User Manual

CHC2

18G In-line HDMI Controller with Auto Display Control

Version: CHC2_2019V1.2

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1. Product Introduction

Thanks for choosing the CHC2 18G In-line HDMI Controller, which is designed for automatic system control and HDMI signal extension in small meeting rooms and huddle spaces. The controller supports three system trigger methods, IR signal, video signal (5V or TMDS). It automatically triggers CEC commands, pre-loaded RS232 and IR commands to turn on or off display, and relay control to rise and fall the projection screen. It supports video resolution up to 4K@60Hz 4:4:4 HDR 10 and Dolby Vision, and features 4K to 1080P down-scaling for compatibility with 1080P display. Besides passing EDID information from the display, there are multiple built-in EDID settings can be selected by the 4-pin DIP switch on the front panel. In addition, the controller supports CEC control, RS232 control, IR learning and relay control.

1.1 Features

- Supports up to 4Kx2K@60Hz 4:4:4 HDR10 and Dolby Vision, HDCP 2.2 compliant.
- HDCP pass-through or converted to HDCP 1.4 for better compatibility.
- Supports 4K to1080P down-scaling.
- Comprehensive EDID management with 8 EDID Options for various application.
- Automation display control via CEC, RS232 and IR.
- Contact Closure input for connections with a variety of devices, such as sensor and switch.
- Relay control for device like projection screen.
- Built-in signal equalizer, provides capability to use longer range HDMI cable.

1.2 Package List

- 1x 18G In-line HDMI Controller
- 4x Plastic Cushions
- 1x RS232 Cable (3-pin to DB9)
- 1x IR Detector (Sold separately)
- 2x Mounting Ears with 4 Screws
- 3x 3-pin Terminal Blocks
- 1x Power Adapter (5V DC 1A)
- 1x User Manual

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

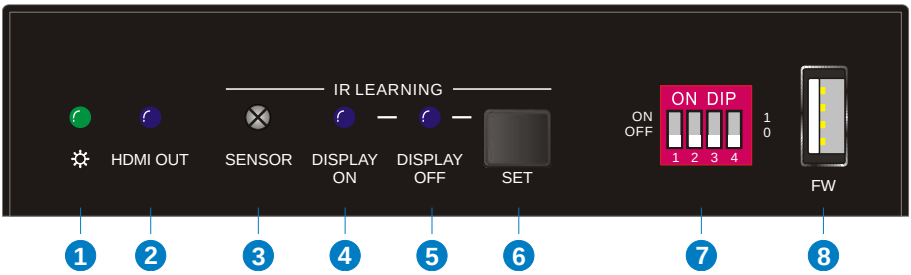
2. Technical Specification

Video Input	
Input	(1) HDMI IN
Input Connector	(1) Female type-A HDMI
Input Video Resolution	Up to 4Kx2K@60Hz 4:4:4 8bit
Video Output	
Output	(1) HDMI OUT/CEC
Output Connector	(1) Female type-A HDMI
Output Video Resolution	Up to 4Kx2K@60Hz 4:4:4 8bit
Control	
Control	(1) SET Button, (1) 4-pin DIP Switch, (1) FW, (1) IR OUT, (1) RS232, (1) Sensor, (2) Relay (1~2)
Control Connector	(1) Type-A USB, (1) 3.5mm mini jack, (4) 3-pin terminal blocks
General	
HDMI Standard	2.0
HDCP Version	2.2
HDCP Pass-through	Supported
CEC Control	Supported
Hot-plug	Supported
Bandwidth	18Gbps
HDMI Cable Length	1080P@60Hz ≤ 33 feet (10 meters), 4K@60Hz ≤ 16 feet (5 meters)
Operation Temperature	-5℃ ~ +55℃
Storage Temperature	-25℃ ~ +70℃
Relative Humidity	10%-90%
Power Supply	Input:100V~240V AC; Output: 5V DC 1A
Power Consumption	2.5W(Max)
Dimension (W*H*D)	120mm x 28mm x 84mm
Net Weight	305g

Note: *Please adopt high-qualified HDMI cable fully compliant with HDMI2.0 for reliable transmission and connection.*

3. Panel Description

3.1 Front Panel



① **POWER LED: T**he LED illuminates green when power is applied.

