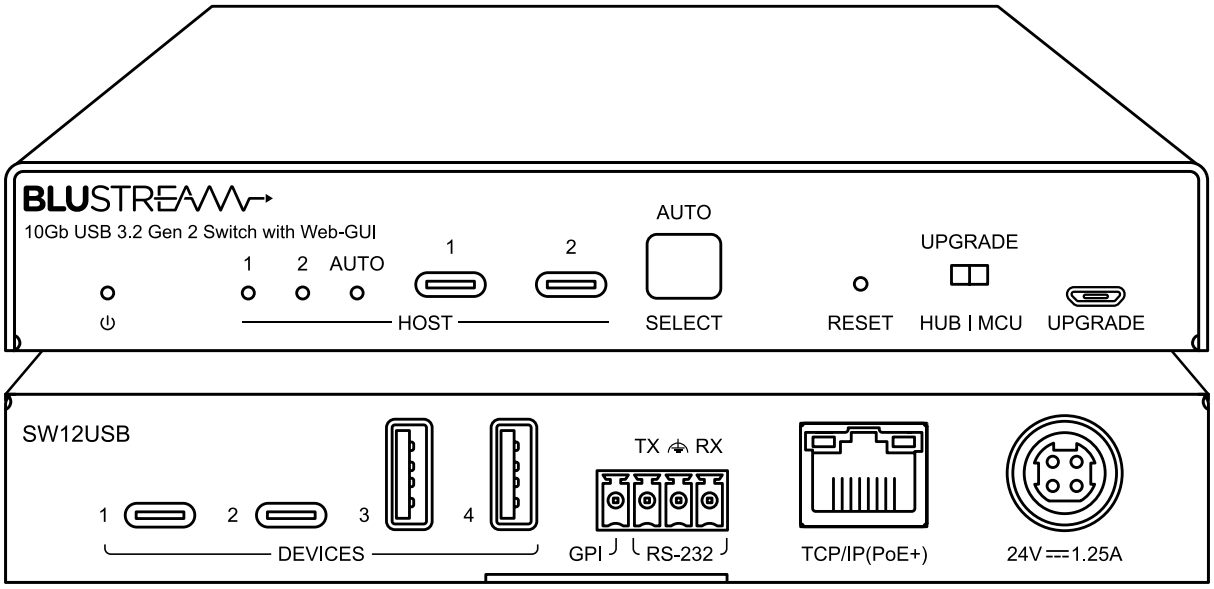


SW12USB

User Manual

Thank you for purchasing this product.

For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

Surge protection device recommended

This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, lightning strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment.

Safety And Performance Notice

Do not substitute or use any other power supply other than the enclosed unit, or a Blustream approved replacement.

Do not disassemble the unit for any reason. Doing so will void the manufacturer's warranty.

Contents

Introduction

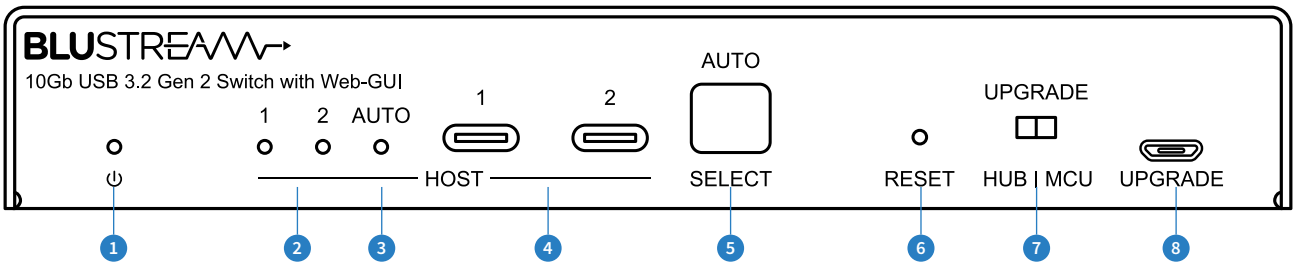
The SW12USB is a USB 3.2 Gen2 10Gb switcher, supporting 4 x USB devices that can be switched to 2 x USB-C host connections. The SW12USB supports auto switching between host devices using signal sense, or manually controlled via the front-panel push buttons, Web-GUI, TCP/IP, or RS-232

FEATURES:

