

Title (en)

Electron generating apparatus, image forming apparatus, method of manufacturing the same and method of adjusting characteristics thereof

Title (de)

Elektronenerzeugungsgerät, Bilderzeugungsgerät und dessen Herstellungs- und Eigenschafteneinstellungsverfahren

Title (fr)

Dispositif générateur d'électrons, dispositif de formation d'images, procédé de fabrication et procédé de réglage de ses caractéristiques

Publication

EP 0803892 A3 19990203 (EN)

Application

EP 97300559 A 19970129

Priority

- JP 3632896 A 19960223
- JP 33245496 A 19961212

Abstract (en)

[origin: EP0803892A2] It is an object of this invention to provide an electron generating apparatus which eliminates, with a simple process, variations in electron-emitting characteristics of electron sources caused by various factors, a method of adjusting the characteristics of the electron generating apparatus, a method of manufacturing the electron generating apparatus, and an image forming apparatus using the electron generating apparatus. Characteristic measuring voltages are applied from pulse generators (6, 7) to each surface-conduction emission device of a display panel (1), so that the electron-emitting characteristics are measured by a current detector (12). A pulse peak value setting circuit (8) is controlled to output a voltage signal having a peak value determined in the above manner, and characteristic shift voltages are applied from the pulse generators (6, 7) to the surface-conduction emission device. With this process, the electron-emitting characteristics of the surface-conduction emission devices are equalized. The characteristic shift voltage is higher than the characteristic measuring voltage, and the characteristic measuring voltage is higher than a driving voltage. <IMAGE>

IPC 1-7

H01J 29/08; H01J 29/46; H01J 9/02

IPC 8 full level

G09G 3/22 (2006.01); **H01J 9/02** (2006.01)

CPC (source: EP)

G09G 3/22 (2013.01); **H01J 9/027** (2013.01); **G09G 2320/0233** (2013.01); **G09G 2320/0285** (2013.01); **G09G 2320/029** (2013.01)

Citation (search report)

- [E] EP 0785564 A1 19970723 - CANON KK [JP]
- [A] EP 0651418 A1 19950503 - CANON KK [JP]
- [AD] US 5066883 A 19911119 - YOSHIOKA SEISHIRO [JP], et al
- [A] PATENT ABSTRACTS OF JAPAN vol. 095, no. 007 31 August 1995 (1995-08-31)
- [AD] PATENT ABSTRACTS OF JAPAN vol. 016, no. 196 (E - 1200) 12 May 1992 (1992-05-12)
- [AD] PATENT ABSTRACTS OF JAPAN vol. 015, no. 003 (E - 1019) 7 January 1991 (1991-01-07)
- [AD] SPINDT C A ET AL: "PHYSICAL PROPERTIES OF THIN-FILM FIELD EMISSION CATHODES WITH MOLYBDENUM CONES", JOURNAL OF APPLIED PHYSICS, vol. 47, no. 12, 1 December 1976 (1976-12-01), pages 5248 - 5263, XP000560520
- [AD] MEAD C A: "OPERATION OF TUNNEL-EMISSION DEVICES", JOURNAL OF APPLIED PHYSICS, vol. 32, no. 4, 1 April 1961 (1961-04-01), pages 646 - 652, XP000560583
- [AD] ELINSON M L ET AL: "THE EMISSION OF HOT ELECTRONS AND THE FIELD EMISSION OF ELECTRONS FROM TIN OXIDE", RADIO ENGINEERING AND ELECTRONIC PHYSICS, 1 August 1965 (1965-08-01), pages 1290 - 1296, XP000577258
- [AD] DITTMER G: "ELECTRICAL CONDUCTION AND ELECTRON EMISSION OF DISCONTINUOUS THIN FILMS", THIN SOLID FILMS, no. 9, 1 January 1972 (1972-01-01), pages 317 - 328, XP000561154

Cited by

EP1298698A1; US6661179B2; US6097356A; EP0964421A1; EP0952602A3; EP0948022A3; US6822397B2; WO0014710A1; US6760001B2; US6534924B1; US6821174B2; US6213834B1; US6712660B2; US6890229B2; US6888519B2; US7388561B2; US7304640B2; US6958578B1; EP0948022A2

Designated contracting state (EPC)

DE FR GB IT NL

DOCDB simple family (publication)

EP 0803892 A2 19971029; EP 0803892 A3 19990203; EP 0803892 B1 20030423; DE 69721116 D1 20030528; DE 69721116 T2 20031204

DOCDB simple family (application)

EP 97300559 A 19970129; DE 69721116 T 19970129