Product Description

4KD41 Front

4KD41 Rear

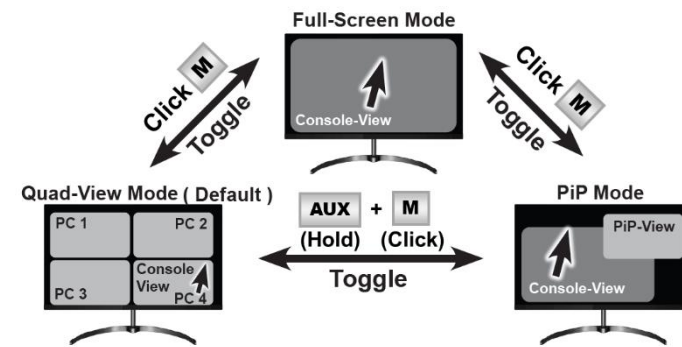* Reserved for future upgrade

Label		Description
1 - 4	PC Select Button	Click to select a PC for the Console-View
Ls	System Status LED	Emit **Green** when the Unit is Powered On
Lp^{1-4}	Port Status LEDs	**Red:** Console-View PC Selection (Power On) **Green:** Computer Ready (Power On) **Blue:** PiP-View PC Selection (PiP Mode Only)
AUX	AUX Button	Hold "AUX" and Click "1"-"4" to select a PC for the PiP-View
S	Swap Button	Click to **Swap Video** between the Console-View and the PiP-View
M	Multiview Button	Click to toggle between the View Layouts: **Full-Screen ↔ PiP** or **Full-Screen ↔ Quad-View**
F	Flip Button (Layout)	Click to toggle between the PbP Modes (1+3 PbP ↔ 3+1 PbP) or change the **Location of the PiP-View** (4 Quadrants)
Mo	HDMI Output	Connects to a Monitor
Do	DP Output	Connects to a Monitor (KMV-4KD41-U30R only) (may switch with Blank Image when HDCP Enabled)
Ao	Audio Output	Connects to an Active Speaker (Out)
Uh	USB HID-A (Console)	Connect to HID Devices (Keyboard, Mouse & Touch Panel) **Mouse Roaming/Hotkey/Mouse Control must connect here**
Ud	Keypad IN	Connects to an USB Keypad
U3	USB 3.2-A (Console)	Connects to an USB Device
Up^{1-4}	USB 3.2-B (PC 1-4)	Connect to PCs' USB 3.2 Gen 1 Ports
Ai^{1-4}	Audio Inputs (PC 1-4)	Connect to PCs' SPK Outputs (3.5mm)
Vi^{1-4}	Video Inputs (PC 1-4)	Connect to PCs' Video Outputs (Interface depends on Model)
Sc	Serial Control	Connect to a Serial Host PC to control the Switch
Ps	Power Supply	Connects to a DC 9 ~ 12V Power Adapter

Video Modes

Full-Screen Mode

Console-View

Click M / Toggle

Click M / Toggle

Quad-View Mode (Default)

| PC 1 | PC 2 |
| PC 3 | Console View PC4 |

AUX + **M** (Hold) (Click) Toggle

PiP Mode

PiP-View

Console-View

* **The Console-View:** The View with Active USB KM/MS
** **The PiP View:** The Small View in the PiP Mode (Hidden in other Modes)

Functions / Modes	Auto / Manual Scan	Video Swap	Mouse Roaming	USB 3.2 / Audio Follow
Quad-View	No	No	Yes	Follow the Console-View
Full-Screen	Yes	Yes (with the Console-View)	No	Follow the Console-View
PiP Mode	No		No	Follow the Console-View
1+3 PbP*	No	Yes (with the Large-View)	Yes	Follow the Large-View
3+1 PbP*	No		Yes	Follow the Large-View

* Change from the PbP Modes to other Modes takes longer (Not Seamless)

