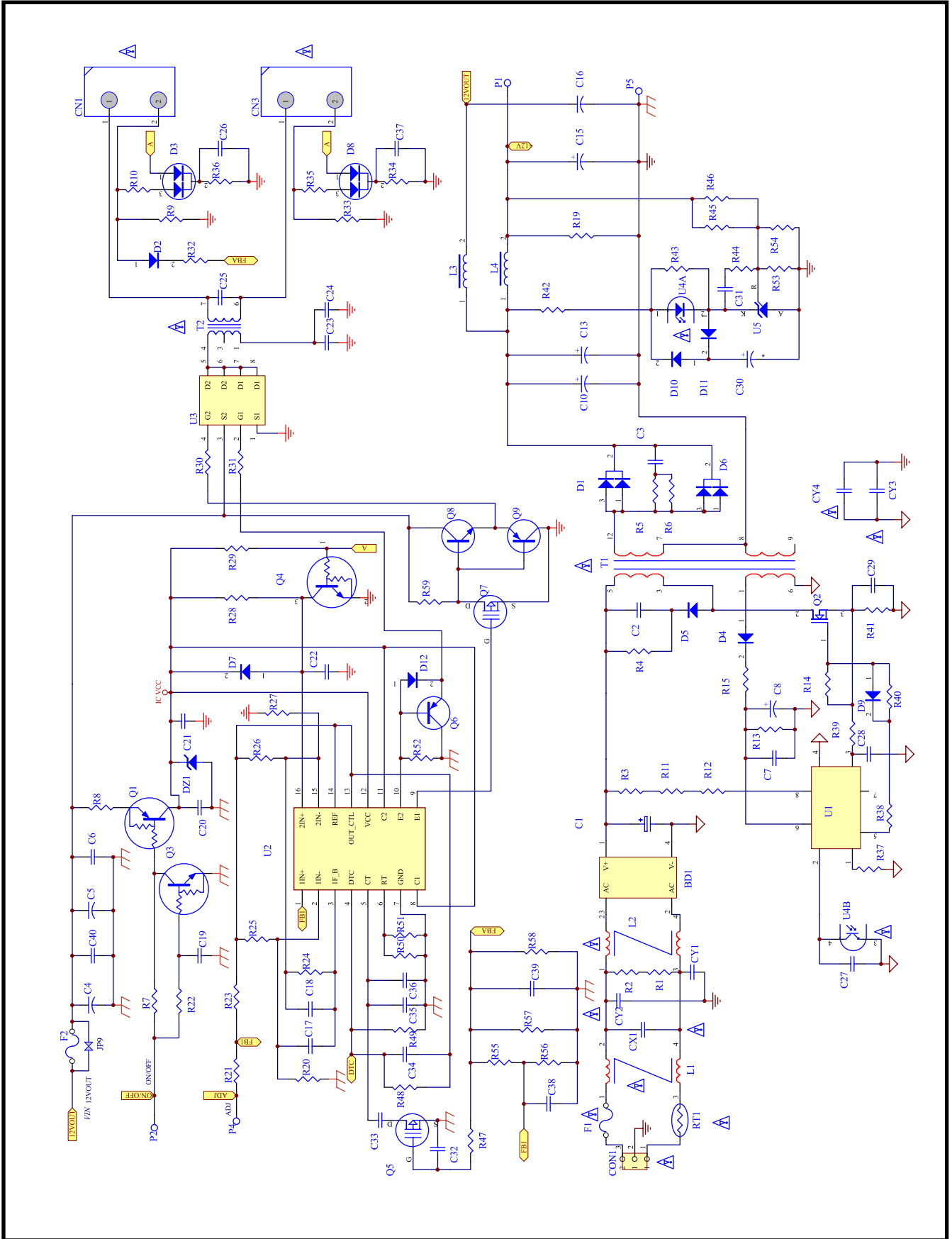


07_OUTPUT



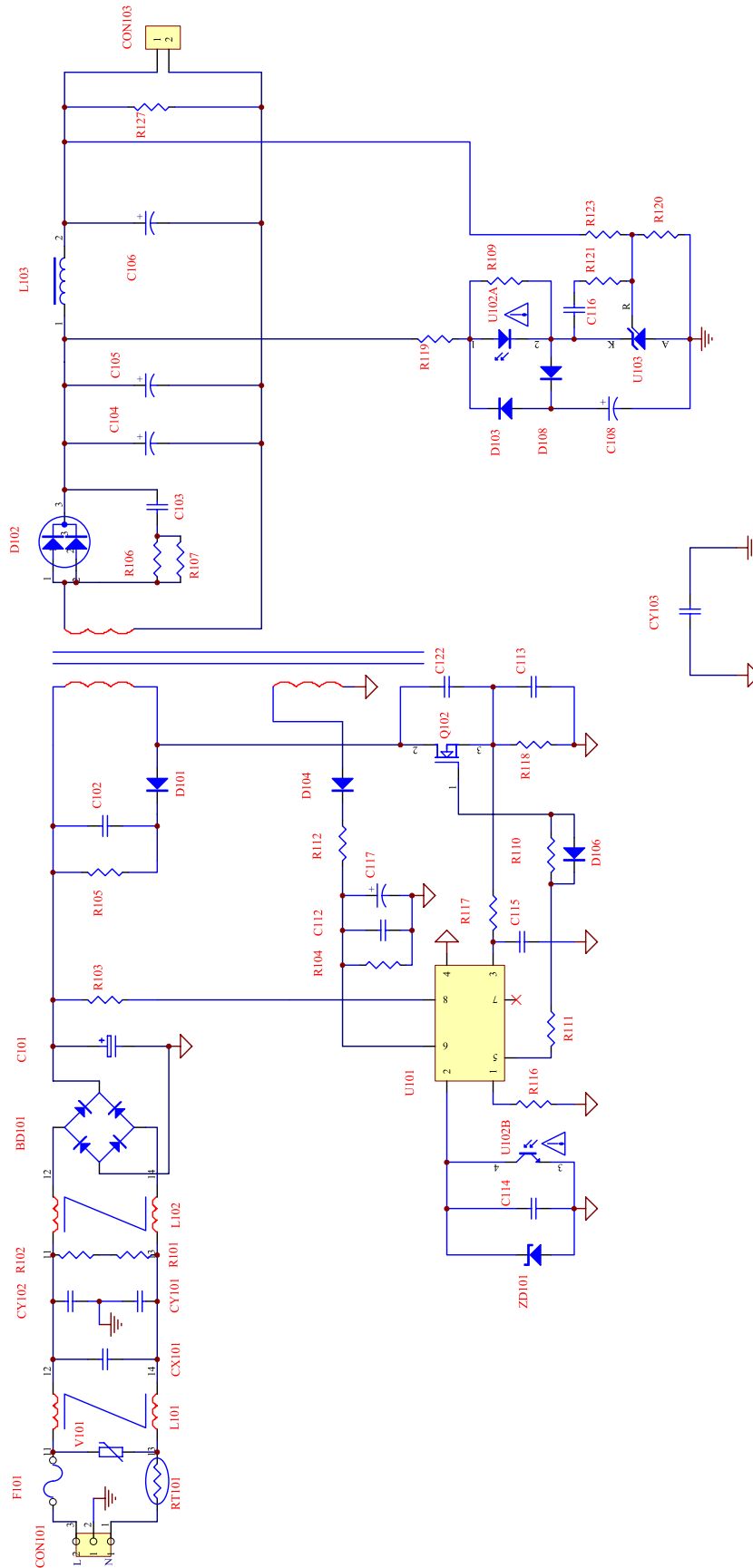
Power PCB Circuit Diagram

PCB Name: Power PCB 15 “
