



VBOND

VarTech Systems Inc.

Sunlight Readable, High Contrast, Passively Enhanced Technology

Reflection from **sunlight destroys contrast in LCD monitors due the gap of air** that exists between the front glass and the actual LCD screen. Because of the severe difference in the consistency between glass and air, plus the fact that air actually conducts light, there are three points of high reflection in a typical LCD with the air gap. Looking at the picture below we see the front of the glass, the back of the glass and the front of the LCD screen are all reflecting 5% of the sunlight to total 15% reflection. Since the sunlight is so bright 15% reflection makes the display very hard to read.

VBOND eliminates the air-gap and in our example has brought the reflection down from 15% to 2%. The increase in contrast ratio has gone up to 26:1 from 1.85:1. That's an increase of 1400% in these particular conditions. This difference renders the LCD **completely sunlight readable** without even increasing power consumption. There are other benefits to VBOND as well.

Without VBOND

Reflection = 10K ftc x 15%
R= 1500 nits

5%
5%
5%

$\frac{1500 + 1500}{1500} = 1.85 : 1 \text{ Contrast}$

With VBOND

Reflection = 10K ftc x 2%
R= 50 nits

5%
5%

1500 nits

$\frac{1500 * 0.85 + 50}{50} = 26 : 1 \text{ Contrast}$

VBOND eliminates the two internal points of reflection. With AR coatings on the front, overall reflections drops to less than 2%

Available in sizes 6.4" to 47.0"

Prevents dust, moisture, and heat build up by eliminating the air-gap between the glass and LCD screen. In fact air-gaps increase heat while VBOND will actually conduct heat out of the display unit.

Increases protection for the LCD. Should the front glass get hit and break there will be a solid layer of protection between the glass and the LCD screen to protect scratching the liquid crystal screen.

Adds structural integrity to the unit by keeping the most important pieces of the unit solidly sealed together.



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