1+3 PbP

Large View / Small View

Click F Toggle **The PbP Modes**

3+1 PbP

Large View / Small View
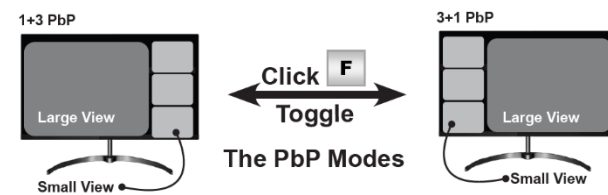
Features

- Allows 4 computers to share 1 set of KVM console
- Supports resolutions up to 4K@60Hz (4:4:4) & 16:9 / 21:9 / 32:9 aspect ratios
- Multiview Modes allow 4 PCs to be shown on the monitor at the same time
- Unique full-frame multi-view technology ensures uncut, undistorted, pixel-to-pixel matched views, and maximizes the desktop working area
- Flexible Display Modes (Layouts) for various scenarios:
  1. Single-view (full-screen)
  2. Quad-view (linear tracking mouse roaming)
  3. PiP mode (adjustable view size / transparency / location)
  4. 1+3 PbP (linear tracking mouse roaming)
  5. 3+1 PbP (linear tracking mouse roaming)
- Using 1+3 & 3+1 PbP modes with a 21:9 monitor empowers four 16:9 views undistorted
- Seamless switching grants the best productivity
- HDCP 2.2 & 1.4 compliance ensures uninterrupted video playback
- Flexible control methods suit various scenarios:
  1. Push Button
  2. Mouse Roaming (move mouse cursor across view borders to switch among PCs)
  3. Keyboard Hotkey
  4. Mouse Control (use mouse button to magnify views or use the wheel to switch among PCs)
  5. Serial Control (RJ-11 or USB Virtual COM)
  6. Keypad-IN function
- Serial control facilitates industrial control purposes (8 selectable baud rate)
- Video modes can be quickly changed by button, hotkey, mouse control, serial control, or Keypad-IN
- Keypad-IN supports wired & wireless USB keypads, allowing remote control of the unit
- Supports independent switching of USB 3.2 and audio
- DP Model (KMV-4KD41-U30R) equipped with a duplicated extra HDMI Output

Package Contents

- 1 x KVM Multiview Switch
- 1 x Power Adapter
- 1 x Serial Adapter
- 1 x User Manual
- 1 x Foot Pad Set

System Requirements

Console Side
- Monitor (s)
- USB Keyboard & Mouse
- Active Speaker (3.5mm)
- USB Keypad (Optional)
- USB-C Cable (Optional)

Computer Side
- USB-Enabled Computers
- USB 3.2 A-B Cables
- 3.5mm Audio Cables

User Manual

4 Port 4K60 KVM Multiview Switch
Seamless Switching, Quad View, PiP, PbP, Mouse Roaming, Btn/Hotkey/Serial/Keypad Ctrl

KMV-4KD41-U30R

KMV-4KH41-U30R and KMV-4KD41-U30R User Manual

Ordering Information

Model	Video		Audio	USB	Max Resolution
	In	Out			
KMV-4KH41-U30R	HDMI	HDMI	Speaker	USB 3.2 (5Gbps)	4K@60Hz (4:4:4)
KMV-4KD41-U30R	DP	DP + HDMI			

□ The final specification is based on the actual product.
□ Features and functions may be added or changed after the manual was written. Please visit our website to download the latest version of manual for reference.

RXN-KMV-R01.1

Specification

Model Number		KMV-(4KH41 / 4KD41)-U30R
Maximum Resolution (4K@60Hz, 4:4:4)	16:9	3840x2160, 2560x1440, 1920x1080
	21:9	3840x1600, 3440x1440, 2560x1080
	32:9	3840x1080

