

User Manual

WOXCON

SCU31-TB

3x1 Conference Tabletop Box with Soft Codec



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Version: SCU31-TB_2020V1.0

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1. Product Introduction

The SCU31-TB 3x1 conference tabletop box is a multi-format switcher with two HDMI inputs, one USB Type-C input and one HDMI output. The USB Type-C port provides charging for source device up to 60w. The box supports HDMI and USB-C video resolutions up to 4K@60Hz 4:4:4 and multichannel audio. In addition to passing EDID information from the display, there are multiple built-in EDID settings to simplify an installation. The box supports auto switching, auto display device control, USB 2.0+3.0 signal extension and Ethernet signal extension. The SCU31-TB also supports front panel button control, Web GUI, CEC and RS232 control.

1.1 Features

- 3x1 switcher with two HDMI inputs and one USB Type-C input.
- Supports HDMI V2.0, 4K@60Hz 4:4:4, 8bit, HDR 10, HDR 10+ and Dolby Vision.
- Supports auto switching.
- Provides charging via USB-C port up to 60W.
- Provides USB data (USB 3.0/2.0) and 4K video transmission via USB-C port.
- Supports USB 2.0+3.0 signal extension by providing one USB Type-C and two USB Type-B ports for host PC connection, and four USB Type-A ports for USB devices connection (e.g. mouse, keyboard, microphone, camera etc.).
- Provides one 5V 2A USB Type-A port to power other device (e.g. mobile phone).
- Supports Ethernet signal extension by providing two ETHERNET ports.
- Supports Web GUI, CEC and RS232 control.
- Smart EDID management and HDCP handling.
- Auto display control.

1.2 Package List

- 1x SCU31-TB
- 2x Mounting Screws ($\Phi 10 \times 15 \times M3$)
- 2x Mounting Screws (6.8*12-M5*8)
- 2x Wing Mounting Screws
- 1x RS232 Cable
- 1x Power Adapter (24VDC, 5A)
- 1x Power Cord
- 1x User Manual

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

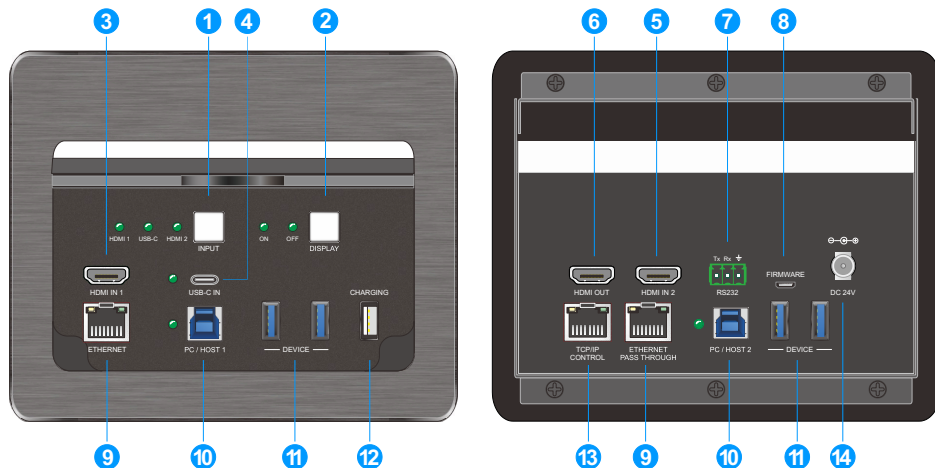
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2. Specification

Input & Output	
Video Input	(2) HDMI, (1) USB-C
Video Input Connector	(2) Type-A female HDMI, (1) USB 3.0 Type-C
HDMI Input Resolution	Up to 4K@60Hz 4:4:4 8bit, HDR 10, HDR 10+, Dolby Vision.
USB-C Input Resolution	Up to 4K@60Hz 4:4:4
Video Output	(1) HDMI
Video Output Connector	(1) Type-A female HDMI
Output Resolution	Up to 4K@60Hz 4:4:4 8bit, HDR 10, HDR 10+, Dolby Vision. Supports 4K to 1080p video down-scaling.
HDMI Standard	2.0
HDCP Standard	2.2
HDMI Audio Format	Supports Dolby Atmos, Dolby TrueHD, Dolby Digital Plus, Dolby Digital, DTS-X, DTS-HD Master Audio, DTS 5.1, 2-8Ch PCM 32-192kHz 16-24 bits.
Control	
Control	(2) 9x7mm Buttons, (2) ETHERNET, (1) TCP/IP, (2) PC/HOST 1/2, (4) DEVICE, (1) RS232, (1) FIRMWARE,
Control Connector	(3) RJ45, (2) USB Type-B, (4) USB 3.0 Type-A, (1) 3-pin terminal block, (1) Micro-USB
Power	(1) CHARGING (USB 2.0 Type-A), (1) DC 24V Input
General	
CEC Control	Supported
HPD	Supported
USB-C Charging	Up to 60W
USB-A (DEVICE) Charging	5V 1A
USB-A Charging	5V 2A
Power Supply	Input: 100 to 240VAC, 50/60Hz; Output: 24V 5A
Power Consumption	69W (Except USB-C Charging)
Operation Temperature	-5 to +55°C (+23° to +131°F)
Storage Temperature	-25 to +70°C (-13° to +158°F)
Relative Humidity	10% to 90%, Non-condensing
Dimension (W*H*D)	168mm x 254mm x 141mm
Net Weight	1.92kg

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3. Panel Description



① INPUT SELECTION:

- Press the button repeatedly to cycle through the video inputs, and the corresponding input LED HDMI 1, USB-C or HDMI 2 will illuminate green.
- Hold and press the button at least three seconds to enter/exit auto switching mode.

