

LED Video Controller

VS500 Series

— English

User Manual



Safety Instructions



This Symbol Prompts The User That There Are Important Operating And Maintenance Instructions In The Device User Manual.



This Symbol Warns The User That There Is A Dangerous Voltage That Is Exposed Inside The Device Enclosure And There Is A Risk Of Electric Shock.

Note

Read The Instructions -- All Safety And Operating Instructions Must be Read And Understood Before Using The Device.

Save Instructions Manual -- The User Should Save The Safety Instructions For Future Use.

Warning -- The User Should Follow All Safety And Operating Instructions On The Product And User Guide.

Avoid Adding -- Do Not Use Tools Or Additional Equipment That The Manufacturer Does Not Recommend To Avoid Danger.

Warning

Power -- This Device Can Only Be Used With The Power Source Indicated On The Product. The Equipment Must Be Powered By A Grounded Power Supply System. The Third Line (Ground) Is A Security Facility.

Unplug The Power Supply -- To Safely Unplug The Power Supply From The Device, Unplug All Devices Or The Power Cord Of The Desktop Power Supply, Or Any Power Cord That Is Connected To The Mains System.

Power Cord Protection -- Route Properly To Avoid Being Stepped On Or Squeezing Heavy Objects.

Maintenance -- All Repairs Must Be Performed By A Certified Service Person. There Are No User-replaceable Parts Inside The Unit. To Avoid The Risk Of Electric Shock, Do Not Attempt To Open The Device Cover Yourself Repair The Device.

Vents -- There Are Ventilation Slots Or Holes In The Unit Casing To Prevent Overheating Of Sensitive Components Inside The Unit. Do Not Block The Ventilation Holes With Anything.

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Product Introduction

This Manual Covers Several Similar Model Instructions, Including How To Use, Install And Configure The Led Video Controller. In Addition, The Content Also Covers The Knowledge Of Led Video Controllers And Led Video Systems. Please Read This Manual In Detail Before Using The Led Video Controller.

About LED Video Controller

AMS-VS500 Series Is A Seamless Effect Switching Video Controller That Supports Digital Hd Input, Analog Hd Input, Analog Sd Input, And Audio Input For Simultaneous Audio And Video Output On All Channels.

The Following Lists The Audio And Video Input Format Tables Supported By The Led Video Controller:

DVI Input	Support VESA Standard, Max 1920x1080@60Hz
HDMI Input	Support VESA Standard, HDMI3_Max1920x1080@60Hz HDMI1&2_Max3840x2160@30Hz
VGA Input	Support VESA Standard, Max 1920x1080@60Hz
Composite Video Input	PAL、NTSC、PAL-M/N、SECAM
Analog Audio Input	Analog Audio Signal

Output Format:

DVI Output	Regular Model • Standard Resolution, Max1920x1080@60Hz Customized Version • Support Custom Resolution Output
Analog Audio Output	Any Channel Analog Audio Signal

LED Video Controller Product Features

Multiple Video Input -- VS500 Series Uses 7 Channels Of Video Input, Including 1 Composite Video AV (CVBS), 1 Channel VGA, 1 Channel DVI, 3 Channel HDMI, 1 Channel USB. Basically, The Needs For Civil And Industrial Use Have Been Covered. Seamless Switching Of All Video Input.

Video Output Interface -- VS500 Series Has 1 DVI Video Output, The Port Can Videos Programmed Output To LED Sending Card Or Display. And Has 4 RJ45 Network Port. The Network Port Is The Built-In The Sending Card (Novastar • MSD600 Or Linsn • TS902 Or Huidu • T902) Output Port.

Multi-Windows -- VS500 Series Supports Single Screen, PIP Or POP Function, Up To 4 Windows, And Built-in 10 Modes Of The Multi-Windows Layout; If User Needs To Display 4 Windows, The Corresponding Input Sources Must To Be Expanded In Advance.

Seamless Switching Of Any Channel -- VS500 Series Video Controller Can Also Seamlessly Switch Between Any Channels, Switch Quickly.

