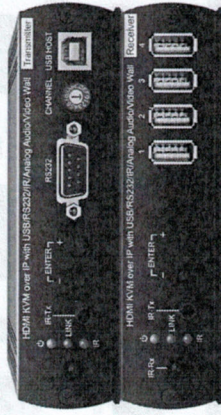


AV over IP Extender

User Manual

Model : SCI1516 、 SCI1517

1080P HDMI KVM & USB, RS232 , IR, Audio over IP Extender



Introduction

SCI516 · SCI517 uses AV over IP technology to route up to 1,000 HDMI sources to up to 60,000 displays over IGMP and Jumbo frame protocol gigabit switches, achieving HDMI signal extending, distributing, switching, and routing.

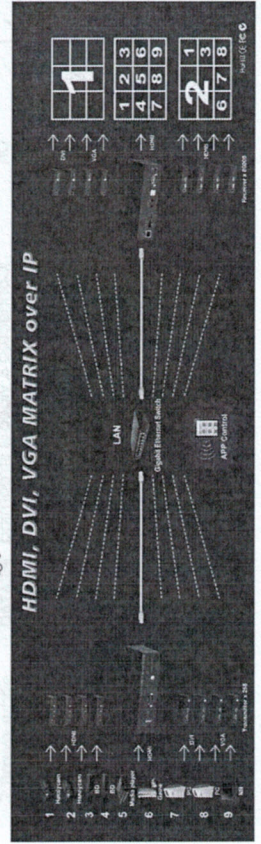
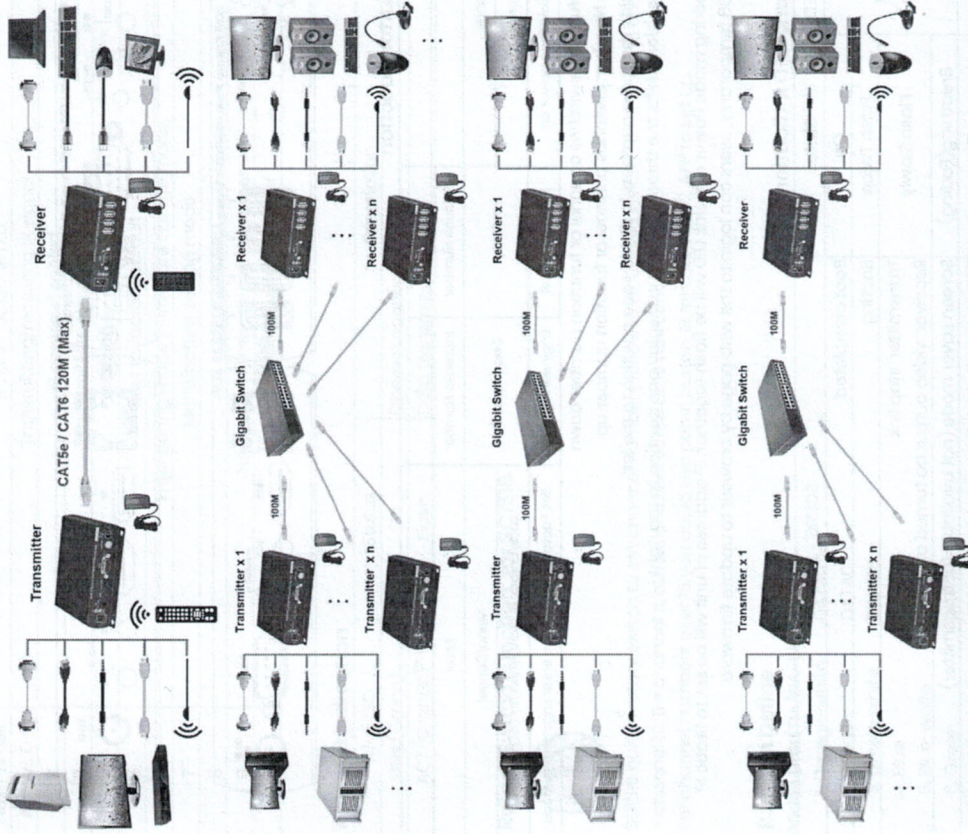
Additionally, the boundless switching function allows you to use one mouse to operate multiple PCs by moving the mouse cursor across each HDMI monitors' borders.

SCI516 · SCI517 is a multifunctional system that integrates multiple media. It can perfectly apply to large-scale security rooms, classrooms, trading rooms, and many more.

Features

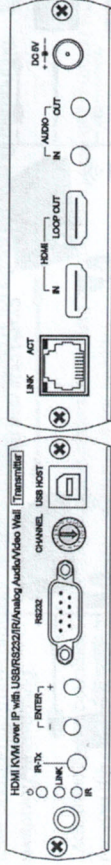
- Resolution up to 1080p@60Hz & 1920 x 1200px.
- Signal extension up to 150M over CAT5e (or greater) cable.
- Workable with Ethernet switches for HDMI extension, distribution, switching, and matrix.
- Built-in loop out, an extra local HDMI display at TX side.
- Built-in 4 USB ports for keyboard, mouse, flash drive...etc.
- Supports up to 8 x 16 video wall.
- Supports video scaler, 4K to 1080p/ 1080p to 4K.
- Supports HDMI audio embedding and extraction function.
- Supports USB, full-duplex RS232, bi-directional IR, analog audio transmission.
- Supports RS232 signal distribution.
- Workable with SROIX (IP repeater) for longer distance.
- Managed via Windows based software, Android/iOS APP, Web GUI, IR remote, panel pushbutton, Telnet API, RS232 console.

Installation view

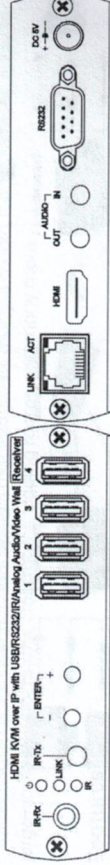


Panel view

SCI1516



SCI1517



Panel Button Function

Button			
Short Press	Reduce Number	+	- and + together Enter
Press 1 seconds	Increase Number		Enter
Press 3 seconds	Carry		Menu/Cancel
Press and hold then power on	Factory Default		Lock/Unlock Button(When no OSD menu)
	Engineering Mode		Set Factory Default then enter Engineering Mode

Reduce Number: switches channel or function number down

Increase Number: switches channel or function number up

Carry: shifts the three numbers in display one position to the left

Decomposition: shifts the three numbers in display one position to the right

In engineering mode Power and Link LED will be flash together, IP address of unit will be set to Static IP 192.168.0.88 temporarily, users can login to the web page by browser to update firmware.

Front Panel LED Indication

Panel LED	Status	SCI1516 · SCI1517
Power (Green)	On	Boot completed
	Flash Twice	Booting
	Flash Slowly	Transmitter: stop link Receiver: video output be turned off
	Breathing(Fading)	Screen saver mode (not available for transmitter)
Link(Blue)	On	Connected & video is streaming
	Flash	Connecting, or no source input from transmitter
IR(Red)	On	Transmitting /receiving IR signal
	Flash Slowly	Other message (IR, RS232, System setting...)
	Flash Quickly	Menu mode
	Flash 2-9 Times	Button lock mode System warning, Alert (Refer to MSG/IR Status Indication)

MSG/IR LED Status Indication

Flash Times	SCI1516 · SCI1517 IR LED
Always ON	Transmitting/receiving IR signal
2	IR control disabled
3	Transmitters channel conflict
4	DHCP server not found
5	Rest to factory default
6	Engineering mode / Firmware update mode
7	Manufacture setting mode
8	Aux system stopped
9	Aux system firmware boot sector error
10	Aux system firmware type error

RJ45 LED Indication

RJ45 LED	Status	Description
LINK (Green)	On	Ethernet connected
ACT (Orange)	Flash	Data transmission

Rotary Switch Function: for SCI1516



SCI1516 built in rotary switch to set channel numbers follow 16 HEX, could switch "0 ~ F" total 16 channels, A = channel 10, B = channel 11, others channel same as 16 hex conversion.