 Power PCB Model No. : SHP1501A-102



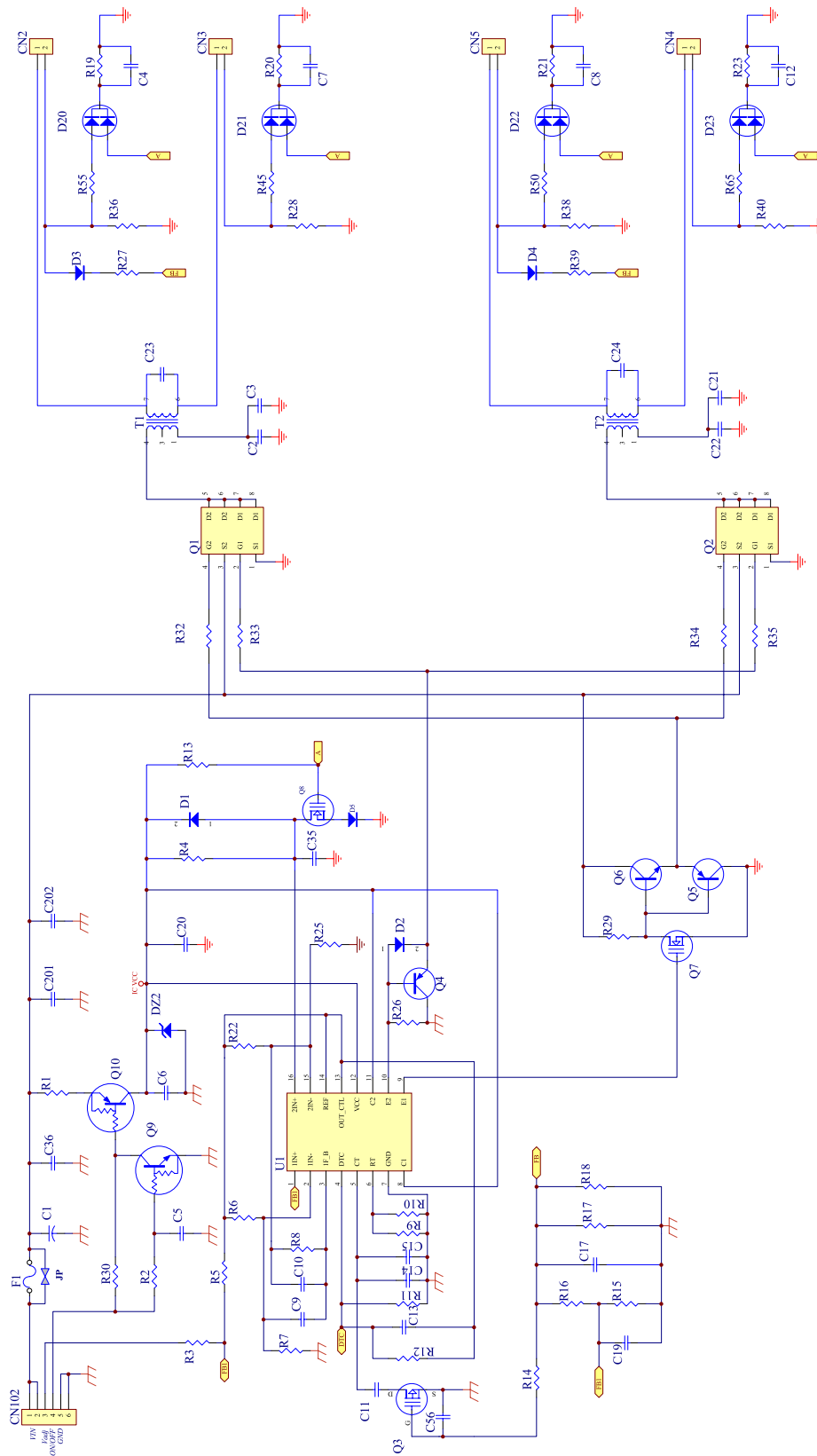
PCB Name: Power PCB 19 “/22 “
 Power PCB Model No. : SH17LP601A

SH17LP601A Schematic(1)

