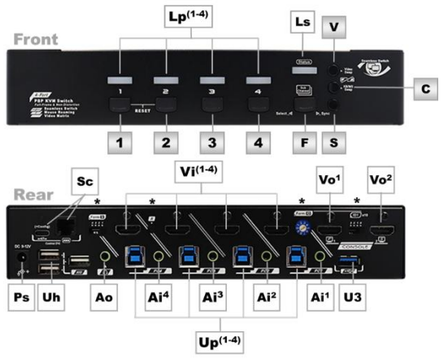
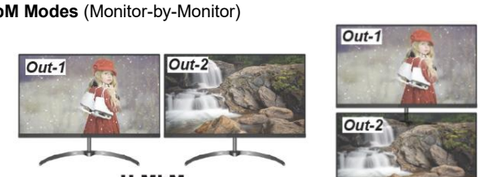
Product Descriptions



Label		Description (Front)
1 - 4	PC Buttons	Click to select PC for the **Active-Video**. **Note:** Press & Hold Button "**1**" and Button "**2**" for more than 2 seconds to reset.
Ls	Status LED	**Green:** Power On
Lp	PC LEDs (1-4)	**Red: Active-Video** PC Selection **Blue: Sub-Video** PC Selection **Green:** PC Ready
F	Function Button	Press and Hold "**F**", then Click "**1-4**" to select a PC for the **Sub-Video**. **Note:** Sub-Video switching will exit Sync Mode.
S	Sync Button	Press and Hold "**F**", then Click "**S**" to Enable Sync Mode (Both Consoles display the same Port/PC)
C	Console Swap Button	Click to Swap Control (**Active-Video** ↔ **Sub-Video**)
V	Video Swap Button	Click to Swap Video (**Active-Video** ↔ **Sub-Video**)
Label		**Description (Rear)**
Vi	Video Inputs (1-4)	Connect to Computers' Main Video Outputs (PC 1-4)
Ai	Audio Inputs (1-4)	Connect to Computers' Main Audio Outputs (PC 1-4)
Up	USB 3.2 Gen 1 (1-4)	Connect to Computers' USB 3.2 Gen 1 Ports (PC 1-4)
Vo	Video Outputs (1-2)	Connect to 2 Monitors (MbM) or 1 PbP-Ready Monitor
Ao	Audio Output	Connect to an Active Speaker or a Stereo Amplifier
Uh	USB HID	Connect to a Keyboard/Mouse/Touch Panel
U3	USB 3.2 Gen 1	Connect to an USB 3.2 Gen 1 Device (USB storage, etc)
Ps	Power Supply	Connect to a DC 12V Power Adapter
Sc	Serial Control	Connect to a Serial Host PC (see "Serial Control" section)
*	Reserved	Reserved for future upgrade

Video Modes

MbM Modes (Monitor-by-Monitor)

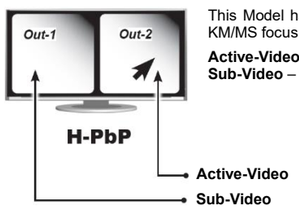


PbP Modes (Picture-by-Picture)*

* Enable the PbP Function of the Monitor first

* Enable the PbP Function of the Monitor first

Active-Video & Sub-Video



This Model has Mouse Roaming Function, and the KM/MS focus can move between the 2 videos:

Active-Video – Video Output with Active KB/MS
Sub-Video – Video Output without Active KB/MS

Features

- Allows 4 computers to share 1 set of KVM Console
- Seamless switch maximizes work efficiency
- Supports most popular resolutions via HDMI 2.0, up to 4K@60Hz (4:4:4), & aspect ratios of 16:9 / 21:9 / 32:9
- 4x2 Video Matrix allows free routing of any 4 PCs to 2 video outputs
  1. MbM Mode shows on 2 monitors
  2. PbP Mode shows on a monitor with built-in PbP Function Enabled
- Full-Frame PbP Technology ensures undistorted vision and maximized view areas by feeding precisely engineered EDID to the PCs
- HDCP 2.2 & 1.4 compliance ensures uninterrupted video playback
- Mouse Roaming* allows switching among PCs by moving the mouse cursor across the screen borders
- Serial Control facilitates remote control with adjustable baud rate (9600 – 115200bps)
- USB 3.2 Gen 1 supports sharing of USB 3.0 and 2.0 devices among the PCs
- Independent switching of USB 3.2 and audio allow either switching with the video or stay at a certain PC Port
- Plug-and-Play without software or driver requirements