② **DISPLAY CONTROL:** Display ON/OFF composite button. Press the button to simultaneously send CEC and RS232 commands to turn on/off display device. The corresponding LED ON/OFF will illuminate green. Note that the ON and OFF RS232 commands should be set by users.

③ **HDMI IN 1:** Connects to HDMI source device (e.g. laptop).

④ **USB-C IN:** Connects to USB-C source device (e.g. MacBook), and then its LED will illuminate green.

⑤ **HDMI IN 2:** Connects to HDMI source device (e.g. laptop).

⑥ **HDMI OUT:** Connects to HDMI display device.

⑦ **RS232:** Connects to control device (e.g. PC) to control the unit, or connects to the display device which needs to be controlled by RS232 commands.

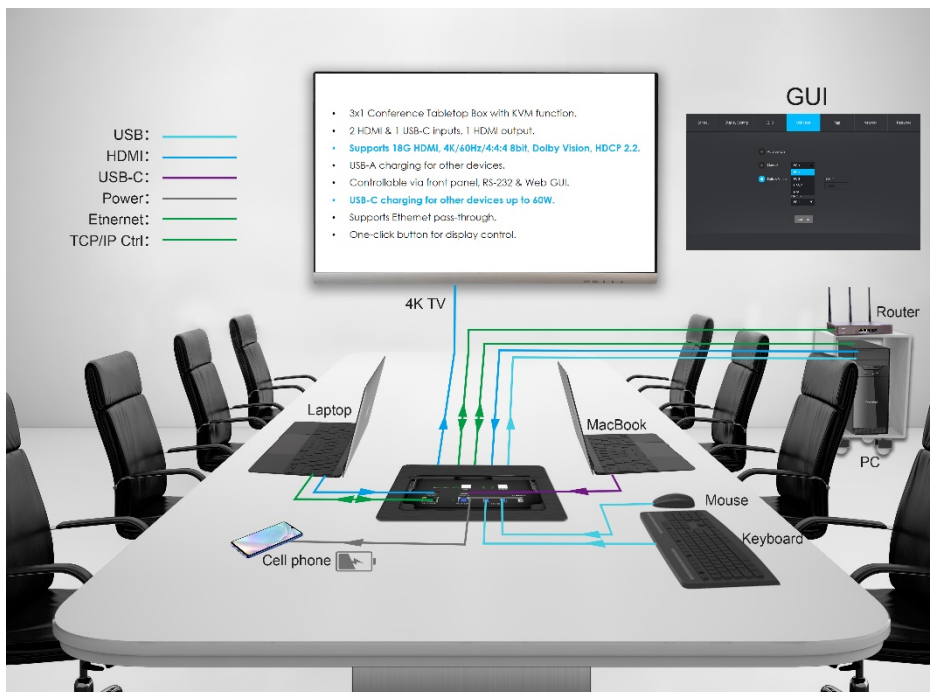
⑧ **FIRMWARE:** Micro USB port for firmware upgrade.

⑨ **ETHERNET:** Two RJ45 ports for network signal extension. One port connects to network, the other will gain the network signal.

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- ⑩ **PC/HOST 1&2:** Two USB Type-B ports for HOST PCs connection. The HOST PC can be controlled by the USB devices (e.g. mouse, keyboard, etc.) which are connected to four USB Type-A ports (DEVICE).
- ⑪ **DEVICE:** Four USB Type-A ports for USB device connection (e.g. mouse, keyboard, etc.). These USB devices are used to control HOST PC 1/2, or USB-C device. These four USB Type-A ports also provide 5V 1A power.
- ⑫ **CHARGING:** Provides 5V 2A power for the other peripheral device (e.g. mobile phone).
- ⑬ **TCP/IP CONTROL:** Connects to control device (e.g. PC) to control the unit via GUI.
- ⑭ **DC 24V:** Power port for power adapter connection.

4. System Connection



5. Panel Button Control

5.1 Signal Switching

Press **INPUT** button to select input source manually, the corresponding LED of HDMI 1, USB-C or HDMI 2 will illuminate green.

Press and hold **INPUT** button at least three seconds to enable or disable auto switching mode, and the button will light up.

In auto switching mode, the unit will switch source input according to the following rules:

- *The default detection method of input source signal is 5V, and it also supports TMDS.*
- *The unit will switch to the first available active input with the priority is HDMI 1> USB-C > HDMI 2.*
- *New input: The unit will automatically select the new input once detecting a new input.*
- *Reboot: If power is restored to the unit, it will automatically reconnect the input before shutdown.*
- *Source removed: When an active source is removed, the unit will switch to the first active input with the priority is HDMI 1> USB-C > HDMI 2.*
- *In auto switching mode, the input source also can be switched by press the **INPUT** button, but the unit will not exit auto mode.*
- *Press and hold the **INPUT** button at least three seconds again can exit AUTO mode, but the active input source will not be changed.*

5.2 Display Control

Press **DISPLAY** button to turn on/off the display device by simultaneously sending CEC and RS232 commands, and then the corresponding LED ON/OFF will illuminate green. The ON/OFF RS232 command can be saved into the control button by GUI Display Setting tab, or sending command “#SET_ON_param1_param2:xxxx” / “#SET_OF_param1_param2_param3: xxxx” on RS232 control software. For more details, refer to [6.2 Display Setting Tab](#) or [7.4 Display Setting](#).


