SYSTEM DESIGN GUIDE

Casino Resort

A casino is like an indoor amusement park for adults. To help attract and retain guests, many casinos add a host of high-end amenities like restaurants, musical shows, shopping centers, lavish hotels, and elaborate themes. The interior design of a casino has some very specific goals — keeping the patrons happy, making them feel they're having a unique experience, and encouraging them to continue gambling. Audio and video play a significant role in casino environs for similar reasons.

Nowadays, few details remain random in a casino, and audio is no exception. Certain musical styles lend themselves to different parts of the casino floor. Soft, soothing lounge music is excellent for table games, helping players feel calm and reducing the desire to move onto something new. For slot machines, people expect to hear bells and chimes to signify winners, so high energy, cheerful melodies are a better choice for background music.

Video is equally ubiquitous in casinos. Digital signage constantly reminds patrons of restaurant and entertainment venues, special events, and promotional gambling activities. Equally important, though, is the myriad of video sources that casinos ingest to provide their guests the ability to watch almost any sporting event or live streaming on demand.

The AV requirements for a casino are very high, and it's a sure bet that Tesira is your best choice to meet and exceed those expectations.

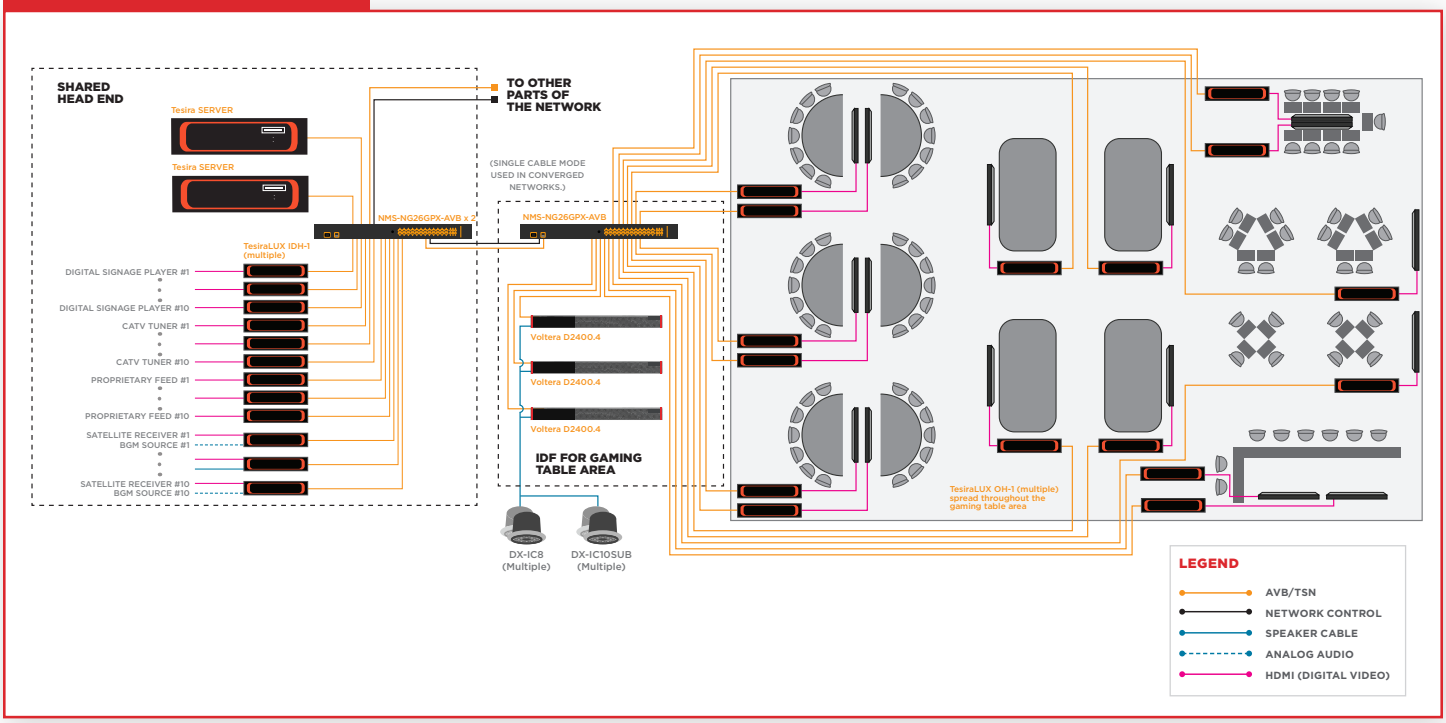
Casino Floor

For a casino, video is used primarily for two use cases: 1) digital signage and 2) streaming video to the gaming floor, restaurants, and bars. Digital signage is used to educate patrons about other activities available onsite, enticing them to stay on premise when they take a break from the gaming floor. For streaming video, HDCP 2.2 compliance is mandatory. Being able to switch between video sources quickly and cleanly is also a must have. With a video-intensive application like a casino floor, the AV system has to be both extremely flexible in its ability to route video streams yet easy to manage, and TesiraLUX has several unique features that make it well-suited for casino environments:

