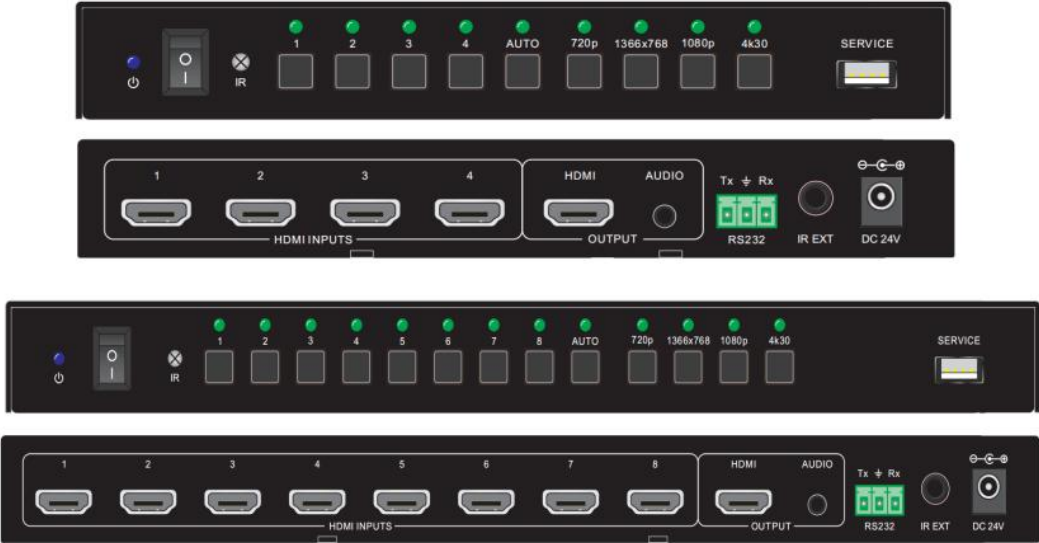# User Manual

4x1 or 8x1 4K30 seamless and scaling Switcher with IR and RS232

Version: V2021.001

Safety Reminder

To protect the device and operating personnel from electrostatic discharge, you need to check and ensure that the device is grounding well before the device is powered on. Please observe the following when you install, use, maintain this equipment.

Make sure the device ground connection.

Disposal Instruction (US)

For better protection of our earth, please don't throw this electronic device into municipal trash bin when discarding.

To minimize pollution and ensure utmost protection of the global environment, please recycle the product. For more

information about the collection and recycling of Waste Electrical and Electronic Equipment (WEEE), please contact your local dealers.

Safety Instructions

1. Please read these safety instructions carefully.

2. Please keep this User Manual for later reference.

3. Please disconnect this equipment from connecter before cleaning. Don't use liquid or prayed detergent for cleaning. Use moisture sheet or cloth for cleaning.

4. Make sure the equipment is connected to the power source with the correct voltage, frequency, and ampere.

5. All cautions and warnings on the equipment should be noted.

6. Never pour any liquid into opening, this could cause fire or electrical shock.

7. Never open the equipment. For safety reason, the equipment should only be opened by qualified service personnel.

8. If one of the following situations arises, get the equipment checked by a service personnel :

    a. Liquid has penetrated into the equipment.

    b. The equipment has been exposed to moisture.

    c. The equipment has not work well or you can not get it work according to user's manual.

    d. The equipment has dropped and damaged.

    e. If the equipment has obvious sign of breakage.

9. Ambient operation temperature: 0 ~ 45 degrees.

10. Risk of overheating! Don't put operating/installing equipment inside too closed space, be sure the installation space at least 1 to 2 inches or 2 to 5 cm of space for ventilation. To ensure that other objects do not cover the equipment.

Notice: Peripheral devices

Only peripherals (input/output devices, terminals,player, etc.) certified to comply with Class B limits may be attached to this equipment. Operation with non-certified peripherals is likely to result in interference to radio and TV reception.

Caution

Changes or modifications not expressly approved by the manufacturer could void the user's authority, which is granted by the Federal Communications Commission, to operate this equipment.

