VIS-Quad41 4x1 Multi-Viewer and 12x1 switcher with KVM control

User Manual

V1.2 Version

VISSONIC ELECTRONICS LIMITED

CONTENT

VISSONIC ELECTRONICS LIMITED

The meaning of symbols

■ Safety instructions

For your safe and correct use of equipments, we use a lot of symbols on the equipments and in the manuals, demonstrating the risk of body hurt or possible damage to property for the user or others. Indications and their meanings are as follow. Please make sure to correctly understand these instructions before reading the manual.

⚠	This is A level product, which may cause radio interference in the living environment. In this case,users may need to take the feasible measures to get around the interference.
⚡	Remind users that the dangerous voltage without insulation occurring within the equipment may cause people suffer from shock
CE	CE certification means that the product has reached the directive safety requirements defined by the European Union. Users can be assured about the use of it
SGS	SGS certification means that the product has reached the quality inspection standards proposed by the world's largest SGS.
TÜV CERT ISO9001:2000	This product passed the ISO9001 international quality certification (certification body: TUV Rheinland,Germany).
⚠CAUTION⚠ DO NOT OPEN RISK OF ELECTRIC SHOCK	Warning: in order to avoid electrical shock, do not open the machine cover, nor is the useless part allowed to be placed in the box. Please contact the qualified service personnel.

■ General information instructions

	It lists the factors leading to the unsuccessful operation or set and the relevant information to pay attention to

Important note

⚠ **Warning**

In order to ensure the reliable performance of the equipment and the safety of the user, please observe the following matters during the process of installation, use and maintenance:

The matters needing attention of installation

◆ Please do not use this product in the following places:the place of dust,soot and electric conductivity dust, corrosive gas, combustible gas; the place exposed to high temperature, condensation,wind and rain; the occasion of vibration and impact . Electric shock, fire, wrong operation can lead to damage and deterioration to the product, either;

◆In processing the screw holes and wiring, make sure that metal scraps and wire head will not fall into the shaft of controller, as it could cause a fire, fault, or incorrect operation;

◆When the installation work is over, it should be assured there is nothing on the ventilated face, including packaging items like dust paper. Otherwise this may cause a fire, fault, incorrect operation for the cooling is not free;

◆Should avoid wiring and inserting cable plug in charged state, otherwise it is easy to cause the shock, or electrical damage;

◆The installation and wiring should be strong and reliable,contact undesirable may lead to false action;

◆For a serious interference in applications, should choose shield cable as the high frequency signal input or output cable, so as to improve the anti-jamming ability of the system.

Attention in the wiring

◆Only after cutting down all external power source, can install, wiring operation begin, or it may cause electric shock or equipment damage;

◆This product grounds by the grounding wires .To avoid electric shocks, grounding wires and the earth must be linked together. Before the

connection of input or output terminal, please make sure this product is correctly grounded;

◆Immediately remove all other things after the wiring installation. Please cover the terminals of the products cover before electrification so as to avoid cause electric shock.

Matters needing attention during operation and maintenance

◆ Please do not touch terminals in a current state,or it may cause a shock, incorrect operation;

◆Please do cleaning and terminal tighten work after turning off the power supply. These operations can lead to electric shock in a current state;

◆Please do the connection or dismantle work of the communication signal cable , the expansion module cable or control unit cable after turning off the power supply, or it may cause damage to the equipment, incorrect operation;

◆Please do not dismantle the equipment, avoid damaging the internal electrical component;

◆Should be sure to read the manual, fully confirm the safety, only after that can do program changes,commissioning,start and stop operation;

Matters needing attention in discarding product

◆Electrolytic explosion:the burning of electrolytic capacitor on circuit boards may lead to explosion;

◆ Please collect and process according to the classification, do not put into life garbage;

◆ Please process it as industrial waste, or according to the local environmental protection regulations.

VIS-QUAD41 Video Multiplexers

1 PRODUCT OVERVIEW

VIS-QUAD41 quad video multiplexer is a high-performance image processor, and it's main function is turn 4 BNC、VGA、HDMI input signal into 1 HD HDMI and VGA signal, which make 4 digital signal display in one HD screen unit synchronously and HDMI signal with USB(like mouse、keyboard) can be switched synchronously. VIS-QUAD41 video multiplexers support various kinds display unit with HDMI, such as: projector、LCD、DLP、plasma、full color LED.

VIS-QUAD41 video multiplexers is chief applied to video conference、teaching、display and demonstration、stock etc, where need single display unit display multi HD signal synchronously, and it generally used in the market at present.