- USB 3.2 Gen2 switch allowing up to 4 x USB peripheral devices to connect to 2 x USB hosts*
- Features 2 x USB-C and 2 x USB-A device inputs and 2 x USB-C hosts
- USB 3.2 Gen2 connectivity with data transfer rate up to 10Gbps
- Backwards compatible with USB 2.0 and 1.1
- Auto or manual switching
- Plug-and-play with no drivers, downloads, or software required
- Features 1 x GPI port for integration with 3rd party products
- Features 802.3at PoE+ for powering of product from PoE+ network
- Local 24v power supply input for when network switch does not support PoE+
- Web interface module for control and configuration of SW12USB
- Control via front panel buttons, RS-232, or TCP/IP

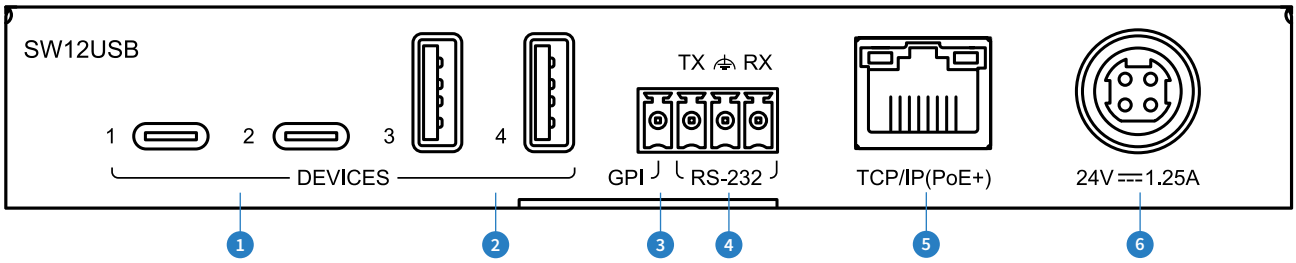
*Please note: the SW12USB does not pass DP ALt Mode video

Front Panel



1. Power LED indicator - Illuminates when the unit is powered
2. USB Host LED Indicator - Illuminates when the corresponding USB Host is selected
3. Auto Switching LED Indicator - Illuminates when auto switching mode is enabled
4. USB Host Input - USB-C to connect to USB Host device
5. Select Button - Press to toggle between USB Hosts. Press and hold for 3 seconds to enable / disable auto switching function
6. Reset Switch - Press to factory reset the unit
7. Upgrade Selection Switch - Select between Hub or MCU for firmware upgrade function
5. Upgrade Port - Micro USB for firmware upgrade function

Rear Panel



1. USB-C Device Inputs - Connect to USB-C devices
2. USB-A Device Inputs - Connect to USB-A devices

   Please note: total USB Device (USB-C and USB-A) charging support = 5V 4A. Max output per port is 5V 1.7A.
3. GPI Port - General purpose input for triggering input change - see follow page for details
4. RS-232 Port - 3-pin Phoenix connector for control of the switcher from a PC or control processor
5. External IR Port - Connect Blustream 5V IR receiver, or control processor to control the switcher
6. Power Port - Use supplied Blustream 24V/1.25A DC adaptor to power the unit

USB Performance

The SW12USB is a USB 3.2 Gen2 USB switch with data transfer rate up to 10Gbps and backwards compatibility support for USB 2.0 and 1.1 devices. Please note that actual USB performance will be dependent on the following factors:

- USB Host version and cable length / quality
- USB Device version and cable length / quality

It is possible for the SW12USB to limit the USB-A Device port speed from 10Gbps to 5Gbps to improve device compatibility via the Web GUI and API. The SW12USB does not pass DP Alt Mode video.

General Purpose Input (GPI) Port

The General Purpose Input (GPI) Port can be used to trigger the Host input to change on the SW12USB.
It has 3 modes of function and can be configured via the Web GUI.

Pulse Mode:

In Pulse Mode, when the GPI port receives a signal pulse (every high (1-12V) to low (Ground) voltage change), it triggers the SW12USB device to change Host inputs.

Level Mode:

In Level Mode, the SW12USB will trigger based on the voltage applied to the GPI port.
The low level trigger and high level trigger can be specified between 0-12V.

The SW12USB will switch to Host 1 when GPI voltage is greater than the High Level trigger level.
The SW12USB will switch to Host 2 when GPI voltage is less than the Low Level trigger level.

