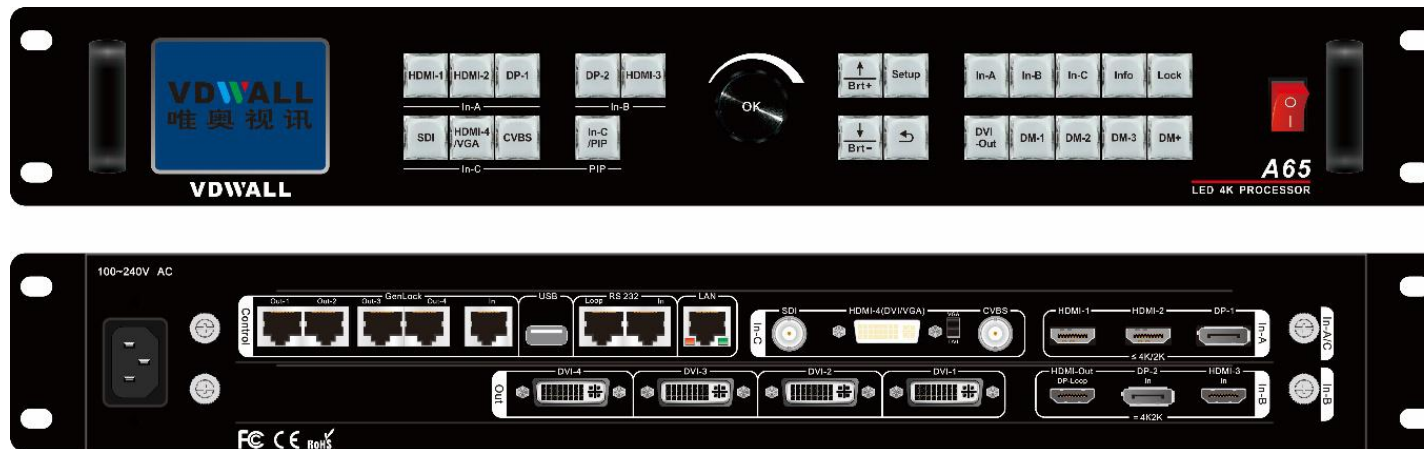


## A65 User Quick Setup Guide

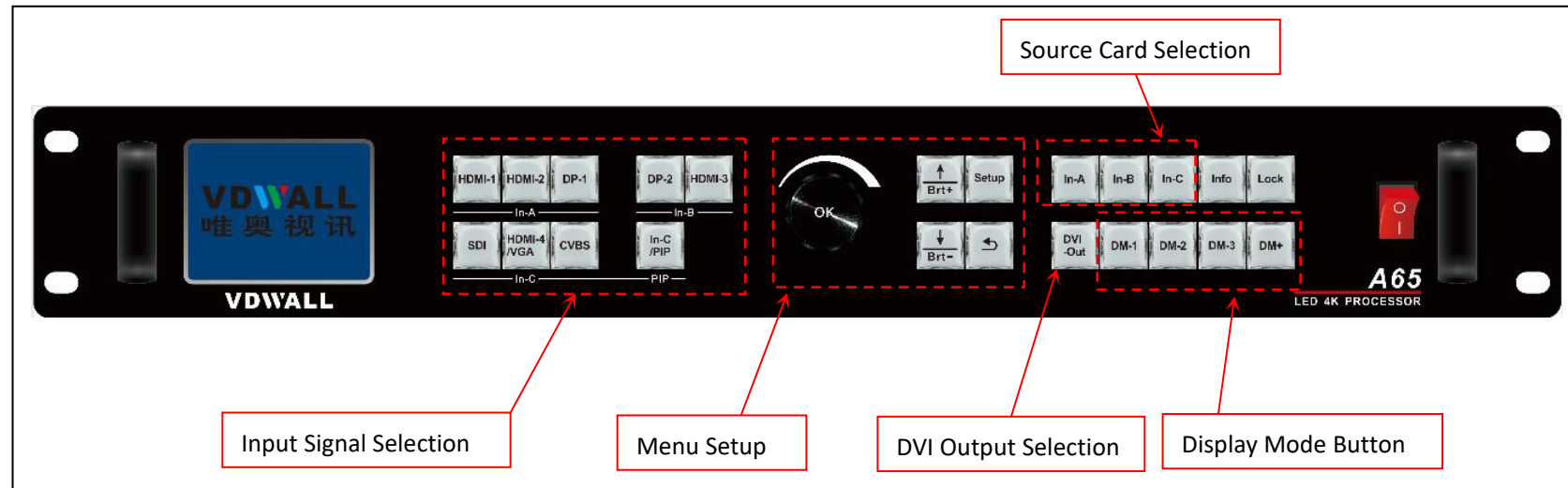


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2020.04




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ADD: Room 1001,10th Floor, Tower 4, Fangda-City, Longzhu 4th Road,  
Nanshan District, Shenzhen, China TEL: 0755-26750210

