



**TRAINING** *Safety Through Knowledge*

# Summer School 2009

*Certificated courses designed for theatre technicians*

*A week of technical theatre training at*

Warwick Arts Centre

Sunday 19 July to Sunday 26 July inclusive

- ***ABTT Silver Award Courses for Stage Technicians***
- ***ABTT Silver Award Courses for Stage Electricians***
- ***ABTT Silver Award Courses for Sound Technicians***
- ***ABTT Gold Award Courses for Sound Technicians***
- ***ABTT Gold Award Courses for Stage Electricians***
- ***ABTT Gold Award Courses for Stage Technicians***
- ***Pyrotechnics Awareness Course***

**Association of British Theatre Technicians**

Registered Charity No: 282069

55 Farringdon Road, London EC1M 3JB

Tel: 020 7242 9200; Fax: 020 7242 9303; Email: [training@abtt.org.uk](mailto:training@abtt.org.uk)

Royal Scottish Academy  
of **Music and Drama**

*Courses accredited by the Royal Scottish Academy  
of Music and Drama*

# ABTT Summer School 2009

*a week of technical theatre training at Warwick Arts Centre, Coventry*

	<p><b>Bronze Award</b>  <b>Theatre Technicians</b>          Electrical Fundamentals          Portable Appliance Testing          Knots &amp; Splicing          Fundamentals of Flying          Manual Handling and Introduction to Health &amp; Safety</p>	
<p><b>Silver Award</b>  <b>Theatre Stage Technicians</b>          In-service Inspection for Lifting Gear 1          In-service Inspection for Lifting Gear 2          Practical Rigging 1          Access equipment and mobile towers          Work at height with PPE</p>	<p><b>Silver Award</b>  <b>Theatre Electricians</b>          Electronics Fundamentals 1          Electrical Installation Design Part 1          Electrical Inspecting &amp; Testing          Access equipment and mobile towers          Work at height with PPE</p>	<p><b>Silver Award</b>  <b>Theatre Sound Technicians</b>          Electronics Fundamentals 1          Sound Essentials          Communications          Access equipment and mobile towers          Work at height with PPE</p>
<b>Bronze &amp; Silver Awards</b>	<b>accredited by RSAMD</b>	<b>To level SCQF 7 &amp; 8</b>
<p><b>Gold Award</b>  <b>Theatre Stage Technicians</b>          Stage Structures          Technical Drawing /AutoCAD          Practical Rigging 2          Risk Management 1          Risk Management practical 2</p>	<p><b>Gold Award</b>  <b>Theatre Electricians</b>          Electronics Fundamentals 2          Electrical Applications          Electrical Installation Design 2          Risk Management 1          Risk Management practical 2</p>	<p><b>Gold Award</b>  <b>Theatre Sound Technicians</b>          Electronics Fundamentals 2          Sound Engineering operation          Sound Acoustics &amp; Design          Risk Management 1          Risk Management practical 2</p>

This year Summer School offers the full range of Silver and Gold Awards for technicians wishing to take advanced levels in Sound and Electrics.

The Gold Award is available to those who have completed the Silver Award and covers the more advanced practical skills, as well as more formal risk management skills, required by Managers, HODs or Supervisors. The Stage Electrician units in Bronze, Silver and Gold Awards cover most of the theoretical knowledge required to achieve the **City and Guilds 2330 Knowledge of Electrotechnical Systems** qualification.

Bronze, Silver and Gold course content receive accreditation from Royal Scottish Academy of Music & Drama making the ABTT Awards prestigious vocational courses for theatre practitioners.

These courses are a huge benefit to technicians both for personal career development and for those who simply wish to bring themselves up to speed with a particular subject.

Each participant is provided with a Log Book, comprehensive Tutor notes and appropriate ABTT Codes of Practice. In addition, candidates will receive a certificate on the successful completion of each award.

ABTT Training is open to affiliates, associates and members of the Association. The Awards are

designed for a five-day residential week. A few courses may be booked individually, marked as such and will be subject to numbers. If you have not yet joined and would like to take part in the Summer School 2009, look on the ABTT website [www.abtt.org.uk](http://www.abtt.org.uk) for membership details.

