



D i s t r i b u t i o n A G

# SCT-MX44USB321

4x4 USB 3.0 Matrix



## User Manual

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Version: SCT-MX44USB321\_2023V1.0

## 4x4 USB 3.0 Matrix

### Preface

Read this user manual carefully before using the product. Pictures shown in this manual are for reference only. Different models and specifications are subject to real product.

This manual is only for operation instruction, please contact the local distributor for maintenance assistance. The functions described in this version were updated by April, 2022. In the constant effort to improve the product, we reserve the right to make functions or parameters changes without notice or obligation. Please refer to the dealers for the latest details.

### FCC Statement

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. It has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation.

Operation of this equipment in a residential area is likely to cause interference, in which case the user at their own expense will be required to take whatever measures may be necessary to correct the interference.

Any changes or modifications not expressly approved by the manufacture would void the user's authority to operate the equipment.



## 4x4 USB 3.0 Matrix

# SAFETY PRECAUTIONS

To ensure the best from the product, please read all instructions carefully before using the device. Save this manual for further reference.

- Unpack the equipment carefully and save the original box and packing material for possible future shipment.
- Follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- Do not dismantle the housing or modify the module. It may result in electrical shock or burn.
- Using supplies or parts not meeting the products' specifications may cause damage, deterioration or malfunction.
- Refer all servicing to qualified service personnel.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Do not put any heavy items on the extension cable in case of extrusion.
- Do not remove the housing of the device as opening or removing housing may expose you to dangerous voltage or other hazards.
- Install the device in a place with fine ventilation to avoid damage caused by overheat.
- Keep the module away from liquids.
- Spillage into the housing may result in fire, electrical shock, or equipment damage. If an object or liquid falls or spills on to the housing, unplug the module immediately.
- Do not twist or pull by force ends of the cable. It can cause malfunction.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.
- Unplug the power cord when left unused for a long period of time
- Information on disposal for scrapped devices: do not burn or mix with general household waste, please treat them as normal electrical wastes.

## Table of Contents

<b>1. Product Introduction .....</b>	<b>1</b>
1.1 Features .....	1
1.2 Packing List .....	2
1.3 Customer Service .....	2
<b>2. Specification .....</b>	<b>3</b>
<b>3. Panel Description .....</b>	<b>4</b>
3.1 Front Panel.....	4
3.2 Rear Panel.....	4
<b>4. System Connection .....</b>	<b>5</b>
<b>5. IR Remote Control .....</b>	<b>6</b>
<b>6. GUI Control.....</b>	<b>7</b>
6.1 Control Tab .....	8
6.1.1 Matrix Mode.....	8
6.1.2 Switcher Mode.....	9
6.2 RS232 Tab.....	10
6.3 Interface Tab.....	11
6.4 Network Tab.....	11
6.5 Access Tab .....	12
6.6 GUI Upgrade .....	12
<b>7. RS232 control.....</b>	<b>14</b>
7.1 RS232 control software .....	14
7.2 Basic Setting:.....	14
7.3 RS232 Command.....	15
<b>8. Panel Drawing .....</b>	<b>18</b>

## **4x4 USB 3.0 Matrix**

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# **1. Product Introduction**

Thanks for choosing the MUB44 4x4 USB 3.0 Matrix. The matrix allowing 4 x USB devices to be shared between 4 x host devices, supporting Plug-and-Play. The USB data transfer rate is up to 5Gbps.

The Matrix provides advanced features including a web interface module for control and configuration of the Matrix, along with RS-232 for seamless control integration.

## **1.1 Features**

- Support USB 3.0 gen 1
- Data transfer rates up to 5Gbps
- Backwards compatible with USB 2.0 and 1.1
- Support front panel, GUI, IR and RS232 control
- 5V900mA power supply via USB-A
- Web interface module for control and configuration of the MUB44
- Plug and Play

## **4x4 USB 3.0 Matrix**

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### **1.2 Packing List**

- 1x MUB44
- 2x Mounting Ears with 4 Screws
- 4x Plastic Cushions
- 1x RS232 cable
- 1x IR Receiver
- 1x Remote control
- 1x USB3.0 cable (USB A to USB B, 1m)
- 1x Power Adapter (DC 24V/1.25A)
- 1x User Manual

### **1.3 Customer Service**

We provide limited warranty for the product within **three years** counting from date of purchase (The purchase invoice shall prevail).