Contact Closure Mode:

In Contact Closure Mode when GPI port is open circuit, the SW12USB will select Host 1.

When GPI port is shorted to ground, the SW12USB will select Host 2.

The SW12USB features an in-built web-GUI for control and configuration of the unit. By default the device is set to DHCP, however if a DHCP server (eg: network router) is not installed the device IP address will revert to below details:

Default IP Address is: 192.168.0.200 Default Username is: blustream Default Password is: 1234

*** Please note:** Due to new UK cyber security requirements, the default password has been updated for the below firmware versions (and above) to default password: **@Bls1234**

SW12USB: firmware version: V1.3.0 onwards

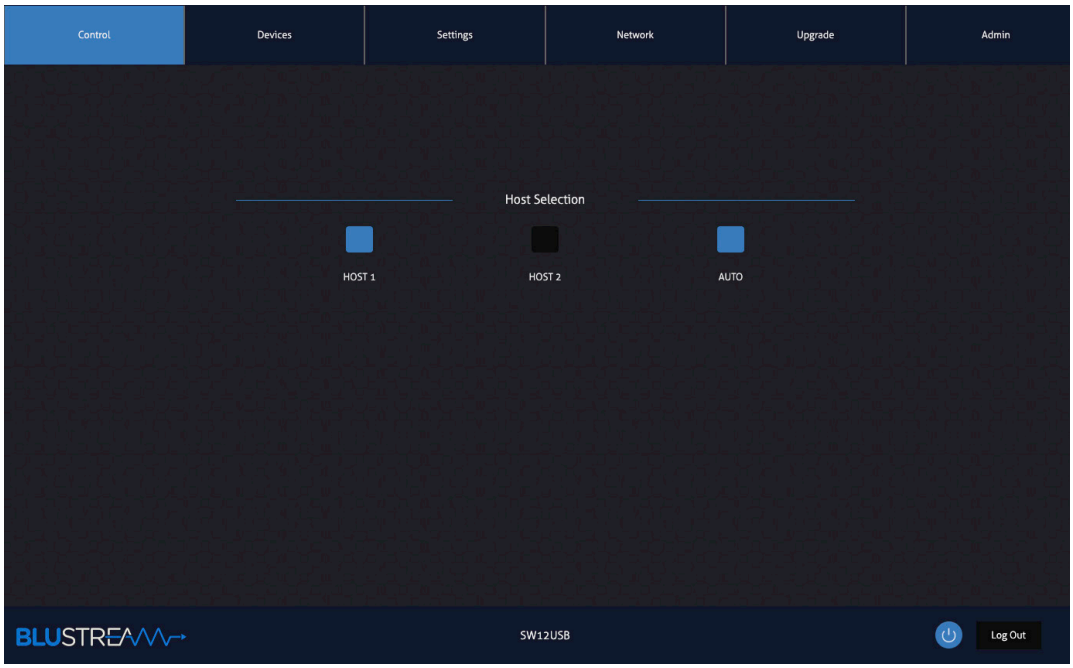
New password regulations requires new passwords being set for products to be a minimum of **8 characters** and contain a minimum of: **1x uppercase letter, 1x lowercase letter, 1x symbol and 1x number.**

The device can also be accessed via its mDNS name which is defaulted to: http://SW12USB.local/

Web-GUI - Control

The Control tab of the web-GUI allows for a user to switch between Host 1 or Host 2. The Host labels cannot be assigned within the GUI as most control will either be carried out automatically, or via API command.

