

Title (en)
GRID STRUCTURE FOR CERTAIN PLURAL MODE ELECTRON GUNS

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Application
EP 83902225 A 19830616

Priority
US 8300947 W 19830616

Abstract (en)
[origin: WO8500074A1] A cathode/grid assembly for effecting a dual power mode electron gun for use with a travelling wave tube. The conventional "shadow grid" (210) is both electrically and mechanically isolated from the cathode (100). A variable voltage source (240) is connected to the shadow grid to bias it slightly above or slightly below the cathode potential, depending on the power mode. The electron emitting surface area (102) of the cathode is the same in both modes. By changing the bias on the shadow grid, the transverse beam temperature may be increased to compensate for the reduced space charge density of the low power mode. Thus, the diameter of the low power beam is substantially the same as the diameter of the high power beam. This ensures good beam transmission and high electron beam rf interaction in the low power mode.

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