

Application Note

Live Production Format Handling

March 2011

Kahuna provides full picture and fingertip control in live multi-platform, multi-format switching environments

In broadcast television, it is the live production scenario that differentiates the key players. Whether it is news or sports, the best broadcasters have an ability to maintain their brand values within the most demanding and fast-moving of live production scenarios.

In today's multi-screen world the need for production teams to support a far wider range of formats both as inputs and outputs puts a whole new series of demands on them. A broadcast media organization's ability to handle multiple formats in live production is implicit alongside its ability to produce top quality programs.

The perfect solution is a dynamic live production workflow where the team can ingest any input from standard definition (SD) right up to full 1080p high definition (HD) and conversely output the same content in any format, as a particular distribution platform requires.

Kahuna - a family of multi-format live production video switchers that are designed to empower program producers to handle the widest range of input and output formats.

This is exactly what Snell has achieved. The product of a major research initiative, Snell has developed Kahuna, a family of multi-format live production video switchers that are designed to empower program producers to handle the widest range of input and output formats.

The latest introduction within this advanced switcher family is Kahuna 360 - the solution to future-proof flexibility, efficient and cost-effective broadcast operations, enabling maximum creativity and mission critical reliability.

Kahuna 360 blends the family's powerful feature set with unique adaptability that lets the operator support multiple simultaneous productions output to a range of delivery platforms. This approach maximizes freedom in combining switcher elements, keyers, DVE and effects to create literally any on-air look and feel.

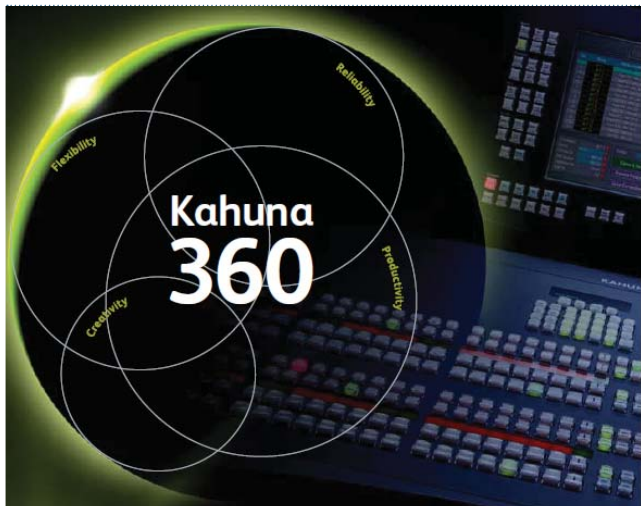
Essentially in today's environment, this switcher's new and radically different approach increases the life of, and return on your switcher investment.

Flexibility supports creativity in live environments

Whilst the majority of new live production installations today are HD, there is still a significant need to support SD material within the workflow. In a news environment, producers often need to draw on archive material which may date back several decades. At other times - for example when a big news story is breaking - the producers may want to broadcast user generated content, which could have been captured on a mobile phone and fed into the production center over a Skype link.

The ability to capture, process and distribute this content in a live environment can be the difference between being the broadcaster that breaks the story and just being another player in the pack.

Kahuna has been designed from day one with these production needs in mind. If material is provided in 4:3 format, but the program is transmitted in 16:9 then the system will make the necessary changes automatically without reducing M/E resources on the switcher. With user generated material, Kahuna Watch software captures, converts and stores this content within its Clipstore and makes it available for it to be dropped into the workflow as and when required.



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Format agnostic operation – from SD to 3D

Radical thinking and revolutionary concepts have their place in modern broadcast operations but so do consistency, reliability and support.

From SD to the gold standard 3 Gigabit/sec 1080p High Definition, each video signal is recognized within the Kahuna family. At its heart is Snell's proprietary FormatFusion3 technology, which simultaneously supports any combination of SD, HD, and 3G/1080p inputs and outputs, seamlessly converting them to and from the required video standard. It provides total format freedom with unrestricted mixing of signal types across 120 inputs and 64 outputs.

This advanced facility eliminates the need for external format conversion equipment and reduces capital cost. Also, it removes system timing issues and saves engineering and set up time typically needed for mobile production units and other dynamic environments.

Output format versatility

In a live production environment output format selection is a key consideration. The ultimate goal is 1080p high definition, however the world's broadcast infrastructure today is interlace and will remain so for some considerable time. SD/HD simulcasts are commonplace and the burgeoning range of new distribution platforms require considerable further versatility in output formats.

All of these requirements have been integrated within Kahuna from the earliest stages of its design and development. It supports 1080p, so archived material has the longest shelf life, and at the same time it can output 1080i and a range of other SD feeds to drive different services for a choice of delivery platforms. What is important in a live production environment is that Kahuna synchronizes the timing of these various outputs, matching audio and signal distribution across the range of delivery platforms.

This is an important facility since it provides an unrivalled implementation without additional infrastructure costs or production delays.

India TV recognizes Kahuna's power and potential in live environments

India TV is currently installing five Kahuna HD/SD multi-format production switchers to support its 24/7 live news operation. The Kahuna switchers, three of which have already been installed, are a central component in India TV's new 125,000-square-foot, state-of-the-art broadcast center in Noida, India, replacing previously rented equipment and enhancing production capacity as the broadcaster expands to multi-channel operations.

"News is very important for Indian television viewers, and they demand round-the-clock access to the latest developments in current and breaking news. Therefore, it is extremely

important that our operation be run with only the most reliable equipment," said Mr. Vinod Kala, vice president (technical) for India TV. "When we began evaluating production switchers to support our programming expansion, Kahuna was an obvious choice. The switcher has an outstanding reputation for flexibility and reliability, and Snell's support and service is one of the best in the industry."

India TV is currently on air with a single Hindi-language channel, but it will shortly add an additional three channels to its lineup. When the time came to make a capital investment in switching technology, India TV chose Snell Kahunas based on their built-in features for redundancy as well as their ability to handle many functions, such as stills stores and RAM recorders, which typically require the purchase of peripheral equipment. During live news production, India TV producers can easily add complex, multi-layered effects that might otherwise have required expensive post-production work. Kahuna's multi-format capabilities for seamless mixing of SD sources into HD broadcasts will provide a smooth migration path to HD for the broadcaster in the future.

Kahuna 360 - the solution to future-proof flexibility, efficient and cost-effective broadcast operations, enabling maximum creativity and mission critical reliability.