The ABTT is a participant in Skillscene, the organisation developing industry training standards for the live arts.

### **Training Coordinator**

Geoffrey Joyce

### **Warwick Arts Centre**

Warwick Arts Centre is on the University of Warwick central campus in Coventry (not Warwick!)

### **Accommodation**

Reasonably priced accommodation is available close to the Arts Centre. An accommodation list and directions will be sent to you with your course booking confirmation.

# ABTT Summer School 2009

*a week of technical theatre training at Warwick Arts Centre, Coventry*

## Silver Certificated Awards Courses designed for Theatre Electricians

### **Monday 20 July**

- **Electronic Fundamentals 1** Tutor: Guy Kendall  
The course covers 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, ECBs, ELCBs, diodes and transistors.

*5 p.m. candidates' reception followed by a tour of the centre*

### **Tuesday 21 July**

- **Electrical Installation Design Part 1** Tutor: Adrian Hickinbottom  
This course covers the considerations for circuit design in relation to theatre and studio. 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, the *BS 7671 IEE Wiring Regulations 17<sup>th</sup> Edition* and use of drawings in theatre.

### **Wednesday 22 July**

- **Electrical Inspection and Testing** Tutor: Adrian Hickinbottom  
This course teaches how to interpret the legislation and codes of practice when testing electrical installations. The objective is the understanding of the requirements of *BS 7671 IEE Wiring Regulations 17<sup>th</sup> Edition* and *Electricity at Work Act 1989*. Contents include continuity, insulation resistance, polarity, earth fault loop impedance, and residual current device testing. It also covers Inspection and Testing Certification.

### **Thursday 23 July**

- **Work at height with PPE** Tutor: Chris Higgs  
This is intended as 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 using PPE when working at height and an understanding of the *Work at Height Regulations*.

### **Friday 24 July**

- **Access equipment and mobile towers** Tutor: Richard Dawes  
Falls from height are the biggest single cause of fatalities and major injuries at work. This course is designed to enable theatre staff to use the kind of scaffold, towers and ladders used in theatres. It includes safe use, dismantling and inspection of aluminium towers. It reviews current regulations and the importance of record keeping. There is a strong practical bias to this course.

**Start time 10.00 a.m. each day**

# ABTT Summer School 2009

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## Silver Certificated Awards Courses designed for Theatre Sound Engineers

### **Monday 20 July**

- **Electronics Fundamentals 1** Tutor: Guy Kendall  
The course covers 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, ECB, ELCB, diodes and transistors.

*5 p.m. candidates' reception followed by a tour of the centre*

### **Tuesday 21 July**

- **Sound Essentials** Tutor: Simon Whitehorn  
The first of a series of courses dealing with sound engineering techniques. Understanding the fundamentals of sound. Using sound equipment: playback devices, microphones, radio mics, mixing desks, processing, amplifiers, loudspeakers, cables and connectors. Topics including using radio mics and computerised playback systems will also be covered.

### **Wednesday 22 July**

- **Sound Communications** Tutor: Simon Whitehorn  
The good sound engineer or theatre technician needs to be proficient in sound communication. The module looks at the different types of communication systems used in theatre to keep the show running reliably. Wired headsets systems (various types), show relay and paging, cue lights, CCTV, radio talkback systems.

### **Thursday 23 July**

- **Work at height with PPE** Tutor: Chris Higgs  
This is intended as 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 using PPE when working at height and an understanding of the *Work at Height Regulations*.

### **Friday 24 July**

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**Start time 10.00 a.m. each day**

# ABTT Summer School 2009

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## Silver Certificated Awards Courses designed for Stage Technicians

### **Monday 20 July**

- **In-Service Inspections for Lifting Gear & Safe Use of Slings part 1** Tutor: Len Latham

This is a two-part course. Part 1 covers theory and brings theatre technicians up-to-date with regulations such as *Machinery Directive / Supply of Machinery (Safety) Regulations; Lifting Operations & Lifting Equipment Regulations (LOLER)* and *Provision and Use of Work Equipment Regulations (PUWER)* and is designed to equip theatre technicians with a good understanding of their responsibilities and knowledge about how to perform their tasks efficiently and safely.

