

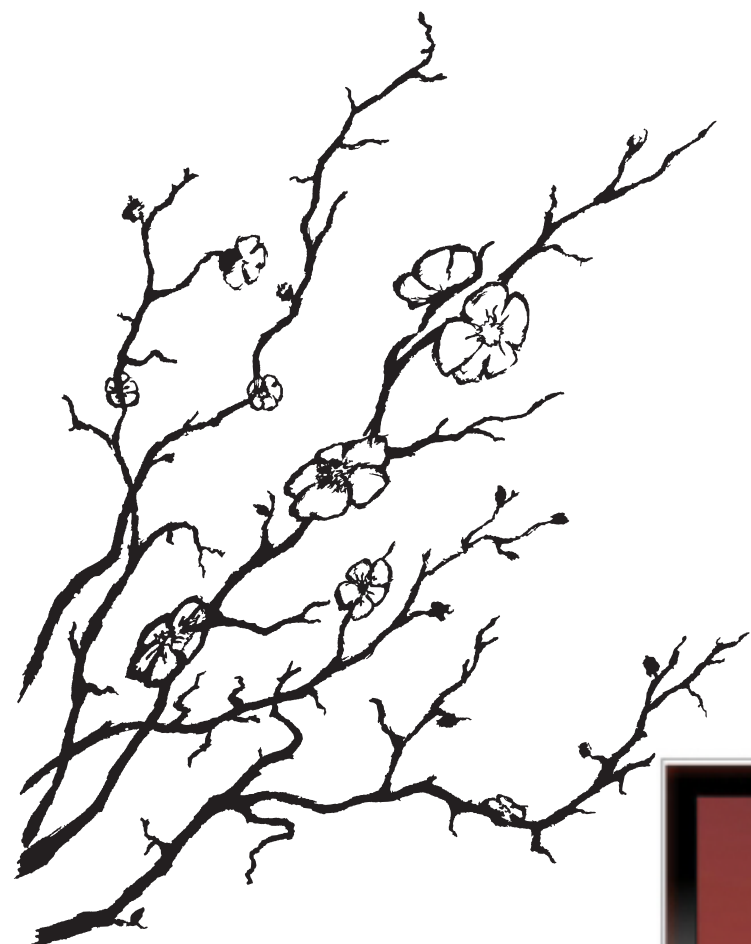
# AKAI

Multisystem LCD TV set

**LEA-19V07P**

**LEA-22V07P**

**LEA-24V07P**



Service manual

|                                       |           |
|---------------------------------------|-----------|
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# ***Important Safety Instructions***

|                                                                                                                                                                                                                                                                  |                                                                                                                                                                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <div data-bbox="379 338 703 573"><b>CAUTION</b><br/>RISK OF ELECTRIC SHOCK DO NOT OPEN</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> |

## **Observe all warnings and cautions**

- All warning and cautions on the unit and in the User Manual must be observed closely.

## **Servicing**

- Non-qualified service personnel shall not open the cabinet for repairing.
- Be sure to unplug the power cord from the outlet before cleaning and servicing.

## **Handling and Cleaning the Screen**

- Do not push on or scratch with hard objects. Or throw anything at the screen. The screen may be damaged.
- To remove dust from the screen surface, wipe gently with a clean, soft and cotton-free dry cloth.
- Do not use any type of abrasive pad, alkaline/acid cleaner or strong solvent such as alcohol, thinner or benzene etc, as the surface maybe impaired.

## **Replacement Parts**

- Make sure that the replacement parts are specified by the manufacturer, or those parts with the same characteristics and performance as the original parts. Use of unauthorized parts can result in fire, electrical shock or other danger.
- Upon completion of service or repair work, request the service technician to perform safety checks to ensure that the unit is in proper operating condition.

# ***Basic Trouble Shooting***

---

## **Problem: Do not power on and no red indicator light.**

- Please check the output voltage of AC adaptor, the proper output should be DC12V.
- Please check the fuse on the Main Board if broken.

## **Problem: Do not power on, red indicator light at stand-by mode.**

- Please check whether the power supply has somewhere short circuit to ground or not?
- The EEPROM or Flash memory lose the software, upgrade again please.

## **Problem: Power on the unit, no display on the screen, but sound is ok.**

- Please check whether the backlight of LCD/LED panel is lighted or not.
- If no backlight, check the connection is reliable? And check whether LED driver board is ok or not? If not, please replace the LED driver board.
- If the backlight works normal, but no display or no picture on the screen, please check whether the power supply to the panel (+5V) is right or not? If not, need to check whether the switch transistor on the Main board is broken or not? Refer to Main Board Trouble Shooting and Circuit Diagram.

## **Problem: The remote controller doesn't work.**

- Please check whether the connector from the Main board to Key board is reliable or not? Refer to Main Board Circuit Diagram.

## **Problem: No sound.**

- Refer to Main Board Trouble Shooting: Audio Trouble.

## **Problem: Crackly noise**

- When turn volume high up it vibrate the casing and make crackly noise, please check and add more cotton flannels on the cabinet. And please check whether the speaker is damaged. If yes, please replace a new speaker.

## **Problem: TV can not search any channels.**

- Refer to Main Board Trouble Shooting: Function Trouble.



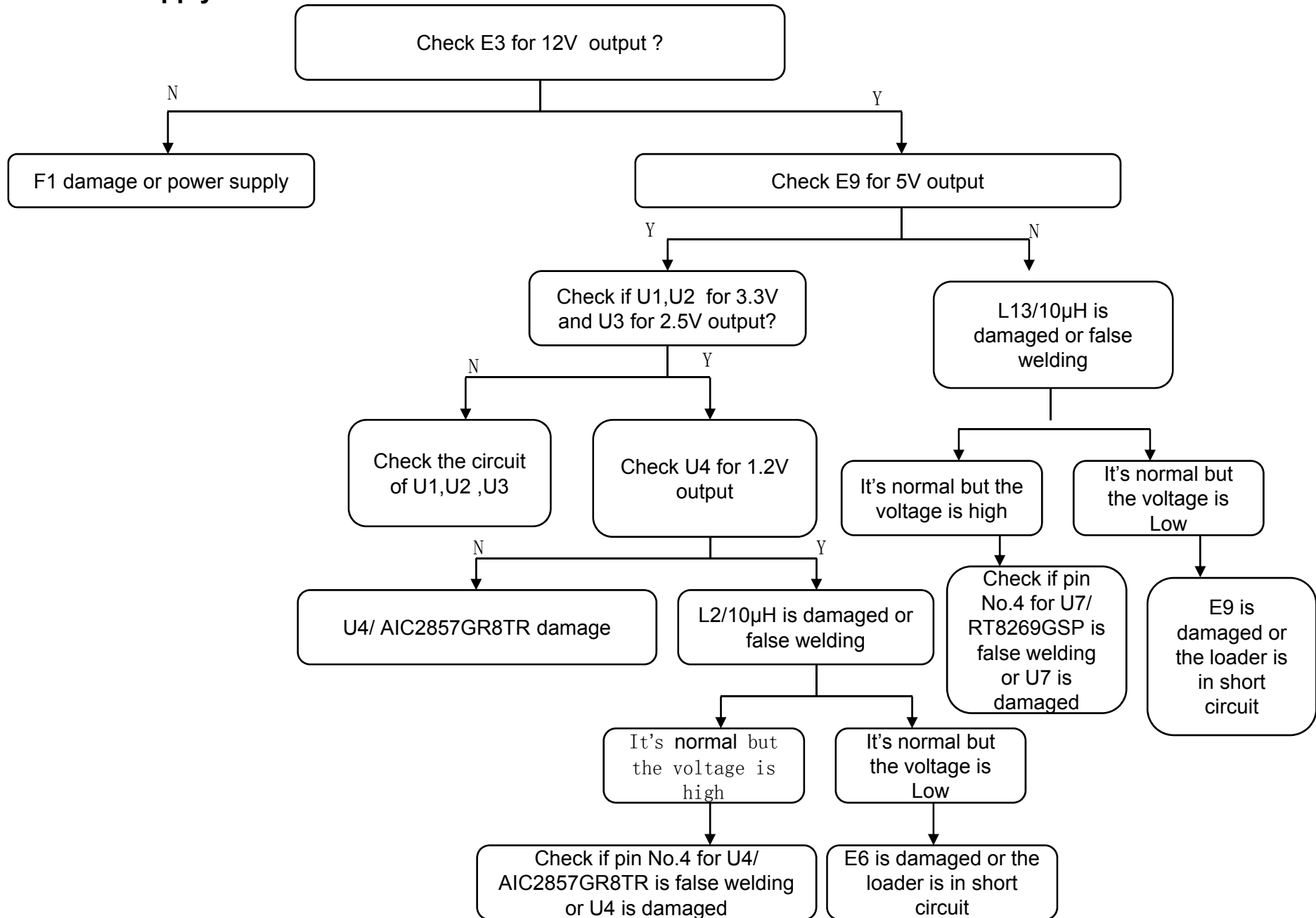
# ***Main Board Trouble Shooting***

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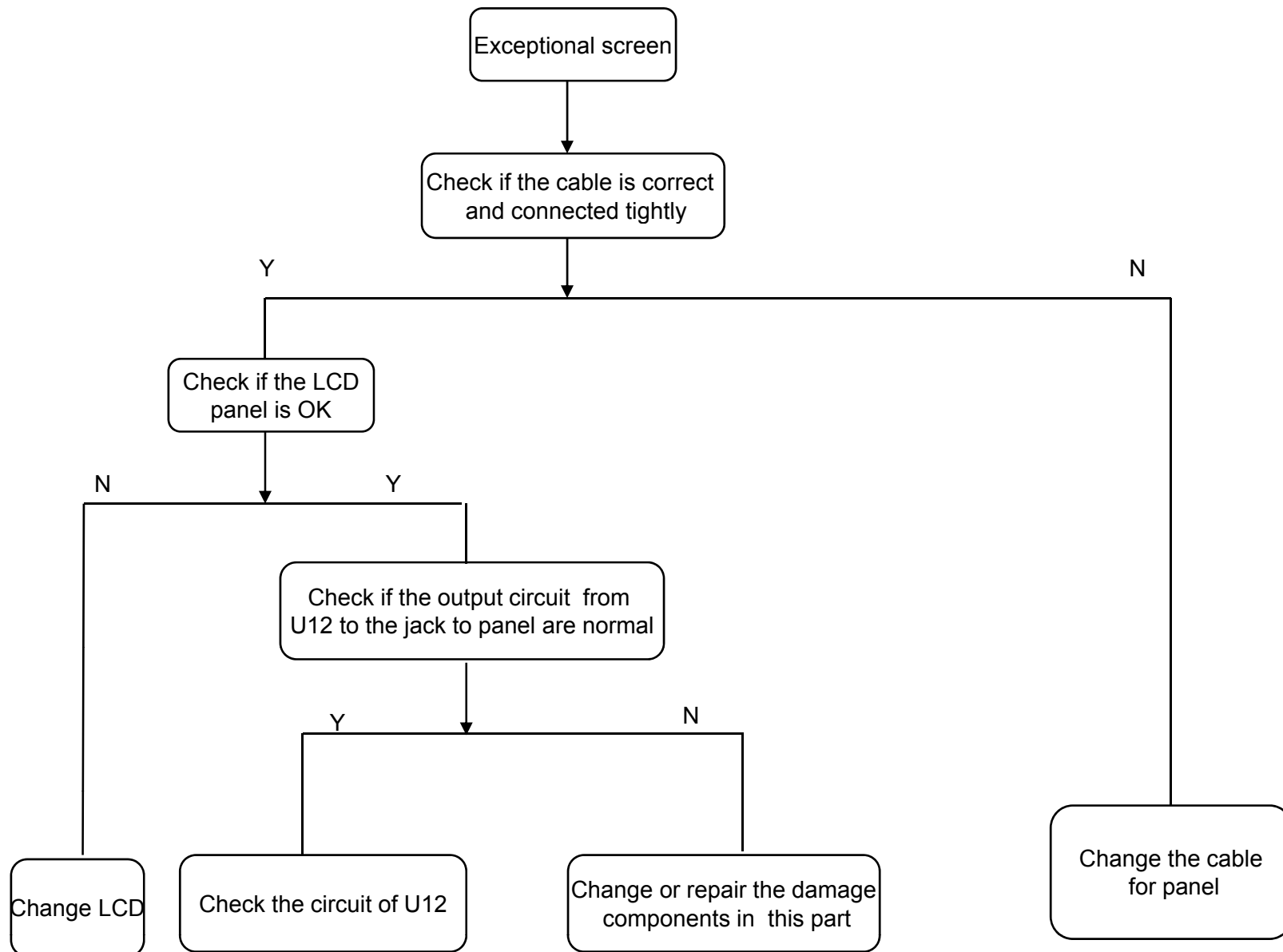
## **T.MSD6M181.7A Trouble Shooting**