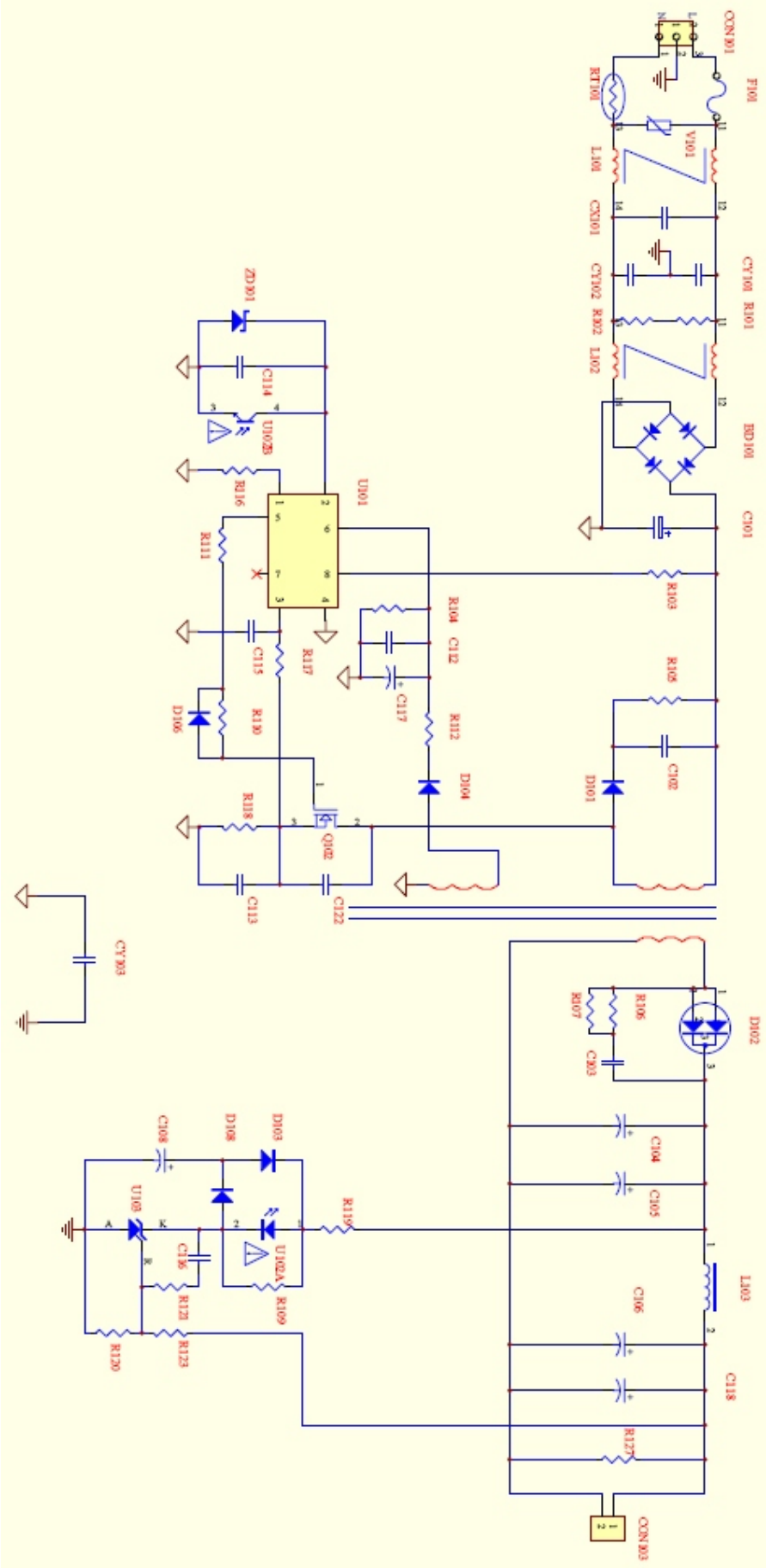


PCB Name: Power PCB 19"/22"
 Power PCB Model No. : SH17LP601A

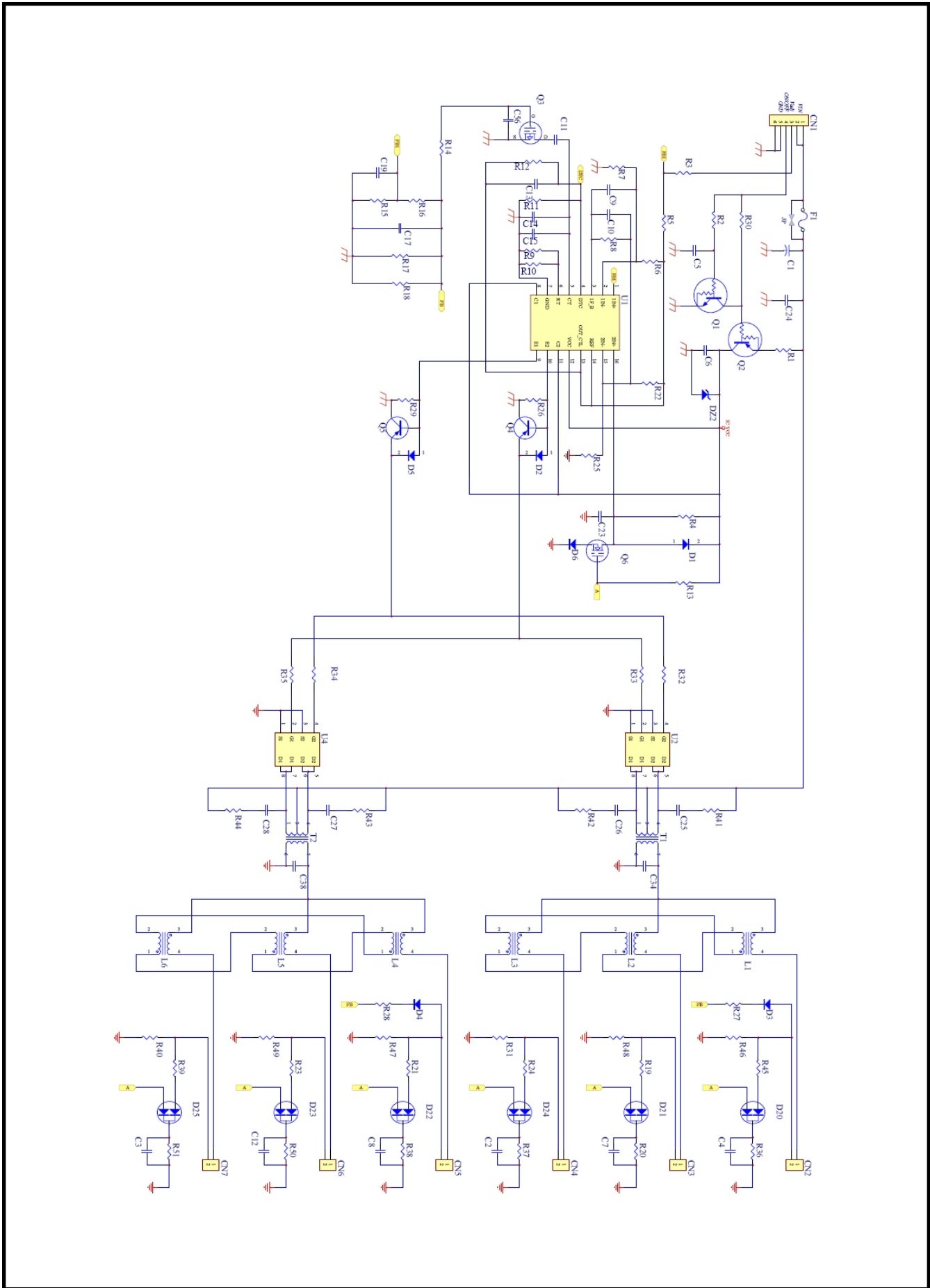
SH17LP601A Schematic (2)



