



# EVENT SCREENS

Harkness event screens are PVC projection surfaces that can be used for temporary or permanent installation where a specific screen size or shape is required. Screens can be used for projected images or for lighting effects.

A wide range of screen surfaces is available for front or rear projection and for use in different lighting conditions.

## Benefits of PVC event screens

### Front projection screens:

- Faithful colour reproduction and excellent contrast.
- Bright images with uniform light distribution.
- Wide viewing angle.
- Optimises performance of large digital projectors.

### Rear projection screens:

- Screens can provide background colour as required when not projecting images.
- With back lighting or back projection, the screen can be used to produce colour changes or scenic effects.

### All screen types:

- Any size or shape can be fabricated.
- Seams are invisible under projection or lighting conditions.
- Multiple images can be blended.
- Custom screens are quick to install and have different edge finishing options.



Crystal Cathedral, Los Angeles



Promotion in Paris



3D Attraction in Blackpool UK

Screens are available on short lead times.  
Off-roll (unseamed) materials also available.



Video Art Exhibition in Zurich



Film Premiere London



Launch of new aircraft, Jeddah



MIMA Gallery in Middlesborough, UK



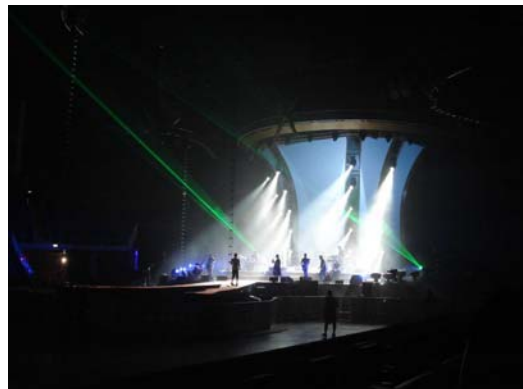
npower ecology conference at Eden, UK



Toyota product launch, Bluewater, UK

## Typical applications of Harkness Event Screens

- Live theatre/opera.
- Cycloramas in TV or film studios.
- Corporate presentation or convention.
- Product launches.
- Fashion shows.
- Exhibition stands and conference sets.
- Film premieres.
- Touring shows.
- Special lighting effects.
- Theme park attractions.
- 3D effects.



O2 Arena, London

## Screen types

### Front projection

- Event Matt White - for use in controlled light conditions; exceptional viewing angles; good contrast with little loss of resolution.
- Matt White Perforated - for use where an acoustically transparent screen is required, or for lighting effects; exceptional viewing angles, good contrast with little loss of resolution; available in standard and mini perforations.
- White/Black - blocks light from behind the screen.

### Rear projection

- Translite Grey - a grey surface for use in controlled light conditions; good contrast; high diffusion; good colour rendition and viewing angles; suitable for edge blending projection.
- Translite Super Grey - similar to Translite Grey but with higher transmittance.
- Translite Blue - pale blue screen holds a good image with high contrast; can also be used for reflecting light to give scenes a cold feel.
- Translite Midnight - dark grey screen; gives a high contrast image; works well in ambient light; useful as dark backdrop.
- RP 230 - a grey high contrast, high transmittance screen surface; ideal for conditions with a high level of ambient light.

### Front and rear projection

- Translite Super 2 - a cream coloured screen for use in low ambient light.
- Translite White - an off-white screen similar to Translite Super 2 but with superior performance on front projection.

### Lighting effects

- Translite Crystal - a frosted surface with high translucence suitable for lighting and scenic effects.
- Translite Clear - a completely transparent surface for lighting and scenic effects.

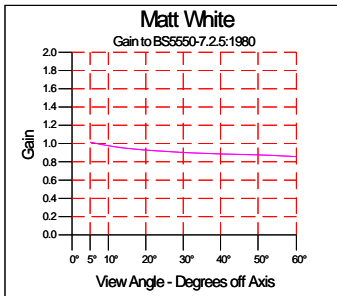
### 3D effects

- Spectral 240 - a front projection screen for use with 3D systems using polarised light; sharp, bright, high contrast images; also supports 2D images.
- RP3D - a rear projection screen for use with 3D systems using polarised light; sharp, bright images; also supports 2D images; will also support front projection.