Output Resolution -- VS500 Series Has Designed A Number Of Practical Output Resolutions For Users. The Widest Is 1920 Points, The Highest Is 1280 Points. Applicable To A Variety Of Dot Matrix Displays. Output Resolutions Are Available For User Selection And Can Be Adjusted Point-To-Point Output. The Pro Series Supports Custom Resolution, The Widest Is 3840 Points, The Highest Is 1920 Points. < Contact Sales And Mark The Reques Before The Shipping >.

More Features, Please Refer The Specification

Panel Introduction

Rear Panel



Figure 1 -- Video Controller Rear Panel

- »» **AC Power Input** -- Connect The Video Controller With An IEC Standard Power Cord. The Input Power Is 100-240V AC, 50-60Hz.
- »» **Video Input** -- LED Controller Can Receive Digital Video Signals, Analog Video Signals, And Composite Video Signals. Following Are The Input Standards For Each Interface.
 - AV Composite Video Input, Using BNC Interface, Input Video Supports PAL, PAL-M/N, NTSC, SECAM. Can Connect DVD Players And Camcorders, Etc.
 - DVI Digital Video Input, Using DVI-I Standard Interface, Can Be DVI-I Or DVI-D Cable, Video Input Format Supports VESA Standard.
 - HDMI HD Video Input, Using HDMI-A Standard Interface, Input Video Supports VESA Standard, HDMI_3 Supports HDMI.3 Standard, HDMI_1&2 Supports HDMI 1.4 Standard, Commonly Used In Connection Stations Computer And HDMI Hd Player.
 - VGA Video Input, Using DB-25 Standard Interface, Input Video Supports VESA Standard, Used To Connect Desktop Computers, Laptop Or Other VGA Video Output Devices.
 - SDI Video Input, Using SDI Standard Interface • 3G SDI, Input Video Supports VESA Standard, Used To Connect SDI Camera, SDI Hd Video Output Device.
 - Wireless Projection Input, Using 2.4G+5G Dual Band Transmission Technology, Support Phones,IPads, Laptops And Other Mobile Equipment, Real-time Screen Mirroring, The Audio And Video Can Synchronization Output. <The Feature Needs To Be Expanded >
 - USB Video Input, Using USB Standard Interface, Supports VESA Standard, Supports Picture&Video Playback, Usually, External USB Disk Are Used For Playback.
- »» **Video Output** -- LED Video Controller Programming Video Output Interface
 - DVI Video Output, Using DVI-I Connector, The Output Video Format Is Set By The Controller, 1 DVI Simultaneously Output The Same Signal. Often Used To Connect To LED Sending Card Or Monitor.
 - Audio Output, If HDMI/USB/WiFi Signal Is Used, Audio Can Be Output Synchronously.
- »» **LED Sending Card** -- VS500 Series Has Built-In The MSD600 Sending Card, The Card Has 4 RJ45 Network Port, Every Gigabit Ethernet Ports Support Up To 650,000 Pixel, Also Has A Location Can Be Installed With 1 Sending Cards. 5V Power Connectors And 2.0x4 PIN Connectors Are Reserved Inside. Plug In The 5V Power Supply After Installation.



Figure 2 -- LED Sending Card

Front Panel



Figure 3 -- Video Controller Front Panel

- »» **LCD Display** -- Display Menu And Current Information.
- »» **Menu Operation Button** -- Menu Operation Key Area Contains “Knobs”& ”ESC” And The Knob “Confirm And Adjust”. Here Are The Meanings And Usage Of Each Button:
 - **OK& ESC** Key: Enter The Next Menu Or Return To The Previous Menu.
 - **Knob** : Press The Button To Enter The Menu Or Submenu Key Is To Confirm Ok Function. Rotate Around + “Plus” - “Minus” Operation, You Can Adjust The Menu Position Or Adjust The Parameter Value Becomes Small.
- »» **Input Selection** -- In The INPUT Key Area, All 9-Channel Input Switching Keys And VGA Auto-Correction Function Keys Are Included. Button Indicators In The Keypad Have Three States, Namely:
 - » **The Button Lamp Flashes Slowly**: Flashing Interval Of About One Second, And Has Been In Flashing, Indicating That The Channel Table When No Signal Switching.
 - » **Button Light Flashes Quickly**: When You Press The Button, The Button Indicating Rapid Flashing Time Is About 0.3 Seconds, Indicates That The Device Is Currently Being Tested And Decodes The Input Video.
 - » **Button Indicator Light**:: Indicates The Current Channel Signals Are Connected Properly Or The Current Function Is Active. Here Is The Enter Button On Regional Detailed Description Of The Function Buttons.