PCB Name: Power PCB 20 “
Power PCB Model No. : SH20LP721A (1)

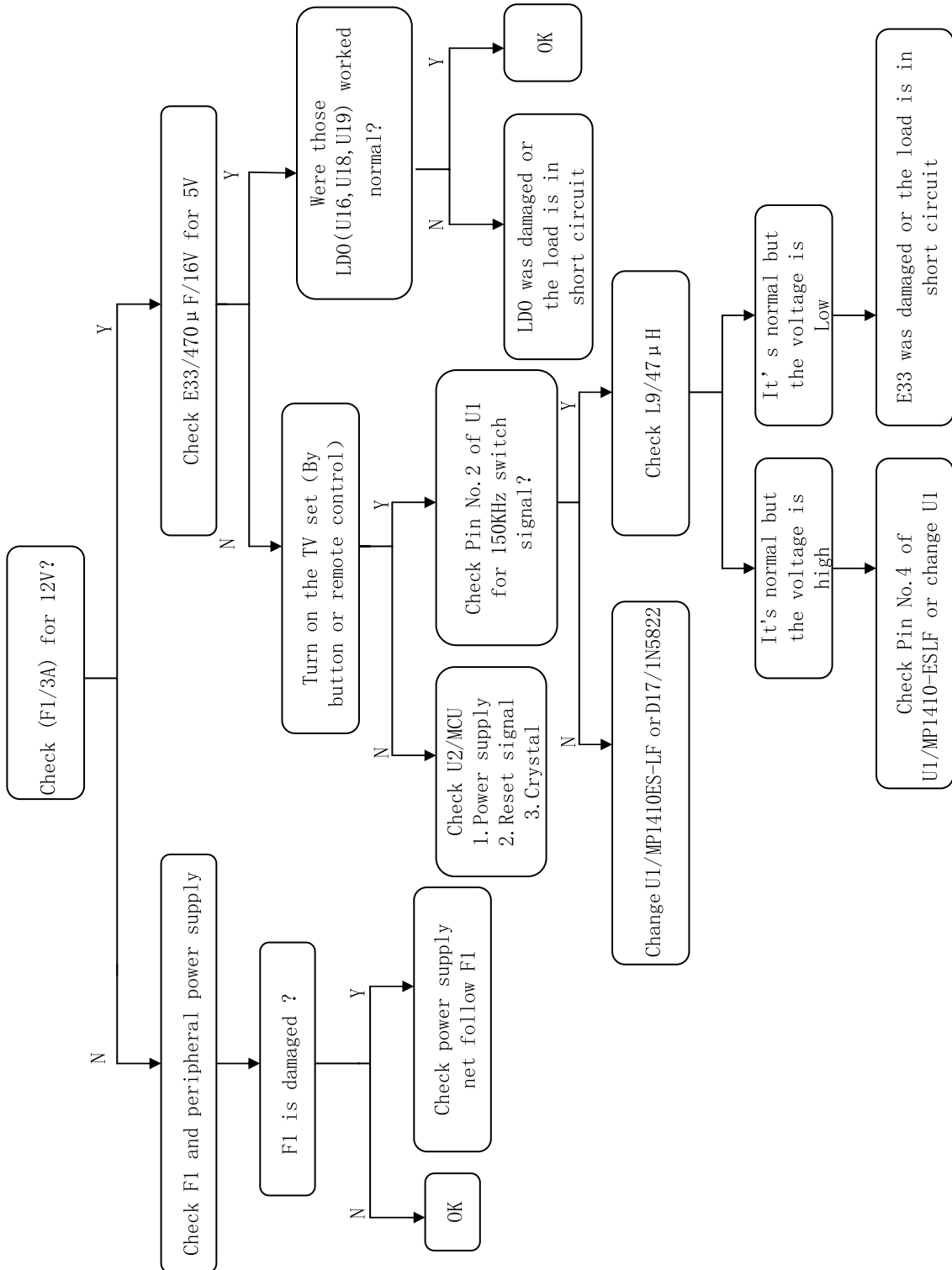


PCB Name: Power PCB 20 “
Power PCB Model No. : SH20LP721A (2)