Features		PC Side	Console Side
Video Switching	4KH41-U30R	HDMI 2.0 x 4 (In)	HDMI 2.0 x 1 (Out)
	4KD41-U30R	4K DP x 4 (In)	4K DP x 1 (Out)* HDMI 2.0 x 1 (Out)
USB 3.2 Switching (5Gbps)		USB 3.2-B x 4	USB 3.2-A x 1 USB HID-A x 2 USB Keypad x 1
Audio Switching		SPK x 4 (In)	SPK x 1 (Out)
Control Methods		Hotkey, Serial, Mouse Roaming, Mouse Control (Side Button), Push Button Control, Keypad IN	
Video Modes		Full-Screen, Quad-View, PiP Mode	
		1+3 PbP, 3+1 PbP	
Seamless Switching		Zero Latency (note: changing from PiP Mode to other Video Modes will take longer)	
Serial Control		RJ-11 x 1 (19200bps) (8-Selections: 9600 ~ 115200bps) USB-C x 1	
Push Buttons		Port-Select x 4, Function x 4	
Hot Plug-and-Play		Yes	
HDCP Compliance		HDCP 2.2 & HDCP 1.4	
LED Indicators		PC-Ready x 4, PC-Select x 4, Power x 1	
Power Supply		DC 9~12V	
Operation Environment		0 ~ 40°C, Humidity < 80% (Storage: -20 ~ 60°C)	
H x W x D (mm)		44 x 240 x 160	
Weight (g)		1250	
Material		Metal	

* For 4KD41 Model, the DP and HDMI Output display duplicated contents. If the DP Output faces compatibility issue, try the HDMI Output instead.

Installation

- Prior to installation, ensure that all devices that will be connected to this system are powered off.
- Ensure that all devices you will connect are properly grounded.
- Place cables away from fluorescent lights, air conditioners, and machines that are likely to generate electrical noise.

Console Connection

1. Plug monitor(s) into the Console's video port(s) and an USB keyboard and mouse into the corresponding USB HID ports on the Console.
2. Plug 3.5mm audio jack from the active speaker to the Console's audio port.
- For KMV-4KH41-U30R, the System EDID is based on the connected Monitor
- For KMV-4KD41-U30R, the System EDID is based on the connected DP Monitor

Computer Connection

1. Use proper video cables to connect between the video ports of the computers and the KVM Switch's computer side.
2. Use USB 3.2 Gen 1 A-B cables to connect between the KVM Switch's USB ports (B connector, square connector) and the USB port on the corresponding computers (A connector, flat connector).
3. Use audio cables to connect the audio ports between the computer side of the KVM Switch and the corresponding computers' audio output.
4. Plug the provided DC power adapter to the KVM Switch's power port.
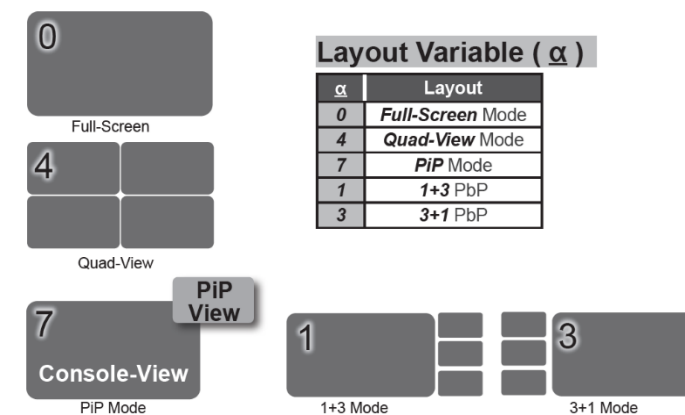
Connection Diagram
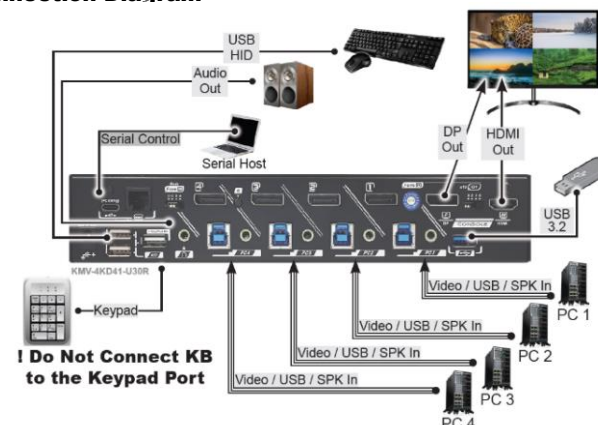
! Do Not Connect KB to the Keypad Port