Following Is A Detailed Description Of The Functions Of The Buttons In The Input Keypad.



Figure 4 -- INPUT Key Area · Function Key Area

- **HDMI_1&2** Supports 4K Input And HDMI 1.4 Backward Compatibility, 3840x2160@30Hz, **HDMI_3** Supports Backward Compatibility With HDMI1.3,1920X1080@60Hz.
- **DVI** Key, Correspond DVI Video Input Interfaces On The Rear Panel.
- **AV** Composite Video Switching Key.
- **USB** Key, USB Disk Input, Supports Picture And Video Playback;

- **VGA** Key, VGA Input Switching Key And Automatic Correction Key (AUTO Function). When The Input Channel Is VGA, And The VGA Has Picture Output, Press VGA (AUTO) Again To Renew Calibration The Current VGA Signal.
 - **BLACK** Key: One Click Black Screen Or One Click Freeze Screen, Select The Switching Effect Paths: **Default Menu → Main Menu → Functions → Black/Freeze** .
 - **EXT/SDI/WiFi** Key: All Are Expanding Interface Keys. If Expanding The Required, Please Contact Our Sales Team Before Placing An Order.
- »» **Function Key Area** -- Function Key Area Contains Part/Full Mode, Preset Save&Recall, Multi Window Templates, Output Settings;
- **PART** Key: Part Of The Screen Display Mode, After The User Setting The Parameters Of The Part Screen In The Output Menu, Users Can Press The Part Key To Display The Results. In The Following Sections A Detailed Description Of The Operation.
 - **FULL** Key: Full Screen Mode, By Default, All Input Channels Are Full-Screen Mode Display Mode. When The User Wants To Set The Mode From Part To Full-Screen Mode, Simply Press FULL Button.
 - **MODE** Key: To Load The Preset Scenes Shortcuts. Press The Key To Bring Up A List Of Preset Scenes, Also Can Setting The Preset Mode Parameters In the Menu, In The Following Sections Will Be Described In Detail.
 - **Win_M** Key: Multi-Window Layout Key, Press The Key To Enter The Selection Of Multi-Window Templates;

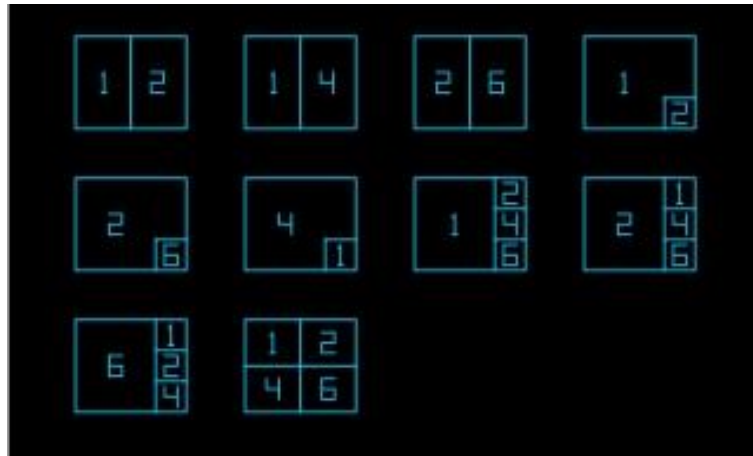


Figure 5 -- Multi-Window Template

Template Number Corresponds To Key Area Number • Input Signal Source

- **OUT** Key: The Output Setting Shortcuts, Press The Key To Set Output Resolution, LED Display Pixel, Starting Position, etc.
- »» **USB Area** -- Display Menu And Current Information.
- **Control** : The USB-B Interface, Also Is Control System Control Interface, Which Can Set Screen Parameters Through Computers And Software.
 - **Disk** : The USB - A Interface, It Is Also The Insertion Interface For External USB Player Disk, Ensuring That The USB Disk Format Is FAT32 Format.

