Skyworth

Instructions

Splice Liquid Crystal Display

0710-SKPJ48-03R

Please read this instruction carefully before using this product

Skyworth

Chinese Instruction

Contents

Product type		M46PJCH-DS M46PJCDH-TDY	M55PJCZ-DS M55PJCD-TDY	M55PJCZ-GS M55PJCG-TDY	M55PJDZ-GS M55PJDG-TDY
Splicing gap		≤5.7MM	≤5.5MM		≤3.9MM
LCD Panel	Proportion	16:9			
	Definition	1920X1080 8bit			
	Color	16.7M			
	Type	DID FHD-LED			
	Brightness	500cd/m²		700cd/m²	
	Contrast	3500:1		4000:1	
	Response time	8ms			
	View angle	178°			
	Line frequency	54-69.75KHz	43-67.5KHz		
	Field frequency	60Hz			
Signal interface	Video color mode	PAL/NTSC			
	CVBS IN/OUT	1Vp-p 75Ω BNCx2			
	S-VIDEO	Y:1Vp-p,75Ω ;C:0.3Vp-p,75Ω			
	YUV signal format	1920x1080P downwards compatible			
	VGA Input	1920x1080(60Hz) downwards compatible			
	HDMI Input	1920x1080P downwards compatible			
	DVI Input	1920x1080P downwards compatible			
	USB Input	Online upgrade of USB2.0 support software			
	Communication interface	Input/output of RJ485 ring			
	DP Interface	Compatible			
Power/consumption		AC100~240V,50/60Hz, ≤2A	AC100~240V,50/60Hz, ≤3A		
Working environment	Temperature	0℃-50℃			
	Relative humidity	10%-90%			
	Altitude	≤5000m			
Storage environment	Temperature	-20℃-60℃			
	Relative humidity	5%-90%			
Tropical climate condition		Applicable			
Assembly mode		Cabinet/frame			
Operational mode		Professional control software of skyworth			
Cooling system		Fan cooling system			
Material of the housing		Cold-rolled steel/aluminum extruded profile			
Size of appearance	Panel of LCD(WxH)	1023.98mm x 578.57mm	1215.5mm x 686.3mm		1213.5mm x 684.3mm
	Thickness of cabinet	200-400mm			
(Panel of liquid crystal + splicing unit) weight		19kg	24kg		

There are the features of De-fog and low bit models

Model		M40PJ-TDY	M46PJCG-TDY	M46PJCD-TDY	M46PJCDH-TDY	M55PJCG-TDY	M55PJCD-TDY	M55PJDG-TDY
De-fog/ low bit function	thin fog	99% penetration and elimination rate of thin fog						
	moderate fog	90% penetration and elimination rate of moderate fog						
	thick fog	80% penetration and elimination rate of thick fog						
	Low bit	Under the condition of thin light, the maximum gain of luminance is 49.3dB						

This feature can automatically identify static or motive status of the image that is input, in order to judge the status of the image displayed in current screen, and issue command duly to make static image in the screen generate certain phase displacement horizontally, so that it can eliminate the case that the molecules of liquid crystal are easy to get damaged, and extend service life of liquid crystal display effectively.

High Reliability, High Stability, Long Service Life

Industrial power module group is used, with low-noise fan cooling system, and the system is reliable and stable, with uninterruptible working capacity for over 60 thousand hours.

Smart Temperature Control Cooling and High Temperature Alarm Feature

Smart temperature control is to use smart automatic temperature sensors embedded into splicing module, while ambient temperature doesn't reach certain limitation, whose cooling fan won't start and work, while this temperature reaches set limit value, cooling fan will automatically start up to cool the machine inside, in order to guarantee steady operation of the equipment, and realize the purpose of energy-saving and environment protection.

The user can set one value for the temperature of splicing units on his/her own, while the temperature exceeds set value, smart temperature control system will show the sign of reminding high temperature automatically, reminding the user that working temperature of current display unit is too high.