Meanwhile,VIS-QUAD41 video multiplexers is the only product that add USB synchronous switch, so when case or IR controller switch to fully display one signal ,correspondingly, USB of computer host also synchronous switch. It meet the demand of video conference which need with mouse and keyboard synchronously.

2 MAIN FUNCTION

- Support single display unit display 4 HD or analog signal synchronously;
- Support 4 composite video、4VGA、4 HDMI, 12 input signal in total;
- Support 1 VGA and 1HDMI synchronic output;
- 4 input USB signal,2 output USB, and USB connect mouse and keyboard;
- Support KVM function, that is USB、mouse、keyboard with video synchronous switch;
- Compatibility all kinds of input resolution and support output ultrahigh resolution of 1920*1080;

- Size and position of image can be adjust arbitrarily, and other functions, such as windowing、superposition、roaming、PIP、POP.

- Support regulatory image transparency, therefore you can see base picture though upper image;

- Can be commonly used in any nation in the world due to support ultra wide input alternating voltage of 90V to 264V ;

- It's draw bench case is standard dimension of 19inch 1U ,so it can be put on normal equipment cabinet;

- Can be controlled by case key、IR、RS-232 serial port and center control.

- High quality HD quad video multiplexers is especially customized generate for video engineering;

3   MORE DETAIL ABOUT VIS-QUAD41

3.1 PURE HARDWARE CONSTRUCTION

Adopt pure hardware construction ,without CPU and memory, so booting only need 3 to 5 minutes, system stability, without crash, virus and system breakdown; can uninterrupted work for 24 hours a day of 365 days a year .

3.2 FPGA IMAGE PROCESS

Adopt FPGA that is the most powerful image chip process technology at present. FPGA support various world's leading image processing technology, for example: DCDI edge smooth、ACM color automatically adapt、CSS light crosstalk suppression、SHARPNESS enhancement、dynamic contrast ratio enhancement、the real six axis color overlap、eliminate the noise amplification ect.

In addition, possess many advanced function like 3D comb filter video decoding function,3D noise reduction and automatic adapt moving compensation's remove isolation technology, skin color adjust, enhance color brightness, GAMMA adjust and frame frequency switch ect. Which

make output image texture smooth and sharp、clear and fluent、bright color without sawtooth and trailing .

3.3 POWERFUL OPERATION CAPABILITY

Data use parallel processing, output port occupy one channel and data bandwidth reach 10.2G/S of each channel .So It can fully achieve high resolution of 1920*1080 display. High speed dynamic image without trailing、delayed、tear、frame loss、image catch up phenomenon.

3.4 SUPPORT INPUT AND OUTPUT 1920*1080 HD SIGNAL

VIS-QUAD41 video multiplexers support 4BNC、4VGA、4HDMI, in total 12 input signal and HD video support interlaced and line-by-line input. It support highest input ultrahigh resolution of 1920*1080 and downward compatibility all kinds of resolutions; The highest output resolution support 1920*1080 after all input signal go though professional image processing chips and line-by-line export HDMI signal of 60HZ and it also can customize output resolution according to user demand.