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6. GUI Control

The unit 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:



User Name

Password

Login

GUI : V1.0.0
Firmware: V1.0.0

Username: admin

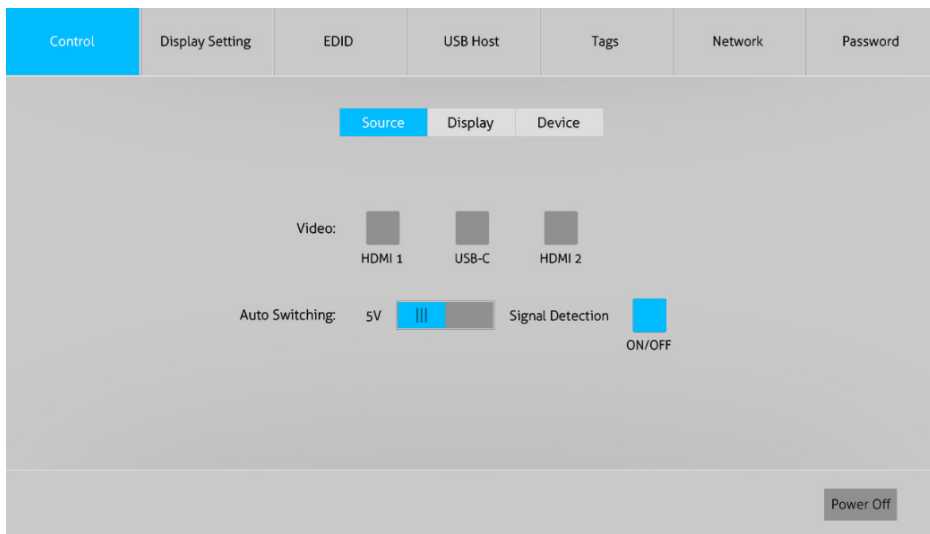
Password: admin

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

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6.1 Control Tab

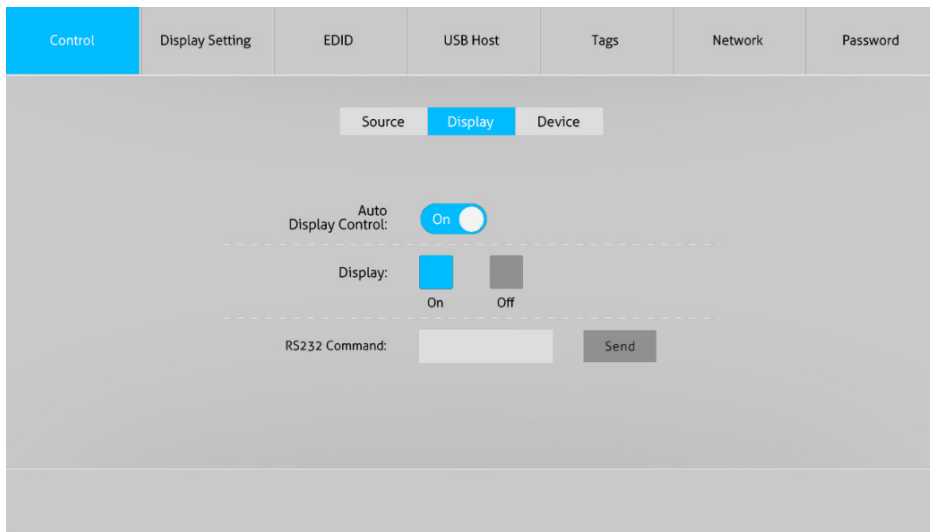
6.1.1 Signal Switching



- Video: Click button “HDMI 1”, “USB-C” or “HDMI 2” to select the corresponding input source.
- Auto Switching:
 - ✓ Select 5V or TMDs signal detection mode.
 - ✓ Click button “ON/OFF” to enable or disable auto switching mode.
- Power Off: Click the button to let the unit to enter standby mode, click the button again to wake up.

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6.1.2 Display Control



- Auto Display Control: Enable or disable the auto display control mode. In auto display control mode, the unit will automatically perform the following operations.
 - ✓ System On:

When the unit detects source signal input (5V or TMDS), or receives “Wake Up” command, it will automatically perform the following operation steps:

 - 1) Send “Display On” CEC command to the display device.
 - 2) Send “Display On -> Delay Time (default: 10S) -> Display Input Select” RS232 commands to the display device.
 - ✓ System Off:

When the unit detects no signal source input and the No Signal Timeout (default: 0S) is up; detects no activities or RS232 communication and No Activity Timeout (default: 0min) is up; or receives “Power Off” command, it will automatically perform the following operation steps:

 - 1) Send “Display Off” CEC command to the display device.
 - 2) Send “Display Off” RS232 command to the display device. This command is sent once by default, or it can be sent twice by setting.
 - 3) Only after executing “System Off” program, the “System On” can be triggered.

Note: The “Display On”, “Display Off” and “Display Input Select” RS232 commands; the Delay Time, No Signal Timeout and No Activity Timeout can be set by GUI

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Display Setting tab or RS232 command. For more details, please refer to [6.2 Display Setting Tab](#) or [7.4 Display Setting](#).

- Display: Click “On” or “Off” to turn on or off the display device by simultaneously sending CEC and RS232 commands.
- RS232 Command: Enter RS232 commands to be sent to control the display device as needed, and then click “Send”. The RS232 commands may be found in the user manual of display device.

6.1.3 Device Control

- Factory Default: Click the button to restore to factory default.
- HDCP Out: Select HDCP Passive or Active mode.
 - ✓ Passive: Automatically follows the input source’s HDCP content.
 - ✓ Active: Automatically output HDCP 1.4 content, and if the input source has no HDCP content, the output also has no HDCP content.