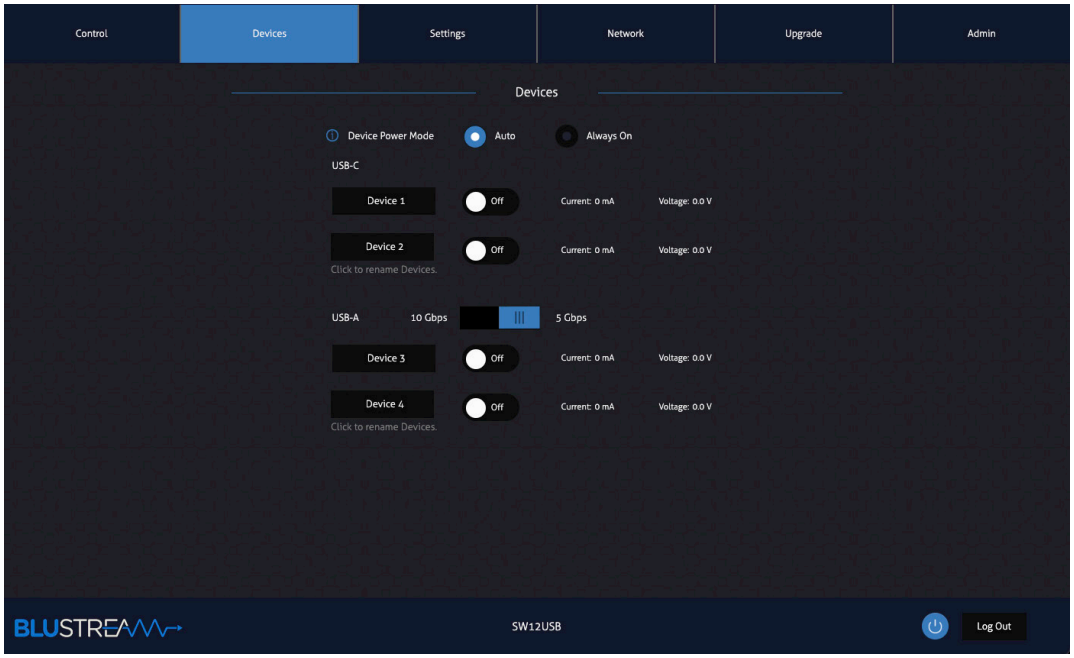
The Auto functionality allows for the SW12USB to automatically switch over to a new Host being connected to the unit.



Web-GUI - Devices

The Devicves tab allows for control over power delivered to the devices connected, and if these need to be powered permanently, or only when there is a live Host connection available. Current and voltage being drawn is also reported within this tab for reference.

The ports can be disabled by using the radial button next to each connection. The USB-A connections can have the amount of data limited between USB 3.2 Gen 1 (5Gbps - default)) or USB 3.2 Gen 2 (10Gbps).

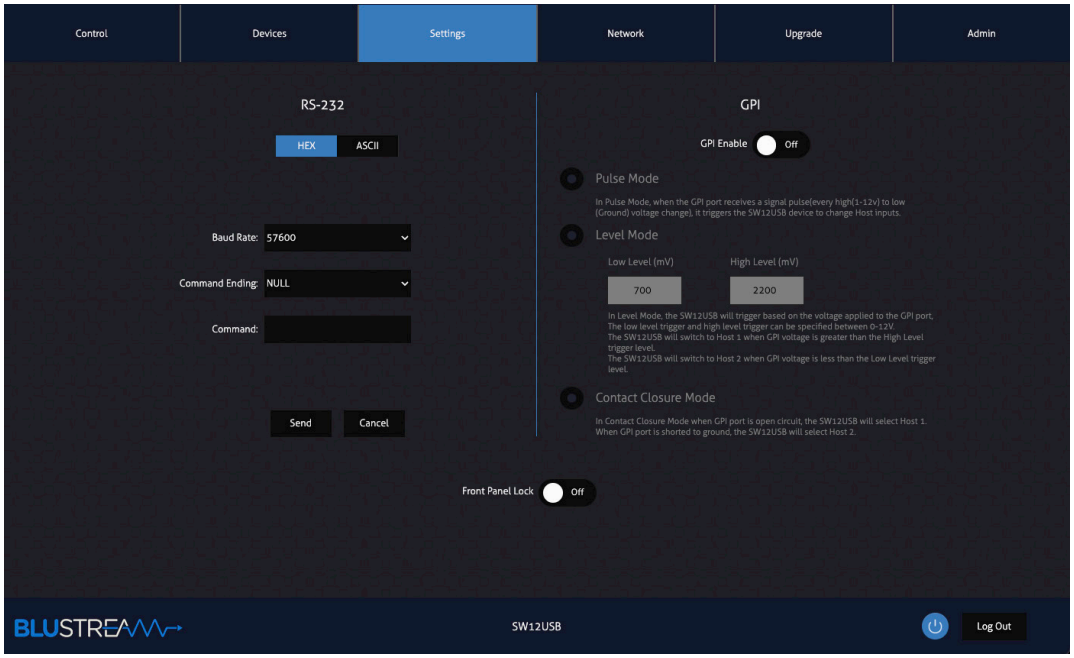


Web-GUI - Settings

The Settings tab allows for the configuration of the RS-232 terminal (HEX or ASCII communication, Baud Rate, Command Ending and a trigger command to be sent if the GPI is triggered).