SS Smart Control Engine Feature

1）SS smart startup delay engine: to preset the value for the time of startup of all the splicing display units through remote control or control software, which can display the units one by one under the case that the power is resumed after blackout, in order to realize delay startup, and avoid simultaneous electrification to all the splicing display units, and prevent from being damaged by the impact of surge current, which can be able to guarantee normal startup of splicing units effectively.

2）SS smart working timing engine: to calculate accumulative time of starting this equipment with timing engine embedded in working smart timing module inside, which can make statistics to actual working time of the equipment, and provide references for working stability or life evaluation for this product.

The error of this timing engine is related to the frequency of starting/closing the machine, the less the frequency is, the lower the timing error is.

Multi-media Playing Feature (Optional, Referring to Current Model Configuration)

(1)Compatible with USB2.0 interface, as well as hot plugging;

(2)Compatible with audio and video formats: MPG, MPG-1, MPG-2, MPG-4, AVI, MP4, RM, RMVB etc;

(3)Compatible with image format: JPEG, BMP;

(4)Compatible with music format: MP3, WMA.

Troubleshooting

1. Black screen:

(1) Check the indicator of the machine. Green indicator means that the machine is working; Red indicator means the status of standby; if the indicator isn't on, it means that there is no power.

(2) Check if there is bad connection between the line of inverter and the screen of the machine or not.

(3) Check if there is bad connection between the line of the screen and the screen or not.

2. White screen:

Check if there is bad connection between the line of inverter and the screen or not.

3. Messy screen

Check if there is bad connection between the line of the screen and the screen or not.

Note: please contact the engineering personnel immediately if other malfunctions are discovered.

V Safety Precautions

1. Before this machine is used, please carefully read this instruction;

2. While assembling, please ground the housing of splicing units in the safe and reliable manner;

3. After the assembly, it is not allowed to block the cooling opening of the machine, in order to cool in good manner;

4. It is not allowed to fall any objects into ventilation opening of this product, in case of causing the equipment damaged or shocked;

5. There is high voltage power in the equipment, whoever is not allowed to open the housing unless the professionals, in case of danger, after there is malfunction occurring in the product, only the professionals from our company are allowed to open this product for maintenance;

6. While the dust on liquid crystal screen is being eliminated, soft silk cloth must be used for rubbing and removing the dust.

7. There are no waterproof and humidity proof devices installed in this product, which must be away from the place where it is watery and humid;

8. In order to prevent the fire disaster, the equipment is not allowed to be close to the fire source;

9. In order to be ventilated sufficiently, there should be clearance kept between the panel in the front and back and the wall surface that is at least 20CM;

10. If there is unusual noise, smoke or smell from the equipment, power plug should be drawn out immediately, and professionals should be noticed for maintenance;

11. The connection between this product and the power of the grid is to connect three-position plug and grid power strip, which can disconnect the connection between the equipment and the grid immediately, and power drug should be please drawn out in the case there is lightning or long-term unused status;

12. The coupler is used as disconnection device for this product;

13. This product is not allowed to be put into the place where there is open fire, high temperature and humid, please don't open/close the product frequently, please put it carefully, and hit is not allowed;

14. In following cases, power plug of the equipment should be drawn out immediately, and operated by the professionals:

(1) While plug power line is damaged or torn;

(2) While there is liquid scattered into the equipment;

(3) While the equipment is falling or the housing is being damaged;

(4) While there is obviously unusual feature or performance for the equipment.

