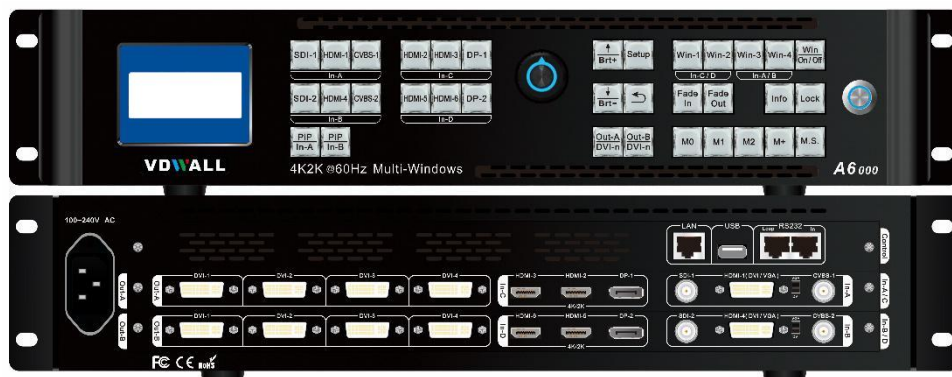


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# A6000 Series

## 4K Multi-Window Mosaic Processor

### User Manual V1.3



## Contents

A6000 Series.....	1
Chapter 1: Safety precautions.....	2
Chapter 2: Packing list.....	3
Chapter 3: Hardware connection.....	4
3-1 Rear panel signal port overview.....	4
3-2 Port description.....	4
3-4 Technical specification.....	6
3-5 Installation dimension.....	8
Chapter 4: Front panel button description.....	10
4-1 Front panel button sketch map.....	10
Chapter 5: User basic operation instruction.....	13
5-1 Input card operation.....	13
5-2 Output card operation.....	15
Chapter 6: User setup menu.....	21
6-1 Language setup.....	21
6-2 Video input setup.....	22
6-3 Multi-Window setup.....	24
6-4 Output image setup.....	29
6-5 Communication setup.....	34
Chapter 7: System maintenance and related operation.....	36
7-1 System random check and verification.....	36
7-2 Data recovery.....	37
7-3 PC software import and export.....	39
Chapter 8: Model code description.....	40

## Chapter 1: Safety precautions



### **Danger !**

There is high voltage in the processor, to prevent any unexpected hazard, please do not open the cover of the device, unless you are a maintenance personnel.



### **Warning !**

- 1) This device shall not encounter water sprinkle or splash, please do not place anything containing water on this device.
- 2) To prevent fire, keep this device far from any fire source.
- 3) If this device gives out any strange noise, smoke or smell, please immediately unplug the power cord from receptacle, and contact local dealer.
- 4) Please do not plug or unplug DVI signal cable if the device is powered on.



### **Caution !**

- 1) Please thoroughly read this manual before using this device, and keep it safe.
- 2) In the event of lighting or when you are not going to use the device for a long time, please pull the power plug out of receptacle.
- 3) Nobody other than professional technicians can operate the device, unless they have been appropriately trained or under guidance of technicians.
- 4) To prevent equipment damage or electric shock, please don't fill anything in the vent of the device.
- 5) Do not place the device near any water source or anywhere damp.
- 6) Do not place the device near any radiator or anywhere under high temperature.
- 7) To prevent rupture or damage of power cords, please handle and keep them properly.
- 8) Please immediately unplug power cord and have the device repaired, when
  1. Liquid splashes to the device.
  2. The device is dropped down or cabinet is damaged.
  3. Obvious malpractice is found or performance degrades.

## Chapter 2: Packing list

Please unpack the product with care, and then check whether all the following items are included in the package. If anything is found missing, please contact the dealer.

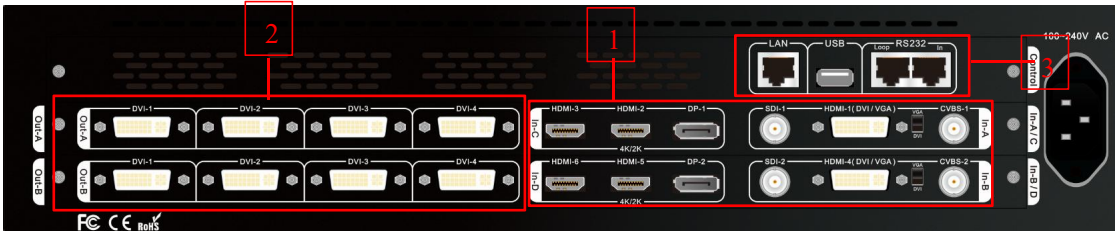
### Standard accessories

The accessories supplied with this product may differ from the following pictures, but they are applicable for the regions where you live (LED sending card is optional accessory)

		
1.5m Power cable X1	1.5m DVI cable (Quantity depends on input card quantity)	0.5m DVI cable (Quantity depends on output card quantity)
		
1.5m HDMI cable X1	DVI-I to VGA adapter X1	1.5m DP cable X1
		
Product data U disk X1	Quick operation instruction X1	1.5m USB cable X1

## Chapter 3: Hardware connection

### 3-1 Rear panel signal port overview



Picture 3-1 Rear panel signal port

- ①Video input port
- ②Video output port
- ③Communication port

### 3-2 Port description

#### 1. Video signal input

A6000 can assemble maximum 4 video input cards, the series numbers are In-A、In-B、In-C、In-D. In-A and In-B are 2K input cards, In-C and In-D are 4K input cards .

Each 2K input card supports 4 channels of signal input, signal input port description as the following table:

Ports	Description
CVBS	1 channel of PAL/ NTSC format composite video input
HDMI(DVI/VGA)	1 channel of HDMI1.3 digital signal input ( compatible with DVI, can choose VGA input via switch beside the port )
SDI	1 channel of SDI digital serial signal input

Each 4K video input card supports 3 channels of signal input, signal input port description as the following table:

Ports	Description
<b>HDMI</b>	2 channel of HDMI2.0 digital signal input
<b>DP</b>	1 channel of DP1.2 digital signal input

## 2. Video signal output

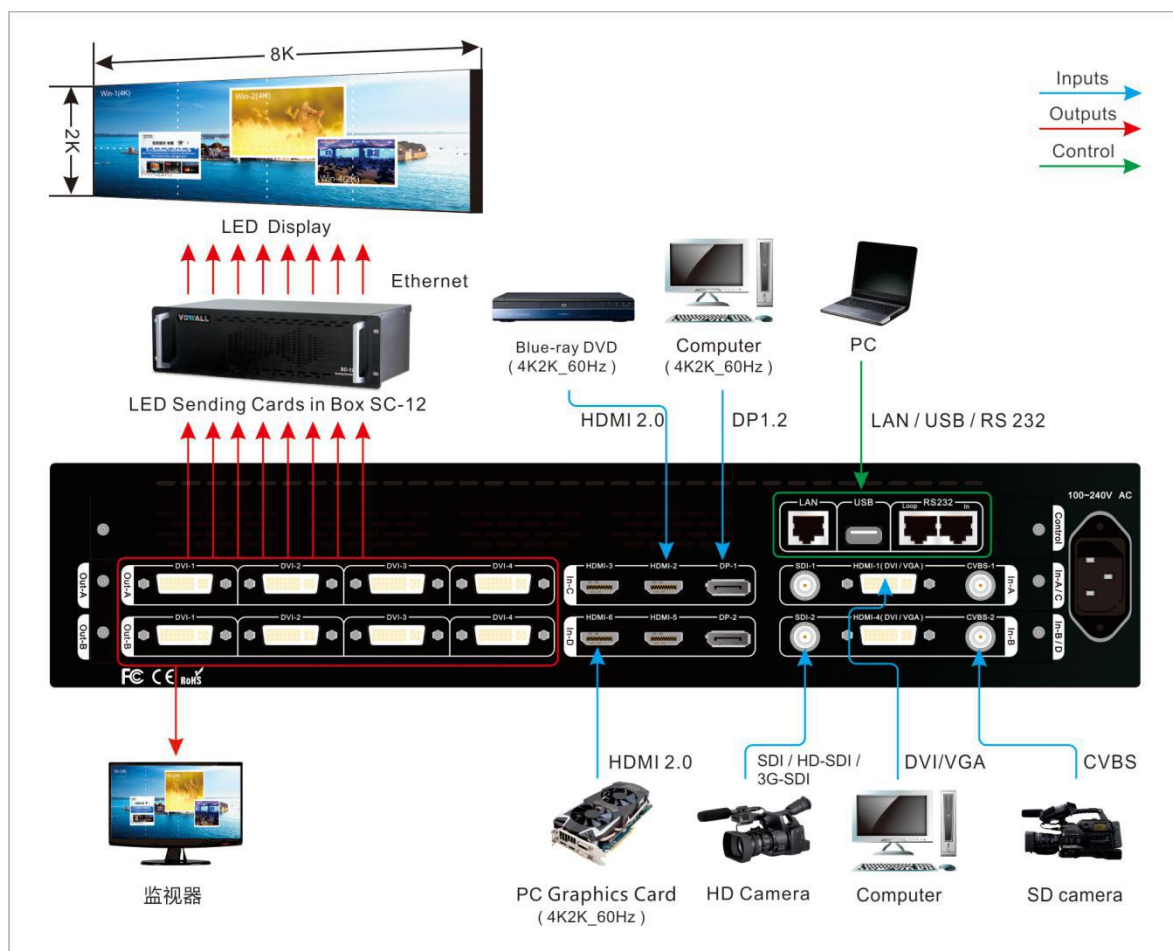
A6000 can assemble maximum 2 output cards, series number are Out-A and Out-B. Each output card can output 4 channels of DVI signal, output port description as the following table:

Ports	Description
<b>DVI-1 ~ DVI-4</b>	4 channels of DVI output ports, used to connect LED sending card or monitor .

