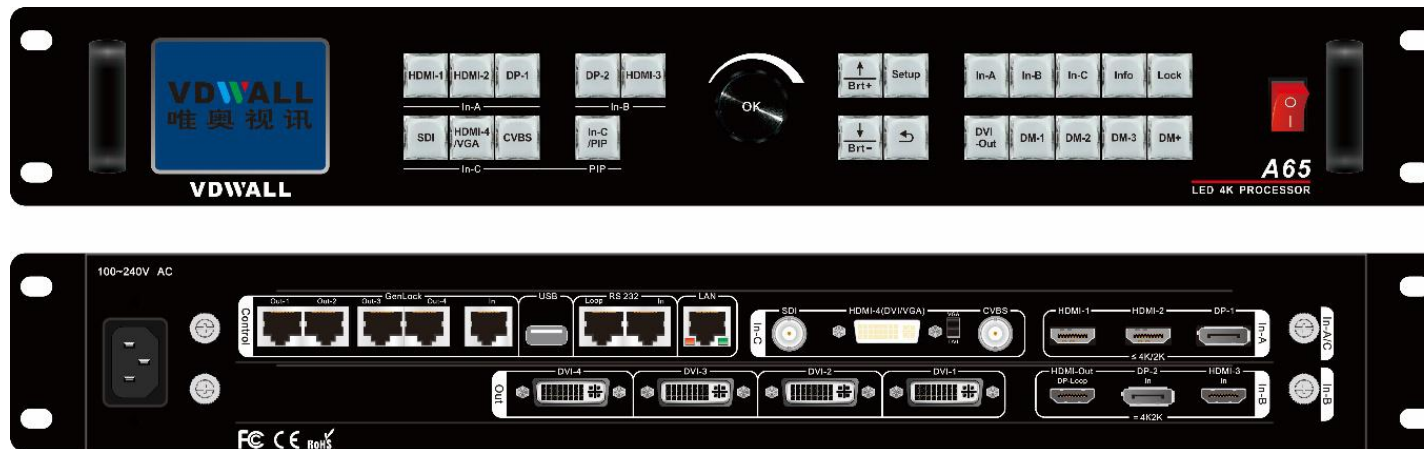
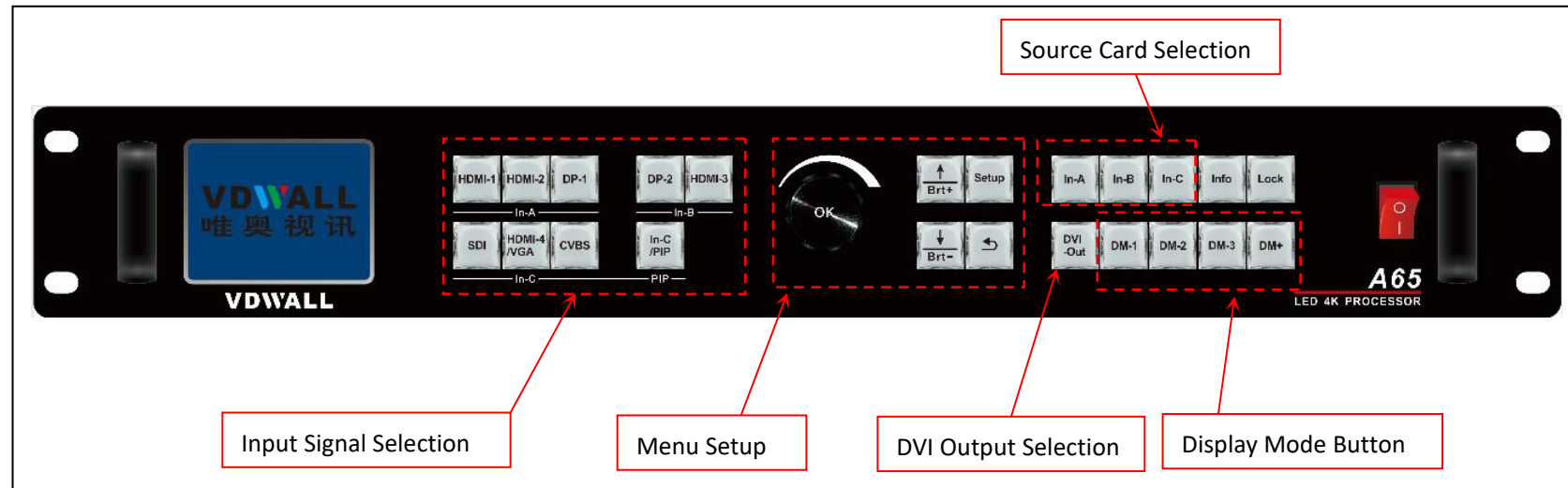


