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UHD SWITCHER



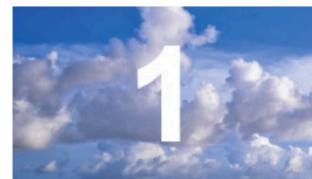
UHD Production with Acuity is very straightforward. Designed with robust processing power, this switcher accommodates 4K signals without feature restriction or limitation.

Understanding Methods of UHD Interconnect - Quad Links

Currently, the typical signal interconnect for uncompressed UHD is accomplished using quad (4) HD-SDI links at 3Gb/s with each link containing a 1920x1080 progressive video signal that represents 1/4 of the original image. There are two common formats for transporting UHD via quad link signals:

Square Division Quad Split:

Each link contains one quarter of the original image



Link 1 1920 x 1080



Link 2 1920 x 1080



Link 3 1920 x 1080



Link 4 1920 x 1080

Using the Square Division Quad Split method, it is necessary to reassemble the quad split in a 4K display for monitoring purposes.

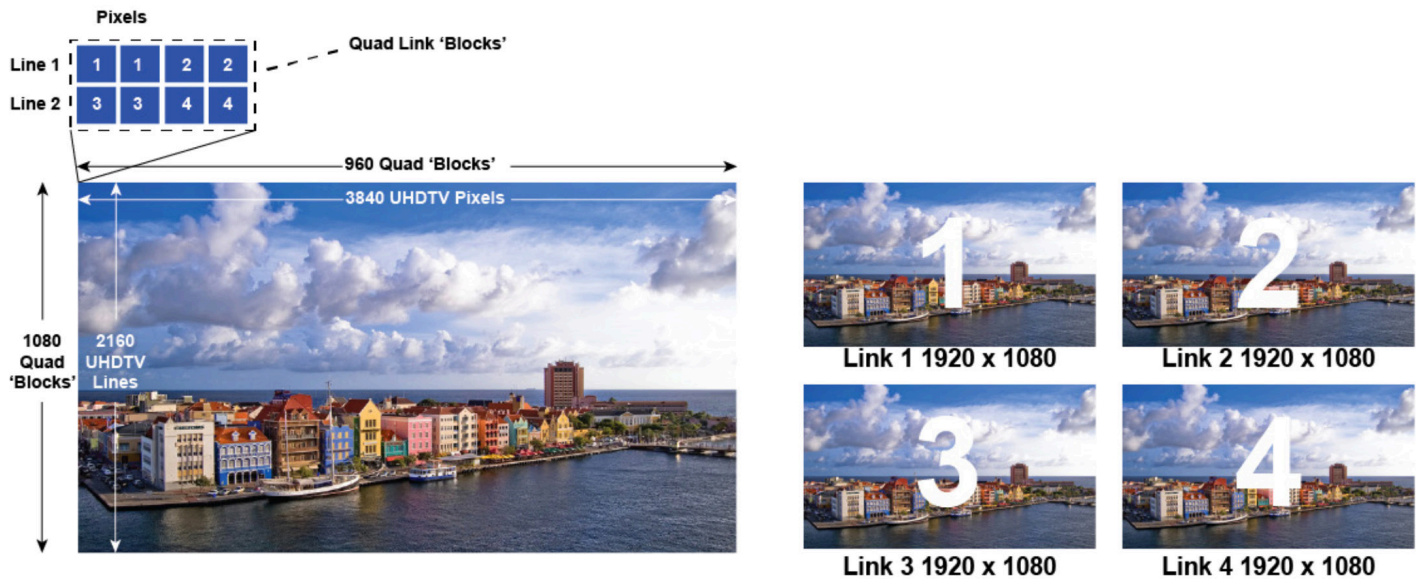
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Quad Link 2 Sample Interleave (2SI):

Each link contains a full image at 1/4 resolution.



The 2SI method allows picture monitoring on standard 1080P displays as each link carries the whole image at 1/4 of its original resolution.

Acuity can accommodate either interconnect method of Quad Link:

With QSD the Image is chopped up into four independent quadrants. Acuity MultiProcessing input Cards can accept 2 out of the 5 sources as QSD links. Acuity also offers 12G SDI single link connections as well. With Acuity, all of the UHD connectivity methods are supported! No need to worry about what a remote production may face since Acuity will accept all of the UHD flavors.