For channel numbers over 15 you could use panel button, IR remote, RS232, APP to set up.

RJ45 Pin Define

Video Link (TIA/EIA-568-B)

1. Orange-white DATA0 +
2. Orange DATA0 -
3. Green-white DATA1 +
4. Blue DATA2 +
5. Blue-white DATA2 -
6. Green DATA1 -
7. Brown-white DATA3 +
8. Brown DATA3 -

Cable & Transmission Distance

Link Cable use high quality CAT.5e UTP/STP/FTP or CAT.6 UTP cable

Transmission distance will be affected by equipment (Switch HUB), cable quality...etc.

When using CAT.5e/CAT.6 cable connect transmitter and receiver directly without Ethernet switch, the maximum transmission distance up to 150M.

You can also use model no. SROIX repeater for extended longer distance or using Gigabit switch hub which support IGMP protocol and Jumbo Frame 8K for signal distribution or extend distance.

System Default Casting Mode/IP Settings Casting Mode

Transmitter / receiver support **Unicast** and **Multicast** two mode, default is Multicast. In Multicast mode it could be one to one, one to multi, multi to one or multi to multi applications. The analog audio output of transmitter and input of receiver will be off in this mode, analog audio only from transmitters send to receivers.
Unicast mode suitable for one to one or multiple transmitters to one receiver applications. Analog audio bi-direction transmission only in **Unicast** mode.

IP Mode

System default IP setting is **static IP**, IP mapping to last 4 digits of MAC address (Hex), for example MAC XX:XX:XX:XX:12:AB, the IP address will be 169.254.18.171
You could also set to **DHCP** or **Auto IP**, please refer to web setting chapter: **IP Setting: Page 18**. In **Auto IP** mode it will assign **169.254.X.X** (subnet mask **255.255.0.0**) to transmitters and receivers without DHCP server.

We recommend static IP mode when using APP or PC software control to prevent any IP change problem.

Bandwidth Chart

The bandwidth will be varied based on different resolution. Higher resolution may not request bigger bandwidth. Below Chart is the resolution and bandwidth status for reference.

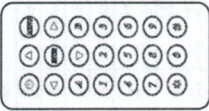
Resolution (@60Hz)	Average Bandwidth (Mbps)	Resolution (@80Hz)	Average Bandwidth (Mbps)
3840x2160 (2160p)	218 (146-268)	1280x1024 (SXGA)	113 (79-150)
1920x1080 (1080p)	133 (80-210)	1024x768 (XGA)	81 (72-120)
1280x720 (720p)	147 (112-177)	800x600 (SVGA)	66 (49-82)
1600x1200 (UXGA)	81 (57-105)	640x480 (VGA)	43 (29-56)

Above bandwidth chart not include USB transmission, it cost up to 50 Mbps when transferring mass data.

System scalability is limited only by uplink and stacking connector bandwidths, for example under Gigabit Ethernet network, the total flow must not exceed 1000Mbps to avoid any delay on video streaming. If the video play with 1080p resolution, the transmitter allow maximum up to 7 pcs for simultaneous video streaming.

For 8-16 sources: use switches which support 802.3ad Link Aggregation or smart (or intelligent) switches to get 2 Gbps or more bandwidth.
For over 16 sources: use switches which support SFP+ uplink or stackable switches to get 10 Gbps bandwidth.

IR Remote Control Setting



You could use the IR infrared remote control to preset channel selection and other menu function. Using the IR remote control aim to the front panel of receiver or external IR receiver cable will be ok. Initial at first time use the remote control or after change battery of remote control, the IR remote control and the equipment Remote ID must be using same ID. The default Remote ID for transmitter is 7, for receiver is 8.

To setting the Remote ID, Press and hold power button, then press button 8 to complete the setting. + (without transmitter or receiver)

IR Remote Control Button

Symbol	Button	Receiver Function	Transmitter Function
	POWER	Turn Off/On Video Output	Connect/Disconnect Receiver
	MENU	Setup Remote Control ID	
	UP	Menu selection, input numbers after press menu button	
	DOWN	Increase Value	
	LEFT	Reduce Value	
	RIGHT	Carry	
	ENTER	Enter / Show Channel Information (When no other Menu operation)	Enter
	ASTERISK	Cancel	
	NUMBER	Recall Previous Value	
	A	Favorite Channel Switching	Set RS232 to Auxiliary Mode to Receive Menu Message
	B	Back to Previous Channel	Set RS232 to Extender Mode
	1	Number 1	
	2	Number 2	
	3	Number 3	
	4	Number 4	
	5	Number 5	
	6	Number 6	
	7	Number 7	
	8	Number 8	
	9	Number 9	
	0	Number 0	

IR Remote Control Operation

Select Channel:

- Mode 1: use **◀** or **▶** or **▼** or **▲** to select channel and press **ENTER** to confirm.
- Mode 2: enter the channel number and press **ENTER** to confirm the input channel.

Select Menu Function:

- Mode 1: press **MENU** then use **◀** or **▶** or **▼** or **▲** to select function, press **ENTER** to confirm.
- Mode 2: press **MENU**, then input function number as below, press **ENTER** to confirm.

Wake Up Receiver:

In screen saver mode (30 seconds without video input), press any button of IR remote/pane to wake up

Connect/Disconnect Connection for Transmitter:

Press **POWER** of IR remote to connect/disconnect connection.

Turn On/Off Video Output for Receiver:

Press **POWER** of IR remote to turn on/off monitor, press panel button **CH-** and **CH+** together to turn on

IR Quick Block for Receiver:

#: IR block mode, ignore IR control signal until press any panel button or IR remote * three times
***** :** Quit IR block mode

TV Wall Quick Switch for Receiver:

MENU+POWER: Switch between TV Wall/Single monitor modes immediately.

Add Favorite List for Receiver:

MENU+A: Add channel to favorite list in menu, maximum 32 channels.

Remove Favorite List for Receiver:

MENU+B: Remove current channel from favorite list in menu

Set RS232 Mode for Transmitter:

MENU+A: Switch to message mode to receive response instead of OSD.
MENU+B: Switch to extender mode.

