

Revitalized Raymond James Stadium Shines on Big Stage

New venue construction may grab headlines, but they aren't the only big stories. Tampa Bay's Raymond James Stadium proves that, after a renovation, what's old can be made new again.

The 2017 College Football Playoff National Championship Game was a homecoming for **Bob Becker**... sort of. The EVP of Van Wagner Sports & Entertainment (VWSE) Productions spent five years as part of the in-venue-video crew for the Tampa Bay Buccaneers before stepping away prior to the start of the 2016-17 NFL season. Now, with VWSE Productions, he was back at Raymond James Stadium to work the national-title game in a stadium that looks nothing like it did when he left.

✓ With all-new videoboards and control room, Tampa's Raymond James Stadium played host to the College Football Playoff National Championship in early 2017.

"I'm excited to come here and play with all the new stuff," he said, prior to the January 9 game. "Everything is new, and it's great. It's user-friendly, and our guys will be able to come right in and integrate with everything."

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Tampa Bay Buccaneers Get Creative With Venue-Wide Canvas at Raymond James Stadium

To enhance game day, video and audio are integrated in a big way

Raymond James Stadium was selfie-ready long before selfies were a thing. As much a hashtag-friendly backdrop as booming game-day entertainment vessel, the venue's iconic 103-ft.-long replica of an 1800s pirate ship has been a part of the game-day experience since the Tampa Bay Buccaneers defeated the Chicago Bears on Opening Day 1998. The ship's cannons may blow a lot of smoke, but the \$3 million spectacle and theatrically weathered village backdrop of Buccaneer Cove, constructed by major theme-park builder Nassal Co., are certainly pioneering elements of the image-centric modern game-day experience.

With the bar set high from the start, it's no wonder that Raymond James Stadium had to go epic with the spectacle-enhancement aspect of its \$140 million-plus multiphase renovation project. Phase 1, completed in time for the Buccaneers' 2016 season, saw the installation of 14 displays totaling more than 39,000 sq. ft. of video display and including two massive 9,600-sq.-ft. Daktronics LED boards on the ends and four 2,300-sq.-ft. HD tower walls.

The new video displays are so big that the existing south-end-zone loudspeaker cluster had to go, which meant the stadium followed the sound-enhancing trend of upgrading to a distributed audio system. Designed by WJHW and installed by AVI-SPL, the setup is composed mainly of JBL PD700 and PD6000 series loudspeakers, with pole-mounted Meyer Sound CAL 96 steerable column arrays filling in areas along the upper deck where the rigging points on lighting trusses would have been spaced too far apart for good coverage.

Now with 23 million LEDs and more than 400 loudspeakers to play with, Raymond James Stadium is steering the pirate ship in a new direction, toward enhanced integration of sound and video. The audio-system retrofit not only offers the essential benefits of a distributed system — providing more near-field sound to most seats, thereby syncing audio more precisely with video when people are speaking on-screen — but also is wired in a left-right stereo configuration to provide a pseudo-stereo image in the bowl.

That setup, combined with Waves processing added to the DSP server, provides some next-level dynamic filtering. On top of that, the system is also capable of delivering eight channels of surround effects, which means that in-house production now has a lot more tools for adding some audio effects along with some video content in the future.

"People are starting to think about what else these systems can do beyond 'third down and goal from the three,'" observed WJHW Associate Principal **Mark Graham**. Going beyond the game call to include music cues at key moments or when the teams are in a huddle is still a comparatively new production component in football, and even crowd-energizing tunes tend

to roll separate from the video content. "To think now they might start syncing multichannel sound with video capabilities that we have in these stadiums is pretty cool."

The Buccaneers crew used the offseason to develop ideas that take advantage of the new audio system's capabilities. The surround-sound element holds some unique potential, Graham pointed out, if teams develop features to be used just once or twice during a game: "If an effect happened after every play, it would likely get old."

Teams have been looking at using stadium-wide surround effects for years, but, he explained, "developing the content requires creativity in the content production and then literally sitting very tediously in the bowl with your audio software, testing and tweaking and tuning how it reacts in the stadium, and adjusting levels accordingly." Few teams have implemented it to great effect, other than the Tennessee Titans in past seasons and the Denver Broncos' new stampede effect unveiled last season.

