4:1 HDMI Switch, 18Gbps, 4K/60Hz, CAT6 Output

User Manual

Version 1.0

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, lighting strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment.

Contents

1.0 Introduction

This compact switch allows four sources (1 x Type-C, 1 x VGA, 2 x HDMI) to be switched to 1 x HDMI output and 1 x CAT6 (HDBaseT) output simultaneously, the CAT6 transmission distance is 70m@1080P and 40m@4K. The switch supports analogue and digital audio embedding and de-embedding for local amplifier or speaker connections, along with a separate microphone input embedded on any input.

Controls include front panel buttons with LCD display, RS232, Infrared and Ethernet via a web portal.

This switch is ideal for presentation systems in corporate and educational environments.

2.0 Features

- 4 x HDMI inputs to 4 HDMI outputs
- Supports 18Gbps
- 4K/60Hz, YCbCr 4:4:4
- HDMI 2.0, HDCP 2.2
- Advanced EDID
- Downscale from 4K ↔ 1080P
- Supports HDR, HDR10+, HLD, Dolby Vision
- LPCM 7.1, Dolby True HD™, DTS HD Master Audio
- De-Embedded Analogue and Digital Audio
- ARC (audio return channel)
- Control: Front panel, IR control, RS232 and TCP/IP Web GUI

3.0 Package contents

1. 1 x Main Unit (SC03.4200)
2. 1 x Power Adaptor 24V/1A
3. 1 x IR Remote
4. 2 x IR Transmitter Cable
5. 3 x IR Receiver Cable
6. 1 x CAT6 (HDBaseT) Receiver
7. User Manual

4.0 Specifications

Connectivity
Inputs: 2 x HDMI Type A, 19-Pin Female, 1 x Type-C, 1 x VGA
PC Audio Input: 1 x 3.5mm Stereo Jack Socket
HDMI Audio Input: 1 x 3.5mm Stereo Jack Socket
Output: 1 x HDMI Type A, 19-Pin Female, 1 x RJ45 CAT6 (HDBaseT)
Digital Audio Output: 1 x Coaxial RCA Phono Socket
Analogue Audio Output: 1 x 3.5mm Stereo Jack Socket
IR Input: 1 x 3.5mm Jack Socket
IR Output: 1 x 3.5mm Jack Socket
Microphone Input: 1 x 3-Pin Phoenix Terminal
RS232: 1 x 3-Pin Phoenix Terminal
Ethernet: 1 x RJ45 Data Socket
IR External: 1 x 3.5mm Jack Socket
Power: 1 x DC Jack

Signal
Signal Input/Output: HDMI
Standards: HDMI 2.0, HDCP 2.2/1.4
Bandwidth: 18Gbps
Video Resolutions: 4K/60Hz 4:4:4, 4K/30Hz / 1080p / 1080i / 720p / 576p / 480p
Colour Space: RGB/YCbCr 4:4:4, YCbCr 4:2:2, YUV 4:2:0, HDR10
Colour Depth: 8/10/12-bit
HDMI Audio: PCM2.0/5.1CH, Dolby Digital, DTS
Coaxial Audio: PCM2.0, Dolby Digital / Plus, DTS 2.0/5.1
Analogue Audio: PCM 2.0CH
Infra-Red: Wide Bandwidth, Frequency 30KHz to 56KHz (940nm)

Power
Type: AC to DC Mains Adaptor
Input: 100~240V AC 50/60Hz
Output: Transmitter 24V/1A
Consumption: 16.5 Watts

Environment
Operating Temperature: -5° to 40°C
Storage Temperature: -10° to 60°C
Operating Humidity: 5 to 90% RH (no condensation)
Dimensions: (W) 235 x (D) 137 x (H) 39
Weight: 1.175g
Colour: Black
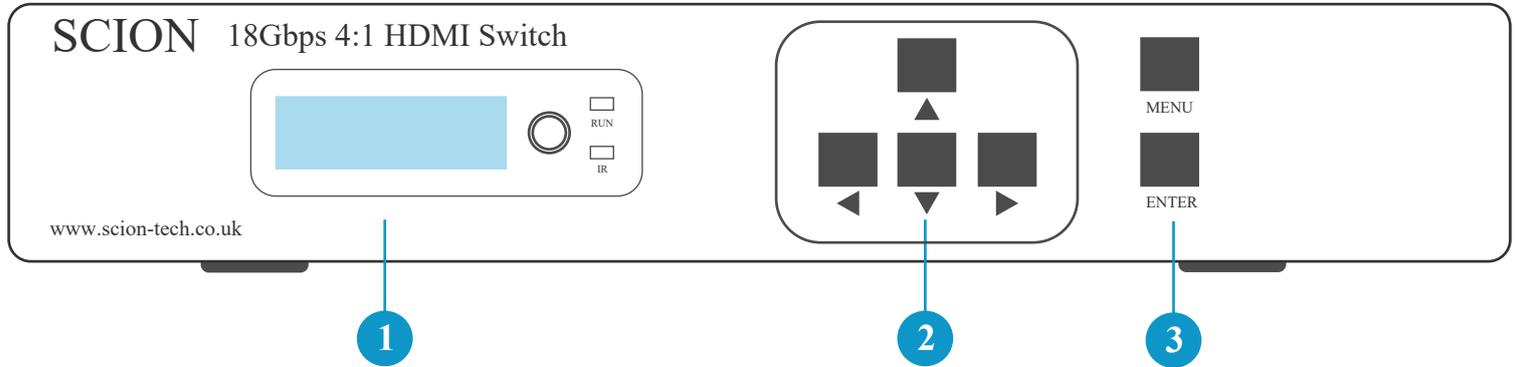**ESD:** Human Body - +/-8kV, (air gap discharge) & +/-4kV (contact discharge)
Safety and Emissions: CE, FCC, RoHS