## Extra wide off-roll materials

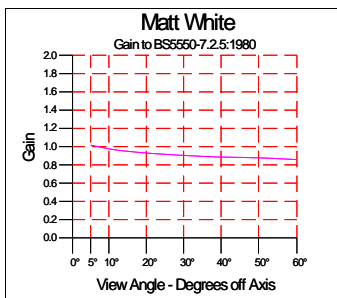
- Event Matt White (3m) - a front projection material with the same performance as Event Matt White but available off roll at 3 metres wide.
- RP 230 - available off roll 3 metres wide for rear projection applications; a grey high contrast, high transmittance screen surface; ideal for conditions with a high level of ambient light.

## Technical specifications



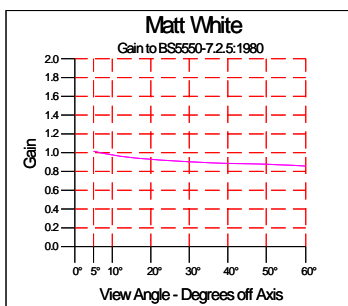
### Event Matt White

- Application front projection
- Material PVC
- Colour white
- Fire classification UK  
France M1
- Weight 0.43 kg/m<sup>2</sup> (0.09 lb/ft<sup>2</sup>)
- Thickness 0.3mm
- Roll width 2.2m
- Made up screens available
- Packing method folded



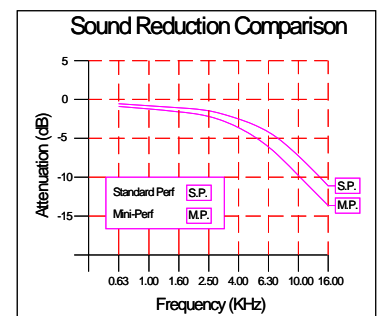
### Event Matt White (3 metre)

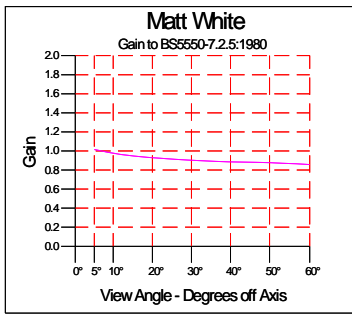
- Application front projection
- Material PVC
- Colour white
- Fire classification UK
- Weight 0.43 kg/m<sup>2</sup> (0.09 lb/ft<sup>2</sup>)
- Thickness 0.3mm
- Roll width 3m
- Made up screens not available
- Packing method folded



### Matt White Perforated

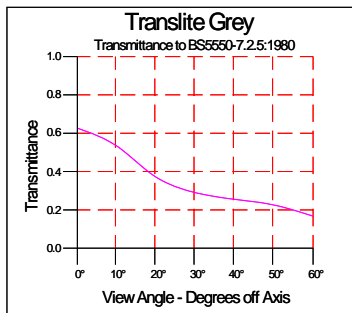
- Application front projection, requiring acoustic transparency
- Material PVC
- Colour white
- Fire classification UK  
USA NFPA 701  
Canada  
France M1  
Germany B1  
Italy Class 1  
Spain M2  
Japan  
Australia
- Weight 0.43 kg/m<sup>2</sup> (0.09 lb/ft<sup>2</sup>)
- Thickness 0.3mm
- Roll width 1.37m
- Made up screens available
- Packing method folded
- Perforation options  
- standard perf 1.2mm holes





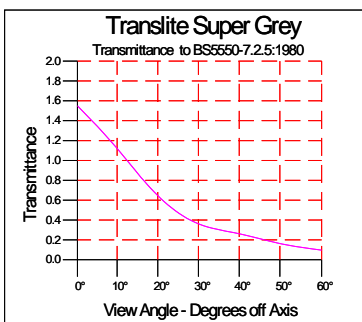
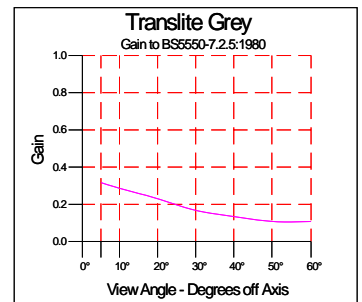
White/Black Reverse

- Application front projection
- Material laminated PVC
- Colour white/reverse black
- Fire classification UK  
France M1
- Weight 0.43 kg/m<sup>2</sup> (0.09 lb/ft<sup>2</sup>)
- Thickness 0.3mm
- Roll width 2m
- Made up screens available
- Packing method folded



