Title (en)

ELECTRON GUN WITH REDUCED-MOVEMENT OF CROSS-OVER POINT AT INCREASED BEAM CURRENT LEVELS, AND METHODS OF OPERATING SAME.

Title (de)

ELEKTRONENKANONE MIT GERINGER VERSCHIEBUNG DES CROSS-OVER-PUNKTES BEI HOHEN STRAHLSTRÖMEN UND VERFAHREN ZUR HANDHABUNG DERSELBEN.

Title (fr)

CANON A ELECTRONS A DEPLACEMENT REDUIT DU POINT DE CROISEMENT A DES NIVEAUX ELEVES DU COURANT DE FAISCEAU, ET SES PROCEDES D'EXPLOITATION.

Publication

EP 0461205 A4 19910819 (EN)

Application

EP 90908899 A 19891228

Priority

US 8905853 W 19891228

Abstract (en)

[origin: WO9009675A1] An electron gun (40) has a cathode (41) and three sequentially-spaced plate-like electrodes (42, 43, 44). Each electrode has an aperture (45, 56, 48) aligned with a line (x-x) extending normally away from a point of the emitting surface (58) of the cathode. A power supply (60) is arranged to supply respective voltages (Vc, V1, V2, V3) to the cathode and the three electrodes. Electrons issue from the emitting surface as a substantially-laminor flow, and are focused on a cross-over (59) beyond the third electrode after the electrons have been accelerated to substantially their maximum velocity. The velocity of the electrons at the cross-over is substantially greater than in prior art guns. The cross-over is of greater resolution due to a diminished space charge effect. The cross-over remains at a substantially fixed location from the emitting surface at all beam current levels. The invention also provides an improved method of operating an electron gun, which method includes dynamic switching of the various voltages applied to the cathode and the three electrodes, so as to maintain the resolution of a reformed image point on the screen within a predetermined bandwidth throughout the entire range of possible beam currents.

IPC 1-7

H01J 29/46; H01J 29/56

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CPC (source: EP KR)

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Citation (search report)

- [X] US 4496877 A 19850129 - KUENY CINDEE C [US]
- See references of WO 9009675A1

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