② **HDMI OUT LED:** The LED illuminates blue when there is HDMI signal output.

③ **SENSOR:** Built-in IR sensor to receive IR signal.

④ **DISPLAY ON LED:** The LED blinks blue when the controller is in IR learning mode, and it will illuminate blue after successfully learning the IR command.

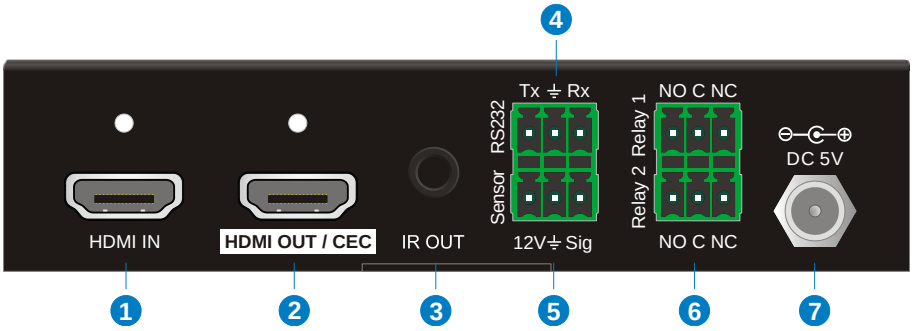
⑤ **DISPLAY OFF LED:** The LED blinks blue when the controller is in IR learning mode, and it will illuminate blue after successfully learning the IR command.

⑥ **SET:** Press the button to enable IR learning mode. Please refer to ***chapter 6.2*** for more details.

⑦ 4-pin DIP switch for EDID setting and HDCP mode selection.

⑧ **FW:** Type-A USB port for firmware upgrade.

3.2 Rear Panel



① **HDMI IN:** Type-A female HDMI input port to connect HDMI source device.

② **HDMI OUT/CEC:** Supports CEC. Type-A female HDMI output port to connect HDMI display.

③ **IR OUT:** 3.5mm mini jack to connect the IR emitter to send IR signal.

④ **RS232:** 3-pin terminal block to connect the RS232 control device (e.g. PC) or a device (e.g. projector) to be controlled by RS232 commands.

⑤ **Sensor:** 3-pin terminal block to connect external IR detector (sold separately).

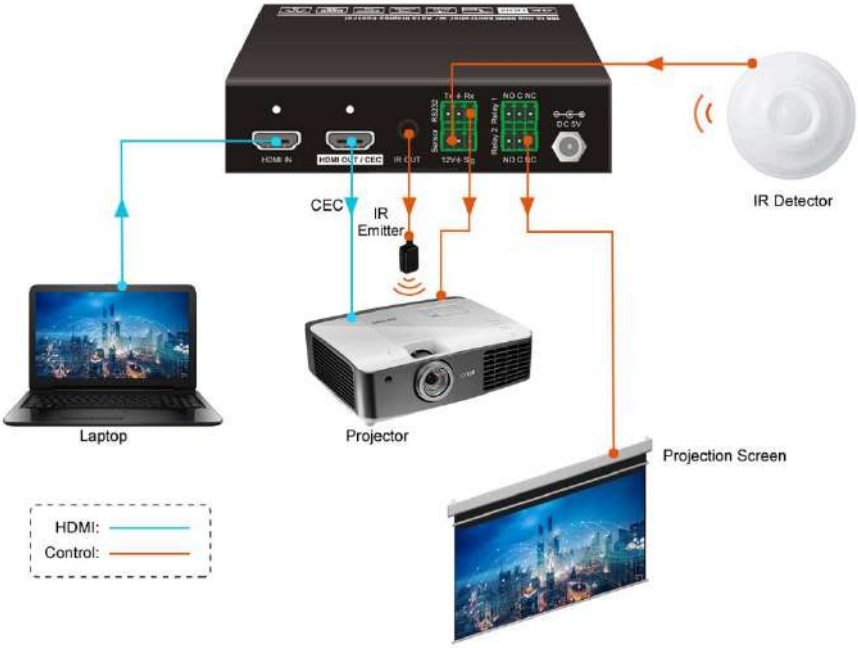
⑥ **Relay 1~2:** Two 3-pin terminal blocks to connect projection screen for relay control.