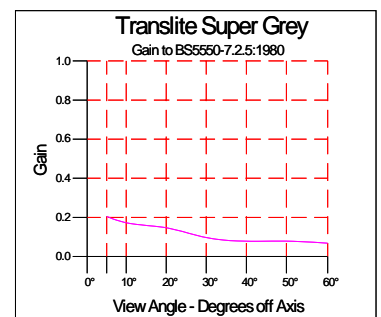
Translite Grey

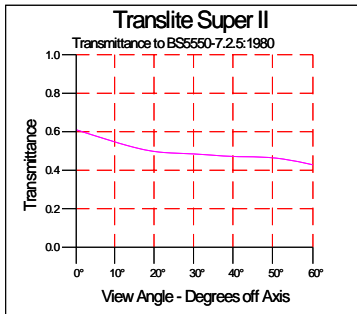
- Application rear projection
- Material PVC
- Colour grey
- Fire classification UK  
France M1  
Spain M1  
USA California Fire Marshall  
Germany B1
- Weight 0.43 kg/m<sup>2</sup> (0.09 lb/ft<sup>2</sup>)
- Thickness 0.3mm
- Roll width 2.4m
- Made up screens available
- Packing method folded



Translite Super Grey

- Application rear projection
- Material PVC
- Colour grey
- Fire classification UK
- Weight 0.43 kg/m<sup>2</sup> (0.09 lb/ft<sup>2</sup>)
- Thickness 0.3mm
- Roll width 2m
- Made up screens available
- Packing method folded

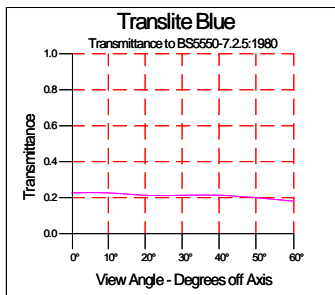
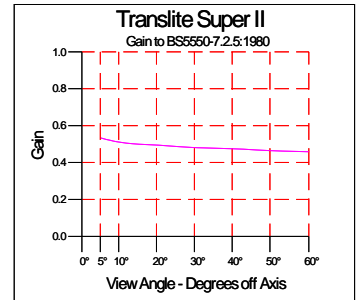




Translite Super 2

- Application
- Material
- Colour
- Fire classification
- Weight
- Thickness
- Roll width
- Made up screens
- Packing method

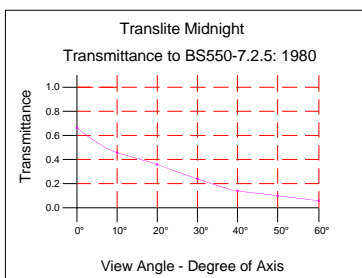
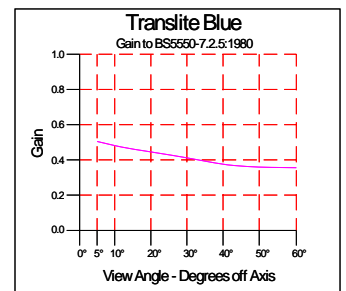
front & rear projection  
 PVC  
 cream  
 UK  
 France M1  
 Spain M1  
 USA California Fire Marshall  
 0.43 kg/m<sup>2</sup> (0.09 lb/ft<sup>2</sup>)  
 0.3mm  
 2.4m  
 available  
 folded



Translite Blue

- Application
- Material
- Colour
- Fire classification
- Weight
- Thickness
- Roll width
- Made up screens
- Packing method

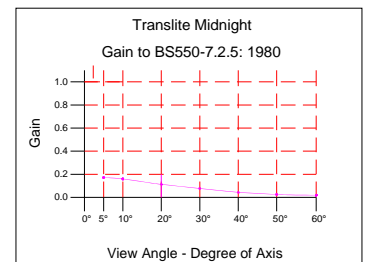
rear projection  
 PVC  
 pale blue  
 UK  
 France M1  
 Spain M1  
 USA California Fire Marshall  
 0.43 kg/m<sup>2</sup> (0.09 lb/ft<sup>2</sup>)  
 0.3mm  
 2m  
 available  
 folded