Contents

1. Introduction

This product is a HDMI 4K seamless and scaling switcher, supports automatic switching and manual switching, supports switching from 4 or 8 HDMI inputs to 1 HDMI output, and 8 HDMI inputs support different arbitrary resolutions with seamless switching and scaling. The HDMI output supports fixed resolutions output, which can be selected through the front panel buttons, infrared remote control, and RS232 serial port commands. Also supports EDID management through RS232 commands.

2. Features

- Support HDMI1.4, and the resolution up to 3840*2160@30Hz;
- Support CEC, ARC follow
- Support seamless switching even when different resolutions inputs;
- Support auto and manual switching modes
- Support the front panel push-button, IR remote and the RS232 control
- Support EDID management by RS232 commands
- Support work and standby power saving modes
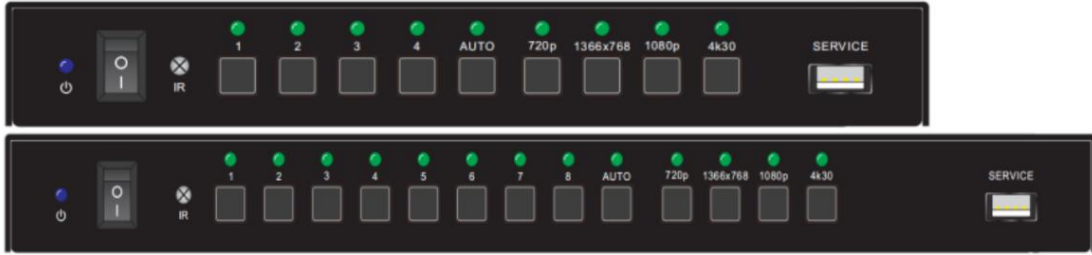- Support USB-A upgrading

3. Specification

Input	4 or 8*HDMI
Output	1*HDMI+3.5mm audio
Protocol Standard	HDMI1.4, HDCP1.4
Resolution	(8)3840*2160@30\1920*1080@60\1280*720@60\1366*768@60
Dimension	
Weight	0.5kg(1.1lb)(No packing)
Power Supply	DC 12V 1A
Consumption	2.5W
Working Humidity	10%-90%
Temperature	-10℃-50℃
Storage	-20℃-75℃

4. Packing

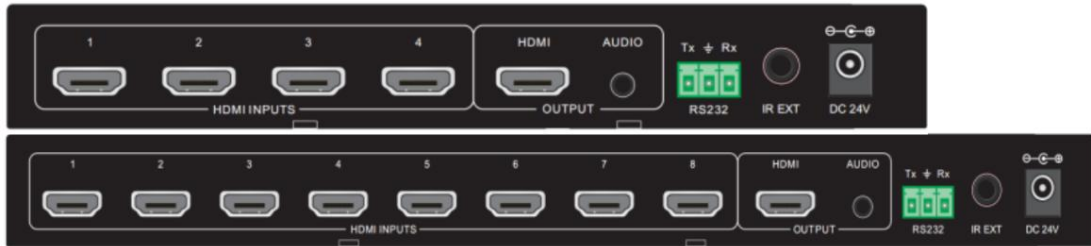| Switcher	1	Pcs
Power adapter	1	Pcs
Remote control	1	Pcs

5. Panels

5.1 Front Panel

A: Equipment power status indicator

   Blue light: normal state.

   Green light: standby state.

B: Power ON/OFF switch;

C: Infrared remote control receiver;

D: Inputs switch buttons and indicators;

E: Automatic switch and manual switch button (Long press for 3 seconds to switch);

