
HD Video Synthesizer

LM-SH21

User

manual

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1st Introduction

HD Video synthesizer and use high performance processor, the main function is input 2 numbers Digital HD Video or analog video and converted into one number HDMI and one number VGA signal output to display unit, like HD projector, LCD display, DLP, PDP, and full-color LED display. This machine is easy to realization of switching, fenestration, superposition the video, roaming function.

It is a classic products on the market applications , the products are mainly used in the video conference, teaching, exhibition display with a single display project equipment simultaneously monitor a plurality of HD signal.

It support 2 numbers CVBS composite video signal, 2 numbers VGA, 2 numbers HDMI signal input, support 1 number HDMI and 1 number VGA signal output. the display unit can display the 2 HD or analog signal, and the analog signal can also be mixed at the same time display. The control software can be freely switched to the input signal, the signal window, superposition, roaming, through mouse arbitrarily widening pull small screen and drag to change the position of image and other functions, and can realize the fast mode is invoked by the infrared remote control.

Main features:

1. the pure hardware architecture

Using pure hardware architecture, no CPU, no memory, the boot only need less than 3 seconds , the system is stability , no risk of crash, virus infection and the collapse, it can be uninterrupted work 24 hour,365 days a year.

2. the Faroudja image processing technology

Using one of the most powerful image processing chip Faroudja. Faroudja support DCDI edge smoothing, ACM color adaptive management, support CCS color crosstalk suppression, support sharpness enhancement, support dynamic contrast enhancement, six axis color real control overlap, eliminate the noise amplification and other world leading technology of image processing and function. And has the 3D comb filter video decoding, 3D adaptive noise reduction and motion compensated de interlacing technique, color correction, color enhancement, GAMMA correction and frame rate conversion and other advanced features. The output image without jagged and smearing, fine quality sharp, clear and smooth, bright colors. Even if the input signal is a composite video CVBS effect is poor, also can have the effect of the output image of excellence.

3. high precision sampling of The analog input signal

CVBS, VGA analog input signal using a 10 bit sampling rate of 165MHZ/S, ADC sampling, automatic identification signal of different formats and resolution, automatic DC restoration, automatic color correction, automatic geometric correction, the input signal changes the output signal intensity, consistency maintenance of contrast and geometry.

4. the data processing ability strong

Data parallel processing, output port occupies one channel, each channel data bandwidth reached 4.95G/S, fully able to meet the single output 1900X1080/60HZ (165MHZ) and high resolution display. High speed motion picture no tear, no frame loss, no image catch-up phenomenon.

5. control function

You can use the PC through the RS232 serial port in full function control, multi screen display, signal switching, screen window, superposition, roaming, through the mouse directly drag the picture position and adjust the picture size; through the fast mode of remote controller to the pre stored IR control transfer; control protocol to control, the control of concentration control.

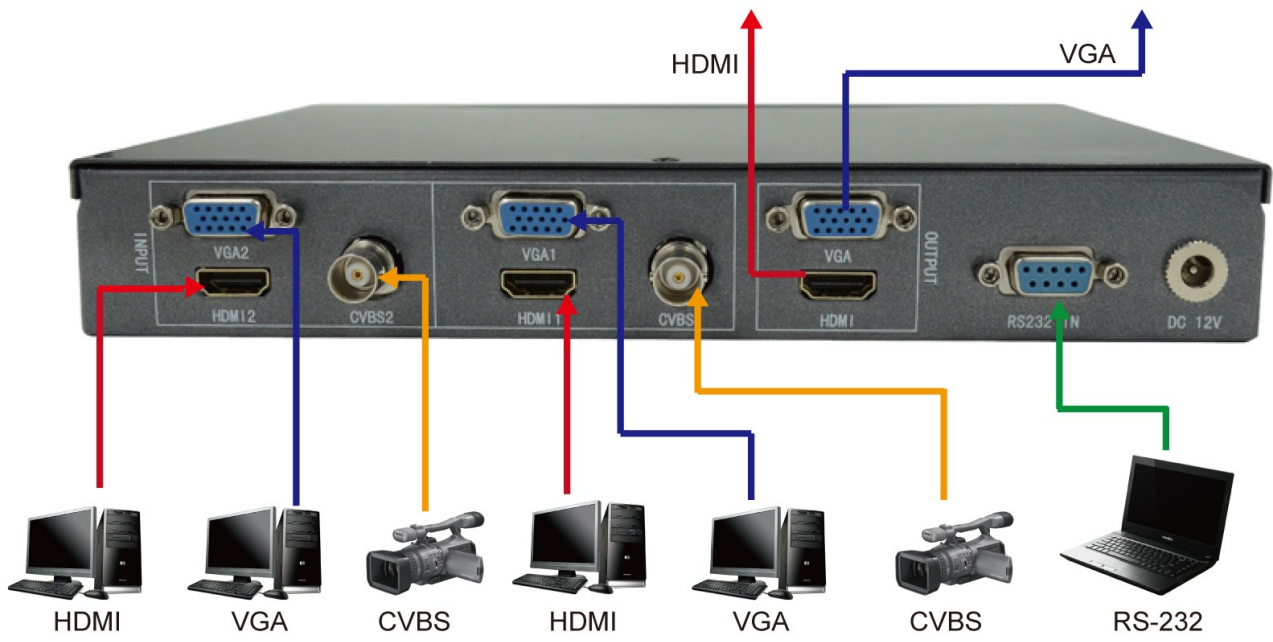
6. support a variety of formats and input and output ultra-high resolution

