EXV9210

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P2P 4K TV Motherboard Tester

Spec and USER Manual (V**1.9**)

Contents

1. Overview

For various flat panel display technologies, TFT-LCD (Thin Film Transistor-Liquid Crystal Display) technology dominates the flat panel display market due to its low operating voltage, low power consumption, long life, no radiation and low cost characteristics. The driving system of the TFT-LCD panel consists of a gate driver GD (Gate Driver), a source driver SD (Source Driver) and a timing controller T-CON (Timing Controller). The T-CON converts the sync control signal and data signal received from the signal source to specific input signals required by the GD and SD respectively, and sends the data signal to each SD through the interface protocol. As the mainstream display technology, TFT-LCD is developing towards a large screen, high resolution and high color depth, resulting in a dramatic increase in the amount of transmission data . The performance of the interface protocol is directly related to quality of the display. Therefore, for various TFT-LCD display technologies, the interface protocol is the key point to determine whether the data signal between T-CON and SD can be transmitted correctly.

In response to market demand, the interface protocol has developed for three generations. The first generation uses TTL or CMOS levels to transfer data in parallel. The second-generation interface protocol adopts a multi-drop bus structure of low-swing differential signaling and serial transmission. The third-generation interface protocol uses a point-to-point architecture, the P2P architecture, where the T-CON and each SD are transmitted by separate differential data pairs. In addition to retaining the advantages of the second-generation interface protocol, the point-to-point structure greatly reduces the number of transmission lines, and the signal line impedance is not affected by SD loading. These advantages ensure data transmission stable and reliable based on the point-to-point interface protocol, and they support large-size, high-speed, high-resolution, and high-color depth TFT-LCD.

EXV9210 is a P2P signal converter, which can convert P2P signal to HDMI signal, or directly display the signal image. At present, there are many types of P2P signals on the market including CSPI, CEDS, iSP, EPI, etc. EXV9210 can directly convert these P2P signals into image signals for display on a 5-inch screen, or convert these signals into HDMI signals on external display. EXV9210 makes production testing and after-sales maintenance easy and fast.

EXV9210 support stand-alone debugging function. If you use this function, you should first exit PC debugging function and then press “RESET” button in tester device. After that,you can use tester device buttons to debug functions you need. While you use PC debugging function, all tester device buttons will be invalid.EXV9210 support English version menu.

Note: EXV9210 can communication with PC by USB or RS232 interface to fulfill FCT function（More details , you can review EXV9210 user guide）.

2. Product Parameter

Item	Parameter
Products Name	P2P signal Converter device
Model	EXV9210
Input Power	5V/5A
LCD size	5 inches
Input Signal type	USIT----of Samsung
	CSPI----of CSOT
	CEDS----of BOE
	ISP----of AUO
	EPI----of LG
	V-by-One
Output signal type	HDMI/1080P
Product size	170*120*33mm
Warranty	1 year

3. product structure and spares

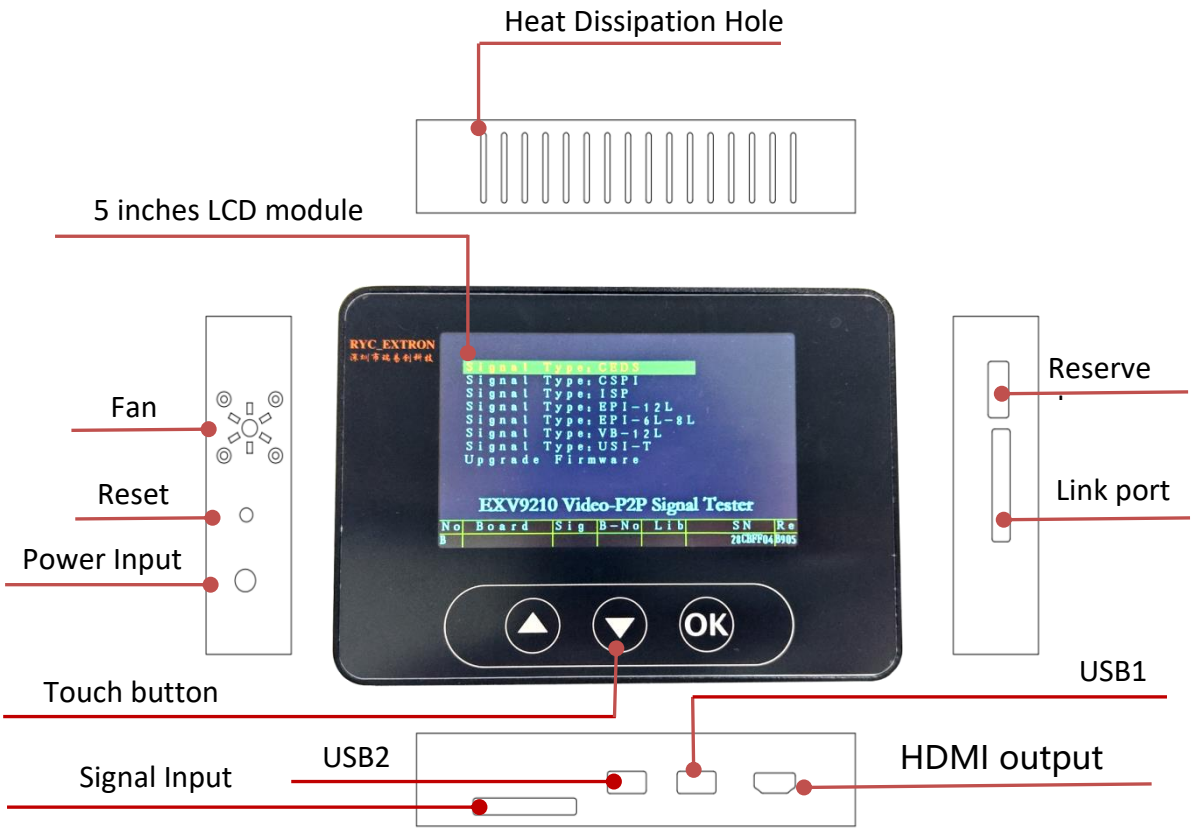
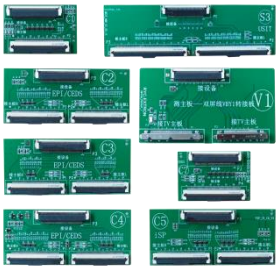


Figure 3-1 EXV9210 Structure

Host*1

5V*5A power*1

FFC Flat cable*6



Converter Board*8

Figure 3-2 EXV9210 Standard Product and spares List

4. Judgement of mainboard signal and Connection

4.1. Converter board C1

The P2P signal is generally 12 pairs of differential signal cables, and a few special motherboards contain 8 pairs or 6 pairs of differential signal cables, they are including 60 Pin single LCD module cables and 60Pin dual LCD module cables. For the 60Pin single LCD module cable sequence, there are 12 pairs of differential signal cables, each pair of differential signal cables is separated by a ground line, as shown in Figure 4-1-1, P13-P47 are differential signal cables, and differential cables It is separated by ground wire, and the wire sequence is tested by converter board C1, as shown in Figure 4-1-2 .

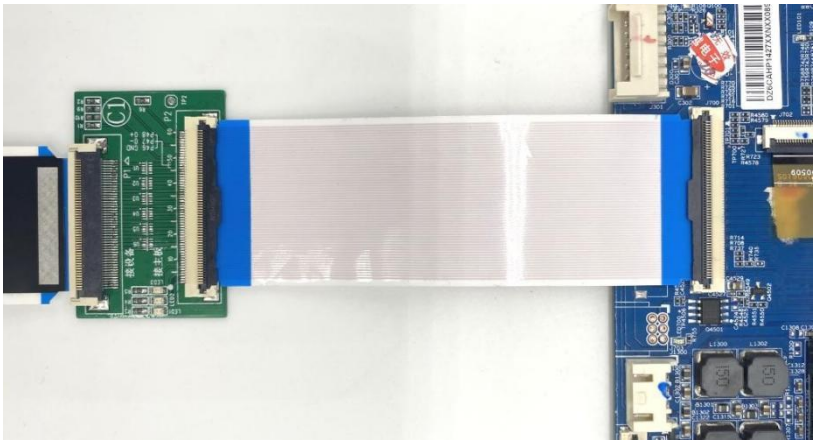


Figure 4-1-1 60Pin Single LCD module cable P2P sequence

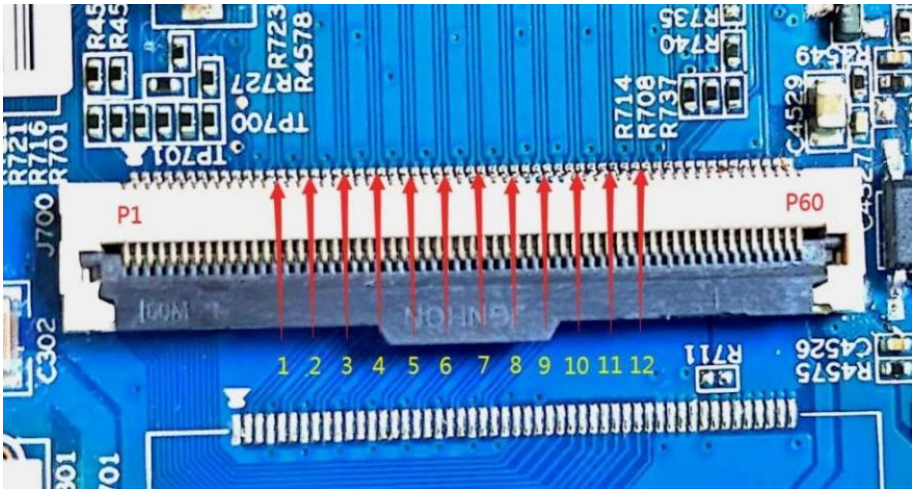


Figure 4-1-2 Converter board C1 Connection

4.2. Converter Board C2

The P2P signal of the 60Pin dual LCD module cable is more complicated. During the test, the pin position of the differential cable must be in one-to-one correspondence with the converter board, and cannot connect incorrectly. As shown in Figure 4-2-1, for 60Pin dua LCD module cable P2P signal, each LCD module cable contains 6 pairs of differential signal cables, and each pair of differential signal cable is separated by a ground wire. Among them, the left LCD module cable P13-P29, the right LCD module cable P32-P48 is the position of the differential signal line, the line sequence is connected to the C2 converter board, as shown in Figure 4-2-2.

