IQS4

Driving large-scale video walls in mission-critical environments

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DATAPATH
EXCELLENCE BY DESIGN

IQS4

Datapath's IQS4 enables large-scale, multi-output video wall applications. The compact splitter solution takes a single 4K input and splits it out into four HD outputs. All with zero latency with no configuration needed.

Feature highlights

■ **Drive video walls of up to 96 HD displays**

■ **Zero Latency**

■ **Zero Configuration**

■ **HDCP Compliant**
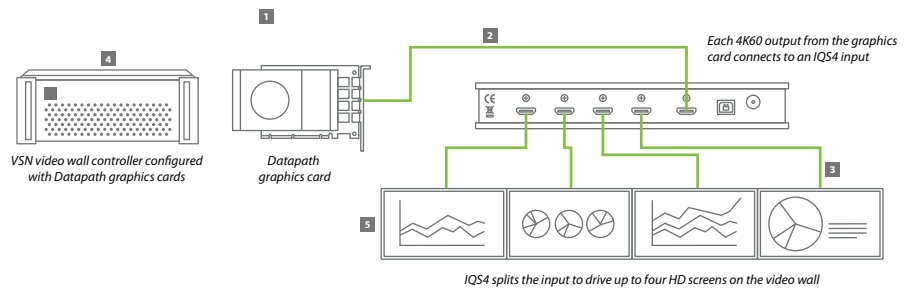
■ **VESA or Rack mountable**

Driving large-scale video walls

When paired with Datapath Image4K or Image2K graphics cards, IQS4 enables video walls of up to 96 HD screens to be driven with zero latency and full synchronization. Each 4K output from the graphics cards is split using IQS4 to drive four independent HD displays.

A video wall controller configured with six Image4K graphics cards provides 24 4K60 outputs, which delivers 96 HD signals when connected to IQS4 units.

Supporting features

1 Image4K and Image 2K graphics cards are supported

2 IQS4 splits the input with zero latency

3 IQS4 maintains timing synchronization across all 4 outputs

4 Outputs can be placed and positioned in any location on the video wall

5 Where required, IQS4 units can drive just one, two or three available outputs

Each 4K60 output from the graphics card connects to an IQS4 input

VSN video wall controller configured with Datapath graphics cards

Datapath graphics card

IQS4 splits the input to drive up to four HD screens on the video wall
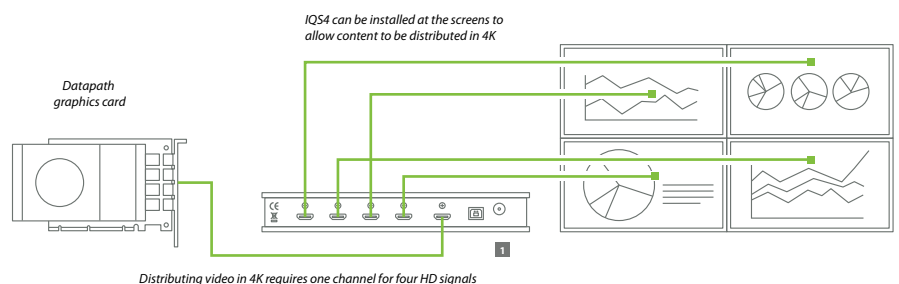
Consolidate & simplify

IQS4 gives integrators and installers the option to distribute video in full 4K and split signals local to the video wall. This simplifies the overall solution by delivering four HD outputs over a single connection, reducing the number of extenders required.

Supporting features

1 IQS4 units can be VESA mounted behind screens or installed in a local 19" rack

IQS4 can be installed at the screens to allow content to be distributed in 4K

Datapath graphics card

Distributing video in 4K requires one channel for four HD signals
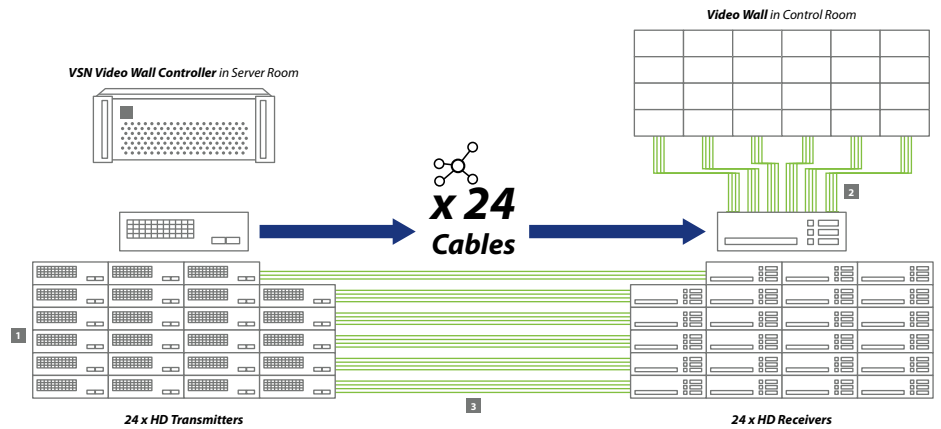
Worked example