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UHD Production with Acuity

As each 4K signal input is carried on 4 x 3G HD-SDI links, the physical I/O must be divided by four. Acuity is available in two frame sizes:

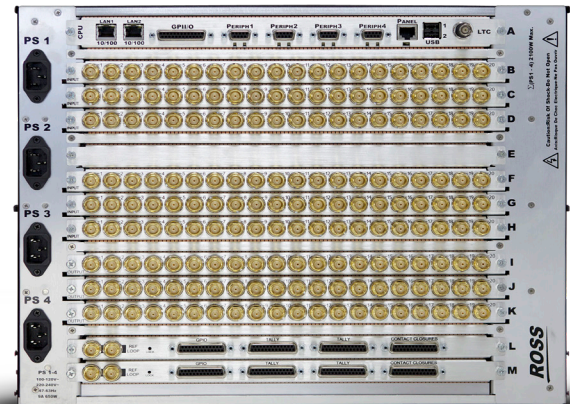
4RU Frame:

- Maximum I/O count of 60 x 40
- Can accommodate up to 6 full MEs
- Can accommodate 15 x 10 4K signals



8RU Frame:

- Maximum I/O count of 120 x 60
- Can accommodate up to 8 MEs
- Can accommodate 30 x 15 4K signals



Acuity's 4K ME's are created by linking or combining the resources of 2 individual 1080P ME's. See how on the next page...

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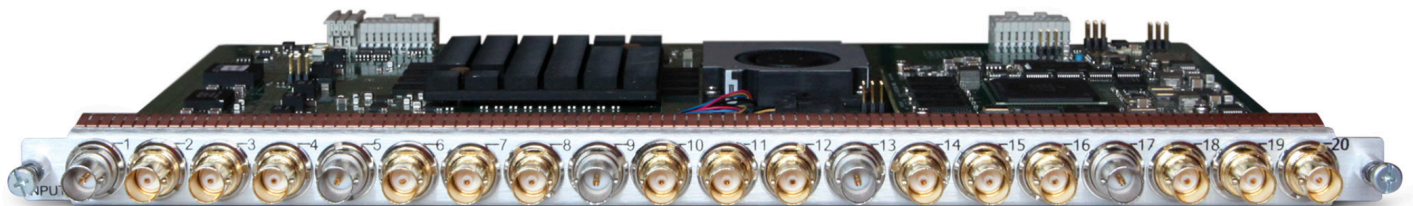
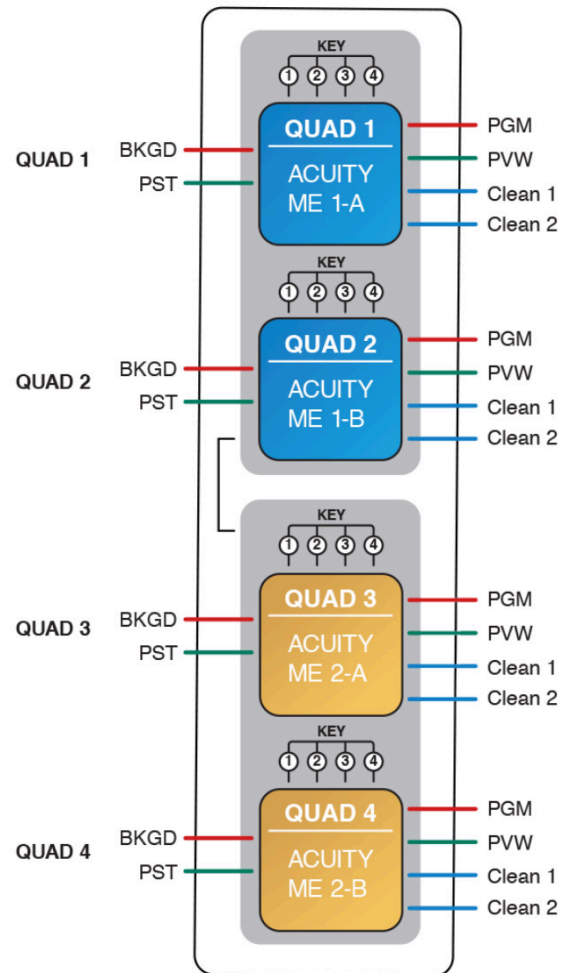
Acuity's unique MultiFeed™ feature allows a single 8 keyer ME to be split in to two when used for 4K, allowing two eight key 1080P ME's to become one 4K ME with 4 keyers:

- The 4RU frame offers up to 3 x 4K ME with 4 keys
- The 8RU frame provides a maximum of 4 x 4K ME's with 4 keys.