A65 User Quick Setup Guide








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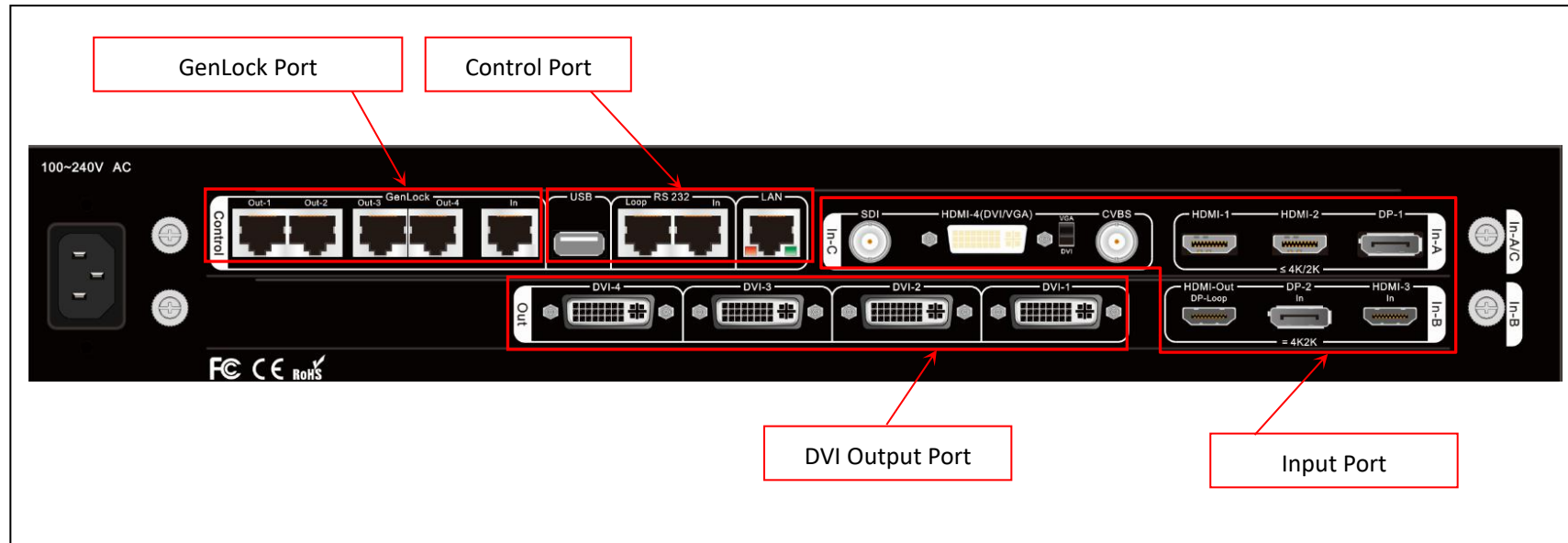
1. Front Panel Button