- A single software environment for both audio and video projects, making it incredibly easy to de-embed the audio, process it separately to account for the high noise floor of the casino, and then just as easily re-embed it into the video stream prior to output, all while maintaining clock sync.
- Independent routing of audio and video to different areas of the casino via our AV router block.
- Support for fiber connections for cable runs longer than 100 meters.

In this scenario, TesiraLUX facilitates video streaming to the individual displays around the casino floor. Digital signage players can serve content into TesiraLUX at the shared head end, allowing content to be routed anywhere on the network, eliminating the need for digital signage players at each floor display and elsewhere. TesiraLUX also ensures that the system complies with HDCP guidelines for device count, and allows the integrator to prioritize displays in the event device count is exceeded. Two Tesira SERVERs at the head end provides advanced audio processing for the video streams as needed, and ensure the highest levels of uptime for the AV system.

WIRING DIAGRAM



FEATURES & BENEFITS

- A single software design environment for both audio and video installations
- Supports HDCP-protected content; software will indicate the protected content pathways through the system
- Video wall capable
- Offers superior switching speed and clean transitions (artifact-free) when switching between content sources
- Port-to-port latency of less than 1.5 frames
- Multiple software-based options are available for managing bandwidth over the network
- Comes with both a 1Gb (RJ-45) and a 10Gb (SFP+) media port; supports fiber connections
- Includes a broadcast-quality scaler, which helps facilitate EDID management

