

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

HUAWEI DEVICE CO., LTD.,
Petitioner,

v.

MAXELL, LTD.,
Patent Owner.

Case IPR2018-00246
Patent 7,671,901 B2

Before LYNNE E. PETTIGREW, MINN CHUNG, and
TERRENCE W. McMILLIN, *Administrative Patent Judges*.

CHUNG, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314(a)

I. INTRODUCTION

Huawei Device Co., Ltd. (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting an *inter partes* review of claims 1 and 2 (the “challenged claims”) of U.S. Patent No. 7,671,901 B2 (Ex. 1001, “the ’901 patent”). Maxell, Ltd. (“Patent Owner”) filed a Preliminary Response (Paper 6, “Prelim. Resp.”).

By statute, institution of an *inter partes* review may not be authorized unless “the information presented in the petition . . . and any response . . . 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). Upon consideration of the Petition and the Preliminary Response, we conclude that the information presented does not show there is a reasonable likelihood that Petitioner would prevail in establishing the unpatentability of any challenged claim of the ’901 patent. Accordingly, we do not institute an *inter partes* review.

II. BACKGROUND

A. Real Parties-in-Interest and Related Matters

Petitioner identifies Huawei Technologies Co., Ltd., Huawei Device USA, Inc., Huawei Investment & Holding Co., Ltd., Huawei Device (Dongguan) Co., Ltd., Huawei Tech. Investment Co., Ltd., and Huawei Device (Hong Kong) Co., Ltd., as additional real parties-in-interest for Petitioner. Pet. 3. Patent Owner identifies only itself as the owner of the patent and real party-in-interest. Paper 4, 1.

The parties indicate that the '901 patent is the subject of the following district court litigation: *Maxell, Ltd. v. Huawei Device USA Inc.*, Case No. 5:16-cv-00178-RWS (E.D. Tex.). Pet. 3; Paper 4, 1.

B. The '901 Patent

The '901 patent describes an image processing apparatus that corrects video signals based on the luminance, hue, or saturation of the video signals, as well as the illumination detected by an illumination sensor, when any change occurs in the input video signal. Ex. 1001, Abstract, 1:46–56.

As background, the '901 patent describes that, to correct input video signals, multimedia systems convert an input RGB signal to a luminance signal and a color difference signal. *Id.* at 1:20–24. According to the '901 patent, the luminance signal is obtained from the RGB video signal as specified in the following mathematical formula, where Y signifies the luminance signal, and R, G, and B signify the red, green, and blue signals, respectively.

$$Y=0.290\times R+0.5870\times G+0.1140\times B \quad (1)$$

Id. at 4:30–40. The hue H and the saturation S of the video signal are determined by the following formulas, where (R-Y) and (B-Y) are the color difference signals.

$$H=\tan^{-1}((R-Y)/(B-Y)) \quad (7)$$

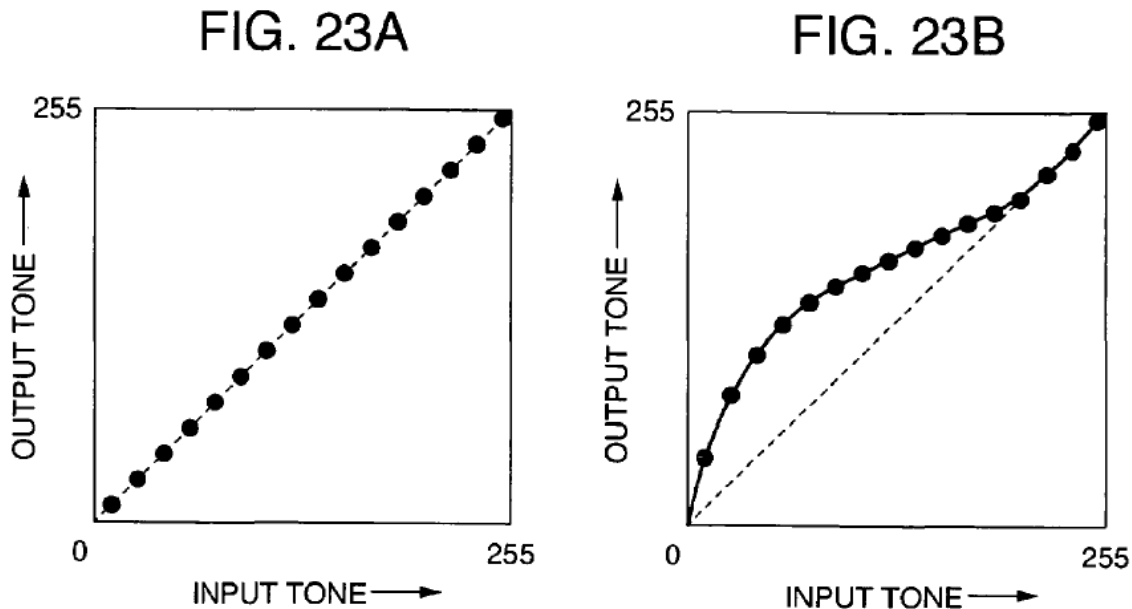
$$S=\text{SQR}((R-Y)^2+(B-Y)^2) \quad (8)$$

Id. at 4:35, 5:54–59.

The '901 patent describes a method of correcting luminance signals using a “correction characteristic,” which shows the corrected luminance of

the output signal in relation to the luminance of the input signal. *Id.* at 9:41–43, 9:52–53.

Figures 23A and 23B of the '901 patent are reproduced below.



Figures 23A and 23B show exemplar correction characteristics. *Id.* at 2:48–50. Figure 23A shows the characteristic relationship when no correction is made, i.e., when the output luminance is the same as the input luminance. *Id.* at 12:36–39. In the correction characteristic shown in Figure 23B, the output luminance is increased from the input signal when the input luminance is low, i.e., when the input luminance is in the dark or black side. *Id.* at 12:39–45. The '901 patent describes that, when the intensity of illumination detected by an illumination sensor is above a threshold value, the luminance of the output signal is corrected according to the correction characteristic shown in Figure 23B. *Id.* at 12:39–41. With this luminance correction, because the luminance of the output image is increased on the black side, the displayed image can be watched easily in a bright environment, such as outdoors on a sunny day. *Id.* at 12:39–45, 11:52–56.

C. Challenged Claims

The '901 patent includes only two claims—namely, independent claim 1 and claim 2, which depends from claim 1. Claim 1 is illustrative of the challenged claims and is reproduced below with the key disputed limitation emphasized in *italics*:

1. An image processing apparatus comprising:
 - an input portion to which video signals are inputted;
 - an illumination sensor for detecting illumination;
 - a corrector which corrects the video signals inputted to the input portion; and
 - a controller which executes control so that the correction portion corrects the video signals in accordance with distribution of luminance or hue or saturation of the video signals and with the illumination detected by the illumination sensor when any change occurs in the video signal inputted to the input portion, wherein *the controller corrects luminance of the video signal without correcting hue and saturation of the video signal when the change of the video signal does not occur and when the illumination detected by the illumination sensor is above a predetermined value.*

Ex. 1001, 14:40–55.

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