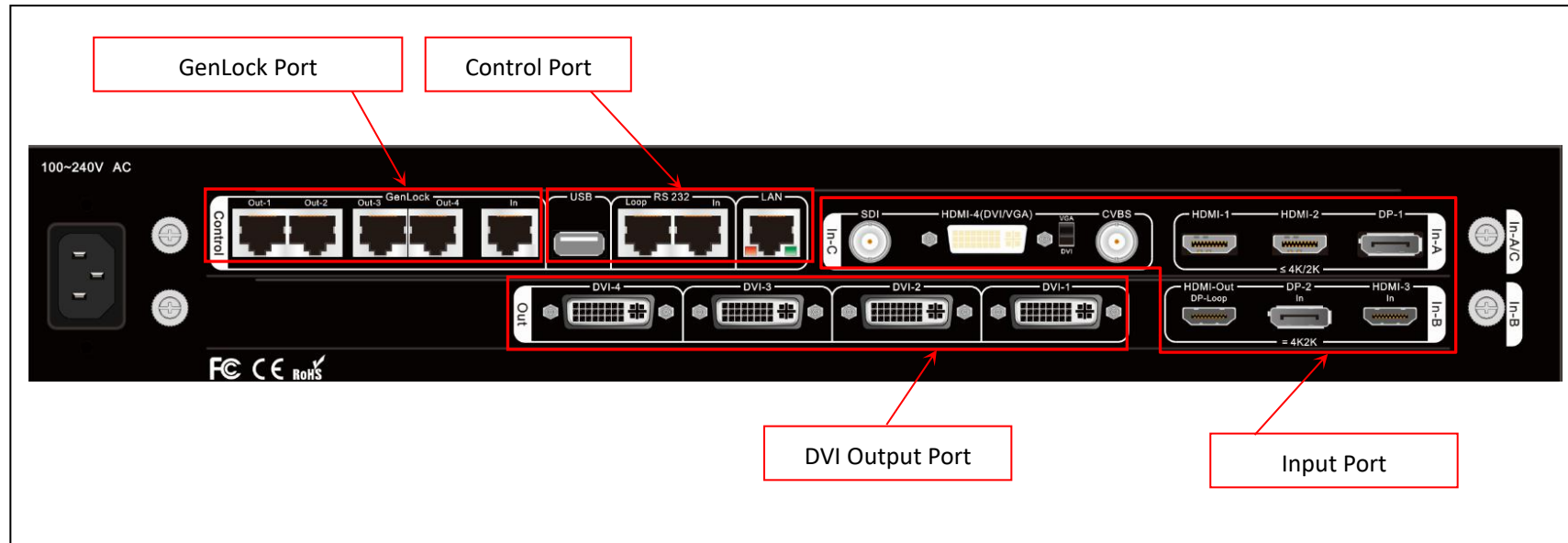
## 1. Front Panel Button



| Category                      | Button   | Description  |
|-------------------------------|--|--|
| Input Signal Selection Button | <b><u>HDMI1</u></b> 、 <b><u>HDMI2</u></b> 、 <b><u>DP-1</u></b> 、 <b><u>DP-2</u></b> 、 <b><u>HDMI-3</u></b> 、 <b><u>SDI</u></b> 、 <b><u>HDMI-7</u></b> 、 <b><u>CVBS</u></b> | <b>A65</b> built in 3 input cards, identified as: In-A、In-B、In-C. In-A can access in 4K or 2K signal, In-B only support 4K2K signal, In-C support 2K signal. Press signal button directly to select signal channel for each input card, if selected signal is valid, button indicator will light up, or else flicker. Press <b>VGA</b> button of In-C to automatically calibrate VGA signal. |
|                               | <b><u>In-C/PIP</u></b>   | In-C provides PIP/POP dual image display. Press this button, button indicator light up, PIP/POP function will be activated, henceforth select sub-Image source   |
| Source Card Selection Button  | <b><u>In-A</u></b> 、 <b><u>In-B</u></b> 、 <b><u>In-C</u></b>   | Source card selection button. Press this button to switch <b>A65</b> signal source card, corresponding button indicator will light up.   |
| DVI Output Port Switch Button | <b><u>DVI-Out</u></b>  | In menu setup, press this button to switch DVI output port. When <b>A65</b> in Cascading mode, If slave A65 Genlock signal locked, button indicator light up, or else flicker.   |
| Lock Info Button              | <b><u>Lock</u></b>   | Button lock. Press this button directly, button indicator will light up, all button on front panel will be invalid, except <b>Lock</b> button itself, so as to avert misoperation. Press this button 3 times continually to exit button lock mode, button indicator will light off.  |
|                               | <b><u>Info</u></b>   | Information button, press this button to check <b>A65</b> setup information and firmware version, press continually to turn page   |

| Category                      | Button  | Description  |
|-------------------------------|---|--|
| Menu Setup Button             | <b>Setup</b>  | Menu setup button. <b>A65</b> in <b>operation mode</b> , press this button to enter menu setup   |
|                               |  <b>Ok</b> | <b>Knob</b> or <b>OK</b> button, rotate this button to adjust setup value, press this button to save or apply configuration  |
|                               |            | Up and Down selection button. <b>A65</b> in <b>configuration mode</b> , press this button to select menu item. In <b>operation mode</b> , press this button directly to adjust output image brightness   |
|                               |            | Return or Exit button. Press this button to exit present setup and return to previous setup menu, until <b>A65</b> enter <b>operation mode</b>   |
| Display Mode Selection Button | <b>DM-1</b> 、 <b>DM-2</b> 、 <b>DM-3</b>   | Display mode selection button. Display mode can preset <b>size&amp;position of input and output signal</b> . Press <b>DM-1</b> 、 <b>DM-2</b> 、 <b>DM-3</b> directly to recall different display mode; in menu setup, press <b>DM-1</b> 、 <b>DM-2</b> 、 <b>DM-3</b> to select target display mode for parameter saving  |
|                               | <b>DM+</b>  | More display mode selection button. <b>A65</b> provides 16 preset display mode, identified as: DM1、DM2、DM3、DM4、DM5、DM6、DM7、DM8、DM9、DM10、DM11、DM12、DM13、 <b>DM14</b> 、 <b>DM15</b> 、 <b>DM16</b> . the last 3 display mode for backup usage, can't be modified or recalled directly. Press <b>↑</b> 、 <b>↓</b> button to select different display mode, press <b>OK</b> button to confirm and apply |