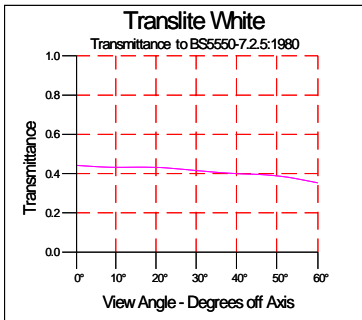


Translite Midnight

- Application
- Material
- Colour
- Fire classification
- Weight
- Thickness
- Roll width
- Made up screens
- Packing method

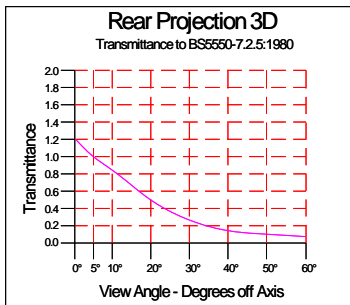
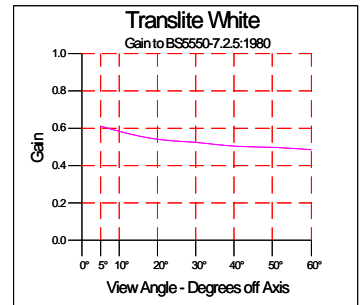
rear projection  
 PVC  
 dark grey  
 UK  
 France M1  
 Spain M1  
 0.43 kg/m<sup>2</sup> (0.09 lb/ft<sup>2</sup>)  
 0.3mm  
 2m  
 available  
 folded





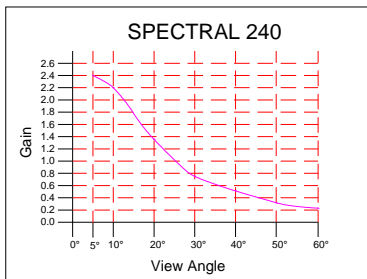
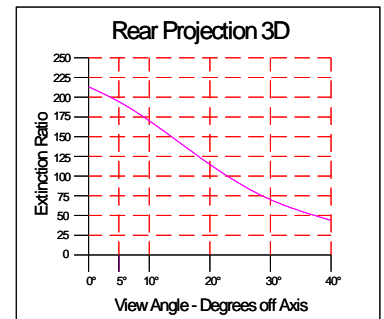
**Translite White**

- Application front and rear projection
- Material PVC
- Colour off white
- Fire classification UK
- Weight France M1
- Thickness Spain M1
- Roll width 0.43 kg/m<sup>2</sup> (0.09 lb/ft<sup>2</sup>)
- Made up screens 0.3mm
- Packing method 2m
- Application available
- Packing method folded



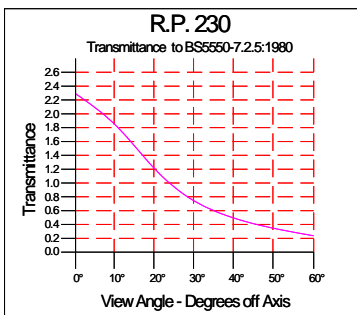
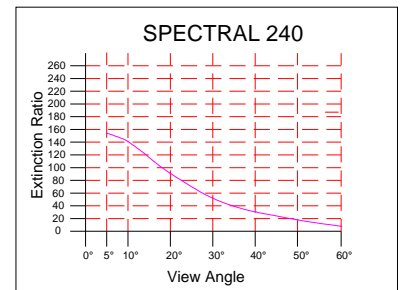
**RP 3D**

- Application rear projection
- Material PVC
- Colour black
- Fire classification UK
- Weight France M3
- Thickness 0.43 kg/m<sup>2</sup> (0.09 lb/ft<sup>2</sup>)
- Roll width 0.3mm
- Made up screens 1.4m
- Packing method available
- Packing method folded



**SPECTRAL 240 3D**

- Application front projection
- Material PVC
- Colour silver
- Fire classification UK
- Weight USA NFPA 701
- Thickness France M1
- Roll width Germany B1
- Made up screens Japan
- Packing method Korea
- Application Australia
- Packing method 0.50 kg/m<sup>2</sup> (0.10 lb/ft<sup>2</sup>)
- Thickness 0.3mm
- Roll width not available off roll
- Packing method rolled



**RP 230**

- Application rear projection
- Material PVC
- Colour mid-grey
- Fire classification UK
- Weight 0.43 kg/m<sup>2</sup> (0.09 lb/ft<sup>2</sup>)
- Thickness 0.3mm
- Roll width 3m
- Made up screens available
- Packing method folded

