

LVR Limited

**Professional Laser Display
Safety Training Course**



Laser Safety Training

**to be held at:
Hunton Park, Nr Watford on Monday 5th March 2012**

Course overview

Included with the course, all delegates receive:

- Full course reference manual
- Buffet lunch and refreshments through the day
- Certificate of Attendance
- Entry onto the Registered Laser Safety Attendee Scheme
- Special Edition of Scanguard Laser Safety Analysis Software
- Opportunity to sit an optional laser safety examination

The course includes the discussion of Laser Regulations
"Control of Artificial Optical Radiation Regulations 2010"

Now Available : LASER SAFETY APPS



These Apps are the first in a series of Laser Safety Apps that have been released by LVR Limited, which are designed specifically for Apple devices. The fully featured laser safety apps provide anyone working with lasers in an entertainment or industrial environment, the ability to perform complex calculations and access critical laser safety information at a touch.

Full information can be found on the App store or our website www.lvrlimited.com/ios.htm

Professional Laser Display Safety Training Course

Hunton Park, Nr Watford : Monday 5th March 2012

We present a single day course in laser display safety at Hunton Park Hotel. The course covers the key aspects that need to be considered by anybody involved in working with laserdisplays. The course combines theory with practical examples of many topics, enabling attendees to gain valuable knowledge and an insight into what is necessary to perform legal, safe and enjoyable laser displays.

In addition to the subjects covered in the course, everyone that attends our laser safety training day is given a copy of our printed reference manual and receives a certificate of attendance, along with a free special copy of our Scanguard laser software, which is capable of performing scanned effect calculations. If you decide to sit the examination, a further certificate of achievement will be issued if you pass!



Main Course Topics Covered:

- Laser Beam Properties
- Biological Effects
- Safety Standard and Health & Safety Guidance
- Preparing Risk Assessments
- Designing Audience Safe Effects
- Working with Local Authorities & other officials
- Demonstarions on how to measure scanned emissions
- Laser Hazards
- Legal Requirements (New regulations covered)
- Maximum Permissible Exposure (MPE) and Exposure Limit Values (ELVs)
- Outdoor display considerations
- Practical examples of calculating beam hazards
- Manufacturing and installation requirements
- The UK laser regulations and how they affect light show operators and installers
- Discussion of the simplified approach to assessing audience scanning laser shows, with advantages and disadvantages of such an approach.
- Optional Examination, covering laser safety for display applications (exam based on course syllabus).

Laser Safety : The Reason...

Lasers can be dangerous and can cause hazards if they are not installed and operated safely. The types of laser used for laser displays have the potential to cause serious injury to people if proper care is not taken. Standards and guidance do exist for using lasers, and more recently new "Laser Specific" Health & Safety legislation has been introduced. Our Professional Laser Display Training Course is designed to teach you what is necessary to peform legal, safe and enjoyable shows.

Laser Safety : The Solution...

The training course covers a wide range of laser safety topics targeted specifically for the light show and entertainment industry. You will learn about what the hazards are when using lasers, how to design sage shows and effects, along with what measurements and calculations are necessary to create safe audience scanning effects. You will also learn how to prepare risk assessments and work with local authorities, and other regulatory bodies.

Laser Safety : The Requirement...

Any person or venue operating a laser display that has an output power of more than 5mW should appoint a Laser Safety Officer (LSO) who is responsible for overseeing the safe installation, operation, and management of the laser display. There are legal requirements under Health & Safety Law and the Management of Health and Safety at Work Regulations 1999 to carry out proper risk assessments when using lasers, and for staff to be properly trained. There are additional specific requirements under the new "Laser Regulations". In addition, many venues have to ensure any laser dispays comply with regulations as part of their entertainment licence grated by the local authority, and for insurance purposes. With the influx of low-cost laser equipment available both online and on the High Street, the use of lasers in public places is becoming more widespread. As a result, regulatory bodies are starting to pay closer attention to laser display activity.

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The topics covered in the safety course have been designed to help the laser user to ensure they have the knowledge required to perform safe and legal laser displays. The cost of our safety course is probably much less than what most operators would charge for a single laser show event; and with regulators having the authority to say no to a display if they are not happy with things, attending one of our courses and making sure you are aware of what is needed, can help you avoid running into any such problems.

Being able to show that you have attended a laser safety course also gives you a competitive advantage over operators that are unable to demonstrate safety skills.

On completion of the day long course, you will receive full course colour notes, and a certificate to show that you have attended our Laser Display Safety Training Course. Attendees also receive a special edition version of our Scanguard laser safety software.