## 3. Communication port

Ports	Description
<b>LAN</b>	Local area network TCP/IP network control port
<b>USB</b>	USB communication port
<b>RS232 In</b>	Serial communication port, RS232 electrical level, connect to PC RS232 port, for PC software control
<b>RS232 Out</b>	RS 232 cascading output port, RS232 electrical level, several processors can be controlled by single PC

### 3-3 Hardware connection diagram



Picture 3-2 Hardware connection diagram

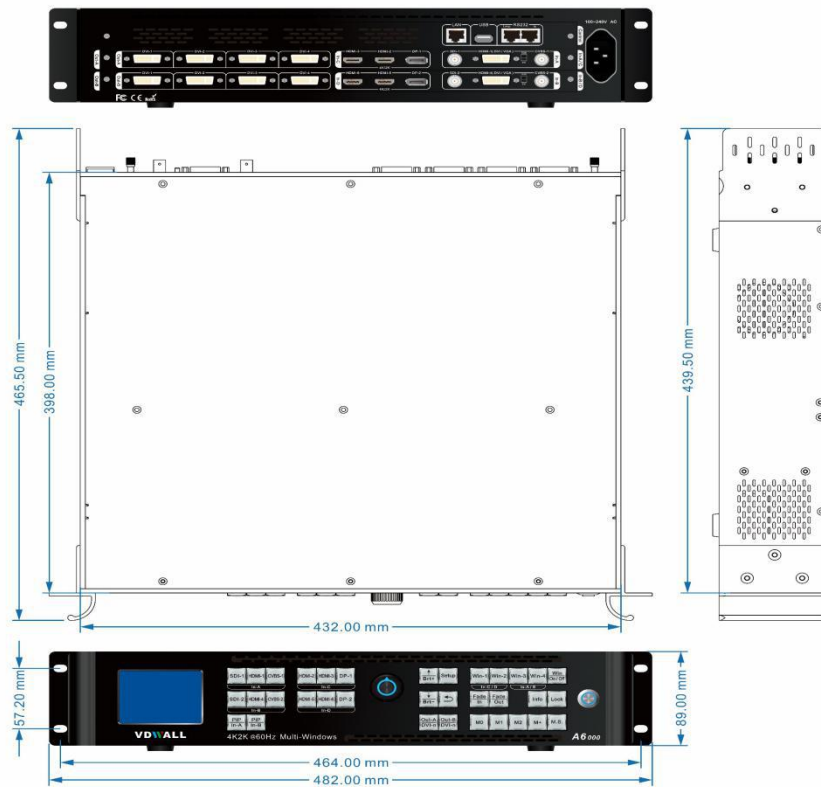
### 3-4 Technical specification

Input signal index		
Quantity / type	4×HDMI 2.0 (VESA/CEA-861) 2×DP1.2 (VESA) 2×CVBS 2×DVI-I (VESA/CEA-861, support VGA/DVI/HDMI 1.3a) 2×SDI (SDI/HD-SDI/3G-SDI)	
Composite video system	PAL/NTSC	
Composite video amplitude / Impedance	1V (p_p) / 75Ω	
VGA format	PC (VESA)	≤1920×1200_60Hz
VGA amplitude / Impedance	R、G、B = 0.7 V (p_p) / 75Ω	

DVI /HDMI format	PC (VESA)	≤1920×1200_60Hz
	HDMI1.3 (CEA-861)	≤1080p_60Hz
SDI format	SMPTE259M-C SMPTE 292M SMPTE 274M/296M SMPTE 424M/425M	480i_60Hz 576i_50Hz 720p、1080i、1080p
HDMI 2.0 (HDCP 2.2)	PC (VESA)	≤4096 x 2160_60Hz
	HDMI2.0 (CEA-861)	
DP1.2 (HDCP 2.2)	DisplayPort1.2 (VESA)	≤4096 x 2160_60Hz
Input port	CVBS: BNC/ 75Ω VGA: 24+5 DVI_I DVI: 24+5 DVI_I HDMI 2.0: HDMI A mode DP: DP port SDI: BNC/ 75Ω	
Output signal index		
Quantity / type	8×DVI	
DVI format	2160X1160_50Hz、2048X1200_50Hz、1920X1200_50Hz、 1920X1080_50Hz、1680X1440_50Hz、1440X1680_50Hz、 1200X1960_50Hz、1200x1600_60Hz、1440x1440_60Hz、 1600x1344_60Hz、1920×1080_60Hz、2160x960_60Hz、 User-defined output resolution	
Output port	DVI OUT: 24+1 DVI_D	
Others		
Control port	RS232/USB/LAN	
Input voltage	100-240VAC 50/60Hz	
Overall power consumption	75W	
Environment temperature	0-45 °C	
Environment humidity	15-85%	
Product size	482(L) x 465.5(W) x 89(H)mm	
Packing size	560(L) x 552(W) x 178(H)mm	
Weight	G.W: 10.8Kg, N.W: 7.5Kg	

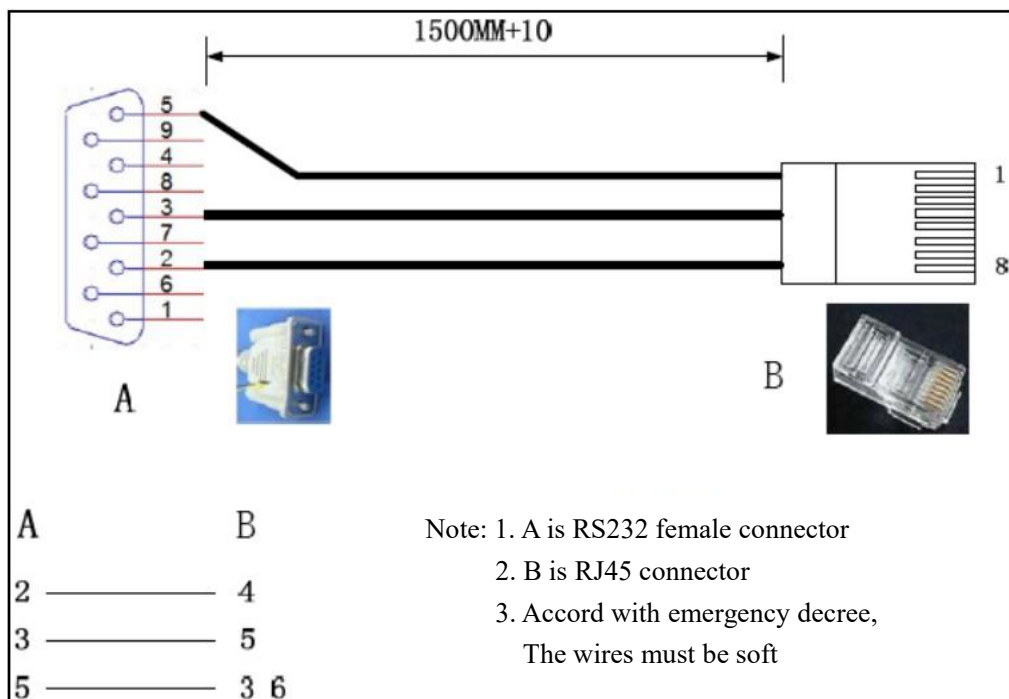


### 3-5 Installation dimension



Picture 3-5a Installation dimension drawing

## RS232 connection cable and wire order



Picture 3-5b RS232 connection cable and wire order

## Chapter 4: Front panel button description

### 4-1 Front panel button sketch map



Picture 4-1 Front panel button sketch map

- ① Input card button      ② Setup button      ③ Other function button

#### 1. Input signal selection button

Input signal selection button used to select signal source and open PIP, divided into 4 groups.

