



## iSwitch 265

2K60 over IP 100M/1GbE with Video Wall Processing



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VER 1.0

# Datasheet

V1.0

## 1. Introduction

This AV over IP product distributes multiple HD contents to multiple HD display devices over a 100M/1G Network Switch. It offers configurable high quality, low-bandwidth H.265/H.264 configurable compression video and supports resolution up to 1920x1200@60Hz 4:4:4. Signal transmission distance can be extended up to 328ft/100m via CAT5E/6/6A/7 cable. Encoder supports HDMI local loop output. The product supports analog audio embedding and extracting. It also supports USB/KVM function, bidirectional IR/RS-232 control (pass-through & Guest mode) and single-machine control (without a Controller Box, matrix switching can be realized with panel buttons, local IR or RS-232 control).

## 2. Features

- ☆ HDMI 1.4 and HDCP 1.4 compliant
- ☆ Video resolution up to 1920x1200@60Hz 4:4:4
- ☆ Support 4.95Gbps video bandwidth
- ☆ Signal transmission distance can be extended up to 328ft / 100m via CAT5E/6/6A/7 cable
- ☆ Support point-to-point signal extension
- ☆ Support signal distribution, multicast mode, distributed matrix and video wall (up to 9 x 9) functions over a 1G Network Switch
- ☆ Intelligent video wall class management makes it achievable of wall-in-wall or novel layout of wall configurations
- ☆ Support LPCM 2.0CH (32/44.1/48KHz) audio format
- ☆ Encoder supports HDMI local loop output
- ☆ Support audio embedding and extracting
- ☆ Support USB/KVM function (one to one & one to many), and bidirectional IR/RS-232 control (pass-through & Guest mode)
- ☆ Support main stream and sub stream encoding modes
- ☆ Stream parameters can be set via API commands
- ☆ Controlled via panel buttons, IR, RS-232, TCP/IP, Web GUI and Controller Box
- ☆ Support POE function (802.3af Class 3, PD mode)
- ☆ Smart networking design for easy and flexible installation

### 3. Package Contents

Qty	Item
1	2K60 over IP 100M/1GbE Encoder
3	3-pin Phoenix Connector (3.81mm, male)
1	IR Blaster Cable (1.5 meters)
1	IR Receiver Cable (1.5 meters)
4	Machine Screw (KM3, 4mm)
2	Mounting Ear
1	12V/1A Locking Power Adapter
1	User Manual

or

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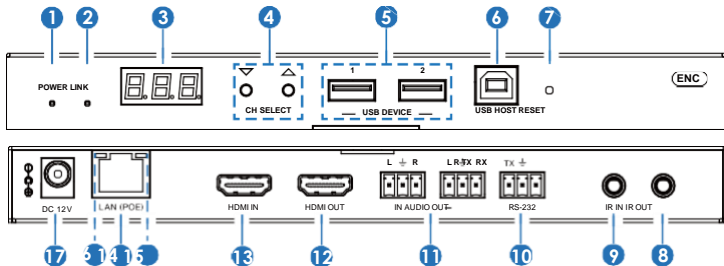
### 4. Specifications

Technical	
HDMI Compliance	HDMI 1.4
HDCP Compliance	HDCP 1.4
Video Bandwidth	4.95Gbps
Video Compression Standard	H.265/H.264
Transmission Distance	100m (CAT5E/6/6A/7)
IR Level	12Vp-p
IR Frequency	Wideband 20 k - 60 KHZ
Video Resolution	Up to 1920x1200@60Hz 4:4:4
Color Space	RGB4:4:4, YCbCr 4:4:4, YCbCr 4:2:2
Color Depth	Input: 8-bit, 10-bit, 12-bit (1080p@60Hz); Output: 8-bit
Audio Formats	LPCM 2.0CH (32/44.1/48KHZ)