IR Menu Function List

No.	Menu	Description	Option / Remark	RX	TX
0	System Information	System Information		V	V
1	Network Information	Network Information		V	V
2	Function Information	Function Information		V	V
3	Control Information	Control Information		V	V
4	Video & Audio Information	Video & Audio Information		V	V
5	RS232 Control Information	RS232 Control Information		V	V
6	Channel Information	Channel Information		V	X
7	Favorites Information	Favorites Information		V	X
8	Routing Information	Routing Information		V	X
9	Video Wall Information	Video Wall Information		V	X
10	Advanced Menu	Display advance menu	0 = Hide 1 = Display	1	1
11	Reconnection	Reconnect with TX/RX		V	V
12	Disconnection	Disconnection (keep routing channel)		V	X
13	Stop Connection	Stop all connection (include routing channel)		V	V
14	Starting USB	Get USB control priority (in multicast mode only)		V	X
15	Casting Mode	Casting Mode setting	0 = Unicast 1 = Multicast	1	1
16	Jumbo Frame	Jumbo Frame setting	0 = Disable 1 = Enable	1	1
17	Free Routing	Free Routing setting		1	1
20	Video Function	Video Extender setting		1	1
21	Audio Function	Audio Extender setting		1	1
22	USB Function	USB Extender setting		1	1
23	RS232 Function	RS232 Extender setting	0 = Disable 1 = Enable	1	1
24	IR Function	IR Extender setting		1	1
25	Video Wall Function	Video Wall setting		1	1
27	Keyboard Mouse Function	Keyboard Mouse Extender setting		1	1
30	Button Control	Button Control setting		1	1
31	Button Lock	Button Lock	0 = Disable 1 = Enable	0	0
32	IR Control	IR Control setting		1	1
33	IR Control ID	IR Control ID setting	0 - 9 = IR Control ID 10 = User Define Controller	8	7
34	RS232 Control	RS232 Control setting	0 = Disable 1 = Enable (Case Sensitive) 2 = Case Insensitive	1	1
35	HDMI EV Control	Cut HDMI EV when switching	0 = Disable 1 = Enable	0	X
37	Rotary Switch	SC1516 Channel Switch		X	1
41	Scaler Output Mode	Video output resolution setting	0 = Pass-Through 1 = Pass-Through (Strict) 2 = Auto Detect (Per EDID) 3 = Full HD 1080p 60Hz 4 = Full HD 1080p 50Hz 5 = Customize	0	X
42	Audio Select	TX Audio Input Select /RX Audio Output Select	0 = Digital 1 = Analog	2	2

43	Analog Input Volume	Analog Input Volume	2 = Auto			
44	Analog Output Volume	Analog Output Volume	0 = Mute 1-100 = Volume %	85	85	
45	Video Quality	Video Quality setting	0 = Graphic Mode 1-5 = Mode 1-5 6 = Video Mode	X	6	
46	Anti-Dither	Anti-Dither setting	0 = Disable 1-2 = Mode 1-2	X	0	
47	EDID Update	Update EDID from TX or monitor of RX	0 = Default HDMI 1 = Default DVI 2 = Default VGA 3 = Loopout Monitor (SCI516 - SCI517 Only)	V	V	
48	EDID Select	Select default EDID of TX	0 = Disable 1 = HDCP 1.4 Always On 2 = HDCP 2.2 Always On	X	1	
49	HDCP Always On	HDCP setting	0 = Disable 1 = Extender 2 = Keyboard 3 = Auxiliary 4 = Console	0	0	
50	RS232 Select	RS232 Port Mode Select	0 = 115200 bps 1 = 57600 bps 2 = 38400 bps 3 = 19200 bps 4 = 9600 bps 5 = 4800 bps 6 = 2400 bps 7 = 1200 bps 8 = 600 bps 9 = 300 bps	1	1	
51	RS232 Baudrate	RS232 Extender Baudrate	0 = Linux (0x0A) 1 = Windows (0x0D, 0x0A) 2 = Mac (0x0D) 3 = Other (0x0A, 0x0D)	0	0	
52	RS232 Newline	RS232 Control Newline setting		1	1	
53	RS232 Trigger	RS232 Control Trigger setting		1	1	
54	Auxiliary Baudrate	Auxiliary Baudrate	0 = 115200 bps 1 = 57600 bps 2 = 38400 bps 3 = 19200 bps 4 = 9600 bps 5 = 4800 bps 6 = 2400 bps 7 = 1200 bps 8 = 600 bps 9 = 300 bps	0	0	
55	Auxiliary Newline	Auxiliary Newline setting	0 = Linux (0x0A) 1 = Windows (0x0D, 0x0A) 2 = Mac (0x0D) 3 = Other (0x0A, 0x0D)	1	1	
56	Auxiliary Trigger	Auxiliary Trigger setting		0	X	
57	Device No	Device No. for RS232 control		0	X	
58	Group No	Group No. for RS232 control		0	X	
59	Party No	Party No. for RS232 control		0	X	
60	Fast Switch	Switch without stop link		1	1	
61	Conflict Check	Check existing TX channel		X	1	
62	Channel Name	Display Channel Name		0	X	
63	Only Favorites	Only Favorites Channel Available		0	X	
64	Lock Favorites	Lock Favorites Channel		0	X	

65	Auto Sort Favorites	Auto Sort Favorites Channel				
66	Sort Favorites	Sort Favorites Channel				
67	Scan Channel To Favorites	Scan Channel To Favorites				
70	Direct Access Menu	Run menu function even hide				
71	Menu Item "Advanced Menu"	Display/Hide "Advanced Menu"				
72	Screensaver	Screen Saver setting				
73	Screen Off Option	Behavior After Screen Off				
74	Diagnostic Information	Diagnostic Information				
75	Message Redirect	Message Redirect to Auxiliary				
76	Command Redirect	Command Redirect to Auxiliary				
80	Video Routing	Video Routing setting				
81	Audio Routing	Audio Routing setting				
82	USB Routing	USB Routing setting				
83	RS232 Routing	RS232 Routing setting				
84	IR Routing	IR Routing setting				
86	GPIO Routing	GPIO Routing setting				
87	Load Routing Mapping	Load Free Routing Mapping				
88	Save Routing Mapping	Save Free Routing Mapping				
90	Video Wall Max Row	Rows of Video Wall (Vertical)				
91	Video Wall Max Column	Columns of Video Wall (Horizontal)				
92	Monitor Row Position	Monitor Position in Row				
93	Monitor Column Position	Monitor Position in Column				
94	Monitor Outside Width	Outer Width of Monitor				
95	Monitor Outside Height	Outer Height of Monitor				
96	Monitor Viewable Width	Width of Viewable Area				
97	Monitor Viewable Height	Height of Viewable Area				
100	Stretch Type	Screen Stretch Type				
101	Rotate	Screen Rotation and Mirror				
102	Vertical Shift	Screen Vertical Shift				
103	Horizontal Shift	Screen Horizontal Shift				
104	Vertical Scale	Screen Vertical Scale				
105	Horizontal Scale	Screen Horizontal Scale				
106	Load Video Wall	Load Video Wall Setting				
107	Save Video Wall	Save Video Wall Setting				
200	Backup Setting	Backup Setting to bank 0-3				
201	Restore Setting	Restore Setting from bank 0-3				
202	System Setting	System Setting				
203	Application Setting	Application Setting				
333	Reset To Default	Reset to factory default				
400	Preset Configuration	Set RX Group ID				
999	System Reboot	System Reboot				

V = Available X = Not available Numbers = default value

Caution of IR Menu Function

- **Menu 17** Free Routing function only works in Multicast mode.
- **Menu 22** When disable USB extender function it will also disable keyboard mouse function.
- **Menu 25** Display or hide TV wall setting in the webpage.
- **Menu 27** You could disable keyboard mouse extender if any compatible issue, it will use USB extender instead of keyboard mouse extender.
- **Menu 33** To set customize IR remote, need to be import to RX by RS232 or Telnet command
- **Menu 35** For monitors which detect HDMI 5V to enter sleeping mode.
- **Menu 36** Turn off monitor by CEC command via RX.
- **Menu 41** Pass-Through means output resolution follow TX EDID, Auto Detect(Per EDID) means output resolution follow monitor EDID of RX, Customize resolution need to be setup by RS232 command or web page
- **Menu 47** Use default EDID at TX side, or copy monitor EDID at RX side. (in multicast mode)
- **Menu 49** Monitor HDCP version setting, with incorrect HDCP version setting it will show HDCP fail on black screen.

