CREATOR® 快捷

CREATOR CORPORATION（CHINA）

User's Manual for MAX-1301HD-B Scaler Switching System

V1.1

Meaning of the symbols

■ Safety Instruction

Symbols are used in the Manual and devices, referring to the possible risk to users or others， as well as the damage to property, for helping you to safely and properly use the devices. The instruction and the implications are as follows. Please make sure your correct understanding of these instructions before using the Manual.

 Warning	To remind user to conduct according to the attached operation and maintenance instructions. If ignore these information, death or injury could possibly happen.
 Caution	To remind the user that the risky uninsulated voltage in the device could caused electric shock to human.
	Caution: To avoid electric shock, please don't open the case, nor put the useless parts in it. Please contact with qualified service staff.
	CE authentication indicates the product is in line with the EU safety regulation, and for assurance of safety use.
	SGS Authentication indicates the product has reached the QC standard of the global-biggest Swiss universe surveyor.
	This product has acquired the ISO9001 International Quality Authentication (Authentication authority: Germany Rheinland TUV)

■ General Information Instruction

	List the situation of causing unsuccessful operation or setup, and relevant information needed to notice.
	Lead to the page with detailed information on relevant topic.

Important Notices

 Caution

To ensure the device in reliable use and personal safety, please abide by the following items when in installation, use and maintenance:

Notice in installation

◆ Please DO NOT use the product in following places: the places with dust, oily smoke, electrical conductive dust, corrosive gas, inflammable gas; the places with high temperature, due, rain and wind exposures; the places endangered by shock and vibration. Electric shock, fire and incorrect operation could also cause damage and deterioration to the product.

◆ When conducting screw drilling and wiring process, DO NOT let metal irons and wire lead drop into the controller and air vent, which could possibly cause fire, failure and accidental operation.

◆ After finishing the installation, it is necessary to ensure there is no foreign matter including the packing material like contact paper on the ventilation surface, otherwise, it could cause poor heat dissipation while running, as well as fire, failure and accidental operation.

◆ Avoid conducting wiring and plugging in/out cable socket with electricity, otherwise, electric shock, circuit damage could easily happen.

◆ Installation and wiring should be firm and reliable. Poor contact could cause malfunction.

◆ With regard to the application situations with strong interference, shielded cable should be used for the input and output of HF signal, to improve the anti-interference performance of the system.

Note in Wiring

◆ Installation and wiring shouldn't be conducted until external electric power is cut off, otherwise, electric shock or device damage could happen.

◆ The product is grounded by the earth lead of the power cable. To avoid electric shock, the earth lead is necessary to be connected with the ground. Before making connection with the output end or input end of the product, please ensure it is correctly grounding.

◆ Upon finish wiring, remove the sundries. Please cover up the terminal plate for avoiding electric shock.

Note for Operation and Maintenance

◆ Please DO NOT touch the terminal when with electricity, otherwise, electric shock could happen.

◆ Don't clean up and screw the terminal tight before power is off. Such operation could cause electric shock when with electricity.

◆ Please turn off the power before connecting or disconnecting the communication signal cable, peripheral modules or control units, otherwise, device could be damaged and accidental operation could happen.

◆ Please DO NOT disassemble the device, so as to avoid internal electric components damage.

◆ It is necessary to read through the Manual and fully ensure the safety, before altering the program, trial running, starting and stopping operation.

◆ Button battery shouldn't be replaced before the power is off. If it has to be replaced when the device is running, it should be conducted by professional electric technician wearing insulated gloves.

Note for declaration of the worthless.

When declaring of worthless, please note

◆ Explosion of electrolytic capacitor on the circuit board could happen when burning it.

◆ Please classify and dispose it. Don't dispose it into household garbage.

◆ Please deal it as industrial waste, or in accordance with local environmental protection regulation.

Forward

MAX-1301HD-B Scaler Switching System User's Manual mainly introduces the operation manner, primary parameters and trouble shootings of the host of MAX-1301HD-B.

The Manual serves as user's operation instruction only, rather than for maintenance service purpose. Since the date of release, any function or relevant parameter alteration will be provided in supplement instruction. Please refer to the manufacturer or dealers for inquiry.

Index

Chapter 1 General Introduction....1

1.1 Functions and Features....1

1.2 Product Dimension....1

Chapter 2 System Host Introduction....2

2.1 MAX-1301HD-B Front Panel....2

2.2 MAX-1301HD-B Rear Panel....3

2.3 System Connection Diagram....4

2.4 Supplementary Introduction to Keys on Panel....4

2.4.1 CV Intruction....4

2.4.2 COMP Instruction....4

2.4.3 Y/C Instruction....5

2.4.4 VGA Instruction....5

2.4.5 HDMI Instruction....5

2.5 Menu Functions Instruction....6

2.5.1 VGA Channel Menu....6

2.5.2 HDMI、Video、S-video Channel Menu....7

Chapter 3 Remote Controller Instruction....9

Chapter 4 RS-232 Control Protocol....10

Chapter 5 Performance Parameters....15

Chapter 6 General Trouble Shootings....18

Chapter 1 General Introduction

MAX-1301HD-B is a Scaler switcher incorporated with the functions of video signal format transforming (SCALER) and switching, supporting a variety of video signal sources. They are composite video signal (CV), component video signal（Pr/Cr, Pb/Cb, Y）, S-Video (Y/C), VGA and HDMI (High Definition Multimedia Interface), which will all be transformed / switched to unified VGA/HDMI/DVI signal. And the switcher supports MIC signal input.

This product is mainly applied in broadcast television project, multimedia conference room, big-screen display project, TV education and command and control center etc.

1.1 Functions and Features

◆ 12-way video signal input: 2-way CV, 2-way S-Video, 2-way component video, 2-way VGA, 4-way HDMI/DVI. Any way of them can be transformed / switched to unified VGA/HDMI/DVI output.

◆ 2-way video signal output: 1-way HDMI, 1-way VGA

◆ It supports and self-adapts to composite video (CV) in a variety of formats including NTST, PAL, SECAM, component video (Pr/Cr, Pb/CB, Y) and S-Video.

◆ VIDEO(CV),COMP, S-Video and HDMI are with separated adjustable brightness, contrast, saturation, sharpness and hue. VGA is with separated adjustable brightness, contrast, color temperature and phase.

◆ It supports of switching any way of the relevant 8-way unbalance audio input 【5-Pin phoenix port (each way)】to imbalanced audio output.

◆ Separate control of the volume of 8-way imbalanced audio input

◆ Support the adjustment of the bass and treble, and balance of left and right channels.