Initial Configurations (Resolution & Layout)

Before using the Unit, users are required to make Initial Configuration of the View Layout (α) and Monitor Resolution (ββ). After the Following Commands are executed, wait 10 seconds for the Video Arrangement

Layout Configuration

L-Ctrl + **L-Win** + "AUX" + "F" + **α** + Release "L-Win"

Double Click (Hotkey Leading Code) | Hold | Click | Click | Layout Variable

0 Full-Screen

4 Quad-View

7 Console-View / PiP Mode

PiP View

1 1+3 Mode

3 3+1 Mode

Layout Variable (α)	
α	**Layout**
0	**Full-Screen** Mode
4	**Quad-View** Mode
7	**PiP** Mode
1	**1+3** PbP
3	**3+1** PbP

(Optional) Object Size Adjustment

The Monitor resolution setting is optimized for the Largest View (Pixel-to-Pixel Matching). User may apply the Following Commands to lower the Input Resolution so that the Icons and Words look larger.

L-Ctrl + **L-Win** + "AUX" + "S" + **1** ~ **3** + **L-Win**

Double Click (Hotkey Leading Code) | Hold | Click | Click | 1 = Original 2 = Large 3 = Largest | Release to Execute

Resolution Configuration

L-Ctrl + **L-Win** + "AUX" + "M" + **ββ** + Release "L-Win"

Double Click (Hotkey Leading Code) | Hold | Click | Click | Resolution Variable

Resolution Variable (ββ)

ββ	16:9 Monitor	ββ	21:9 Monitor	ββ	32:9 Monitor
1U	3840 x 2160	2U	3840 x 1600	3F	3840 x 1080
1Q	2560 x 1440	2Q	3440 x 1440		
1F	1920 x 1080	2F	2560 x 1080		

Note: Users may abort Operation by Clicking **F**

Front

Do Not Use the Num Pad for Hotkey!

Operation – Push Buttons & Keypad IN

4KD41 Front
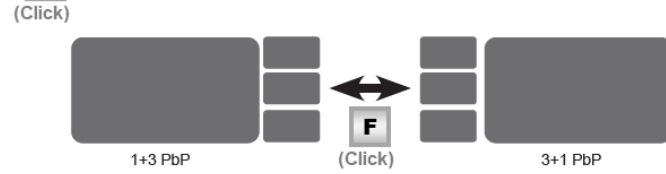
4KD41 Rear

KeypadIN

- Supports wired/wireless keypad.
- The Keypad IN performs switching and basic functions of the Switch's front panel buttons.
- Also serves Mouse or Touch Panel USB Port.

Note: Do not connect keyboard into the Keypad IN Port.

Push Button	Keypad IN	Function
"1"-"4"	"1"-"4"	Select PC for the **Console-View**
"AUX" (Hold) + "1"-"4"	"+"(Hold) + "1"-"4"	Select PC for the **PiP-View**
"AUX" (Hold)		Show **PiP-View**'s PC Selection
"S"	"7"	Swap Video* **Console-View ↔ PiP-View**
"M"	"8"	Change Layout **Quad-View ↔ Full-Screen** or **PiP Mode ↔ Full-Screen**
"AUX" (Hold) + "8"	"+"(Hold) + "8"	Change Layout **PiP Mode ↔ Quad-View**
"F"	"9"	Change View Location (**PiP Mode & 1+3 / 3+1 PbP**)

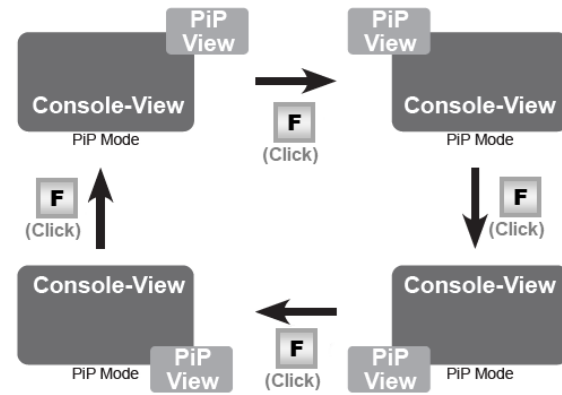* In Quad-View Mode, swap the KM Control

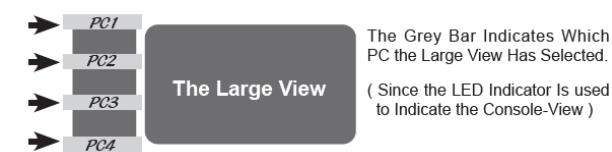* In PbP Modes, swap PiP-View to the Large View (the KM Control moves to the Large View as well)