- Power supply trouble
- Display trouble
- Audio trouble
- Function trouble

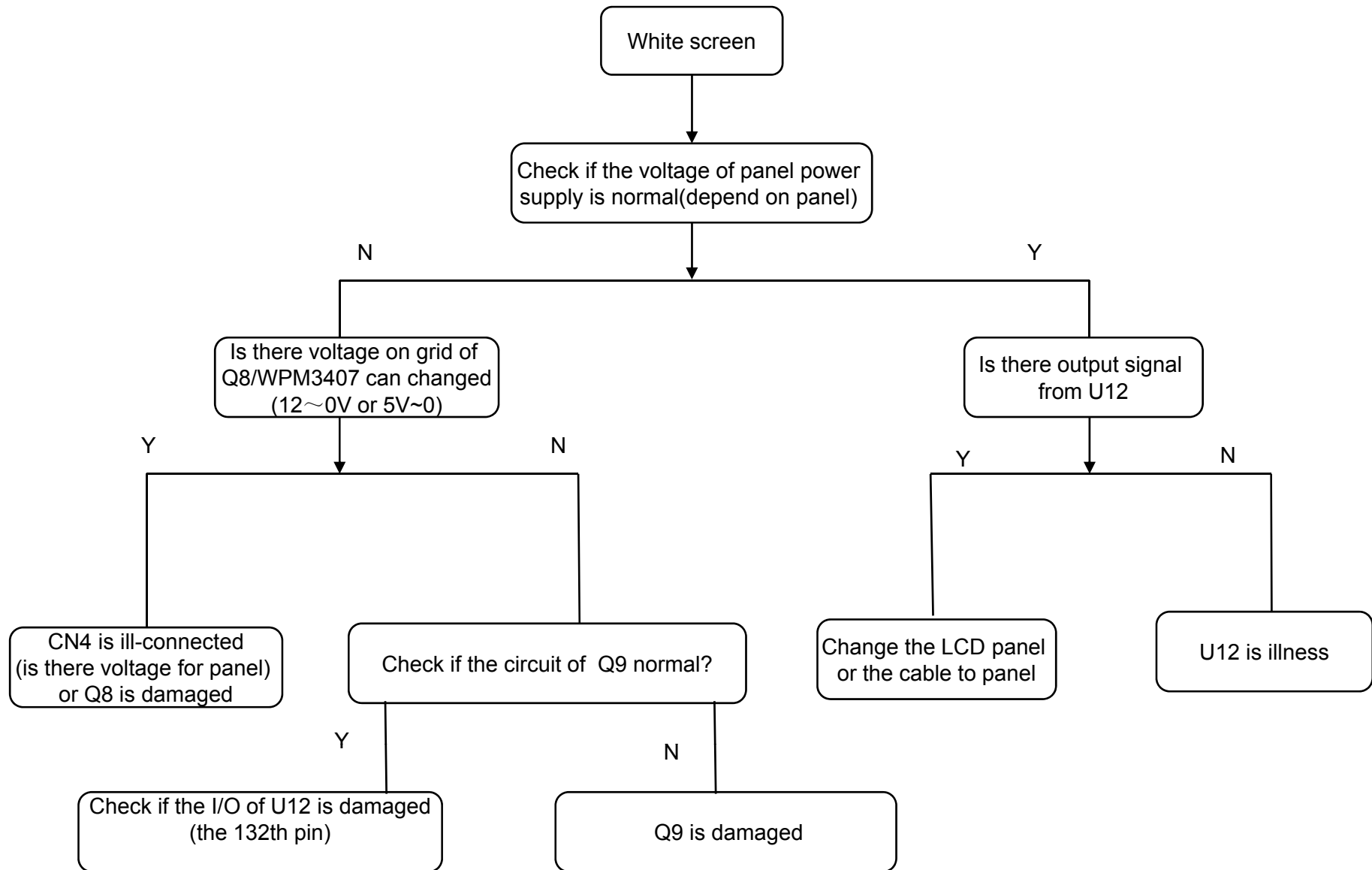
## 1、Power Supply Trouble



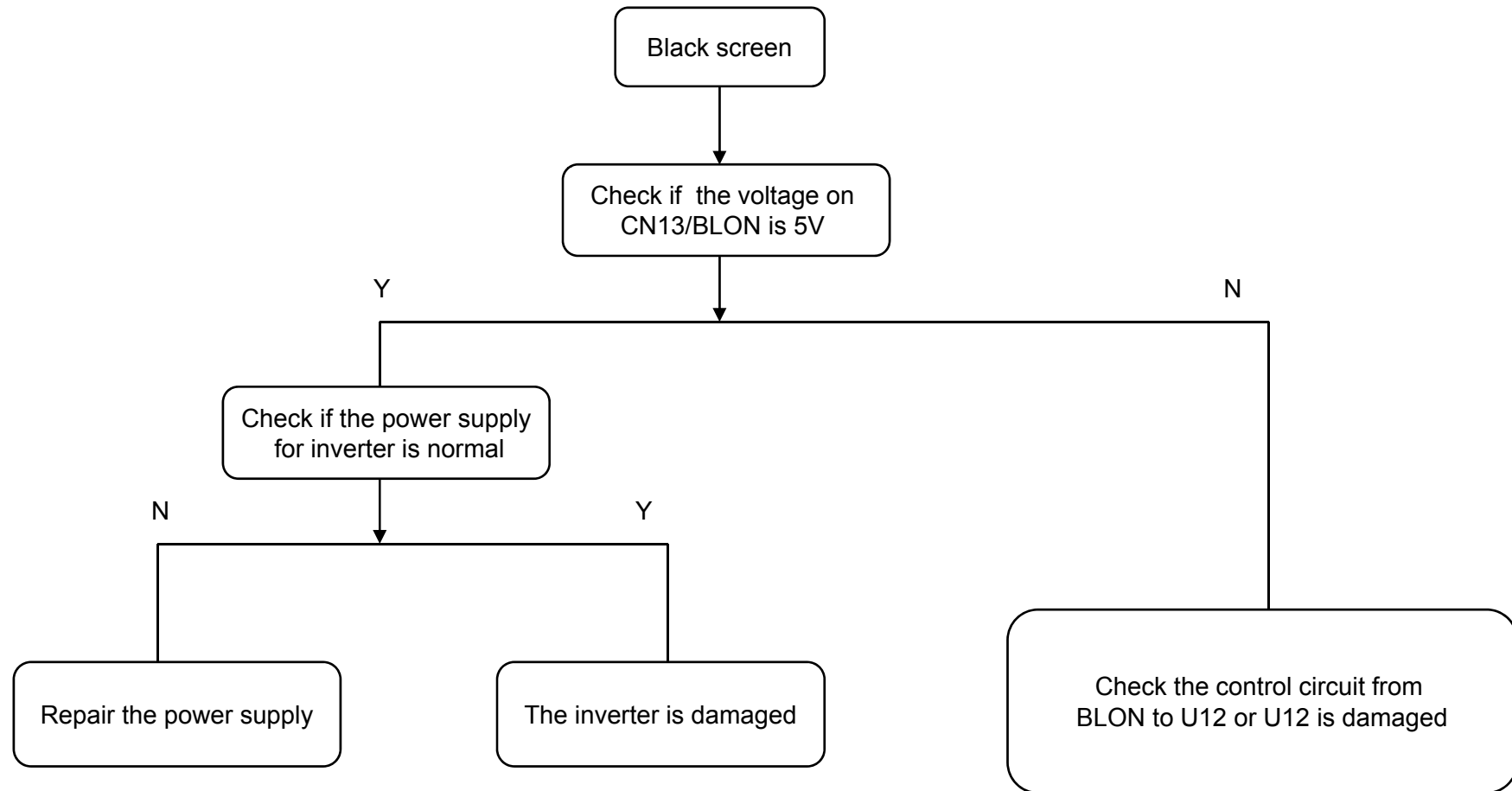
## 2、Display Trouble (exceptional screen)



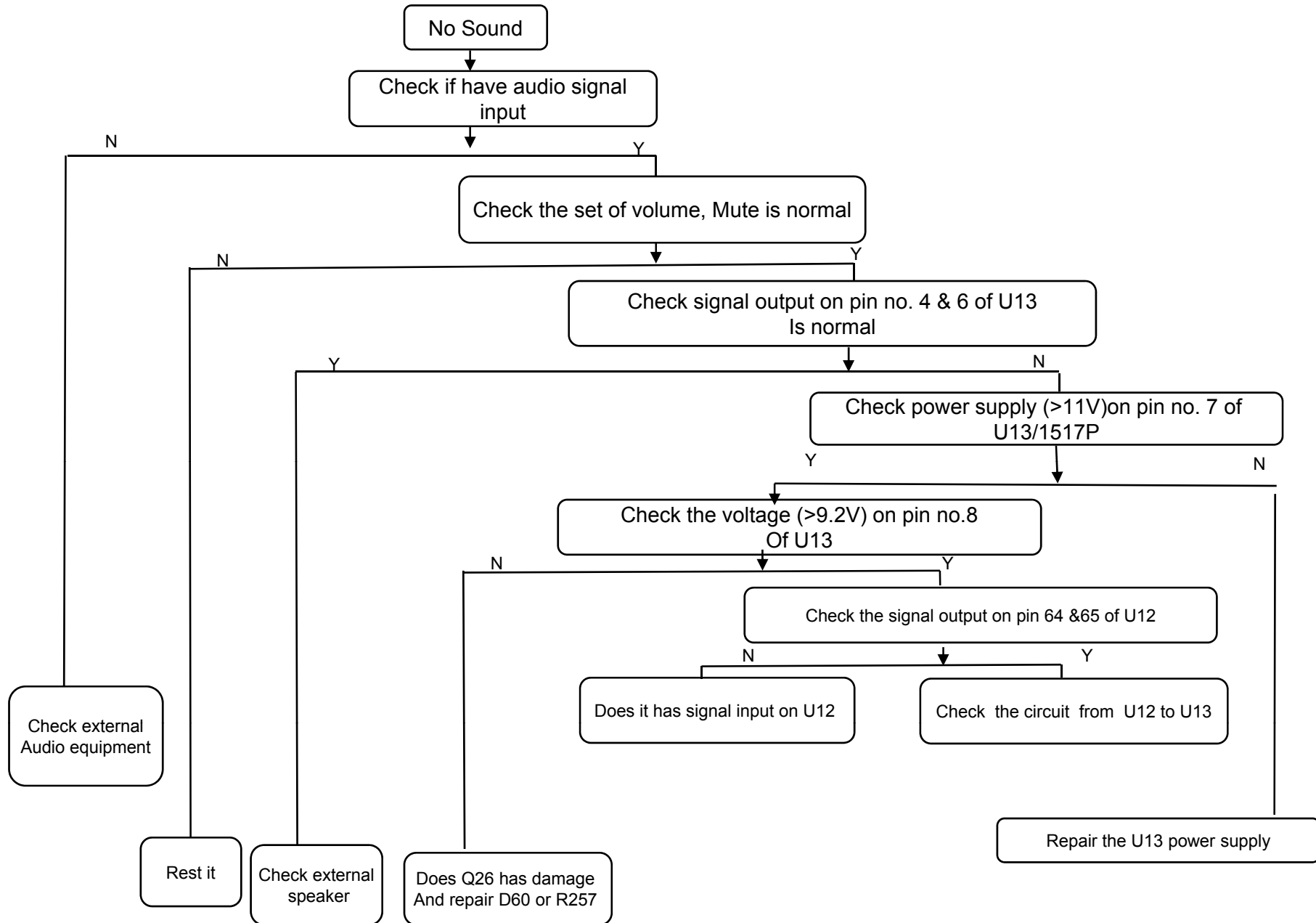
### 3、Display Trouble (white screen)