Option	Description
Disable	HDCP version follow source and Stream Type of content
HDCP 1.4 Always On	Monitor support HDCP 1.4
HDCP 2.2 Always On	Monitor support HDCP 2.2

- **Menu 50** Extender = RS232 extender, Keypad = for RS232 keypad or number key in terminal software, Auxiliary = auxiliary mode debug, Console = system console debug
- **Menu 60** Fast Switch mode works best when: resolution, frame rate, scan mode (interlaced/non-interlaced), color depth, color space, interface (HDMI/DVI), HDCP mode (ON/OFF) all above are the same.
Disable: Stop link before channel switch, is will show black screen between switching, if switch to the channel which not exist it will show diagnostic Information.
Enable: Keep link when channel switch, if switch to the channel which not exist may cause screen freeze 1-2 seconds then show diagnostic Information.
- **Menu 61** Conflict Check will check TX channel number at booting, reconnection and before switching, if channel number already existed the connection will be interrupted.
- **Menu 62** Channel Name will show full name instead of number only, the position of channel name is center of screen. Channel name can set by RS232 command or import from telnet port.
- **Menu 75** Message Redirect forward MENU message to TX RS232 port (Auxiliary mode) instead of OSD.
- **Menu 76** Command Redirect run RS232 command from Web or telnet port (Auxiliary mode).
- **Menu 80-86** Fix selected function not follow the channel, only available when free routing enabled.
- **Menu 90-107** Only available when video wall function enabled.
- **Menu 200** Will not backup the parameters of men function 107 Save Video Wall.
- **Menu 333** Will clear the parameters of men function 107 Save Video Wall.

RS232 Control

In RS232 extender mode, user could use RS232 port of transmitters to operate/setup the receivers at same channel by program like Hyper Terminal which built-in Windows XP and before version. Hyper Terminal setting: (115200 bps (8-N-1), Flow control: None) (Properties -> Settings -> ASCII Setup... and select "Send line ends with line feeds" & "Echo typed characters locally")

★ We recommend set the RS232 routing for all receivers to one transmitter to avoid RS232 connection broken by video channel switching.

Command format: <CMD_Address> Command Parameters
Address, command and parameters are char, not hex code
Enter (LF or CR+LF) is required to execute the command

All accord receivers will run the command and parameters, we also add 3 kinds of user defined numbers except MAC & IP (Device No, Group No, Party No) for flexible application:

Mxxxxx	The last 6 digits of MAC Address of receiver	e.g: 2218688612AB = M8612AB
Ixxxx	The last 2 column of IP Address (HEX) of receiver	e.g: 169.254.012.034 = I0C22
Dxxx	Device No	e.g: Device No 123 = D123
Gxx	Group No	e.g: Group No 12 = G12
Pxx	Party No	e.g: Party No 34 = P34
Cxxx	Channel No	e.g: Channel 123 = C123
ALL	All receivers	
TX	Transmitter which connected to RS232 port currently.	
RX	Receiver which connected to RS232 port currently.(for Auxiliary mode)	

Response format: <ACK_Address> Response character
Receivers will response message to transmitter as above format and send Newline after
When send command to multiple receivers(address as Gxx, Pxx, Cxxx, and ALL) they will not response.

Example:
>CMD_M8612AB> CHANNEL 12
(Set receiver which last 6 digits MAC Address is 8612AB to Channel 12)
<ACK_M8612AB> OK
(Receiver which last 6 digits MAC Address is 8612AB response "OK")

RS232 Command and Parameters List

Command	Parameters	Description	Remark
	[0-999]	Show current channel number	
	[0-999] NAME ?	Switch to specified channel	
	[0-999] NAME "string"	Check current channel name	
	[0-999] NAME "string"	Set channel name, 28 character MAX	Transmitter not support parameter NAME
CHANNEL	NAME ?	Show channel name setting	
	NAME [ENABLE DISABLE]	Enable/disable channel name	Receiver not support parameter CHECK
	NAME CLR	Clear all channel name	
	NAME IMPORT	Import channel name	
	FAST ?	Status of current fast switch	
	FAST [ENABLE DISABLE]	Enable/disable fast switch	