F: The output resolution buttons 1366*768\720P\1080P\4K30;
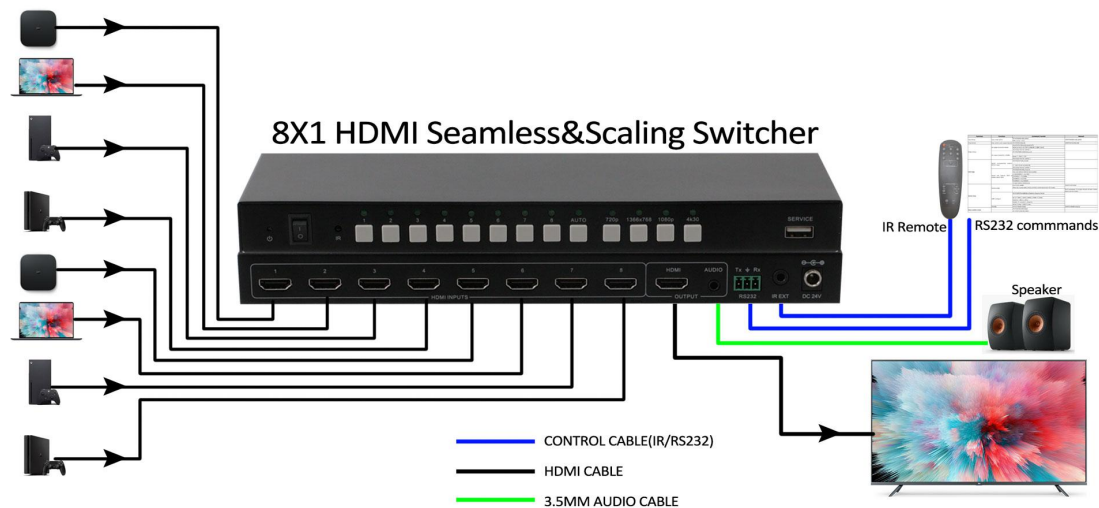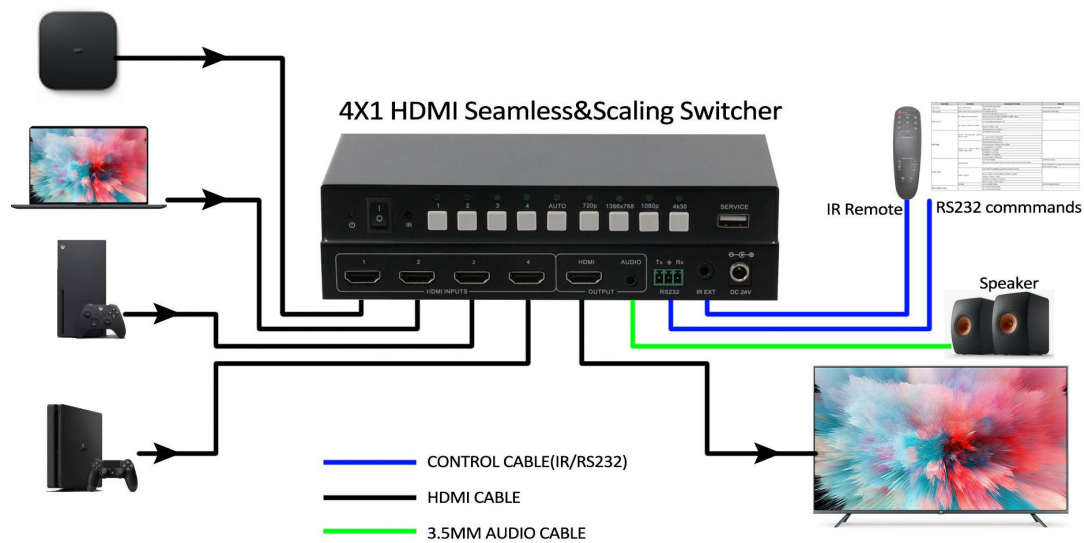
G: USB-A firmware upgrade port;

5.2 Back Panel

A: HDMI input ports

B: HDMI output port

C: 3.5mm audio output

D: 3-pin RS232

E: IR extension port

F: DC 12V

6. Operation diagram

6.1 Connection diagram

4X1 HDMI Seamless&Scaling Switcher

CONTROL CABLE(IR/RS232)
HDMI CABLE
3.5MM AUDIO CABLE

8X1 HDMI Seamless&Scaling Switcher

CONTROL CABLE(IR/RS232)
HDMI CABLE
3.5MM AUDIO CABLE

6.2 Front Panel Button Control

Input sources switching:

Press the number buttons(1~4 or 8) to manual switch the input sources, the indicators light will lit(green).

AUTO for auto or manual switching:

Press the ATUO button and the indicator be lit for automatic mode. The automatic mode will automatically switch to the last plug in source or it will switch to another source automatically when the last source disconnected. To exit the automatic mode, press any number buttons of the inputs.

AUTO recycling switch:

Press and hold the ATUO button for 3 seconds, the device enters the automatic sources recycling switching mode, it will switch to the next inputs in every 3 seconds; To exit the auto recycling mode, press any number buttons of the inputs.