*5 p.m. candidates' reception followed by a tour of the centre*

### **Tuesday 21 July**

- **In-Service Inspections for Lifting Gear & Safe Use of Slings part 2** Tutor: Len Latham

Part 2 builds on part 1 (above) and introduces the practical element of inspecting and use of lifting gear. Candidates must have completed part 1.

### **Wednesday 22 July**

- **Practical Rigging Part 1** Tutor: Chris Higgs

This module 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.

### **Thursday 23 July**

- **Work at height with PPE** Tutor: Chris Higgs

This is intended as 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 using PPE when working at height and an understanding of the *Work at Height Regulations*.

### **Friday 24 July**

- **Access equipment and mobile towers** Tutor: Richard Dawes

Falls from height are the biggest single cause of fatalities and major injuries at work. This course is designed to enable theatre staff to use the kind of scaffold, towers and ladders used in theatres. It includes safe use, dismantling and inspection of aluminium towers. It reviews current regulations and the importance of record keeping. There is a strong practical bias to this course.

**Start time 10.00 a.m. each day**

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**BOOKING FORM**

**Silver Award for Theatre: (please tick)**

**Electrics**                       **Sound**                       **Stage Technician**

*Candidates who have already undertaken a Silver course and wish to complete another may do so at £140 + VAT per course - please provide your silver certificate number when ordering No: \_\_\_\_\_ (subject to course availability).*

**£670 + VAT**

*Course fees include all courses, RSAMD accreditation fee, ABTT Codes of Practice and Training Logbook*

**Individuals should enclose a deposit of £115 (£100 + VAT) made payable to THEATRICAL TRADING LTD to reserve a place on ABTT Summer School 2009.**

1. You will be sent a receipted invoice for your deposit.
2. Please note your place cannot be confirmed without either a deposit or purchase order.

***Please print clearly***

**Name** .....

**Address** .....

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**Postcode** .....

**Contact Number** .....

**Mobile Number** .....

**Email** .....

**Accommodation information** Yes  No  *(please tick)*

**Name & address of person/organisation to be invoiced if different from above**

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**Postcode** .....

**Purchase Order No** .....

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ABTT, 55 Farringdon Road, London EC1M 3JB***

# ABTT Summer School 2009

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## Gold Certificated Awards Courses designed for Theatre Electricians

### Wednesday 22 July

#### Electronic Fundamentals 2

Tutor: Guy Kendall

- This course builds on the theory of Part 1 Silver Award and an analysis of integral 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 will look at theatre application within dimmers, lighting and sound control systems using DMX and Ethernet

### Thursday 23 July

#### Electrical Applications

Tutor: Adrian Hickinbottom

- This unit will investigate principles behind the operation of electrical equipment such as motors, generators and transformers. It will enable you to understand the circuitry that will assist in the correct selection of equipment and for fault diagnosis. You will be looking at the effects of power factor and the effects of balanced and unbalanced phases.

### Friday 24 July

#### Electrical Installation Design 2

Tutor: Adrian Hickinbottom

This unit builds on the design calculations undertaken in the Silver Award. The unit will investigate the choice of protection devices and cable sizes to meet the requirements of the *BS 7671 IEE Wiring Regulations 17<sup>th</sup> Edition*. You will carry out a design from the intake position to the point of utilization such as lanterns.

### Saturday 25 July

#### Risk Management 1

Tutor: Geoffrey Joyce

- This course covers the important aspects of the management of *Health and Safety at Work Regulations*, and deals with the requirement for risk assessment, how to carry out risk assessments and how to record them. It identifies what actions are required under the regulations in terms of supervision, training, provision of information and ensuring competent risk assessments by managers and supervisors. The module takes place in the workplace situation in such away as to leave the candidate with a clear grasp of current requirements.