| Category | Button | Description |
|-------------------------------|--|--|
| Input Signal Selection Button | <u>HDMI1</u> 、 <u>HDMI2</u> 、 <u>DP-1</u> 、 <u>DP-2</u> 、 <u>HDMI-3</u> 、 <u>SDI</u> 、 <u>HDMI-7</u> 、 <u>CVBS</u> | A65 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 VGA button of In-C to automatically calibrate VGA signal. |
| | <u>In-C/PIP</u> | 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 | <u>In-A</u> 、 <u>In-B</u> 、 <u>In-C</u> | Source card selection button. Press this button to switch A65 signal source card, corresponding button indicator will light up. |
| DVI Output Port Switch Button | <u>DVI-Out</u> | In menu setup, press this button to switch DVI output port. When A65 in Cascading mode, If slave A65 Genlock signal locked, button indicator light up, or else flicker. |
| Lock Info Button | <u>Lock</u> | Button lock. Press this button directly, button indicator will light up, all button on front panel will be invalid, except Lock button itself, so as to avert misoperation. Press this button 3 times continually to exit button lock mode, button indicator will light off. |
| | <u>Info</u> | Information button, press this button to check A65 setup information and firmware version, press continually to turn page |

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

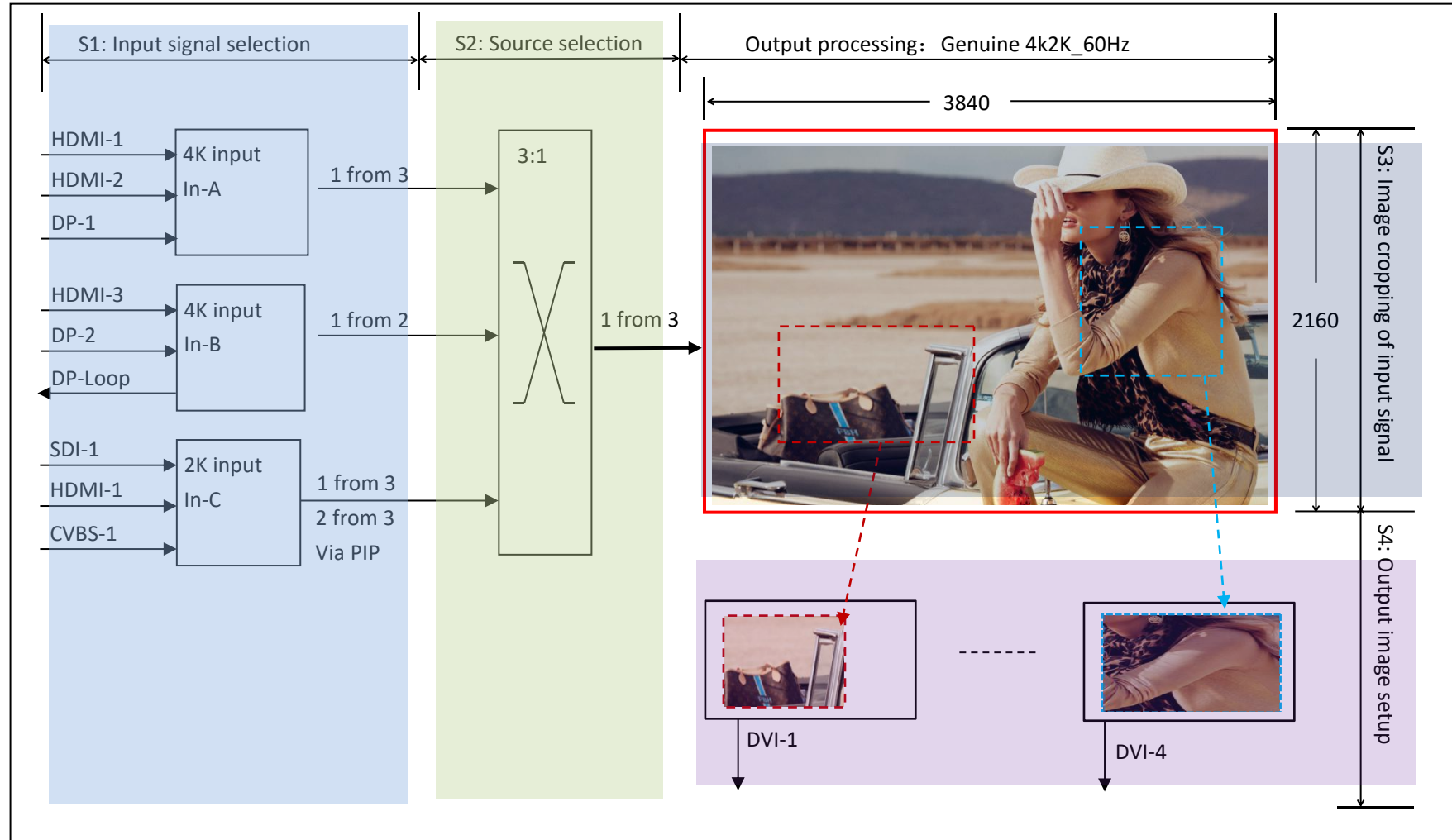
3) Communication Control Port

- 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:

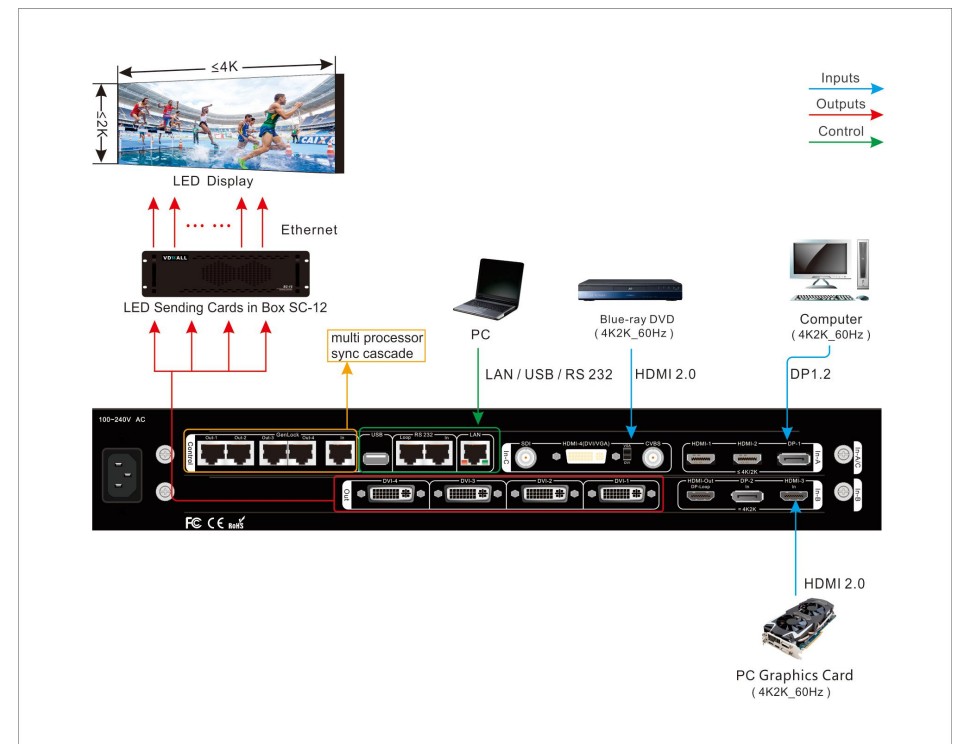


Figure 4-1

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

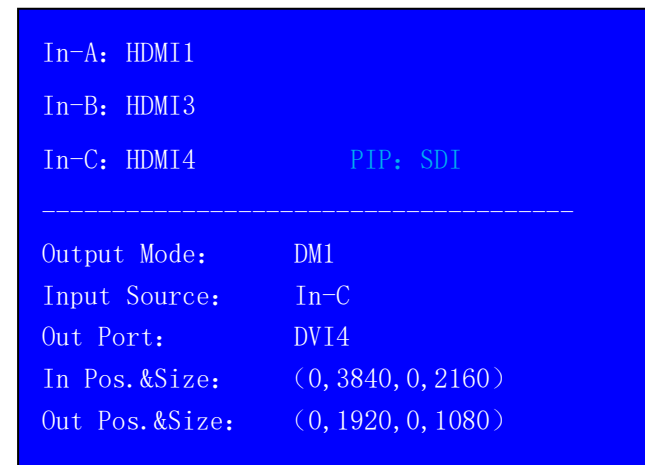


Figure 4-2

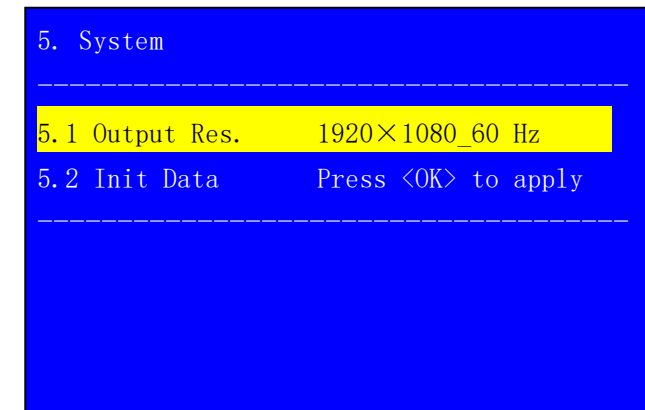


Figure 4-3

