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ALFATRON ELECTRONICS GmbH GERMANY

SCK41TS

**6x1(with 2 Shared inputs) 4K Presentation
Switcher with HDBaseT**



Version: SCK41TS_2021V1.1

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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.



Do not dispose of this product with the normal household waste at the end of its life cycle. Return it to a collection point for the recycling of electrical and electronic devices. This is indicated by the symbol on the product, user manual or packaging. The materials are reusable according to their markings. By reusing, recycling or other forms of utilisation of old devices you make an important contribution to the protection of our environment. Please contact your local authorities for details about collection points.

1. Product Introduction

The ALF-SCK41TS 6x1(with 2 Shared inputs) 4k presentation switcher offers four HDMI, one shared display port and one shared USB-C input along with mirrored HDMI and HDBaseT outputs. The HDBaseT output supports PoC and can be paired with a compatible HDBaseT receiver to extend 4k@30Hz/1080P signal up to 40 meters (131ft) / 70 meters (230ft) all over a single CATx cable respectively.

The switcher features external line audio input that can be embedded into any HDMI input, and provides microphone input for audio mixing. The presentation switcher provides multi-view functionality and supports up to 16 multi-mode layouts. The switcher features a wide range of control flexibility via front panel buttons, built-in web GUI, IR remote, RS232 and CEC.

1.1. Features

- ALF-SCK41TS 6x1 (with 2 Shared inputs) 4K Presentation Switcher with HDBaseT output.
- Supports seamless and auto switching.
- HDMI 1.4 and HDCP 2.2 compliant.
- Extends HDMI signals up to a distance of 40 meters at 4K and 70 meters at 1080p.
- Supports audio embedded, audio de-embedding and microphone audio mixing.
- Supports multi-view and up to 16 modes can be selected.
- Controllable via front panel buttons, GUI, IR remote, RS232 and CEC.

1.2. Package List

SCK41TS (NR) Switcher

- 1x ALF-SCK41TS 6x1(2x Shared)
- 2x Mounting Ears with 4 Screws
- 4x Plastic Cushions
- 2x 3-pin Terminal Blocks
- 2x 5-pin Terminal Blocks
- 1x IR Remote
- 1x IR Receiver
- 1x IR Emitter
- 1x RS232 Cable (3-pin to DB9)
- 1x Power Adapter (24V DC 5A)
- 1x Power Cord
- 1x User Manual

TPBHD70-R Receiver

- 1x HDBaseT Receiver
- 2x Mounting Ears with 2 Screws
- 4x Plastic Cushions
- 1x 3-pin Terminal Block

2. Specification

2.1. SCK41TS Switcher

Video Input	
Video Input	(4) HDMI IN (1~4), (1) DP, (1) USB-C
Video Input Connector	(4) Type-A female HDMI, (1) DisplayPort, (1) Type-C USB
Input Resolution	HDMI: Up to 4K@30Hz 4:4:4
	DP: Up to 4K@30Hz 4:4:4
	USB-C: Up to 4K@30Hz 4:4:4
Video Output	
Video Output	(1) HDMI, (1) HDBaseT
Video Output Connector	(1) Type-A female HDMI, (1) RJ45
Output Resolution	HDMI: Up to 4K@30Hz 4:4:4
	HDBaseT: Up to 4K@30Hz 4:4:4
HDMI Standard	Up to 1.4
HDCP Version	Up to 2.2
Audio Input	
Audio Input	(1) LINE, (1) MIC
Audio Input Connector	(2) 3-pin terminal blocks
Frequency Response	20Hz ~ 20kHz, ± 3 dB
Max Input Level	2.0Vrms \pm 0.1
L-R Level Deviation	< 0.3dB, 1kHz sine at 0dBFS level (or max level before clipping)
Input Impedance	> 10K Ω
LINE/MIC Audio Format	PCM 2.0
HDMI/DP Audio Format	PCM 2.0 48K
L+R Audio Output	
Audio Output	(1) L+R
Audio Output Connector	(1) 5-pin terminal block
Frequency Response	20Hz ~ 20kHz, ± 1 dB
Max Output Level	2.0 \pm 0.1Vrms
THD+N	< 0.05%, 20Hz ~ 20kHz bandwidth, 1kHz sine at 0dBFS level (or max level)
SNR	> 80dB, 20Hz ~ 20kHz bandwidth
Crosstalk Isolation	< -70dB, 10kHz sine at 0dBFS level

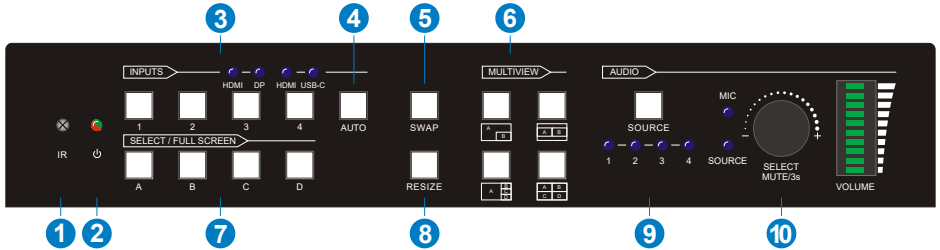
L-R Level Deviation	< 0.3dB, 1kHz sine at 0dBFS level (or max level before clipping)
Output Load Capability	1K Ω and higher (Supports 10x paralleled 10K Ω loads)
Noise Level	-80dB
SPDIF Audio Output	
SPDIF Out	(1) SPDIF
Audio Out Connector	(1) Toslink
Max Output level	\pm 0.3dBFS
Frequency Response	20Hz ~ 20kHz, \pm 1dB
THD+N	< 0.05%, 20Hz ~ 20kHz bandwidth, 1kHz sine at 0dBFS level (or max level)
Signal-to-Noise Ratio	> 90dB, 20Hz ~ 20kHz bandwidth
Crosstalk isolation	< -70dB, 10kHz sine at 0dBFS level (or max level before clipping)
Noise	- 90dB
Audio Format	PCM 2.0
Control	
Control port	(1) CONTACT IN, (1) IR IN, (1) IR OUT, (1) IR EYE, (1) FIRMWARE, (1) RS232, (1) TCP/IP
Control Connector	(1) 5-pin terminal block, (3) 3.5mm jack, (1) Type-A USB, (1) 3-pin terminal block, (1) RJ45
General	
Operation Temperature	-5 $^{\circ}$ C ~ +55 $^{\circ}$ C
Storage Temperature	-25 $^{\circ}$ C ~ +70 $^{\circ}$ C
Relative Humidity	10% ~ 90%
External Power Supply	Input: AC 100~240V, 50/60Hz; Output: 24V DC 5A
Power Consumption	90w (Max)
USB-C Power Charging	60w (Max)
Dimension (W*H*D)	250mm x 44mm x 200mm
Net Weight	1.6KG

2.2. TPBHD70-R Receiver

Input	
Input Signal	(1) RJ-45; (1) RS232
Input Connector	(1) 3.5mm mini jack; (1) RJ-45; (1) 3p captive screw connector
Output	
Output	(1) HDMI; (1) IR; (1) RS232
Output Connector	(1) Type A, female HDMI; (1) 3.5mm mini jack; (1) 3p captive screw connector
General	
Resolution Range	640x480@60Hz~4K×2K@30Hz
Transmission Mode	HDBaseT
Transmission Distance	1080p ≤ 70m; 4k ≤ 40m
Bandwidth	10.2Gbps
HDMI Standard	Support HDMI1.4 and HDCP2.2
Impedance	75Ω
Temperature	-20 ~ +70℃
Humidity	10% ~ 90%
Power Supply	Input: 100VAC~240VAC, 50/60Hz; Output: DC 24V, 1.25A
Power Consumption	11W
Dimension(W x H x D)	115mm x16mm x 84mm
Net Weight	150g

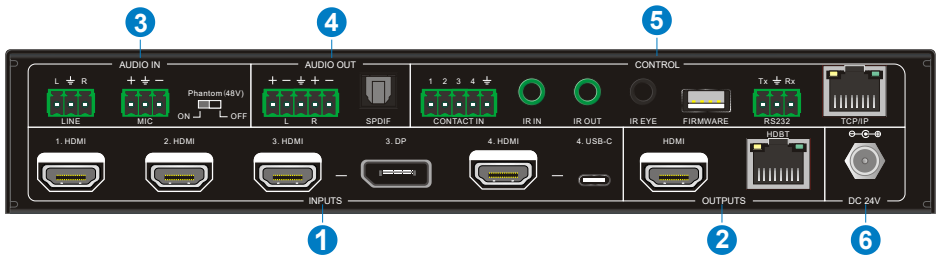
3. Panel Description

3.1. Switcher Front Panel



- ① **IR LED:** Built-in IR sensor, receives IR signal sent from IR remote.
- ② **POWER LED:** Illuminates red when switcher is in standby mode and illuminates green when device is powered on.
- ③ **INPUT BUTTONS (1~4):** Input source selectors.
 - HDMI/DP LED: Indicates HDMI or DP source for the third input channel.
 - HDMI/USB-C LED: Indicates HDMI or USB-C source for the fourth input channel.
- ④ **AUTO BUTTON:** Auto switching mode selector.
- ⑤ **SWAP:** Cycle swap the video source of window display in anticlockwise.
- ⑥ **MULTIVIEW:** Total four buttons for choosing Multi-view mode.
- ⑦ **SELECT/FULL SCREENS (A~B):** Four buttons for window selection and full screen setting.
- ⑧ **RESIZE:** Adjust the windows size.
- ⑨ **AUDIO SOURCE:** Select the audio source, and the correspond LED (1~4) will illuminate blue. When select the LINE audio, the button illuminates blue.
- ⑩ **VOLUME:** Variable audio control
 - Press the volume knob to select microphone or source audio control.
 - Rotate the knob to increase or decrease the volume of the selected audio.
 - Press and hold the knob at least 3 seconds to mute the selected audio, rotate the knob to unmute.