Cable Lengths: CAT6 Output: 70m@1080P, 40m@4K, HDMI 15m@1080P, 6m@4K

Note: Premium High Speed HDMI cables are required to achieve these results.

5.0 Panel Control & Connections

5.1 Front Panel

SCION 18Gbps 4:1 HDMI Switch

RUN

IR

www.scion-tech.co.uk

MENU

ENTER

1 **2** **3**

Number	Name	Function / Description
1	LCD	Switch status and function display
2	Function Button	Up, Down, Left and Right
3	Function Button	Menu and Enter
4	Left Button	Selects options in the sub-menu, microphone volume and analogue output volume
5	Right Button	
6	Up Button	Selects options in the sub-menu
7	Down Button	
8	Enter	Enter the sub-menu and return to previous screen
9	Menu	Display on and return to main menu

5.2 Rear Panel
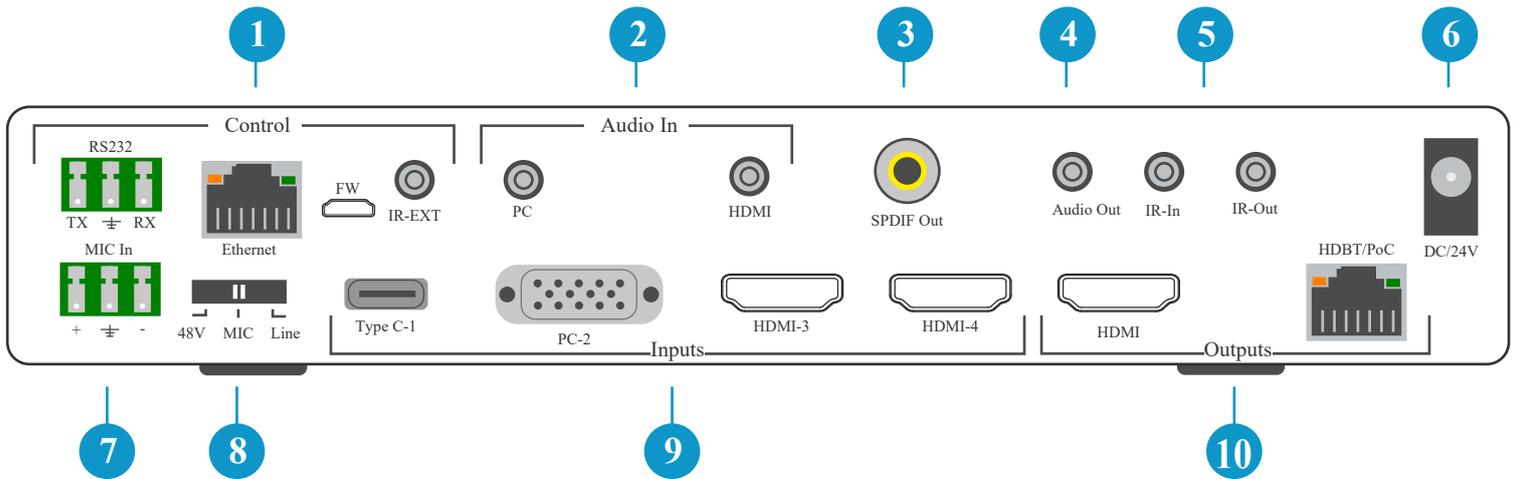
| Number	Name	Function / Description
1	Control	RS232 Pass-Through, RS232 Control, Ethernet Web Browser, Firmware Update and IR-External.
2	Audio In	PC: Audio for VGA input only. HDMI: Analogue PCM2.0 audio embedded.
3	Digital Audio	SPDIF De-Embedded audio output (Dolby, DTS, Max 5.1CH)
4	Analogue Audio	Audio output PCM2.0
5	Infra Red	IR Pass-Through to HDBaseT Receiver
6	DC/24V	Power input
7	Microphone	MIC input for embedding in Type-C, VGA and HDMI
8	MIC Switch	Selects the input for embedding microphone
9	Inputs	Video inputs: (1) Type-C, (2) VGA, (3) HDMI, (4) HDMI
10	Outputs	HDMI and CAT6 (HDBaseT)