* Certain Operating System (or version) may not support Mouse Roaming

Package Contents

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

System Requirements

Console Side

✓ HDMI Monitor(s) (*Using PbP Mode requires a Monitor with built-in PbP Function) ✓ USB Keyboard ✓ USB Mouse
✓ Speaker (if required) ✓ Serial Host & USB-C Cable (if required)

Computer Side

✓ USB-Enabled Computers ✓ USB 3.2 Gen 1 A-B Cables
✓ HDMI 2.0 Cables ✓ Audio Cables (if required)

User Manual

4x2 4K60 HDMI KVM Matrix Switch

Seamless Switching, Scaler, USB 3.0,
Mouse Roaming, Button/Hotkey/Serial Ctrl

KMX-4KH42-U30R

Ordering Information

Model	Video	Video Modes	Functions
KMX-4KH42-U30R	HDMI 2.0	PbP (H/V) MbM (H/V)	Serial Control Hotkey Control Mouse Roaming

DSGio Global Pte Ltd.
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Union Industrial Center
Singapore 348741

- 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-KMX-R01.2

Specifications

Model Number		KMX-4KH42-U30R	
Maximum Resolution (4K@60Hz, 4:4:4)	16:9	3840x2160, 2560x1440, 1920x1080	
	21:9	3840x1600, 3440x1440, 2560x1080	
	32:9 (PbP)	7680x2160, 5120x1440, 3840x1080	
Features		**PC Side**	**Console Side**
Video Switching		HDMI 2.0 x 4 (In)	HDMI 2.0 x 2 (Out)
USB 3.2 Switching (5Gbps)		USB 3.2-B x 4	USB 3.2-A x 1 USB HID-A x 3
Audio Switching		SPK x 4 (In)	SPK x 1 (Out)
Control Methods		Hotkey Control, Serial Control, Mouse Roaming	
Video Matrix Modes		MbM Mode (Monitor-by-Monitor)	
		PbP Mode (w/ Built-In PbP Enabled Monitor)	
Seamless Switching		Zero Latency	
Serial Control		RJ-11 x 1 (19200bps, 8-Step: 9600 ~ 115200bps) USB-C x 1	
Hot Plug-and-Play		Yes	
HDCP Compliance		HDCP 2.2 & HDCP 1.4	
H x W x D (mm)		44 x 240 x 160	
Weight (g)		965	
Material		Metal (Colour : Black)	

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. Connect Video Output 1 to the left (or top) monitor and Video Output 2 to the right (or bottom) monitor; plug USB KB/MS into the corresponding USB HID ports on the Console.
2. Plug audio jack from the speaker to the Console's audio port.

Computer Connection

1. Use HDMI cables to connect video ports on the computer and the unit's PC side.
2. Use USB 3.2 Gen 1 A-B cables to connect the unit's USB ports (B connector, square connector) and the USB ports on the corresponding computers (A connector, flat connector).
3. Use audio cables to connect the audio ports between the computer side of the unit and the corresponding computer.
4. Plug the DC power adapter to the Switch's power port.

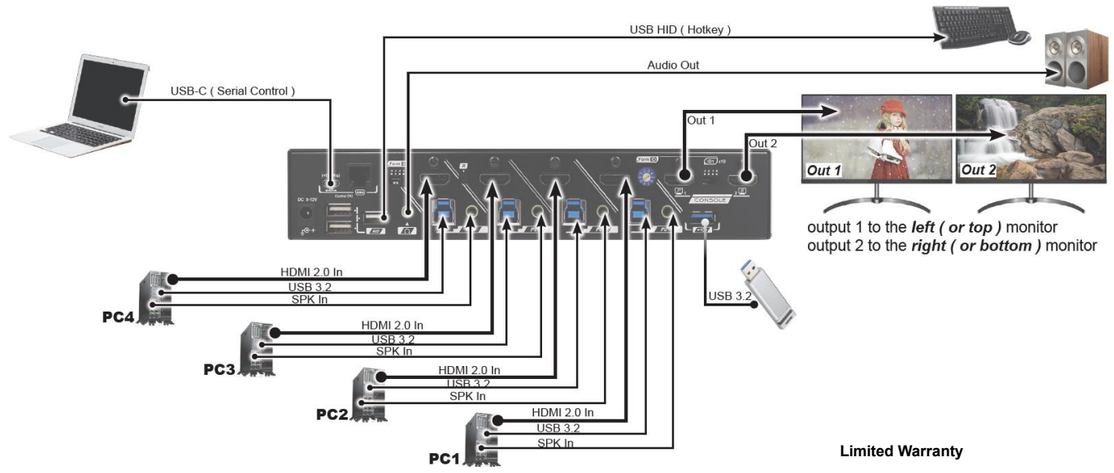
* All PCs Must Have Identical HDCP and HDR Settings i.e. (All On or All Off).