Product type	M40PJ M40PJ-TDY	M46PJ	M46PJCZ-GS M46PJCG-TDY	M46PJCZ-DS M46PJCD-TDY
Splicing gap	≤20MM	≤22MM	≤5.7MM	≤6.7MM
LCD panel / Screen proportion	16:9			
Definition	1920x1080 8bit		1920X1080 8bit	1366X768 8bit
Color	16.7M			
Type	DID FHD-LCD		DID FHD-LED	DID TFT-LCD
Brightness	700cd/㎡			450cd/㎡
Contrast	3000:1	4000:1	3500:1	4500:1
Response time	8ms			
Visible angle	178°			
Line frequency	48-75KHz	65-70KHz	54-69.75KHz	43-53KHz
Field frequency	60Hz			
Signal interface / Video color mode	PAL/NTSC			
CVBS IN/OUT	1Vp-p 75Ω BNCx2			
S-VIDEO	Y:1Vp-p,75Ω;C:0.3Vp-p,75Ω			
YUV signal format	1920x1080P downwards compatible			
VGA input	1920x1080(60Hz)downwards compatible		1920x1080(60Hz)downwards compatible	1366x768(60Hz)downwards compatible
HDMI input	1920x1080P downwards compatible			
DVI input	1920x1080P downwards compatible			
USB input	Online upgrade of USB2.0 support software			
Communication interface	Input/output of RJ485 ring			
DP interface	Compatible			
Power/consumption	AC100-240V,50/60Hz,≤3A	AC100-240V,50/60Hz,≤3A	AC100-240V,50/60Hz,≤3A	AC100-240V,50/60Hz,≤2A
Working environment / Temperature	0℃-50℃			
Relative humidity	10%-90%			
Altitude	≤5000m			
Storage environment / Temperature	-20℃-60℃			
Relative humidity	5%-90%			
Tropical climate condition	Applicable			
Assembly mode	Cabinet/frame			
Operational mode	Professional control software of skyworth			
Cooling system	Fan cooling system			
Material of the housing	Cold-rolled steel/aluminum extruded profile			
Size of appearance / Panel of liquid crystal(W*H)	911.7mm x 524.2mm	1047.4mm x 600.6mm	1023.98mm x 578.57mm	1025.653mm x 579.844mm
Thickness of cabinet	200-400mm			
(Panel of liquid crystal + splicing unit) weight	15kg	17kg	20kg	18kg

Industrial Panel of Liquid Crystal Adopted

With industrial panel of liquid crystal, whose image colors are bright, with better recovery nature and prominent level sense, significantly increasing the efficiency of assembly and commissioning, as well as showing unique effect of splicing professional liquid crystal.

The Newest Color Calibration Technology and Unique Wide Angle Processing Technology Adopted

Industrial panel of liquid crystal adopts the newest color calibration technology and unique wide angle processing technology, with 178-degree visible angle, as well as more professional way of processing motive and static image, making the quality of image definite and lifelike, with wider angle.

New Generation of Skyworth V12 Image Engine Technology Adopted

State-of-the-art digital high-speed image processing technology is adopted, with 500MHz video bandwidth, input image signal will be separated and amplified in real time during calculation, on single screen image with multi-time separation and amplification processing, jagged-edges and mosaic phenomenon arising from the transformation between the modules and numbers can be completely solved, with clear and smooth splicing images.

3D High Quality Upgrade Technology Adopted

It is 3D digital comb filtering wave and 3D digital image noise-reduction technology, which can reduce the static interference and jagged-edges from image details.

RC Smart Self-adaptive Digital Processing Technology Adopted

It is to use DLC, WLE and BLE self-adaptive control circuit, which can improve depth of field of the image effectively.
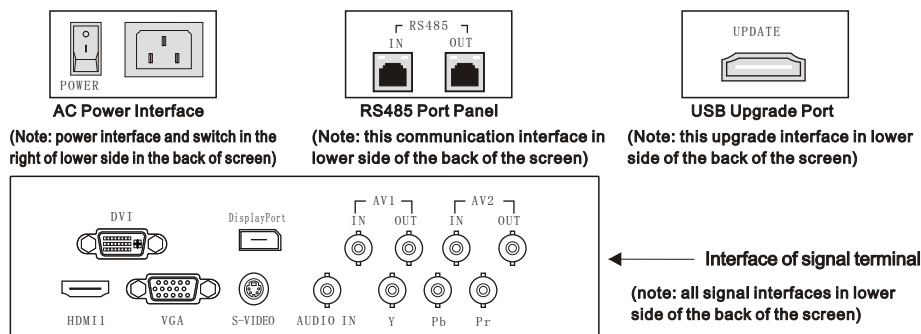
H2S Wide Dynamic Technology Adopted