## 2. Rear Panel Port Description



### 1) Input Signal Port

#### A65 provides 3 input card:

- In-A is 4K input card, provides HDMI2.0×2 and DP1.2×1, can access in 4K2K\_60Hz UHD signal or 2K HD signal
- In-B is also 4K input card, offers HDMI2.0×1 and DP1.2×1, only support 3840\*2160\_60/50/30/25/24 Hz UHD signal
- In-C is 2K input card, including CVBS×1、3G-SDI×1、HDMI (DVI / VGA) ×1 , HDMI version is HDMI1.3. HDMI port compatible with DVI and VGA signal, when plug in VGA signal, set the DIP switcher to VGA side

## 2) DVI Output Port

- **A65** built in 1 output card, allow 4 DVI splicing. Default output resolution is 1920\*1080\_60Hz, user defined output resolution available

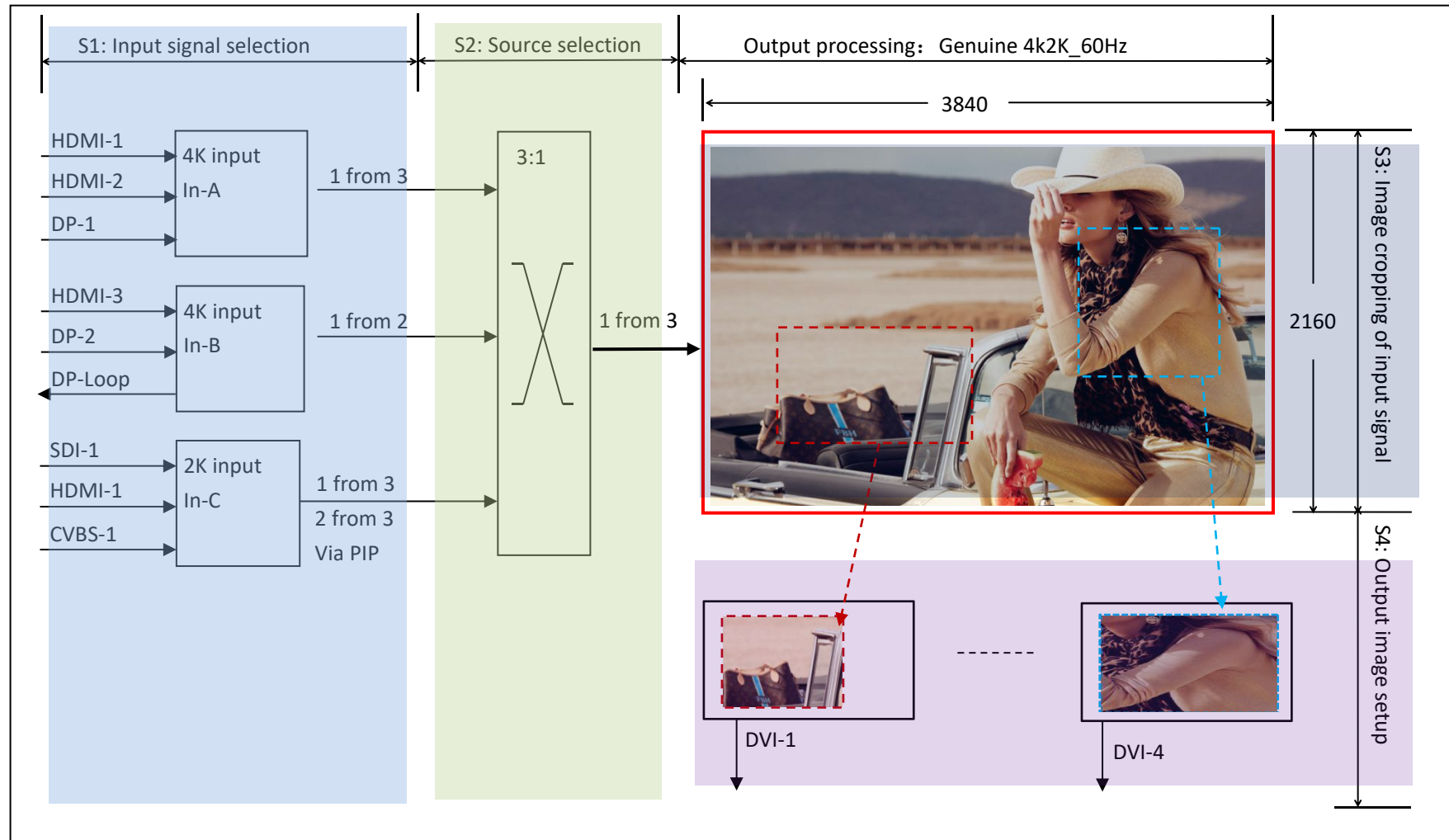
## 3) Communication Control Port

- LAN: TCP / IP network control
- USB and RS232 control

## 4) GenLock Cascading Port

- **A65** provides multiple device cascading, so as to extend input and output resolution
- When **A65** operating as slave processor, GenLock In port receive command signal from master **A65** GenLock Out port, so forth realize completely synchronized splicing
- Single **A65** offers Out-1、 Out-2、 Out-3、 Out-4 total 4 GenLock output port, support 5 **A65** cascading

### 3. A65 Image Processing Procedure



**Description:****1) A63 image processing procedure is divided into 4 main steps:**

- S1: Input signal selection
- S2: Source card selection
- S3: Image cropping of input signal
- S4: Output image size&position setup

**2) Input signal selection (S1)****2.1) A65 built in 3 input cards, including:**

- 4K input card: In-A
- 4K direct input card: In-B
- 2K input card: In-C

2.2) In-A support 4K or 2K signal, select signal channel from HDMI-1、HDMI-2 or DP-1

2.3) In-B is 4K direct input card, can only access in 3840×2160\_60Hz/50 Hz/30 Hz/25Hz/24Hz/23Hz standard 4K signal.