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6.2 Display Setting Tab

Control	Display Setting	EDID	USB Host	Tags	Network	Password
RS232						
Baud Rate:	9600 ▼			<input type="checkbox"/> Hex		
Command Ending:	NULL ▼			Display On:	<input type="text"/>	
Display Off:	<input type="text"/>	<input type="checkbox"/> 2x		Input Delay:	10 s	
Display Off x2 Delay:	3000 ms			Display Input Select:	<input type="text"/>	
No Activity Timeout:	180 Min			No Signal Timeout:	10 Min	
<small>System On: Video Sensing -> Send 'Display On' -> Wait 'Delay' -> Send 'Display Input Select' System Off: No Signal or Activity -> Send 'Display Off' -> Wait 'x2 Delay' -> Send 'Display Off'</small>						
<input type="button" value="Save"/>						

- **Baud Rate:** Set the baud rate for display device. It supports 2400, 4800, 9600, 19200, 38400, 57600 and 115200.
- **Command Ending:** NULL, CR, LF or CR+LF can be selected.
- Select “Hex” to enter hexadecimal string.
- **Display On:** Enter the “Display On” RS232 command to be saved, and then click “Save”. The command is usually used to turn on the display device. When pressing the “DISPLAY ON” button on front panel, the command will be automatically sent to the display device.
- **Display Off:** Enter the “Display Off” RS232 command to be saved, and then click “Save”. The command is usually used to turn off the display device. When pressing the “DISPLAY OFF” button on front panel, the command will be automatically sent to the display device. When “2x” is checked, the “Display Off” command is sent twice.
- **Display Off x2 Delay:** Set the interval time for “Display Off” command to be sent twice.
- **Input Delay:** Set the sending interval time between the “Display On” and “Display Input Select” commands.
- **Display Input Select:** Enter the “Display Input Select” RS232 command to be saved, and then click “Save”. The command is usually used to select input source for the display device.

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- No Activity Timeout: The system will enter standby mode, and the display device will be automatically shut down when no any activity is detected within the setup time.
- No Signal Timeout: The system will enter standby mode, and the display device will be automatically shut down when no source signal is detected within the setup time.

6.3 EDID Tab

- Click “HDMI 1”, “USB-C” or “HDMI 2” to select the source device, and then select the desired built-in EDID for the selected source device.
- User-defined 1/2: There are two user-defined EDID can be set by the following steps:
 - ✓ Step 1: Prepare the EDID file (.bin) on the control PC.
 - ✓ Step 2: Select the “User-defined 1” or “User-defined 2”.
 - ✓ Step 3: Select the EDID file (.bin) according the tooltip.
 - ✓ Step 4: Click “Apply” to upload the user-defined EDID.

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6.4 USB Host Tab

The system provides USB HOST PC 1, PC 2 or USB-C to be selected, and it provides four USB Type-A ports for connecting USB devices (e.g. mouse, keyboard, etc.) used to control the selected USB HOST. The USB HOST can be switched in this tab.

- Auto Switch: Enable or disable auto switching mode of USB HOST. In auto switching mode, the unit will switch USB HOST according to the following rules:
 - ✓ When all USB HOSTs are connected in system, the switching priority is PC 1 > PC 2 > USB-C.
 - ✓ When an active USB HOST is removed, the unit will switch to the first detected HOST with the priority is PC 1 > PC 2 > USB-C.
- Manual: Manually select the USB HOST (PC 1, PC 2 or USB-C).
- Follow Video: Set the USB HOST (PC 1 or PC 2) to follow the video source signal switching.
 - ✓ HDMI 1: Set PC 1 or PC 2 to follow HDMI IN 1 source switching. For example, If the USB HOST is PC 2, when the HDMI IN 1 is switched as source input, the PC 2 can be controlled by USB devices (e.g. mouse, keyboard, etc.)
 - ✓ HDMI 2: Set PC 1 or PC 2 to follow HDMI IN 2 source switching. For example, If the USB HOST is PC 1, when the HDMI IN 2 is switched as source input, the PC 1 can be controlled by USB devices (e.g. mouse, keyboard, etc.)

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6.5 Tags Tab

Control	Display Setting	EDID	USB Host	Tags	Network	Password
<p>HDMI 1 USB-C HDMI 2</p> <p>Confirm</p>						

- Modify the input source tags.

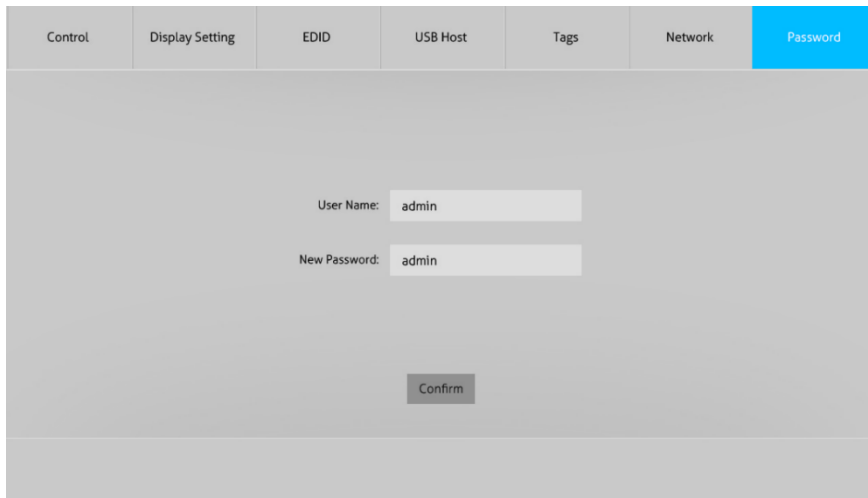
6.6 Network Tab

Control	Display Setting	EDID	USB Host	Tags	Network	Password
<p>MAC Address: 44-33-4C-C9-35-12</p> <p>DHCP <input checked="" type="checkbox"/> Static IP</p> <p>IP Address: 192.168.0.178</p> <p>Subnet Mask: 255.255.255.0</p> <p>Gateway: 192.168.0.1</p> <p>Confirm</p>						

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

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6.7 Password Tab



The screenshot shows a configuration interface with a top navigation bar containing tabs: Control, Display Setting, EDID, USB Host, Tags, Network, and Password. The Password tab is highlighted in blue. Below the tabs, the main content area is a light gray background. It contains two text input fields: 'User Name:' with the value 'admin' and 'New Password:' with the value 'admin'. Below these fields is a 'Confirm' button.