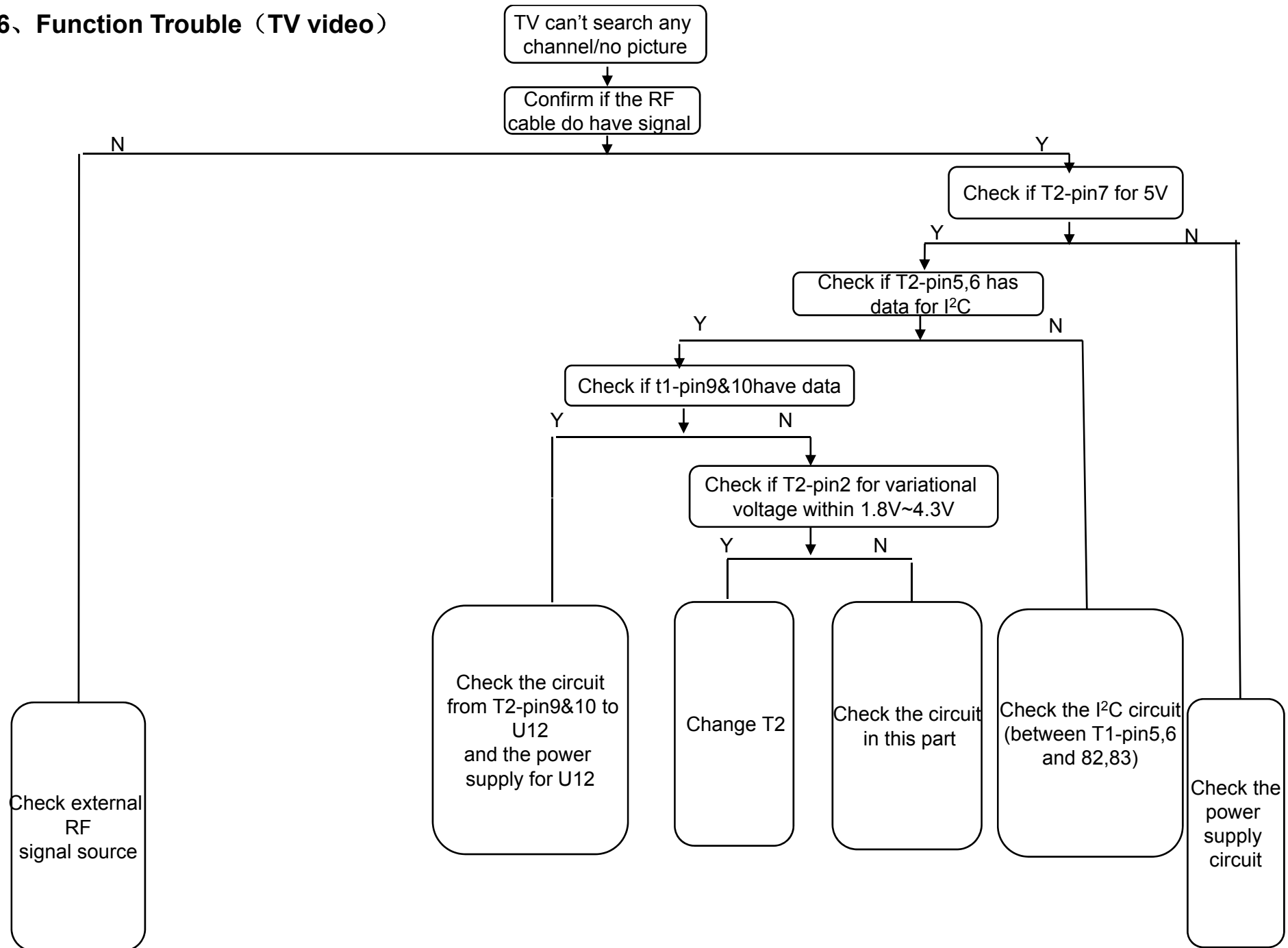
#### 4、Display Trouble (black screen)



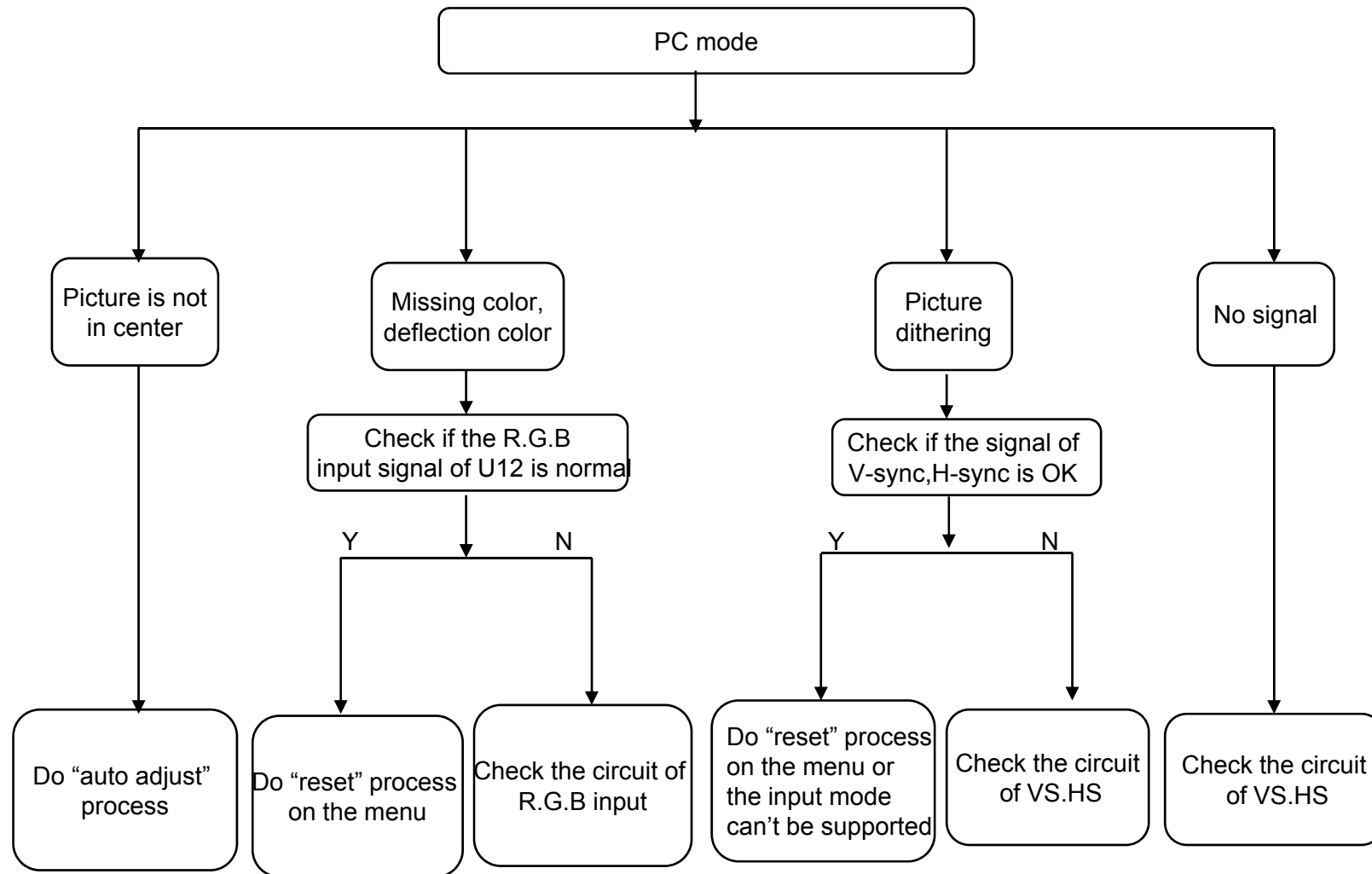
## 5、Audio Trouble (No sound)



## 6、Function Trouble (TV video)

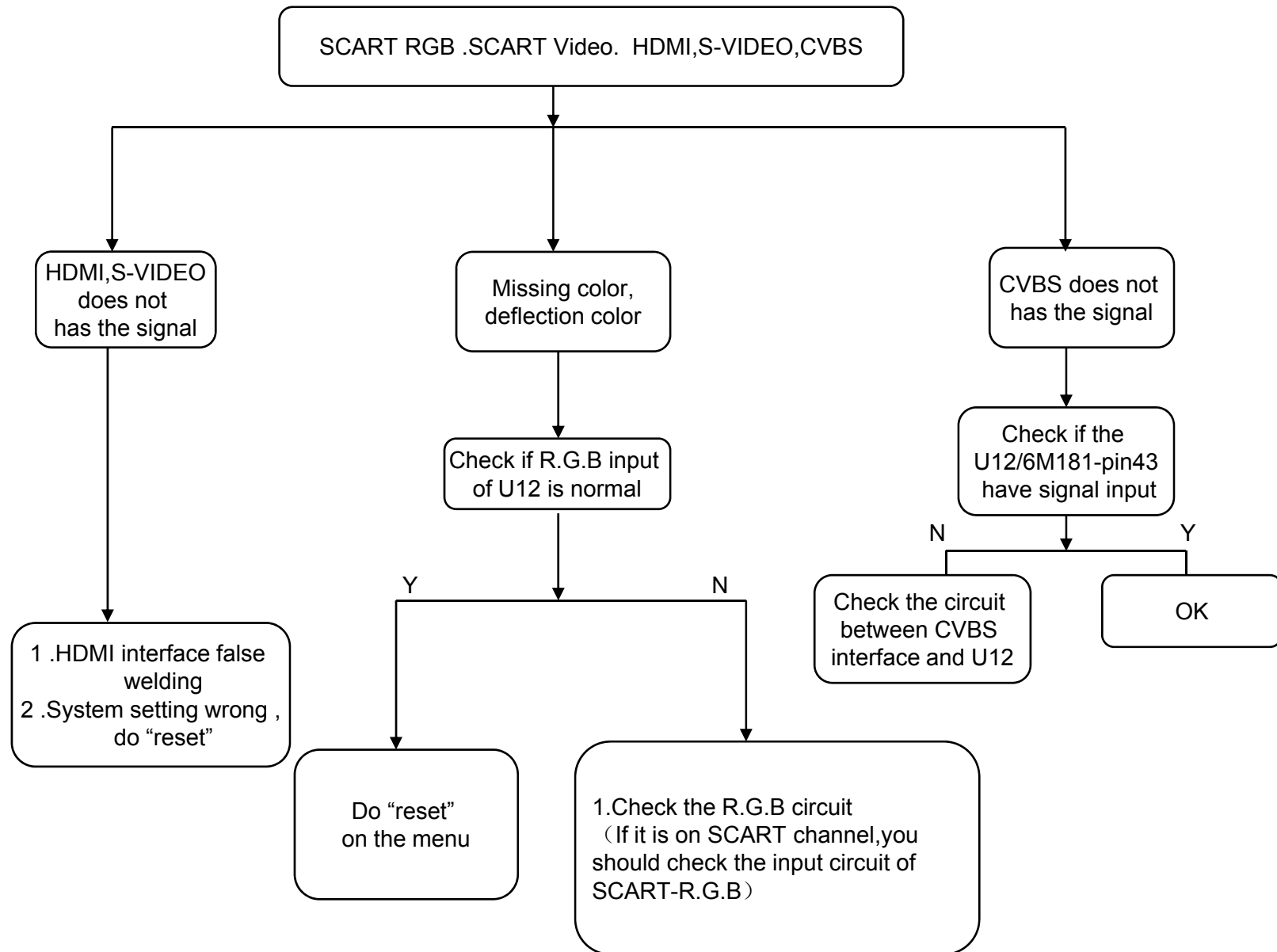


## 7、Function Trouble (PC)

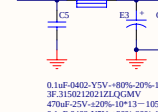
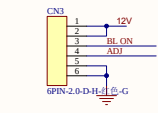
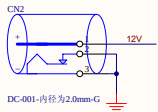