<p>CHECK? CHECK [ENABLE DISABLE]</p> <p>ADD ADD [0-999]</p> <p>DEL [0-999]</p> <p>CLR</p> <p>ONLY? ONLY [ENABLE DISABLE]</p> <p>AUTO? AUTO [ENABLE DISABLE]</p> <p>SORT</p> <p>FUNC? FUNC [ENABLE DISABLE]</p> <p>ROUTING? ROUTING [FOLLOW 0-999]</p> <p>SELECT? SELECT [0-2]</p> <p>SCALER? SCALER [0-4] [5]</p> <p>CUSTOMIZE? CUSTOMIZE Integer</p> <p>QUALITY? QUALITY [0] [1-5] [6]</p> <p>DITHER? DITHER [0] [1-2]</p> <p>RESUME</p> <p>PAUSE</p> <p>BLACK</p> <p>FUNC? FUNC [ENABLE DISABLE]</p> <p>MODE? MODE [ENABLE DISABLE]</p> <p>LOAD 0-15</p> <p>LAYOUT 0-15</p> <p>SAVE 0-15</p> <p>OW? OW [0-65535]</p> <p>OH? OH? [0-65535]</p> <p>VW? VW? [0-65535]</p> <p>VH? VH? [0-65535]</p> <p>MAX_ROW? MAX_ROW 0-7</p> <p>MAX_COLUMN? MAX_COLUMN [0-15]</p> <p>ROW? ROW [0-7]</p> <p>COLUMN? COLUMN [0-15]</p> <p>STRETCH? STRETCH [0-2]</p> <p>ROTATE? ROTATE?</p>	<p>Status of channel conflict check</p> <p>Enable/disable channel conflict check</p> <p>Usage of favorite channel (MAX.32)</p> <p>Add current to favorite channel</p> <p>Add specified channel to favorite</p> <p>Delete current from favorite channel</p> <p>Delete specified channel from favorite</p> <p>Clear favorite channel list</p> <p>Status of favorite channel only</p> <p>Enable/disable favorite channel only</p> <p>Status of auto sort favorite channel</p> <p>Enable/disable auto sort favorite</p> <p>Sort favorite channel immediately</p> <p>Status of video extension</p> <p>Enable/disable video extension</p> <p>Status of video routing</p> <p>Set video routing follow or specified</p> <p>Status of video input / output mode</p> <p>Set input / output, 0=DVI, 1=VGA, 2=DVI+VGA</p> <p>Status of video output resolution</p> <p>Set output resolution, 5=customize</p> <p>Status of customize resolution</p> <p>Set customize resolution</p> <p>Status of video quality</p> <p>Set video quality</p> <p>Status of video dither</p> <p>Set video dither</p> <p>Update EDID from TX or monitor of RX</p> <p>Resume stream</p> <p>Pause stream</p> <p>Stop stream and send black screen</p> <p>Status of video wall function</p> <p>Enable/disable video wall</p> <p>Status of video wall mode</p> <p>Set video wall mode/single mode</p> <p>Load video wall setting (all)</p> <p>Load video wall layout</p> <p>(MAX Row/MAX Column/Row/Column)</p> <p>Save video wall setting (all)</p> <p>Show outer width of monitor</p> <p>Set outer width of monitor</p> <p>Show outer height of monitor</p> <p>Set outer height of monitor</p> <p>Show width of viewable area</p> <p>Set width of viewable area</p> <p>Show height of viewable area</p> <p>Set height of viewable area</p> <p>Show maximum row of video wall</p> <p>Set the row 1-8 of video wall</p> <p>Show maximum column of video wall</p> <p>Set the column 1-16 of video wall</p> <p>Show position in row</p> <p>Set position in row</p> <p>Show position in column</p> <p>Set position in column</p> <p>Status of stretch type</p> <p>Set stretch, 0 = Auto, 1 = Stretch Out, 2 = Fit in</p> <p>Status of rotate type</p>	<p>Transmitter not support parameter FAVORITE</p> <p>Transmitter not support parameter ROUTING, SCALER, CUSTOMIZE, RESUME, PAUSE, and BLACK</p> <p>Receiver not support parameter QUALITY and DITHER</p> <p>Transmitter support FUNC only</p>
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<p>ROTATE [0-7]</p> <p>SHIFT_V</p> <p>SHIFT_V [0-399] [400 401-801]</p> <p>SHIFT_H?</p> <p>SHIFT_H [0-399] [400 401-801]</p> <p>SCALE_V?</p> <p>SCALE_V [0-255]</p> <p>SCALE_H?</p> <p>SCALE_H [0-255]</p> <p>ENABLE %1, %2, %3, %4</p> <p>MONITOR_INFO %1, %2, %3, %4</p> <p>FUNC?</p> <p>FUNC [ENABLE DISABLE]</p> <p>ROUTING?</p> <p>ROUTING [FOLLOW 0-999]</p> <p>SELECT?</p> <p>SELECT [0-2]</p> <p>IN?</p> <p>IN [0] [1-100]</p> <p>OUT?</p> <p>OUT [0] [1-100]</p> <p>FUNC?</p> <p>FUNC [ENABLE DISABLE]</p> <p>ROUTING?</p> <p>ROUTING [FOLLOW 0-999]</p> <p>REQUEST</p> <p>KM FUNC?</p> <p>KM FUNC [ENABLE DISABLE]</p> <p>FUNC?</p> <p>FUNC [ENABLE DISABLE]</p> <p>ROUTING?</p> <p>ROUTING [FOLLOW 0-999]</p> <p>SELECT?</p> <p>SELECT [0-4]</p> <p>CTRL?</p> <p>CTRL [0-2]</p> <p>BAUD?</p> <p>BAUD [0-9]</p> <p>NEWLINE?</p> <p>NEWLINE [0-3]</p> <p>TRIGGER?</p> <p>TRIGGER [0-3]</p> <p>FUNC?</p> <p>FUNC [ENABLE DISABLE]</p> <p>ROUTING?</p> <p>ROUTING [FOLLOW 0-999]</p> <p>CTRL?</p> <p>CTRL [0-10]</p> <p>KEY [0-32]?</p> <p>KEY [0-32] = address, command</p> <p>KEY IMPORT</p> <p>BLOCK?</p> <p>BLOCK [ENABLE DISABLE]</p>	<p>Set rotate, 0 = default</p> <p>Status of vertical shift</p> <p>0-399: up, 400/default, 401-801: down</p> <p>Status of horizontal shift</p> <p>0-399: up, 400/default, 401-801: down</p> <p>Status of vertical scale</p> <p>Set vertical scale</p> <p>Status of horizontal scale</p> <p>Set horizontal scale</p> <p>%1 = MAX_ROW, %2 = MAX_COLUMN, %3 = ROW, %4 = COLUMN</p> <p>%1 = VW, %2 = OW, %3 = VH, %4 = OH</p> <p>Status of audio extension</p> <p>Enable/disable audio extension</p> <p>Status of audio routing</p> <p>Set audio routing follow or specified</p> <p>Status of audio setting</p> <p>Select audio of TX input or RX output (0-Digital, 1=Analog, 2=Auto)</p> <p>Status of audio input volume</p> <p>Set audio input volume (%), 0 = Mute</p> <p>Status of audio output volume</p> <p>Set audio output volume (%), 0 = Mute</p> <p>Status of USB extension</p> <p>Enable/disable USB extension</p> <p>Status of USB routing</p> <p>Set USB routing follow or specified</p> <p>Request USB access (multicast only)</p> <p>Status of keyboard mouse extension</p> <p>Enable/disable keyboard mouse extension</p> <p>Status of RS232 extension</p> <p>Enable/disable RS232 extension</p> <p>Status of RS232 routing</p> <p>Set RS232 routing follow or specified</p> <p>Status of RS232 setting</p> <p>0=Disable, 1=Extender, 2=Keypad, 3=Auxiliary, 4=Console</p> <p>Status of RS232 control setting</p> <p>Status of RS232 control setting</p> <p>0=disable, 1=enable, 2=insensitive</p> <p>Status of baud rate</p> <p>0=115200, 1=57600, 2=38400, 9=300</p> <p>Status of newline format</p> <p>0=Linux, 1=Windows, 2=Mac, 3=Other</p> <p>Status of trigger</p> <p>0=Linux, 1=Windows, 2=Mac, 3=Other</p> <p>Status of IR extension</p> <p>Enable/disable IR extension</p> <p>Status of IR routing</p> <p>Set IR routing follow or specified</p> <p>Status of IR control setting</p> <p>Enable/disable IR control</p> <p>Status of IR remote ID</p> <p>Set IR remote ID</p> <p>Status of IR key setting</p> <p>Set mapping of third party IR remote</p> <p>Import IR key setting</p> <p>Status of IR quick block</p> <p>Enable/disable IR quick block</p>	<p>Transmitter not support parameter ROUTING</p> <p>Transmitter not support parameter ROUTING and REQUEST</p> <p>Transmitter not support parameter ROUTING</p>
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BUTTON	CTRL [ENABLE DISABLE] LOCK ? LOCK [ENABLE DISABLE] ? [ENABLE DISABLE] ?	Status of button control Enable/disable button control Status of button lock Enable/disable button lock Status of rotary switch Enable/disable rotary switch Status of HDCP Always On 0=Disable, 1=HDCP 1.4, 2=HDCP 2.2
ROTARY_SW	UPDATE SELECT ? SELECT [0-3]	Update EDID from monitor of RX Status of TX default EDID setting 0=HDMI, 1=DVI, 2=VGA, 3=Loop Out
HDCP	MODE ? MODE [0-1]	Status of EDID process 0=normal, 1=Patch control
EDID	CTRL ? CTRL [ENABLE DISABLE] ? [ON OFF] SAVER ? SAVER [ENABLE DISABLE] OPTION ? OPTION [0-2] ON "string" OFF ? OFF [0-65535] ? [ENABLE DISABLE] LOAD [0-3] SAVE [0-3] ? [0-999] ? [0-99]	Status of HDMI 5V control Enable/disable HDMI 5V control Status of screen settings Screen on/off Status of screen saver Enable/disable screen saver Status of behavior after screen off Set behavior after screen off Show "string" on screen (30 seconds) Turn off OSD immediately Status of OSD duration (ms) Set duration of OSD (ms) Status of free routing Enable/disable free routing Load free routing setting Save free routing setting Status of device number Set device number Status of group number Set group number Status of party number Set party number Reconnect with TX/RX DISCONNECT STOP MULTICAST ? MULTICAST [ENABLE DISABLE] JUMBO_FRAME ? JUMBO_FRAME [ENABLE DISABLE] IP_MODE ? IP_MODE [0-2] IP ? IP [xxxxxxx.xxx.xxx] NETMASK ? NETMASK [xxxxxxx.xxx.xxx] GATEWAY ? GATEWAY [xxxxxxx.xxx.xxx] IP MAC RESOLUTION VERSION BAUD ? BAUD [0-9]
HDMI		Transmitter not support parameter CTRL
SCREEN		Transmitter not support this command
OSD		Transmitter not support this command
ROUTING		Transmitter not support parameter LOAD and SAVE
DEVICE		Transmitter not support this command
GROUP		Transmitter not support this command
PARTY		Transmitter not support this command
NET		Transmitter not support parameter DISCONNECT
QUERY		Status of MAC address Status of video resolution Status of firmware version Status of auxiliary baudrate 0=115200, 1=57600, 2=38400, 9=300
AUXILIARY		