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

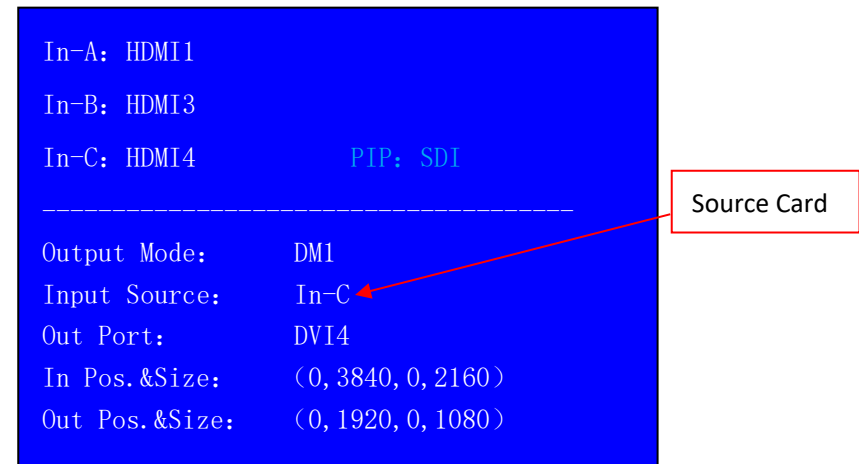


Figure 4-4

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

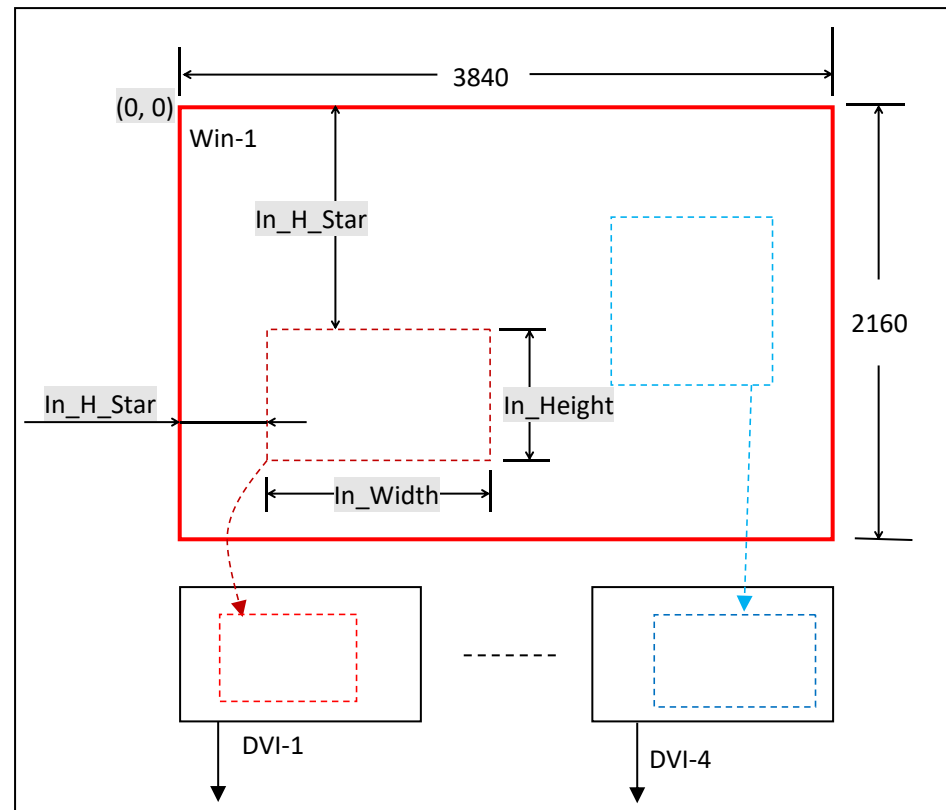


Figure 4-5