⑦ **DC 5V:** DC connector for the power adapter connection.

4. System Connection

4.1 System Diagram

The following diagram illustrates typical input and output connections that can be utilized with this controller:



4.2 IR Detector Connection

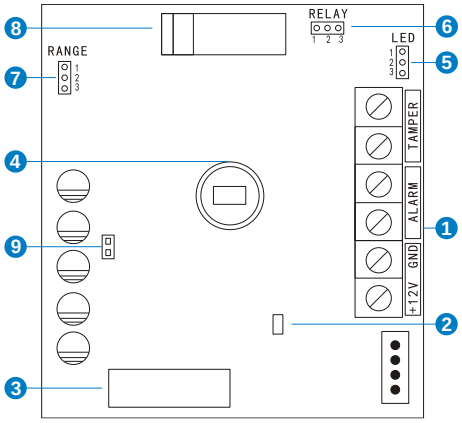
The “Sensor (3-pin)” port of controller can be connected to an external IR detector (sold separately). Here is a brief introduction about it.

The product is a stable PIR intrusion detector, using advanced signal analysis and processing technology, providing ultra-high detection and anti-false alarm performance. When an intruder passes through the detection area, the detector will automatically detect human activities in the area and send an alarm signal to the controller. The IR detector is widely used in family homes, villas, factories, shopping malls, office buildings, warehouses and other places of security precautions.

Technical Specification

Voltage	12V ~ 16V DC
Current	< 20mA
Detection Distance	12 meters
Detection Angle	360°
Alarm Indication	Red LED
Coverage Area	Remote area:11; Middle area:8; Near area: 5
Operation Temperature	-10℃ ~ +55℃
Environment Humidity	95%RH (Max)
Anti-RF	10MHZ~1GHZ 20V/M
Installation Method	Ceiling Mount
Installation Height	2.4~4.8 meters
Alarm Output	N.O./N.C. Touch spot: 30VDC 100MA
Tamper Output	N.C. Touch spot: 30VDC 100MA
Dimension	Diameter 100mm* Height 34mm

Wiring diagram



① Terminal Blocks:
- +12V: Power positive input
- GND: Power negative input
- ALARM: Alarm output connector
- TAMPER: Tamper switch connector

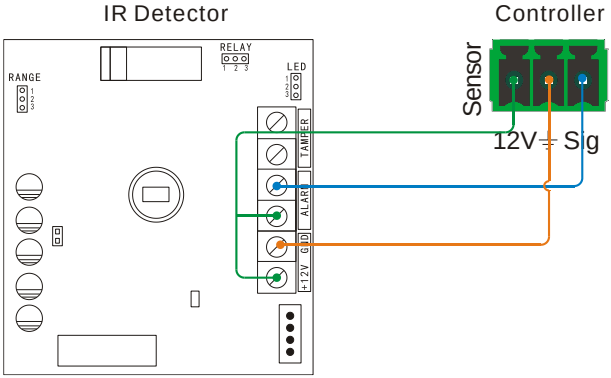
② LED indicator
③ Relay
④ PIR Sensor
⑤ LED jumper wire
⑥ Normal Open (N.O.)/Normal Close (N.C.) jumper wire
⑦ PLUSE jumper wire
⑧ Tamper Switch
⑨ Thermistor

Installation Circumstance

- Do not install outdoors and stay away from pets, air conditioners, heat sources, rotating objects and direct sunlight.
- Mounting surface should be strong and non-loose and non-vibration.
- Install the IR detector in a place where the intruder is easy to pass through.

