



SYSTEM DESIGN GUIDE

CASINO RESORT

Tesira®

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.

SYSTEM DESIGN GUIDE | 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.

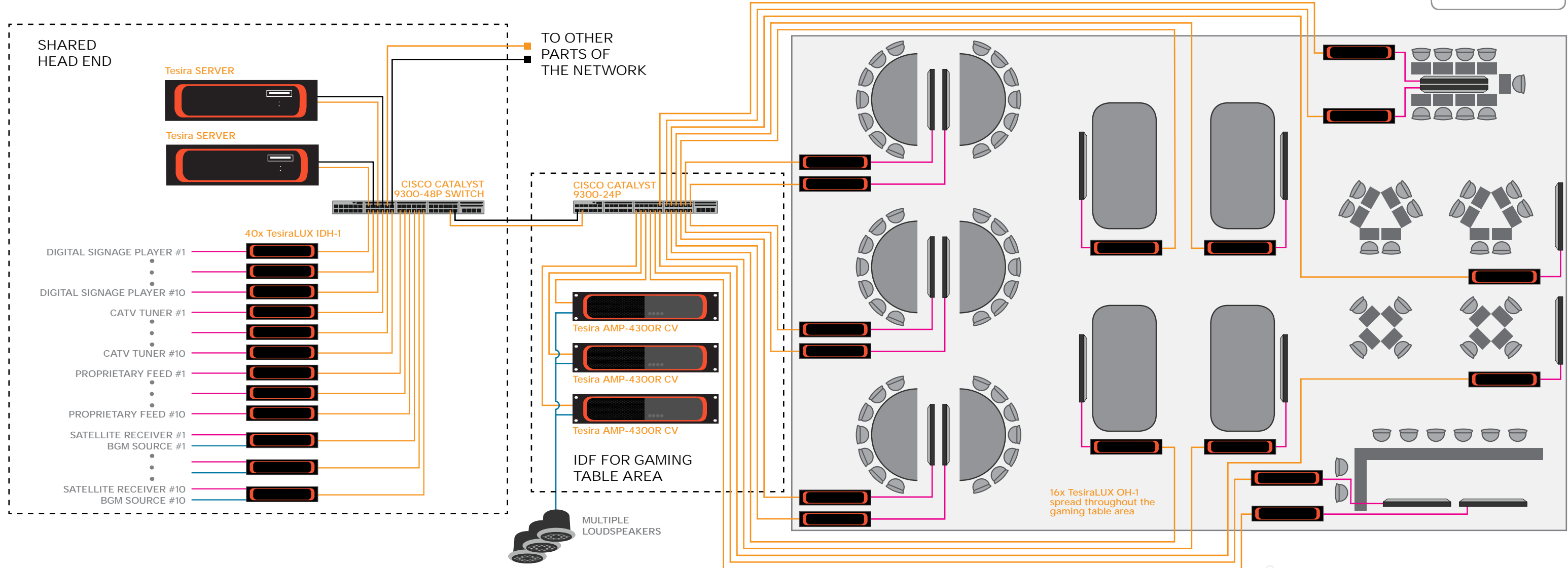
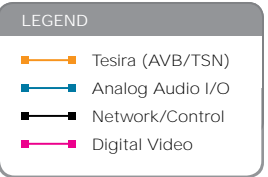
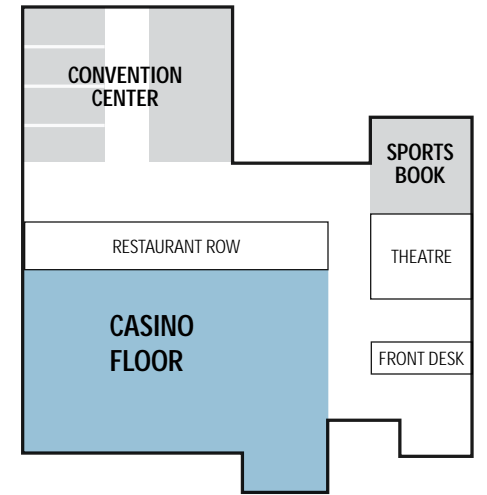
With a video-intensive application like a casino floor, the AV system has to be both extremely flexible in its ability to route video streams yet easy to manage, and TesiraLUX has several unique features that make it well-suited for casino environments:

- **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. Redundant 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.

TESIRALUX FEATURES

- A single software design environment for both audio and video installations
- Supports HDCP-protected content (v2.2); 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



SYSTEM DESIGN GUIDE | 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 2.2 compliance is mandatory. Being able to switch between sources quickly and cleanly is also a must have.

