

# LAPT

LONDON ACADEMY OF PROFESSIONAL TRAINING

CERTIFICATE

## Certificate in Live Sound Reinforcement

*Foundation Level*



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### LAPT — London Academy of Professional Training

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**Reference** MU-LSE-F • Music and Performing Arts Centres

UKPRN 10067351 • Registered in England and Wales, company 4984798

AT A GLANCE

|               |                                                |
|---------------|------------------------------------------------|
| REFERENCE     | MU-LSE-F                                       |
| AWARD         | Certificate                                    |
| ASSESSMENT    | 445 marks — 267 to pass (60%)                  |
| PREREQUISITES | None                                           |
| VALIDITY      | Lifetime                                       |
| AWARDING BODY | LAPT — London Academy of Professional Training |

CURRICULUM

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| <div>1</div> <div>Acoustics and Venue Analysis</div> <div>4 chapters · 20 classes45 marks</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <div><div>• 1 Fundamentals of Acoustics in Live Sound — 5 classes</div><div><div>› 1.1 Understanding Sound Waves: Characteristics and Behavior</div><div>› 1.2 Exploring Frequency and Amplitude: The Basics of Sound Measurement</div><div>› 1.3 Analyzing Acoustic Properties: Reflections, Absorption, and Diffraction</div><div>› 1.4 Evaluating Venue Acoustics: Identifying Acoustic Challenges</div><div>› 1.5 Applying Acoustic Principles: Optimizing Sound for Live Venues</div></div></div> <div><div>• 2 Acoustic Characteristics of Different Venues — 5 classes</div><div><div>› 2.1 Understanding Venue Acoustics: An Introduction</div><div>› 2.2 Identifying Acoustic Challenges in Various Venues</div><div>› 2.3 Analyzing How Shape and Size Affect Sound Quality</div><div>› 2.4 Evaluating Acoustic Materials and Their Impact</div><div>› 2.5 Applying Acoustic Principles to Different Venue Types</div></div></div> | <div><div>• 3 Sound Reflection, Absorption, and Diffusion — 5 classes</div><div><div>› 3.1 Understanding Sound Reflection: Fundamentals and Principles</div><div>› 3.2 Exploring Sound Absorption: Techniques and Materials</div><div>› 3.3 Analyzing Diffusion in Acoustics: Key Concepts and Practices</div><div>› 3.4 Evaluating Acoustic Properties of Venues: Practical Assessment</div><div>› 3.5 Applying Sound Reflection, Absorption, and Diffusion: Real-World Scenarios</div></div></div> <div><div>• 4 Practical Venue Acoustics Assessment Techniques — 5 classes</div><div><div>› 4.1 Understanding Acoustic Characteristics of Venues</div><div>› 4.2 Identifying Critical Acoustic Problems in Live Settings</div><div>› 4.3 Analyzing Venue Sound with Acoustic Measurement Tools</div><div>› 4.4 Assessing Sound Distribution and Reflection Patterns</div><div>› 4.5 Applying Acoustic Solutions for Optimal Sound Reinforcement</div></div></div> |
| <div>2</div> <div>Equipment Operation and Safety</div> <div>4 chapters · 20 classes65 marks</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <div><div>• 1 Introduction to Live Sound Equipment — 5 classes</div><div><div>› 1.1 Understanding the Basics of Live Sound Equipment</div><div>› 1.2 Identifying and Describing Key Audio Components</div><div>› 1.3 Ensuring Electrical Safety in Live Sound Settings</div><div>› 1.4 Setting Up Microphones and Mixing Consoles</div><div>› 1.5 Operating Amplifiers and Speaker Systems Effectively</div></div></div> <div><div>• 2 Signal Flow and Connectivity — 5 classes</div><div><div>› 2.1 Understanding Signal Pathways in Live Sound</div><div>› 2.2 Connecting Audio Sources to Mixing Consoles</div><div>› 2.3 Utilizing Signal Processing Equipment Effectively</div><div>› 2.4 Ensuring Proper Output and Signal Distribution</div><div>› 2.5 Troubleshooting Common Connectivity Issues</div></div></div>                                                                                                                   | <div><div>• 3 Operating Sound Equipment Safely — 5 classes</div><div><div>› 3.1 Understanding Sound Equipment: Components and Functions</div><div>› 3.2 Identifying Potential Hazards with Audio Equipment</div><div>› 3.3 Implementing Safety Protocols in Sound Equipment Operation</div><div>› 3.4 Practicing Safe Setup for Audio Equipment</div><div>› 3.5 Conducting Safety Checks Before and After Use</div></div></div> <div><div>• 4 Advanced Equipment Operation Techniques — 5 classes</div><div><div>› 4.1 Mastering Mixer Operations for Live Sound Control</div><div>› 4.2 Navigating Signal Flow and Routing with Confidence</div><div>› 4.3 Fine-Tuning Equalization Techniques for Different Venues</div><div>› 4.4 Harnessing Dynamics Processors to Optimize Sound Clarity</div><div>› 4.5 Implementing Advanced Audio Effects for Live Performances</div></div></div>                                                                             |