3.2. Switcher Rear Panel



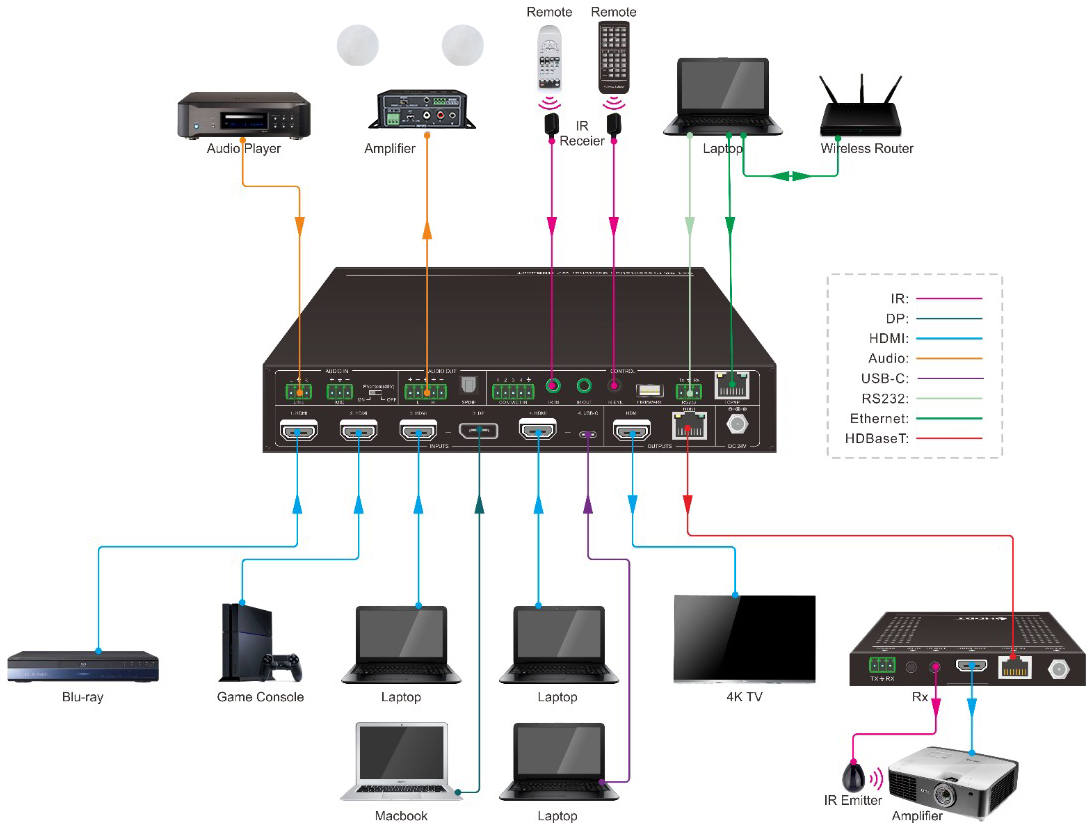
- ① **INPUTS:** Four HDMI inputs, one DisplayPort and one USB-C input.
- ② **OUTPUTS:** One HDMI and one HDBaseT output. The HDBaseT output supports 48V PoC.
- ③ **AUDIO IN:**
 - LINE: Line audio input which can be embedded in any HDMI input.
 - MIC: Microphone input for audio mixing. Set 48V phantom power mode switch as needed: ON for Condenser microphone; OFF for Dynamic microphone.
- ④ **AUDIO OUT:**
 - L+R: Balanced analog audio output for audio de-embedding.
 - SPDIF: Digital SPDIF audio output for audio de-embedding.
- ⑤ **CONTROL:**
 - CONTACT IN: Contact external sensors, buttons and other devices for input source selection.
 - IR IN: Connects to IR receiver for IR pass-through.
 - IR OUT: Connects to IR emitter for IR pass-through.
 - IR EYE: Connects to IR receiver for local switcher control.
 - FIRMWARE: Type-A USB for firmware upgrade.
 - RS232: 3-pin terminal block for RS232 control.
 - TCP/IP: RJ45 port to control the switcher via GUI.
- ⑥ **DC 24V:** DC connector for power adapter connection.

3.3. Receiver Front and Rear Panel



No.	Name	Description
①	LINK	HDBT Link status indicator: <ul style="list-style-type: none"> ▪ OFF: No Link ▪ GREEN: Link Successful ▪ Blinking GREEN: Link abnormal
②	HDCP	HDCP compliant indicator <ul style="list-style-type: none"> ▪ OFF: No HDMI traffic (no picture) ▪ GREEN: Traffic with HDCP. ▪ Blinking GREEN: Traffic without HDCP
③	Power	OFF: No power; RED: DC power present.
④	RS232	RS232 connector.
⑤	IR IN	Connect with 5V IR receiver (with carrier) to collect infrared signal, work with far-end IR OUT port
⑥	IR OUT	Connect with 5V IR Emitter to send infrared signal, work with far-end IR IN port
⑦	HDMI OUT	Connect with HDMI display
⑧	HDBT IN	Connect to the HDBT OUT port on the transmitter via Cat 6 cable.
⑨	DC 24V	DC connector for power adaptor connection.

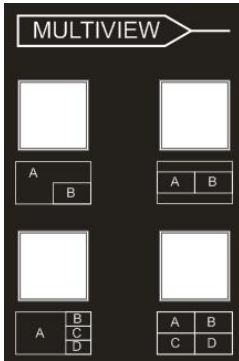
3.4. System Connection



4. Front Panel Control

4.1. Multi-view Mode Selection

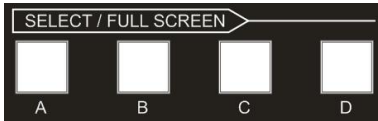
There are four multi-view modes can be selected by front panel buttons.



The factory default multi-view mode is quartered window mode, and there is a one-one correspondence between the four input sources and the four output windows: input 1 -> window A, input 2 -> window B, input 3 -> window C, input 4-> window D. The button LEDs (A~D) illuminate blue.

When switching to two-window (A&B) mode, the corresponding mode LED will illuminate blue, and the window A and B LEDs illuminate blue. The factory default correspondence between the two input sources and the two output windows is: input 1 -> window A, input 2 -> window B.

4.2. Full Screen Setting

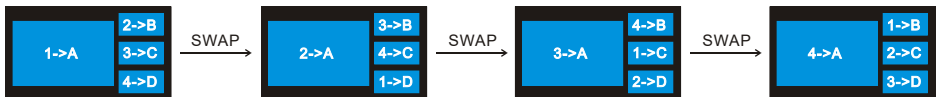


Press **Windows A~D** button to select the corresponding window to display in full-screen. Meanwhile, the corresponding input source button LED and window button A LED illuminate blue, other window buttons and previous multi-view mode button LED goes out.

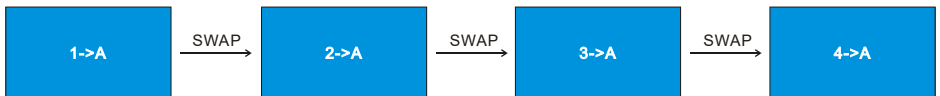
4.3. Swap Window Setting

Press **SWAP** button to cycle swap the video source of window display anticlockwise, the SWAP LED lights once when pressing its button once.

Example: In Multi-view Mode



Example: In Full Screen Mode



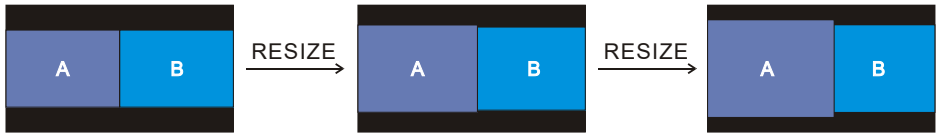
4.4. Window Size Setting

The window A/B/C/D size can be adjusted by repeatedly pressing the **RESIZE** button, the button LED lights once when pressing its button once. Please refer the GUI Multi-view Tab for further details.

Example: PIP (Picture in Picture)



Example: Bisection



Example: One large and three small



4.5. Video Signal Switching

- **In the Multi-view mode**

Operation: Inputs# + Windows#

Example: Switch Input 1 to Windows B:

Press **INPUT 1** (The input 1 LED illuminates blue, the windows A~D LEDs flash.) →
 Press **Windows B** (The windows A, C and D LEDs go out, input 1 and windows B LED flash three times, and lastly, input 1 LED goes out and windows A~D LEDs illuminate blue.)