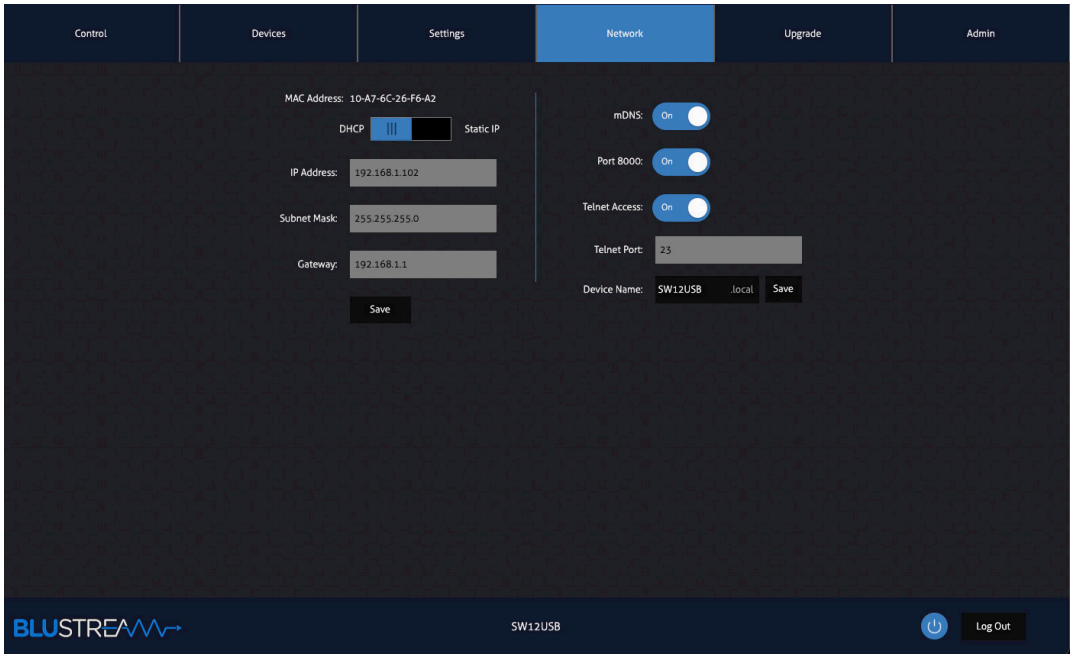
The GPI connection can also be configured from this tab, allowing for a trigger to be received by the SW12USB in Pulse Mode, Level Mode (with options for low and high voltages to be received), or Contact Closure Mode.

The button on the fornt of the unit can also be enabled / disabled form this screen to stop users from pressing this to switch between Hosts.



