

ISWITCH 402UC-L

4 x 2 Conference Presentation Switcher

Datasheet V1.0



1. INTRODUCTION

1.1 OVERVIEW

The **iSwitch 402UC-L** 4x2 conference presentation switcher is specially designed for modern meeting room environments, offering multiple models and specifications to meet diverse user requirements. It supports 4x2 matrix switching and features dual full-featured USB-C inputs along with dual HDMI + USB 3.0 inputs, allowing seamless connection to multiple laptops or desktop computers.

The switcher includes 4 local USB 3.0 device ports, enabling direct connection to a variety of USB conferencing devices such as USB cameras, audio bars, and USB speakers, making it ideal for comprehensive conference setups.

In terms of audio, the device supports flexible configuration options. HDMI and USB audio can be output via a local balanced audio output port, providing compatibility with various professional audio systems.

The presentation switcher is equipped with multiple control interfaces, including RS232, GPIO, RELAY, and sensor ports, allowing smooth integration with external control systems. It offers robust network functionality with two independent RJ-45 ports and supports USB-to-Ethernet conversion. Through VLAN segmentation and 802.1x authentication, the switcher ensures secure separation between presentation and USB networks.

It also supports various switching modes, including automatic switching, manual switching, and configurable priority switching. Additional features include support for HTTP/HTTPS configuration, 802.1x security, CEC and RS232 control, customizable GPIO functions, and a built-in Web UI and API for remote

management and system integration.


1.2 FEATURES

- 4x2 conference presentation switcher integrating video, audio, USB, control, and Ethernet functionality.
- Inputs and outputs support resolutions up to 5120x2160@30Hz and 5120x1440@60Hz.
- Equipped with dual USB-C and dual HDMI + USB 3.2 inputs; all ports support secure cable lock connections.
- Full-featured USB-C inputs support 5120x2160@30Hz and 5120x1440@60Hz video, USB 3.2 data, USB-to-Ethernet bridging, and up to 100W charging.
- One USB-C input supports MST (Multi-Stream Transport) for dual-screen conferencing scenarios.
- Supports various switching modes, including automatic switching, USB/video independent switching, and priority-based switching.
- Offers 4 USB 3.2 device ports for connecting conference peripherals such as cameras, speakerphones, and audio devices.
- Provides one balanced audio output for external audio systems; supports audio de-embedding and UAC (USB Audio Class).
- Includes RS232, GPIO, RELAY, and OCS sensor ports for integration with control systems and automation devices.
- Includes a dedicated USB charging port on the conference table interface to power mobile devices.
- Each input port features an independent USB-to-Ethernet bridge, enabling 1Gbps Ethernet connectivity for connected computers.
- Features two independent RJ-45 ports for Ethernet switching or VLAN configuration.
- Supports Ethernet-based control via HTTP and HTTPS, with 802.1x network authentication support.

1.3 PACKAGE CONTENTS

- 1 x **iSwitch 402UC-L** Matrix Switcher
- 1 x DC 20V/10A Power Adapter
- 1 x AC Power Cord with EU Pins
- 2 x USB 3.2 Type-C to Type-C Cable (L = 2m)
- 2 x USB 3.0 Type-A to Type-B Cable (L = 1.8m)
- 1 x 3.5mm 3-Pin Phoenix Male Connector
- 2 x 3.5mm 3-Pin Phoenix Male Connector (Double Layer)
- 1 x 3.5mm 5-Pin Phoenix Male Connector
- 1 x 3.5mm 6-Pin Phoenix Male Connector
- 4 x Mounting Brackets (with Screws)

1.4 SPECIFICATIONS

Technical	
Input/Output Port	2 x HDMI IN, 2 x USB-C IN, 2 x HDMI OUT, 2 x USB HOST (USB Type-B), 1 x AUDIO OUT (3.5mm, 5-pin phoenix connector), 4 x USB DEVICE (USB Type-A), 2 x RS232, 1 x GPIO (3.5mm, 6-pin phoenix connector), 2 x RELAY, 1 x SENSOR, 2 x ETHERNET (RJ45), 1 x DC 20V
Input/Output Signal Type	Supports HDMI with 5K Ultrawide Resolutions (5120x2160@30Hz) and 5K Super-wide Resolutions (5120x1440@60Hz). Supports HDCP 2.2/1.4.
USB HOST IN 1 & 2	Supports USB 3.2 Gen 2x1 standard, up to 10Gbit/s
USB-C IN 3&4	<p>USB-C IN 3: USB-C supports USB 3.2 Gen 2x1 standard, and supports:</p> <ul style="list-style-type: none"> • Video: DP alt mode, SST only, up to 5120x2160@30Hz and 5120x1440@60Hz. • USB data: Up to 10Gbit/s. • Charging: 100W. <p>USB-C IN 4: USB-C supports USB 3.2 Gen 2x1 standard, and supports:</p> <ul style="list-style-type: none"> • Video: DP alt mode, MST dual output, up to 5120x2160@30Hz and 5120x1440@60Hz • USB data: Up to 10Gbit/s. • Charging: 100W. <p> Note: The charging power of USB-C IN 3 and USB-C IN 4 supports the following allocation modes:</p>

