



SUMMER NEWSLETTER 2008

PHOTON IMAGING SYSTEMS LTD

IMPROVING YOUR IMAGE QUALITY USING GRIDS

What is a Grid?

When primary radiation passes through an animal, scatter radiation is inevitably produced; the higher the kV, the more scatter is produced. When this scatter radiation reaches the film, it sensitises areas which should not be sensitised. This produces a radiographic fog on the film that reduces contrast and degrades the diagnostic quality of the x-ray. An x-ray grid acts as a filter, dramatically reducing scatter radiation before it reaches the film. As a rough guide a grid would be beneficial when radiographs are obtained of any structure greater than 10cm in depth.

Grid Structure

An x-ray grid is made of strips of x-ray absorbing material, interspaced by a radiolucent material. Lead strips are used as the absorbing material, with aluminium as the radiolucent interspace.

Grid Ratio and Lines/cm

The grid ratio is the thickness of the grid, defined as the relation between the height of the lead strips and the distance between them. The thicker the grid, the sharper the film image becomes, but the higher the x-ray exposure required. Grids also have a varying number of lines/cm (inch). The greater the number of strips per cm, the more efficient at absorbing scatter radiation, but again, the higher the x-ray exposure required.

Focusing Distance

This is the distance from the focal spot of the x-ray tube to the face of the grid. It is important to use a grid with a focal distance compatible with the radiographic distance. If the grid has a different focal distance from the radiographic distance, part of the primary x-ray beam, which is necessary to create the image, is absorbed in addition to the scatter radiation, producing an x-ray image with inconsistent exposure and grid cut-off.

We provide two types of grid:

Focused Grid

A grid in which the planes of the absorbing strips converge to a straight line in the centre at the focusing distance.

Parallel Grid

A grid in which the planes of the absorbing strips are parallel to each other and perpendicular to the incident face. These grids should ideally be used at film-focal distances greater than 1 meter to avoid grid cut-off at the margins of the image.

To discuss your own requirements contact Paul on 01285 869869

NEW MEMBER OF THE TEAM



We are pleased to announce the appointment of our new Field Service Engineer, Robert Edmead. Robert will be covering London & the South East region.

Robert has been working as a Field Service Engineer for many years and has a good knowledge of electrical and electronic equipment.

His wealth of experience will be a great asset to our team in supporting you, our customers, and your equipment.

NEW TO THE PRODUCT RANGE! COLD LIGHT THEATRE LAMPS



New to our product range are single and triple cold light theatre lamps. The light is based on LED technology and as such offers exceptional performance advantages over conventional lighting.

Cold Light

LED produces a light beam without infrared rays and therefore without heat. Cold light will not affect or alter the target temperature.

White Light

Thanks to the new LED technology the lamps produce an unparalleled quality of light. It is possible to adjust brightness without altering light emission features.

Efficiency

While the conventional bulb starts losing efficiency from its first stage of use, high powered LED have a very linear yield and negligible performance decay for their life duration.

Long Life

LED are semiconductors. For this reason they boast an average life much longer than that of a conventional bulb.

Please call for more details and prices



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