

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
7 March 2002 (07.03.2002)

PCT

(10) International Publication Number
WO 02/19704 A3

(51) International Patent Classification⁷: H04N 5/74, 17/00

(21) International Application Number: PCT/US01/27002

(22) International Filing Date: 30 August 2001 (30.08.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
09/651,480 30 August 2000 (30.08.2000) US

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(81) Designated States (*national*): AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

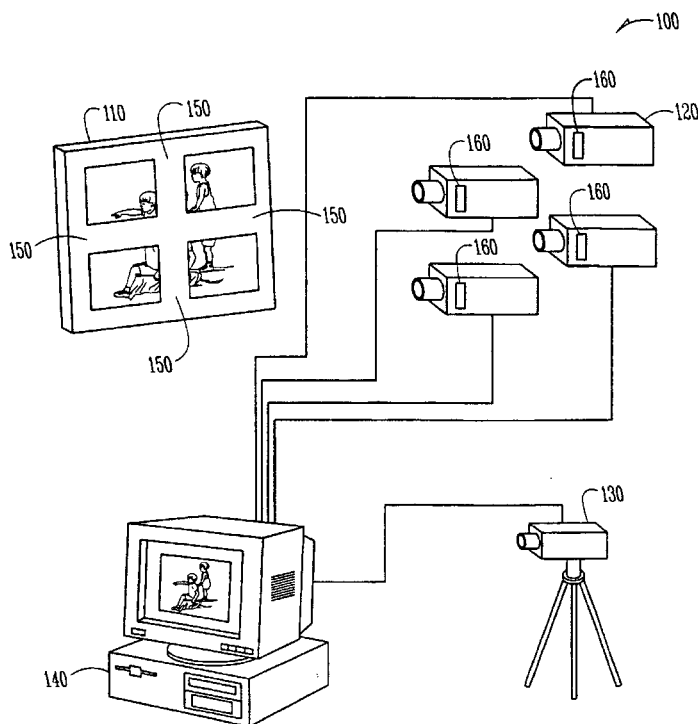
— with international search report

(88) Date of publication of the international search report:

13 June 2002

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: ELECTRONIC CALIBRATION FOR SEAMLESS TILED DISPLAY USING OPTICAL FUNCTION GENERATOR



(57) Abstract: Calibrating a seamless tiled display image having multiple overlapping discrete images produced by multiple displays includes generating a display-to-screen spatial transformation function to reduce one or more undesirable geometric projector characteristics for each of the projectors (120) used in the tiled display. Then the method includes generating a screen-to-camera spatial transformation function to reduce one or more undesirable geometric camera characteristics for the cameras (130) used in capturing the tiled display images used in the calibration. Then the method requires generating a spatial luminance transformation function for effective color calibration for each of the displays images in the tiled display. Then the method requires inputting a high-resolution image into a tiled display processor to form the tiled images of the tiled display, segmenting the inputted high-resolution image to form tiled images based on an array of images used in the tiled display, and pre-warping each of the segmented tiled images using the display-to-screen spatial transformation function to reduce the one or more non desirable geometric projector characteristics. Then the method requires applying an inverse of the spatial-luminance transformation function to each of the pre-warped images to effectively blend colors in the tiled display images.