

## Risk Assessment for Lasers in Studios

### Scope:

Any production that wants to use lasers in the studio must liaise with the Resource Manager in advance to ensure that adequate controls are put in place to protect people and equipment.

### Production:

The Production must ensure that any use of Lasers is fully discussed with the resource manager in advance and that it is documented on the Production Risk Assessment form. A full risk assessment should be gained from the company or persons supplying the laser.

The following should be included:

- calculations and supporting measurements of exposure levels at defined positions within the display area;
- details of all permissible display effects, their safety implications and the constraints on their use;
- the suppliers address and telephone number and those of its Laser Safety Officer;
- The documentation should include scale diagrams and/or photographs which show the dimensions of the installation and display area.

Instructions should be provided on the use and effect of display controls which take into account reflective surfaces in the studio such as, decor, suspended lighting rigs, scaffolding, glazed areas, and wet surfaces etc; Information on manual shutdown and any surveillance requirements must be provided;

Production should also supply details of any protective eyewear and/or clothing required will be given; They must also ensure that operators have all necessary experience and training required to manage and run the lasers safely;

### Cameras:

Laser light must be prevented from entering a camera lens unless this has been agreed, including the controls, with the equipment owner as a production requirement. The laser operator must make detailed plans, which will be monitored by the production's designated 'Laser Safety Officer', to ensure safe operation. Productions must ensure that a competent laser operator and a Laser Safety Officer is appointed and that their details are passed to the Resource Manager.

The people that might be harmed: Studioworks employees, contractors, public, artists

HAZARD	CONTROL
<p><b>Eye damage, even at considerable distances, including those from reflective surfaces</b></p> <p><b>Skin damage if high power laser</b></p> <p><b>Fire damage if high power laser</b></p> <p><b>Damage to television cameras</b></p>	<ul style="list-style-type: none"> <li>• Any use of laser must be discussed in advance with the Resource Manager.</li> <li>• A separate and specific risk assessment should be undertaken.</li> <li>• A competent and experienced laser company will be appointed to complete the safety assessment, installation and operation of lasers.</li> <li>• Laser displays will be pre-programmed and rehearsed under performance conditioned.</li> <li>• Affected areas will be cleared of all non-essential personnel for initial beam alignment.</li> <li>• A low power verification of the effect will be carried out to confirm beam alignment and termination.</li> <li>• Adequate clearance vertically above and horizontally from the audience, follow spot operators and FOH control positions will be demonstrated and maintained with physical masking.</li> <li>• Audience scanning is not permitted.</li> <li>• All those potentially at risk will receive a safety briefing from the laser contractor, outlining device location, and display content, timing and duration.</li> <li>• Warning notices should be displayed on entrances.</li> <li>• Instructions will be provided on the use and effect of display controls, taking into account reflective surfaces such as, decor, suspended lighting rigs, scaffolding, glazed areas, and wet surfaces etc;</li> <li>• Information on manual shutdown and surveillance requirements will be given.</li> <li>• Information on automatic emergency shutdown systems, their mode of operation, maintenance requirements and function verification will be given.</li> <li>• Details of protective eyewear and/or clothing required will be given.</li> <li>• Operators will have the necessary experience and training.</li> </ul>

HAZARD	CONTROL
	<ul style="list-style-type: none"> <li>• Laser light will be prevented from entering a camera lens unless this has been agreed, including the controls, with the equipment owner as a production requirement.</li> <li>• A competent Laser Safety Officer will be appointed.</li> <li>• The laser operator must make detailed plans, which will be monitored by the 'Laser Safety Officer', to ensure safe operation.</li> </ul>