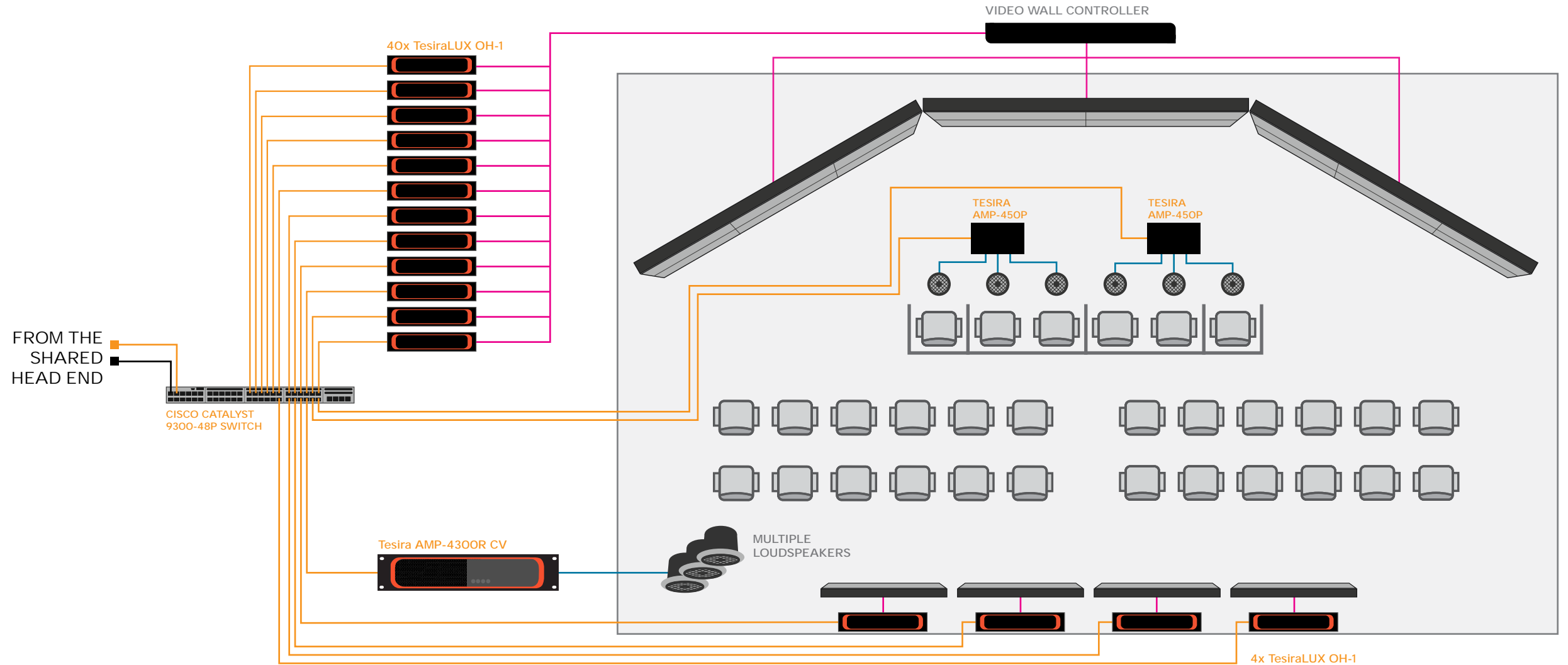
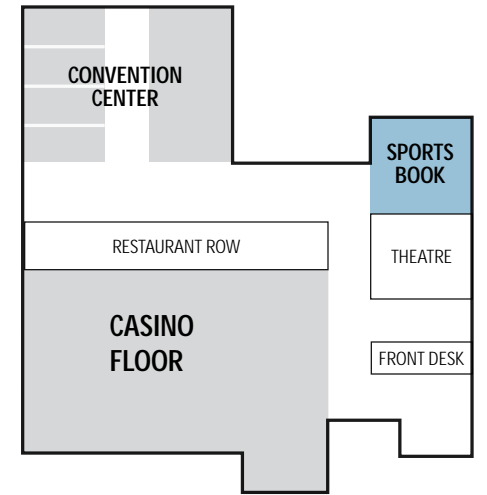
TesiraLUX is the simplest network video solution to design, install and commission. But with a video-intensive application like a sportsbook, the system also has to be extremely flexible in its ability to route video streams yet be easy to manage. TesiraLUX fits the bill for both of those requirements 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 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-450P 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.

TESIRALUX FEATURES

- Supports HDCP-protected content (v2.2); 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



LEGEND

- Tesira (AVB/TSN)
- Analog Audio I/O
- Network/Control
- Digital Video

SYSTEM DESIGN GUIDE

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 Attero Tech such as the unDX2IO+-B. If patrons prefer to stream their own background audio for events, the Tesira EX-UBT 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 increases or decreases the volume of the music and paging as needed.