6.0 IR Remote
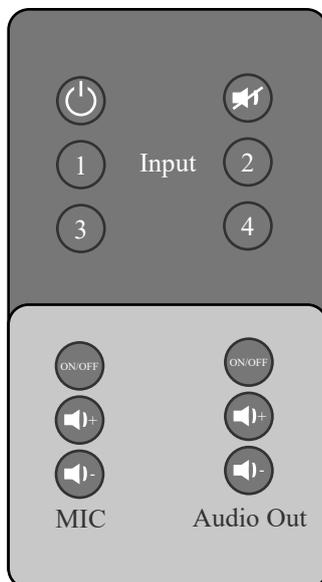
1. Standby

2. Mute

3. Video input (1) Type C-1, (2) PC2-VGA, (3) HDMI-3, (4) HDMI-4

4. MIC in (ON/OFF) / Volume Control

5. Analogue audio out (ON/OFF) Volume Control

7.0 LCD Menu

Menu functions include Video Set, Audio Set, EDID Set, MIC input Volume Set, Analogue Output Volume Set, IP Query, UART Query, Reset.

Press any button to activate the LCD screen, if no action is taken the screen turns off after 20 seconds.

```
>> VIDEO SET
>> AUDIO SET
>> EDID SET
>> MIC IN VOL SET
```

```
>> ANAL OUT VOL SET
>> IP QUERY
>> UART QUERY
>> RES SET
```
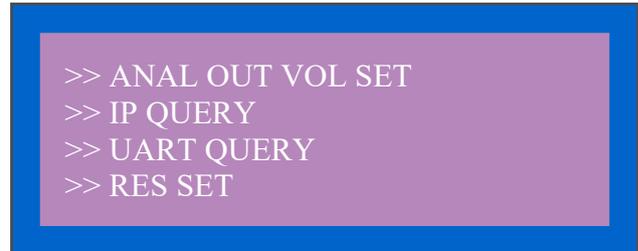
7.1 Video Set

Select "VIDEO SET" and press the "ENTER" to confirm. Press "LEFT/RIGHT" arrow buttons to select the current input signal. Press the "ENTER" button again to return to the main menu.

```
>> VIDEO SET
TYPE-C | VGA | HDMI 1 | HDMI 2
```
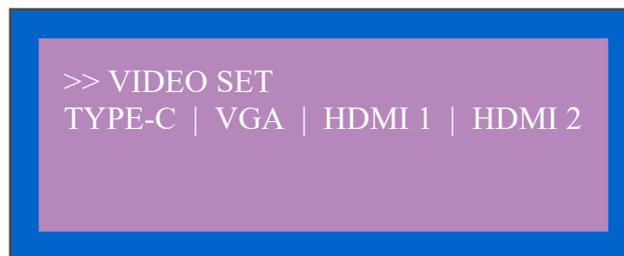
7.2 Audio Set

Select "AUDIO SET" and press the "ENTER" to confirm. Press "LEFT/RIGHT" arrow buttons to select the current input signal. Press the "ENTER" button again to return to the main menu.

```
>> AUDIO SET
HDMI | ANAL | MUTE
```
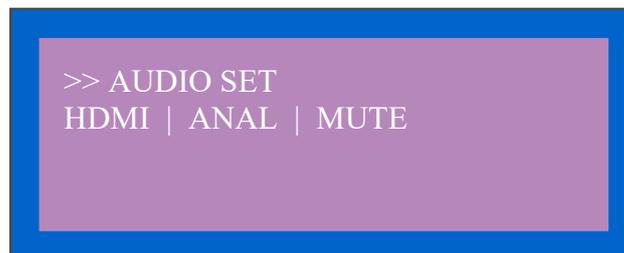
7.3 EDID Set

Select "EDID SET" and press the "ENTER" to confirm. Press "LEFT/RIGHT" arrow buttons to select the current input signal. Press the "ENTER" button again to return to the main menu. Supports 4K/60 (Default), 1080p (Default), Copy HDMI and Copy HDBaseT.

```
>> EDID SET
4K60   1080P
COPY  HDMI     COPY HDBT
```

7.4 Microphone input volume Set

Select "MIC IN VOL SET" and press the "ENTER" to confirm. Press "LEFT/RIGHT" arrow buttons to increase or degrease the volume. Press the "ENTER" button again to return to the main menu.

```
>> MIC IN VOL SET
VOL:    - 5  +
```

7.5 Analogue audio volume Set

Select "ANAL OUT VOL SET" and press the "ENTER" to confirm. Press "LEFT/RIGHT" arrow buttons to increase or degrease the volume. Press the "ENTER" button again to return to the main menu.

```
>> ANAL OUT VOL SET
VOL:    - 5  +
```

