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UNITED STATES PATENT AND TRADEMARK OFFICE  

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

LG ELECTRONICS INC.,  
Petitioner,

v.

DELAWARE DISPLAY GROUP LLC,  
Patent Owner.

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Case IPR2015-01666  
U.S. Patent No. 7,434,973  

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**PATENT OWNER'S PRELIMINARY RESPONSE TO PETITION FOR  
*INTER PARTES* REVIEW**

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## I. INTRODUCTION

Patent Owner Delaware Display Group LLC (“DDG” or “Patent Owner”) hereby files this preliminary response (“Preliminary Response”) to the Petition for *Inter Partes* Review (the “Petition”) of U.S. Patent No. 7,434,973 (the “’973 patent”) in IPR2015-01666 filed by LG Electronics Inc. (“LGE” or “Petitioner”).

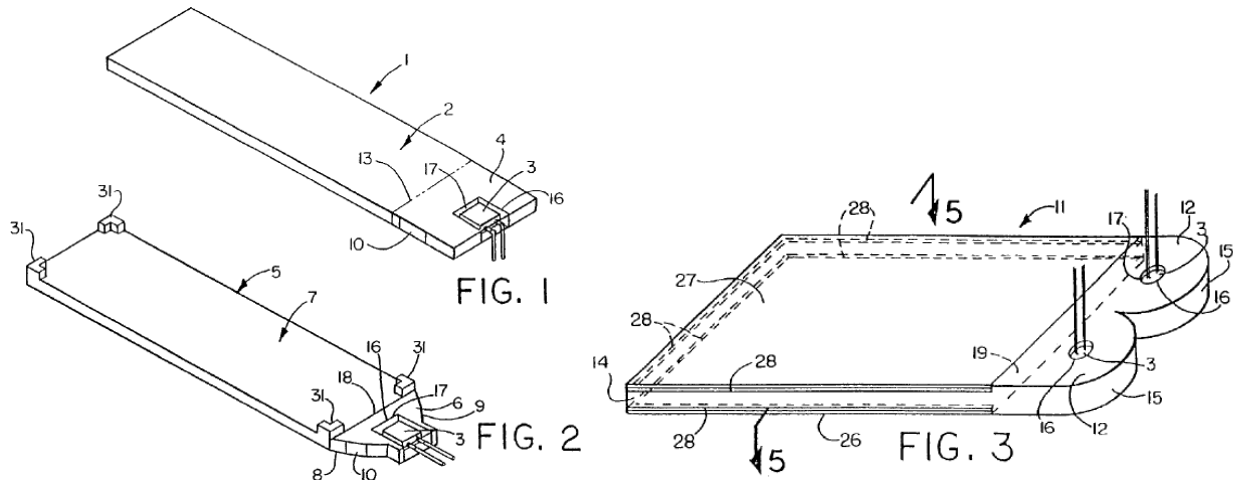
This Response is timely under 35 U.S.C. § 313 and 37 C.F.R. § 42.107, as it is filed within three months of the August 14, 2015, date of the Notice of Filing Date Accorded to Petition and Time for Filing Patent Owner Preliminary Response (Paper No. 4).

The PTAB should deny the Petitioner’s request to institute an *inter partes* review (“IPR”) of the ’973 patent because the grounds in the Petition do not demonstrate a reasonable likelihood of any claims being invalid.

### A. The ’973 Patent – General Overview

The ’973 patent “relates generally ... to light emitting panel assemblies.” ’973 patent, Ex. 1001, at 1:19-20. The ’973 patent’s written description notes that “the present invention relates to several different light emitting panel assembly configurations which provide for better control of the light output from the panel assemblies and more efficient utilization of light to suit a particular application.” *Id.* at 1:22-26. Three examples of the “different forms of light emitting panel assemblies

in accordance with this invention” (*Id.* at 2:40-42) are shown in Figures 1-3 of the '973 patent.



The '973 patent's "Summary of the Invention" notes that "[i]n accordance with one aspect of the invention, the light emitting panel assemblies include a light emitting panel member having a pattern of individual light extracting deformities of well defined shapes on or in one or more surface areas of the light emitting panel member. *Id.* at 1:30-34. The "Summary of the Invention" section of the '973 patent further notes that "in accordance with another aspect of the invention, the pattern of light extracting deformities may be uniform or variable as desired to obtain a desired light output distribution from the panel surface areas." *Id.* at 2:1-4.

The "Summary of the Invention" section of the '973 patent also states that the "various light emitting panel assemblies of the present invention are relatively efficient panel assemblies that may be used to produce increased uniformity and higher light output from the panel members with lower power requirements, and

allow the panel members to be made thinner and/or longer, and/or of various shapes and sizes.” *Id.* at 2:23-28. Regarding making the panels thinner, the ’973 patent explains that “the panel members of the present invention may be made very thin, i.e., 0.125 inch thick or less.” *Id.* at 9:59-60.

The ’973 patent describes that a “pattern of light extracting deformities or disruptions may be provided on one or both sides of the panel members or on one or more selected areas on one or both sides of the panel members, as desired.” *Id.* at 6:1-4.

The ’973 patent also describes more about the kinds of deformities, their sizes, their shapes, their positioning, their effects, and other specific details about the deformities: “Print patterns of light extracting deformities 21 may vary in shapes such as dots, squares, diamonds, ellipses, stars, random shapes, and the like, and are desirably 0.006 square inch per deformity/element or less. Also, print patterns that are 60 lines per inch or finer are desirably employed, thus making the deformities or shapes 21 in the print patterns nearly invisible to the human eye in a particular application thereby eliminating the detection of gradient or banding lines that are common to light extracting patterns utilizing larger elements. Additionally, the deformities may vary in shape and/or size along the length and/or width of the panel members. Also, a random placement pattern of the deformities may be utilized throughout the length and/or width of the panel members. The deformities may have

shapes or a pattern with no specific angles to reduce moire or other interference effects. Examples of methods to create these random patterns are printing a pattern of shapes using stochastic print pattern techniques, frequency modulated half tone patterns, or random dot half tones. Moreover, the deformities may be colored in order to effect color correction in the panel members. The color of the deformities may also vary throughout the panel members, for example to provide different colors for the same or different light output areas.” *Id.* at 7:4-26.

The '973 patent further discloses varying the deformities to affect the light output of the panels: “By varying the density, opaqueness or translucence, shape, depth, color, area, index of refraction, or type of deformities 21 on an area or areas of the panels, the light output of the panels can be controlled. The deformities or disruptions may be used to control the percent of light emitted from any area of the panels. For example, less and/or smaller size deformities 21 may be placed on panel areas where less light output is wanted. Conversely, a greater percentage of and/or larger deformities may be placed on areas of the panels where greater light output is desired.” *Id.* at 6:32-41.

The '973 patent goes into even more depth on varying the deformities, describing, for example, that denser deformities may be used farther away from light source to provide a more uniform light output distribution: “Varying the percentages and/or size of deformities in different areas of the panel is necessary in order to

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