**Note:** *Please contact your distributor immediately if any damage or defect in the components is found.*

## 4x4 USB 3.0 Matrix

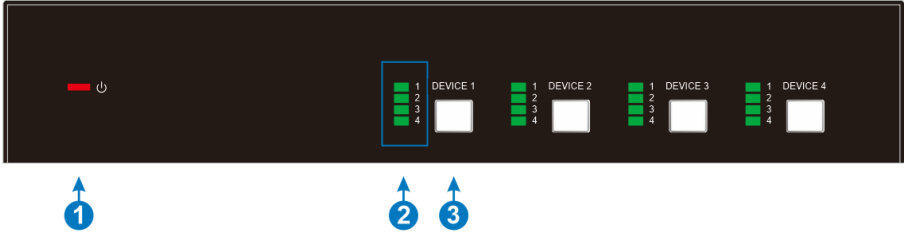
### 2. Specification

<b>Input</b>	
Input	(4)USB
Input Connector	(4)USB-A
USB Standard	USB3.0 Gen1
<b>Output</b>	
Output	(4)USB
Output Connector	(4)USB-B
USB Standard	USB3.0 Gen1
<b>Control</b>	
Control port	(1)IR IN, (1)RS232, (1)TCP/IP
Control Connector	(1)3.5mm mini jack, (1)3-pin terminal blocks, (1)RJ45
<b>General</b>	
Bandwidth	5Gbps
Operation Temperature	-10 ~ +55°C
Storage Temperature	-25 ~ +70°C
Relative Humidity	10% - 90%
Power Supply	DC24V1.25A
Power Consumption	20.4W(Max)
Dimension (W*H*D)	200mm x 39mm x 153mm
Net Weight	840g

## 4x4 USB 3.0 Matrix

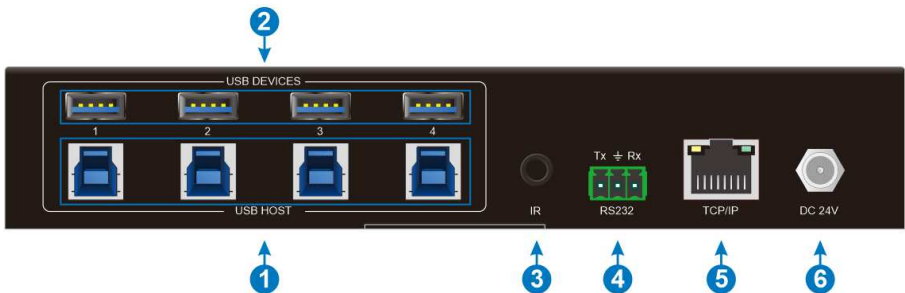
### 3. Panel Description

#### 3.1 Front Panel



- ① **Power LED:** Red and green indicator light, the green light is always on when the machine is powered on, the red light is always on in standby mode, and the indicator light is off when the power is off.
- ② **Selection LED:** The illuminated number corresponds to the USB Host the selected USB Device is routed to.
- ③ **Select Button:** Press to cycle the selected USB Device through each USB Host output.

#### 3.2 Rear Panel



- ① **HOST:** Connects to USB-B port of Host device
- ② **DEVICES:** Connects to USB-A Devices.