Installation Procedure

1) Open the bottom cover of the IR detector.
2) Make hole in the bottom cover for cable outlet.
3) Select the appropriate installation position and install the bottom cover.
4) According to the below wiring diagram, connect it to the controller.



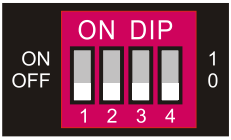
5) Install the upper cover.

5. DIP Switch Operation

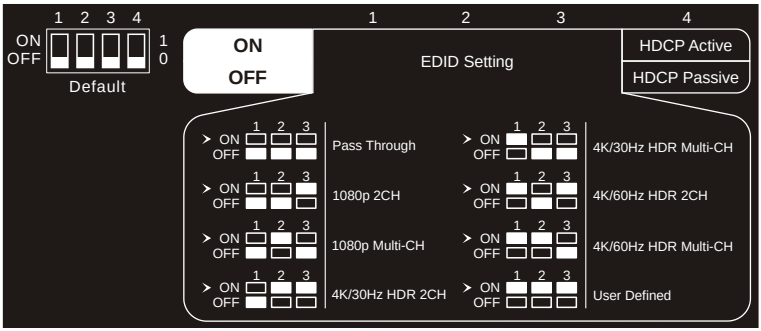
5.1 EDID Management

The Extended Display Identification Data (EDID) is used by the source device to match its video resolution with the connected display. By default, the source device obtains its EDID from the first connected display. Meanwhile, since the display with different capabilities is connected to the controller, the DIP switch on the front panel can be used to set the EDID to a fixed value to ensure the compatibility in video resolution.

The switch represents "**0**" when in the lower (**OFF**) position, and it represents "**1**" while putting the switch in the upper (**ON**) position.



Switch 1~3 are used for EDID setting. The DIP switch status and its corresponding setting are shown at the back of the product.



Switch Status	Video Resolution	Audio Format
000	Pass Through	
001	1080P	2CH
010	1080P	Multi-CH
011	3840x2160@30Hz HDR	2CH
100	3840x2160@30Hz HDR	Multi-CH
101	3840x2160@60Hz HDR	2CH
110	3840x2160@60Hz HDR	Multi-CH
111	User-defined EDID (Upload the EDID by type-A USB port)	

Note:

- *2CH: Supports LPCM 2CH.*
- *Multi-CH: Supports LPCM 8CH, Dolby TrueHD, DTS-HD , Dolby Digital5.1, DTS 5.1, Dolby Digital Plus.*

- **User-defined EDID Setting**

Except directly invoking the built-in EDID, the specific EDID can be customized by following the below operation process.

1) Rename the user-defined EDID as **EC_11.bin**.

2) Connect the **FW** port of the controller to the PC with USB cable, and then power on the controller, the PC will automatically detect a virtual disk named of "BOOTDISK".

3) Double-click to open the disk, a file named of "READY.TXT" will be showed.

4) Copy the user-defined EDID to the "BOOTDISK" disk.

5) Reopen the disk to check the filename "READY.TXT" whether automatically becomes "SUCCESS.TXT", if yes, the user-defined EDID was imported into the controller and saved as its corresponding EDID ID successfully.

6) Remove the USB cable, and then reboot the controller.

7) Now the new EDID can be invoked by setting the DIP switch status to "111".

5.2 HDCP Mode

Put switch 4 on "**ON**" position to select **HDCP Active** mode, or to "**OFF**" for **HDCP Passive** mode.

Switch Status	Mode	HDCP
OFF (0)	Passive (Default)	Automatically follows the HDCP version of source device.
ON (1)	Active	● If the input video has HDCP content, the HDCP version of HDMI output is HDCP 1.4 for broader video solution. ● If the input video has no HDCP content, the HDMI output has no HDCP either.

6. System Control Setting

- ***SYSTEM ON***

When the controller detects video signal (TMDS, 5V) or IR signal, the system will start and automatically perform the below actions at the same time.