◆ Support 1-way MIC input, which can be inserted into main audio, and support separate MIC.

◆ Support two modes of audio and video separate switching to output and audio and video combined switching to output. Audio and video separate switching is controlled by RS232.

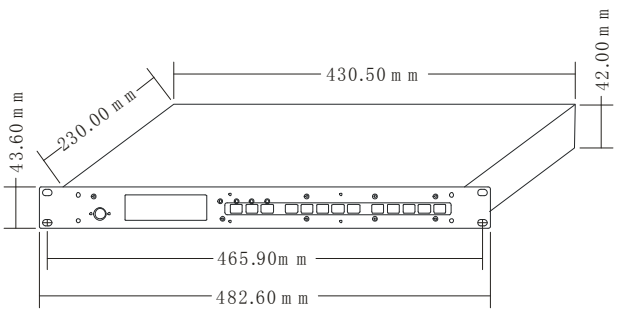
◆ Support power off memory function

◆ Support OSD menu

◆ After switching all input signals to VGA/HDMI/DVI video signal output. The following 12 output resolutions are supported:

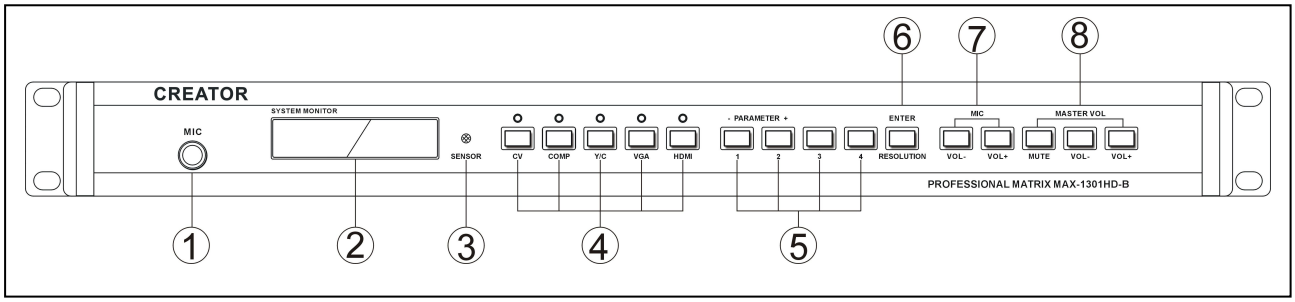
800×600 @60Hz
1024×768@60Hz
1280×720@60Hz
1280×800@60Hz
1280×1024@60Hz
1366×768@60Hz
1400×1050@60Hz
1440×900@60Hz
1600×900@60Hz
1600×1200@60Hz
1680×1050@60Hz
1920×1080@60Hz

1.2 Product Dimension



Chapter 2 System Host Introduction

2.1 MAX-1301HD-B Front Panel Instruction



① **MIC Input Port**

② **LCD Screen**

③ **SENSOR**

Infrared receiving window is for the control of infrared device, and receiving code when in infrared learning.

④ **Signal Source Selection Key --- for choosing signal source input type, used along with⑤**

CV Signal Switching Key

For choosing CV signal, press and hold it for 1 second to access the adjustment mode of brightness, contrast, saturation, sharpness and chroma.

☞ P4 2.4.1 CV Instruction

COMP Signal Switching Key

For choosing the input of VOMP signal, press and hold it 1 second to access to the adjustment mode of brightness, contrast, saturation, sharpness and chroma

☞P4 2.4.2 COMP Instruction

Y/C Signal Switching Key

For choosing the input of Y/C signal, press and hold it 1 second to access to the adjustment mode of brightness, contrast, saturation, sharpness and chroma

☞P 5 2.4.3 Y/C Instruction

HDMI Signal Switching Key

For choosing DVI/HDMI signal input, press and hold for 1 second to access to adjustment mode of brightness, contrast, saturation, sharpness and chroma

☞P5 2.4.4 "HDMI Instruction

VGA Signal Switching Key

For choosing VGA signal input, press and hold it for 1 second to access to the adjustment mode of brightness and contrast.

☞P5 2.4.5 VGA Instruction

The indicators on the signal source selection keys are corresponding with the signal

channels. When signal passes through, the corresponding indicator will be on.

⑤ **Signal Source Switching Key**

It is for choosing the input channel corresponding to signal source (e.g. 1, 2, 3, 4), please choose signal source before switching.

When choosing DVI/HDMI signal source input, please slightly press the signal source switching key (e.g. key 1, 2, 3, 4) to choose input channel of HDMI signal source.

Press and hold the signal switching key (e.g. key 1.2.3.4) for 1 second, choose HDMI (DVI) video signal +Y/C audio signal / VGA audio signal as corresponding input channel (e.g. press and hold 1/2 key, choose HDMI (DVI) channel 1/2 video signal +Y/C channel 1/2 audio signal as input signal channel; press and hold 3/4 key, choose HDMI (DVI) channel 3/4 audio signal + VGA channel 1/2 audio signal as input signal channel.)

⑥ **Display Resolution Selection Key**

Press resolution switcher once to access to resolution setup mode, press in rotation to select the resolutions. LCD displays current operation mode, and switches the resolution after it is selected and held for 1 second.

In the adjustment mode of brightness, saturation, sharpness, chroma of the signal source, this key is also for option execution and confirmation (Enter key)

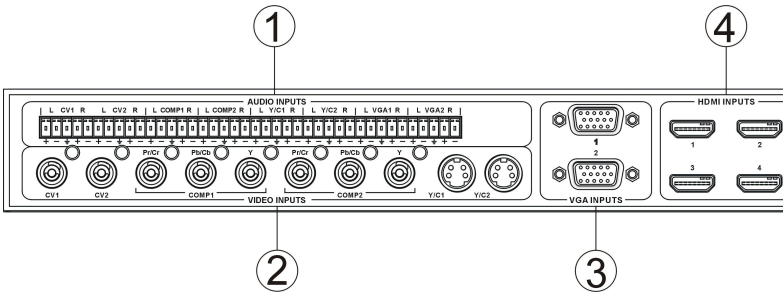
⑦ **MIC Volume Increase/Decrease Key**

When adjusting volume, there are volume value and bar indications in LCD display. MIC volume is set default with intermediate value every time turning on the device.

Press VOL-key: decrease volume

Press VOL+key: increase volume

2.2 MAX-1301HD-B Rear Panel Instruction



8-way audio input, 2-way for composite A/V input, 2-way COMP audio input, 2-way for S-view audio input, 2-way for VGA audio input.