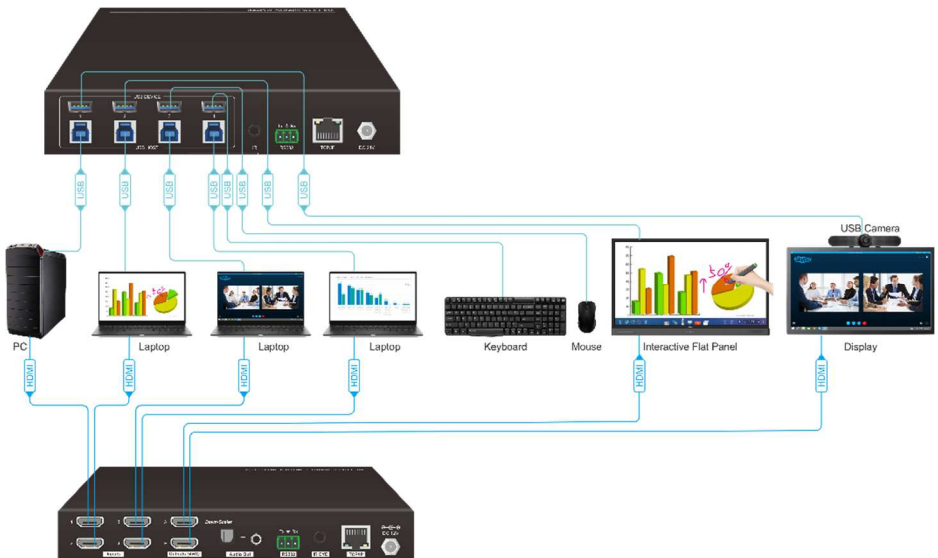


## 4x4 USB 3.0 Matrix

- ③ **IR IN:** 3.5mm jack to connect IR Receiver.
- ④ **RS232:** 3-pin terminal block to connect a computer to control the matrix by sending RS232 commands.
- ⑤ **TCP/IP:** Ethernet port to connect with a computer to control the matrix via GUI.
- ⑥ **DC 24V:** DC connector for power adapter connection.

## 4. System Connection

The following diagram illustrates typical input and output connections that can be utilized with the Switcher:



## 5. IR Remote Control

- Press the **STANDBY** button to enter or exit Standby mode.
- Inputs represent the device, and Outputs represent the host. In fact, a device can only be bound to one host, and a host can be bound to multiple devices.
- To switch the selected one or more of the inputs for output, first press the number corresponding to the desired **INPUT** or the **ALL** button, then press one **OUTPUTS**, then press the **ENTER** button to execute the change.
- **Examples:**
  - ✓ To send input 3 to output 2, first press the **INPUTS 3** button, then press the **OUTPUTS 2** button, and finally press the **ENTER** button to execute the change.
  - ✓ To send all input to outputs 4, first press the **ALL** button, then press the **OUTPUTS 4** button, and finally press the **ENTER** button to execute the change.



## 6. GUI Control

The MUB44 can be controlled via TCP/IP. The default IP settings are:

IP Address:192.168.0.178

Subnet Mask:255.255.255.0

Gateway:192.168.0.1

Please type the IP Address of the control PC in the internet browser, and it will enter the below log-in webpage.



**Username: admin**

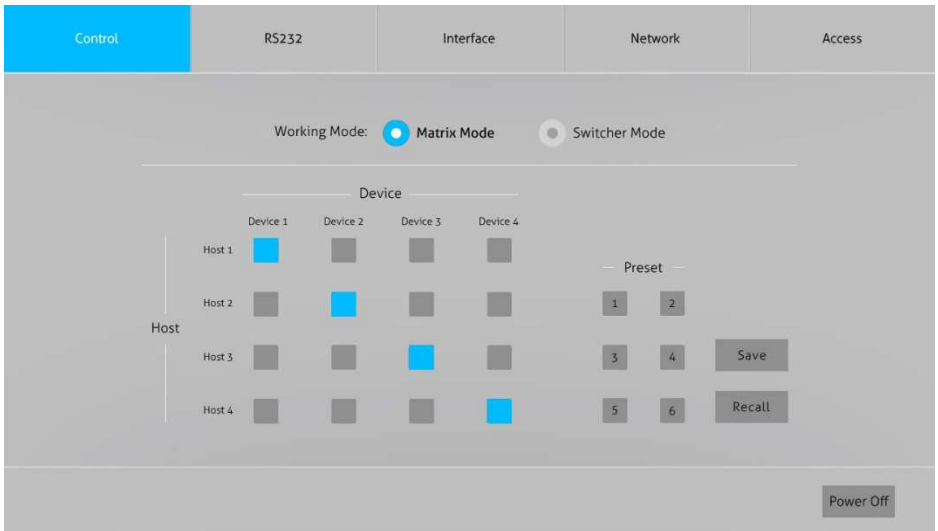
**Password: admin**

Please type the username and the password, and then click **LOGIN**.