Select signal channel from HDMI-3 or DP-2

2.4) In-C is 2K input card, select signal from SDI-1、HDMI-6 or CVBS-1. On condition PIP-C function activated, user can select the other sub image source

2.5) Press front panel button directly to select signal channel for each input card



### 3) Source card selection (S2)

- 3.1) **A65** select signal source from In-A、 In-B or In-C card
- 3.2) Press **In-A**、 **In-B** or **In-C** button to select source card, button indicator will light up

### 4) Image cropping of input signal (S3)

- 4.1) **A65** offers 4 DVI output
- 4.2) Each DVI can display whole or partial 3840×2160 image, as S3 show, the image in dotted frame

### 5) Output image size&position setup (S4)

- 5.1) Each DVI can display cropped content (Finished in step 4.2) in any size and position

## 4. Adjustment And Setup

### Step1: Input And Output Connection

- 1.1) Plug input signal cable to **A65**
- 1.2) Connect DVI output to sending card or LCD
- 1.3) Usually, solution diagram as Figure 4-1:

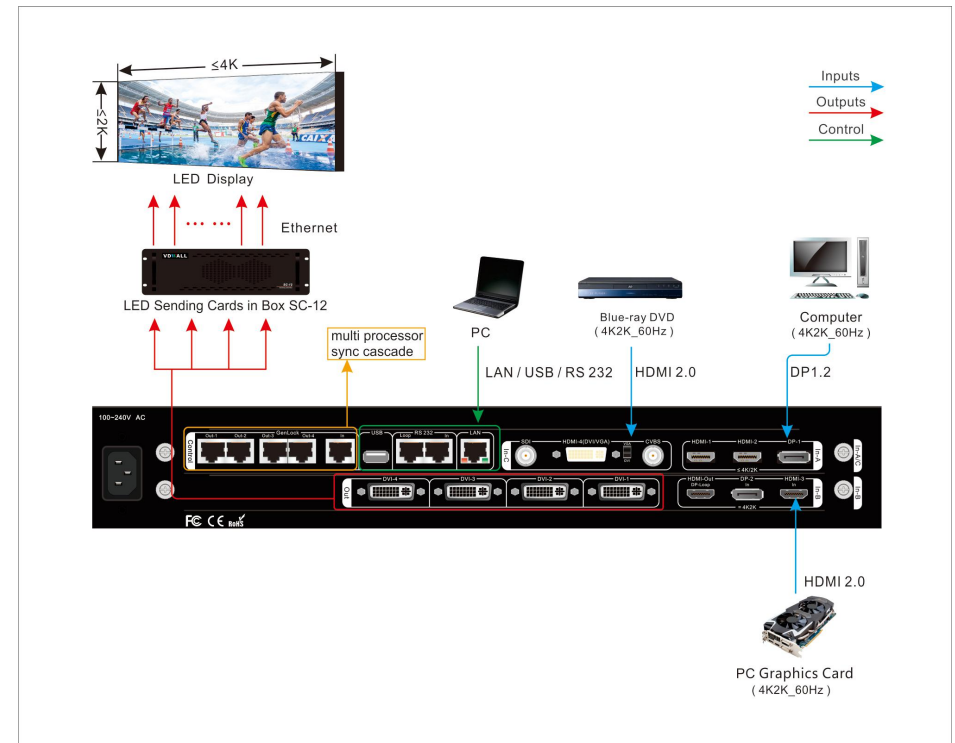


Figure 4-1

**Step2 : Power On、Set Output Resolution**

- 2.1) **A65** power on, wait for boot up
- 2.2) As Figure4-3, LCD boot up interface
- 2.3) In-A select HDMI1 input  
In-B select HDMI3 input  
In-C PIP activated, main image source HDMI4, sub-image SDI  
If selected signal valid, button indicator on, or else flicker
- 2.4) Source card is In-C
- 2.5) Current display mode DM1
- 2.6) In operation mode, press **Setup** enter **A65** menu setup,  
Press **↑**、**↓** and **OK** button, enter menu“ 5.1 Out Res.”,  
rotate **Knob** to select target output resolution. Press **↓**  
button, select“5.2 Init Data”, press **OK** to confirm and apply,  
**A65** will automatically reboot and apply the new output resolution