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

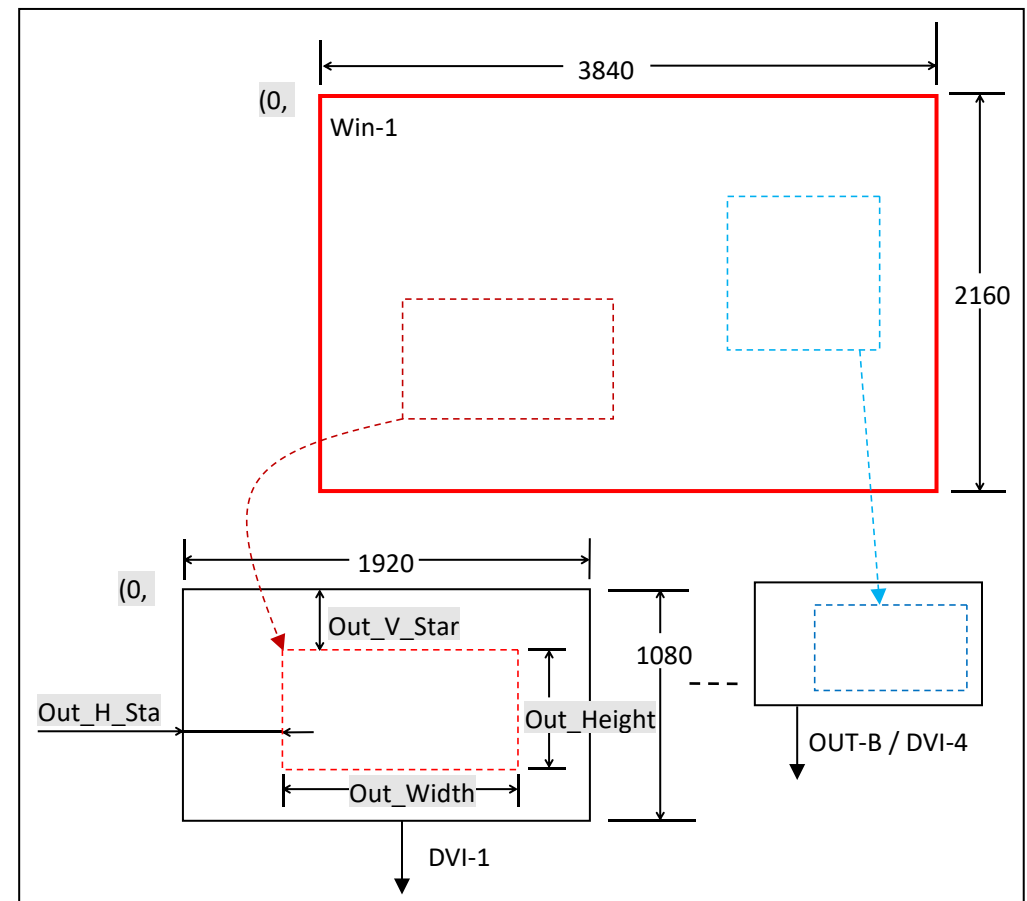


Figure 4-7

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 \uparrow 、 \downarrow 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