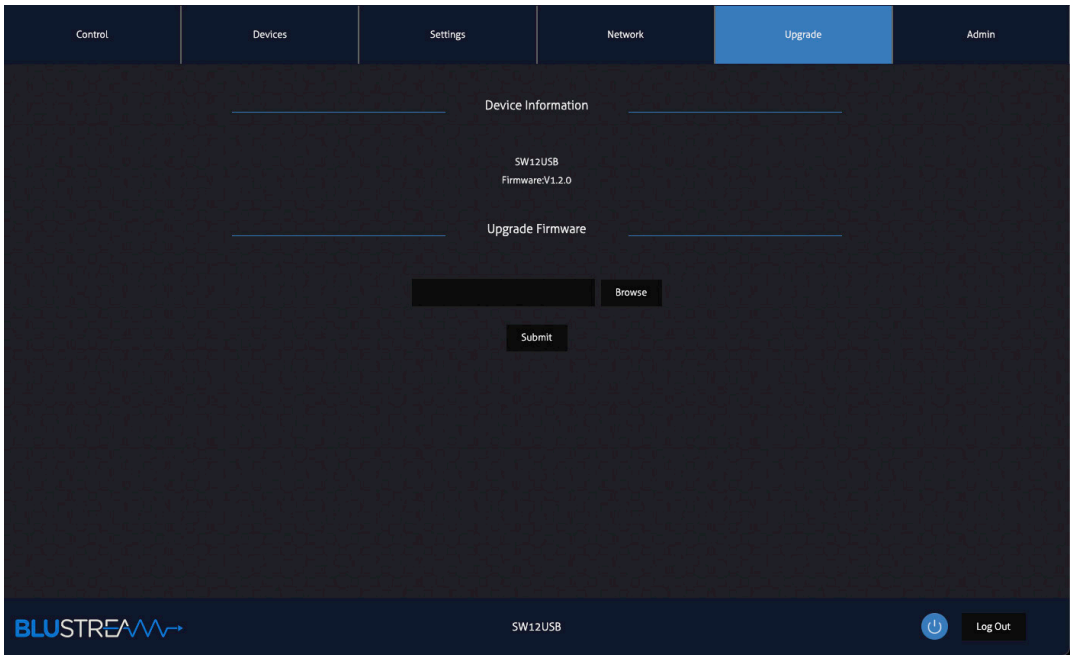
Web-GUI - Network

Network settings for the TCP/IP port of the unit can be configured from this tab of the web-GUI.



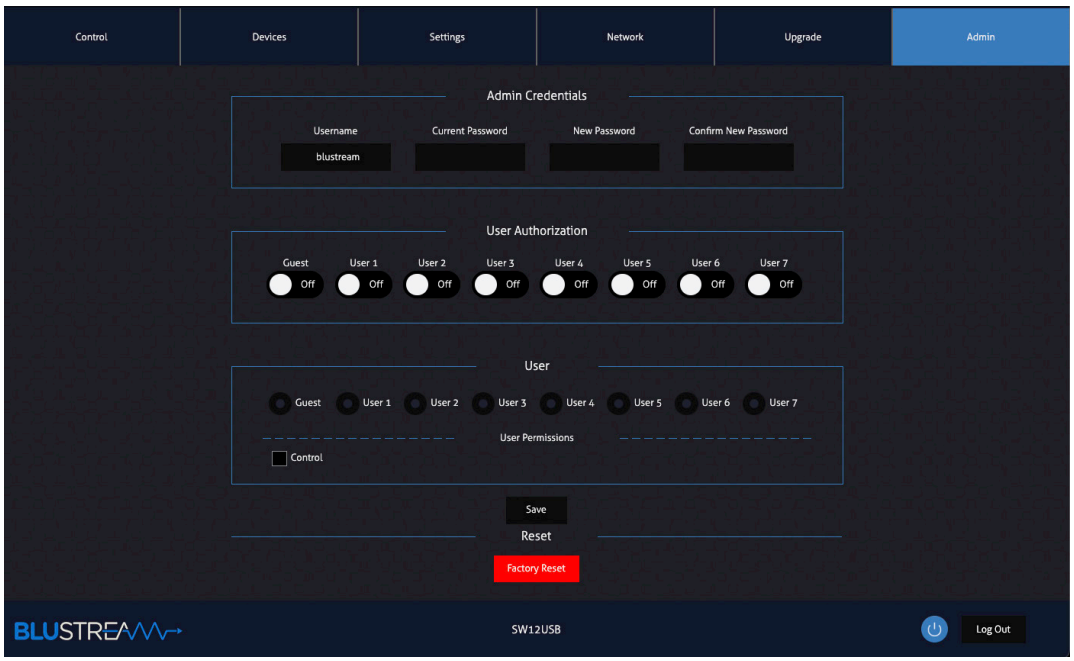
Web-GUI - Upgrade

The firmware of the MCU of the SW12USB is carried out from this tab of the user interface. Please see separate guide that is downloaded alongside the firmware files from the Blustream website for instructions of how to update the firmware of this unit,



Web-GUI - Admin

The Admin tab allows for the administrators username and password to be updated as required. Users can also be set up from this tab.