7.6 IP QUERY

The default IP address is 192.168.1.168, DHCP is off. Use the "LEFT/RIGHT" buttons to select DHCP status, then press "ENTER" to confirm to back up one level.

```
>> IP QUERY
192 . 168 . 1 . 168
DHCP: OFF     ON
```

7.7 UART QUERY

Supported baudrate are 9600, 19200, 38400, 57600, 115200 (Default). The baudrate must be changed using PC tool or web browser, this is not supported using front panel controls.

```
>> UART QUERY
UART 1   BAUD: 115200
```

7.8 SYSTEM RESET

Press the "ENTER" button to reset the switch to factory default settings.

```
>> SYSTEM RESET
Please  Press Enter  Key…..
```
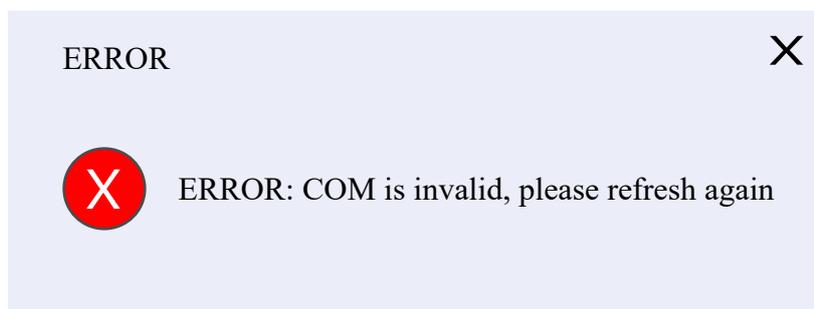
8.0 PC Application

    a.   Install the "swe01b_4-Input HDMI Switcher.exe" software on your computer.

    b.   Connect the switch to your computer using the USB to RS232 cable supplied.

    c.   Press the "Search" button to find the correct COM port then click "Open Port".

8.1 COM Port Setup

    a.   Communication port settings: Open the application software and select the correct port and baudrate, these should be the same as those shown within the LCD menu.

RS232 INFO

Port   COM1   ▼

Baud   115200   ▼

RS232 Setting
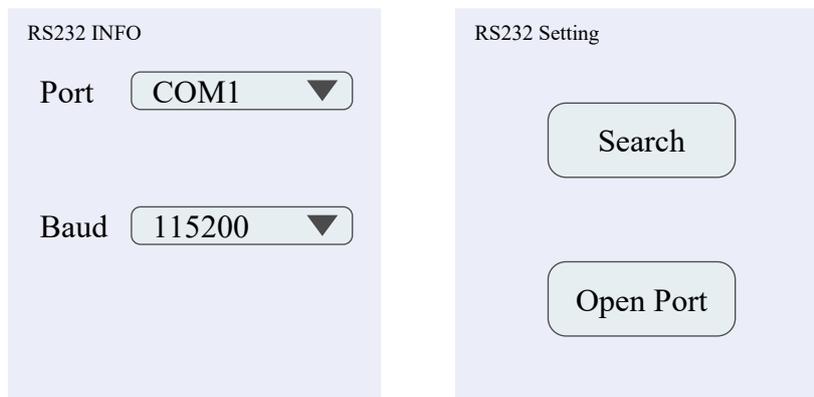
Search

Open Port

    b.   Click "Search" to refresh the communications port.

    c.   "Open Port": in disconnect status, "Close Port": connected to device.

    d.   The following popup error means there is no communication, please refresh and try again.

ERROR   X

X   ERROR: COM is invalid, please refresh again

    e.   When connected the following information will be displayed.