Configuration

1. Configure video mode (MbM / PbP), and resolution.
   (Default is H-MbM, Resolution = 1080P)
2. Enable the PbP function of the monitor, if PbP mode is to be configured.
3. Configure mouse roaming, and mouse speed.
   (Default is off, mouse speed is subjected to personal preference.)

Note: Due to operating system limitations, the Mouse Roaming function is typically only supported on the primary desktop when using KVM equipment. If dual monitor computer is applied, turn off Mouse Roaming before you move the you are using a dual-monitor setup, please disable Mouse Roaming before moving the cursor to the extended desktop.

Connection Diagram – MbM Mode (Default)



Limited Warranty

IN NO EVENT SHALL THE DIRECT VENDOR'S LIABILITY FOR DIRECT OR INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS, LOSS OF BUSINESS, OR FINANCIAL LOSS CAUSED BY THE USE OF THE PRODUCT EXCEED THE PRICE PAID FOR THE PRODUCT.

The direct vendor makes no warranty or representation, expressed or implied, with respect to the contents or use of this documentation, and expressly disclaims its quality, performance, merchantability, or fitness for any particular purpose.

The direct vendor also reserves the right to revise or update the product or documentation without obligation to notify any user of such revisions or updates. For further information, please contact your direct vendor.

Operation – Hotkey Control

Hotkey Leading Codes (HK_LCode)

1. There are 3 Hotkey Leading Codes available.
2. Applying the Hotkey Leading Code enables the switch to intercept the following key inputs and interpret them as control signals.
   - **Hotkey Accepted:** One or Two High-Pitched Beeps
   - **Hotkey Failed:** Two Low-Pitched Beeps

3 Programmed HK_LCodes Available

HK_LCode 1: L-Ctrl Double Click
(Default)

The hotkey commands are based on the U.S. QWERTY Keyboard Layout. Users with other keyboard layouts may need to adjust based on the relative key positions.

HK_LCode 2: L-Shift (Hold) + Num Lock (Double Click) + L-Shift (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"

* You can disable HK_LCode 1 and use "Scroll Lock" + "Scroll Lock" as default.

Hotkey List (General)

Key Sequence		Function
L-Ctrl + Double Click (HK_LCode)	"1"-"4"	**Active-Video** Select PC 1-4
	"0"	**Active-Video** Select Previous Selection
	"S" + "1"-"4"	**Sub-Video** Select PC 1-4*
	"F1"-"F4"	
	"0"	**Sub-Video** Select Previous Selection
	"TAB"	**Swap Video** (Active-Video ↔ Sub-Video)
	"S" + "A"	
	"9"	**Swap Control** (Active-Video ↔ Sub-Video)
	"S" + "C"	
	"S" + "V"	**Swap Control & Video** (Active-Video ↔ Sub-Video)
	"S" + "B"	**Enable Sync Mode** (Sub-Video Follows Active-Video's Selection) (Select a Different PC for the Sub-Video to Exit Sync Mode)
	"F5"	**Audio Follows** Active-Video/MS Roam Switching (Off / On, Default Is On)**
	"A"	**Assign Audio to Audio Out / Video Output 1**
	"F7"	**USB 3.2 Follows** Active-Video/MS Roam Switching (Off / On, Default Is On)***
	"U"	**Assign USB 3.2 to Specific Port/PC**
	"L-Alt" (Hold) + "G"	Enable/Disable **Buzzer Sound** (Default Is On)
HK_LCode + "L-Alt" (Hold) + "F"+ "A" + "C"		Return to **Factory Default**

* Use Hotkey Leading Code + "**L-Alt**" (Hold) + "**F1**" to disable the Hotkey Code "**F1**" - "**F4**".