② **VIDEO INPUT PORTS**

6-way video input including 2-way composite video signal input, 2-way COMP video signal input, 2-way S-Video signal input.

③ **VGA INPUT PORTS**

Provide 2-way VGA input, for connecting to the player or PC with VGA port.

④ **HDMI INPUT PORTS**

Provide 4-way HDMI inputs, for connecting to HDMI peripheral devices like PC.

⑤ **AUDIO OUTPUT PORTS**

The system provides 1-way VGA output, 1-way HDMI output, 1-way stereo output for connecting to the peripheral devices like screen or amplifier.

⑧ **MUTE KEY and MAIN VOLUME INCRESE/DECREASE KEY**

Mute key is effective to both MIC and main volume.

Main VOLUME KEY

Press VOL-key: decrease volume

Press VOL+key: increase volume

⑥ RS-232 PORT

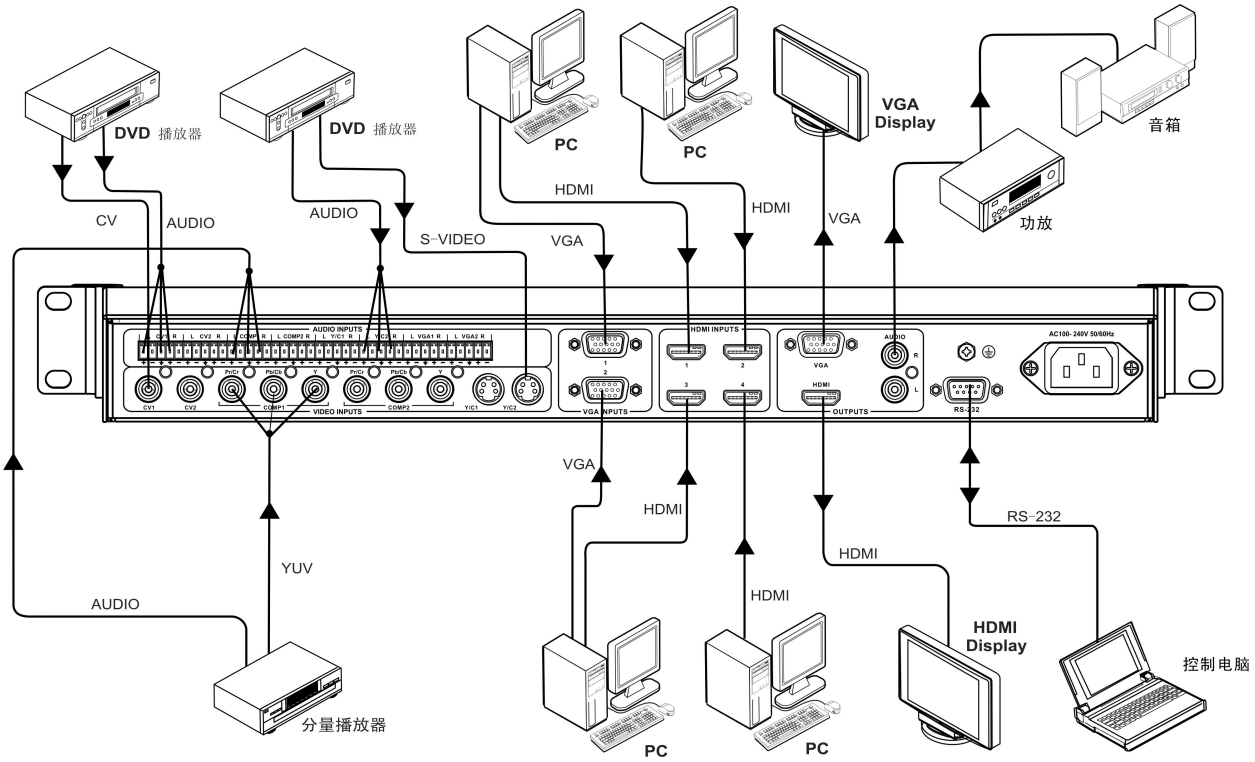
Connect to computer or other central control devices with RS-232 port.

⑦ CONNECT TO GROUND POLE

⑧ POWER INPUT PORT

For system power input, with built-in switch power supply, self-adapting to AC100V-240V，50Hz/60Hz

2.3 System Connection Diagram



2.4 Supplementary Instruction to Keys on Panel

2.4.1 CV Instruction

In CV mode, press and hold CV key for 1 second to fine-tune CV system parameters.

1、 function_1:1 CV brightness adjustment，used along with parameter+ and parameter- keys. When finishing adjustment, press Enter key to save it in the system.

2、 function_2:2 CV Contrast adjustment, used along with parameter+ and parameter- keys， When finishing adjustment, press Enter key to save it in the system.

3、 function_3:3 CV Saturation adjustment， used along with parameter+ and parameter- keys， When finishing adjustment, press Enter key to save it in the system.

5、function_5:5 CV Hue adjustment，used along with parameter+ and parameter- keys， When finishing adjustment, press Enter key to save it in the system.

6、 function_6:6 RESTORE CVBS DEFAULT VALUE parameters setup, used along with ENTER key for restoring default setup.

2.4.2 COMP Instruction

In COMP mode, press and hold COMP key for 1 second to fine-tune the system parameters of COMP.

1、 function_1:1 COMP brightness adjustment，used along with parameter+ and parameter- keys， When finishing adjustment, press Enter key to save it in the system.

2、 function_2:2 COMP Contrast adjustment，used along with parameter+ and parameter- keys， When finishing adjustment, press Enter key to save it in the system.

3、 function_3:3 COMP Saturation adjustment，used along with parameter+ and parameter- keys， When finishing adjustment, press Enter key to save it in the system.

4、 function_4:4 COMP Sharpness adjustment，used along with parameter+ and parameter- keys， When finishing adjustment, press Enter key to save it in the system.

5、 function_5:5 COMP Hue adjustment，used along with parameter+ and parameter- keys， When finishing adjustment, press Enter key to save it in the system.

6、 function_6:6 RESTORE COMP DEFAULT VALUE, used along with ENTER key for restoring default setup.

2.4.3 Y/C Instruction

In Y/C mode, press and hold Y/C key for 1 second to fine-tune Y/C system parameters.

1、 function_1:1 Y/C brightness adjustment，used along with parameter+ and parameter- keys， When finishing adjustment, press Enter key to save it in the system.

2、 function_2:2 Y/C Contrast adjustment，used along with parameter+ and parameter- keys， When finishing adjustment, press Enter key to save it in the system.

3、 function_3:3 Y/C Saturation adjustment，used along with parameter+ and parameter- keys， When finishing adjustment, press Enter key to save it in the system.