- **In the Full Screen mode**

1) Manual Switching

Operation: Inputs# + Windows#

Example: Switch Input 2 to Windows A:

Press **INPUT 2** (The input 2 LED illuminates blue.) → Press **Windows A** (The input 2 and windows A LEDs illuminate blue).

2) Auto Switching

Press **AUTO** button to enable or disable auto-switching mode.

Note: Auto switching mode only works in full screen mode.

When in auto mode, the switcher will switch according to the following rules:

- *The switcher will switch to the available active inputs with the priority: 1-HDMI > 2-HDMI > 3-HDMI > 3-DP > 4-HDMI > 4-USB-C. When input source and output window are connected, the corresponding LEDs illuminate blue.*
- *New input: The switcher will automatically select the new input once detecting a new input.*
- *Reboot: If power is restored to the switcher, it will automatically reconnect the last input before being powered off.*
- *In auto mode, the input source can also be switched by the manual switching steps, but not to exit auto mode.*
- *When full screen mode is switched into multi-view mode, the auto mode will not exit.*

4.6. Switching Status Inquiry

In the Multi-view mode (Window A, B, C and D LED illuminates blue).

Operation: Windows#

Example: Press and hold **Windows B** button for at least 3 seconds (Window A, C and D LED go out, and the corresponding input source LED will illuminate blue). After 3 seconds, Window A, B, C and D LED illuminate blue.

4.7. Audio Control



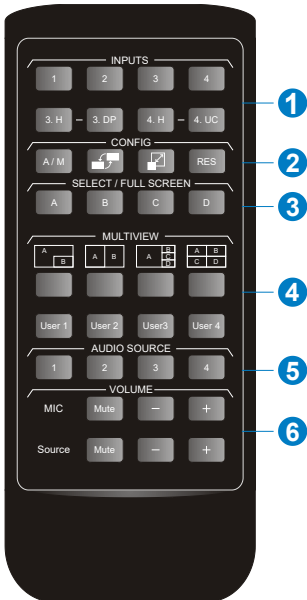
By default, the HDMI and HDBT output audio follows the video source in the full screen mode, but in the Multi-view mode, the output audio is from the 1-HDMI input. The audio source can be changed by pressing the **SOURCE** button.

Press the volume knob to select microphone or source audio control. Rotate the knob to increase or decrease the volume of the selected audio. Press and hold the knob for at least 3 seconds to mute the selected audio, rotate the knob to unmute.

5. IR Remote Control

The switch provides an IR EYE port for the IR receiver connection, it can then be controlled by the below IR remote.

Note: There is no long-press functionality on this IR remote, the button functions are the same as the front panel buttons.



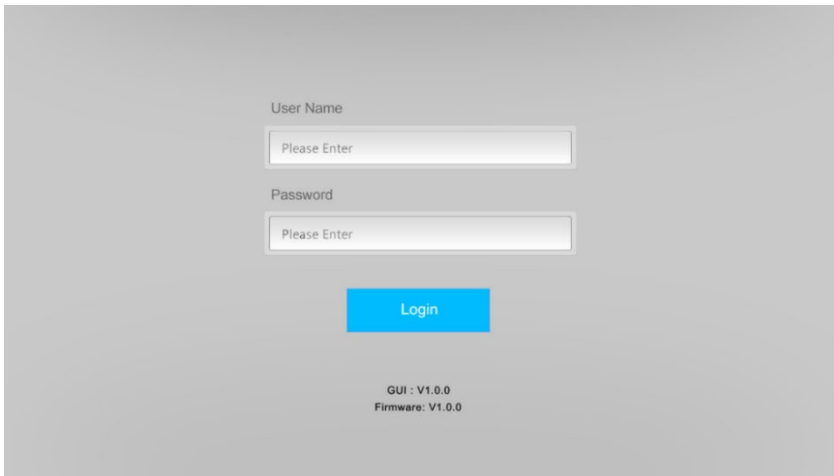
- ① **INPUTS:** Six buttons for input source selection.
- ② **CONFIG:**
 - A/M button for auto-switching mode setting.
 - SWAP button to cycle swap the video source of window display.
 - RESIZE button for window size adjustment.
 - RES button for output resolution selection.
- ③ **SELECT/FULL SCREEN:** A~D buttons for output window selection and full screen setting.
- ④ **MULTIVIEW:** Four buttons for built-in multiview mode selection and four buttons for user-defined mode selection. The user-defined multiview modes can be set via GUI.
- ⑤ **AUDIO SOURCE:** Four buttons for audio source selection.
- ⑥ **VOLUME:**
 - Microphone audio: Mute, volume up and volume down.
 - Source audio: Mute, volume up and volume down.

6. GUI Control

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

IP Address: 192.168.0.178
Subnet Mask: 255.255.255.0

Type **192.168.0.178** in the internet browser, it will enter the below log-in webpage:



Username: admin

Password: admin

Type the user name and password, and then click **Login** to enter the section for video switching.

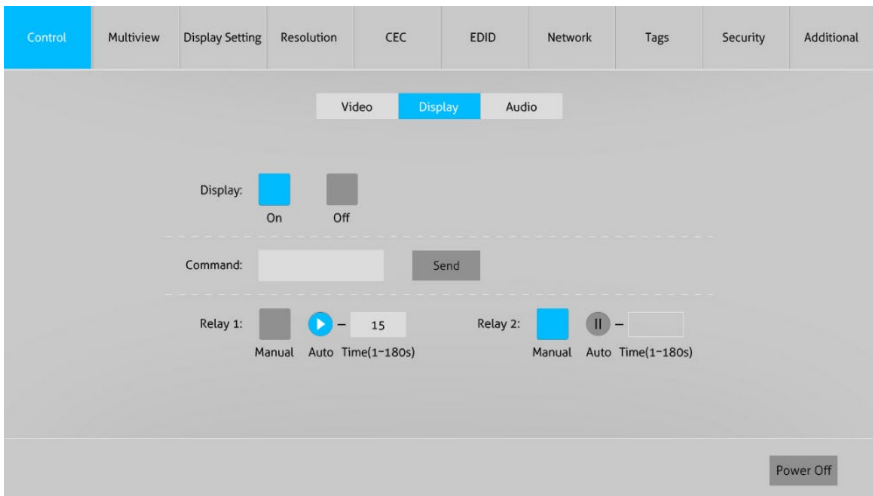
6.1. Control Tab

6.1.1. Video Control



- The source selection buttons, Auto button and window A~D buttons, are same as the buttons of the front panel. Please find [4.5 Video Signal Switching](#) for more details.
- Click “Power Off” to enter the system into standby mode.

6.1.2. Display Control



- **Display:** Click “On” or “Off” to power on or off the display device.

- **Command:** Type command in this box to be sent to control the display device, and then click “Send”.
- **Relay 1~2:** The function is for projection screen control, and the HDBaseT receiver which is connected to the switcher needs to have two relay ports. Click “Manual”, the projection screen will either roll up or drop down, click “Manual” again to stop process. After setting the auto stop time, click “Auto”, the projection screen starts to roll up or drop down until the auto stop time is up.

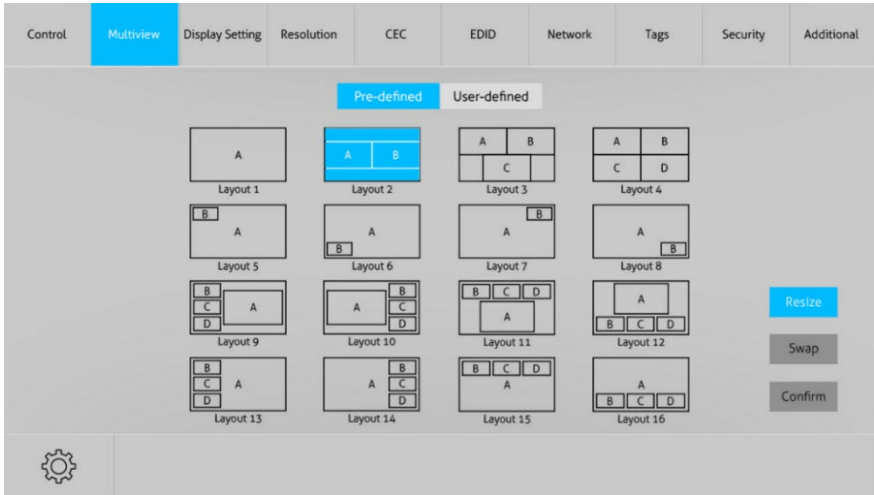
6.1.3. Audio Control



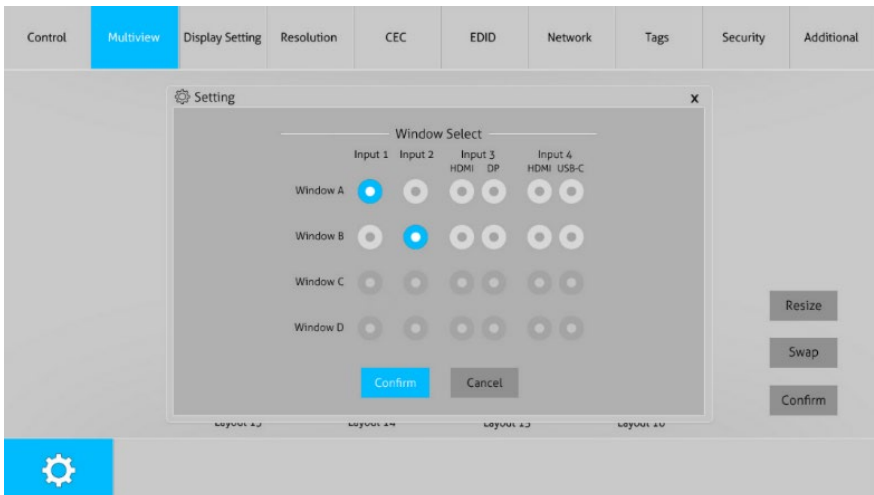
- **Source:** Select audio source for audio outputs, HDMI and HDBaseT outputs.
- **Source Volume:** Volume bar, volume up, volume down and mute buttons for source audio control.
- **Audio Out Delay:** Set the delay time of audio output to 0~150ms.
- **MIC:** Turn on or off microphone input.
- **MIC Volume:** Volume bar, volume up, volume down and mute buttons for microphone audio control.