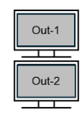
** The default Audio Follows status is on, and the Audio Follows port/mouse roaming switching. User may turn it off to set the audio output to stay at specific port (PC).

*** The default USB Follows status is on. User may turn off USB 3.2 Follows to prevent damaging USB drive or other USB devices while operating. When it is enabled, it will auto-assign to Video Output 1 initially.

Note: When exiting Sync Mode, OUT 1 will become Active-Video and OUT 2 will become Sub-Video.

Hotkey (Video Mode & Resolution)

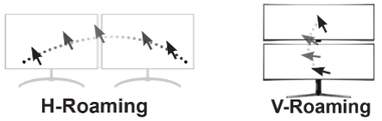
L-Ctrl Double Click (Hotkey Leading Code) + L-Win Hold + ßß Video Variable + Release "**L-Win**"

ßß	Video Mode	Aspect Ratio	Native Resolution of Monitor(s)
1U	**V-PbP*** 	16:9	3840 x 2160 (Dual 3840 x 1080)
1Q			2560 x 1440 (Dual 2560 x 720)
1F			1920 x 1080 (Dual 1920 x 540)
EQ		16:18	2560 x 2880 (Dual 2560 x 1440)
2U	**H-PbP*** 	16:9	3840 x 2160 (Dual 1920 x 2160)
2Q			2560 x 1440 (Dual 1280 x 1440)
2F			1920 x 1080 (Dual 960 x 1080)
2T		21:9	5120 x 2160 (Dual 2560 x 2160)
2P			3840 x 1600 (Dual 1920 x 1600)
2N			3440 x 1440 (Dual 1720 x 1440)
2M			2560 x 1080 (Dual 1280 x 1080)
WU		32:9	7680 x 2160 (Dual 3840 x 2160)
WQ			5120 x 1440 (Dual 2560 x 1440)
WF			3840 x 1080 (Dual 1920 x 1080)
EU	**V-MbM** 	16:9	3840 x 2160
EQ			2560 x 1440
EF			1920 x 1080
EP		21:9	3840 x 1600
EN			3440 x 1440
EM			2560 x 1080
EZ		Monitor	Follow Monitor of Output 1**
WU	**H-MbM** 	16:9	3840 x 2160
WQ			2560 x 1440
WF			1920 x 1080 (**Default**)
WP		21:9	3840 x 1600
WN			3440 x 1440
WM			2560 x 1080
WZ		Monitor	Follow Monitor of Output 1**

* Enable the PbP function of the Monitor if PbP mode is configured.

** For best performance, both monitors should be identical. If they are not, connect Output 1 to the monitor with the lower resolution. Unexpected compatibility issues may happen if the outputs are connected to monitors with varying specifications (e.g. 10-bit vs 12-bit colour, different or high refresh rates, unusual resolutions, etc.).

Hotkey (Mouse Roaming)



Key Sequence		Function
L-Ctrl + L-Alt + Double Click (Hotkey Leading Code) Hold	"Q1"	Enable **V-Roaming**
	"Q2"	Enable **H-Roaming**
	"Q0"	**Disable Roaming (Default)** (To support Extended Desktop in Windows)
	"Q9"	**Enable Roaming** (Previous Setting)
	"R"	Enable/Disable **Borderless Circulation**
L-Ctrl + Double Click	"Caps Lock"	**Find Mouse Cursor** (Move to OUT 1 Screen Center)

When using Extended Desktop Configuration with the switch:

- Operating System does not support mouse roaming to the Extended Desktop. Mouse Roaming only supports across Primary Display as defined by the OS.
- Disable the Mouse Roaming Function if using Extended Desktop Configuration with the computers.