## 4x4 USB 3.0 Matrix

### 6.1 Control Tab

#### 6.1.1 Matrix Mode



Use the 4x4 button grid on the page to set which inputs are directed to which outputs. For example, clicking the button on the Input 1 row and Output 1 column, directs input 1 to output 1.

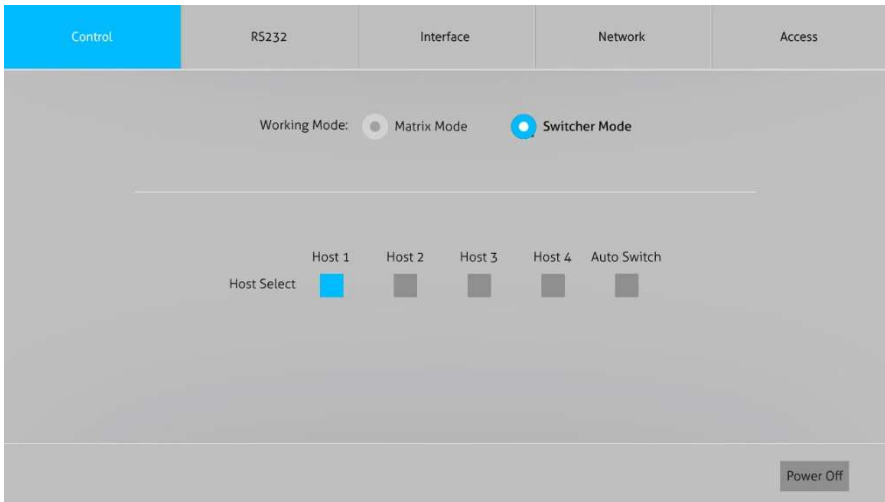
Use the 6 numbered buttons under scene area to save and load layout presets.

## 4x4 USB 3.0 Matrix

- To save a given layout, first click one of the numbered buttons, then click the Save button.
- To load a previously saved layout, first click one of the numbered buttons, then click the Recall button.



### 6.1.2 Switcher Mode



Click the switcher mode button to select the switcher mode

In this mode, the machine will be used as a switcher with auto switching.

Click host 1 to 4, then all devices will switch to the corresponding host.

Auto switch: when there is a new host connection, automatically switch to the new host.  
When the connecting host is disconnected, select the host device in the order of ports 1-4

## 4x4 USB 3.0 Matrix

### 6.2 RS232 Tab

The screenshot shows the RS232 configuration tab. At the top, there are five tabs: Control, RS232 (selected), Interface, Network, and Access. Below the tabs, there are two radio buttons for 'ASCII' (selected) and 'HEX'. Below these are three input fields: 'Baud Rate' with a dropdown menu showing '9600', 'Command Ending' with a dropdown menu showing 'NULL', and 'Command' with a text box containing 'xxxxxx'. At the bottom, there are two buttons: 'Confirm' (blue) and 'Cancel' (grey).

- ASCII or HEX command format can be selected.
- Baud Rate: Supports 9600, 19200, 38400, 57600 or 115200.
- Command Ending: NULL, CR, LF or CR+LF can be chosen.
- Command: Type the command in this box to control the third-party device which is connected to the RS232 port of the matrix switcher.

## 4x4 USB 3.0 Matrix

### 6.3 Interface Tab

Control	RS232	Interface	Network	Access
Host				
Host 1			Host 2	
Host 3			Host 4	
Devices				
Device 1			Device 2	
Device 3			Device 4	
<input type="button" value="Confirm"/>				

- Modify the HOST names
- Modify the Devices names

### 6.4 Network Tab

Control	RS232	Interface	Network	Access
MAC Address: 44-33-4C-C9-35-12		Telnet		
DHCP <input type="checkbox"/> Static IP <input checked="" type="checkbox"/>		Telnet Access: <input checked="" type="checkbox"/>		
IP Address: 192.168.0.178		Telnet Port: 4001		
Subnet Mask: 255.255.255.0				
Gateway: 192.168.0.1				
<input type="button" value="Confirm"/>				

- Static IP or Dynamic Host Configuration Protocol (DHCP).
- Modify the static IP Address, Subnet Mask, and Gateway.