4、function_4:4 Y/C Sharpness adjustment，used along with parameter+ and parameter- keys， When finishing adjustment, press Enter key to save it in the system.

5、 function_5:5 Y/C Hue adjustment，used along with parameter+ and parameter- keys， When finishing adjustment, press Enter key to save it in the system.

6、 function_6:6 RESTORE Y/C DEFAULT VALUE, used along with ENTER key for restoring default setup.

2.4.4 VGA Instruction

In VGA mode, press and hold VGA key for 1 second to fine-tune VGA parameters.

1、 function_1:1 VGA brightness adjustment，used along with parameter+ and parameter- keys， When finishing adjustment, press Enter key to save it in the system.

2、 function_2:2 VGA Contrast adjustment，used along with parameter+ and parameter- keys， When finishing adjustment, press Enter key to

save it in the system.

3 、 function_3:3 RESTORE VGA DEFAULT VALUE, used along with ENTER key for restoring default setup.

2.4.5 HDMI Instruction

In HDMI mode, press and hold HDMI key for 1 second to fine-tune HDMI system parameters.

1、 function_1:1 HDMI brightness adjustment，used along with parameter+ and parameter- keys， When finishing adjustment, press Enter key to save it in the system.

2、function_2:2 HDMI Contrast adjustment，used along with parameter+ and parameter- keys， When finishing adjustment, press Enter key to save it in the system.

3、 function_3:3 HDMI Saturation adjustment，used along with parameter+ and parameter- keys， When finishing adjustment, press Enter key to save it in the system.

4、 function_4:4 HDMI Sharpness adjustment，used along with parameter+ and parameter- keys， When finishing adjustment, press Enter key to save it in the system.

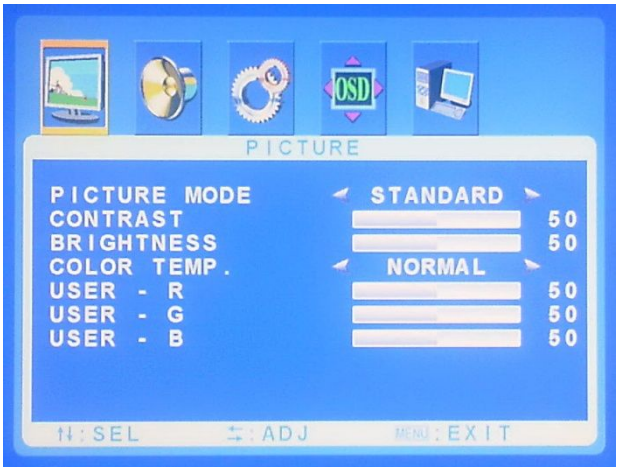
5、 function_5:5 HDMI Hue adjustment， used along with parameter+ and parameter- keys， When finishing adjustment, press Enter key to save it in the system.

6 、 function_6:6 RESTORE HDMI DEFAULT VALUE, used along with ENTER key for restoring default setup.

2.5 Menu Instruction

2.5.1 VGA Channel Menu

When selecting VGA signal source input, firstly press the MENU key on the remote controller to access to main menu with options including PICTURE, SOUND, ADVANCE, OSD and GEOMETRY. In menu interface, press functional key "-" and "+" to select corresponding option, and press functional key ENTER to access to corresponding setup screen for adjustment. All option can be adjustable with "-" and "+" keys. Press MENU to return to upper level menu screen, until exiting menu setup.



PICTURE Menu Setup Options

PICTURE MODE： Select picture display modes including Standard, Dynamic, Sofe, Personal.

CONTRAST：Contrast adjustment

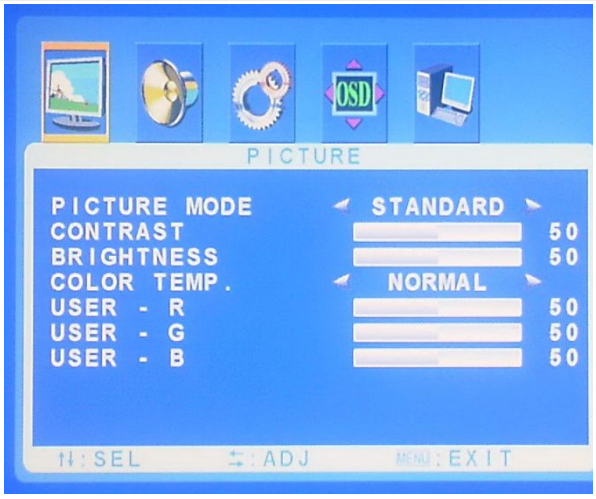
BRIGHTNESS：Brightness adjustment

COLOR TEMP： Color temperature mode selection including Normal, Warm, Cold and User

USER-R： When COLOR TEMP is in User mode, configure the parameter R.

USER-G： When COLOR TEMP is in User mode, configure the parameter G.

USER-B：When COLOR TEMP is in User mode, configure the parameter B.



SOUND Menu Setup Option：

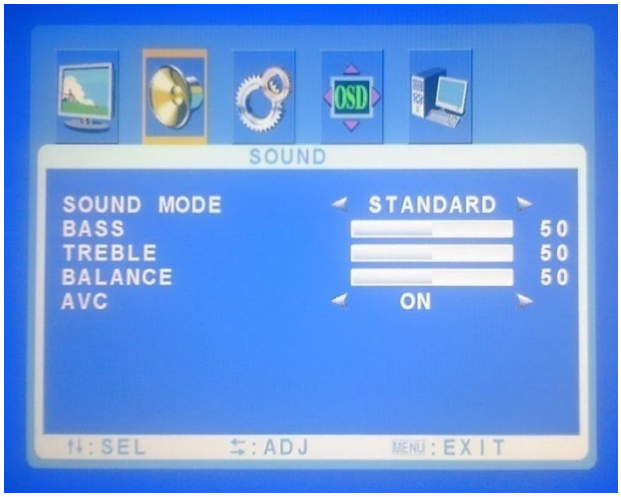
Select sound modes including Standard, News, Music and Personal.