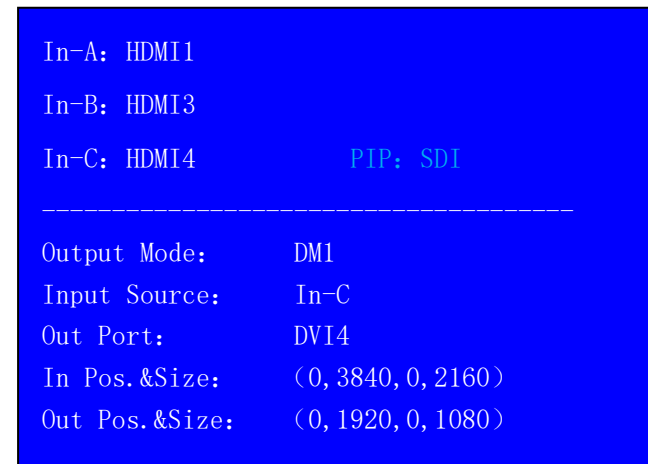


Figure 4-2

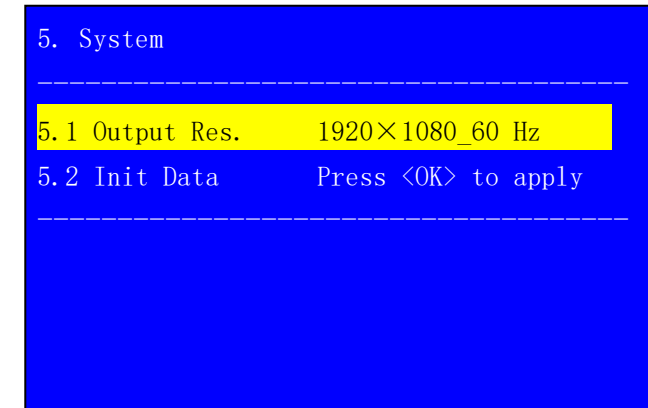


Figure 4-3

**Step3 : Select Signal Channel For Each Input Card**

- 3.1) Press front panel button to select input signal
- 3.2) If selected signal is valid, button indicator light up, or else flicker
- 3.3) As Figure4-4, **A65** LCD shows source card In-C
- 3.4) Press **In-C/PIP** button to activate In-C PIP/POP function, hence select the other sub-image source

**Step4: Select Source Card**

- 4.1) In operation mode, press **In-A**、**In-B** or **In-C** to select source card, button indicator will light up
- 4.2) **A65** only display one source card image at one time, LCD interface as Figure4-4

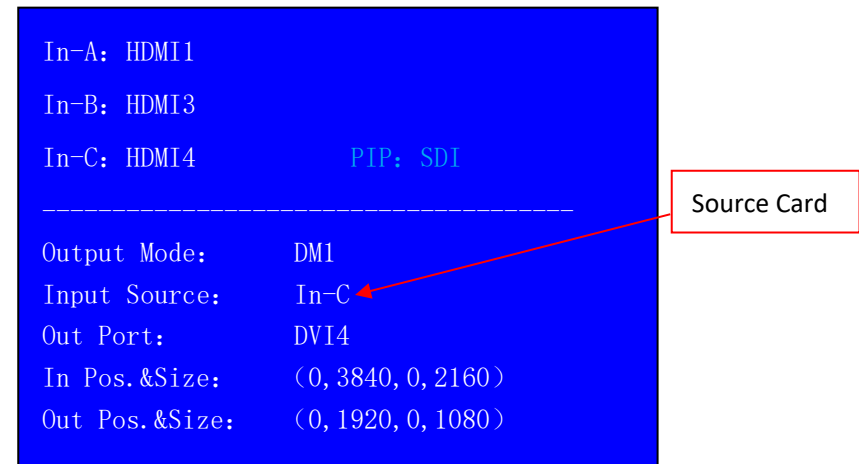


Figure 4-4

**Step5: Input Source Image Cropping**

5.1) **A65** provides 4 DVI splicing, each DVI support random size&position cropping of input 3840\*2160 image. As Figure 4-5, DVI-1 display cropped image in red dotted frame, DVI 4 display cropped image in blue dotted frame

5.2) The size&position of cropped image is defined by the following 4 parameters

|                        |              |
|------------------------|--------------|
| Input width            | (In_Width)   |
| Input horizontal start | (In_H_Start) |
| Input height           | (In_Height)  |
| Input vertical start   | (In_V_Start) |

5.3) Enter menu "3.2 Manual Mosaic":

5.3.1) Select display mode for parameter saving, press **DM1**、**DM2**、**DM3** or **DM+** to select target display mode

5.3.2) Select DVI output port that need configure, press **DVI-Out** button to shift DVI output