Translite Crystal

- Application lighting and scenic effect
- Material PVC
- Colour frosted
- Fire classification UK  
France M1
- Weight 0.43 kg/m<sup>2</sup> (0.09 lb/ft<sup>2</sup>)
- Thickness 0.3mm
- Roll width 2.2m
- Made up screens available
- Packing method folded

Translite Clear

- Application lighting and scenic effect
- Material PVC
- Colour translucent
- Fire classification UK  
France M1
- Weight 0.43 kg/m<sup>2</sup> (0.09 lb/ft<sup>2</sup>)
- Thickness 0.3mm
- Roll width 1.4m
- Made up screens available
- Packing method folded

**Screen Manufacturing**

All screens are made from PVC material. Unless specified otherwise, screens are made from panels which are joined vertically using high frequency welding. Seams are invisible under normal projection or lighting conditions.

Packing

Screens are normally folded for packing and transportation. Up to 200m<sup>2</sup> screens are packed in a pallet carton; over this size in a wood crate. 3D screens must never be folded and are supplied rolled in tubes or long wood crates. All screens can be supplied rolled on request.

Edge finishing

The following edge treatments are available:

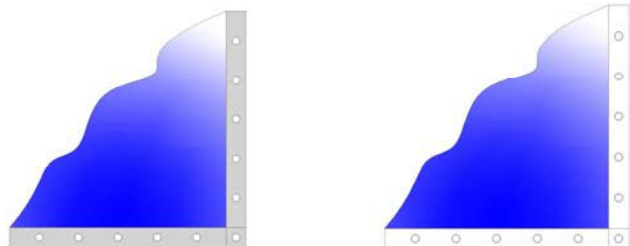
**Unfinished**

The edges are cut exactly to the required size (“cut square”). By arrangement, the screen can be supplied “cut over size”; in this case the screen is cut approximately 30cm (12”) larger than required for final finishing by the customer.



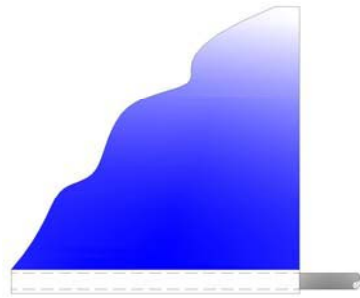
**Web & Eye (grommet)**

A reinforced web border all around the screen of 5cm (2”) width with eyelets (grommets) at 15cm (6”) intervals. Normally nickel plated grommets are used. Plastic eyelets are available if requested. A black web can be supplied if required: standard is 5cm (2”); 10cm (4”) is also available.



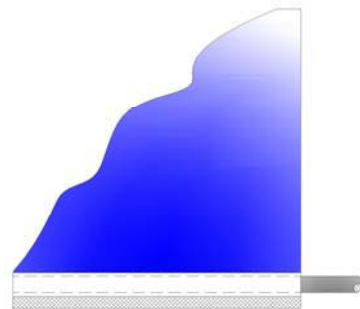
### Pocket

A pocket for holding a metal tube can be supplied at top and/or bottom of the screen.



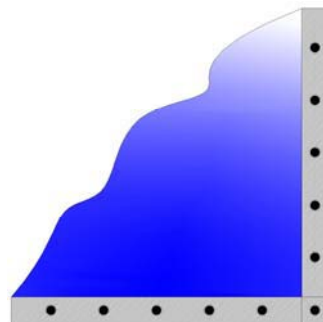
### Pocket with apron (skirt)

The apron can be added to the front edge of the pocket at the bottom of the screen. Normal extra length is 15cm (6").



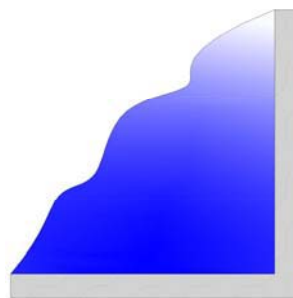
### Snap fasteners (UK only)

The screen is finished in a black PVC web and snap studs. The screen must be mounted on a frame with corresponding stud positions. Harkness can supply a suitable frame. Alternatively, studs can be supplied for us by installer.



### Web only

A same colour or black web (5cm/2").