NEWLINE ? NEWLINE [0-3] TRIGGER ? TRIGGER [0-3] VERSION DEFAULT [0-3] PRESET 0-15 [0-3]	Status of auxiliary newline 0=Linux, 1=Windows, 2=Mac, 3=Other Status auxiliary trigger 0=Linux, 1=Windows, 2=Mac, 3=Other Status of auxiliary versions Load default to current setting Load system setting from bank 0-4 Load preset 0-15 to set RX group ID Save current system setting Save system setting to bank 0-4 Reboot
LOAD [0-3] PRESET 0-15 [0-3]	PRESET for OEM version RX only
SAVE [0-3]	Save system setting to bank 0-4
REBOOT	Reboot
CONSOLE string [0-255] ?	Run console API command Status of system function
SYSTEM [0-255] [0-255] ?	Set system function Status of application function
APPLICATION [0-255]	Set application function

※RS232 command not support backspace, delete or up, down, left, right to modification. If you enter command or parameters with wrong typing, please enter newline and re-enter full command and parameters again.

※Parameters with green means need to reboot to take effect.

※ The maximum of OSD_ON is 30 characters per line, maximum 127 characters, not support comma sign ' , ' , colon ' : ' and double quotation marks ' " ' , some characters must use \x### format to display, ## means the characters number in ASCII HEX code
e.g. \x0a is line feed, \x28 is (brackets sign, \x22 is " sign

Example:

>CMD_M8B1234< CHANNEL 12 (Set receiver which last 6 digits MAC Address is 8B1234 to Channel 12)
(HEX code: 3E 43 4D 44 5F 4D 38 36 31 32 33 34 3E 20 43 4B 41 4E 4E 45 4C 20 31 32 0D 0A)

<ACK_M8B1234< OK (Receiver which last 6 digits MAC Address is F01234 response "OK")
(HEX code: 3C 41 43 4B 5F 4D 38 36 31 32 33 34 3C 20 4F 4B 0D 0A)

>CMD_IDA12< CHANNEL 3 (Set receiver which IP Address is 169.254.10.18 to Channel 3)
(HEX code: 3E 43 4D 44 5F 49 30 41 31 32 3E 20 43 4B 41 4E 4E 45 4C 20 33 0D 0A)

<ACK_IDA12< OK (Receiver which IP Address is 169.254.10.18 response "OK")
(HEX code: 3C 41 43 4B 5F 49 30 41 31 32 3C 20 4F 4B 0D 0A)

>CMD_G34< CHANNEL 5 (Set receivers which Group No is 34 to Channel 5)
(HEX code: 3E 43 4D 44 5F 47 33 34 3E 20 43 4B 41 4E 4E 45 4C 20 35 0D 0A) (No response from multiple receivers)

>CMD_ALL> OSD ON "Hello! \x28123 \x29 \x22ABC \x22" (Show "Hello! (123) "ABC" , to all monitor and send response)
(HEX code: 3E 43 4D 44 5F 41 4C 4C 3E 20 4F 53 44 4F 4E 20 22 48 65 6C 6F 21 20 5C 78 32 38 31 32 33 5C 78 32 39 20 5C 78 32 41 42 43 5C 78 32 22 0D 0A) (No response from multiple receivers)

>CMD_ALL> OSD OFF 10000 (All receiver turn off OSD after 10 seconds)
(HEX code: 3E 43 4D 44 5F 41 4C 4C 3E 20 4F 53 44 20 4F 46 46 20 31 30 30 30 30 0D 0A)

Keypad Control



You can use RS232 Keypad or terminal program with number key to emulate IR remote operation. Before using RS232 keypad you have to select keypad by Menu 50 RS232 Select, and set keypad baudrate by Menu 54 Auxiliary Baudrate.

Key	Description
0-9	Enter number
+	Increase value
-	Reduce value
. or #	Previous value
Enter	Confirm
* or Esc or Clear	Cancel
/	Call MENU
Press Clear four times then press Enter	Call MENU

USB Hot Key Function

In multicast mode support multi USB keyboard and mouse in each receivers, just plug and play, but only one USB FLASH drive / hard disk could be used at the same time. You have to click "Pause/Break" key three times of the keyboard on the receiver or IR remote MENU function 14 to establish USB FLASH drive /hard disk connection.

APP Control Function

APP name: B&W Video Wall Control II



Android/iOS App



App instruction

Windows 10 Software download link:

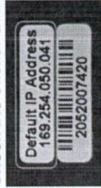
<https://www.microsoft.com/store/apps?pp268VD2597Z>

IP Setting

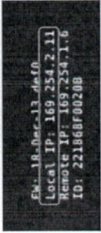
You could input the IP address of transmitter / receiver at link column of browser which printed in the label. If the label is missing or not able to identify you can check the IP address as below.

How to get the IP address of receiver:

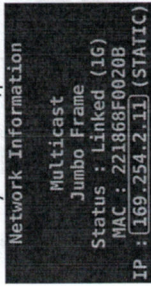
1. Check the sticker at bottom of receiver with default IP



2. Connect monitor with receiver, Local IP shows on right bottom.



3. MENU 1 by IR remote/panel button to shows IP Address on screen

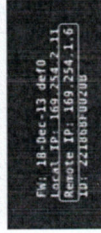


How to get the IP address of transmitter:

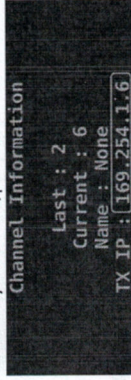
1. Check the sticker at bottom of transmitter with default IP address.



2. Connect monitor with receiver, Remote IP shows on right bottom.



3. MENU 6 by IR remote/panel button to shows IP Address on screen

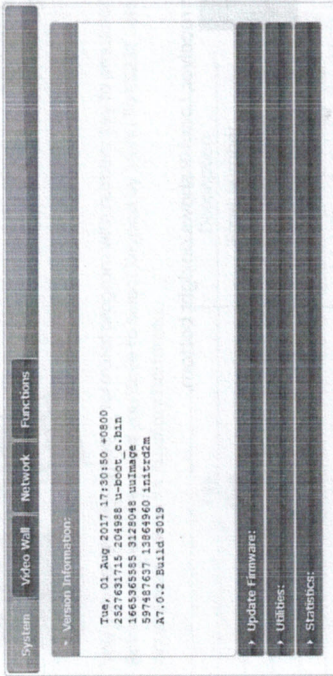


If the IP address on the label of transmitters/receivers is incorrect (maybe changed by someone), you could reset the transmitters and receiver to default in two ways below:

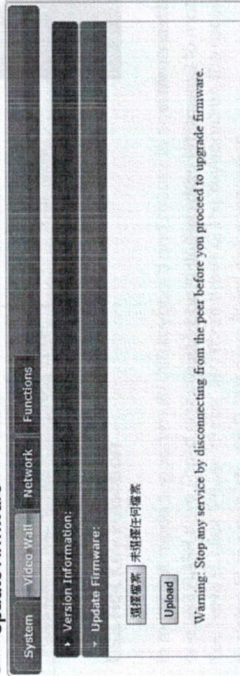
1. Press the channel button "-" than power on (power and link LED will be flash) to reset to default.
2. Press IR remote control MENU, 3, 3, 3, ENTER to reset to default.