Menu System

Menu Structure Diagram

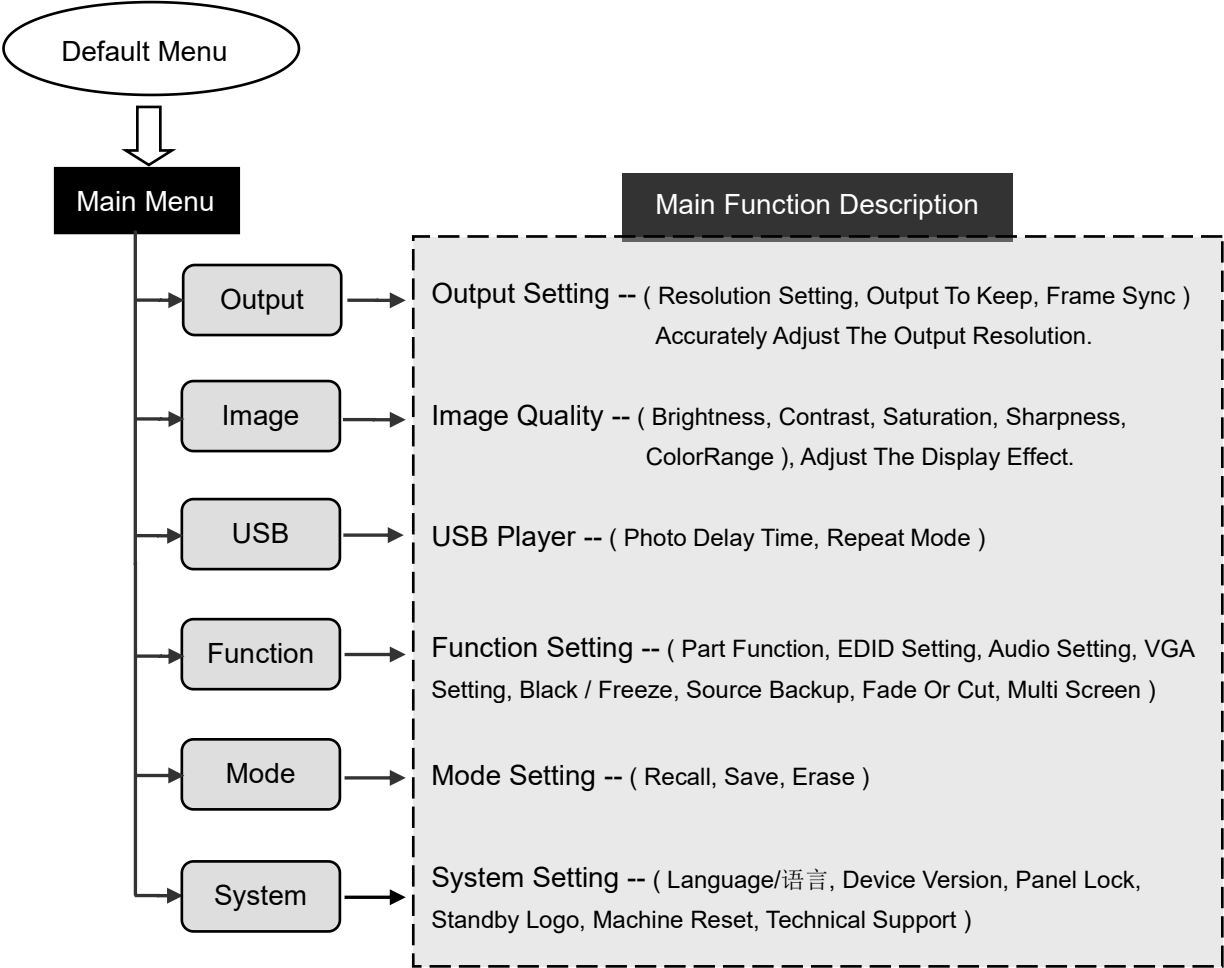


Figure 6 -- Controller Main Menu Structure Diagram

Menu Operation

Operation Keys Of The Menu Mainly Include "ESC " Return Button, "OK" Confirm Button, Man-Machine Interface Is A Fullcolor LCD Screen.

