KanexPro®

SW-HDMX44CE

4x4 HDMI® Matrix Switcher

MPN: SW-HDMX44CE

CONTENTS

Statement 1

Safety Warning 1

After-Sales Service 1

Introduction 2

Feature 2

Package List 2

Panel Description 3

- Front Panel 3
- Rear Panel 3

System Diagram 4

Front Panel Control 5

IR Remote Control 5

RS232 Control 6

- RS232 Commands 7
  - System Command 7
  - Signal Switching 7
  - Preset Setting 8
  - Audio Setting 8
  - EDID Management 9
  - HDCP Compliance 9

Troubleshooting 10

Specification 11

Statement

Read this user manual carefully before using the product. Pictures shown in this manual are for reference only, different models and specifications are subject to real product. This manual is only for operation instruction only, not for any maintenance usage. The functions described in this version are updated till September 12, 2017. In the constant effort to improve our product, we reserve the right to make functions or parameters changes without notice or obligation. Please refer to the dealers for the latest details.

Safety Warning

Please read this entire manual before using this device, paying extra attention to these safety warnings and guidelines. Please keep this manual in a safe place for future reference.

- Do not expose this device to water or moisture of any kind. Do not place drinks or other containers with moisture on or near the device. If moisture does get in or on the device, immediately unplug it from the power outlet and allow it to fully dry before reapplying power.
- Do not touch the device, the power cord, or any other connected cables with wet hands.
- Do not expose this device to excessively high temperatures. Do not place it in, on, or near heat sources, such as a fireplace, stove, radiator, etc. Do not leave it in direct sunlight.
- Prior to operation, check the unit and power cord for physical damage. Do not use if physical damage has occurred.
- Unplug this device from the power source when not in use.
- Take care to prevent damage to the power cord. Do not allow it to become crimped, pinched, walked on, or become tangled with other cords. Ensure that the power cord does not present a tripping hazard.
- Never unplug the unit by pulling on the power cord. Always grasp the connector head or adapter body.
- Ensure that power is turned off and disconnected before making any electrical connections.
- Clean using a soft, dry cloth only. Do not use chemical cleaners, solvents, or detergents. For stubborn deposits, moisten the cloth with warm water.
- This device has no user serviceable parts. Do not attempt to open, service, or modify this device.

After-Sales Service

We provide limited warranty for the product within **three years**.

Introduction

The KanexPro SW-HDMX44CE is a simple and cost-effective 4K based HDMI matrix designed with 4-inputs and 4-outputs. For swift switching and routing of any HDMI sources such as laptops, Blu-ray players, and 4K based Apple TV to any four displays. This matrix switcher is HDCP 2.2 compliant and supports 4K@60Hz, 4:2:0 video. it can be controlled via front panel buttons, IR remote and RS232 commands.

Feature

- Cross switch 4-HDMI sources to 4-HDMI displays with 4K/60Hz
- Supports sampling rate of 4:2:0, including 1080p & 3D video.
- Fully compliant with the HDMI 1.4 and HDCP 2.2 specifications.
- Smart EDID management to match the connected displays.
- Supports front panel buttons, IR remote and RS232 control.

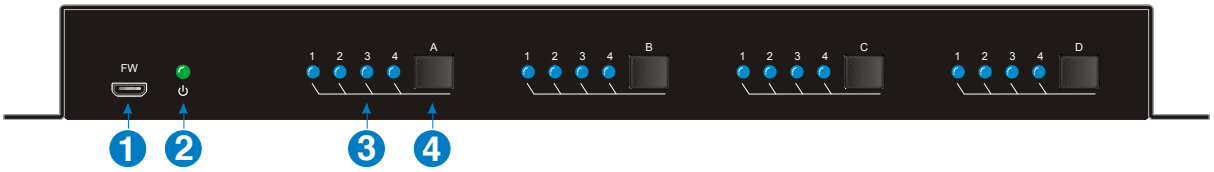
Package List

Please make sure all the items listed below are in the package. If anything is missing or damaged, please contact your distributor for a replacement.

