

Telestream Lightspeed Live Stream

Houston Livestock Show and Rodeo™ Case Study



Sharing the Houston Livestock Show and Rodeo™ Experience with Lightspeed Live Stream

How Telestream's live streaming solution enables live online viewing of the "Super Bowl" of livestock shows and rodeos

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**— James Davidson,
Director of Broadcast and Audio/
Visual at the Houston Livestock
Show and Rodeo**

Since its founding in 1932, the Houston Livestock Show and Rodeo™ (HLSR) has committed over \$550 million to Texas youth and education through scholarships, educational program grants, graduate assistantships, and junior show exhibitor support.

As the largest livestock exhibition and rodeo in the world, this special annual 20-day event draws over 2.4 million spectators to Houston's NRG Park complex, with thousands more watching the free live streams.

The 90th anniversary event, held from 2/28/22 to 3/20/22, featured livestock and horse shows—including steers, lambs, and goats—by day, followed by spectacular rodeo competitions in the evening, culminating with nightly music concerts by top-tier artists.

This year's event was captured by HLSR's extensive array of broadcast video equipment and streamed out live in HDTV quality from three dual-channel Lightspeed Live Stream encoding systems from Telestream.

A highly anticipated tradition

"With our mission to promote agriculture, preserve Western heritage, support Texas youth, and provide educational support—and with our annual educational commitment exceeding \$22 million—we're committed to making certain that everyone interested in our event can watch it live for free," said James Davidson, Director of Broadcast and Audio/Visual at the Houston Livestock Show and Rodeo, a 501c3 non-profit in Houston, Texas. *"Lightspeed Live Stream gives us full in-house control over our live streams with exceptional video encoding and quality."*

Since each of the three Lightspeed Live Stream encoders is a dual-channel system, each can encode and stream two separate live feeds simultaneously. Between the three units, there are a total of six channels.

Two of the three dual-channel Live Stream encoders are used to stream live HD program content for the organization's website, rodeohouston.com, for a total of four feeds. This means that viewers can choose any of the four streams to watch a different concurrent HLSR event.





The third Live Stream encoder uses its first channel for streaming to Facebook Live when required or performing any MP4 recording as needed. This third unit's second channel is reserved as a back-up encoder should any of the other five Live Stream channels fail. While HLSR has never experienced such a failure, they're committed to ensuring that a reliable redundant path is always ready to go should one ever occur.

Show-stopping live streams

Many folks have a personal stake in the HLSR, including 35,000 volunteers who work year-round on 110 committees, dozens of event day workers, and the many student exhibitors who spend their year raising animals for what is regarded as the "Super Bowl" of livestock shows.

While the daytime streaming audience is very small, these viewers see a polished multi-camera switched show enhanced by graphical overlays, such as sponsor logos, and CG text. These program feeds emanate from one of HLSR's two on-site production control rooms, each equipped with a large Grass Valley 3-M/E production switcher and a Ross Xpression for live graphics. These polished video signals flow through the house routers to the Lightspeed Live Stream units in the nearby machine room. Online viewers can choose and jump between any of the four simultaneous live feeds depending upon which competitive events they'd like to see.

HLSR also provides a live program feed of the livestock show and rodeo events to three broadcast outlets, including The Cowboy Channel, Bally Sports Regional Sports Networks, and the local Telemundo affiliate, which receives a Spanish language broadcast with Spanish speaking announcers. The nightly music concerts are not streamed or broadcast due to contractual restrictions. HLSR's control rooms are also responsible for any media and entertainment shown inside the arenas during live events.

Challenging logistics right out of the gate

Video crews wield 20-plus Sony broadcast cameras—including Sony HDC-2750's and HDC-1550's—as they shoot concurrent events taking place throughout NRG Park. According to Davidson, video crews may simultaneously cover events, such as a cattle show in the main arena, a goat show in the east arena, a horse show in the horse arena and a junior market steer auction in yet another venue. Attesting to the level of commitment to the Show's mission, this year's grand champion steer was auctioned for a million dollars.

"To the kids who've spent a year raising these animals, this is a big deal," Davidson said. "Their parents, grandparents, teachers, and friends all want to share that moment with them. Streaming is how we make that happen. And not to brag but, we do a better job live streaming than any other livestock show because it's part of our mission to support these kids."

The high production standard delivered in primetime is the same quality provided during the day on all four streaming channels. The audience size surges once the rodeo events begin. According to Gary Hazen, HLSR's Senior Production Manager, *"We generate four discreet RTMP streams that are sent to Microsoft Azure for distribution. The streaming packages are configured at 1280 x 720 and 30 frames per second [720/p30]. However, the camera input sources are HD-SDI video at 1920 x 1080i at 59.94 frames per second [1080/60]."*

Seeking streaming scalability

The Telestream Lightspeed Live Stream systems were purchased in early 2022 through the Dallas-based Value-Added Reseller (VAR) TM Television as a replacement to a solution that was aging out and no longer supported by the manufacturer. HLSR was confident in Telestream quality as they'd been using Telestream Vantage for years as part of a parallel Avid editing workflow.



In terms of the encoding, the video is AVC 2,000 kbps, while audio is AAC at 128 kbps. The processing load is handled and optimized by the Lightspeed server's GPUs. And Live Stream has a web-based graphical user interface (GUI) for easy configuration.

"Quality and reliability matter greatly because it's important for us to be the best at everything we do and to make this event the best in the world," Davidson said. "Even though our online audiences tend to be small, we use broadcast-quality cameras, switchers, routers, and highly efficient encoders so that our content looks as good on screen as it does here in person." The ability to scale the servers factored greatly into the buying decision.

Smooth streaming through the pandemic

The COVID-19 pandemic had just begun as the 2020 HLSR was getting under way, so that year's event was cut short. Then, in 2021, at the height of the pandemic, HLSR had to scale back by canceling the rodeo, but continued to host and stream the livestock and horse shows as private events.

"That's how seriously we take this. So, in 2021, that streaming was more important than ever because it was the only way that the public could see what we were doing," Davidson said. "It was also key to our mission of showcasing the students who would have been very disappointed if they couldn't show the animals that they had spent the year raising."

To Learn More

To get more information about products and services mentioned, see:

- <https://www.telestream.net/lightspeed-live/light-speed-live-stream.htm>
- <https://www.rodeohouston.com/>