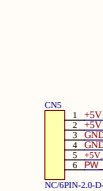
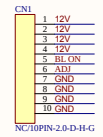
## 8、Function Trouble (SCART、HDMI、YPbPr、DVB/TV)



A



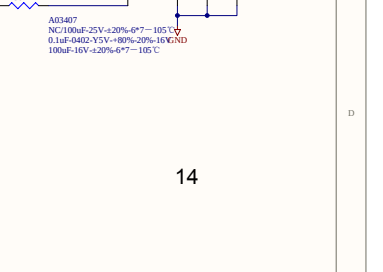
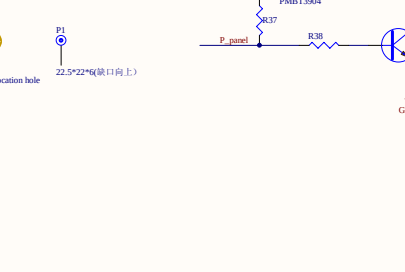
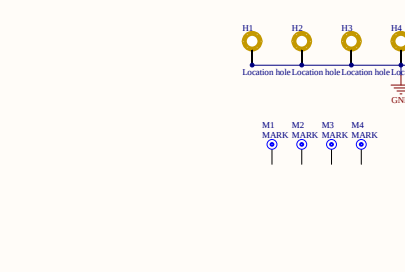
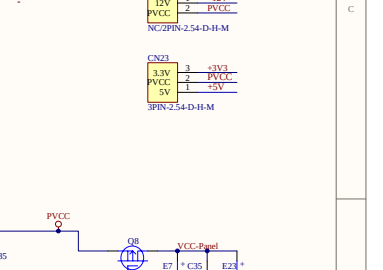
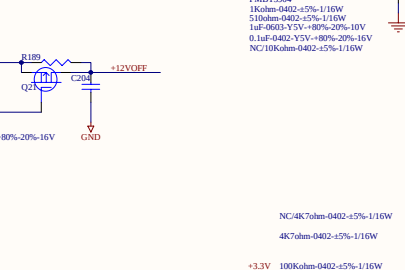
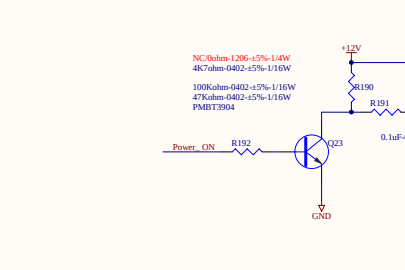
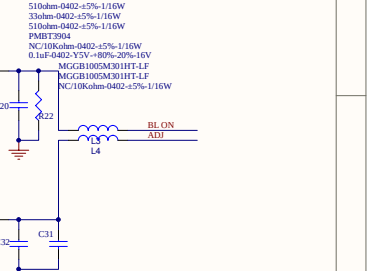
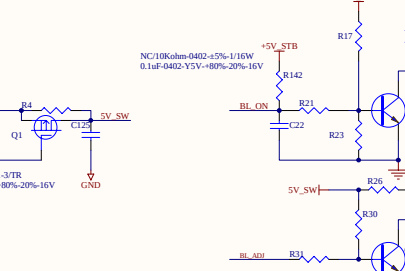
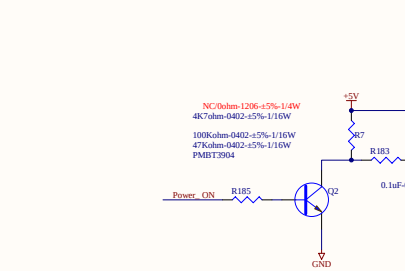
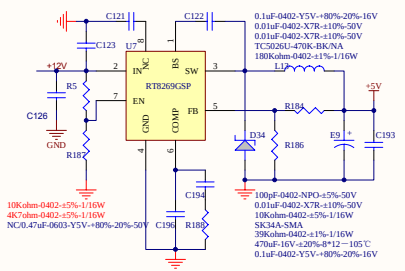
B