Wrapping sound around the stadium would be the next logical step for venues embracing screen-domination features and moments of exclusivity for sponsor partners. The Buccaneers are way ahead there, having worked with Daktronics Creative Services to produce more than 100 pieces of custom video content, several designed to be shown as one continuous visual across multiple displays within the stadium.

The stadium as massive, unified video display is one of the newest ways that venues are upping the ante on takeover moments, observed Daktronics Creative Director **Bob Lee**. And an accompaniment of all-encompassing audio might not be far behind.

"Everybody is looking for the next great way to help partners get their message exposed," he said, "whether it's parts of the features or game-day show or social media. But what's been very impressive are the takeover moments, at times in the game when fans are not necessarily staring at displays, to draw their attention by accompanying the video with sound. That really gives it a pop and gets a reaction from fans."

Daktronics worked closely with the in-house team to make sure the stadium's wide array of canvases were effectively tied together to represent all the big moments, as well as the smaller stories that color the game-day experience.

Development of the video content continued throughout the Buccaneers 2016-17 season, as Raymond James personnel observed crowd response and tested new capabilities.

"The goal is to create this 'wow' moment of exclusivity for a sponsor or the team," said Daktronics Creative Services Account Manager **Fred Doremus**. "That's what everybody seems really focused on." — *Kirsten Nelson*

> What's old is new again at Raymond James Stadium, home of the NFL's Tampa Bay Buccaneers.



Before the start of the NFL season, Raymond James underwent a comprehensive video facelift, installing 14 new displays, offering a canvas of more than 39,000 sq. ft. of LED space. A new control room, integrated by BeckTV, is built around the Ross Acuity production switcher and houses three Evertz DreamCatcher replay servers and 10 channels of Ross XPression graphics playback. Although the videoboards are not 4K (they're 1080i), the Bucs use the DreamCatcher servers with 12 Ikegami HDK-95C cameras (which are 4K-capable) sprinkled throughout the stadium.

During the new infrastructure's first Buccaneers season, the team's in-venue-video crew learned a lot about how best to program a rather unusual layout of videoboard space. Sure, there's the standard big end-zone screens, which are 60 ft. high x 160 ft. wide for 9,600 sq. ft. each, but, above the back corners of each end zone, there is a display shaped like a tower and measuring approximately 61 ft. high x 43 ft. wide for 2,304 sq. ft. each.

After some early adjustments, the Bucs video crew realized that there was potential to do something special with those boards. It was a programming style that fans got to see in action at the Championship Game: triple replays. With the towers shaped more like cellphone screens than like television sets, the Bucs had four game-camera operators begin shooting in portrait style, giving the TD, producer, and director in the control room four angles and formats for any given replay.

"When we have a big replay, you're seeing three different looks of that replay all rolling simultaneously," said **Dan Roy**, audio/video engineer for the Tampa Bay Buccaneers, who worked with VWSE Productions on the CFP Championship. "That was something that I don't think we investigated thoroughly going into this, but, once we got past that first game, it was sort of wow, we should be trying this and using this."

As with any venue, crowd shots are also important to the Raymond James Stadium video crew. Not just for the videoboards, though. During the 2016 season, the Bucs debuted an app called 15 Seconds of Fame, which essentially streams and records the feed of the main videoboards at the stadium. Within the app, users can find the moment when they may have appeared on the stadium videoboard, cut that clip, and quickly share it to the major social-media platforms.

The in-venue-video crew also encouraged fans in the stands to shoot videos of themselves and used those videos on the tower boards to supplement any graphics presented, with the intention of firing up the crowd.

"Obviously, we know the fans like seeing themselves on the videoboard," said Roy. "We feel like, no matter how good or bad a day you're having or how good or bad the team is doing, seeing yourself on the videoboard is the highlight of your day." <

— Brandon Costa

VENUE SPECIFICATIONS — RAYMOND JAMES STADIUM

VIDEOBOARD MANUFACTURER	MAIN VIDEOBOARD DIMENSIONS	CONTROL-ROOM INTEGRATOR	SWITCHER	ROUTER	GRAPHICS	REPLAY	CAMERAS
Daktronics	End zones: 60 ft. high x 160 ft. wide	BeckTV	Ross Video Acuity	Evertz Magnum	Ross Video XPression	Evertz DreamCatcher server	12 Ikegami HDK-95C