DOME® by NDSsi

Doing it *Right.*

Clear Image

Dome displays are designed to present the best possible diagnostic image to the radiologist. As a design philosophy, we resist putting anything that might interfere in the viewing task. We use simple gray, ultra-thin bezels with no shiny logos, flashing LEDs, or noisy fans to distract from confident diagnostics.

Some displays include protective glass over the display. However, this is completely unnecessary, as the LCD glass has the same hardness index as the protective glass. Anything that would scratch the LCD would also scratch the protective glass. The real problem with protective glass is the added reflections. The reflective surface turns room lights, other displays in the reading room, and even the radiologist's own clothes into sources of distracting specular reflections. To make matters worse, the reflective glass can reflect light from the LCD back onto the diagnostic image. This can actually blur the image, particularly high contrast image elements, such as calcifications in a mammogram.

Also, reflective glass is not clear. To make it work, there are special coatings added to the front and the back of the reflective glass. These coatings reduce the amount of light that comes through from the LCD. To compensate, vendors must overdrive the LCD module, reducing its life. All this for something that isn't needed and that the American College of Radiology recommends against. The ACR Technical Standard for Electronic Practice of Medical Imaging, Section IV-D, part 5, item a.iii states "Protective shields on LCDs add to reflections and should not be used if possible."

Uniformity correction firmware is another area where care must be taken. Dome uses uniformity correction only where absolutely necessary. Some vendors use it all the time to correct for even the slightest roll off in brightness towards the edges of the display. Unfortunately, the only way to do this is to digital process the image to dim the center to match the edges, then brighten the entire display to compensate for the center dimming. This reduces contrast at the most critical center part of the image. The correction can also introduce digital image processing artifacts. We believe nothing should come between you and your diagnostic image. Doing it right means giving the radiologist unmodified, unobstructed, pristine images on a clean, unobtrusive display.