Web configuration System

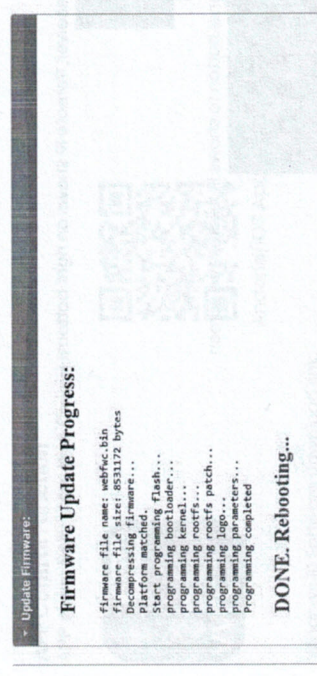
- Version Information
Firmware version and other information



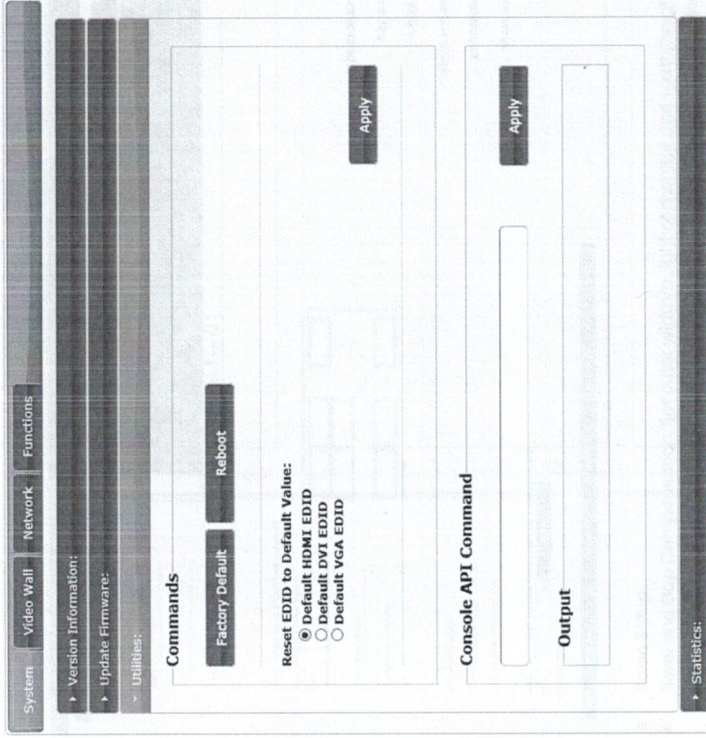
- Update Firmware



Click "Select File" to browse firmware at local disk drive then click "Upload" to start update.



During update the web will show the status as above message. Updated unit will reboot automatically after updating firmware. If not, please reboot manually. Do not refresh, close, switch tab of web browser or power off to avoid any damage during firmware update.



- Utilities

- Factory Default
Set system to factory default
- Reboot
Reboot system
- Default EDID
Set EDID to default 1080p 71 channel audio
- Console API Command
Enter Console API command to change setting or control

• Statistics

Indicate system status

System | Video Wall | Network | Functions

Version Information:
 Update Firmware:
 Utilities:
 Statistics:

State Machine
 State: S_search

Network
 ID (Host Name): 82CAB0953D73
 IP Address: 169.254.0.167
 Subnet Mask: 255.255.0.0
 Default Gateway: 169.254.0.254
 MAC Address: 82CAB0953D73
 Casting Mode: Unicast Mode
 Link Status: on
 Link Mode: 1G

Video
 Local Video Output:
 attached-n
 Video Timing Information:
 t in [mg-[34] 640x480p@60Hz H- V-
 type=RGB
 HRC=n (risable)
 color depth=0

Video Wall:

System | Video Wall | Network | Functions

Bezel and Gap Compensation
 OW: []
 OH: []
 VW: []
 VH: []

Wall Size and Position Layout
 Vertical Receiver Count: []
 Horizontal Receiver Count: []
 Row Position: []
 Column Position: []

PREFERENCES
 Search Type: [] Fit In: []
 Clockwise Rotate: []
 Apply For: "This" device connected by your browser
 Show OSD

• Basic Setup

- Bezel and Gap Compensation: Set outer width/height of monitor and width/height of viewable area.
OW: outside width **OH:** outside height **VW:** viewable width **VH:** viewable height
- Please note:
 1. The viewable width/height must be less than the outside width/height.
 2. Keep all values be 0 if you do not use this function.
 3. The value is based on millimeter and MUST be integer.
- Wall Size and Position Layout: Set scale of video wall and position of monitor
 Vertical monitor count: 1-8
 Horizontal monitor count: 1-16
 Row position: 0-7
 Column position: 0-15
- Preferences: Set extension way and rotation
 Select the video fit in the screen or stretch out and rotate angle
- Apply To:
 1. All: Configure all Transmitter and Receiver in the list.
 2. This (Local): Current device which you log in by web browser.
 3. Hosts or Clients: select which Transmitter or Receiver you want to configure.
- Show OSD:
 Check this box to show receiver's specific number (follow list order) to connected monitor

• Advance Setup:

- Before enter "Advanced Setup", please complete the "Basic Setup" as follows:
1. In "Basic Setup", select Vertical and Horizontal Monitor Count.

Wall Size and Position Layout

2. In "Advanced Setup", choose the target of the video wall to control

Step 1: Choose Control Target

Step 2: Control Options

- Reset to Basic Setup:

Reset to Basic Setup:

Press "Reset" if user make incorrect operations.

- Stretch Type:

Setup the video output to "Fit in" or "Stretch Out" mode in the screen

- Clockwise Rotate:

Clockwise Rotate:

0
180
270

Apply

Setup the rotation angle 0,180, 270 degree of the video output
- Screen Layout (Row x Column):

Screen Layout (Row x Column):

X 5

3
1
2
3
4
5
6
7
8

Apply

Setup up the number of vertical and horizontal monitor based on the video wall layout. Vertical number 1-8 and horizontal number 1-16.

- Row Position:

Row Position:

0
1
2
3
4
5
6
7

Apply

Setup the row position of monitor, number from 0 to the total number of vertical monitor.

- Column Position:

Column Position:

0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

Apply

Setup the column position of monitor, number from 0 to the total number of horizontal monitor.

- Horizontal/Vertical Shift:

Horizontal/Vertical Scale Up

Horizontal Shift:

Left Right 0

Apply

Vertical Shift:

Up Down 0

Apply

Horizontal Scale Up (N pixels/column_count):

0

Apply

Vertical Scale Up (N pixels/row_count):

0

Apply

Horizontal Shift: Set the video horizontal shift, Left or Right by pixels.
Vertical Shift: Set the video vertical shift, Up or Down by pixels.
Horizontal Scale Up: Set the video horizontal scale up by pixels.
Vertical Shift Scale Up: Set the video vertical shift scale up by pixels.

- Console API Command:

Console API Command:

Apply

Input Linux command to do advanced setup.

Network:

• **IP Setup:**

IP Mode could be Auto IP, DHCP, Static three mode

Host default setting is Static IP, client default setting is Auto IP

For mass deploying please use static or DHCP mode.

Notice: if there is no DHCP server in network the host/client will keep reboot, you need to set the host/client to factory default

Press channel button "-" than power on (power and link LED will be flash)

• **Casting Mode:**

Could be Multicast, Unicast mode, default is Multicast.