Hotkey (Mouse Speed for Mouse Roaming)

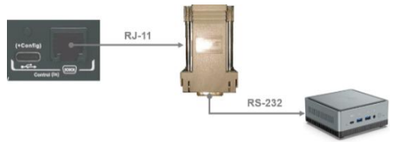
Key Sequence		Function
L-Ctrl + L-Alt + Double Click (Hotkey Leading Code) Hold	"↑"	Speed Up
	"↓"	Speed Down
	"S"	Change Speed (Beep x1 = Slow, x2 = Normal, x3 = Fast)
	"01" - "48"	Set Speed (Larger Number = Slower)

Operation – Serial Control

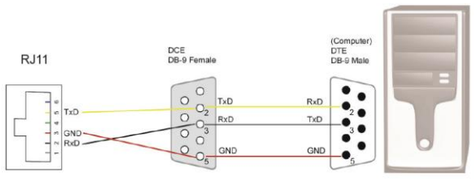
Physical Connection:

1. USB-C (Virtual COM, Recommended)
If the KVM Matrix Switch is to be controlled by a computer (Host), user can use a USB-C cable and connect directly to access the Switch from the terminal software.

2. RJ-11 with DB9 Adapter
User may use the RJ11-to-DB9 adapter to convert the RJ-11 connector to standard RS-232 (DB9) connector. In this way, user can apply serial control with either a computer or a central control unit. In addition, user can purchase a RS-232-to-USB converter to connect to the computer that has no COM port.



3. RJ-11 Hard-Wiring
Experience user may connect the switch to a central control unit by hard-wiring the RJ-11 cable and follows the pin definition of the RJ-11 connector below:



Serial Communication Configuration

Apply the following serial settings to enable communication with the serial host:

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

Notes:
1. For Windows users, 3rd party terminal software such as HyperTerminal, Putty, etc can be used.
2. Enable "**Local Echo**" to display input commands in the terminal software.
3. Commands are case-sensitive, only uppercase commands are accepted.
4. 19,200bps is the default baud rate. Use this unless a different rate is specifically required.
5. When using USB-C (Virtual COM), the terminal software must reconnect if the video engine resets or the unit restarts.

Serial Commands

Command	Function
V=1-4	Active-Video Select PC 1 - 4
V=<	Active-Video Select the Previous Active PC
V=>	Active-Video Select the Next Active PC
S=1-4	Sub-Video Select PC 1 - 4
U=1-4	USB 3.2 Select PC 1 - 4
U=*	USB 3.2 Follows Video Output 1 / Active-Video
U=$	USB 3.2 Independent Switching (Non-Follow)
A=1-4	Analog Audio Select PC 1- 4
A=*	Analog Audio Follows Video Output 1 / Active-Video
A=$	Analog Audio Independent Switching (Non-Follow)
H=R	Reset*

* There are 2 ways to reset if anomaly occurs (this is not factory reset):
1. By Serial Command (H=R) mentioned above.
2. By Pressing & Holding Button 1 and 2 for more than 2 secs.

Change Baud Rate Setting of The Serial Port

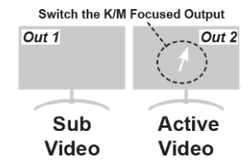
There are 8 bands of baud rates available (9600 – 115200 bps).
A combination of keyboard hotkeys and push button sequence is required to change the baud rate setting.

3 is the 3rd Port Selection button on the front panel.

Key & Push Button Sequence		Set Baud Rate
L-Ctrl + L-Alt + 3 + Double Click (Hotkey Leading Code) Hold	"A1"	9600bps
	"B1"	14400bps
	"A2"	19200bps
	"B2"	28800bps
	"A3"	38400bps
	"B3"	57600bps
	"A4"	76800bps
	"B4"	115200bps

KM Oriented / Non-KM Oriented Switching
(Non-KM Oriented Disabled by Default, Optional)

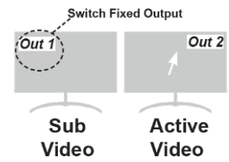
KM Oriented Switching
(Mouse Roaming On)



Switching Follows KB/MS Movement:

L-Ctrl Double Click + "**1**"–"**4**" switch the **Active-Video**
+ "**S**" + "**1**"–"**4**" switch the **Sub-Video**

Non-KM Oriented Switching
(Optional)



Regardless of where the Active KB/MS move:

L-Ctrl Double Click + "**1**"–"**4**" always switch **Output 1**
+ "**S**" + "**1**"–"**4**" always switch **Output 2**

Key Sequence		Function
L-Ctrl + S + Double Click (Hotkey Leading Code) Click	"Home"	**Toggle Switching Method** (Non-KM-Focused / KM-Focused)