The HD video synthesizer support 2 numbers composite video CVBS, 2 numbers VGA, 2 numbers HDMI signal input. The composite video support NTSC, PAL, SECAM adaptive processing; high definition video support interlaced and progressive input, support 480I resolution to 1080P; computer signal resolution supports 640X480 to 1920X1080. All input signals through video processing chip professional level, the output resolution supports 1024X768 to 1920X1080 @ 60Hz.

2nd Parameter

Input interface	2 numbers CVBS/VGA/HDMI ,
Input resolution	Support 480I~1080P, HDMI and VGA signal support 640x480 to 1920x1080
Deep Color	24bit,16.7M
Zoom	Anywhere, Any size
HDMI	HDMI1.0/ HDCP1.3/ DVI1.0
CVBS	NTSC, PAL or SECAM
Distinguish	Auto
Output interface	HDMI and VGA
Output	1024x768 ,1280*720,1280*1024, 1920x1080 @60HZ
Control	RS232,Remote,front panel button
Control software	Quarsystem
Input voltage	DC12V
power	15W

3rd Topology



4th Remote control

Function:

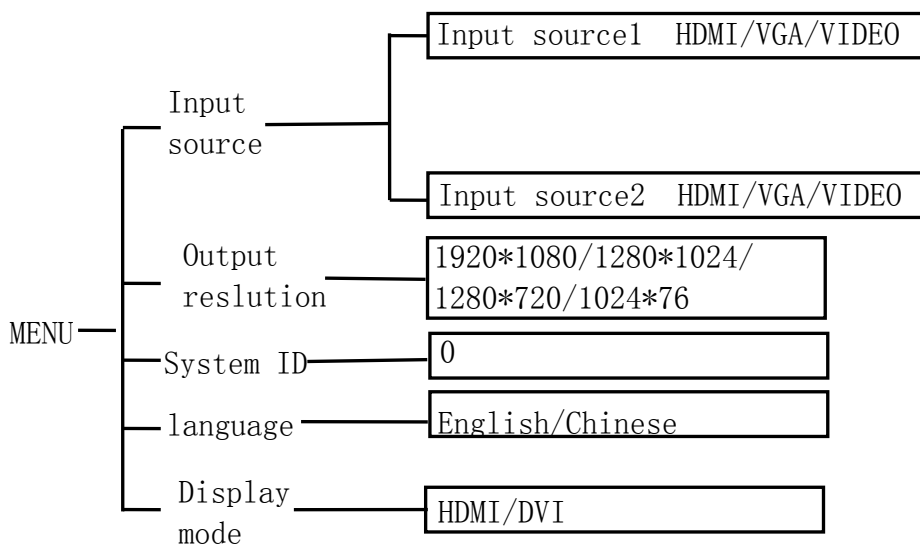
- 1: input video1 full display on one screen
- 2: input video2 full display on one screen
- 3: 2 videos display left and right on screen
- 4: 2 videos display upper and lower On one screen
- 5-9:operator set different display mode



Auto: all VGA video adjust

SWITCH: left and right cutting diagram/upper and lower cutting diagram/full video switch

Menu:



Up/down/left/right

ok: sure

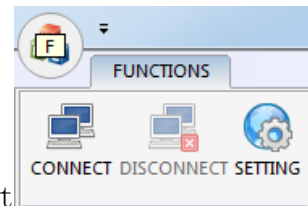
↶: reback

5th Control Software

Software Name: Quarsystem.exe

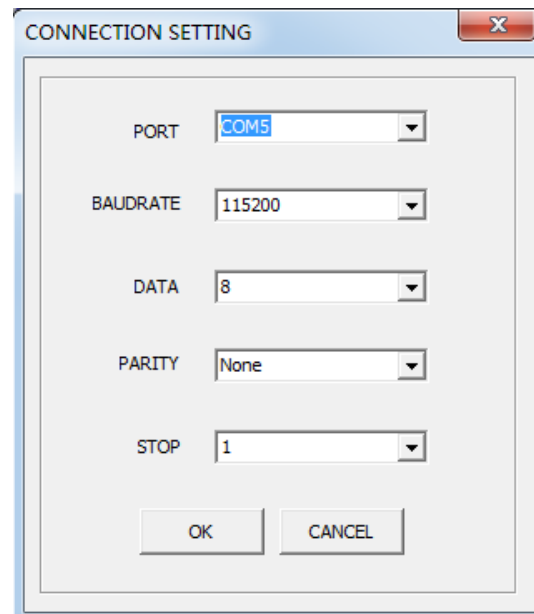
Operation system: Windows 2000/XP, WIN7

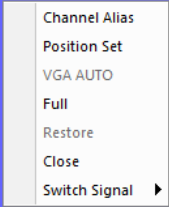
Operation:



1. Open quarsystem.exe, press setting-->Connect

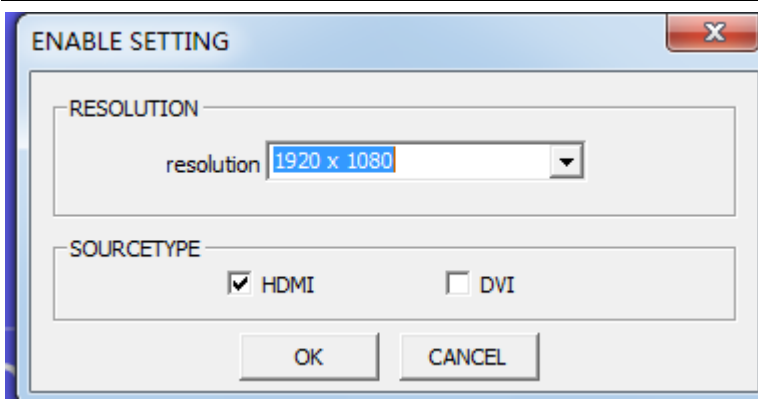
Then, chose the port, it is According to your computer, Bandrade is 115200, Data Bit is 8, Check Bit is None, Stop Bit is 1.and press “ OK ” ,then press “connect”



<p>CH.1 - HDMI</p> <p>Pos:0,0 Size:(960,540)</p>	<p>CH.2 - HDMI</p> <p>Pos:960,0 Size:(960,540)</p>
<p>CH.3 - HDMI</p>  <p>Pos:0,540 Size:(960,540)</p>	<p>CH.4 - HDMI</p> <p>Pos:960,540 Size:(960,540)</p>

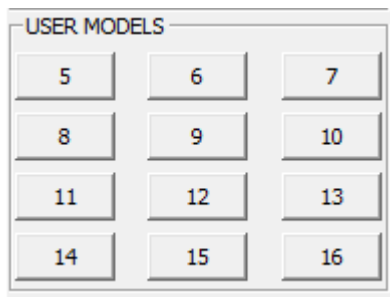
Press mouse right, Close CH3 and CH4 ,only need Operate CH1 and CH2;

Press mouse right, operator can choose video input source, closer video or open video, size adjust, rename channel, and VGA auto, operator can use mouse left change the video size and Position.



enable setting output resolution and display

mode.



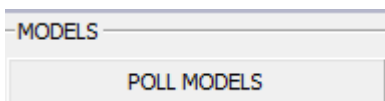
user modes, operator setting display mode, then press "Ctrl"+number 5-16 to

save this mode, if operator need 6 mode, press 6, or remote 6, or front panel button 6, then mode 6 is display on screen.

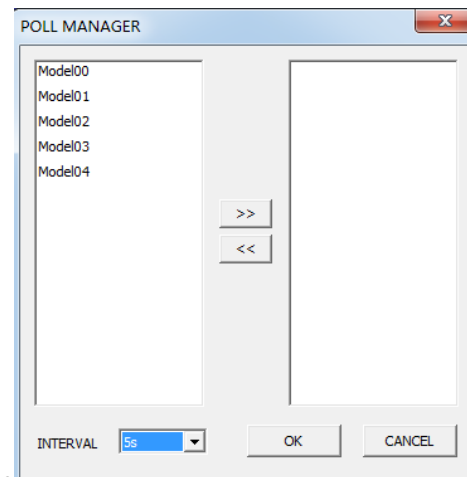
USB changed, audio soft will be update infuter.



transparency adjust



different display mode polling



6th Front panel control



0: same as switch on remote, left and right cutting diagram/upper and lower cutting diagram/full video switch

1: input video1 full display on one screen

2: input video2 full display on one screen

3: 2 videos display left and right on screen

4: 2 videos display upper and lower on one screen

5-9:operator set different display mode