## 6.5 Access Tab

The screenshot shows the 'Access' tab of a configuration interface. It has a top navigation bar with tabs: Control, RS232, Interface, Network, and Access (which is active and highlighted in blue). The main content area is divided into three sections:

- Password:** A text input field containing 'admin' and a 'Confirm' button.
- Firmware Upgrade:** A text input field containing 'C:\' and a 'Confirm' button.
- Front Panel Lock:** A toggle switch. The 'ON' position is selected, indicated by a blue bar and the label 'ON' to the left. The 'OFF' position is labeled 'OFF' to the right.

- Modify the login password
- Choose the firmware upgrade file and click confirm to upgrade the firmware
- Lock or unlock the front panel buttons

## 6.6 GUI Upgrade

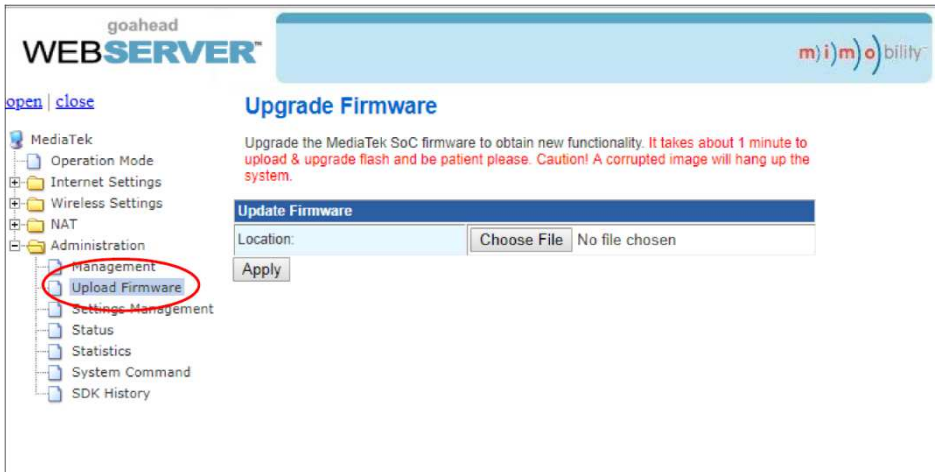
Please visit at <http://192.168.0.178:100> for GUI online upgrade.

Type the username and password (the same as the GUI log-in setting, modified password will be available only after rebooting) to login the configuration interface.

After that, click **Administration** in the source menu to get to **Upload Firmware** as show below:



## 4x4 USB 3.0 Matrix



Select the desired update file and press **Apply**, it will start upgrading then.

## 7. RS232 control

### 7.1 RS232 control software

- **Installation:** Copy the control software file to the control PC
- **Uninstallation:** Delete all the control software files in corresponding file path.