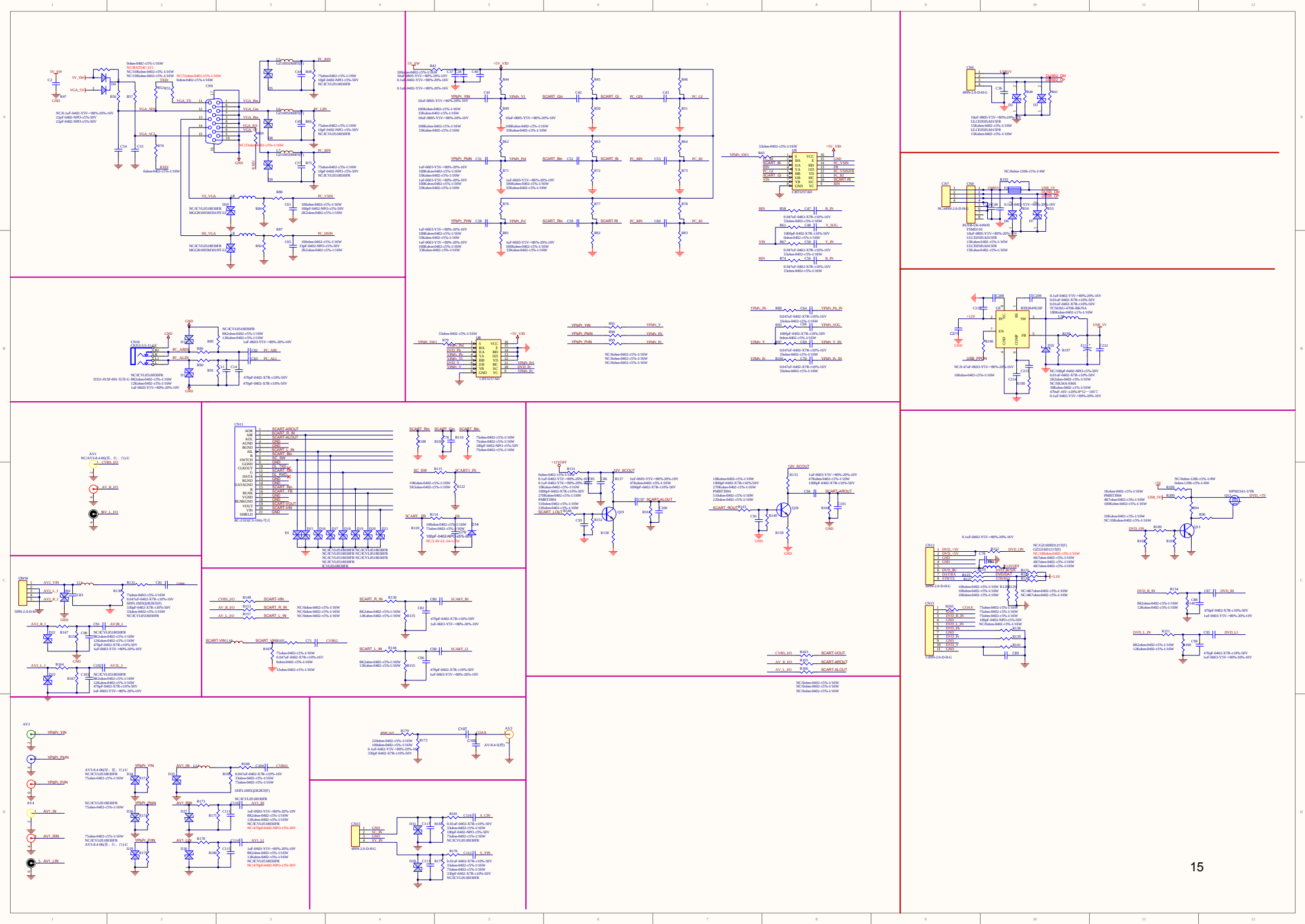


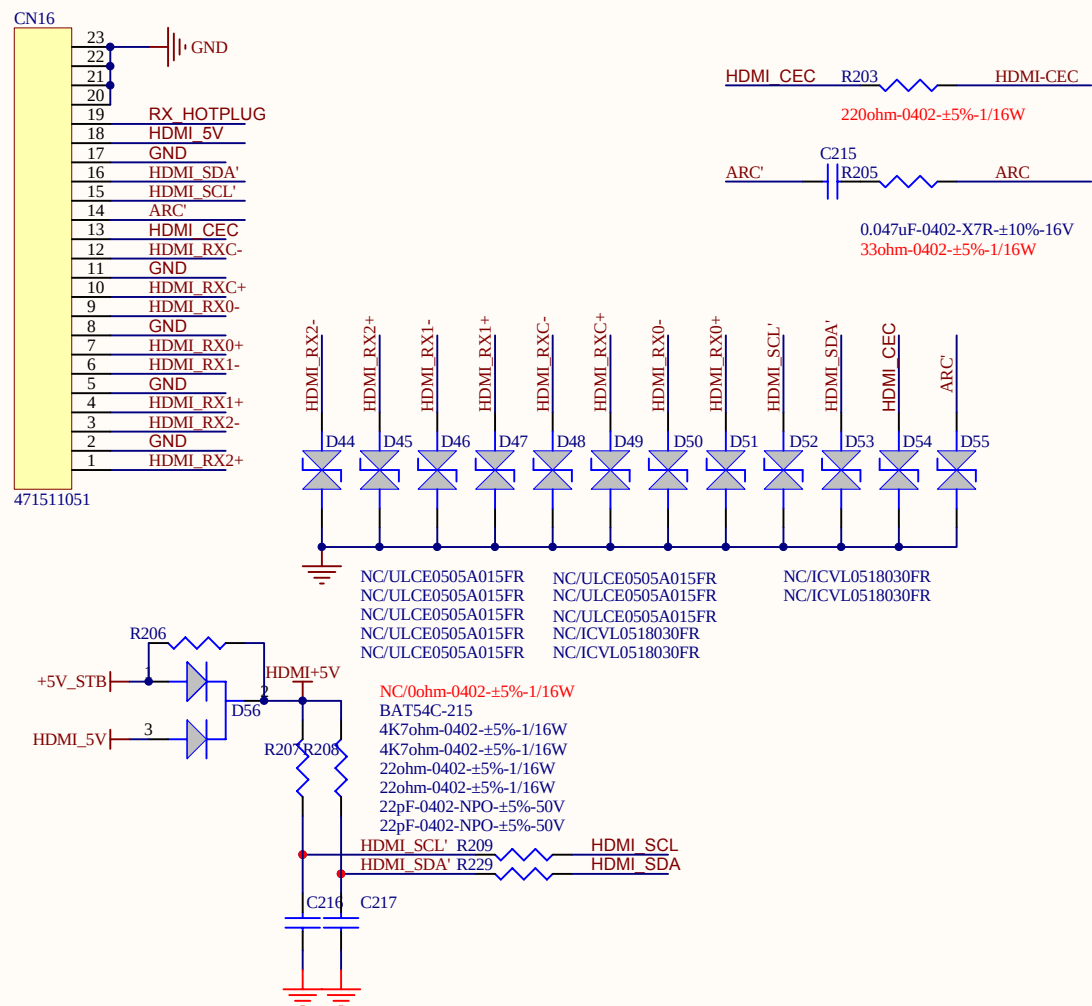
C



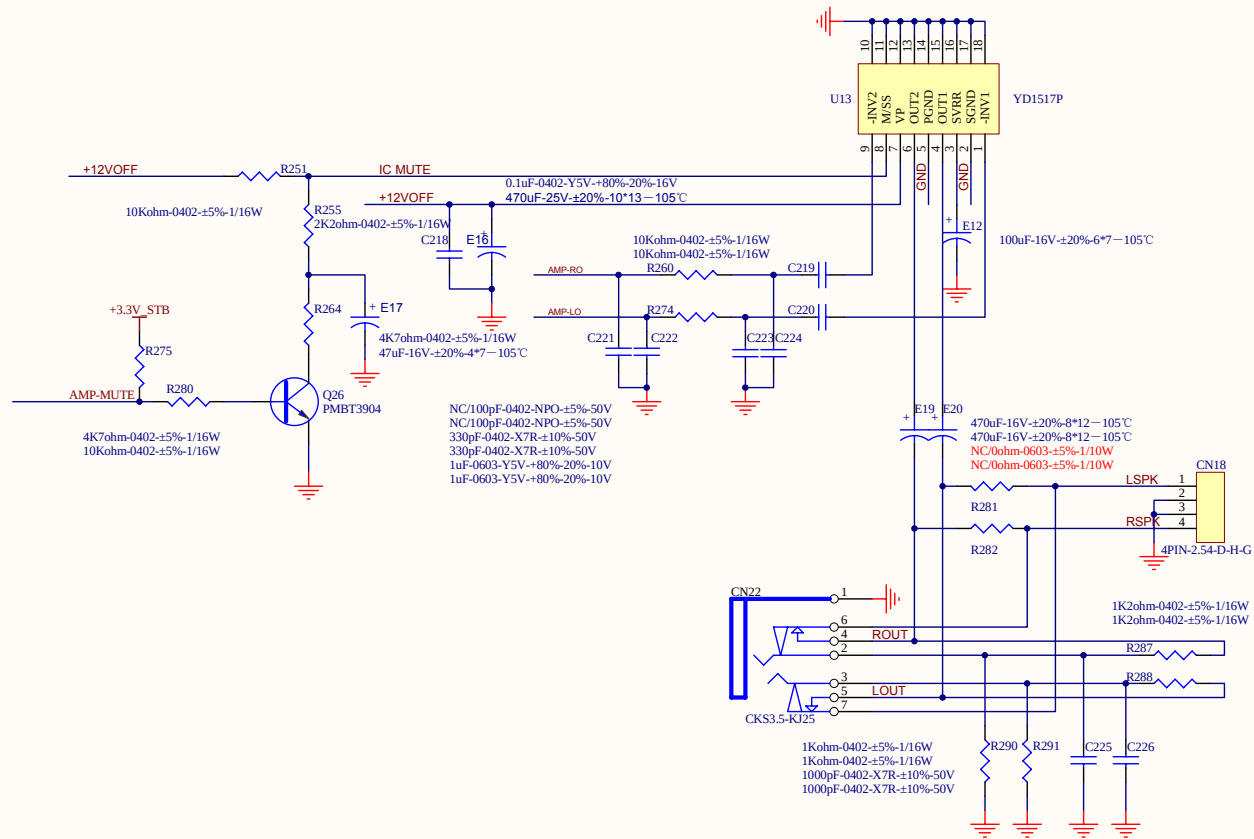
D





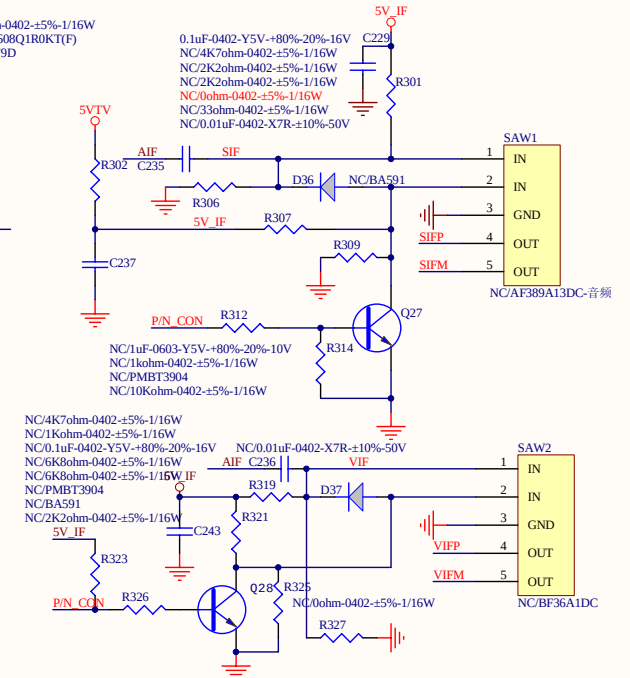
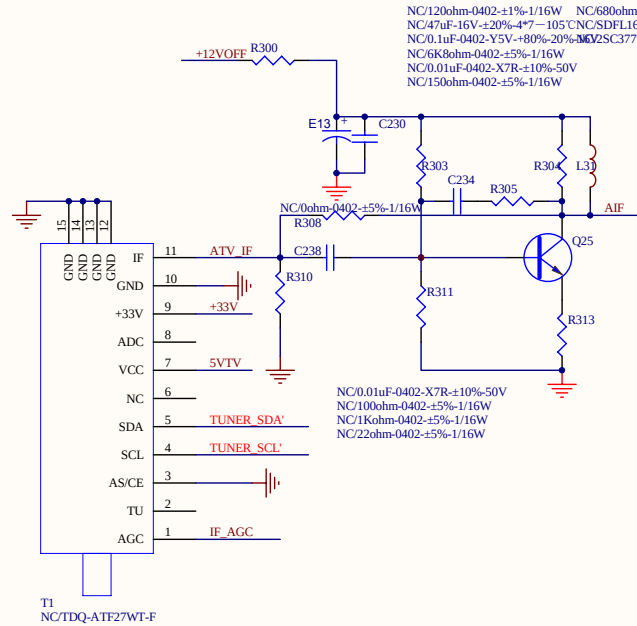
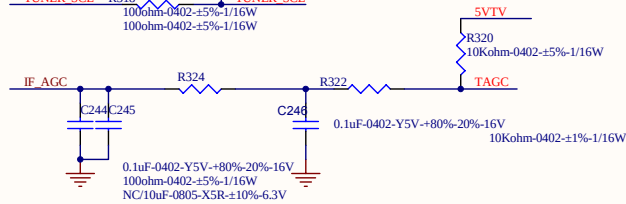
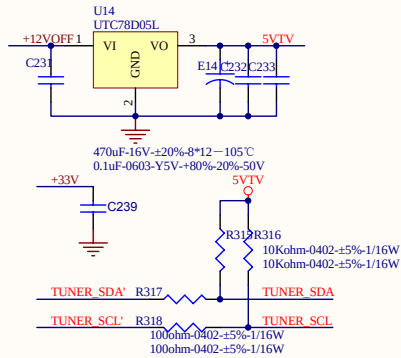






A

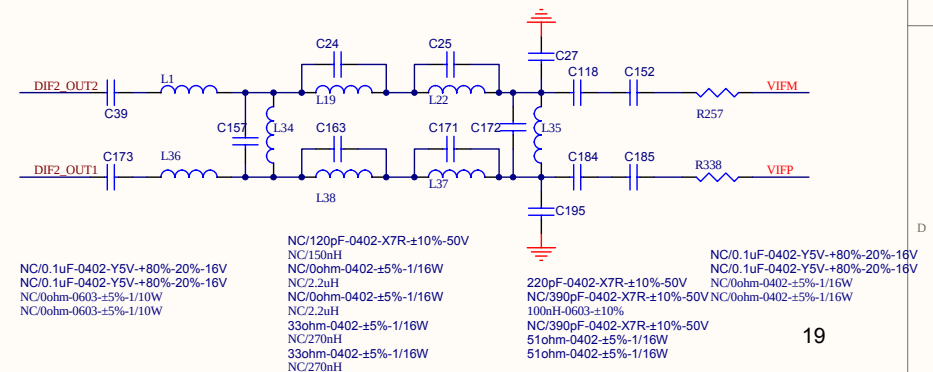
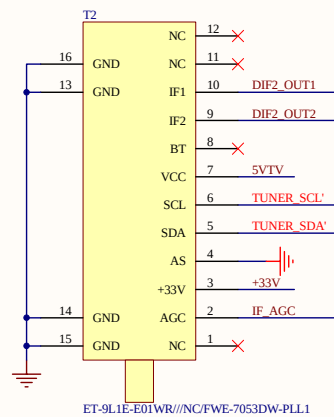
0.1uF-0402-Y5V-+80%-20%-16V  
0.1uF-0402-Y5V-+80%-20%-16V  
0.1uF-0402-Y5V-+80%-20%-16V