When using Multicast mode, please check the "Auto select USB operation mode per casting mode" box

Functions for Transmitter:

USB over IP

Enable USB over IP

Operation Mode:

- Auto select mode (Recommended, choose per network casting mode)
- Active on link (Unicast network's default mode)
- Active per request (Multicast network's default mode)

Compatibility Mode:

- Mouse not responding well (Check when USB mouse responding is slow and queer)
- K/M over IP (Uncheck when mouse/keyboard/touch panel not working as expected)

Apply

• **Video over IP**

- ◆ Enable Video over IP: This function setup the video signals send from network.
- ◆ Enable Video Wall: This function setup the video wall, default is not checked.
- ◆ Maximum Bit Rate: Set maximum bit rate.
- ◆ Maximum Frame Rate: Set maximum frame rate.

• **USB over IP**

- ◆ Enable USB over IP: Enable/disable USB extender function.
- ◆ Operation Mode: Set USB operation mode. **Recommend Auto select mode.**
- ◆ Compatibility Mode: Set USB compatibility mode.

Serial over IP :
Serial over IP

Enable Serial over IP

Operation Mode:

- Type 1 (Need extra control instruction. For advanced usage.)
- Type 2 (Recommended. Dumb redirection.)
- Type 1 guest mode
- Type 2 guest mode

Baudrate Setting for Type 2:

Baudrate:

Data bits:

Parity:

Stop bits:

- ◆ Enable Serial over IP: setup Serial (RS232) signal sends from network
- ◆ Operation Mode: Default is Type 2 (Recommended. Dumb redirection.)
- ◆ Baudrate Setting for Type 2: **default is 115200, 8, None, 1**

Functions for Receiver:

System Video Wall Network Functions

Video over IP

Enable Video over IP

Enable Video Wall

Copy EDID from this Video Output (Default disabled under multicast mode)

Scaler Output Mode:

Timeout for Detecting Video Lost:

Turn off screen on video lost

Video over IP

- ◆ Enable Video over IP: This function setup the video signals send from network.
Copy EDID from this Video Output: Copy EDID from TV when booting (**unicast mode only**), default is not checked.
- ◆ Scaler Output Mode: Select the required scalar output mode or select "Customize" and input 8 Hex values for more video output resolution and refresh rate selections.
 - 1) 80000004: HD 720p60
 - 2) 81000061: WXGA 1366x768@60
 - 3) 81000040: WXGA+ 1440x900@60
 - 4) 81000051: WUXGA 1920x1200@60
 - 5) 8100003C: SXGA+ 1400x1050@60
- ◆ Timeout for Detecting Video Lose: **Please do not change this.**
- ◆ Turn off screen on video lost: **Please do not check this box**

USB over IP

Enable USB over IP

Operation Mode:

- Auto select mode (Recommended, choose per network casting mode)
- Active on link (Unicast network's default mode)
- Active per request (Multicast network's default mode)

Compatibility Mode:

K/M over IP (Uncheck when mouse/keyboard/touch panel not working as expected)

Apply

USB over IP:

- ◆ Enable USB over IP: Enable/disable USB extender function.
- ◆ Operation Mode: Set USB operation mode. **Recommend Auto select mode.**
- ◆ Compatibility Mode: Set USB compatibility mode.

Troubleshooting

1. Transmitter/receiver boot time require 30 seconds and will be able to control after booting, First time reboot after reset will be longer than 30 seconds.
2. Not recommend to work with existing LAN connection to avoid large video, data transmission or multicast packets to slow down your other LAN devices.
3. Gigabit switching hub muse support IGMP and Jumbo Frame over 8K in order to achieve the best quality
4. If monitor shows green screen, please check if the switch running under gigabit and IGMP/Jumbo Frame function enabled.
5. If video not smooth please check if IGMP function enabled or bandwidth of switch closes to maximum.
6. If UTP and SFP connected together the first connected one will get the priority, the other one will online automatically once another one failed.
7. If Ethernet is not connected may cause unpredictable problem or OSD message error, please connect to the Ethernet and reboot
8. Default EDID is 1080p 7:1 audio, you can use Menu function 44 to copy EDID from monitor of RX.
9. If the monitor of RX shows shortly then turns into black but OSD shows properly, please check the HDCP version of monitor support is tally with the source required, and the casting mode of TX/RX are the same and the HDCP setting is correct.
10. If receiver switches to transmitter which no video input, it will show blank screen or last still image for seconds.
11. Fast switch mode might cause screen or audio abnormal briefly when switch channel.
12. When output resolution is fixed, the screen or OSD might be cut a little if the source resolution is much different with the output (like 4K downscale to 720p).
13. In high resolution (like 1080p or 4K) the OSD response will be delayed a little bit.
14. In video wall mode, the OSD may not be in correct size and position
15. RS232 only support data transmission (TXD, RXD), not support hardware handshake (RTS, CTS, DTR, DSR...)
16. Power from power adapter with priority than power from PoE.
17. The front panel IR will be disable when external IR cable plugged.
18. If IR remote not work properly, please check the battery (especial in low temperature) and reset IR ID.
19. Audio in of RX only works at unicast mode, and the audio in and audio out of TX must be connected.
20. Audio in of RX is designed for mono Mic in, not for stereo Line in.
21. When using computer or mobile APP management the IP address should be set in same network segment.
22. TV wall setting parameter between APP/PC software and IR menu/Web are different and might be cover each other, we recommend set TV wall by one of two ways to prevent conflict.
23. PC software and APP operation please refer to software operating instruction.
24. Not recommend control by panel, computer software and APP at the same time to prevent conflict.

Package Include

SC1516 Package Include:

- Transmitter x 1 pcs
- USB A to B cable x 1 pcs
- IR emitter cable x 1 pcs
- DC 5V 2A power adapter x 1 pcs

SC1517 Package Include:

- Receiver x 1 pcs
- IR emitter cable x 1 pcs
- IR remote control x 1 pcs
- DC 5V 2A power adapter x 1 pcs

Specification

ITEM NO.	SC1516	SC1517
Support		
Compliance	HDCP 1.4, USB II, USB 2.0	
Max. Video Resolution	1080p@60Hz, 1920 x 1200px	
Max. Transmission Distance	150M over CAT5e Cable or Greater	
Audio Format	7.1 LPCM 192kHz, Dolby True HD, DTS-HD Master Audio, ATMOS, DTS:X	
IR Support	20-60kHz, ±45°, 5M	
Ports & Interfaces		
Video Input	1 x HDMI Type A	1 x RJ45
Video Output	1 x RJ45	HDMI Type A
Video Loop-out	1 x HDMI Type A	
Analog Audio Input	1 x 3.5mm Stereo Phone Jack (Line In)	1 x 3.5mm Mono Phone Jack (Mic In)
Analog Audio Output	1 x 3.5mm Stereo Phone Jack (Line Out)	1 x 3.5mm Stereo Phone Jack (Line Out)
USB Interface	1 x USB Type B (USB 2.0)	2 x USB Type A (USB II) 2 x USB Type A (USB 2.0)
IR Interface	1 x 3.5mm Stereo Phone Jack	1 x 3.5mm Stereo Phone Jack
RS232 Interface	1 x DB9 Female	1 x DB9 Male
Link Interface	1 x RJ45	1 x RJ45
Power		
Power Supply	DC 5V 2A	DC 5V 2A
Power Consumption	1350mA	900mA
Ambient Temperature		
Operation	0 to 55°C	
Storage	-20 to 85°C	
Humidity	Up to 95%	
Physical Characteristics		
Dimensions	125 x 140 x 30mm	125 x 140 x 30mm
Weight	380g	380g

AV over IP Extender

User Manual

Model : SCI1516 、 SCI1517

1080P HDMI KVM & USB, RS232 , IR, Audio over IP Extender