Operation – Mouse Control

* Requires Mouse with side buttons (the 4th or 5th button)

Wheel (B3) — B2
B1
MK 4th / 5th Button

Enable Mouse Control & Assign the **MK**

L-Ctrl + L-Alt + MK (Required) 4th / 5th Button
Double Click (HK_LCode) Hold

* After being assigned as the **MK**, The 4th or 5th button will not serve it's original functions until the mouse-control disabled.

** For the users whose 4th & 5th buttons are occupied, they can try to employ other buttons as the side button. Since those additional buttons are defined differently by the vendors, certain buttons might not work. (Error Sound : Beep Low Twice)

Disable Mouse Control

L-Ctrl + L-Alt + B2 or B1
Double Click (HK_LCode) Hold

Console-View Selection (Quad-View Mode & PbP Modes Only)

Wheel (B3)
Roll-Up = Previous PC
Roll-Down = Next PC

Hold MK +

View Layout Quick Change
(Magnify the Console-View in the PbP Modes)

Hold MK + B1

* In Other Modes : Video Mode Quick Change (Equal to **F**)

PbP Modes
(Magnify the Console-View)

Key Sequence (Mouse Roaming)		Function
	"Q" + "9"	Enable Mouse Roaming
	"Q" + "0"	Disable Mouse Roaming
	"↑"	Mouse **Speed Up** (Lower DPI)
L-Ctrl + L-Alt +	"↓"	Mouse **Speed Down** (Higher DPI)
Double Click (HK_LCode) Hold	"S"	Mouse Speed Setting: (Beep x1 = Slow, x2 = Normal, x3 = Fast)
	"01" - "48"	Mouse Speed Setting (Higher Number = Slower)
	"R"	Enable/Disable **Borderless** Circulation
	"G"	Enable/Disable **Beep Sound** (Off/On)

Mouse Roaming available Modes: Quad-View, 1+3 PbP, 3+1 PbP

Mouse Moving Speed: Adjust based on Personal Preference

Key Sequence (PiP)		Function
	"↑"	Enlarge the PiP View
	"↓"	Shrink the PiP View
	"Page Up"	Enlarge the Console-View
	"Page Down"	Shrink the Console-View
	"→"	Increase PiP View Solidity (Decrease Transparency)
L-Ctrl + L-Win +	"←"	Decrease PiP View Solidity (Increase Transparency)
Double Click (HK_LCode) Hold	"F1"	Move PiP View to 1st Quadrant
	"F2"	Move PiP View to 2nd Quadrant
	"F3"	Move PiP View to 3rd Quadrant
	"F4"	Move PiP View to 4th Quadrant
	"Caps Lock"	**Video Mode Quick Change (Toggle):** PiP-Mode ↔ Quad-View

To use Mouse Roaming Function or not is Personal Preference

Key Sequence (HDCP & FPS)		Function
	"40"	HDCP = Non-HDCP
	"41"	HDCP = HDCP 1.4*
L-Ctrl + L-Win + R-Ctrl	"42"	HDCP = HDCP 2.2
Double Click (HK_LCode) Hold	"43"	Max Bandwidth = 9Gbps (3G)**
	"46"	Max Bandwidth = 18Gbps (6G)

* For KMV-4KD41-U30R, the DP Output may switch with Blank image when HDCP Enabled

** Set to 9Gbps when connecting to HDMI 1.4 Extenders

(center-top) PbP Layout Flip (Toggle)

F PbP Layout Flip (Toggle)
(Click)

1+3 PbP **F** (Click) 3+1 PbP

PiP-View Location (4 Quadrants)

PiP View / Console-View PiP Mode
F (Click)
PiP View / Console-View PiP Mode

F (Click) ↑   ↓ **F** (Click)

Console-View / PiP View PiP Mode
F (Click)
Console-View / PiP View PiP Mode

Port Indicator (The Large View in the PbP Modes)

PC1
PC2
The Large View
PC3
PC4

The Grey Bar Indicates Which PC the Large View Has Selected.