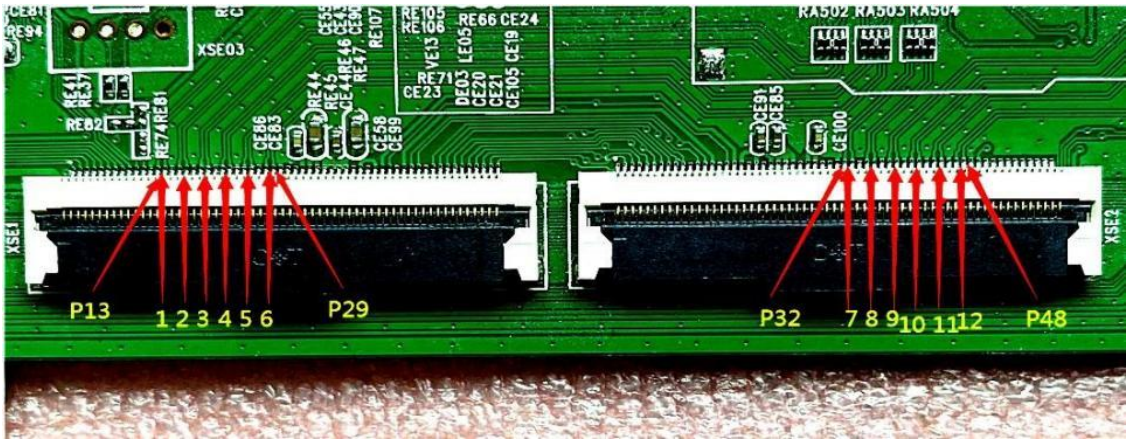


Figure 4-2-1 60Pin Dual LCD module cable P2P sequence

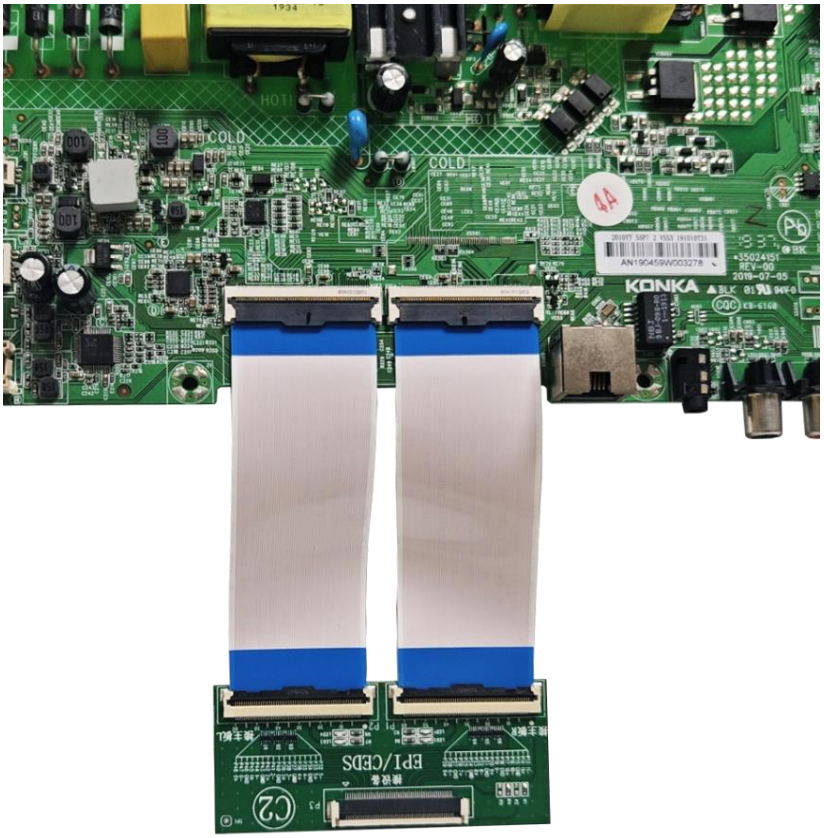


Figure 4-2-2 Converter Board C2 Connection

There is a P2P motherboard with the same cable sequence as converter board C2, but the two 60Pin sockets are placed in opposite directions, and the cable sequence is as shown in Figure 4-2-3, the left LCD module cable P32-P48, the right LCD module cable P13-P29 are the positions of the differential signal lines. When testing the mainboard of this cable sequence, you need only cross the LCD module cable and insert them into converter board C2, as shown in Figure 4-2-4

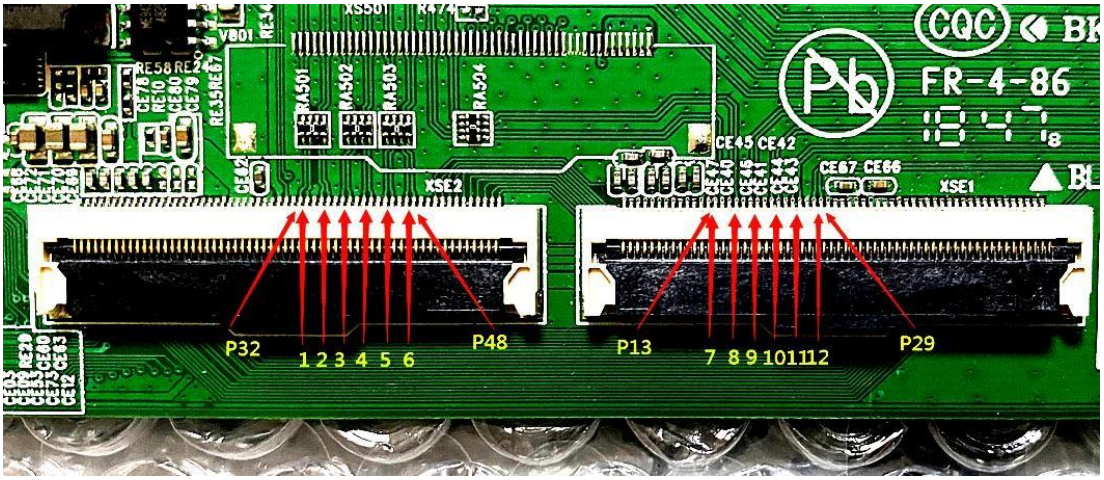


Figure 4-2-3 60Pin Dual LCD module cable P2P sequence

Figure 4-2-4 Converter Board C2 Connection

4.3. Converter Board C3

In addition to the 12 pairs of differential signals, there are also 8 pairs or 6 pairs of 60 Pin dual LCD module cable P2P signals, and the left and right sockets respectively contain 4 pairs or 3 pairs of differential signal lines. As shown in Figure 4-3-1, the left screen line P19-P29 of the 8 pairs of differential signal lines and the right LCD module cable P32-42 are the positions of the differential signal cable and each pair of differential signal cables is separated by a ground wire. The cable sequence of the 6 pairs of differential signal lines, the left screen line P19-P26, the right screen line P35-42 is the position of the differential signal line, which is the same as the 8 pairs of differential signal lines, except that there is one pair of differential signal lines on the left and right sides, and the positions are the same. are the same, as shown in Figure 4-3-2. These two line sequences can be tested with the same converterboard C3, as shown in Figure 4-3-3.