- Reset the login username and password.

6.8 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, and then click **Upload Firmware**, select the desired update file and press **Apply**, it will start upgrading then.

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The screenshot displays the 'WEB SERVER' administration interface. On the left, a navigation tree includes 'MediaTek', 'Operation Mode', 'Internet Settings', 'Administration', and 'Upload Firmware', with the last item circled in orange. The main content area is titled 'Upgrade Firmware' and contains a warning message: 'Upgrade the MediaTek SoC firmware to obtain new functionality. It takes about 1 minute to upload & upgrade flash and be patient please. Caution! A corrupted image will hang up the system.' Below this is a form with a 'Location' field containing 'Test_8_Z_GUI...K_V1.0.0.bin' and an 'Apply' button. A progress indicator shows a circular gauge at 2% with the text 'Please wait until the process is completed!' below it.

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7. RS232 Control

The unit provides RS232 port for control device (e.g. PC) connection. After setting all needed input and output devices according to the system connection diagram, please install the RS232 control software (e.g. docklight) into the control PC to send RS232 command.

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 command in command sending area.

When controlling the unit, the serial port settings for all RS232 commands is:

Baud rate: 9600 Data bit: 8 Stop bit: 1 Parity bit: none

Note: The unit can be controlled by sending the following RS232 commands, and the command ending is "<CR><LF>".

7.1 Device Control

Command	Function	Command Example and Feedback
#GET_FIRMWARE_VERSION	Get firmware version.	@V1.0.0
#FACTORY_RESET	Restore to factory default.	@FACTORY_RESET
#REBOOT	System reboot.	@REBOOT
#GET_STATUS	Get device status.	@V1.0.0 @AV H1 @AUTO_SWITCH 1 @OUTPUT_HDCP PASSIVE @H1_EDID_MODE 0 @C_EDID_MODE 0 @H2_EDID_MODE 0 @SIGNAL_DET_MODE 5V @KEYPAD_LOCK 0 @USB_SWITCH_MODE 2 @USB_CH PC1 @RS232_BAUD 4
#SET_POWER param1	Enter or exit standby mode. param1 = 0, 1	#SET_POWER 0 #SET_POWER 1
	0 - Standby mode. 1 - Normal working mode.	@POWER 0 @POWER 1

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Command	Function	Command Example and Feedback
#GET_POWER	Get the device standby or working status.	@POWER 0
#SET_GUI_IP_ADDR param1.param2.param3.param4	Set GUI IP address. param1 = 0~255 param2 = 0~255 param3 = 0~255 param4 = 0~255	#SET_GUI_IP_ADDR 192.168.0.179
		@SET_IP 192.168.0.179
#GET_GUI_IP_ADDR	Get GUI IP address.	@SET_IP 192.168.0.179
#SET_SIGNAL_DET param1	Set the detection method of source signal to TMDS or 5V. param1= TMDS, 5V.	#SET_SIGNAL_DET TMDS #SET_SIGNAL_DET 5V
		@SIGNAL_DET_MODE TMDS @SIGNAL_DET_MODE 5V
#GET_SIGNAL_DET	Get the detection method of source signal.	@SIGNAL_DET_MODE 5V
#SET_KEYPAD_LOCK param1	Lock or unlock front panel buttons. param1 = 0, 1 0 - Unlock 1 - Lock	#SET_KEYPAD_LOCK 0 #SET_KEYPAD_LOCK 1
		@KEYPAD_LOCK 0 @KEYPAD_LOCK 1
#GET_KEYPAD_LOCK	Get the locking status of front panel buttons.	@KEYPAD_LOCK 0
#SET_OUTPUT_HDCP param1	Set the HDCP mode. param1 = PASSIVE, ACTIVE PASSIVE: Automatically follows the input source's HDCP content. ACTIVE: Automatically output HDCP 1.4 content, and if the input source has no HDCP content, the output also has no HDCP content.	#SET_OUTPUT_HDCP PASSIVE #SET_OUTPUT_HDCP ACTIVE
		@OUTPUT_HDCP PASSIVE @OUTPUT_HDCP ACTIVE
#GET_OUTPUT_HDCP	Get HDCP mode.	@OUTPUT_HDCP ACTIVE
#SET_RS232_BAUD param1	Set the RS232 baud rate. param1 = 0~6. 0 - 115200 1 - 57600 2 - 38400 3 - 19200	#SET_RS232_BAUD 0 #SET_RS232_BAUD 1 #SET_RS232_BAUD 2 #SET_RS232_BAUD 3

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Command	Function	Command Example and Feedback
	4 - 9600 5 - 4800 6 - 2400	#SET_RS232_BAUD 4 #SET_RS232_BAUD 5 #SET_RS232_BAUD 6 @RS232_BAUD 0 @RS232_BAUD 1 @RS232_BAUD 2 @RS232_BAUD 3 @RS232_BAUD 4 @RS232_BAUD 5 @RS232_BAUD 6
#GET_RS232_BAUD	Get the RS232 baud rate.	@RS232_BAUD 4
#HELP param1	Get any command's function and usage. param1 = Any command. param1 = Null. Get all commands.	#HELP @RS232_COMMAND_LIST: 1 - #GET_FIRMWARE_VERSION 2 - #SET_AV 3 - #GET_AV 4 - #SET_AUTO_SWITCH ...