- ✓ *Send CEC ON to turn on display.*
- ✓ *Send RS232 ON + Delay Time (default 3s, range of 1~180s) + User-defined RS232 command to display.*
- ✓ *Send IR ON + Delay Time (default 3s, range of 1~180s) + User-defined IR command to display.*
- ✓ *Toggle the state of relay 1 as follow.*

I/O State	Relay State	
	NO	NC
On (Closed)	Closed	Open
Off (Open)	Open	Closed

- ***SYSTEM OFF***

When the controller detects all input source devices are removed, or not receives IR signal within the delay time (default 10mins, range of 5mins-180mins), the system will off and automatically perform the below actions at the same time.

- ✓ *Send CEC OFF to turn off display.*
- ✓ *Send RS232 OFF to display. The number of sending command is default 1 time, it can be set to 2 times by RS232 command.*
- ✓ *Send IR OFF to display. The number of sending command is default 1 time, it can be set to 2 times by RS232 command.*
- ✓ *Toggle the state of relay 2.*

6.1 RS232 Command Setting

The trigger methods of *SYSTEM ON* or *SYSTEM OFF*, and CEC, RS232, IR, Relay control actions can be set by RS232 commands.

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

After installing RS232 control software, please set the parameters of COM number, bound rate, data bit, stop bit and the parity bit correctly, then the RS232 commands can be sent in command sending area.

Baud rate: 9600;

Data bit: 8;

Stop bit: 1;

Parity bit: none.

6.1.1 Trigger Method Setting

<table>
<tr><th>Command</th><th>Function</th><th>Feedback Example</th></tr>
<tr><td rowspan="2">SYSONMETH[X].</td><td rowspan="2">Set the trigger method to perform SYSTEM ON.<table><tr><td>X</td><td>Description</td></tr><tr><td>0</td><td>Detects IR signal</td></tr><tr><td>1</td><td>Detects HDMI video signal (default 5V, or TMDS)</td></tr><tr><td>2</td><td>Detects IR or video signal</td></tr></table></td><td>SYSONMETH1.</td></tr>
<tr><td>SET VIDEO TRIGGER FOR SYSTEM ON!</td></tr>
<tr><td rowspan="2">SYSOFFMETH[X].</td><td rowspan="2">Set the trigger method to perform SYSTEM OFF.<table><tr><td>X</td><td>Description</td></tr><tr><td>0</td><td>Detects no IR signal</td></tr><tr><td>1</td><td>Detects no HDMI video signal (default 5V, or TMDS)</td></tr><tr><td>2</td><td>Detects no IR and video signal</td></tr></table></td><td>SYSOFFMETH1.</td></tr>
<tr><td>SET NOT DETECT VIDEO TRIGGER FOR SYSTEM OFF!</td></tr>
<tr><td rowspan="2">NOSIGDLY:[XXXXX].</td><td rowspan="2">Set the system off time to xxxxx (default 10mins, range of 5mins to 180mins). When no HDMI video signal has been detected, the system will off after the setting time.</td><td>NOSIGDLY:00300.</td></tr>
<tr><td>SET DETECT NOSIGNAL DELAY TIME 300S!</td></tr>
</table>