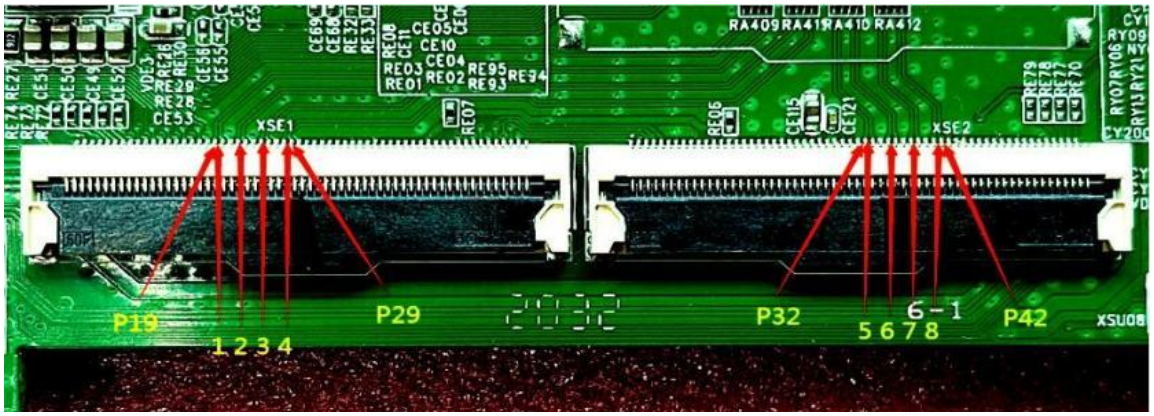


Figure 4-3-1 60Pin Dual LCD module cable P2P sequence

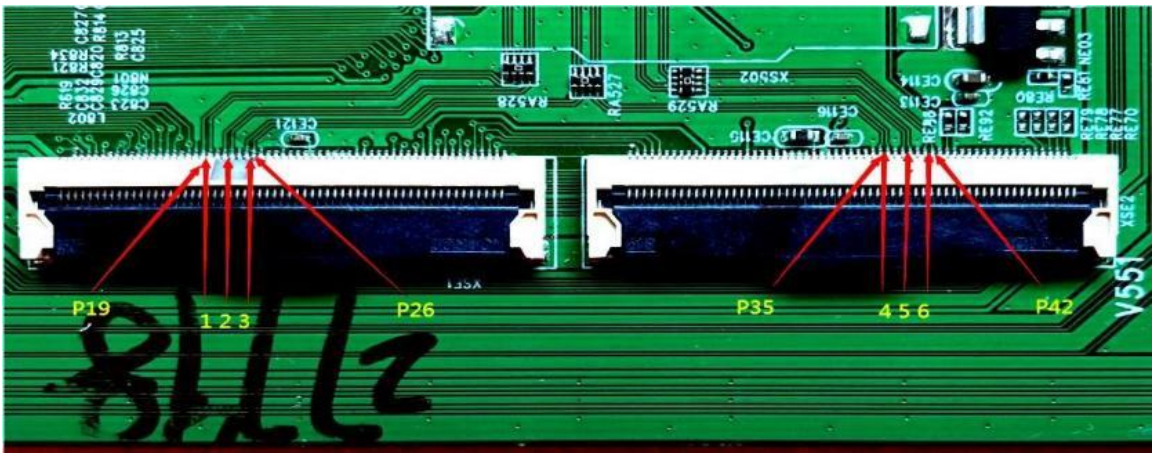


Figure 4-3-2 60Pin Dual LCD module cable P2P sequence

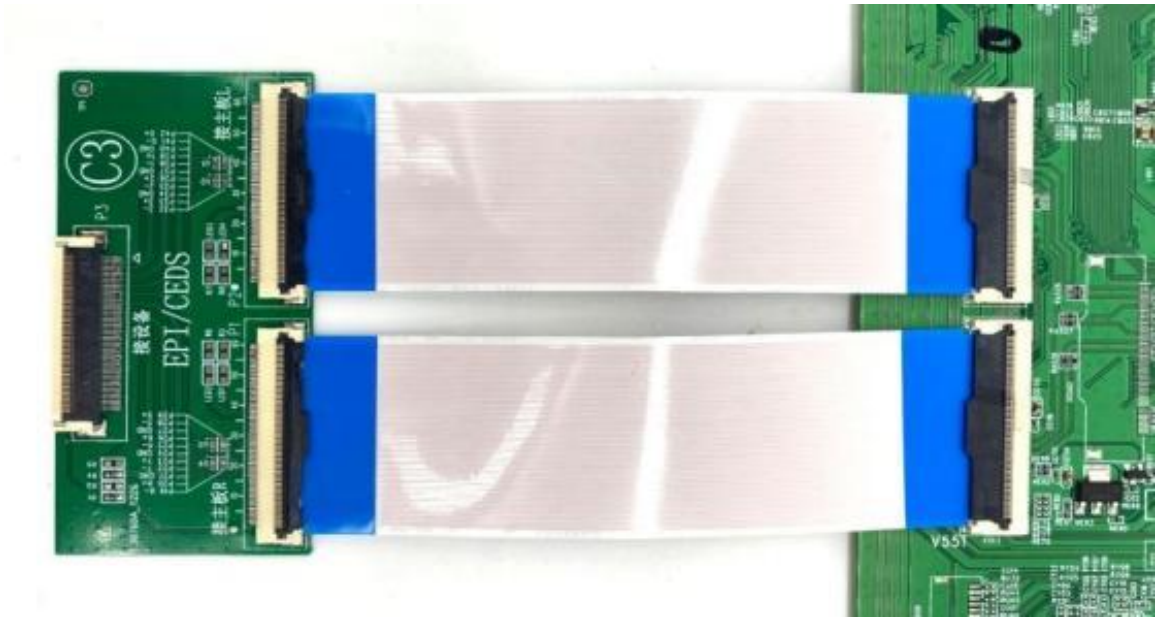


Figure 4-3-3 Converter board C3 Connection

4.4. Converter Board C4

Among these 60Pin dual LCD module cable P2P signals, there is a cable sequence that is very similar to the cable sequence corresponding to Converter board C2, so you must pay attention and distinguish one from another when testing. As shown in Figure 4-4-1, the P2P signal cable sequence of 60Pindual LCD module cables, the left LCD module cable P14-P30, and the right LCD module cable P31-P47 are the positions of the differential signal cables. Compared with the corresponding line sequence of the converter board C2, only One foot was staggered. When testing the P2P signal of this cable sequence, it is necessary to connect the converter board C4 for testing, as shown in Figure 4-4-2. Since the cable sequences of the two converter boards are very similar, during the test, we must pay attention to distinguish it from the C2 converterboard.

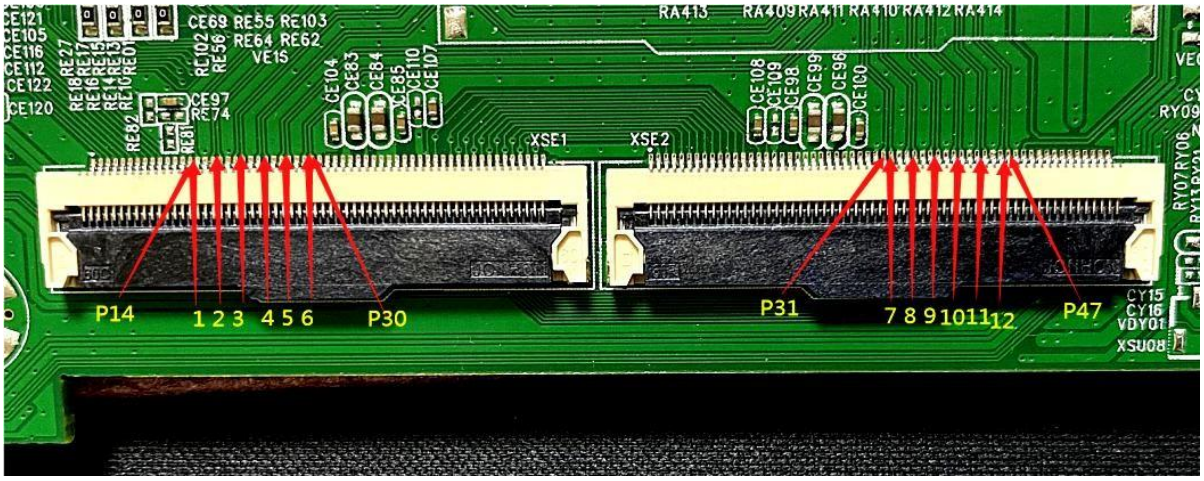


Figure 4-4-1 60Pin Dual LCD module cable P2P sequence

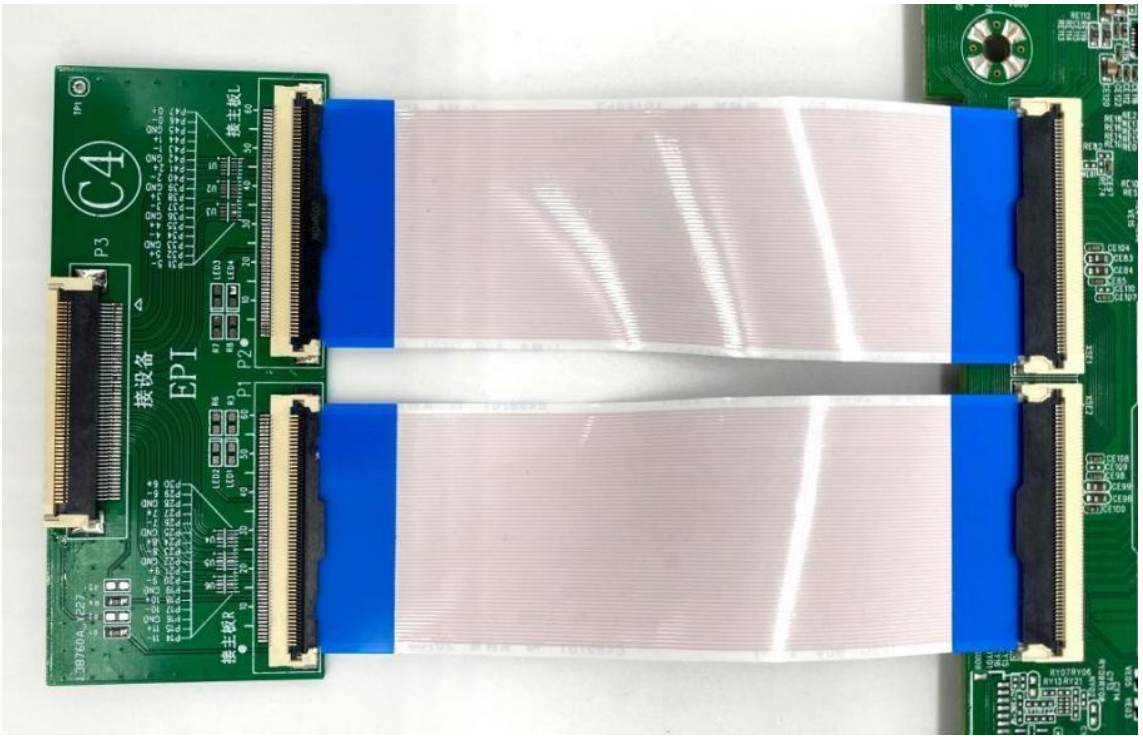


Figure 4-4-2 converter board C4 Connection

4.5. Converter Board C5 and C6

There is also a line sequence for the P2P signal of 60Pin dual LCD module cable, which includes 12 pairs of differential cable either, but the differential signal cables are not directly separated by ground lines, as shown in Figure 4-5-1, the left LCD module cable P48-P59, The right LCD module cable P2-P13 is the position of the differential signal cable. Judging from the position of the differential signal cable, this cable sequence corresponds to following two

converter boards: C5 and C6. Among them, C5 corresponds to the iSP signal, and C6 corresponds to the CSPI signal. You need choose suitable boards according to the schematic diagram when testing. As shown in Figure 4-5-2, it is the wiring diagram of the iSP signal main board. The iSP signal is connected to the C5 converterboard.