Start Device Process As Follows:

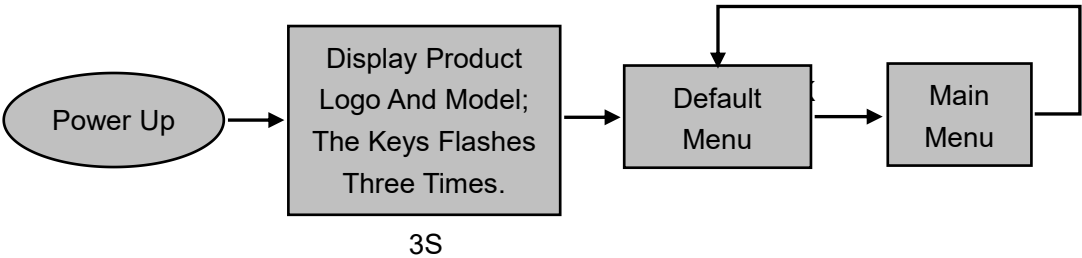


Figure 7 -- Controller Boot Process And Enter The Main Menu

Default Menu

The Default Menu After The Device Starts, LCD Screen Interface As follows: The Input Source Chanel And Connected State, The Output Resolution, Part/Full Mode, Brightness And Output Volume Level, Time And Other Information, Shows The Processing The Main Parameters Menu System.

Under The Default Menu, All Input Selection Keys And Function Keys Are Available.

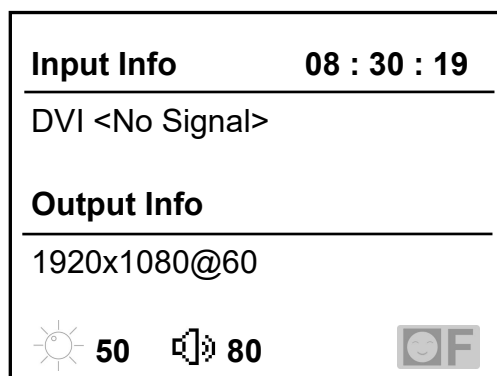


Figure 8 -- Default Menu

Main Menu

The Main Menu Is An Important Parameter Adjustment User Interface, Almost All Of The Settings Can Be Done In The Main Menu. In The Following Sections There Will Be A Detailed Description Of The Operation And Settings For Each Function.

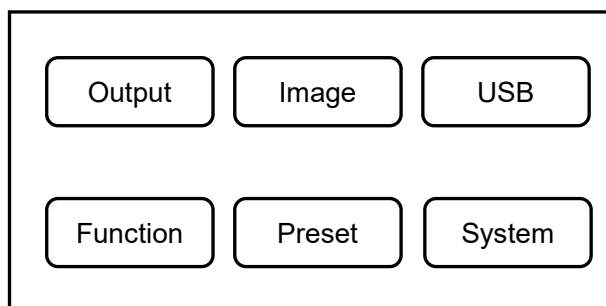


Figure 9 -- Main Menu

Setting And Operation

Language

Before Using LED Video Controller, Make Sure The Language You Wish To Use, If Not, Please Follow The Operation To Complete.

Default Menu → Main Menu → System → Language

默认菜单 → 主菜单 → 功能 → 语言

Above Is The Menu Operation Path, Use The Button To Enter The Language Settings Menu You Can Select The Language.

Panel • Key Lock

Key Lock Function For The User In A Complex Environment To Avoid Misuse Or Others Inadvertently, Providing Favorable Protection For The Usage Process.

Default Menu → Main Menu → System → Key Lock → ON

Unlock

Press The “OK” Button For 5 Seconds, The Controller Will Automatically Unlock.

Reset

When Using LED Video Controller May Not Be Confirmed Because Of Errors Or Problems Arise When Setting These Parameters, You Can Enter The Menu, Make Overall Reset. Here Is The Process Of Resetting The Machine.