3.5 USB SWITCH

VIS-QUAD41 video multiplexers is the only product that built-in USB switch in the market, which perfectly solute the question that previous product can't synchronous switch video with USB connecting device(like USB mouse、keyboard).It will be widely used in various kinds video conference situation , will more convenient、more efficient、save more display equipment and operating space for user.
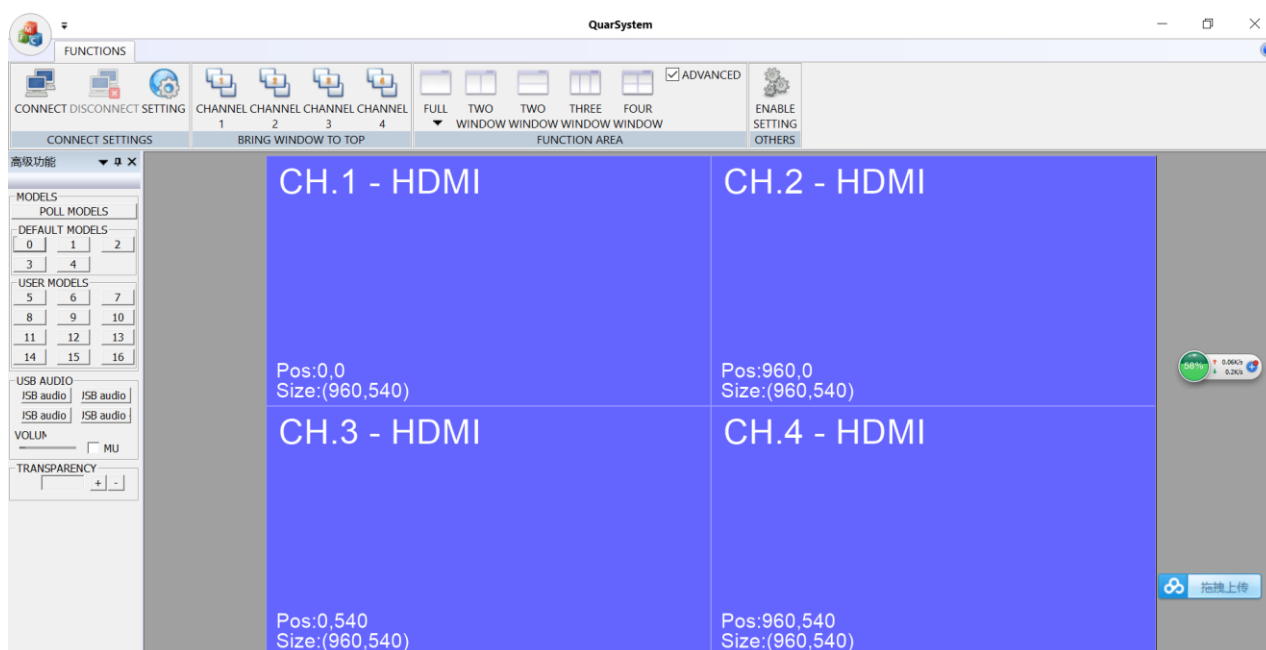
3.6 REGULATORY TRANSPARENCY

Support PIP, so you can regulatory transparency for upper picture, therefore you can see base picture though upper image

4 CONTROLLER

4.1 SOFTWARE CONTROL

VIS-QUAD41 video multiplexers contain green control visual interface VIS-QUAD41 sofeware.exe, available when starting up ,can achieve global function like switch input signal、Size and position of image adjust arbitrarily by using the mouse、save or invoke shortcut、fastly switch after custom 16 shortcut etc.

4.2 IR CONTROL

IR control can invoke 10shortcut mode without staring up computer;

Through IR can choose input signal of each channel, and adjust output resolution.

4.3   CASE KEY CONTROL

There have 14 shortcut keys in the front panel, can realize 10 shortcut switch which are correspondent with IR control ,and mouse、keyboard switch alone.

4.4 CENTER CONTROL

VIS-QUAD41 adopt frequently-used control code, user using center control after write control code into center processor according to demand;

5 COMMONLY DISPLAY MODE

Our product solidify some frequently-used switch and display mode in order to make client more easier use it, and user can custom some common use pattern according to different individuate demand ,following are some common and practical mode:

5.1   DIVISION DISPLAY

4 HDMI or VGA image signal display in one screen unit in quartering at the same time,can simultaneously monitor 4 HD HDMI or VGA signal ,as following:

5.2 FULLY DISPLAY ONE SIGNAL

It can switch to fully display whichever input signal like HDMI、VGA and BNC though switching control. As following:

5.3 USB SWITCH UNDER QUARTERING MODE

It realize mouse、keyboard KVM division function though control software or UA1、UA2、UA3 and UA4 keys, that is can control and operate whichever host under quartering mode by means of a set of mouse and keyboard.

5.4 FULL SCREEN AND USB SYNCHRONOUS SWITCH

When you choose fully display certain HDMI or VGA,USB video signal also switch to this image signal which binding with it,so you can operate the host binding with fully display image through USB mouse、keyboard；

5.5   OTHER MODE

By control software, it can achieve other multi individual display mode, like PIP、POP、window overlap、roaming、any size, any position;