BASS：BASS parameter adjustment

TREBLE：TREBLE parameter adjustment

BALANC：BALANCE parameter adjustment

AVC：AVC ON/OFF。



ADVANCE Menu Setup Option：

RESOLUTION：Select display resolution

SCALE ： Picture Zoom in/out selection including FULL, Normal and Auto

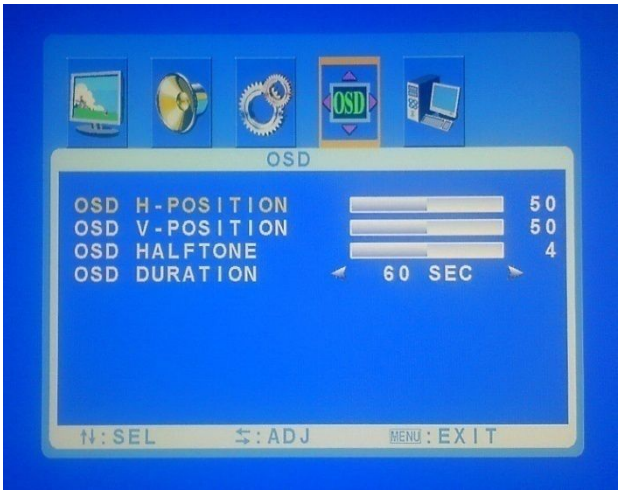
OSD Menu Setup Option：

OSD H-POSITION：OSD horizontal position adjustment

OSD V-POSITION ： OSD vertical position adjustment

OSD HALFTONE：OSD halftone adjustment

OSD DURATION ： OSD display duration adjustment



GEOMETRY Menu Setup Option：

H-POS：Manual adjust horizontal position.

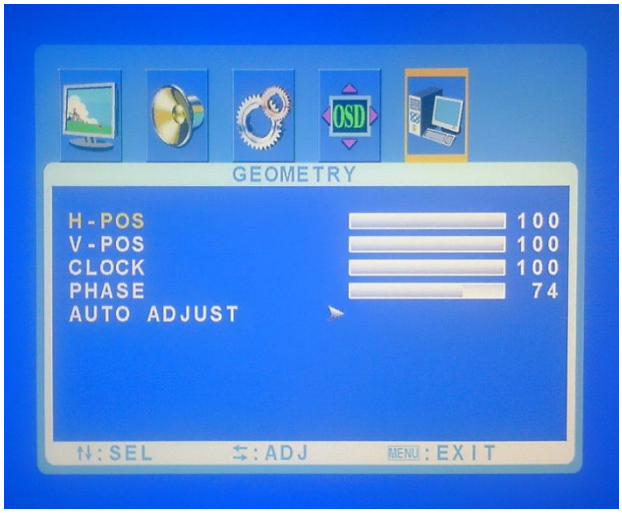
V-POS：Manual adjust vertical position.

CLOCK：Manual adjust the clock.

PHASE：Manual adjust the phase.

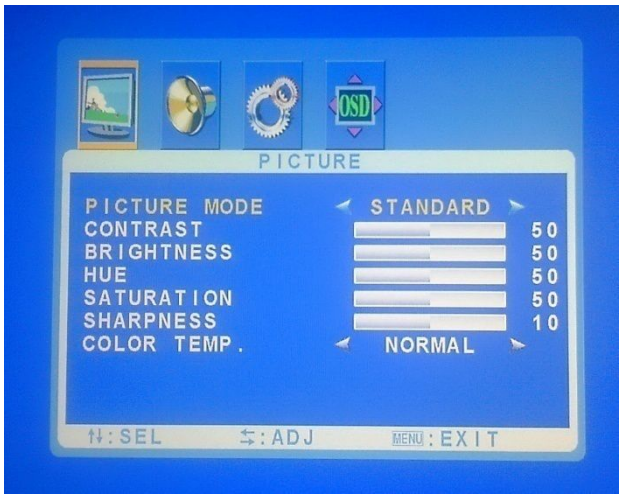
AUTO ADJUST ： Screen automatic

adjustment



2.5.2 HDMI、Video、S-video Channel Menu

Select the signal sources like HDMI, Video and S-Video, firstly press the MENU key in the remote controller to access to main menu with the options of PICTURE, SOUND, ADVANCE and OSD. In menu screen, press functional keys "-" and "+" to select corresponding option, and press the ENTER key in the menu to access to corresponding option screen, and use "-" and "+" keys to adjust. Press MENU return to upper level screen, until exiting menu setup.



PICTURE Menu Setup Options：

PICTURE MODE ： Including Standard, Dynamic, Soft, Personal.

CONTRAST：Contrast adjustment

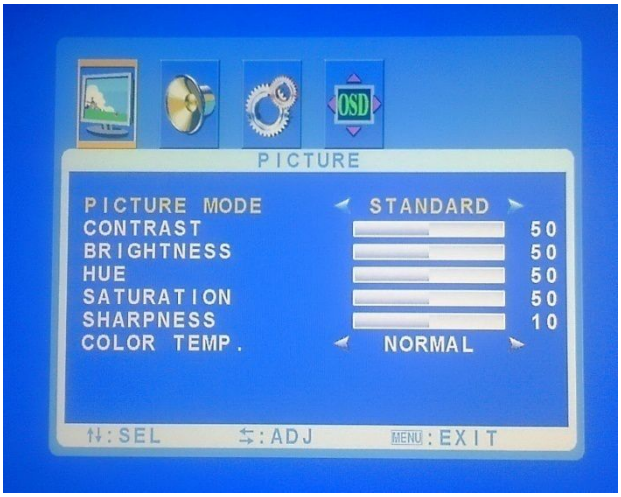
BRIGHTNESS：Brightness adjustment

HUE：Hue adjustment

SATURATION：Saturation adjustment

SHARPNESS：Sharpness adjustment

COLOR TEMP：Color temperature selection including Normal, Warm, Cold and User.



SOUND Menu Setup Option：

SOUND MODE ： Sound selection modes including Standard, News, Music, Personal

BASS：BASS parameter adjustment

TREBLE：TREBLE parameter adjustment

BALANCE：BALANCE parameter adjustment

AVC：AVC ON/OFF。

ADVANCE Menu Setup Option:

RESOLUTION：Select display resolution

NOISE REDUCE： Select noise reduction, including Off, Low, Mid, High, Auto.

SCALE： Screen zoom in/out selection including the 3 modes of FULL, Normal, and Auto.