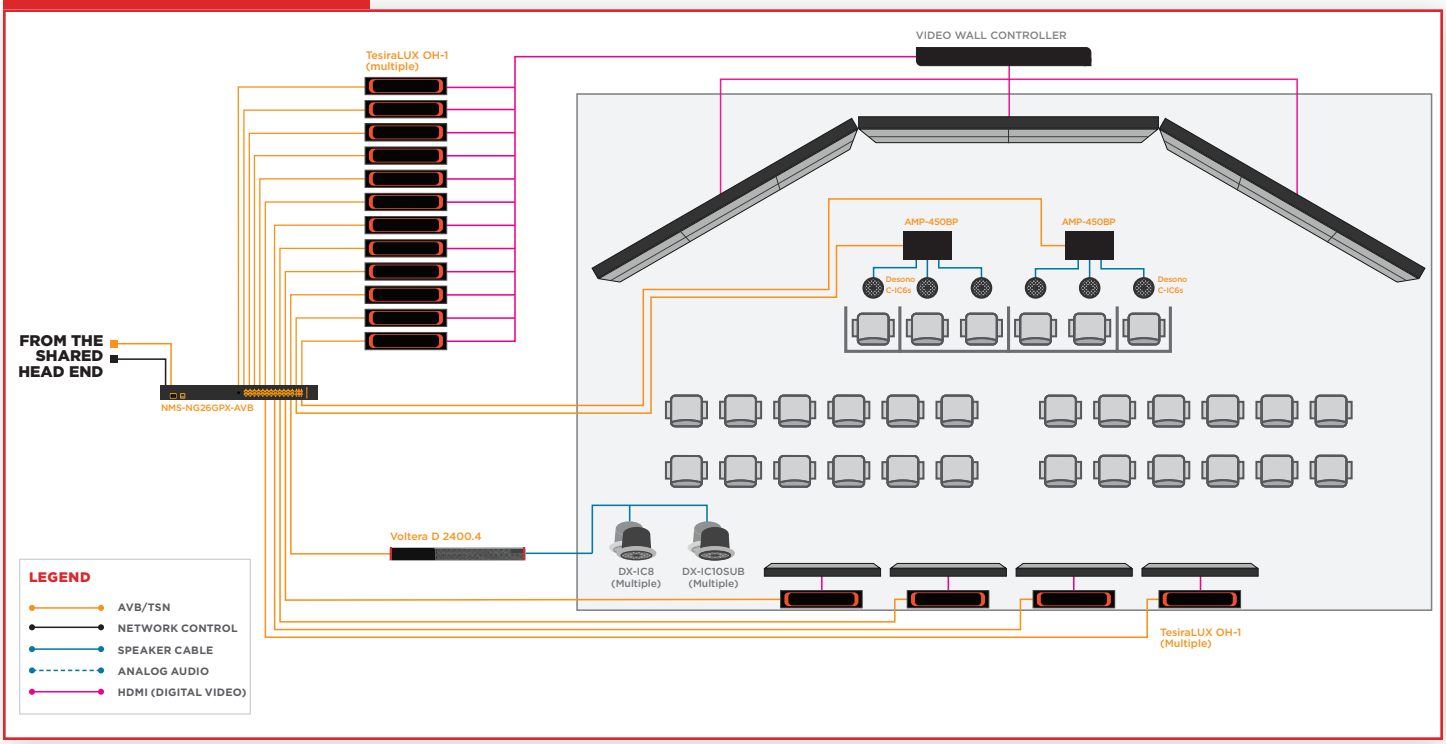
Sportsbook

User experience in a sportsbook is critical, and the AV system is the single most important factor in this space (aside from food and drink) for keeping patrons happy. The system receives video from a lot of different sources, so HDCP compliance is mandatory. Being able to switch between sources quickly and cleanly is also a must have. TesiraLUX is the simplest network video solution to design, install and commission. But with a video-intensive application like a sportsbook, the system also has to be extremely flexible in its ability to route video streams yet be easy to manage. TesiraLUX fits the bill for both of those requirements as well.

In this scenario, TesiraLUX facilitates streaming the video sources to the video wall processors and individual displays around the room. TesiraLUX also ensures that the system complies with HDCP guidelines for device count, and allows the integrator to prioritize displays in the event device count count is exceeded. Tesira SERVER-IO provides sound reinforcement for the sportsbook and advanced audio processing for the video streams as needed. For semi-private booths towards the front, the Tesira AMP-450BP is an excellent choice for local reinforcement of audio streams.

Tesira's network-based platform and inherent design flexibility makes it an effective AV tool for supporting the dynamic nature of a sportsbook. You can quickly re-route video streams to different displays in the room based on patron requirements.

WIRING DIAGRAM



FEATURES & BENEFITS

- Supports HDCP-protected content; software will indicate the protected content pathways through the system
- Video wall capable
- Offers superior switching speed and clean transitions (artifact-free) when switching between content sources
- Port-to-port latency of less than 1.5 frames
- Multiple software-based options are available for managing bandwidth over the network
- Comes with both a 1Gb (RJ-45) and a 10Gb (SFP+) media port available, allowing system designers to choose and/or future-proof
- Includes a broadcast-quality scaler, which helps facilitate EDID management
- System designers can use a single software environment for both their audio and video installations