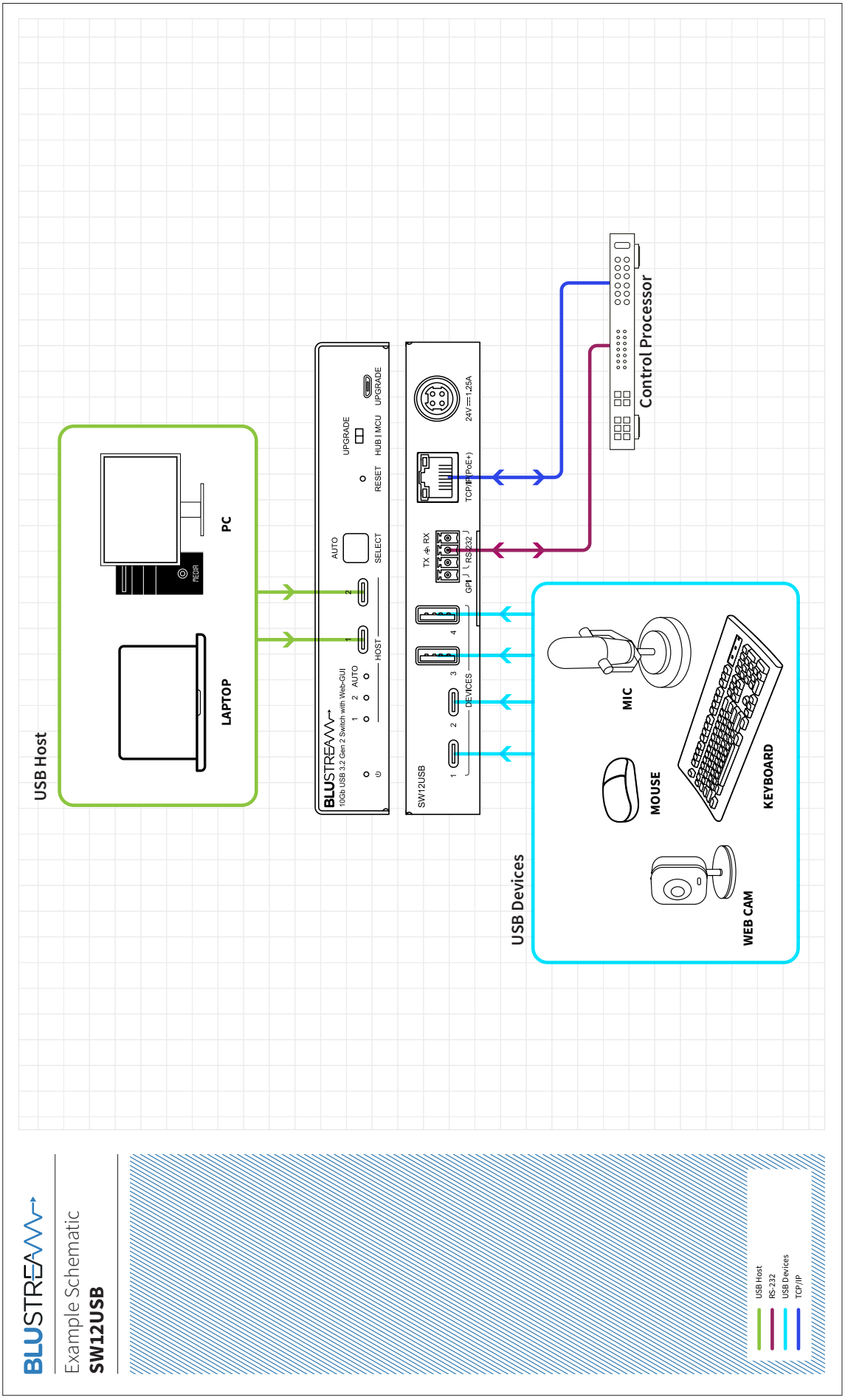


Telnet & RS-232 Control Ports

The SW12USB can be controlled via a 3-pin phoenix to serial RS-232 cable, or via Telnet.
The RS-232 communication settings and commands are as follows:

Baud Rate: 57600 bps Data Bit: 8-bit Parity: None Stop Bit: 1-bit Flow Control: None