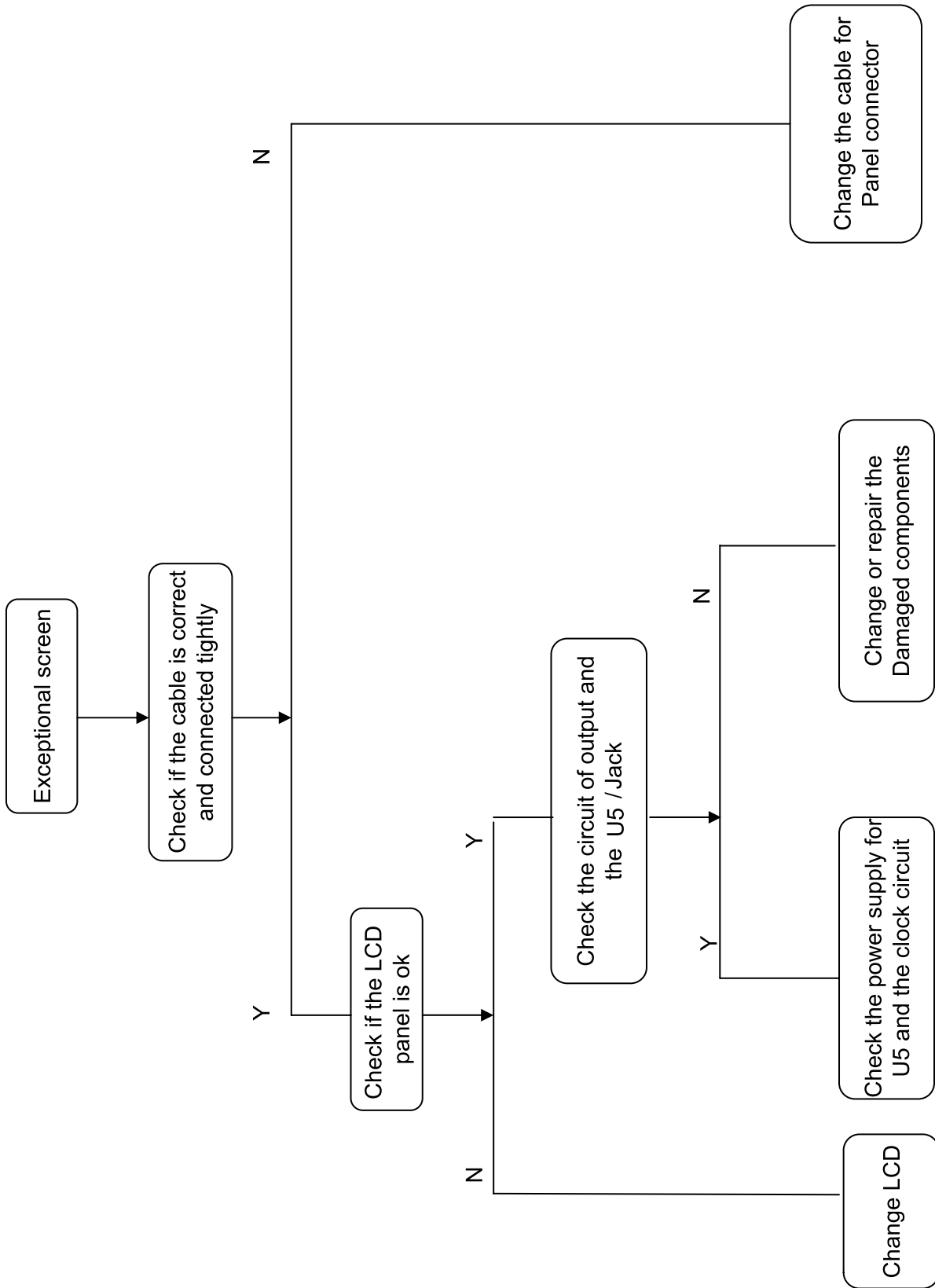


Trouble shooting Charts

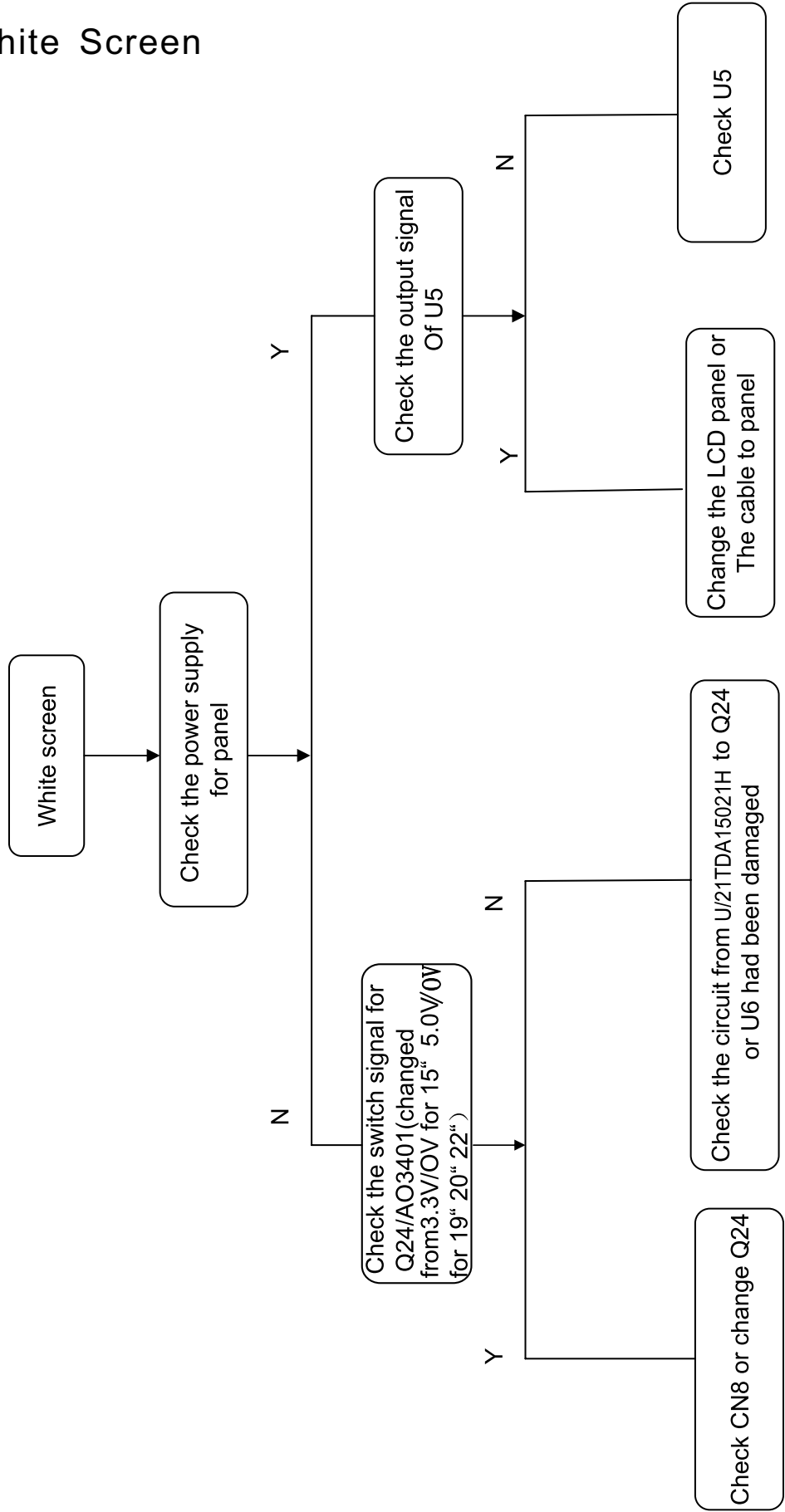
1. Power Supply Trouble