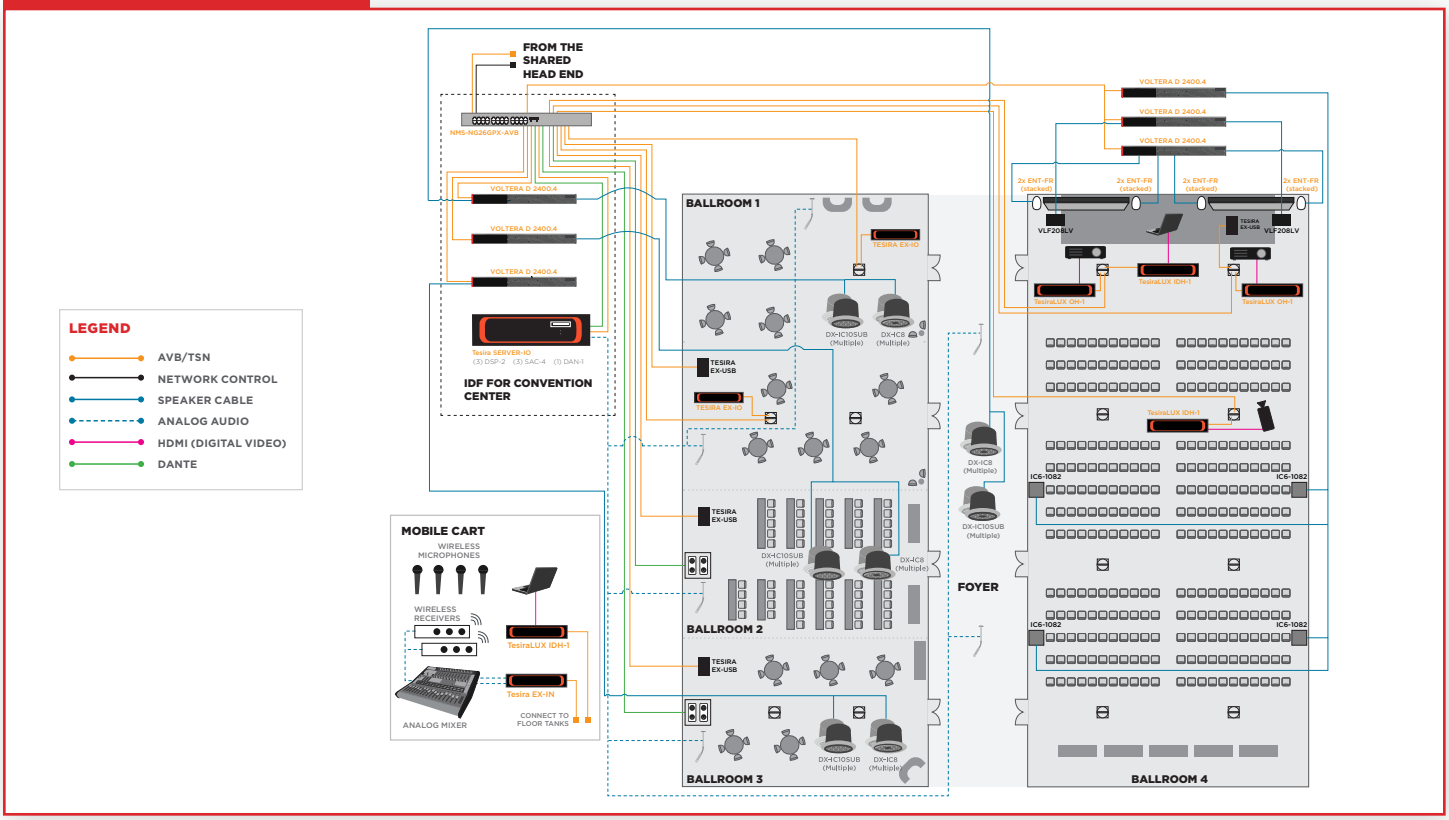
Convention Center

Typically in high demand, convention center ballrooms must be reconfigured quickly to ensure that the next show, banquet, or special event runs smoothly. This applies to the audio and video distribution as well. In this scenario, Tesira is ideal for managing the ballroom audio and video. Presets can rapidly reconfigure the audio and video routing, while a partitioned system design can allow work to be performed in unused areas without affecting any events currently underway.