B

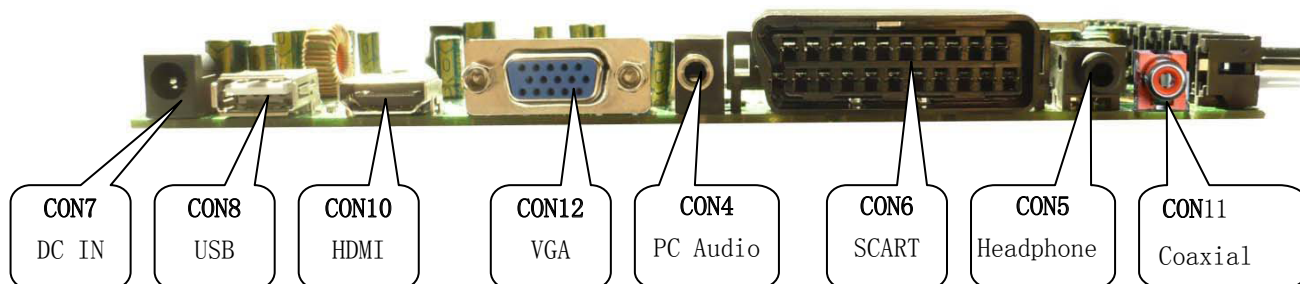
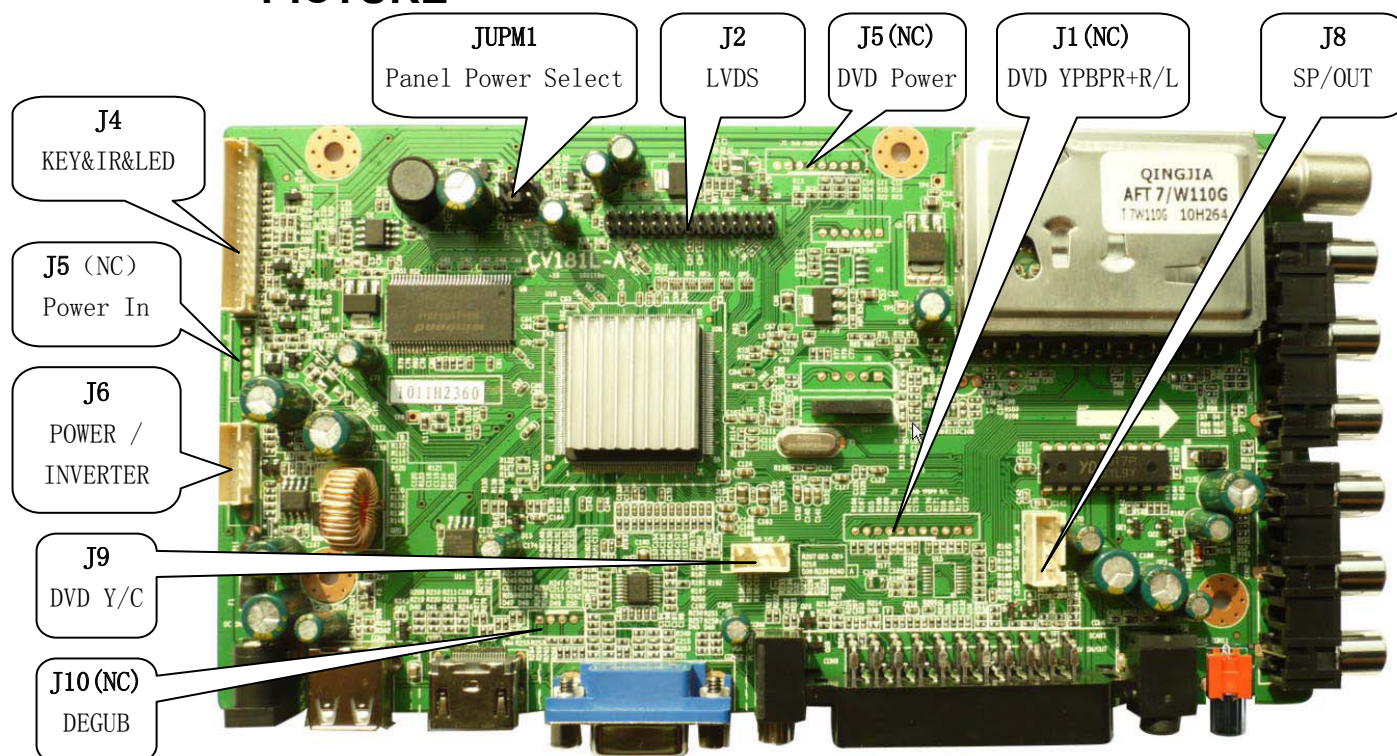
C

D

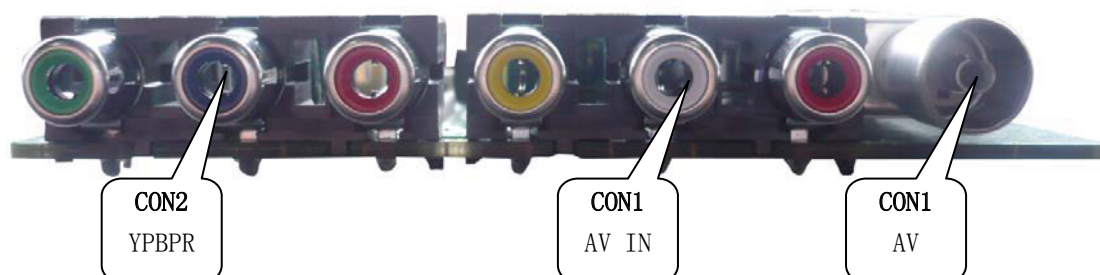
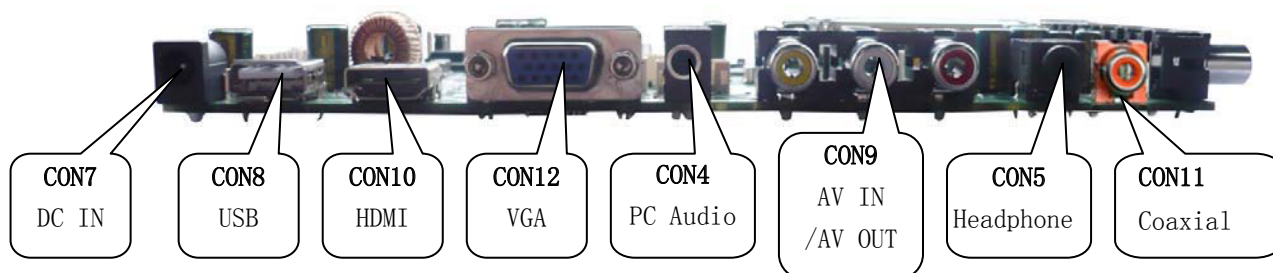




## PICTURE



SCART can change AV Input or AV Output





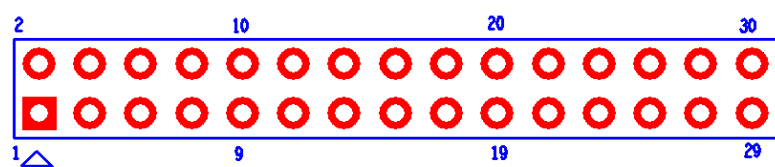
## INTERFACE DEFINITION

All jack recognize the square pad as first pin.

### J1 (8pin/2.0): DVD POWER(NC)

| NO | Definition | Description                  |
|----|------------|------------------------------|
| 1  | DVD_STB    | DVD STANDBY                  |
| 2  | DVD_AUTO   | DVD Control                  |
| 3  | DVD_IR     | DVD Remote receiver          |
| 4  | +12V       | +12V DC power supply for DVD |
| 5  | GND        | Ground                       |
| 6  | GND        | Ground                       |
| 7  | DVD_5V     | +5V DC power supply for DVD  |
| 8  | DVD_5V     | +5V DC power supply for DVD  |

### J2 (2X15pin/2.0): LVDS PORT



| NO | Definition | Description |
|----|------------|-------------|
| 1  | VCC        | Panel power |
| 2  | VCC        | Panel power |
| 3  | VCC        | Panel power |
| 4  | GND        | Ground      |
| 5  | GND        | Ground      |
| 6  | GND        | Ground      |
| 7  | RXO0-      | RXO0-       |
| 8  | RXO0+      | RXO0+       |
| 9  | RXO1-      | RXO1-       |
| 10 | RXO1+      | RXO1+       |
| 11 | RXO2-      | RXO2-       |
| 12 | RXO2+      | RXO2+       |
| 13 | GND        | Ground      |
| 14 | GND        | Ground      |
| 15 | RXOC-      | RXOC-       |
| 16 | RXOC+      | RXOC+       |
| 17 | RXO3-      | RXO3-       |
| 18 | RXO3+      | RXO3+       |
| 19 | RXE0-      | RXE0-       |

|    |       |        |
|----|-------|--------|
| 20 | RXE0+ | RXE0+  |
| 21 | RXE1- | RXE1-  |
| 22 | RXE1+ | RXE1+  |
| 23 | RXE2- | RXE2-  |
| 24 | RXE2+ | RXE2+  |
| 25 | GND   | Ground |
| 26 | GND   | Ground |
| 27 | RXEC- | RXEC-  |
| 28 | EXEC+ | EXEC+  |
| 29 | RXE3- | RXE3-  |
| 30 | RXE3+ | RXE3+  |

### **J3(6pin/2.0mm): HDCP CONNECTOR(NC)**

| NO | Definition | Description          |
|----|------------|----------------------|
| 1  | +12V       | +12V DC Power Supply |
| 2  | +5V        | +5V DC Power Supply  |
| 3  | GND        | Ground               |
| 4  | SCL        | IIC SCL              |
| 5  | SDA        | IIC SDA              |
| 6  | GND        | Ground               |

### **J4 (14pin/2.0mm): KEY/Remote control&Indicator light port**

| NO | Definition | Description     |
|----|------------|-----------------|
| 1  | GND        | Ground          |
| 2  | K7         | EXIT key        |
| 3  | K6         | POWER key       |
| 4  | K5         | RIGHT key       |
| 5  | K4         | LEFT key        |
| 6  | K3         | SOURCE key      |
| 7  | K2         | UP key          |
| 8  | K1         | DOWEN key       |
| 9  | K0         | MENU key        |
| 10 | GND        | Ground          |
| 11 | IR         | Remote receive  |
| 12 | LED_G      | Green indicator |
| 13 | LED_R      | Red indicator   |
| 14 | LED_5V     | +5V power       |

### **J5 (6pin/2.0mm):BUILT\_IN POWER SUPPLE**

| NO. | Definition | DESCRIPTION                      |
|-----|------------|----------------------------------|
| 1   | ON/OFF     | Power On/Off                     |
| 2   | 5VSTB      | +5V DC Power Supply when Standby |
| 3   | GND        | Ground                           |

|   |       |                     |
|---|-------|---------------------|
| 4 | GND   | +5V DC Power Supply |
| 5 | 5V_SW |                     |
| 6 | 5V_SW |                     |

#### **J6 (10pin/2.0mm)BUILT\_IN POWER SUPPLE&INVERTER**

| NO. | Definition | DESCRIPTION                                        |
|-----|------------|----------------------------------------------------|
| 1   | GND        | Ground                                             |
| 2   | GND        |                                                    |
| 3   | GND        |                                                    |
| 4   | GND        |                                                    |
| 5   | ADJ        | Brightness Adjustment for Panel                    |
| 6   | ON/OFF     | Back-Light ON/OFF Control for Panel (1: ON/0: OFF) |
| 7   | +12V       | INVERTER +12V DC Power Supply                      |
| 8   | +12V       |                                                    |
| 9   | +12V       |                                                    |
| 10  | +12V       |                                                    |

#### **J7(11pin/2.0): DVD VIDEO&AUDIO INPUT CONNECTOR**

| NO | Definition | Description |
|----|------------|-------------|
| 1  | GND        | Ground      |
| 2  | DVD_Y      | Y input     |
| 3  | GND        | Ground      |
| 4  | DVD_PR     | Pr input    |
| 5  | GND        | Ground      |
| 6  | DVD_PB     | Pb input    |
| 7  | DVD_L      |             |
| 8  | GND        | Ground      |
| 9  | DVD_R      |             |
| 10 | GND        | Ground      |
| 11 | SPDIF      | SPDIF Input |

#### **J8 (4pin/2.54mm): Amplifier output**

| NO | Definition | Description        |
|----|------------|--------------------|
| 1  | AUDIO_R    | Right audio output |
| 2  | GND        | Ground             |
| 3  | GND        | Ground             |
| 4  | AUDIO_L    | Left audio output  |

#### **J9(4pin/2.0): EXTERNAL S-VIDEO**

| NO. | Definition | DESCRIPTION |
|-----|------------|-------------|
| 1   | Y          | S-Y Input   |
| 2   | GND        | Ground      |
| 3   | C          | S-C Input   |

|   |     |        |
|---|-----|--------|
| 4 | GND | Ground |
|---|-----|--------|

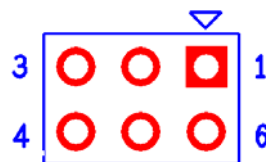
#### J10(4pin/2.0): DEBUG CONNECTOR

| NO. | Definition | DESCRIPTION             |
|-----|------------|-------------------------|
| 1   | +5V        | +5V Power Supply        |
| 2   | GND        | Ground                  |
| 3   | RXD        | Serial Data Receiver    |
| 4   | TXD        | Serial Data Transmitter |

#### CON3 (4pin/2.0): Expand USB PORT(NC)

| NO. | Definition | DESCRIPTION              |
|-----|------------|--------------------------|
| 1   | GND        | Ground                   |
| 2   | DP         | USB Data+                |
| 3   | DM         | USB Data-                |
| 4   | +5V        | +5V Power Supply for USB |

#### JUPM1 (6pin/2.5): PANEL POWER SUPPLY



| NO. | SYMBOL    | DESCRIPTION          |
|-----|-----------|----------------------|
| 1   | +3.3V     | +3.3V Panel Power in |
| 2   | +5V       | +5V Panel Power in   |
| 3   | +12V      | +12V Panel Power in  |
| 4   | VCC_Panel | Panel Power in       |
| 5   | VCC_Panel |                      |
| 6   | VCC_Panel |                      |

# Panel Interface Pin Connection



Model No.: LEA-19V07P

## Backlight Unit

Parameter guideline for LED driving is under stable conditions at 25°C (Room Temperature):

| Symbol            | Parameter                                   | Min.  | Typ. | Max. | Unit             | Note                                 |
|-------------------|---------------------------------------------|-------|------|------|------------------|--------------------------------------|
| IR <sub>LED</sub> | LED Operation Current                       | 57    | 60   | 63   | [mA]<br>Note 1   | Operating with fixed driving current |
| V <sub>LB</sub>   | Light Bar Operation Voltage (for reference) | 30    | 34   | 36   | [Volt]<br>Note 2 |                                      |
| P <sub>BLU</sub>  | BLU Power consumption (for reference)       | 6.8   | 8.2  | 9.1  | [Watt]           |                                      |
| LT <sub>LED</sub> | LED life Time                               | 30000 | -    | -    | [Hour]<br>Note 3 |                                      |

Note 1 :The specified current is input LED chip 100% duty current.