<b>Connection</b>	
Encoder	1x HDMI IN [Type A, 19-pin female] 1x HDMI OUT [Type A, 19-pin female] 1x AUDIO IN [3-pin phoenix connector] 1x AUDIO OUT [3-pin phoenix connector] 1x RS-232 [3-pin phoenix connector] 1x LAN [RJ45 connector, POE] 1x IR IN [3.5mm audio jack, 12V IR] 1x IR OUT [3.5mm audio jack, 12V IR] 1x USB Host [Type B, 4-pin female] 2x USB Devices [Type A, 4-pin female]
Decoder	1x HDMI OUT [Type A, 19-pin female] 1x LAN [RJ45 connector, POE] 1x AUDIO OUT [3-pin phoenix connector] 1x RS-232 [3-pin phoenix connector] 1x IR IN [3.5mm audio jack, 12V IR] 1x IR OUT [3.5mm audio jack, 12V IR] 2x USB Devices [Type A, 4-pin female]
<b>Mechanical</b>	
Housing	Metal enclosure
Color	Black
Dimensions	Encoder / Decoder: 204mm [W] x 95mm [D] x 21.5mm [H]
Weight	Encoder: 472g, Decoder: 468g
Power Supply	Input: AC100 - 240V 50/60Hz, Output: DC 12V/1A
Power Consumption	Encoder: 4.08W, Decoder: 2.76W
Operating Temperature	14 - 113°F / -10 - 45°C
Storage Temperature	-4 - 140°F / -20 - 60°C
Relative Humidity	20 - 90% RH (no condensing)

# 5. Operation Controls and Functions

## 5.1 Encoder Panel



No.	Name	Function Description
1	POWER LED (Red)	The LED flashes at 1 Hz during the system startup, and the LED is always on after the startup is complete.
2	LINK LED (Green)	<p>Network connection status LED.</p> <ul style="list-style-type: none"> <li>Light on: Network is connected well, and there is compatible signal (the resolution is less than 1920*1200, and the frame rate is less than 60) access.</li> <li>Light flashes at 1Hz: Network is connected well, but there is not video input.</li> <li>Light flashes at 10Hz: Network is connected well, but the accessed signal is incompatible (resolution is greater than 1920*1200, or the frame rate is greater than 60).</li> <li>Light off: Network is not connected.</li> </ul>
3	LED screen	<p>Displays IP address, ID etc information.</p> <p><i>Note: When clicking the SHOW ME option of the corresponding machine on the Controller, the LED screen of the corresponding machine will flash "SHO", so that you can find the corresponding machine in the system.</i></p>
4	CH SELECT	Used to set Encoder ID and other settings.
5	USB DEVICE	Connect to Key or Mouse.
6	USB HOST	USB-B connector for connecting a PC as KVM function.
7	RESET	System reset button. Press and hold this button for 5 seconds, the system will restart and restore factory settings.

8	IR OUT	IR signal output port.
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9	IR IN	12V IR signal input port.
10	RS-232	RS-232 serial port, supporting signal pass-through and local serial port control.
11	IN-AUDIO-OUT	AUDIO IN: Analog stereo audio input port. Connect to an audio input source device. AUDIO OUT: Analog stereo audio output port. Connect to an audio output device.
12	HDMI OUT	HDMI local loop output port, connect to an HDMI display device such as TV or monitor.
13	HDMI IN	HDMI input port, connect to an HDMI source device such as DVD or Set-top box with an HDMI cable.
14	LAN (POE)	100M/1G Network port. Connect to a Switch/Router/Hub for data transmission or POE function.
15	Link Signal Indicator lamp (Green)	<ul style="list-style-type: none"> <li>▪ Illuminating: The network cable is connected normally.</li> <li>▪ Dark: The network cable is not connected well.</li> </ul>
16	Data Signal Indicator lamp (Yellow)	<ul style="list-style-type: none"> <li>▪ Flashing: There is data transmission.</li> <li>▪ Dark: There is no data transmission.</li> </ul>
17	DC 12V	<p>The device can be powered via two methods:</p> <ul style="list-style-type: none"> <li>▪ Local DC 12V/1A power supply</li> <li>▪ POE from Network Switch. Device acts as PD mode.</li> </ul> <p>When the Switch supports POE function, DC power supply is not needed.</p>