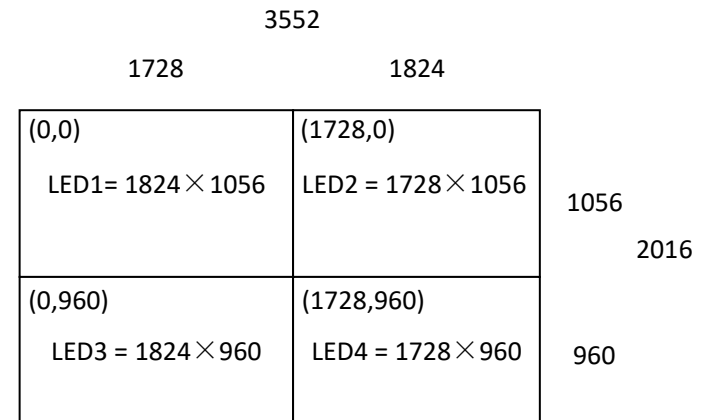


Figure 4-9

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

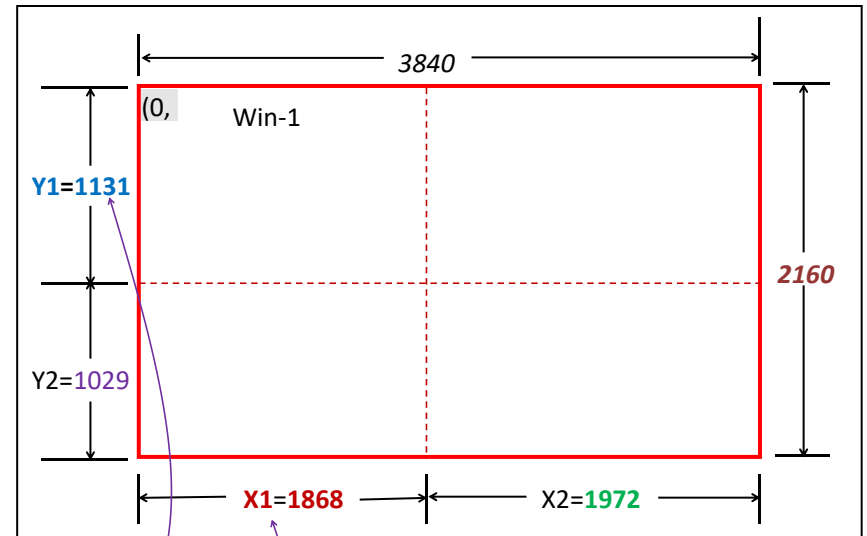


Figure AP1-1

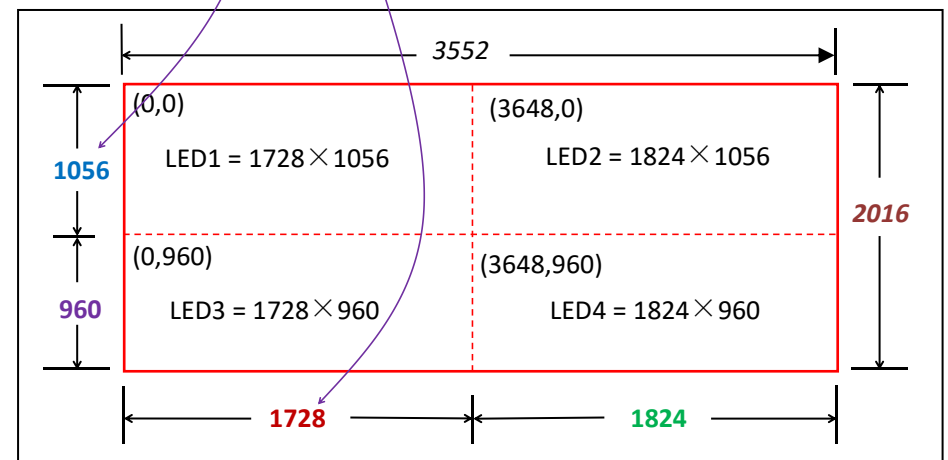


Figure AP1-2

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 |