TESIRALUX FEATURES

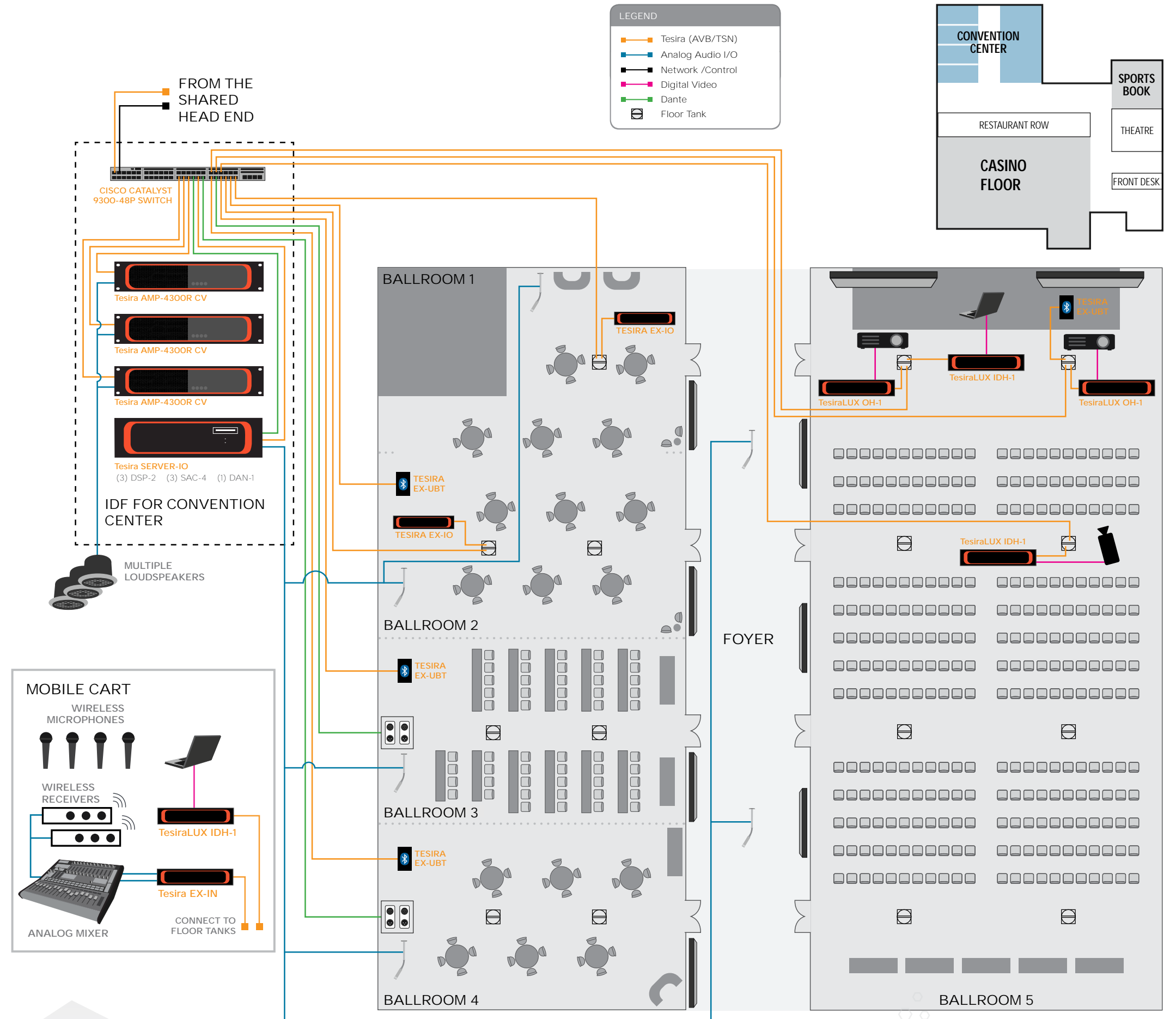
- Integrated lip sync management makes it easy to sync the camera feed with the presenter's audio feed in Ballroom 5
- Supports HDCP-protected content (v2.2); software will indicate the protected content pathways through the system
- System designers can use a single software environment for both their audio and video installations

TESIRA EX-UBT FEATURES

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

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	Function
Tesira SERVER (1) AVB-1 card, (6) DSP-2 cards	Handles all signal processing and routing, and there is room left in the chassis to support additional DSP cards as needed.
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.
Tesira AMP-4300R CV	Provides amplification to ceiling loudspeakers in the casino.

SPORTSBOOK

Product	Function
Tesira AMP-450P	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.
Tesira AMP-4300R CV	Provides amplification to ceiling loudspeakers in the sportsbook.

CONVENTION CENTER BALLROOMS

Product	Function
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-UBT	AVB/USB adapter provides remote USB audio capabilities.
Tesira AMP-4300R CV	Provides amplification to ceiling loudspeakers in the ballrooms and foyer.
Attero Tech unDX2IO+-B	Provides 2 male and 2 female XLR connections for wired microphones.

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