6.2. Multiview Tab

1) Pre-defined



- Up to 16 multi-view modes can be selected.
- **RESIZE:** Click the button to adjust the window size. Note that only Layout 2, Layout 5~Layout 8, Layout 9~Layout 12 can have the window size adjusted.
- **SWAP:** Click the button to cycle swap the video source of window display in an anticlockwise manner.
- Click the gear icon to enter the below interface and to select input source for each window.



2) User-defined

The screenshot shows the 'User-defined' configuration page. At the top, there are tabs for 'Control', 'Multiview', 'Display Setting', 'Resolution', 'CEC', 'EDID', 'Network', 'Tags', 'Security', and 'Additional'. Below these, there are sub-tabs for 'Pre-defined' and 'User-defined'. The 'User-defined' sub-tab is active. On the left, 'User Layout' shows four window positions (1, 2, 3, 4) and a coordinate system diagram. On the right, 'Window Select' is a table with columns for 'None', 'Input 1', 'Input 2', 'Input 3 (HDMI DP)', 'Input 4 (HDMI USB-C)', 'Start Position(0-100)', and 'End Position(0-100)'. The table contains four rows for 'Window A' through 'Window D'. 'Window A' has 'Input 1' selected with a start position of 0,0 and end position of 20,20. 'Window B' has 'Input 2' selected with a start position of 0,0 and end position of 10,10. 'Window C' has 'Input 3' selected with a start position of 5,5 and end position of 50,50. 'Window D' has 'Input 4' selected with a start position of 50,50 and end position of 80,80. At the bottom are 'Save', 'Recall', and 'Default' buttons.

- **User Layout:** Select the user-defined layout number 1~4.
- **Window Select:** Select the input source for each window, and then adjust window size by setting start position and end position. Click “Save” to save the user-defined layout.

6.3. Display Setting Tab

The screenshot shows the 'Display Setting' configuration page. At the top, there are tabs for 'Control', 'Multiview', 'Display Setting', 'Resolution', 'CEC', 'EDID', 'Network', 'Tags', 'Security', and 'Additional'. The 'Display Setting' tab is active. The page contains several settings: 'Automatic Display Control' is a toggle switch set to 'ON'; 'No Signal Timeout' is a text input field with '10' and a 's' unit, followed by a 'Send' button; 'Baud Rate' is a dropdown menu set to '9600' with a 'Save' button; 'Command Ending' is a dropdown menu set to 'NULL' with a 'Save' button; 'Display On' is a text input field with '3' and a 's' unit, followed by a 'Save' button; 'Input Delay' is a text input field with '3' and a 's' unit, followed by a 'Save' button; 'Display Off' is a text input field with a 'Save' button; 'Display Off x2 Delay' is a text input field with '1' and a 's' unit, followed by a 'Save' button; and a 'Hex' checkbox is checked. At the bottom, there is a small text note: 'Trigger: Display On-->Wait Delay-->Send Display Input Select'.

- **Automatic Display Control:** Enable or disable the function to automatically control the display device.
- **No Signal Timeout:** Set the auto power off time that the display device will automatically power off after no signal is detected and the setting time is up.
- **Baud Rate:** Supports 9600, 19200, 38400, 57600 or 115200.
- **Command Format:** The default command format is ASCII. **HEX** can be selected.
- **Command Ending:** NULL, CR, LF or CR+LF can be chosen.
- **Display Off:** Type RS232 command to turn off display device, and then click "Save". Select "x2" to send the command twice.
- **Display Offx2 Delay:** Set the delay time of sending the Display Off command again, and then click "Save".
- **Display On:** Type RS232 command to turn on display, and then click "Save".
- **Input Delay:** Set the delay time in seconds between the "Display On" and "Display Input Select" commands.
- **Display Input Select:** Type the RS232 command to select the current input source of switcher for the display device.
- Trigger: "Display On" -> Wait "Delay" ->Send "Display Input Select".

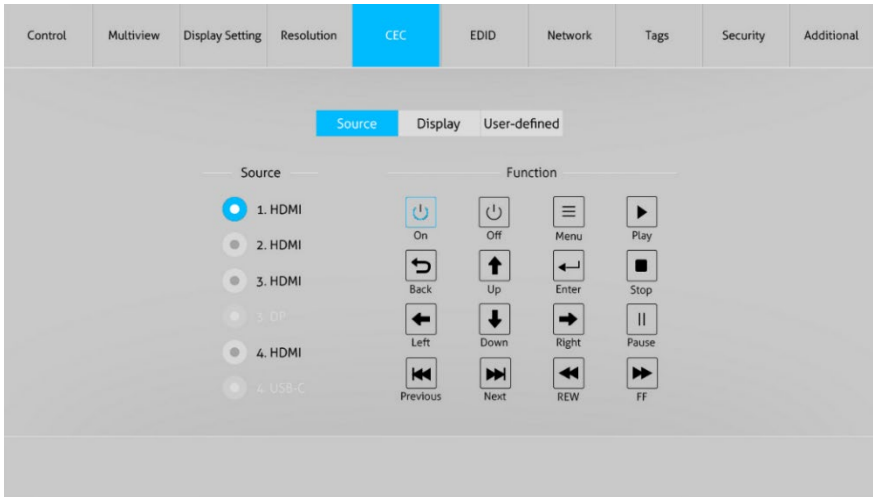
6.4. Resolution Tab

Control	Multiview	Display Setting	Resolution	CEC	EDID	Network	Tags	Security	Additional
			<input checked="" type="radio"/> 4K@30Hz <input type="radio"/> 1360 x 768 <input type="radio"/> 1920 x 1200 <input type="radio"/> 1024 x 768 <input type="radio"/> 1080P <input type="radio"/> 720P <input type="radio"/> 1600 x 1200 <input type="radio"/> Auto for Rx						
<input type="button" value="Confirm"/>									

- Select the output resolution for HDMI and HDBaseT outputs.
- Select "Auto for Rx" that the output resolution follows the display device.

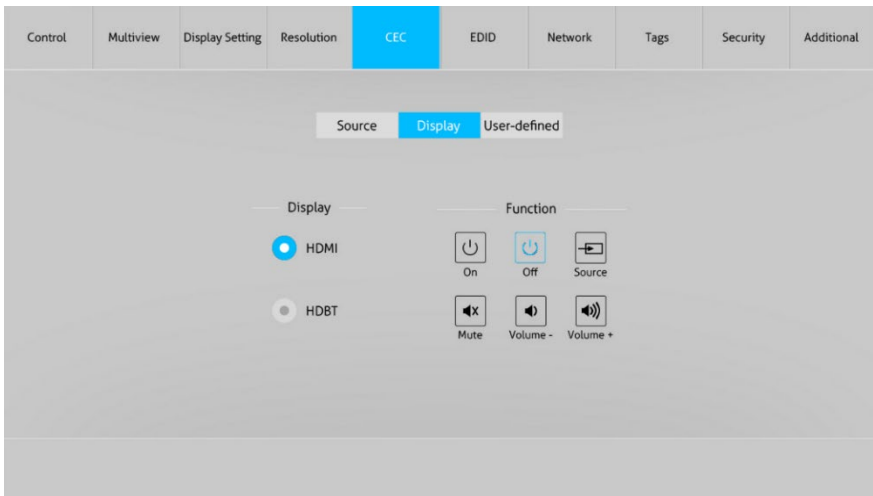
6.5. CEC Tab

6.5.1. Source Control



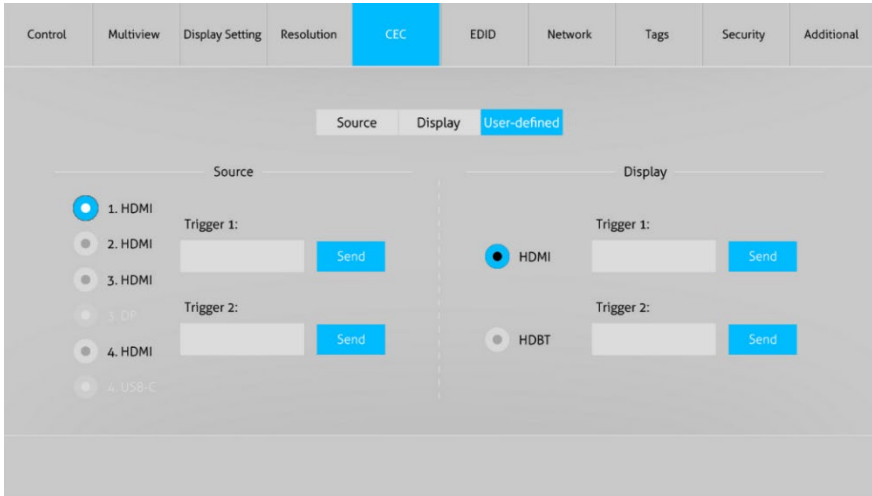
- Select the HDMI input source which needs to be controlled, then click the function buttons.