Close Port

Analogue Output

VOL

Connect to COM1 Baud : 115200

Page 9

8.2 Control Interface

Control	Network

Video Input

○ TYPEC　　　　○ VGA　　　　○ HDMI 1　　　　○ HDMI 2

EDID Mode

○ 4K60　　　　○ 1080P　　　　○ HDMI　　　　○ HDBT

Audio Input

○ HDMI　　　　○ Analogue　　　　○ Mute　　VOL ▭━━━▮━━━ 5

Analogue Output

Setting

VOL ━━▮━━ 5

Factory
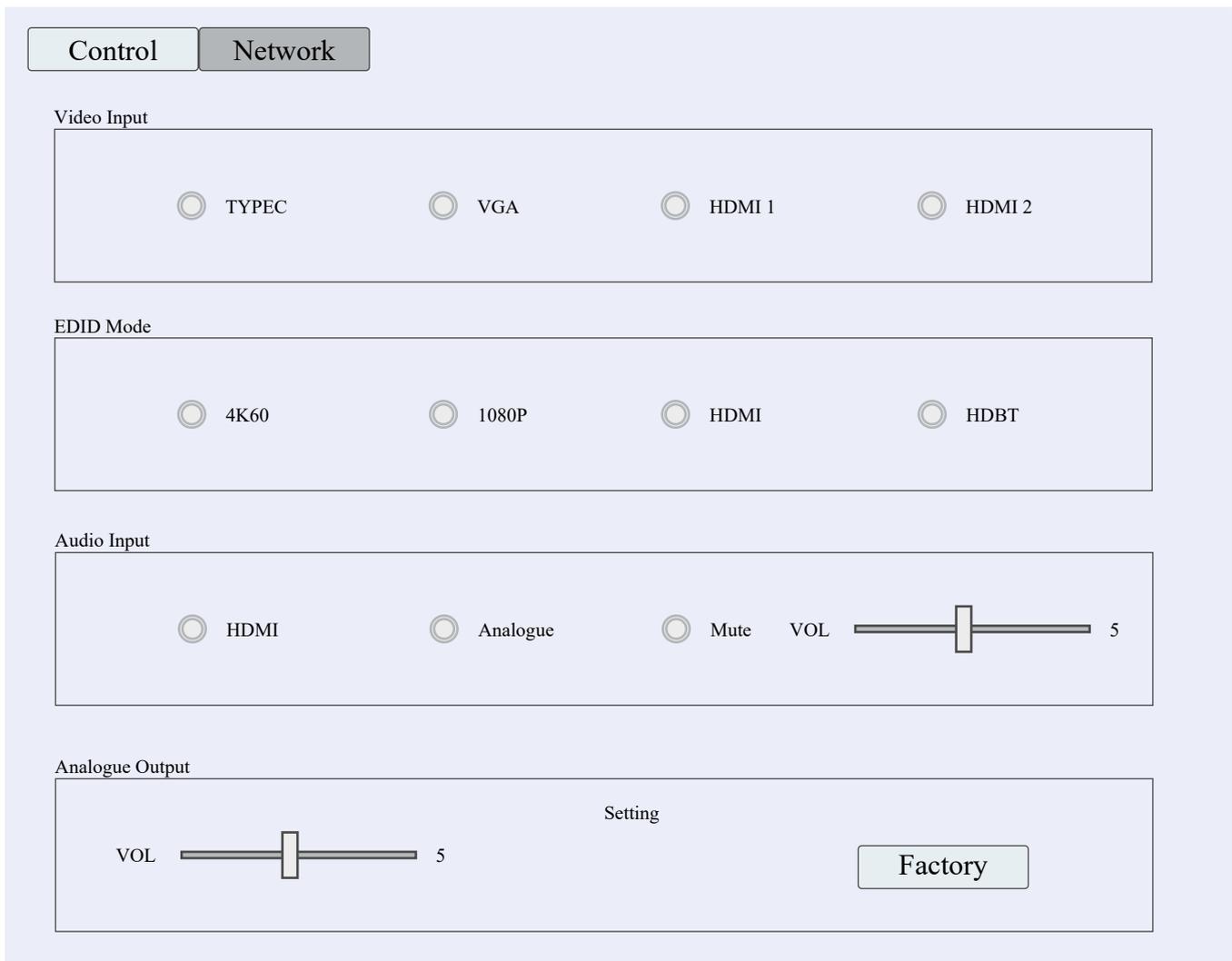
1) Video Input: Switch Type-C, VGA, HDMI (1) and HDMI (2).

2) EDID:

　　　4K60: Default EDID 4K@60Hz

　　　1080P: Default EDID 1080P@60Hz

　　　HDMI: Copy HDMI out EDID for Input (Copy Mode)

　　　HDBT: Copy HDBT out EDID for Input (Copy Mode)

3) Audio Input: Click to select HDMI, Analogue, Mute option (HDMI: audio for Type C/VGA/HDMI, Analogue: audio embedded/MIC in)

4) MIC: Volume control, the number (5) shows the current volume. Note: Microphone can only be adjusted when "Analogue" audio is selected.

5) Analogue Output: Volume control, the number (5) shows the current volume setting. Note: Does not work when muted.

6) Factory Reset.

Note: Please set the audio input to "Analogue" using Panel, PC Application or Web GUI when using the MIC in/analogue audio embedded function.

8.3 Network Interface

Control	Network

Network INFO

|	
MAC Address:	
IP Address:	192 . 168 . 1 . 168
Net Mask Address:	255 . 255 . 255 . 0
Gateway Address:	192 . 168 . 1 . 1
DHCP	DHCP OFF

Apply

9.0 Web Browser GUI

To access the Web interface enter the matrix IP address in to your web browser address bar. The default IP address is 192.168.1.168