- 1 x SW-HDMX44CE
- 4 x Round Plastic Feet
- 1 x RS232 Cable (3-pin to DB9)
- 1 x IR Receiver
- 1 x IR Remote
- 1 x Power Adaptor (12VDC, 2A)
- 1 x User Manual

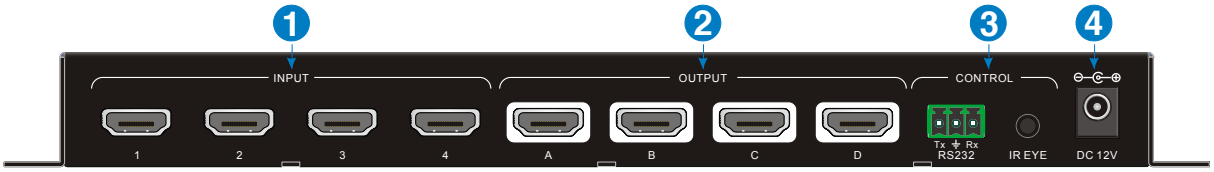
Panel Description

Front Panel



No.	Name	Description
①	FIRMWARE	Micro USB port for performing firmware updates.
②	POWER LED	The LED illuminates green when power is applied.
③	INPUT LEDs	A series of four LEDs, one of which illuminates blue to indicate which source is selected.
④	OUTPUT	Press the button repeatedly to cycle through the four video inputs.

Rear Panel

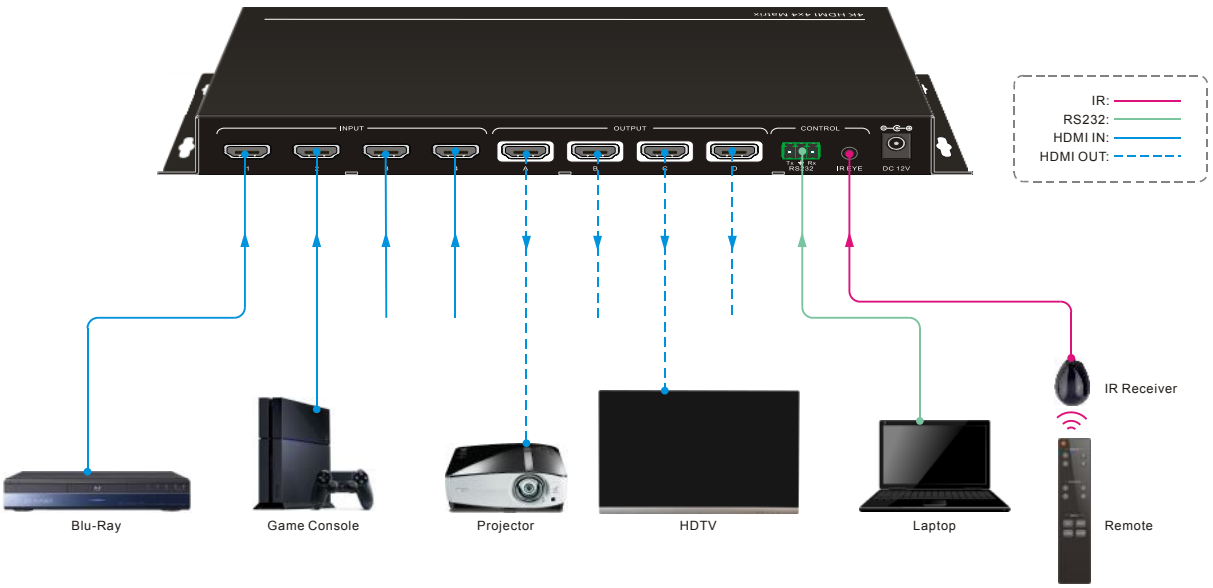


No.	Name	Description
①	INPUTS (1~4)	Four HDMI ports for connecting the HDMI source devices (Blu-ray Disc™ or DVD players, gaming consoles, etc.).
②	OUTPUTS (A~D)	Four HDMI ports for connecting display.
③	CONTROL	▪ RS232: 3-pin phoenix connector for RS232 control. ▪ IR EYE: 3.5mm jacks for connecting the included IR receivers to achieve IR remote control.
④	DC 12V	DC barrel connector for AC power adapter.