In-A input card button: **SDI-1**、**HDMI-1**、**CVBS-1**、**PIP/In-A**

In-B input card button: **SDI-2**、**HDMI-4**、**CVBS-2**、**PIP/In-B**

In-C input card button: **HDMI-2**、**HDMI-3**、**DP-1**

In-D input card button: **HDMI-5**、**HDMI-6**、**DP-2**

Note: press **HDMI** button continually to adjust VGA signal, automatically fit screen.

#### 2. Setup button


Configuration buttons: used to configure processor parameters

**Setup**: press to enter setup menu

**↑**、**↓**: up and down selection button

**Knob**: rotate **Knob** button adjust parameter value or select item

**OK**: press **Knob** / **OK** button, to save parameter

: back to previous menu

### 3. Output Card / Output Port selection button

Output Card and Output Ports selection button, used to select output DVI port

**Out-A/DVI-n**, **Out-B/DVI-n**

### 4. Multi-image function button

**Win-1**, **Win-2**, **Win-3**, **Win-4**: used to select target window

**Win/OnOff**: used to turn on / off selected window. Red indicator light up if corresponding window lit up normally, indicator light off when close the selected window




**Fade In**: set selected window at bottom with Fade switching effect

**Fade Out**: set selected window on top with Fade switching effect

### 5. Brightness adjustment button

**Br+**, **Br-** or **Knob**: brightness adjustment buttons, when device is in operation state, use the button to increase or decrease the output brightness

### 6. Information display button

Information display (**Info**): when device is in operation state, press **Info** button, processor LCD will display current configuration and information. Press  or  to turn page, press  button exit

### 7. Display mode button

Multi-window display mode, from 0 to 15 total 16 preset modes. Mode 0, 1 and 2 can be directly recalled by pressing **M0**, **M1** or **M2** button, meanwhile the corresponding indicator will light up;

Mode 3 to 12 can be selected by pressing **M+** button , the indicator of **M+** will light up, then rotate **knob** to select target mode. Mode 13-15 is used for backup, cannot be recalled directly;

**MS** is mode duplication button, can copy the parameters from source mode to destination mode. Each display mode saves 4 configuration items and corresponding value:

A: image size and position ( including the input and output image )

B: overlay order of multi-layer

C: on-off status of window (Win On / Off status)

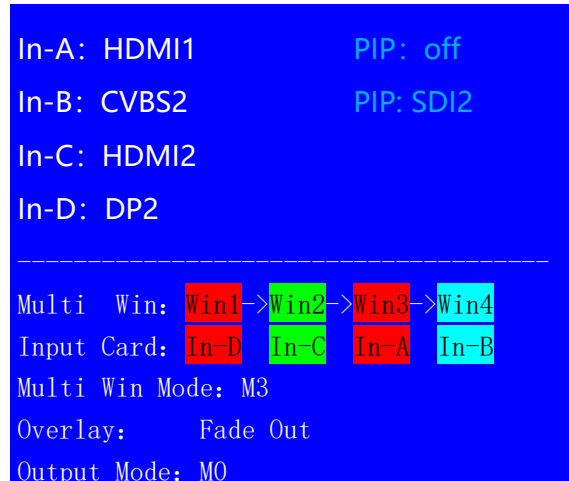
D: signal source of each window

## 8. Lock button

Lock button (**Lock**): lock function. Press to open front control button lock function, red indicator will light up, all buttons in front panel will be invalid except **Lock** itself. Press **Lock** button three times continually to unlock, the red indicator will light off.

## Chapter 5: User basic operation instruction

After processor boot up, A6000 will automatically detect the quantity and configuration information of input and output card. Processor LCD display interface varies from different customized boards assembled. The following is standard display interface of full configuration (4 input boards, 2 output boards) .



Picture 5-0 Operation default display interface

- The top 4 rows show input signal source, for instance, In-B is CVBS2, PIP input signal is SDI2;
- The fifth row "Multi Win: Win1->Win2->Win3->Win4" shows the overlay order from top to bottom;
- The sixth row shows signal source of each window;
- The seventh and eighth rows show multi win mode and switching effect;
- The 9 row shows output card display mode

User can operate input and output card in operation state:

- Input card operation includes input signal selection and PIP operation;
- Output card operation includes output card selection, output port selection, display mode selection, mode duplication and brightness adjustment;
- Multi-win operation includes overlay order operation and mode duplication;

### 5-1 Input card operation

Under user operation state, input card operation includes: input card signal selection and PIP on/off.

#### 1.Input card signal source selection

**Input card A:** when in PIP off state, press button **SDI-1**, **HDMI-1**, **CVBS-1** to select signal source;

**Input card B:** when in PIP off state, press button **SDI-2**, **HDMI-4**, **CVBS-2** to select signal source;

**Note:** HDMI-1 and HDMI-4 can access VGA signal, select VGA input or DVI/HDMI input by toggling switch beside the DVI port.



Picture 5-1a DVI-I switch

**Input card C:** press button **HDMI-2**、**HDMI-3**、**DP-1** to select signal source;


**Input card D:** press button **HDMI-5**、**HDMI-6**、**DP-2** to select signal source;

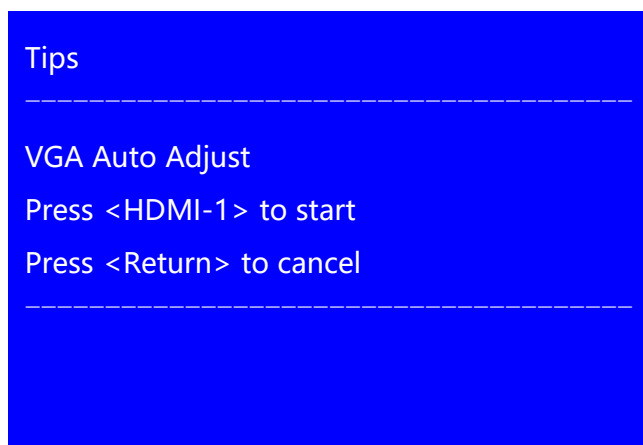
## 2. Input card PIP operation

**Input card A:** press button **PIP/In-A** to enter or exit PIP. When in PIP ready state, press button **SDI-1**、**HDMI-1**、**CVBS-1** to select sub image signal source;

**Input card B:** press button **PIP/In-B** to enter or exit PIP. When in PIP ready state, press button **SDI-2**、**HDMI-4**、**CVBS-2** to select sub image signal source;

## 3. VGA input signal automatic adjustment

For input card In-A and In-B, on occasion input signal is VGA, press **HDMI-1** or **HDMI-4** button to enter VGA automatic adjustment menu, press **HDMI-1** or **HDMI-4** button again to automatically adjust VGA signal. May need press several times to perfectly fit screen. Press  to exit menu.



Picture 5-1b VGA automatic adjustment

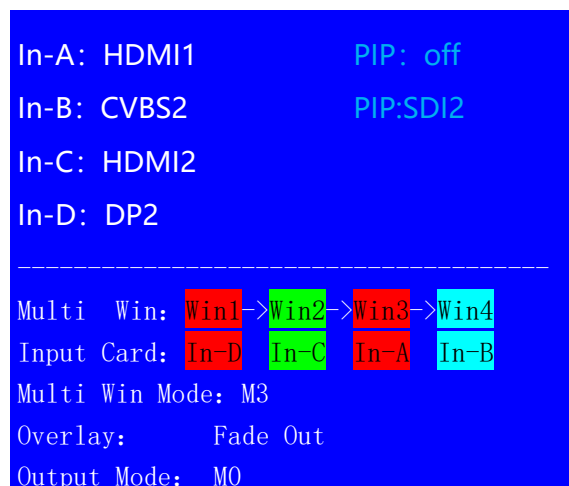
## 5-2 Output card operation

Under user operation state, output card operation includes: output card display mode selection, output brightness adjustment.

### 1. Output card display mode recall and mode duplication

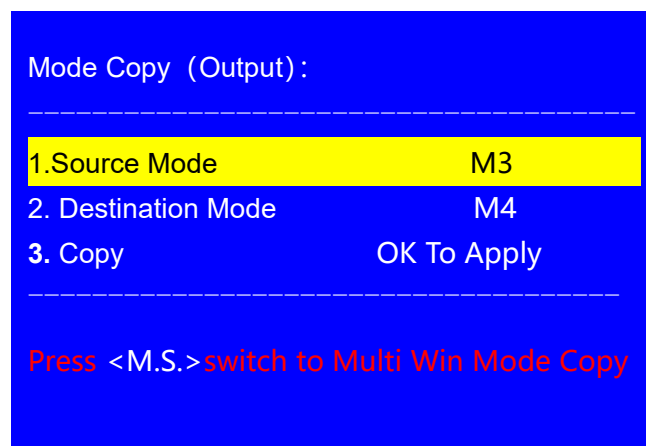
A6000 multi-window display mode has 16 presets(M0-M15), select M0 ~ M12 by pressing mode button, M13 ~ M15 are backup modes, can't be recalled directly.