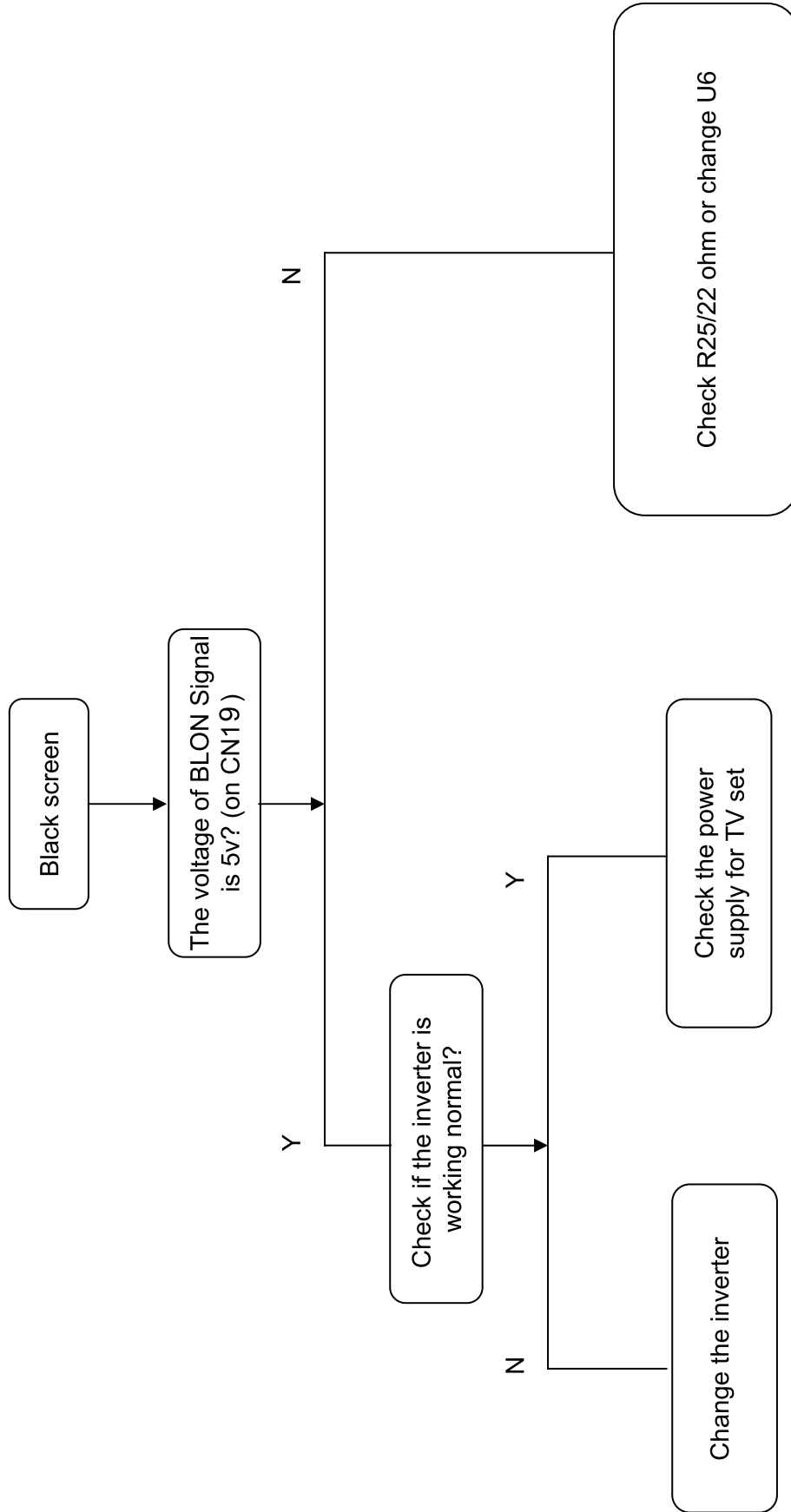
2.Abnormal Screen



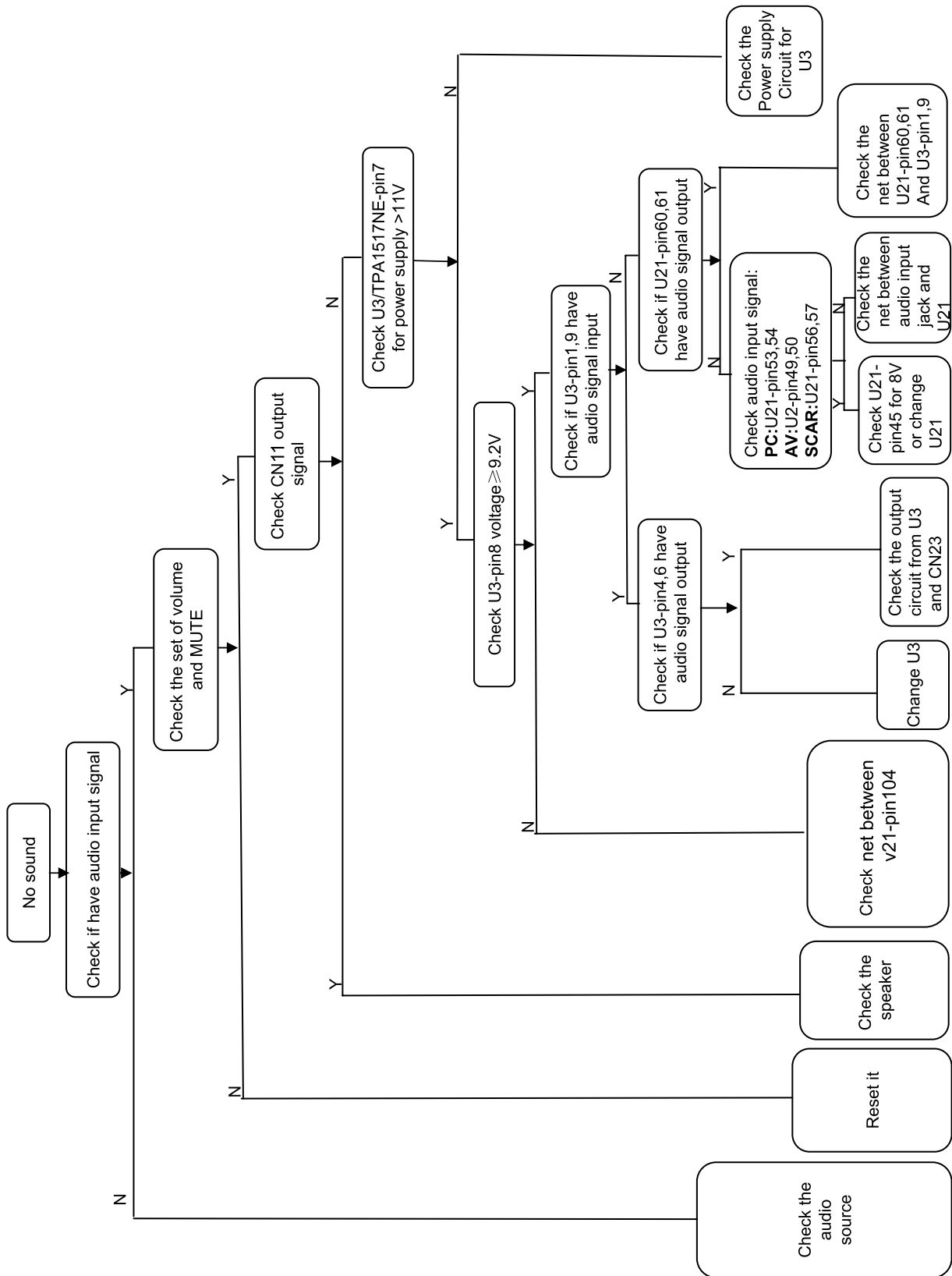
3. White Screen



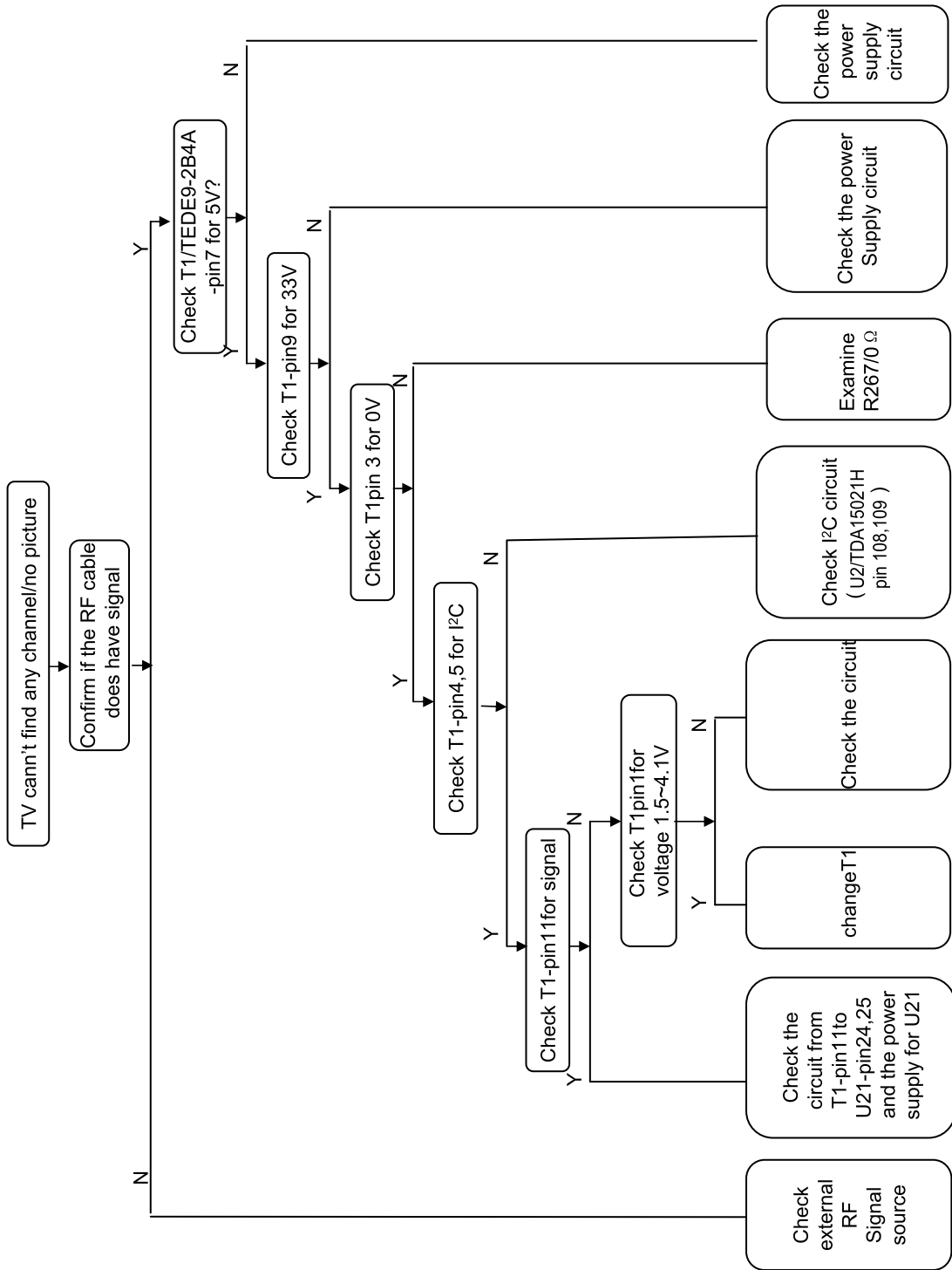