(Since the LED Indicator Is used to Indicate the Console-View)

Operation Hotkey Control

Hotkey Leading Codes (HK_LCode)

1. There are 3 Hotkey Leading Codes
2. Apply the Hotkey Leading Code allows the Unit to intercept following Key Inputs and to interpret to Control Signals
   - Hotkey Accepted: One / Two High-Pitched Beeps
   - Hotkey Failed: Two Low-Pitched Beeps

3 Programmed HK_LCodes Available

HK_LCode 1L: (Default) L-Ctrl Double Click

Do Not Use the Num Pad for Hotkey!

Numbers
L-Shift
L-Ctrl
L-Alt R-Alt R-Ctrl

The Hotkey is based on QWERTY Layout (US), other Keyboards should make relative adjustments to Hotkey Commands (Location).

HK_LCode 2: L-Shift + Num Lock + L-Shift
Hold Double Click Release

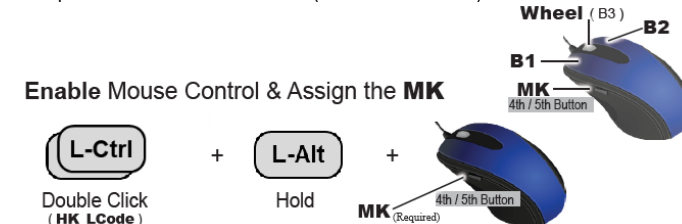**HK_LCode 3:** Scroll Lock Double Click

Optional: Hotkey Conflict Solution	
Change Hotkey HK_LCode 1L to HK_LCode 1R (L-Ctrl -> R-Ctrl)	"HK_LCode" + " L-Alt " (Hold) + "R-Ctrl" + Release "R-Ctrl" then "L-Alt"
Change Back to L-Ctrl	"HK_LCode" + "R-Alt" (Hold) + "L-Ctrl" + Release "L-Ctrl" then "L-Alt"
Disable / Enable HK_LCode 1L*	"Scroll Lock " + "Scroll Lock" + "L-Ctrl"
Disable / Enable HK_LCode 1R*	"Scroll Lock " + "Scroll Lock" + "R-Ctrl"

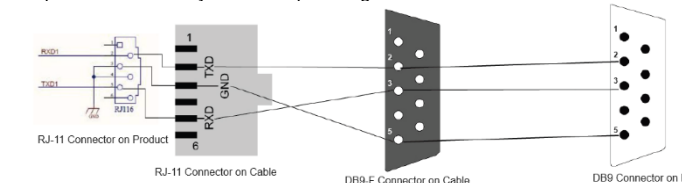* Or Use HK_LCode 3 to Replace "Scroll Lock" + "Scroll Lock"

Operation – Serial Control

Serial Connection

User should either connect the KVM switch with the Serial Host using an USB-C cable as followed or the RJ-11 to DB9 Adaptor for the DB9 COM Interface.

RS232 Using the RJ-11 to DB9 Adapter

USB-C (to USB-A) Cable

Experience users may follow the pin assignment to build a serial cable:

RJ-11 Connector on Product RJ-11 Connector on Cable DB9-F Connector on Cable DB9 Connector on PC

Configuration

User should apply the following serial configurations to allow communication with the serial host.

Baud Rate	19,200bps (Default, 8 Selections)
Parity / Data Bits / Stop Bits	None / 8 / 1
Flow Control	None

Note :
1. Windows users may download 3rd party terminal software such as "Hyper Terminal".
2. Enable "Local Echo" so that the input command can be seen on the terminal software.
3. Commands are case-sensitive, only upper case is accepted.
4. 19200bps is the default baud rate. Apply the default baud rate if there is no requirement to set a different baud rate.