System Diagram

Usage Precaution:

- Verify all components and accessories included before installation.
- System should be installed in a clean environment with proper temperature and humidity.
- All of the power switches, plugs, sockets and power cords should be insulated and safe.
- All devices should be connected before power on.

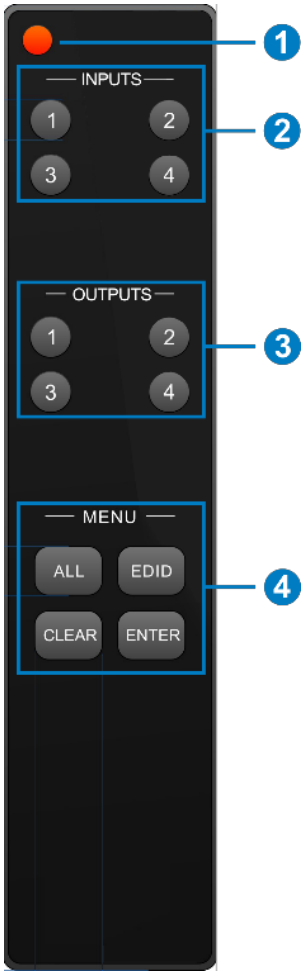


Front Panel Control

Repeatedly press the **OUTPUT** button to cycle through the various inputs for the corresponding output.

IR Remote Control

- Press the **STANDBY (1)** button to enter or exit Standby mode.
- To switch the selected input for one or more of the outputs, first press the number corresponding to the desired **INPUT (2)**, then press one or more **OUTPUTS (3)** or the **ALL (4)** button, then press the **ENTER (4)** button to execute the change.



Examples:

- ✓ To send input 3 to output 2, first press the **INPUTS 3** button, then press the **OUTPUTS 2** button, and finally press the **ENTER** button to execute the change.
- ✓ To send input 1 to outputs 1 and 4, first press the **INPUTS 1** button, then press both the **OUTPUTS 1** and **4** buttons, and finally press the **ENTER** button to execute the change.
- ✓ To send input 4 to all outputs, first press the **INPUTS 4** button, then press the **ALL** button, and finally press the **ENTER** button to execute the change.

- To set the EDID for one or more source devices to the EDID capabilities of a specific output, press the **EDID (4)** button, then press the desired **INPUTS (2)** or the **ALL (4)** button, then press the **OUTPUTS (3)** button corresponding to the desired display, finally press the **ENTER (4)** button to execute the operation.

RS232 Control

If the HDMI matrix need to be control from PC using an RS232 connection, the third party RS232 control software package, such as **CommWatch.exe**, whose installation and usage is described below.

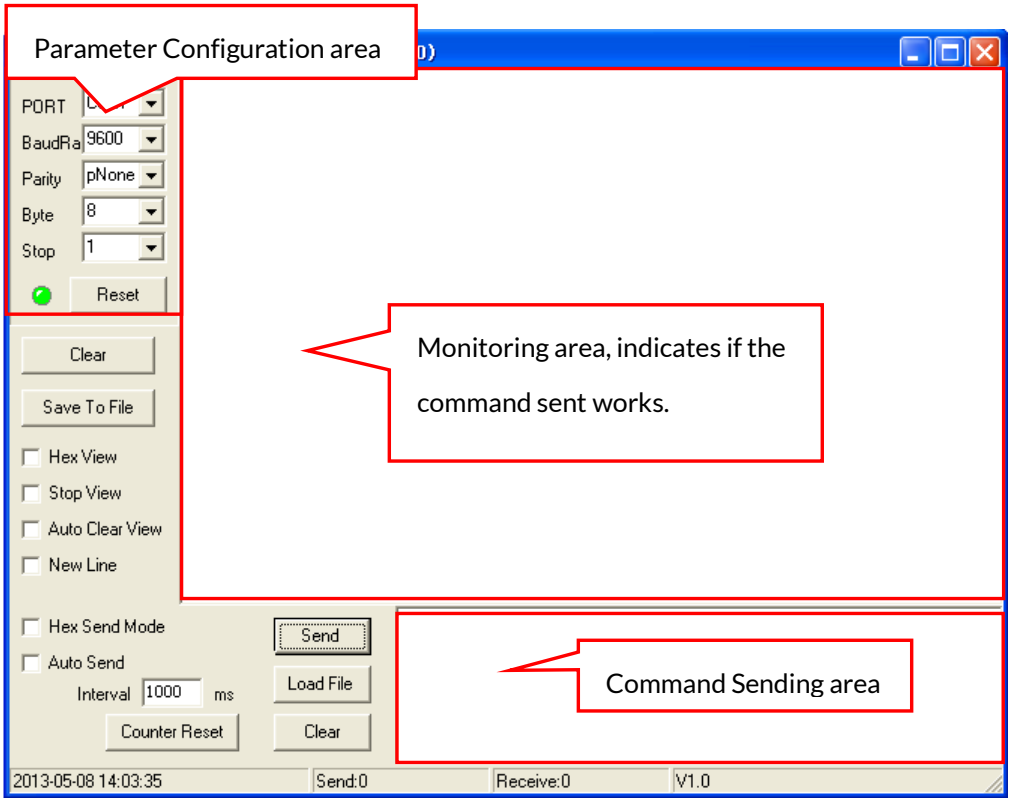
- **Installation**: Copy the control software file to the computer connected with the matrix.
- **Uninstallation**: Delete all the control software files in corresponding file path.