Technical	
	<ul style="list-style-type: none"> • Dynamic Allocation; • 100W (USB IN 1) + 45W (USB-C IN 2); • 45W (USB IN 1) + 100W (USB-C IN 2); • 60W + 60W. Refer to " Charging Power Allocation for USB-C Inputs " section to get detail information.
USB DEVICE	Maximum supports USB 3.2 Gen 2x1 standard, up to 10Gbit/s. 5V/1.5A output per port.
Input/Output Resolution Supported	VESA: 800 x 600 ⁶ , 1024 x 768 ⁶ , 1280 x 768 ⁶ , 1280 x 800 ⁶ , 1280 x 960 ⁶ , 1280 x 1024 ⁶ , 1360 x 768 ⁶ , 1366 x 768 ⁶ , 1440 x 900 ⁶ , 1600 x 900 ⁶ , 1600 x 1200 ⁶ , 1680 x 1050 ⁶ , 1920 x 1200 ⁶ , 2048 x 1152 ⁶ , 2560 x 1440 ⁶ , 3440 x 1440 ⁶ , 5120x1440 ^{3,6} , 5120x2160 ³ CTA: 1280x720P ^{5,6} , 1920x1080P ^{1,2,3,4,5,6} , 3840x2160P ^{1,2,3,4,5,6} , 4096x2160P ^{1,2,3,4,5,6} , 5120x1440 ⁶ , 5120x2160 ^{3,6 (4:2:0)} 1 = at 24 (23.98) Hz, 2 = at 25 Hz, 3 = at 30 (29.97) Hz, 4 = at 48 Hz, 5 = at 50 Hz, 6 = 60 (59.94) Hz
HDR	All HDR formats, including HDR 10, HLG, HDR 10+ and Dolby Vision
Audio Format	<ul style="list-style-type: none"> • USB-C IN/HDMI IN/ HDMI OUT: Up to 7.1ch, including PCM 2.0/5.1/7.1ch, Dolby Digital, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos, DTS 5.1, DTS-HD Master Audio and DTS:X. • Audio de-embedding: Stereo only.
ETHERNET	1000M/100M adaptive network
Maximum Data Rate	USB-C IN: 10Gbit/s (per lane) HDMI: 18Gbps USB 3.2: 10Gbit/s
Control Method	Front Panel Buttons, RS232, LAN (Telnet &Web UI)

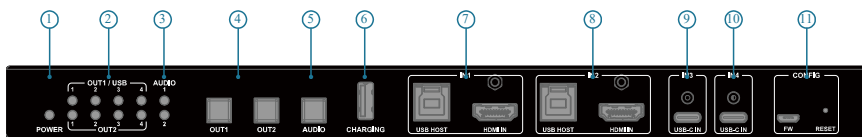
General	
Operating Temperature	0°C to 45°C (32°F to 113°F)
Storage Temperature	-20°C to 70°C (-4°F to 158°F)
Humidity	10% to 90%, non-condensing
ESD Protection	Human-body Model: ±8kV (Air-gap discharge)/ ±4kV (Contact discharge)
Power Supply	DC 20V/10A
Power Consumption (Maximum)	180.6W (with 22.5W USB-A and 100W+45W USB-C charging) = 616.2 BTU/hr
Device Dimension (W x H x D)	300mm x 25mm x 180.2mm/11.81" x 0.98" x 7.09"
Product Weight	1.45kg/3.20lbs

Transmission Distance

Cable Type	Range	Supported Video
USB Type-C to USB Type-C Cable (USB 3.2 Gen 2, 10Gbps per lane)	2m/7ft	1080P@60Hz 24bpp 4K@30Hz 4:4:4 24bpp 4K@60Hz 4:2:0 24bpp 4K@60Hz 4:4:4 24bpp
HDMI	Input/Output: 10m/33ft	1080P@60Hz 24bpp 4K@30Hz 4:4:4 24bpp 4K@60Hz 4:2:0 24bpp
	Input/Output: 5m/16ft	4K@60Hz 4:4:4 24bpp