Default Menu → Main Menu → System → Machine Reset → Reset Confirmation

After The Reset Is Completed, All User Parameters Are Restored To The Factory State, Please Use Caution.

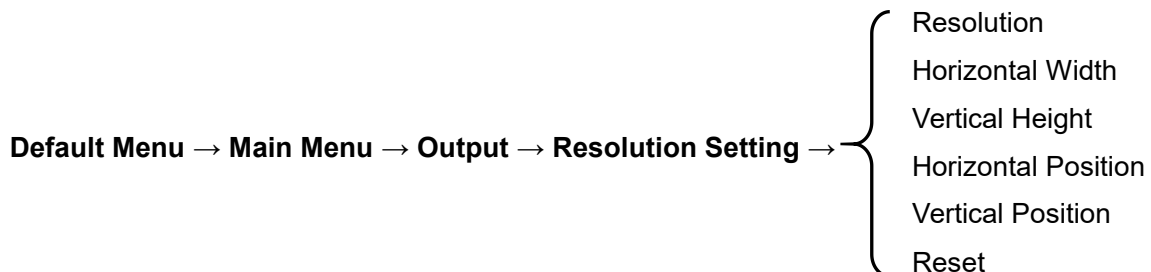
Output Resolution

Using Different Resolution Display Or LED Screen, To Achieve Point - To - Point Output, It Is Necessary To Set The Output Resolution And The Resolution Of Precise Adjustment.

(1) Select A Larger Than Screen Resolution

Default Menu → Main Menu → Output → Resolution Setting → Resolution → Confirmed

(2) Accurately Adjust The Output Resolution



Tip: After The User Resets The Output Resolution, The System Will Reset All Parameters To Ensure The Consistency Of The Data. The User Can Precisely Adjust The Resolution Only To Be Smaller Than The Currently Selected Resolution. When The Precisely Adjusted Resolution Is Equal To The Currently Selected Resolution. The Horizontal Start Value And The Vertical Start Value Cannot Be Adjusted.

Black Or Freeze Setting

Black / Freeze Share An Operation Key "BLACK", If Press The “BLACK” Key, The Controller Output Will Black Output Or Freeze The Play Window Of The LED Display.

Its Setting Method Is As Follows:

Default Menu → Main Menu → Function → Black / Freeze → Select

After Setting, Press The BLACK Button Directly To Achieve Black Screen Or Screen Freeze.

Signal Switching

Seamless Switching Or Fast Switching Between Any Channel, When Switching Input Channels, It Can Instantly Switch In And Out Of Video Output. The Switching Delay Can Be Selected According To The Actual Effect, The Corresponding Number Range Of: 0-255.

Multi Screen Settings

Multi-Window Display Can Be Quickly Recall Through The "Win_M" Key On The Keypad, And The System Menu Recall Method Is As Follows:

Default Menu → Main Menu → Function → Multi Screen → Select Mode

After Selecting The Displayed Multi Screen Template, The DVI Output Will Display The Corresponding Multi Screen Mode. If Pressing The Non-Multi-Screen Main Signal Channel Key, Can Return To The Single Screen Display Mode. (Refer To Figures 5)