When general monitor is to connect front-end special industrial computer (integrator combining matrix, separation and video, outputting 1/2 signal by sampling the data), without self-adaptive capacity to wide dynamically synchronized signal, causing the phenomenon of visual fatigue of image flash, however, through professional test, the match between display terminal of Skyworth and front-end special industrial computer completely solves the phenomenon including the non-fidelity and decay arising from secondary repeated play of main computer, eliminating missing space after sampling the data of 1/2 signal, which can accommodate high-speed image signal under different field frequencies completely and automatically, realizing steady, clear and real-time images.

Smart Automatic Residual Image-Removing Technology Adopted

The application of automatic residual image-removing technology can prevent liquid crystal from being burned effective, In order to extend the service life of liquid crystal display.
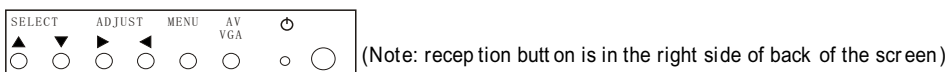
III Functions of Remote Control's Interfaces

Interface under the Lower End in the Back of Liquid Crystal

```
┌─────────────┐
│ ○ │  [===]  │
│ │ │        │
│ POWER       │
└─────────────┘
```
AC Power Interface
(Note: power interface and switch in the right of lower side in the back of screen)

```
    ┌ RS485 ┐
    IN    OUT
   [==]  [==]
```
RS485 Port Panel
(Note: this communication interface in lower side of the back of the screen)

```
   UPDATE
  ┌──────┐
  │[====]│
  └──────┘
```
USB Upgrade Port
(Note: this upgrade interface in lower side of the back of the screen)

```
   DVI      DisplayPort    ┌ AV1 ┐   ┌ AV2 ┐
                           IN  OUT   IN  OUT
  [====]    [====]         ○   ○     ○   ○

  [====]    [====]   ○     ○   ○     ○   ○
  HDMI1      VGA   S-VIDEO AUDIO IN  Y   Pb   Pr
```
← **Interface of signal terminal**

(note: all signal interfaces in lower side of the back of the screen)

Note: there is no audio feature for standard configuration, which is optional

Reception Button of Terminal Remote Control Displayed

```
SELECT   ADJUST   MENU   AV
                         VGA    ⏻
▲    ▼    ▶    ◀
○    ○    ○    ○    ○    ○    ○    ○
```
(Note: reception button is in the right side of back of the screen)

AV/VGA Switch

Pressing key "AV/VGA", then pressing the key "SELECT" to switch between AV1, AV2, S-VIDEO, YPBPR, HDMI1, DV1 and VGA, and pressing the key "ADJUST" to confirm the items that are chosen.

ADJUST

Key "ADJUST" of volume control key is not available until there is audio feature.
(1)On the menu, key "ADJUST" is adjustment key for many parameters;
(2)When there is no menu, pressing the key "ADJUST" to adjust the size of volume directly.