Output mode operation procedure: under user operation state, rotate **Knob** button to select output mode, press **OK** button to confirm and apply the output mode.



Picture 5-2a Output mode switching

**M.S.** button operation procedure: under user operation state, press **M.S.** button to enter mode duplication menu, select **Source Mode** and **Destination Mode**, on **3.Copy** menu, press **OK** button, then output parameters of **Source Mode** will be copied to **Destination Mode**.



Picture 5-2b Output mode switching



## 2. Output card brightness setup

Output card brightness adjustment ranges from 0 – 255, “0” represents minimum brightness level, press **Brt+** button to increase, and press **Brt-** button to decrease, or rotate **Knob** button to adjust value. In order to guarantee sufficient grayscale, the default brightness value is 128.

Brightness (Out-A+Out-B)		Default
<hr/>		
1. Brightness	32	128
<hr/>		

Picture 5-2c Output brightness setup

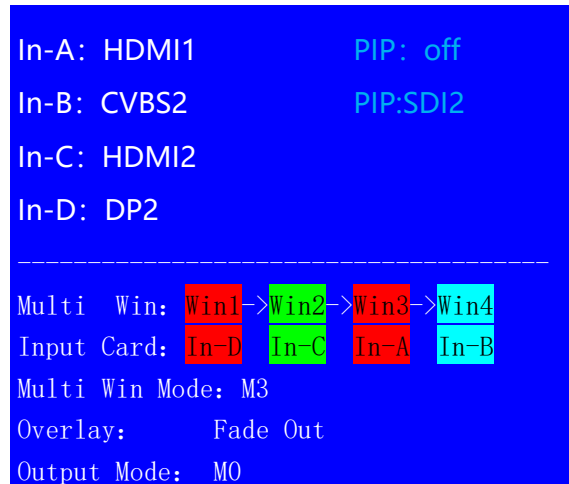
## 5-3 Multi-window operation

Multi-window operation mainly includes: output window on/off, overlay order operation, multi-window preset mode operation and other related operations.

### 1. Output window on/off and overlay order operation

**Output window on/off** : under operation state, select target window by pressing (**Win-1**、**Win-2**、**Win-3**、**Win-4**) , then press **Win/OnOff** button to open or close selected window , **Win/OnOff** indicator light up means display current window, indicator light off means close current window.

**Multi-window overlay order operation**: under operation state, press **Fade In**、**Fade Out** button to select switching effect, then press (**Win-1**、**Win-2**、**Win-3**、**Win-4**) to assign the target window at bottom or on top.

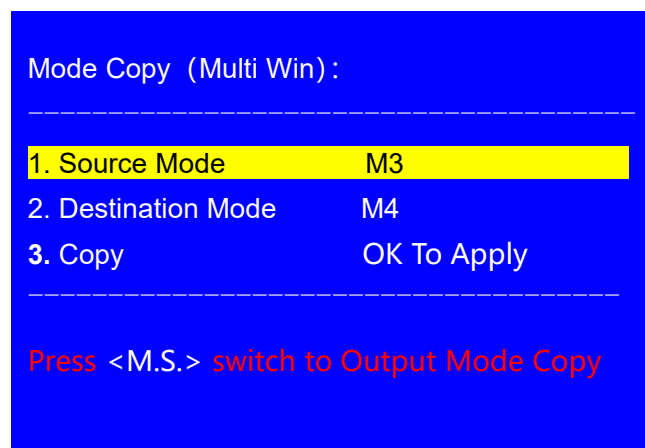


Picture 5-3a Output card mode switching

## 2. Multi-window display mode operation

There are 16 preset multi-window display modes, M0 ~ M15, among which M0 ~ M12 is available for direct recall , M13 ~ M15 is used for backup (cannot be recalled directly). M0 ~ M2 can be recalled directly by pressing **M0**, **M1**, **M2** button, the button indicator will light up after being selected; M3 ~M12 can be selected by pressing **M+** button into mode selection menu, rotate **Knob** button to select target mode, then press **OK** button to confirm and apply, the **M+** button will light up when recall M3 ~M12 .

Multi-window mode duplication: under user operation state, press **M.S.** button into mode copy menu, select **Source Mode** and copy to **Destination Mode**, then on **3.Copy** menu, press **OK** button to confirm and apply, thus the parameters in source mode will be copied to destination mode.



Picture 5-3b Multi-window mode copy

## 5-4 Other functions operation

Except above operations, there are lock button operation, system Info function and other related operations.

### 1. Lock button operation

Under operation state, press **Lock** button to activate function, other buttons will be invalid, only LAN, RS232, USB control is active, thus to prevent remote control and front panel control conflict. A6000 will automatically enter key lock state once receiving remote control instructions.

Under lock state, press **Lock** button three times continually to unlock.

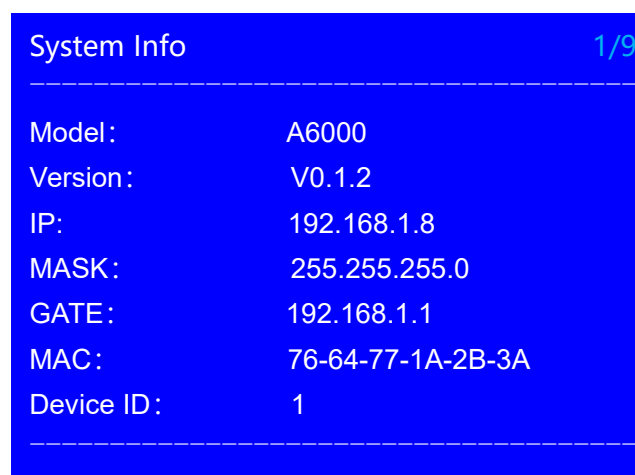


Picture 5-4a Button lock

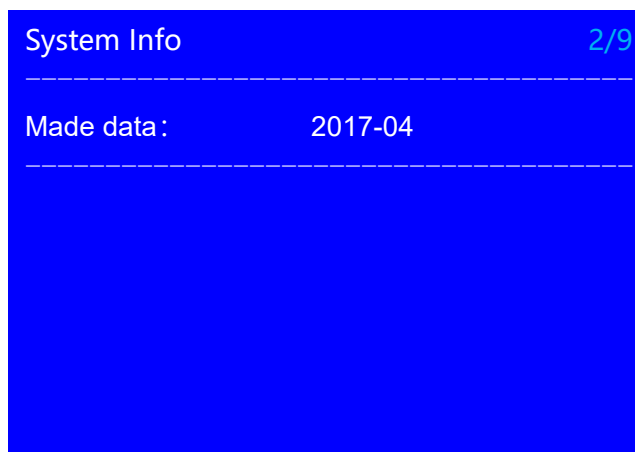
### 2. Check system information (**Info**)

Press **Info** button into System Info menu. Press **↑**, **↓** button turning page, press **↩** to exit.

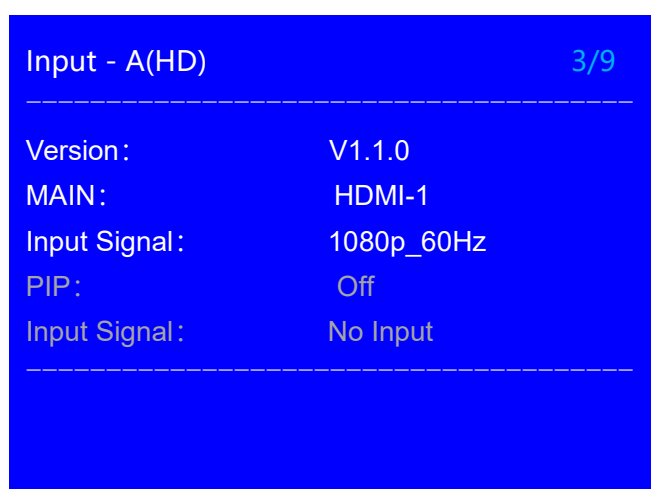
System Info menu as following.