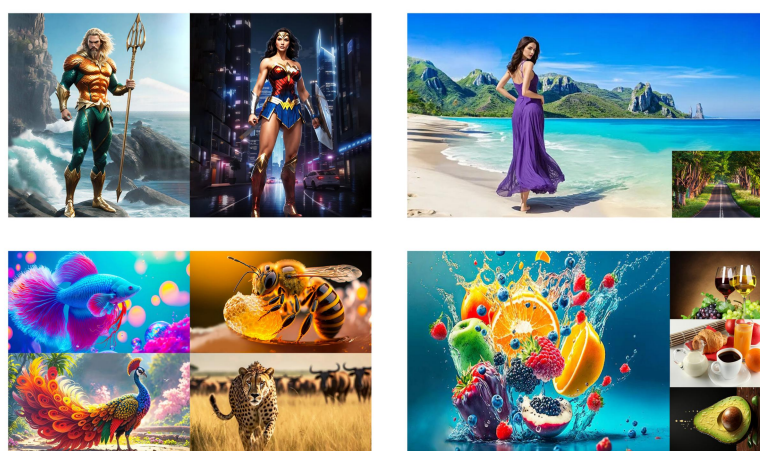
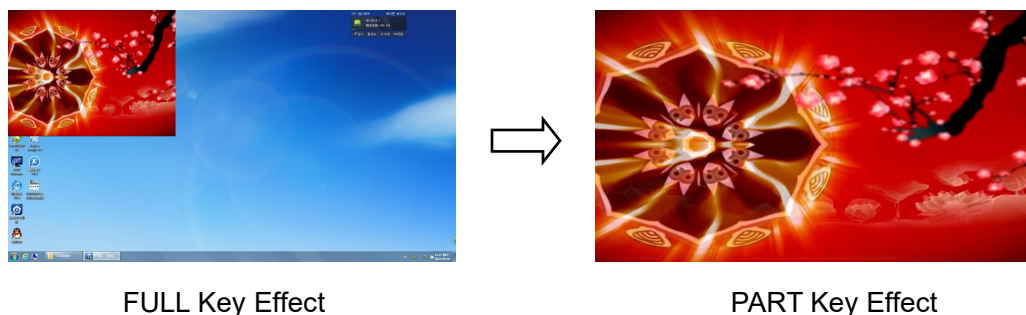


Figure 10 -- Multi-Window Display Mode

Note: The Numbers In The Mode Of Figure 5 Correspond To The Input Sources Of Near The Panel Digit. If Need Multi-Window To Be Displayed, The Corresponding Input Sources Must To Be Expanded In Advance!

Partial Picture

Interception Of Part Of The Screen Function Is Unequal Extension Splicing Function. In Actual Use, May Be Used To Intercept The Partial Screen Display, Displays Only A Partial Area Of Input Channels. Such As The Windows User Interface, Users Simply DVI1 Channel Video Playback Window, The Other Input Channel To Full Screen. Controller Provides Users With Two Control Keys, As Shown Below:



FULL Key Effect

PART Key Effect

Figure 11 -- Partial Screen Diagram

If Want To Manually Set The Intercept Parameters, The Settings Are As Follows:

- (1) Select The Channel To Capture Part Of The Picture, Such As DVI;
- (2) Enter The Menu, Find The Part Mode, Change The "AUTO" Mode To The "Use"r Mode, And Then Adjust The Parameters. The Total Pixel Value (Horizontal Width&Vertical Height) And The Starting Value (Horizontal Position&Vertical Position) Are Adjusted By Visual Inspection.

Default Menu → Main Menu → Function → Part Function → on

Default Menu → Main Menu → Function → Part Function → Part Mode → User

Default Menu → Main Menu → Function → Part Function → Horizontal Width

Default Menu → Main Menu → Function → Part Function → Vertical Height

Default Menu → Main Menu → Function → Part Function → Horizontal Position

Default menu → Main Menu → Function → Part Function → Vertical Position

Horizontal Width & Vertical Height & Horizontal Position & Vertical Position

(User Defined)

Mode

Preset Is To Facilitate Users To Use Quickly Recall Commonly Used In A Variety Of Scenarios, Reducing The User When The Operation Is Repeated Complicated Settings, Improve Work Efficiency. Each Contains A Preset Mode Signal Channel Mode, The Display Mode Of Various Parameters, Image Quality Settings. Controller Provides 10 Preset Save Space, Here To Save And Recall Preset Mode Operation.

Save Mode

When The User Adjust All The Parameters, To Enter To Save The Current Preset

Default Menu → Main Menu → Preset → Save Mode → Preset [1] → Confirm

In Saving Mode Submenu Have Preset [1] To Preset [10], Ten Storage Space, The User Can Choose. Storage Space Is Empty, The Right Of The Status Display For ☆, When The State Has Been Saved Had The Right Argument Appears As ★. Users Can Also Cover Save.

Recall Mode

Recall Preset Parameters Have Two Operating Modes, Keyboard Shortcuts And Menu Calls.

