TECHNICAL BULLETIN

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Infectious and deadly bacteria and viruses in hotels, healthcare facilities, schools, call centers and all types of public places are the target of SteriDesign Corporation's new line of patent-pending non-chemical UV devices:

- SteriBox: Disinfects handheld devices like remote controls, mobile phones, landline phones, tablets and mobile players.

- SteriHood: Disinfects keyboards, mice and notebook computers.

Shared use and multi-user, high touch electronic devices should be areas of concern in Schools and other settings where the use of these devices are prevalent. A **University of Arizona Research Study (Keyboards in Educational Settings)** Microbiology Professor / leading expert on infectious disease, Dr. Charles Gerba conducted a study that found computer keyboards harbor up to 400 times more microbial bacteria than the average toilet seat and are among the dirtiest items in an office. In one study, Dr. Gerba and his team separated office workers into two groups. One group used disinfecting wipes to clean their desks, phones, and computers once a day while the other did not. Within two days, the wipes users were found to have a 99.9% reduction in bacteria levels

Other research data from this study concluded the following:

- In schools, the most germ-laden places are desktops; computer keyboards, mice, and touchpads; pencil sharpeners, water fountains and restrooms.
- Of the professions studied, school teachers had the most germs in their offices by 20 times.
- More germs were found in daycare centers than anywhere else
- Proper cleaning techniques can reduce bacteria by up to 99.9 percent and absenteeism in schools by 50 percent.

Disinfection of the computer keyboard is a challenge with the current methods available. Therefore, most computer keyboards are never cleaned or disinfected. Keyboards found in schools are used by multiple students throughout the day. Each student sits in front of the keyboard for close to an hour and has INTENSIVE contact with it saturating its surface with potentially pathogenic organisms they may be carrying that day. These pathogens are then passed to the student who uses the keyboard during the following period FROM A DIFFERENT CLASSROOM. This HEAVY surface interaction between two students from DIFFERENT CLASSROOM's is one of the greatest causes of pathogen distribution between classrooms.

In healthcare settings, schools and other industry today, there is a major green initiative. Millions of disposables are discarded into the waste stream. For less than $100 a Sterihood or Steribox can be purchased to effectively disinfect these complex devices with no added product to the waste stream.

The fourth leading cause of death in the United States each year results from Healthcare Associated Infections (HAIs) - more than breast cancer, AIDS, and car accidents combined. Healthcare providers are locked in an ongoing struggle against HAIs which impact over 1.7 million patients in the U.S. each year, especially multi-drug resistant organism (MDRO) based infections, according to the Centers for Disease Control (CDC).

Similar infections are also on the rise in community settings such as schools, as the number of MDROs found in public settings each year continues to grow. A decade ago, in 2003, a CDC prospective study suggested that 12 percent of clinical MRSA infections are community-associated, either being contracted at schools, work or community housing, with as many as 98,000 dying each year as a result of these infections.

SteriBox and SteriHood harness the power of a technology developed in the 1930s cleaning air, water and surfaces. Ultra violet light (UV-C) is an energy saving, low power, short UV-C wavelength of light proven safe, cost efficient, environmental friendly, and easy to use. Ultraviolet rays within the UV-C wavelength destroy pathogens such as viruses, bacteria, mold and mildew. The microorganisms' DNA is damaged causing death of the organism. While UV-C sterilizations' effect and capability have been known for over 80 years, it has proven difficult to develop innovative product designs that are easy to use and cost effective. Most of the current UV systems are large equipment that requires capital investment. They take 20 minutes to be effective and no patient or healthcare provider can be in the room being disinfected. They are designed to be an adjunct to routine cleaning and disinfection.

Steridesign has developed an easy to use cost efficient UV system that disinfects for under $100.
Independent lab testing completed at one of the largest microbiology labs in the USA, EMSL Inc., confirms the SteriDesign SteriHood and SteriBox products are 99.999% effective against those organisms found on shared-use multi-touch electronic device surfaces within 5 minutes including bacterial spores.

In the schools, Sterihood is used in any place where keyboards are used. When installed in any class room or computer room, Sterihood makes it convenient to routinely disinfect keyboards. Steribox can disinfect remote control devices, mobile phones, and any other devices.

SteriBox's innovative design allows for two high output UV bulbs to be positioned for complete 360 degree disinfection of remote controls, keyboards and other electronic devices. The EMSL testing of SteriBox validates that the SteriDesign product cleans tough-to-clean three-dimensional surfaces - front, back, sides, top and bottom. The fully vacuum metalized interior surface of the SteriBox ensures that all light rays are propagated around the interior of the box for the greatest leverage of the UV-C technology. SteriBox's design enables easy maintenance through removable and recyclable UV-C light trays, and it features a convenient AC-power outlet, allowing users to recharge mobile phones while they are being disinfected.

When students are finished using their keyboards, just pull the SteriHood cover up and out over the keyboard, and the 5-minute disinfection cycle begins; all surfaces of the keyboard will be disinfected to 99.999 percent. If a keyboard is needed before the 5-minute cycle is complete, lifting the SteriHood cover provides immediate access to it; an auto shut-off switch immediately shuts the system down, which restarts again when the cover is re-engaged over the unit. Multi-color LEDs built into SteriHood show bright green to let users know when the disinfection cycle has been completed, and the keyboard is ready for use. If a keyboard has not been disinfected in any four-hour time period, the Sterihood’s LED light will blink red. When a SteriHood bulb has been through its allotted number of life cycles, the LED will be on continuous bright red, advising users that it is time to replace the bulb which last for approximately two years.