### Installation

The following fastenings are available:

- Black or white screen ties (hook and loop bungees).
- Natural sisal cord.

## Technical Information

### Projector brightness

This is usually quoted in ANSI-lumens and is a measure standardised by the American National Standards Association.

### Image formats

Various formats are used which have different width to height ratios. HDTV format (16:9) and Video format (4:3) are two popular formats used in digital video projection.

### Flame retardancy

Screens contain additives so that they comply with fire retardant standards. The most important standards are: UK (BS 5867 Part 2); Germany (DIN 4102); USA (NFPA 701 or USA California Fire Marshall); France (NFP 92-503); Canada (CAN ULC S102-2); Spain (UNE 23-727-90). The specific classification that the event screens have been tested to are shown against each individual product. In some countries, the importer is responsible for testing compliance.

### Screen production

Harkness uses high frequency welding to make screens with joins that are invisible under normal projection conditions. There is virtually no limit to the screen size that can be made. Different edge finishes are available, depending on the installation method. Special shapes can also be made.

### Screen luminance factor (gain)

The gain of the screen is a measure of the ability of the screen to reflect projection light towards the audience. The screen luminance factor is measured with reference to a calibrated standard with a luminance factor = 1. The screen is brightest (has the highest luminance factor) when the source and the viewer are on axis (at 90° to screen). The viewing angle is the angle between the viewer and the axis. Gain diminishes with viewing angle. The half-gain angle is the viewing angle at which gain is half the peak on-axis level. Reference standard is BS 5550.

### Transmittance factor

Transmittance is the ability of the screen surface to pass projected light through the screen. This is measured by reference to the calibrated standard used for front projection gain measurement, which has a luminance factor = 1. Transmittance values also vary with viewing angle.

### Luminance diagram (gain curve)

This shows the luminance factor (gain) at each viewing angle. A flat curve shows a uniform light distribution on the screen. A curve with a strong peak on axis may be more likely to "hot spot".

### Edge blending

Very large images can be created by blending the edges of two or more projectors using software to control the luminosity of the overlapping images. Screens with a low (~ 1) gain or transmittance are most suitable for edge blending.

### Installation

Depending on the edge finishing, screens can be supported in different ways. Different types of metal frame can be used - the screen is normally attached with rubber screen ties or cord. Screens with pockets can be supported with barrels. Screens can also be stapled to wooden frames.

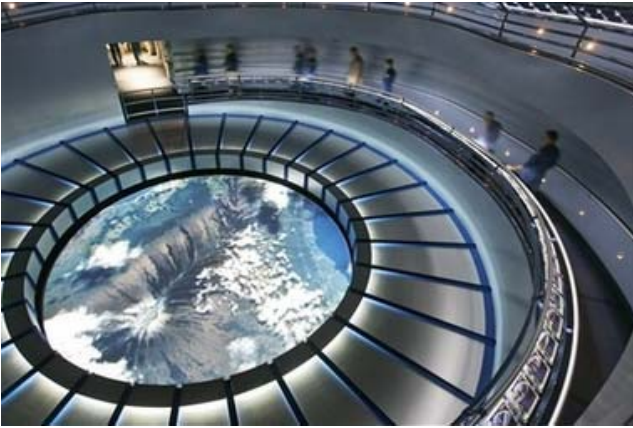
### Maintenance

The screens require no maintenance. They can be cleaned with a soft brush or cloth. A mild soapy solution can be used on uncoated screens. Coated screens should not be made wet.

## Damage

The screens can be damaged by being stored in very cold conditions, particularly when folded. If stored cold, screens should be allowed to warm up before installation.

Avoid screen contact with sharp objects, which can make holes in screens during or after installation. 3D front projection screens must not be folded and need particular care during installation.



Space Shuttle Experience, Kennedy Space Center, Florida, USA



TV Awards in Moscow



Lutheran Foundation, St. Louis, Missouri, USA



World's largest shaped screen, Manchester Central, UK

Harkness Event Screens - from the world's largest supplier of projection screen surfaces  
[www.harkness-screens.com](http://www.harkness-screens.com)

E-mail: [sales@harkness-screens.com](mailto:sales@harkness-screens.com)

UK: Tel: +44 (0)1438 725200  
USA: Tel +1 (540) 370 1590

Fax: +44 (0)1438 344400  
Fax +1 (540) 370 1592