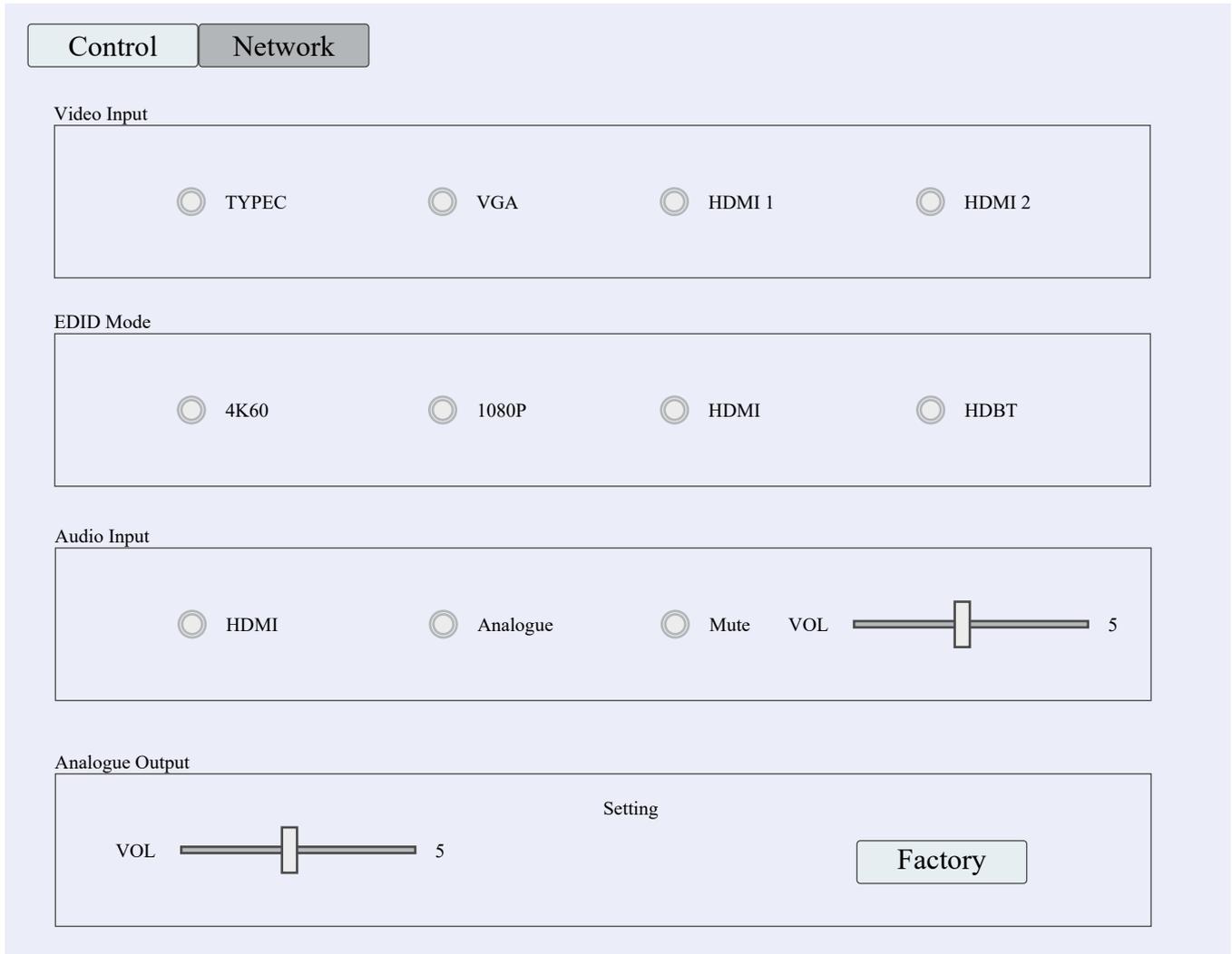*Note: If the IP address is unknown, use the RS232 interface command in section (r ip addr!) to discover the current IP settings or reset the matrix to it's factory default settings.*