MENU

Pressing this key to jump out of main menu

Description of Remote Control

Remote control (optional)
Referring to current model configuration

```
┌─────────────┐
│ ⏻  MUTE  P.P.│
│             │
│FREEZE ▲ 16:9/4│
│             │
│ ◀   ok   ▶  │
│             │
│ AV   ▼  MENU │
│             │
│     SK48    │
└─────────────┘
```

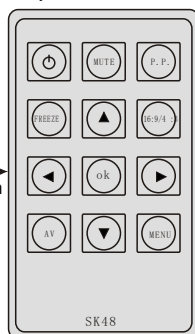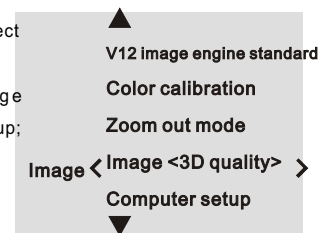### Image Adjustment Menu

(1) Pressing the key "MENU" to display main menu, pressing"▶"to select the column "image";

(2) Pressing the key"▼"to select the items to be adjusted from V12 image engine, color calibration, zoom out mode, 3D quality and computer setup;

(3) Pressing the key "OK" to enter into the item that is chosen, pressing "▶"or"▼"to adjust into proper position;

(4) After the operation, pressing the key "MENU" to return, and then pressing the key "MENU", and main menu disappears.
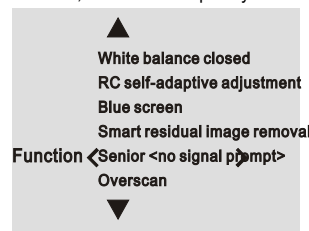
Note: the item "computer setup" can be only open in computer mode, meanwhile, the item "3D quality" is not allowed to be adjusted.

```
              ▲
        V12 image engine standard
        Color calibration
        Zoom out mode
Image ◀ Image <3D quality>  ▶
        Computer setup
              ▼
```

Function Adjustment Menu

（1）Pressing the key "MENU" to display main menu, pressing"▶"to select the column "Function";

（2）Pressing the key"▼",to select the item to be adjusted from white balance, RC self-adaptive adjustment, blue screen, smart residual image removal, no signal prompt and overscan;

（3）Pressing the key "OK" to enter into the item chosen, pressing"▶"or"▼"to adjust into proper position;

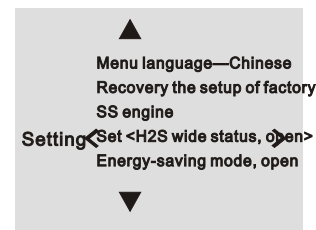（4）After the operation, pressing the key "MENU" to return, and then pressing the key "MENU", and main menu disappears.

Note: "white balance" is not open unless computer mode, meanwhile, "overscan" is not allowed to be adjusted.

```
               ▲
         White balance closed
         RC self-adaptive adjustment
         Blue screen
         Smart residual image removal
Function◀ Senior <no signal prompt>
         Overscan
               ▼
```

Set Adjustment Menu

（1）Pressing the key "Menu" to display main menu, pressing"▶"to select the column "set";

（2）Pressing the key"▼"to select the item to be adjusted from menu language, recovery of factory setup, SS engine, H2S wide status and energy-saving mode;

（3）Pressing the key "OK" to enter into the item chosen, pressing"▶" or"▼"to adjust into proper position;

（4）After the operation, pressing the key "MENU" to return, and then pressing the key "MENU", and main menu disappears.

Note: when switching the item chosen, pressing the key "AV/VGA" to execute the switch.

```
              ▲
        Menu language—Chinese
        Recovery the setup of factory
        SS engine
Setting◀ Set <H2S wide status, open>
        Energy-saving mode, open
              ▼
```

Temperature Control Adjustment Menu

（1）Pressing the key "MENU" to display main menu, and pressing"▶"to

choose the column "set";

（2）Pressing the key"▼"to select the item to be adjusted from temperature

for closing the fan, real-time temperature and high temperature alarm

temperature;

（3）Pressing "OK" to enter into the item chosen, pressing"▶"or"▼"to

adjust into proper position;

（4）After the operation, pressing the key "MENU" to return, and then pressing the key "MENU", and main

menu disappears.