Note 2 : The value showed in the table is one light bar's operation voltage.

Note 3 : Definition of life time : brightness becomes 50% of its original value. The minimum life time of LED unit is on the condition of IR<sub>LED</sub> = 60mA and 25±2°C (Room temperature).

Note 4: Each LED light bar consists of 40 pcs LED package ( 4 strings x 10 pcs / string ).

## Recommend connector for Backlight Unit

This connector is mounted on the monitor system board for LED light-bar [Wire](#) mating.

|                              |                                 |
|------------------------------|---------------------------------|
| Connector Name / Designation | Driver Board Connector          |
| Manufacturer                 | CviLux Corporation              |
| Mating Type Part Number      | CI1406M1HRB-NH / CI1406M1HRC-NH |

## Pin assignment

| Pin no. | Signal name         |
|---------|---------------------|
| 1       | IRLED (current out) |
| 2       | IRLED (current out) |
| 3       | VLED (voltage in)   |
| 4       | VLED (voltage in)   |
| 5       | IRLED (current out) |
| 6       | IRLED (current out) |

# Panel Interface Pin Connection



Model No.: LEA-19V07P

## Connector & Pin Assignment

Physical interface is described as for the connector on module. These connectors are capable of accommodating the following signals and will be following components.

### TFT LCD Module

| Connector Name / Designation | Interface Connector / Interface card                        |
|------------------------------|-------------------------------------------------------------|
| Manufacturer                 | JAE or STARCONN                                             |
| Type Part Number             | FI-XB30SRL-HF11(JAE) / 093F30-00T01A-M4(STARCONN)           |
| Mating Housing Part Number   | FI-X30HL(JAE) (Locked Type)<br>FI-X30H (JAE)(Unlocked Type) |

### Pin Assignment

| Pin# | Signal Name | Pin# | Signal Name |
|------|-------------|------|-------------|
| 1    | NC          | 2    | NC          |
| 3    | NC          | 4    | GND         |
| 5    | RXIN0-      | 6    | RXIN0+      |
| 7    | GND         | 8    | RXIN1-      |
| 9    | RXIN1+      | 10   | GND         |
| 11   | RXIN2-      | 12   | RXIN2+      |
| 13   | GND         | 14   | RXCLKIN-    |
| 15   | RXCLKIN+    | 16   | GND         |
| 17   | RXIN3-      | 18   | RXIN3+      |
| 19   | GND         | 20   | NC          |
| 21   | NC          | 22   | NC          |
| 23   | GND         | 24   | GND         |
| 25   | GND         | 26   | VCC         |
| 27   | VCC         | 28   | VCC         |
| 29   | VCC         | 30   | VCC         |

# Panel Interface Pin Connection

Model No.: LEA-22V07P

## BACKLIGHT UNIT

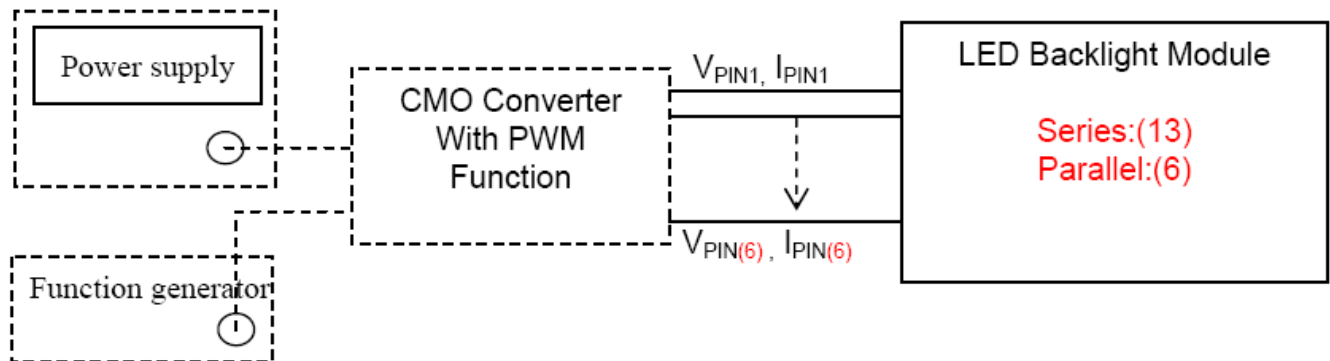
Ta = 25 ± 2 °C

| Parameter                                 | Symbol           | Value |       |       | Unit | Note                                         |
|-------------------------------------------|------------------|-------|-------|-------|------|----------------------------------------------|
|                                           |                  | Min.  | Typ.  | Max.  |      |                                              |
| LED Light Bar Input Voltage Per Input Pin | V <sub>PIN</sub> | ---   | 41.6  | 45.5  | V    | (1),<br>Duty=100%,<br>I <sub>PIN</sub> =40mA |
| LED Light Bar Current Per Input Pin       | I <sub>PIN</sub> | 0     | 40    | 50    | mA   | (1), (2)<br>Duty=100%                        |
| LED Life Time                             | L <sub>LED</sub> | 30000 | ---   | ---   | Hrs  | (3)                                          |
| Power Consumption                         | P <sub>BL</sub>  | ---   | 9.984 | 10.92 | W    | (1)<br>Duty=100%,<br>I <sub>PIN</sub> =40mA  |

Note (1) LED light bar input voltage and current are measured by utilizing a true RMS multimeter as shown below:

Note (2)  $P_{BL} = I_{PIN} \times V_{PIN} \times (6)$  input pins, LED light bar circuit is (13)Series, (6)Parallel.

Note (3) The lifetime of LED is defined as the time when LED packages continue to operate under the conditions at Ta = 25 ± 2 °C and I = (20)mA (per chip) until the brightness becomes 50% of its original value.



# Panel Interface Pin Connection

Model No.: LEA-22V07P

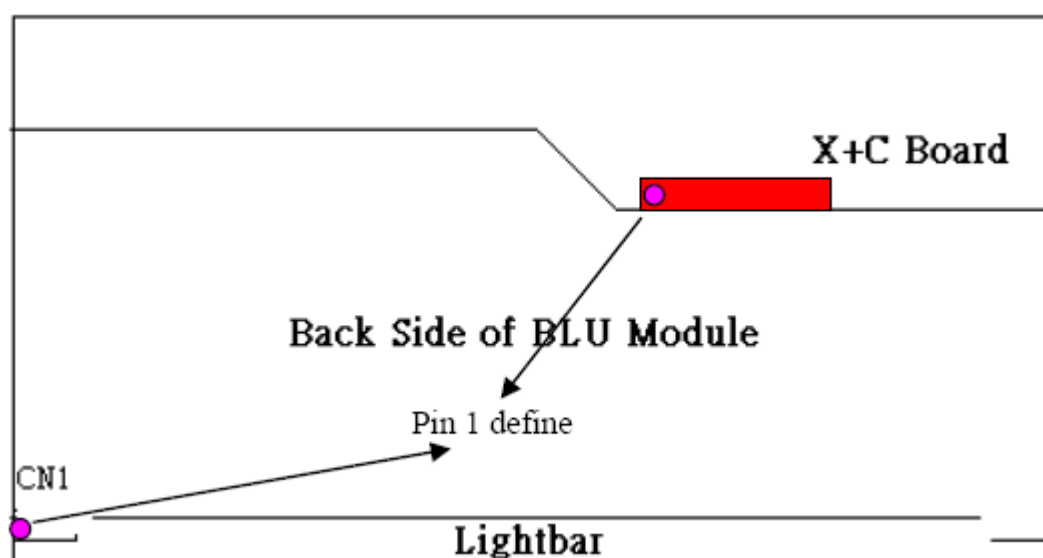
LIGHTBAR Connector Pin Assignment

Connector: B-F,7083K-F12N-00L,ENTERY(• • • )

161035-12041-3 P-TWO (• • ), GB5DH120-112M-7H,Foxconn(• • )

Input connector pin assignment: CN1

| Input connector CN1 |                    | Comments                                 |
|---------------------|--------------------|------------------------------------------|
| (vendor)            | (type)             |                                          |
| ENTERY              | B-F,7083K-F12N-00L |                                          |
| Pin                 | Function           |                                          |
| 1                   | NC                 | No connect                               |
| 2                   | LED1               | LED1 negative polarity                   |
| 3                   | LED2               | LED2 negative polarity                   |
| 4                   | LED3               | LED3 negative polarity                   |
| 5                   | NC                 | No connect                               |
| 6                   | VLED (41.6V)       | Input voltage Power Supply + (41.6V.typ) |
| 7                   | VLED (41.6V)       | Input voltage Power Supply + (41.6V.typ) |
| 8                   | NC                 | No connect                               |
| 9                   | LED4               | LED4 negative polarity                   |
| 10                  | LED5               | LED5 negative polarity                   |
| 11                  | LED6               | LED6 negative polarity                   |
| 12                  | NC                 | No connect                               |



# Panel Interface Pin Connection



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## Model No.: LEA-22V07P

### INPUT TERMINAL PIN ASSIGNMENT

#### TFT LCD MODULE

| Pin | Name  | Description                                              |
|-----|-------|----------------------------------------------------------|
| 1   | RXO0- | Negative LVDS differential data input. Channel O0 (odd)  |
| 2   | RXO0+ | Positive LVDS differential data input. Channel O0 (odd)  |
| 3   | RXO1- | Negative LVDS differential data input. Channel O1 (odd)  |
| 4   | RXO1+ | Positive LVDS differential data input. Channel O1 (odd)  |
| 5   | RXO2- | Negative LVDS differential data input. Channel O2 (odd)  |
| 6   | RXO2+ | Positive LVDS differential data input. Channel O2 (odd)  |
| 7   | GND   | Ground                                                   |
| 8   | RXOC- | Negative LVDS differential clock input. (odd)            |
| 9   | RXOC+ | Positive LVDS differential clock input. (odd)            |
| 10  | RXO3- | Negative LVDS differential data input. Channel O3(odd)   |
| 11  | RXO3+ | Positive LVDS differential data input. Channel O3 (odd)  |
| 12  | RXE0- | Negative LVDS differential data input. Channel E0 (even) |
| 13  | RXE0+ | Positive LVDS differential data input. Channel E0 (even) |
| 14  | GND   | Ground                                                   |
| 15  | RXE1- | Negative LVDS differential data input. Channel E1 (even) |
| 16  | RXE1+ | Positive LVDS differential data input. Channel E1 (even) |
| 17  | GND   | Ground                                                   |
| 18  | RXE2- | Negative LVDS differential data input. Channel E2 (even) |
| 19  | RXE2+ | Positive LVDS differential data input. Channel E2 (even) |
| 20  | RXEC- | Negative LVDS differential clock input. (even)           |
| 21  | RXEC+ | Positive LVDS differential clock input. (even)           |
| 22  | RXE3- | Negative LVDS differential data input. Channel E3 (even) |
| 23  | RXE3+ | Positive LVDS differential data input. Channel E3 (even) |
| 24  | GND   | Ground                                                   |
| 25  | NC    | Not connection, this pin should be open.                 |
| 26  | NC    | Not connection, this pin should be open.                 |
| 27  | NC    | Not connection, this pin should be open.                 |
| 28  | VCC   | +5.0V power supply                                       |
| 29  | VCC   | +5.0V power supply                                       |
| 30  | VCC   | +5.0V power supply                                       |