6.5.2. Display Control



- Select the output display device which needs to be controlled, then click the function buttons.

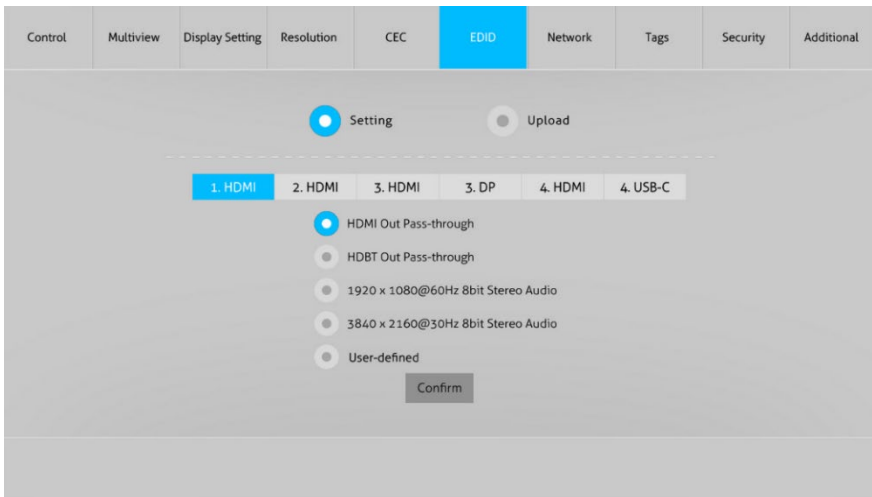
6.5.3. User-defined CEC Command



- Select input source or display device, then type CEC command in the corresponding Trigger 1 or Trigger 2 box to be sent to control the selected device.

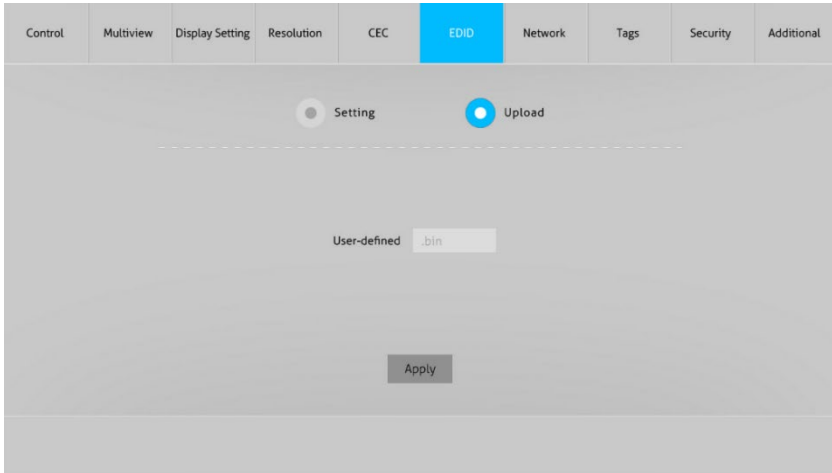
6.6. EDID Tab

6.6.1. EDID Setting



- Select the compatible built-in EDID for the selected input source.

6.6.2. EDID Upload



The screenshot shows a control panel with a navigation bar at the top containing tabs: Control, Multiview, Display Setting, Resolution, CEC, EDID (highlighted in blue), Network, Tags, Security, and Additional. Below the navigation bar, there are two radio buttons: 'Setting' (unselected) and 'Upload' (selected). A dashed horizontal line is positioned below the radio buttons. Underneath the line, there is a text input field labeled 'User-defined' containing the text '.bin'. At the bottom of the main content area, there is a grey 'Apply' button.

- Upload user-defined EDID via the below steps:
Step 1: Prepare the EDID file (.bin) on the control PC.
Step 2: Click the user-defined box, and then select the EDID file (.bin).
Step 3: Click “Apply” to upload the user-defined EDID.

6.7. Network Tab



The screenshot shows a control panel with a navigation bar at the top containing tabs: Control, Multiview, Display Setting, Resolution, CEC, EDID, Network (highlighted in blue), Tags, Security, and Additional. Below the navigation bar, the MAC Address is displayed as 44-33-4C-C9-35-12. There are two radio buttons for network configuration: 'DHCP' (selected) and 'Static IP'. Below these, there are four text input fields: 'IP Address' (192.168.0.178), 'Subnet Mask' (255.255.255.0), and 'Gateway' (192.168.0.1). At the bottom of the main content area, there is a blue 'Confirm' button.

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

6.8. Tags Tab

Control	Multiview	Display Setting	Resolution	CEC	EDID	Network	Tags	Security	Additional
Layout 1	<input type="text"/>	Layout 2	<input type="text"/>	Layout 3	<input type="text"/>	Layout 4	<input type="text"/>		
Layout 5	<input type="text"/>	Layout 6	<input type="text"/>	Layout 7	<input type="text"/>	Layout 8	<input type="text"/>		
Layout 9	<input type="text"/>	Layout 10	<input type="text"/>	Layout 11	<input type="text"/>	Layout 12	<input type="text"/>		
Layout 13	<input type="text"/>	Layout 14	<input type="text"/>	Layout 15	<input type="text"/>	Layout 16	<input type="text"/>		
User Layout 1	<input type="text"/>	User Layout 2	<input type="text"/>	User Layout 3	<input type="text"/>	User Layout 4	<input type="text"/>		
<input type="button" value="Confirm"/>									

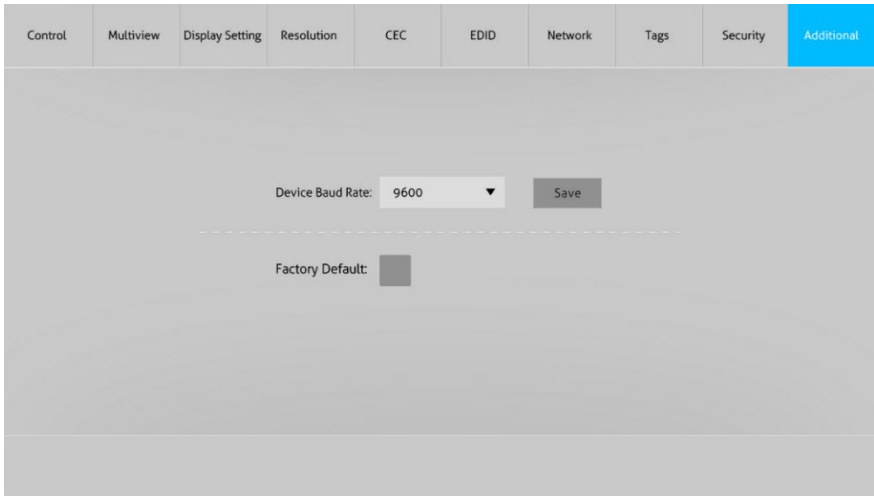
- Modify the multiview layout labels.

6.9. Security Tab

Control	Multiview	Display Setting	Resolution	CEC	EDID	Network	Tags	Security	Additional
<p>Credentials</p> <p>Password: <input type="text" value="admin"/> <input type="button" value="Confirm"/></p> <p>Front Panel Lock</p> <p>ON <input checked="" type="checkbox"/> OFF</p>									

- Modify the login password.
- Lock or unlock the front panel buttons.

6.10. Additional Tab

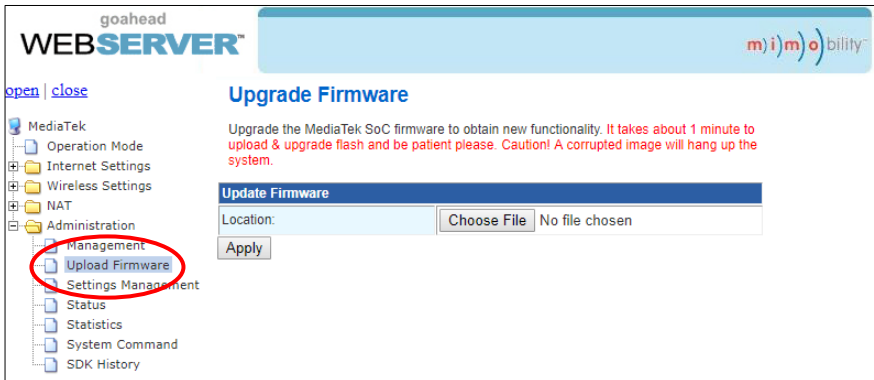


- Set the baud rate of switcher and restore the switcher to factory default setting.

6.11. GUI Upgrade

Please visit <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 to the configuration interface. Click “Administration” in the source menu to get to “Upload Firmware” as shown below:



Select the desired update file and press “Apply”, this will start the update.

Note: Please don't do anything during the upgrade process to avoid upgrade failure.