Set you computers IP address the the same network segment as the matrix. For example: IP address 192.168.1.200 and subnet mask: 255.255.255.0. Avoid using the matrix default settings when entering the computers IP address.
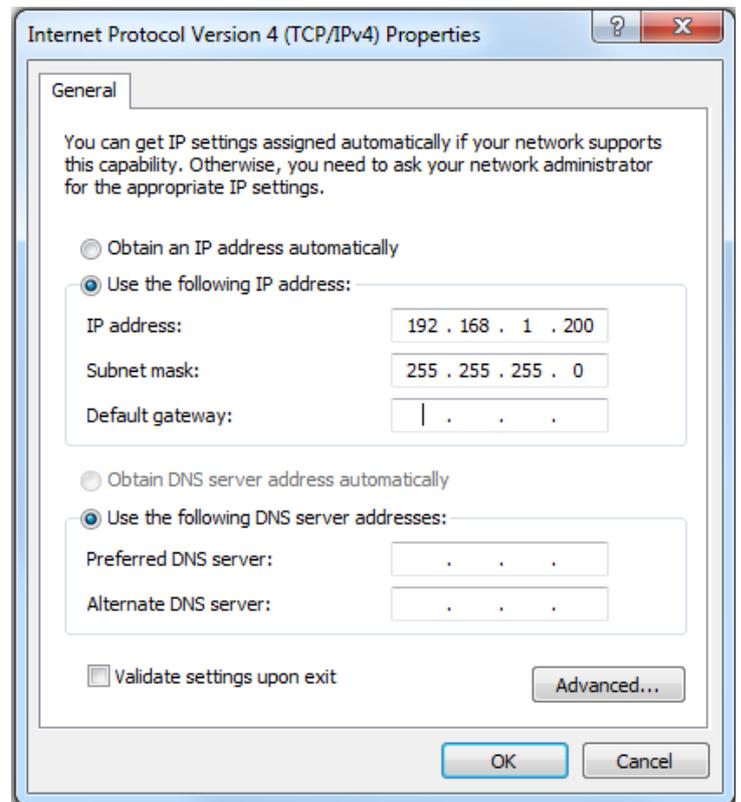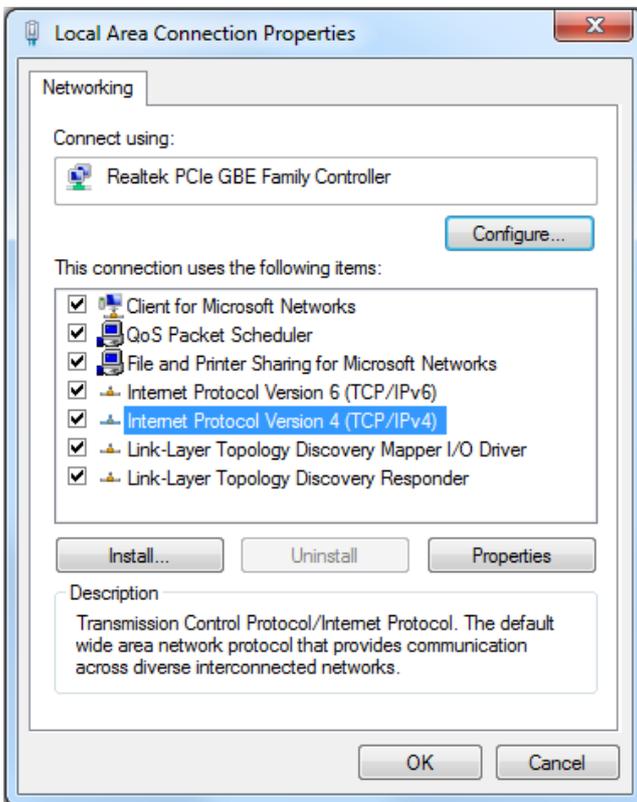
10.0　Web Browser GUI Control