In this scenario, a mobile cart with wireless microphones and media sources can be deployed to any of the ballrooms. Wired microphones can be accommodated with a Tesira EX-IO in a floor tank or via Dante-enabled wallplates from RDL. If patrons prefer to stream their own background audio for events, the Tesira EX-USB supports Bluetooth® wireless technology, providing cable-free connections to background music sources.

AmbientSense™ can be employed to automatically adjust audio levels in the foyer and ballrooms. The installed sensing microphones detect ambient noise levels and an adaptive DSP algorithm adjusts the volume of music and paging.

WIRING DIAGRAM



FEATURES & BENEFITS

TESIRALUX FEATURES

- Integrated lip sync management makes it easy to sync the camera feed with the presenter's audio feed in Ballroom 4
- Supports HDCP-protected content; software will indicate the protected content pathways through the system
- System designers can use a single software environment for both their audio and video installations

TESIRA EX-USB FEATURES

- Supports up to 8 channels of configurable USB audio
- Excellent for scenarios requiring multiple USB audio inputs

TESIRA SERVER-IO FEATURES

- Scalable, configurable DSP that supports both AVB and Dante™ protocols in a single chassis
- Supports separate channels of AGC for each ballroom to dynamically adjust the gain/volume of speaker output
- Impedance monitoring and analog failover available for loudspeakers

EQUIPMENT LIST

CASINO FLOOR

PRODUCT	DESCRIPTION
Tesira SERVER (1) AVB-1 card, (6) DSP-2 cards	Provides dedicated DSP to the classroom, and the ability to use USB Audio via a computer, allowing soft codec integration.
TesiraLUX IDH-1	Acts as an AVB talker. Processes video signals from satellite receivers, TV tuners, and digital signage players.
TesiraLUX OH-1	Acts as an AVB listener. Outputs networked video to displays.
Voltera D 2400.4	Provides amplification to all ceiling loudspeakers.
DX-IC8	Provides high intelligibility audio.
DX-IC10SUB	Provides high-impact bass and high intelligibility.
NMS-NG25GPX-AVB	Provides network connectivity with AVB support.

SPORTSBOOK

PRODUCT	DESCRIPTION
Tesira AMP-450BP	4-channel PoE+ amplifier provides amplification to individual loudspeakers in the semi-private booths.
TesiraLUX OH-1	Acts as an AVB listener. Outputs networked video to displays.
C-IC6	Provides sound reinforcement.
Voltera D 1200.4	Provides amplification to ceiling loudspeakers in the sportsbook.
NMS-NG25GPX-AVB	Provides network connectivity with AVB support.

EQUIPMENT LIST

CONVENTION CENTER BALLROOMS

PRODUCT	DESCRIPTION
Tesira SERVER-IO (3) DSP-2 cards , (3) SAC-4 cards, (1) DAN-1 card	Handles audio processing and routing for the ballrooms and foyer. Provides a Dante™ interface for the wireless microphone receiver. Ambient noise compensation automatically adjusts volume levels to ensure the audio remains intelligible.
TesiraLUX IDH-1	Acts as an AVB talker. Processes video signals from cameras, laptops, and media players.
TesiraLUX OH-1	Acts as an AVB listener. Outputs networked video to displays.
Tesira EX-IO	Provides 2 inputs and 2 outputs for local audio in the ballrooms.
Tesira EX-USB	AVB/USB adapter provides remote USB audio capabilities.
DX-IC8	Provides high intelligibility audio.
DX-IC10SUB	Provides high-impact bass and high intelligibility.
ENT-FR	Column loudspeakers delivering sound reinforcement for presenter.
VLF208LV	Subwoofer providing reinforcement for low frequencies.
IC6-1082	Provides additional audio to the room.
Voltera D 2400.4	Provides amplification to ceiling loudspeakers in the ballrooms and foyer.
NMS-NG25GPX-AVB	Provides network connectivity with AVB support.
RDL wallplates	Provides 2 male and 2 female XLR connections for wired microphones.