7. RS232 Control

The RS232 port of switcher has two control methods.

- 1) Local control: Connect the RS232 port to a control device (e.g.PC) to control the switcher via RS232 commands.
- 2) Display device control: The RS232 port is used with the RS232 port of far-end HDBaseT receiver to control the display device (e.g. Projector).

RS232 Commands:

The commands list is used to control the switcher. The RS232 control software (e.g. docklight) needs to be installed on the control PC to send RS232 commands.

After installing the RS232 control software, please set the parameters of COM number, bound rate, data bit, stop bit and the parity bit correctly, and then you are able to send the command in command sending area.

Baud rate: 9600

Data bit: 8

Stop bit: 1

Parity bit: none

Note:

- All commands needs to end with "<CR><LF>".
- In the commands, "[]" are symbols for easy reading and do not need to be typed in actual operation.
- Type the command carefully, it is case-sensitive.

7.1. System Commands

Command	Description	Command Example and Feedback
>GetFirewareVersion	Get the firmware version.	<V1.0.0
>SetFactoryReset	Factory Default	<FactoryReset_True
>SetReboot	System reboot.	<Reboot_EN
>SetHelp [Param]	Get the command details. [Param] = Any command. [Param] = Null (All commands)	>SetHelp SetAV <Select the input source >SetAV InParam,OutParam InParam = 1~6 1 - HDMI 1 2 - HDMI 2 3 - HDMI 3 4 - DP 3 5 - HDMI 4 6 - TYPE-C 4 OutParam = A ~ D(NO THIS PARAMETER TO SET TO A)
>GetIpAddress	Get the IP to access GUI.	<IpAddress: 192.168.0.178 <SubNetMask: 255.255.255.0 <GateWay: 192.168.0.1
>SetKeyboardLock [Param]	Lock/unlock the front panel buttons. [Param] = EN,Dis EN - Lock Dis - Unlock (Default)	>SetKeyboardLock EN >SetKeyboardLock Dis <KeyboardLock True <KeyboardLock False
>GetKeyboardLock	Get the front buttons locking status.	<KeyboardLock True
>SetPowerOn [Param]	Enter/exit standby mode [Param] = EN,Dis EN - Exit standby (Default) Dis – Enter standby	>SetPowerOn EN >SetPowerOn Dis <PowerOn True <PowerOn False
>GetPowerOn	Get the system standby status.	<PowerOn True
>GetStatus	Get the system status.	<V1.0.0 <Video OUT A B C D IN 1 2 3 5 <AudioSource 1 <OutputResolution 8

7.2. Signal Switching Commands

Command	Description	Command Example and Feedback
>SetAV [InParam],[OutParam]	Switch input source to output window. [InParam] = 1 ~ 6 1 - HDMI 1 2 - HDMI 2 3 - HDMI 3 4 - DP 3 5 - HDMI 4 6 - USB-C 4 [OutParam] = A ~ D (No this parameter when switching input source to window A)	>SetAV 3 >SetAV 1,A
		<AV 3,A <AV 1,A
>GetAV [OutParam]	Get the input source of window [OutParam] . [OutParam] = A~D (No this parameter when get input sources of all windows)	>GetAV >GetAV A
		<Video OUT A B C D IN 1 2 3 4 <AudioSource 1 <Video 1, A
>SetAutoSwitch [Param]	Enable/disable auto switching mode. [Param] = EN,Dis EN - Enable (Default) Dis - Disable	>SetAutoSwitch EN >SetAutoSwitch Dis
		<AutoSwitch True <AutoSwitch False
>GetAutoSwitch	Get the auto switching status.	<AutoSwitch True
>SetInput3Type [Param]	Select the input source for the third input channel. [Param] = H,Dp H - HDMI input Dp - DP input	>SetInput3Type H
		<Input3Type H
>GetInput3Type	Get the input source of the third input channel.	<Input3Type H
>SetInput4Type	Select the input source for the fourth input channel. [Param] = H, C H - HDMI input C – USB-C input	>SetInput4Type H
		<Input4Type H
>GetInput4Type	Get the input source for the fourth input channel.	<Input4Type H

7.3. Audio Setting Commands

Command	Description	Command Example and Feedback
>SetMicAudioMute [Param]	Mute/Unmute microphone audio. [Param] = EN, Dis EN - Mute. Dis - Unmute (Default)	>SetMicAudioMute EN
		>SetMicAudioMute Dis <MicAudioMute True <MicAudioMute False
>GetMicAudioMute	Get the microphone audio mute status	<MicAudioMute False
>SetMicVOL [Param]	Set the microphone audio volume to [Param]. [Param] = 0~60 (Default: 60)	>SetMicVOL 6
		<MicVOL 6
>GetMicVOL	Get the microphone audio volume.	<MicVOL 6
>SetSourceAudioMute [Param]	Mute/Unmute source audio. [Param] = EN, Dis EN - Mute. Dis - Unmute (Default)	>SetSourceAudioMute EN
		>SetSourceAudioMute Dis <SourceAudioMute True <SourceAudioMute False
>GetSourceAudioMute	Get the source audio mute status	<SourceAudioMute True
>SetSourceVOL [Param]	Set the source audio volume to [Param]. [Param] = 0~60 (Default: 60)	>SetSourceVOL 6
		<SourceVOL 6
>GetSourceVOL	Get the source audio volume.	<SourceVOL 60
>SetAudioSource [Param]	Set the source audio of output to [Param]. [Param] = 1~5. 1 – HDMI 1 (Default) 2 – HDMI 2 3 – HDMI/DP 3 4 – HDMI/USB-C 4 5 – LINE IN	>SetAudioSource 2
		<AudioSource 2
>GetAudioSource	Get the source audio of output.	<AudioSource 1
>SetAudioMix [Param]	Enable/Disable audio mixing. [Param] = EN, Dis EN - Enable (Default) Dis - Disable	>SetAudioMix EN
		<AudioMix True
>GetAudioMix	Get audio mixing status.	<AudioMix True
>SetFullModeAudioSwitch [Param]	Set whether the audio follows video switching in full screen mode. [Param] = EN, Dis EN - Enable (Default) Dis - Disable	>SetFullModeAudioSwitch EN
		<FullModeAudioSwitch True
>GetFullModeAudioSwitch	Get whether the audio follows video switching in full screen mode.	<FullModeAudioSwitch True
>SetAudioDelay [Param]	Set the delay time of audio output to [Param]. [Param] = 0 ~ 170 (ms) (Default: 0).	>SetAudioDelay 20
		<AudioDelay 20

Command	Description	Command Example and Feedback
>GetAudioDelay	Get the delay time of audio output.	<AudioDelay 20

7.4. Function Setting Commands

Command	Description	Command Example and Feedback
>SetRS232Baudrate [Param]	Set the baud rate of RS232 port to [Param]. [Param] = 1 ~ 5 1 - 115200 2 - 57600 3 - 38400 4 - 19200 5 - 9600 (Default)	>SetRS232Baudrate 5
		<RS232Baudrate 5
>GetRS232Baudrate	Get the baud rate of RS232 port.	<RS232Baudrate 5
>SetOutputResolution [Param]	Set the output resolution to [Param]. [Param] = 1 ~ 8 1 - 1024x768@60Hz 2 - 1280x720@60Hz 3 - 1360x768@60Hz 4 - 1600x1200@60Hz 5 - 1920x1080@60Hz 6 - 1920x1200@60Hz 7 - 3840x2160@30Hz (Default) 8 - AUTO	>SetOutputResolution 4
		<OutputResolution 4
>GetOutputResolution	Get the output resolution.	<OutputResolution 4
>GetInputResolution [Param]	Get the input resolution. [Param] = 1~4. 1 - HDMI 1 2 - HDMI 2 3 - HDMI/DP 3 4 - HDMI/USB-C 4	>GetInputResolution 1
		<InputResolution: 1 1920x1080 60Hz
>SetHdcpHdmiOutput [Param]	Set the HDCP mode of output port [Param] = 1 ~ 3 1 - HDCP 1.4 (Default) 2 - HDCP 2.2 3 - OFF	>SetHdcpHdmiOutput 1
		<HdcpHdmiOutput 1
>GetHdcpHdmiOutput	Get the HDCP mode of output port.	<HdcpHdmiOutput 1
	Set the EDID of input source.	>SetInPortEdid 1,1

Command	Description	Command Example and Feedback
>SetInPortEdid [Param1],[Param2]	[Param1] = 1 ~ 6 1 - HDMI 1 2 - HDMI 2 3 - HDMI 3 4 - DP 3 5 - HDMI 4 6 - USB-C 4 [Param2] = 1 ~ 5 1 - 1920x1080 60HZ PCM 2CH 2 - 3840x2160 30HZ PCM 2CH (Default) 3 - BYPASS HDMI 4 - BYPASS HDBT 5 - USER	<InPortEdid 1,1
>GetInPortEdid [Param]	Get the EDID of input source. [Param] = 1 ~ 6 1 - HDMI 1 2 - HDMI 2 3 - HDMI 3 4 - DP 3 5 - HDMI 4 6 - USB-C 4	>GetInPortEdid 1
		<InPortEdid 1,1
>SetUpdateEdid_EN	Upload the user-defined EDID.	<User edid ready,Please send edid data in 10s. <SetUpdateEdid_True/Fal se / <Time out to send edid
>SetMvMode [Param]	Set multiview mode. [Param] = 1 ~ 20 1 - 1 WINDOWS Full 2 - 2 WINDOWS PBP 3 - 3 WINDOWS 2U1D 4 - 4 WINDOWS SAME SIZE (Default) 5 - 2 WINDOWS PIP LU 6 - 2 WINDOWS PIP LD 7 - 2 WINDOWS PIP RU 8 - 2 WINDOWS PIP RD 9 - 4 WINDOWS PBP 3L1R 10 - 4 WINDOWS PBP 1L3R 11 - 4 WINDOWS PBP 3U1D 12 - 4 WINDOWS PBP 1U3D 13 - 4 WINDOWS PIP 1F3L 14 - 4 WINDOWS PIP 1F3R	>SetMvMode 1
		<MvMode 1