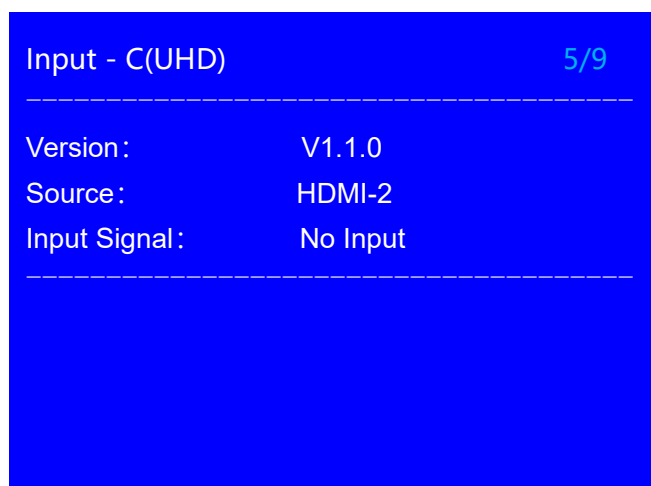
Picture 5-4b System info



Picture 5-4c System info



Picture 5-4d System info



Picture 5-4e System info



Multi Win –Win2

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Version: V1.1.3

Win2: In-C

-----

Picture 5-4f System info



Output - A

-----

Version: V1.1.3

Resolution: 1920x1080\_60Hz

-----

Picture 5-4g System info



System Random Checksum

-----

In-A: AF8F0E8E0D8D0C8 AF8F0E8E0D8D0C8

In-B: BF8F0E8E0D8D0C8 CF8F0E8E0D8D0C8

M.Win: DF8F0E8E0D8D0C8 DF8F0E8E0D8D0C8

Out-A: AF8F0E8E0D8D0C8 AF8F0E8E0D8D0C8

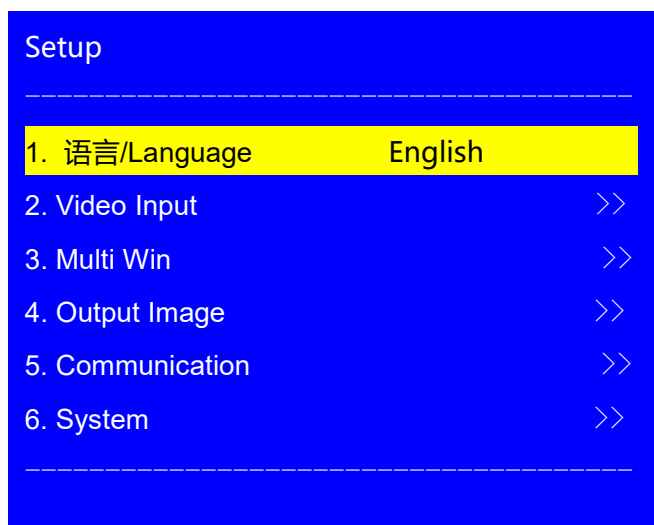
Out-B: BF8F0E8E0D8D0C8 BF8F0E8E0D8D0C8

-----

Picture 5-4h System info

## Chapter 6 User setup menu

The user setup menu contains 6 main parts, including language setup, video input setup, multi-window setup, output image setup, communication setup and system setup.

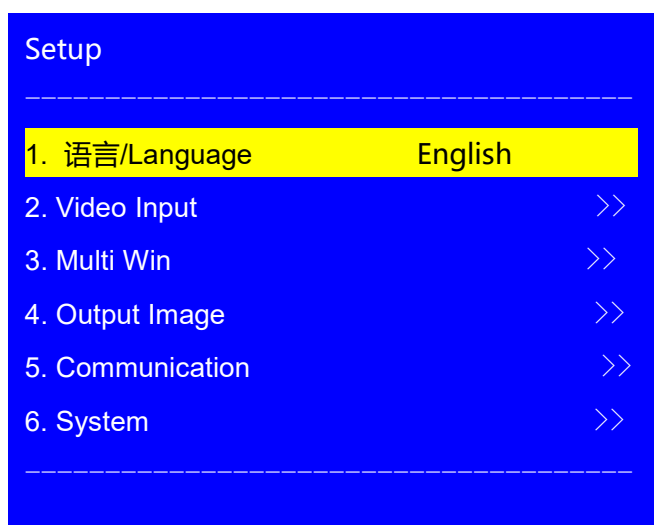


Picture 6 User setup interface

After device boot up, press **Setup** button into user setup menu, press **↑/↓** button to select menu item, press **knob** button (**OK** button) into menu, press **↶** button return to previous menu. Description as following:

### 6-1 Language setup

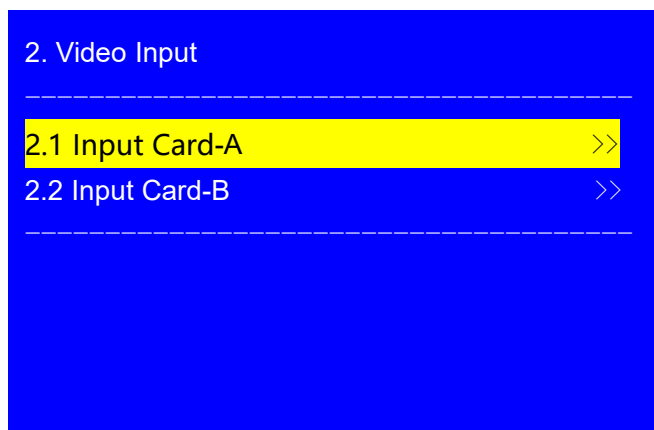
After system boot up, press **Setup** into user setup menu, first item **1.语言/Language**, under this menu rotate **Knob** button to switch language, press **OK** button to confirm and apply.



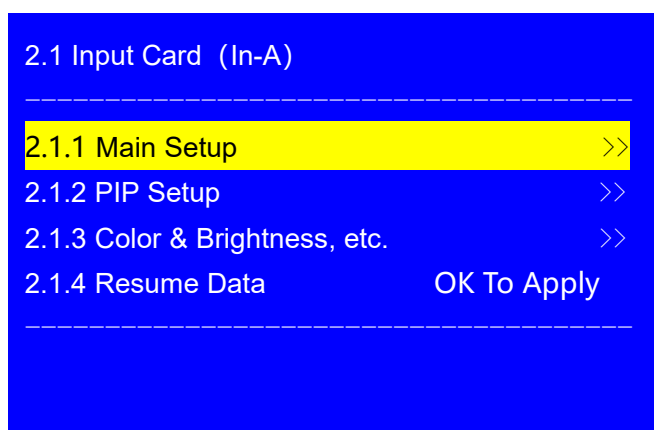
Picture 6-1 User menu interface

## 6-2 Video input setup

After system boot up, press **Setup** into user setup menu, select 2.Video Input by pressing **↑,↓** button, press **OK** button into this menu, this menu is used to set the parameters of Input Card-A and Input Card-B.



Picture 6-2a Video input setup



Picture 6-2b Input card setup

### 1. PIP setup

Main Setup and PIP Setup menu is used to configure main image and sub image size and position. Under this menu, press **↑,↓** button to select the item, rotate **Knob** button to adjust current parameter, press **OK** button to confirm and apply.

## 2.1.1 Main Setup (In-A)

2.1.1.1 Out Width	1920
2.1.1.2 Out H_Start	0
2.1.1.3 Out Height	1080
2.1.1.4 Out V_Start	0




Picture 6-2c Main setup

## 2.1.2 PIP Setup (In-A)

2.1.2.1 Out Width	640
2.1.2.2 Out H_Start	16
2.1.2.3 Out Height	480
2.1.2.4 Out V_Start	16

Picture 6-2d PIP setup

## 2. Color & Brightness,etc.

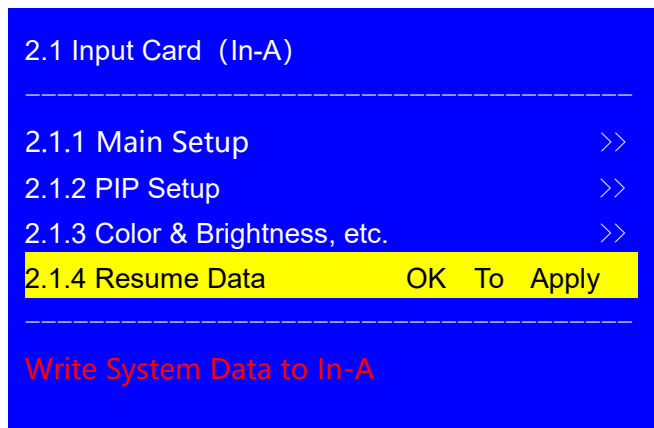
2.1.3 Color & Brightness,etc. menu is used to set the bias, brightness, and color parameters of the input signal. Press  button to select the item, then rotate  button to adjust current value, press  button to confirm and apply.