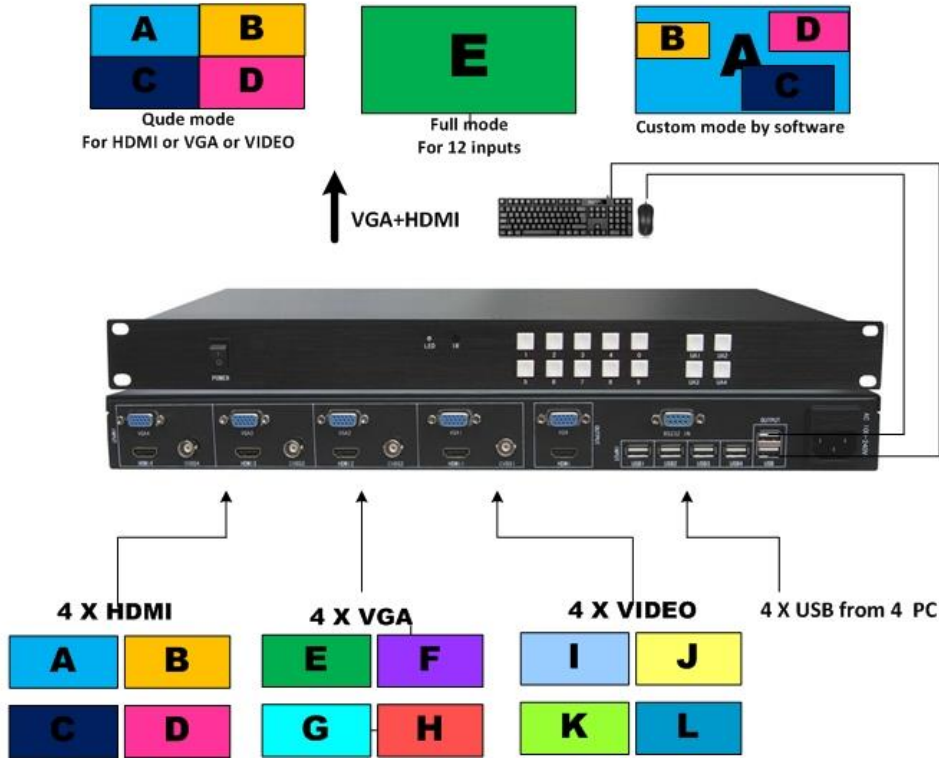Thirds division mode

custom mode

PIP mode

6   PRODUCT PICTURE

7   DIMENSION FIGURE

8 SYSTEM TOPOLOGY

9 VIS-QUAD41 VIDEO MULTIPLEXERS TECHNICAL PARAMETERS

Name	Specification
HDMI/DVI input	
Input port	4BNC、4VGA、4HDMI、4USB
Resolution	Support 1920*1080 ultrahigh highest resolution and downward compatibility all kinds of resolutions
Color depth	24bit,1677 ten thousand
Zoom and display	unlimited

Video input	
Identify pattern	automatic
Image adjust	Move、transformate、brightness、contrast、color temperature;
output	
interface	1 HDMI、1VGA synchronic output;2USB connecte mouse、keyboard or other equipment
Resolution	1920*1080/60HZ,can customize downward this resolution
frequency	60HZ
Color depth	24bit,1677 ten thousand
Control mode	RS232、IR、case key
Cotrol software	HD video multiplexers professional control sofeware
voltage	AC 90~260V
dimension	442mm(L)*45mm(H)*242mm(W)
Power	No more than 15w

10.CONTROL COMMAND

Serial Port: baud rate 115200

1. Full Screen

Channel 1:**FF 92 00 00 23 25 FF**

Channel 2:FF **93 00 00 23 25** FF

Channel 3:FF **94 00 00 23 25** FF

Channel 4：FF **95 00 00 23 25** FF

2. Vertical 2 screen mode

FF C5 00 00 23 25 FF

3. Horizontal 2 screen mode

FF C6 00 00 23 25 FF

4. Third Screen Mode

FF C7 00 00 23 25 FF

5. Quad Mode

FF 91 00 00 23 25 FF

6. Input Setting

Input Channel selection

Channel one HDMI: FF 85 00 00 00 78 79 FF

Channel one VGA: FF 85 00 00 01 78 79 FF

Channel one CVBS: FF 85 00 00 02 78 79 FF

Channel Two HDMI:FF 86 00 00 00 78 79 FF

Channel Two VGA: FF 86 00 00 01 78 79 FF

Channel Two CVBS: FF 86 00 00 02 78 79 FF

Channel Three HDMI: FF 87 00 00 00 78 79 FF

Channel Three VGA: FF 87 00 00 01 78 79 FF

Channel Three CVBS: FF 87 00 00 02 78 79 FF

Channel Four HDMI: FF 88 00 00 00 78 79 FF

Channel Four VGA: FF 88 00 00 01 78 79 FF

Channel Four CVBS: FF 88 00 00 02 78 79 FF