Basic Settings:

First to connect the matrix with all input devices and output devices needed, then to connect it with a computer which is installed with RS232 control software.

Double-click the software icon to run this software. Here we take the software **CommWatch.exe** as example. The icon is showed as below:

The interface of the control software is showed as below:



Please set the parameters of COM number, bound rate, data bit, stop bit and the parity bit correctly, and then you are able to send command in Command Sending Area.

RS232 Commands

Communication protocol: RS232 Communication Protocol

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

System Command

Command	Description	Command Example and Response
/*Type;	Report system model.	/*Type; CE-MX44
/%Lock;	Lock front panel buttons.	/%Lock; System Locked!
/%Unlock;	Unlock front panel buttons.	/%Unlock; System UnLock!
/^Version;	Report software version.	/^Version; V1.0.0
Undo.	Cancel the current operation and return to previous switching status.	Undo. Undo Ok!
PWON.	Power on the system.	PWON. PWON
STANDBY.	Turn the system to standby mode.	STANDBY. STANDBY
%9961.	Report the system locking status.	%9961. System UnLock! System Locked!
%9962.	Report the system power status.	%9962. PWON
%0911.	Reset to factory default.	%0911. Factory Default

Signal Switching

Command	Description	Command Example and Response
[x]All.	Switch input [x] AV to all output. x=1~4.	2All. 02 To All.
All#.	Switch all input signal to the corresponding output channel.	All#. All Through.
All$.	Switch off all output.	All$. All Closed.
[x]#.	Switch input [x] to output [x]. x=1~4.	1#. 01 Through.
[x]$.	Turn off output [x]. x=1~4.	1$. 01 Closed.
[x]@.	Turn on output [x]. x=1~4.	1@. 01 Open.
All@.	Turn on all outputs.	All@.

Command	Description	Command Example and Response
		All Open.
[x]V[y1], [y2],[y3],[y4].	Switch input [x] to outputs [y]. x=1~4, y=1~4.	1V1,2,3,4. AV:01->01,02,03,04
Status[x].	Report the input channel on output [x]	Status1. AV: 01->01
Status.	Report the input channel on output channel one by one.	Status. AV:01->01 AV:01->02 AV:01->03 AV:01->04
%9971.	Get the input link status.	%9971. In 01 02 03 04 Connect Y Y Y Y
%9972.	Get the output link status.	%9972. Out 01 02 03 04 Connect Y Y Y Y
%9975.	Get the switching status.	%9975. Out 01 02 03 04 In 01 02 03 04

Preset Setting

Command	Description	Command Example and Response
Save[y].	Store the current switching status to present [y]. y=0~ 9.	Save3. Save To F3
Recall[y].	Recall present [y]. y=0~ 9.	Recall9. Recall From F9
Clear[y].	Clear the present [y].	Clear9. Clear F9

