

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG DISPLAY CO., LTD. and DELL INC.,
Petitioner,

v.

SOLAS OLED, LTD.,
Patent Owner.

IPR2020-00140
Patent 6,072,450

Before SALLY C. MEDLEY, JESSICA C. KAISER, and
JULIA HEANEY, *Administrative Patent Judges*.

HEANEY, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes Review*
35 U.S.C. § 314

I. INTRODUCTION

Samsung Display Co., Ltd. and Dell Inc. (“Petitioner”) filed a Petition to institute an *inter partes* review of claims 1–9, 11–13, and 15–18 of U.S. Patent No. 6,072,450 (Ex. 1001, “the ’450 patent”). Paper 1 (“Petition” or “Pet.”). Solas OLED Limited (“Patent Owner”) filed a Preliminary Response. Paper 7 (“Prelim. Resp.”).

Institution of an *inter partes* review is authorized by statute when “the information presented in the petition . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a) (2018). Upon consideration of the Petition, the Preliminary Response, and the evidence of record, we determine that Petitioner has established a reasonable likelihood that it would prevail in showing the unpatentability of at least one claim challenged in the Petition. Accordingly, we institute an *inter partes* review of all claims and all grounds asserted in the Petition.¹

A. *Related Proceedings*

The parties identify the following litigation involving the ’450 patent: *Solas OLED Ltd. v. Samsung Display Co., Ltd., et al.*, Case No. 2:19-cv-00152-JRG (E.D. Tex.); *Solas OLED Ltd. v. Dell Technologies Inc.*, 6:19-cv-00514-ADA (W.D. Tex.); *Solas OLED Ltd. v. Google Inc.*, 6:19-cv-00515-ADA (W.D. Tex.); and *Solas OLED Ltd. v. Apple Inc.*, 6:19-cv-00537-ADA (W.D. Tex.). Pet. 4; Paper 5, 1.

¹ *Guidance on the Impact of SAS on AIA Trial Proceedings* (Apr. 26, 2018), <https://www.uspto.gov/patents-application-process/patent-trial-and-appeal-board/trials/guidance-impact-sas-aia-trial>; *see also SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1359–60 (2018).

B. The '450 Patent

The '450 patent, titled “Display Apparatus,” describes a passive matrix type electroluminescent (“EL”) display apparatus including parallel cathode lines, parallel anode lines perpendicular to the cathode lines, and an organic electroluminescent layer between the cathode lines and anode lines. Ex. 1001, [54], 1:6–7, 1:14–20. Applying a positive voltage to the cathode lines drives the organic electroluminescent layer, and the display apparatus displays an image corresponding to the applied voltage. *Id.* at 1:20–24. The '450 patent explains that the organic electroluminescent layer “can emit light at a high instantaneous luminance by applying a high voltage to the organic EL layer” but, due to this, “the organic EL layer can easily deteriorate.” *Id.* at 1:38–41. The '450 patent further explains that with larger numbers of anode lines and cathode lines, the greater the possibility of crosstalk in a passive matrix type electroluminescent display apparatus, which makes it difficult to display a highly precise image. *Id.* at 1:42–46.

The '450 patent describes a conventional active matrix type display apparatus to address the above problems. *Id.* at 1:47–49. The display apparatus is depicted in Figure 22 of the '450 patent, reproduced below.