- (1) Use **MODE** Key

In The Default Menu State, Press The " **MODE**" Key To Call Up The Menu To Enter The Preset Scene. Use The Knob To Select The Saved Preset Scene, Press "Knob" Or "OK" Key To Confirm.

- (2) Setting In Menu

Default Menu → Main Menu → Preset → Recall Mode → Preset [1] → Confirm

Adjust Brightness Contrast

Controller's Unique Brightness Contrast Adjustment Technology, After Adjusting The Brightness The Color Reproduction Degree Is High, Picture Layer Is Not Lost. Adjusting The Brightness, It Is Best To Adjust The Brightness And Contrast To Ensure The Perfect Output.

Default Menu → Main Menu → Image → Brightness → 50

Default Menu → Main Menu → Image → Contrast → 50

VGA Input Image Correction

In General, When Switching To A VGA Input Signal Source, Controller Automatically Corrects The Color, Image Size And Position. If The Controller Does Not Have Automatic Correction Successful, The User Can Implement Manual Correction.

Method 1: Use The AUTO Key Adjust (The AUTO Function Reuses The VGA Key)

When The Input Source Is Switched To The VGA Input, VGA Button Is Pressed Again, The System Will Self-Correct Input Source.

Method 2: Switching To The VGA Input State, Enter The Menu

Enter The Menu When Switching To VGA Input

Default menu → Main Menu → Features → VGA Settings → Auto Adjust

If The Automatic Calibration Is Not Successful, The User Can Try To Manually Correct.

Default menu → Main Menu → Function → VGA Settings → Horizontal Position

Default menu → Main Menu → Function → VGA Settings → Vertical Position

Default menu → Main Menu → Function → VGA Settings → Horizontal Width

Default Menu → Main Menu → Function → VGA Settings → Clock Phase

Default Menu → Main Menu → Function → VGA Settings → VGA ADC Cal

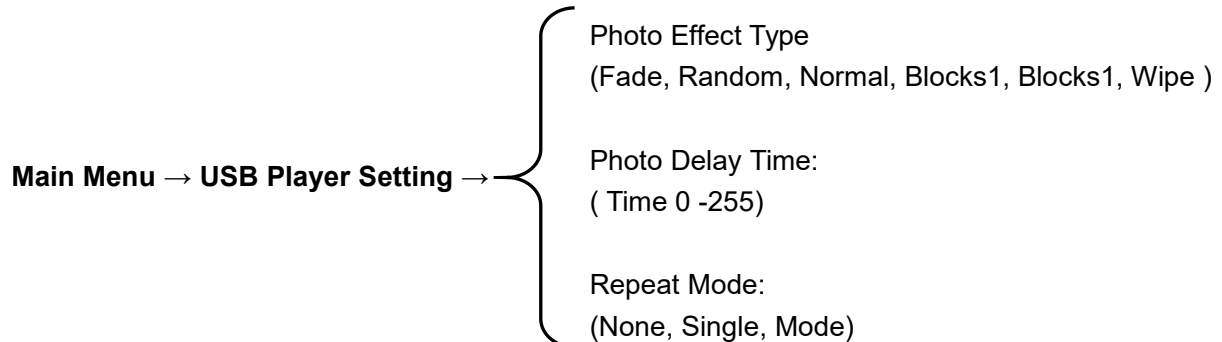
NOTE: When No VGA Signal Input, The System Prompts Not Correct.

Audio & Video Sync Output

Video Controller Audio Input (USB, HDMI, SDI, WiFi), 3.5mm Stereo Output.

USB Player Settings

Put Content Into A USB Disk Can Be Playback. (Recommended) After Formatting The U Disk, Copy It Again, Avoid Mistake Playback. U Disk Related Parameters Are Set As Follows:



Recommend Using **FAT32** Format For USB Disk.

LED Sending Card Settings

According The Controller Built-in Sending Card,Open The Official Website To Download The Corresponding Newest Software Or Contact Our Sales Send The Control Software To You, After Successful Installation And Connect USB Data Cable Set The LED Display Control Parameters.

For More Operating Instructions, Please Refer To The Software Manual