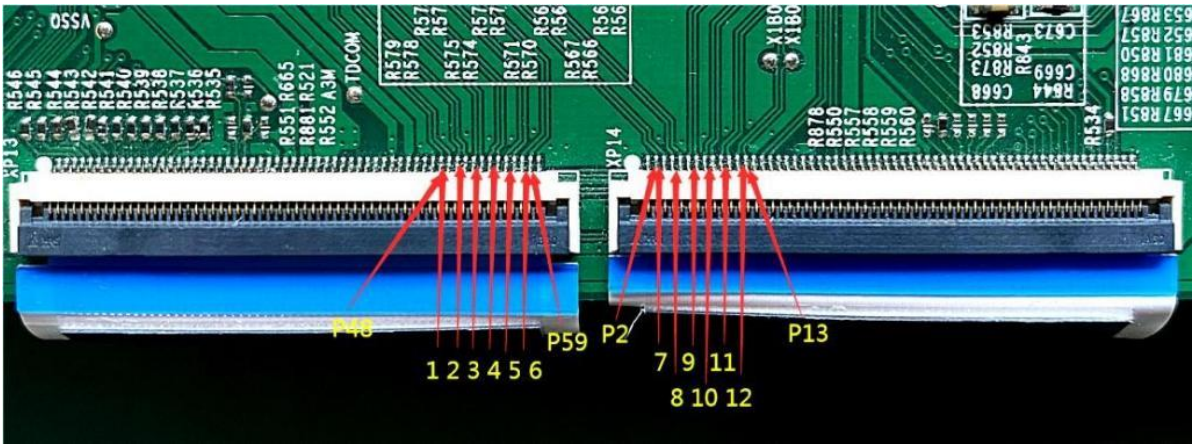


Figure 4-5-1 60Pin Dual LCD module cable P2P sequence

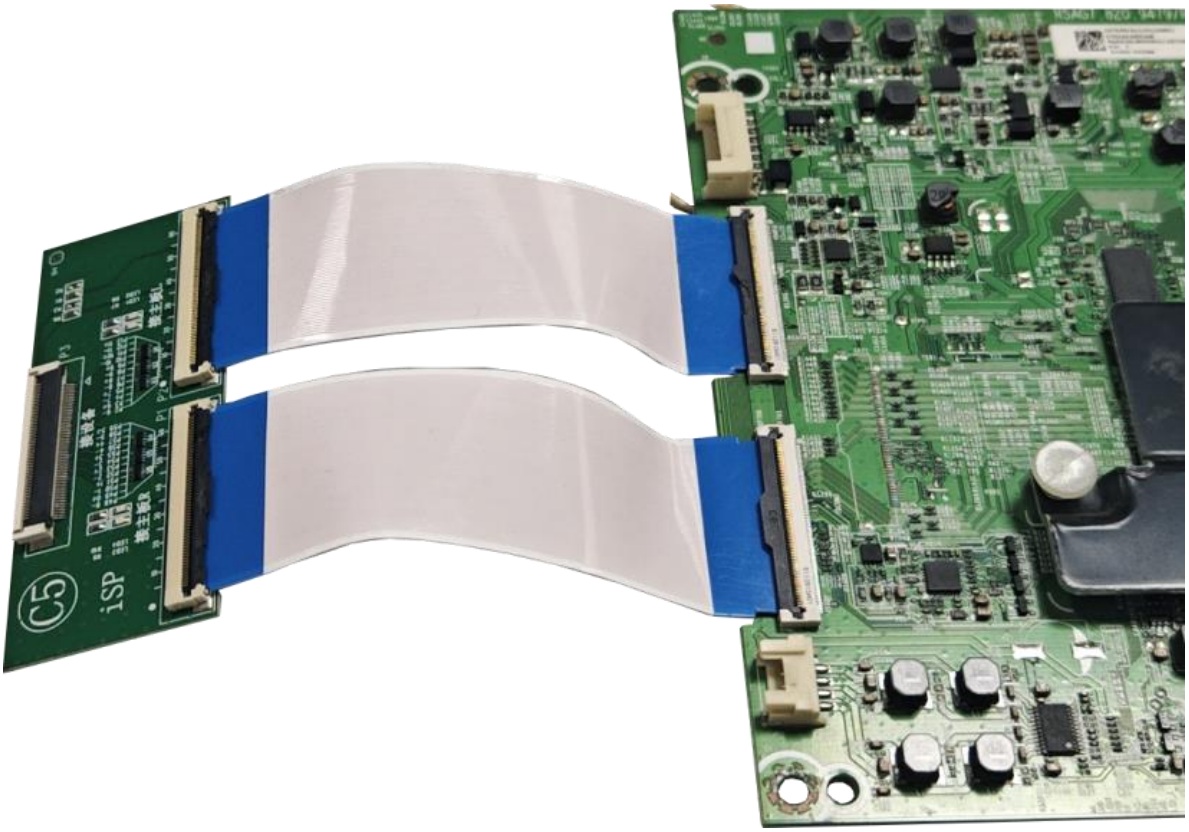


Figure 4-5-2 Converter Board C5 Connection

4.6. Converter board C7 and C8

P2P signal 68Pin single LCDmodule cable sequence include Hisense 68P and Skyworth 68P two cable sequences, corresponding to C7 and C8 two converter boards respectively. The

position and number of differential signal cables of these two cable sequences are all 12 pairs of differential signal cables, each pair of differential signal cable are separated by ground wire. Converter board can be determined by the schematic diagram, P2P motherboard statistics or consulting engineers. Hisense 68Pin shown in Figure 4-6-1, P9-P43 are all differential signal cables, which are separated by ground wire. This cable sequence can be tested by C7 converter board shown in Figure 4-6-2. Skyworth 68Pin shown in Figure 4-6-3, P9-P43 are differential signal cables, the differential cable are separated by ground wire, the cable sequence can be tested with converter board C8 shown in Figure 4-6-4.

