News Release

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Pict Leap Co., Ltd.
President, CEO: Norio Koma

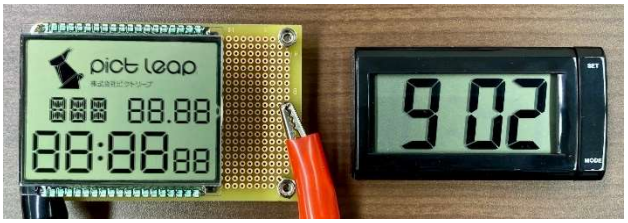
Liquid Crystal Display Which Can Be Photographed By Infrared Camera

Pict Leap Co., Ltd. (President, CEO: Norio Koma, Head office: Joetsu Niigata, Nippon Kayaku Co., Ltd. group, subsidiary of Polatechno Co., Ltd.) has successfully developed a liquid crystal display (LCD) which image can be photographed by an infrared camera (IR-LCD).

Regarding the conventional LCD, its backlight generates visible lights and its polarizer is able to polarize against only visible lights. For that reason the display image can not be photographed by the infrared camera.

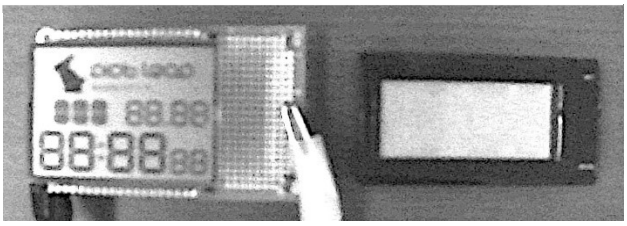
Our IR-LCD could overcome it by structuring that a reflector which reflects infrared lights from infrared camera and an infrared polarizer which has function of polarization against infrared range are placed in the LCD (IR-LCD). The infrared polarizer has developed by Nippon Kayaku Co., Ltd. and Polatechno Co., Ltd.. Figures 1(a) and (b) are sample images of the IR-LCD and the conventional LCD which are photographed by a visible camera. Figures 2(a) and (b) are sample images of two LCD as same above which are photographed by an infrared camera. The conventional LCD can not be photographed the image by the infrared camera as Figure 2(b), however, the IR-LCD can be photographed by the infrared camera as Figure 2(a). Figure 3(a) and (b) show the sample images of the IR-LCD with 4-inch TFT (Thin Film Transistor). And these show that the images can be photographed by both the visual camera and the infrared camera even if in the case of applying to the TFT LCD.

Due to this, we are expecting to apply this new LCD to the digital license plate for car use, and others. which is difficult to use the conventional LCD because of security concerning.



(a) IR-LCD (b) Conventional LCD

Figure 1 The images are displayed on the visible camera



(a) IR-LCD (b) Conventional LCD

Figure 2 The images are displayed on the infrared camera

(a) On the visible camera

(b) On the infrared camera

Figure 3 The application of the IR-LCD with TFT-LCD

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