<table>
<tr><td rowspan="2">NOIRDLY:[XXXXX].</td><td rowspan="2">Set the system off time to xxxxx (default 10mins, range of 5mins to 180mins). When no IR signal has been detected, the system will off after the setting time.</td><td>NOIRDLY:00300.</td></tr>
<tr><td>SET DETECT NO IR DELAY TIME 300S!</td></tr>
<tr><td rowspan="2">5VORTMDS[X].</td><td rowspan="2">Set the HDMI video signal trigger condition.<table><tr><td>X</td><td>Description</td></tr><tr><td>0</td><td>Detects 5V signal.</td></tr><tr><td>1</td><td>Detects TMDS signal.</td></tr></table></td><td>5VORTMDS0.</td></tr>
<tr><td>DETECT INPUT SOURCE USE 5V!</td></tr>
<tr><td>GSYSONMETH.</td><td>Report the trigger method of SYSTEM ON.</td><td>VIDEO TRIGGER FOR SYSTEM ON!</td></tr>
<tr><td>GSYSOFFMETH.</td><td>Report the trigger method of SYSTEM OFF.</td><td>NO VIDEO TRIGGER FOR SYSTEM OFF!</td></tr>
<tr><td>GNOSIGDLY.</td><td>Report the delay time of SYSTEM OFF when the controller detects no input source signal (5V/TMDS).</td><td>DETECT NOSIGNAL DELAY TIME 300S!</td></tr>
<tr><td>GNOIRDLY.</td><td>Report the delay time of SYSTEM OFF when the controller detects no IR sensor signal.</td><td>DETECT NO IR DELAY TIME 300S!</td></tr>
<tr><td>G5VORTMDS.</td><td>Report the detection method of input source. 5V/TMDS</td><td>DETECT INPUT SOURCE USE 5V!</td></tr>
</table>

6.1.2 CEC Control Setting

Command	**Function**	**Feedback Example**
CECON.	Enable CEC.	OPEN CEC FUNCTION!
CECOFF.	Disable CEC.	CLOSE CEC FUNCTION!
GCECSTAUS.	Report CEC status.	CEC FUNCTION IS OPEN!
TVON.	Turn on display (e.g. TV)	CEC TV POWER ON!
TVOFF.	Turn off display (e.g. TV)	CEC TV POWER OFF!

6.1.3 RS232 Control Setting

<table>
<tr><th>Command</th><th>Function</th><th>Feedback Example</th></tr>
<tr><td rowspan="2">RS232ON/+[X]:XXX</td><td rowspan="2">When detecting a triggering signal, automatically send ASCII command XXX to the third-party device (e.g. Projector) whose baud rate is X.<table><tr><td>X</td><td>Baud Rate</td></tr><tr><td>1</td><td>2400</td></tr><tr><td>2</td><td>4800</td></tr><tr><td>3</td><td>9600</td></tr><tr><td>4</td><td>19200</td></tr><tr><td>5</td><td>38400</td></tr><tr><td>6</td><td>57600</td></tr><tr><td>7</td><td>115200</td></tr></table></td><td>RS232ON/+3:123abc</td></tr>
<tr><td>Send the ASCII command “123abc” to the third-party whose baud rate is 9600.</td></tr>
<tr><td rowspan="2">RS232ON/-[X]:XXX</td><td rowspan="2">When detecting a triggering signal, automatically send HEX command XXX to the third-party device (e.g. Projector) whose baud rate is X.</td><td>RS232ON/-3:30 31 32</td></tr>
<tr><td>Send the HEX command “30 31 32” to the third-party whose baud rate is 9600.</td></tr>
<tr><td rowspan="2">RS232OFF/+[X]:XXX</td><td rowspan="2">When not detecting any triggering signal, automatically send ASCII command XXX to the third-party device (e.g. Projector) whose baud rate is X.</td><td>RS232OFF/+3:123abc</td></tr>
<tr><td>Send the ASCII command “123abc” to the third-party whose baud rate is 9600.</td></tr>
<tr><td rowspan="2">RS232OFF/-[X]:XXX</td><td rowspan="2">When not detecting any triggering signal, automatically send HEX command XXX to the third-party device (e.g. Projector) whose baud rate is X.</td><td>RS232OFF/-3:30 31 32</td></tr>
<tr><td>Send the HEX command “30 31 32” to the third-party whose baud rate is 9600.</td></tr>
<tr><td rowspan="2">RS232U/+[X]:XXX</td><td rowspan="2">Set the user-defined ASCII command to send to the third-party device (e.g. Projector) whose baud rate is X.</td><td>RS232USER/+3:123abc</td></tr>
<tr><td>Send the user-defined command “123abc” to the third-party whose baud rate is 9600.</td></tr>
<tr><td rowspan="2">RS232U/-[X]:XXX</td><td rowspan="2">Set the user-defined HEX command to send to the third-party device (e.g. Projector) whose baud rate is X.</td><td>RS232USER/-3:30 31 32</td></tr>
<tr><td>Send the user-defined command “30 31 32” to the third-party whose baud rate is 9600.</td></tr>
<tr><td rowspan="2">RS232DLY:[XXX].</td><td rowspan="2">Set the sending interval time between RS232 ON and RS232 USER to XXX</td><td>RS232DLY:003.</td></tr>
<tr><td>SET DELAY TIME BETWEEN</td></tr>
</table>

