LASER Signage - Capability Demonstration

Requirement

A requirement is identified for a highly visible yet flexible display solution to project public-safety information and policing announcements.

Traditionally, this requirement has been achieved using matrix displays, usually mounted on a vehicle trailer. These have a number of shortcomings in that they cannot be easily moved or the messages dynamically changed. Furthermore, matrix displays are usually at street level and may present a hazard to densely crowded areas.

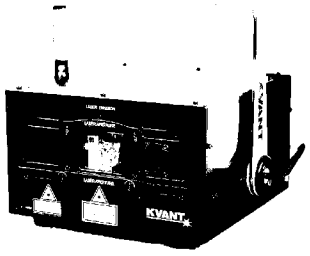
LASER[1] Signage Capability Demonstration

Laser display systems have been widely developed for the entertainment and events industry and are now commonplace at public shows and concerts.

On 24th September, a display Laser was demonstrated at Gravesend Public Order Training facility. The Laser used was a 10W Green-Diode, typically used for public light-displays and hired from KVant UK, with a trained operator.

A number of messages, graphics and animations had already been programmed into the apparatus which was operated from a standard laptop computer. The Laser was tested against a number of surfaces as follows:

- Roofing material
- Bricks and breeze block
- Trees and foliage
- Corrugated sheeting
- Stadium seating

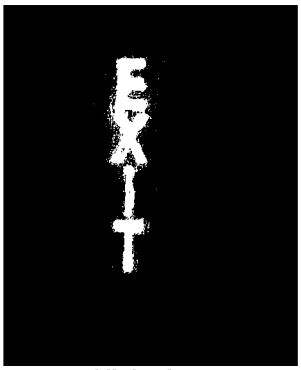


KVant 10W LASER

The Laser was tested for day-time and night use, as well as in the presence of smoke. The performance was captured using a video camera, and two example 'stills' are given below.

[1] Acronym for 'Light Amplification by Stimulated Emission of Radiation'

Day Time



Night time

The performance was established to be effective, giving clearly readable signage on a variety of surfaces at differing angles, even during daylight.

Trial - Public Order Situation

It is proposed that a Laser signage system is tested in a real-life situation such as 'The Million Masked March' on the 5th November.

For this trial, it is proposed to project onto a building facade within Trafalgar Square. A number of pre-planned messages will be prepared. The equipment will be deployed from a high-up vantage point, along with CCTV, with the permission of the building owners.

Simulated Example - National Gallery

Safety Issues

There is considerable legislation concerning the manufacture and safe operation of Laser systems as they have the potential to permanently blind, if used incorrectly.

The live trial will be delivered by KVant Lasers UK as a 'Public Production' and they will manage all safety aspects and associated documentation. Working with SCO22, the deployment will be facilitated by the Operationally Technology unit that usually delivers temporary overt-surveillance for major events.

Going Forward

At the request of the MPS, a proposal has been submitted by the suppliers, KVant[2], for the purchase of a Laser system for further use and evaluation. The cost is in the region of £15k, including software and training.

Subject to the success of the trial on 5th November, Operational Technology would seek to purchase a system to be operationally delivered through their normal SCO22 tasking route for Public Order CCTV.

Operationally Technology is already engaged with an independent Laser safety specialist for guidance around the purchase and use of this equipment, including the preparation of associated safety documentation.

Written by[1] *8th October 2015*
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[2] KVant are the only European manufacturers of LASERs compliant with current legislation EN60825.