Audio Setting

Command	Description	Command Example and Response
DigitAudioON[x].	Turn on the HDMI digital audio of output [x]. x=1~ 4. When x=5, it means to turn on all outputs.	DigitAudioON1. DigitAudio ON with Output 1
DigitAudioOFF[x].	Turn off the HDMI digital audio of output [x]. x=1~ 4. When x=5, it means to turn off all outputs.	DigitAudioOFF1. DigitAudio OFF with Output 1
%9977.	Get HDMI digital audio status of outputs.	%9977. Out 01 02 03 04 Audio Y Y Y Y

EDID Management

Command	Description	Command Example and Response
EDIDPCM[x].	Set the audio format of input [x] to PCM. x=1~ 4.	EDIDPCM1. EDIDPCM1
EDIDG[x].	Get the EDID data from output [x]. x=1~ 4.	EDIDG1.
EDIDMInit.	Reset factory default EDID to all input ports.	EDIDMInit. EDIDMInit.
EDIDM[x]B[y].	Set the EDID data of output [x] to input [y]. If the EDID data is not available, the matrix will set it to initial EDID data.	EDIDM2B1. EDIDM2B1.
EDIDH[x]B[y].	Set the EDID data of output [x] to input [y].If the EDID data is available and the audio part supports not only PCM format, then force-set it to only support PCM. If the EDID data is not available, it will set to initial EDID.	EDIDH2B1. EDIDH2B1
EDIDUpgrade[x].	Upgrade the EDID data of the input port [x]. When the command applied, system prompts to upload the EDID file (.bin). Operation will be cancelled in 10 seconds	EDIDUpgrade1. Please send the EDID file !EDID Upgrade OK!
GetInPortEDID[x].	Get the EDID of input [x]. x=1~ 4.	GetInPortEDID1.

HDCP Compliance

Command	Description	Command Example and Response
/%[y]/[x]:[z].	HDCP management. y=O is for output port; x=1~4 is the number of the output port, if the x=ALL, it means all ports; z=1/0 is for HDCP compliant status, the value may be 1 (HDCP compliant) or 0 (not HDCP compliant).	/%O/ALL:0. /%O/ALL:0.
%0801.	Auto HDCP management mode.	%0801. %0801
%9973.	Get the HDCP status of input ports.	%9973. In 01 02 03 04 HDCP Y Y Y Y
%9974.	Get the HDCP status of output ports.	%9974. Out 01 02 03 04 HDCP Y Y Y Y
%9978.	Reports the HDCP compliance status of the inputs.	%9978. In 01 02 03 04 HDCPEN Y Y Y Y

Troubleshooting

Q1: There is no video present on one of the displays.

A1: Check the cable connections. Try replacing the HDMI cable with a known good one. Verify that the Link LED is illuminated.

Q2. One of the displays has no video when one of the inputs is selected.

A2: Verify that the EDID for that input is set to a resolution supported by the display in question. Ensure that the input and output ports are set for HDCP compliance.

Q3: The front panel buttons are inoperative.

A3: Ensure that the front panel controls are not locked.

Q4: The remote control does not function.

A4: Try replacing the batteries with new ones. Ensure that you are within IR range and that you are pointing the remote at the IR receiver eye.

Specification

Video Input	
Input	(4) HDMI
Input Connector	(4) female type A HDMI
HDMI Version	1.4
HDCP Version	2.2
Video Output	
Output	(4) HDMI
Output Connector	(4) female type A HDMI
HDMI Version	1.4
HDCP Version	1.4
General	
Maximum Video Resolution	4K@60Hz 4:2:0
Maximum Bandwidth	10.2 Gbps
Control Options	Front Panel, IR Remote, RS232
Input Power	12V DC 2A
AC Adapter Input Power	100 ~ 240 V AC, 50/60 Hz
Maximum Power Consumption	10 watts
Operation Temperature	0 ~ +40℃
Storage Temperature	-10 ~ +55℃
Relative Humidity	10% ~ 90%
Dimension (W*H*D)	244mm x25.5mm x 100mm; 269mm x25.5mm x 100mm (with Mounting Ears)
Net Weight	650g

KanexPro™

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