3

## Event Setup and Troubleshooting

4 chapters · 20 classes

90 marks

### • 1 Understanding Event Venues and Stage Layouts — 5 classes

- › 1.1 Identifying Key Features of Event Venues
- › 1.2 Analyzing Stage Layout Possibilities
- › 1.3 Understanding Acoustics in Different Venues
- › 1.4 Designing Efficient Stage Setups
- › 1.5 Troubleshooting Common Venue and Stage Issues

### • 2 Audio Equipment Setup and Connections — 5 classes

- › 2.1 Identifying Key Audio Equipment and Their Roles
- › 2.2 Understanding Signal Flow in Audio Systems
- › 2.3 Connecting Audio Components: Cables and Connectors
- › 2.4 Setting Up Microphones and Instruments for Optimal Sound
- › 2.5 Troubleshooting Common Audio Connection Issues

### • 3 Signal Flow and Sound Check Procedures — 5 classes

- › 3.1 Understanding Signal Flow: From Source to Output
- › 3.2 Analyzing Input Channels and Signal Routing
- › 3.3 Setting Up the Stage: Equipment and Cabling
- › 3.4 Conducting an Efficient Sound Check: Best Practices
- › 3.5 Troubleshooting Common Sound Check Issues

### • 4 Diagnosing and Resolving Common Audio Issues — 5 classes

- › 4.1 Identifying Common Audio Issues in Live Events
- › 4.2 Understanding Signal Flow in Sound Systems
- › 4.3 Analyzing Causes of Feedback and How to Prevent It
- › 4.4 Troubleshooting Audio Distortion and Clarity Problems
- › 4.5 Applying Practical Solutions to Resolve Audio Issues

4

## Introduction to Live Sound Systems

4 chapters · 20 classes

65 marks

### • 1 Fundamentals of Sound and Acoustics — 5 classes

- › 1.1 Understanding Sound Waves and Their Properties
- › 1.2 Exploring Frequency, Wavelength, and Amplitude
- › 1.3 Analyzing the Human Perception of Sound
- › 1.4 Examining Acoustic Environments and Sound Behavior
- › 1.5 Applying Acoustical Concepts to Live Sound Scenarios

### • 2 Components of a Live Sound System — 5 classes

- › 2.1 Understanding Live Sound System Basics
- › 2.2 Identifying Key Components of Sound Systems
- › 2.3 Exploring Microphones and Input Devices
- › 2.4 Analyzing Mixers and Signal Processors
- › 2.5 Implementing Amplification and Speaker Systems

### • 3 Signal Flow and Sound System Setup — 5 classes

- › 3.1 Understanding Signal Flow: From Source to Output
- › 3.2 Identifying Components in a Live Sound System
- › 3.3 Connecting Equipment: Signal Path Configuration
- › 3.4 Setting Up a Basic Live Sound System
- › 3.5 Troubleshooting Common Signal Flow Issues

### • 4 Basic Troubleshooting and Problem-solving — 5 classes

- › 4.1 Identifying Common Sound System Issues
- › 4.2 Utilizing Diagnostic Tools Effectively
- › 4.3 Implementing Quick Fixes for Common Problems
- › 4.4 Developing Problem-solving Strategies in Real-time
- › 4.5 Applying Preventative Measures to Avoid Issues

5

## Practical Sound Design

4 chapters · 5 classes

65 marks

### • 1 Foundations of Sound Design for Live Settings — 5 classes

- › 1.1 Understanding the Basics of Acoustics in Live Sound
- › 1.2 Identifying and Utilizing Essential Live Sound Equipment
- › 1.3 Setting Up and Configuring Live Sound Systems
- › 1.4 Applying Sound Design Techniques for Various Venues
- › 1.5 Troubleshooting Common Issues in Live Sound Environments

### • 2 Sound Equipment and Signal Flow in Live Environments

### • 3 Live Audio Effects and Processing Techniques

### • 4 Practical Application and Troubleshooting in Live Sound

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## Sound Engineering Principles

4 chapters · 20 classes

115 marks

### • 1 Understanding Sound and Acoustics — 5 classes

- › 1.1 Exploring the Nature of Sound Waves
- › 1.2 Identifying Frequency and Pitch
- › 1.3 Understanding Sound Intensity and Decibels
- › 1.4 Examining the Principles of Acoustics
- › 1.5 Applying Room Acoustics for Live Sound

### • 2 Audio Signal Flow and Equipment Basics — 5 classes

- › 2.1 Explore: Understanding the Basics of Audio Signal Flow
- › 2.2 Identify: Components of an Audio System
- › 2.3 Examine: The Role of Mixers in Signal Flow
- › 2.4 Analyze: Signal Pathways in Live Sound Environments
- › 2.5 Implement: Setting Up Basic Audio Equipment

### • 3 Sound System Design and Configuration — 5 classes

- › 3.1 Understanding Sound System Components
- › 3.2 Exploring Signal Flow in Sound Systems
- › 3.3 Designing a Basic Sound System Layout
- › 3.4 Configuring Audio Equipment Settings
- › 3.5 Evaluating Sound System Performance

### • 4 Troubleshooting and Live Sound Management — 5 classes

- › 4.1 Understanding Common Live Sound Issues
- › 4.2 Identifying and Diagnosing Audio Problems
- › 4.3 Implementing Effective Sound Solutions
- › 4.4 Managing Live Sound in Dynamic Environments
- › 4.5 Ensuring Optimal Sound Quality during Performances