This example shows a comparison for a basic video wall installation with and without IQS4 splitters. The install consists of a single 6x4 video wall which is powered by a single VSN video wall controller. The VSN is installed in a remote server room.
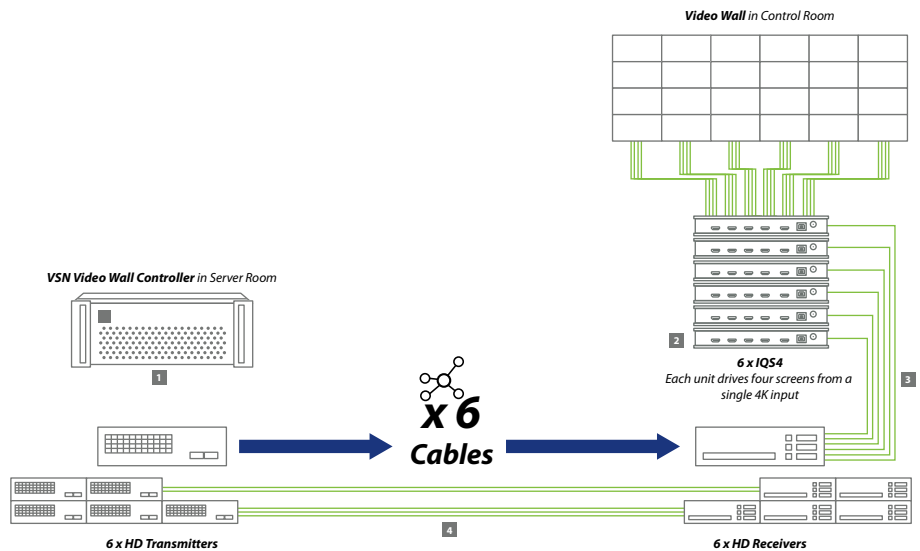
Supporting features

1. Each HD output is connected to a HD extender and routed to the video wall
2. The HD receivers connect directly to the screens
3. Dedicated mains power may be required for all transmitters and receivers (48 in total)

Video Wall in Control Room

VSN Video Wall Controller in Server Room

x 24 *Cables*

24 x HD Transmitters

24 x HD Receivers

Supporting features

1. Content is arranged onto 4K outputs (four HD per output)
2. Each 4K output is connected to a 4K extender and routed to the video wall
3. The 4K receivers connect to the IQS4 units
4. Dedicated mains power may be required for all transmitters, receivers and IQS4 (18 in total)

Video Wall in Control Room

VSN Video Wall Controller in Server Room

x 6 *Cables*

6 x IQS4
Each unit drives four screens from a single 4K input

6 x HD Transmitters

6 x HD Receivers

Bill of materials comparison

IQS4 simplifies and strengthens large video wall installations. Routing multiple HD signals over 4K HDMI extenders reduces the number of hardware devices needed for any given solution. This in turn reduces the number of cable runs and power supplies needed, which simplifies the overall solution while increasing reliability.

Item	Quantities	
	without IQS4	with IQS4
VSN video wall controller	1	1
Image4K graphics card	0	2
Image2K graphics card	6	0
Aligo receiver	0	6
4K extender TX	0	6
4K extender RX	0	6
HD extender TX	24	0
HD extender RX	24	0
Power points in rack	26	8
Power points at video wall	48	36
1Gb network ports required (if switching)	24	0
10Gb network ports required (if switching)	0	6

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Streamline controller capacity

By processing and splitting signals outside of the video wall controller, IQS4 units reduce the overall number of graphics cards needed to drive any given video wall. This reduces load in the video wall controller and optimizes capacity, freeing up more capacity for required capture or IP decode cards to be installed.

Install anywhere

Flexible mounting options mean the IQS4 can be used for any application. When installed on the video wall or screen, the IQS4 can be discreetly VESA mounted directly behind displays.

Where IQS4 units are hosted with the video wall controller, rack mount options are available depending on the number of IQS4 units required. The 1U rack mount kit houses two IQS4 units and the 6U rack mount kit holds 10 IQS4 units. Both rack mount kits provide redundant power making them ideal for mission-critical applications.

There is the option to directly install IQS4 units onto workstations or any flat surface, providing fully flexible install options for projects of any size and complexity.

1U Rack Mount Kit, 6U also available.

Beyond screen loop-through

Many modern video wall screens provide built-in splitting capability, using signal loop-through to display a single input signal across multiple screens. IQS4 delivers beyond this built-in capability and offers:

- **Flexibility to drive any screen configuration**
  - Mix makes and models of screen
  - Mix landscape and portrait orientations
  - Use non '2x2' blocks to easily configure 'odd' wall sizes (e.g. 3x3, 5x3)

- **Resiliency against display failures**
  - A single display failing will not cause others to fail as it does when using loop-through

- **Pristine quality – IQS4 supports 60 fps end-to-end**

- **Scalability – IQS4 can be used to drive video walls of up to 96 HD outputs without upscaling any content**

Technical Specification

SIZE	**VIDEO OUTPUT CONNECTIONS**
205mm (l) x 161mm (w) x 31mm (h)	4 x HDMI 1.4 (1920 x 1080@60)
OPERATING TEMPERATURE	**STORAGE**
0℃ to 35℃ / 32°F to 96°F	-20℃ to 70℃ / -4°F to 158°F
POWER REQUIREMENTS	**RELATIVE HUMIDTY**
12W	5% - 90% non-condensing
VIDEO INPUT CONNECTION	**WARRANTY**
1 x HDMI 2.0 (7680 x 1080@60)	3-year standard, 5-year extended (optiona)

Extender compatability

The IQS4 fully conforms to HDMI specification and any fully compliant extension technologies. Premium HDMI cables and Active Optical cables are fully supported. HDMI extenders must fully support a resolution of 7680x1080p, 60fps, 4:4:4 18Gbps with no compression to work. The IQS4 supports additional color spaces however please contact Datapath with the make and model of extenders you wish to use to confirm suitability. SDVoE and HDBaseT are not supported.

For more information on our wide range of video distribution systems, contact us on **+44 (0) 1332 294441 (UK)** or **+1 484 679 1553 (US)** alternatively email **sales@datapath.co.uk**.

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