Why is Well Considered HMI System Design Important for Medical Device, Diagnostic, and Treatment Equipment?

John J. Pannone

Human machine interface (HMI) systems provide the controls by which a user operates a machine, system, or process. Rising healthcare costs, the prevalence of chronic disease, public expectations for increased care, and the aging “boomer” population are all driving the market for affordable and accessible medical devices. As more responsibility for care is shifted from physician to patient, and the home medical diagnostic market grows, the key trends are miniaturization and portability.

This white paper [1] will discuss new developments in the human machine interface for medical equipment. It will provide information on designing an aesthetically pleasing, easy-to-use, and functionally robust HMI system to fit the medical apparatus and application. It will help the reader to envision a process for:

- Describing the equipment operator, the patient, the technician, and the needs of everyone who will come into contact with the HMI system
- Identifying the key functional requirements of the HMI system, whether it is an MRI, X-ray system, or handheld blood-sugar monitor
- Applying human factors engineering and current good manufacturing practices (CGMP) to the HMI system
- Selecting the best possible operating system and software
- Choosing the best interface and control technology for the system from keypads and trackballs to foot pedals and touchscreens
- Integrating new systems with existing equipment and networks using hard wiring, bus connections, or wireless technology
- Meeting standards and regulations proposed by the FDA, ISO, IEC, and other

regulatory bodies
- The importance of working with a partner who is experienced in HMI systems and components

Working with a supplier who understands the application, environment, users of the system, and the nature of their usage is critical to the successful development and implementation of an HMI system for medical devices.

Get the full white paper here. [1]

John J. Pannone is the vice president of sales, HMI Systems and key customer manager for North America at EAO Corporation *[2].*

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