Naturally in either frame UHD and HD Sources can be intermixed simultaneously. Since all 3G BNCs are present (even on the 12G SDI board) each input can be either:

- 1 UHD (Single Link 12G or Quad Link)
- Used for 4 SD/720p/1080i/1080p sources.

The MultiProcessing input boards can accommodate up to 8 SD/720p/1080i sources and convert them to 1080p. Acuity does all of the 1080p to UHD conversion directly in the MEs so no resource are lost and system I/O is not lost for doing UHD up-conversion directly on the I/O. An 8RU Acuity might be 30 UHD inputs or possibly 20 UHD and another 40 HD/3G inputs making for quite a large production system.



Want to learn more about the Acuity 12G SDI MultiProcessing Input Board and how it can simplify your productions? [Click here to learn more](#)

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Additional Features

MultiViewers:

In addition to the Input-Based MultiViewers on the 12G MultiProcessor Input Board, any unused ME may be repurposed as a 20 source, Dual Head Multiviewer for production monitoring and can display square division quad link sources on a standard 1080 display - by selecting an appropriate layout. Of course, 2SI sources can be monitored in any window by selecting any one of the 4 links.

DVE / Resizers:

Every UHD ME has 8 channels of 2D DVE / Resizers with key combiner as standard. Allowing up to 8 DVE boxes to be keyed over any ME in the 4 available keyers. Each ME has the option to add 1 channel of full 3D DVE, containing both Key and Fill signals or to be used for a 2 Box effect in a single keyer.

Media Stores:

Acuity houses two channels of media store for every ME, as well as one channel of global media storage. These stores can be linked together to allow instant synchronous playback of UHD video with Alpha stills, animations and media/graphic transitions. Media store content can be quickly saved and loaded from the internal 240GB SSD drive and drive content is easily managed via FTP connection.

KEY UHD FEATURE RECAP

- 15 x 10 quad link I/O via Quad Link or 12G SDI in 4RU
- 30 x 15 quad link I/O via Quad Link or 12G SDI in 8RU
- 6 Control Panel sizes to choose from
- Up to 4 x 4Key UHD ME's (8RU Frame)
- Up To 9 UHD Channels of Media Stores with full Still, Animation and Media Transition Playback
- 8 Channels of 2D DVE with Key Combiners per UHD ME
- Internal MultiViewers via unused ME's or from Input MultiViewers on the MultiProcessing Input Boards

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ACUITY PRODUCTION ENGINE SPECIFICATIONS

- Multi-Definition support for any of the following formats: 525, 625, 1080i 50, 1080i 59.94, 720P 50, 720P 59.94, 1080P 24, 1080PSF 24, 1080PSF 23.98, 1080p50 A, 1080p59.94 A UHDTV1 - 3860x2160p50, 3860x2160p59,94 (Quad Link or 12G Single)
- MultiFeed™ - 4 Configurable outputs per UHD ME, 3 PGM and 1 PV
- Full 10-Bit Processing in all Video Operation Modes
- 1 UltraChrome™ Chroma Keyer with Super Fine Keying Quality in every UHD ME
- Up to 9 Channels of UHD Media Store
- Border Generator with advanced Key Trails and Key Smear effects per UHD ME
- 8 Channels of 2D DVE's per UHD ME with Key Combiner
- 1 Powerful 3D DVE per UHD ME (Optional) including Video+Key or 2 Box Effects
- 5 Powerful Pattern Generators and 1 Complex Wash Generators per UHD ME
- Proc AMP and RGB Colour Correction - Per ME for Bus and Input Modes
- Hard Disk Drive for Storing Configurations, Stills, Animations and Clips
- 1000 Event Memory System and 2304 Custom Control Macros per Setup File
- 10 GPI, 10 GPO, 24 User Configurable GPIO, 36 Tally and 24 Contact Closures
- A massive list of device control protocols
- Lifetime Software Updated via Ross Website, Lifetime Telephone Support