1. Enter the default IP Address (192.168.1.168) into the Web Browser

2. The following GUI will appear. Please see PC Application section for details.

Control	Network

Video Input

◉ TYPEC	◉ VGA	◉ HDMI 1	◉ HDMI 2

EDID Mode

◉ 4K60	◉ 1080P	◉ HDMI	◉ HDBT

Audio Input

◉ HDMI	◉ Analogue	◉ Mute	VOL ———▮———— 5

Analogue Output

Setting

VOL ——▮———— 5

Factory

11.0 Application Drawing
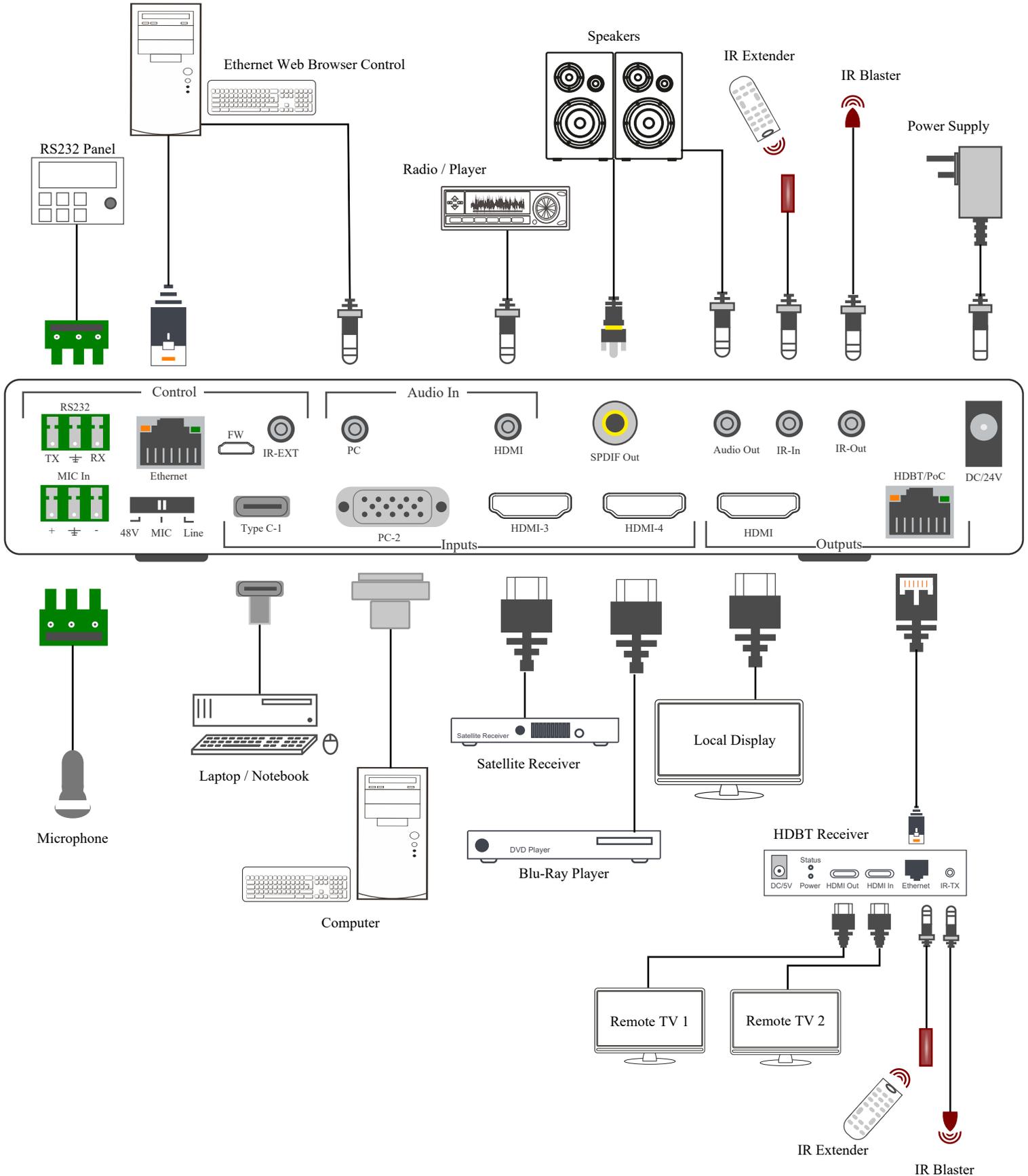
12.0 Maintenance

Clean this unit with a soft, dry cloth. Never use alcohol, pint thinner of benzene to clean these devices.

Servicing

Damage requiring service: This product should be serviced by a qualified service engineer if:
- The DC power cord or AC adaptor has been damaged.
- Objects or liquids have entered the housings.
- The product has been exposed to rain.
- The product has stopped working or shows signs of significant change in operating performance or function.
- The unit has been dropped or severely damaged externally.

Servicing personnel: Do not attempt to service the product beyond that described in these instructions. Refer all other servicing to authorised serving personnel.

Replacement parts: When parts need replacing ensure the service engineer uses parts specified by the manufacture or parts that have the same characteristics as the original parts. Unauthorised substitutes may result in fire, electric shock or other hazards.

Safety check: After a repair or service, ask the engineer to perform safety checks to confirm the product is in proper working condition.

Warranty

If your product does not work properly because of a defect in materials or workmanship, our Company (referred to as "the warrantor") will , for the length of the period indicated as below, (Parts and labour 2 years) which starts with the date of original purchase ("Limited Warranty period"), at its option either (a) repair your product with new or refurbished parts, or (b) replace it with a new of a refurbished product. The decision to repair or replace will be made by the warrantor.

During the "Labour" Limited Warranty period there will be no charge for labour. During the "Parts" warranty period, there will be no charge for parts. You must mail-in your product during the warranty period. This Limited Warranty is extended only to the original purchaser and only covers product purchased as new. A purchase receipt or other proof of original purchase date is required for Limited Warranty service.

Returning a Product

When shipping the unit carefully pack and send it prepaid, adequately insured and preferably in the original carton. Include a letter detailing the complaint and provide a day time phone number and/or email address where you can be reached.

Limited warranty limits and exclusions

This Limited Warranty ONLY COVERS failures due to defects in materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage. The Limited Warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by warrantor, or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, maladjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, or service by anyone other than a Factory Service centre or other authorized service engineer, or damage that is attributable to acts of God.

THERE ARE NO EXPRESS WARRANTIES EXCEPT AS LISTED UNDER "LIMITED WARRANTY COVERAGE".THE WARRANTOR IS NOT LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY. (As examples, this excludes damages for lost time, cost of having someone remove or re-install an installed unit if applicable, travel to and from the service, loss of or damage to media or images, data or other recorded content. The items listed are not exclusive, but are for illustration only).

PARTS AND SERVICE, WHICH ARE NOT COVERED BY THIS LIMITED WARRANTY, ARE YOUR RESPONSIBILITY. This returns policy does not affect your legal rights. Details of your legal rights are available from Trading Standards or Citizens Advice Consumer Service.

Scion Tech Limited
Thatcham, Berkshire, United Kingdom