# Panel Interface Pin Connection

## Model No.: LEA-24V07P

BACKLIGHT UNIT (LED matrix is 12S8P)

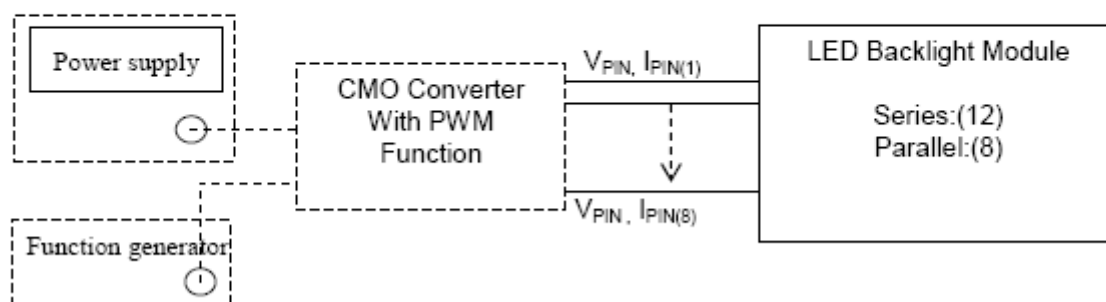
$T_a = 25 \pm 2 \text{ }^{\circ}\text{C}$

| Parameter                                 | Symbol    | Value |      |      | Unit | Note                                        |
|-------------------------------------------|-----------|-------|------|------|------|---------------------------------------------|
|                                           |           | Min.  | Typ. | Max. |      |                                             |
| LED Light Bar Input Voltage Per Input Pin | $V_{PIN}$ | 34    | 38.4 | 42   | V    | (1),<br>Duty=100%,<br>$I_{PIN}=40\text{mA}$ |
| LED Light Bar Current Per Input Pin       | $I_{PIN}$ | 0     | 40   | 50   | mA   | (1), (2)<br>Duty=100%                       |
| LED Life Time                             | $L_{LED}$ | 30000 |      |      | Hrs  | (3)                                         |
| Power Consumption                         | $P_{BL}$  | ---   | 12.3 | 13.5 | W    | (1)<br>Duty=100%,<br>$I_{PIN}=40\text{mA}$  |

Note (1) LED light bar input voltage and current are measured by utilizing a true RMS multimeter as shown below:

Note (2)  $P_{BL} = I_{PIN} \times V_{PIN} \times (8)$  input pins , LED light bar circuit is (12)Series, (8)Parallel.

Note (3) The lifetime of LED is defined as the time when LED packages continue to operate under the conditions at  $T_a = 25 \pm 2 \text{ }^{\circ}\text{C}$  and  $I = (20)\text{mA}$  (per chip) until the brightness becomes  $\leq 50\%$  of its original value.



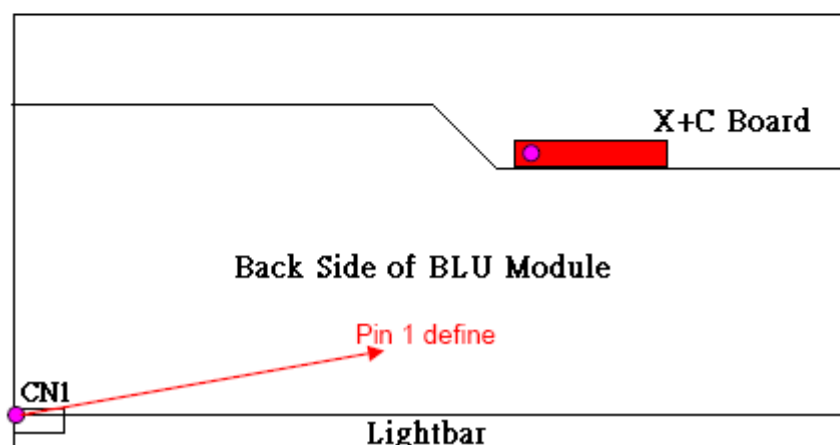
# Model No.: LEA-24V07P

## LIGHTBAR Connector Pin Assignment

Connector: 7083K-F12N-00L , (Entery) or Compatible

CN1

| Pin number | Description                             |
|------------|-----------------------------------------|
| 1          | Cathode of LED string                   |
| 2          | Cathode of LED string                   |
| 3          | Cathode of LED string                   |
| 4          | Cathode of LED string                   |
| 5          | Not connection, this pin should be open |
| 6          | VLED                                    |
| 7          | VLED                                    |
| 8          | Not connection, this pin should be open |
| 9          | Cathode of LED string                   |
| 10         | Cathode of LED string                   |
| 11         | Cathode of LED string                   |
| 12         | Cathode of LED string                   |



# Model No.: LEA-24V07P

## INPUT TERMINAL PIN ASSIGNMENT

### TFT LCD MODULE

| Pin | Name  | Description                                              |
|-----|-------|----------------------------------------------------------|
| 1   | RX00- | Negative LVDS differential data input. Channel O0 (odd)  |
| 2   | RX00+ | Positive LVDS differential data input. Channel O0 (odd)  |
| 3   | RX01- | Negative LVDS differential data input. Channel O1 (odd)  |
| 4   | RX01+ | Positive LVDS differential data input. Channel O1 (odd)  |
| 5   | RX02- | Negative LVDS differential data input. Channel O2 (odd)  |
| 6   | RX02+ | Positive LVDS differential data input. Channel O2 (odd)  |
| 7   | GND   | Ground                                                   |
| 8   | RXOC- | Negative LVDS differential clock input. (odd)            |
| 9   | RXOC+ | Positive LVDS differential clock input. (odd)            |
| 10  | RX03- | Negative LVDS differential data input. Channel O3(odd)   |
| 11  | RX03+ | Positive LVDS differential data input. Channel O3 (odd)  |
| 12  | RXE0- | Negative LVDS differential data input. Channel E0 (even) |
| 13  | RXE0+ | Positive LVDS differential data input. Channel E0 (even) |
| 14  | GND   | Ground                                                   |
| 15  | RXE1- | Negative LVDS differential data input. Channel E1 (even) |
| 16  | RXE1+ | Positive LVDS differential data input. Channel E1 (even) |
| 17  | GND   | Ground                                                   |
| 18  | RXE2- | Negative LVDS differential data input. Channel E2 (even) |
| 19  | RXE2+ | Positive LVDS differential data input. Channel E2 (even) |
| 20  | RXEC- | Negative LVDS differential clock input. (even)           |
| 21  | RXEC+ | Positive LVDS differential clock input. (even)           |
| 22  | RXE3- | Negative LVDS differential data input. Channel E3 (even) |
| 23  | RXE3+ | Positive LVDS differential data input. Channel E3 (even) |
| 24  | GND   | Ground                                                   |
| 25  | NC    | For LCD internal use only, Do not connect                |
| 26  | NC    | For LCD internal use only, Do not connect                |
| 27  | NC    | For LCD internal use only, Do not connect                |
| 28  | Vcc   | +5.0V power supply                                       |
| 29  | Vcc   | +5.0V power supply                                       |
| 30  | Vcc   | +5.0V power supply                                       |

## GENERAL TROUBLE SHOOTING

| Problem                                                                              | Possible Solution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>No sound or picture</b>                                                           | <ul style="list-style-type: none"> <li>● Check that the main plug has been connected to a wall outlet.</li> <li>● Check that you have pressed the  button on the front of the TV.</li> <li>● Check the picture contrast and brightness settings.</li> <li>● Check the volume.</li> </ul>                                                                                                                                                                                   |
| <b>Normal picture but no sound</b>                                                   | <ul style="list-style-type: none"> <li>● Check the volume.</li> <li>● Check whether then MUTE button has been pressed on the remote control.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Sound is too low</b>                                                              | <ul style="list-style-type: none"> <li>● Check the volume.</li> <li>● If the volume is still too low after setting the volume level to its maximum, check the volume control on any external device connected.</li> </ul>                                                                                                                                                                                                                                                                                                                                   |
| <b>No picture or black and white picture</b>                                         | <ul style="list-style-type: none"> <li>● Adjust the colour settings.</li> <li>● Check that the broadcast system selected is correct.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>“Unknown” message</b>                                                             | <ul style="list-style-type: none"> <li>● Make sure that the power cord is firmly connected to the PC or the video sources.</li> <li>● Make sure that the PC or video sources are switched on.</li> </ul>                                                                                                                                                                                                                                                                                                                                                    |
| <b>Sound and picture interference</b>                                                | <ul style="list-style-type: none"> <li>● Try to identify the electrical appliance that is affecting the set and move it further away.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Blurred or snowy picture, distorted sound</b>                                     | <ul style="list-style-type: none"> <li>● Check the direction, location and connections of your aerial.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Remote control does not work</b>                                                  | <ul style="list-style-type: none"> <li>● The battery in the remote control may be exhausted.</li> <li>● The battery may be improperly installed.</li> <li>● Check that there is no obstruction between the remote control and the remote (infrared) sensor.</li> <li>● Ensure that there is no strong light shining on the remote control's infrared sensor.</li> </ul>                                                                                                                                                                                     |
| <b>The LCD TV does not turn on</b>                                                   | <ul style="list-style-type: none"> <li>● Be sure the power cord is plugged on.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>The image is too light or too dark</b>                                            | <ul style="list-style-type: none"> <li>● Adjust the brightness and Contrast.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>On PC mode, horizontal bars appear to flicker, jitter or shimmer on the image</b> | <ul style="list-style-type: none"> <li>● Adjust the Phase.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>On PC mode, vertical bars appear to flicker, jitter or shimmer on the image</b>   | <ul style="list-style-type: none"> <li>● Adjust the Clock.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>In PC mode, image is not stable and may appear to vibrate</b>                     | <ul style="list-style-type: none"> <li>● Check that the display resolution and frequency from you PC or video board is a valid mode for your LCD TV.<br/>Control Panel→ Display→ Settings.</li> <li>● If the setting is not correct, use your computer utility program to change the display settings.<br/>Your monitor supports multiscan display function within the following frequency domain:<br/>Horizontal frequency: 31.5~60KHz<br/>Vertical frequency: 60~75Hz<br/>Maximum refresh rate: 1920 X 1080@60Hz * Depend on panel resolution.</li> </ul> |
| <b>In PC mode, image is not centred on the screen.</b>                               | <ul style="list-style-type: none"> <li>● Adjust the horizontal and vertical position.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

## ***Upgrade Methods***

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### **USB Upgrade Method:**

- 1. Copy BIN\_6M181.bin into an USB disk.**
- 2. Plug the USB disk into the USB interface on the Main Board.**
- 3. Supply DC12V to the TV unit.**
- 4. Wait for a while, the LED light will flash quickly, this upgrading is starting.**
- 5. When the LED light stop flashing and display red, this upgrading is ok.**
- 6. Unplug the USB disk and restart the TV unit.**