

Title (en)
FLAT TUBE DISPLAY APPARATUS

Publication
EP 0399515 A3 19920513 (EN)

Application
EP 90109841 A 19900523

Priority
• JP 13086789 A 19890524
• JP 13086889 A 19890524

Abstract (en)
[origin: EP0399515A2] A flat tube display apparatus wherein a row of many electron beam generators (2) is arranged transversely in a thin flat vacuum tube body (1) to generate a number of beams in parallel with each other which travel in parallel with an image screen (6) and to deflect the beams toward the image screen at a predetermined position. The beams are guided without being widely diverged due to the provision of a number of side walls arranged in parallel with each other to confine beams and due to the provision of alternately strong and weak magnetic fields along the side walls. Image brightness can be further increased by a frit-glass-laminated structure of a multiplier or microchannel (5).

IPC 1-7
H01J 31/12

IPC 8 full level
H01J 29/68 (2006.01); **H01J 31/12** (2006.01)

CPC (source: EP KR)
H01J 29/68 (2013.01 - EP); **H01J 31/12** (2013.01 - KR); **H01J 31/124** (2013.01 - EP); **H01J 43/04** (2013.01 - KR); **H01J 43/246** (2013.01 - EP)

Citation (search report)
• [XD] EP 0281191 A2 19880907 - PHILIPS ELECTRONIC ASSOCIATED [GB], et al
• [A] EP 0070060 A2 19830119 - PHILIPS ELECTRONIC ASSOCIATED [GB], et al
• [A] US 4158157 A 19790612 - SCHWARTZ JAMES W [US]
• [A] WO 8505491 A1 19851205 - STANFORD RES INST INT [US]
• JP H02250232 A 19901008 - MATSUSHITA ELECTRIC IND CO LTD
• [A] US 4780395 A 19881025 - SAITO TAMIO [JP], et al
• [A] US 3627550 A 19711214 - MONNERAYE MARC
• [E] PATENT ABSTRACTS OF JAPAN, vol. 13, no. 68 (E-716)[3416], 16th February 1989; & JP,A,63 252 349 (SEIKO INSTR. & ELECTRONICS LTD) 19-10-1988
• [A] JOURNAL OF PHYSICS D. APPLIED PHYSICS, vol. 16, no. 10, October 1983, pages 2023-2032, The Institute of Physics, Dorking, GB; B. JACHYM et al.: "The use of three-component polymeric composites in preparing a channel electron multiplier"; Abstract; figure 8.

Cited by
FR2759202A1; EP0522544A1; US5325014A; GB2341268A; GB2341268B; GB2341269A; GB2341269B; US6246165B1; US6181059B1

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