**Notes:**

*Encoder can choose HDMI audio input or external audio embedding. It can be set through the CH SELECT buttons on the front panel of the Encoder. (The default setting is HDMI audio input.)*

*If it is set to HDMI audio input, the L/R OUT output of Encoder is HDMI audio loop out. If it is set to external audio embedding, the L/R IN input of Encoder is the input of external audio embedding, and the L/R OUT output is the external audio embedding loop out.*

**Description of the LED screen and CH SELECT buttons (For the Encoder).**

- 1, After the system is powered on, the Encoder's LED screen will show the ENC ID (000 by default if not set).
- 2, Press and hold the UP button for 5 seconds, the Encoder's LED screen will show in sequence "IP:", "xxx", "xxx", "xxx", "xxx", which is the IP address of the Encoder.
- 3, Press and hold UP + DOWN buttons at the same time for 5 seconds, then release to enter the "Configuration" mode with "CFN" displaying on the LED screen.



- 4, For Channel ID settings, press the UP or DOWN button to display the current ID number (e.g. 001) on the LED screen. Press and hold UP + DOWN buttons for 5 seconds, then release to enter the “ID Settings” mode. The ID number (e.g. 001) on the LED screen will flash at 1Hz, then press the UP or DOWN button to select the Channel ID you desired, then press and hold UP + DOWN buttons for 5 seconds to confirm the setting and stop flashing.
- 5, For EDID ID settings, press the UP or DOWN button until the LED screen shows “E00” (in which “E” refers to EDID, “00” to EDID ID). Press and hold UP + DOWN buttons for 5 seconds, then release to enter the “EDID Settings” mode. The EDID ID number (e.g. E01) on the LED screen will flash at 1Hz, then press the UP or DOWN button to select the EDID ID you desired, then press and hold UP + DOWN buttons for 5 seconds to confirm the setting and stop flashing.
- The corresponding EDID ID is as follows:

EDID ID	EDID Description
00	H1080P60_2CH
01	H720P60_2CH
02	D1024P60
03	D1080P60
04	D1200P60
05	H1200P60_2CH
06	COPY
07	USER1
08	USER2

**Notes:**

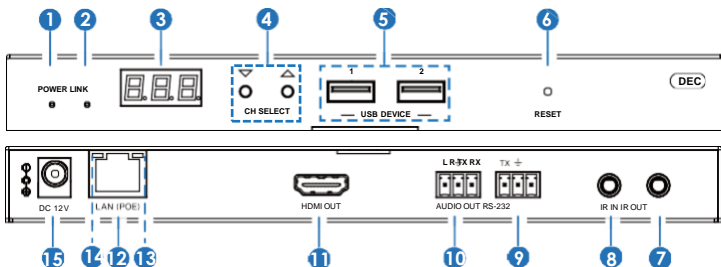
- (1) *H* refers to HDMI; *D* refers to DVI. (The default EDID of 1080p60 will be used if you have not previously copied the EDID to ID 06 or downloaded EDID to ID 07/08 on the controller box web page.)
- (2) EDID ID 06/07/08 is not available without Controller Box.
- 6, For audio options settings, press the UP or DOWN button until the LED screen shows “AHE” (in which “A” refers to Audio and “HE” to HDMI EMB). Press and hold UP + DOWN buttons for 5 seconds, then release to enter the “AUDIO Settings” mode. The audio option (AHE or AEI) on the LED screen will flash at 1Hz, then press the UP or DOWN button to select the AUDIO option, then press and hold UP + DOWN buttons for 5 seconds to confirm the setting and stop flashing.