Hotkey List (General)

Key Sequence		Function
	"1"-"4"	**Console-View** Selection = Computer 1-4 (Switch the Large View in the PbP Modes)
	"S" + "1"-"4"	**PiP-View** Selection = Computer 1-4
	"0"	**Console-View** Selection = Previous Selection (Switch the Large View in the PbP Modes)
	"TAB"	**Swap Video:** Console-View ↔ PiP-View
	"F1"	Start **Auto-Scan** for the Console-View (Full-Screen Mode Only)
	"F2"	To start **Manual Scan:** Allows users to manually switch back and forth between power-on computers. Click the ▲ or ▼ key to select the previous or the next computer (Full-Screen Mode Only)
L-Ctrl +	"F3"	To **Adjust Scan Rate:** The KVM Switch generates 1 to 4 beeps indicating duration of scan time for **3, 8, 15, 30 seconds** respectively. (Full-Screen Mode Only)
Double Click (HK_LCode)	"F5"	**Audio Follow** Port Selection (OFF / ON)* (But Follow the Large View in the PbP Modes)
	"F5K"	**Audio Follow** Port Selection (OFF / ON)* (All Modes)
	"A"	Force Audio Follow to Current Port
	"F7"	**USB 3.2 Follow** Port Selection (OFF / ON)** (But Follow the Large View in the PbP Modes)
	"F7K"	**USB 3.2 Follow** Port Selection (OFF / ON)** (All Modes)
	"U"	Force USB 3.2 Ports Follow to Current Computer
	"Caps Lock"	**Video Mode Quick Change (Toggle):** Full-Screen ↔ Quad-View Full-Screen ↔ PiP Mode **Magnify the Console-View in the PbP Modes:** Swap Videos of the Console-View & the Large View (When Console-View Is one of the Small Views)
HK_LCode + "L-Win" (Hold) + "L-Alt" (Hold) + "Del" (Num Pad)		**Reset***
HK_LCode + "L-Alt" (Hold) + "F"+ "A" + "C"		Return to **Factory Default**

* The default Audio Follow status is on, and the Audio Follows port switching. User may turn it off so that the audio stays at original port after port switching.

** The default USB Follow status is on. User may turn off USB 3.2 Follow to prevent damaging USB drive or other USB devices while operating.

*** Apply this hotkey when image anomaly happens.

Serial Commands

Command	Function
B=1-4	Equal to Port Selection Button "1"-"4" Clicked
B=S/M/F	Equal to "S"/ "M" / "F" Clicked
B=m	View Layout Quick Change
V=1-4	Console-View Select PC 1-4 (The Large View in the PbP Modes)
S=1-4	PiP-View Selects PC 1-4
U=1-4	USB 3.2 Select PC 1-4 (Non-Follow)
U="K	USB 3.2 Follows the Console-View's PC Selection (All Modes)
U=*	USB 3.2 Follows the Console-View's PC Selection (But Follows the Large View in the PbP Modes)
A=1-4	Audio Select PC 1- 4 (Non-Follow)
A="K	Audio Follows the Console-View's PC Selection (All Modes)
A=*	Audio Follows the Console-View's PC Selection (But Follows the Large View in the PbP Modes)
H=R	Reset*

* There are 3 ways to reset:
1. By Serial Command mentioned above.
2. By Pressing & Holding Button "1" + Button "2" for more than 2 secs.
3. By Hotkey: HK_LCode + "Win" (Hold) + "Alt" (Hold) + "Del".

Change Baud Rate by Hotkey (Default = 19200bps)

Key Sequence				Set Baud Rate
			"A" + "1"	9600bps
			"B" + "1"	14400bps
			"A" + "2"	19200bps
L-Ctrl + L-Alt + 3 +			"B" + "2"	28800bps
Double Click (HK_LCode) Hold Click			"A" + "3"	38400bps
			"B" + "3"	57600bps
			"A" + "4"	76800bps
			"B" + "4"	115200bps