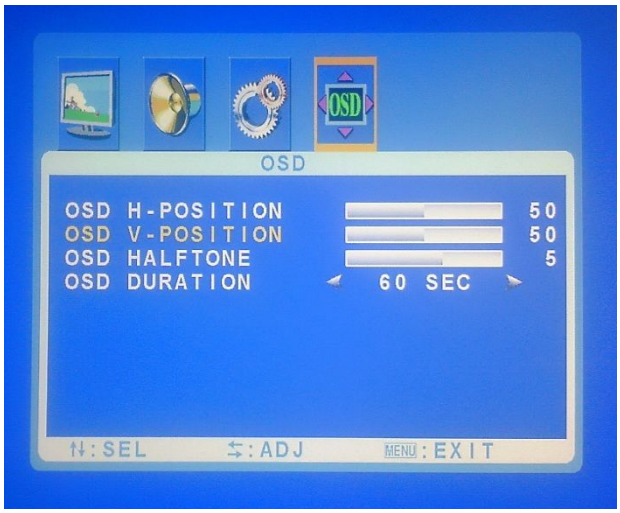
OSD Menu Setup Option

OSD H-POSITION：OSD horizontal position adjustment

OSD V-POSITION： OSD vertical position adjustment

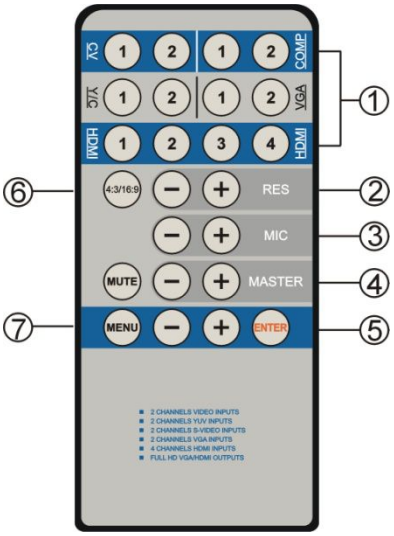
OSD HALFTONE：OSD halftone adjustment

OSD DURATION： OSD display duration adjustment



Chapter 3 Remote Controller Instruction

The operation and function are the same as those of front panel. The following is the panel of remote controller.



① Mode and Channel Selection

Remote controller can quickly select the corresponding channels to CV, COMP, Y/C, VGA, DVI/HDMI modes.

When selecting HDMI signal input, slightly press signal source switching key (e.g. key 1, 2, 3 or 4) to select input channel for HDMI signal source.

Press and hold signal source switching key (e.g. key 1, 2, 3 or 4) for 1 second to select HDMI (DVI) video signal + Y/C audio/VGA audio signal as corresponding input channel. (e.g. press and hold 1/2 key, select HDMI (DVI) channel 1/2 video signal + Y/C channel 1/2 audio signal as channel for signal input; Press and hold 3/4 key to select HDMI (DVI) channel 1/2 video signal + VGA channel 1/2 audio signal as channel for signal input).

② Resolution Selection Key

Press resolution selection key to select the following resolutions in rotations.

800×600 @60Hz
1024×768@60Hz
1280×720@60Hz
1280×800@60Hz
1280×1024@60Hz
1366×768@60Hz
1400×1050@60Hz

1440×900@60Hz
1600×900@60Hz
1600×1200@60Hz
1680×1050@60Hz
1920×1080@60Hz

Note: In the mode of 800×600 @60Hz, OSD menu cannot be displayed.

③ MIC Volume Increase/Decrease Selection Key and Screen Zoom in/out Key.

④ Main Volume Increase/Decrease Selection Key, MUTE Key.

⑤ Confirm Key

⑥ Screen Mode Selection Key

Press screen zoom in/out key to select within the modes of Full, Normal and Auto, with 16:9/4:3 screen output.

⑦ Menu Function Selection Key

See 2.5 in Chapter 2 of the Manual for detailed menu function instruction.

Chapter 4 RS-232 Control Protocol

The System supports the third party central control device. User may take optional combinations according to their needs. The system control codes are as follows:

Baud: 9600bps 8,n,1 format: ASCII

Code	Function
Video and Audio Switch Out：	
01*01!	CV1 with audio switch out
02*01!	CV2 with audio switch out
03*01!	COMP1 with audio switch out
04*01!	COMP2 with audio switch out
05*01!	Y/C1 with audio switch out
06*01!	Y/C2 with audio switch out
07*01!	VGA1 with audio switch out
08*01!	VGA2 with audio switch out
09*01!	HDMI1 with audio switch out
10*01!	HDMI2 with audio switch out
11*01!	HDMi3 with audio switch out
12*01!	HDMI4 with audio switch out
Video Switch Out ：	
01*02!	CV1 video switch out
02*02!	CV2 video switch out
03*02!	COMP1 video switch out
04*02!	COMP2 video switch out
05*02!	Y/C1 video switch out
06*02!	Y/C2 video switch out
07*02!	VGA1 video switch out
08*02!	VGA2 video switch out
09*02!	HDMI1（DVI） video switch out
10*02!	HDMI2（DVI） video switch out
11*02!	HDMI3（DVI） video switch out
12*02!	HDMI4（DVI） video switch out
Audio Switch Out ：	
01*03!	CV1 audio switch out
02*03!	CV2 audio switch out
03*03!	COMP1 audio switch out
04*03!	COMP2 audio switch out

05*03!	Y/C1 audio switch out
06*03!	Y/C2 audio switch out
07*03!	VGA1 audio switch out
08*03!	VGA2 audio switch out
HDMI Sound Style :	
01*04!	HDMI switch out with the Sound of MIC
02*04!	HDMI switch out without the Sound of MIC
HDMI Output Mode:	
01*05!	HDMI Output is DVI mode
02*05!	HDMI Output is HDMI mode
General Command ：	
xx$47!	Set MIC volume;(0< xx <100)
xx$48!	Set Master volume;(0< xx <100)
01$01!	MIC volume level up
02$01!	MIC volume level down
03$01!	Master volume level up
04$01!	Master volume level down
05$01!	Mute on
06$01!	Mute off
07$01!	Menu
08$01!	Menu Left
09$01!	Menu Right
10$01!	Menu Enter
Video Output Command ：	
01$02!	800*600(SVGA) at 60 Hz
02$02!	1024 x 768 (XGA) at 60 Hz (default)
03$02!	1280 x 720 (HDTV 720p) at 60 Hz
04$02!	1280 x 800 at 60 Hz
05$02!	1280 x 1024 (SXGA) at 60 Hz
06$02!	1366 x 768 (HDTV 768p) at 60 Hz
07$02!	1400 x 1050 at 60 Hz
08$02!	1440 x 900 at 60 Hz
09$02!	1600 x 900 at 60 Hz
10$02!	1600 x 1200 (UXGA) at 60 Hz
11$02!	1680 x 1050 at 60 Hz
12$02!	1920 x 1080 (HDTV 1080p) at 60 Hz
13$02!	Noise Reduce：Off
14$02!	Noise Reduce：Low
15$02!	Noise Reduce：Mid

16$02!	Noise Reduce：High
17$02!	Noise Reduce：Auto
18$02!	Scale Full 16:9
19$02!	Scale Normal 4:3