<table>
<tr><td></td><td>(default 3s, range of 1S to 180s).</td><td>RS232 ON AND RS232 USER 3S!</td></tr>
<tr><td>RS232PCS[X].</td><td>Set the sending number of RS232 OFF to X.<table><tr><td>X</td><td>Description</td></tr><tr><td>0</td><td>1 time</td></tr><tr><td>1</td><td>2 times</td></tr></table></td><td>SET SEND RS232 OFF TWO TIME!</td></tr>
<tr><td rowspan="2">RS232OFFINT:[XX].</td><td rowspan="2">Set the two times sending interval time of RS232 OFF to XX (default 2s, range of 1S to 10s).</td><td>RS232OFFINT:02.</td></tr>
<tr><td>SET RS232 OFF SEND DELAY TIME 2S!</td></tr>
<tr><td>GRS232DLY.</td><td>Report the sending interval time between RS232 ON and RS232 USER.</td><td>DELAY TIME BETWEEN RS232 ON AND RS232 USER 3S!</td></tr>
<tr><td>GRS232PCS.</td><td>Report the sending number of RS232 OFF</td><td>SEND RS232 OFF ONE TIME!</td></tr>
<tr><td>GRS232OFFINT.</td><td>Report the two times sending interval time of RS232 OFF.</td><td>RS232 OFF SEND DELAY TIME 2S!</td></tr>
</table>

6.1.4 IR Control Setting

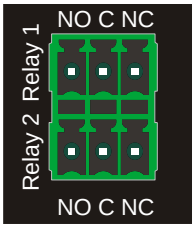
<table>
<tr><th>Command</th><th>Function</th><th>Feedback Example</th></tr>
<tr><td rowspan="2">IRSTUDY[X].</td><td rowspan="2">Learns the IR command from IR remote.<table><tr><td>X</td><td>Description</td></tr><tr><td>0</td><td>STUDY IR DISPLAY OFF</td></tr><tr><td>1</td><td>STUDY IR DISPLAY ON</td></tr><tr><td>2</td><td>STUDY IR USER</td></tr></table></td><td>IRSTUDY0.</td></tr>
<tr><td>READY STUDY IR DISPLAY OFF,PLEASE REMOTE CONTROL RECEIVER IN 10S!</td></tr>
<tr><td rowspan="2">IRSEND[X].</td><td rowspan="2">Send the learned IR command.<table><tr><td>X</td><td>Description</td></tr><tr><td>0</td><td>SEND IR DISPLAY OFF</td></tr><tr><td>1</td><td>SEND IR DISPLAY ON</td></tr><tr><td>2</td><td>SEND IR USER</td></tr></table></td><td>IRSEND0.</td></tr>
<tr><td>SEND IR DISPLAY OFF!</td></tr>
<tr><td rowspan="2">IRDLY:[XXX].</td><td rowspan="2">Set the sending interval time between IR ON and IR USER to XXX (default 3s, range of 1S to 180s).</td><td>IRDLY:003.</td></tr>
<tr><td>SET DELAY TIME BETWEEN IR ON AND IR USER 3S!</td></tr>
<tr><td>IRPCS[X].</td><td>Set the sending number of IR OFF to X.<table><tr><td>X</td><td>Description</td></tr></table></td><td>IRPCS1.</td></tr>
</table>

	0 1 time 1 2 times	SET SEND IR OFF TWO TIMES!
IROFFINT:[XX].	Set the two times sending interval time of IR OFF to XX (default 2s, range of 1S to 10s).	IROFFINT:02. SET IR OFF SEND DELAY TIME 2S!
GIRDLY.	Report the sending interval time between IR ON and IR USER.	DELAY TIME BETWEEN IR ON AND IR USER 3S!
GIRPCS.	Report the sending number of IR OFF.	SEND IR OFF ONE TIMES!
GIROFFINT.	Report the two times sending interval time of IR OFF.	IR OFF SEND DELAY TIME 2S!