7.2 Signal Switching

Command	Function	Command Example and Feedback
#SET_AV param1	Switch input source to HDMI output. param1= H1, C, H2 <ul style="list-style-type: none"> ● H1 - HDMI IN 1 ● C - USB-C ● H2 - HDMI IN 2 	#SET_AV H1 #SET_AV C #SET_AV H2 @AV H1 @AV C @AV H2
#GET_AV	Get the current input source.	@AV H1
#SET_AUTO_SWITCH param1	Enable/disable auto switching mode. param1 = 0, 1 0 - Disable 1 - Enable	#SET_AUTO_SWITCH 1 #SET_AUTO_SWITCH 0 @AUTO_SWITCH 1 @AUTO_SWITCH 0

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Command	Function	Command Example and Feedback
#GET_AUTO_SWITCH	Get the source switching mode.	@AUTO_SWITCH 0

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7.3 Display Control

Command	Function	Command Example and Feedback
#AUTO_CEC_SET_PANEL_OPEN	Enable the auto display control mode. For more function description, please refer to the 6.1.2 Display Control .	@OPEN CEC DISPLAY ON/OFF WHEN SIGNAL/NOSIGNAL
#AUTO_CEC_SET_PANEL_CLOSE	Disable the auto display control mode.	@CLOSE CEC DISPLAY ON/OFF WHEN SIGNAL/NOSIGNAL
#GET_AUTO_CEC_SET_PANEL	Get the auto display control mode.	@OPEN CEC DISPLAY ON/OFF WHEN SIGNAL/NOSIGNAL
#SET_DISPLAY param1	Turn on or off display device by simultaneously sending CEC and RS232 commands. param1 = ON, OFF ON: Turn on display device. OFF: Turn off display device.	#SET_DISPLAY ON #SET_DISPLAY OFF
		@SET_DISPLAY ON @SET_DISPLAY OFF
#SEND_A_param1:xxxx	Send ASCII control command "xxxx" to the display device. param1 = 1~7 (baud rate). 1 - 115200 2 - 57600 3 - 38400 4 - 19200 5 - 9600 6 - 4800 7 - 2400	#SEND_A_1:ABCD123
		ABCD123
#SEND_H_param1:xx xx xx	Send HEX control command "xx xx xx" to the display device. param1 = 1~7 (baud rate). 1 - 115200 2 - 57600 3 - 38400 4 - 19200 5 - 9600 6 - 4800 7 - 2400	#SEND_H_1:11 22 33
		11 22 33

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7.4 Display Setting

Command	Function	Command Example and Feedback								
#SET_ON_param1_param2:xxxx	Set the "Display On" command "xxxx" to be saved. When pressing the "DISPLAY ON" button on front panel, the command will be automatically sent to the display device. param1 = A, H <ul style="list-style-type: none"> ▪ A = ASCII string. ▪ H = HEX string. param2 = 1~7 (baud rate) <table style="margin-left: 20px;"> <tr> <td>1 - 115200</td> <td>2 - 57600</td> </tr> <tr> <td>3 - 38400</td> <td>4 - 19200</td> </tr> <tr> <td>5 - 9600</td> <td>6 - 4800</td> </tr> <tr> <td>7 - 2400</td> <td></td> </tr> </table>	1 - 115200	2 - 57600	3 - 38400	4 - 19200	5 - 9600	6 - 4800	7 - 2400		#SET_ON_A_1:ABCDEFGF #SET_ON_H_1:11 22 33
		1 - 115200	2 - 57600							
3 - 38400	4 - 19200									
5 - 9600	6 - 4800									
7 - 2400										
@SET_ON_ASCII (BAUD)x1 x2 @SET_ON_HEX (BAUD)x1 0xY1,0xY2,...										
#SET_OF_param1_param2_param3: xxx	Set the "Display Off" command "xxxx" to be saved. When pressing the "DISPLAY OFF" button on front panel, the command will be automatically sent to the display device. param1 = A, H <ul style="list-style-type: none"> ▪ A = ASCII string. ▪ H = HEX string. param2 = 1~7 (baud rate) <table style="margin-left: 20px;"> <tr> <td>1 - 115200</td> <td>2 - 57600</td> </tr> <tr> <td>3 - 38400</td> <td>4 - 19200</td> </tr> <tr> <td>5 - 9600</td> <td>6 - 4800</td> </tr> <tr> <td>7 - 2400</td> <td></td> </tr> </table> param3 = 1~100. The number of sending Display Off" command.	1 - 115200	2 - 57600	3 - 38400	4 - 19200	5 - 9600	6 - 4800	7 - 2400		#SET_OF_A_1_1:ABCDEF G #SET_OF_H_1_2:11 12 13 14
		1 - 115200	2 - 57600							
3 - 38400	4 - 19200									
5 - 9600	6 - 4800									
7 - 2400										
@SET_OF_ASCII (BAUD)x1 (REPEAT)x2 x3 @SET_OF_HEX (BAUD)x1 (REPEAT)x2 0xY1,0xY2,...										
#SET_INTERVAL_OFF_RS232_REPEAT param1	Set the interval time when the "Display Off" command is sent repeatedly. param1 = 300~10000 (default: 300ms)	#SET_INTERVAL_OFF_RS232_REPEAT 300								
		@INTERVAL_OFF_RS232_REPEAT 300 MILLISECONDS								
#GET_INTERVAL_OFF_RS232_REPEAT	Get the interval time when the "Display Off" command is sent repeatedly.	@INTERVAL_OFF_RS232_REPEAT 300 MILLISECONDS								