2.1.3 Color & Brightness, etc.	Default
2.1.3.1 Bias	50 -> 45
2.1.3.2 Brightness	50
2.1.3.3 Color	50

Picture 6-2e Color &amp; Brightness,etc. setup



### 3. Resume Data Setup

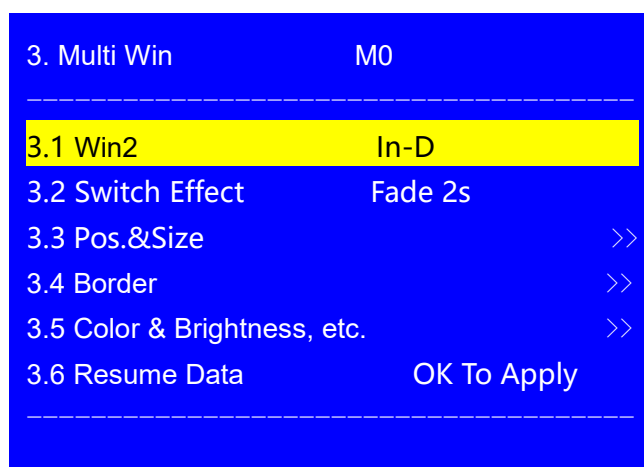


Picture 6-2f Input Card Resume Data Setup

**2.1.4 Resume Data** function is used to restore system data to the input card, it is generally used after replacing input card. Press button to select the **2.1.4 Resume Data** menu, press **OK** to select, then press **OK** again to confirm **2.1.4 Resume Data**, thus the processor will restore data to the current input card.

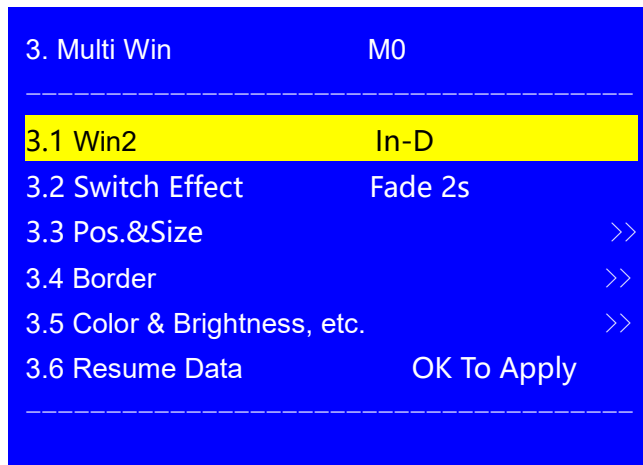
### 6-3 Multi-Window setup

Press **Setup** button into user setup menu, press button to select **3.Multi Win**, press **OK** button into this menu. Under this menu, user can configure multi-window parameters.



Picture 6-3a Input card advanced setup

## 1. Multi-window matrix setup

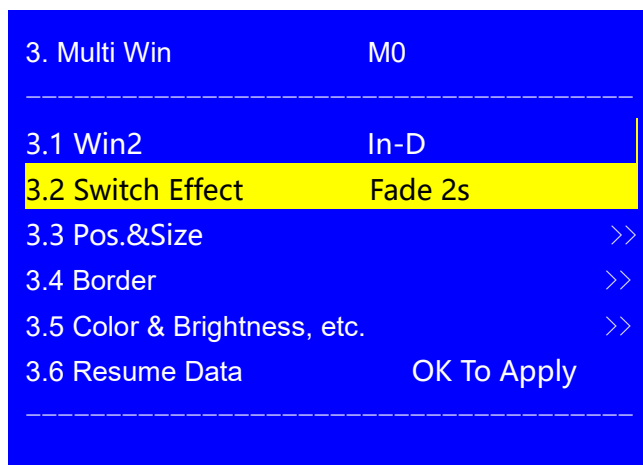


Picture 6-3b Input card advanced setup

3.1 Multi Win menu is used to select signal source of multi-window. Win-1 and Win-2 can only select In-C or In-D. Win-3 and Win-4 can only select In-A or In- B.

**Setup procedure:** Press **Setup** into the menu, press the display mode button (such as **M0**, **M1**, etc.) to select the preset mode, press window button (**Win-1**, **Win-2**, **Win-3**, **Win-4**) to select target window. Rotate **Knob** button to switch source input card.

## 2. Switching effect setting



Picture 6-3b Input card advanced setting

3.2 Switch Effect menu is used to set the switching effect during layer order adjustment, including Seamless switching and Fade in/ Fade out switching, Fade in/Fade out optional 1s,2s,3s switching time.

**Setup procedure:** Press **Setup** enter the menu, rotate the **Knob** button to select switch effect , press **OK** to save and apply.

### 3. Size and Position Setup

Press **Setup** button to enter 3. Multi Win menu, press the **↓** key to select the 3.3 Pos.&Size , then press the **Knob** key (**OK**) into the menu.

3.3 Pos.&Size	M0/Win1
-----	
3.3.1 Out Width	3840
3.3.2 Out H_Start	0
3.3.3 Out Height	2160
3.3.4 Out V_Start	0
3.3.5 In Height	2160
3.3.6 In V_Start	0

Picture 6-3c Size and position setup

**Setup procedure:** press display mode button (such as **M0**, **M1**, etc.) to select the display mode, press **Setup** button to enter setup menu,press (**Win-1**, **Win-2**, **Win-3**, **Win-4**) to select target window, rotate **Knob** to adjust parameter value, then press **OK** to save and apply.

**Note:** After selecting the target window, press **Fade Out** button to set window on top layer to facilitate size and position adjustment .

### 4. Border Setup

3.4 Border Setup menu is used to configure the color and thickness of image Border. Press window button (**Win-1**, **Win-2**, **Win-3**, **Win-4**) to select the target window, press **↑,↓** key to select 3.4 Border menu, rotate **Knob** to change current parameters, then press **OK** button to save and apply.



3.4 Border	Win1
-----	
3.4.1 Border	ON
3.4.2 Border R	128
3.4.3 Border G	128
3.4.4 Border B	128
3.4.5 Border Size	4

Picture 6-3d Image Border setup

## 5. Image Quality setup

Enter 3. Multi-window menu, press  button to select 3.5 Color & Brightness, etc., press  into menu.

User can set brightness, bias and color parameters of each window in this menu.

**Setup procedure:** enter 3.5 Color & Brightness, etc. menu, press  button to select the item, rotate  to adjust current parameter value, then press OK to save and apply.

3.5 Color & Brightness, etc.	
-----	
3.5.1 Bias	>>
3.5.2 Brightness	>>
3.5.3 Color	>>
3.5.4 Color Space Off	>>
-----	

Picture 6-3e Image quality setting

3.5.1 Bias	Default
-----	
3.5.1.1 All Win	128 -> 45
3.5.1.2 Win1	128
3.5.1.3 Win2	128
3.5.1.4 Win3	128
3.5.1.5 Win4	128
-----	

Picture 6-3f Bias setting

3.5.2. Brightness		Default
-----		
3.5.2.1 All Win	128 -> 45	128
3.5.2.2 Win1	128	128
3.5.2.3 Win2	128	128
3.5.2.4 Win3	128	128
3.5.2.5 Win4	128	128
-----		

Picture 6-3g Brightness setting



3.5.3 Color		Default
-----		
3.5.3.1 All Win	128 -> 45	128
3.5.3.2 Win1	128	128
3.5.3.3 Win2	128	128
3.5.3.4 Win3	128	128
3.5.3.5 Win4	128	128
-----		

Picture6-3h Color setting



## 6. Data Restore

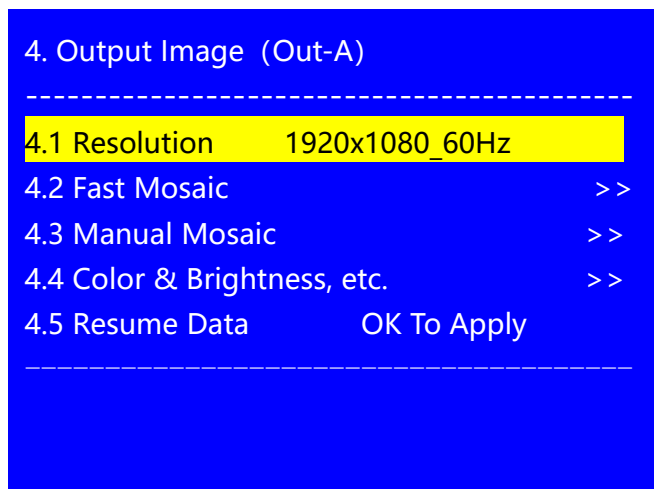
3. Multi-Window		M0
-----		
3.1 Win2	In-D	
3.2 Switch Effect	Fade in/out	
3.3 Size and Position	>>	
3.4 Border	>>	
3.5 Color & Brightness, etc.	>>	
3.6 Resume Data	OK To Apply	
-----		
Write System Data To Multi Win Card		

Picture 6-3i Multi-window data restore

**3.6 Resume Data** menu is used to restore system data to the corresponding multi-window card, which is generally used after replacing the multi-window card. Press ,  to select the **3.6 Resume Data** menu, press **OK** to select, press **OK** again to confirm and apply as prompt.