Command	Description	Command Example and Feedback
	15 - 4 WINDOWS PIP 1F3U 16 - 4 WINDOWS PIP 1F3D 17 - USER CONFIG 1 18 - USER CONFIG 2 19 - USER CONFIG 3 20 - USER CONFIG 4	
>GetMvMode	Get multiview mode	<MvMode 1
>SetSwapSrouce	Swap input source of window.	<Video OUT A B C D IN 2 5 1 3 <AudioSource 1
>SetResizeWin	Resize display windows.	<ResizeWin
>SetAutoCec [Param]	Set whether to automatically send CEC commands after signal detection. [Param] = EN, Dis EN - Enable (Default) Dis - Disable	>SetAutoCec EN <AutoCec True
>GetAutoCec	Get whether to automatically send CEC commands after signal detection.	<AutoCec True
>SetAutoCommand [Param]	Set whether to automatically send RS232 commands after signal detection. [Param] = EN, Dis EN - Enable (Default) Dis - Disable	>SetAutoCommand EN <AutoCommand True
>GetAutoCommand	Get whether to automatically send RS232 commands after signal detection.	<AutoCommand True
>SetAutoStandby [Param]	Enable/disable auto standby after no signal detection. [Param] = EN, Dis EN - Enable Dis - Disable (Default)	>SetAutoStandby EN <AutoStandby True
>GetAutoStandby	Get auto standby setting status.	<AutoStandby True
>SetAutoRelay [Param]	Enable/Disable auto power off function of relay. [Param] = EN, Dis EN - Enable Dis - Disable (Default)	>SetAutoRelay EN <AutoRelay True
>GetAutoRelay	Get auto power off setting status of relay.	<AutoRelay True
		>SetPanelCEC 9

Command	Description	Command Example and Feedback
>SetPanelCEC [Param]	Set the delay time to send CEC, RS232 and standby commands after removing input signal removed. [Param] = 0~1800 (s) (Default: 600s)	<PanelCEC 9
>GetPanelCEC	Get the delay time to send CEC, RS232 and standby commands after removing input signal removed.	<PanelCEC 9
>SetOffMsgLoopCnt [Param]	Set the number of times of sending Display Off command. [Param] = 1 ~ 2 (Default: 1)	>SetOffMsgLoopCnt 1 <OffMsgLoopCnt 1
>GetOffMsgLoopCnt	Get the number of times of sending Display Off command.	<OffMsgLoopCnt 1
>SetOffMsgLoopDelayTime [Param]	Set the delay time of sending Display Off command. [Param] = 5 ~ 100 (1=100ms) (Default: 10)	>SetOffMsgLoopDelayTime 5 <OffMsgLoopDelayTime 5
>GetOffMsgLoopDelayTime	Get the delay time of sending Display Off command.	<OffMsgLoopDelayTime 5
>SetInputMsgDelayTime [Param]	Set the delay time of sending Display Input Select command. [Param] = 1 ~ 100 (s) (Default: 3)	>SetInputMsgDelayTime 10 <InputMsgDelayTime 10
>GetInputMsgDelayTime	Get the delay time of sending Display Input Select command.	<InputMsgDelayTime 10
>SetDisplayOn [Param]	Power on/off the display device. (Send RS232 and CEC commands at the same time). [Param] = EN, Dis EN - Power on Dis - Power off	>SetDisplayOn EN >SetDisplayOn Dis <DisplayOn True <DisplayOn False
>SetHdbtPOCOn [Param]	Enable or disable PoC. [Param] = EN, Dis EN - Enable (Default) Dis - Disable	>SetHdbtPOCOn EN <HdbtPOCOn True
>GetHdbtPOCOn	Get PoC status.	<HdbtPOCOn True

7.5. CEC Commands

Command	Description	Command Example and Feedback
>SetCecSrcMenu [Param]	Send CEC MENU command to source device. [Param] = 1 ~ 4 1 - HDMI 1 2 - HDMI 2 3 - HDMI 3 4 - HDMI 4	>SetCecSrcMenu 1
		<CecSrcMenu 1
>SetCecSrcUp [Param]	Send CEC UP command to source device. [Param] = 1 ~ 4 (HDMI 1~4)	>SetCecSrcUp 1
		<CecSrcUp 1
>SetCecSrcDown [Param]	Send CEC DOWN command to source device. [Param] = 1 ~ 4 (HDMI 1~4)	>SetCecSrcDown 1
		<CecSrcDown 1
>SetCecSrcLeft [Param]	Send CEC LEFT command to source device. [Param] = 1 ~ 4 (HDMI 1~4)	>SetCecSrcLeft 1
		<CecSrcLeft 1
>SetCecSrcRight [Param]	Send CEC RIGHT command to source device. [Param] = 1 ~ 4 (HDMI 1~4)	>SetCecSrcRight 1
		<CecSrcRight 1
>SetCecSrcBack [Param]	Send CEC BACK command to source device. [Param] = 1 ~ 4 (HDMI 1~4)	>SetCecSrcBack 1
		<CecSrcBack 1
>SetCecSrcEnter [Param]	Send CEC ENTER command to source device. [Param] = 1 ~ 4 (HDMI 1~4)	>SetCecSrcEnter 1
		<CecSrcEnter 1
>SetCecSrcOn [Param]	Send CEC ON command to source device. [Param] = 1 ~ 4 (HDMI 1~4)	>SetCecSrcOn 1
		<CecSrcOn 1
>SetCecSrcOff [Param]	Send CEC OFF command to source device. [Param] = 1 ~ 4 (HDMI 1~4)	>SetCecSrcOff 1
		<CecSrcOff 1
>SetCecSrcStop [Param]	Send CEC STOP command to source device. [Param] = 1 ~ 4 (HDMI 1~4)	>SetCecSrcStop 1
		<CecSrcStop 1
>SetCecSrcPlay [Param]	Send CEC PLAY command to source device. [Param] = 1 ~ 4 (HDMI 1~4)	>SetCecSrcPlay 1
		<CecSrcPlay 1
>SetCecSrcPause [Param]	Send CEC PAUSE command to source device. [Param] = 1 ~ 4 (HDMI 1~4)	>SetCecSrcPause 1
		<CecSrcPause 1
>SetCecSrcPrev [Param]	Send CEC PREV command to source device. [Param] = 1 ~ 4 (HDMI 1~4)	>SetCecSrcPrev 1
		<CecSrcPrev 1
>SetCecSrcNext [Param]	Send CEC NEXT command to source device. [Param] = 1 ~ 4 (HDMI 1~4)	>SetCecSrcNext 1
		<CecSrcNext 1
>SetCecSrcRewind [Param]	Send CEC REWIND command to source device. [Param] = 1 ~ 4 (HDMI 1~4)	>SetCecSrcRewind 1
		<CecSrcRewind 1
>SetCecSrcFastForward [Param]	Send CEC Fast-forward command to source device. [Param] = 1 ~ 4 (HDMI 1~4)	>SetCecSrcFastForward 1

Command	Description	Command Example and Feedback
		<CecSrcFastForward 1
>SetCecDisplayOn [Param]	Send CEC ON command to display device. [Param] = 1 ~ 2 (1 - HDMI, 2 - HDBT)	>SetCecDisplayOn 1
		<CecDisplayOn 1
>SetCecDisplayOff [Param]	Send CEC OFF command to display device. [Param] = 1 ~ 2 (1 - HDMI, 2 - HDBT)	>SetCecDisplayOff 1
		<CecDisplayOff 1
>SetCecDisplaySource [Param]	Send CEC SOURCE command to display device. [Param] = 1 ~ 2 (1 - HDMI, 2 - HDBT)	>SetCecDisplaySource 1
		<CecDisplaySource 1
>SetCecDisplayMute [Param]	Send CEC MUTE command to display device. [Param] = 1 ~ 2 (1 - HDMI, 2 - HDBT)	>SetCecDisplayMute 1
		<CecDisplayMute 1
>SetCecDisplayVol+ [Param]	Send CEC VOLUME UP command to display device. [Param] = 1 ~ 2 (1 - HDMI, 2 - HDBT)	>SetCecDisplayVol+ 1
		<CecDisplayVol+ 1
>SetCecDisplayVol- [Param]	Send CEC VOLUME DOWN command to display device. [Param] = 1 ~ 2 (1 - HDMI, 2 - HDBT)	>SetCecDisplayVol- 1
		<CecDisplayVol- 1

7.6. Special Commands

Note: The below commands do not need ending mark.

