

# Smarter HMIs, Simpler Operation

IN 1965, INTEL® CO-FOUNDER Gordon E. Moore observed that the number of transistors that can be inexpensively placed on an integrated circuit would increase exponentially approximately every two years. “Moore’s Law” has held fast for almost half a century.

This abundance of computing power has exploded the capabilities of digital electronic devices, and that includes Rice Lake’s family of Human Machine Interface (HMI) indicators. Our 920i® is capable of a myriad of display and memory options. They are literally computing devices in and of themselves; having the power and speed to keep up with the ever-increasing pace of manufacturing and process control in any aspect of industry. Over 100,000 calculations can be done in milliseconds, and the results can be transmitted anywhere in the world almost instantaneously.

As HMI indicators become more powerful, the machines and processes they control can become more complex. So complex that the HMI becomes critical to the usefulness of the machine itself. If the HMI is

non-intuitive, the machine will be unused, misused or avoided.

Therefore, the ideal HMI indicator must be like the ultimate assistant who anticipates the need, expresses itself in a familiar manner, and produces the desired results with a minimum of prompting. Or, the duck that slides effortlessly over the water while paddling furiously below. The 920i has the power and flexibility to make nearly any process appear effortless.

Read the following *On Location* stories and see how Rice Lake distributors find their own level of working with the 920i. Some send us the sequence of events they want followed, and we send them a custom-programmed 920i. Others are virtuoso programmers who use our open architecture to program the 920i to control incredibly complex operations. They become our partners in refining future Rice Lake indicators. All of them are finding new applications — new ways to increase functionality and ease-of-use for their end-users.

More power to ’em! ■



## About the Expert

Jim Daggion, Rice Lake senior product manager, researches emerging technologies in fields such as nanotechnology, materials, RFID, communications, and sensors. He looks for technologies that are being discovered, developed, proposed, and promoted that might have an application to Rice Lake customers. Jim builds audio electronics and computers as a hobby, and reads science fiction. He lives in New Jersey with his wife, Jill, and has three daughters, twins Jamie and Jennifer, and Jessica.

**AN EARLY HMI, TYPEWRITER KEYBOARDS** (the interface between fingers and typebars) were designed to be used with all eight fingers, with the thumbs dedicated to the lower space bar. Push buttons were used to activate certain functions and were designed to be pressed with the index finger of either hand. Other push buttons, such as doorbells, were also typically pressed by the index finger. As devices became smaller, so did the keyboards. Many of today’s keyboards are meant to be pressed with the thumbs of each hand.

Today the thumb is becoming the digit of choice for pressing all buttons. Have you ever gone to a house, or waited for an elevator, with a younger person who is a “gamer” or “texter”? You instinctively press the doorbell or call button with your index finger. Kids invariably use their thumb — the digit of choice for smaller keyboards.

**The evolution of man, machine, and interface never ends.**

**The New Rule  
of Thumb**