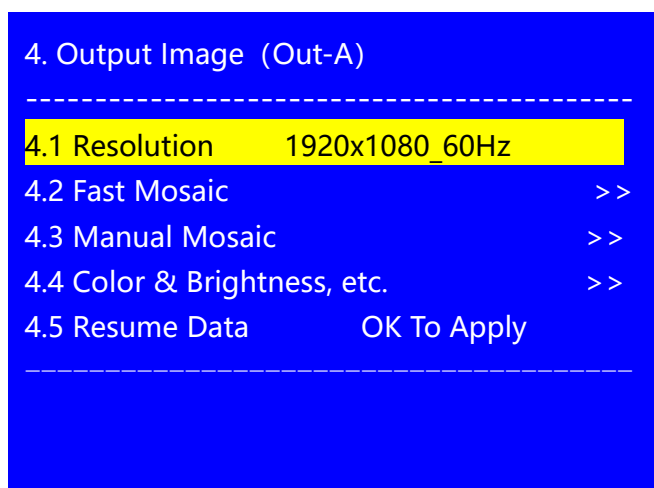
## 6-4 Output image setup

After processor boot up, press **Setup** button into menu. Press ,  button to select **4. Output Image**, press **OK** button into the following menu. This menu is used to adjust output image of A6000.



Picture 6-4a Output image setting

### 1. Output resolution setup



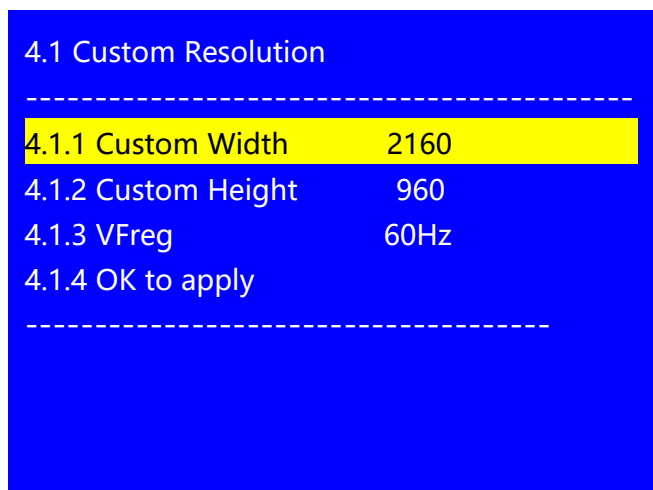
Picture 6-4b Output resolution setup

4.1 Output Resolution menu is used to set DVI output image resolution. Under this menu, rotate **Knob** button to switch resolution, press **OK** to apply, press **OK** again to confirm and reboot processor automatically. The new output resolution will be activated after reboot.

Not only the preset output resolutions, A6000 series also support user defined output resolutions.

**Custom Output Resolution setup:** select 4.1 Custom Resolution , press **OK** into the menu, set 4.1.1Custom Width and 4.1.2Custom Height parameters, then select 4.1.4 Press OK to apply, double press **OK** button to apply custom resolution, processor will reboot automatically to activate the new output resolution.

**Notice:** Apply new output resolution will reset processor, all existing configuration in processor will be lost after reboot.



Picture 6-4c Custom output resolution setting

## 2. Mosaic Setup

Mosaic setup menu constitutes 4.2 Fast Mosaic and 4.3 Manual Mosaic . The distinctions are described as following table:

Mosaic Menu	Description
4.2 Fast Mosaic	User set total screen resolution and units screen resolution, processor automatically calculate mosaic parameter and apply
4.3 Manual Mosaic	Manually configure input and output parameters of each output port, generally used for fine-tuning after fast mosaic

**Fast Mosaic Procedures:**

1. Press display mode button (**M0**, **M1**, **M2**, **M+**) to select the display mode;
2. Press **Out-A/DVI-n**, **Out-B/DVI-n** to select the corresponding output port;
3. Firstly set the total width and height of the whole LED screen, secondly set the size and position of the unit screen driven by the corresponding output port. 4.2.4 Unit Width and 4.2.5 Unit height is screen unit physical size, 4.2.5 Unit H\_Start and 4.2.6 Unit V\_Start defines unit screen position on whole LED screen;
4. Select 4.2.8 Auto Calculation, press **OK** button to apply the configuration, A6000 will automatically calculate and complete the mosaic;
5. If fast mosaic has deviation, user can enter 4.3 Manual Mosaic to adjust the input and output parameter manually;

4.2 Fast Mosaic	Out-A/M0/DVI1
-----	
4.2.1 LED Panel	Panel 1
4.2.2 LED Total Width	3840
4.2.3 LED Total Height	2160
4.2.4 Unit Width	1920
4.2.5 Unit Height	1080
4.2.6 Unit H_Start	0
4.2.7 Unit V_Start	0
4.2.8 Auto Calculation	OK To Apply
-----	

Picture 6-4d Fast mosaic setting

4.3 Manual Mosaic menu is usually used for fine-tuning after fast mosaic.

**Setup procedure:** Select 4.3 Manual Mosaic, press the display mode button (**M0**, **M1**, **M2**, **M+**) to select preset mode, then press **Out-A/DVI-n**, **Out-B/DVI-n** to select corresponding DVI output port, press **↑**, **↓** button to select the menu item, rotate **Knob** to adjust parameter value, press **OK** to save and apply.



4.3 Manual Mosaic	Out-A/M0/DVI1	
-----		
4.3.1 In Width	3840	3840
4.3.2 In H_Start	0	0
4.3.3 In Height	2160	2160
4.3.4 In V_Start	0	0
4.3.5 Out Width	1920	1920
4.3.6 Out H_Start	0	0
4.3.7 Out Height	1080	1080
4.3.8 Out V_Start	0	0
-----		

Picture 6-4e Manual mosaic setting

### 3. Image Quality Setup

Enter 4. Output Image menu, press **↓** button to select 4.4 Image Quality, press **OK** to enter the following menu, which can set the brightness, bias and color parameters of each output image.

**Setup procedure:** press **Out-A/DVI-n**、**Out-B/DVI-n** to select target output DVI port, enter 4.4Color & Brightness, etc. menu, press **↑,↓** key to select the menu item, rotate **Knob** button to adjust the current parameters, press **OK** to save and apply.

4.4 Color & Brightness, etc.	
-----	
4.4.1 Bias	>>
4.4.2 Brightness	>>
4.4.3 Color	>>
-----	

Picture 6-4f Image quality setting

4.4.1 Bias		Default
-----		
4.4.1.1 All DVI	128 -> 45	128
4.4.1.2 DVI1	128	128
4.4.1.3 DVI2	128	128
4.4.1.4 DVI3	128	128
4.4.1.5 DVI4	128	128
-----		

Picture 6-4g Bias setting

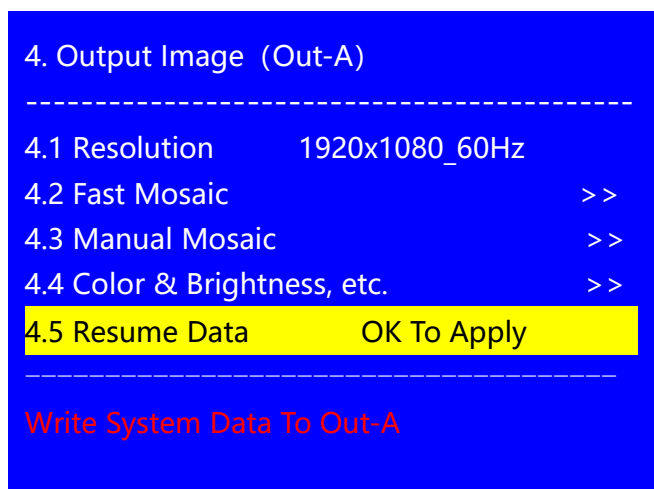
3.4.2 Brightness		Default
-----		
3.4.2.1 All DVI	128 -> 45	128
3.4.2.2 DVI1	128	128
3.4.2.3 DVI2	128	128
3.4.2.4 DVI3	128	128
3.4.2.5 DVI4	128	128
-----		

Picture 6-4h Brightness setting

3.4.3 Color		Default
-----		
3.4.3.1 All DVI	128 -> 45	128
3.4.3.2 DVI1	128	128
3.4.3.3 DVI2	128	128
3.4.3.4 DVI3	128	128
3.4.3.5 DVI4	128	128
-----		

Picture 6-4i Color setting

## 4. Data recovery setting



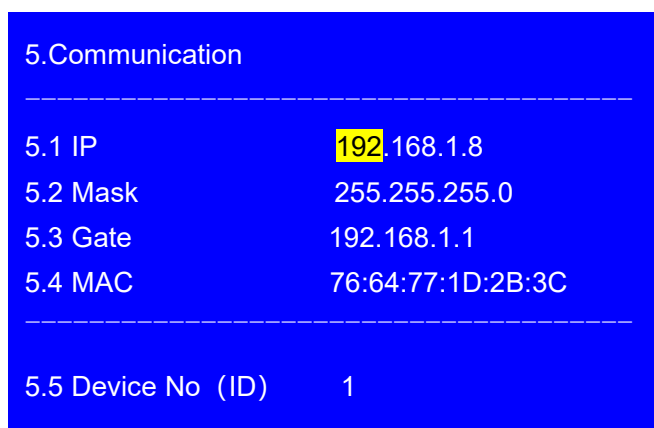
Picture 6-4j Image output setting

**4.5 Resume Data** function is used to restore system data to selected output card, generally used after replacing output card.