Command	Description	Command Example and Feedback
<p>>SetDisplayInputSendChar_[Param]:XXXX</p>	<p>Set the ASCII "Display Input Select" command "XXXX" to be sent to display device when power on the switcher. [Param] = 1~5 (Baud rate of RS232 port) 1 - 115200 2 - 57600 3 - 38400 4 - 19200 5 - 9600 XXXX= ASCII data to be sent (Up to 48 characters).</p>	<p>>SetDisplayInputSendChar_5:1234567</p> <hr/> <p><Baudrate: 9600 <Display input select to send:1234567</p>
<p>>SetDisplayInputSendHex_[Param]:XX XX</p>	<p>Set the HEX "Display Input Select" command "XX XX" to be sent to display device when power on the switcher. [Param] = 1~5 (Baud rate of RS232 port) 1 - 115200 2 - 57600 3 - 38400 4 - 19200 5 - 9600 XX XX= HEX data to be sent (X = 0~9, A~F and up to 20 XX).</p>	<p>>SetDisplayInputSendHex_5:30 31 32 33</p> <hr/> <p><Baudrate: 9600 <Display input select to send HEX:30 31 32 33</p>
<p>>SetPowerOnSendChar_[Param]:XXXX</p>	<p>Set the ASCII "Power On" command "XXXX" to be sent to display device when power on the switcher. [Param] = 1~5 (Baud rate of RS232 port) 1 - 115200 2 - 57600 3 - 38400 4 - 19200 5 - 9600 XXXX= ASCII data to be sent (Up to 48 characters).</p>	<p>>SetPowerOnSendChar_5:1234567</p> <hr/> <p><Baudrate: 9600 <Power on to send:1234567</p>
<p>>SetPowerOnSendHex_[Param]:XX XX</p>	<p>Set the HEX "Power On" command "XX XX" to be sent to display device when power on the switcher. [Param] = 1~5 (Baud rate of RS232 port) 1 - 115200</p>	<p>>SetPowerOnSendHex_5:30 31 32 33</p>

Command	Description	Command Example and Feedback
	2 - 57600 3 - 38400 4 - 19200 5 - 9600 XX XX= HEX data to be sent (X = 0~9, A~F and up to 20 XX).	<Baudrate: 9600 <Power on to send HEX:30 31 32 33
>SetSleepSendChar_[Param]:XXXX	Set the ASCII "Power Off" command "XXXX" to be sent to display device when the switcher enter standby mode. [Param] = 1~5 (Baud rate of RS232 port) 1 - 115200 2 - 57600 3 - 38400 4 - 19200 5 - 9600 XXXX= ASCII data to be sent (Up to 48 characters).	>SetSleepSendChar_5:AB CDEFG <Baudrate: 9600 <Enter sleep to send:ABCDEF
>SetSleepSendHex_[Param]:XX XX	Set the HEX "Power Off" command "XX XX" to be sent to display device when the switcher enter standby mode. [Param] = 1~5 (Baud rate of RS232 port) 1 - 115200 2 - 57600 3 - 38400 4 - 19200 5 - 9600 XX XX= HEX data to be sent (X = 0~9, A~F and up to 20 XX).	>SetSleepSendHex_5:41 42 43 44 <Baudrate: 9600 <Enter sleep to send HEX:41 42 43 44

8. Firmware Upgrade

- 1) Prepare the latest upgrade file (.bin) and rename it as "FW_MV bin" on PC.
- 2) Power off the switcher and connect the **FIRMWARE** port of switcher to the PC with a type-A USB cable.
- 3) Power on the switcher, the PC will automatically detect a U-disk named "BOOTDISK".
- 4) Directly copy the latest upgrade file (.bin) to the "BOOTDISK" U-disk.
- 5) Reopen the U-disk to check whether there is a filename "SUCCESS.TXT", if yes, the firmware was updated successfully, if not, the firmware updating has failed, the name of upgrade file (.bin) should be confirmed again, and then follow the above steps again to update.
- 6) Remove the type-A USB cable after firmware upgrade.
- 7) After firmware upgrade, the switcher should be restored to factory default by sending a command.

9. After-sales Service

Should you experience problems using the Alfatron SCK41TS, please refer to the manual and troubleshooting and maintenance section (6). Should the error persist, note that any transport costs of the equipment to the distributor are borne by the user during the warranty.

- 1) Product Limited Warranty:** Alfatron warrants that its products will be free from defects in materials and workmanship for **seven years**, which starts from the first day of purchase.

Proof of purchase in the form of a bill of sale or receipted invoice which is evidence that the unit is within the warranty period must be presented to obtain warranty service.

2) What the warranty does not cover (servicing available for a fee):

- Warranty expiration.
- Factory applied serial number has been altered or removed from the product.
- Damage, deterioration, or malfunction caused by:
 - Normal wear and tear.
 - Use of supplies or parts not meeting product specifications.
 - No certificate or invoice as the proof of warranty.
 - The product model showed on the warranty card does not match with the product or if the product had been altered.
 - Damage caused by force majeure.
 - Servicing not authorized by Alfatron.
 - Any other causes which do not relate to a product defect.
- Delivery, installation or labour charges for installation or setup of the product.

3) Technical Support: Contact our after-sales department at

www.alfatronelectronics.com

Limited warranty in respect of Alfatron Products Only

1.1 This limited warranty covers defects in materials and workmanship in this product.

1.2 Should warranty service be required, proof of purchase must be presented to the Company. The serial number on the product must be clearly visible and not have been tampered with in any way whatsoever.

1.3 This limited warranty does not cover any damage, deterioration or malfunction resulting from any alteration, modification, improper or unreasonable use or maintenance, misuse, abuse, accident, neglect, exposure to excess moisture, fire, improper packing and shipping (such claims must be presented to the carrier), lightning, power surges, or other acts of nature. This limited warranty does not cover any damage, deterioration or malfunction resulting from the installation or removal of this product from any installation, any unauthorized tampering with this product, any repairs attempted by anyone unauthorized by the Company to make such repairs, or any other cause which does not relate directly to a defect in materials and/or workmanship of this product. This limited warranty does not cover equipment enclosures, cables or accessories used in conjunction with this product.

This limited warranty does not cover the cost of normal maintenance. Failure of the product due to insufficient or improper maintenance is not covered.

1.4 The Company does not warrant that the product covered hereby, including, without limitation, the technology and/or integrated circuit(s) included in the product, will not become obsolete or that such items are or will remain compatible with any other product or technology with which the product may be used.

1.5 Only the original purchaser of this product is covered under this limited warranty. This limited warranty is not transferable to subsequent purchasers or owners of this product.

1.6 Unless otherwise specified, the goods are warranted in accordance with the manufacturer's product specific warranties against any defect attributable to faulty workmanship or materials, fair wear and tear being excluded.

1.7 This limited warranty only covers the cost of faulty goods and does not include the cost of labor and travel to return the goods to the Company's premises.

1.8 In the event of any improper maintenance, repair or service being carried out by any third persons during the warranty period without the Company's written authorization, the limited warranty shall be void.

1.9 A 7 (seven) year limited warranty is given on the aforesaid product were used correctly according to the Company's instructions, and only with the use of the Company's components.

1.10 The Company will, at its sole option, provide one of the following three remedies to whatever extent it shall deem necessary to satisfy a proper claim under this limited warranty:

- 1.10.1 Elect to repair or facilitate the repair of any defective parts within a reasonable period of time, free of any charge for the necessary parts and labor to complete the repair and restore this product to its proper operating condition.; or
- 1.10.2 Replace this product with a direct replacement or with a similar product deemed by the Company to perform substantially the same function as the original product; or
- 1.10.3 Issue a refund of the original purchase price less depreciation to be determined based on the age of the product at the time remedy is sought under this limited warranty.
- 1.11 The Company is not obligated to provide the Customer with a substitute unit during the limited warranty period or at any time thereafter.
- 1.12 If this product is returned to the Company this product must be insured during shipment, with the insurance and shipping charges prepaid by the Customer. If this product is returned uninsured, the Customer assumes all risks of loss or damage during shipment. The Company will not be responsible for any costs related to the removal or reinstallation of this product from or into any installation. The Company will not be responsible for any costs related to any setting up this product, any adjustment of user controls or any programming required for a specific installation of this product.
- 1.13 Please be aware that the Company's products and components have not been tested with competitor's products and therefore the Company cannot warrant products and/or components used in conjunction with competitor's products.
- 1.14 The appropriateness of the goods for the purpose intended is only warranted to the extent that the goods are used in accordance with the Company's installation, classification, and usage instructions.
- 1.15 Any claim by the Customer which is based on any defect in the quality or condition of the goods or their failure to correspond with specification shall be notified in writing to the Company within 7 days of delivery or (where the defect or failure was not apparent on reasonable inspection by the Customer) within a reasonable time after discovery of the defect or failure, but, in any event, within 6 months of delivery.
- 1.16 If delivery is not refused, and the Customer does not notify the Company accordingly, the Customer may not reject the goods and the Company shall have no liability and the Customer shall pay the price as if the goods had been delivered in accordance with the Agreement.
- 1.17 THE MAXIMUM LIABILITY OF THE COMPANY UNDER THIS LIMITED WARRANTY SHALL NOT EXCEED THE ACTUAL PURCHASE PRICE PAID FOR THE PRODUCT.