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### JOBS

#### JOB OF THE WEEK



EMPA Specialist

## MECH-TECH

### Invention: Dead pixel camouflage

18:32 05 July 2005  
[NewScientist.com news service](#)  
 Barry Fox

*For over 30 years, Barry Fox has trawled the world's weird and wonderful patent applications each week, digging out the most exciting, intriguing and even terrifying new ideas. His column, Invention, is now available exclusively online. Please send us your [feedback](#).*

#### Dead pixel camouflage

Discovering a faulty pixel in a swanky plasma screen or LCD television need not mean having to permanently put up with an annoying picture, according to Barco of Belgium. The company has come up with a way to make defective pixels "nearly invisible" by tweaking the properties of healthy ones surrounding them.

Plasma, LCD and OLED screens rely on thousands, or even millions, of active picture cells, typically made from three sub-pixels that emit red, green and blue light. If a sub-pixel is faulty - either too bright or too dark - the overall cell emits the wrong colour.

Barco's idea exploits the fact that, to the human eye, picture cells blur and overlap when a screen is viewed from a normal distance - say a few metres away. The company says algorithms can reliably determine how the eye should perceive an area containing a defective pixel and alter the brightness of the ones around it to compensate.

If, for instance, a red sub-pixel generates too little light, the sub-pixels in surrounding picture cells can be toned down to keep the overall colour balance correct. The reverse can be done if a sub-pixel is too bright. From a normal viewing distance the fault should then become far less noticeable.

Screens can be checked for faults at the factory by mapping the light output with a high resolution camera or scanner. Software in the screen can then be reprogrammed to mask any dodgy spots.

Read the pixel camouflage patent [here](#).

#### Bomb-quenching walls

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A see-through building material that could protect people and property from the force developed at Oztech of Auckland, New Zealand.

The wall cladding panels contain "gelatin powder" saturated with water and moulded centimetres thick. If the cladding is hit by an explosive blast its natural elasticity absorbs the gel melts to release water that should douse any resulting flames.

The process of saturating the powder with water is assisted by vibrating the material. An azide is added to the mix to prevent bacteria from breeding in the gel. An outer film sheets keep shape and the resulting material is even clear enough to let light in as if

The patent suggests the sticky gel should also absorb any biological or chemical contaminants and suggests that adding boron could make sheets radiation proof, too.

Read the bomb quenching wall patent [here](#).

#### Magic mirror

How often have you locked your car only to find that one of the windows is still open? Ford Global Technologies of Michigan, US, know how to come up with a neat solution.

An interactive wing mirror promises to let a driver do all this, and more, using a touch screen that activates when they click on a radio key fob or put a hand close to the mirror's glass.

The display is made from thin layers of metal that are normally transparent but which become opaque by LEDs at the edge of the mirror.

A keypad on the backlit screen displays a pictogram of the car with labelled icons for functions that will most likely want to access from the outside. After 10 seconds of inaction the pictogram turns off and the screen goes back to being a normal wing mirror.

View the interactive wing mirror patent [here](#).

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