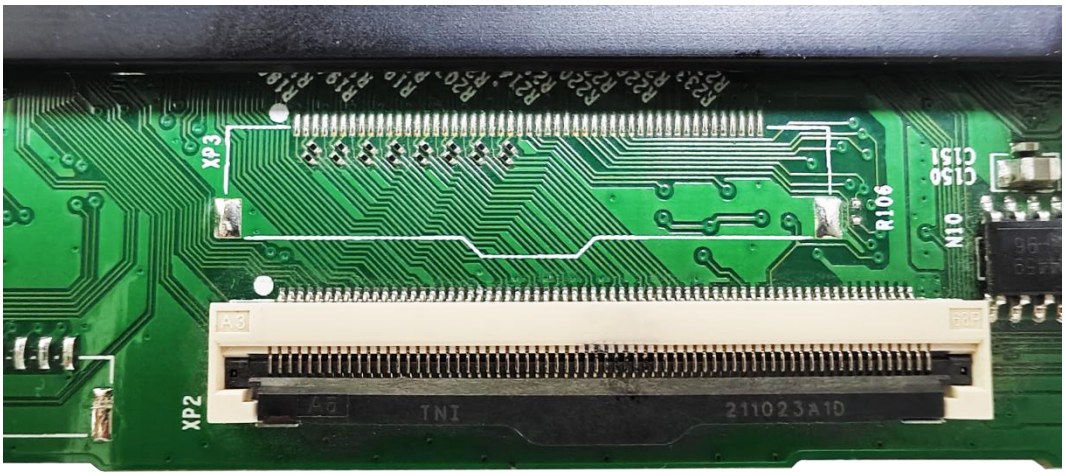


Figure 4-6-1 Hisense 68Pin

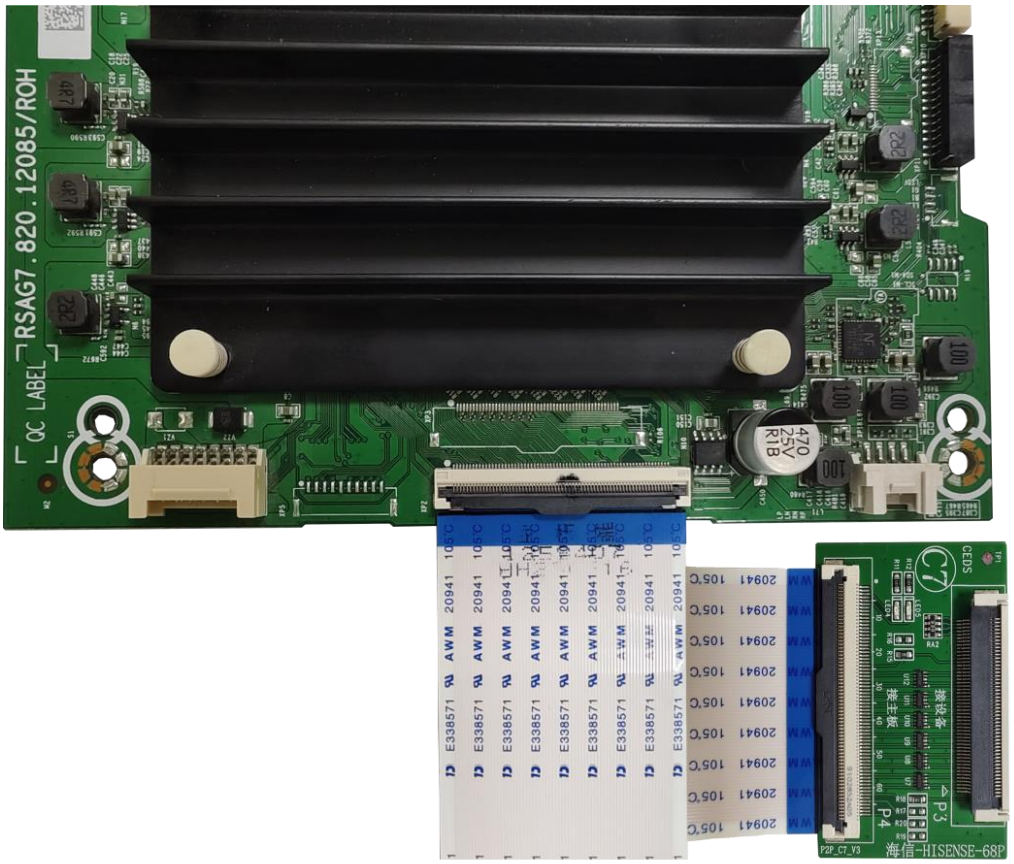


Figure 4-6-2 Hisense 68Pin C7 connection

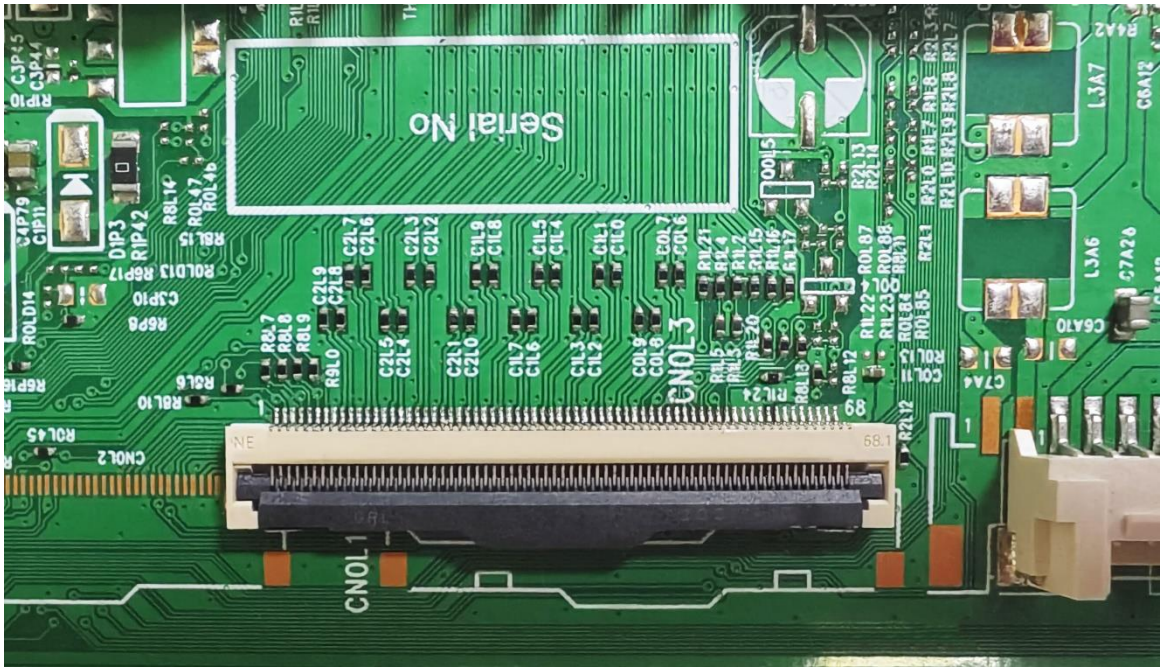


Figure 4-6-3 Skyworth 68Pin

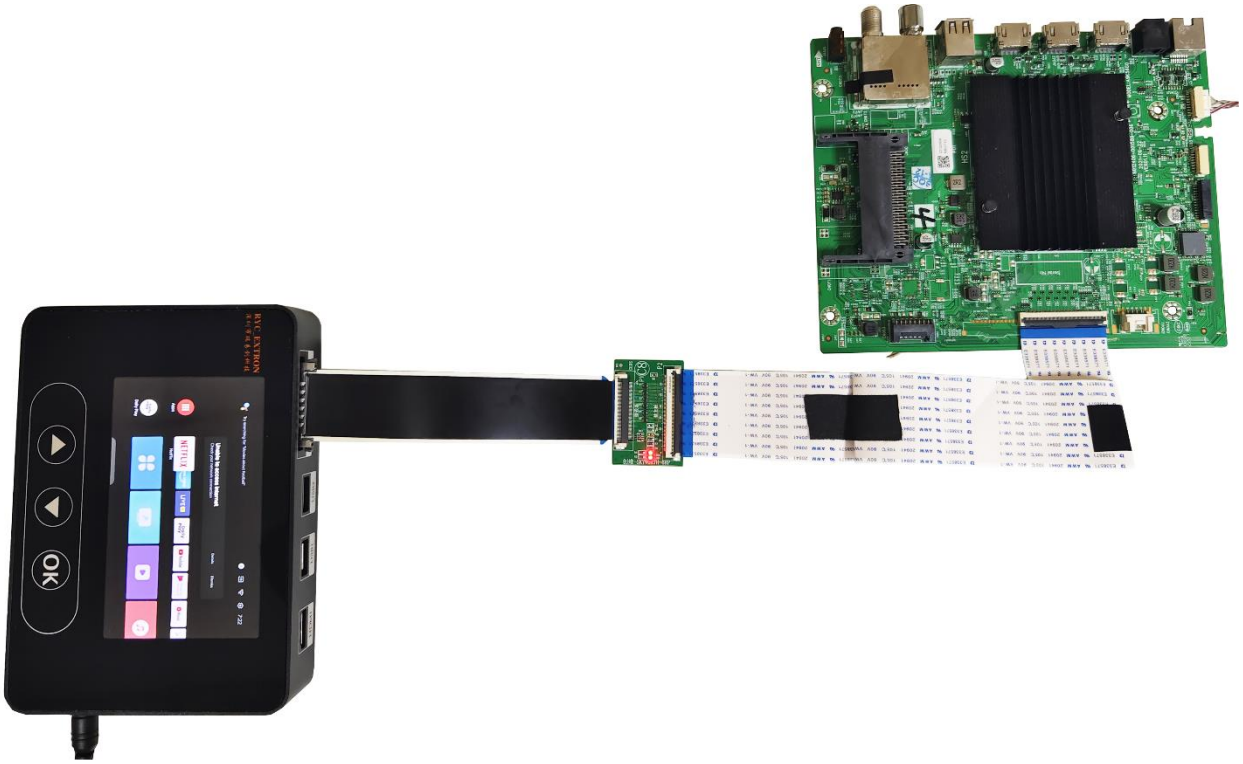


Figure 4-6-4 Skyworth 68Pin C8 connection

Skyworth and Hisense also have a motherboard with dual 68Pin screen cables. When encountering this type of motherboard, you should first observe its differential line position, if the differential line position is consistent with the dual 60Pin, you can use the dual 60Pin adapter board for testing. When testing, pay attention to the alignment of the differential line position, align the 60Pin screen line against the center of the motherboard screen line holder, as shown in Figure 4-6-5, refer to the comparison table in the appendix .

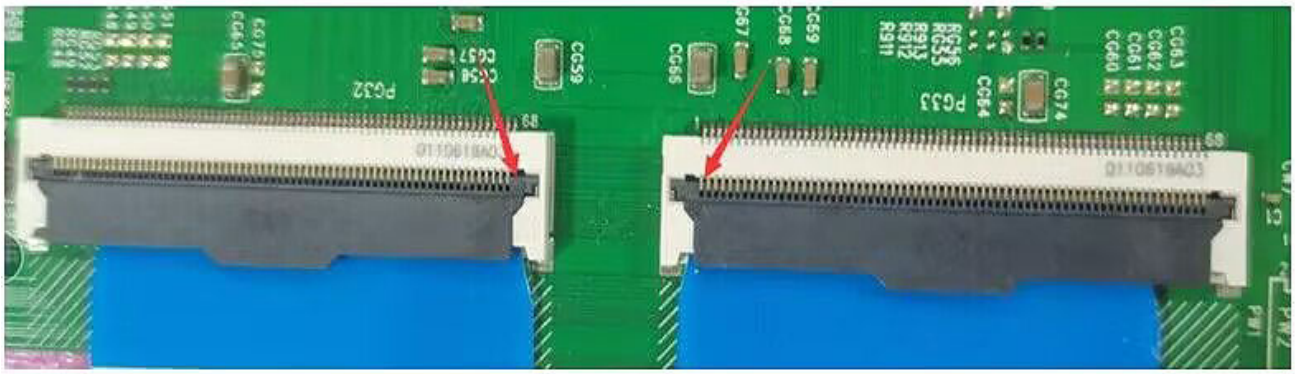


Figure 4-6-5 Test of Special 68Pin Dual Screen Cable

4.7. Converter board CD/S1 (for Samsung USIT 96Pin single LCD module cable sequence)

The Samsung USIT signal in P2P signal can be divided into 96Pin single LCD module cable sequence and 96Pin dual LCD module cable sequence. the USIT single LCD module cable sequence contains 12 pairs of differential signal cable. Each pair of differential signal cables are separated by ground wire as shown in Figure 4-7-1, P44-P78 are differential signal cables, differential cables are separated by ground wire, this cable sequence is tested by converter board CD/S1, as shown in Figure 4-7-2

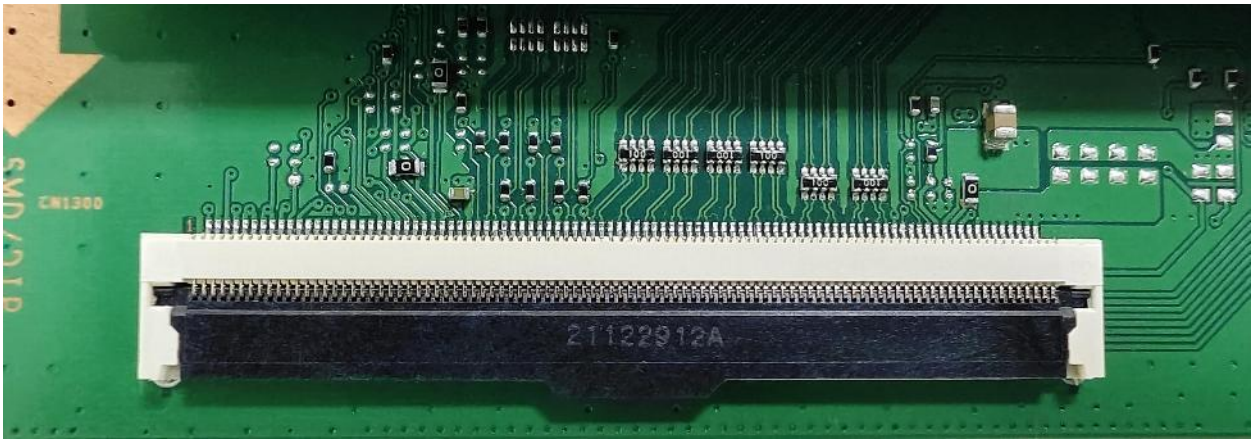


Figure 4-7-1 single cable USIT

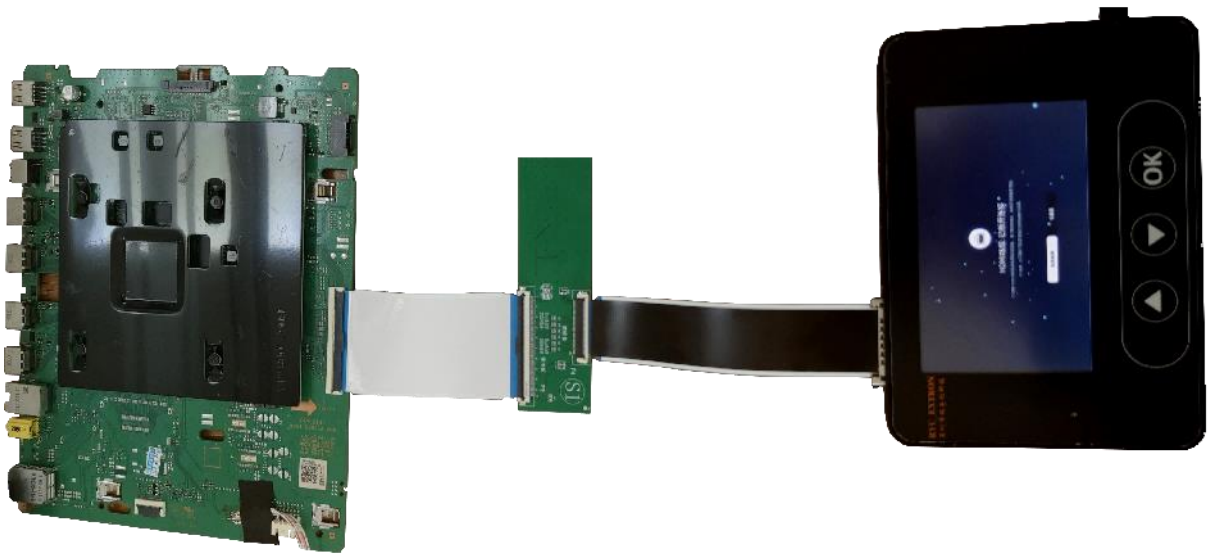


Figure 4-7-2 single cable USIT S1 connection

4.8. Converter board S3 (for Samsung USIT 96Pin dual LCD module cable sequence)

USIT 96Pin dual LCD module cable sequence usually include 12 pairs or 16 pairs of differential signal cables, each pair of differential signal cables are separated by four pins and two ground wires. As shown in Figure 4-8-1, the cable sequence contains 12 pairs of differential signal cables, the left LCD module cable P47-P78 and the right LCD module cable P26-P57 are all differential signal cable position, each pair of differential signal cable are separated by four pins and two ground wires. It is tested by S3 converter board, as shown in Figure 4-8-2.