4 . Black Screen



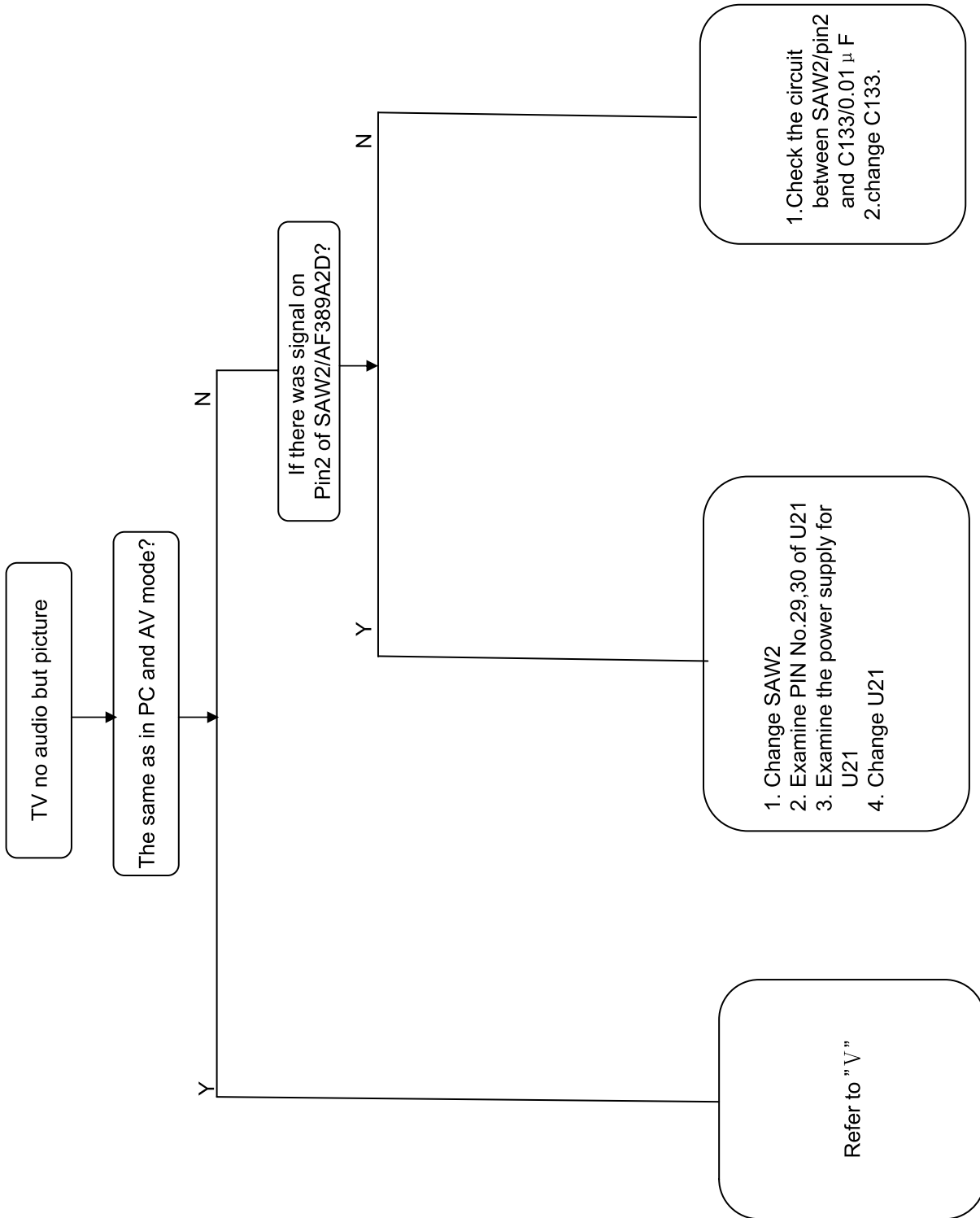
5.Audio trouble(no sound)



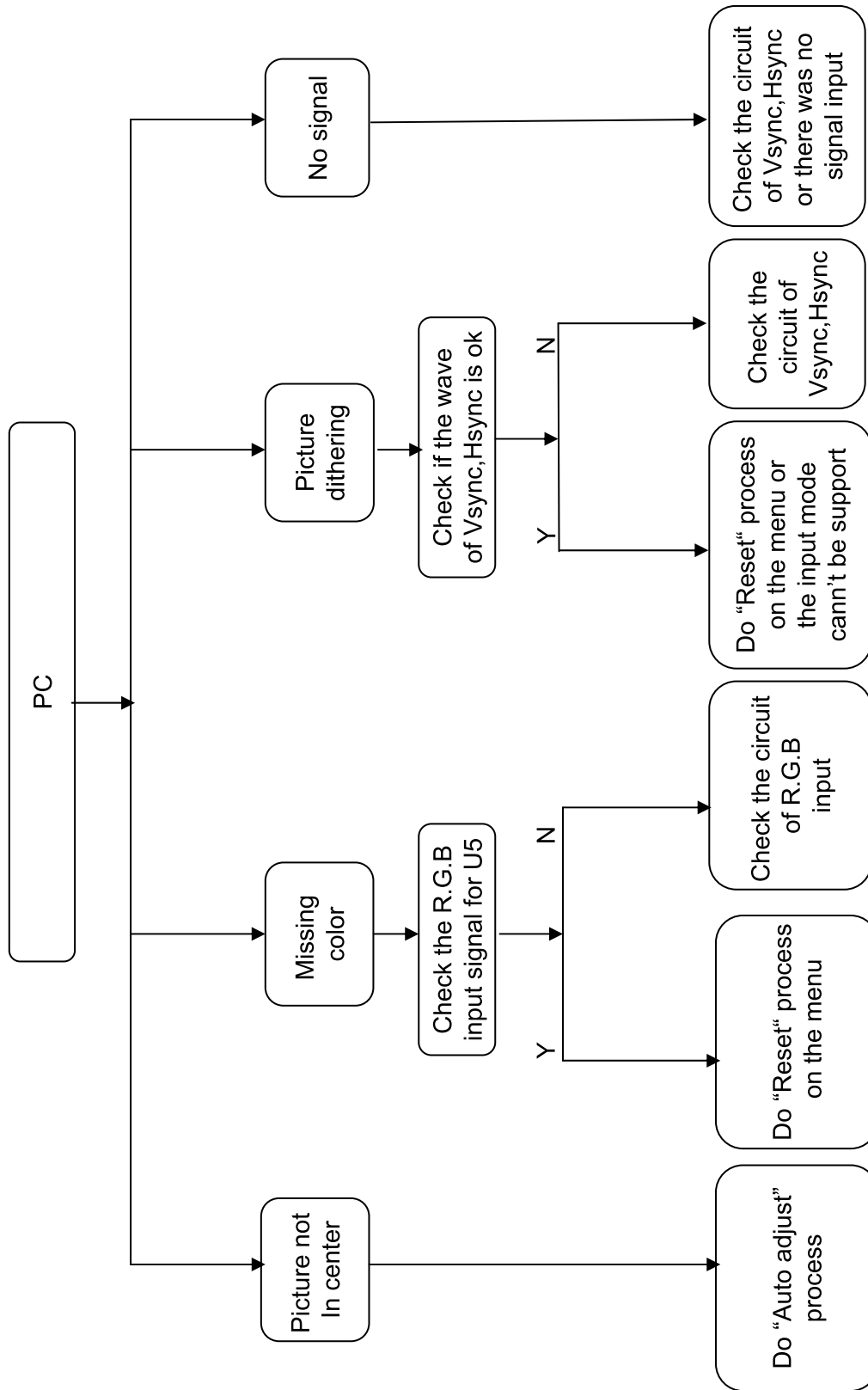
6.Function trouble(TV Video)



7.Function trouble(TV Audio)



8.Function Trouble(PC)



9.Function trouble(SCART AV S-VIDEO)

