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United States Patent [19]**Armstrong et al.**[11] **Patent Number:** **5,784,054**[45] **Date of Patent:** **Jul. 21, 1998**[54] **SURFACE ACOUSTIC WAVE
TOUCHSCREEN WITH HOUSING SEAL**[75] **Inventors:** **Donald B. Armstrong**, Belmont;
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Calif.[21] **Appl. No.:** **621,127**[22] **Filed:** **Mar. 22, 1996**[51] **Int. Cl.⁶** **B65D 53/00**; G09G 5/00;
G06F 3/03[52] **U.S. Cl.** **345/177**; 277/630; 277/654[58] **Field of Search** 345/177; 277/654,
277/630, 637[56] **References Cited**

U.S. PATENT DOCUMENTS

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An effective seal for protecting a touchscreen and associated electronics from liquid infiltration, the seal being placed between the housing and the surface of the touchscreen and configured to surround the useful touchscreen area. The seal is preferably formed of a closed cell foam covered on the surface which contacts the touchscreen surface with a liquid impervious barrier, or an expanded polymer such as expanded PTFE. The seal may be secured to the bezel edge by a transfer adhesive coating applied to the bezel edge, except for a relatively thin edge strip along the inner edge of the bezel end, so that substantially no adhesive is present on a free surface of the seal body proximate to the window aperture of the bezel. Preferably, a smooth surface is provided for adhering the seal body to the bezel. The seal body may be compressed between the bezel and touchscreen surface to effect a seal.

36 Claims, 3 Drawing Sheets