

Title (en)

PROCESS AND APPARATUS FOR THE MANUFACTURE OF CATHODE RAY TUBES HAVING TENSION MASKS

Publication

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Application

EP 88905282 A 19880518

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- US 13989287 A 19871231
- US 13999787 A 19871231
- US 14001987 A 19871231

Abstract (en)

[origin: WO8809561A1] This invention relates to a reusable factory fixture frame (82) and process for using same in the manufacture of a color cathode ray tube (20) having a flat faceplate (24) and a tensed foil shadow mask (50). The frame provides for mounting an in-process shadow mask during photoexposure of an in-process faceplate in a lighthouse (122). The frame (82) comprises generally rectangular frame means and quick-release mechanical mask-retaining means (88) for temporarily and removably supporting an in-process shadow mask in tension. The frame (82) includes a generally rectangular frame structure having grooves (24) thereabout for receiving an edge (26) of the shadow mask. The mask retaining means (88) may comprise spring-loaded mechanical mask-retaining devices (18) which are secured to the side of the factory fixture frame or quick-release mechanical spring clips (34) for temporarily and removably supporting the in-process shadow mask in tension in the grooves. Alternatively at least one elongate rod-like (28) member extending lengthwise of and complementarily mating with the grooves in the frame structure may be employed for temporarily and removably supporting an in-process shadow mask in tension. The shadow mask is heated and allowed to expand prior to being temporarily and removably supported on the frame, and the shadow mask is allowed to cool and shrink in tension while so being supported to effect tensing of the shadow mask in clamped condition on the frame. Preferably, the frame has at least first six-point indexing means (132) on a first side (84) for registration with complementary registration-affording means (134) on an exposure lighthouse (122), and second six-point indexing means (136) on a second, opposed side (118) for registration with complementary registration-affording means (138) on an in-process faceplate (120). As a result, the in-process shadow mask can be precisely registered and re-registered with the lighthouse (122) and the in-process faceplate (120) for the photoexposure of the in-process faceplate while retaining the in-process shadow mask in tension.

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IPC 8 full level

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