20$02!	Scale Auto
OSD Command ：	
01$03!	OSD Duration 5s
02$03!	OSD Duration 15s
03$03!	OSD Duration 30s
04$03!	OSD Duration 60s
xx$04!	select the OSD h-position, 00--99% (0< xx <100)
xx$05!	select the OSD v-position, 00--99% (0< xx <100)
xx$06!	select the OSD halftone, 0--8 (0< xx <=8)
Sound Command ：	
01$07!	Sound Mode：Standard
02$07!	Sound Mode：News
03$07!	Sound Mode：Music
04$07!	Sound Mode：Personal
05$07!	Sound AVC off
06$07	Sound AVC on
xx$08!	select the Sound BASS, 00--99% (0< xx <100)
xx$09!	select the Sound TREBLE, 00--99% (0< xx <100)
xx$10!	select the Sound BALANCE, 00--99% (0< xx <100)
CV Channel Command ：	
01$11!	CV Picture Mode：Standard
02$11!	CV Picture Mode：Dynamic
03$11!	CV Picture Mode：Soft
04$11!	CV Picture Mode：Personal
05$11!	CV Color Temp：Normal
06$11!	CV Color Temp：Warm
07$11!	CV Color Temp：Cold
08$11!	restore the CV Brightness… to the default value
xx$12!	select the CV brightness, 00--99% (0< xx <100)
xx$13!	select the CV contrast, 00--99% (0< xx <100)
xx$14!	select the CV saturation, 00--99% (0< xx <100)
xx$15!	select the CV sharpness, 00--20 (0< xx <=20)
xx$16!	select the CV hue, 00--99% (0< xx <100)
COMP Channel Command ：	
01$17!	COMP Picture Mode：Standard
02$17!	COMP Picture Mode：Dynamic

03$17!	COMP Picture Mode：Sofe
04$17!	COMP Picture Mode：Personal
05$17!	COMP Color Temp：Normal
06$17!	COMP Color Temp：Warm
07$17!	COMP Color Temp：Cold
08$17!	restore the COMP Brightness… to the default value
xx$18!	select the COMP brightness, 00--99% (0< xx <100)
xx$19!	select the COMP contrast, 00--99% (0< xx <100)
xx$20!	select the COMP saturation, 00--99% (0< xx <100)
xx$21!	select the COMP sharpness, 00--20 (0< xx <=20)
xx$22!	select the COMP hue, 00--99% (0< xx <100)
Y/C Channle Command ：	
01$23!	Y/C Picture Mode：Standard
02$23!	Y/C Picture Mode：Dynamic
03$23!	Y/C Picture Mode：Soft
04$23!	Y/C Picture Mode：Personal
05$23!	Y/C Color Temp：Normal
06$23!	Y/C Color Temp：Warm
07$23!	Y/C Color Temp：Cold
08$23!	restore the Y/C Brightness… to the default value
xx$24!	select the Y/C brightness, 00--99% (0< xx <100)
xx$25!	select the Y/C contrast, 00--99% (0< xx <100)
xx$26!	select the Y/C saturation, 00--99% (0< xx <100)
xx$27!	select the Y/C sharpness, 00--20 (0< xx <=20)
xx$28!	select the Y/C hue, 00--99% (0< xx <100)
VGA Channle Command ：	
01$29!	VGA Picture Mode：Standard
02$29!	VGA Picture Mode：Dynamic
03$29!	VGA Picture Mode：Soft
04$29!	VGA Picture Mode：Personal
05$29!	VGA Color Temp：Normal
06$29!	VGA Color Temp：Warm
07$29!	VGA Color Temp：Cold
08$29!	VGA Color Temp：User
xx$30!	select the VGA Color temp user-R, 00--99% (0< xx <100)
xx$31!	select the VGA Color temp user-G, 00--99% (0< xx <100)
xx$32!	select the VGA Color temp user-B, 00--99% (0< xx <100)
09$29!	select VGA Auto Adjust
xx$33!	select the VGA H-Position, 00--99% (0< xx <100)
xx$34!	select the VGA V-Position, 00--99% (0< xx <100)

xx$35!	select the VGA Clock, 00--99% (0< xx <100)
xx$36!	select the VGA Phase, 00--99% (0< xx <100)
10$29!	restore the VGA Brightness… to the default value
xx$37!	select the VGA brightness, 00--99% (0< xx <100)

xx$38!	select the VGA contrast, 00--99% (0< xx <100)
HDMI Channle Command ：	
01$39!	HDMI Picture Mode：Standard
02$39!	HDMI Picture Mode：Dynamic
03$39!	HDMI Picture Mode：Sofe
04$39!	HDMI Picture Mode：Personal
05$39!	HDMI Color Temp：Normal
06$39!	HDMI Color Temp：Warm
07$39!	HDMI Color Temp：Cold
08$39!	restore the HDMI Brightness… to the default value
xx$40!	select the HDMI brightness, 00--99% (0< xx <100)
xx$41!	select the HDMI contrast, 00--99% (0< xx <100)
xx$42!	select the HDMI saturation, 00--99% (0< xx <100)
xx$43!	select the HDMI sharpness, 00--20 (0< xx <=20)
xx$44!	select the HDMI hue, 00--99% (0< xx <100)
LCD light time command:	
xx$45!	select LCD light time.((0< xx <=60))
EDID command:	
01$46!	Read EDID from HDMI sink device.
Background setting:	
01$49!	Select black Backgrounds.
02$49!	Select blue Background.
Display channel information:	
01$50!	Display information on screen. and Auto exit after 3s.
Special Command ：	
01#01!	read present state
02#01!	read present Firmware Ver.
03#01!	read system information
04#01!	Reset to factory value.