Registered Laser Safety Attendee Scheme



Upon completion of attendance at the Professional Laser Display Training Course, attendees will each be given a certificate of attendance. A copy of the certificate should be enclosed with the Laser Safety Record produced for every laser display performed. In addition, each certificate contains a unique ID number that will be registered to the recipient. Attendees of the safety course can provide venue owners, local authority officers, & event organisers with this reference number, which can be checked online at www.lasershowsafety.org for authenticity to prove that you have attended a laser display training course. When they type the reference number along with your surname printed on the certificate, the authenticator will report back if the certificate number matches the registered surname.

Please note: No other details are given about members on the registered database.

In accordance with Data Protection Legislation, details are not revealed or passed onto any third parties.

Reliable Knowledge ...

The Laser Safety Course has been designed and presented by laser safety expert and laser display designer, James Stewart, who through over 20 years of experience in the light show industry has come across many of the safety problems and situations that are often unique in the laser display application. During 2003, Laser Visuals Research received a government DTI SMART award to help carry out extensive research work into the affects of audience scanned laser radiation and ways of making laser displays safer. Since that time LVR have gone on to develop important safety products such as the multi- award winning Scanguard Laser Show software, and the new range of laser safety App's for the Apple devices iPhone, iPad and iPod Touch.

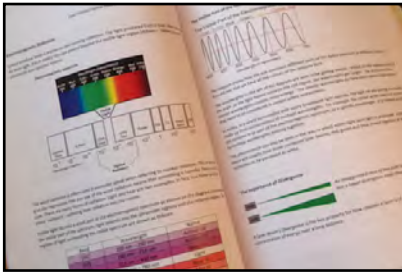
As well as specific laser safety expertise, James also has a wider knowledge of general Health & Safety issues being NEBOSH qualified, and holding a MSc in Risk & Safety Management, along with being a member of the Institute for Occupational Safety & Health (IOSH) and International Institute of Risk and Safety Management (IIRSM). This broad mix of specialist skills has led to James being employed by some of the world's leading recording artists to prepare laser safety cases for their Productions so that audiences can be treated to Spectacular and safe effects. James also regularly works as consulting Laser Safety Officer for many of the UK's largest entertainment venues and arenas.

He also regularly helps provide feedback and input for developing Laser Safety Standard. James has spoken about laser show safety issues at the annual Laser Safety Forum, presented papers at the international Laser Safety Conferences in LA and San Francisco, and has spoken on the subject for PLASA at Earls Court. James is a Certified Laser Safety Officer, having taken the examination in the USA. Throughout the time, James have been involved in laser safety he has gained recognition from leading experts in the laser safety world, and government agencies of being a reputable source of information on the subject area.

Professional Laser Display Safety Training Course

Hunton Park, Nr Watford : Monday 5th March 2012

Laser Display Safety Training Course Outline



The course and the accompanying colour printed handbook are divided into seven main segments that each cover a different aspect of the points that need to be considered before performing a laser display.

Section 1 : Laser Show Basics

The day begins with an introduction into laser beam properties and hazards. The parameters and terms used for laser safety assessment are introduced.

Section 2 : Laser Display Optical Hazards

Laser display hazards are highlighted, along with explanations as to why laser light properties are hazardous, and the resulting biological injuries from exposure.

Section 3 : Laser Safety Legislation

Discusses relevance of the published Laser Safety Standards and Health & Safety guidance, and what the legal requirements are for persons or venues operating laser displays are, and who needs to be notified when a laser display is performed or installed. Also included is full coverage of the recently introduced Control of Artificial Optical Radiation at Work Regulations 2010 "Laser Regulations", detailing what the new regulations mean in practice for laser light show operators. Also in this section we cover what the minimum set of features that should be included on Class 3B and Class 4 laser products used for laser displays. This session is useful to manufacturers and users alike, as it shows what needs to be featured in a laser projector.

Section 4 : Laser Installation Guidance

This segment covers the rules and guidance for best practice on laser display installations; separation distances, aperture masking and handover arrangements are all included.

Section 5 : Evaluating Laser Effects

Here we take a closer look at Maximum Permissible Exposure (MPE), calculating Hazard Distance and other important laser safety calculations such as measuring Diffraction Grating Effects, with practical demonstrations of the techniques used; along with detailing what equipment is needed.

Section 6 : Laser Show Documentation

Planning and assessing the display area for indoor and outdoor events, conducting and documenting a Risk Assessment, preparing a Laser Safety Record and other documentation is discussed in this section.