2. PANEL OVERVIEW

2.1 FRONT PANEL

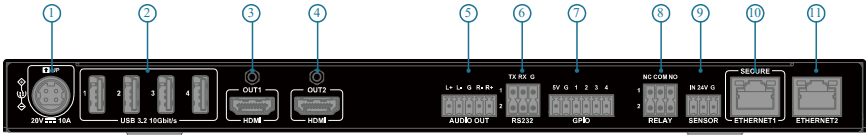


#	Name	Description
1	POWER LED	<ul style="list-style-type: none"> On: The device is powered on. Off: The device is powered off.
2	OUTPUT 1 / USB LEDs and OUTPUT 2 LEDs	<ul style="list-style-type: none"> Red: USB devices are connected to the corresponding USB host. Green: The corresponding video input is selected or the corresponding video input and USB host are selected. Off: The corresponding input are not selected.
3	AUDIO 1&2 LEDs	<ul style="list-style-type: none"> On: The corresponding de-embedded audio from HDMI OUT 1/2 is selected as source. Off: The corresponding de-embedded audio from HDMI OUT 1/2 is not selected as source for AUDIO OUT.
4	OUTPUT 1&2 Selection Button	Press the button to select input source for HDMI OUT 1/2.

#	Name	Description
5	AUDIO OUT Selection Button	Press the button to switch the audio source between the de-embedded audio from HDMI OUT 1 and HDMI OUT 2 for AUDIO OUT port.
6	CHARGING	USB 2.0 Type-A port. 5V/2A USB charging.
7 & 8	IN 1 & IN 2	<p>HDMI IN: Connect to HDMI sources.</p> <p>USB HOST: USB 3.2 type-B ports. Connect to USB HOST devices.</p> <p>Note:</p> <ul style="list-style-type: none"> • USB HOST ports in IN 1 and IN 2 groups are bound with HDMI IN ports in IN 1 and IN 2 respectively. For example, when select HDMI IN in IN 1 group as input source, all USB devices will be routed to the USB HOST in IN 1 group. • Both USB HOST ports support USB-to-Ethernet bridging, allowing laptops connected to these ports to access the network through the device's ETHERNET ports. The two USB HOST ports and the two USB Type-C ports share a 1Gbps Ethernet connection.
9 & 10	INPUT 3&4 (USB-C IN)	<p>USB 3.2 type-C ports. Connect to USB-C sources. The two full-featured USB-C ports support the following three functions:</p> <ul style="list-style-type: none"> • Supports audio, video and USB signal transmission, maximum 10Gbit/s data rate. <ul style="list-style-type: none"> ○ USB-C IN 3 and 4 support DP SST, one video output with 5K/4K signal transmission; ○ USB-C IN 4 supports DP MST, two video outputs with 5K/4K signal of each channel transmission. • Supports PD 3.0, and can supply up to 60W power for the connected device; • Supports 1G network connection, the laptop connected with these ports can access the Ethernet the matrix connected; <p>The following cable are recommended to use: USB Type-C to Type-C cable (USB 3.2 Gen 1x1 or above)</p> <p>Note: Refer to “Charging Power Allocation for USB-C Inputs” section to get detail charging power allocation for the two USB-C inputs.</p>
11	FW	<p>FW: Micro-USB port. For ARM firmware upgrade.</p> <p>RESET: Insert a tool such as a needle.</p> <ul style="list-style-type: none"> • Press and hold it for about 5s: Reset the IP settings, including reset the IP mode to DHCP, and reset the login password to “admin”. • Press and hold it for about 15s: Reset the device

#	Name	Description
		to factory defaults.

2.2 REAR PANEL



#	Name	Description
1	20V/10A	Connect to the power adapter provided.
2	USB DEVICE	USB 3.2 type-A ports, 5V/1.5A output per port. Connect to USB devices such as camera and speakerphone.
3 & 4	HDMI OUT (1~2)	Connect to the HDMI display devices.
5	AUDIO OUT	Connect to an audio receiver.
6	RS232 1 & 2	<ul style="list-style-type: none"> RS232 1: Connect to a RS232 control device for API control or connect to a 3rd party device for RS232 routing. RS232 2: Connect to a RS232 3rd party device for RS232 routing.
7	GPIO	Connect to GPIO devices. The device supports connecting to 6 GPIO devices.
8	RELAY 1 & 2	Connect to relay devices for relay control.
9	SENSOR	Connect to OCS sensor.
10 & 11	ETHERNET 1 (SECURE) & 2	Connect to a network device (e.g., network switch, router, computer, etc.) for LAN control (Web UI & Telnet). VLAN function can be configured via API commands and web UI, please refer to the separate document “API Command Set_iSwitch 402UC-L” or “ Network ” part in “Web UI” section.