

Title (en)  
X-ray examination apparatus.

Title (de)  
Röntgenuntersuchungsgerät.

Title (fr)  
Dispositif d'examen utilisant les rayons X.

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**EP 0629105 A1 19941214**

Application  
**EP 94201375 A 19940516**

Priority  
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Abstract (en)  
An x-ray examination apparatus in accordance with the invention is provided with an auxiliary light-detection system for performing brightness control of a visible image produced on the exit screen of the x-ray image intensifier. The light-detection system comprises a photosensor having a wide dynamic range and a photodetector having a multitude of photosensitive elements so as to provide spatial resolving power. In particular the photodetector is a charge-coupled device (CCD-detector) having an inherently limited dynamic range. Brightness-control, notably avoiding overexposure in certain regions, is carried out by assembling relevant pixel-values of parts of the image into a control signal. The sensitivity of the CCD-sensor is adjusted by employing of the signal of the photosensor and a sensitivity-control device. Therefore, the sensitivity of the light-detection system is made to match the dynamic range of images due to a collection of x-ray exposures. In order to obtain a control signal that is optimised to relevant parts of the visible image and being independent of average brightness over the entire area of an image, the signal produced by the CCD-detector, that is reciprocal to the average brightness, is multiplied by the signal of the photosensor, that is proportional to the average brightness.  
<IMAGE>

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CPC (source: EP)  
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Citation (search report)  
• [A] EP 0432119 A1 19910612 - PLANMED OY C O PLANMECA OY [FI]  
• [A] DE 3225061 A1 19840105 - SIEMENS AG [DE]  
• [AD] EP 0217456 A1 19870408 - PHILIPS NV [NL]  
• [A] EP 0200272 A2 19861105 - PHILIPS NV [NL]  
• [A] EP 0429977 A2 19910605 - SHIMADZU CORP [JP]  
• [A] US 5187730 A 19930216 - FUJIIHARA SHIGEMI [JP]  
• [A] US 4910592 A 19900320 - SHROY JR ROBERT E [US], et al

Cited by  
US6018563A; FR2768044A1; DE19614842A1; DE19614842C2; US6198801B1; US6229875B1; US6263044B1; US6333965B1; WO9714277A1; WO0035254A1; WO9736460A1

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