6.1.5 Relay Control Setting

Command	Function	Feedback Example
RELAY1COT:[XXX].	Set the Relay 1 delay time to XXX (default 10s, range of 3S to 180s).	RELAY1COT:010. SET RELAY 1 TIME DELAY TIME 10S!
RELAY2COT:[XXX].	Set the Relay 2 delay time to XXX (default 10s, range of 3S to 180s).	RELAY2COT:010. SET RELAY 2 TIME DELAY TIME 10S!
GRELAY1COT.	Report Relay 1 delay time.	RELAY 1 TIME DELAY TIME 10S!
GRELAY2COT.	Report Relay 2 delay time.	RELAY 2 TIME DELAY TIME 10S!

Relay Port Definition



When the controller start SYSTEM ON, the Relay 1 port will perform the below actions:

1) *The **NO** connection closes, and **NC** connection opens.*

2) *When the delay time is up, the **NO** connection opens, and **NC** connection closes.*

When the controller start SYSTEM OFF, the Relay 2 port will perform the below actions:

1) *The **NO** connection closes, and **NC** connection opens.*

2) *When the delay time is up, the **NO** connection opens, and **NC** connection closes.*

6.1.6 System Command

Command	Function	Feedback Example
RST.	Factory reset.	Factory Default!
SCALERON.	Enable 4K to1080P down-scaling function.	OPEN DOWN SCALER FUNCTION!
SCALEROFF.	Disable 4K to1080P down-scaling function.	Close Down Scaler Function!
GDOWNSCALER.	Report down-scaling status.	DOWN SCALER FUNCTION IS CLOSE!
GALLINFO.	Report all device information.	…
GEDIDMODE.	Report EDID.	EDID:PASS THROUGH
GHDCPMODE.	Report HDCP mode.	HDCP:PASSIVE!

6.2 Front Panel IR Learning

Besides configuring IR control by RS232 commands. The IR commands can be learned from IR remote by the **SET** button on the front panel.

Please according the below steps to learn IR commands from IR remote:

Step 1: Press **SET** to choose **DISPLAY ON** or **DISPLAY OFF** command to be set.

- ✓ **DISPLAY ON LED:** Flashing indicates that **DISPLAY ON** mode is selected.
- ✓ **DISPLAY OFF LED:** Flashing indicates that **DISPLAY OFF** mode is selected.

Step 2: Point the IR remote at the **SENSOR** and press the respective button on the IR remote.

Step 3: The **DISPLAY ON** or **DISPLAY OFF** LED will stop flashing and remain lit to indicate that IR command has been learnt.

Step 4: Press and hold the **SET** button for 5 seconds can learn user-defined IR command, and both **DISPLAY ON** and **DISPLAY OFF** LEDs are flashing. Then repeat

the step 2 and both LEDs will stop flashing and remain lit to indicate that IR command has been learnt.

Step 5: The IR learning mode will self-terminate after 10 seconds of inactivity. Both the **DISPLAY ON** and **DISPLAY OFF** LEDs go out to exit the IR learning mode.

7. Firmware Upgrade

Please follow the steps below to upgrade the firmware by the **FW** port on the front panel:

1) Prepare the latest upgrade file (.bin) and rename it as “FW_MERG.bin”.

2) Connect the switcher to the PC with USB to Micro USB cable, and then power on the switcher. 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 confirm again, and then follow the above steps to update again.

6) Remove the USB to Micro USB cable after firmware upgrade, and reboot the switcher.