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Command	Function	Command Example and Feedback								
#SET_DIS_SEL_param1_param2:xxxx	Set the "Display Input Select" command "xxxx" to be saved. The command is usually used to select input source for display device. param1 = A, H <ul style="list-style-type: none"> ▪ A = ASCII string. ▪ H = HEX string. param2 = 1~7 (baud rate) <table style="margin-left: 20px;"> <tr> <td>1 - 115200</td> <td>2 - 57600</td> </tr> <tr> <td>3 - 38400</td> <td>4 - 19200</td> </tr> <tr> <td>5 - 9600</td> <td>6 - 4800</td> </tr> <tr> <td>7 - 2400</td> <td></td> </tr> </table>	1 - 115200	2 - 57600	3 - 38400	4 - 19200	5 - 9600	6 - 4800	7 - 2400		#SET_DIS_SEL_A_1:ABC DEFG #SET_DIS_SEL_H_1:11 12 13
		1 - 115200	2 - 57600							
3 - 38400	4 - 19200									
5 - 9600	6 - 4800									
7 - 2400										
@SET_DIS_INPUT_SEL_ASCII (BAUD)x1 x2 @SET_DIS_INPUT_SEL_HEX (BAUD)x1 0xY1,0xY2,...										
#SET_DIS_INPUT_DELAY param1	Set the sending interval time between the "Display On" and "Display Input Select" commands in auto display control mode. param1 = 1~100 (default: 10s)	#SET_DIS_INPUT_DELAY 10								
		@DISPLAY_INPUT_DELAY 10 SECONDS								
#GET_DIS_INPUT_DELAY	Get the sending interval time between the "Display On" and "Display Input Select" commands in auto display control mode.	@DISPLAY_INPUT_DELAY 10 SECONDS								
#AUTO_CEC_PANEL_TIME param1	Set the No Signal Timeout. The display device will be automatically shut down when no source signal is detected within the setup time. param1 = 0~10000 (default: 10mins). param1 = 0. The system will not enter standby mode.	#AUTO_CEC_PANEL_TIME 5								
		@DELAY TIME TO %d MINUTES, TO TURN OFF THE DISPLAY IF NO SOURCE DETECTED								
#GET_AUTO_CEC_PANEL_TIME	Get the No Signal Timeout. The display device will be automatically shut down when no source signal is detected within the setup time.	@DELAY TIME TO %d MINUTES, TO TURN OFF THE DISPLAY IF NO SOURCE DETECTED								
#SET_NO_ACT_TIME param1	Set the No Activity Timeout. The display device will be automatically shut down when no any activity is detected within the setup time. param1 = 0~10000 (default:180mins) param1 = 0. The system will not enter standby mode.	#SET_NO_ACT_TIME 200								
		@DELAY TIME TO %d MINUTES, TO TURN OFF DISPLAY WHEN NO ACTIVITY								

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Command	Function	Command Example and Feedback
#GET_NO_ACT_TIME	Get the No Activity Timeout. The display device will be automatically shut down when no any activity is detected within the setup time.	@DELAY TIME TO %d MINUTES, TO TURN OFF DISPLAY WHEN NO ACTIVITY

7.5 EDID Setting

Command	Function	Command Example and Feedback
#SET_EDID_MODE param1 param2	Set built-in EDID for source device. param1 = H1, H2, C, Null <ul style="list-style-type: none"> ▪ H1 - HDMI 1 IN ▪ C - USB-C IN ▪ H2 - HDMI 2 IN ▪ Null - All source input devices. param2 = 0~15	#SET_EDID_MODE 1 #SET_EDID_MODE H1 1 #SET_EDID_MODE C 2 #SET_EDID_MODE H2 3

