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**Figuroa et al.**

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(54) **PROCESSING FILM IMAGES FOR DIGITAL CINEMA**

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(51) **Int. Cl.**

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**H02N 3/36** (2006.01)

(52) **U.S. Cl.** ..... **358/1.9**; 358/506; 348/97

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See application file for complete search history.

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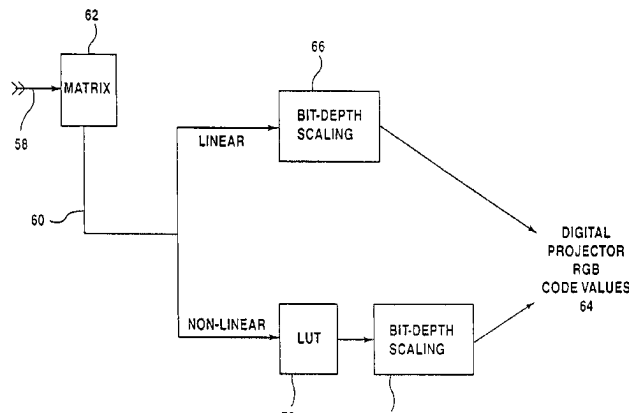
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(57) **ABSTRACT**

Scanner density values of a digitized image of an original film are processed so that a projection of the digitized image closely matches that image which a film projector would produce when projecting the original film. A method comprises the steps of transforming the scanner density values to printing density values; digital color balancing by writing the printing density values and a LAD patch onto film; printing the film is printed to LAD; transforming the images from device dependent color space values into device independent color space values; carrying out a relationship between the device independent color space and a display device output to obtain RGB code values; adjusting any non-linearity between the RGB code values and the display device output; and scaling the adjusted RGB code values to an appropriate bit depth.

**28 Claims, 3 Drawing Sheets**



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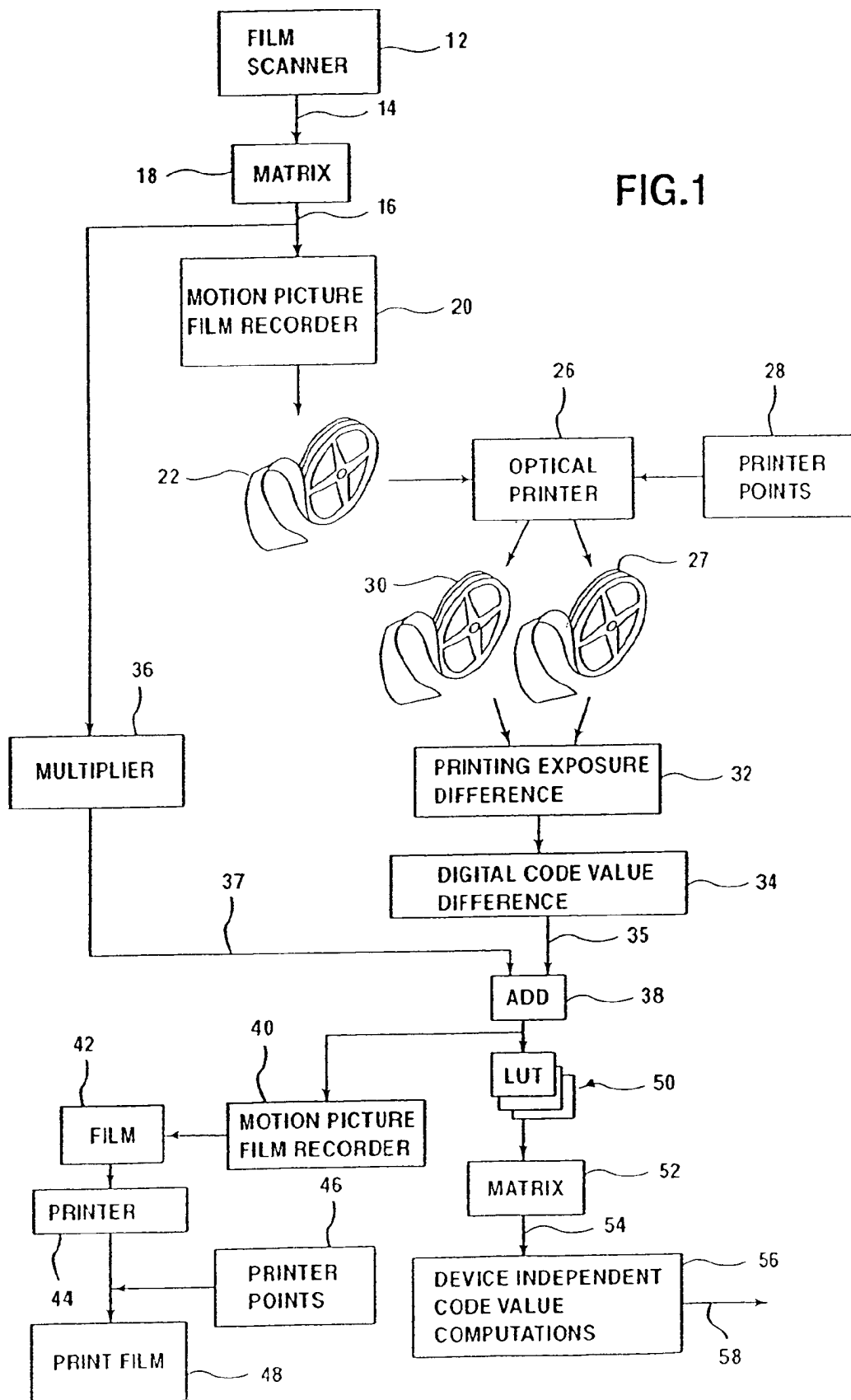