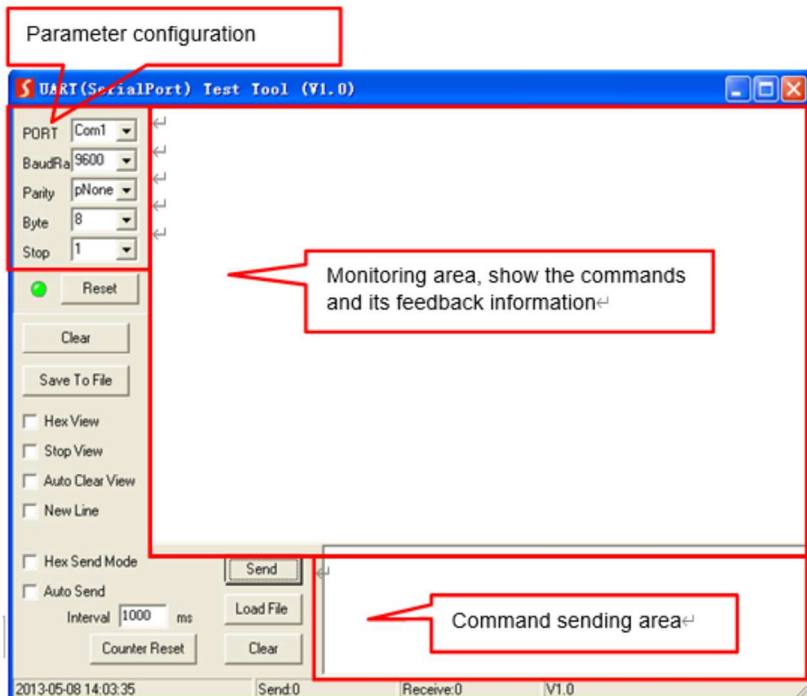
### 7.2 Basic Setting

Connect the Matrix with all input devices and output devices needed, then to connect it with a PC which is installed with RS232 control software. Double-click the software icon to run this software.

Here takes the software **CommWatch.exe** as example:



The interface of the control software is showed as below:



## 4x4 USB 3.0 Matrix

Set the parameters (baud rate, data bit, stop bit and parity bit) correctly to ensure reliable RS232 control

### 7.3 RS232 Command

Command	Description	Command Example and Feedback
>Help	>Help	<p>&lt;RS232 Commands:</p> <p>&gt;GetStatus      Print Status</p> <p>&gt;SetPower [param1]      Set System Power On Or Off</p> <p>                         param1 = On, Off</p> <p>&gt;SetKey [param1]      Set Panel Keys To Lock Or Unlock</p> <p>                         param1 = On, Off</p> <p>&gt;Reboot      System Reboot</p> <p>&gt;FactoryReset      Reset System To Default Setting</p> <p>&gt;SetUSB [param1]:[param2]      Set USB Device [param1] To Host [param2]</p> <p>                         param1 = 01~04: USB Device 1~4</p> <p>                         param2 = 01~04: USB Host 1~4</p> <p>                         param1 = 0: All USB Device</p> <p>&gt;SetRS232Baud [param1]      Set RS232 Baud</p> <p>                         param1 = 9600(Default), 19200, 38400, 57600, 115200</p> <p>&gt;SendRS232CMD [param1] [param2]      Sends Instructions To a Third Party Device On The RS232</p> <p>                         param1 = A1~5, H1~5</p> <p>                         param2 = Commands Data</p> <p>&gt;RecallPreset [param1]      Recall The Preset [param1]</p> <p>                         param1 = 1~6</p> <p>&gt;SavePreset [param1]      Save The Preset [param1]</p> <p>                         param1 = 1~6</p> <p>&gt;SetDHCP On      Set DHCP On</p> <p>&gt;SetIP [param1]      Set Static IP Address</p> <p>                         param1 = xxx.xxx.x.xxx</p> <p>&gt;SetTelnetPort [param1]      Set Telnet Port [param1]</p> <p>                         param1 = 1~9999</p> <p>&gt;SetTelnet [param1]      Set Telnet Port On Or Off</p> <p>                         param1 = On, Off</p>

4x4 USB 3.0 Matrix

		<div>&gt;GetIP</div> <div>Get IP</div>
>GetStatus	>GetStatus	<div>&lt;MUB44</div> <div>&lt;FW Version: V1.0.0</div> <div>&lt;USB</div> <div> <div>DEVICE</div> <div>1</div> <div>2</div> <div>3</div> <div>4</div> </div> <div> <div>HOST</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> </div> <div>&lt;Preset 1</div> <div> <div>DEVICE</div> <div>1</div> <div>2</div> <div>3</div> <div>4</div> </div> <div> <div>HOST</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> </div> <div>&lt;Preset 2</div> <div> <div>DEVICE</div> <div>1</div> <div>2</div> <div>3</div> <div>4</div> </div> <div> <div>HOST</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div> </div> <div>&lt;Preset 3</div> <div> <div>DEVICE</div> <div>1</div> <div>2</div> <div>3</div> <div>4</div> </div> <div> <div>HOST</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div> </div> <div>&lt;Preset 4</div> <div> <div>DEVICE</div> <div>1</div> <div>2</div> <div>3</div> <div>4</div> </div> <div> <div>HOST</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div> </div> <div>&lt;Preset 5</div> <div> <div>DEVICE</div> <div>1</div> <div>2</div> <div>3</div> <div>4</div> </div> <div> <div>HOST</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> </div>