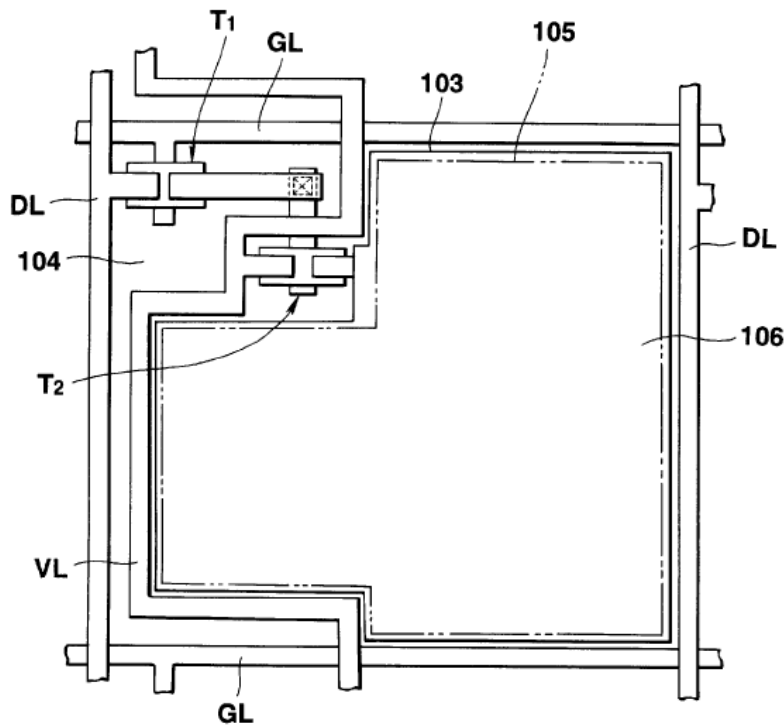


FIG.22

Figure 22 “is a plan view of a display apparatus according to the related art.” *Id.* at 5:12–13. The display apparatus includes pairs of thin film transistors that include a selection transistor T1 and a drive transistor T2 and confer a voltage storing capability on pixels. *Id.* at 1:49–51. The ’450 patent states that transistors T1, T2 can be thin film transistors. *Id.* at 1:58–59.

The display apparatus further includes an organic EL layer 106 that is arranged to not overlap transistors T1 and T2 so that light emitted by the EL layer 106 is prevented from entering thin film transistors T1, T2. *Id.* at 2:23–27. The ’450 patent explains that “[i]f the emitted light entered the thin film transistors T1 and T2, unnecessary photoelectromotive force would be generated in the channel regions of the thin film transistors T1 and T2, which entails the possibility of the thin film transistors T1 and T2 malfunctioning.” *Id.* at 2:27–32.

An object of the '450 patent is “to provide a display apparatus which has a light emitting area enlarged so as to emit light at a satisfactorily high luminescence even though a voltage applied to an EL layer is low, and which has a long luminance life.” *Id.* at 2:66–3:3. Another object of the '450 patent is “to provide a display apparatus which prevents light from entering active elements such as transistors, to thereby avoid the malfunction of the active elements.” *Id.* at 3:4–7. An embodiment of such a display apparatus is shown in Figure 1, which is reproduced below.

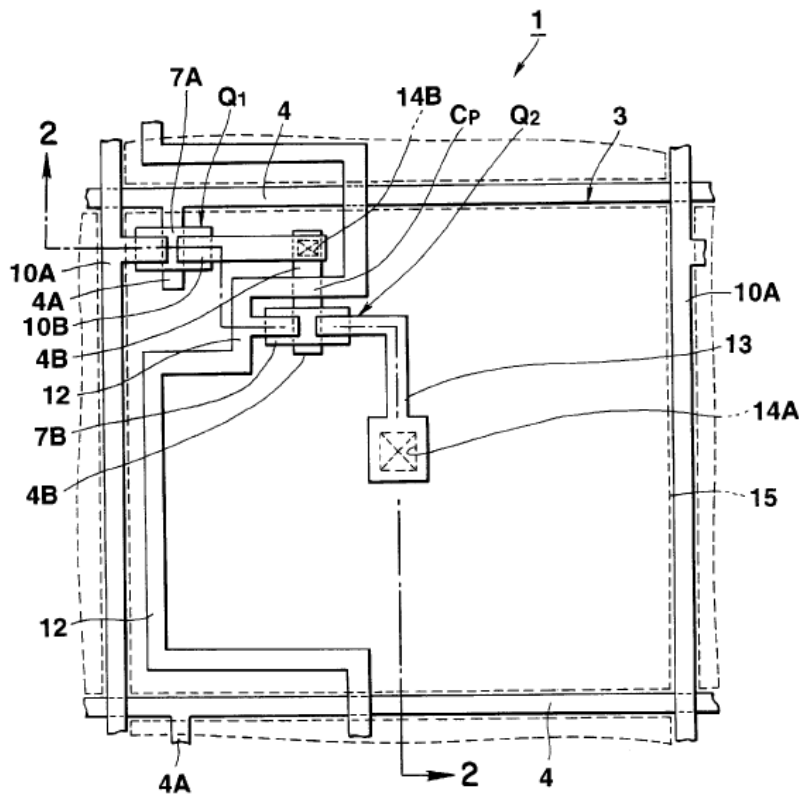


FIG.1

Figure 1 “is a plan view of an [sic] display apparatus according to one embodiment of the present invention.” *Id.* at 4:28–29.

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