RS-232 / TELNET COMMAND	DESCRIPTION
?/HELP	Print Help Information
STATUS	Print System Status And Port Status
PON/OFF	Set System Power On Or Off
RESET	Reset System To Default Setting Type 'Yes' To Confirm, 'No' To Discard Within 30 Seconds
HOST yy FR All	Set Connect From Host:yy yy = 01 : Host1 yy = 02 : Host2
SWITCH aa	Set Switching To aa aa = AUTO: Auto Switching ON - Auto Mode aa = MAN: Auto Switching OFF - Manual Mode
USBDP aa	Set USB Device Power Mode aa = FH : Follow Host aa = ON : Always On
USBDPOUT yy ON/OFF	Set USB Device Power Output yy = 00 : All Devices yy = 01-04 : Device1-4
GPI yy	Set GPI Mode yy = 00 : Pulse Mode yy = 01 : Level Mode yy = 02 : Contact Closure Mode
GPI LOW xx	Set The Low Level Voltage In The Level Mode xx Range 0~12000 Unit mV
GPI HIGH xx	Set The High Level Voltage In The Level Mode xx Range 0~12000 Unit mV
FP LOCK ON/OFF	Set Front Panel Lock ON Or OFF
NAME zz	Set Device Name zz Is New Device Name
UG HUB yy	Select Hub Upgrade Note: All Connected Devices Will Lost. Switch The Host Or Reconnect The USB Cable It Will Be Returned To Normal yy = 01 : Hub1 yy = 02 : Hub2
SPEED yy	Set Type-A Port Speed yy = 00 : Speed 5G yy = 01 : Speed 10G
RS232BAUD z	Set RS232 Baud Rate To xx z = 1 2400, 2 4800, 3 9600, 4 19200, 5 38400, 6 57600 (Default), 7 115200
RS232ON y:z:a	Send y Type Of Command a Stored In Local RS232 Whose Baud Rate Is z y = a ASCII, h HEX z = 1 2400, 2 4800, 3 9600, 4 19200, 5 38400, 6 57600 (Default), 7 115200 a = RS232 Command
NET DHCP ON/OFF	Set Auto IP(DHCP) On Or Off
NET TN 8000 ON/OFF	Set Telnet Port 8000 On Or Off
NET TN ON/OFF	Set Telnet Port On Or Off
NET MDNS ON/OFF	Set mDNS On Or Off
NET IP xxx.xxx.xxx.xxx	Set IP Address
NET GW xxx.xxx.xxx.xxx	Set Gateway Address
NET SM xxx.xxx.xxx.xxx	Set Subnet Mask Address
NET RB	Set Network Reboot And Apply New Config!!!
NET TN xxxx	Set Telnet Port


BLUSTREAM
Example Schematic
SW12USB
USB Host
PC
LAPTOP
BLUSTREAM
10Gb USB 3.2 Gen 2 Switch with Web-GUI
AUTO
HOST
UPGRADE
RESET
HUB I MCU
SELECT
SW12USB
DEVICES
TX RX
RS-232
TCP/IP (PoE+)
24V 1.25A
Control Processor
USB Devices
MIC
MOUSE
KEYBOARD
WEB CAM
USB Host
RS-232
USB Devices
TCP/IP

Specifications

- **USB Device:** 2 x USB Type A female, 2 x USB Type C female
- **USB Host:** 2 x USB Type C female
- **GPI / RS-232 Serial Port:** 1 x 4-pin Phoenix connector
- **TCP/IP Control:** 1 x RJ45, female
- **Firmware Upgrade:** 1 x Micro-USB
- **Dimensions (W x D x H):** 150mm x 110mm x 23mm
- **Shipping Weight:** 0.6kg
- **Operating Temperature:** 32°F to 104°F (0°C to 40°C)
- **Storage Temperature:** -4°F to 140°F (-20°C to 60°C)
- **Power Supply:** 24V/1.25A DC, 4-pin DIN connector

NOTE: *Specifications are subject to change without notice. Weights and dimensions are approximate.*

Package Contents

- 1 x SW12USB
- 1 x 24V/1.25A DC power supply
- 1 x 3-pin phoenix to DB9 serial cable
- 1 x Mounting kit
- 1 x Quick Reference Card

Maintenance

Clean this unit with a soft, dry cloth. Never use alcohol, paint thinner or benzene to clean this unit.

Components inside this unit are not user serviceable. Do not remove the protective cover from the unit. Removing any panel from this product will invalidate the manufacturers warranty.

Certifications

FCC NOTICE

This equipment 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 residential installation. 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. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION - changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CANADA, INDUSTRY CANADA (IC) NOTICES

This Class B digital apparatus complies with Canadian ICES-003.

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

CORRECT DISPOSAL OF THIS PRODUCT

This marking indicates that this product should not be disposed with other household wastes. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmentally safe recycling.

Installer Notes

Installer Notes

www.blustream-us.com
www.blustream.com.au
www.blustream.co.uk