**Operation procedure:** Press **Out-A/DVI-n** or **Out-B/DVI-n** to select output card, press **↑,↓** to choose **4.5 Resume Data** menu, press **OK** to select, then press **OK** again to confirm and apply, the selected output card data will be recovered.



## 6-5 Communication setup

Press **Setup** to enter the user setup menu, press **↑,↓** button to select **5.communication**. Press **OK** button to enter the following menu.





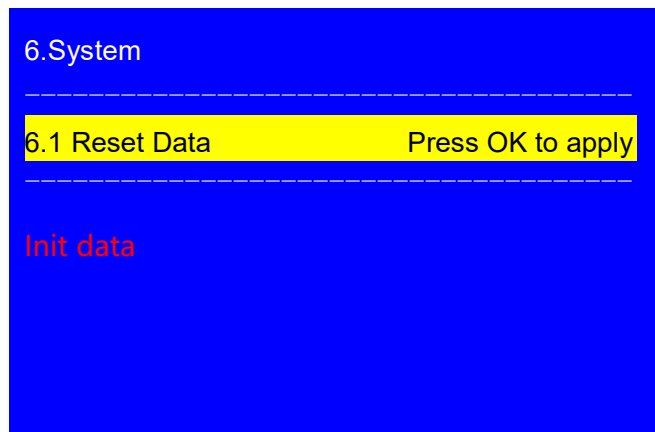
Picture 6-5a Communication parameter setting

**5.Communication** menu is used to set the processor's network communication parameter.

Under this menu, press  button to select parameter need adjusted, rotate the **Knob** button to adjust value, press **OK** to confirm and save. Press  to exit menu. Then processor LCD screen will prompt network parameter changed and must reboot, follow the instruction, power off and power on to reboot device.

## 6-6 System setting

Press **Setup** button into user setup menu, press ,  to select the **6.system**, then press **OK** into menu as following picture



Picture 6-6a System setting

**6.1 Reset Data** menu is used to reset processor to factory default state.

**Operation procedure:** Under this menu, press **OK** to select, then press **OK** again to confirm and apply . The device will automatically reboot and reset to factory state.

## Chapter 7: System maintenance and related operation

A6000 series processor adopt inserting card design. With system data recovery , system random check and verification, as well as the data import and export function, device engineering maintenance is easy and convenient.

The following is description of system random check and verification, data recovery , import/ export function.

### 7-1 System random check and verification

Input and output card data is backed up on the A6000 backboard, both data change simultaneously when configure the input and output card. Meanwhile, when changing the output resolution and other operations, the system will write a group of random checksum number to backboard as well as the corresponding input and output board, that is system random check value. This checksum value can be viewed in the system information menu by pressing **Info** button.

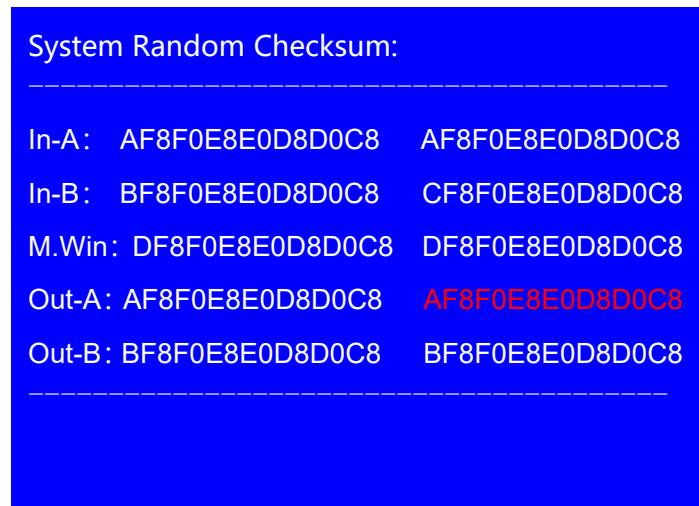
System Random Checksum			
-----			
In-A:	AF8F0E8E0D8D0C8	AF8F0E8E0D8D0C8	
In-B:	BF8F0E8E0D8D0C8	CF8F0E8E0D8D0C8	
M.Win:	DF8F0E8E0D8D0C8	DF8F0E8E0D8D0C8	
Out-A:	AF8F0E8E0D8D0C8	AF8F0E8E0D8D0C8	
Out-B:	BF8F0E8E0D8D0C8	BF8F0E8E0D8D0C8	
-----			

Picture 7-1a System random checksum value

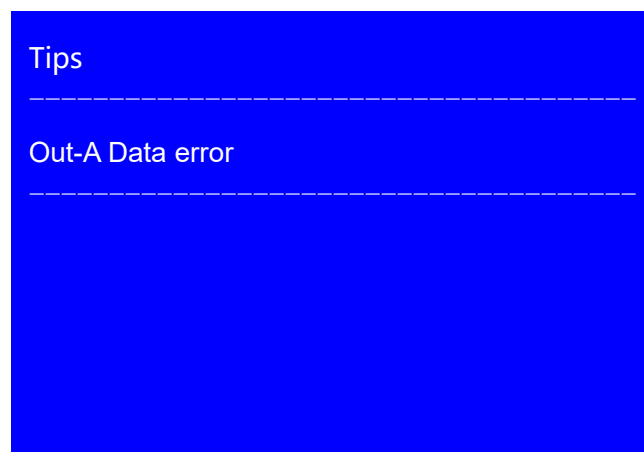
As shown on the picture above, random checksum value description as following :

1. There are two checksum values for each board, the first line corresponds to the checksum value of the system, and the second line corresponds to the checksum value of the board;

2. The first bit of the checksum value represents the card, if it starts with A, it means the data belongs to A card;
3. If the card encounter communication malfunction or data disorder, the card's checksum value will be different from the system which will be displayed in red.  
There will be prompt on device LCD screen when processor boot up;



Picture 7-1a System random checksum value



Picture 7-1c Boot error prompt

## 7-2 Data recovery

User can restore data to corresponding board when encounter data error or replace new board via [2.1.4 Resume Data](#) function which can avoid complicated data configuration. This menu locates in [2. Video Input](#) , [3. Multi-window](#) and [4. Output Image](#).

## 2.1 Input Card (In-A)

- 
- 2.1.1 Main Setup >>
- 2.1.2 PIP Setup >>
- 2.1.3 Color & Brightness, etc. >>
- 2.1.4 Resume Data OK To Apply
- 

Write System Data to In-A

Figure 7-2a Input card data recovery

## 3. Multi Win M0

- 
- 3.1 Win2 In-D
- 3.2 Switch Effect Fade 2s
- 3.3 Pos.&Size >>
- 3.4 Border >>
- 3.5 Color & Brightness, etc. >>
- 3.6 Resume Data OK To Apply
- 

Picture 7-2b Multi-window card data recovery

## 4. Output Image (Out-A)

- 
- 4.1 Resolution 1920x1080\_60Hz
- 4.2 Fast Mosaic >>
- 4.3 Manual Mosaic >>
- 4.4 Color & Brightness, etc. >>
- 4.5 Resume Data OK To Apply
- 

Write System Data To Out-A

Pciture 7-2C Output card data recovery

### 7-3 PC software import and export

Except data recovery function mentioned above, we can also use the configuration data import and export function to facilitate processor configuration and engineering maintenance. The export function is used to save current processor configuration to PC as a file, including input card and output card configuration data. The import function is used to load the saved configuration file to processor. User can easily and conveniently configure processor via import and export function.

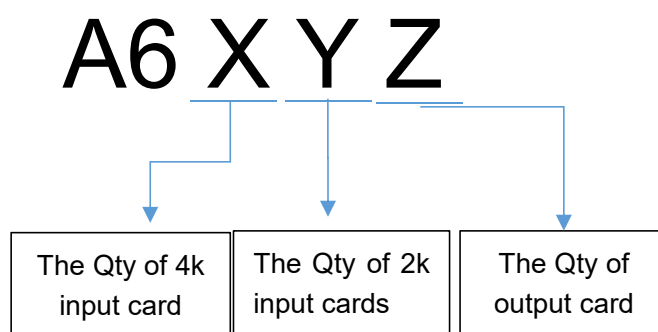


Picture 7-3a PC software import and export



## Chapter 8: Model code description

The A6000 series adopt customized inserting card design, maximum 4 input card and 2 output card. Refer to the following model code description of different cards built in.



For example, the A6122 represents 1\*4K input card, 2 \*2K input cards and 2 output cards.