



Golf Channel

From the Course

Golf Channel's new Morning Drive studio, known as Studio AP (Arnold Palmer, a co-founder of the channel), features four dedicated sets: a main anchor desk, an interview area, a product demonstration area and a news update desk. The new studio set is nearly four times larger than the show's original studio.

Panoramic, Ultra HD video backdrops throughout the studio make viewers feel like the Morning Drive is broadcasting from just inside the picture windows of their local clubhouse. This signature Morning Drive look is accomplished by linking twenty 90-inch Sharp and ten 52-inch Sharp monitors to create golf course morning vistas. To add realism to the backdrop, content is captured from different courses throughout the day and even through different weather conditions. This way, if the broadcast is airing during a sunny afternoon the appropriate scene can be called up and displayed.

4K Challenge

The Sharp displays are mounted in both portrait and landscape orientations. In one corner for example, ten 90-inch displays are mounted in portrait mode; while ten 52-inch displays are mounted in landscape—five along the top and bottom of the 90-inch displays (it turns out this is a fortuitous exact match).

With each of the ten 90-inch displays being 1080 X 1920 pixels, an image 10,800 pixels wide is required! This makes regular HD video displayed behind the anchor look very soft, especially when the studio camera zooms in on the talent. "We were not happy with the quality of the video we were getting using 720p source content," explains Ken Botelho, Senior Director, Engineering at Golf Channel. "It was clear we

Key Highlights

Application

Display 4K Ultra HD Video in New Arnold Palmer Studio

The Challenge

Maintain the highest possible image quality across multiple display panels

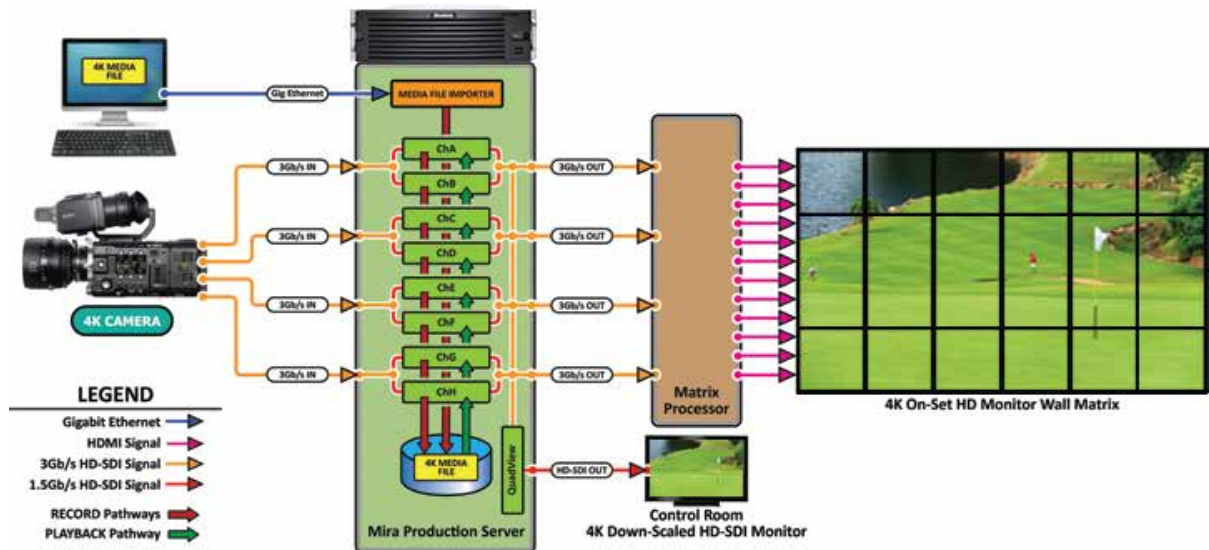
The Solution

A cost-effective, multi-channel video server for 4K 1080i playback

Benefits

- Affordable solution allows Golf Channel to display "on the course" 4K video
- Instant load of clips across multi-channel configuration allows for day-part playback
- Simple integration into switcher streamlines broadcast operation

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Delivering 4K Content to the Backdrop

A full day of video is captured from a venue in different weather conditions. Golf Channel uses a Sony F65 CineAlta Premium and Red cameras to capture the content. The recorded media are then imported into an AVID editor, where they are processed and metadata are added. Each completed file represents a course and day-part; for instance: early morning sprinklers, mid morning golfers, grounds men working, etc. Furthermore, the files are “tiled” into four 1080i video sections for display.

The resulting 1080i files are then imported into an eight channel Abekas Mira Production server for playback. The server creates a single 4K media clip which is distributed across eight separate channels via base-band real-time playback. The Abekas Mira QuadView monitor output provides scaled-down 4K video onto a single HD-SDI picture monitor—which makes 4K monitoring easier and much less costly in the control room. The Studio AP monitor wall is fed by multiple URS Vista Systems processor and matrix display drivers. The Vista is fed from Mira via four coaxial cables carrying a multiplexed 3Gb/s serial digital video signal.

Controlling the Weather

A Sony MVS8000X production switcher controls the Mira via its shotbox. Each clip for a given course, day-part, weather condition, etc. is loaded into Mira and then triggered by the TD based on direction from the show’s producer. Thanks to Mira, if the local forecast shows early morning mist, all eight video tracks instantly load into all eight video channels with

a single command—with 100% guaranteed synchronous playback with each other. “I’m sure we couldn’t have done this project without Mira,” says Botelho. “Abekas has been there for us at each step and helped us deliver the quality of images we need in our flagship studio environment.”

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