### Sunday 26 July

- **Risk Management 2**

Tutor: Geoffrey Joyce

A practical session following on from Risk Management 1 where candidates, working in groups will complete a suitable and sufficient risk assessment on work areas within Warwick Arts Centre.

### Gold Award Assignment options

This will be a written module, to be completed within three months of the last course date and based on a management Safe System of Work, featuring the candidate's own workplace. The module will be between 2500 – 3000 words. An assignment brief and candidate discussion will take place during the week. This assignment will be subject to external marking by RSAMD.

### Progression

The Stage Electrician units in Bronze, Silver and Gold Awards cover most of the theoretical knowledge required to achieve the *City and Guilds 2330 Knowledge of Electrotechnical Systems* qualification. Completion of this qualification may be done at Warwickshire College Leamington Spa or at your local Further Education College.

# ABTT Summer School 2009

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## Gold Certificated Awards Courses designed for Theatre Sound Technicians

### **Wednesday 22 July**

#### **Electronic Fundamentals 2**

Tutor: Guy Kendall

- This course builds on the theory of Part 1 Silver Award and an analysis of integral 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 will look at theatre application within dimmers, lighting and sound control systems using DX and Ethernet.

### **Thursday 23 July**

#### **Sound Engineering & Operation**

Tutor: Simon Whitehorn

- This course will cover the more advanced practical skills that a sound engineer or venue technician may need to know including digital theory, MIDI, using equalisation, dynamics and effects processing and practical approaches to using radio mics and in-ear monitoring. Different styles of drawing sound system plans will also be examined along with advice on health and safety issues.

### **Friday 24 July**

#### **Sound Acoustics and Design**

Tutor: Simon Whitehorn

- This course will look at the knowledge required to design sound systems for musical theatre. Many aspects will be examined from how musical instruments and the human voice make sound, the different approaches to using microphones and loudspeakers, the effect that the acoustics of the venue will have on the sound, and finally the part that the audience plays in the process. Some specific topics covered include sound wave theory, harmonic series, reverberation time, Haas effect, line-array systems, delay loudspeakers and microphone choice and placement.

### **Saturday 25 July**

#### **Risk Management 1**

Tutor: Geoffrey Joyce

- This course covers the important aspects of the *Management of Health and Safety at Work Regulations*, and deals with the requirement for risk assessment, how to carry out risk assessments and how to record them. It identifies what actions are required under the regulations in terms of supervision, training, provision of information and ensuring competent risk assessments by managers and supervisors. The module takes place in the theatre workplace situation in such away as to leave the candidate with a clear grasp of current requirements.

### **Sunday 26 July**

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Tutor: Geoffrey Joyce

A practical session following on from Risk Management 1 where candidates, working in groups will complete a suitable and sufficient risk assessment on work areas within Warwick Arts Centre.

#### **Gold Award Assignment**

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## Gold Certificated Awards Courses designed for Theatre Stage Technicians

### **Wednesday 22 July**

- **Stage Structures** Tutor: Neil Darracott  
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 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; design standards. With an emphasis on realistic examples and practical experience this subject will be covered through presentation and discussion. It is hoped to include an opportunity to consider participants' own examples within the scope of the course.

### **Thursday 23 July**

- **Technical Drawing for Theatres** Tutor: David Ripley  
Drawings are a vital part of any production planning. This course will discuss what drawings are for, what drawings are required and who has responsibility for creating them. What should drawings look like, what are the standards and what must every drawing contain for clarity? The course will include information on both paper based systems and CAD systems used in a theatrical environment. A look at venue drawings and how reliable they are as well as simple surveying and marking out techniques for the stage.

### **Friday 24 July**

- **Rigging 2** Tutor: Chris Higgs  
Rigging 2 is a day of problem solving, reviewing techniques and further training in the use of lifting and rigging equipment. This session seeks to test the understanding and skill of the Gold Award technician in using a range of rigging equipment to hang hoists efficiently using a safe system of work. Technicians will work in pairs to carry out rigging tasks and will need to bring suitable clothing and footwear.