Note: when switching the item chosen, pressing the key "AV/VGA" to execute the switch.

```
                        ▲

            Temp open fan  <℃>42
Temperature Temp close fan <℃>39
control  <  Temp show    off    >
            Temp alarm <℃>47

                        ▼
```

USB Feature Commissioning Instruction (Optional Configuration)

(1)Pressing the key "AV" to display signal source, pressing the key "up" and "down" to select the column "USB",

and pressing "confirm" to enter into it;

（2）Pressing the keys "left" and "right" to select the document type to be played: PHOTO, MOVIE, MUSIC,

TEXT, and pressing "confirm" to enter into the interface of selecting document play;

（3）Pressing the keys "left" and "right" to select the documents to be played, pressing "confirm" to check

the document, and many files can be checked simultaneously, pressing the key "play" in remote control,

playing the source chosen repeatedly;

（4）You can adjust the speed of playing the source with remote control, and you can make acceleration,

backwards, full screen and small screen of the file being played.

Note: before all the operations to be processed, USB storage equipments need to be inserted into USB

interface of unit firstly.

Image Commissioning Instruction

1.After VGA signal is input, prompt of "automatic adjustment" will be shown generally, waiting until the

completion of "automatic adjustment", overscan and white balance of the image have been adjusted

well automatically;

2.After "automatic adjustment", there will be displacement of the image horizontally and vertically,

which cannot be adjusted well, please select the item of "computer setup" of the menu "image", to

increase or decrease the phase, and then select "automatic adjustment" for adjustment, until well-adjusted.

IV Maintenance and Troubleshooting

Maintenance

1.Please rub with clean soft cloth, and chemicals like alcohol are prohibited;

2.It is prohibited to be put into the place where there is open fire, high temperature and humidity;

3.Frequency startup/closing is prohibited in the operation;

4.Placing carefully, hit prohibited.

Strengthening Engine Upgrade Feature with the De-fog and Low bit (Optional)

(1)Full color processing, guaranteeing the fidelity of the image;

(2)Self-adaptive calibration of dynamic scope pixel by pixel;

(3)Every pixel adopts different color adjustment curve;

(4)Non-linear color adjustment;

(5)Keeping the details sharp and intact;

(6)Complying with visual sense feature of human eyes;

(7)Polishing over-bright and over-dark images, without processing the images with balanced brightness;

(8)Both compatible with PAL mode and NTSC mode, which can be switched freely.

Special prompt:

Instruction to applicable status of fog penetration and low illuminance features in liquid crystal

splicing series:

According to the principle of processing fog penetration and low illuminance features, because the

parameter of every liquid crystal splicing unit is not completely consistent, thus, if under the status of

splicing big-screen mode, especially when splicing more number of screens, after opening any feature

above, inconsistent processing result will appear, causing the brightness, color and smoothness of the

big screen as a whole uneven. Therefore, following conditions need to be noticed:

(1) Because the features of fog penetration and low illuminance are applied into different monitoring

environments or sites, it is not recommended to open both features simultaneously;

(2) When monitoring foggy and rainy weather outdoor, it is recommended to open fog penetration

feature to process the images;

(3) When monitoring the places at night or with darker light, it is recommended to open the feature

of low illuminance to process the images;

(4) When the features of fog penetration and low illuminance are used, because of the limitation

from uneven brightness, color and smoothness of the big screen, in order toguarantee the result

of display, it is recommended to use above features under the status of splicing single screen or

2*2 splicing big screen.

II Procedures of Assembling Splice Units

(1)Placing liquid crystal screen onto the bubble mat or clean soft mat horizontally, the front face of liquid

crystal are downwards;

(2)The frame of fixing core is placed in the left and right sides, which shall be fixed onto liquid crystal screen

with the bolts stated from standard configuration list;

（3)Placing splicing unit core in the middle of core fixing frame secured well, penetrating the backlight line

into the bottom of fixing frame in the left, meanwhile, inserting the plug into the socket in the backlight panel in

the left side of liquid crystal screen; while inserting the screen line, the metal piece of the plug from screen line

should have one face downwards, then inserting LVDS driving screen line socket of liquid crystal screen.