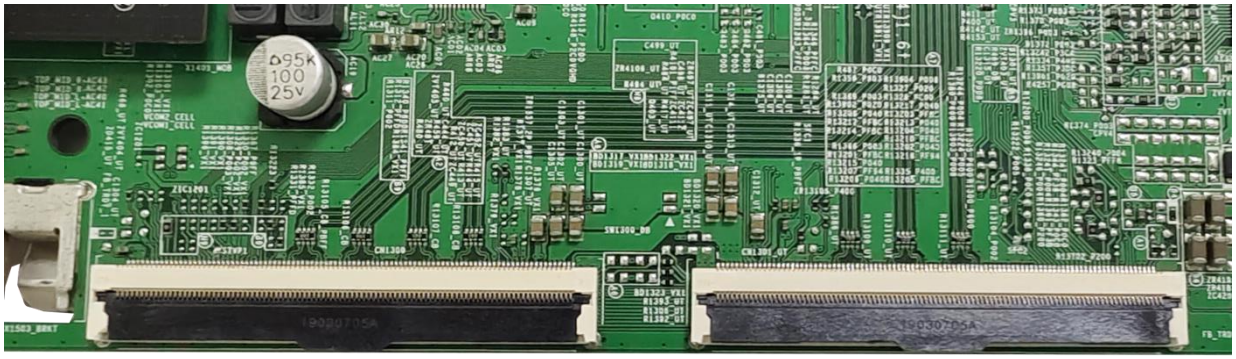


Figure 4-8-1 dual cables USIT

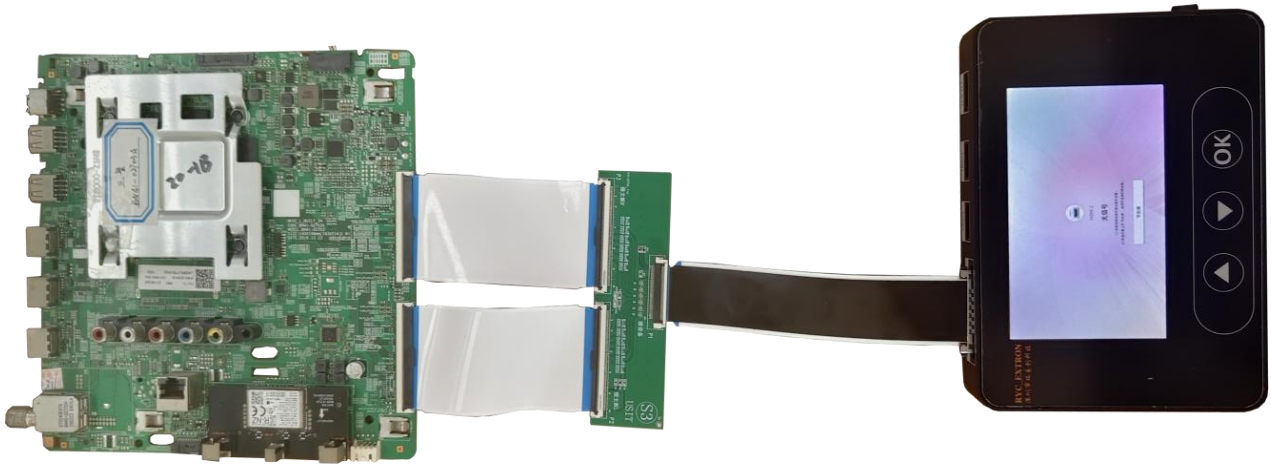


Figure 4-8-2 dual cables USIT S3 connection

4.9. Converter board V1 (for 4K-VBYONE cable sequence)

EXV9210 can test P2P signals TV motherboard as well as well as 4K-VBYONE signal motherboard. 4K-VBYONE cable sequence generally include 8 pairs of differential signal cable, and separated by the capacitor and the main chip , its VLCD power supply pins are generally 7 or 8. As shown in Figure 4-9-1 for 4K-VBYONE cable sequence, tested by Converter board V1, as shown in Figure 4-9-2.

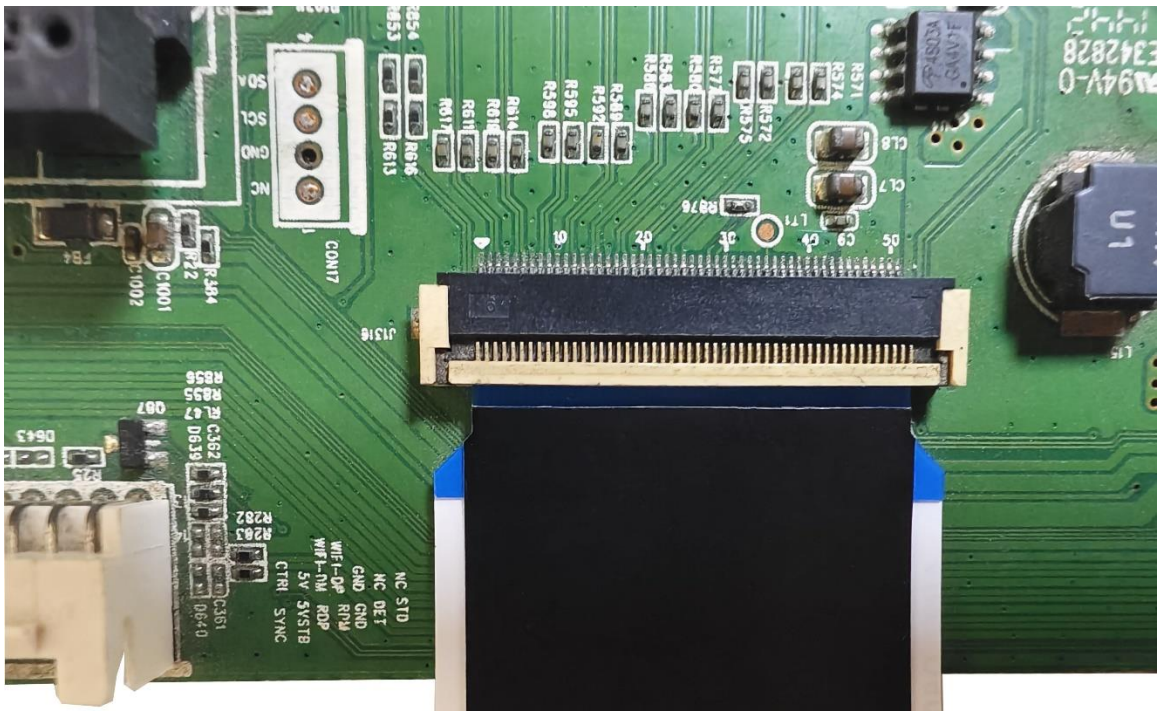


Figure 4-9-1 VBYONE signal

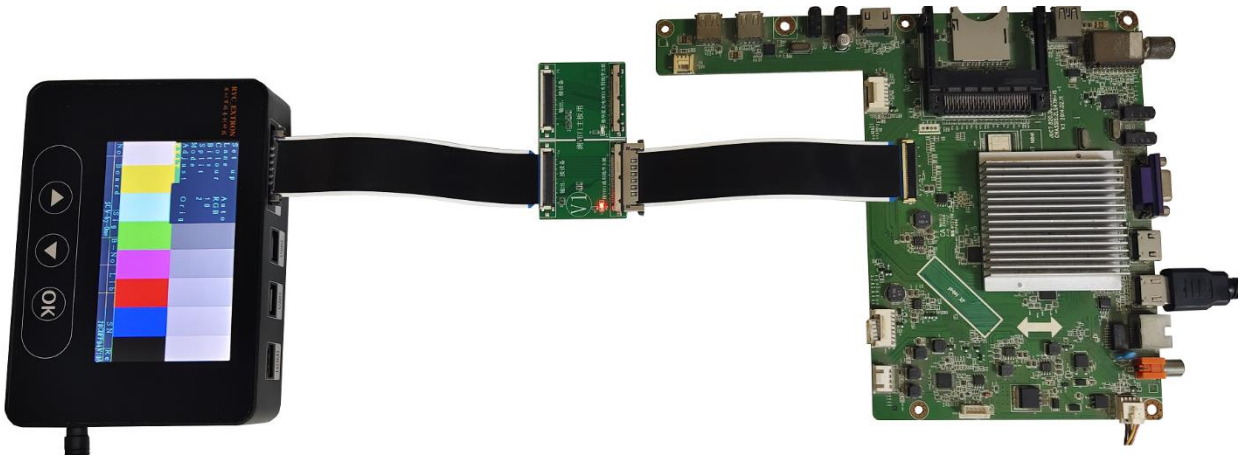


Figure 4-9-2 VBYONE signal V1 connection

5. User Guide

5.1. Main Interface Description

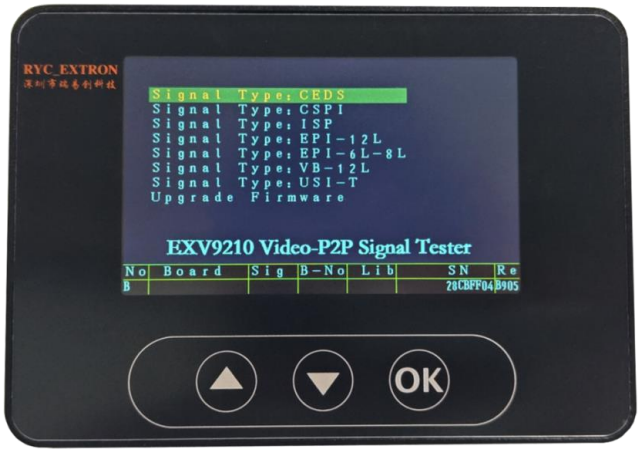


Figure 5-1 Main interfaces of EXV9210

EXV9210 use 5V power and plug in ， you can see main interface as Figure 5-1 shown.In the main interface, you can use ‘up’ and ‘down’ buttons to select the type of mainboard signals tested, and press the ‘OK’ button to confirm the selection. After selecting the signal type, you can press and hold the ‘OK’ button again to return to the initial interface, or power on again.

5.2. Connection Instruction

The P2P motherboard LCD module cable include either 2 60Pin or 1 60Pin FFC LCD module cable, which cannot be directly connected to the EXV9210 signal converter. It must first pass through the P2P signal converter board and perform cable sequence conversion before connecting to the converter for testing. EXV9210 is equipped with 6 converter boards, here takes a single 60Pin LCD module cable as an example, the connection sample is shown in Figure 5-2, the main board is connected to converter board through a 60Pin LCD module cable, converted into the 51-pin cable sequence, and then connected to the EXV9210 signal converter.

Figure 5-2 P2P Signal mainboard Connection Map

5.3. Testing and Operation

Since there are many types of P2P signals at present, and various types of signals contain multiple formats, even if the right motherboard type is selected, problems such as incompleteness and color cast may still occur. It needs to be adjusted to a normal image through various parameter selections. It should be noted that if the main board signal type is not selected correctly, the image will not appear, and the "No Signal" screen will be displayed. Before testing, it is necessary to judge the main board output signal type.

5.3.1. Enter and exit the menu interface

After selecting the mainboard type, touch the “OK” button to call up the screen parameter setting menu. If the mainboard is not powered on, you can see the screen as shown in Figure 5-3-1. It should be noted that the menu is only displayed on the 5-inch screen. If an external monitor is connected via HDMI, the menu will not be displayed on the monitor. After calling out the screen parameter setting menu, you can select the parameters by pressing the "Up", "Down" and "OK" buttons. After the setting is completed, you can select "Exit Menu" to exit. Since the display parameters of different signal motherboards are different, in order to simplify the setting menu, simplify the operation steps, and select motherboards with different signal types, the interface of the screen parameter setting menu is different. After the mainboard is turned on and the image signal is connected, the screen parameters can also be set. If there is no display or the screen is stuck after connecting to the mainboard signal, it means that the signal type is wrong, and you can return to the main interface to select the signal type again.