FIG. 1

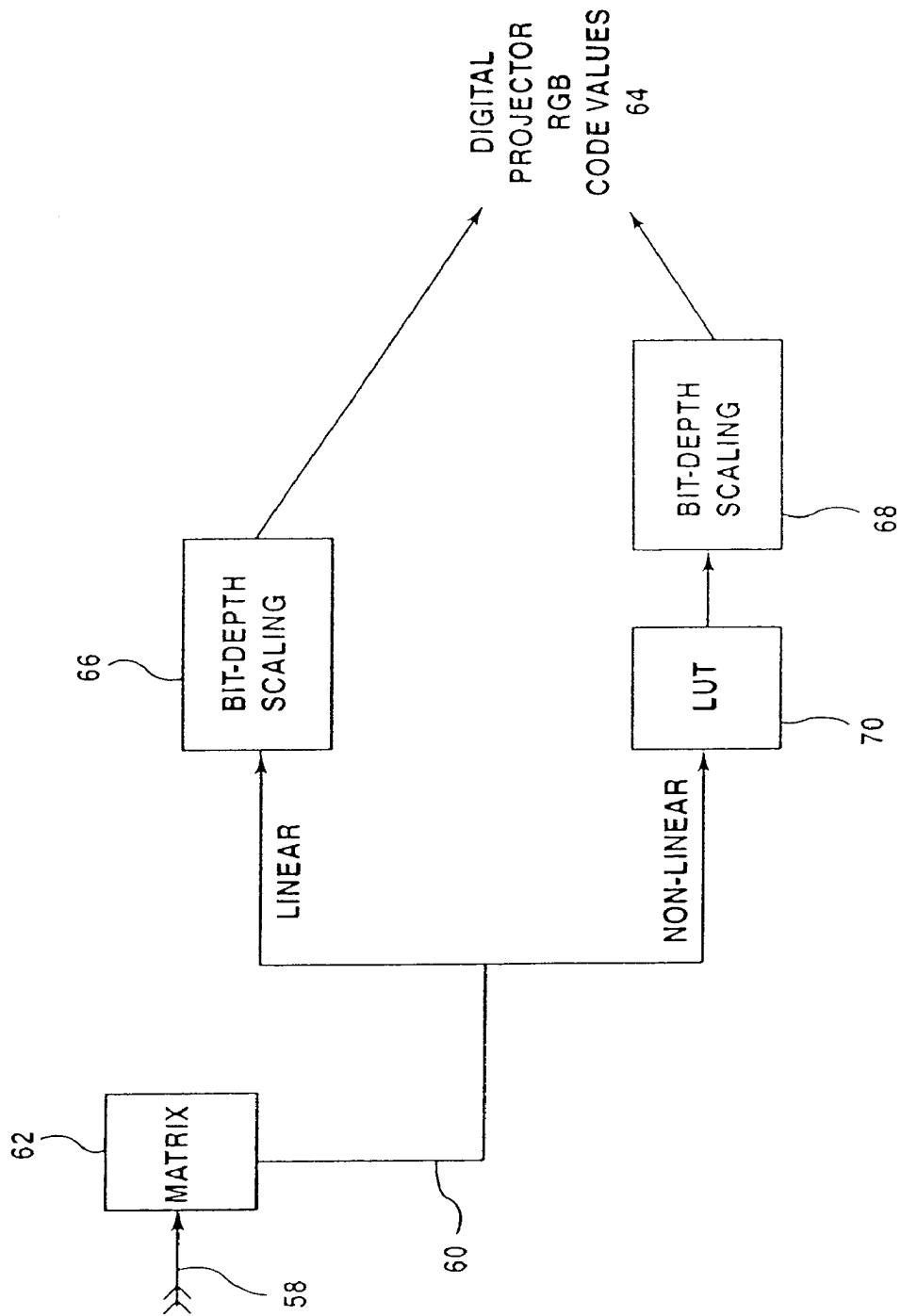


FIG.2

EXAMPLE OF MEASURED TRANSFER FUNCTION CURVE FOR DIGITAL PROJECTOR

