

ABTT Technical Training

ABTT, Fourth Floor, 55 Farringdon Road, London, EC1M 3JB
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Silver Certificated Award for Stage Electricians

Electronics Fundamental Part 1

The course teaches basic electrical/electronic theory and soldering skills, culminating in the analysis and assembly of a battery powered impedance/continuity tester. The course covers voltage, current, power, resistors, Ohms Law, sine wave, square wave, alternating current, direct current, capacitors, inductors, fuses, MCBs, RCDs, diodes and transistors.

Electrical Installation

This course considers circuit design in relation to theatre and studio installations. The objectives are to highlight potential problems with cabling installations and how to choose and install the correct cable run. The course content includes cable types, current capacities, voltage drop, length of run, trunking, cable tables, BS 7671 IEE Wiring Regulations 17th Edition and use of drawings in theatre.

Electrical Inspection and Testing

This course teaches how to interpret the legislation and codes of practice when testing electrical installations. The outcome is the understanding of the requirements of BS 7671 Requirements for electrical installations and the Electricity at Work Act 1989. The course includes continuity, insulation resistance, polarity, earth fault loop impedance, and residual current device testing. It also covers Inspection and Testing Certification.

Electrical Inspection BS7909

This covers the requirements of BS7909: 2011 - The Code of Practice for Temporary Electrical Systems for Entertainment and Related Purposes as used in a range of theatres, broadcasting and events. The Code of Practice outlines the necessary management arrangements and the required range of electrical supplies, heavy-duty flexible cables and make-up of portable distribution units needed.

Portable Appliance Testing

The course describes systems to organise the portable appliance testing of theatre electrical equipment and for theatre electricians to comply with the Electricity at Work Regulations for inspection & testing of portable appliances. The course includes visual inspection and electrical testing; testing periods; record keeping; managing the system of inspection and testing and selection of suitable testing instruments.

Work at height with Personal Protective Equipment (PPE)

This course is an introduction to working at height in the entertainment industry. The module includes methods and best practice in using personal protective equipment for working at heights. Its aim is to impart knowledge about using PPE when working at height and an understanding of the *Work at Height Regulations*.

Silver Award Electrical Test

Accredited by RCS to SCQF Level 8

ABTT Training - Safety Through Knowledge

January 2015

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Silver Certificated Award for Sound Technicians

Electronics Fundamentals Part 1

The course teaches basic electrical/electronic theory and soldering skills, culminating in the analysis and assembly of a battery powered impedance/continuity tester. The course covers voltage, current, power, resistors. Ohms Law, sine wave, square waves, alternating current, direct current, capacitors, inductors, fuses, MCBs, RCDs, diodes and transistors.

Electronics Fundamentals Part 2

This course builds on the theory of Part 1 with an analysis of the components of an integrated circuit, voltage divider, operational amplifier, logic gates and output drivers and looks at typical equipment application within a theatre environment. This course looks at electronics applications within dimmers, lighting and sound control systems which utilize DMX and Ethernet.

Sound Essentials

Sound Essentials covers the important theoretical knowledge that a competent sound technician needs to understand. Topics include: understanding the fundamentals of sound; making the right connections; gain structure; signal to noise ratio; loudspeaker impedance; microphone types and a brief introduction to digital theory.

Advanced Sound

This course covers the more advanced theoretical and practical skills that a sound technician requires. Topics include: sound wave theory; digital theory; MIDI; harmonic series; acoustics; reverberation time and Haas effect. Different styles of sound system playback system will be examined and there will be a practical exercise using a computerised system. The course will also look at the knowledge required to design sound systems for musical theatre. Aspects discussed will be: different approaches to using microphones and loudspeakers; the use of radio microphones and in-ear monitoring; the effect that the venue acoustics will have on the sound and the part that the audience plays in the process.

Communications

The good sound technician needs to be proficient in sound communication systems used today. The module looks at the different types of communication systems used in theatre to keep the show running reliably. The course discusses: wired headsets systems; show relay and paging; cue lights; CCTV; analogue and digital wireless talkback systems and how to interface several systems together effectively.

Portable Appliance Testing

Candidates will follow the electrical course set out above.

Work at height with Personal Protective Equipment (PPE)

Candidates will follow the work and height course set out above.

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Silver Certificated Award for Stage Technicians

In-service Inspection for Lifting Gear Part 1

The Part 1 course brings stage technicians up to date with regulations such as the Machinery Directive / Supply of Machinery (Safety) Regulations the Lifting Operations & Lifting Equipment Regulations (LOLER) and the Provision and Use of Work Equipment Regulations (PUWER). It is designed to equip the stage technician with a good understanding of their responsibilities and the knowledge about how to perform their tasks efficiently and safely.

In-service Inspection for Lifting Gear Part 2

The Part 2 course builds on Part 1 (above) and introduces the practical element of inspecting and using of lifting gear. Candidates must have completed Part 1 before undertaking Part 2.

Practical Rigging Part 1

This course has a strong practical bias and teaches how to rig chain hoists and trusses using man made and steel wire rope slings. The procedure and safe operation of electric chain hoists are fully explained.

Practical Rigging Part 2

Part 2 is a day of problem solving, reviewing techniques and further training in the use of lifting and rigging equipment. This course seeks to test the understanding and skill of the stage technician in using a range of rigging equipment to hang hoists efficiently using a safe system of work. Stage technicians will work in pairs to carry out rigging tasks and will need to bring suitable clothing and footwear.

Stage Structures

This course provides an introduction to basic engineering concepts applicable to stages and scenery. The aim is to impart an awareness of mechanical and structural principles; and to give the stage technician an appreciation of engineering issues relating to stage structures. Topics include: beams; columns & ties; forces and types of loading; modes of failure; joints and supports; mechanical advantage and design standards. With an emphasis on realistic examples and practical experience this subject will be covered through presentation and discussion.

Work at height with Personal Protective Equipment (PPE)

This course is an introduction to working at height in the entertainment industry. The module includes methods and best practice in using personal protective equipment for working at heights. Its aim is to impart knowledge about using PPE when working at height and an understanding of the *Work at Height Regulations*.

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