Figure 5-3-1 Menu Display

5.3.2. Number of signal lanes

Select the number of signal lanes, you may see, it has options: "6", "8", "12","16", "24". Except for USIT, the number of signal lanes of various P2P signals is fixed. After the signal type is selected, the number of signal lanes is also selected by default.

5.3.3. Color Mode

Because if the mainboard signal is connected, the complete image can be displayed on the EXV9210, but the color of the image is wrong, as shown in Figure 5-3-3, it can be set in the color mode. Choose motherboards with different signal types, and the color mode menu options are different. During the test, if you encounter the problem of image color cast, you can adjust it through the color mode. The above modes are all the modes that have been tested so far. If other color modes appear in the future, you can upgrade and add color modes to solve the problem.

Figure 5-3-3 Color Mode Setting

5.3.4. Color bits

There are two settings for color bits: "8" and "10". Currently, the common P2P signals are all 8 bits, and the USIT motherboard can automatically determine the 8 and 10 bits without the need for manual adjustment. VBYONE has 8-bit and 10-bit

options that require manual selection.

5.3.5. Screen Division

If the mainboard signal is connected, the image will appear multiple screens, which can be set in “Screen Division”, select different signal motherboards, screen division menu options are different, some motherboards do not have this options, as shown in Figure 5-3- 5, there are multiple screens, which can be set and adjusted in screen division menu.

Figure 5-3-5 split screen setting

5.3.6. Display Mode

The display mode has two settings: "DeSc" and "EnSc". If the mainboard signal is connected, EXV9210 cannot see the image clearly, only vertical bars can be seen, as shown in Figure 5-3-6, you can perform two operations in the display mode. switching of display modes

Figure 5-3-6 Display Mode Setting

When entering the testing of CEDS or USIT, there will be another display mode corresponding to it. Incorrect display mode settings may result in no images. In this case, you can first check the attached table or consult technical support.

5.3.7. Image Adjustment

As most P2P signal motherboards, the output image is a mirror image, so EXV9210 adds an image adjustment mode, which can flip the image mirror image. As shown in Figure 5-3-7, the display mode has two settings: "original" and "mirror". "Original" is the image output by the mainboard. Selecting the "mirror" mode can mirror the image output from the mainboard.

Figure 5-3-7 Image Adjustment Setting

6. Precious points

➢ Some motherboards may need to adjust multiple parameters, and normal images cannot appear after adjusting a single parameter.

➢ Please pay attention to regular replacement for consumable flat cable.

➢ The Flat cable interface socket of some motherboards is wider than the screen cable, and the flat cable can be moved left and right when inserted. Note that the flat cable is inserted in the middle to prevent misalignment. You can test it with a multimeter before powering on.

➢ Please use the 12V power supply that comes with the machine for the power supply of the converter. If you want to substitute it, please use the power supply whose AC end is a three-wire plug to reduce electrostatic interference.

➢ If the image flickers or blick, check LCD module flat cable connection and then power on again.

➢ The widths of the gaps at the two ends of flat cable provided by EXV9210 are different. Pay attention to the direction when connecting. The narrow gap end is connected to converter board, and the wide gap end is connected to the motherboard. Due to some motherboards, the interface socket will be deeper, and the commonly used flat cables will not be long enough. Therefore, it is necessary to connect the wide-notch flat cable, as shown in Figure 6-1.

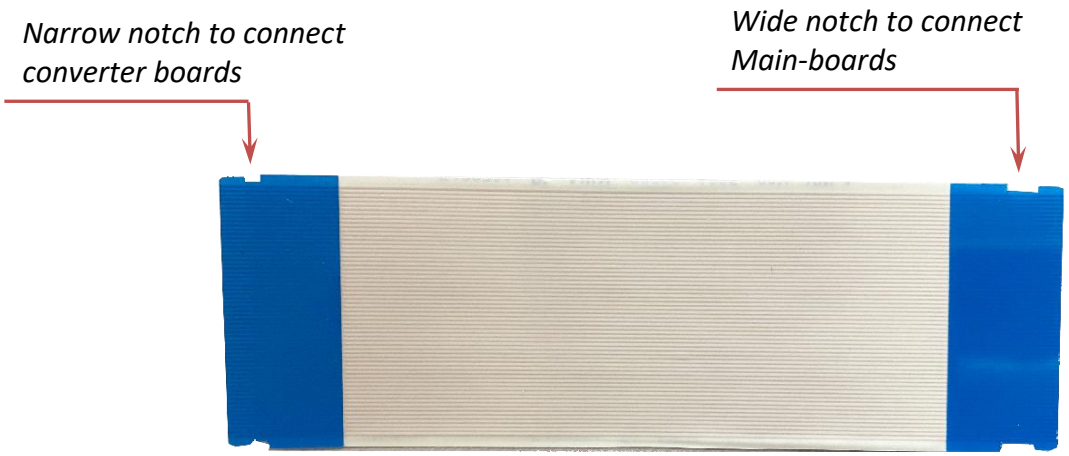


Figure 6-1 60Pin Flat cable

7. Appendix One

According to the current motherboard test results, types of P2P signal motherboards are CSPI, CEDS, EPI and iSP. These LCD modules corresponding to these four types of P2P come from different brands of LCD module manufacturers. During testing, you can help to judge P2P signal type according to LCD module manufacturer. As shown in Figure 7-1, the corresponding signals of the P2P signal LCD module produced by several major LCD module manufacturers are listed. You should be noted that this method is only used as an auxiliary judgment, as a reference, and cannot ensure 100% accuracy.

Manufacturer	Mainboard Signal type
USIT	Samsung
CSOT	CSPI
BOE	CEDS
LG	EPI
AUO	ISP

Figure 7-1 LCD module and P2P signal types

8. Appendix Two, testing table for USI-T main board

NO	主板编号	Pin	转接板	Signal	Lane	Colour	Bits	VSF	Mode	Adjust
1	BN41-02855A	96*1	CD	USIT	12	RGB	8	100Hz	F0	Mirr
2	BN41-02749A-000	96*1	CD	USIT	12	RGB	8	100Hz	F0	Mirr
3	BN41-02703A	96*2	S3	USIT	12	GBR	8	50Hz	F0	Mirr
4	BN41-02568B	96*2	S3	USIT	16	RGB	8	50Hz	F0	Mirr
		96*2	S3	USIT	12	GBR	8	50Hz	F1	Mirr
5	BN41-02528A	96*2	S3	USIT	12	GBR	8	50Hz	F2	Mirr
7	BN41-02570B	96*2	S3	USIT	24	RGB/GBR	10	120Hz	F1	Mirr
8	BN41-02504A	96*2	S3	USIT	24	GBR	10	120Hz	F0	Mirr
9	BN41-02710A	96*2	S3	USIT	12	GBR	8	50Hz	F1	Mirr
10	BN41-02634B	96*2	S3	USIT	24	RGB	10	120Hz	F1	Mirr
11	ML41A050594A	96*1	CD	USIT	12		8	60Hz	F3	Mirr
12	BN41-02756B	96*1	CD	USIT	12	GBR	8	50Hz	F0	Mirr
13	BN41-02572A	96*2	S3	USIT	24	GBR	10	120Hz	F3	Mirr
14	BN41-02695A	96*2	S3	USIT	24	GBR	8	120hz	F2	Mirr

9. Appendix Three testing table for some P2P main board

P2P main-board statistics table (incomplete statistics)											
Item	Main-board No.s	Main-board Brand	LCD module cable P	Converter No.s	Signal type	Panel parameter settings					
						Signal Channels	Color Mode	Color bit	Screen Division	Display Mode	Image Adjustment
1	40-M96526-MAB2HG	TCL	dual 60P	C6	CSPI	12	RGB	8	R-L	DeSc	Orig
2	TD.T963T.775(T)	TCL	dual 60P	C6	CSPI	12	RGB	8	L-R	DeSc	Mirr
3	40-T972AH-MPC2HG	TCL	dual 60P	C6	CSPI	12	RGB	8	L-R	DeSc	Mirr
4	40-M848CY-MAC2HG	TCL	dual 60P	C6	CSPI	12	RGB	8	L-R	DeSc	Mirr
5	40-M84806-MAA2HG	TCL	single 60P	C1	CSPI	12	RGB	8	R-L	DeSc	Orig
6	40-T972B1-MPA2HG	TCL	dual 60P	C4	iSP	12	RGB	8	L-R	DeSc	Mirr
7	40-M9652F-MAB2HG	TCL	single 60P	C1	CSPI	12	GBR	8	L-R	DeSc	Mirr
8	40-T963A4-MAB2HG	TCL	single 60P	C1	CSPI	12	RGB	8	L-R	EnSc2	Mirr
9	TT963B2	TCL	dual 60P	C6	CSPI	12	Comb	8	R-L	DeSc	Orig
10	TT963B1	TCL	dual 60P	C6	CSPI	12	RGB	8	H160	DeSc	Mirr
11	40-M848C6-MAD2HG	TCL	dual 60P	C6	CSPI	12	RGB	8	R-L	DeSc	Orig
12	TD.RT2851MT.776(T)	TCL	dual 60P	C6	CSPI	12	GBR	8	H160	DeSc	Mirr
13	TPD.T972T.PC775	TCL	dual 60P	C6	CSPI	12	RGB	8	R-L	DeSc	Orig
14	201-MT963B1N-02	TCL	dual 60P	C6	CSPI	12	RGB	8	H160	DeSc	Mirr
15	40-T972A5-MAD2HG	TCL	dual 60P	C6	CSPI	12	GBR	8	L-R	DeSc	Mirr
16	40-T982L2-MAC2HG	TCL	dual 60P	C6	CSPI	12	RGB	8	L-R	DeSc	Mirr
17	1.30.01.TTL972D1-00-04	TCL	dual 60P	C6	CSPI	12	RGB	8	R-L	EnSc	Orig
18	40-T972AQ-MPA2HG	TCL	dual 60P	C6	CSPI	12	RGB	8	R-L	EnSc	Orig
19	40-T972AM-MPA2HG	TCL	dual 60P	C6	CSPI	12	RGB	8	R-L	DeSc	Orig
20	40-T972A7-MAB2HG	TCL	dual 60P	C6	CSPI	12	GBR	8	L-R	DeSc	Orig
21	40-M848CD-MAA2HG	TCL	dual 60P	C5	iSP	12	RGB	8	L-R	EnSc	Mirr
22	TPD.T972T.PC779	TCL	dual 60P	C6	CSPI	12	RGB	8	R-L	EnSc	Orig
23	40-M9652F-MAC2HG	TCL	single 60P	C1	CSPI	12	GBR	8	L-R	DeSc	Mirr
24	40-T982L4-MAC2HG	TCL	dual 60P	C6	CSPI	12	RGB	8	L-R	DeSc	Mirr
25	TPD.T972T.PC778	TCL	dual 60P	C6	CSPI	12	RGB	8	R-L	DeSc	Orig

