

Sony announces 'WhiteMagic' - new LCD screen that uses half the power

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The 'White Magic' LCD module featuring the newly-developed 'RGBW method'

(PhysOrg.com) -- Sony has announced via its <u>webpage</u> the development of a new type of LCD display that uses either half as much power as current same-size LCD displays, or the same amount of power, but doubles the brightness. Called WhiteMagic, the new LCD screen, currently just 3 inches diagonally, achieves these results by employing a third, white pixel to create images on a screen.

For the most part, most LCD displays use just three backlit pixels - Red, Green and Blue (RGB) to create one dot of color on the screen; the



various colors are produced by filtering the light that comes from behind each of the three pixels to varying degrees, creating a mix. With this new panel, however, Sony has introduced a fourth pixel, which is pure white, and serves to double the brightness of each dot, not by increasing the power of the backlighting, which would necessitate the use of more battery power, but by simply allowing more viewable white light to pass through the White pixel which when combined with the filtered Red, Green or Blue pixels, results in twice as much light passing through each dot on the panel, resulting in a brighter image overall.

Previous attempts to do the same thing resulted in the Red, Green and Blue pixels being overpowered by the White pixel with a resultant washed out look (less contrast) on the panel. Sony has solved that problem by developing an <u>algorithm</u>, which runs in a special chip, that it says allows for images as sharp and clear as current RGB displays.

The display, which due to the extra <u>pixel</u> in each dot means 1/3 more pixels in total (640*480*4=1.2 million of them) are used, comes in two modes; standard mode is where the panel dims the backlighting to reduce <u>battery power</u> requirements by half, producing an image that is approximately the same brightness as current displays. Outside mode is where the backlighting is returned to "normal" producing an image that is twice as bright as regular <u>LCD displays</u>.

Devices with such a panel could help users with the familiar problem of having difficulty seeing what is on their phone or camera screen when outside in the sun. Conversely, by dimming the <u>backlighting</u> when indoors, the panel should greatly extend battery life.

Sony says the new panel should be ready for shipment by October, possibly in time for camera or phone makers to add the new panel to their wares in time for Christmas.



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