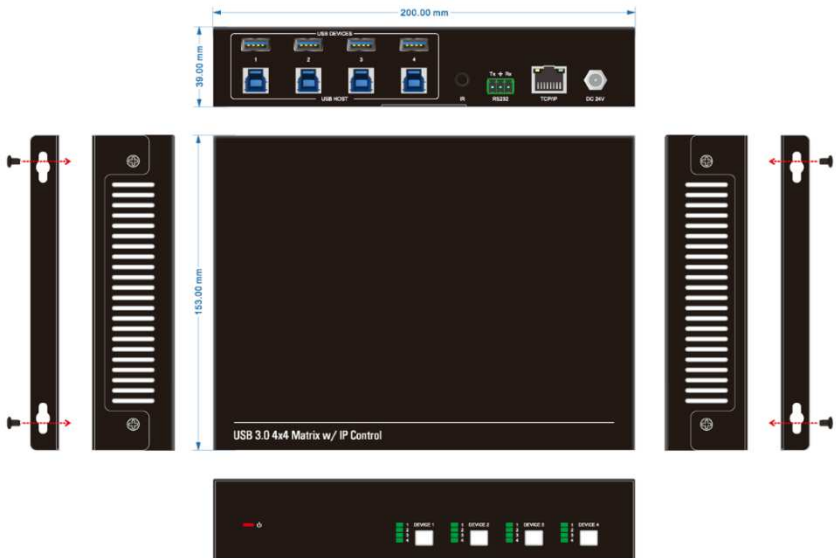
## 4x4 USB 3.0 Matrix

		<Preset 6 DEVICE 1 2 3 4 HOST 1 1 1 1 <Key On <RS232Baud: 9600 <Telnet On <TelnetPort: 4001 <DHCP Off <IP: 192.168.0.178
>SetRS232Baud	>SetRS232Baud 9600	<SetRS232Baud: 9600
>SendRS232CMD	>SendRS232CMD A1 111	111
>Reboot	>Reboot	<Reboot
>SetPower	>SetPower On >SetPower Off	<Power On <Power Off
>SetUSB	>SetUSB 01:03	<SetUSB DEVICE 1 HOST 3
>FactoryReset	>FactoryReset	<FactoryReset
>SetDHCP On	>SetDHCP On	<SetDHCP On
>SetTelnetPort	>SetTelnetPort 4001	<SetTelnetPort: 4001
>SetTelnet	>SetTelnet On/Off	<SetTelnet On <SetTelnet Off
>SetIP	>SetIP 192.168.0.178	<SetDHCP Off <SetIP: 192.168.0.178
>RecallPreset	>RecallPreset 01	<RecallPreset 1 DEVICE 1 2 3 4 HOST 1 1 1 1
>SavePreset	>SavePreset 01	<SavePreset 1 DEVICE 1 2 3 4 HOST 1 2 3 4
>GetIP	>GetIP	<GetIP: 192.168.0.178
>SetKey	>SetKey On/Off	<SetKey On <SetKey Off

## 4x4 USB 3.0 Matrix

>SetAutoSwitch	>SetAutoSwitch On/Off	<Set AutoSwitch On <Set AutoSwitch Off
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## 8. Panel Drawing



## **4x4 USB 3.0 Matrix**

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Kontakt:

syscomtec Distribution AG

Raiffeisenallee 8

DE 82041 Oberhaching

Telefon: +49 (0) 89 666 109 330

Telefax: +49 (0) 89 666 109 339

E-Mail: [post@syscomtec.com](mailto:post@syscomtec.com)

Homepage: [www.syscomtec.com](http://www.syscomtec.com)