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Command	Function	Command Example and Feedback																																
	<table border="1"> <tr><td>0</td><td>EDID BYPASS</td></tr> <tr><td>1</td><td>1280x720@60Hz Stereo Audio</td></tr> <tr><td>2</td><td>1920x1080@60Hz 8bit Stereo Audio</td></tr> <tr><td>3</td><td>1920x1080@60Hz 8bit High Definition Audio</td></tr> <tr><td>4</td><td>1920x1080@60Hz 3D Stereo Audio</td></tr> <tr><td>5</td><td>1920x1200@60Hz 8bit Stereo Audio</td></tr> <tr><td>6</td><td>3840x2160@30Hz 8bit Stereo Audio</td></tr> <tr><td>7</td><td>3840x2160@30Hz 8bit High Definition Audio</td></tr> <tr><td>8</td><td>3840x2160@30Hz Deep Color LPCM 6CH</td></tr> <tr><td>9</td><td>3840x2160@60Hz 4:2:0 Deep Color Stereo Audio</td></tr> <tr><td>10</td><td>3840x2160@60Hz 4:2:0 Deep Color High Definition Audio</td></tr> <tr><td>11</td><td>3840x2160@60Hz Deep Color Stereo Audio</td></tr> <tr><td>12</td><td>3840x2160@60Hz Deep Color HDR Stereo Audio</td></tr> <tr><td>13</td><td>3840x2160@60Hz Deep Color HDR High Definition Audio</td></tr> <tr><td>14</td><td>User defined 1</td></tr> <tr><td>15</td><td>User defined 2</td></tr> </table>	0	EDID BYPASS	1	1280x720@60Hz Stereo Audio	2	1920x1080@60Hz 8bit Stereo Audio	3	1920x1080@60Hz 8bit High Definition Audio	4	1920x1080@60Hz 3D Stereo Audio	5	1920x1200@60Hz 8bit Stereo Audio	6	3840x2160@30Hz 8bit Stereo Audio	7	3840x2160@30Hz 8bit High Definition Audio	8	3840x2160@30Hz Deep Color LPCM 6CH	9	3840x2160@60Hz 4:2:0 Deep Color Stereo Audio	10	3840x2160@60Hz 4:2:0 Deep Color High Definition Audio	11	3840x2160@60Hz Deep Color Stereo Audio	12	3840x2160@60Hz Deep Color HDR Stereo Audio	13	3840x2160@60Hz Deep Color HDR High Definition Audio	14	User defined 1	15	User defined 2	<p>@H1_EDID_MODE 1 @C_EDID_MODE 2 @H2_EDID_MODE 3</p>
0	EDID BYPASS																																	
1	1280x720@60Hz Stereo Audio																																	
2	1920x1080@60Hz 8bit Stereo Audio																																	
3	1920x1080@60Hz 8bit High Definition Audio																																	
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10	3840x2160@60Hz 4:2:0 Deep Color High Definition Audio																																	
11	3840x2160@60Hz Deep Color Stereo Audio																																	
12	3840x2160@60Hz Deep Color HDR Stereo Audio																																	
13	3840x2160@60Hz Deep Color HDR High Definition Audio																																	
14	User defined 1																																	
15	User defined 2																																	
#GET_EDID_MODE param1	<p>Get the EDID of input source. param1 = H1, H2, C, Null</p> <ul style="list-style-type: none"> ▪ H1 - HDMI 1 IN ▪ C - USB-C IN ▪ H2 - HDMI 2 IN ▪ Null - All source input devices. 	<p>#GET_EDID_MODE H1</p> <p>@H1_EDID_MODE 1</p>																																
#UPLOAD_USER_EDID param1	<p>Upload the user-defined EDID. param1 = 1, 2</p>	<p>#UPLOAD_USER_EDID 1 #UPLOAD_USER_EDID 2</p>																																

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Command	Function	Command Example and Feedback
	1 - Upload the user-defined EDID 1. 2 - Upload the user-defined EDID 2.	@USER_EDID_READY 1 USER EDID 1 UPLOAD OK @USER_EDID_READY 2 USER EDID 2 UPLOAD OK

7.6 USB Control

Command	Function	Command Example and Feedback
#SET_USB_SWITCH_MODE param1	Set switching mode of USB HOST. param1 = 0, 1, 2. <ul style="list-style-type: none"> ▪ 0 - Auto switching. ▪ 1 - Manual switching. ▪ 2 - Follows input video source switching. For more function description, please refer to the 6.4 USB Host Tab .	#SET_USB_SWITCH_MODE DE 2
		@USB_SWITCH_MODE 2
#GET_USB_SWITCH_MODE	Get switching mode of USB HOST.	@USB_SWITCH_MODE 2
#SET_USB_MANUAL param1	Manually switching the USB HOST. param1 = PC1, PC2, USBC <ul style="list-style-type: none"> ▪ PC1 - PC 1 USB port. ▪ PC2 - PC2 USB port. ▪ USBC - USB-C input port. 	#SET_USB_MANUAL USBC
		@USB_CH USBC
#GET_USB_SWITCH	Get the current USB HOST.	@USB_CH USBC
#SET_USB_MAP param1 param2	Set the mapping relationship when the USB HOST follows the input video source switching. param1 = H1, H2 <ul style="list-style-type: none"> ▪ H1 - HDMI 1 IN ▪ H2 - HDMI 2 IN param2 = PC1, PC2, NA <ul style="list-style-type: none"> ▪ PC1 - PC 1 USB port. ▪ PC2 - PC2 USB port. ▪ NA - NO Operation 	#SET_USB_MAP H1 PC1 #SET_USB_MAP H2 PC2
		@H1_USB_MAP PC1 @H2_USB_MAP PC2

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Command	Function	Command Example and Feedback
#GET_USB_MAP param1	Get the mapping relationship when the USB HOST follows the input video source switching. param1 = H1, H2, Null <ul style="list-style-type: none"> ▪ H1 - HDMI 1 IN ▪ H2 - HDMI 2 IN ▪ Null - Get the USB HOST both HDMI 1 and HDMI 2. 	#GET_USB_MAP #GET_USB_MAP H1 #GET_USB_MAP H2
		@H1_USB_MAP PC1 @H2_USB_MAP PC2

8. Firmware Upgrade

Please follow the steps as below to upgrade firmware by the **FIRMWARE** port on the rear panel:

- 1) Prepare the latest upgrade file (.bin) and rename it as "FW_MERG.bin".
- 2) Connect the unit to the PC with USB to Micro USB cable, and then power on the unit. The PC will automatically detect a U-disk named of "BOOTDISK".
- 3) Double-click the U-disk, a file named of "READY.TXT" would be shown.
- 4) Directly copy the latest upgrade file (.bin) to the "BOOTDISK" U-disk.
- 5) Reopen the U-disk to check the filename "READY.TXT" whether automatically becomes "SUCCESS.TXT", if yes, the firmware was updated successfully, otherwise, the firmware updating is fail, the name of upgrade file (.bin) should be confirmed again, and then follow the above steps to update again.
- 6) Remove the USB to Micro USB cable after firmware upgrade, and reboot the unit.