Chapter 5 Performance Parameters

Model / Tech. Spec.	MAX1301HD				
Video					
Gain	0 dB				
Bandwidth	AV :150MHz， S-Video:150MHz， VGA:375 MHz，HDMI/DVI:2.25Gbps。				
Input Multi-channel vs. single channel crosstalk	-50dB @50 MHz， -45dB @10 MHz				
Differential Phase I/OS	<1.28°,3.58 MHz				
Differential Phase Error	0.1°， 3.58-4.43 MHz				
Differential Gain Error Time	0.1%， 3.58-4.43 MHz				
Switching Speed	100 ns (Longest Time)				
Signal Type	VGA，S-video， COMP Component Video(YPbPr/YCbCr)，Composite Video（CVBS），HDMI/DVI。				
Video Input	**CV**	**S-Video**	**VGA**	**COMP**	**HDMI/DVI**
Interface	RCA Female Connector	S-Video Terminal(Y-C Terminal)	15-pin HD Female Connector	RCA Female Connector	HDMI Terminal
Signal Strength	1V p-p ： Y Component Video, S-Video，Composite Video； 0.7V p-p： VGA（Computer Signal）； 0.3V p-p： Component Video、 S-Video 的 C ，HDMI/DVI video				
Min/Max Level	Analogue Signal: -2V/+2V				
Impedance	75 Ω				
Return Loss	<-30dB@5MHz				
Horizontal Frequency Response	30-200KHZ				
Vertical Frequency Response	20Hz-240Hz				
VGA Video Output					
Interface	15-pin HD Female Connector				
Min/Max Level	-2.0V / +2.0V				
Impedance	75 Ω				
Return Loss	<-40dB@5MHz				
DC Offset	Max ±5mV				
VGA Sync Signal					

Model / Tech. Spec.	MAX1301HD
Input / Output Signal Type	RGBHV, RGBS, RGsB, RsGsBs, Composite Video, Component Video
Video System	NTSC 3.58，NTSC 4.43，PAL，SECAM
Input Level	0.5V- 5.0V p-p,: 4.0V p-p Normal
Output Level	AGC-TTL: 5Vp-p, unterminated
Input Impedance	510 Ω
Output Impedance	75 Ω
Max Transfer Delay	Horizontal :90ns Vertical:160ns
Max Ascend/Descend Time	4ns

Polar	Positive or Negative（Fully the same as input）
HDMI Video Input	
Protocol Supported	HDMI1.3a, DVI1.0, HDCP1.3, x.v.Color, TrueHD, DTS-HD
PIXEL Bandwidth	165MHz, Full Digital
Interface Bandwidth	2.25Gbps
Max Resolution	HDPC 1600x1200@60_24bit Color Depth HDTV 1920x1080P@60_24bit Color Depth
Clock Jitter	<0.15 Tbit
Rise time	<0.3Tbit (20%--80%)
Fall time	<0.3Tbit (20%--80%)
Signal Type	HDMI / DVI-D full digital T.M.D.S. signal in HDMI 1.3a / DVI 1.0 Specification
Interface	HDMI-A Interface (Type A connector)
Signal Strength	T.M.D.S. +/- 0.4Vpp
Min/Max Level	T.M.D.S. 2.9V/3.3V
Impedance	50 Ω
Input EDID	Use System Default EDID,(Support Terminal EDID mapping to input terminal)
Max. DC Bias Error	15mV
Max Input Distance Recommended	Less than 25m, at 1920x1080p@60 (Recommended to use special HDMI wire with authentication, like Molex TM)
HDMI Video Output	
Interface	HDMI-A Interface(Type A connector)
Min/Max Level	T.M.D.S. 2.9V/3.3V
Impedance	50 Ω
Max Input Distance Recommended	Less than 10m, at 1920x1080p@60 (Recommended to use special HDMI wire with authentication, like Molex TM)
Audio Signal	
Input/output Interface	4-way 10pin Phoenix Connector / each way is with imbalanced audio input. 1-way 2RCA connector imbalanced input.
Gain	0 dB
Frequency Response	20 Hz ~ 20 kHz,

THD + Noise	0.05% @ 1 kHz （Rated Voltage）
Signal to Noise Ratio （S/N ）	>58dB
Stereo Channel Crosstalk	>80dB @ 1 kHz
Common-Mode Rejection Ratio（CMRR）	>75dB @: 20 Hz ~ 20 kHz
Signal Type	Stereo (Imbalanced Connecting Audio)
Impedance	Input：>10 kΩ（Balanced or Imbalanced Connection） Output：50 Ω （Imbalanced Connection）, 100 Ω（ Balanced Connection）
Max Input Level	+19.5dBu, （Balanced or Imbalanced Connection）
Gain Error	±0.1dB @20 Hz ~ 20 kHz
Max Output Level	+19.5dBu, （Balanced or Imbalanced Connection）
MIC	
MIC Type	Moving-coil Response
Input Sensitivity	25mV

Band Response	50Hz-16K Hz
Interface Type	Mono Input
Control Type	
Serial Control Interface	RS-232, 9-pin Female D type interface
Baud Rate and Protocol	Baud Rate：9600, Data Bit, Stop Bit：1, No Parity Bit
Structure of Serial Control Interface	2 = TX, 3 = RX, 5 = GND
Specification	
Power	100VAC-240VAC～50/60 Hz, International Self-adapted Power
Temp	Storage and in use: -20°～ +70°C
Humidity	Storage and in use: 10% ～90%
Case Dimension	483(L)X230(W)X44mm(H)
Weight	1.9kg
Average Failure Interval	30,000 Hours
Warranty	1 year free repair, and life-time maintenance

Chapter 6 General Trouble Shootings

Trouble	Solution
When the peripheral device connected to MAX1301HD has ghost image. E.g. Projector has ghost image or unclear picture.	Possibly the projector is not correctly fine-tuned or using unqualified wire. Please adjust corresponding keys of the projector, or replace the wire.
Color lost or without video signal output	Possibly the VGA signal wire doesn't have the terminals at both end correspondingly connected or there is broken circuit (short circuit) in the wire.
Remote controller cannot control MAX 1301HD Scaler	● Possibly the battery is running out, please replace it. ● Possibly the controller is out of order, please repair it.
Serial port (generally referring to computer port) cannot control MAX1301HD Scaler.	● Check the communication port configured by control software to see whether it is corresponding with the serial port of the device connected. ● Check to see whether the communication port of the computer is in good condition, whether it is using correct communication protocol.
When MAX1301HD is switching, there is return code, but without corresponding image output.	Please check to see whether there is signal at the input terminal (May use oscilloscope or multi-meter). If no signal input, possibly the input wire is broken or the connector is loose. Please replace the wire.

If POWER indicator is off and without LCD display, no response for operation	Check to see whether the input power is in good contact.
Output image is interfered	Possibly the input or output device is not well-grounded.
When plugging A/V port, feel obvious static electricity.	Maybe the ground wire of the device is not well-grounded. Please use correct way to ground to floor, otherwise, the host would be easily damaged and have shorter lifetime.
LCD display is normal, and there is return code from communication port, but without image or audio output.	Possibly the A/V port is loose, please replace it. Possibly the wire is short-circuited, please replace it. Possibly there is broken connection wire, please replace it.
If the panel keys, communication and remote controller of MAX1301HD Scaler are all out of control, possibly the host has internal damage, please ask professional technician for maintenance.	

CREATOR CORPORATION（CHINA）

Last Revision：06/2010