The corresponding audio options are as follows:

AHE: Use HDMI Audio

AEI: Use external Audio In

## 5.2 Decoder Panel



No.	Name	Function Description
1	POWER LED (Red)	The LED flashes at 1 Hz during the system startup, and the LED is always on after the startup is complete.
2	LINK LED (Green)	Network connection status LED. <ul style="list-style-type: none"> <li>Light on: Network is connected well, and there is video data.</li> <li>Light flashes: Network is connected well, but there is no video data.</li> <li>Light off: Network is not connected.</li> </ul>
3	LED screen	Displays IP address, ID etc information. <i>Note: When clicking the SHOW ME option of the corresponding machine on the Controller, the LED screen of the corresponding machine will flash "SHO", so that you can find the corresponding machine in the system.</i>
4	CH SELECT	Used to set Decoder ID and other settings.
5	USB DEVICE	Connect to Key or Mouse.
6	RESET	System reset button. Press and hold this button for 5 seconds, the system will restart and restore factory settings.
7	IR OUT	IR signal output port.
8	IR IN	12V IR signal input port.
9	RS-232	RS-232 serial port, supporting signal pass-through and local serial port control.
10	AUDIO OUT	Analog stereo audio output port. Connect to an amplifier or loudspeaker through a 3-pin phoenix connector. It follows the audio output of the Encoder.

11	HDMI OUT	HDMI output port, connect to an HDMI display device such as TV or monitor.
12	LAN (POE)	100M/1G Network port. Connect to a Switch/Router/Hub for data transmission or POE function.
13	Link Signal Indicator lamp (Green)	<ul style="list-style-type: none"> <li>▪ Illuminating: The network cable is connected normally.</li> <li>▪ Dark: The network cable is not connected well.</li> </ul>
14	Data Signal Indicator lamp (Yellow)	<ul style="list-style-type: none"> <li>▪ Flashing: There is data transmission.</li> <li>▪ Dark: There is no data transmission.</li> </ul>
15	DC 12V	<p>The device can be powered via two methods:</p> <ul style="list-style-type: none"> <li>▪ Local DC 12V/1A power supply</li> <li>▪ POE from Network Switch. Device acts as PD mode.</li> </ul> <p>When the Switch supports POE function, DC power supply is not needed.</p>

#### **Description of the LED screen and CH SELECT buttons (For the Decoder).**

- 1, After the system is powered on, the Decoder's LED screen will show the ID of the connected Encoder (000 by default if not set).
- 2, Press and hold the UP button for 5 seconds, the Decoder's LED screen will show in sequence "IP:", "xxx", "xxx", "xxx", "xxx", which is the IP address of the Decoder.
- 3, Press and hold UP + DOWN buttons at the same time for 5 seconds, then release to enter the "Configuration" mode with "CFN" displaying on the LED screen.
- 4, For Channel ID settings, press the UP or DOWN button to display the current ID number (e.g. 001) on the LED screen. Press and hold UP + DOWN buttons for 5 seconds, then release to enter the "ID Settings" mode. The ID number (e.g. 001) on the LED screen will flash at 1Hz, then press the UP or DOWN button to select the Channel ID you desired, then press and hold UP + DOWN buttons for 5 seconds to confirm the setting and stop flashing.
- 5, For output resolution settings, press the UP or DOWN button until the LED screen shows "S00" (in which "S" refers to Scaler and "00" to resolution ID), then press and hold UP + DOWN buttons for 5 seconds, then release to enter the "Output Resolution Settings" mode. The Resolution ID number (e.g. S01) on the LED screen will flash at 1Hz, then press the UP or DOWN button to select the Resolution ID you desired, then press and hold UP + DOWN buttons for 5 seconds to confirm the setting and stop flashing.

The corresponding output resolution ID is as follows:

Resolution ID	Resolution Description
00	Pass Through (default)
01	1080P60
02	1080P50
03	1080P30
04	1080P25
05	1080P24
06	720P60
07	720P50
08	576P50
09	480P60
10	640X480P60
11	800X600P60
12	1024X768P60
13	1280X800P60
14	1280X1024P60
15	1366X768P60
16	1440X900P60
17	1600X1200P60
18	1680X1050P60
19	1920X1200P60