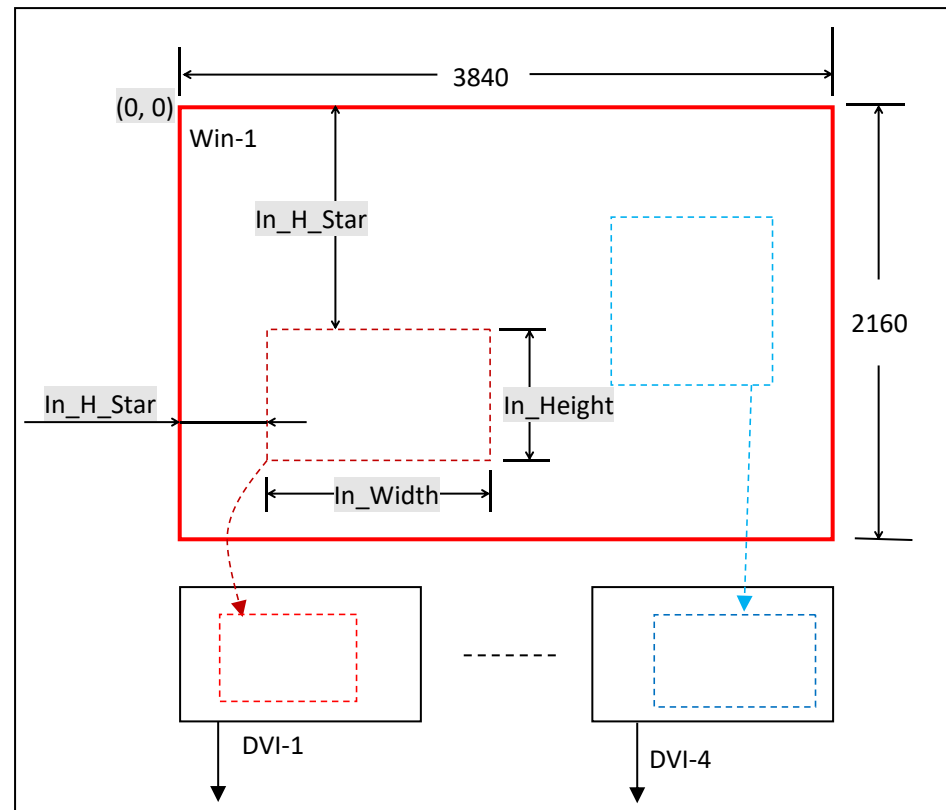


Figure 4-5

As Figure 4-6: In DM1, DVI1 Manual Mosaic parameters



5.3.3) The cropped image displayed by DVI 1 is defined by the following parameters:

“ 3.2.1 In Width ”

“ 3.2.2 In H\_Start ”

“ 3.2.3 In Height ”

“ 3.2.4 In V\_Start ”

Press  、  button select item, rotate **Knob** to adjust value, press **OK** button to save and apply

5.4) Please refer to 《Appendix 1》 for detailed description of manual mosaic

| 3.2 Manual Mosaic | DM1/DVI1 |      |
|-------------------|----------|------|
| 3.2.1 In Width    | 3840     | 3840 |
| 3.2.2 In H_Start  | 0        | 0    |
| 3.2.3 In Height   | 2160     | 2160 |
| 3.2.4 In V_Start  | 0        | 0    |
| 3.2.5 Out Width   | 1920     | 1920 |
| 3.2.6 Out H_Start | 0        | 0    |
| 3.2.7 Out Height  | 1080     | 1080 |
| 3.2.8 Out V_Start | 0        | 0    |

Figure 4-6

### Step6: Set Size&Position Of Output Image

6.1) **A65** 4 DVI output ports can randomly size and position image within output resolution. For instance, output resolution is 1920×1080@60Hz, user can assign output image at any size&position in range of 1920×1080

6.2) Refer to Figure 4-7, the picture in red dotted frame is DVI-1 output image, defined by the following 4 parameters:

Output width (Out\_Width)  
 Output horizontal start (Out\_H\_Start)  
 Output height (Out\_Height)  
 Output vertical start (Out\_V\_Start)

6.3) Enter menu "3.2 Manual Mosaic":

6.3.1) Select display mode for parameter saving

Press **DM1**、**DM2**、**DM3** or **DM+** to select target display mode

6.3.2) Press **DVI-Out** button to select target DVI output port

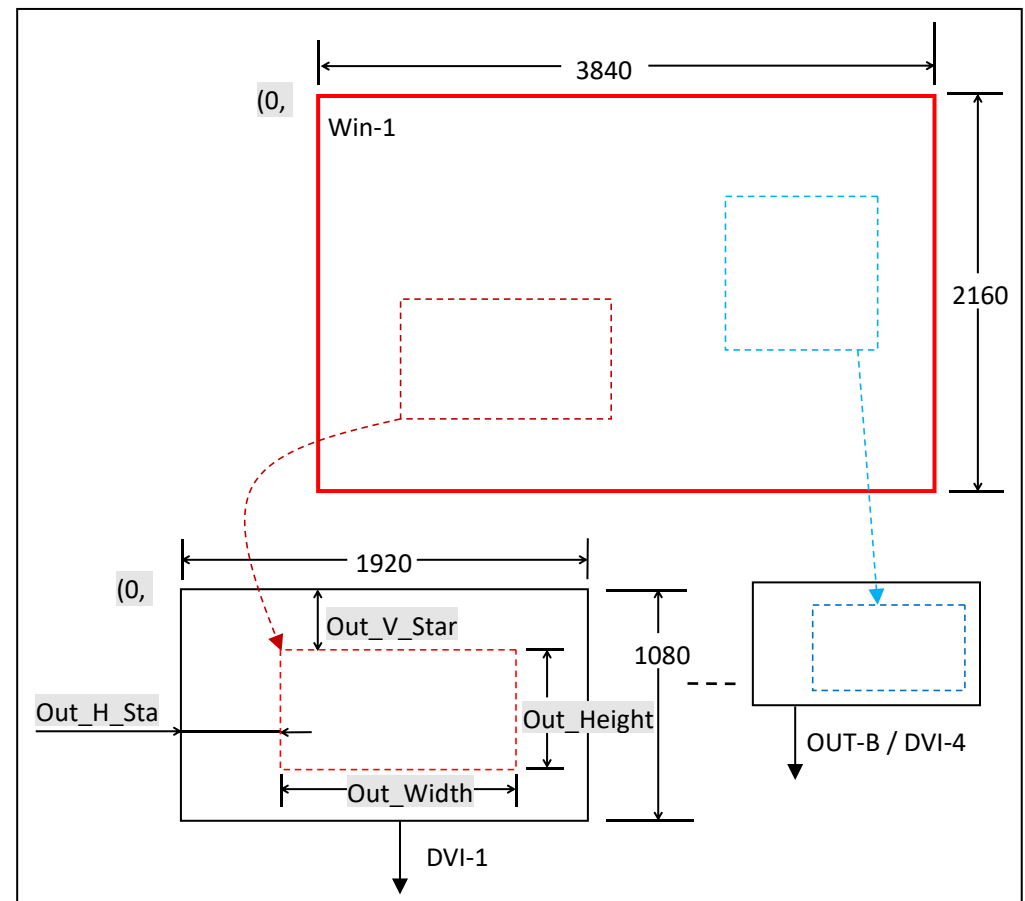


Figure 4-7

As Figure 4-8: Set DVI-1 output image size&position in DM1

6.3.3) Selected DVI output image size&position is defined by the following 4 parameters:

“ 3.2.5 Out Width ”

“ 3.2.6 Out H\_Start ”

“ 3.2.7 Out Height ”

“ 3.2.8 Out V\_Start ”

Press **↑** 、 **↓** select menu item, rotate **Knob** to adjust value, press **OK** to save and apply parameters

6.4) Usually the sending card default start point(x,y) is (0,0)

So processor default output start point:

Out H\_Start = 0

Output V\_Start = 0

Output Width = LED actual pixels in horizontal

Output Height = LED actual pixels in vertical

| 3.2 Manual Mosaic |      | DM1/DVI1 |
|-------------------|------|----------|
| 3.2.1 In Width    | 3840 | 3840     |
| 3.2.2 In H_Start  | 0    | 0        |
| 3.2.3 In Height   | 2160 | 2160     |
| 3.2.4 In V_Start  | 0    | 0        |
| 3.2.5 Out Width   | 1920 | 1920     |
| 3.2.6 Out H_Start | 0    | 0        |
| 3.2.7 Out Height  | 1080 | 1080     |
| 3.2.8 Out V_Start | 0    | 0        |

Figure 4-8



**Fast Mosaic**

1) **Fast Mosaic** is calculation added splicing method. Compare to **Manual Mosaic** **Fast Mosaic** more intuitive and convenient

2) As figure 4-9, the LED is composed of 4 unit screen, each unit screen resolution as following table

|      |           |      |           |
|------|-----------|------|-----------|
| LED1 | 1728×1056 | LED2 | 1824×1056 |
| LED3 | 1728×960  | LED4 | 1824×960  |

**LED total resolution: 3552×2016**

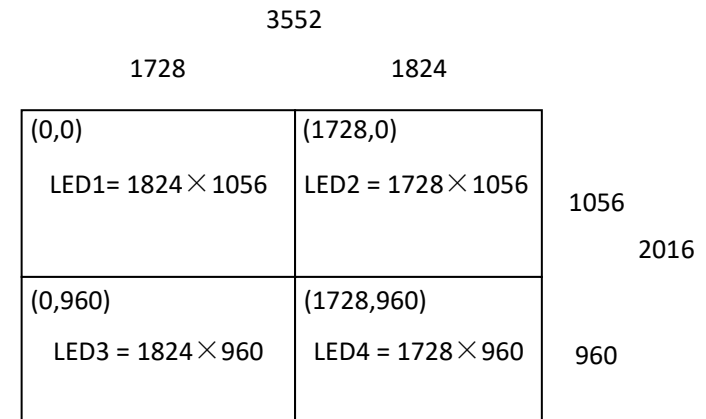


Figure 4-9

3) Use **A65** 4 DVI output to drive 4 unit screen, connection as following table:

|       |      |       |      |
|-------|------|-------|------|
| DVI-1 | LED1 | DVI-2 | LED2 |
| DVI-3 | LED3 | DVI-4 | LED4 |

4) Enter menu “**3.1 Fast Mosaic**”, configure each DVI accordingly, as Figure 4-10 、 Figure 4-11 、 Figure 4-12 、 4-13

5) In **Fast Mosaic** setup, the top left coordinate is(0,0), calculate each unit screen coordinate accordingly

6) After configure menu item 3.1.1---3.1.7, press **↓** button to “**3.18 Auto Calculation**”, press **OK** to apply, then press **DVI-Out** button to shift DVI output port

7) After fast mosaic, if need fine tuning of mosaic parameters, enter menu “**3.2 Manual Mosaic**”

| 3.1 Fast Mosaic        |       | DMI/DVI1 |
|------------------------|-------|----------|
| 3.1.1 LED Panel        | Panel |          |
| 3.1.2 LED Total Width  | 3552  |          |
| 3.1.3 LED Total Height | 2016  |          |
| 3.1.4 Unit Width       | 1728  |          |
| 3.1.5 Unit Height      | 1056  |          |
| 3.1.6 Unit H_Start     | 0     |          |
| 3.1.7 Unit V_Start     | 0     |          |
| 3.1.8 Auto Calculation | OK To | Apply    |

Figure 4-10

| 3.1 Fast Mosaic        |       | DMI/DVI2 |
|------------------------|-------|----------|
| 3.1.1 LED Panel        | Panel |          |
| 3.1.2 LED Total Width  | 3552  |          |
| 3.1.3 LED Total Height | 2016  |          |
| 3.1.4 Unit Width       | 1824  |          |
| 3.1.5 Unit Height      | 1056  |          |
| 3.1.6 Unit H_Start     | 1728  |          |
| 3.1.7 Unit V_Start     | 0     |          |
| 3.1.8 Auto Calculation | OK To | Apply    |

Figure 4-11

| 3.1 Fast Mosaic        |       | DMI/DVI3 |
|------------------------|-------|----------|
| 3.1.1 LED Panel        | Panel |          |
| 3.1.2 LED Total Width  | 3552  |          |
| 3.1.3 LED Total Height | 2016  |          |
| 3.1.4 Unit Width       | 1728  |          |
| 3.1.5 Unit Height      | 960   |          |
| 3.1.6 Unit H_Start     | 0     |          |
| 3.1.7 Unit V_Start     | 1056  |          |
| 3.1.8 Auto Calculation | OK To | Apply    |