26	40-M848CJ-MAA2HG	TCL	dual 60P	C6	CSPI	12	Comb	8	R-L	DeSc	Orig
27	40-T9722A4-MPB2HG	TCL	dual 60P	C6	CSPI	12	RGB	8	L-R	DeSc	Mirr
28	40-T972A7-MPC2HG	TCL	dual 60P	C6	CSPI	12	Comb	8	R-L	DeSc	Orig
29	40-M9652A-MAB2HG	TCL	dual 60P	C6	CSPI	12	Comb	8	R-L	DeSc	Orig
30	40-T972AH-MPE2HG	TCL	dual 60P	C6	CSPI	12	Comb	8	R-L	EnSc	Orig
31	40-M838CM-MAC2HG	TCL	dual 60P	C6	CSPI	12	RGB	8	L-R	DeSc	Mirr
32	40-MR17T5-MAA2HG	TCL	dual 60P	C6	VB12	12		8	R-L		Orig
33	40-M653G2-MAC2HG	TCL	single 96P	CC	CSPI	12	RGB	8	120Hz	EnSc	Mirr
34	40-M653J1-MAA2HG	TCL	single 96P	CC	CSPI	12	RGB	8	120Hz	EnSc	Mirr
35	40-T963T4-MAB2HG	TCL	dual 60P	C4 改	EPI-6L-8L	6	RGB1	8	Nor1	DeSc	Mirr
36	40-R51MPD-MAC2HG	TCL	dual 60P	C6	CSPI	12	RGB	8	R-L	EnSc	Orig
37	35024151	Konka	dual 60P	C2	EPI-12L	12	RGBW	8	——	——	Mirr
38	35023559	Konka	dual 60P	C2	EPI-12L	12	RGBW	8	——	——	Mirr
39	35023120	Konka	dual 60P	C2_CR	EPI-12L	12	GBWR	8	——	——	Mirr
40	35023995	Konka	dual 60P	C3	EPI-6L-8L	6	RGB0	8		EnSc	Mirr
41	35023230	Konka	dual 60P	C2_CR	EPI-12L	12	GBWR	8	——	——	Mirr
42	35024926	Konka	dual 60P	C3	EPI-6L-8L	6	RGB0	8	——	——	Mirr
43	35024941	Konka	dual 60P	C4	CEDS	12	GBR	8			Mirr
44	35025002	Konka	dual 60P	C6	CSPI	12	RGB	8	R-L	EnSc	
45	35023119	Konka	dual 60P	C2_CR	EPI-12L	12	GBWR	8	——	——	Mirr
46	35023030	Konka	dual 60P	C2	EPI-12L	12	GBWR	8	——	——	Mirr
47	35026166	Konka	dual 60P	C4	CEDS	12	BGR	8	H160	Kon0	Mirr
48	35023199	Konka	dual 60P	C2	EPI-12L	12	RGBW	8			Mirr
49	35023887	Konka	dual 60P	C2	EPI-12L	12	RGBW	8			Mirr
50	35025658	Konka	dual 60P	C4	EPI-12L	12	RGBW	8			Mirr
51	35024406	Konka	dual 60P	C3	EPI-6L-8L	6				EnSc	
52	35023899	Konka	dual 60P	C3	EPI-6L-8L	6				EnSc	
53	35022752	Konka	dual 60P	C2	EPI-12L	12	GBWR	8	——	——	Mirr
54	35022505	Konka	dual 60P	C2	EPI-12L	12	GBWR	8	——	——	Mirr
55	35023631	Konka	dual 60P	C2_CR	EPI-12L	12	RGBW	8			
56	RSAG7.820.7918	Hisense	dual 60P	C5	iSP	12	RGB	8	R-L	EnSc	Mirr
57	RSAG7.820.9850	Hisense	dual 60P	C4	CEDS	12	BGR	8	——	——	Mirr
58	RSAG7.820.8768	Hisense	dual 60P	C5	iSP	12	RGB	8	L-R	EnSc	Mirr

59	RSAG7.820.8002	Hisense	dual 60P	C5	iSP	12	RGB	8	R-L	EnSc	Mirr
60	RSAG7.820.10510	Hisense	dual 60P	C4	CEDS	12	BGR	8	——	——	Mirr
61	RSAG7.820.9428	Hisense	dual 60P	C5	iSP	12	RGB	8	L-R	EnSc	Mirr
62	RSAG7.820.8802	Hisense	dual 60P	C4	EPI	12	RGBW	8	——	——	Mirr
63	RSAG7.820.10637	Hisense	single 68P	C7-海信/C4+	CEDS	12	BGR	8	——	——	Mirr
64	RSAG7.820.10688	Hisense	single 68P	C7-海信/C5+	iSP	12	RGB	8	L-R	EnSc	Mirr
65	RSAG7.820.12206	Hisense	single 68P	C7-海信/C6+	CSPI	12	RGB	8	L-R	EnSc	Mirr
66	RSAG.820.10264	Hisense	dual 60P	C4	CEDS	8	GBR	8	H320	DeSc	Mirr
67	RSAG7.820.9132	Hisense	dual 60P	C5	iSP	12	RGB	8	L-R	EnSc	Mirr
68	RSAG7.820.9180	Hisense	dual 60P	C5	iSP	12	RGB	8	L-R	EnSc	Mirr
69	RSAG7.820.10360	Hisense	dual 60P	C5	iSP	12	GBR	8	L-R	EnSc	Mirr
70	RSAG7.820.9603	Hisense	dual 60P	C6	CSPI	12	Comb	8	R-L	EnSc	Mirr
71	RSAG7.820.9250	Hisense	dual 60P	C4	CEDS	12	RGB	8	H160		Mirr
72	RSAG7.820.12085	Hisense	single 68P	C7-海信	CEDS	12	BGR	8	H320	Mi0	Mirr
73	RSAG7.820.9479	Hisense	dual 60P	C5	iSP	12	RGB	8	L-R	EnSc	Mirr
74	RSAG7.820.8803	Hisense	dual 68P	C2	CEDS	12	BGR	8	H320	Nor0	Mirr
75	RSAG7.820.9638	Hisense	dual 68P	C2	CEDS	12	BGR	8	H320	Mi0	Mirr
76	RSAG7.820.9538	Hisense	dual 68P	C2	CEDS	12	BGR	8	H320	Mi0	Mirr
77	RSAG7.820.10527	Hisense	dual 60P	C4	CEDS	12	BGR	8	H320	Mi0	Mirr
78	RSAG7.820.12440	Hisense	single 68P	C7-海信	CEDS	12	RGB	8	H320	Mi0	Mirr
79	RSAG7.820.9516	Hisense	dual 60P	C6	CSPI	12	GBR	8	L-R	EnSc2	Mirr
80	RSAG7.820.13197	Hisense	single 68P	C7-海信	CSPI	12	RGB	8	L-R	DeSc	Mirr
81	5800-A7S770-1P20	Skyworth	single 68P	C8	VB-12	自动	RGB	10	1 分屏	——	Orig
82	5800-A9S200-0P00	Skyworth	dual 60P	C2	EPI	12	GBWR	8			Mirr
83	5800-A9R520-0P00	Skyworth	dual 60P	C2-CR	EPI	12	GBWR	8			Mirr
84	5800-A8H520-1P00	Skyworth	dual 60P	C2	EPI-12L	12	RGBW	8	——	——	Mirr
85	5823-A8S380-0P00	Skyworth	dual 60P	C3	EPI-6L-8L	6	RGBW	8		Nor0	Mirr
86	5800-A8S790-0P60	Skyworth	dual 60P	C2	EPI	12	GBWR	8			Mirr
87	5800-A7S780-0P00	Skyworth	single 68 针	C8	CEDS	12	BGR	8	H320	Mi0	Mirr
88	5800-A9R490-0P10	Skyworth	dual 60P	C2-CR	EPI	12	GBWR	8			Mirr
89	5800-A8H200-0P20	Skyworth	dual 60P	C2	iSP	12					
90	A7T855	Skyworth	single 68P	C8	CEDS	12	BGR	8	H320	Nor0	Mirr
91	A7T855	Skyworth	single 68P	C8	VB-12	8		10	2		

92	A9K56G0	Skyworth	single 68P	C8	CEDS	12	BGR	8	H320	Mi0	Mirr
93	A9K56G0	Skyworth	single 68P	C8	VB-12	8		10	1		Orig
94	5851-A8R391-2P00	Skyworth	dual 60P	C6	CSPI	12	RGB	8	R-L	DeSc	Orig
95	5800-A7S720-0P20	Skyworth	dual 68P	C2	CEDS	12	BGR	8	H320	Mi0	Mirr
96	JUC7.820.10003598	Changhong	dual 60P	C6	CSPI	12	RGB	8	R-L	DeSc	Orig
97	JUC7.820.10004874	Changhong	dual 60P	C4	iSP	12	RGB	8	L-R	DeSc	Mirr
98	JUC7.820.10000030	Changhong	single 60P	C1	CSPI	12	GBR	8	L-R	DeSc	Mirr
99	JUC7.820.00243711	Changhong	dual 60P	C5	iSP	12	RGB	8	L-R	EnSc	Mirr
100	JUC7.820.10002717	Changhong	dual 60P	C6	CSPI	12	GBR	8	R-L	EnSc	Orig
101	JUC7.820.00238776	Changhong	dual 60P	C6	CSPI	12	RGB	8	R-L	DeSc	Orig
102	JUC7.820.10002718	Changhong	single 60P	C1		12					Mirr
103	JUC7.820.00235160	Changhong	dual 60P	C5	iSP	12	GBR	8	L-R	EnSc	Mirr
104	JUC7.820.00236783	Changhong	dual 60P	C3	EPI-6L-8L	6	RGBW	8	——	EnSc	Mirr
105	TD.T963.793	Mi	single 60P	C1	CSPI	12	Comb	8	L-R	DeSc	Mirr
106	DKTV-B014-T963	Mi	single 60P	C1	CSPI	12	GBR	8	R-L	EnSc	Orig
107	TD.MT9632.793	Mi	single 60P	C1	CPSI/CEDS/VBY1						
108	DKTV-B015-9638	Mi	single 60P	C1	CPSI/CEDS/VBY1						
109	TD.MT9638.791	Mi	single 60P	C1	CPSI/VBY1						
110	TD.MT9632.793-RZ4J	Mi	single 60P	C1	CEDS	12	BGR	8	H320	KONO	Mirr
111	TD.MT9638.792	Mi	single 60P	C1	CPSI/VBY1						

Note: 1. The P2P main-board, at the output end of the screen line, has a high-voltage GAMA signal output. If connection is wrong, the protection circuit of the instrument will be damaged, and the internal chip will be seriously damaged. Therefore, it is highly recommended that you should read the user guide carefully before operation, and make sure you understand the contents, and then operate in strict accordance with the instructions

2.Some P2P main-boards are plugged into different Panel IDs or flashed with different firmware, and the motherboards can output images of different signal types to match different panel.