### **Saturday 25 July**

- **Risk Management 1** Tutor: Geoffrey Joyce  
This course covers the important aspects of the *Management of Health and Safety at Work Regulations*, and deals with the requirement for risk assessment, how to carry out risk assessments and how to record them. It identifies what actions are required under the regulations in terms of supervision, training, provision of information and ensuring competent risk assessments by managers and supervisors. The module takes place in the theatre workplace situation in such away as to leave the candidate with a clear grasp of current requirements.

### **Sunday 26 July**

- **Risk Management 2** Tutor: Geoffrey Joyce  
A practical session following on from Risk Management 1 where candidates, working in groups, will complete a suitable and sufficient risk assessment on work areas within Warwick Arts Centre.

### **Gold Award Assignment**

This will be a written module, to be completed within three months of the last course date and based on a management Safe System of Work, featuring the candidate's own workplace. The module will be between 2500 – 3000 words. An assignment brief and candidate discussion will take place during the week. The assignment will be subject to external marking by RSAMD.

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**BOOKING FORM**

**Gold Award for** *(please tick)*

**Electrics**

**Sound**

**Stage Technician**

**£700 + VAT**

*Course fees include all courses, RSAMD accreditation fee, ABTT Codes of Practice and Training Logbook*

**I enclose a deposit of £115 (£100 + VAT) made payable to THEATRICAL TRADING LTD to reserve my place on ABTT Summer School 2009.**

1. You or your organisation will be sent a receipted invoice for your deposit.
2. Please note your place cannot be confirmed without either a deposit or purchase order.

***Please print clearly***

**Name** .....

**Address** .....

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**Postcode** .....

**Contact Number** .....

**Mobile Number** .....

**Email** .....

**Accommodation information** Yes  No  *(please tick)*

**Name & address of person/organisation to be invoiced for the balance if different from above**

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**Postcode** .....

**Purchase Order No** .....

***Please photocopy - send your completed booking form with your deposit or order to:  
ABTT, 55 Farringdon Road, London EC1M 3JB***

ABTT Summer School 2009  
*a week of technical theatre training at Warwick Arts Centre, Coventry*

Specialised one-day course  
**Pyrotechnics Awareness Course for  
Theatre Technicians**  
Sunday 19 July 2009  
at 10.00 am

Tutor: Lincoln Parkhouse of Just FX

Following the introduction of the *Manufacturing and Storage of Explosive Regulations 2005* (MSER) the ABTT is running a Pyrotechnics Awareness Course to cover operational safety and includes hands-on demonstrations of many pyrotechnic effects.

The course will also provide technicians with an opportunity to update and familiarise themselves with these new regulations.

All participants will receive a comprehensive set of notes, and a new theatre-related guidance note on MSER. Subject to satisfactory completion of the course each candidate will receive a certificate, signed by the tutor, and one year's free registration to the Association of Stage Pyrotechnicians.

Please note that smoke will be generated during the day.

ABTT Members £120 + VAT

Non Members £150 + VAT

You or your organisation will be sent a receipted invoice.

Please complete the appropriate part of the booking form overleaf.

***Please send your completed booking form with your cheque to  
ABTT, 55 Farringdon Road, London EC1M 3JB***

*ABTT Training - Safety Through Knowledge*

ABTT Summer School 2009  
*a week of technical theatre training at Warwick Arts Centre, Coventry*

**BOOKING FORM**

*(please tick)*

- Pyrotechnics Awareness Course**  
**Sunday 19 July** £120 to members; £150 to non-members; + VAT
- Stage Structures**  
**Wednesday 22 July** £100 to members; £130 to non-members; + VAT
- Technical Drawing for Theatres**  
**Thursday 23 July** £100 to members; £130 to non-members; + VAT
- Risk Management 1 & 2 (two day)**  
**Saturday 25 & Sunday 26 July** £200 to members; £275 to non-members; + VAT

**I enclose a cheque for ..... made payable to: THEATRICAL TRADING LTD.**  
You or your organisation will be sent a receipted invoice.

*Please print clearly*

**Name** .....

**Address** .....

**Postcode** .....

**Contact Number** .....

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**Name & address of person/organisation to be invoiced if different from above**

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