Output resolution setting:

The switcher supports fixed Scaler resolution to 720P, 1366x768, 1080p, 4K30.

Press the resolution button on the front panel to switch to the fixed resolution.

6.3 Remote control

Standby: for the switcher to standby or back to work

INPUTS: Press any numbers for the input sources switching
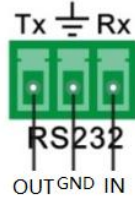
AUTO: For the working modes(auto/manual) switching

RESOLUTION: For the HDMI output resolution scaling

F1/F2: not functional buttons(reserved buttons)

6.4 3-pin RS232 control by the 3rd party

6.4.1 Connection with RS232 Communication Port

Except the front buttons, remote control, it also can be controlled by far-end control system through the RS232 communication port. The PINs' definition is listed as below:

6.4.2 RS232 Communication Commands

Baud rate: 115200

Data bit: 8

Stop bit: 1

Parity bit: none

Function	Function	Command Format	Remark
Input Setup	Input mode select	AT+HTSWMOD=SC81,MOD$	+RSPHTSWMOD=SC81,MOD$
		MOD: 1:auto; 2:mau	
Video Switch	One switch to one output Channel	AT+HTSWIN=SC81,IN$	+RSPHTSWIN=SC81,IN$$
Output Setup	Set output resolution mode	AT+HTSETOUTRES=SC81,mode,OUT$	
		Mode:out res(1--4)1:720P 2:1366x768 3:1080P 4:4k30	
		Out:output channel number 1	

	Set output mode(DVI or HDMI)	AT+HTOUTMOD=SC81,Mode,out$	
		Mode 1：HDMI 2：DVI	
		Out:output channel number 1	
EDID Setup	Switch corresponding output's EDID to input	AT+HTEDIDH=SC81,In,Out$	
		In: input chnnel number(1-8)	
		Out:output channel number 1	
	Switch one Internal EDID to certain input's EDID	AT+HTEDIDINT=SC81,mod,in$	
		mod: one certain internal EDID number.	
		(2-5) EDIDMODE 2 = 2,// 4k30	
		EDIDMODE 3 = 3,//1080p	
		EDIDMODE 4 = 4,//720p	
		EDIDMODE 5 = 5,//1024x76	
		in:input chnnel number(1-8)	
System Setup	Factory setup	AT+HTFACT=MX88$	+RSPHTFACT=SC81$
		When No Cn parameter, factory set main control board and GUI model.	
			No Cn parameter, if using to factory set main control board and GUI model
	UART configure	AT+HTUARTCFG=MX88,Baud,Databits,Stopbits,Parity$	
		Baud: 0, 9600; 1, 19200; 2,38400; 3, 57600; 4, 115200;	
		Databits: 0, 8bits; 1, 9bits;	
		Stopbits: 0, 1stopbit; 1, 2stopbits;	
		Parity: 0, none; 1, ODD; 2, even;	
	StandBy	AT+HTSTANDBY=SC81$	+RSPHTSTANDBY=SC81,0$
Query machine version		AT+HTGETMCUVER=SC81$	
		AT+HTGETVIDEOVER=SC81$	

7. After-Sales

7.1 Warranty Information

The Company warrants that the process and materials of the product are not defective under normal use and service for 2 (2) years following the date of purchase from the Company or its authorized distributors.

If the product does not work within the guaranteed warranty period, the company will choose and pay for the repair of the defective product or component, the delivery of the equivalent product or component to the user for replacement of the defective item, or refund the payment which users have made.

The replaced product will become the property of the Company.

The replacement product could be new or repaired.

Whichever is longer, any replacement or repaired of the product or component is for a period of ninety (90) days or the remaining period of the initial warranty. The Company shall not be responsible for any software, firmware, information, or memory data contained in, stored in, or integrated with the product repaired by the customer's return, whether or not during the warranty period.

7.2 Warranty limitations and exceptions

Except above limited warranty, if the product is damaged by over usage, incorrectly use, ignore, accident, unusual physical pressure or voltage, unauthorized modification, alteration or services rendered by someone other than the Company or its authorized agent, the company will not have to bear additional obligations. Except using the product properly in the proper application or normal usage