Advanced AV Systems for Live Events and Venues Training Course



19 - 23 Oct 2026

Cape town

4600 € (Per Person)

Ref: #EL3125_274078

Course Introduction / Overview:

This course provides a comprehensive exploration of advanced audio-visual technology management specifically tailored for performance venues and live events. In an era where audience experience is paramount, the seamless integration of sound, video, and lighting is no longer a luxury but a necessity. This program moves beyond basic operations to cover the intricate details of system design, integration, and management required to execute flawless productions. Participants will delve into the core principles that govern modern AV systems, from acoustic engineering to networked digital signal processing. We will explore concepts discussed by leading experts like Glen Ballou in his seminal work, the "Handbook for Sound Engineers," to build a strong theoretical foundation. BIG BEN Training Center has designed this curriculum to bridge the gap between theoretical knowledge and practical application, equipping professionals with the skills to manage complex AV setups, troubleshoot sophisticated issues in real-time, and stay ahead of emerging industry trends. This training course is an essential investment for anyone looking to master the technology that brings modern performance venues to life, ensuring every event is an unforgettable sensory experience.

Target Audience / This training course is suitable for:

- Technical Directors.
- AV Technicians and Engineers.
- Live Sound and Lighting Operators.
- Event Production Managers.
- Venue Operations Managers.
- AV Systems Integrators and Designers.
- Broadcast Engineers working in live environments.
- IT Professionals managing AV-over-IP networks.
- Facilities Managers of performance venues.

Target Sectors and Industries:

- Live Entertainment and Performing Arts.
- Hospitality and Event Management.
- Corporate Events and Conference Centers.
- Broadcast and Media Production.
- Sports Arenas and Stadiums.
- Houses of Worship.
- Museums and Themed Attractions.
- Governmental and Public Sector Venues.
- Educational Institutions with performance halls.

Target Organizations Departments:

- Technical Production and Operations.
- Events Management and Coordination.
- Information Technology and AV Support.
- Facilities and Venue Management.
- Engineering and System Integration.
- Broadcast and Media Services.
- Capital Projects and Development.

Course Offerings:

By the end of this course, the participants will have able to:

- Design and manage complex audio systems using digital signal processing and network protocols.
- Implement advanced lighting designs utilizing intelligent fixtures and control networks.
- Integrate and operate large-format video displays, including LED walls and projection mapping systems.
- Manage and troubleshoot AV-over-IP infrastructure for reliable signal distribution.
- Develop comprehensive system documentation, including signal flow diagrams and rack layouts.
- Execute effective troubleshooting strategies for integrated AV systems under pressure.
- Plan and manage the technical requirements for a wide range of live events.
- Evaluate and implement emerging AV technologies to enhance event production value.

Course Methodology:

The training methodology at BIG BEN Training Center is centered on immersive and practical learning to ensure deep comprehension and skill retention. This course rejects a purely theoretical approach, instead favoring a dynamic blend of expert-led instruction, interactive workshops, and real-world case study analysis. Participants will engage in collaborative group projects that simulate the challenges of designing and managing AV systems for different types of venues and events. Sessions will include hands-on simulations using industry-standard software for system design and control, allowing participants to apply concepts in a risk-free environment. Our instructors facilitate an open learning atmosphere where peer-to-peer discussion and knowledge sharing are encouraged. Continuous feedback is provided throughout the course to guide participant development. The curriculum is structured to build skills progressively, starting with foundational principles and advancing to complex integration and management strategies, ensuring that every professional leaves with the confidence and competence to excel in the demanding field of live event technology.

Course Agenda (Course Units):

Unit One: Foundations of Modern AV Systems for Venues

- The physics of sound and light in performance spaces.
- Principles of acoustics and venue treatment strategies.
- Understanding digital audio and video signal flow.
- Power management and electrical safety for AV systems.
- Introduction to system gain structure and signal-to-noise ratio.
- Cabling standards and best practices for audio, video, and control.
- Reading and creating basic AV system schematics.

Unit Two: Advanced Audio Systems and Engineering

- Deep dive into digital mixing consoles and workflows.
- Digital Signal Processing (DSP) for system tuning and optimization.
- Design and deployment of wireless microphone and in-ear monitor systems.
- Principles of line array theory and speaker system deployment.
- Implementing networked audio using protocols like Dante and AVB.
- Advanced microphone techniques for stage and broadcast.
- Live multitrack recording and virtual soundcheck techniques.

Unit Three: Immersive Video and Lighting Technologies

- Fundamentals of digital video, resolution, and frame rates.
- Operating and integrating large-format LED video walls.
- Techniques for advanced projection mapping and content management.
- Understanding and using media servers for live events.
- Intelligent lighting fixtures and DMX/Art-Net control systems.
- Lighting design principles for stage, broadcast, and architectural applications.
- Integrating video and lighting for cohesive show control.

Unit Four: System Integration, Networking, and Control

- Principles of AV-over-IP and network infrastructure design.
- Programming and operating integrated control systems.
- Designing and documenting a complete AV system from scratch.
- Interfacing with other building and broadcast systems.
- Commissioning and testing integrated AV systems.
- Developing standard operating procedures for venue technology.
- Project management for AV system installations and upgrades.

Unit Five: Live Event Execution and Future Trends

- The role of the Technical Director in show management.
- Advanced troubleshooting methodologies for complex system failures.
- Managing communications and crew during a live event.
- Technical logistics for touring productions versus fixed installations.
- Exploring hybrid and virtual event production technologies.
- The impact of AR, VR, and interactive technologies on live events.
- Future-proofing skills and staying current with industry advancements.

FAQ:

Qualifications required for registering to this course?

There are no requirements.

How long is each daily session, and what is the total number of training hours for the course?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

Something to think about:

As AV technology increasingly converges with IT infrastructure, how should the role of a traditional AV technician evolve to remain indispensable in the future of live event production?

What unique qualities does this course offer compared to other courses?

This course distinguishes itself by adopting a holistic, integration-focused philosophy rather than concentrating on isolated, brand-specific equipment training. While many programs teach how to operate a specific mixing console or lighting controller, our curriculum emphasizes the critical thinking required to make disparate technologies from various manufacturers work together seamlessly as a unified system. We focus on the underlying principles of signal flow, networking, and control that are universally applicable, empowering participants to adapt to any technology they encounter in the field. The curriculum is uniquely structured around real-world production challenges, using case studies from world-renowned venues and events to illustrate complex concepts. Furthermore, the course places a significant emphasis on future-proofing skills by dedicating substantial time to emerging trends like AV-over-IP, hybrid event technology, and the integration of interactive media. This forward-looking approach ensures that graduates are not just prepared for today's challenges but are equipped to be leaders in the evolution of live event production.