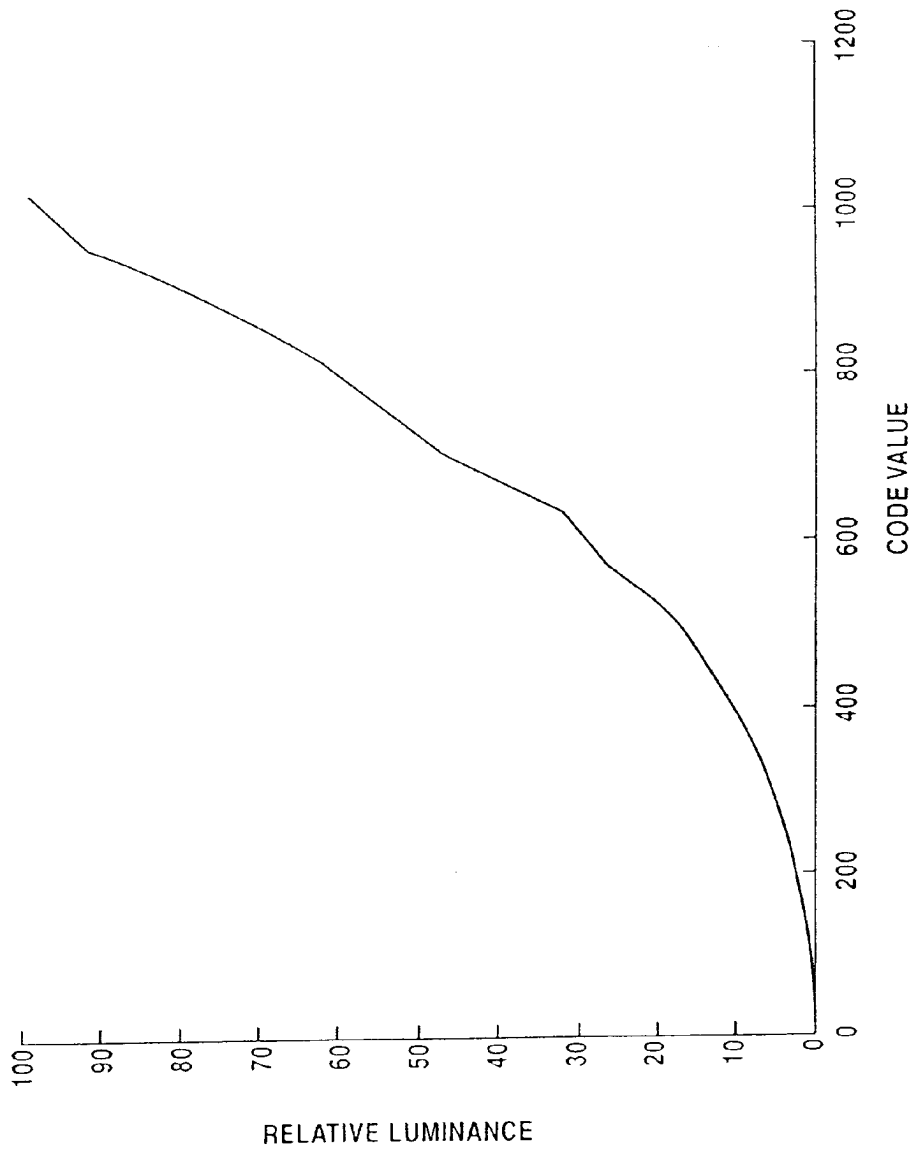


FIG.3

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