Section 7 : Laser Shows in Practice

The final part of the day concentrates on ways in which laser displays can be made safer by choosing specific types of laser effects; along with handy tips of do's and don'ts

Optional Examination

At the end of the day, there is a chance to test your knowledge and demonstrate your capabilities in a 45 minute Professional Laser Show Operator's Exam. The exam is based on what is taught during the training day and is a mix of multiple choice and short written answers. The pass mark is 60%. We award a Merit if 75% or more is achieved and a Distinction if you manage to obtain 90% or more. If you wish to sit the exam, please ensure that you tick the box on the booking form either paper or online version.

The course runs through a single day from 09:30 hrs to 17:00 hrs, with welcome tea/coffee and a hot/cold buffet lunch. Along with lunch break, you will also have morning and afternoon refreshment breaks where tea and coffee is available at no extra cost. If you opt to sit the examination, this would be sat at the end of the day (approx. 45 minutes) along with an exam debrief upon completion by James Stewart.

Professional Laser Display Safety Training Course

Hunton Park, Nr Watford : Monday 5th March 2012 : Booking Form

Laser Display Safety Training Course Booking Form

Details of Delegate:

Full Name: (Dr/Mr/Mrs/Ms)
Organisation:
Address:
Telephone:
Email:
Special Dietary requirement (<i>may incur an additional fee</i>)

Second Delegate:

Full Name: (Dr/Mr/Mrs/Ms)
Special Dietary requirement (<i>may incur an additional fee</i>)

- Course Fee : One Delegate** **£245** (*£294.00 Inc Vat @ 20%*) *Yes, One Delegate*
- Course Fee : Two Delegates** **£445** (*£534.00 Inc Vat @ 20%*) *Yes, Two Delegates*
- Exam Fee : per delegate** **£ 35** (*£42.00 Inc Vat @ 20%*) *Yes Exam for* *Delegates*
- Course Date & Location:** *5th March 2012 : Hunton Park Hotel, Nr Watford, Hertfordshire*

Method of Payment

- I Enclose a cheque for £ made payable to LVR Limited
- I wish to pay via a debit or credit card - please contact me via email with a link to securely pay online via PayPal.

Standard Terms & Conditions

1. Bookings will be regarded as provisional until the full course fee has been paid.
2. Payment must be made in advance by 16th February 2012
3. VAT receipts will be issued for all payments received in respect of training courses during the month of the course date.
4. All course fees include a course attendance, handbook, attendance certificate, free registration onto the Laser Safety Operators database and refreshments/lunch. Please note that special dietary requirements may be subject to an additional fee.
5. The course is not to be recorded in any way without the prior knowledge of LVR Limited. Material supplied on the course is subject to copyright and must not be duplicated in whole or in part.
6. Any cancellations within 3 weeks of the course date will result in the loss of the course fees paid. The delegate can re-book to an alternative date up to one week prior to the course date and an administration fee of £25 + VAT will be charged. Cancellations or postponement within one week of the course date will result in the loss of course fees paid. Should a delegate be unable to attend a substitute is always welcome. Please give as much notice as possible if delegates are changing. Non appearance on the day will be treated as a cancellation and the course fees paid cannot be refunded.
7. LVR Limited reserves the right to cancel any course due to circumstances beyond its control and that LVR Limited liability shall be limited to the refund of fees paid only. The course is subject to a minimum number of delegates.

I confirm I/we have read & agreed to the Terms & Conditions of booking:

Signed Date



Hunton Park Hotel

Essex Lane, Hertfordshire WD4 8PN

Telephone: 01923 261511

www.deverehotels.co.uk/locations/hunton-park.html

DIRECTIONS

By Car:

From Junction 20 on the M25,
Head south in the direction of Watford (A41). After half a mile turn left at the traffic lights at Hunton Bridge into Hunton Bridge Road. Pass under the railway bridge and up Hunton Bridge Hill. After a quarter of a mile turn right into Hunton Park Hotel.

From London and the North,

On exiting at Junction 5 of the M1, follow the A41 northbound. Follow for 3 miles passing the Sainsburys Superstore en route at the roundabout. Continue on the A41 signposted Aylesbury until the next roundabout where you should turn right and continue in the direction of Aylesbury. At the traffic lights turn right (signposted Abbots Langley) into Bridge Road. Pass under the railway bridge and up Hunton Park Bridge Hill. After a quarter of a mile turn right into Hunton Park Hotel.

By Rail:

The nearest station is WATFORD JUNCTION (15 Minutes) which connects to London Euston. Taxis are available at the station or can be pre booked by calling Hunton Park reception on (01923) 261511.

By Air:

Hunton Park is approximately 30-40 minutes from Heathrow and 1 1/2 hours from Gatwick Airports.