Figure 4-12

| 3.1 Fast Mosaic        |       | DMI/DVI4 |
|------------------------|-------|----------|
| 3.1.1 LED Panel        | Panel |          |
| 3.1.2 LED Total Width  | 3552  |          |
| 3.1.3 LED Total Height | 2016  |          |
| 3.1.4 Unit Width       | 1824  |          |
| 3.1.5 Unit Height      | 960   |          |
| 3.1.6 Unit H_Start     | 1728  |          |
| 3.1.7 Unit V_Start     | 1056  |          |
| 3.1.8 Auto Calculation | OK To | Apply    |

Figure 4-13

**Appendix 1: How To Manually Calculate Mosaic Parameters**

- Ap1.1) As Figure Ap1-1, need **A65** display AP1-1 image on AP1-2 LED, **A65** 4 DVI output jointly drive the screen
- Ap1.2) Calculate each DVI input and output parameters correctly, so as to guarantee display effect
- Ap1.3) **A65** “3.1 Fast Mosaic” can conveniently calculate input and output parameters
- Ap1.4) On some special occasions, we may use “3.2 Manual Mosaic” to calculate mosaic parameters.

As the below formula

$$\frac{Y1}{1056} = \frac{2160}{2016}$$

so:  $Y1=(2160 \times 1056) \div 2016=1131$

similarly:

$$\frac{X1}{1728} = \frac{3840}{3552}$$

then:  $X1=(3840 \times 1728) \div 3552=1868$

Finally we secure the parameters as below:

Y1=1131    Y2=2019  
X1=1868    X2=1972

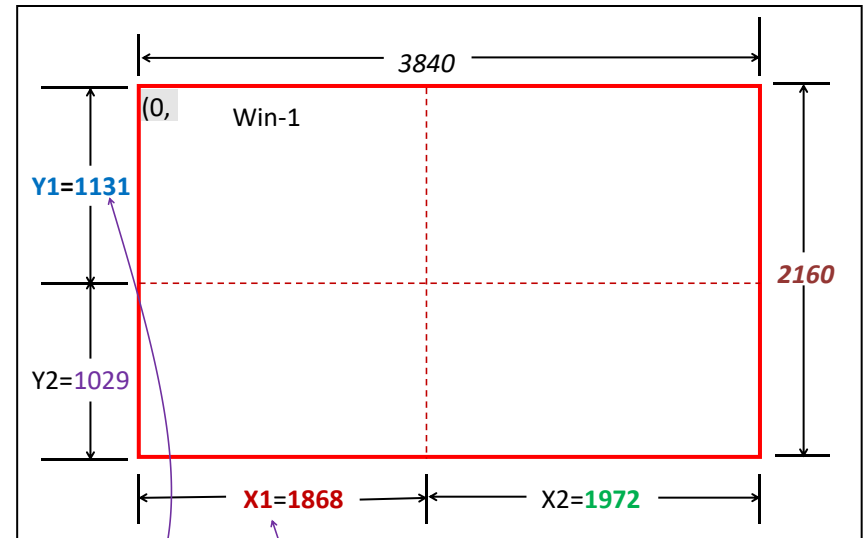


Figure AP1-1

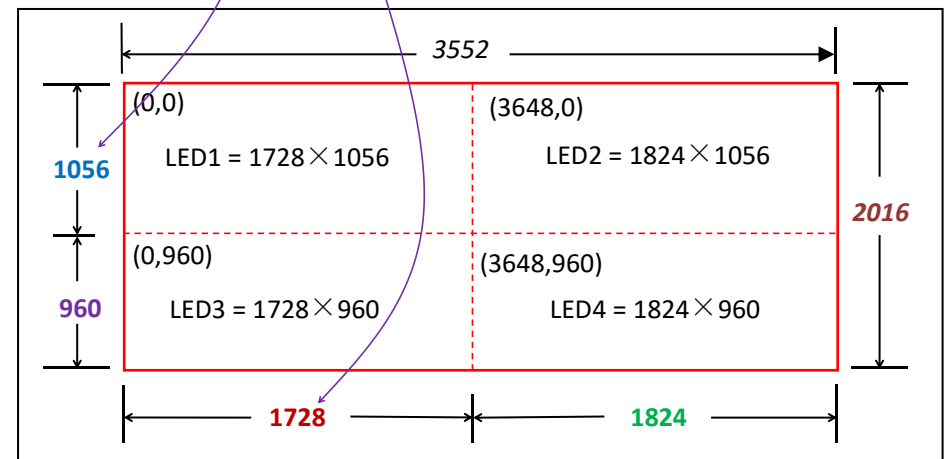


Figure AP1-2

Ap1.5) Finally, we obtain the manual mosaic parameters as following table:

|                   | DVI-1 | DVI-2 | DVI-3 | DVI-4 |
|-------------------|-------|-------|-------|-------|
|                   | LED1  | LED2  | LED3  | LED4  |
| 3.2.1 In Width    | 1868  | 1972  | 1868  | 1972  |
| 3.2.2 In H_Start  | 0     | 1868  | 0     | 1868  |
| 3.2.3 In Height   | 1131  | 1131  | 1029  | 1029  |
| 3.2.4 In V_Start  | 0     | 0     | 1131  | 1131  |
| 3.2.5 Out Width   | 1728  | 1728  | 1824  | 1824  |
| 3.2.6 Out H_Start | 0     | 0     | 0     | 0     |
| 3.2.7 Out Height  | 1056  | 1056  | 960   | 960   |
| 3.2.8 Out V_Start | 0     | 0     | 0     | 0     |