

Backlight dimming algorithm on a LED-Display.

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In commercialized LED TVs the goal is to reach a better image quality and decrease the power consumption. The final product a user perceived is the backlight brightness and the pixel panel transmittance. In traditional LCD-TVs the backlight brightness is uniform and the dark areas are also lit up by the backlight. This results in poor image quality and power waste problems. Therefore the backlit LED TV is used nowadays which consists of a backlight panel and a pixel panel (LCD), seen in figure 1. These panels can be controlled by using a locally pixel-compensated backlight dimming algorithm. Backlight luminance is dimmed locally in the dark-image region. On the pixel panel the values are compensated synchronously according to the luminance profile of dimmed backlight. This will result in greater contrasts and less power usage. The implementation and simulation of the algorithm will give us an estimate of how much power the user and the society can save by using this algorithm in backlit LED TVs.

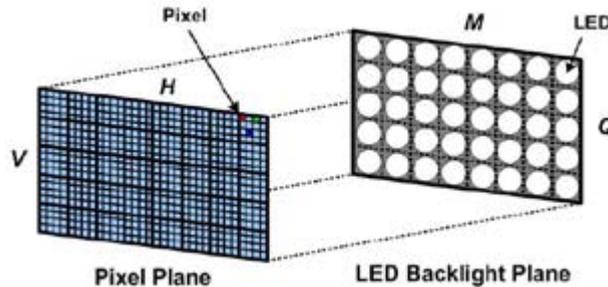


Figure 1: Pixel-panel and Backlight-panel

REFERENCES

Figure 1:

Lee, W., Patel, K., Pedram, Massoud. (2009), White LED Backlight Control for Motion Blur Reduction and Power Minimization in Large LCD TVs, *Journal of the Society for Information Display*, 5. Retrieved April 18th, 2012, Retrieved from <http://atrk.usc.edu/~massoud/Papers/white-LED-backlight-control-jsid.pdf>.