

Case Study

Kahuna Multi-Format Switcher Supports Broadcast Station Growth in Southern China



Kahuna switchers provide efficiency, security and intuitive HD migration pathway at TVS.

The Customer

Located in Guangzhou City, TVS is the largest broadcaster in southern China servicing Guangdong Province and Hong Kong. Since going to air in 2001, TVS has built an impressive 20 per cent viewer share.

TVS operates six channels and currently broadcasts four live daily newscasts in Cantonese and Mandarin, as well as locally produced entertainment shows and soap operas mainly in Cantonese.

The Challenge

Without doubt, China's tiger economy is one of the strongest and most rapidly growing worldwide. A burgeoning Chinese middle class have increasing levels of disposable income and they have a growing appetite for home entertainment, and especially high definition television (HDTV).

In the challenging and rapidly growing Chinese broadcasting industry, TVS

established that in order to stay competitive it must attract additional viewers as well as new income streams from advertising and subscriptions. It viewed HDTV as a prime vehicle to help meet this objective.

This raised an important strategic challenge: how to cost effectively migrate their operations to support HDTV broadcasts and meet their viewers' growing demand for HD content, whilst also allowing them to continue incorporating SD legacy material into broadcasts.

Since a complete equipment change-out to HD is far beyond the budget for a typical Chinese station, TVS focused on how to leverage its existing investment in infrastructure and content to support the HD conversion. How can they invest in an HD future whilst simultaneously supporting a multi-format present and a massive standard definition legacy?

As part of that challenge they also had to devise a strategy that would guarantee that the station would stay on air in the event of an equipment failure.

Kahuna was selected for a number of reasons, one being that it features a Snell technology called FormatFusion™, which enables simultaneous SD and HD operations in the same mainframe and on the same control panel. With Kahuna, TVS can seamlessly integrate video from any SD source, such as handheld camera feeds, graphics, or archives, into HD productions without requiring up-conversion.



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The Snell Solution

Working closely with Chinese systems integrator Suntec, TVS evaluated several solutions available on the market. A broadcaster's choice of production switcher is key, since this device lies at the heart of the stations broadcasts, blending multiple video inputs and integrating digital effects within a mission critical live environment. After much research they selected the Snell Kahuna live production switcher as the core component within their upgrade strategy.

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Scalability is another key strength of Kahuna: it offers an easy and inexpensive software upgrade path for making the transition as well as being easy to expand with additional inputs, control surfaces, and M/E power. Also, in a multi-studio or station group layout, the switcher can provide networking abilities that enable studios to share resources on a daily basis – further strengthening the switcher's return on investment.

In addition, the most advanced production switchers offer broadcasters like TVS important features to guarantee system redundancy and keep the show on the air in the event of a failure. Kahuna's Shadow Switcher function enables TVS to control multiple mix/effect (M/E) units within multiple switcher mainframes from a single control surface. By linking the primary switcher mainframe with "shadow"

M/Es in an additional mainframe, TVS can instantly switch to the shadowed mainframe in the event of a system failure without any noticeable program downtime. Shadow switching is also extremely useful for stations that are simulcasting SD and HD versions of the same program, enabling the shadowed mainframe to provide the SD feed. In this manner, TVS can simultaneously drive 525, 1080i/59.94, and 720p output from a single control surface.

An important complement to shadow switching is Snell's K-Mirror software, which identifies when new stills, clips, macros, or effects memory files have been modified or added to the synchronized project on the main switcher. The software then mirrors those files back to the additional mainframes in the program, keeping both mainframes constantly in sync and ensuring that one is an exact replica of the other. In this way, K-Mirror guarantees fast, constant updates and easy file sharing across a network of switchers, and the software also automatically stores a local copy of the up-to-the-minute program files to a PC to provide a complete backup in the event of a hardware failure.

The Results

With assistance from systems integrator Suntec, TVS is in final testing and training phases for a new Kahuna production switcher configuration that utilizes shadow switching to provide full redundancy for news programs.

Also, Kahuna has the smallest mainframe, lowest weight, and lowest power consumption when compared with other large switchers – a factor which has enabled TVS to optimize the size of its control room within its broadcast center.

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As TVS has shown, security of programming and redundancy of systems has become a top priority for broadcasting – coupled with a growing need to mix in content from a variety of formats and sources to pave the way for HDTV broadcasting. With advanced features for switcher shadowing, content mirroring, and multi-format operation, advanced production switchers are becoming mandatory for today's most progressive media companies.

Although TVS is basing news production and acquisition on HD cameras (and has an HD OB vehicle), its broadcasts are still in SD – which means that Kahuna's multi-format capabilities play an important role in putting the broadcasts on the air.

Kahuna offers TVS maximum flexibility in down-converting the HD production signals for the SD broadcast, and also enables the station to mix in other external HD and SD signals with no loss of quality. Most important, TVS is well positioned to begin HD broadcasts in the near future.

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